COLORADO OFFICE
10758 W. CENTENNIAL RD., STE. 200
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TEL: (866) 981-4588
FAX: (720)-981-5643

WYOMING OFFICE
5880 ENTERPRISE DR., STE. 200
CASPER, WY 82609
TEL: (307) 265-2373
FAX: (307) 265-2801

LOST CREEK ISR, LLC

October 30, 2007

Mr. Stephen Cohen
U.S. Nuclear Regulatory Commission
Mail Stop T8F5
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-2738

Re: Submittal of License Application for the Lost Creek ISR Project
Docket No. 40-9068
TAC No. LU0142

Dear Mr. Cohen,

Lost Creek ISR, LLC will be submitting the completed NRC Source Material License Application to your office for review and approval.

To support this submittal, Lost Creek ISR, LLC is submitting a Form 313, "Application for Material License" and three hard copies of the following supporting information along with three electronic copies:

Technical Report (four binders):

Volume 1 Contains seven sections that include an Introduction to the Technical Report as well as the first six sections of the chapter on Site Characterization.

Volume 2 Contains four sections that complete the chapter on Site Characterization.

Volume 3 Contains eight sections that include the following: Description of the Proposed Facility, Effluent Control Systems, Operational Organization, Restoration/Reclamation, Environmental Effects, Alternatives, Cost-Benefit Analysis and Environmental Approvals.

Appendix Cultural Resource Inventory

COLORADO OFFICE
10758 W. CENTENNIAL RD., STE. 200
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TEL: (866) 981-4588
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LOST CREEK ISR, LLC

Environmental Report (four binders):

Volume 1 Contains six sections that include an Introduction, Alternatives, and the first four sections of the chapter "Description of the Affected Environment".

Volume 2 Contains eight sections that complete the chapter "Description of the Affected Environment".

Volume 3 Contains 15 sections that include 13 sections from the chapter on Environmental Impacts as well as sections on Cost-Benefit Analysis and a Summary of Environmental Consequences. Also included are references and a list of preparers.

Appendix Cultural Resource Inventory

Regards,

John W Cash

Manager EHS and Regulatory Affairs
Ur-Energy USA, Inc.

Cc: Mr. John Aronson, AATA International
Mr. Harold Backer, Ur-Energy USA Inc.
Mr. Bill Boberg, Ur-Energy USA Inc.
Mr. Steve Hatten, Ur-Energy USA Inc.
Mr. Wayne Heili, Ur-Energy USA Inc.
Dr. Ping Wang, AATA International

NRC FORM 313 (10-2005) 10 CFR 30, 32, 33, 34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB: NO. 3150-0120 EXPIRES: 10/31/2008

Estimated burden per response to comply with this mandatory collection request: 4.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM
DIVISION OF NUCLEAR MATERIALS SAFETY
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-4005

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S.NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR *(Check appropriate item)*
   - [x] A. NEW LICENSE
   - [ ] B. AMENDMENT TO LICENSE NUMBER ____
   - [ ] C. RENEWAL OF LICENSE NUMBER ____

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include ZIP code)*

   Lost Creek ISR, LLC
   5880 Enterprise Drive #200
   Casper, WY 82609

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

   Wyoming, Sweetwater County; approximately 38 miles northwest of the town of Rawlins; centered at approximately 42 degrees, 8 minutes North Latitude and 107 degrees, 51 minutes West Longitude; See attached sheet for a more detailed location.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

   Mr. Wayne Heili

   TELEPHONE NUMBER

   (307) 265-2373

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL
   a. Element and mass number; b. chemical and/or physical form; and c. maiximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEES *(See 10 CFR 170 and Section 170.31)*

    FEE CATEGORY 2A(2) AMOUNT ENCLOSED $

13. CERTIFICATION. *(Must be completed by applicant)* THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

    THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTANED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

    WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER – TYPED/PRINTED NAME AND TITLE	SIGNATURE	DATE
Mr. Wayne Heili, President of Lost Creek ISR, LLC	[signature]	10-30-2007

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			$		
APPROVED BY				DATE	

PRINTED ON RECYCLED PAPER

ATTACHMENT TO NRC FORM 313, "APPLICATION FOR MATERIAL LICENSE"

LOST CREEK ISR, LLC APPLICATION

OCTOBER 26, 2007

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

The Project location includes portions or the entirety of Sections 13 and 23 to 26 of Township 25 North, Range 93 West, and Sections 16 to 21 and 29 to 31 of Township 25 North, Range 92 West; see also Figure 1.3-1 of the Technical Report.

5. RADIOACTIVE MATERIAL

a. Natural Uranium (U-238, 235 and 234) in any chemical or physical form and in unlimited quantities.
b. Byproduct material as defined in 10 CFR 40.4 in unspecified form and in quantities generated under operations by the license.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED

See Sections 1.0 and 1.1 of the Technical Report.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE

See Sections 5.1.5, 5.1.5.1, 5.4.3 and 5.4.3.1 of the Technical Report.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS

See Section 5.5 of the Technical Report.

9. FACILITIES AND EQUIPMENT

See Sections 2 and 3 in their entirety in the Technical Report.

10. RADIATION SAFETY PROGRAM

See Section 5 in its entirety in the Technical Report.

11. WASTE MANAGEMENT

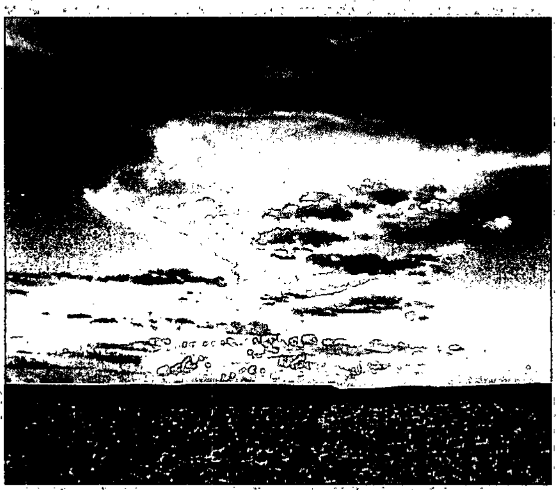
See Sections 4.2 thru 4.3.2 in the Technical Report.

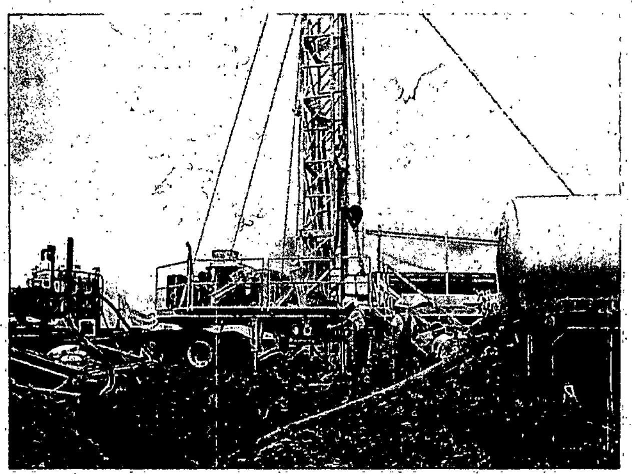
12. LICENSE FEES

The Fee Category is 2A(2) in accordance with 10 CFR 170.31. Since 2A(2) is a Full Cost Category, the NRC will invoice Lost Creek ISR, LLC to recover the cost of reviewing the license application.

LOST CREEK ISR, LLC
Lost Creek Project
South-Central Wyoming

Technical Report





Volume 1 of 3

Application for

US NRC Source Material License

(Docket No. 40-9068)

October, 2007

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LIST OF ABBREVIATIONS AND ACRONYMS

$[UO_2(CO3)_3]^{-4}$	uranyl tricarbonate ion
$[UO_2(CO3)_2]^{-2}$	uranyl dicarbonate ion
°F	degrees Fahrenheit
µCi/mL	microCuries per milliliter
µg	microgram
µg/L	micrograms per liter
µg/m3	micrograms per cubic meter
µmhos/cm	micromhos per centimeter
µR/hr	microRoentgens per hour
ACEC	Area of Critical Environmental Concern
ALARA	As Low As Reasonably Achievable
ANSI	American National Standards Institute
ARSO	Alternate Radiation Safety Officer
ASME	American Society of Mining Engineers
ASTM	American Society for Testing and Materials
ASQC	American Society for Quality Control
AUM	animal unit months
Basin	Great Divide Basin
BLM	Bureau of Land Management
BMP	Best Management Practice
BPT	Best Practicable Technology
$CaCO_3$	calcium carbonate
CFR	Code of Federal Regulations
CO	carbon monoxide
Conoco	Conoco, Inc.
CR	County Road
Cs-137	cesium-137
CSU	Colorado State University
CV	curriculum vitaes
DAC	derived air concentration
dBA	A-weighted decibels
DDE	Deep Dose Equivalent
DOE	Department of Energy
DOT	Department of Transportation
dpm	disintegrations per minute
DQO	Data Quality Objectives
Eh	oxidation-reduction potential
EHS	Environment, Health, and Safety
EHSMS	Environment, Health, and Safety Management System
ELI	Energy Laboratories Incorporated
EMT	Emergency Medical Technician
EPA	Environmental Protection Agency
ER	Environmental Report

ft amsl	feet above mean sea level
ft bgs	feet below ground surface
ft/d	feet per day
ft/ft	feet per foot
ft/mi	feet per mile
ft/s	feet per second
ft^2/d	square feet per day
FTE	full-time equivalent
FSER	final safety evaluation report
FWS	Fish and Wildlife Service
g	gravity
g/L	grams per liter
GIS	Geographic Information System
gpd/ft	gallons per day per foot
gpm	gallons per minute
GPS	Global Positioning System
GSP	Gross State Product
HDPE	high-density polyethylene
HMA	Herd Management Area
HPGe	High-Purity Germaniun
HPIC	High-Pressure Ionization Chamber
HPRCC	High Plains Regional Climate Center
ICRP	International Commission on Radiological Protection
IEC	International Electrotechnical Institute
IR	Isolated Resource
ISO	International Organization for Standardization
ISR	In Situ Recovery
JCR	Job Completion Report
km	kilometers
lb/mi^3	pounds per cubic mile
LC	Lost Creek
LC ISR, LLC	Lost Creek ISR, LLC
LLD	lower level detection
LLRWDF	low-level radioactive waste disposal facility
LQD	Land Quality Division
LS	Lost Soldier
LSA	Low Specific Activity
m^2	square meters
m/s	meters per second
man-Sv	man-Sievert
mSv	milliSievert
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual

MBHFI	Migratory Birds of High Federal Interest
MCL	Maximum Contaminant Level
mg/L	milligrams per liter
MiniVol	Mini Volumetric
MIT	mechanical integrity test
mph	miles per hour
mrem/yr	millirem per year
MSHA	Mine Safety and Health Administration
Na_2S	sodium sulfide
NAAQS	National Ambient Air Quality Standards
NaI	sodium iodide
NARM	Naturally occurring and/or Accelerator-produced Radioactive Material
NEPA	National Environmental Protection Act
NFU, LLC	New Frontiers Uranium, LLC
NIRMA	Nuclear Information and Records Management Association
NIST	National Institute of Standards and Technology
NO_2	nitrogen dioxide
NQA	National Quality Assurance
NRC	Nuclear Regulatory Commission
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSS	Native Species Status
NVLAP	National Voluntary Laboratory Accreditation Program
NWIS	National Water Information System
NWS	National Weather Service
O_3	ozone
OHV	off-highway vehicle
Pb-210	lead-210
PC	personal computer
pCi/L	picoCuries per liter
Permit Area	Lost Creek Permit Area
person-rem/yr	person-rem per year
PFN	Prompt Fission Neutron
PILT	Payments in Lieu of Taxes
PM_{10}	particulate matter less than ten micrometers
PPE	personal protective equipment
ppm	parts per million
Program	Contamination Control Program
Project	Lost Creek Project
PSD	Prevention of Significant Deterioration
psi	pounds per square inch
psig	pound-force per square inch gauge

PVC	polyvinyl chloride
PWMTF	Permanent Wyoming Mineral Trust Fund
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
Ra-226	radium-226
Ra-228	radium-228
rad/d	rad per day
rem	röntgen (roentgen) equivalent in man
RMP	Resource Management Plan
Rn-222	radon-222
RO	reverse osmosis
RSD	Radiation Safety Department
RSO	Radiation Safety Officer
RV	recreational vehicle
RWP	Radiation Work Permit
SAR	sodium adsorption ratio
SCS	Soil Conservation Service
SDR	standard dimension ratio
SDWS	Secondary Drinking Water Standard
SEM	scanning electron microprobe
SER	Safety Evaluation Report
SERP	Safety and Environmental Review Panel
SHPO	State Historic Preservation Office
SMU	soil mapping unit
SO_2	sulfur dioxide
SOP	standard operating procedure
SSC	structure, system, or component
SWEDA	Sweetwater Economic Development Association
TAC	Technical Assignment Control
T&E	threatened and endangered
TDS	total dissolved solids
TEDE	Total Effective Dose Equivalent
TER	Technical Evaluation Report
Texasgulf, Inc.	Texasgulf
Th-230	thorium-230
TR	Technical Report
U_3O_8	uranium oxide
UBC	Uniform Building Code
UCL	Upper Control Limit
UIC	Underground Injection Control
U-nat	natural uranium
Ur-E	Ur-Energy USA Inc.

URPA	Ur-E Project Air
US	United States
USGS	United States Geological Survey
VP	Vice President
VRM	Visual Resource Management
WAAQS	Wyoming Ambient Air Quality Standard
WDEQ	Wyoming Department of Environmental Quality
WGFD	Wyoming Game and Fish Department
WHDP	Wyoming Housing Database Partnership
WOS	Wildlife Observation System
WQD	Water Quality Division
WRDS	Water Resources Data System
WS	Wyoming Statute
WSA	Wilderness Study Area
WSEO	Wyoming State Engineer's Office
WYDOT	Wyoming Department of Transportation
WYPDES	Wyoming Pollution Discharge Permit

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1.0 PROPOSED ACTIVITIES

Lost Creek ISR, LLC (LC ISR, LLC) is submitting this Technical Report (TR) to the United States (US) Nuclear Regulatory Commission (NRC) in support of a source and byproduct material license to operate the Lost Creek Project (Project) in accordance with the Atomic Energy Act of 1954, as amended, Title 10 Code of Federal Regulations (CFR) Parts 20, 40, 51, and 70, and other applicable laws, regulations, and NRC guidelines. Issuance of this license would authorize LC ISR, LLC to conduct uranium In Situ Recovery (ISR) in Sweetwater County, Wyoming.

1.1 Licensing Action Requested

An NRC source and byproduct material license is required under the provisions of 10 CFR Part 40, Domestic Licensing of Source Material, to recover uranium by ISR techniques. Under the Atomic Energy Act of 1954, as amended, and the Uranium Mill Tailings Radiation Control Act of 1978, as amended, NRC has determined that it has the authority to regulate ISR facilities. The National Environmental Policy Act (NEPA) of 1969 requires federal agencies to consider the potential environmental impacts of major federal actions under their jurisdiction.

Per NEPA, federal agencies are obligated to evaluate and mitigate potential environmental impacts and to evaluate potential means to mitigate such impacts. NRC and the Bureau of Land Management (BLM) are the federal agencies with jurisdiction over the Project and Project area respectively. Under 10 CFR Part 51, Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions, NRC is required to perform an environmental evaluation of the proposed licensing activities. BLM has jurisdiction over leases related to the use of the Permit Area. After consultations with both federal agencies, it was agreed that NRC will take the lead on implementing the NEPA process for the Project. NRC will prepare a Technical Evaluation Report (TER) and a Safety Evaluation Report (SER) related to the Project. To facilitate the creation of the TER and SER, this TR is organized in accordance with the guidance provided in NUREG-1569, Standard Review Plan for In Situ Leach Uranium Extraction License Applications, which was published in June 2003.

Uranium ISR is also regulated by the State of Wyoming. Prior to commencing ISR operations, a Permit to Mine must be obtained from the Wyoming Department of Environmental Quality (WDEQ). This Permit to Mine includes an Underground Injection Control (UIC) Permit for the ISR wells (Class III wells), and in Wyoming, WDEQ has primacy from the U.S. Environmental Protection Agency (EPA) for the UIC program, which is part of the Safe Drinking Water Act of 1974, as amended. A separate application package has been prepared and will be submitted to WDEQ for the Permit to Mine. Other permits that must be obtained prior to the commencement of operations include, but are not limited to: a UIC permit for the ISR disposal (Class I) wells from WDEQ; aquifer exemptions from the EPA; an Air Quality Permit from WDEQ; and a Storm Water Discharge Permit from WDEQ.

This TR provides detailed information on the facilities, equipment, and procedures to be used for the Project. In addition, an Environmental Report (ER) was also prepared to address the potential impacts of the Project on public health and safety, and the environment as required by 10 CFR 51.45, 51.60, and 51.66. The ER for the Project is submitted simultaneously with this TR.

The ISR operations at the Lost Creek Permit Area (Permit Area) will be conducted with proven technologies following standard industry operating procedures developed to assure adequate protection of public and occupational health and safety, and the environment. According to NUREG-1569, ISR uranium recovery operations are much more environmentally benign than conventional uranium mining and milling, and pose lower risk of occupational hazard. Operations of the Project will be conducted in compliance with applicable regulations and guidelines to assure adequate protection of workers, public health, and the environment.

1.2 Project Background

The discovery of uranium deposits in the Permit Area and consequential exploratory drilling and studies have occurred over the course of four decades.

In 1968, American Metals Climax Inc. acquired the property and discovered low-grade mineralization. Texasgulf Inc. (Texasgulf), in 1976, optioned the property from Valley Development Inc. and exercised their option in 1979. Exploration drilling, carried out by Texasgulf from 1976 through 1982, identified the main mineral trend.

In 1969, Conoco Inc. (Conoco) acquired the adjacent property to the east and conducted a major exploratory drilling program, including installation of groundwater monitor wells. In 1978, Texasgulf optioned a 50 percent interest in Conoco's property, and continued the exploratory drilling of the main mineral trend at Lost Creek to the east. In 1981, Texasgulf carried out laboratory column leach testing of core samples with carbonate lixiviant, which resulted in uranium extraction in excess of 89 percent. In 1982, Texasgulf conducted pump tests on the mineralized sandstones at Lost Creek. The hydrological characteristics of the mineralized sandstones indicated that uranium extraction could be conducted with ISR methods (Poole, 1984). In 1983, Texasgulf and Conoco discontinued their exploration activities and studies due to economic reasons.

In 1986, the Japanese-owned, PNC Exploration, USA acquired the lode claims in the Permit Area and carried out additional delineation drilling, geologic and resource studies of the deposit through 1992 (Fruchey and Groth, 2004). New Frontiers Uranium, LLC (NFU) purchased the property from PNC Exploration, USA in 2000. NFU subsequently transferred the Permit Area along with its other Wyoming properties to NFU Wyoming, LLC.

From June 2005 through June 2007, Ur-Energy USA, Inc. (Ur-E), a Colorado corporation, purchased 100 percent ownership of NFU. During that time, at the Permit Area, NFU conducted engineering feasibility studies, core drilling for metallurgical studies, and delineation drilling to outline and define the uranium resources. In addition, NFU conducted comprehensive baseline studies, including installation of additional monitor wells for hydrological testing and water-quality sampling and a meteorological station within the Permit Area.

In July 2007, NFU transferred its Lost Creek property to LC ISR, LLC, a wholly owned subsidiary of Ur-E formed for the specific purpose of owning and developing the Permit Area. LC ISR, LLC is currently proposing the extraction of uranium using ISR techniques in the Permit Area.

1.3 Site Location and Description

The Permit Area is located in the northeast portion of Sweetwater County, south-central Wyoming. **Figure 1.3-1** shows the regional location of the Permit Area and the general geographic features of the region. A series of paved and unpaved county and BLM roads provide access to the Permit Area, which is located about 30 miles from the closest state highway, and the road network in the Permit Area is comprised of un-maintained two-track roads, passable year-round by four-wheel-drive vehicles. The Permit Area, which includes approximately 4,220 acres, is remotely located on public land administered by BLM and the State of Wyoming, and consists of 199 unpatented federal lode claims and one state mineral lease. The Permit Area is within Township 25 North and Ranges 92 and 93 West of the Sixth Principal Meridian; and approximately centered at 42 degrees, eight minutes North latitude and 107 degrees, 51 minutes West longitude. Rawlins is 38 miles southeast; Rock Springs is 80 miles southwest; Casper is 90 miles northeast; and Jeffrey City is 25 miles north. The nearest population center, located 15 miles northeast of the Permit Area, is Bairoil, a small town with less than 100 people.

The Permit Area is geographically located in the northeastern portion of the Great Divide Basin. The Great Divide Basin is an oval-shaped structural and topographic depression, encompassing approximately 3,500 square miles in Sweetwater and Fremont Counties, in south-central Wyoming. The Great Divide Basin is broadly bounded by mountains and hills on all sides: the Wind River and Granite Mountains to the north, the Rawlins Uplift to the east, the Wamsutter Arch to the south, and the Rock Springs Uplift to the west. The Great Divide Basin occurs between two bifurcating branches of the North American Continental Divide, which separates south of and rejoins north of the Great Divide Basin.

The regional rolling landscape has draws, rock outcroppings, ridges, and bluffs. The Permit Area is characterized by low-relief, sagebrush-dominated plains, dissected by small, ephemeral drainage networks. Within the Permit Area, there are no drainages with perennial surface water flow or permanent water bodies.

1.4 Orebody Description

The physical characteristics of the main mineral trend in the Permit Area are defined by data from historic and current exploratory drill holes. The main mineral trend strikes east for at least three miles and is as much as 2,000 feet wide. Uranium mineralization is known to occur in almost flat-lying sandstones of the Eocene Battle Springs formation. The sandstones are interbedded with siltstones and shales. The uranium mineralization generally occurs between 350 and 700 feet in depth, with a thickness varying from three to 40 feet. **Figure 1.4-1** shows the Lost Creek ore trend within the Permit Area. Detailed descriptions on the geology and mineralogy of the orebodies in the Permit Area are presented in **Section 2.6** of this report.

In 2006, a resource audit of the property was completed by Roscoe Postle Associates Inc. for Ur-E. The audit conforms to the classification of resources as required by the Canadian National Instrument 43-101. The current indicated resources of the Project are 8.5 million tons of uranium ore at a grade of 0.058 percent, which equals 9.8 million pounds of uranium oxide (U_3O_8) , and inferred resources of 0.7 million tons of ore at a grade of 0.076 percent which equals, 1.1 million pounds of U_3O_8 (Wallis, 2006).

1.5 Solution Mining Method and Recovery Process

The Project will use ISR technology to extract uranium from permeable, uranium-bearing sandstones located at depths ranging from 350 to 700 feet. For uranium ISR to be successful, the host formation must: 1) be permeable, 2) lie below the water table, and 3) contain uranium minerals in economic quantities that can be dissolved with a recovery solution. In addition, separation of the uranium-bearing sandstones by shales from other water-bearing formations helps restrict the ISR process to the targeted sandstone horizons. As demonstrated by the materials presented in this report, the geological, mineralogical, and hydrogeological characteristics of the mineralized sandstones in the Permit Area meet all of the above conditions.

The processes currently used for uranium ISR are based on well-established industry practices. **Figure 1.5-1** provides a schematic drawing of a typical ISR operation. A recovery solution (lixiviant), formed by adding gaseous carbon dioxide and oxygen (or other oxidizing agents such as peroxide) to native groundwater, is injected into a uranium-ore-bearing sandstone formation through a series of injection wells. As the barren lixiviant moves through the formation and contacts the ore, uranium is dissolved into the solution as uranyl carbonate.

The uranium-bearing solution (pregnant lixiviant) flows to production wells (also called recovery wells), where the solution is pumped to the surface by means of submersible pumps, and transported through a piping system to the Plant, where the pregnant solution will be processed (**Figure 1.5-2a,b**). The dissolved uranium will be first chemically adsorbed onto ion exchange resin at the Plant. The loaded resin is then transferred to another portion of the Plant, where it is stripped of uranium through an elution process. The resultant eluate then runs through a precipitation circuit and a filtering circuit before the final product, yellowcake slurry, is obtained. The lixiviant, once again barren, is refortified and reinjected to recover more uranium. The yellowcake slurry will be transported off-site to a licensed drying facility, where it will be processed into dry yellowcake.

Detailed descriptions of the entire ISR process are presented in **Section 3** of this report.

1.6 Operating Plans, Design Throughput, and Production

LC ISR, LLC will design and construct mine units and facilities in order to recover the uranium resources in the Permit Area. Each mine unit will consist of injection and production well patterns, typically arranged in a 'five-spot' pattern with four corner injection wells and one central production well per pattern (**Figure 1.6-1**). Fluids will be conveyed between the Plant and the mine units through buried pipelines. Small groups of injection and production wells will be connected with pipes to central distribution centers, called header houses, where oxygen (or another suitable oxidizer) will be added to the injection fluid. Carbon dioxide will be added to the injection stream at either the Plant or the header house due to its soluble nature in water. Necessary ancillary equipment will include truck-mounted well workover units, hose reels, mechanical integrity test (MIT) truck(s), electrical generators, backhoes, all-terrain forklifts, trailer-mounted cementing units, motor grader(s) and light-duty four-wheel-drive vehicles. The wells will be installed by contracted well drillers who will use truck-mounted rotary drilling rigs and water trucks.

The processing facility, known as the Plant, will be used to capture and concentrate uranium. The product of the Plant will be yellowcake slurry. The Plant design is intended to process 6,000 gallons per minute (gpm) of lixiviant through the ion exchange circuit. The elution and precipitation circuits will be designed to handle two million pounds per year of yellowcake slurry. Offices and water treatment facilities will also be constructed at the Plant site.

Section 3 of this report provides a detailed description of the operations and design of the mine units and the Plant.

Although the specific amount of yellowcake produced will depend on the market price and the cost of production, LC ISR, LLC anticipates producing about one million pounds of yellowcake (U_3O_8) per year through the Project life of at least eight years.

1.7 Project Schedules

1.7.1 Pre-Operational Development Schedule

Prior to Project start-up, a series of federal, state, and local permits and approvals must be received. **Figure 1.7-1** presents the pre-operational development schedule. The critical tasks in this phase will be the approval of: the Permit to Mine and the Mine Unit Number 1 by WDEQ (i.e., the UIC permit for Class III wells); the Source Materials License by NRC; the Operations Plan by BLM; and the UIC permit for the Class I wells from WDEQ; and aquifer exemptions from EPA.

1.7.2 Operations Schedule

The projected operations schedule is based on an initial production rate of 45,000 pounds of U_3O_8 for the first year and will increase to a reasonably sustainable production rate based on flow and grade from the ore-bearing formation, currently estimated at one million pounds per year. The actual development schedule and production rates will be adjusted in response to actual mine unit conditions (e.g., flows, recovery rates, etc.) and the market demand for uranium.

Figure 1.7-2 provides a current estimated schedule of operational activities at the Permit Area. Additional ore reserve and resource areas are known to exist within the Permit Area, but are not adequately characterized to evaluate for ISR planning at this time. These reserve areas have the potential to extend the ultimate Project life beyond this initial projected period.

1.8 Waste Management and Disposal

The major types of wastes generated at the Project will include non-radiologically contaminated domestic and industrial solid and liquid wastes, and radiologically contaminated 11(e)(2) byproduct materials. The 11(e)(2) byproduct material is defined in Chapter 2, Section 11 of the Atomic Energy Act of 1954 (42 US Code 2014(e)(2)), as amended, as "the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content." In 2000, this definition was interpreted to include more of the fluids associated with ISR than had been previously included in the definition (NRC, 2000).

Domestic sewage will be disposed of in conventional septic/leach field systems, and by the use of portable chemical toilets. Domestic solid wastes (e.g., paper, wood products, office and food wastes) and other non-hazardous solid wastes (not directly associated with uranium recovery operations) will be collected and stored on-site in commercial waste containers and periodically removed for disposal at a local certified landfill. Petroleum waste will be collected and appropriately stored on-site and periodically removed by properly licensed contractors. Liquid 11(e)(2) byproduct materials generated from ISR operations will be disposed of via UIC Class I wells. Solid 11(e)(2) byproduct materials, such as ion exchange resin, filter media, and process equipment, will be stored on-site in appropriate containers or designated areas and periodically removed for disposal at an NRC-licensed disposal facility.

Details of the proposed waste management and disposal plans are provided in **Section 4** of this report.

1.9 Source and Byproduct Material Transportation

During the Project, source and byproduct materials will be transported to and from the Permit Area. These materials include yellowcake slurry and 11(e)(2) byproduct materials.

The yellowcake slurry produced from the Plant will be transported by properly licensed contractors, driving trucks with trailer tanks approved for such use by the US and Wyoming Department of Transportation (US DOT and WYDOT, respectively), to an off-site facility for drying and packaging. At an annual production rate of one million pounds of U_3O_8, about 70 shipments per year are expected.

The 11(e)(2) byproduct materials will be transported by properly licensed contractors in DOT-approved vehicles to an NRC-licensed disposal facility off-site.

The transport of source and byproduct materials as well as the risk of transport accidents is discussed in detail in **Section 7.5** of this report.

1.10 Groundwater Restoration

After the economic recovery limit of a mine unit has been reached, the injection of lixiviant is discontinued and groundwater restoration is initiated. The restoration process will be similar to that used to restore mine units at other ISR sites, and consists of three basic activities.

- Groundwater sweep: Water will be pumped from the mine unit (with no associated injection), which results in an influx of baseline-quality water from the mine unit perimeter.
- Groundwater treatment and reinjection: Water from the mine unit will be pumped to the Plant, where ion exchange, reverse osmosis (RO), filtration and/or other treatment methods take place. The treated water will be reinjected into the aquifer. The concentrated brine will be sent to the UIC Class I well.
- Mine unit recirculation: Water from the mine unit will be circulated within the mine unit to provide consistent water quality. Recovered groundwater will be commingled and redirected to the injection wells without additional purification treatment. This phase of restoration will homogenize the water quality of the aquifer. The use of a reductant (e.g., hydrogen sulfide or other) and application of bioremediation may also be considered as warranted to supplement the primary restoration efforts.

Following these restoration activities, a groundwater stabilization monitoring program will be initiated. Once the approved restoration values are reached and maintained, restoration is deemed complete. Results will be documented in a Restoration Report and submitted to WDEQ and NRC for approval.

Detailed discussion on groundwater restoration is presented in **Section 6** of this report.

1.11 Decommissioning and Reclamation

As soon as practical after groundwater restoration has received final regulatory approval, each mine unit will be reclaimed. This reclamation process includes abandonment and plugging of all wells, removal of all buried pipelines and overhead utilities, and removal of all surface facilities.

Prior to the commencement of surface reclamation, affected areas and buildings will be decontaminated, and facilities and ancillary equipment will be decommissioned and removed or reused in another area of the Project. With regulatory agency approval, certain buildings and roads may be left for future use.

During reclamation, the land will be returned to approximate its contours prior to Project disturbance. Vegetation will be re-established using a seed mixture approved by WDEQ and BLM.

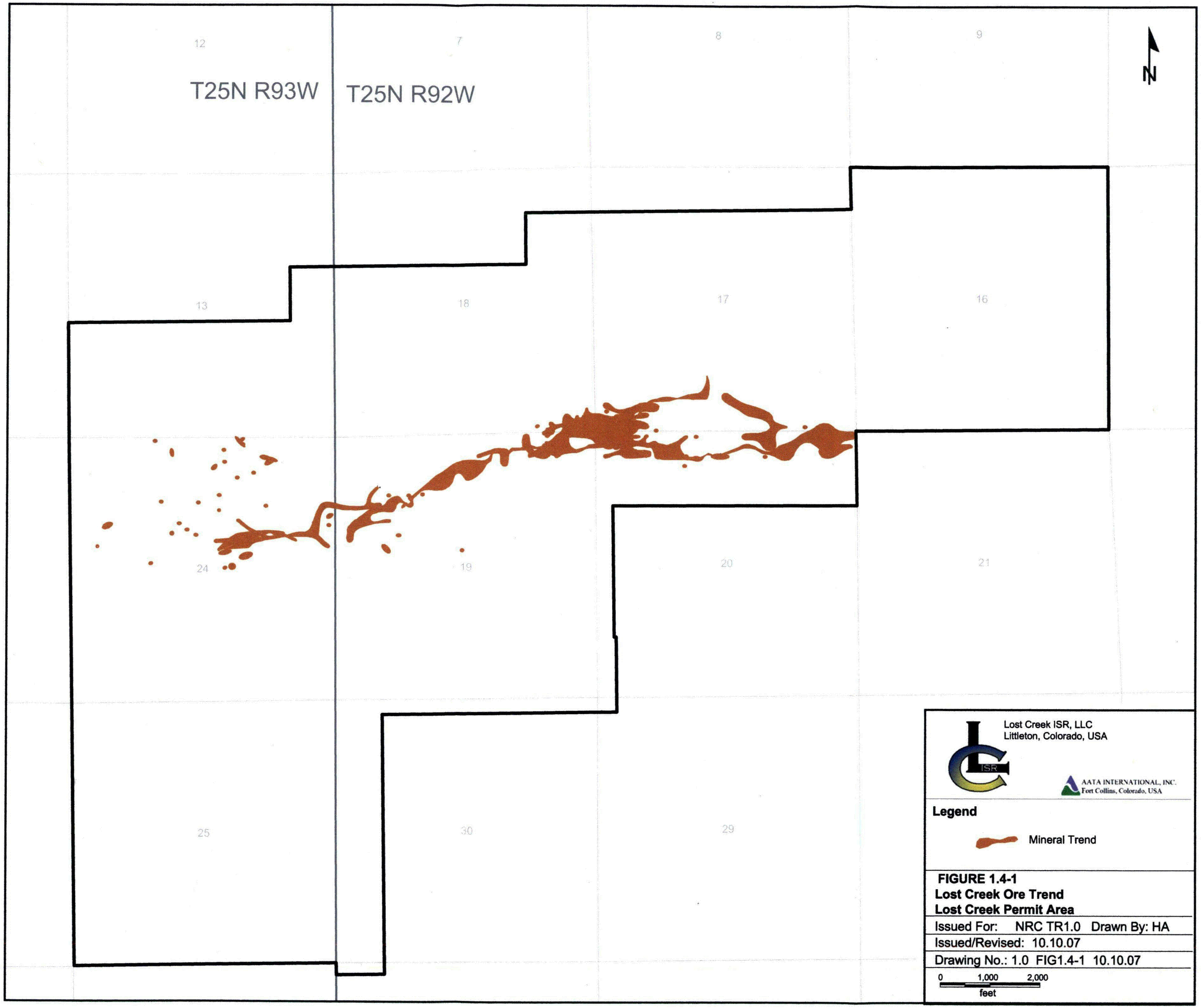
Decommissioning and reclamation are discussed in detail in **Section 6** of this report.

1.12 Surety Arrangements

Prior to commencing ISR operations, LC ISR, LLC will establish and maintain appropriate surety arrangements with NRC and WDEQ. Both WDEQ and NRC will be provided with the necessary information to verify that the financial assurance will permit the completion of groundwater restoration, radiological decontamination, facility decommissioning, and surface reclamation of sites, structures, and equipment used during the Project. Details of the surety arrangement are provided in **Section 6** of this report.

FIGURE 1.3-1
REGIONAL MAP OF THE PERMIT AREA
Lost Creek Permit Area

Issued For: NRC TR — Drawn By: EB
Issued/Revised: 10.15.07
Drawing No: NRC-TR-1.3-1-10.15.07-EJS



T25N R93W
T25N R92W
12
7
8
9
13
18
17
16
24
19
20
21
25
30
29
N
Lost Creek ISR, LLC
Littleton, Colorado, USA
AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA
Legend
Mineral Trend
FIGURE 1.4-1
Lost Creek Ore Trend
Lost Creek Permit Area
Issued For: NRC TR1.0 Drawn By: HA
Issued/Revised: 10.10.07
Drawing No.: 1.0 FIG1.4-1 10.10.07
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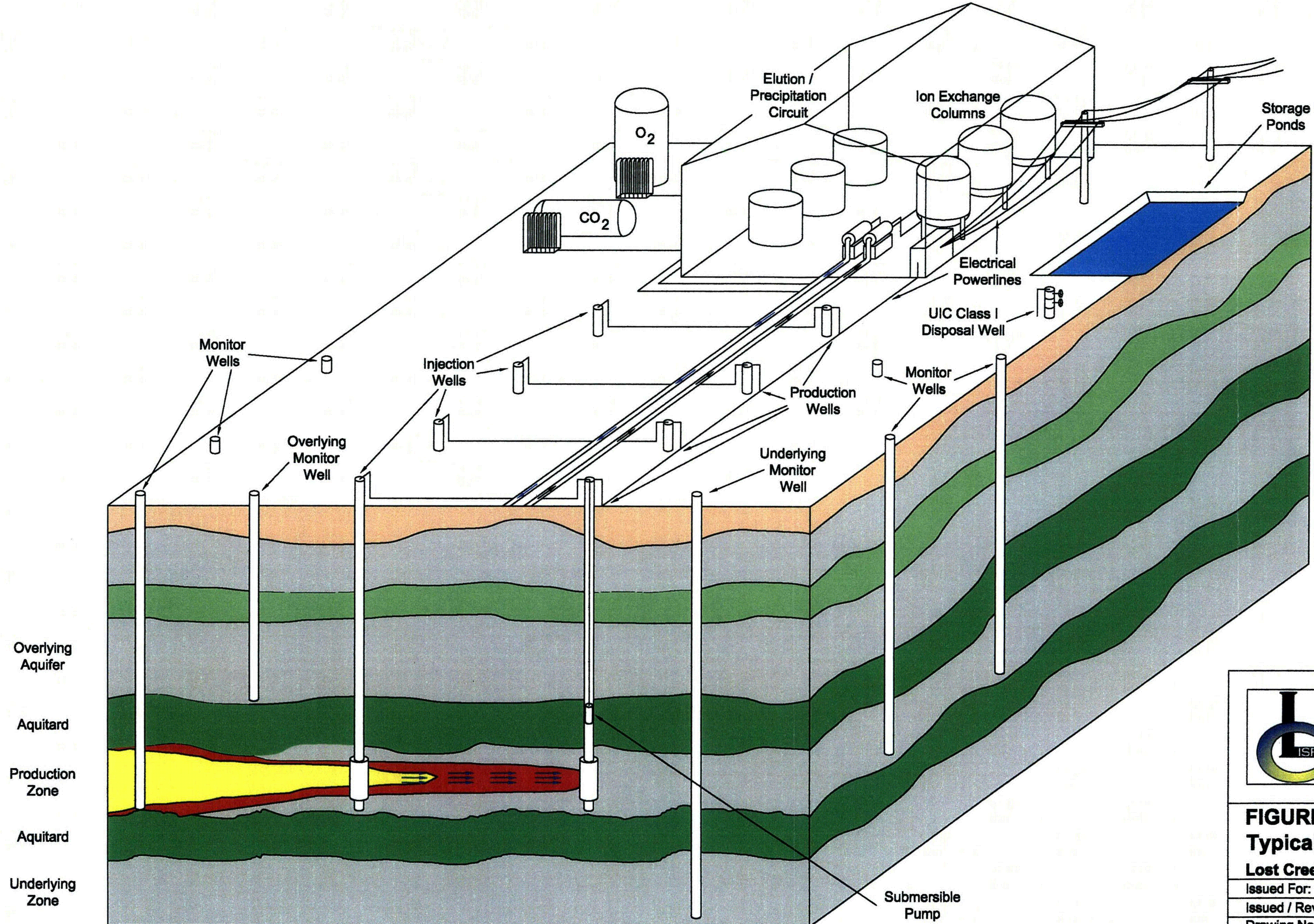
1,000
2,000
feet

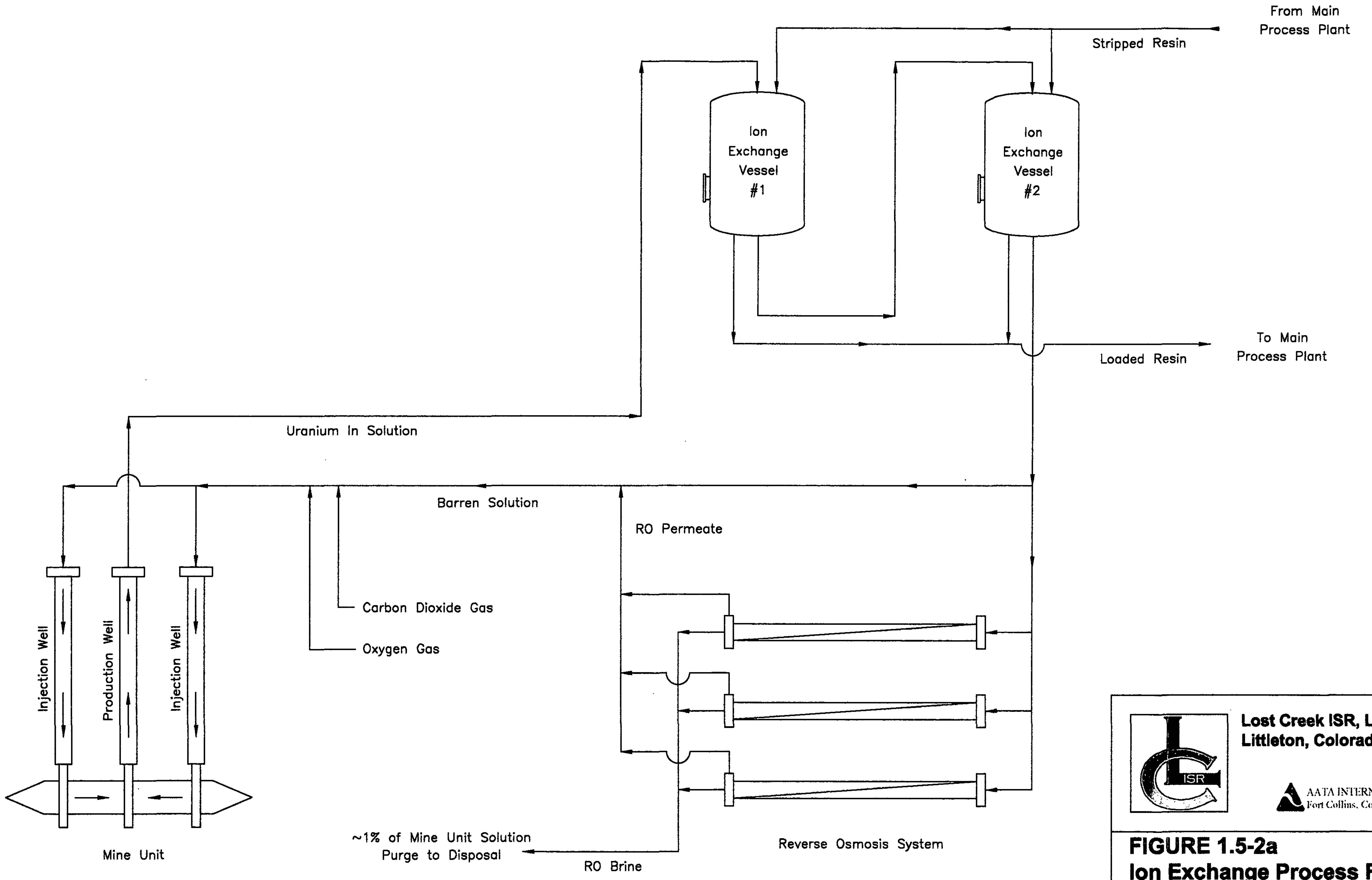


Lost Creek ISR, LLC
Littleton, Colorado USA

AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA

FIGURE 1.5-1
Typical ISR Operation
Lost Creek Permit Area

Issued For: NRC TR 1.0	Drawn By: SMH
Issued / Revised: 10.2.2007	
Drawing No. NRCTR 1.0 FIG 1.5-1 10.2.2007 SMH	



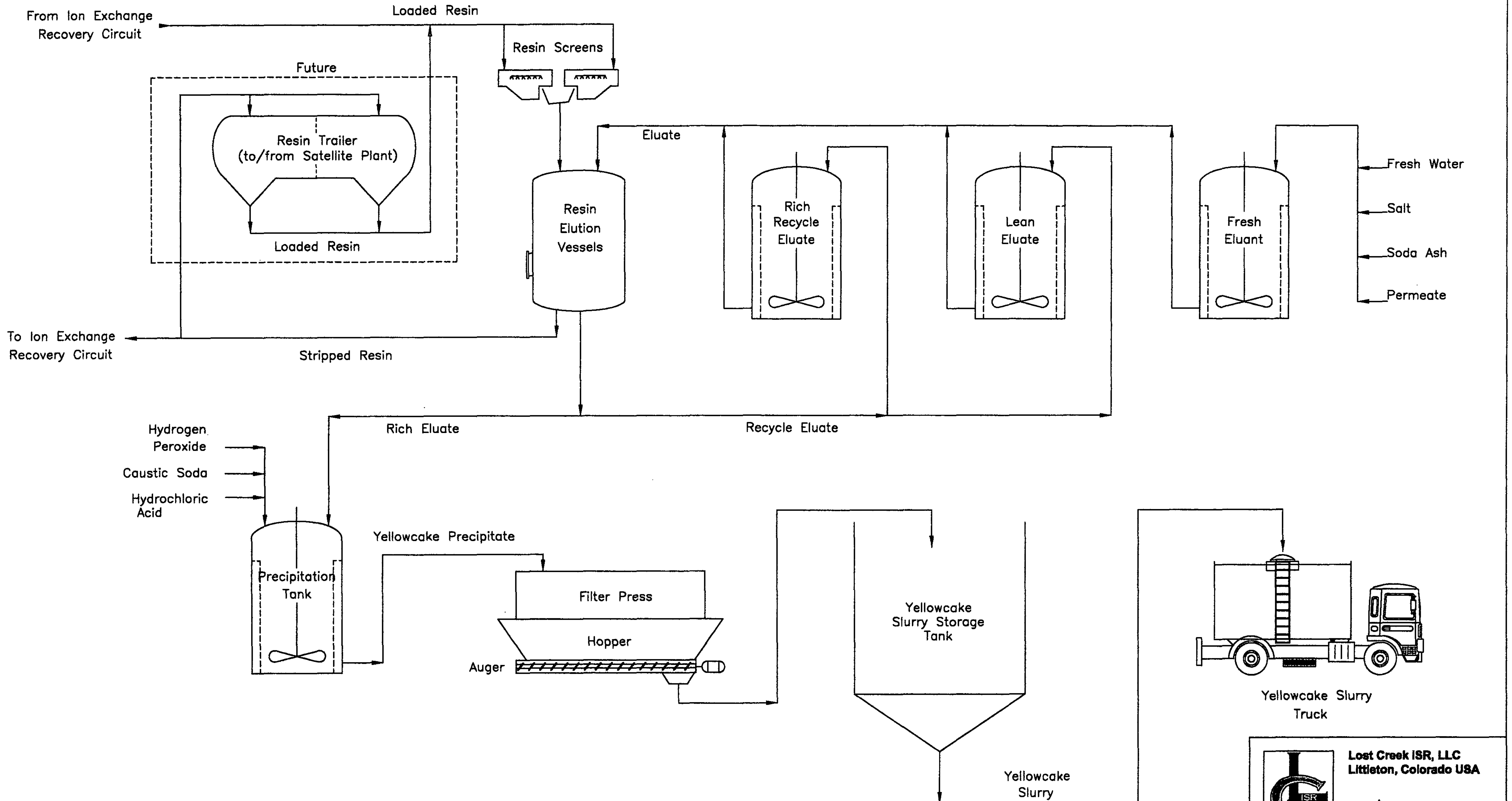
Lost Creek ISR, LLC
Littleton, Colorado USA

AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA

FIGURE 1.5-2a
Ion Exchange Process Flow

Lost Creek Permit Area

Issued For: NRC TR 1.0 Drawn By: SMH
Issued / Revised: 10.2.2007
Drawing No. NRCTR 1.0 FIG 1.5-2a 10.2.2007 SMH

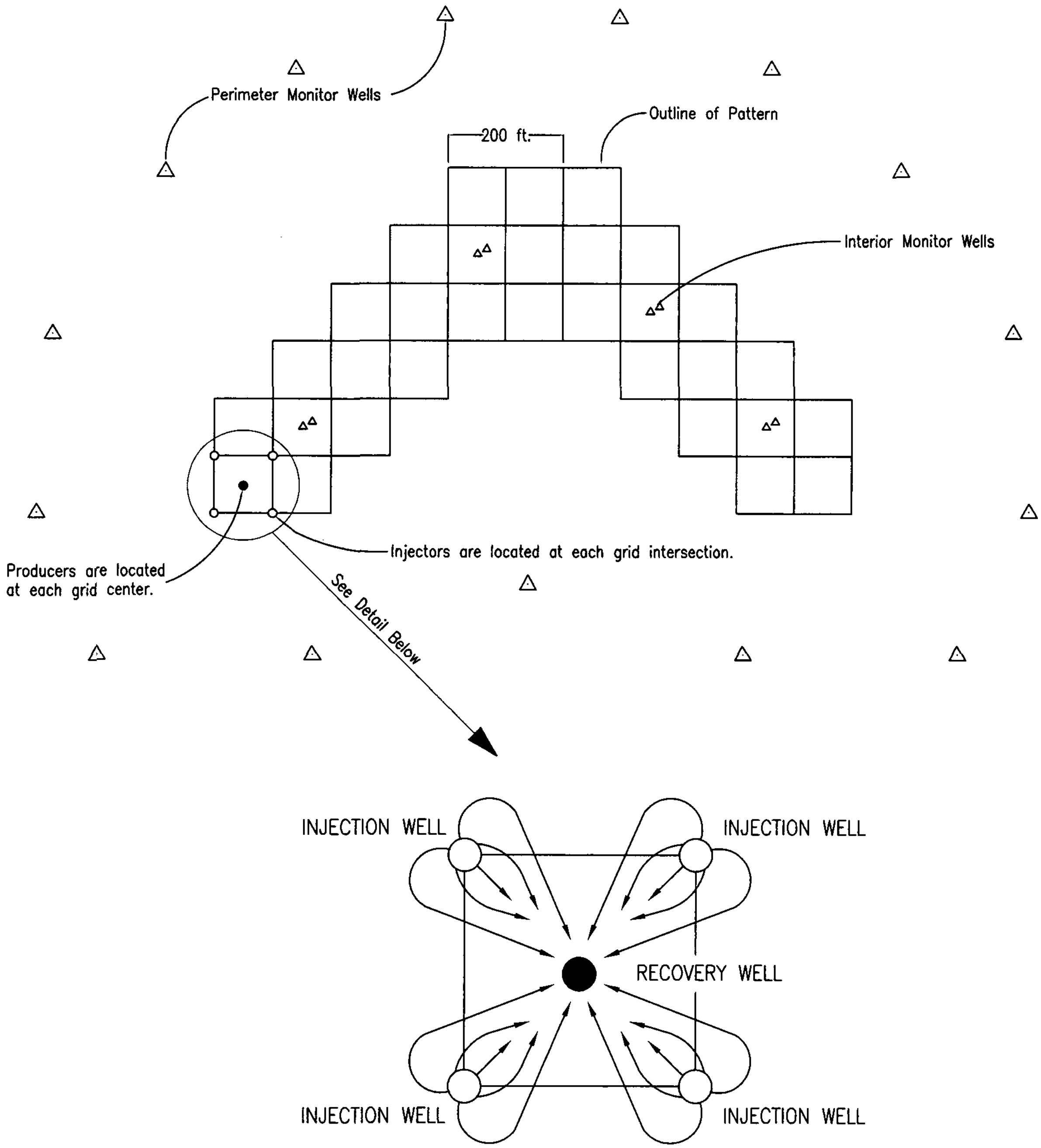


Lost Creek ISR, LLC
Littleton, Colorado USA

AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA

FIGURE 1.5-2b
Plant Process Flow
Lost Creek Permit Area

Issued For: NRC TR 1.0 Drawn By: SMH
Issued / Revised: 10.2.2007
Drawing No. NRCTR 1.0 FIG 1.5-2b 10.2.2007 SMH



TYPICAL WELLFIELD PATTERN

Lost Creek ISR, LLC
Littleton, Colorado USA

AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA

FIGURE 1.6-1
Solution Flow Patterns
Lost Creek Permit Area

Issued For: NRC TR 1.0 Drawn By: SMH
Issued / Revised: 10.2.2007
Drawing No. NRCTR 1.0 FIG 1.6-1 10.2.2007 SMH

Figure 1.7-1 Pre-operation Schedule of the Lost Creek Project

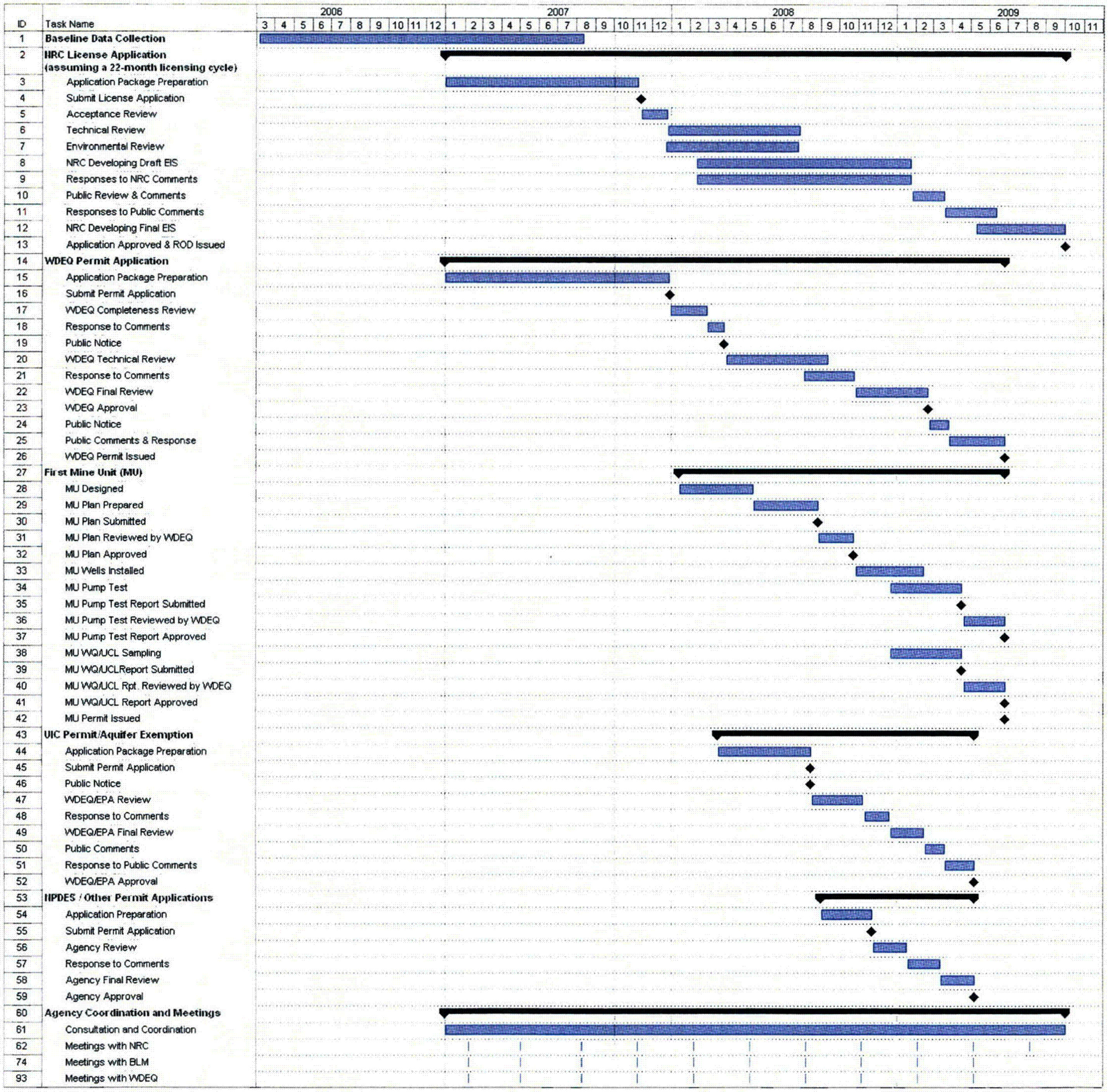
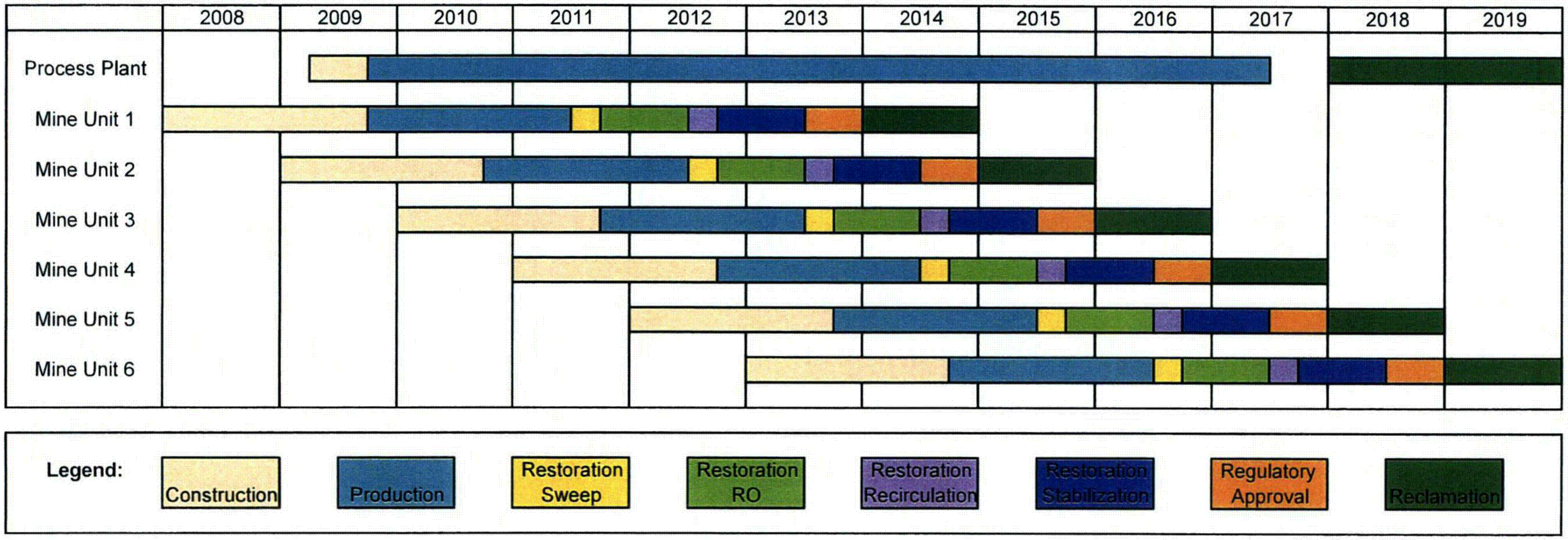


FIGURE-1.7-2

Lost Creek Project Development, Production and Restoration Schedule



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2.0 SITE CHARACTERIZATION

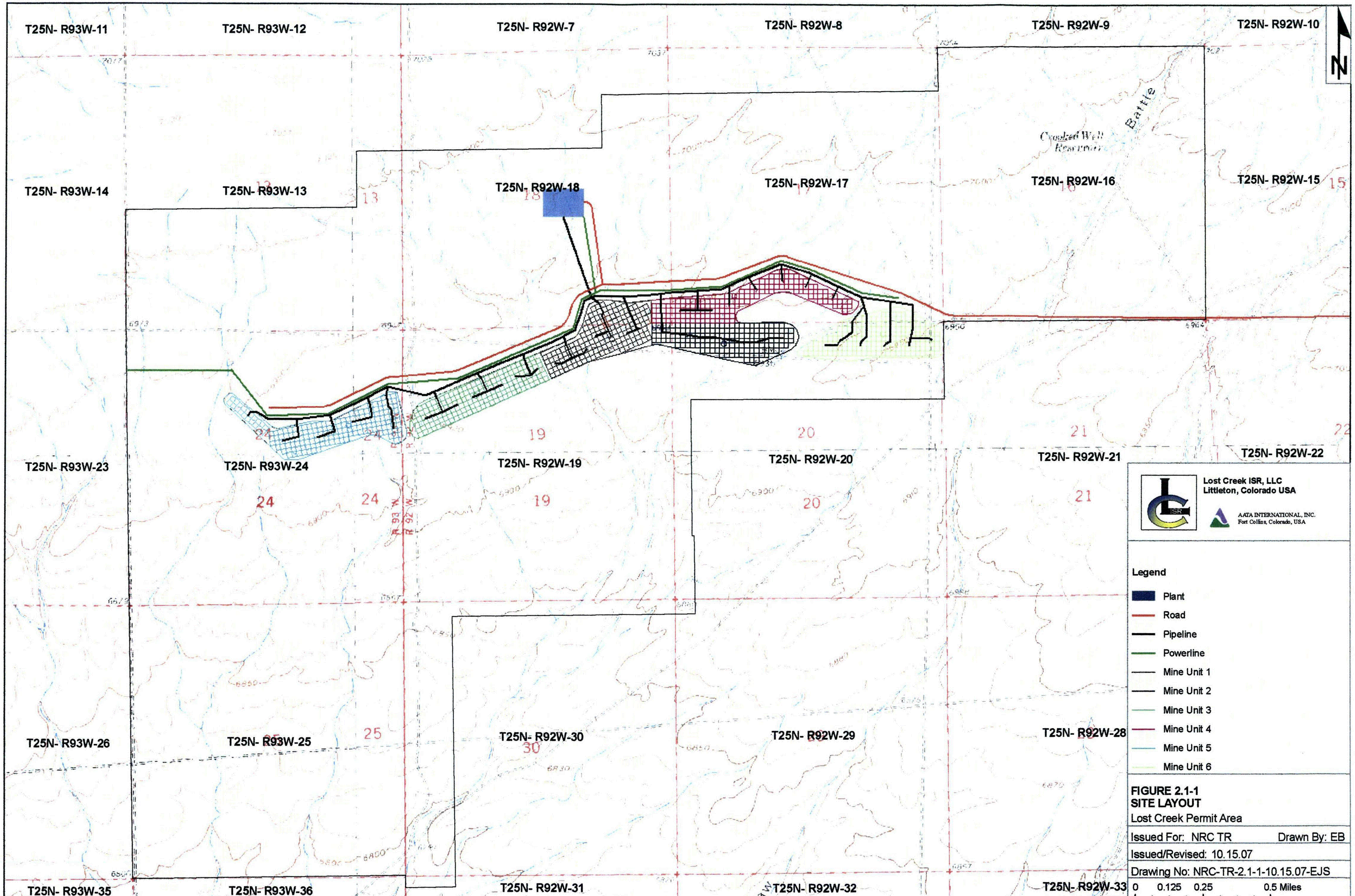
2.1 Site Location and Layout

The Permit Area comprises approximately 4,220 acres, remotely located on public land. Within the Permit Area, 3,580 acres are federally owned and administered by the BLM (see **Section 2.2.1**); 640 acres are owned by the State of Wyoming and administered by the Wyoming Office of State Lands and Investments. The Permit Area consists of 199 unpatented federal lode claims and one state lease. It includes portions or the entirety of Sections 13 and 23 to 26 of Township 25 North, Range 93 West, and Sections 16 to 21 and 29 to 31 of Township 25 North, Range 92 West, and is located entirely in Sweetwater County, Wyoming.

The topography, existing roads, power lines and political boundaries within the Permit Area are shown in **Figure 1.3-1**. The map includes the surrounding two miles, pursuant to guidance from NUREG 1569 (NRC, 2003) regarding the study area for site location and layout. The base layer for most figures in this document is either a mosaic of Digital Raster Graphic drawings, 7.5 minute quad maps from the United States Geological Survey (USGS), or an orthophoto mosaic for Sweetwater County, Wyoming, originating from the US Department of Agriculture, Natural Resources Conservation Service (NRCS). Additional Geographic Information System (GIS) data layers in this document were created by the US Census Bureau, US Census Bureau with enhancements by ESRI and TeleAtlas, BLM, Wyoming Game and Fish Department (WGFD), Spatial Data and Visualization Center of Laramie, Wyoming, and Munn & Arneson (1998 and 1999).

The drainages within the two-mile review area are entirely ephemeral; there is no perennial surface water present. The site elevation ranges from approximately 6,790 to 7,050 feet above mean sea level. As such, there are no notable geographic features within the review area. No geologic outcrops are present within the review area; site geology is discussed at length in **Section 2.6** of this document. The site is composed entirely of Big Sagebrush Shrublands, and there are no forested portions of the review area; the ecology of the site is discussed in **Section 2.8** of this document. There are no publicly maintained roads within the Permit Area. The road network in the Permit Area, delineated in **Figure 1.3-1** consists entirely of two-track roads, accessible year-round with four-wheel-drive vehicles. There are grazing allotments within the review area, but no farms, residences, or population centers are present. Land use is discussed in **Section 2.2** and population distribution is discussed in **Section 2.3** of this document.

The proposed locations of the Plant, roads, transmission lines, pipelines, mine units and facilities within the Permit Area are shown in **Figure 2.1-1**. The delineation of the mine units is preliminary, and may change as additional information becomes available. During production and restoration, each mine unit will be fenced. The area surrounding the Plant will be fenced for security for the duration of the Project. No drainage diversions are currently planned. **Figure 2.1-2** shows the regional transportation network and likely site access routes.



T25N- R93W-11
T25N- R93W-12
T25N- R92W-7
T25N- R92W-8
T25N- R92W-9
T25N- R92W-10
N
Battle
T25N- R93W-14
T25N- R93W-13
T25N- R92W-18
T25N- R92W-17
T25N- R92W-16
T25N- R92W-15
T25N- R93W-23
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T25N- R93W-25
T25N- R92W-30
T25N- R92W-29
T25N- R92W-28
T25N- R93W-35
T25N- R93W-36
T25N- R92W-31
T25N- R92W-32
T25N- R92W-33
Lost Creek ISR, LLC
Littleton, Colorado USA
AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA
Legend
Plant
Road
Pipeline
Powerline
Mine Unit 1
Mine Unit 2
Mine Unit 3
Mine Unit 4
Mine Unit 5
Mine Unit 6
FIGURE 2.1-1
SITE LAYOUT
Lost Creek Permit Area
Issued For: NRC TR
Drawn By: EB
Issued/Revised: 10.15.07
Drawing No: NRC-TR-2.1-1-10.15.07-EJS
0 0.125 0.25 0.5 Miles

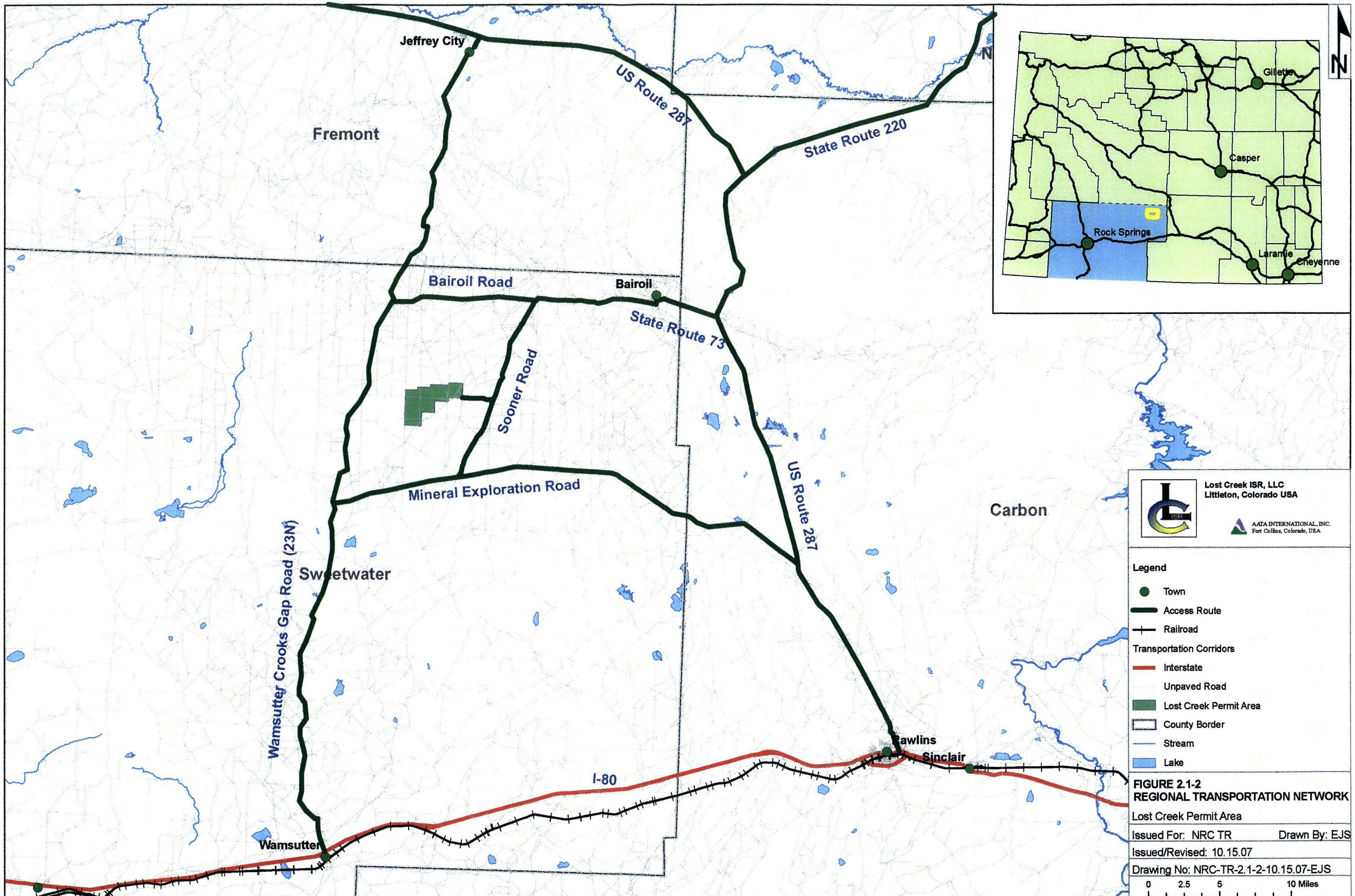

FIGURE 2.1-2
REGIONAL TRANSPORTATION NETWORK
Lost Creek Permit Area

Issued For: NRC TR
Drawn By: EJS
Issued/Revised: 10.15.07
Drawing No: NRC-TR-2.1-2-10.15.07-EJS

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2.2 Uses of Adjacent Lands and Waters

The study area for land and water use is comprised of the Permit Area plus the area within two miles of the Permit Area, except for information on nuclear fuel cycle facilities for which the study area is expanded to 50 miles from the Permit Area. The land and water uses within the study area are described below to provide the background information necessary to assess the potential impacts of the Project. Land and water use data support evaluation of the potential impacts from all aspects of the ISR operation, including radiation exposure calculations, cost-benefit analyses, and determination of air emissions.

2.2.1 Land Use

The land within the Permit Area is entirely publicly owned. Three-thousand-five-hundred-eighty acres (85 percent) are federal land, managed by BLM through the Rawlins and Lander Field Offices. Six-hundred-forty acres (15 percent) are state lands managed by the Wyoming Office of State Lands and Investments. Within the two-mile perimeter study area, 27,486 acres (96 percent) are federally owned; 983 acres (three percent) are state owned; and 307 acres (one percent) are privately owned (**Figure 2.2-1**). The current primary land use in the study area is rangeland for cattle and sheep, but the area is also used for dispersed recreation, such as hunting, off-highway vehicle (OHV) use, and antler collecting. There are no population centers within two miles of the Permit Area; the closest residence is in Bairoil, about 15 miles from the Project. There are no maintained roads within the study area, but a power line is present.

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 grazing allotments: Stewart Creek, Cyclone Rim, and Green Mountain (**Figure 2.2-2**). 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.

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 cows. 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, because the cattle generally include cow-calf pairs, some of the cows and calves are generally kept for breeding.

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.

Hunting

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 in the general region of the Project are shown in **Table 2.2-1**; these hunt areas are primarily not within two miles of the Permit Area.

Infrastructure

Currently, the only transportation corridors within the study area proper are two-track roads (**Figure 1.3-1**). These are accessible year-round by four-wheel-drive vehicles. Most are indistinct, difficult to delineate, or do not have obvious end points. These tracks are not maintained, have no drainage, and are sometimes impassible during the winter months. County Road 23 North (Wamsutter-Crooks Gap Road) is about five miles west of the Permit Area, and the BLM 3215 (Sooner Road) is about five miles east. A power transmission line runs in a north-south direction near the western boundary of the Permit Area.

Nuclear Fuel Cycle Facilities, Uranium Mills, Mines, and ISR Projects

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 2.2-3**. 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 2.2-3** 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.

2.2.1.1 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.

2.2.2 Water Use

Water-use permits with legal descriptions inside and within two miles of the Permit Area were queried in 2007 using the Wyoming State Engineer's Office (WSEO) Water Rights Database (WSEO, 2006). In this vicinity, water is used for livestock and wildlife watering as well as for purposes related to mining (monitoring, pump testing, and dewatering). Currently, water is not used for domestic or irrigation purposes within two miles of the Permit Area.

2.2.2.1 Surface Water

The WSEO Database query results indicate that surface-water-use permits do not exist inside or within two miles of the Permit Area. As noted in the following section, there are four BLM stock ponds within two miles of the Permit Area. The water-use permits for these ponds are associated with the wells that supply the ponds, i.e., they are not associated with any surface-water-use permits. Also, as noted in **Section 2.7.1.1**, the Crooked Well Reservoir is located in the Permit Area. However, it is a small off-channel detention pond, less than one-quarter acre in size, and there is no water-use permit associated with it.

2.2.2.2 Groundwater

Water-use permits with legal descriptions inside and within two miles of the Permit Area were queried using the WSEO Water Rights Database (WSEO, 2006). The majority of the groundwater-use permits filed in the vicinity of the Permit Area are for monitoring or miscellaneous mining-related purposes, and do not represent consumptive use of groundwater. Many of those permits are associated with the Kennecott Sweetwater Mine, which is in reclamation. Because this mine was an open-pit operation, the dewatering and monitoring associated with it were at much shallower depths than those proposed for ISR at Lost Creek. Dewatering in advance of mining at the Sweetwater Mine was completed in 1983.

All non-mining and mining groundwater-use permits inside and within two miles of the Permit Area are presented in **Table 2.2-2**. Descriptions of the groundwater-use permits include, but are not limited to, location, uses, priority dates, status, yield, total depth, and static water depth.

The water-use permits unrelated to mining are those of the BLM. In 1968 and 1980, the BLM Rawlins District was granted three permits (13834, 55112, and 55113). Each of these permits is associated with a well that supplies a stock pond (or tank). These wells and associated stock ponds are located outside of the Permit Area, but within the study area (**Figure 2.2-4**). In addition, there is a fourth BLM well, supplying a stock pond, for which no water-use permit was found.

Permit 13834 is for Battle Spring Draw Well No. 4451, which pumps water into a stock tank east of the Permit Area (Township 25 North, Range 92 West, Section 21, Northwest Quarter, Northeast Quarter, Northeast Quarter). In 1968, a uranium exploration hole was drilled at this location; when water was encountered, plastic casing was installed and the well was developed. The well depth is 900 feet, with a static water level of 104 feet. A yield of 19 gpm is permitted. The screened interval is unknown, but given the well depth, it may be significantly deeper than the sands targeted by LC ISR, LLC under this permit.

Boundary Well No. 4775 (Permit 55112) and Battle Spring Well No. 4777 (Permit 55113) were drilled as stock wells in 1981 to a depth of approximately 280 feet and 220 feet, respectively. These wells are shallower than the sands targeted by LC ISR, LLC under this permit. A water use of 25 gpm is permitted at each of these wells. According to aerial photographs, Boundary Well No. 4775 is located northeast of the Permit Area, in Township 25 North, Range 92 West, Section 10, Southeast Quarter, Northeast Quarter, Southwest Quarter. Battle Spring Well No. 4777 is situated southeast of the Permit Area, in Township 25 North, Range 92 West, Section 30, Southeast Quarter, Northwest Quarter. The condition of the windmill on Boundary Well No. 4775 is not known, and the windmill on the Battle Spring Well No. 4777 was not in working order in June 2007 (**Figure 2.2-5**).

In June and July of 2007, LC ISR, LLC contacted BLM to identify the status of these groundwater-use permits. These groundwater-use permits are still considered active (BLM, 2007). In addition to these wells, BLM identified another active stock well, the East Eagle Nest Draw Well.

The East Eagle Nest Draw Well is located north of the Permit Area, in the Northwest Quarter of the Northwest Quarter of the Northwest Quarter of Section 13, Township 25 North and Range 93 West. From mid-May through mid-September, an electric submersible pump in the well is used to pump water into a livestock watering pond at an average rate of five gpm for six to eight hours each day (**Figure 2.2-6**). This total depth of this well is 370 feet, with a static water level of 269 feet.

Throughout the phases of the Project, LC ISR, LLC will correspond with BLM to ensure that the stock reservoirs and wells are not impacted in a manner that restricts their intended use.

At this time, the Permit Area has three water supply wells and 75 monitor wells permitted and bonded by the State Engineer and WDEQ to LC ISR, LLC and its affiliates (Ur-E and NFU Wyoming, LLC). Installation of these wells is on-going. Currently, the Project consumes a negligible amount of groundwater for well development, monitoring, testing, and miscellaneous purposes related to uranium exploration. Projected water use once ISR begins is discussed in **Section 3.2.7.3**, and the impacts of that use are discussed in **Section 7.1.5.2**.

A list and description of the queried cancelled and abandoned drill holes and wells within a two-mile radius of the Permit Area are displayed in **Table 2.2-3**. Drill hole abandonment is discussed in detail in **Section 3.2.2** of this report. Well abandonment is discussed in **Section 6.3.2** of this report.

FIGURE 2.2-1
Land Ownership
Lost Creek Permit Area

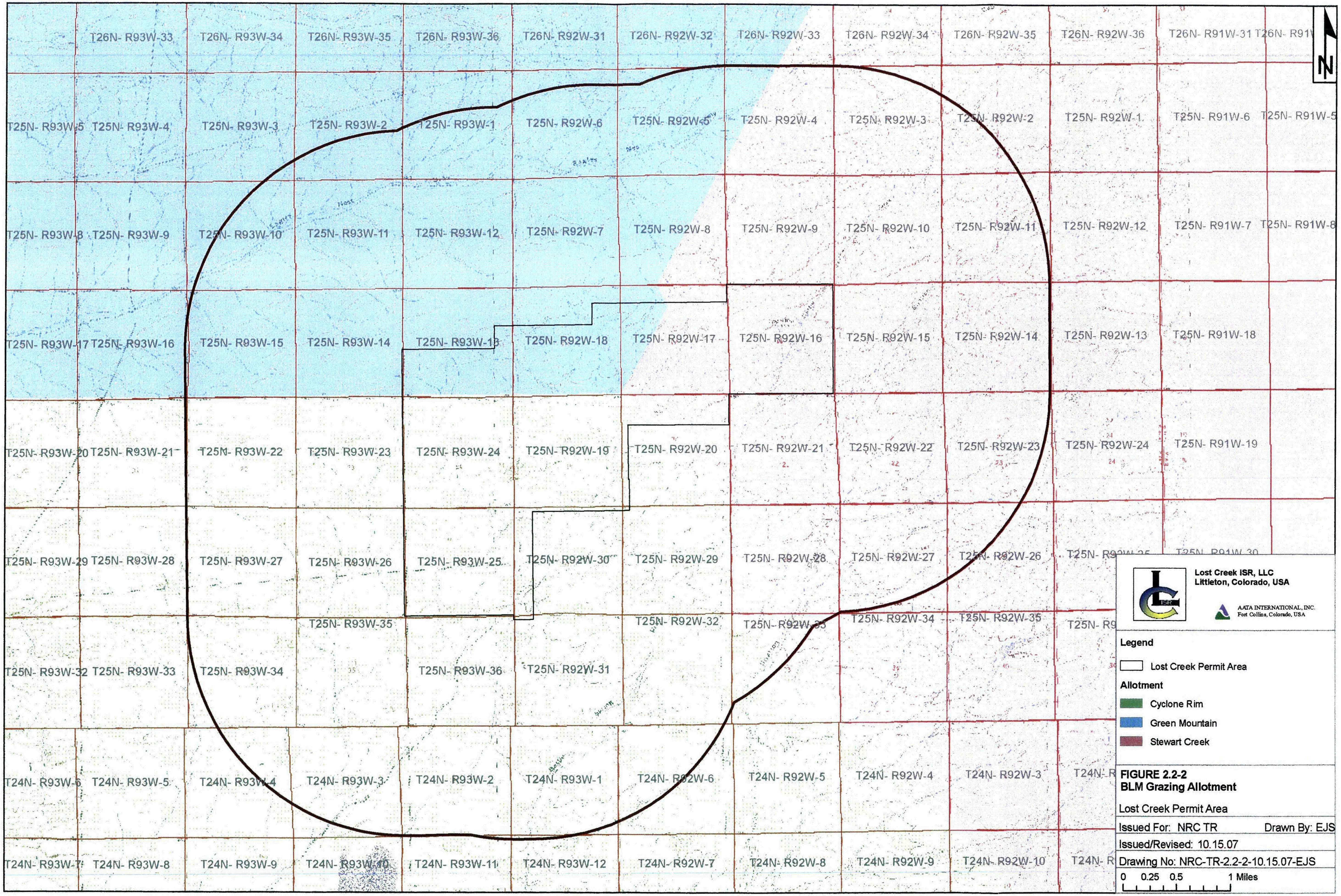


FIGURE 2.2-2
BLM Grazing Allotment

Lost Creek Permit Area

Issued For: NRC TR | Drawn By: EJS

Issued/Revised: 10.15.07

Drawing No: NRC-TR-2.2-2-10.15.07-EJS

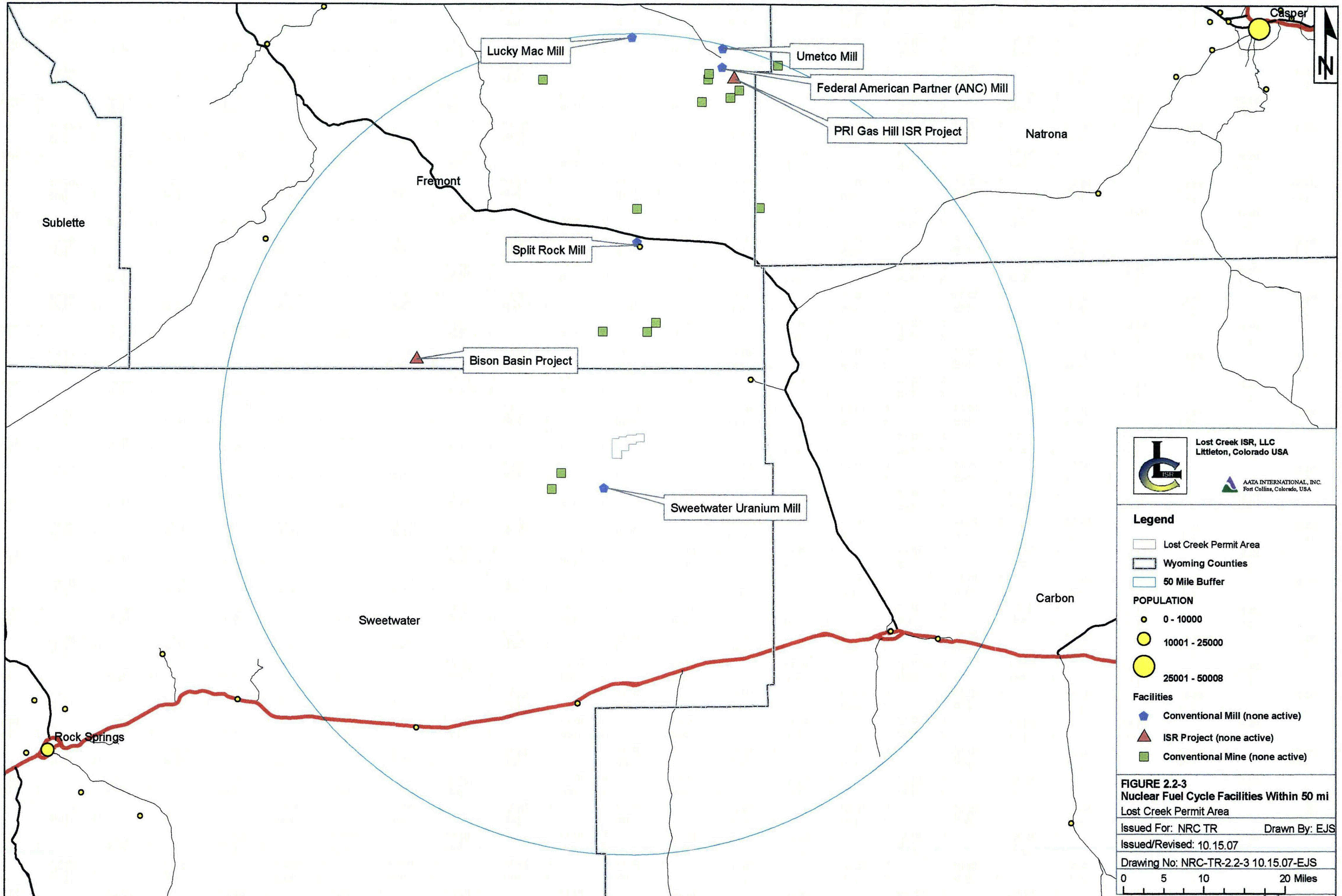
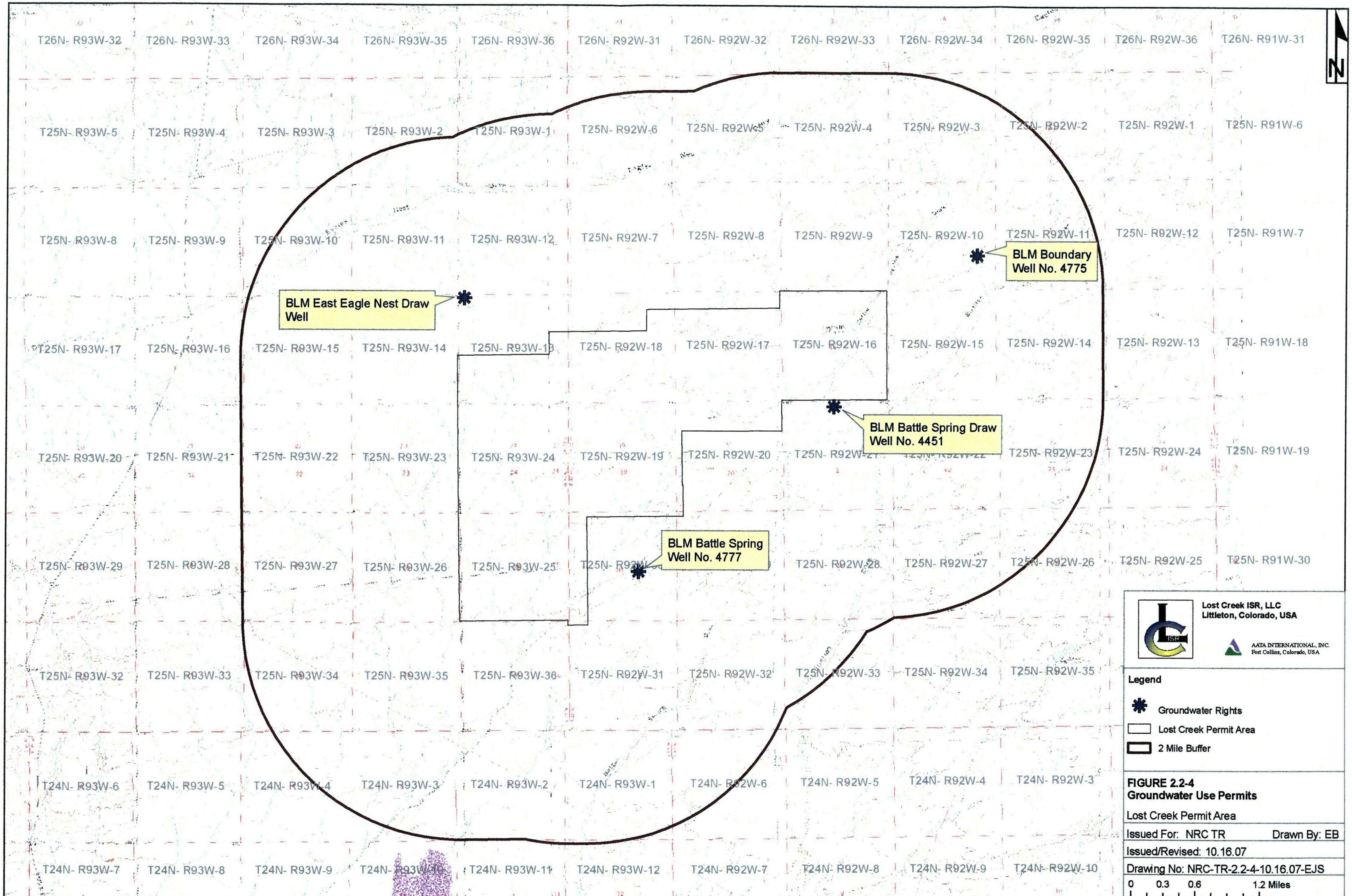
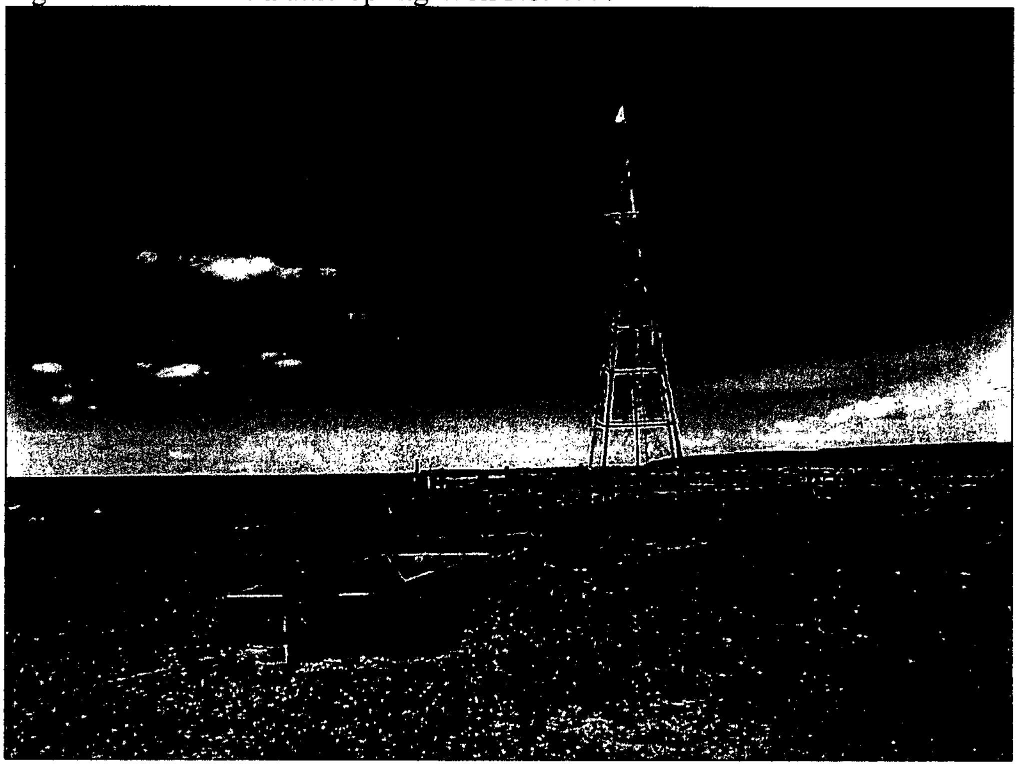


FIGURE 2.2-3
Nuclear Fuel Cycle Facilities Within 50 mi
Lost Creek Permit Area



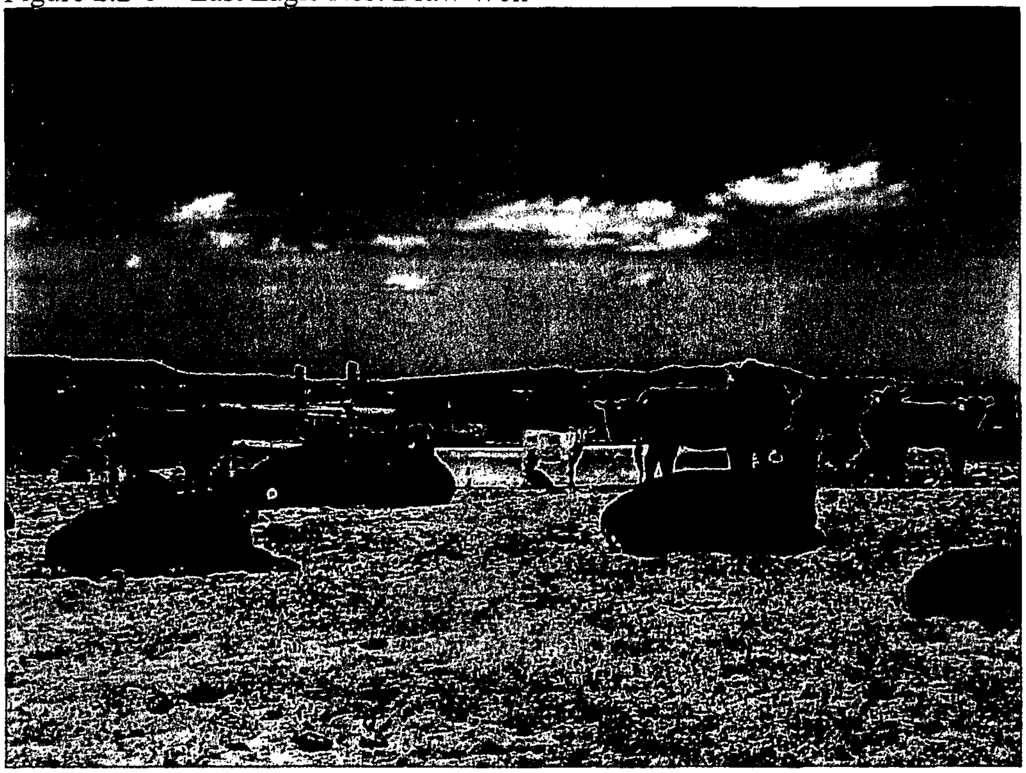
T26N- R93W-32
T26N- R93W-33
T26N- R93W-34
T26N- R93W-35
T26N- R93W-36
T26N- R92W-31
T26N- R92W-32
T26N- R92W-33
T26N- R92W-34
T26N- R92W-35
T26N- R92W-36
T26N- R91W-31
N
T25N- R93W-5
T25N- R93W-4
T25N- R93W-3
T25N- R93W-2
T25N- R93W-1
T25N- R92W-6
T25N- R92W-4
T25N- R92W-3
T25N- R92W-2
T25N- R92W-1
T25N- R91W-6
T25N- R93W-8
T25N- R93W-9
T25N- R93W-10
T25N- R93W-11
T25N- R93W-12
T25N- R92W-7
T25N- R92W-8
T25N- R92W-9
T25N- R92W-10
T25N- R92W-11
T25N- R92W-12
T25N- R91W-7
BLM Boundary Well No. 4775
BLM East Eagle Nest Draw Well
T25N- R93W-17
T25N- R93W-16
T25N- R93W-15
T25N- R93W-14
T25N- R92W-18
T25N- R92W-17
T25N- R92W-16
T25N- R92W-15
T25N- R92W-14
T25N- R92W-13
T25N- R91W-18
BLM Battle Spring Draw Well No. 4451
T25N- R93W-20
T25N- R93W-21
T25N- R93W-22
T25N- R93W-23
T25N- R93W-24
T25N- R92W-19
T25N- R92W-20
T25N- R92W-23
T25N- R92W-24
T25N- R91W-19
BLM Battle Spring Well No. 4777
T25N- R93W-29
T25N- R93W-28
T25N- R93W-27
T25N- R93W-26
T25N- R93W-25
T25N- R92W-28
T25N- R92W-27
T25N- R92W-26
T25N- R92W-25
T25N- R91W-30
T25N- R93W-32
T25N- R93W-33
T25N- R93W-34
T25N- R93W-35
T25N- R93W-36
T25N- R92W-31
T25N- R92W-32
T25N- R92W-33
T25N- R92W-34
T25N- R92W-35
T24N- R93W-6
T24N- R93W-5
T24N- R93W-3
T24N- R93W-2
T24N- R93W-1
T24N- R92W-5
T24N- R92W-4
T24N- R92W-3
T24N- R93W-7
T24N- R93W-8
T24N- R93W-9
T24N- R93W-11
T24N- R93W-12
T24N- R92W-7
T24N- R92W-8
T24N- R92W-9
T24N- R92W-10
Lost Creek ISR, LLC
Littleton, Colorado, USA
AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA
Legend
Groundwater Rights
Lost Creek Permit Area
2 Mile Buffer
FIGURE 2.2-4
Groundwater Use Permits
Lost Creek Permit Area
Issued For: NRC TR
Drawn By: EB
Issued/Revised: 10.16.07
Drawing No: NRC-TR-2.2-4-10.16.07-EJS
0 0.3 0.6 1.2 Miles

Figure 2.2-5 BLM Battle Spring Well No. 4777



(June 13, 2007)

Figure 2.2-6 East Eagle Nest Draw Well



(June 13, 2007)

Table 2.2-1 Hunting Statistics for Hunt Areas that Include the Permit Area

Game	Hunter Days	Active Licenses	Total Harvest	Hunter Success (percent)	Outfitters	Hunting Area
Antelope	683	233	229	98.30	19	Chain Lakes
Deer	544	126	12	9.50	7	Chain Lakes
Elk	496	82	42	51.20	3	Shamrock Hills
Mountain Lion	NA [1]	NA	1	NA	5	Red Desert

[1] NA = No Data

Table 2.2-2 **Groundwater Use Permits** (Page 1 of 12)

Last Revised October, 2007

Permit Number	Applicant [1]	Township		Range		Section	¼ ¼ [2]	Uses	Priority	Status	Headgate-Outlet-Well [3,4]	Permit Facility Name	Yield		Well Depth (ft)	Static Well Depth (ft)
P9742W	Kennecott Uranium Company	24	N	92	W	5	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	24	N	92	W	6	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	24	N	92	W	7	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	24	N	93	W	1	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	24	N	93	W	2	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	24	N	93	W	3	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	24	N	93	W	11	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	24	N	93	W	12	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P147594W	Kennecott Uranium Company	24	N	93	W	1	SWNE	Monitoring	10/22/2002	Good Standing	X	TMW-90	INP		55	36.13
P48386W	Kennecott Uranium Company	24	N	93	W	3	SWNE	Dewatering, Miscellaneous	5/31/1979	Unadjudicated	X	24-93W-3AC-M-1	0	gpm	450	135.8
P147595W	Kennecott Uranium Company	24	N	93	W	1	SENW	Monitoring	10/22/2002	Good Standing	X	TMW-91	INP		110	100.17
P47137W	Kennecott Uranium Company	24	N	93	W	3	SWSW	Reservoir Supply, Stock, Miscellaneous	12/7/1977	Unadjudicated	INP	BLUE #5	100	gpm	INP	INP
P47137W	Kennecott Uranium Company	24	N	93	W	3	SESW	Reservoir Supply, Stock, Miscellaneous	12/7/1977	Unadjudicated	INP	BLUE #5	100	gpm	INP	INP
P9742W	Kennecott Uranium Company	25	N	93	W	1	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	2	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	3	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	10	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	11	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	12	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	13	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	14	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	15	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	22	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	23	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	24	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104
P9742W	Kennecott Uranium Company	25	N	93	W	25	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25	gpm	170	104

Table 2.2-2 Groundwater Use Permits (Page 2 of 12)

Last Revised October, 2007

Permit Number	Applicant [1]	Township	Range	Section	¼ ¼ [2]	Uses	Priority	Status	Headgate-Outlet-Well [3,4]	Permit Facility Name	Yield	Well Depth (ft)	Static Well Depth (ft)
P9742W	Kennecott Uranium Company	25 N	93 W	26	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25 gpm	170	104
P9742W	Kennecott Uranium Company	25 N	93 W	27	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25 gpm	170	104
P9742W	Kennecott Uranium Company	25 N	93 W	34	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25 gpm	170	104
P9742W	Kennecott Uranium Company	25 N	93 W	35	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25 gpm	170	104
P9742W	Kennecott Uranium Company	25 N	93 W	36	INP	Stock, Industrial	7/15/1971	Adjudicated	INP	J E S #1	25 gpm	170	104
39/1/565W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMO-101	LCS	LCS	LCS
39/1/566W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMV-105	LCS	LCS	LCS
39/1/567W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Unadjudicated	X	HJMP-108	LCS	LCS	LCS
39/1/568W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Unadjudicated	X	HJMO-111	LCS	LCS	LCS
39/1/569W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	UKMU-101	LCS	LCS	LCS
39/10/564W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMP-101	LCS	LCS	LCS
39/10/565W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMO-104	LCS	LCS	LCS
39/10/566W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Unadjudicated	X	HJMV-108	LCS	LCS	LCS
39/10/567W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Unadjudicated	X	HJMP-111	LCS	440	176.94
39/10/568W	NFU Wyoming LLC	25 N	92 W	20	NENW	Monitoring	3/1/2007	Unadjudicated	X	HJMO-114	LCS	LCS	LCS
39/10/88W	NFU Wyoming LLC	25 N	92 W	16	SENE	Monitoring	6/9/2006	Unadjudicated	X	LC27M	LCS	477	189.8
39/2/564W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJT 101	LCS	LCS	LCS
39/2/565W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMV-102	LCS	LCS	LCS
39/2/566W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMP-105	LCS	LCS	LCS
39/2/567W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Unadjudicated	X	HJMO-108	LCS	LCS	LCS
39/2/568W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMV-112	LCS	LCS	LCS
39/2/569W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	UKMP-101	LCS	575	192.13
39/3/564W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJT 102	LCS	LCS	LCS
39/3/565W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMP-102	LCS	LCS	LCS
39/3/566W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMO-105	LCS	LCS	LCS
39/3/567W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMV-109	LCS	LCS	LCS
39/3/568W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMP-112	LCS	LCS	LCS
39/3/569W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	UKMO-101	LCS	LCS	LCS

Table 2.2-2 Groundwater Use Permits (Page 3 of 12)

Last Revised October, 2007

Permit Number	Applicant [1]	Township		Range		Section	¼ ¼ [2]	Uses	Priority	Status	Headgate-Outlet-Well [3, 4]	Permit Facility Name	Yield	Well Depth (ft)	Static Well Depth (ft)
39/4/563W	NFU Wyoming LLC	25	N	92	W	17	NWSE	Miscellaneous	2/28/2007	Unadjudicated	X	LC 32W	LCS	LCS	LCS
39/4/564W	NFU Wyoming LLC	25	N	92	W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJT 103	LCS	LCS	LCS
39/4/565W	NFU Wyoming LLC	25	N	92	W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMO-102	LCS	LCS	LCS
39/4/566W	NFU Wyoming LLC	25	N	92	W	18	SESE	Monitoring	3/1/2007	Unadjudicated	X	HJMV-106	LCS	LCS	LCS
39/4/567W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMP-109	LCS	LCS	LCS
39/4/568W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMO-112	LCS	LCS	LCS
39/4/569W	NFU Wyoming LLC	25	N	92	W	17	SWSW	Monitoring	3/1/2007	Unadjudicated	X	UKMU-102	LCS	LCS	LCS
39/4/88W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring, Test Well	6/9/2006	Unadjudicated	X	LC15M	LCS	350	160.8
39/4/88W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring, Test Well	6/9/2006	Unadjudicated	X	LC16M	LCS	472	178.14
39/4/88W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring, Test Well	6/9/2006	Unadjudicated	X	LC17M	LCS	575	185.26
39/4/88W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring, Test Well	6/9/2006	Unadjudicated	X	LC29M	LCS	171	153.95
39/5/563W	NFU Wyoming LLC	25	N	92	W	20	NENE	Miscellaneous	2/28/2007	Unadjudicated	X	LC 33W	LCS	LCS	LCS
39/5/564W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJT 104	LCS	460	169.51
39/5/565W	NFU Wyoming LLC	25	N	92	W	18	SESE	Monitoring	3/1/2007	Unadjudicated	X	HJMV-103	LCS	LCS	LCS
39/5/566W	NFU Wyoming LLC	25	N	92	W	18	SESE	Monitoring	3/1/2007	Unadjudicated	X	HJMP-106	LCS	LCS	LCS
39/5/567W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMO-109	LCS	LCS	LCS
39/5/568W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMV-113	LCS	LCS	LCS
39/5/569W	NFU Wyoming LLC	25	N	92	W	17	SWSW	Monitoring	3/1/2007	Unadjudicated	X	UKMP-102	LCS	498	190.68
39/5/88W	NFU Wyoming LLC	25	N	92	W	18	SESE	Monitoring, Test Well	6/9/2006	Unadjudicated	X	LC18M	LCS	350	168.04
39/5/88W	NFU Wyoming LLC	25	N	92	W	18	SESE	Monitoring, Test Well	6/9/2006	Unadjudicated	X	LC19M	LCS	463	180.08
39/5/88W	NFU Wyoming LLC	25	N	92	W	18	SESE	Monitoring, Test Well	6/9/2006	Unadjudicated	X	LC20M	LCS	543	202.36
39/6/564W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJT 105	LCS	LCS	LCS
39/6/565W	NFU Wyoming LLC	25	N	92	W	18	SESE	Monitoring	3/1/2007	Unadjudicated	X	HJMP-103	LCS	LCS	LCS
39/6/566W	NFU Wyoming LLC	25	N	92	W	18	SESE	Monitoring	3/1/2007	Unadjudicated	X	HJMO-106	LCS	LCS	LCS
39/6/567W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMV-110	LCS	LCS	LCS
39/6/568W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMP-113	LCS	LCS	LCS
39/6/569W	NFU Wyoming LLC	25	N	92	W	17	SWSW	Monitoring	3/1/2007	Unadjudicated	X	UKMO-102	LCS	LCS	LCS
39/7/564W	NFU Wyoming LLC	25	N	92	W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJT 106	LCS	LCS	LCS

Table 2.2-2 **Groundwater Use Permits** (Page 4 of 12)

Last Revised October, 2007

Permit Number	Applicant [1]	Township	Range	Section	¼ ¼ [2]	Uses	Priority	Status	Headgate-Outlet-Well [3, 4]	Permit Facility Name	Yield	Well Depth (ft)	Static Well Depth (ft)
39/7/565W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Unadjudicated	X	HJMO-103	LCS	LCS	LCS
39/7/566W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMV-107	LCS	LCS	LCS
39/7/567W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMP-110	LCS	476	174.89
39/7/568W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMO-113	LCS	LCS	LCS
39/7/569W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Unadjudicated	X	UKMU-103	LCS	LCS	LCS
39/7/88W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	6/9/2006	Unadjudicated	X	LC24M	LCS	542	192.11
39/8/564W	NFU Wyoming LLC	25 N	92 W	20	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJT 107	LCS	LCS	LCS
39/8/565W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMV-104	LCS	LCS	LCS
39/8/566W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMP-107	LCS	464	183.61
39/8/567W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Unadjudicated	X	HJMO-110	LCS	LCS	LCS
39/8/568W	NFU Wyoming LLC	25 N	92 W	20	NENW	Monitoring	3/1/2007	Unadjudicated	X	HJMV-114	LCS	LCS	LCS
39/8/569W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Unadjudicated	X	UKMP-103	LCS	LCS	LCS
39/8/88W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	6/9/2006	Unadjudicated	X	LC25M	LCS	380	167.05
39/9/564W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMV-101	LCS	LCS	LCS
39/9/565W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMP-104	LCS	430	171.81
39/9/566W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMO-107	LCS	LCS	LCS
39/9/567W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Unadjudicated	X	HJMV-111	LCS	LCS	LCS
39/9/568W	NFU Wyoming LLC	25 N	92 W	20	NENE	Monitoring	3/1/2007	Unadjudicated	X	HJMP-114	LCS	LCS	LCS
39/9/569W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Unadjudicated	X	UKMP-103	LCS	LCS	LCS
39/9/88W	NFU Wyoming LLC	25 N	92 W	20	NENE	Monitoring	6/9/2006	Unadjudicated	X	LC26M	LCS	436	171.1
39/6/88W	NFU Wyoming LLC	25 N	93 W	24	SWNE	Monitoring, Test Well	6/9/2006	Unadjudicated	X	LC21M	LCS	410	198.2
39/6/88W	NFU Wyoming LLC	25 N	93 W	24	SWNE	Monitoring, Test Well	6/9/2006	Unadjudicated	X	LC22M	LCS	592	206.73
39/6/88W	NFU Wyoming LLC	25 N	93 W	24	SWNE	Monitoring, Test Well	6/9/2006	Unadjudicated	X	LC23M	LCS	634	220.75
39/6/88W	NFU Wyoming LLC	25 N	93 W	24	SWNE	Monitoring, Test Well	6/9/2006	Unadjudicated	X	LC30M	LCS	236	198.91
39/2/89W	NFU Wyoming LLC	25 N	93 W	25	SWSW	Monitoring	6/9/2006	Unadjudicated	X	LC31M	LCS	191	144.01
39/1/89W	NFU Wyoming LLC	25 N	93 W	25	SWSW	Monitoring	6/9/2006	Unadjudicated	X	LC28M	LCS	563	154.45
P169906W	Ur-Energy USA Inc. – WSBLC	25 N	92 W	16	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. – WSBLC	25 N	92 W	16	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS

Table 2.2-2 Groundwater Use Permits (Page 5 of 12)

Last Revised October, 2007

Permit Number	Applicant [1]	Township		Range		Section	¼ ¼ [2]	Uses	Priority	Status	Headgate-Outlet-Well [3,4]	Permit Facility Name	Yield	Well Depth (ft)	Static Well Depth (ft)
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	16	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS

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Last Revised October, 2007

Permit Number	Applicant [1]	Township		Range		Section	¼ ¼ [2]	Uses	Priority	Status	Headgate-Outlet-Well [3,4]	Permit Facility Name	Yield	Well Depth (ft)	Static Well Depth (ft)
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	17	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	18	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS

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Last Revised October, 2007

Permit Number	Applicant [1]	Township		Range		Section	¼ ¼ [2]	Uses	Priority	Status	Headgate-Outlet-Well [3, 4]	Permit Facility Name	Yield	Well Depth (ft)	Static Well Depth (ft)
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	19	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	20	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	20	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	20	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	20	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	20	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	20	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	20	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	20	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	30	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	30	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	30	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	30	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	30	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	30	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	30	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	92	W	30	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	13	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	13	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	13	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	13	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	13	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	13	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	13	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	13	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	13	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	13	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS

Table 2.2-2 Groundwater Use Permits (Page 8 of 12)

Last Revised October, 2007

Permit Number	Applicant [1]	Township	Range	Section	¼ ¼ [2]	Uses	Priority	Status	Headgate-Outlet-Well [3, 4]	Permit Facility Name	Yield	Well Depth (ft)	Static Well Depth (ft)
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	X	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS	LCS	LCS

Table 2.2-2 Groundwater Use Permits (Page 9 of 12)

Last Revised October, 2007

Permit Number	Applicant [1]	Township		Range		Section	¼ ¼ [2]	Uses	Priority	Status	Headgate-Outlet-Well [3,4]	Permit Facility Name	Yield		Well Depth (ft)	Static Well Depth (ft)
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	25	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	36	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	36	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	36	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P169906W	Ur-Energy USA Inc. -- WSBLC	25	N	93	W	36	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCS	LCIW	LCS		LCS	LCS
P13834P	USDI BLM, Rawlins District	25	N	92	W	21	NENW	Stock	9/21/1968	INP	INP	BATTLE SPRING DRAW WELL #4451	19	gpm	900	104
P13834P	USDI BLM, Rawlins District	25	N	92	W	21	NENW	Stock	9/21/1968	INP	X	BATTLE SPRING DRAW WELL #4451	19	gpm	900	104
P55113W	USDI BLM, Rawlins District	25	N	92	W	30	NWSE	Stock	12/24/1980	INP	INP	BATTLE SPRINGS	5	gpm	220	109
P55113W	USDI BLM, Rawlins District	25	N	92	W	30	NWSE	Stock	12/24/1980	INP	X	BATTLE SPRINGS	5	gpm	220	109
P55112W	USDI BLM, Rawlins District	25	N	92	W	10	SESE	Stock	12/24/1980	INP	INP	BOUNDARY	5	gpm	280	155
P55112W	USDI BLM, Rawlins District	25	N	92	W	10	SESE	Stock	12/24/1980	INP	X	BOUNDARY	5	gpm	280	155

Table 2.2-2 Groundwater Use Permits (Page 10 of 12)

Last Revised October, 2007

Permit Number	Applicant[1]	Township		Range		Section	¼ ¼[2]	Uses	Priority	Status	Headgate-Outlet-Well[3,4]	Permit Facility Name	Yield		Well Depth (ft)	Static Well Depth (ft)
P39744W	USDI, BLM -- Apexco Inc.	25	N	93	W	22	SWNE	Miscellaneous	8/26/1977	INP	INP	BATTLE SPRINGS #1	25	gpm	640	60
P39744W	USDI, BLM -- Apexco Inc.	25	N	93	W	22	SWNE	Miscellaneous	8/26/1977	INP	X	BATTLE SPRINGS #1	25	gpm	640	60
P54891W	USDI, BLM -- Kennecott Uranium Company	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 39	200	gpm	600	169
P54892W	USDI, BLM -- Kennecott Uranium Company	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 40	200	gpm	600	155
P54891W	USDI, BLM -- Kennecott Uranium Company	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 39	200	gpm	600	169
P54892W	USDI, BLM -- Kennecott Uranium Company	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 40	200	gpm	600	155
P63128W	USDI, BLM -- Kennecott Uranium Company	24	N	93	W	11	SWSW	Monitoring	1/28/1983	INP	INP	TMW-14	0	gpm	INP	INP
P63128W	USDI, BLM -- Kennecott Uranium Company	24	N	93	W	11	SWSW	Monitoring	1/28/1983	INP	X	TMW-14	0	gpm	INP	INP
P54886W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 34	200	gpm	450	140
P54894W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 42	200	gpm	600	166
P54883W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 31	190	gpm	600	152
P54893W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 41	190	gpm	600	157

Table 2.2-2 Groundwater Use Permits (Page 11 of 12)

Last Revised October, 2007

Permit Number	Applicant [1]	Township		Range		Section	¼ ¼ [2]	Uses	Priority	Status	Headgate-Outlet-Well [3,4]	Permit Facility Name	Yield		Well Depth (ft)	Static Well Depth (ft)
P54884W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 32	200	gpm	600	147
P54885W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 33	190	gpm	560	141
P54886W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 34	200	gpm	450	140
P54894W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 42	200	gpm	600	166
P54883W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 31	190	gpm	600	152
P54893W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 41	190	gpm	600	157
P54884W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 32	200	gpm	600	147
P54885W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	Unadjudicated	INP	DW 33	190	gpm	560	141
P54887W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	INP	INP	DW 35	400	gpm	INP	INP
P54888W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	INP	INP	DW 36	400	gpm	INP	INP
P54890W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	INP	INP	DW 38	400	gpm	INP	INP

Table 2.2-2 Groundwater Use Permits (Page 12 of 12)

Last Revised October, 2007

Permit Number	Applicant[1]	Township		Range		Section	¼ ¼[2]	Uses	Priority	Status	Headgate-Outlet-Well[3,4]	Permit Facility Name	Yield		Well Depth (ft)	Static Well Depth (ft)
P54889W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SWSW	Dewatering, Industrial, Miscellaneous	11/24/1980	INP	INP	DW 37	400	gpm	INP	INP
P54887W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	INP	INP	DW 35	400	gpm	INP	INP
P54888W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	INP	INP	DW 36	400	gpm	INP	INP
P54890W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	INP	INP	DW 38	400	gpm	INP	INP
P54889W	Minerals Exploration Company -- WSBLC	24	N	93	W	11	SESW	Dewatering, Industrial, Miscellaneous	11/24/1980	INP	INP	DW 37	400	gpm	INP	INP

[1] WSBLC = Wyoming State Board of Land Commissioners

[2] INP = Information not provided by the online WSEO database.

[3] An "X" in the "Headgate-Outlet-Well" column indicates the location of a headgate for a ditch or pipeline, an outlet for a reservoir or stock reservoir, or a well.

[4] LCS = Part of the on-going Lost Creek Project study. Information will be provided when it becomes available.

Table 2.2-3 Abandoned and Cancelled Wells (Page 1 of 5)

Last Revised April, 2007

Permit Number	Applicant	Township		Range		Section	¼ ¼	Uses	Priority	Status	HeadGate-Outlet-Well	GW Permit Facility Name	Yield		Well Depth (ft)	Static Well Depth (ft)
P61528W	Texasgulf Inc.	25	N	92	W	20	NWNW	Monitoring	6/11/1982	Abandoned		M25 92 20 1S	0	gpm	355	155.8
P61528W	Texasgulf Inc.	25	N	92	W	20	NWNW	Monitoring	6/11/1982	Abandoned	X	M25 92 20 1S	0	gpm	355	155.8
P61529W	Texasgulf Inc.	25	N	92	W	20	NWNW	Monitoring	6/11/1982	Abandoned		M25 92 20 1M	0	gpm	440	173.8
P61529W	Texasgulf Inc.	25	N	92	W	20	NWNW	Monitoring	6/11/1982	Abandoned	X	M25 92 20 1M	0	gpm	440	173.8
P61530W	Texasgulf Inc.	25	N	92	W	20	NWNW	Monitoring	6/11/1982	Abandoned		M25 92 20 1D	0	gpm	534	181.2
P61530W	Texasgulf Inc.	25	N	92	W	20	NWNW	Monitoring	6/11/1982	Abandoned	X	M25 92 20 1D	0	gpm	534	181.2
P61531W	Texasgulf Inc.	25	N	92	W	19	NENE	Monitoring	6/11/1982	Abandoned		M25 92 19 3M	0	gpm	460	176.5
P61531W	Texasgulf Inc.	25	N	92	W	19	NENE	Monitoring	6/11/1982	Abandoned	X	M25 92 19 3M	0	gpm	460	176.5
P61532W	Texasgulf Inc.	25	N	92	W	19	NENE	Monitoring	6/11/1982	Abandoned		M25 92 19 2M	0	gpm	460	175.9
P61532W	Texasgulf Inc.	25	N	92	W	19	NENE	Monitoring	6/11/1982	Abandoned	X	M25 92 19 2M	0	gpm	460	175.9
P61533W	Texasgulf Inc.	25	N	92	W	19	NENE	Monitoring	6/11/1982	Abandoned		M25 92 19 1M	0	gpm	460	174.4
P61533W	Texasgulf Inc.	25	N	92	W	19	NENE	Monitoring	6/11/1982	Abandoned	X	M25 92 19 1M	0	gpm	460	174.4
P61534W	Texasgulf Inc.	25	N	92	W	18	SWSE	Monitoring	6/11/1982	Abandoned		M25 19 18 1M	0	gpm	465	166.7
P61534W	Texasgulf Inc.	25	N	92	W	18	SESE	Monitoring	6/11/1982	Abandoned	X	M25 19 18 1M	0	gpm	465	166.7
P61535W	Texasgulf Inc.	25	N	92	W	18	SESE	Monitoring	6/11/1982	Abandoned		M25 19 18 1S	0	gpm	355	159.5
P61535W	Texasgulf Inc.	25	N	92	W	18	SESE	Monitoring	6/11/1982	Abandoned	X	M25 19 18 1S	0	gpm	355	159.5
P61536W	Texasgulf Inc.	25	N	92	W	18	SESE	Monitoring	6/11/1982	Abandoned		M25 92 18 1D	0	gpm	615	195.7
P61536W	Texasgulf Inc.	25	N	92	W	18	SESE	Monitoring	6/11/1982	Abandoned	X	M25 92 18 1D	0	gpm	615	195.7
P61537W	Texasgulf Inc.	25	N	92	W	17	SESW	Monitoring	6/11/1982	Abandoned		M25 92 17 1S	0	gpm	340	170.53
P61537W	Texasgulf Inc.	25	N	92	W	17	SESW	Monitoring	6/11/1982	Abandoned	X	M25 92 17 1S	0	gpm	340	170.53
P61538W	Texasgulf Inc.	25	N	92	W	17	SESW	Monitoring	6/11/1982	Abandoned		M25 92 17 1M	0	gpm	480	182.7
P61538W	Texasgulf Inc.	25	N	92	W	17	SESW	Monitoring	6/11/1982	Abandoned	X	M25 92 17 1M	0	gpm	480	182.7
P61539W	Texasgulf Inc.	25	N	92	W	17	SESW	Monitoring	6/11/1982	Abandoned		M25 92 17 1D	0	gpm	529	204.5
P61539W	Texasgulf Inc.	25	N	92	W	17	SESW	Monitoring	6/11/1982	Abandoned	X	M25 92 17 1D	0	gpm	529	204.5
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	12	SESE	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	12	NESE	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	12	NWSE	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	12	SWSE	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	13	SWSE	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	13	SESE	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	13	SESW	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		

Table 2.2-3 Abandoned and Cancelled Wells (Page 2 of 5)

Last Revised April, 2007

Permit Number	Applicant	Township		Range		Section	¼ ¼	Uses	Priority	Status	HeadGate-Outlet-Well	GW Permit Facility Name	Yield		Well Depth (ft)	Static Well Depth (ft)
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	13	NESE	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	13	NWSE	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	13	NESW	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	13	NWSW	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	13	SWSW	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	13	NWNE	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	13	SWNE	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
P35721W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	13	SENE	Stock, Miscellaneous	12/8/1976	Abandoned		TE 24	25	gpm		
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P68449W	USDI, BLM -- Texasgulf Inc.	25	N	93	W	12	SESE	Miscellaneous	8/10/1984	Cancelled		TE 38	25	gpm	380	220
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2.3 Population Distribution and Socioeconomic Conditions

This section provides a description of the existing population and economy of the Permit Area and nearby regions within 50 miles (80 kilometers [km]) of the Permit Area, which includes the potentially affected communities of Rawlins, Sinclair, Bairoil, and other outlying towns in Carbon and Sweetwater Counties, Wyoming.

2.3.1 Demographics

Table 2.3-1 presents the demographic information for Sweetwater and Carbon Counties and **Figure 2.3-1** shows the population centers within a 50-mile (80-km) radius from the center of the Permit Area. The information for Jeffrey City is from the 2000 census, and may not reflect the current condition. As seen in the picture, the Project is located in a remote area in the Great Divide Basin, with Bairoil being the closest town about 15 miles northeast of the Permit Area. There are no population centers within two miles of the Permit Area.

Table 2.3-2 shows the population distribution by race for the environmental justice analysis, which is discussed in detail in **Section 7.1.12**. Within the area potentially affected by the Project, minimal minority populations will be affected.

Food production is limited to cattle grazing, discussed in **Section 2.2** in greater detail. The total AUMs associated with the study area is 3,662, which would provide year-round forage for the equivalent of 305 cows. For a 1,000-pound cow, the average meat yield is 550 pounds (National Sustainable Agriculture Information Service, 2007); therefore, the annual total meat production associated with the Permit Area is approximately 168,000 pounds, if all the cattle are slaughtered each year. Similar levels of meat production are anticipated in the future. There is no vegetable production from the Permit Area.

2.3.1.1 Sweetwater County

As shown in **Table 2.3-1**, the Sweetwater County population in 2000 was 37,613 people, down (-3.1 percent) from 38,823 people in 1990. According to US Census Bureau estimates, the population of Sweetwater County increased slightly (0.4 percent) between 2000 and 2004 (US Census Bureau, 2005a).

According to the 2000 Census, Sweetwater County had a population density of 3.6 people per square mile and 89.1 percent (33,512 people) of the population lived in urban clusters. Of the 4,101 rural residents, only 416 (10.1 percent of rural residents; 1.1

percent of county residents) resided on farms. Bairoil is the community in Sweetwater County nearest to the Permit Area.

In January 2006, the Sweetwater Economic Development Association (SWEDA) estimated the population of several communities, including Bairoil and Wamsutter, using Pacific Power electrical hook-ups (SWEDA, 2006), in order to get a more accurate estimate of the current population. For Bairoil, including incorporated and unincorporated areas, the estimated population was 162 and 643 people, respectively, based on 2.57 persons per household. Conversations with the Bairoil Mayor and Police Chief suggest that the population is less than this, at 97 people. Bairoil is an example of an oil and gas boom-and-bust town. The population of Bairoil was estimated around 240 people in the 1980s and early 1990s. Subsequently, with the rise and fall of oil and gas prices and the sale of oil properties to Merit Energy Company, many people have moved from Bairoil. Amoco Production Company had once required all employees who worked in Bairoil to live in the town.

2.3.1.2 Carbon County

As shown in **Table 2.3-1**, the Carbon County population declined by 6.1 percent between 1990 and 2000. The Wyoming census population estimates for 2005 show that Carbon County continues to decline in population. However, recent economic activity related to pipeline and construction projects has caused the transient population to grow. The actual number of residents in Carbon County may be higher than the estimated 2005 population of 15,331 people.

Rawlins and Sinclair are the Carbon County communities that are most likely to be affected by the Project. As summarized in **Table 2.3-1**, growth in Rawlins is on the upswing. The population of Rawlins has increased by 1.4 percent from 2000 to 2005 to a population estimate of 8,658 people. The estimated 2005 population was 406 people in Sinclair. Population forecasts for Sweetwater and Carbon Counties are shown in **Table 2.3-3**.

2.3.2 Socioeconomic Conditions

The economy in Carbon and Sweetwater Counties has historically depended on industrialized activities, including mining, oil and gas development, power generation, related services, and agricultural activity, including grazing and farmland. Recently, the service and trade sectors have become increasingly important in providing services to the growing population. Many of the service sector jobs are directly and indirectly associated with oil and gas development. Employment growth has fluctuated in some sectors of the economy since 1990 due to the recession from 2001 to 2003. However, recent activity in the past two to three years shows significant increases in oil and gas development and production, which will be reflected in the mining and service sectors.

2.3.2.1 Employment Sectors and Industry Income

In 2003, the mining sector employment (including oil and gas) was not disclosed for Sweetwater County, but represented 1.9 percent of the 9,580 person workforce in Carbon County. Besides retail trade, other important sectors in Sweetwater County included services (21 percent) and government (17 percent). In Carbon County, services represented 28 percent, retail represented 11.7 percent, and government represented 23 percent of the total employment. Many of the employment sectors have shown growth during the 13-year period between 1990 and 2003 for the counties included within the study area. Much of the increase in employment in the mining and service sectors has been filled by workers who have moved into the area either from other parts of Wyoming or from outside of the State of Wyoming. For every direct mining sector job created, additional service jobs are also created. Jobs in the mining and related gas service sectors are competing for workers in the lower paying jobs. Many government, retail, and other service workers are leaving the lower paying jobs to work in the mining sector. All cities and towns are having a hard time finding minimum-wage workers or workers for the lower paying jobs, including police, sheriff, and public works departments (Allen, D. Business Development Specialist, City of Rawlins. Personal communication. March, 2006).

Wyoming's mining and minerals sector contributes more to Gross State Product (GSP) than any other sector of the economy (Coupal et al., 2003). Minerals (including oil and gas) accounted for 23.7 percent of Wyoming's GSP, or over $4.5 billion in 2000, and supported approximately 19,387 full-time wage earners, or 5.9 percent of Wyoming's employment base (US Bureau of Economic Analysis, 2003). In 2000, government-led industry income provided 23.4 percent of income, followed by services (20.0 percent), retail trade (9.3 percent), construction (8.5 percent), and transportation, communication, and public utilities (8.3 percent). In real terms, based on Year-2000 dollars, for the 20-year period (1980 to 2000), the Wyoming industry income fell in farm, mining, oil and gas, construction, transportation, communication, public utilities, wholesale trade, and retail trade. The most industry-income growth occurred in non-farm agricultural services (156.4 percent; 4.8 percent average annual growth) and government (27.5 percent; 1.2 percent average annual growth) (US Bureau of Economic Analysis, 2003).

In 2004, figures were not available in the mining, utilities, and wholesale trade sectors for Sweetwater County. The sectors contributing the most to the Sweetwater County economy included government (13 percent), manufacturing (eight percent), construction (seven percent), and retail trade, transportation, and warehousing (five percent). The only sector showing a decline in income generation from 2001 to 2004 was manufacturing.

In 2004, Carbon County's income generated by the government sector led other industries (20 percent of the total). Total mineral extractions provided three percent of the industry income. Transportation and warehousing (six percent) and retail trade (four percent) were also important sectors in income generation. Data from 2004 were not available for construction and manufacturing, which generated substantial income in 2001. Over the three-year study period (2001 through 2004), slight losses occurred in total mining and transportation and warehousing.

2.3.2.2 Labor

Both labor force and employment have increased in Sweetwater and Carbon Counties from 1990 to 2004, as seen in **Table 2.3-4**. Labor force statistics reflect employment by residence, unlike employment by sector statistics, which reflect employment by work location. The State of Wyoming labor force increased from 236,043 to 284,538 laborers, a 20.5 percent increase throughout the period (Wyoming Department of Employment, 2006).

From 1990 to 2004, Carbon County showed a decrease in the labor force (8,825 to 7,841 laborers) of 11.2 percent compared to an 11 percent increase in Sweetwater County. The most recent unemployment rate in Carbon County was 4.0 percent in 2005, compared to 5.2 percent in 1990 and 4.2 percent in 2000.

The labor force in Sweetwater County increased from 20,354 to 22,732 laborers, an 11.7 percent increase from 1990 to 2004. In recent years, the unemployment rate throughout the region may have fluctuated due to seasonal employment. The months with highest unemployment are typically December through March. The average annual unemployment rate in 2005 in Sweetwater County was 3.0 percent, compared to 5.3 percent in 1990 and 4.0 percent in 2000.

2.3.2.3 Personal Income

Income levels throughout the study area are diverse. The most recent estimate of per capita personal income was $28,438 in Carbon County and $34,656 in Sweetwater County in 2004. Median income in 2004 was $40,750 in Carbon County and $54,700 in Sweetwater County. These numbers are fairly consistent with the economic base of the area, which is mineral resource and agriculturally driven. The most recent poverty status statistics are from 2003 census data. These data showed a poverty rate of 11.8 percent in Carbon County and 8.6 percent in Sweetwater County (US Census Bureau, 2003). Since the economic base of the study area is largely rural-agriculture and resource-extraction based, low income areas are dispersed within the study area.

2.3.3 Other Resources

2.3.3.1 Housing

The existing housing situation is difficult to characterize quantitatively with any degree of certainty since the status of the housing market and availability is changing constantly. The effect on housing demand from the oil and gas industry has had a significant impact on the availability and price of both owner-occupied and rental units. The housing situation is a major issue for the two-county region. Lack of affordable housing has contributed to social problems in the area and has created a transitory workforce that has little invested in the local communities.

According to the Wyoming Housing Database Partnership (WHDP), there were seven out of 298 total rental units available for rent in Carbon County in July 2006; 24 out of 1,290 rental units available for rent in Sweetwater County; and 49 out of 3,118 rental units available for rent in Natrona County (WHDP, 2006). The vacancy rates were 2.4 percent in Carbon County, 1.9 percent in Sweetwater County, and 1.6 percent in Natrona County. The average rents are shown in **Table 2.3-5** for Carbon, Sweetwater, and Natrona Counties for 2005 and 2006 (WHDP, 2006). The average single-family sale price in 2005 was lowest in Carbon County ($96,200) and highest in Sweetwater County ($179,000). The average sales price in Natrona County was $156,281 (WHDP, 2006). Some vacant units can be attributable to second-home growth in the State of Wyoming.

Sweetwater County

According to a November 4, 2005 Casper Star Tribune article, housing in Sweetwater County is inadequate for the current demand for two reasons: 1) housing in the Sweetwater County is not readily available; and 2) housing currently on the market is expensive (Gearino, 2005). To help meet the demand for new housing, the SWEDA has made housing development a priority for the county; and it is anticipated that 500 new housing units will be constructed in Sweetwater County by next year (Gearino, 2005).

Temporary housing resources in Wamsutter include three mobile home parks. One has 26 spaces; the second has 70 spaces; and the third has 52 spaces. Most of these parks have units that are equipped to serve recreational vehicles (RVs). There has recently been a limited amount of subdivision activity and housing construction in Wamsutter. A local developer/mobile home park owner is in the process of applying for a permit to develop additional RV spaces (BLM, 2006).

Carbon County

According to the community Development Director for Rawlins, the housing market has become exceedingly tight in the past year. Sales prices have escalated by 25 percent in 2006 with sales prices ranging from $200,000 to $390,000. Very few homes are in the $100,000 to $130,000 range. Rawlins is proactively involved in bringing affordable owner and rental housing to Rawlins. Rawlins is currently working on a project with a developer to build 150 to 300 affordable units on a 50-acre parcel of infill land. Other development projects are also being discussed for long-term residential, commercial, and industrial development just outside of Rawlins (Allen, D. Business Development Specialist, City of Rawlins. Personal communication. March, 2007).

Temporary lodging is also being built. Two new motels have been built in the past year and two are slated for development in 2007. One-hundred-forty rooms have been added to the total of approximately 700 existing rooms (19 motels and four RV parks). Motels are at capacity; but with the two planned motels, temporary demand should be met. In addition to the estimated 900 motel rooms, approximately 450 campsites are available for RVs in the local area.

For longer-term housing, there are 18 mobile home parks with over 550 pads (Allen, D. Business Development Specialist, City of Rawlins. Personal communication. March, 2006), about half of which were vacant during the fall of 2005. The 2000 census listed 285 units in two- to four-unit housing structures in Rawlins and 467 units in structures with over five units (US Census Bureau, 2000); there are rarely vacancies in these housing types. Although Rawlins has some vacant single-family houses, most of the affordable units are substandard and would require some rehabilitation to make them attractive to buyers (BLM, 2006).

2.3.3.2 Public Facilities and Services

Bairoil and Wamsutter are the two nearest towns in Sweetwater County to the Permit Area. Sweetwater County provides the typical county government services, including county assessor, county attorney, county commissioners, treasurer, road and bridge, engineering, planning, landfill, emergency management, health and human services, sheriff, search and rescue, parks and recreation, museum, libraries, and community arts center. Bairoil and Wamsutter have limited services; however, Bairoil provides similar municipal services, including administration, public works, police, fire, and parks and recreation services. The landfill is located in Wamsutter.

In Carbon County, the communities of Rawlins, Sinclair, and other outlying areas would potentially be affected by the Project. Carbon County provides the typical county government services, including county assessor, county attorney, county commissioners, treasurer, road and bridge, planning, emergency management, public health, and sheriff.

Law Enforcement and Fire Protection

The Carbon County Sheriff has an office and 74 jail beds in Rawlins, a substation in Medicine Bow, a deputy in Baggs, and a part-time deputy in Saratoga. The sheriff's office has 17 patrol officers, 23 detention deputies, seven full-time and three part-time dispatchers, and 11 other employees. The sheriff covers a service area of 8,000 square miles. The sheriff's department is adequately staffed and will possibly add a patrol officer this year to handle the slight increase in calls caused by the increases in oil and gas activity in the area (Colson, J. Sheriff, Carbon County Sheriff's Office. Personal communication. March 2007; Morris, M. Deputy Sheriff, Carbon County Sheriff's Office. Personal communication. March 2007). Rawlins has a police department with one chief, two detectives, 12 patrol officers, and 19 additional staff employees. All law enforcement offices have 911 emergency telephone services. Fire protection is provided by Rawlins Fire Department, which has eight paid staff and 15 volunteers in the area. The fire department has two fire stations, a training center, five engines, a wildland engine, and a rescue truck.

Law enforcement near the Permit Area is primarily provided by the Bairoil Police Department, which consists of a police chief, one sergeant, and one part-time police officer. The department provides law enforcement for Bairoil and the surrounding unincorporated area of the Sweetwater County Sheriff's Department. This area is 165 square miles and extends 20 miles west and 15 miles south of Bairoil. Fire protection is provided by the Bairoil Volunteer Fire Department, with a station in Bairoil.

Law enforcement in the Wamsutter area is currently provided by the Sweetwater County Sheriff's Department; a deputy patrols the town daily. Two Wyoming Highway Patrol officers also live in Wamsutter. Wamsutter has positions for two part-time police officers; but the positions are currently vacant; and the town has not been able to hire officers for the positions for some time (BLM, 2006). Emergency response services are provided by 15 volunteer emergency medical technicians (EMTs) operating one ambulance and ten volunteer firefighters operating two fire trucks.

The volunteer fire and ambulance services provide coverage to surrounding oil and gas operations; and both services may have difficulty responding to more than one emergency at the same time. BP America recently provided a $68,000 grant toward the purchase of a new ambulance; other energy and pipeline companies have also contributed funds. Wamsutter has an ongoing effort to recruit new volunteers for both the fire and ambulance service.

Health Services

Medical services within Carbon County are provided by the Memorial Hospital in Rawlins, a 35-bed acute care facility located, served by a 24-hour ambulance service (EMT and ambulance). The hospital has five physicians and 105 full-time equivalent (FTE) employees. Rawlins also has a Public Health Department, Senior Citizens Center, the South Central Wyoming Health Care and Rehabilitation, Senior Citizens apartment complex, and various private health care providers. No medical care is available in either Bairoil or Wamsutter. Sweetwater County is served primarily by the Memorial Hospital of Sweetwater County in Rock Springs, which has 99 beds. The study area is served by Memorial Hospital in Rawlins.

Education

Sweetwater School District Number One serves Wamsutter. Wamsutter has one elementary school and one middle school with an enrollment of 42 students in the elementary school and 15 students in the middle school (Desert Elementary School, 2007). Carbon County School District Number One provides educational services to the Rawlins and Bairoil area. The total enrollment in the district is currently estimated at 1,727 students (2006). This enrollment has fluctuated over the years with a previous high enrollment of 2,420 students in 1991 and 2,076 students in 1997. There are currently three elementary schools in Rawlins, a middle school, and a high school. Bairoil and Sinclair have elementary schools (Wyoming Department of Education, 2006). Bairoil has one elementary school with five students. Rawlins has the Carbon County Higher Education Center, which provides continued and extended education courses on-line. Some school capacities are being met; and additional school capacity may be required if economic activity in the area brings in more families.

Utilities

Rawlins provides water, sewer, landfill, and recycling services for its residents and businesses. Rocky Mountain Power provides electric service to all areas; and KN Energy provides natural gas to the community. The infrastructure in Rawlins has a capacity for increased population, as well as commercial and industrial growth. Bairoil provides water service for residents and businesses. The landfill is located in Wamsutter, but has a transfer station in Bairoil.

Qwest is the local provider of telephone services. Long-distance carriers include ATT, MCI, Sprint, and others. Digital switching and fiber-optic systems are available. Local internet access is provided by Qwest and Bresnan.

Other

Other services in Carbon County include a public library, senior services, daycares, and recreation facilities, and services including a recreation center in Rawlins, golf courses, parks, ball fields, bike trails, and an airport. Other community services in Wamsutter consist of a town attorney and engineer, library, recreation center, city park, and maybe an indoor equestrian center soon. Wamsutter is developing a new library and has identified a variety of street and infrastructure improvements (BLM, 2006). Although the transient drilling and field development population in Wamsutter can be substantial from time to time, their demands on local government facilities and services have generally been minor (Wyoming Business Council et al., 2002).

2.3.3.3 Taxes and Revenues

Financial resources of the study area refer to government revenue sources from local and state taxes on the production of natural resources in Carbon and Sweetwater Counties. These statistics are useful in helping to determine the financial impacts of industrial development on the counties potentially affected. Both counties will directly benefit from the increased tax base provided by the Project. And both counties could be financially impacted by secondary growth from residential development, increased retail sales, and increased demands on public services and facilities.

The minerals industry accounts for a substantial share of revenues to the state and to local governments in Wyoming. Produced minerals are classified as personal property; and mineral producers pay two types of taxes: 1) the county property (ad valorem-gross products) tax on production and 2) the state severance tax. Producers pay county property (ad valorem) taxes on plants, refineries, mining and well head equipment, pipelines, and other facilities used in the mineral production and transportation operations. A severance tax is an excise tax imposed on the present and continued privilege of removing, extracting, severing, or producing any mineral in Wyoming. Severance taxes are distributed according to Wyoming Statute (WS) 39-14-801. The Permanent Wyoming Mineral Trust Fund (PWMTF) is a fund that holds 25 percent of all severance taxes currently received by the State of Wyoming, functioning like a savings account. The fund balance was $4.5 billion in December 2006 (Wyoming State Treasurers Office, 2006).

Local and state government fiscal conditions that would be affected by development of the Project include: ad valorem property tax revenues of Sweetwater and Carbon Counties, Sweetwater County School District Number One, and certain special districts; sales and use tax revenues of the state, county, and municipalities; state severance taxes; and state gross products tax.

Both Sweetwater and Carbon Counties show an increase in valuation from natural resources development (Coupal et al., 2003). It is believed that mineral revenues will continue to rise and that gas production, particularly, will drive future revenues higher for the foreseeable future. Wyoming Department of Revenue reports indicate that in 2002, natural gas production contributed the greatest proportion of taxable value to the state (34.8 percent), followed by residential land and improvements (18.5 percent), mining production (15.9 percent), and oil production (9.7 percent). In 2004, natural gas production continued to contribute the greatest proportion of taxable value to the state (38.5 percent), again followed by residential land and improvements (17.8 percent), mining production (15.4 percent), and oil production (9.1 percent).

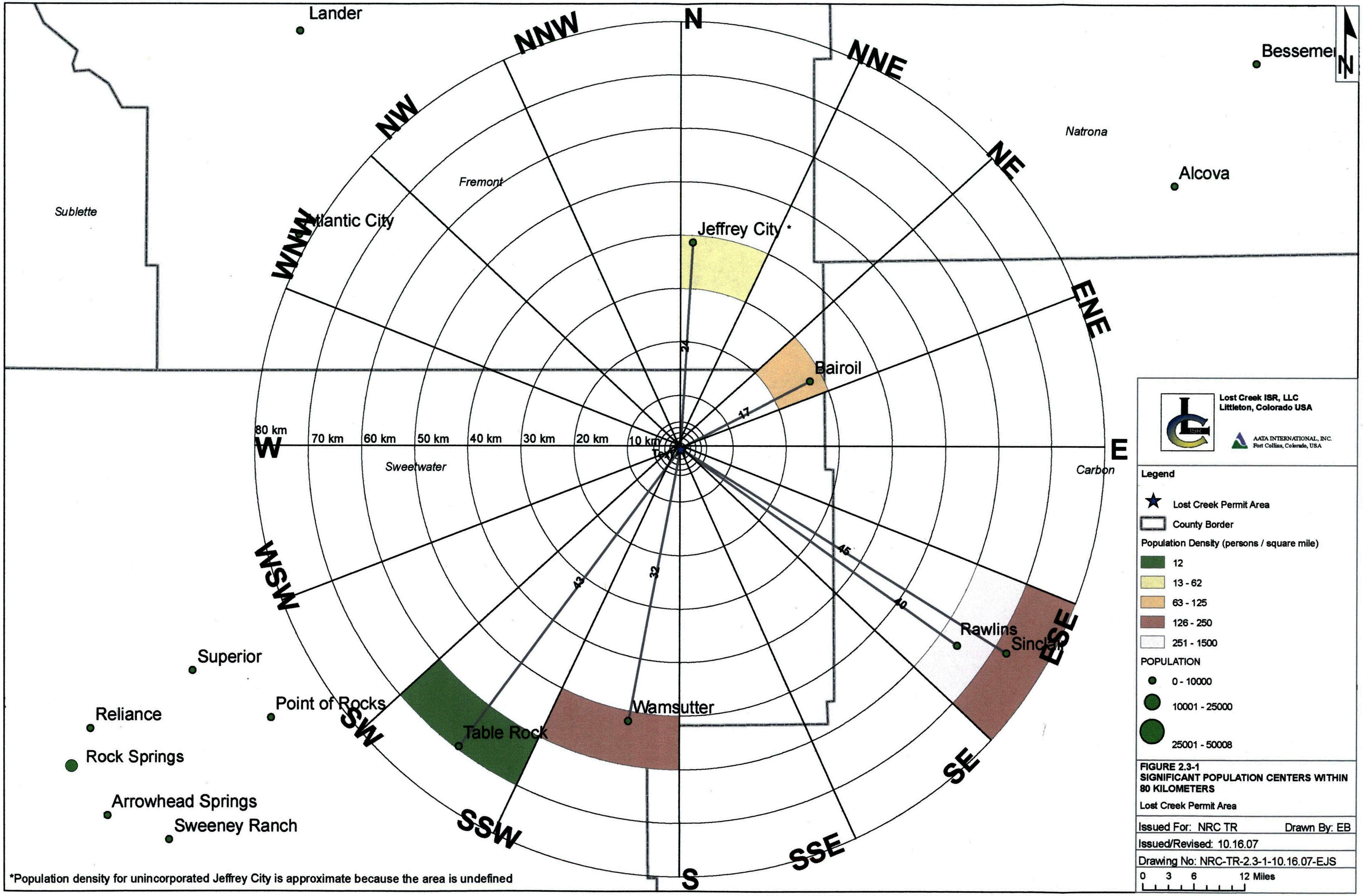

FIGURE 2.3-1
SIGNIFICANT POPULATION CENTERS WITHIN 80 KILOMETERS
Lost Creek Permit Area

Table 2.3-1 Demographic Information

Location	Population [1]			Change in Population (Percent)		Projected Population		
	1990 [2,3]	2000 [3]	2005 [1,4,5]	1990 to 2000	2000 to 2005	2010 [6,7,8]	2015 [6,7,8]	2020 [6,7,8]
US (thousands)	248,709	281,421	296,410	13.2	4.3	308,935	322,365	335,804
Wyoming	453,588	493,782	509,294	8.9	2.6	519,595	529,352	533,534
Sweetwater County	38,823	37,613	37,975	- 3.1	0.4	41,620	42,810	43,990
Bairoil	228	97	96	- 57.5	0	106	109	112
Wamsutter	NA	261	265	NA	1.5	291	300	308
Carbon County	16,659	15,639	15,331	- 6.1	- 2.0	15,730	15,590	15,440
Rawlins	9,380	8,538	8,658	- 9.0	1.4	8,912	8,833	8,748
Sinclair	500	423	406	- 15.4	- 4.0	421	417	413
Other								
Casper	46,765	49,644	51,738	6.2	4.2	53,903	56,107	58,369

[1] NA = Not available
[2] (Wyoming Department of Administration and Information (WDAI), 2000)
[3] (WDAI, 2001)
[4] (Census Bureau (US), 2005a)
[5] (Census Bureau (US), 2005b)
[6] (Census Bureau (US), 2005c)
[7] (WDAI, 2004)
[8] (WDAI, 2006)

Table 2.3-2 Population Distribution *

	Minority Group	Carbon County	Sweetwater County
Income	Persons Below Poverty Level (2005)	1,808	3,266
Income	Percent Below Poverty (2003)	11.8 percent	8.6 percent
Race [1]	White (2004)	96.3 percent	95.7 percent
Race [1]	Black (2004)	1.0 percent	1.0 percent
Race [1]	American Indian (2004)	1.2 percent	1.1 percent
Race [1]	Asian (2004)	0.9 percent	0.9 percent
Race [1]	Native Hawaiian or Pacific Islander (2004)	0.0 percent	0.1 percent
Race [1]	Other Race (2004)	0.5 percent	1.3 percent
Other	Hispanic Origin (of any race) (2004)	13.0 percent	10.2 percent

* (Census Bureau (US), 2000a)
[1] Does not equal 100 percent due to rounding errors

Table 2.3-3 Population Forecasts for the Study Area *

	2007	2010	2015	2020	Percent change 2007 to 2020
Sweetwater County	39,540	41,620	42,810	43,990	0.82
Bairoil	101	106	109	112	0.79
Wamsutter	277	291	300	308	0.82
Carbon County	15,450	15,730	15,590	15,440	- .005
Rawlins	8,754	8,912	8,833	8,748	- .005
Sinclair	413	421	417	413	0

* (Wyoming Department of Administration and Information, 2006)

Table 2.3-4 Labor Force Statistics *

Location/Year	Labor Force	Employment	Unemployment	Unemployment Rate (percent)
Carbon County				
1990	8,825	8,366	459	5.2
2000	8,094	7,757	337	4.2
2005	7,841	7,530	311	4.0
Sweetwater County				
1990	20,354	19,281	1,073	5.3
2000	20,714	19,890	824	4.0
2005	22,732	22,044	688	3.0

* (Wyoming Department of Employment, Research and Planning, 2006)

Table 2.3-5 Average Rental Rates *

County	Apartments [1]			Mobile Home Lot [2]			House [3]			Mobile Home [4]		
	2005	2006	Percent Change	2005	2006	Percent Change	2005	2006	Percent Change	2005	2006	Percent Change
Carbon	$507	$619	22.2	$128	$138	7.8	$546	$625	14.5	$396	$564	42.3
Sweetwater	$512	$684	33.6	$214	$238	11.2	$673	$816	21.1	$594	$669	12.7
Natrona	$441	$508	15.2	$189	$203	12.5	$719	$767	6.7	$527	$581	10.2
Statewide Average	$504	$549	8.9	$203	$210	3.5	$693	$748	8.0	$505	$547	8.4

* (Wyoming Housing Database Partnership, 2006)

[1] Two-bedroom, unfurnished, excluding gas and electric.

[2] Single-wide, including water.

[3] Two or three-bedroom, single family, excluding gas and electric.

[4] This price reflects total monthly rental expense, including lot rent.

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ATTACHMENTS

Attachment 2.4-1 Resource Survey Report (submitted to BLM / SHPO)

2.4 Historic, Scenic, and Cultural Resources

2.4.1 Historic and Cultural Resources

Requesting NRC confidentiality. Section submitted separately (p. 2.4-1 – 2.4-3).

2.4.2 Scenic Resources

Visual resources consist of landforms, vegetation, rock and water features, and cultural modifications that create the visual character and sensitivity of landscapes. Important visual resources are areas that have landscape qualities of unusual or intrinsic scenic value and areas of human and cultural use that are valued for their visual settings. Factors considered in evaluating the importance of visual resources include the following (BLM, 1984).

"Visual quality" is defined as the overall visual impression or attractiveness of an area, considering the variety, vividness, coherence, harmony, or pattern of landscape features. Visual quality is defined according to three levels: 1) distinctive resources are unique or exemplary in quality; 2) representative resources are typical of the physiographic region and commonly encountered; and 3) indistinctive resources are landscape or cultural areas that either lack visual resource amenities or have been degraded.

"Visual sensitivity" is defined as a measure of an area's potential sensitivity to visual change, considering types of viewers and viewer exposure. Visual sensitivity considers viewer types and numbers, as well as viewing distance zones. Areas and associated viewer types considered to be potentially sensitive to visual changes include: park, recreation and wilderness study areas (WSAs), major travel routes, and residential areas.

Distance zones also influence the potential impact of scenery changes on receptors. Potentially sensitive view areas are discussed with respect to three distance zones: foreground (within 0.5 mile), middle-ground (0.5 to 2.0 miles), and background (beyond 2.0 miles).

The BLM Visual Resource Inventory process consists of a scenic quality evaluation, a sensitivity level analysis, and a delineation of distance zones. Together, these evaluations are used to group areas into Visual Resource Management (VRM) classes, which provide guidance for management decisions. Areas are classified on a four-level scale, with Class I being the most protective of visual and scenic resources and Class IV being the least restrictive (BLM, 1984).

The objectives of each class are as follows.

- Class I: to preserve the existing character of the landscape. The class provides for natural ecological changes. The level of change to the characteristic landscape should be very low and must not attract attention.
- Class II: to retain the existing character of the landscape. The level of visual change should be low. Management activities may be seen, but should not attract

the attention of the casual observer.

- Class III: to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer.
- Class IV: to provide for management activities that require major modification to the existing character of the landscape. The level of change to the characteristic landscape can be high.

2.4.2.1 Visual Quality

The study area for visual resources includes the Permit Area, access roads, and a two-mile buffer area outside of the Permit Area. Beyond this distance, any changes to the landscape would be in the background distance zone, and either unobtrusive or imperceptible to viewers.

The Permit Area is characterized by low-relief, sagebrush-dominated plains, dissected by small ephemeral drainage networks. The scenery is characteristic of surrounding areas in the Great Divide Basin, though less visually appealing than many other locations. Few intermittent meandering streams, creeks and associated riparian vegetation cross the open steppe, providing localized visual diversity to the otherwise homogeneous landscapes. More rugged mountainous landscapes can be seen in the background. Previous modifications to the natural environment of the Permit Area include fencing, power lines, and four-wheel-drive roads. Drilling rigs can currently be seen in the Permit Area; and these impacts are temporary. The site scenery is characterized by **Figure 2.4-2 (a, b, c, d, e, f, g, h)**, which are photographs taken from the center of the Permit Area, facing eight compass directions. The scenic quality field inventory score, according to BLM methodology, was seven out of a possible 32. The associated scenic quality classification was "C," the lowest possible.

2.4.2.2 Visual Sensitivity

Visually sensitive areas include: parks, recreation and natural areas; major travel routes; and residential areas within two miles of the Permit Area. Potentially sensitive areas located two miles or more from the Permit Area are not considered in this study since beyond this distance the Project changes would be indistinct compared to the existing conditions. The viewer groups and use areas described below are considered to be moderately or highly sensitive to visual impacts when in the foreground or middle-ground distance.

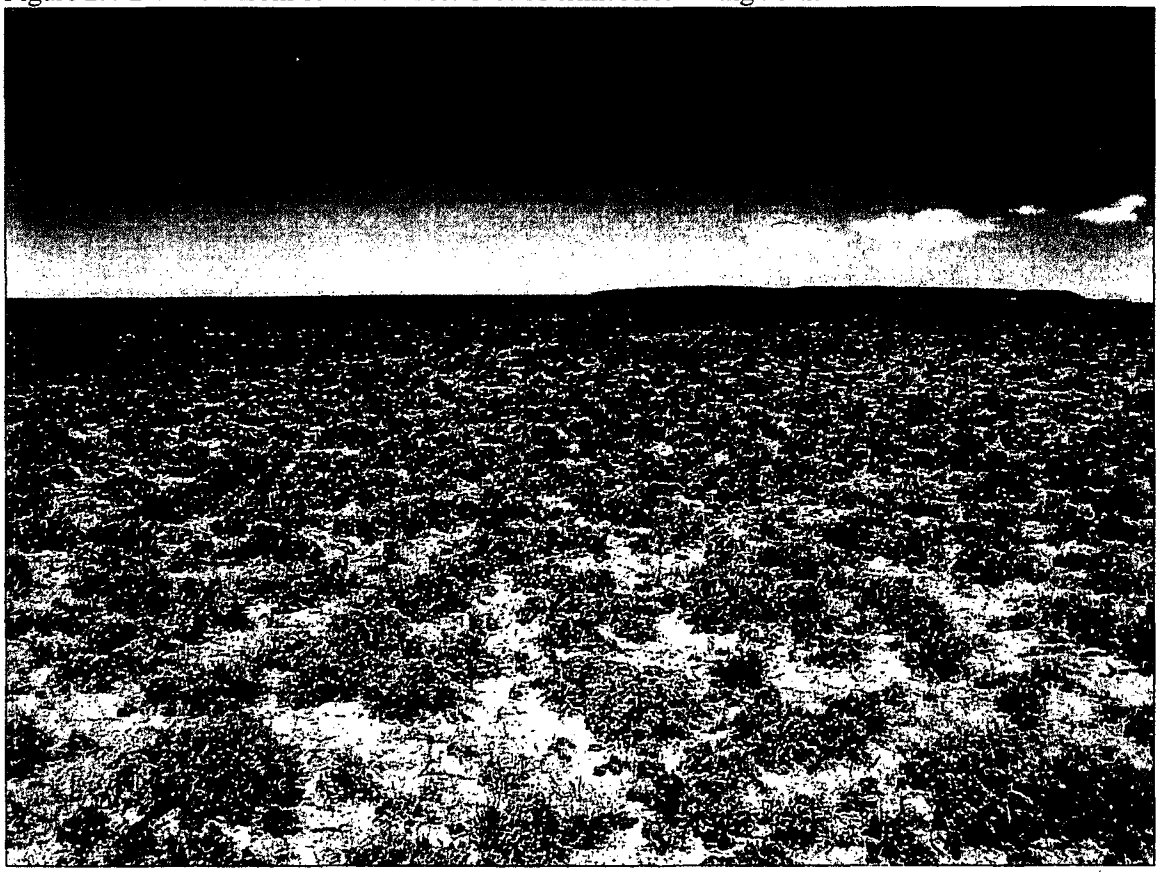
No developed parks or recreation areas are located within the visual resources study area.

Major travel routes in the visual resources study area include County Road (CR) 63, CR 23N, and BLM 3215. The Permit Area cannot be seen from any of these transportation corridors from viewpoints within the visual resources study area. There are no residences within the visual resources study area.

The Project is approximately 30 miles from the Ferris Mountain Wilderness Study Area; but no WSAs or Areas of Critical Environmental Concern (ACEC) are located within the visual resources study area. The Permit Area is within proximity of recreation areas; but these activities, such as hiking, sight-seeing, antler collecting, OHV use, hunting, and wild horse viewing, are dispersed.

The Permit Area is not visually pristine or of special visual interest. The sole visually sensitive receptors within the visual resources study area are a small number of dispersed recreationists. The Permit Area has been designated VRM Class III by the BLM (BLM, 2004; Rau P. Recreation Specialist, BLM Rawlins Field Office. Personal communication. 2007); and the Project would be compatible with this use.

Figure 2.4-2a. View from center of Lost Creek Permit Area facing north



(June 13, 2007)

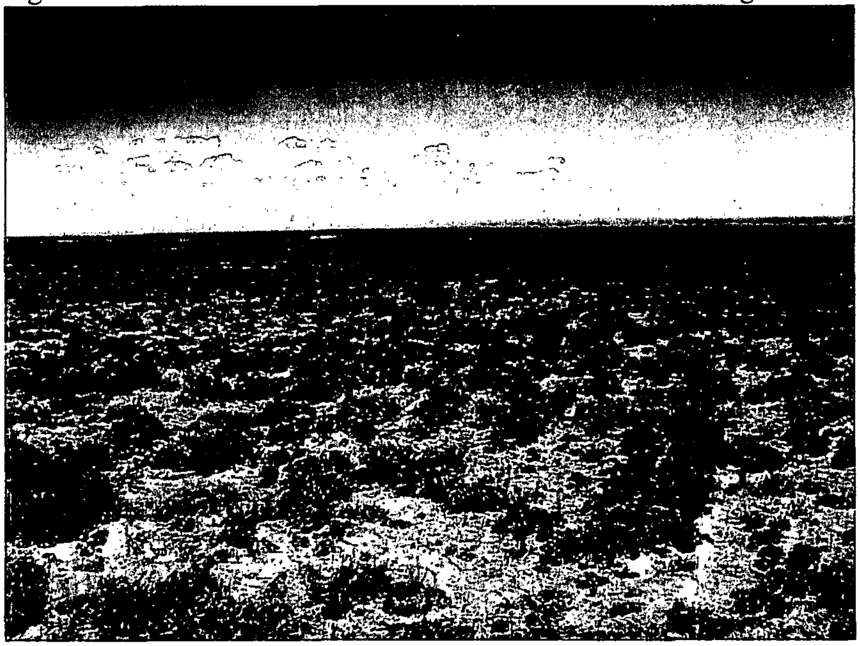
Figure 2.4-2b. View from center of Lost Creek Permit Area facing northeast

(June 13, 2007)

Figure 2.4-2c. View from center of Lost Creek Permit Area facing east

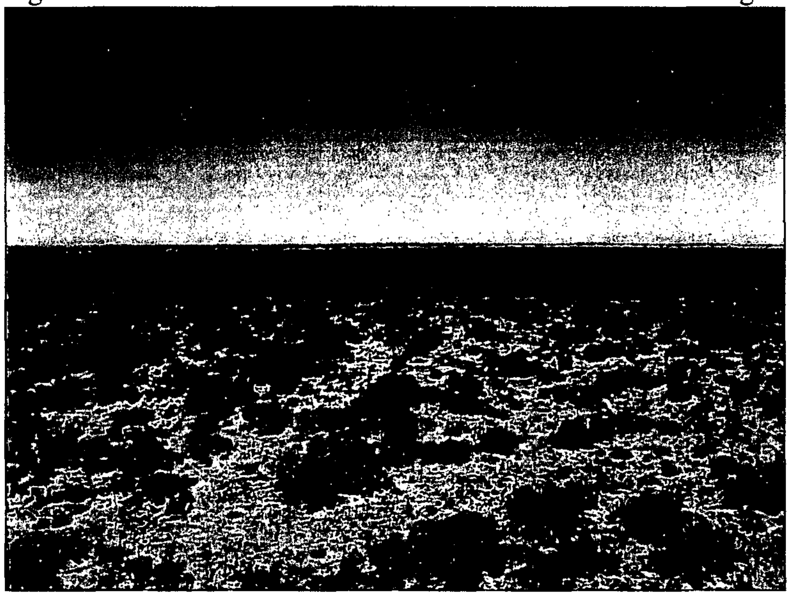
(June 13, 2007)

Figure 2.4-2d. View from center of Lost Creek Permit Area facing southeast



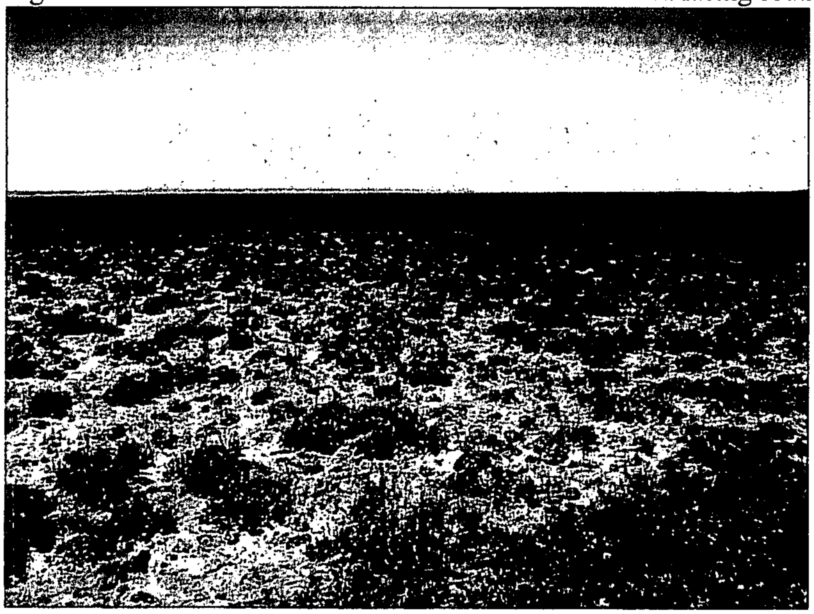
(June 13, 2007)

Figure 2.4-2e. View from center of Lost Creek Permit Area facing south



(June 13, 2007)

Figure 2.4-2f. View from center of Lost Creek Permit Area facing southwest

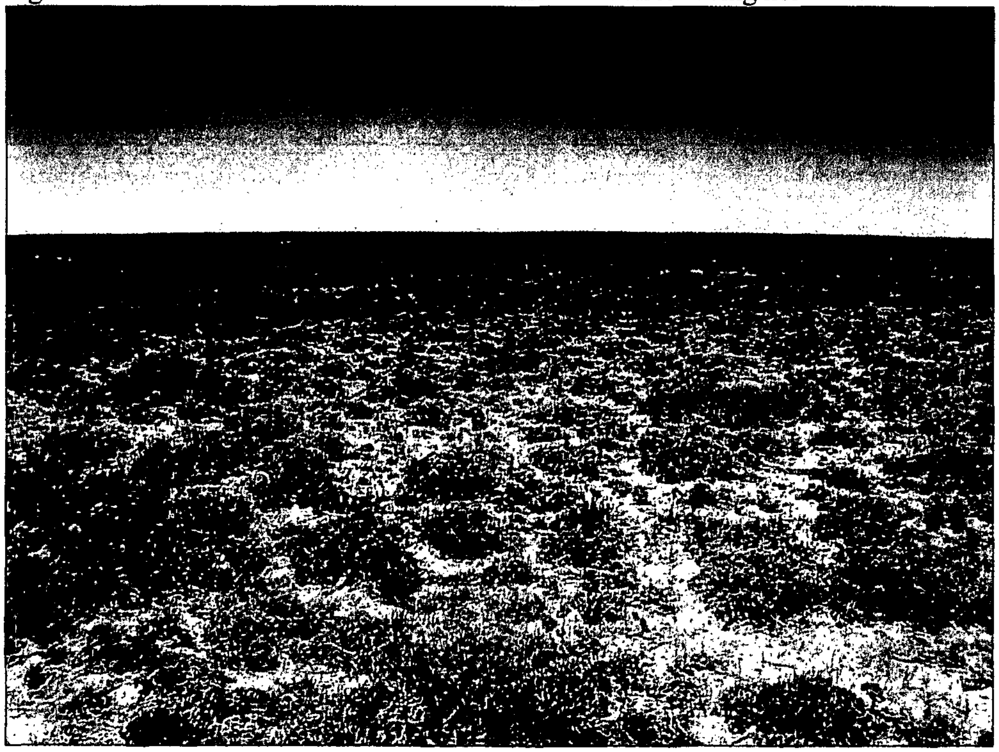


(June 13, 2007)

Figure 2.4-2g. View from center of Lost Creek Permit Area facing west

(June 13, 2007)

Figure 2.4-2h. View from center of Lost Creek Permit Area facing northwest



(June 13, 2007)

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2.5 Meteorology, Climatology and Air Quality

This section describes meteorology, climatology, and air quality in the region in which the Project is located. Both regional (long-term) and site-specific data (one year) are discussed to describe climatological conditions at the Permit Area. Where site-specific data are not available, data from the closest representative location are presented.

The Project is located in the Great Divide Basin, in south-central Wyoming. The Permit Area is located in the intermountain semi-desert ecoregion (Wyoming State Climate Office, 2005), which has cold winters and short, hot summers (Bailey, 1995). The average annual temperatures range from 40 to 52 degrees Fahrenheit (°F) in this ecoregion. The average annual precipitation ranges from five to 14 inches (Bailey, 1995). Meteorological stations within 50 miles of the Project site are shown in **Figure 2.5-1**. The National Weather Service (NWS) meteorological station closest to the Permit Area with a long period of record is Muddy Gap, Wyoming (High Plains Regional Climate Center [HPRCC], 2007a). This station is 28 miles northeast of the Permit Area; and temperature, precipitation, snowfall and snow depth data have been collected since 1949.

A meteorological station (Lost Soldier [LS] Station) was installed at a location near Bairoil in April 2006. The LS meteorological station is about 12 miles northeast from the Permit Area (see **Figure 2.5-1**). Another meteorological station was installed within the Permit Area (Lost Creek [LC] Station) in May 2007 to collect on-site data (see **Figure 2.5-1**).

Information collected from the LS station will be used to describe on-site conditions. All data were measured at a height of 6.6 feet (two meters), with a recovery rate of over 90 percent. The Muddy Gap station is in the same Climate Division as the Project location, Climate Division 10 (CLIMAS, 2005), which means that these locations have similar climatic characteristics. At the date of this document, only data through 2005 were available for the Muddy Gap station.

2.5.1 Temperature

Based on the Muddy Gap data, July is the warmest month; the average maximum daily temperatures are approximately 85°F; and the average minimum daily temperatures are approximately 55°F. January is the coldest month; the average daily maximum temperatures are 30 to 35°F; and the average minimum daily temperatures are approximately 10 to 15°F. The maximum temperature on record is 100°F in July, while the minimum temperature on record is -40°F in December. The average monthly temperatures at the LS station collected in 2006 and 2007 were generally within range of the long-term averages at Muddy Gap. Temperatures from these stations are compared in **Table 2.5-1**.

2.5.2 Precipitation

The Permit Area is drier than many areas in the State of Wyoming. **Figure 2.5-2** shows the total monthly precipitation in the Project region.

The mean annual precipitation at the Muddy Gap station from 1949 through 2005 was 10.0 inches. Precipitation is distributed throughout the year, but the mean monthly precipitation exceeds one inch only in April, May, and June. May is the wettest month, with 1.9 inches of mean precipitation. Actual annual moisture may be somewhat higher, since precipitation gages capture only a small proportion of snowfall under windy conditions.

The precipitation at the LS station from May 2006 to April 2007 showed that precipitation for this period was much lower than normal. Regional data showed the area received 50 to 70 percent less rainfall than average (HPRCC, 2007b). The nearest bodies of water within 50 miles are the Pathfinder and Seminoe Reservoirs (see **Figure 2.5-1**).

2.5.3 Humidity

The average relative humidity at the Permit Area is low in the summer, with the lowest average occurring in June (30.2 percent). The relative humidity is elevated during the winter, where the highest average occurred in February (75.6 percent). The monthly maximum and minimum humidity measured at the LS meteorological station is provided in **Table 2.5-2**.

2.5.4 Winds

The annual average wind speed at a height of ten meters measured between April 2006 and April 2007 was 23 feet per second (ft/s) (7.0 meters per second [m/s]) at the meteorological station located near Bairoil, about 15 miles from the Permit Area. The wind speed is highest in February and November (29.9 and 29.2 ft/s or 9.1 and 8.9 m/s, respectively). The lowest wind speeds occur in July and August (16.4 and 16.7 ft/s or 5.0 and 5.1 m/s, respectively). The prevailing monthly wind direction is from the west-northwest and west for most of the year, with some variability occurring in the spring (**Figure 2.5-3**).

Atmospheric stability was categorized into six classes according to Pasquill. Calculations were made using wind speed and solar radiation data collected at the site. The data show that stability conditions, which contribute to good dispersion conditions, occur 91 percent of the time, making atmospheric inversion conditions unlikely.

Tornadoes are more prevalent in eastern Wyoming than in western Wyoming, because mountain ranges in western Wyoming are barriers to the flow of warm, moist air that causes tornadoes. In Sweetwater County, 19 tornados were reported in a 55-year period, none of which caused an injury or death. An individual tornado would affect only a portion of the County; therefore, chances are small that the Permit Area would experience a tornado. The Fujita Scale is used to rate the intensity of a tornado by examining the damage caused to man-made structures (The Tornado Project, 2003). The most destructive tornado recorded in Sweetwater County from 1950 to 2004 was an F-1 "moderate" tornado, which would be unlikely to cause extensive damage to the Project.

The Permit Area is located in an area that has statistically shown lower density of lightning strikes. The probability of hail is also low, with six occurrences recorded in a 24-year period (Curtis and Grimes, 2007).

2.5.5 Air Quality

National Ambient Air Quality Standards (NAAQS) exist for sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), ozone (O_3), lead, and particulate matter small enough to move easily into the lower respiratory tract (particles less than ten micrometers in aerodynamic diameter, designated Particulate Matter [PM_{10}]). The NAAQS are expressed as pollutant concentrations that are not to be exceeded in the ambient air, that is, in the outdoor air to which the general public has access (40 CFR Part 50.1(e)). Primary NAAQS are designated to protect human health; secondary NAAQS are designated to protect human welfare by safeguarding environmental resources (such as soils, water, plants, and animals) and manufactured materials. Primary and secondary NAAQS are presented in **Table 2.5-3**.

The air quality in the Project region is good. The area is sparsely populated and is not heavily developed with industrial sources of air pollution. The closest monitoring station to the Permit Area is in Rawlins, and shows that regional air quality is in compliance with the NAAQS and Wyoming Ambient Air Quality Standards (WAAQS) (BLM, 2004c).
In addition to ambient air quality standards, which represent an upper bound on allowable pollutant concentrations, there are national standards for the Prevention of Significant Deterioration (PSD) of air quality (40 CFR § 51.166). The PSD standards differ from the NAAQS in that the NAAQS provide maximum allowable concentrations of pollutants, while PSD requirements provide maximum allowable increases in concentrations of

pollutants for areas already in compliance with the NAAQS. PSD standards are, therefore, expressed as allowable increments in the atmospheric concentrations of specific pollutants. Allowable PSD increments currently exist for three pollutants: NO_2, SO_2, and PM_{10}. Increments are particularly relevant when a major proposed action (involving either a new source or a major modification to an existing source) may degrade air quality without exceeding the NAAQS, as would be the case, for example, in an area where the ambient air is very clean. One set of allowable increments exists for Class II areas, which cover most of the US. A much more stringent set of allowable increments exists for Class I areas, which are specifically designated areas where the degradation of ambient air quality is severely restricted. Class I areas include certain national parks and monuments, wilderness areas, and other areas as described in 40 CFR § 51.166(e) and 40 CFR Part 81:400-437. Maximum allowable PSD increments for Class I and Class II areas are given in **Table 2.5-4**. Class I areas, as designated in the Rawlins Resource Management Plan (RMP), include the Savage Run Wilderness and Rocky Mountain National Park. PSD Class I areas receive the highest degree of protection from air pollution; only small amounts of particulate, SO_2, and NO_2 air pollutants are allowed in these areas (BLM, 2004c).

2.5.5.1 Air Particulate Sampling

Air particulate matter in the Permit Area was sampled using two Mini Volumetric (MiniVol) samplers with ten micron (PM_{10}) filters. Dust trapped by these filters is the size considered most detrimental to human health. Two samplers were used as a pair, with samples collected concurrently, upwind and downwind of the Permit Area, at three locations: Northern (LCAIR9&10); Central (LCAIR13&14); and Southern (LCAIR11&12). The sampling duration was approximately 24 hours, and the results were time-adjusted for a 24-hour period. **Figure 2.5-4** shows the sampling locations, and the results are presented in **Table 2.5-5**.

The average PM_{10} concentration in June 2006, including both upwind and downwind sampling locations, was 8.5 micrograms per cubic meter ($\mu g/m^3$). The maximum value was 10.5 $\mu g/m^3$ and the minimum value was 5.4 $\mu g/m^3$. For comparison, the average PM_{10} in Casper Wyoming was 18.8 $\mu g/m^3$ from 1990 through 1994 (Natural Resources Defense Council, 2007). At the northern sampling location, the PM_{10} concentration in the upwind sample was more than 70 percent higher than the downwind sample. At the central and southern sampling locations, the upwind and downwind samples differed by 15 percent or less. The sample collection runs lasted between 21.5 to 28 hours. In February 2007, the PM_{10} concentration at the central sampling location was about one-half of the concentration in June 2006, possibly due to slightly damper soil conditions.

The NAAQS criteria for PM_{10} set a limit of 150 $\mu g/m^3$ for a 24-hour period, not to be exceeded more than once per year on an average over three years. The data show that for both upwind and downwind locations, this standard was not exceeded. More information on dust and emissions from Project activities are covered in **Section 7.1.7** of this TR, and also in **Section 4.7** of the ER.

2.5.5.2 Radiological Sampling

Passive radon and gamma air sampling for the Project was initiated in November 2006. Sampling locations were established at the closest full-time residence, which is in Bairoil, (URPA1 [Ur-Energy Passive Air 1]), at the western site boundary (URPA7), at the southeastern site boundary (URPA8), at the northeastern site boundary (URPA10), and at the center of the site (URPA9). An additional sampling site was added (URPA13) after the first quarter, to reflect changes to the proposed Permit Area. **Figure 2.5-5** shows passive radiological sampling locations, which represent conditions both upwind (west) and downwind (east) of the Permit Area boundaries.

Samplers were retrieved quarterly; and results are presented in **Table 2.5-6**. The elevated radon measurement at URPA9 during the first quarter may be due to radon retention by snow cover. When retrieved, the sensor was buried in a snow drift; thereafter, the sampler was relocated five feet away. The gamma sensor at URPA10 was missing at the end of the second quarter, but was replaced.

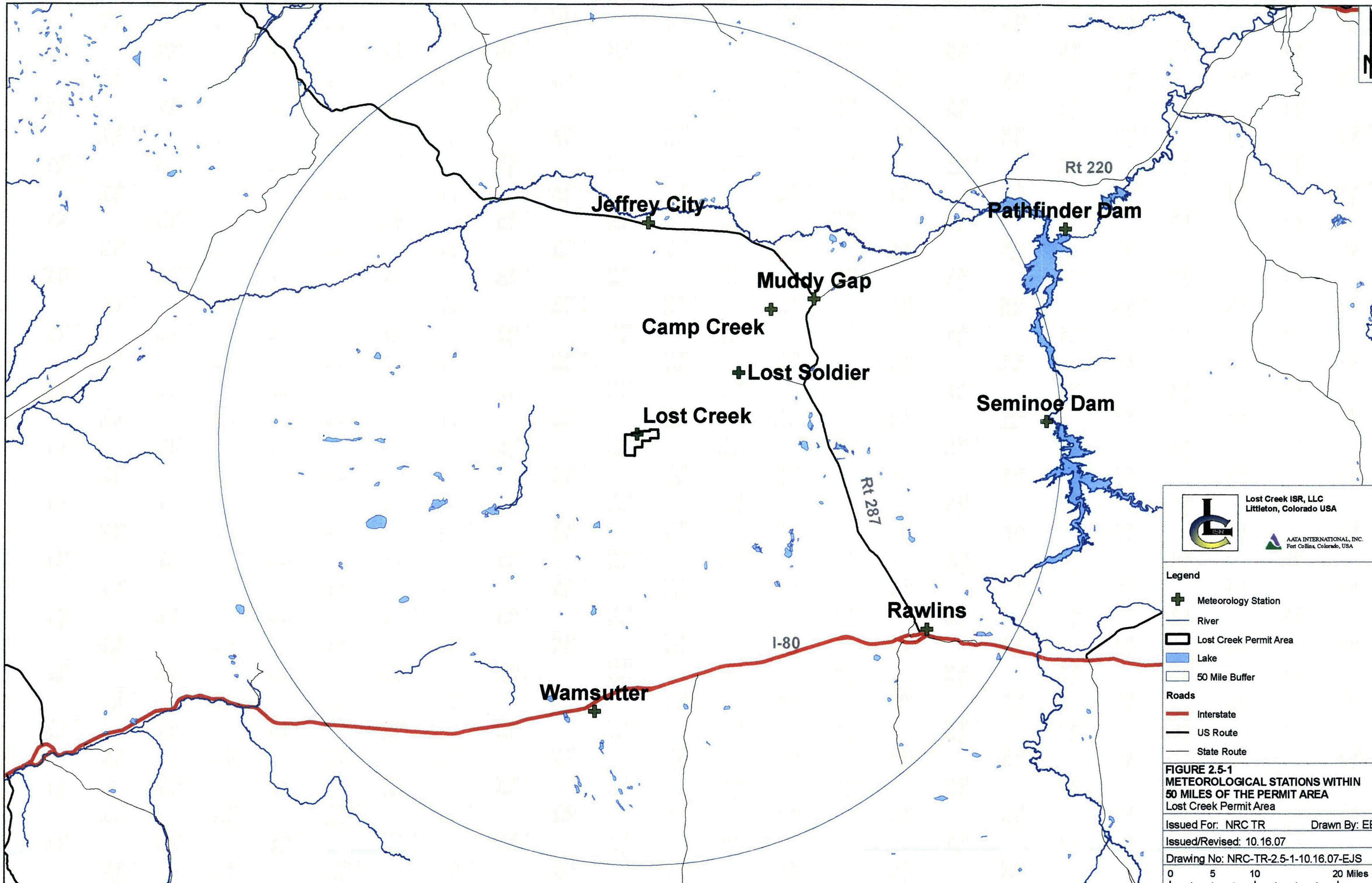


FIGURE 2.5-1
METEOROLOGICAL STATIONS WITHIN 50 MILES OF THE PERMIT AREA
Lost Creek Permit Area

Issued For: NRC TR Drawn By: EB
Issued/Revised: 10.16.07
Drawing No: NRC-TR-2.5-1-10.16.07-EJS

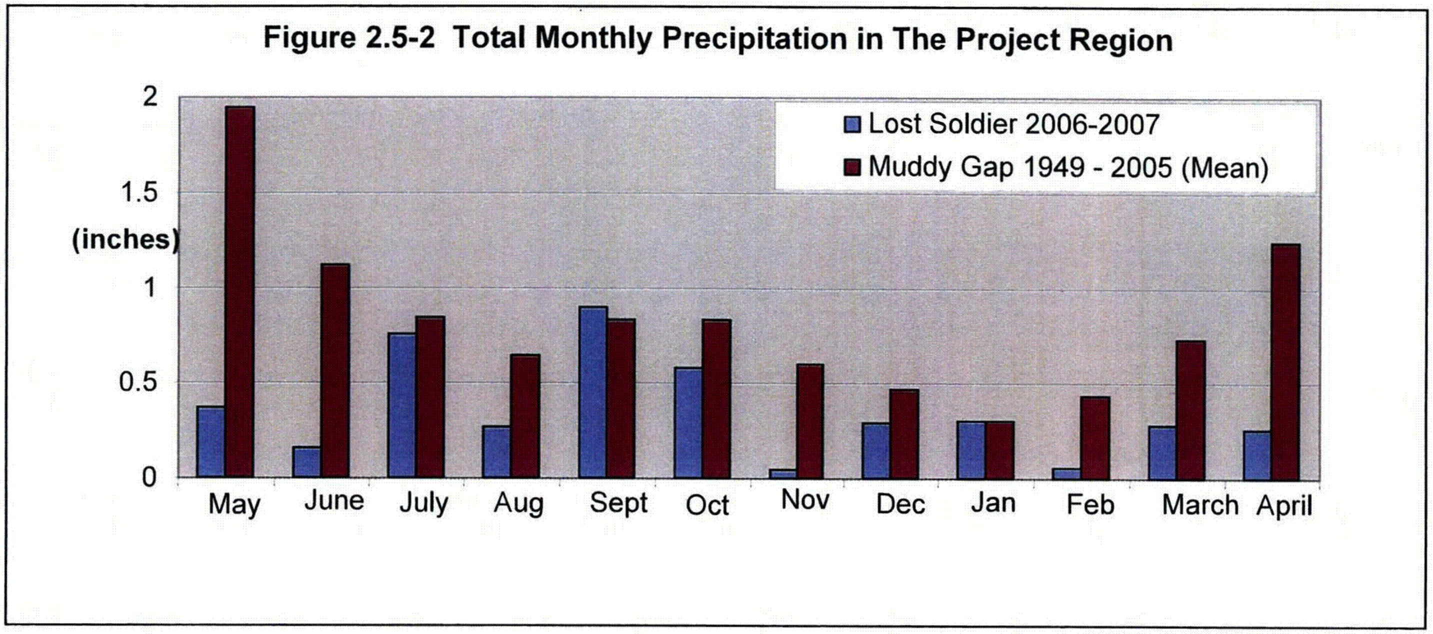
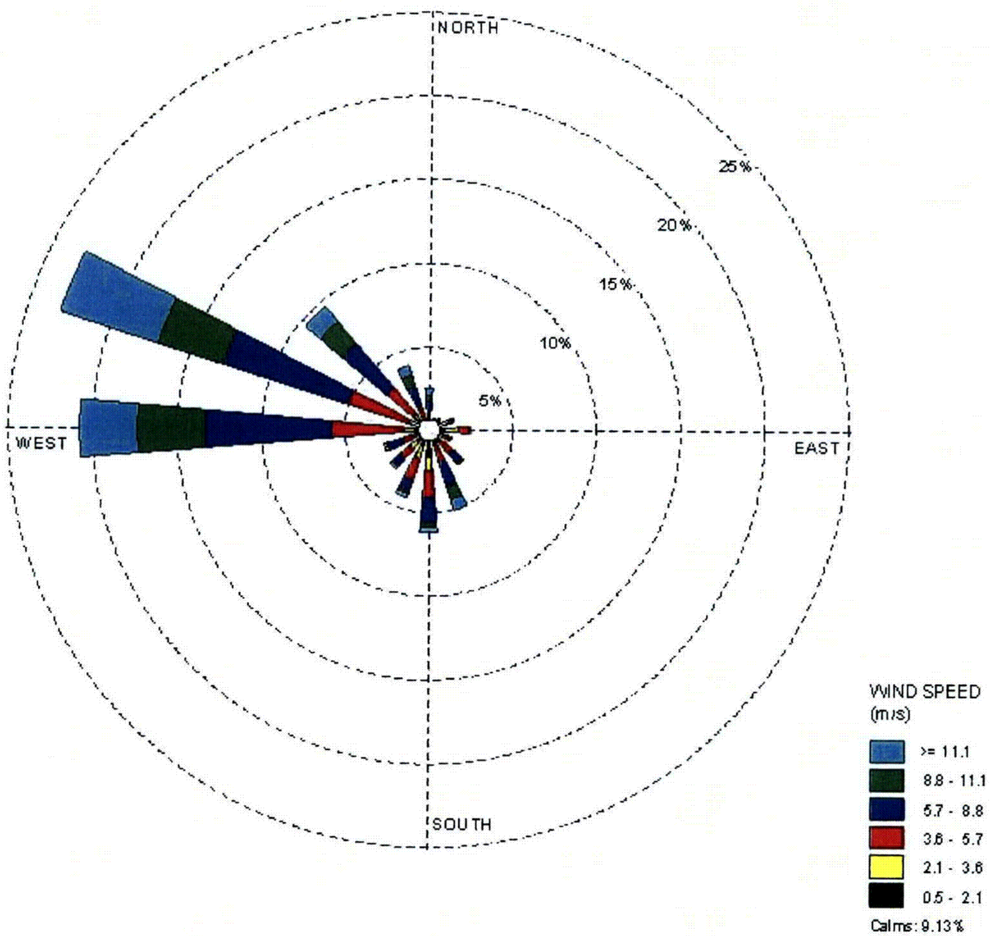


Figure 2.5-2 Total Monthly Precipitation in The Project Region
Lost Soldier 2006-2007
Muddy Gap 1949 - 2005 (Mean)
(inches)
2
1.5
1
0.5
0
May
June
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
March
April

Figure 2.5-3. Wind Speed and Direction at the Lost Soldier Meteorological Station (May 2006-April 2007)



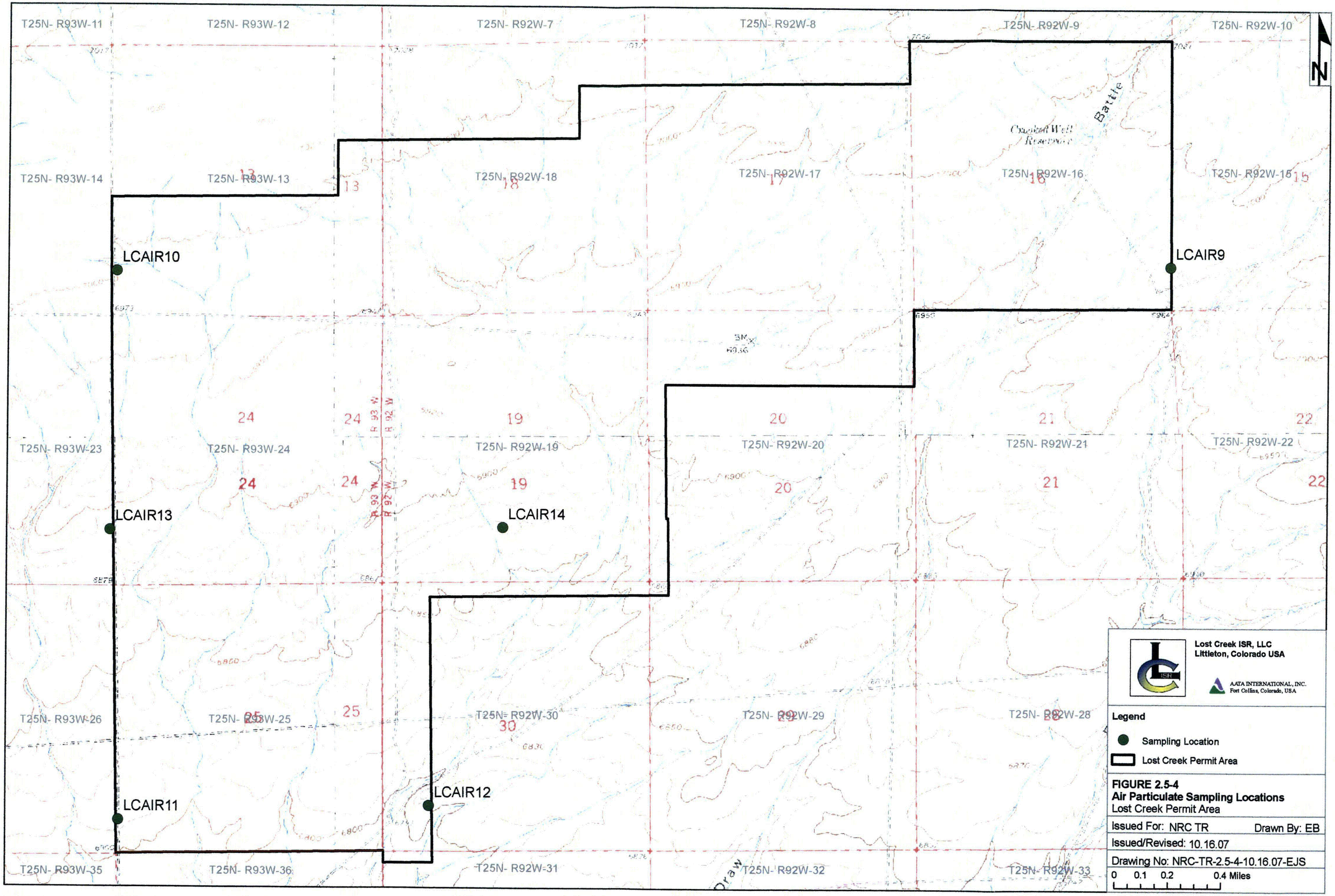


FIGURE 2.5-4
Air Particulate Sampling Locations
Lost Creek Permit Area

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Issued/Revised: 10.16.07
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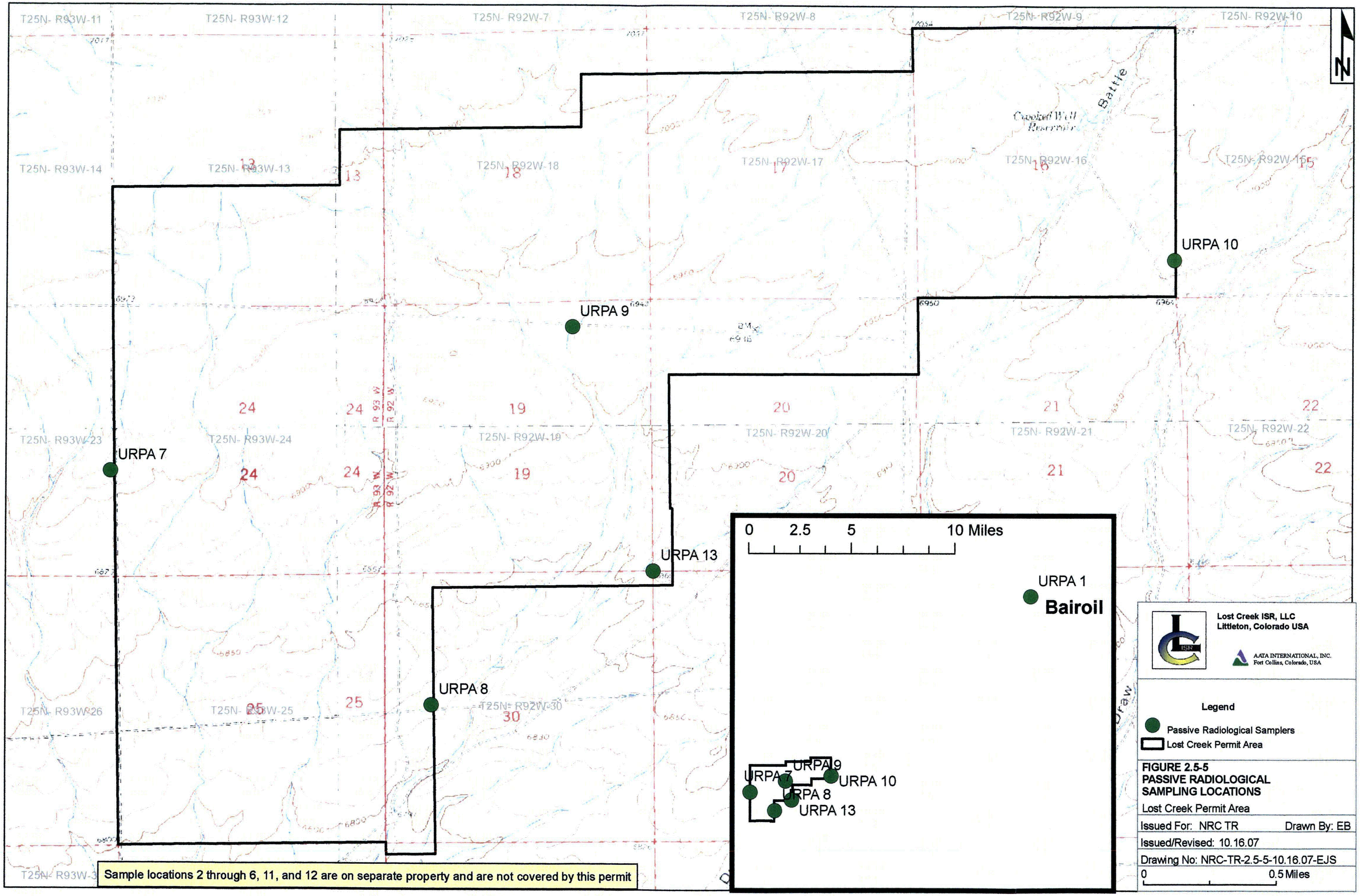

T25N- R93W-11
T25N- R93W-12
T25N- R92W-7
T25N- R92W-8
T25N- R92W-9
T25N- R92W-10
T25N- R93W-14
T25N- R93W-13
T25N- R92W-18
T25N- R92W-17
T25N- R92W-16
T25N- R92W-15
T25N- R93W-23
T25N- R93W-24
T25N- R92W-19
T25N- R92W-20
T25N- R92W-21
T25N- R92W-22
T25N- R93W-26
T25N- R93W-25
T25N- R92W-30
URPA 7
URPA 8
URPA 9
URPA 10
URPA 13
Battle
0 2.5 5 10 Miles
URPA 1
Bairoil
Sample locations 2 through 6, 11, and 12 are on separate property and are not covered by this permit
Lost Creek ISR, LLC
Littleton, Colorado USA
AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA
Legend
Passive Radiological Samplers
Lost Creek Permit Area
FIGURE 2.5-5
PASSIVE RADIOLOGICAL SAMPLING LOCATIONS
Lost Creek Permit Area
Issued For: NRC TR
Drawn By: EB
Issued/Revised: 10.16.07
Drawing No: NRC-TR-2.5-5-10.16.07-EJS
0 0.5 Miles

Table 2.5-1 **Comparison of Temperature Data**

Month	Lost Soldier Meteorological Station (2006)			Muddy Gap (1949 through 2005)		
	Average Temperature (° F)	**Maximum Temperature (° F)**	**Minimum Temperature (° F)**	**Mean Temperature (° F)**	**Mean Maximum Temperature (° F)**	**Mean Minimum Temperature (° F)**
April [1]	42.1	54.7	30.1	42.6	55.5	29.6
May	51.8	64.0	39.5	52	66	37.9
June	64.2	77.6	50.2	62.5	78	46.9
July	70.0	82.0	57.3	69.6	85.5	53.6
August	65.1	78.4	52.2	68.3	83.9	52.7
September	51.3	61.9	40.7	58.3	73	43.6
October	39.0	49.6	29.8	46.9	60	33.7
November	32.0	40.6	23.3	32.3	41.8	22.8
December	21.9	34.3	49.9	23.8	32.7	14.9
January	12.6	18.7	4.0	22.7	31.4	14
February	23.7	31.6	16.6	26.2	35.5	16.8
March	34.8	45.8	26.4	34.6	45.5	23.7
April [1]	35.1	45.9	23.8	42.6	55.5	29.6
Annual	41.8	52.7	34.1	45	57.4	32.5

[1] partial month

Table 2.5-2 Monthly Maximum and Minimum Humidity Measured at the Lost Soldier Meteorological Station

	Max Humidity (percent)	Min Humidity (percent)
Apr 2006	98.6	9.4
May 2006	97.5	6.8
Jun 2006	87.3	5.8
Jul 2006	98.5	8.1
Aug 2006	94.7	6.3
Sep 2006	98.8	8.9
Oct 2006	98.8	11.7
Nov 2006	98.5	13.3
Dec 2006	97.4	28.9
Jan 2007	97.6	37.7
Feb 2007	99.2	31.0
Mar 2007	98.8	15.9
Apr 2007	98.4	12.6

Table 2.5-3 Primary and Secondary Limits for National Ambient Air Quality Standards (NAAQS) and the state of Wyoming (EPA, 2007)

Pollutant	National			State of Wyoming		
	Primary Standards	Averaging Times	Secondary Standards	Primary Standards	Averaging Times	Secondary Standards
Carbon Monoxide	9 ppm (10 mg/m^3)	8-hour [1]	None	9 ppm (10 mg/m^3)	8-hour [1]	None
	35 ppm (40 mg/m^3)	1-hour [1]	None	35 ppm (40 mg/m^3)	1-hour [1]	None
Lead	1.5 μg/m^3	Quarterly Average	Same as Primary	1.5 μg/m^3	Quarterly Average	Same as Primary
Nitrogen Dioxide	0.053 ppm (100 μg/m^3)	Annual (Arithmetic Mean)	Same as Primary	0.05 ppm (100 μg/m^3)	Annual (Arithmetic Mean)	Same as Primary
Particulate Matter (PM_{10})	Revoked [2]	Annual [2] (Arithmetic Mean)		50 μg/m^3	Annual [2] (Arithmetic Mean)	
	150 μg/m^3	24-hour [3]		150 μg/m^3	24-hour [3]	
Particulate Matter ($PM_{2.5}$)	15.0 μg/m^3	Annual [4] (Arithmetic Mean)	Same as Primary	15.0 μg/m^3	Annual [4] (Arithmetic Mean)	Same as Primary
	35 μg/m^3	24-hour [5]		65 μg/m^3	24-hour [5]	
Ozone	0.08 ppm	8-hour [6]	Same as Primary	0.08 ppm	8-hour [6]	Same as Primary
	0.12 ppm	1-hour [7] (Applies only in limited areas)	Same as Primary			
Sulfur Oxides	0.03 ppm	Annual (Arithmetic Mean)	-------	0.02 ppm (60 μg/m^3)	Annual (Arithmetic Mean)	
	0.14 ppm	24-hour [1]	-------	0.10 ppm (260μg/m^3)	24-hour [1]	
	-------	3-hour [1]	0.50 ppm (1300μg/m^3)	0.50 ppm (1300μg/m^3)	3-hour [1]	

[1] Not to be exceeded more than once per year.
[2] Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, the agency revoked the annual PM10 standard in 2006 (effective December 17, 2006).
[3] Not to be exceeded more than once per year on average over 3 years.
[4] In this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 μg/m3.
[5] To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 μg/m3 (effective December 17, 2006).
[6] To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.
[7] a. The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is < 1, as determined by appendix H.
b. As of June 15, 2005 EPA revoked the 1-hour ozone standard in all areas except the fourteen 8-hour ozone nonattainment Early Action Compact (EAC) Areas.

Table 2.5-4 Allowable Increments for Prevention of Significant Deterioration of Air Quality

Pollutant	Averaging Time	Prevention of Significant Deterioration Increment					
		Class I			Class II		
		μg/m³	ppm	ppb	μg/m³	ppm	ppb
Nitrogen Dioxide NO_2	Annual	2.5	0.0013	1.3	25	0.013	13
Particulate Matter PM_{10}	24-hour	8			30		
	Annual	4			17		
Sulfur Dioxide SO_2	3-hour	25	0.0096	9.6	512	0.1956	196
	24-hour	5	0.0019	1.9	91	0.0348	35
	Annual	2	0.0008	0.8	20	0.0076	8

Table 2.5-5 PM_{10} Concentrations at Lost Creek

Location	Date	Wind Speed (mi/hr)	Upwind Sample	Concentration (μg/m³)	Downwind Sample	Concentration (μg/m³)
Northern	6/24/2006	10.1	LCAIR10	9.3	LCAIR9	5.4
Central	6/26/2006	10.3	LCAIR13	10.5	LCAIR14	9.1
Southern	6/25/2006	n/a	LCAIR11	8.0	LCAIR12	8.9
Central	2/7/2007	7.2	LCAIR16	4.7	LCAIR15	3.7

Table 2.5-6 **Analytical Results for Passive Radon and Gamma Sampling**

Location	Period	Radon pCi/l-days	Gamma millirems	Gamma millirems/ day
URPA1 (Bairoil)	Q1	50.30	11.30	0.12
	Q2	22.50	16.90	0.20
	Q3	90.50	18.60	0.19
URPA7 (West Boundary of LC)	Q1	147.60	33.00	0.34
	Q2	56.30	23.20	0.28
	Q3	153.70	41.70	0.43
URPA8 (Southeast Boundary of LC)	Q1	258.40	13.60	0.14
	Q2	108.10	23.40	0.28
	Q3	203.10	38.20	0.39
URPA9 (North - Central LC)	Q1	370.60	23.70	0.24
	Q2	67.50	18.00	0.21
	Q3	148.80	42.10	0.43
URPA10 (Northeast boundary of LC)	Q1	201.70	24.40	0.25
	Q2	100.70	NA [1]	NA
	Q3	173.20	50.40	0.52
URPA13 (South - Central near boundary of LC)	Q1	#	#	#
	Q2	167.20	25.60	0.30
	Q3	146.80	24.80	0.26

No data available for first quarter due to later sampler installation.

[1] NA = sensor missing; a new undamaged sensor was installed for the next quarter.

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Plate 2.6-3 Soil Survey Mapping Units

2.6 Geology and Soils

2.6.1 Regional Geology

The Great Divide Basin (Basin) is an oval-shaped structural depression, encompassing some 3,500 square miles in south-central Wyoming. The Basin is bounded on the north by the Wind River Range and Granite Mountains, on the east by the Rawlins Uplift, on the south by the Wamsutter Arch and on the west by the Rock Springs Uplift. The regional geologic map is shown in **Figure 2.6-1**. Geologic development of the Basin began in the Late Cretaceous and continued through much of the Early Eocene.

2.6.1.1 Stratigraphy

The earliest sedimentation in the Basin was the Paleocene (Early Tertiary) Fort Union Formation, which was unconformably deposited on the Lance Formation of Late Cretaceous age. The Fort Union Formation consists mostly of lacustrine shales, siltstones, and thin sandstones, which locally contain lignite beds. The thickness of the Fort Union Formation varies from place to place in the Basin, and it is approximately 4,650 feet thick in the Permit Area.

The Fort Union Formation is unconformably overlain by sediments of Eocene age, making up about 6,200 feet of basin fill. The western and southern portions of the Basin are covered by the Wasatch Group, which consists of sandstone, siltstone, limestone, conglomerate and lignite beds. The rocks in the Wasatch Group are believed to be of fluvial-lacustrine origin. Towards the north and northeast, the Wasatch Group rapidly grades into and inter-tongues with the equally thick, fine- to coarse-grained arkosic sandstones and conglomerates of the Battle Spring Formation, a typical alluvial fan complex. The source of the Battle Spring sediments is believed to be the ancestral Granite Mountains to the north. Pliocene pediment deposits and recent alluvium cover large areas of the surface in the Basin. **Table 2.6-1** and **Figure 2.6.2a** show the general stratigraphy of the Basin.

The upper portion of the Battle Spring Formation is the host to the uranium mineralization in the Permit Area. In the Permit Area, the top 700 feet of the Battle Spring Formation is divided into at least five horizons marked from top to bottom as BC, DE, FG, HJ, and KM. These horizons are separated from one another by various thicknesses of shale, mudstone and siltstone **(Figure 2.6-2b).**

2.6.1.2 Structure

The present physiographic feature of the Basin was generated by the Laramide Orogeny. During the Late Cretaceous and Early Tertiary, the structures surrounding the Basin were either rejuvenated or were formed, transforming the area into a bowl-shaped geological structure, the Basin. During this upheaval, the Wind River Mountains and Granite Mountains were uplifted on the north side of the Basin. The Rawlins Uplift formed to the east; the Wamsutter Arch formed to the south; and the Rock Spring Uplift formed to the west. All of these highs formed a ring around the Basin, turning the Basin into a bowl-like structure with drainage being inward. The Continental Divide, extending from the south, splits into two and forms half circles on the east and west sides of the Basin, joining again as one structural high on the north side of the Basin.

The Basin is asymmetrical with its major axis trending west-northwest. Several anticlines and synclines have been mapped within the Basin, and some of these features are oil-bearing (at much deeper levels than the uranium-bearing formations). Noteworthy among these structures is the Lost Soldier anticline in the northeastern part of the Basin, approximately 15 miles northeast of the Permit Area. The Battle Spring and Fort Union Formations, as well as older rocks crop out in the anticline; and the formations on the southwestern flank of the anticline dip 20 to 25 degrees to the southwest. The dip gradually becomes gentler, and, at the Permit Area, it is merely three degrees to the west.

Contemporaneous with the uplift of the mountains surrounding the Basin, there were episodes of normal and thrust faulting within and around the Basin. Most of the major faults are located in the northern part of the Basin, with displacement ranging from a few feet to over 3,000 feet. But, toward the center of the Basin near the Permit Area, faulting seems to be only on a minor scale. For example, the displacement at the Lost Creek Fault (Fault) which traverses the mineralized area from west-southwest to east-northeast is zero to about 80 feet. More details about the Fault are given in **Section 2.6.2.2**.

2.6.2 Site Geology

The Permit Area is located near the north-central part of the Basin, where the Basin fills are predominantly the Eocene Battle Spring Formation and the Paleocene Fort Union Formation. Geological cross sections throughout the Permit Area are presented in **Plates 2.6-1a, b, c, d, and e)**. **Attachment 2.6-1** contains copies of typical geophysical logs from the Permit Area.

2.6.2.1 Stratigraphy

The entire Permit Area is covered by the upper part of the Battle Spring Formation, which is the host to uranium mineralization. Generally, in the Basin, Battle Spring and Wasatch Formations, which are time equivalent, interfinger with one another. In the Permit Area, the upper half of the lithologic units consists of Battle Spring Formation and the lower half is made up of Wasatch Formation. The total thickness of the Battle Spring and Wasatch Formations under the Permit Area is about 6,200 feet. The Fort Union Formation is 4,650 feet thick beneath the Permit Area and unconformably underlies the Battle Spring/Wasatch Formations. Deeper in the Basin and lying unconformably are various Cretaceous, Jurassic, Triassic, Paleozoic. and Precambrian basement lithologic units (**Table 2.6-1**). A schematic geologic cross section across the Permit Area is shown in **Figure 2.6-2a**, depicting the entire lithologic units that are present under the Permit Area.

The Battle Spring Formation in the Permit Area is part of a major alluvial system, consisting of thick beds of very fine- to coarse-grained arkosic sandstones separated by various layers of mudstones and siltstones. Conglomerate beds may exist locally. The uranium mineralization is associated with finer-grained sandstones and siltstones, which may contain minor organic matter in a few areas. At least five horizons with various amounts of mineralization have been identified. From the surface down, they have been named: BC, DE, FG, HJ, and KM. The two horizons with the most mineralization are HJ and KM, which have been further divided into upper, middle, and lower sub-units of sandstones (UHJ Sand, MHJ Sand, and LHJ Sand; and UKM Sand, MKM Sand, and LKM Sand). Geological cross sections through the mineralized zones in the Permit Area are presented in **Plates 2.6-1a, b, c, d,** and **e**). Thickness (isopach) maps of the HJ Horizon and UKM Sand, as well as the shales above HJ (Lost Creek Shale) and below HJ (Sage Brush Shale), are presented in **Plates 2.6-2a, b, c,** and **d**.

The HJ Horizon is 110 to 130 feet thick, averaging about 120 feet. The thinner part of HJ is generally south of the Fault. A thicker part of the HJ Horizon runs parallel to the Fault, trending in a west-southwest to east-northeasterly direction. The mineralization is mostly concentrated in the middle part of the HJ Horizon and occurs as both roll front and tabular deposits. The subdivided Sand units within the HJ Horizon are separated by discontinuous shale, siltstone and mudstones.

The UKM Sand lies under the Sage Brush Shale and is 20 to more than 60 feet thick, averaging about 40 feet. In the eastern part of the Permit Area, the unit is 20 to 50 feet thick; whereas the sand unit in the western portion of the permit area is 40 to more than 60 feet thick, indicating the development of a major paleo-channel. The mineralization occurs as both roll front and tabular deposits.

2.6.2.2 Structure

The geologic structure in the Permit Area is rather simple, as shown in **Plates 2.6-1a, b, c, d,** and **e**. The Battle Spring Formation dips gently to the west at three degrees and only one fault (e.g., the Fault) was recognized in the mineralized area. The Fault is a "scissor fault" that extends the length of the Permit Area from the west-southwest to the east-northeast. The maximum displacement at the west end of the Permit Area is around 45 feet, dropping down to the north; whereas the displacement on the east side of the Permit Area is about 80 feet with the down-dropped side to the south, creating the scissor fault. Near the middle of the Permit Area, the displacement is practically zero.

2.6.2.3 Ore Mineralogy and Geochemistry

The age of mineralization in the Battle Spring Formation is considered to be between 35 and 26 million years before present. Uranium mineralization in the Basin generally occurs either as tabular or C-shaped roll-front deposits. Oxygen-rich surface water, carrying dissolved uranium, entered various sandstones in the Basin. The water percolated down dip, oxidizing the sandstones on its way down dip. Upon reaching sites rich in organic matter, the water lost its oxidizing potential and deposited the uranium, forming the two types of mineralization mentioned above.

Tabular deposits may form at the interface between oxidizing and reducing conditions (the redox front), where oxidation, for all practical purposes, stops. Localized tabular deposits may also form up-dip from the redox front in an entirely oxidized zone, where carbonaceous materials have gathered and formed locally reducing conditions.

The C-shaped roll-front deposits normally form just at the redox front, where the water loses its oxidizing potential. The uranium precipitates and accumulates in a "C"-shaped deposit, with the concave side facing up-dip toward the oxidized sand. Uranium usually accumulates in finer-grained sandstones that carry various amounts of organic matter, which provides a reducing condition.

The alteration process not only changes the color, but also alters the mineralogy of the host sandstones. The color of unaltered, reduced sandstone is light to dark grey, with carbon trash, dark accessories, and traces of pyrite. Altered, oxidized, sandstone contains iron oxide staining (where former carbonaceous matter and pyrite were present), kaolinized feldspar, and has a pink to tan-buff, greenish-grey to bleached appearance. The presence of pyrite and carbonaceous material appear to be the major controlling factors for the precipitation of uranium mineralization. Thinning of sandstones and diminishing grain size probably slowed the advance of the uranium-bearing solutions and further enhanced the chances of precipitation.

The main uranium minerals are uraninite, a uranium oxide, and coffinite, a uranium silicate. Russell Honea (1979) and John V. Heyse (1979) studied several core samples by scanning electron microprobe (SEM), polished section and thin section. Their conclusions were that the host sands are fine- to coarse-grained, poorly sorted arkose. The uranium mineralization is of sub-microscopic size and can be seen only in SEM magnification. They are associated and at times intergrown with round pyrite particles. The uranium minerals identified are mostly uraninite and, possibly, coffinite. The uranium, besides occurring with pyrite, also occurs as coating around sand grains and as filling of voids between grains. It also occurs as minute particles within larger clay particles.

The most recent study of the lithology and mineralogy was conducted by Hazen Research under the guidance of Dr. Nick Ferris, Ur-Energy geologist (Ferris, 2007, company report). He concluded that the rocks, represented by a core sample from a depth of 506 to 507 feet of Hole Number LC-64C, are medium- to coarse-grained with interstitial clay and silt. Uranium occurrences are very fine-grained and micron-sized, and are mainly dispersed throughout some of the interstitial clays, and occur similarly in some of the interstitial pyrite as well. Because of the size of uranium mineral particles, it was not certain whether the uranium mineral was coffinite or uraninite. The sample tested, comes from the Upper KM Sand unit and may not be representative of the majority of the mineralization in the overlying HJ Horizon within the Permit Area.

Known mineralized intervals are found at depths ranging from near surface down to 1,150 feet below the surface in the Permit Area. It is possible that deeper mineralization may exist as well. The main mineralization horizons trend in an east-northeast direction for at least three miles, and are up to 2,000 feet wide. The thickness of individual mineralized beds at the Permit Area ranges from five to 28 feet and averages about 16 feet. The mineralization grade ranges from 0.03 percent to more than 0.20 percent equivalent uranium oxide (eU_3O_8). Four main mineralized horizons, from depths of 350 to 600 feet, have been identified. The richest mineralized zone occurs in the middle part of the HJ Horizon (MHJ Sand) and it is about 30 feet thick, 400 to 450 feet deep, and is believed to contain more than 50 percent of the total resource under the Permit Area.

2.6.2.4 Historic Uranium Exploration Activities

Historic exploration activities in the Permit Area can be summarized as follows:

- Pre-1976: Numerous companies held the property; uranium mineralization was discovered by Climax Uranium and Conoco.

- 1976: Texasgulf optioned property from Valley Development Inc.
- 1977 through 1979: Texasgulf optioned property from Valley Development Inc., delineated the main trend of the mineralization, obtained a 50-percent interest in the Conoco claims on the trend to the east, and exercised its option with Valley Development Inc.
- 1986: Power Nuclear Corporation acquired the properties.
- 2000: Power Nuclear Corporation sold its Lost Creek properties to New Frontiers Uranium, LLC.
- 2005: New Frontiers Uranium, LLC transferred its Wyoming properties and data including its Lost Creek property to NFU Wyoming, LLC. (NFU).
- 2005: Ur-Energy USA, Inc. purchased NFU from New Frontiers Uranium, LLC on terms.
- 2007: Ur-Energy USA, Inc. completes the acquisition of NFU from NFU, LLC, and maintains NFU as a wholly owned subsidiary.
- 2007: Ur-Energy USA, Inc. forms LC ISR, LLC to develop the Lost Creek property into an ISR facility and transfers the Lost Creek property from NFU to LC ISR, LLC.

At least 560 uranium exploration holes had been drilled in Permit Area prior to 2000. The plates and table in **Attachment 2.6-2** present the locations and total depths of all the known historic exploration holes drilled in the Permit Area.

Historic and current uranium explorations exist in other areas of the Basin. Historic and current oil and gas exploration drilling are also in the region. There are no current oil and gas activities within the Basin that are completed in the same horizons as those discussed for ISR production in this application. The nearest significant gas fields are approximately ten miles to the southwest; therefore, no interference is anticipated between oil and gas production activities and ISR activities. There is no exploration of coal bed methane or other mineral resources within the Permit Area and the nearby region.

2.6.3 Seismology

The discussion of the seismology of the Permit Area and surrounding areas includes: an analysis of historic seismicity; an analysis of the Uniform Building Code (UBC); a deterministic analysis of nearby faults; an analysis of the maximum credible "floating earthquake;" and a discussion of the existing short- and long-term probabilistic seismic hazard analysis. The materials presented here are mainly based on the seismologic characterization of Sweetwater, Carbon, Fremont, and Natrona Counties by James C. Case and others from the Wyoming State Geological Survey (Case, et. al., 2002a, 2002b, 2002c and 2003).

2.6.3.1 Historic Seismicity

The Permit Area is located in the north-eastern portion of the Basin, in south-central Wyoming. Historically, south-central Wyoming has had a low to moderate level of seismicity compared to the rest of the State of Wyoming. As shown in **Figure 2.6-3**, most of the historical earthquakes occurred in the west-northwest portion of Wyoming. Significant historical earthquakes adjacent to the Permit Area are described below, and are organized by areas in which they occurred.

Town of Bairoil Area

Bairoil is located about 15 miles northeast of the Permit Area. Historically, there have been only a few earthquakes that have occurred within 20 miles of Bairoil. On August 11, 1916, a non-damaging intensity III earthquake occurred approximately 17 miles northwest of Bairoil. On June 1, 1993, a non-damaging magnitude 3.8, intensity III earthquake occurred four miles north of Bairoil, and was felt by some residents. On December 10, 1996, a non-damaging magnitude 2.6 earthquake occurred approximately ten miles northwest of Bairoil. A few residents also felt that event.

Two recent earthquakes were recorded near Bairoil in 2000. On May 26, 2000, a magnitude 4.0 earthquake occurred, followed by another (magnitude 2.8) four days later, on May 30, 2000. Both earthquakes were located about 3.5 miles southwest of Bairoil. Most residents in Bairoil felt the first earthquake. No significant damage was associated with either seismic event (Cook, 2000).

City of Rawlins Area

Rawlins is approximately 38 miles southeast of the Permit Area. The first recorded earthquake that was felt and reported immediately southwest of Rawlins occurred on March 28, 1896. The intensity IV earthquake shook for about two seconds. On March 10, 1917, an earthquake (intensity IV) was recorded approximately one mile northeast of Rawlins. The earthquake was felt as a distinct shock that caused wooden buildings to noticeably vibrate. Stone buildings were not affected by the event (Rawlins Republican, 1917).

On September 10, 1964, a magnitude 4.1 earthquake occurred approximately thirty miles west of Rawlins. One Rawlins resident reported that the earthquake caused a crack in the basement of his home in Happy Hollow. No other damage was reported (Daily Times, 1964).

Small earthquakes were detected, on April 13, 1973, May 30, 1973, and June 1, 1973, approximately six miles west of Hanna. No one reported feeling this event. On July 11, 1975, Rawlins residents felt an earthquake (intensity II) event. On January 27, 1976, an earthquake (magnitude 2.3, intensity V) occurred approximately 12 miles north of Rawlins. Several people reported that they were thrown out of bed. (Daily Times, 1976). On March 3, 1977, an earthquake (intensity V) was reported approximately 18.5 miles west-northwest of Encampment. Doors and dishes were rattled in southern Carbon County homes; but no significant damage was reported (Laramie Daily Boomerang, 1977).

On April 13, 1991 and April 19, 1991, magnitude 3.2 and magnitude 2.9 earthquakes, respectively, occurred near the center of the Seminoe Reservoir. A magnitude 3.1 earthquake occurred, on December 18, 1991, southwest of the Seminoe Reservoir, approximately 15 miles northeast of Sinclair. No one reported feeling these Seminoe-Reservoir-area earthquakes. On August 6, 1998, a magnitude 3.6 earthquake occurred approximately 13 miles north of Rawlins. Residents in Rawlins reported hearing a sound and then feeling a jolt. On April, 1999, a magnitude 4.3 earthquake occurred approximately 29 miles north-northwest of Baggs. It was felt in Rawlins; and residents reported that pictures fell off the walls.

City of Rock Springs Area

Rock Springs is located approximately 80 air miles southwest of the Permit Area. The first recorded earthquake that was felt in Sweetwater County occurred on April 28, 1888. This intensity IV earthquake, which originated near Rock Springs, did not cause any appreciable damage. On July 25, 1910, an intensity V earthquake occurred at the same time that the Union Pacific Number One Mine in Rock Springs partially collapsed. On July 28, 1930, an intensity IV earthquake, with an epicenter near Rock Springs, was felt in Rock Springs and Reliance (Casper Daily Tribune, 1930). The earthquake awakened many residents; and some merchandise fell off of store shelves.

On March 21, 1942, a non-damaging, intensity III earthquake was felt in Rock Springs area. This event was followed, on September 14, 1946, by an intensity IV earthquake. On October 25, 1947, a small earthquake with no assigned intensity or magnitude occurred southeast of Rock Springs. Two intensity IV earthquakes occurred in the Rock Springs area on September 24, 1948. The events rattled dishes in parts of Rock Springs.

A magnitude 3.9 event was recorded on January 5, 1964, approximately 23 miles south of Rock Springs. The University of Utah Seismograph Stations detected a non-damaging, magnitude 2.4 earthquake on March 19, 1968. This event was centered approximately 17 miles southeast of Rock Springs.

A magnitude 3.2 event occurred on May 29, 1975, approximately 13 miles northeast of Superior. A week later, on June 6, 1975, a magnitude 3.7 earthquake was recorded in the same area. No damage was associated with any of the 1975 events.

The University of Utah Seismograph Stations recorded a non-damaging magnitude 2.7 earthquake on June 5, 1986. This event was located approximately 14 miles southwest of Green River, Wyoming.

On February 1, 1992, the University of Utah Seismograph Stations recorded a non-damaging magnitude 2.3 earthquake, approximately seven miles north of Rock Springs.

City of Lander Area

Lander is about 70 miles northwest of the Permit Area. A number of earthquakes have occurred in the Lander area. The first reported earthquake occurred on January 22, 1889, and had an intensity of III to IV. This was followed by an intensity IV event on November 21, 1895, during which houses were jarred and dishes rattled. On November 23, 1934, an intensity V earthquake was centered approximately 20 miles northwest of Lander. For a radius of ten miles around Lander, residents reported that dishes were thrown from cupboards, and that pictures fell down from the walls. Cracks were found in buildings along two business blocks; and the brick chimney of the Fremont County Courthouse was separated by two inches from the building. The earthquake was felt at Rock Springs and Green River, Wyoming (Casper Tribune-Herald, 1934).

There were a series of earthquakes in the Lander area in the 1950s that caused little damage. On August 17, 1950, there was an intensity IV earthquake that caused loose objects to rattle and buildings to creak. On January 12, 1954, there was an intensity II event; and on December 13, 1955, there was an intensity IV event near Lander, with no damage reported.

On June 14, 1973, a small earthquake was reported about eight miles east-northeast of Lander. The earthquake has been recently interpreted as a probable explosion. On January 31, 1992, a non-damaging magnitude 2.8 earthquake occurred approximately 20 miles northwest of Lander. This event was followed, on October 10, 1992, by a magnitude 4.0, intensity III earthquake centered approximately 22 miles east Lander.

City of Casper Area

Casper is located about 90 miles northeast of the Permit Area. Two of the earliest recorded earthquakes in Wyoming occurred near Casper. The first was on June 25, 1894, and had an estimated intensity of V. In residences on Casper Mountain, dishes rattled and fell on the floor and people were thrown from their beds. Water in the Platte River changed from fairly clear to reddish, and became thick with mud, due to the river banks slumping into the river during the earthquake. On November 14, 1897, an even larger event was felt. An intensity VI to VII earthquake, one of the largest recorded in central and eastern Wyoming, caused considerable damage to a few buildings. As a result of the earthquake, a portion of the Grand Central Hotel was cracked from the first to the third story. Some of the ceilings in the Grand Central Hotel were also severely damaged.

On October 25, 1922, an intensity IV earthquake was reported in the Casper area. The event was felt in Casper; at Salt Creek, 50 miles north of Casper; and at Bucknum, 22 miles west of Casper. Dishes were rattled and hanging pictures were tilted near Salt Creek. No significant damage was reported in Casper (Casper Daily Tribune, 1922). On December 11, 1942, an intensity IV earthquake was recorded north of Casper. Although no damage was reported, the event was felt in Casper, Salt Creek, and Glenrock (Casper Tribune-Herald, 1941). On August 2, 1948, another intensity IV earthquake was reported in the Casper area. No damage was reported (Casper Tribune-Herald, 1948). In the 1950s, two earthquakes caused some concern among Casper residents. On January 24, 1954, an intensity IV earthquake near Alcova did not result in any reported damage (Casper Tribune-Herald, 1954). On August 19, 1959, an intensity IV earthquake was felt in Casper. Most recently, on October 19, 1996, a magnitude 4.2 earthquake was recorded approximately 15 miles north-northeast of Casper. No damage was reported.

2.6.3.2 Uniform Building Code

With safety in mind, the UBC provides Seismic Zone Maps to help identify which building design factors are critical to specific areas of the country. Five UBC seismic zones are recognized, ranging from Zone 0 to Zone 4. These seismic zones are, in part, defined by the probability of having a certain level of ground shaking (horizontal acceleration) in 50 years. The criteria used for defining boundaries on the Seismic Zone Map were established by the Seismology Committee of the Structural Engineers Association of California (SEAOC, 1986). The criteria they developed are as follows:

- Zone 4: ≥ 30 percent gravity (g) effective peak acceleration;
- Zone 3: 20 to ≤ 30 percent g effective peak acceleration;
- Zone 2: 10 to ≤ 20 percent g effective peak acceleration;
- Zone 1: 5 to ≤ 10 percent g effective peak acceleration; and
- Zone 0: ≤ 5 percent g effective peak acceleration.

The Seismology Committee of the Structural Engineers Association of California assumed that there was a 90 percent probability that the above values would not be exceeded in 50 years, or a 100 percent probability that the values would be exceeded in 475 years.

Figure 2.6-4 shows the delineation of UBC seismic zones in Wyoming. The Permit Area is located in Seismic Zone 1. Since effective peak accelerations (90 percent chance of non-exceedance in 50 years) can range from five to ten percent g in Zone 1, it may be reasonable to assume that an average peak acceleration of 7.5 percent g could be applied to the design of a non-critical facility located near the center of Zone 1.

2.6.3.3 Deterministic Analysis of Active Fault Systems

There are two active fault systems in the vicinity of the Permit Area, the Chicken Springs Fault System and the South Granite Mountain Fault System (**Figure 2.6-5**).

The Chicken Springs Fault System, located six miles east of the Permit Area, is composed of a series of east-west trending segments. In 1996, the Wyoming State Geological Survey investigated this fault system, and determined that the most recent activity on the system appears to be Holocene in age. Reconnaissance-level studies indicated that the fault system is capable of generating a magnitude 6.5 earthquake (Case, et. al., 2002a). A magnitude 6.5 earthquake on the Chicken Springs Fault System would generate peak horizontal accelerations of approximately 4.8 percent g at Rawlins (Case, et. al., 2002a). These accelerations would be roughly equivalent to an intensity V earthquake, which may cause some light damage. Bairoil, however, would be subjected to a peak horizontal acceleration of approximately 23 percent g, or an intensity VII earthquake (Case, et. al., 2002a). Intensity VII events have the potential to cause moderate damage.

The South Granite Mountain Fault System is located about 14 miles northeast of the Permit Area. This fault system is composed of several northwest-southeast trending normal and thrust faults in southeastern Fremont County and northwestern Carbon County. The active segments of the system have been assigned a maximum magnitude of 6.75, which could generate peak horizontal accelerations of approximately 20 percent g at Bairoil and 6.1 percent g at the Rawlins (Case, et. al., 2002a). These accelerations would be roughly equivalent to an intensity VII earthquake at the Bairoil and an intensity V earthquake at Rawlins. Bairoil could sustain moderate damage; whereas minor or no damage could occur at Rawlins.

2.6.3.4 Maximum Tectonic Province Earthquake "Floating Earthquake" Seismogenic Source

Tectonic provinces are regions with a uniform potential for the occurrence of earthquakes that are tied to buried faults with no surface expression. Within a tectonic province, earthquakes associated with buried faults are assumed to occur randomly, and, as a result, can theoretically occur anywhere within that area of uniform earthquake potential. In reality, that random distribution may not be the case, as most earthquakes are associated with specific faults. If all buried faults have not been identified, however, the distribution has to be considered random. "Floating earthquakes" are earthquakes that are considered to occur randomly in a tectonic province.

The USGS identified tectonic provinces in a report titled "Probabilistic Estimates of Maximum Acceleration and Velocity in Rock in the Contiguous United States" (Algermissen et al, 1982). In that report, Sweetwater County was classified as being in a tectonic province with a "floating earthquake" maximum magnitude of 6.1. Geomatrix (1988) suggested using a more extensive regional tectonic province, called the "Wyoming Foreland Structural Province," which is approximately defined by the Idaho-Wyoming Thrust Belt on the west, 104 degrees West longitude on the east, 40 degrees North latitude on the south, and 45 degrees North latitude on the north. Geomatrix (1988) estimated that the largest "floating earthquake" in the "Wyoming Foreland Structural Province" would have a magnitude in the 6.0 to 6.5 range, with an average value of magnitude 6.25.

2.6.3.5 Short-Term Probabilistic Seismic Hazard Analysis

The USGS publishes probabilistic acceleration maps for 500-; 1,000-; and 2,500-year time frames. The maps show what accelerations may be met or exceeded in those time frames by expressing the probability that the accelerations will be met or exceeded in a shorter time frame. For example, a ten percent probability that acceleration may be met or exceeded in 50 years is roughly equivalent to a 100 percent probability of exceedance in 500 years.

The 500-year map provides accelerations that are comparable to those derived from the UBC and from the deterministic analysis on the Green Mountain Segment of the South Granite Mountain Fault System. It was often used for planning purposes for average structures. Based on the 500-year map (ten percent probability of exceedance in 50 years), the estimated peak horizontal acceleration in the Permit Area is approximately 6.5 percent g, which is comparable to the acceleration expected in Seismic Zone 1 of the UBC (Figure 2.6-6). The estimated acceleration in the Permit Area is 20 percent g on the 2,500 year map.

2.6.4 Soils

The Project region had not been previously surveyed by the NRCS or Soil Conservation Service (SCS). Two empirical studies were conducted at 1:100,000 and the 1:500,000 scales (Munn and Arneson, 1998). Both data sets were established based on a simplified five-factor soil formation model. Independent variables for this model were parent material, climate, biota, topography, and time. Parent material was derived from the state geology and surficial geology maps; climate and topography were estimated using the elevation and relief; the biota was estimated using temperature regimes; and time was estimated using the elevation, surficial geology, and bedrock geology (Munn and Arneson, 1998). The 1:100,000 and 1:500,000 soil maps for the Permit Area are included as **Figures 2.6-7a** and **2.6-7b**.

The closest third-order soil survey to the Permit Area was conducted in 1994 for the permitting of the Kennecott Uranium Company's Sweetwater Mill, which, at the time, was owned by Sweetwater Syndicate Inc. This survey used soil associations as the mapping unit and described six soil associations within a 12-square-mile study area on the Sweetwater property.

2.6.4.1 Soil Survey

A soil survey was conducted according to protocols in the National Soil Survey Handbook (Soil Survey Staff, 1993), which provides major principles and practices for soil surveys.

All preexisting data were used when selecting sites for the primary soil survey, which began in June 2006. Pit locations and the density of the soil pits were determined on the basis of vegetation, landform type, and position within a landform unit. The Permit Area was relatively consistent with respect to vegetation and landforms. Therefore, 19 soil pits were excavated and described to characterize the Permit Area.

Data from the soil profiles were used to create soil map units (SMU) on the base map. SMU boundaries were refined with surface soil pits excavated to a depth of 12 inches. SMUs were numbered from north to south. Because this was the first soil survey to be completed in the Permit Area, the soils were classified to the family level instead of the series level. The descriptions of each family (in this case, each SMU), are discussed below. Prior to the survey, a work plan was presented to and approved by WDEQ.

2.6.4.2 Field Sampling

Field samples were collected from all soil pits in the Permit Area. The pits were excavated with a backhoe to a depth of at least four feet (**Figure 2.6-8**). Soil samples from nine locations in the Permit Area were selected and prepared for the laboratory. Each soil horizon present at the selected locations was analyzed independently. Sampling locations selected for laboratory analysis are shown on the soil map (**Figure**

2.6-9). Samples were analyzed in accordance with the parameters and procedures defined in WDEQ Guideline 1, Topsoil Suitability, Table I-1 (1994).

2.6.4.3 Results and Discussion

General Soil Survey

The soils within the Permit Area are typical of the semiarid areas of the western US. Most of the soil has developed from the sedimentary bedrock of the Permit Area. The precipitation of the region is not enough to leach the majority of calcium and divalent cations from the soil profile. As a result, the soil pH tends to be slightly alkaline. Vegetation is also limited by the amount of precipitation in this region. As a result, the soils tend to have low organic matter.

SMU Interpretation in the Permit Area

The vertical relief of the Permit Area is approximately 260 feet. Due to the relative lack of relief and uniform surficial geology, there are only three exposed soil types within the Permit Area. The three units are very similar in color, depth of horizons, and geomorphic surface. The primary difference between the three soils is the texture; and, therefore, the soil texture is the only difference in the three family names.

All soil units within the Permit Area support similar vegetation types. The Lowland Big Sagebrush Shrubland is present in and immediately surrounding the ephemeral channels; and the Upland Big Sagebrush Shrubland is present over the remainder of the Permit Area. The uniformity in vegetation across the Permit Area indicates that the three soil units are roughly equally productive, and that plant growth is limited by precipitation and not by soil fertility. Each soil unit is described below; and the aerial distribution of the soil units is shown on **Plate 2.6-3**.

Thirty-four percent (1,435 acres) of the Permit Area is Typic Torriorthent, loamy, mixed mesic. The soil is brown to yellowish-brown, and is typically five to 15 inches thick. It generally occurs on the lower foot-slopes, where slopes are less than ten percent, but they can be as steep as 30 percent. The dominant vegetation is low-growing sagebrush with intermittent patches of grasses. The geomorphic surface ranges from bare loamy soil to pebbles and gravel-sized particles. A typical profile of this soil is brown to yellowish-brown sandy loam; and the subsoil is a brown to pale-brown sandy loam that extends to depths greater than 30 inches.

Forty-six percent (1,941 acres) of the Permit Area is Typic Torriorthent, fine-loamy, mixed mesic. This soil is abundant in the down-slope areas of the region, where slopes are very gradual. The dominant vegetation is sagebrush, with scattered grasses and cacti. The geomorphic surface consists of bare, fine sandy loam. The upper profile contains a dark grayish-brown silt loam to loam that is about nine inches thick. The subsoil is a dark yellowish-brown to light yellowish-brown and extends to a depth of at least 27 inches.

Twenty percent (844 acres) of the Permit Area is Typic Torriorthent, fine-loamy over sandy, mixed mesic. The slopes are less than five percent and the dominant vegetation is low-growth sagebrush and scattered grasses. The geomorphic surface is bare loamy soil with approximately 25 percent gravel. The surface layer consists of a brown loam that is ten to 15 inches thick. The subsoil is a brown to a light yellowish-brown sandy loam that extends to a depth greater than 20 inches.

2.6.4.4 Soil Suitability as a Plant Growth Medium

Based on WDEQ Guideline 1 Topsoil Suitability, Table I-2 (1994), all of the Permit Area samples were within the range for suitable plant growth media for pH, conductivity, sodium adsorption ratio (SAR), texture, selenium, and boron.

Of the 28 Permit Area samples, 11 were classified as marginally suitable for topsoil because of low saturation percentages. The measured saturation percentages of these marginally suitable soils ranged from 16 to 24 percent. These 11 samples were from seven different profiles, and represented all SMUs present in the Permit Area.

One sample from the Permit Area was considered unsuitable for topsoil because the percentage of coarse fragment was 39 percent compared to a 35 percent threshold for unsuitable soil. This sample represented the B horizon of a soil profile in SMU Number Three. Therefore, only the top 11 inches of this SMU should be used as reclamation topsoil. One sample is considered marginally suitable due to a pH more than 8.5 standard units. During reclamation, the use of marginal soils as topsoil will be avoided where possible, except in areas where the undisturbed topsoil is marginally suitable.

2.6.4.5 Topsoil Protection

Disturbance to the general mining area will be surface compaction from drill rigs, trucks carrying supplies and equipment, earth-moving machinery, and light passenger vehicles. In addition, mud pits will be excavated near the location of boreholes. As protection, topsoil from these pit locations will be segregated from the rest of the excavated material. After the pit has been used, the topsoil will be replaced last.

By the nature of ISR operations, there is no need to strip the surface of the general mining area. The majority of topsoil salvage will be restricted to major roadways and building sites. During the delineation drilling, the mine unit installation, and the monitor well ring installation, the topsoil will be segregated, marked, and replaced contemporaneously. Following the delineation drilling phase, mine unit designs will be prepared that define the extraction or economic limits of the orebody. The mine unit will include injection, recovery, and monitor wells, as well as surface facilities (e.g., header houses, pipelines, and power lines). The soil disturbance caused by these activities is localized; and the topsoil resource management during the mine unit installation and operation is further discussed in **Section 4.3** of the ER.

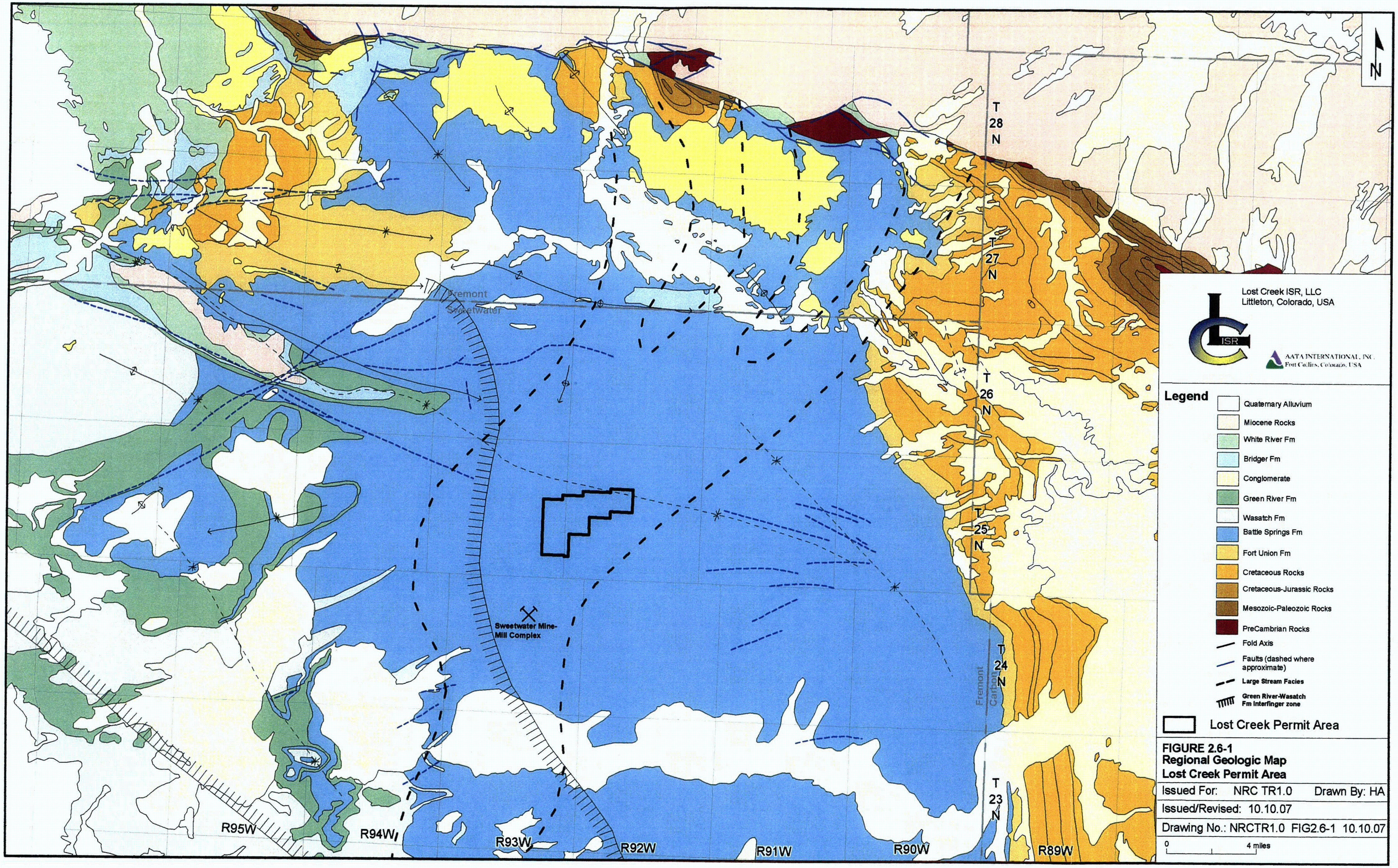
ISR operations does not require the removal of all topsoil and overburden for mining; therefore, it is very difficult to calculate the volume of topsoil that will be affected by the disturbance. The estimated volume of salvageable topsoil required is 40,000 cubic feet for the development of Mine Unit Number 1. This number was calculated based on **Table 7.1-1**.

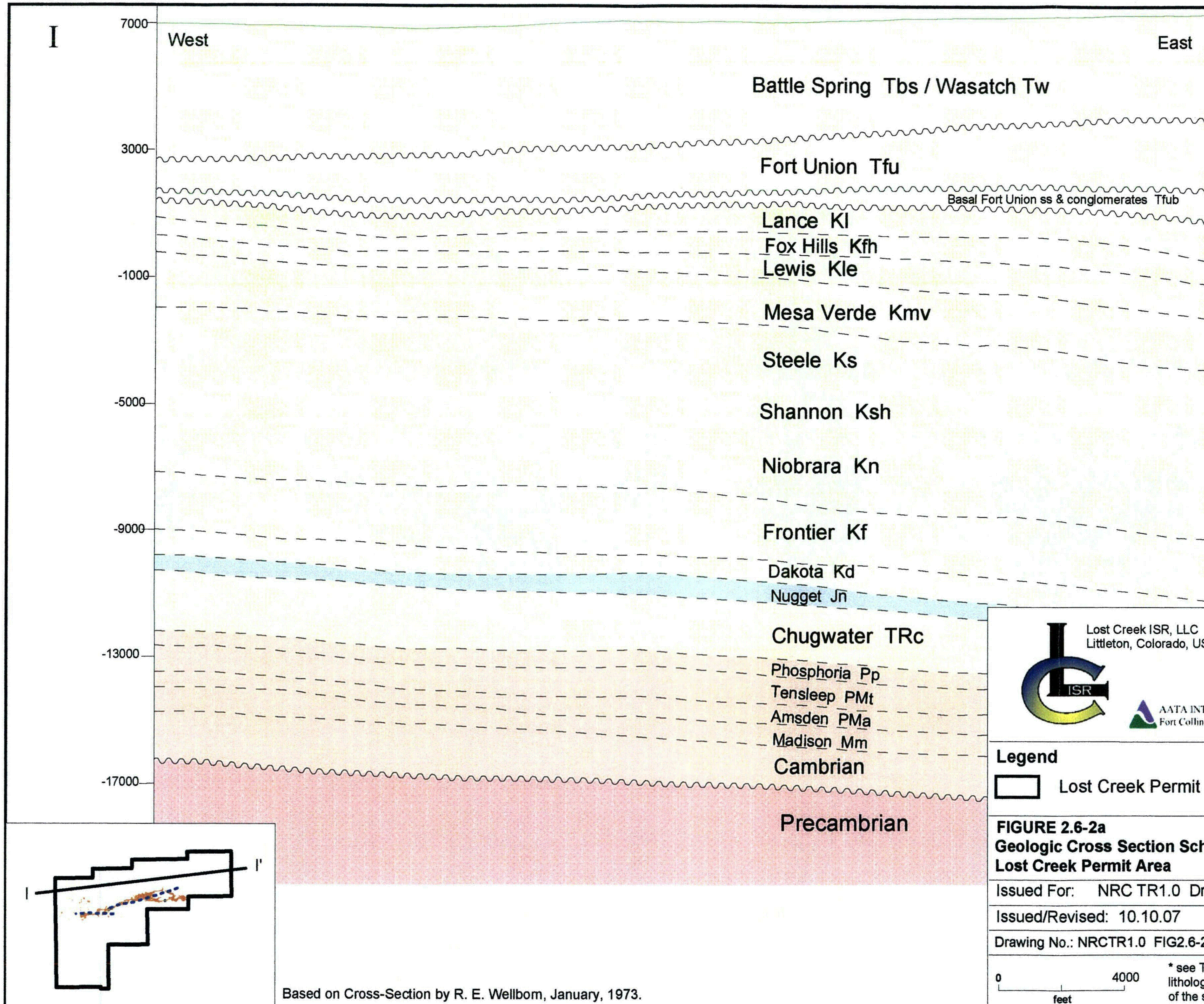
Topsoil removal at operations sites will be supervised by a qualified person using the soils mapping and data presented in this report. The percent of each SMU within the corresponding Permit Area is found in **Table 2.6-2**. The estimated suitability ranges for the dominant soil series within the Permit Area are presented in **Table 2.6-3**.

2.6.4.6 Prior Surface Disturbances

There was surface disturbance prior to LC ISR, LLC operations at the Permit Area. Most of this disturbance was due to prior exploration activities for oil and gas, as well as for uranium, and to support livestock and wildlife grazing. The primary activities included vehicle traffic, drilling activities, and stock tank usage. Approximately 26 miles of roads were delineated from 2002 aerial photography of the Permit Area (**Figure 2.6-10**). Field measurements in 2007 indicate that the roads range from 6.9 to 9.4 ft wide. A few of these roads may still be used by grazing lessees, hunters, and for on-going exploration activities. Evidence of abandoned drill sites and stock tanks is more difficult to delineate; but numerous small areas are evident on the aerial photograph.

The roads caused compaction to the soil, which limits infiltration rates and decreases the vegetation regrowth (**Figure 2.6-11**). Active road surfaces have little to no organic matter, and most of the topsoil has been eroded from the road surface.


Lost Creek ISR, LLC
Littleton, Colorado, USA
AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA
Legend
Quaternary Alluvium
Miocene Rocks
White River Fm
Bridger Fm
Conglomerate
Green River Fm
Wasatch Fm
Battle Springs Fm
Fort Union Fm
Cretaceous Rocks
Cretaceous-Jurassic Rocks
Mesozoic-Paleozoic Rocks
PreCambrian Rocks
Fold Axis
Faults (dashed where approximate)
Large Stream Facies
Green River-Wasatch Fm Interfinger zone
Lost Creek Permit Area
FIGURE 2.6-1
Regional Geologic Map
Lost Creek Permit Area
Issued For: NRC TR1.0
Drawn By: HA
Issued/Revised: 10.10.07
Drawing No.: NRCTR1.0 FIG2.6-1 10.10.07
0
4 miles
N
T 28 N
T 27 N
T 26 N
T 25 N
T 24 N
T 23 N
Fremont
Sweetwater
Fremont
Carbon
Sweetwater Mine-Mill Complex
R95W
R94W
R93W
R92W
R91W
R90W
R89W



Based on Cross-Section by R. E. Wellbom, January, 1973.

Lost Creek ISR, LLC
Littleton, Colorado, USA

AATA INTERNATIONAL, INC
Fort Collins, Colorado, USA

Legend

Lost Creek Permit Area

FIGURE 2.6-2a
Geologic Cross Section Schematic
Lost Creek Permit Area

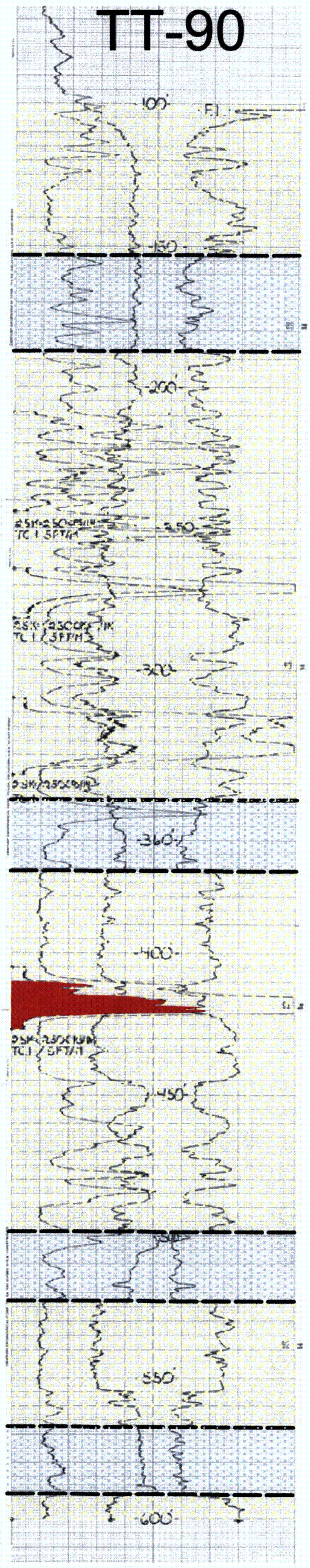
Issued For: NRC TR1.0 Drawn By: HA

Issued/Revised: 10.10.07

Drawing No.: NRCTR1.0 FIG2.6-2a 10.10.07

0 4000 feet

* see Table 2.6-1 for lithologic description of the stratigraphic units



DE Horizon

DE - Alternating very fine-course grain sandstone, mudstone and siltstone. Minor host for uranium mineralization.

Shale

FG Horizon

FG - Lenticular arkosic sandstones with intervals of mudstone and siltstone. Categorized as suspended load facies. Cut and fill channels not as prominent as in HJ Horizon. Minor host for uranium mineralization.

LCS - Lost Creek Shale separating FG Horizon from HJ Horizon; a virtually continuous aquiclude in the Lost Creek Permit Area.

Mineralization

HJ Horizon

HJ - Coarse-grained arkoses with minor matrix. Very thin lenticular intervals of fine sands. Cut and fill channels are prominent. Mixed load facies. Major host to uranium mineralization, especially in middle parts.

SBS - Sagebrush Shale/Mudstone separating HJ Horizon from KM Horizon. Continuous through-out Permit Area.

KM Horizon

KM - Generally massive, coarse-grained sandstone with lenticular fine sand intervals. Mixed load facies. Host to significant uranium mineralization.

NNS - No Name Shale separating KM Horizon

KM Horizon

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Fort Collins, Colorado, USA

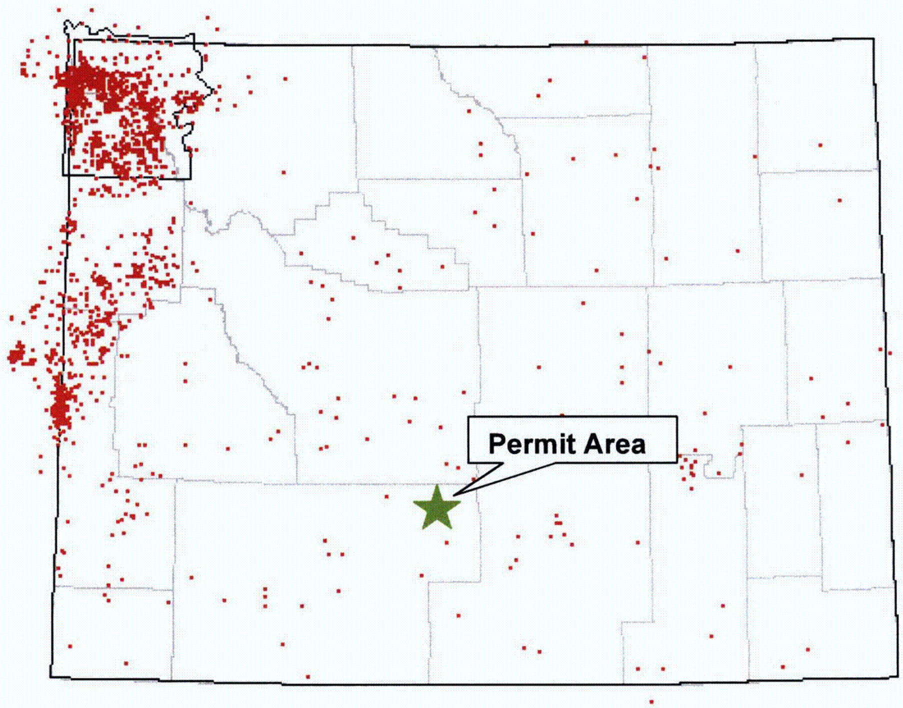
FIGURE 2.6-2b

Stratigraphic Column, Upper Battle Spring Formation
Lost Creek Permit Area

Issued For: NRC TR1.0	Drawn By: HA
Issued/Revised: 10.10.07	
Drawing No.: NRCTR1.0 FIG2.6-2b 10.10.07	

Figure 2.6-3 Historical Seismicity Map

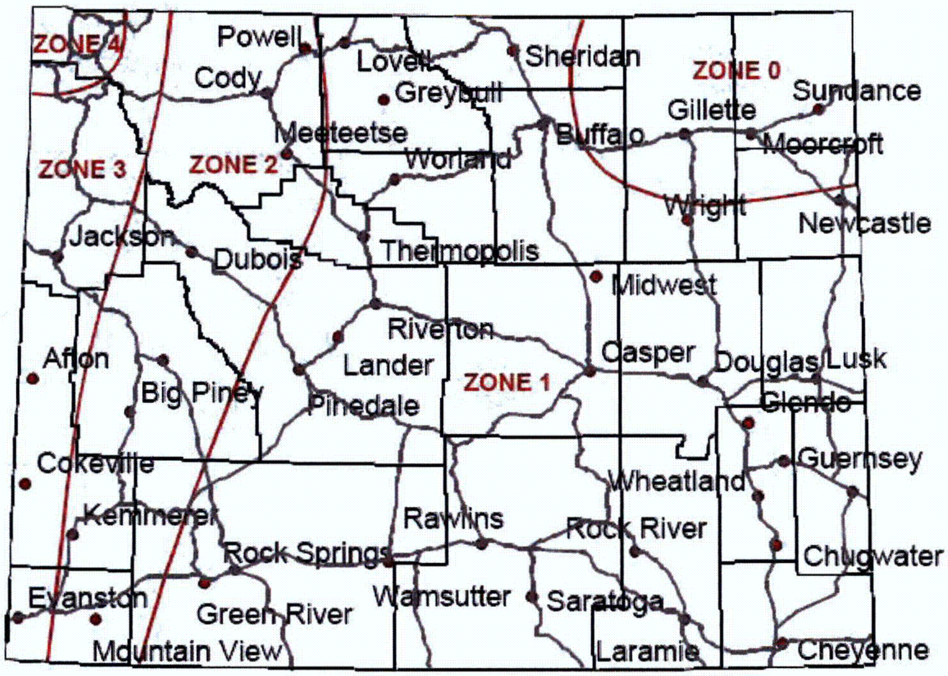
Historical seismic activities in the State of Wyoming.*



* Red dots are locations of epicenters for those magnitude ≥ 2.5 or intensity ≥ III earthquakes recorded from 1871 to present. (Bergantion et al., 2007)

Figure 2.6-4 UBC Seismic Zones

Zones in Wyoming (Case et. al., 2002)



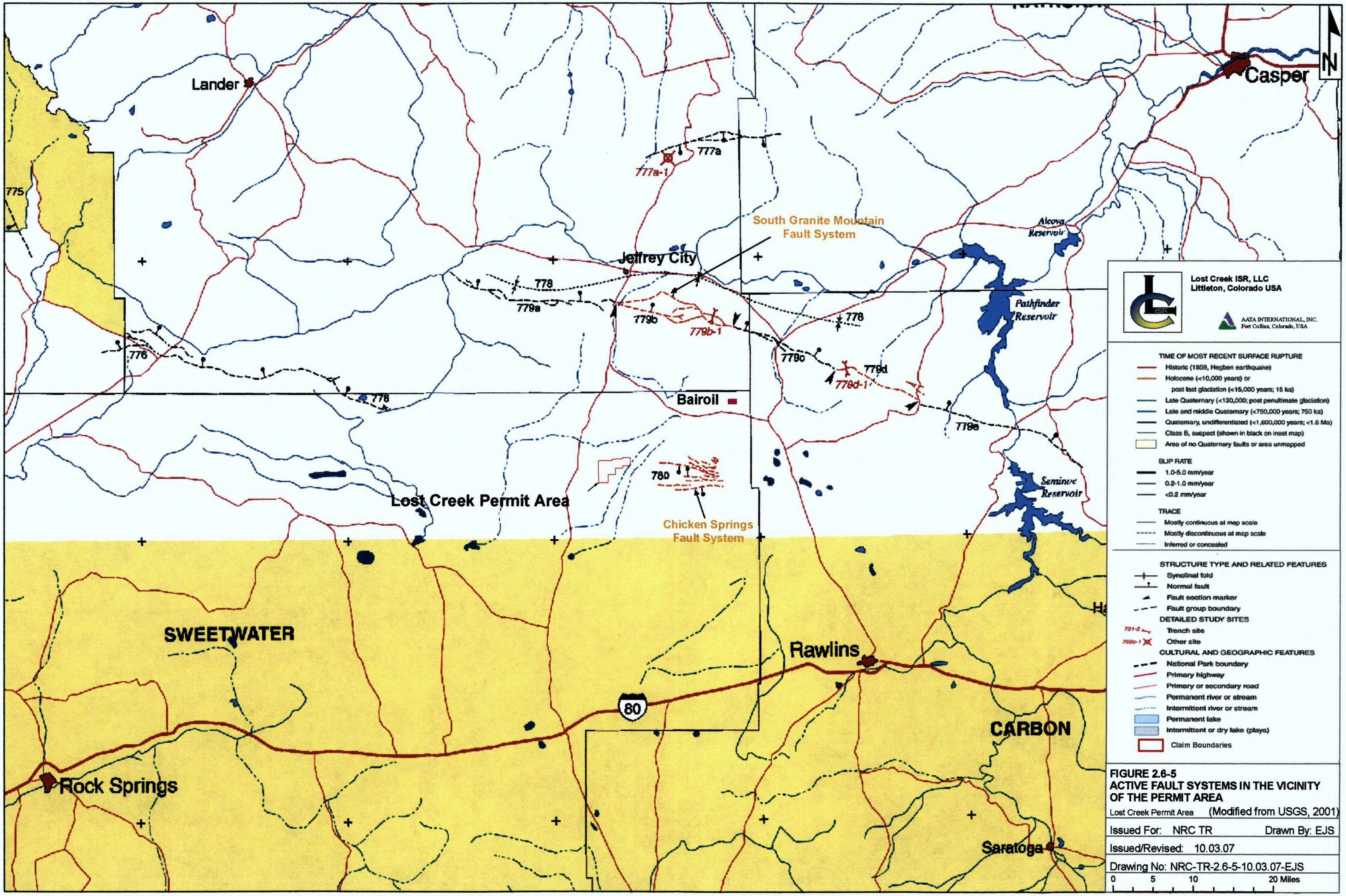


FIGURE 2.6-5
ACTIVE FAULT SYSTEMS IN THE VICINITY OF THE PERMIT AREA

Lost Creek Permit Area (Modified from USGS, 2001)

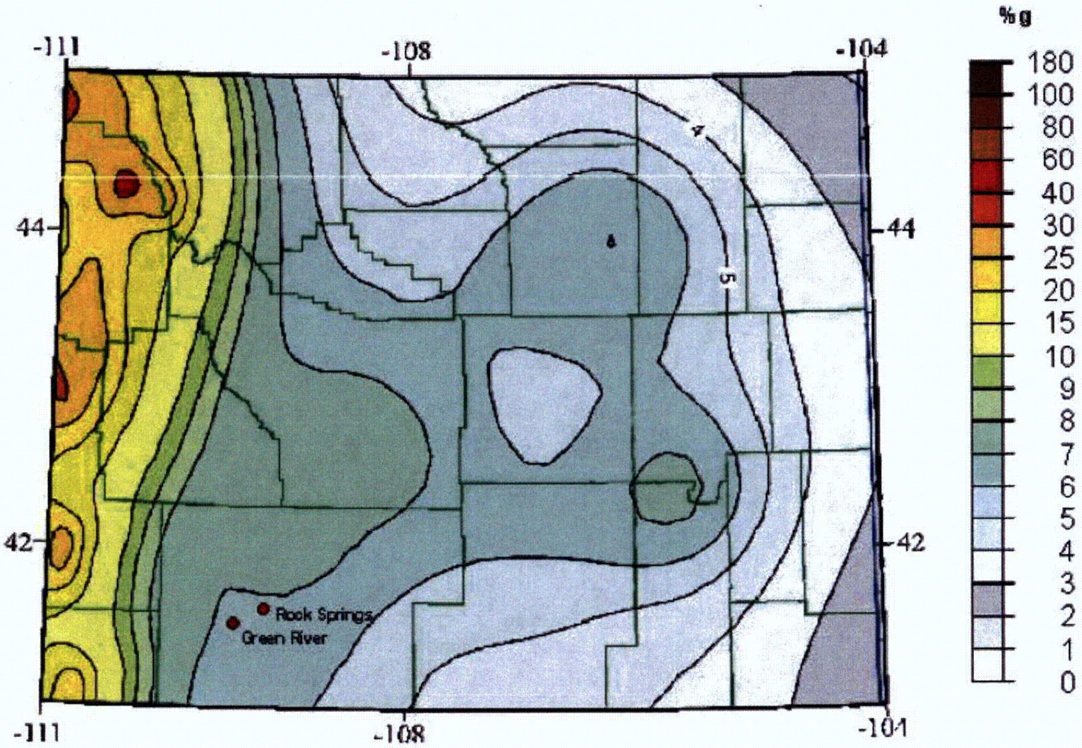
Issued For: NRC TR Drawn By: EJS

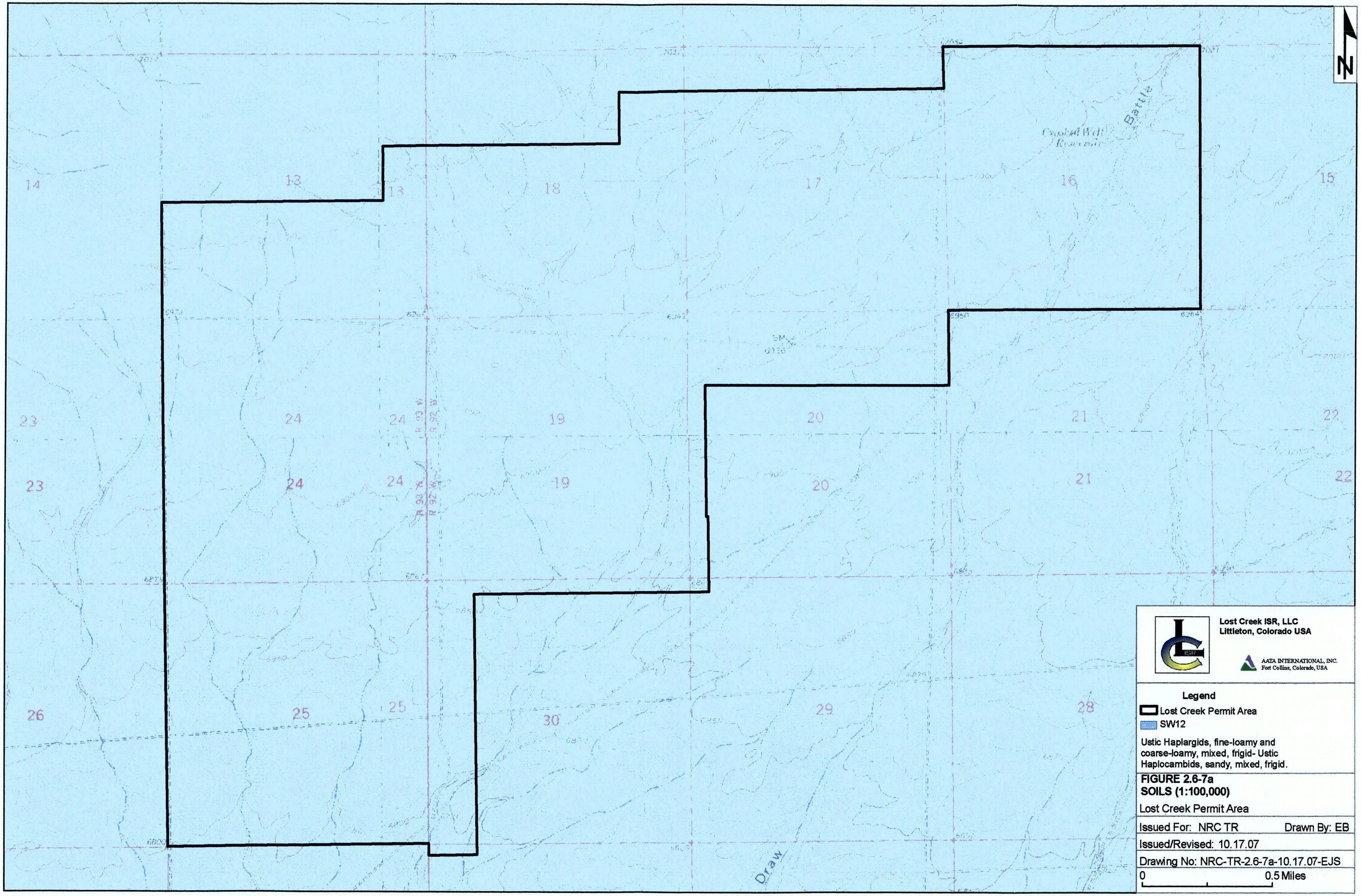
Issued/Revised: 10.03.07

Drawing No: NRC-TR-2.6-5-10.03.07-EJS

Figure 2.6-6 500-Year Probabilistic Map

Probabilistic Acceleration Map of Wyoming (Case et. al., 2002).





Lost Creek ISR, LLC
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Fort Collins, Colorado, USA

Legend

Lost Creek Permit Area

SW12

Ustic Haplargids, fine-loamy and coarse-loamy, mixed, frigid- Ustic Haplocambids, sandy, mixed, frigid.

FIGURE 2.6-7a
SOILS (1:100,000)

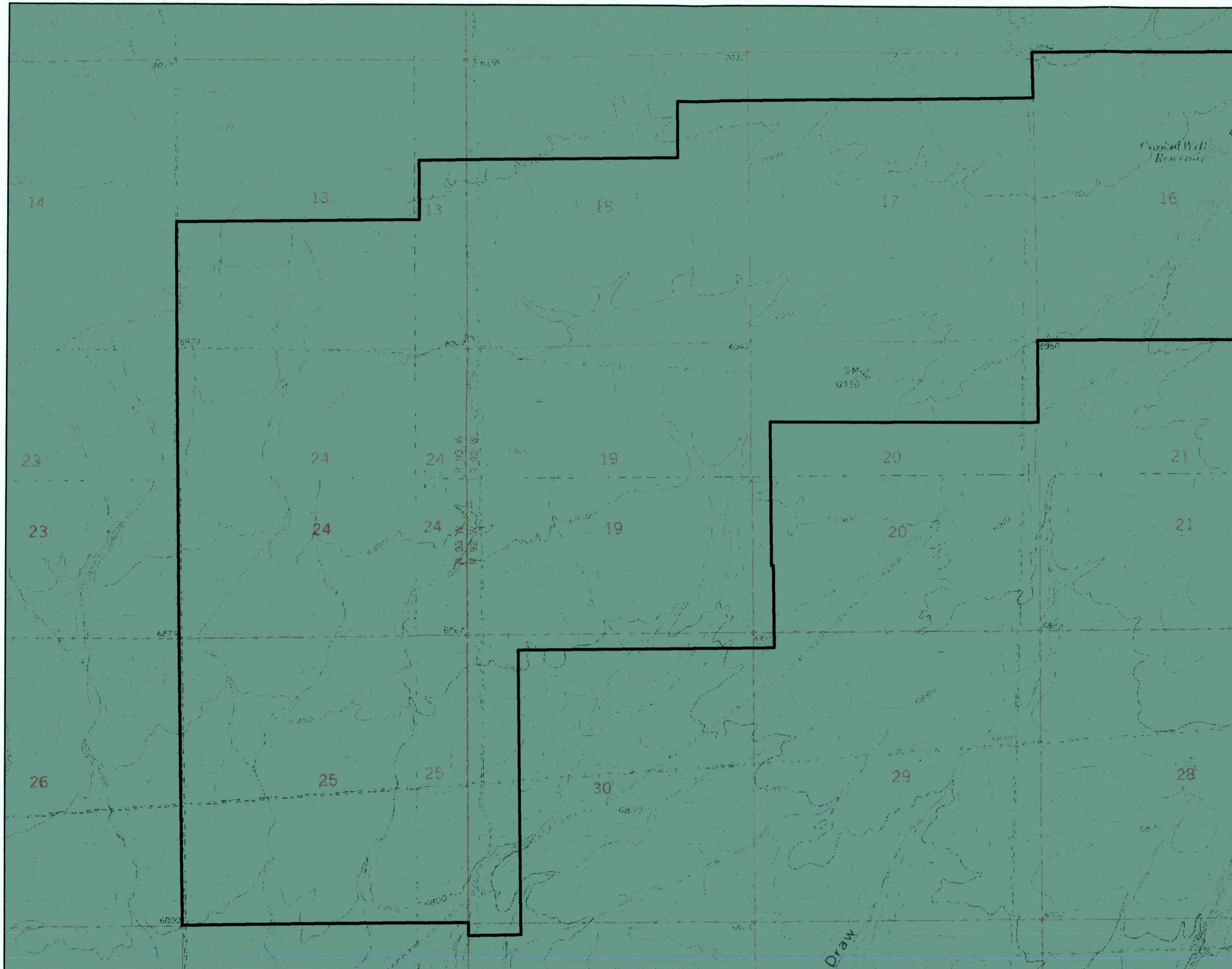
Lost Creek Permit Area

Issued For: NRC TR | Drawn By: EB

Issued/Revised: 10.17.07

Drawing No: NRC-TR-2.6-7a-10.17.07-EJS

0 | 0.5 Miles



Lost Creek ISR, LLC
Littleton, Colorado USA

AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA

Legend

Lost Creek Permit Area

WY17

Rock Outcrop and Typic Torriorthents, loamy-skeletal, mixed, frigid. These soils are similar to those in Soil Zone 5 except that the coarse fraction of the soil consists of clasts of the local bedrock, rather than clinker.

FIGURE 2.6-7b
SOILS (1:500,000)

Lost Creek Permit Area

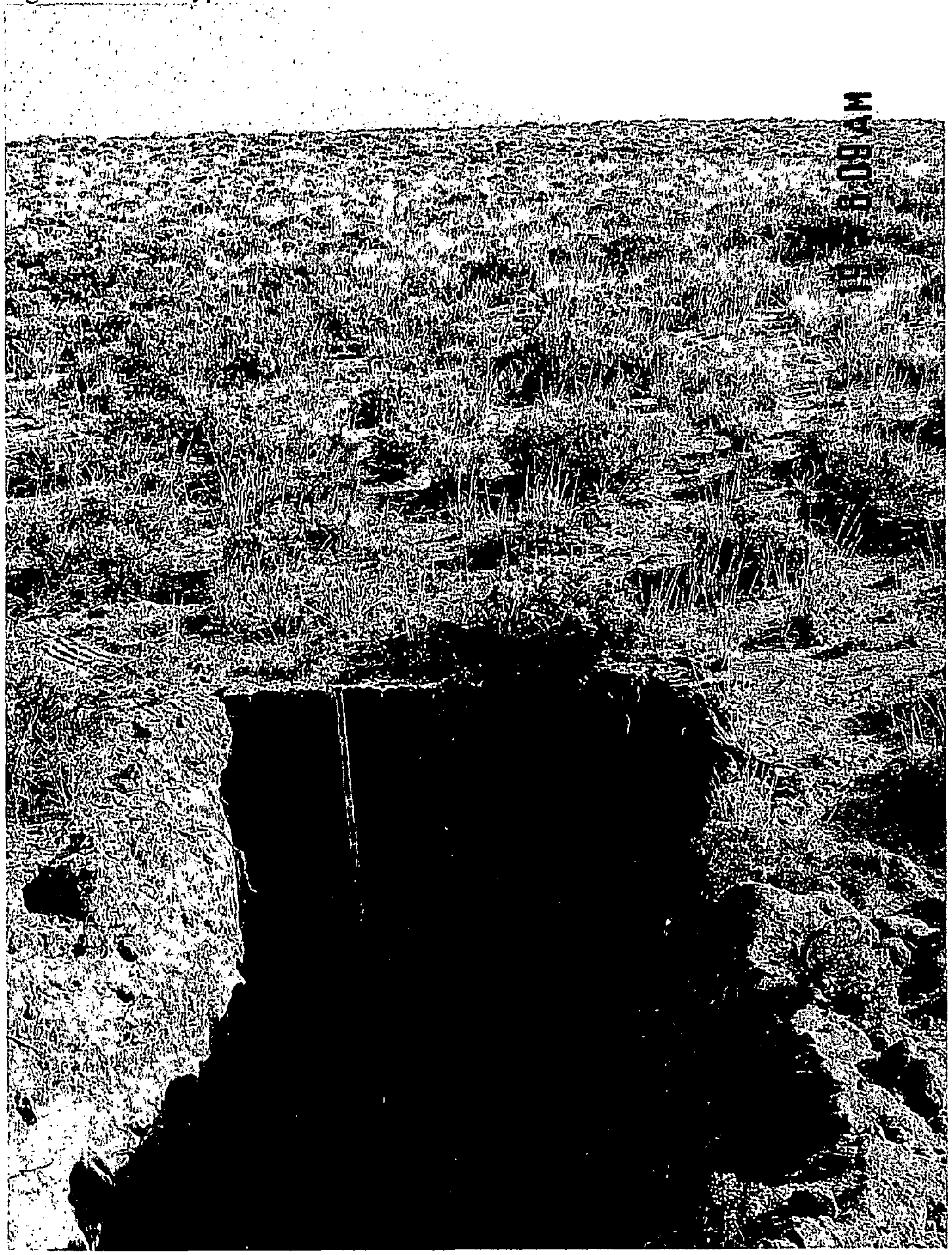
Issued For: NRC TR Drawn By: EB

Issued/Revised: 10.17.07

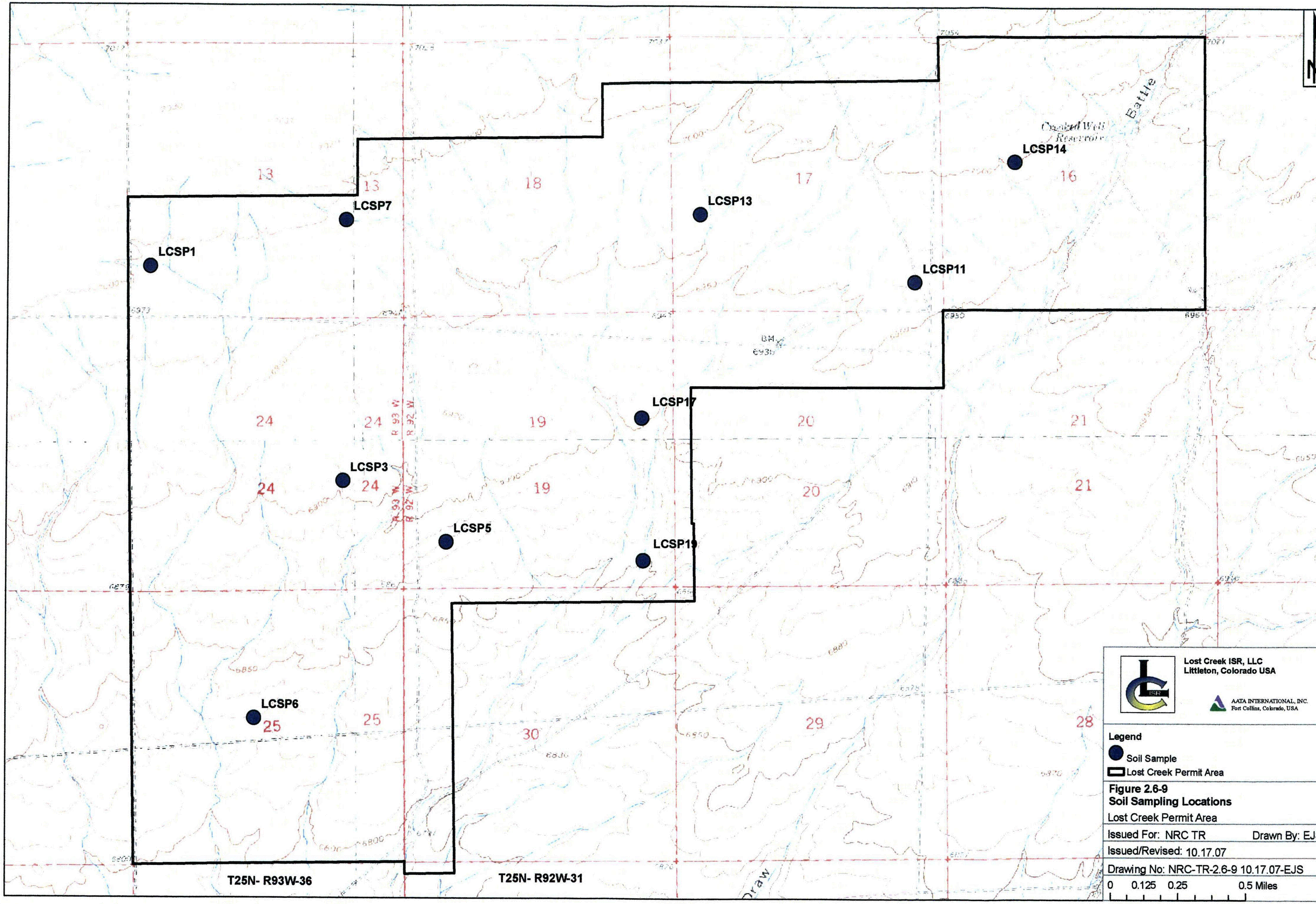
Drawing No: NRC-TR-2.6-7b-10.17.07-EJS

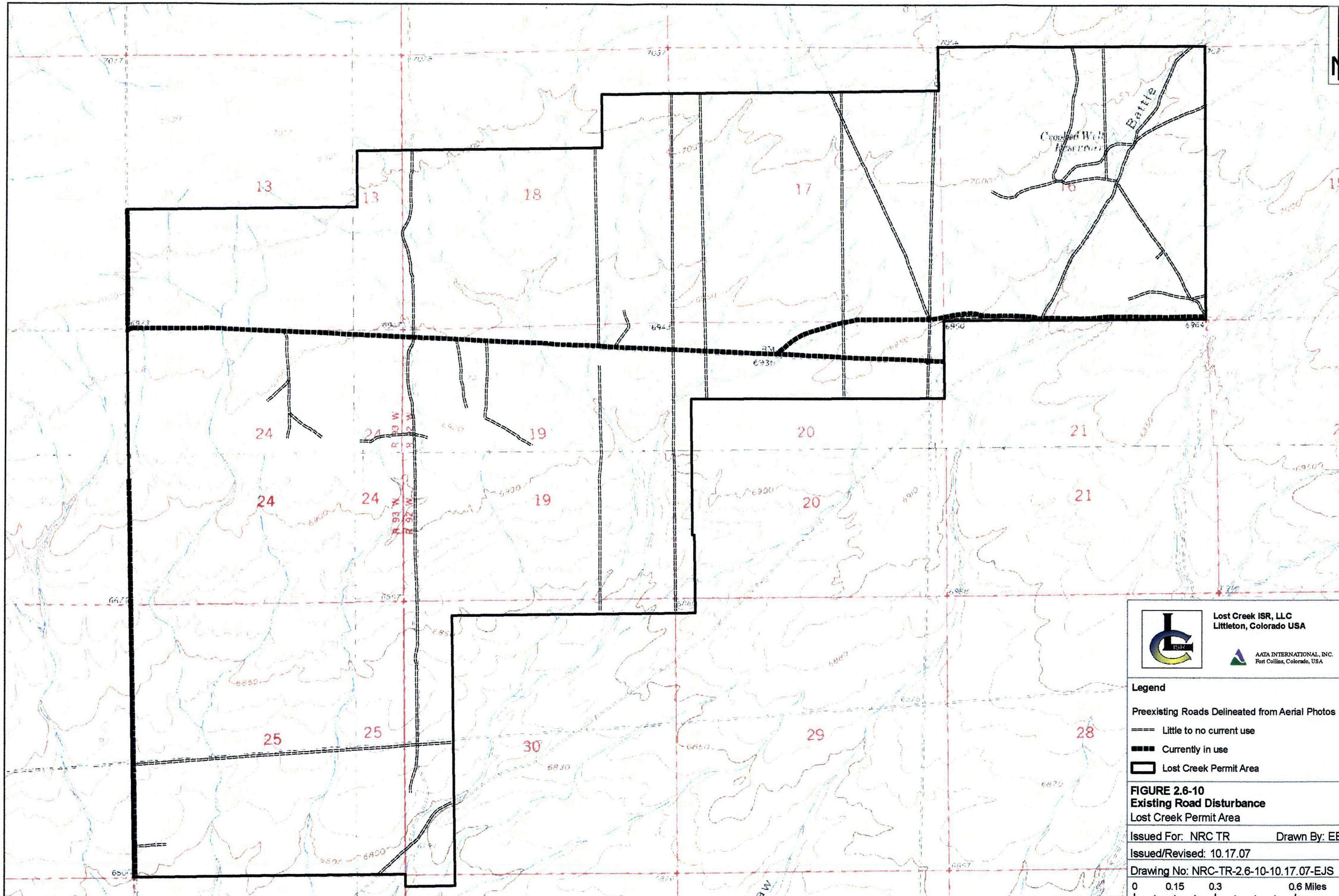
0 0.5 Miles

Figure 2.6-8 Typical Soil Pit



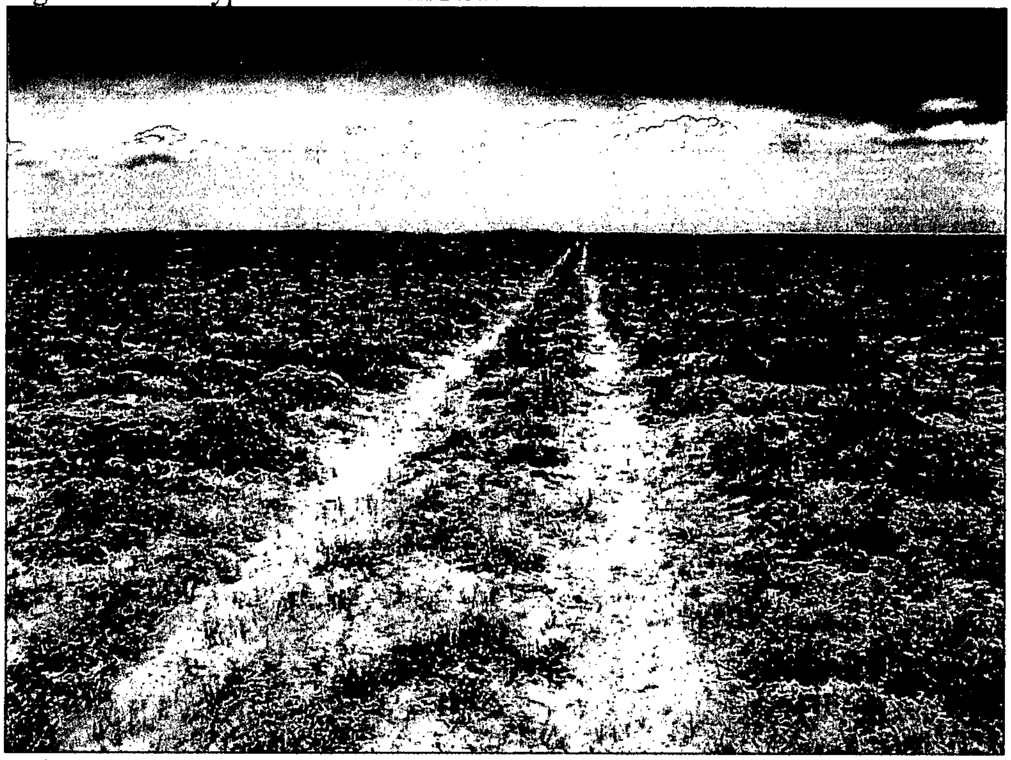
(July19, 2006)


LCSP1
LCSP3
LCSP5
LCSP6
LCSP7
LCSP11
LCSP13
LCSP14
LCSP17
LCSP19
Crooked Well Reservoir
Battle
Draw
R 93 W
R 92 W
T25N- R93W-36
T25N- R92W-31
Lost Creek ISR, LLC
Littleton, Colorado USA
AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA
Legend
Soil Sample
Lost Creek Permit Area
Figure 2.6-9
Soil Sampling Locations
Lost Creek Permit Area
Issued For: NRC TR
Drawn By: EJS
Issued/Revised: 10.17.07
Drawing No: NRC-TR-2.6-9 10.17.07-EJS
0 0.125 0.25 0.5 Miles



Lost Creek ISR, LLC
Littleton, Colorado USA
AATA INTERNATIONAL, INC.
Fort Collins, Colorado, USA
Legend
Preexisting Roads Delineated from Aerial Photos
Little to no current use
Currently in use
Lost Creek Permit Area
FIGURE 2.6-10
Existing Road Disturbance
Lost Creek Permit Area
Issued For: NRC TR
Drawn By: EB
Issued/Revised: 10.17.07
Drawing No: NRC-TR-2.6-10-10.17.07-EJS
0 0.15 0.3 0.6 Miles
N
Battle
R 93 W
R 92 W
13
18
17
16
15
24
19
20
21
22
25
30
29
28

Figure 2.6-11 Typical Two-Track Road



(July 19, 2006)

Table 2.6-1 Permit Area Stratigraphy (Page 1 of 3) *

Age	Formation	Thickness [1] (feet)	Aquifer [2]	Lithology
Quaternary	Alluvium (Qa)	0 to 20	Yes	Sands and clays derived chiefly from the Tertiary formations in the area.
Early Eocene	Battle Spring/ Wasatch Formation	6,200	Yes	Battle Spring Formation is a major fluvial system, consisting of alternating fine to coarse-grained sandstone, minor conglomerate, siltstones and mudstones. Host to mineralization. Minor carbonaceous matter. Color buff to tan in the oxidized areas and gray to dark-gray in unoxidized zones. Dips average of 3 degrees to the west. Mineralization in top portion in at least seven sand units separated by various siltstone and mudstones. Wasatch Formation interfingers with the Battle Spring Formation. It's source is to the south and southwest and consists of fine sandstones, mudstones, siltstones and lignites.
Unconformity [3]				
Paleocene	Fort Union Formation	4,650	Yes	Consists of alternating fine to coarse grained sandstone siltstone and mudstone. Contains various layers of lignitic coal beds.
Unconformity				

Table 2.6-1 Permit Area Stratigraphy (Page 2 of 3)

Age	Formation	Thickness (feet)	Aquifer	Lithology
Cretaceous	Lance Formation	2,950	Yes	Interbedded sandstone, siltstone and mudstone. Gray to brownish gray. Locally carbonaceous. Sandstone is white to grayish orange.
	Fox Hills Formation	550	No	Consists of coarsening upward shale and fine-grained sand with thin coal beds near the top. Represents a transition from marine to non-marine environment. Grades into Lewis Shale at the base.
	Lewis Shale	1,200	No	Interbedded dark-gray and olive-gray shale and olive-gray sandstone.
Unconformity				
Cretaceous	Mesa Verde Group	800	No	Gray to dark gray shales with interbedded buff to tan fine to medium grained sandstones.
	Steele and Niobrara Shales	2,000 to 2,500	No	Steele shale is soft gray marine, Niobrara shale is dark gray and contains calcareous zones.
	Frontier Formation	500 to 1,000	Yes	Gray sandstone and sandy shale.
	Dakota Formation	300 to 400	Yes	Marine sandstone, tan to buff, fine to medium grained may contain carbonaceous shale layer.
Jurassic	Nugget Sandstone	500	Yes	Grayish to dull red coarse grained cross-bedded quartz sandstone.
Triassic	Chugwater	1500	No	Red shale and siltstone contains gypsum partings near the base.

Table 2.6-1 Permit Area Stratigraphy (Page 3 of 3)

Age	Formation	Thickness (feet)	Aquifer	Lithology
Permian	Phosphoria	300	No	Black to dark gray shale, chert and phosphorite.
Permian-Pennsylvanian	Tensleep	500	No	White to gray sandstone containing thin limestone and dolomite partings.
Pennsylvanian-Mississippian	Amsden and Madison	250	No	Red and green shale and dolomite, sandstone near base.
Cambrian	Undifferentiated	1,000	No	Siltstone and quartzite, including Flathead sandstone.
Unconformity				
Precambrian	Basement		No	Granites and associated metamorphic and igneous rocks.

* (Love and Christiansen,1985; Wellborn and Wold, 1993)
[1] Thicknesses shown are approximate and apply only to the Permit Area and vicinity.
[2] Aquifer designation only applicable to the vicinity of the Permit Area.
[3] Only major unconformities are shown.

Table 2.6-2 Permit Area Soil Mapping Units

SMU Number	SMU Description	Total Area	
		Acreage Estimate	Percent of Permit Area
1	Typic Torriorthent, loamy, mixed, mesic	1450	34
2	Typic Torriorthent, fine-loamy, mixed, mesic	1910	45
3	Typic Torriorthent, fine-loamy over sandy, mixed, mesic	860	20
	Total	4220	

Table 2.6-3 **Permit Area Soil Suitability Ranges**

SMU	Name	Depth of Suitable Topsoil (inches)	Depth of Marginally Suitable Topsoil (inches)	Depth of Unsuitable Topsoil (inches)	Limiting Factors
1	Typic Torriorthent, loamy, mixed, mesic	0 to 48	-	-	-
2	Typic Torriorthent, fine-loamy, mixed, mesic	-	0 to 48	-	Slightly low saturation percent
3	Typic Torriorthent, fine-loamy over sandy, mixed, mesic	0 to 11	11 to 48	-	Low saturation percent and high coarse fragments

THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE,

THAT CAN BE VIEWED AT THE RECORD TITLED:

"ATTACHMENT 2.6-1
Typical Geophysical Logs
Lost Creek Permit Area"
Drawing No. NRCTR 1.0
ATTACHMENT 2.6-1 10.10.07

WITHIN THIS PACKAGE... OR BY SEARCHING USING THE DOCUMENT/REPORT NO.

D-01

Attachment 2.6-2 **Locations, Total Depths, and Completion Dates of Historic Exploration Holes**

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
1-13	13	25	93	534951	733076	6970	1000	1971	001-132593
1D-17	17	25	92	536222	745837	6965	502	1982	001D-172592
1D-18	18	25	92	535517	742596	6943	590	1982	001D-182592
1D-20	20	25	92	534519	745048	6933	530	1982	001D-202592
1M-17	17	25	92	536223	745813	6964	467	1982	001M-172592
1M-18	18	25	92	535515	742623	6943	450	1982	001M-182592
1M-19	19	25	92	534474	742623	6922	450	1982	001M-192592
1M-20	20	25	92	534520	745023	6933	440	1982	001M-202592
1S-17	17	25	92	536224	745785	6964	200	1982	001S-172592
1S-18	18	25	92	535513	742648	6943	357	1982	001S-182592
1S-20	20	25	92	534521	744998	6932	300	1982	001S-202592
2M	19	25	92	534500	742623	6923	680	1982	002M-192592
3M	19	25	92	534524	742622	6924	461	1982	003M-192592
4-1	13	25	93	534980	734943	6964	800	1972	004-01-132593
13-1	13	25	93	536446	734357	7003	800	1974	013-01-132593
13-2	13	25	93	536421	734954	7002	800	1974	013-02-132593
13-3	13	25	93	536449	735541	7002	800	1974	013-03-132593
13-4	13	25	93	536405	736285	6993	800	1974	013-04-132593
19-1	19	25	92	533679	738419	6925	800	1974	019-01-192592
24-1	24	25	93	534247	735799	6966	800	1974	024-01-242593
24-2	24	25	93	534253	736245	6949	800	1974	024-02-242593
24-3	24	25	93	534245	736669	6945	800	1974	024-03-242593
24-4	24	25	93	533467	734432	6941	800	1974	024-04-242593
24-5	24	25	93	533468	735004	6952	802	1974	024-05-242593
24-6	24	25	93	533452	735561	6943	800	1974	024-06-242593
24-7	24	25	93	533684	737018	6929	805	1974	024-07-242593
24-8	24	25	93	533689	737759	6929	802	1974	024-08-242593
24-9	24	25	93	534256	736148	6952	640	1974	024-09-242593
24-10	24	25	93	534252	736341	6947	671	1974	024-10-242593
50-1	23	25	93	533461	732899	6938	500	1968	050-01-232593
59-1	18	25	92	538215	740618	6969	300	1969	059-01-182592
72-1	19	25	92	534585	740732	6930	800	1972	072-01-192592
77-1	19	25	92	532792	740694	6918	790	1969	077-01-192592
81-1	24	25	93	534808	736051	6969	800	1973	081-01-242593
81-2	24	25	93	533491	735981	6936	795	1973	081-02-242593
82-1	24	25	93	532333	736092	6916	731	1969	082-01-242593
82-2	24	25	93	532327	736037	6916	795	1969	082-02-242593
82-3	24	25	93	532538	736088	6918	1214	1969	082-03-242593
83-1	24	25	93	533493	736182	6932	800	1969	083-01-242593
83-2	24	25	93	533615	736231	6934	600	1969	083-02-242593
83-3	24	25	93	534581	736243	6961	650	1969	083-03-242593
83-4	24	25	93	534816	736250	6968	1200	1969	083-04-242593
83-5	24	25	93	533805	736176	6940	800	1969	083-05-242593
84-1	24	25	93	533293	736188	6929	800	1969	084-01-242593
85-1	13	25	93	537469	736144	7020	600	1969	085-01-132593
86-1	13	25	93	534906	736097	6970	703	1969	086-01-132593
86-2	13	25	93	534907	736146	6970	800	1969	086-02-132593
86-3	13	25	93	534908	736051	6968	800	1969	086-03-132593
86-4	13	25	93	536382	735849	6997	800	1969	086-04-132593
86-5	13	25	93	535014	736045	6971	960	1969	086-05-132593
88-1	13	25	93	535024	736449	6967	600	1969	088-01-132593
88-2	13	25	93	535020	736245	6969	800	1969	088-02-132593
120-1	13	25	93	538676	737835	7028	440	1971	120-01-132593
131-1	13	25	93	535187	737668	6960	800	1972	131-01-132593
131-2	13	25	93	534915	736348	6970	760	1972	131-02-132593
131-3	13	25	93	534914	736438	6968	600	1972	131-03-132593
131-4	13	25	93	535025	736449	6969	1200	1973	131-04-132593
131-5	24	25	93	534819	736450	6965	800	1973	131-05-242593
135-1	24	25	93	533499	736381	6932	1200	1973	135-01-242593
139-1	24	25	93	532766	736917	6920	780	1973	139-01-242593
139-2	24	24	93	532788	737205	6920	1200	1973	139-02-242593

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
139-3	24	24	93	532788	737457	6916	800	1973	139-03-242593
140-1	19	25	92	532787	737743	6910	760	1969	140-01-192592
140-2	19	25	92	532786	739205	6915	800	1972	140-02-192592
140-3	19	25	92	532780	738903	6914	1200	1973	140-03-192592
557	17	25	92	537802	743507	6985	650	1969	557-172592
558	18	25	92	535102	743484	6944	650	1969	558-182592
844	20	25	92	531016	743890	6864	560	1969	844-202592
A13	36	25	93	524354	738350	6790	600	1970	A013-362593
A23	17	25	92	536149	745000	6955	700	1970	A023-172592
A39	36	25	93	524338	733142	6800	650	1970	A039-362593
A66	18	25	92	536785	742315	6945	360	1970	A066-182592
A67	18	25	92	539193	742196	7010	740	1970	A067-182592
A176	18	25	92	537740	742658	6975	500	1970	A176-182592
A177	17	25	92	537759	744371	6980	500	1970	A177-172592
A178	17	25	92	535346	745007	6950	500	1970	A178-172592
A179	17	25	92	535746	745004	6960	500	1970	A179-172592
A180	16	25	92	537777	749575	6995	620	1970	A180-162592
A181	17	25	92	535545	745008	6955	520	1970	A181-172592
A185	20	25	92	534555	745028	6939	500	1970	A185-202592
A186	16	25	92	537619	748849	6995	620	1970	A186-162592
A187	20	25	92	534155	745030	6935	500	1970	A187-202592
A188	20	25	92	534356	745030	6935	500	1970	A188-202592
A189	17	25	92	537703	748058	6995	620	1970	A189-172592
A190	20	25	92	534740	745025	6935	500	1970	A190-202592
A191	17	25	92	537647	747276	6985	690	1970	A191-172592
A196	17	25	92	537694	746475	6980	640	1970	A196-172592
A228	17	25	92	537790	745519	6983	700	1970	A228-172592
A399	17	25	92	537664	746839	6990	520	1970	A399-172592
A400	17	25	92	537801	743889	6980	580	1970	A400-172592
A426	18	25	92	537766	743062	6980	600	1970	A426-182592
A442	17	25	92	537704	744721	6985	600	1970	A442-172592
A443	17	25	92	537659	746654	6990	520	1970	A443-172592
B33	36	25	93	524383	735795	6800	700	1972	B033-362593
CG2-1	16	25	92	539699	749994	7034	660	1992	CG2-1-162592
D19	17	25	92	539152	748419	7015	600	1973	D019-172592
D21	17	25	92	536780	746085	6960	700	1973	D021-172592
D22	18	25	92	535655	742118	6942	640	1973	D022-182592
D23	19	25	92	533160	742140	6910	560	1973	D023-192592
D49	20	25	92	534410	744485	6920	660	1970	D049-202592
D50	19	25	92	534355	742139	6921	600	1973	D050-192592
D51	19	25	92	532182	742148	6895	780	1973	D051-192592
D52	19	25	92	533146	743295	6905	540	1973	D052-192592
D53	17	25	92	539180	744778	7010	600	1973	D053-172592
D54	17	25	92	539180	747227	7010	600	1973	D054-172592
D55	17	25	92	536780	747259	6980	780	1973	D055-172592
D75	17	25	92	536780	744862	6960	600	1977	D075-172592
D76	20	25	92	534378	746885	6950	600	1977	D076-202592
D96	20	25	92	534408	745690	6935	540	1970	D096-202592
D131	20	25	92	534395	746078	6942	520	1973	D131-202592
D132	18	25	92	535850	742138	6940	640	1973	D132-182592
D144	18	25	92	535750	742129	6943	540	1973	D144-182592
D149	20	25	92	534412	745368	6935	540	1973	D149-202592
D150	20	25	92	534400	745875	6937	540	1973	D150-202592
D156	20	25	92	534420	745266	6935	540	1973	D156-202592
LC1W	24	25	93	534754	735284	6963	380	2005	LC001W
LC2	19	25	92	534705	741758	6930	800	2005	LC002
LC3	19	25	92	534630	742090	6923	800	2005	LC003
LC4	20	25	92	534908	743606	6940	800	2005	LC004
LC5C	19	25	92	534824	743398	6942	800	2005	LC005C
LC6C	19	25	92	534800	742606	6930	800	2005	LC006C
LC7C	19	25	92	534756	741947	6932	800	2005	LC007C

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
LC8C	18	25	92	535399	743396	6943	800	2005	LC008C
LC9C	18	25	92	535206	743001	6934	800	2005	LC009C
LC10A	18	25	92	535299	743396	6950	240	2005	LC010A
LC10C	18	25	92	535304	743400	6950	800	2005	LC010C
LC11C	20	25	92	534805	745000	6933	800	2005	LC011C
LC12C	20	25	92	534813	744601	6935	800	2005	LC012C
LC13C	17	25	92	535400	743710	6948	800	2006	LC013C
LC14A	20	25	92	534805	744100	6933	200	2006	LC014A
LC15M	20	25	92	534823	744547	6935	350	2006	LC015M
LC16M	20	25	92	534821	744563	6935	472	2006	LC016M
LC17M	20	25	92	534840	744562	6935	575	2006	LC017M
LC18M	18	25	92	535319	743362	6949	350	2006	LC018M
LC19M	18	25	92	535318	743378	6949	463	2006	LC019M
LC20M	18	25	92	535332	743377	6949	543	2006	LC020M
LC21M	24	25	93	532851	736277	6925	410	2006	LC021M
LC22M	24	25	93	532851	736292	6925	592	2006	LC022M
LC23M	24	25	93	532835	736293	6924	634	2006	LC023M
LC24M	17	25	92	535203	744579	6943	542	2006	LC024M
LC25M	19	25	92	534620	743406	6935	380	2006	LC025M
LC26M	20	25	92	534833	748204	6953	436	2006	LC026M
LC27M	16	25	92	539018	753260	7010	477	2006	LC027M
LC28M	25	25	92	524437	733364	6804	563	2006	LC028M
LC29M	20	25	92	534837	744548	6935	171	2006	LC029M
LC30M	24	25	92	532836	736277	6925	236	2006	LC030M
LC31M	25	25	92	524434	733380	6803	191	2006	LC031M
LC32W	17	25	92	536806	747065	6987	900	2007	LC032W
LC33W	20	25	92	534313	748167	6944	1000	2007	LC033W
LC34	17	25	92	535700	744400	6954	866	2007	LC034
LC35	17	25	92	535700	744600	6953	650	2007	LC035
LC36	17	25	92	535600	744900	6959	866	2007	LC036
LC37	17	25	92	535550	745020	6957	750	2007	LC037
LC38	17	25	92	535500	744800	6954	750	2007	LC038
LC39	17	25	92	535500	744400	6948	752	2007	LC039
LC40	17	25	92	535550	744300	6951	760	2007	LC040
LC41	17	25	92	535400	744300	6944	850	2007	LC041
LC42	17	25	92	535500	744100	6951	862	2007	LC042
LC43	17	25	92	535400	744100	6947	860	2007	LC043
LC44	17	25	92	535300	744000	6944	706	2007	LC044
LC45	17	25	92	535300	743900	6946	867	2007	LC045
LC46	17	25	92	535200	743900	6942	867	2007	LC046
LC47	20	25	92	535100	743800	6941	866	2007	LC047
LC48	20	25	92	535025	743716	6943	765	2007	LC048
LC49	20	25	92	535002	743888	6942	766	2007	LC049
LC50	20	25	92	535100	743993	6942	784	2007	LC050
LC51	20	25	92	534900	744000	6938	604	2007	LC051
LC52	20	25	92	534800	743900	6990	604	2007	LC052
LC53	20	25	92	534746	743986	6988	804	2007	LC053
LC54	20	25	92	534831	744084	6935	604	2007	LC054
LC55	20	25	92	534900	744200	6938	604	2007	LC055
LC56	20	25	92	535000	744300	6991	604	2007	LC056
LC57	20	25	92	535100	744300	6940	764	2007	LC057
LC58	20	25	92	535200	744300	6941	750	2007	LC058
LC59	20	25	92	535300	744400	6941	750	2007	LC059
LC60	20	25	92	535160	744500	6941	704	2007	LC060
LC60C	20	25	92	534833	743909	6990	764	2007	LC060C
LC61	20	25	92	535100	744600	6993	764	2007	LC061
LC62	20	25	92	535130	744800	6942	750	2007	LC062
LC63	20	25	92	535700	745400	6959	750	2007	LC063
LC64	20	25	92	535700	745800	6959	804	2007	LC064
LC67	17	25	92	536060	747093	6967	865	2007	LC067
LC69	17	25	92	536420	747079	6979	840	2007	LC069

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
LC70	20	25	92	534534	748147	6948	850	2007	LC070
LC71	20	25	92	534422	748158	6945	860	2007	LC071
LC72	20	25	92	534202	748180	6943	860	2007	LC072
LC73	20	25	92	534524	748353	6946	860	2007	LC073
LC75	19	25	92	531498	742486	6932	850	2007	LC075
LC76	19	25	92	531683	742367	6934	850	2007	LC076
LC80	18	25	92	537597	739884	7034	920	2007	LC080
LC81	18	25	92	537602	740036	7034	1000	2007	LC081
LC82	18	25	92	537466	739726	7032	850	2007	LC082
LC85	20	25	92	534600	745000	6993	840	2007	LC085
LC86	20	25	92	534400	745000	6990	840	2007	LC086
LC87	20	25	92	534300	745000	6990	840	2007	LC087
LC88	20	25	92	534700	745700	6994	600	2007	LC088
LC89	20	25	92	534600	745700	6993	600	2007	LC089
LC90	20	25	92	534500	745700	6992	605	2007	LC090
LC91	20	25	92	534700	745600	6995	605	2007	LC091
LC92	20	25	92	534500	745600	6991	605	2007	LC092
LC93	20	25	92	534400	745600	6991	605	2007	LC093
LC94	20	25	92	534700	745500	6994	605	2007	LC094
LC95	20	25	92	534600	745500	6993	605	2007	LC095
LC96	20	25	92	534500	745500	6992	605	2007	LC096
LC97	20	25	92	534400	745500	6991	605	2007	LC097
LC98	20	25	92	534300	745500	6990	605	2007	LC098
LC99	20	25	92	534700	745400	6994	605	2007	LC099
LC100	20	25	92	534500	745400	6992	850	2007	LC100
LC101	20	25	92	534300	745400	6989	850	2007	LC101
LC102	20	25	92	534800	745300	6996	850	2007	LC102
LC103	20	25	92	534700	745300	6995	850	2007	LC103
LC104	20	25	92	534600	745300	6992	850	2007	LC104
LC105	20	25	92	534500	745300	6992	850	2007	LC105
LC106	20	25	92	534400	745300	6991	850	2007	LC106
LC107	20	25	92	534300	745300	6990	850	2007	LC107
LC108	20	25	92	534900	745200	6994	850	2007	LC108
LC109	20	25	92	534700	745200	6996	850	2007	LC109
LC110	20	25	92	534500	745199	6992	850	2007	LC110
LC111	20	25	92	534400	745200	6991	850	2007	LC111
LC112	20	25	92	534300	745200	6991	850	2007	LC112
LC113	20	25	92	534900	745100	6991	850	2007	LC113
LC114	20	25	92	534800	745100	6993	850	2007	LC114
LC115	20	25	92	534700	745100	6994	850	2007	LC115
LC116	20	25	92	534600	745100	6995	850	2007	LC116
LC117	20	25	92	534500	745100	6992	850	2007	LC117
LC118	20	25	92	534400	745100	6991	850	2007	LC118
LC119	20	25	92	534300	745100	6989	850	2007	LC119
LC120	20	25	92	534900	745000	6991	850	2007	LC120
LC121	20	25	92	534900	744900	6991	850	2007	LC121
LC122	20	25	92	534800	744900	6989	850	2007	LC122
LC123	20	25	92	534700	744900	6988	850	2007	LC123
LC124	20	25	92	534600	744900	6990	850	2007	LC124
LC125	20	25	92	534500	744900	6990	850	2007	LC125
LC126	20	25	92	534400	744900	6991	850	2007	LC126
LC127	20	25	92	534300	744900	6989	850	2007	LC127
LC128	20	25	92	534900	744800	6990	850	2007	LC128
LC129	20	25	92	534700	744800	6987	850	2007	LC129
LC131	20	25	92	534200	745400	6989	850	2007	LC131
LC132	20	25	92	534200	745200	6990	850	2007	LC132
LC133	20	25	92	534627	744696	6984	850	2007	LC133
LC137	20	25	92	534900	743800	6991	850	2007	LC137
LC139	20	25	92	534900	743900	6991	850	2007	LC139
LC143	20	25	92	534700	744100	6987	850	2007	LC143
LC144	20	25	92	534600	744100	6985	850	2007	LC144

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
LC145	20	25	92	534700	743700	6988	850	2007	LC145
LC146	20	25	92	534600	743700	6986	850	2007	LC146
LC147	20	25	92	534900	744300	6989	850	2007	LC147
LC148	20	25	92	534700	744300	6987	850	2007	LC148
LC149	20	25	92	534600	744300	6985	850	2007	LC149
LC150	20	25	92	534500	744300	6984	850	2007	LC150
LC151	19	25	92	534710	743479	6986	850	2007	LC151
LC152	20	25	92	534900	744400	6988	850	2007	LC152
LC153	20	25	92	534500	744400	6982	850	2007	LC153
LC155	20	25	92	535000	744500	6990	850	2007	LC155
LC156	20	25	92	534900	744500	6988	850	2007	LC156
LC157	20	25	92	534800	744500	6987	850	2007	LC157
LC158	20	25	92	534699	744486	6984	850	2007	LC158
LC159	20	25	92	534601	744498	6983	850	2007	LC159
LC160	20	25	92	534495	744501	6982	850	2007	LC160
LC161	20	25	92	534506	744601	6983	850	2007	LC161
LC162	20	25	92	535000	744700	6990	850	2007	LC162
LC163	20	25	92	534900	744700	6989	850	2007	LC163
LC164	20	25	92	534800	744700	6988	850	2007	LC164
LC165	20	25	92	534700	744700	6986	850	2007	LC165
LC167	20	25	92	534500	744700	6987	850	2007	LC167
LC168	20	25	92	535000	744900	6992	850	2007	LC168
LC169	17	25	92	535200	745000	6997	850	2007	LC169
LC170	20	25	92	535100	745000	6994	850	2007	LC170
LC171	17	25	92	535200	745200	6995	850	2007	LC171
LC172	20	25	92	535100	745200	6994	850	2007	LC172
LC173	17	25	92	535200	745400	6997	850	2007	LC173
LC174	20	25	92	535100	745400	6997	850	2007	LC174
LC175	20	25	92	535000	745600	6998	850	2007	LC175
LC176	20	25	92	535000	745700	6999	850	2007	LC176
LC177	20	25	92	535100	745800	7001	850	2007	LC177
LC178	20	25	92	534700	745800	6994	850	2007	LC178
LC179	20	25	92	534500	745800	6992	850	2007	LC179
LC180	20	25	92	534400	745800	6994	850	2007	LC180
LC-HJMO101	19	25	92	534988	743281	6952	326	2007	LC-HJMO-101
LC-HJMO102	19	25	92	534762	742550	6987	330	2007	LC-HJMO-102
LC-HJMO103	18	25	92	535101	742646	6939	330	2007	LC-HJMO-103
LC-HJMO104	19	25	92	534899	742898	6946	328	2007	LC-HJMO-104
LC-HJMO105	19	25	92	535074	742953	6944	328	2007	LC-HJMO-105
LC-HJMO106	18	25	92	535258	743169	6995	328	2007	LC-HJMO-106
LC-HJMO107	20	25	92	534790	743697	6990	370	2007	LC-HJMO-107
LC-HJMO108	18	25	92	535298	743461	6954	333	2007	LC-HJMO-108
LC-HJMO109	20	25	92	534825	743904	6991	379	2007	LC-HJMO-109
LC-HJMO110	17	25	92	535194	743674	6950	330	2007	LC-HJMO-110
LC-HJMO111	17	25	92	535371	743825	6953	330	2007	LC-HJMO-111
LC-HJMO112	20	25	92	534674	744375	6931	350	2007	LC-HJMO-112
LC-HJMO113	20	25	92	534805	744265	6934	362	2007	LC-HJMO-113
LC-HJMO114	20	25	92	534676	744979	6938	360	2007	LC-HJMO-114
LC-HJMP101	19	25	92	534998	743287	6951	490	2007	LC-HJMP-101
LC-HJMP102	19	25	92	534755	742559	6939	440	2007	LC-HJMP-102
LC-HJMP103	18	25	92	535109	742652	6939	432	2007	LC-HJMP-103
LC-HJMP104	19	25	92	534897	742885	6943	430	2007	LC-HJMP-104
LC-HJMP106	18	25	92	535258	743168	6945	480	2007	LC-HJMP-106
LC-HJMP107	20	25	92	534802	743684	6941	464	2007	LC-HJMP-107
LC-HJMP108	18	25	92	535311	743466	6955	436	2007	LC-HJMP-108
LC-HJMP109	20	25	92	534830	743895	6991	512	2007	LC-HJMP-109
LC-HJMP110	17	25	92	535184	743682	6950	476	2007	LC-HJMP-110
LC-HJMP111	17	25	92	535366	743835	6952	440	2007	LC-HJMP-111
LC-HJMP112	20	25	92	534668	744385	6931	400	2007	LC-HJMP-112
LC-HJMP113	20	25	92	534797	744273	6934	462	2007	LC-HJMP-113
LC-HJMP114	20	25	92	534687	744976	6938	460	2007	LC-HJMP-114

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
LC-HJMU101	19	25	92	534997	743277	6951	535	2007	LC-HJMU-101
LC-HJMU102	19	25	92	534748	742547	6987	600	2007	LC-HJMU-102
LC-HJMU103	18	25	92	535098	742657	6938	850	2007	LC-HJMU-103
LC-HJMU104	19	25	92	534907	742891	6946	550	2007	LC-HJMU-104
LC-HJMU105	19	25	92	535076	742942	6944	548	2007	LC-HJMU-105
LC-HJMU106	18	25	92	535258	743159	6944	547	2007	LC-HJMU-106
LC-HJMU107	20	25	92	534788	743686	6990	855	2007	LC-HJMU-107
LC-HJMU108	18	25	92	535299	743476	6954	850	2007	LC-HJMU-108
LC-HJMU109	20	25	92	534835	743904	6992	850	2007	LC-HJMU-109
LC-HJMU110	17	25	92	535195	743685	6954	850	2007	LC-HJMU-110
LC-HJMU111	17	25	92	535375	743841	6952	853	2007	LC-HJMU-111
LC-HJMU112	20	25	92	534675	744386	6931	802	2007	LC-HJMU-112
LC-HJMU113	20	25	92	534807	744277	6934	800	2007	LC-HJMU-113
LC-HJMU114	20	25	92	534678	744966	6937	557	2007	LC-HJMU-114
LC-HJT101	19	25	92	534610	742561	6993	478	2007	LC-HJT-101
LC-HJT102	19	25	92	534696	742886	6942	430	2007	LC-HJT-102
LC-HJT103	19	25	92	534670	743180	6944	430	2007	LC-HJT103
LC-HJT104	20	25	92	534892	743653	6942	460	2007	LC-HJT-104
LC-HJT105	20	25	92	535027	744437	6941	850	2007	LC-HJT-105
LC-HJT106	20	25	92	534493	743890	6934	850	2007	LC-HJT-106
LC-HJT107	20	25	92	534830	745230	6995	850	2007	LC-HJT-107
LC-UKMO101	20	25	92	534943	744085	6939	487	2007	LC-UKMO-101
LC-UKMO102	17	25	92	535134	744206	6947	420	2007	LC-UKMO-102
LC-UKMO103	17	25	92	535556	744501	6953	438	2007	LC-UKMO-103
LC-UKMP101	20	25	92	534929	744090	6939	575	2007	LC-UKMP-101
LC-UKMP102	17	25	92	535145	744204	6947	498	2007	LC-UKMP-102
LC-UKMP103	17	25	92	535558	744487	6953	537	2007	LC-UKMP-103
LC-UKMU101	20	25	92	534931	744101	6939	850	2007	LC-UKMU-101
LC-UKMU102	17	25	92	535143	744191	6945	580	2007	LC-UKMU-102
LC-UKMU103	17	25	92	535546	744487	6953	850	2007	LC-UKMU-103
OH1	16	25	92	537410	750061	6991	323	1968	OH-1-162592
P1-16	16	25	92	535240	749380	6945	680	1988	P01-162592
P1-17	17	25	92	535964	745571	6961	500	1987	P01-172592
P1-18	18	25	92	535288	743252	6939	560	1987	P01-182592
P1-19	19	25	92	533745	738394	6934	560	1987	P01-192592
P1-20	20	25	92	534558	744585	6927	560	1987	P01-202592
P1-24	24	25	93	533000	737450	6917	600	1987	P01-242593
P2-16	16	25	92	535655	749388	6942	600	1988	P02-162592
P2-17	17	25	92	535730	744805	6949	660	1988	P02-172592
P2-18	18	25	92	535253	743395	6949	500	1990	P02-182592
P2-19	19	25	92	533240	738578	6920	720	1988	P02-192592
P2-20	20	25	92	534620	745600	6935	560	1987	P02-202592
P2-24	24	25	93	532873	735930	6925	560	1987	P02-242593
P3-17	17	25	92	535198	746590	6946	640	1988	P03-172592
P3-18	18	25	92	535337	743382	6944	500	1990	P03-182592
P3-19	19	25	92	535052	742605	6931	500	1992	P03-192592
P3-20	20	25	92	534713	744606	6934	520	1990	P03-202592
P3-24	24	25	93	532378	734386	6920	730	1988	P03-242593
P4-17	17	25	92	536000	746000	6964	633	1988	P04-172592
P4-18	18	25	92	535436	743373	6942	500	1990	P04-182592
P4-19	19	25	92	534927	742602	6929	500	1992	P04-192592
P4-20	20	25	92	534762	744606	6934	520	1990	P04-202592
P5-17	17	25	92	535550	744644	6945	650	1988	P05-172592
P5-18	18	25	92	535487	743369	6940	500	1990	P05-182592
P5-19	19	25	92	534751	742593	6933	500	1992	P05-192592
P5-20	20	25	92	534862	744608	6936	520	1990	P05-202592
P6-17	17	25	92	535304	743799	6946	500	1990	P06-172592
P6-18	18	25	92	535151	742602	6935	500	1992	P06-182592
P6-19	19	25	92	534654	742596	6933	500	1992	P06-192592
P6-20	20	25	92	534913	744610	6937	520	1990	P06-202592
P7-17	17	25	92	535354	743798	6948	500	1990	P07-172592

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
P7-19	19	25	92	535096	742805	6933	500	1990	P07-192592
P7-20	20	25	92	534947	744605	6935	520	1990	P07-202592
P8-17	17	25	92	535503	743795	6953	500	1990	P08-172592
P8-19	19	25	92	534897	742798	6936	500	1992	P08-192592
P9-17	17	25	92	535300	743592	6947	500	1990	P09-172592
P10-17	17	25	92	535502	743603	6950	500	1968	P10-172592
RD34	16	25	92	537786	751305	6972	840	1968	RD034-162592
RD106	9	25	92	540450	748750	7050	1200	1967	RD106-092592
RD107	9	25	92	540437	751330	7040	800	1967	RD107-092592
RD108	10	25	92	540450	753950	7020	800	1967	RD108-102592
RD125	21	25	92	535200	751500	6955	480	1967	RD125-212592
RD130	16	25	92	540450	751700	7035	850	1967	RD130-162592
RD131	16	25	92	539200	751500	7005	900	1968	RD131-162592
RD150	9	25	92	540450	751150	7040	800	1968	RD150-092592
RD187	20	25	92	533437	744882	6931	774	1968	RD187-202592
RD188	17	25	92	535332	747248	6950	800	1968	RD188-172592
RD189	16	25	92	536725	749225	6975	800	1968	RD189-162592
RD210	16	25	92	535697	753550	6980	600	1968	RD210-162592
RD211	15	25	92	535191	753949	6964	570	1968	RD211-152592
RD301	16	25	92	535780	750500	6945	600	1968	RD301-162592
RD310	20	25	92	533520	748578	6929	550	1968	RD310-202592
RD343	20	25	92	533941	746072	6947	650	1968	RD343-202592
RD345	17	25	92	535299	745779	6950	791	1968	RD345-172592
RD392	16	25	92	535172	750066	6940	600	1968	RD392-162592
RD393	16	25	92	535810	753180	6963	200	1968	RD393-162592
RD396	20	25	92	532266	744003	6899	640	1968	RD396-202592
RD404	16	25	92	537535	750145	6985	550	1968	RD404-162592
RD412	17	25	92	538050	746040	6997	700	1968	RD412-172592
RD436	19	25	92	534436	742838	6925	670	1968	RD436-192592
RD445	16	25	92	537751	753179	6987	600	1968	RD445-162592
RD446	16	25	92	539024	748856	7015	800	1968	RD446-162592
S19	26	25	93	526745	733058	6940	515	1968	S19-262593
TE1	24	25	93	532611	736015	6920	680	1977	TE001-242593
TE2	24	25	93	532464	736159	6918	700	1977	TE002-242593
TE3	24	25	93	534251	736293	6946	680	1977	TE003-242593
TE4	24	25	93	534348	736356	6950	680	1977	TE004-242593
TE5	24	25	93	534148	736340	6945	680	1977	TE005-242593
TE6	24	25	93	534853	736198	6969	700	1977	TE006-242593
TE7	24	25	93	534704	736071	6943	700	1977	TE007-242593
TE8	24	25	93	534806	735850	6967	720	1977	TE008-242593
TE9	24	25	93	533428	734213	6939	820	1977	TE009-242593
TE10	24	25	93	533347	734409	6940	820	1977	TE010-242593
TE11	24	25	93	533535	734932	6948	720	1977	TE011-242593
TE12	24	25	93	533392	735080	6949	720	1977	TE012-242593
TE17	24	25	93	534463	736085	6961	1200	1977	TE017-242593
TE18	24	25	93	532773	735925	6923	775	1977	TE018-242593
TE19	24	25	93	532368	736251	6917	700	1977	TE019-242593
TE20	24	25	93	532346	735895	6917	800	1977	TE020-242593
TE21	24	25	93	533264	734028	6936	1200	1977	TE021-242593
TE22	24	25	93	533555	735137	6949	800	1977	TE022-242593
TE23	24	25	93	533224	735180	6945	800	1977	TE023-242593
TE26	24	25	93	534877	734690	6963	600	1977	TE026-242593
TE27	24	25	93	534654	735023	6961	600	1977	TE027-242593
TE28	24	25	93	534441	735444	6963	640	1977	TE028-242593
TE29	24	25	93	533952	735799	6952	620	1977	TE029-242593
TE30	24	25	93	534391	735912	6962	620	1977	TE030-242593
TE31	24	25	93	534858	735315	6962	620	1977	TE031-242593
TE32	13	25	93	535264	735117	6972	700	1977	TE032-132593
TE33	13	25	93	535324	735649	6977	800	1977	TE033-132593
TE34	24	25	93	534803	737380	6964	620	1977	TE034-242593
TE35	24	25	93	534839	734652	6963	620	1977	TE035-242593

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
TE36	24	25	93	534693	735103	6962	620	1977	TE036-242593
TE37	24	25	93	534622	735031	6957	620	1977	TE037-242593
TE38	24	25	93	534757	735323	6961	380	1977	TE038-242593
TE39	24	25	93	534418	735953	6962	620	1977	TE039-242593
TE40	24	25	93	534349	735882	6961	620	1977	TE040-242593
TE41	31	25	93	535016	734539	6970	620	1977	TE041-312593
TE42	24	25	93	534728	734857	6957	620	1977	TE042-242593
TE43	24	25	93	534496	735217	6956	620	1977	TE043-242593
TE44	24	25	93	534529	735751	6963	620	1977	TE044-242593
TE45	24	25	93	534286	736037	6954	620	1977	TE045-242593
TE46	24	25	93	533794	735984	6943	1200	1977	TE046-242593
TE47	24	25	93	533504	735874	6940	760	1977	TE047-242593
TE48	24	25	93	533644	735563	6947	600	1977	TE048-242593
TE49	24	25	93	533656	734818	6938	600	1977	TE049-242593
TE50	24	25	93	533606	734575	6940	800	1977	TE050-242593
TE51	24	25	93	533577	734220	6941	700	1977	TE051-242593
TE52	24	25	93	533363	733504	6936	1200	1977	TE052-242593
TE53	24	25	93	533122	733504	6935	800	1977	TE053-242593
TE54	22	25	93	533165	732894	6931	1200	1977	TE054-222593
TE56	24	25	93	532836	733821	6930	700	1977	TE056-242593
TE57	24	25	93	533203	734299	6938	1200	1977	TE057-242593
TE58	24	25	93	532478	733875	6921	1200	1977	TE058-242593
TE59	24	25	93	532517	734237	6927	700	1977	TE059-242593
TE60	24	25	93	532821	734692	6923	700	1977	TE060-242593
TE61	24	25	93	533017	735043	6941	1200	1977	TE061-242593
TE62	24	25	93	532421	734616	6917	700	1977	TE062-242593
TE63	24	25	93	533099	735337	6936	700	1977	TE063-242593
TE64	24	25	93	532993	735516	6931	680	1977	TE064-242593
TE65	24	25	93	532933	735377	6931	1203	1977	TE065-242593
TE66	24	25	93	532914	735683	6927	700	1977	TE066-242593
TE67	24	25	93	532607	735805	6921	719	1977	TE067-242593
TE68	24	25	93	533128	736061	6928	1202	1977	TE068-242593
TE69	24	25	93	532781	736195	6922	793	1977	TE069-242593
TE70	24	25	93	532541	735889	6919	1202	1977	TE070-242593
TE71	24	25	93	532691	736211	6923	700	1977	TE071-242593
TE72	24	25	93	532792	736105	6924	700	1977	TE072-242593
TE73	24	25	93	532902	736216	6926	700	1977	TE073-242593
TE74	24	25	93	534927	734450	6969	600	1977	TE074-242593
TE75	24	25	93	534827	734335	6968	600	1977	TE075-242593
TE77	24	25	93	533078	733539	6934	640	1977	TE077-242593
TE78	23	25	93	533128	732950	6931	640	1977	TE078-232593
TE79	23	25	93	533601	733396	6939	700	1977	TE079-232593
TE80	24	25	93	533464	733539	6937	680	1977	TE080-242593
TE81	24	25	93	534606	734395	6958	700	1977	TE081-242593
TE83	23	25	93	532752	733541	6928	640	1977	TE083-232593
TE84	24	25	93	533831	734645	6944	600	1977	TE084-242593
TE87	23	25	93	534825	733945	6969	700	1977	TE087-242593
TE88	23	25	93	534011	734536	6948	700	1977	TE088-242593
TE89	24	25	93	532895	736202	6927	660	1977	TE089-242593
TE90	24	25	93	533200	733800	6936	700	1977	TE090-242593
TE91	24	25	93	532599	734797	6916	700	1977	TE091-242593
TE92	24	25	93	532600	734399	6927	700	1977	TE092-242593
TE93	24	25	93	532802	734196	6933	600	1977	TE093-242593
TE94	24	25	93	532999	733800	6931	700	1977	TE094-242593
TE96	24	25	93	532800	735000	6928	700	1977	TE096-242593
TE97	24	25	93	532800	734800	6925	700	1977	TE097-242593
TE101	24	25	93	532600	734600	6919	720	1977	TE101-242593
TG1-17	17	25	92	535200	743600	6944	500	1978	TG01-172592
TG1-18	18	25	92	535000	742400	6929	600	1992	TG01-182592
TG1-19	19	25	92	532400	742400	6908	600	1992	TG01-192592
TG1-20	20	25	92	534800	743600	6936	500	1978	TG01-202592

Attachment 2.6-2 **Locations, Total Depths, and Completion Dates of Historic Exploration Holes**

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
TG1-21	21	25	92	535000	749000	6947	600	1978	TG01-212592
TG1A-19(60deg)	19	25	92	534724	743405	6940	200	1978	TG01A-192592(60deg)
TG1A-19(75deg)	19	25	92	534720	743405	6940	380	1978	TG01A-192592(75deg)
TG1A-20(60deg)	20	25	92	534902	744200	6933	200	1978	TG01A-202592(60deg)
TG1A-20(75deg)	20	25	92	534900	744200	6933	380	1978	TG01A-202592(75deg)
TG2-18	18	25	92	535200	742400	6933	600	1978	TG02-182592
TG2-19	19	25	92	532800	742400	6912	600	1978	TG02-192592
TG2-20	20	25	92	535000	743600	6940	500	1978	TG02-202592
TG2-21	21	25	92	534800	749000	6942	540	1978	TG02-212592
TG3-17	17	25	92	535400	745400	6945	600	1978	TG03-172592
TG3-18	18	25	92	535400	742400	6939	600	1978	TG03-182592
TG3-19	19	25	92	533200	742400	6912	600	1978	TG03-192592
TG3-20	20	25	92	535000	744000	6937	500	1978	TG03-202592
TG3-21	21	25	92	534600	749000	6940	540	1978	TG03-212592
TG4-18	18	25	92	535600	742400	6940	600	1978	TG04-182592
TG4-19	19	25	92	533600	742400	6923	600	1978	TG04-192592
TG4-20	20	25	92	534800	744000	6934	600	1978	TG04-202592
TG4-21	21	25	92	535000	750600	6931	500	1978	TG04-212592
TG5-17	17	25	92	535200	744000	6939	500	1978	TG05-172592
TG5-18	18	25	92	535800	742400	6944	660	1978	TG05-182592
TG5-19	19	25	92	534000	742400	6934	600	1978	TG05-192592
TG5-20	20	25	92	535000	744400	6934	600	1978	TG05-202592
TG5-21	21	25	92	535000	749400	6946	600	1978	TG05-212592
TG6-17	17	25	92	535400	743600	6950	600	1978	TG06-172592
TG6-18	18	25	92	536000	742400	6947	600	1978	TG06-182592
TG6-19	19	25	92	534400	742400	6927	600	1978	TG06-192592
TG6-20	20	25	92	534800	744400	6931	600	1978	TG06-202592
TG6-21	21	25	92	535000	749800	6939	540	1978	TG06-212592
TG7-17	17	25	92	535400	744000	6945	540	1978	TG07-172592
TG7-18	18	25	92	536200	742400	6949	660	1978	TG07-182592
TG7-19	19	25	92	534600	742400	6929	600	1978	TG07-192592
TG7-20	20	25	92	534400	744800	6932	520	1978	TG07-202592
TG8-17	17	25	92	535600	744000	6953	560	1978	TG08-172592
TG8-18	18	25	92	535212	743201	6944	600	1978	TG08-182592
TG8-19	19	25	92	534800	742400	6926	600	1978	TG08-192592
TG8-20	20	25	92	534800	744800	6934	600	1978	TG08-202592
TG9-17	17	25	92	535123	744387	6936	560	1978	TG09-172592
TG9-18	18	25	92	535200	742800	6935	600	1978	TG09-182592
TG9-19	19	25	92	534800	742800	6935	600	1978	TG09-192592
TG9-20	20	25	92	534600	744800	6932	600	1978	TG09-202592
TG10-17	17	25	92	535400	744400	6941	600	1977	TG10-172592
TG10-18	18	25	92	535600	742800	6946	600	1977	TG10-182592
TG10-19	19	25	92	534600	742800	6932	500	1977	TG10-192592
TG10-20	20	25	92	534600	744400	6930	600	1977	TG10-202592
TG11-17	17	25	92	535600	744400	6949	600	1978	TG11-172592
TG11-18	18	25	92	536006	742800	6951	660	1978	TG11-182592
TG11-19	19	25	92	535000	742800	6932	500	1978	TG11-192592
TG11-20	20	25	92	534600	744000	6931	600	1978	TG11-202592
TG12-17	17	25	92	535121	744788	6939	560	1978	TG12-172592
TG12-18	18	25	92	536400	742800	6959	660	1978	TG12-182592
TG12-19	19	25	92	535000	743200	6942	500	1978	TG12-192592
TG12-20	20	25	92	535000	745000	6938	600	1978	TG12-202592
TG12-21	21	25	92	535000	751000	6948	500	1978	TG12-212592
TG13-17	17	25	92	535400	744800	6949	600	1978	TG13-172592
TG13-18	18	25	92	535200	742900	6936	500	1978	TG13-182592
TG13-19	19	25	92	534600	743200	6932	540	1978	TG13-192592
TG13-20	20	25	92	535000	745400	6942	600	1978	TG13-202592
TG13-21	21	25	92	535000	750200	6935	540	1978	TG13-212592
TG14-18	18	25	92	536400	743200	6949	600	1978	TG14-182592
TG14-19	19	25	92	534800	743200	6941	500	1978	TG14-192592
TG14-20	20	25	92	534800	745400	6941	540	1978	TG14-202592

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
TG15-17	17	25	92	535800	745400	6961	600	1978	TG15-172592
TG15-18	18	25	92	535414	743205	6943	500	1978	TG15-182592
TG15-19	19	25	92	534600	742600	6930	580	1980	TG15-192592
TG15-20	20	25	92	534600	745400	6938	540	1978	TG15-202592
TG16-17	17	25	92	535800	745800	6961	600	1978	TG16-172592
TG16-19	19	25	92	534800	742600	6930	580	1980	TG16-192592
TG16-20	20	25	92	534600	745800	6938	600	1978	TG16-202592
TG17-17	17	25	92	535400	746200	6949	600	1978	TG17-172592
TG17-19	19	25	92	535000	742600	6929	580	1980	TG17-192592
TG17-20	20	25	92	534800	745800	6940	540	1978	TG17-202592
TG18-17	17	25	92	535800	746200	6961	600	1978	TG18-172592
TG18-19	19	25	92	534600	743000	6931	580	1980	TG18-192592
TG18-20	20	25	92	535000	745800	6943	600	1978	TG18-202592
TG19-17	17	25	92	535400	746600	6948	600	1978	TG19-172592
TG19-19	19	25	92	534800	743000	6940	580	1980	TG19-192592
TG19-20	20	25	92	535013	746209	6948	600	1978	TG19-202592
TG20-17	17	25	92	535800	746600	6956	600	1978	TG20-172592
TG20-18	18	25	92	535200	742600	6935	580	1980	TG20-182592
TG20-19	19	25	92	535000	743000	6935	580	1980	TG20-192592
TG20-20	20	25	92	534800	746200	6941	540	1978	TG20-202592
TG21-17	17	25	92	535600	745800	6954	600	1978	TG21-172592
TG21-18	18	25	92	535200	743000	6933	580	1980	TG21-182592
TG21-19	19	25	92	534800	743400	6936	580	1980	TG21-192592
TG21-20	20	25	92	534600	746200	6949	516	1978	TG21-202592
TG22-17	17	25	92	536000	745800	6966	600	1978	TG22-172592
TG22-18	18	25	92	535400	743000	6938	580	1980	TG22-182592
TG22-19	19	25	92	535000	743400	6942	580	1980	TG22-192592
TG22-20	20	25	92	534600	746600	6947	540	1978	TG22-202592
TG23-17	17	25	92	535200	747000	6948	600	1978	TG23-172592
TG23-18	18	25	92	535200	743400	6942	580	1980	TG23-182592
TG23-19	19	25	92	535000	742200	6936	580	1980	TG23-192592
TG23-20	20	25	92	534800	746600	6944	540	1978	TG23-202592
TG24-17	20	25	92	535400	747000	6944	600	1978	TG24-172592
TG24-18	18	25	92	535417	743401	6948	580	1980	TG24-182592
TG24-19	19	25	92	534800	742200	6931	580	1980	TG24-192592
TG24-20	17	25	92	535000	746600	6951	600	1978	TG24-202592
TG25-17	17	25	92	535200	747400	6954	600	1978	TG25-172592
TG25-18	18	25	92	535600	743400	6942	580	1980	TG25-182592
TG25-19	19	25	92	534600	742200	6931	580	1980	TG25-192592
TG25-20	20	25	92	535000	747000	6949	600	1978	TG25-202592
TG26-17	17	25	92	535400	747400	6953	600	1978	TG26-172592
TG26-20	20	25	92	534800	747000	6950	540	1978	TG26-202592
TG27-17	17	25	92	535800	747400	6960	600	1978	TG27-172592
TG27-18	18	25	92	535302	743392	6951	580	1980	TG27-182592
TG27-20	20	25	92	534600	747000	6951	540	1978	TG27-202592
TG28-17	17	25	92	535800	747000	6956	600	1978	TG28-172592
TG28-20	20	25	92	534600	747400	6956	600	1978	TG28-202592
TG29-17	17	25	92	535600	745400	6946	600	1978	TG29-172592
TG29-20	20	25	92	534800	747400	6953	540	1978	TG29-202592
TG30-17	17	25	92	536000	746200	6964	600	1978	TG30-172592
TG30-20	20	25	92	535000	747400	6952	600	1978	TG30-202592
TG31-20	20	25	92	535000	747800	6957	600	1978	TG31-202592
TG32-17	17	25	92	535200	747800	6956	600	1978	TG32-172592
TG32-20	20	25	92	534800	747800	6953	540	1978	TG32-202592
TG33-17	17	25	92	535400	747800	6957	600	1978	TG33-172592
TG33-20	20	25	92	534600	747800	6949	540	1978	TG33-202592
TG34-17	17	25	92	535200	748200	6958	600	1978	TG34-172592
TG34-20	20	25	92	535000	748200	6955	600	1978	TG34-202592
TG35-17	17	25	92	535200	748600	6954	600	1978	TG35-172592
TG35-20	20	25	92	534800	748200	6949	540	1978	TG35-202592
TG36-17	17	25	92	535200	743800	6940	580	1980	TG36-172592

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
TG36-20	20	25	92	534600	748200	6943	540	1978	TG36-202592
TG37-17	17	25	92	535400	743800	6947	580	1980	TG37-172592
TG38-17	17	25	92	535200	744200	6937	580	1980	TG38-172592
TG39-17	17	25	92	535400	744200	6941	580	1978	TG39-172592
TG39-20	20	25	92	535000	748600	6950	600	1978	TG39-202592
TG40-17	17	25	92	535600	744200	6949	580	1980	TG40-172592
TG41-17	17	25	92	535200	744600	6938	580	1980	TG41-172592
TG41-20	20	25	92	534800	748600	6946	540	1978	TG41-202592
TG42-17	17	25	92	535440	744600	6942	580	1980	TG42-172592
TG42-20	20	25	92	534600	748600	6941	540	1978	TG42-202592
TG43-17	17	25	92	535600	744800	6950	580	1980	TG43-172592
TG43-20	20	25	92	534400	748600	6939	540	1978	TG43-202592
TG44-17	17	25	92	535800	745200	6958	580	1980	TG44-172592
TG44-20	20	25	92	531400	743800	6879	460	1979	TG44-202592
TG45-17	17	25	92	535800	745600	6958	580	1980	TG45-172592
TG46-17	17	25	92	536000	745600	6962	580	1980	TG46-172592
TG47-17	17	25	92	535800	746000	6958	580	1980	TG47-172592
TG48-17	17	25	92	535600	743800	6951	580	1980	TG48-172592
TG49-17	17	25	92	535300	744200	6938	580	1980	TG49-172592
TG50-17	17	25	92	535500	744200	6945	580	1980	TG50-172592
TG51-17	17	25	92	536400	746400	6972	600	1981	TG51-172592
TG52-17	17	25	92	538400	747200	7001	600	1981	TG52-172592
TG52-20	20	25	92	534600	743800	6929	580	1980	TG52-202592
TG53-20	20	25	92	534800	743800	6933	580	1980	TG53-202592
TG54-20	20	25	92	535000	743800	6936	580	1980	TG54-202592
TG55-20	20	25	92	534400	744200	6926	580	1980	TG55-202592
TG56-20	20	25	92	534600	744200	6928	580	1980	TG56-202592
TG57-20	20	25	92	534800	744200	6932	580	1980	TG57-202592
TG58-20	20	25	92	535000	744200	6936	580	1980	TG58-202592
TG59-20	20	25	92	534600	744600	6928	580	1980	TG59-202592
TG60-20	20	25	92	534800	744600	6930	580	1980	TG60-202592
TG61-20	20	25	92	535014	744604	6939	580	1980	TG61-202592
TG62-20	20	25	92	534800	745000	6933	580	1980	TG62-202592
TG63-20	20	25	92	534600	745200	6938	580	1980	TG63-202592
TG64-20	20	25	92	534800	745200	6938	580	1980	TG64-202592
TG65-20	20	25	92	535000	745200	6936	580	1980	TG65-202592
TG66-20	20	25	92	534600	745600	6935	580	1980	TG66-202592
TG67-20	20	25	92	534800	745600	6939	580	1980	TG67-202592
TG68-20	20	25	92	535000	745600	6941	580	1980	TG68-202592
TG69-20	20	25	92	534600	746000	6937	580	1980	TG69-202592
TG70-20	20	25	92	534800	746000	6941	580	1980	TG70-202592
TG71-20	20	25	92	535000	744800	6935	580	1980	TG71-202592
TG72-20	20	25	92	534700	744200	6930	580	1980	TG72-202592
TG73-20	20	25	92	535100	744200	6935	580	1980	TG73-202592
TGC1-19	19	25	92	534700	742600	6932	500	1980	TGC01-192592
TGC1A(45deg)	19	25	92	534502	742600	6927	300	1980	TGC01A-192592(45deg)
TGC1A(60deg)	19	25	92	534500	742600	6927	300	1980	TGC01A-192592(60deg)
TGC2-19	19	25	92	534860	742600	6935	480	1980	TGC02-192592
TGC16	18	25	92	535200	742850	6936	475	1979	TGC16-182592
TGC17	18	25	92	535200	742840	6935	423	1979	TGC17-182592
TGC18	18	25	92	535200	742830	6935	442	1979	TGC18-182592
TGC19	18	25	92	535200	742810	6935	475	1979	TGC19-182592
TGC20	18	25	92	535300	742600	6939	460	1980	TGC20-182592
TGC21	18	25	92	535100	742600	6933	480	1980	TGC21-182592
TT1	24	25	93	534248	736505	6945	680	1977	TT001-242593
TT2	24	25	93	534770	736632	6959	700	1977	TT002-242593
TT3	24	25	93	534715	736460	6962	720	1977	TT003-242593
TT4	24	25	93	532712	737140	6919	600	1977	TT004-242593
TT5	19	25	92	532690	739388	6913	580	1977	TT005-192592
TT6	19	25	92	532707	740881	6914	600	1977	TT006-192592
TT7	24	25	93	533583	736925	6928	820	1978	TT007-242593

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
TT8	19	25	92	533626	738587	6923	740	1978	TT008-192592
TT9	19	25	92	534510	740816	6928	600	1978	TT009-192592
TT10	18	25	92	538540	740748	6973	740	1977	TT010-182592
TT13	24	25	92	532565	737144	6914	500	1977	TT013-242593
TT14	19	25	92	532763	739313	6914	500	1977	TT014-192592
TT15	19	25	92	532611	739476	6912	540	1977	TT015-192592
TT16	19	25	92	532570	741037	6907	600	1977	TT016-192592
TT17	24	25	93	533334	736646	6927	1140	1977	TT017-242593
TT18	19	25	92	533201	739915	6923	1000	1977	TT018-192592
TT19	19	25	92	534410	740974	6921	600	1977	TT019-192592
TT20	18	25	92	538428	740962	6972	1160	1977	TT020-182592
TT22	13	25	93	535378	736361	6975	700	1977	TT022-132593
TT23	13	25	93	535338	736755	6974	600	1977	TT023-132593
TT24	13	25	93	535303	737181	6972	600	1977	TT024-132593
TT25	13	25	93	533003	736823	6923	700	1977	TT025-242593
TT26	24	25	93	532765	736551	6922	700	1977	TT026-242593
TT27	24	25	93	532993	736379	6929	700	1977	TT027-242593
TT28	24	25	93	533139	736549	6926	700	1977	TT028-242593
TT29	24	25	93	532972	737964	6913	700	1977	TT029-242593
TT30	19	25	92	534804	737380	6919	780	1977	TT030-192592
TT31	19	25	92	533454	739102	6923	600	1977	TT031-192592
TT32	19	25	92	533734	739826	6930	600	1977	TT032-192592
TT33	23	25	93	532975	740698	6911	600	1977	TT033-232593
TT34	19	25	92	534200	740986	6921	600	1977	TT034-192592
TT35	19	25	92	532657	741212	6909	600	1977	TT035-192592
TT36	19	25	92	532838	741601	6910	600	1977	TT036-192592
TT37	19	25	92	535203	741350	6936	800	1977	TT037-182592
TT38	19	25	92	533221	741874	6911	600	1977	TT038-192592
TT39	19	25	92	534597	741211	6930	600	1977	TT039-192592
TT40	19	25	92	534099	740600	6924	800	1977	TT040-192592
TT41	19	25	92	533990	741087	6916	600	1977	TT041-192592
TT42	19	25	92	534423	741109	6925	600	1977	TT042-192592
TT43	19	25	92	533475	741581	6913	1000	1977	TT043-192592
TT44	19	25	92	532722	741402	6912	600	1977	TT044-192592
TT45	19	25	92	532906	740333	6918	1000	1977	TT045-192592
TT46	19	25	92	533009	739997	6920	1000	1977	TT046-192592
TT47	19	25	92	533382	739831	6921	700	1977	TT047-192592
TT48	19	25	92	533279	739352	6920	1000	1977	TT048-192592
TT49	19	25	92	533263	738999	6919	1000	1977	TT049-192592
TT50	19	25	92	533364	738575	6919	900	1977	TT050-192592
TT51	19	25	92	533043	738499	6913	1000	1977	TT051-192592
TT52	24	25	93	533120	737742	6919	1000	1977	TT052-242593
TT53	24	25	93	532575	737943	6907	1000	1977	TT053-242593
TT54	24	25	93	532929	737462	6916	700	1977	TT054-242593
TT55	24	25	93	532657	737323	6915	700	1977	TT055-242593
TT56	24	25	93	532783	736716	6921	700	1977	TT056-242593
TT57	24	25	93	532360	736674	6916	700	1977	TT057-242593
TT58	24	25	93	532547	736445	6919	700	1977	TT058-242593
TT59	24	25	93	533264	736402	6928	1060	1977	TT059-242593
TT60	24	25	93	533701	736666	6933	900	1977	TT060-242593
TT61	24	25	93	532780	736311	6921	700	1977	TT061-242593
TT62	24	25	93	534541	736958	6948	820	1977	TT062-242593
TT63	19	25	92	534730	741361	6933	600	1977	TT063-192592
TT64	19	25	92	534205	740788	6923	600	1977	TT064-192592
TT65	19	25	92	533720	740218	6928	600	1977	TT065-192592
TT66	19	25	92	534320	740648	6927	600	1978	TT066-192592
TT67	19	25	92	533390	739541	6922	700	1978	TT067-192592
TT68	19	25	92	533163	738795	6915	700	1978	TT068-192592
TT69	24	25	93	532971	736555	6924	700	1978	TT069-242593
TT70	24	25	93	534439	736943	6947	760	1978	TT070-242593
TT71	24	25	93	534563	736857	6951	760	1978	TT071-242593

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
TT72	24	25	93	534652	736971	6951	760	1978	TT072-242593
TT73	24	25	93	534513	737060	6947	760	1978	TT073-242593
TT74	19	25	92	534519	741445	6928	600	1978	TT074-192592
TT75	19	25	92	534637	741746	6927	600	1978	TT075-192592
TT76	19	25	92	532907	741106	6921	600	1978	TT076-192592
TT77	19	25	92	532638	740672	6909	600	1978	TT077-192592
TT78	19	25	92	534367	740835	6925	600	1978	TT078-192592
TT79	19	25	92	534052	740388	6931	600	1978	TT079-192592
TT80	19	25	92	533823	740077	6933	600	1978	TT080-192592
TT81	19	25	92	533587	739699	6926	700	1978	TT081-192592
TT82	19	25	92	533435	739490	6923	700	1978	TT082-192592
TT83	19	25	92	532922	738626	6911	700	1978	TT083-192592
TT84	24	25	93	532787	738163	6908	700	1978	TT084-242593
TT85	19	25	92	534292	741243	6921	600	1978	TT085-192592
TT86	19	25	92	534431	741740	6921	600	1978	TT086-192592
TT87	19	25	92	534699	741544	6932	600	1978	TT087-192592
TT88	19	25	92	534732	741952	6926	600	1978	TT088-192592
TT89	19	25	92	533893	741807	6909	600	1978	TT089-192592
TT90	19	25	92	535196	741864	6937	600	1978	TT090-182592
TT94	18	25	92	535900	742100	6948	660	1978	TT094-182592
TT95	18	25	92	535500	742100	6938	660	1978	TT095-182592
TT96	18	25	92	535100	742100	6934	660	1978	TT096-182592
TT97	19	25	93	534723	742106	6927	600	1978	TT097-192592
TT98	19	25	92	534400	740400	6912	700	1978	TT098-192592
TT99	19	25	92	534100	740100	6916	700	1978	TT099-192592
TT100	19	25	92	533900	739500	6918	700	1977	TT100-192592
TT101	19	25	92	533700	739100	6912	700	1977	TT101-192592
TT102	19	25	92	533000	738800	6914	660	1977	TT102-192592
TT103	19	25	92	533000	739200	6918	700	1977	TT103-192592
TT104	19	25	92	533000	739600	6919	600	1977	TT104-192592
TT105	24	25	93	533600	738200	6926	660	1977	TT105-192592
TT106	24	25	93	533385	738216	6924	700	1977	TT106-242593
TT107	24	25	93	532919	737215	6920	700	1977	TT107-242593
TT108	24	25	93	533613	737270	6924	700	1977	TT108-242593
TT109	19	25	92	533400	738400	6923	700	1977	TT109-192592
TT110	19	25	92	534063	740395	6932	560	1977	TT110-192592
TT111	19	25	92	534741	741947	6928	500	1977	TT111-192592
TT112	24	25	93	533200	738200	6919	660	1977	TT112-242593
TT113	24	25	93	533400	738000	6921	660	1977	TT113-242593
TT114	24	25	93	533000	737200	6920	660	1977	TT114-242593
TT120	19	25	92	533200	739800	6920	600	1977	TT120-192592
TT121	19	25	92	533200	739600	6919	600	1977	TT121-192592
TT122	19	25	92	533200	739400	6919	600	1977	TT122-192592
TT123	19	25	92	533200	739200	6919	600	1977	TT123-192592
TT124	19	25	92	533600	739200	6927	620	1977	TT124-192592
TT125	19	25	92	533000	739400	6917	600	1977	TT125-192592
TT126	19	25	92	533600	739400	6927	600	1977	TT126-192592
TT127	19	25	92	533600	739600	6926	600	1977	TT127-192592
TT128	19	25	92	532800	739400	6916	600	1977	TT128-192592
TT129	19	25	92	533600	739800	6926	600	1977	TT129-192592
TT130	24	25	93	533200	736800	6927	700	1977	TT130-242593
TT131	24	25	93	533200	737000	6924	700	1977	TT131-242593
TT132	24	25	93	533000	737000	6920	700	1977	TT132-242593
TT133	24	25	93	533200	736600	6927	700	1977	TT133-242593
TT134	24	25	93	533200	737200	6921	700	1977	TT134-242593
TT135	24	25	93	532800	737000	6922	700	1977	TT135-242593
TT136	24	25	93	532800	736800	6920	700	1977	TT136-242593
TT137	24	25	93	532600	737000	6919	700	1977	TT137-242593
TT138	24	25	93	532600	736800	6922	700	1977	TT138-242593
TT139	24	25	93	532600	736600	6922	630	1977	TT139-242593
TT140	19	25	92	533800	739800	6923	600	1977	TT140-192592

Attachment 2.6-2 Locations, Total Depths, and Completion Dates of Historic Exploration Holes

HOLEID	S	T	R	N	E	ELEV	TD	Year Drilled	HOLEID_S
TT141	19	25	92	533800	739600	6924	600	1977	TT141-192592
TT142	19	25	92	533800	739400	6922	620	1977	TT142-192592
TT143	19	25	92	533800	739200	6924	620	1977	TT143-192592
TT144	19	25	92	533400	739400	6922	620	1977	TT144-192592
TT145	19	25	92	533200	739200	6923	620	1977	TT145-192592
TT146	24	25	93	532967	736309	6929	700	1977	TT146-242593
TT147	24	25	93	532918	736308	6927	560	1977	TT147-242593
TT148	24	25	93	532918	736298	6927	560	1977	TT148-242593
TT149	24	25	93	532866	736307	6925	700	1977	TT149-242593
TT150	19	25	92	533400	739100	6925	650	1977	TT150-192592
TT151	19	25	92	533700	739700	6927	660	1977	TT151-192592
TT152	19	25	92	533695	739801	6910	520	1977	TT152-192592
TT153	19	25	92	533300	739100	6923	650	1977	TT153-192592
TT154	19	25	92	533300	739200	6924	700	1977	TT154-192592
TT155	19	25	92	533700	739790	6924	490	1977	TT155-192592
TT156	24	25	93	532918	736288	6927	600	1977	TT156-242593

THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE,

THAT CAN BE VIEWED AT THE RECORD TITLED:

"ATTACHMENT 2.6-2
PLATE A2.6-2a
Location Map of Historical Wells-West Lost Creek Permit Area"
Drawing No. NRCTR 1.0
PLATE A2.6-2a 10.11.07

WITHIN THIS PACKAGE... OR BY SEARCHING USING THE DOCUMENT/REPORT NO.

D-02

THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE,

THAT CAN BE VIEWED AT THE RECORD TITLED:
"ATTACHMENT 2.6-2
PLATE A2.6-2b
Location Map of Historical Wells-Central Lost Creek Permit Area"
Drawing No. NRCTR 1.0
PLATE A2.6-2b 10.11.07

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D-03

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"ATTACHMENT 2.6-2
PLATE A2.6-2c
Location Map of Historical Wells-East Lost Creek Permit Area"
Drawing No. NRCTR 1.0
PLATE A2.6-2c 10.11.07

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D-04

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"PLATE 2.6-1a
Cross Section A-A'
Lost Creek Permit Area"
Drawing No. NRCTR 1.0
PLATE 2.6-1a 10.11.07

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D-05

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"PLATE 2.6-1b
Cross Section B-C
Lost Creek Permit Area"
Drawing No. NRCTR 1.0
PLATE 2.6-1b 10.11.07

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D-06

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"PLATE 2.6-1c
Cross Section C-D
Lost Creek Permit Area"
Drawing No. NRCTR 1.0
PLATE 2.6-1c 10.11.07

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D-07

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"PLATE 2.6-1d
Cross Section D-E
Lost Creek Permit Area"
Drawing No. NRCTR 1.0
PLATE 2.6-1d 10.11.07

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D-08

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"PLATE 2.6-1e

Cross Section F-F',G-G',H-H'

Lost Creek Permit Area"

Drawing No. NRCTR 1.0

PLATE 2.6-1e 10.11.07

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D-09

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"PLATE 2.6-2a
Isopach Map of Lost Creek Shale
Lost Creek Permit Area"
Drawing No. NRCTR 1.0
PLATE 2.6-2a 10.10.07

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D-10

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"PLATE 2.6-2b
Cross Section D-E
Isopach Map of the HJ Horizon
Lost Creek Permit Area"
Drawing No. NRCTR 1.0
PLATE 2.6-2b 10.10

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THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE,

THAT CAN BE VIEWED AT THE RECORD TITLED:

"PLATE 2.6-2c
Isopach Map of the Sagebrush Shale
Lost Creek Permit Area"
Drawing No. NRCTR 1.0
PLATE 2.6-2c 10.10.07

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"PLATE 2.6-2d
Isopach Map of the UKM Sand
Lost Creek Permit Area"
Drawing No. NRCTR 1.0
PLATE 2.6-2d 10.10.07

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D-13

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"PLATE 2.6-3
SOIL SURVEY MAPPING UNITS
Lost Creek Permit Area"
Drawing No. NRC-TR 2.6-3-10.16.07-EJS

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