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Idaho Operations Office

Remedial Action Report for Operable Units 6-05 and 10-04, Phase I

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and Engineering Solutions

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Remedial Action Report for Operable Units 6-05 and 10-04, Phase I

January 2005

Prepared for the
U.S. Department of Energy
Idaho Operations Office

ABSTRACT

This report describes the Phase I remedial action for Waste Area Groups 6 and 10, Operable Units 6-05 and 10-04. The primary purpose of the Phase I remedial action comprises establishing institutional controls at 33 sites across the Idaho National Engineering and Environmental Laboratory (INEEL) that have been contaminated by various means, including operations and activities associated with the testing of ordnance and explosives. Waste Area Group 6 consists of sites related to the Experimental Breeder Reactor-I and the Boiling Water Reactor Experiment, which are located close together in the southwest portion of the INEEL and have similar operational backgrounds and sources of contamination. Waste Area Group 10 includes miscellaneous INEEL sites and the portions of the Snake River Plain Aquifer outside Waste Area Groups 1–9 at the INEEL. The Waste Area Group 10 sites assessed under Operable Unit 10-04 include the Liquid Corrosive Chemical Disposal Area; the Organic-Moderated Reactor Experiment leach pond; the sites related to the Experimental Organic-Cooled Reactor (later called the Security Training Facility); the Security Training Facility sumps, pits, and gun range; and numerous ordnance areas.

In addition, the Phase I remedial action includes (1) development of a comprehensive INEEL-wide approach for establishing, implementing, enforcing, and monitoring institutional controls in accordance with the U.S. Environmental Protection Agency's "Region 10 Final Policy on the Use of Institutional Controls at Federal Facilities" at all Comprehensive Environmental Response, Compensation, and Liability Act sites requiring institutional controls within the INEEL and (2) implementation of an INEEL-wide, long-term comprehensive approach for ecological monitoring to ensure protection of the INEEL ecosystem.

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ACRONYMS

AEF	Argonne Experimental Facility
ARVFS	Army Reentry Vehicle Facility Site
BORAX	Boiling Water Reactor Experiment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFA	Central Facilities Area
CFLUP	Comprehensive Facility and Land Use Plan
CFR	*Code of Federal Regulations*
DEQ	Idaho Department of Environmental Quality
DOE	U.S. Department of Energy
DOE-ID	U.S. Department of Energy Idaho Operations Office
EBR-I	Experimental Breeder Reactor I
EPA	U.S. Environmental Protection Agency
FFA/CO	Federal Facility Agreement and Consent Order
FSP	field sampling plan
FY	fiscal year
ICP	Idaho Completion Project
INEEL	Idaho National Engineering and Environmental Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
MDA	Mass Detonation Area
NOAA	National Oceanic and Atmospheric Administration
NODA	Naval Ordnance Disposal Area
NPG	Naval Proving Ground
NRF	Naval Reactors Facility
OMRE	Organic-Moderated Reactor Experiment
OU	operable unit

RCRA	Resource Conservation and Recovery Act
RDX	Royal Demolition Explosive
ROD	Record of Decision
STF	Security Training Facility
TNT	trinitrotoluene
TRA	Test Reactor Area
USC	*United States Code*
UXO	unexploded ordnance
WAG	waste area group

Remedial Action Report for Operable Units 6-05 and 10-04, Phase I

1. INTRODUCTION

In accordance with the *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory* (DOE-ID 1991), the U.S. Department of Energy Idaho Operations Office (DOE-ID) submits this Remedial Action Report to the U.S. Environmental Protection Agency (EPA) and the Idaho Department of Environmental Quality (DEQ) (hereinafter referred to as the Agencies). Under the current remediation strategy outlined in the Federal Facility Agreement and Consent Order (FFA/CO) (DOE-ID 1991), the location identified for the remedial action—hereafter referred to as Operable Unit (OU) 10-04—is designated as Waste Area Group (WAG) 6, OU 6-05 Experimental Breeder Reactor I (EBR-I)/Boiling Water Reactor Experiment (BORAX) and WAG 10, OU 10-04 Miscellaneous Sites at the Idaho National Engineering and Environmental Laboratory (INEEL). In addition, WAG 10 includes OU 10-08, which was added to address INEEL-wide groundwater issues and new sites that are passed on to WAG 10 by other groups. Operable Unit 10-08 will prepare the OU 10-08 comprehensive remedial investigation/feasibility study and the Record of Decision to address the groundwater issues and new sites; therefore, these will not be addressed under OU 10-04.

As required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC § 9601 et seq.), the OU 10-04 remedial action is being performed in accordance with the requirements delineated in the *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a).

1.1 Remedial Action Report Organization

The remedial design/remedial action of OUs 6-05 and 10-04 is divided into the following four phases:

- Phase I—institutional controls and ecological monitoring
- Phase II—remediation of sites contaminated with trinitrotoluene (TNT) and Royal Demolition Explosive (RDX)
- Phase III—remediation of the Security Training Facility (STF) -02 gun range
- Phase IV—remediation of ordnance-contaminated sites.

This report outlines the major activities implemented in performing Phase I remedial design/remedial action of OU 10-04 in accordance with the *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a). The remedial action was conducted in accordance with the *Remedial Design/Remedial Action Work Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004a).

The following are brief descriptions of this Remedial Action Report's sections and appendixes:

- Section 1 describes the background and history of OU 10-04 and provides an overview of the selected remedy for Phase I

- Section 2 summarizes the Phase I remedial action activities
- Section 3 addresses the prefinal and final inspection checklists
- Section 4 includes the summary and verification of the work performed
- Section 5 outlines the costs for implementation of the Phase I remedial action
- Section 6 provides certification that the Phase I remedial action functions as designed and meets the remedial action goals and objectives
- Section 7 lists the references
- Appendix A, "Visible Access Restrictions," gives signs restricting access
- Appendix B, "Listing of Operable Units 6-05 and 10-04 Sites in the Comprehensive Facility and Land Use Plan," gives institutional control reports for each site
- Appendix C, "Prefinal Inspection Checklist," gives an inspection checklist for each site.

1.2 Background

Located 51 km (32 mi) west of Idaho Falls, Idaho, the INEEL is a government-owned, contractor-operated facility managed by the U.S. Department of Energy (DOE) (Figure 1-1). Occupying 2,305 km^2 (890 mi^2) of the northeastern portion of the eastern Snake River Plain, the INEEL encompasses portions of five Idaho counties: (1) Butte, (2) Jefferson, (3) Bonneville, (4) Clark, and (5) Bingham.

Waste Area Groups 6 and 10 are designated as two of 10 WAGs located at the INEEL. Waste Area Group 6 contains two adjacent areas known as EBR-I and BORAX. Waste Area Group 10 comprises various areas known as miscellaneous sites. Background information for EBR-I, BORAX, and the miscellaneous sites is discussed in the *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a); the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001); and the *Proposed Plan for Operable Unit 10-04, Waste Area Groups 6 and 10* (DOE-ID 2002b).

Waste Area Group 6 consists of sites related to EBR-I and BORAX, which are located close together in the southwest portion of the INEEL and have similar operational backgrounds and sources of contamination. The EBR-I reactor was the first reactor built on the INEEL. In 1951, it became the first reactor in the world to generate electricity from nuclear power. Of the many buildings that once made up the EBR-I complex, only the original reactor building (now a national historic landmark) and associated structures remain.

The BORAX facility included five experimental reactors, built between 1953 and 1964, for research in generating electricity using boiling-water reactors. On July 17, 1955, BORAX-III became the first nuclear reactor to power a town when it supplied electricity to Arco, Idaho. During research on reactor safety, the BORAX-I reactor was intentionally destroyed in 1954, and its burial location underwent final remediation in 1996 (DOE-ID 2001). All other facilities at BORAX have been removed and the areas have been remediated.

Waste Area Group 10 includes miscellaneous INEEL sites and the portions of the Snake River Plain Aquifer outside WAGs 1–9 at the INEEL. The WAG 10 sites assessed under OU 10-04 include

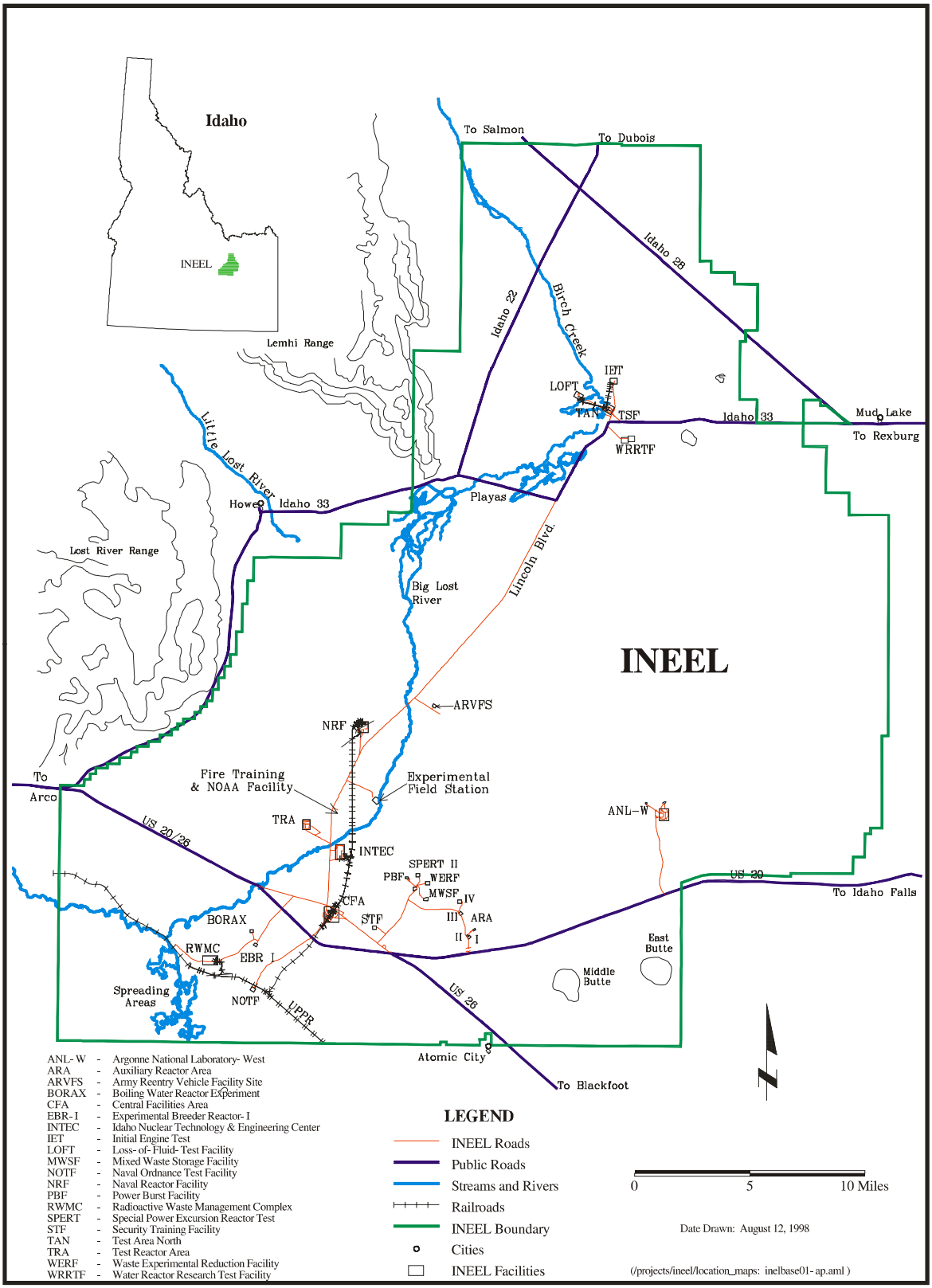


Figure 1-1. Map of the Idaho National Engineering and Environmental Laboratory showing locations of major facilities.

the Liquid Corrosive Chemical Disposal Area; the Organic-Moderated Reactor Experiment (OMRE) leach pond; the sites related to the Experimental Organic-Cooled Reactor (later called the STF); the STF sumps, pits, and gun range; and numerous ordnance areas. In addition, the Idaho Nuclear Technology and Engineering Center's (INTEC's) fly ash pit was added to OU 10-04 for an ecological risk assessment. As mentioned previously, OU 10-08 will address assessment of INEEL-wide groundwater issues and any new sites identified after development of OU 10-04 in a future remedial investigation/feasibility study and Record of Decision. Figure 1-2 shows the INEEL with the WAG 10 CERCLA sites.

1.2.1 BORAX-01: BORAX-II through BORAX-V Leach Pond

The BORAX-01 site consists of the BORAX-II through BORAX-V leach pond, which received low-level radioactively contaminated liquid discharges from the BORAX-II through BORAX-V experiments from 1954 to 1964. The BORAX-II through BORAX-V leach pond was located approximately 1.2 km (0.8 mi) north of the EBR-I reactor building and about 18 m (60 ft) south of the BORAX cooling tower. The leach pond was approximately 6 × 27 m (20 × 90 ft) in area and up to 1 m (3 ft) deep. Discharges to the pond during its operation were intermittent; however, no records were kept pertaining to the amounts and types of effluents. The effluents were allowed to evaporate or seep into the ground. The industrial effluents were believed to be reactor building sump liquids, fluids associated with the regeneration of ion-exchange resin for water purification, and cooling tower blowdown water.

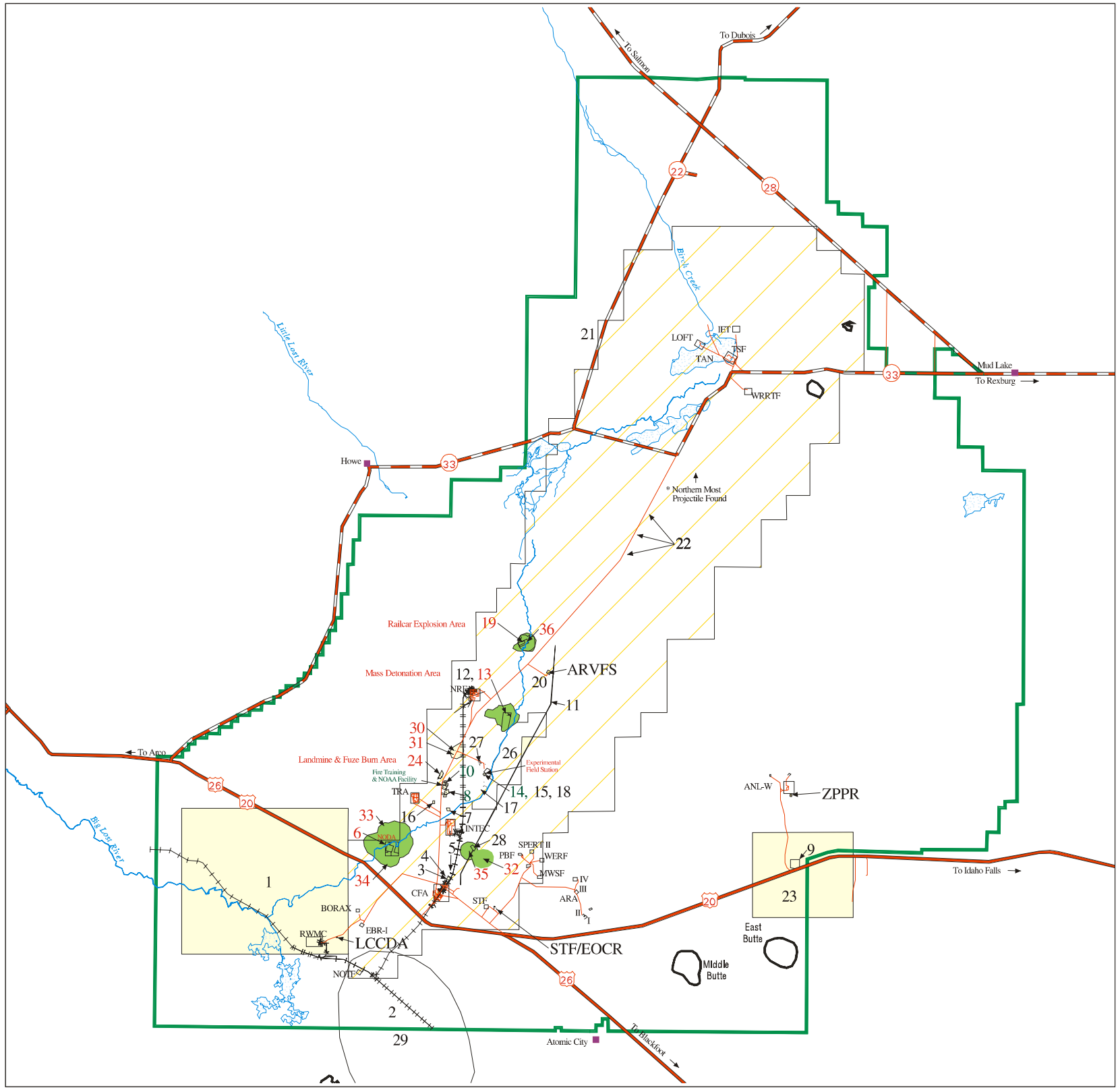
As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), several investigations have been performed in the site. Decontamination and decommissioning activities occurred at the pond in 1984 and again in 1991 through 1992. In 1984, the leach pond area was backfilled with approximately 305 m^3 (400 yd^3) of clean soil, graded, and reseeded to inhibit erosion. Piping associated with the site was removed in 1992, along with a small volume of contaminated soil removed under rusted pipe sections, but no other contaminated soil was removed from the site. Sampling investigations indicated the presence of radionuclide, metals, and possible volatile organic compound contamination at the site. Cesium-137 is the remaining contaminant of concern requiring implementation of institutional controls at the site.

1.2.2 BORAX-02: BORAX-I Burial Site

The BORAX-02 site consists of the BORAX-I Reactor Burial Site, which is located approximately 832 m (2,730 ft) northwest of EBR-I. The BORAX-I reactor was constructed in 1953 as a small, simple, and inexpensive light-water reactor with a uranium core that was water-cooled in an open swimming pool-type tank and could only be operated in the summer months. The facility was deliberately destroyed in a final excursion test conducted in July 1954. The excursion was more destructive than had been predicted, and the resulting steam explosion scattered fuel plate fragments 61 to 91 m (200 to 300 ft).

Immediately following the reactor excursion, a cleanup activity commenced in an attempt to reduce the radiation by physically removing scattered radioactive material. In August 1954, a radiological survey was conducted over a grid with several fuel fragments and residues being recovered. Approximately 3.7 kg (7.92 mCi) of U-235 was not recovered and is potentially buried at the site. During decontamination and decommissioning activities in 1955, the remaining aboveground structures were removed, and the reactor was buried in place. The 7,800-m^2 (84,000-ft^2) area contaminated from the excursion was covered with 15 cm (6 in.) of gravel in 1954 with vegetation having since grown in the area.

INEEL WAG-10 CERCLA SITES



KEY TO CERCLA Sites

Operable Unit	Site Code	Action	Description
10-00	ARVFS-01	No Action	ARVFS Containers of Contaminated NaK
10-00	ARVFS-02	No Action	ARVFS Tank Containing Low-level Radioactive Waste (under white building)
10-00	EOCR-02	No Action	EOCR Injection Well
10-00	EOCR-03	No Action	EOCR Oxidation Pond
10-00	EOCR-04	No Action	EOCR Septic Tank
10-00	EOCR-05	No Action	EOCR Blowdown Sump (EOCR 719)
10-04	STF-01	RI/FS-NSI	STF-601 Sumps and Pits
10-00	EOCR-01	No Action	EOCR Leach Pond
10-01	LCCDA-01	Track 2	LCCDA Old Disposal Pit (west end)
10-01	LCCDA-02	Track 2	LCCDA Limestone Treatment and Disposal Pit (east end)
10-01	LCCDA-EZ	Track 2	Exclusion Zone for LCCDA-01 and LCCDA-02
10-00	ZPPR-01	No Action	APPR Disposal Pit (outside ANL-W fence)
10-04	STF-02	RI/FS-NSI	STF Gun Range

KEY TO ORDNANCE AREAS

Red text indicates areas with live Unexploded Ordnance (UXO)
Green text indicates areas with TNT and/or RDX soil contamination

1 - Arco High Altitude Bombing Range
2 - Naval Ordnance Test Facility (NOTF) (Vietnam Era) and
3 - CFA-633 Naval Firing Site and Downrange Area
4 - CFA Gravel Pit
5 - CFA Sanitary Landfill Area
6 - Naval Ordnance Disposal Area (NODA) (partially cleared)
7 - Explosive Storage Bunkers - North of ICPP
8 - National Oceanic & Atmospheric Administration (NOAA)
9 - Twin Buttes Bombing Range (partially cleared)
10 - Firestation II Zone and Range Fire Burn Area
11 - Anaconda Power Line
12 - Old Military Structures
13 - Mass Detonation Area
14 - Dairy Farm Reventments
15 - Experimental Field Station
16 - Unexploded Ordnance East of TRA
17 - Burn Area South of Experimental Field Station
18 - Igloo-Type Structure Northwest of Experimental Field Station
19 - Railcar Explosion Area
20 - Unexploded Shell East of ARVFS
21 - Juniper Mine
22 - Projectiles Found Near Mile Markers 17, 18 and 19
23 - Rifle Range
24 - Landmine and Fuze Burn Area
25 - Ordnance and Dry Explosives East of the Big Lost and North of NRF (Same as Railcar Site #19)
26 - Zone East of the Big Lost River
27 - Dirt Mounds Near the Experimental Field Station, NOAA, and NRF
28 - Craters East of ICPP
29 - Big Southern Butte
30 - Assessed Projectile Detonation Area
31 - Assessed Land Mine Detonation Area
32 - 4 Live 5" Anti Aircraft Common Projectile
33 - 30 Live 5" Anti Aircraft Common Projectile
34 - 19 Live 5" Anti Aircraft Common Projectile and 4 Live Fuzes
35 - Frag and RDX explosives found in and around crater
36 - Crater with 12 plus projectiles and chunks of RDX explosives
* - Northern Most Projectile Found (16" inert)

LEGEND

- U.S. Highways
- State Highways
- Paved or Light-Duty Roads
- RailRoad Tracks
- Rivers and Streams
- Buttes
- INEEL Boundary
- Spreading Areas and Playas
- Live Ordnance Areas
- Assessed or Cleared Ordnance Areas
- Down Range Ordnance Area
- Cities and Towns

N

0 2 4 6 8 Miles

Project: N/A
Map Requestor: Tom Haney
GIS Analyst: Dan Mahnami
Date Drawn: June 13, 2001
Disclaimer: Live unexploded ordnance mapped with Trimble Pro XRS sub-meter GPS. CERCLA Sites located via convential site survey and survey grade Trimble 4800 GPS equipment.
Path: /projects/ineel/wag10_cerclasites/
File Name: cercla_sites_2001-bl_v1
Control #: N/A

Figure 1-2. Location of Waste Area Group 10 Comprehensive Environmental Response, Compensation, and Liability Act sites at the Idaho National Engineering and Environmental Laboratory.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), investigations at the site have included in situ surveys and sampling and aerial radiological surveys. Under terms of the *Record of Decision Stationary Low-Power Reactor-1 and Boiling Water Reactor Experiment-I Burial Grounds (Operable Units 5-05 and 6-01), and 10 No Action Sites (Operable Units 5-01, 5-03, 5-04, and 5-11)* (INEL 1996a), the area was remediated in 1996 with contaminated materials removed from the area and placed in a layer on top of the original 30 × 30-m (100 × 100-ft) burial ground. Primary contaminants of concern included Cs-137, U-235, and Sr-90. A human intrusion barrier consisting of basalt riprap was constructed over the consolidated soils, and a chain-link fence was installed around the burial ground. Two granite monuments also were installed to warn potential future intruders.

1.2.3 BORAX-08: BORAX Ditch

The BORAX-08 site consists of a radionuclide-contaminated drainage ditch associated with the BORAX-II through BORAX-V reactor experiments. The site consists of an unlined ditch beginning approximately 12 m (40 ft) north of the former BORAX-II through BORAX-V facility. The ditch is approximately 477 m (1,565 ft) long, about 1 m (3.25 ft) wide for most of its length, and spreads to 15 m (50 ft) wide at its end where the topography flattens. No records exist of the constituents or volumes released to the ditch.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), previous investigations at the site have included radiological surveys and characterization sampling. Radionuclide and metal contamination was detected in the soils with the primary contributor to risk being external exposure to Cs-137, which is the remaining contaminant of concern requiring implementation of institutional controls at the site.

1.2.4 BORAX-09: BORAX-II through BORAX-V

The BORAX-09 site encompasses the BORAX facility where the BORAX-II through BORAX-V reactor experiments were conducted from 1953 through 1964. The site consists of the entombed belowground structures remaining from the Argonne Experimental Facility (AEF) -601, including subfloor concrete foundations, reactor components, and other remaining artifacts of the BORAX experiments. Concrete shield blocks seal the AEF-601 pits, trenches, and access shaft, all of which have been backfilled with soil. The area surrounding AEF-601 is fenced with chain link and barbed wire and is posted as a radiation area to restrict entry. Underground items left at the site include two reactor vessels, a water storage pit (now dry), an equipment pit, a subreactor room, a utility pipe trench, a steam pipe trench, and a dry storage pit.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), several investigations and sampling events were conducted to characterize the extent of contamination at the facility before final decontamination and decommissioning activities. These sampling events indicated the presence of metals and radionuclides in samples collected from both within the facility and in surface soil samples collected following the completion of decontamination and decommissioning activities. Cesium-137 is the remaining contaminant of concern requiring implementation of institutional controls at the site.

1.2.5 EBR-08: EBR-I (WMO-703) Fuel Oil Tank

The EBR-08 was the site of a steel 16,086-L (4,250-gal) underground storage tank. The tank was located south of the Waste Management Office and east of the EBR-I reactor building and contained No. 2 diesel heating fuel. Records show that the tank was installed in 1952, was last used in 1988, and was never used for waste disposal.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), a liquid sample was collected from the tank in 1989 with analyses showing no hazardous contaminants. The tank contents were removed in 1989 with the tank, residual amounts of water and diesel fuel, and associated piping removed from the ground in 1990. Several holes were observed in the tank, and diesel-contaminated soil and pooled diesel fuel were removed from the excavation to bedrock. Soil samples were collected before backfilling the excavation with positive detections for benzene, toluene, ethylbenzene, and xylenes. Because of potential exposure from diesel fuel, institutional controls are required at the site.

1.2.6 OMRE-01: Organic-Moderated Reactor Experiment Leach Pond

The OMRE-01 site was a leach pond used for wastewater disposal from the OMRE reactor. The reactor, which operated from 1957 to 1963, was located approximately 3.25 km (2 mi) east of the Central Facilities Area (CFA). The pond was located approximately 91 m (300 ft) east of the OMRE facility and was a shallow depression surrounded by an earthen berm. Pond dimensions at the berm top were approximately 8 × 22 m (26 × 72 ft) and at the base were approximately 5 × 15 m (16 × 49 ft).

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), various investigations have been conducted at the leach pond over the years, including decontamination and decommissioning characterization in 1979, a U.S. Department of Energy (DOE) environmental survey in 1988, and the OU 10-04 remedial investigation in 1997. With consensus of the Agencies, additional characterization of the site was determined to be warranted to fill data gaps left after the 1997 investigation with sampling performed in 1999 and 2000. As a result of these investigations and the subsequent risk evaluation, institutional controls were determined to be required at the site because of potential external exposure attributed to the presence of Cs-137.

1.2.7 ORD-01: Arco High Altitude Bombing Range

The ORD-01 site consists of the Arco High Altitude Bombing Range that was used during World War II by the U.S. Army for aerial bombing practice. This site is located approximately 9.7 km (6 mi) north and east of the southwest corner of the current INEEL boundary and lies just southwest of Mile Marker 262 on U.S. Highway 20/26, which traverses the south end of the INEEL. The extent of the bombing range is over 10,700 ha (26,400 acres).

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2002a), the primary ordnance at this site was reported to have been M38A2 practice bombs that were 100 lb, sand-filled, and air-dropped by B-24 Liberator bombing aircraft flying out of the Army Air Corps base at Pocatello, Idaho. The M38A2 practice bombs included black powder spotting charges and simple, high-reliability, and impact-activated initiators. As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), the surface search conducted during the 1996 assessment found only inert practice bombs, spotting charge canisters, and initiators. Because unexploded ordnance (UXO) could remain in the area, institutional controls are required at the site.

1.2.8 ORD-03: CFA-633 Naval Firing Site and Downrange Area

The ORD-03 site consists of the CFA-633 Naval Firing Site and Downrange Area, which includes the firing site or "Proof Area" (CFA-633) and the long-range target area (Downrange Area). The gun emplacements for this site were located on the northeast end of CFA. Beginning in November 1943, projectiles were fired at both close and far range. Close-range firings were made into 16-ton concrete

blocks that were transported by a 200-ton gantry crane, with long-range firings (distances of up to 47 km [29 mi]) made toward the northeast. The firing point area comprises 24 ha (60 acres). The Naval Proving Ground (NPG) firing range was a downrange fan extending 48 km (30 mi) to the north and east of the Proof Area firing site. The range was 6.4 km (4 mi) wide at the end adjacent to the gun emplacements and was 9.7 km (6 mi) wide at the downrange end. The downrange end of the range extended nearly to the current location of Idaho Highway 28, approximately 16 km (10 mi) northwest of the town of Mud Lake, Idaho.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), previous investigations of the site included a 1993 interim action and the 1996 field assessment. During the interim action, explosive-contaminated soils were removed from the Proof Area, but no live projectiles were found. During the 1996 field assessment, the northern end of the Downrange Area was searched on foot. Searchers were looking for signs of craters, detonation tests, surface UXO, pieces of explosives, and soil contamination; and a total of 14 inert projectiles were located. The subsequent risk evaluation did not retain any contaminants of concern. Institutional controls are required at the site, because UXO could remain in the area.

1.2.9 ORD-04: Central Facilities Area Gravel Pit

The ORD-04 site consists of a gravel pit located approximately 122 m (400 ft) due west of the CFA-633 Naval Firing Site and approximately 425 m (1,400 ft) north of the CFA-633 building. It is located within the boundaries of the CFA landfill area.

A 5-in. artillery shell was reported to have been buried in a portion of the CFA gravel pit. As described in the *Remedial Action Report for the Interim Action to Cleanup Unexploded Ordnance Locations at the INEL (Operable Unit 10-05)* (Wyle 1994), the remediation of the site carried out under the 1993 interim action involved verification that the shell was not below a slumped wall in the gravel pit. Because UXO could remain in the area, institutional controls are required at the site.

1.2.10 ORD-05: Central Facilities Area Sanitary Landfill Area

The ORD-05 site consists of the CFA sanitary landfill area located on the northern edge of the CFA slightly north of the CFA gravel pit. The area of the CFA landfill may have been the site of some pallet-quantity detonation tests of projectiles or bombs, the exact location of which could not be readily documented but was not thought to have occurred north of INTEC. The area was not used for ordnance disposal.

In 1994, the OU 10-03 ordnance removal action was conducted to remediate areas within the Naval Ordnance Disposal Area (NODA), the Twin Buttes Bombing Range, and naval gun shells located east of Lincoln Boulevard at Milepost 17 within the NPGs. As reported in the *Removal Action Report for the Ordnance Removal Action, Operable Unit 10-03* (Wyle 1995), a visual search of the CFA landfill was conducted with no UXO or ordnance and explosive waste items being located. The *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998) reported that a small quantity of TNT was found, recovered, and disposed of by detonation. The area was cleared by the INEEL explosives ordnance disposal-trained safety officer in 1995 for expansion following a visual survey on foot. Because UXO could remain in the area, institutional controls will be maintained at the site.

1.2.11 ORD-06: Naval Ordnance Disposal Area

The ORD-06 site consists of the NODA, which is located approximately 1.6 km (1 mi) northeast of U.S. Highway 20/26 between Mile Markers 266 and 267 and about 3.2 km (2 mi) equidistant from the Test Reactor Area (TRA), INTEC, and CFA at the INEEL. The NODA is reported to have been used by the U.S. Navy during the 1940s as an ordnance and nonradioactive hazardous material disposal area. Following the establishment of the National Reactor Testing Station (now the INEEL), the NODA came under the control of the prime contractor for the U.S. Atomic Energy Commission (now the DOE) at the time, with approximately 3,175 kg (7,000 lb) of reactive materials being burned at the site. During this time, the NODA was also used as a storage area for hazardous waste generated at the INEEL, with various materials being stored until final removal in 1985.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), various investigations and actions have been undertaken at NODA, including the 1994 removal action, the 1996 field assessment, and sampling activities in 1997, 1999, and 2000. Various contaminants of potential concern were retained for evaluation in the subsequent risk assessment with RDX having been retained as a contaminant of concern requiring remediation of the site. Because RDX exposure is possible and because UXO could remain in the area, institutional controls will be maintained at the site.

1.2.12 ORD-07: Explosive Storage Bunkers—North of the Idaho Nuclear Technology and Engineering Center

The ORD-07 site consists of collapsed explosive storage bunkers located approximately 180 m (200 yd) northeast of the INTEC facility fence and east of Lincoln Boulevard between Mile Markers 3 and 4. The site was used for explosive storage during testing performed in the 1944 to 1949 timeframe. In this general location, at least two explosive storage magazines were demolished in naval tests. Five-inch projectiles and antitank mines were reported to have been found at the site and disposed of, but this cannot be confirmed.

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), neither UXO nor pieces of explosives were found at this site during the 1993 interim action. Because of the lack of ordnance, further actions during the interim action were determined to not be required. During the 1996 field assessment, the main focus was to determine whether contaminated soil existed with the conclusion being that none was found. Because UXO could remain at the site, institutional controls will be maintained.

1.2.13 ORD-08: National Oceanic and Atmospheric Administration

The ORD-08 site consists of the National Oceanic and Atmospheric Administration (NOAA) grid located just east of Lincoln Boulevard, approximately midway between Mile Markers 4 and 5. The site is thought to have been used for various explosive tests or cleanup detonations. The area contains several small craters, low-ordered bomb casings and detonators, and some widely scattered pieces of explosives. The NOAA grid has been and is currently used by NOAA and other governmental agencies for various atmospheric, geodetic, and weather-related monitoring and research work.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), previous investigations conducted at ORD-08 included (1) the 1993 interim action during which a surface clearance and geophysical search was performed, (2) the 1996 field assessment that established the boundary of the site, and (3) the 1999 surface soil sampling effort. Based upon these efforts, the NOAA site was determined to require

remediation for chemical contaminants of concern, including TNT, RDX, and 1,3-dinitrobenzene, as well as remediation of the site for UXO. Because exposure to TNT and RDX is possible and because UXO could remain in the area, institutional controls will be maintained.

1.2.14 ORD-09: Twin Buttes Bombing Range

The ORD-09 site consists of the Twin Buttes bombing range that was used by B-17 bombers flying practice missions out of the Army Air Corps base at Pocatello, Idaho, beginning in 1942 and continuing throughout World War II. The area is located near Argonne National Laboratory-West on the southeastern boundary of the INEEL and is approximately 3,760 ha (9,291 acre) in area. The range straddles U.S. Highway 20, which was not in existence during the time that the range was in use.

During the 1994 removal action, the site was cleared to a maximum depth of 1.2 m (4 ft) in a 36-ha (90-acre) section. During the 1996 field assessment, several empty and crushed practice bombs and an arming vane from a M100 bomb fuze were found. Because UXO could remain in the area, institutional controls will be maintained.

1.2.15 ORD-10: Fire Station II Zone and Range Fire Burn Area

The ORD-10 site consists of the Fire Station II Zone and Range Fire Burn Area that is located adjacent to the former Fire Station II training site for the INEEL Fire Department. It is located just east of Lincoln Boulevard at Mile Marker 5 and includes an area of approximately 324 ha (800 acres). In the early 1970s, the area was included in a range fire that reportedly burned some UXO. Earlier NPG activities at the site included some low-order bomb detonations that scattered UXO and pieces of explosives over several areas of the site.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), previous investigations conducted at ORD-10 included the 1993 interim action during which a 4-ha (10-acre) area was cleared of UXO and explosives, a few areas of explosive-contaminated soils were found, and samples were collected and analyzed for TNT and RDX with limited excavation of the area performed. The 1996 field assessment established the boundary of the site and surface soil samples were collected in 1999. Based upon these efforts, the Fire Station II Zone and Range Fire Burn Area was determined to require remediation for chemical contaminants of concern, including TNT and RDX, as well as remediation of the site for UXO. Because exposure to TNT and RDX is possible and because UXO could remain in the area, institutional controls will be maintained.

1.2.16 ORD-11: Anaconda Power Line

The ORD-11 site consists of the Anaconda Power Line road that is located approximately 2 mi east of INTEC and the former Fire Station II site and is frequently used by INEEL and off-Site workers during maintenance of the power line. Numerous 5-in. artillery shells have been found in this area with approximately 16 km (10 mi) of the access road lying within the former naval artillery range.

As described in the *Remedial Action Report for the Interim Action to Cleanup Unexploded Ordnance Locations at the INEL (Operable Unit 10-05)* (Wyle 1994), the remediation of the site carried out under the 1993 interim action involved the removal of numerous projectiles and some fuze components, transport to a blast area, and disposal either through detonation or demilitarization. Because UXO could remain in the area, institutional controls will be maintained.

1.2.17 ORD-12: Old Military Structures

The ORD-12 site comprises old military structures consisting primarily of two separate piles of destruction debris or rubble resulting from frame structure buildings destroyed during or following some of the large-scale sympathetic detonation tests performed at the Mass Detonation Area (MDA). These structures were built to simulate and test effects on personnel housing and administrative structures associated with ordnance storage facilities detonated during tests at the MDA. Both of the structures were located west of the Big Lost River channel. One is located adjacent to the road that parallels the river south of the primary craters at the MDA with the second being located approximately 400 m (1,300 ft) away toward the Naval Reactors Facility (NRF).

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), ordnance was reported to have been found in the area; however, any ordnance found was probably attributed to the MDA and not the old military structures. No ordnance, pieces of explosives, or soil contamination was found at or around the rubble piles during the 1996 field assessment. Because UXO could remain in the area, institutional controls will be maintained.

1.2.18 ORD-13: Mass Detonation Area

The ORD-13 site consists of the MDA located 1.6 km (1 mi) east of Mile Marker 8 on Lincoln Boulevard. The area is north of INTEC and approximately 3.2 km (2 mi) east of the NRF. The site encompasses 322 ha (796 acres) and has been used for several small- to large-scale sympathetic and mass detonation tests with test shots ranging up to 227,000 kg (500,000 lb) of explosives. The site is currently used for the disposal of UXO and explosives by detonation. The site includes numerous blast craters varying in dimensions from a few feet to several tens of feet and is littered with large quantities of UXO, pieces of explosives, and structural debris scattered during past testing and recent ordnance detonation or disposal activities or both.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), field crews determined during the 1996 field assessment that the area requiring subsurface clearance is approximately 2.4 km (1.5 mi) in diameter. Surface soil samples were collected during the 1999 sampling event. Based upon these activities, chemical contaminants were determined to pose an acceptable human health or ecological risk at the site. Because UXO could remain in the area, institutional controls will be maintained.

1.2.19 ORD-14: Dairy Farm Revetments

The ORD-14 site consists of several large concrete walls or revetments located approximately 9.7 to 11.3 km (6 to 7 mi) downrange and northeast of the CFA-633 Naval Firing Site between the Experimental Field Station and the Big Lost River channel. Much of this site is contiguous with the Experimental Field Station or the Dairy Farm Site. These structures are arranged over an area encompassing several square miles and are constructed with the long axis of each wall approximately perpendicular to the long axis of the gunnery range. The exact purpose of these structures is unknown with some having what appears to be impact craters and showing signs of ordnance-caused scarring, while others are totally devoid of any evidence of explosive loading. The site includes the concrete walls and areas immediately surrounding the walls in the downrange area.

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), the Dairy Farm Site was addressed during the 1996 field assessment with no UXO or soil contamination found at the site. Any soil contamination will be addressed under the Experimental Field Station (Section 1.2.20). Because UXO could remain in the area, institutional controls will be maintained.

1.2.20 ORD-15: Experimental Field Station

The ORD-15 site consists of the Experimental Field Station that is located within the NPG gunnery range approximately 9.7 km (6 mi) downrange and northeast of the CFA-633 Naval Firing Site and approximately 0.40 km (0.25 mi) west of the Big Lost River channel. The site encompasses 556 ha (1,375 acres) and includes multiple craters within which various explosive tests were conducted. The site is known to contain UXO, pieces of explosives, structural debris, and soil contamination.

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), remnants of World War I and World War II vintage bombs and two areas of widespread, heavy concentrations of explosive-contaminated soils were encountered during the 1996 field assessment. One area was approximately 0.8 ha (2 acres) with the second area being approximately 0.3 ha (0.8 acres). The site was sampled during the 1996 Track 2 investigation. The *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001) discusses additional sampling that was performed during the 1999 effort. Based upon the results of these investigations, TNT and 1,3-dinitrobenzene were determined to be chemical contaminants of concern requiring the site to be remediated. Because exposure to TNT is possible and because UXO could remain in the area, institutional controls will be maintained.

1.2.21 ORD-16: Unexploded Ordnance East of the Test Reactor Area

The ORD-16 site consists of UXO located east of the TRA between the old Monroe Road and Power Line Road. The area covers approximately 2 ha (5 acres). As discussed in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), 18 low-ordered bombs were removed in 1996 and transported to the MDA for disposal by detonation. The area was then surface-cleared of pieces of TNT, explosive boosters, and ordnance scrap, which were also transported to the MDA for disposal by detonation. Surface soil sampling was performed in 1999. Based upon the results of these investigations, chemical contaminants of concern were determined to pose an acceptable risk to human health or the environment. Because UXO could remain in the area, institutional controls will be maintained.

1.2.22 ORD-17: Burn Ring South of Experimental Field Station

The ORD-17 site consists of a round, metal containment barrier or ring approximately 15 cm (6 in.) in height and approximately 3 to 4.6 m (10 to 15 ft) in diameter located south of the Experimental Field Station. The site resembles a campfire ring or pit, is located approximately 9.7 km (6 mi) northeast of the CFA-633 Naval Firing Site, and is adjacent to the two most southern concrete revetment walls located between the Experimental Field Station and the Big Lost River channel. No documentation of this site has been found, but it is suspected of having been used as a smoke generator or an illumination marker for nighttime gunnery activities associated with the concrete revetment walls. Wire coils and burn residues similar to those left following the burning of old tires were found within the metal ring. Heavily contaminated soils were reported to have existed in this area.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), previous investigations in the area included a survey in 1995 during which no ordnance, pieces of explosives, or explosives soil contamination was found and the 1999 sampling effort resulting in the collection and analysis of two composite samples from the surface and two samples from the subsurface of the burn ring. Based upon the results of these investigations, chemical contaminants of concern were determined to pose an acceptable risk to human health or the environment. Because UXO could remain in the area, institutional controls will be maintained.

1.2.23 ORD-18: Igloo-Type Structures Northwest of the Experimental Field Station

The ORD-18 site consists of igloo-type structures located northwest of the Experimental Field Station along its access road from Lincoln Boulevard. The site includes numerous excavations, berms, and craters that from a distance give the appearance of a series of mounds or "igloos." However, these are not structures but are piles of gravel and soil pushed up out of a pit. How or why they were put there cannot be determined. The site likely was the location of the "cooling shed" tests judging from the concrete rubble that is associated with the site. Cooling shed tests were some of the earliest tests performed to determine specifications of ordnance cooling shed design for safe operation of ordnance manufacturing plants. The cooling shed tests were reported to have been performed approximately 9.7 km (6 mi) from the CFA-633 Naval Firing Site, which corresponds to the location of the "igloos."

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), the 1996 field assessment located and attempted to determine the purpose of the "igloos" and associated hazards. Several craters were located in the area with a large amount of fragmentation around them; however, none of the craters had UXO or explosives in or around them. No visual soil contamination was noted during the Track 2 field investigation; therefore, no samples were collected. Because UXO could remain in the area, institutional controls will be maintained.

1.2.24 ORD-19: Rail Car Explosion Area

The ORD-19 site consists of the Rail Car Explosion Area that is located approximately 3.2 km (2 mi) due west of Mile Marker 13 on Lincoln Boulevard and is adjacent to the Big Lost River channel, approximately 4.8 km (3 mi) northeast of the NRF. It encompasses 195 ha (483 acres) and represents the debris scattered from a sympathetic detonation test involving five railroad cars, each loaded with 13,600 kg (30,000 lb) of explosive ordnance for a total of 68,000 kg (150,000 lb). The crater is located near the west bank of the Big Lost River, and pieces of ordnance and explosives (mostly RDX) are located along both sides of the Big Lost River.

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), one 5-in. live projectile was found approximately 15 cm (6 in.) below the surface in a 20-acre area cleared of ordnance and fragmentation during the 1996 removal action. Approximately 1,930 kg (4,250 lb) of scrap metal and 11 kg (25 lb) of bulk explosive, mostly RDX and some TNT, were removed. Two live 5-in. projectiles also were removed from the dry riverbed of the Big Lost River. The projectiles and bulk explosives were taken to the MDA for disposal by detonation. The *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001) discusses the soil data collected during the 1999 field sampling effort. Based upon the results of these investigations, the chemical contaminants of potential concern were determined to pose an acceptable risk to human health or the environment. Because UXO could remain in the area, institutional controls will be maintained.

1.2.25 ORD-20: Unexploded Ordnance East of the Army Reentry Vehicle Facility Site

The ORD-20 site consisted of UXO located east of both the Army Reentry Vehicle Facility Site (ARVFS) and the Anaconda Power Line road in the downrange area of the NPG gunnery range. Numerous shells (Navy projectiles) were reported to exist in this area with all items having been inert. This area is a portion of the downrange impact area of the NPG gunnery range, which received an unknown number of large-caliber projectiles during test firings.

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), several inert shells were identified during the 1996 field assessment. No visible soil contamination was identified during the Track 2 field investigation; therefore, no samples were collected from the area. Projectiles ranging from 5 to 16 in. in diameter were located and reportedly have been left in place. Because UXO could remain in the area, institutional controls will be maintained.

1.2.26 ORD-21: Juniper Mine

The ORD-21 site consists of the abandoned and back-filled Juniper Mine located approximately 1.21 km (0.75 mi) northwest of Idaho Highway 22 on a dirt road that intersects the highway just south of Mile Marker 29. The mine reportedly contains approximately 7,300 kg (16,000 lb) of explosives at a depth of 41 m (135 ft) that had failed to detonate when the mine was closed.

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), the Juniper Mine was located during the 1996 field assessment but was not entered or investigated, because it had been backfilled with soil. At the time the mine was closed, the explosives apparently did not detonate. The associated risk was evaluated by the INEEL explosives ordnance disposal safety officers who determined that if the explosives were at full strength and did detonate, a hazard would not be produced above the ground because of the amount of soil in the mine shaft and the depth of the explosives. Because the explosives remain buried in the mine, institutional controls will be maintained.

1.2.27 ORD-22: Projectiles Found near Mile Markers 17, 18, and 19

The ORD-22 site consists of projectiles located east of Lincoln Boulevard near Mile Markers 17, 18, and 19. Several projectiles were located east and southeast of Lincoln Boulevard with the area representing the extreme downrange impact area for projectiles fired from the CFA-633 Naval Firing Site.

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), one 16-in. projectile was located and demilitarized in place during the 1993 interim action with six additional projectiles (two 16-in., two 14-in., one 12-in., and one 8-in.) found and demilitarized in place during the 1994 removal action. Because of the remote locations and excessive weight (up to 1,200 kg [2,700 lb]) of the projectiles, all were left in place following demilitarization. During the Track 2 investigation, no visual evidence of contaminated soil was found in the area; therefore, no samples were collected. Because UXO could remain in the area, institutional controls will be maintained.

1.2.28 ORD-24: Land Mine Fuze Burn Area

The ORD-24 site consists of the Land Mine and Fuze Burn Area located 0.8 km (0.5 mi) west of Lincoln Boulevard and approximately 0.8 km (0.5 mi) north of the Fire Station II training area (Mile Marker 5). The site comprises approximately five separate ordnance disposal locations in an 8.1-ha (20-acre) area between a meander of a former channel of the Big Lost River and an old abandoned

irrigation canal that was hand-dug in the early 1900s. The site was used by NPG personnel for disposal of land mine pressure plates and aerial bomb packaging materials and as an area to dispose of land mine fuzes by burning.

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), the perimeter of the site was established and the area for the 1996 removal action was defined during the 1996 field assessment. During the 1996 removal action, 8 ha (20 acres) was surface-cleared, geophysically characterized, and mapped; however, a subsurface clearance was not performed. The *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001) discusses the soil data collected during the 1999 field sampling effort. Based upon the results of these investigations, TNT was determined to pose an unacceptable human health and ecological risk; therefore, it was retained as a contaminant of concern requiring remediation. Because exposure to TNT is possible and because UXO could remain in the area, institutional controls will be maintained.

1.2.29 ORD-25: Ordnance and Dry Explosives East of the Big Lost River

The ORD-25 site has been clarified to be the same as the ORD-19 site, consisting of the Rail Car Explosion Area located approximately 3.2 km (2 mi) due west of Mile Marker 13 on Lincoln Boulevard and adjacent to the Big Lost River channel, approximately 4.8 km (3 mi) northeast of the NRF. Refer to Section 1.2.24 for information pertaining to this site.

1.2.30 ORD-26: Zone East of the Big Lost River

The ORD-26 site consists of an approximate 6.4-km (4-mi) stretch east of the Big Lost River channel beginning approximately 1.6 km (1 mi) northeast of INTEC and extending downrange beyond the MDA roughly parallel to the Anaconda Power Line road. Most of the area within 1.6 km (1 mi) east of the river channel would thus approximate the center portion of the gunnery range. The area includes a segment of the Anaconda Power Line road area from which numerous 3- and 5-in. inert projectiles or mono-block shot rounds were recovered during the 1993 interim action clearing of the Anaconda Power Line site.

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), several miles of the east side of the Big Lost River have been traversed by vehicles and on foot, and no other ordnance has been located other than the segment cleared during the 1993 interim action at the Anaconda Power Line road. No ordnance was located when this area was flown over by helicopter in 1993, 1994, and 1995. This area was assessed as part of the CFA-633 Downrange Area (refer to Section 1.2.8). Because UXO could remain in the area, institutional controls will be maintained.

1.2.31 ORD-27: Dirt Mounds near the Experimental Field Station, National Oceanic and Atmospheric Administration, and Naval Reactors Facility

The ORD-27 site consists of numerous large and small dirt mounds located near the Experimental Field Station, NOAA site, and the World War II bunker areas situated north of INTEC and south of NRF.

As described in the *Preliminary Scoping Track 2 Summary Report for Operable Unit 10-03 Ordnance* (DOE-ID 1998), the mounds were evaluated during the 1996 field assessment and determined to not contain anything. The dirt mounds are considered a subset of the Experimental Field Station site (refer to Section 1.2.20). Because UXO could remain in the area, institutional controls will be maintained.

1.2.32 ORD-28: Craters East of the Idaho Nuclear Technology and Engineering Center

The ORD-28 site consists of craters located east of INTEC that encompass 69 ha (171 acres) and include three small craters located approximately 0.8 km (0.5 mi) southeast of INTEC, primarily adjacent to and approximately 91.4 m (100 yd) west of the Anaconda Power Line road and extending westward toward the railroad tracks. The area adjacent to and surrounding the craters is littered with widely scattered debris and pieces of explosives resulting from explosive tests or associated cleanup detonations. This area is within the impact zone of "extreme elevation" antiaircraft-proof firings from the NPG gun emplacements. Only 3- and 5-in. inert projectiles have been found in the downrange impact area.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), previous investigations have included the 1996 Track 2 field assessment during which a 0.4-ha (10-acre) area was identified as requiring surface clearance of widely scattered pieces of explosives (TNT), clearing the site of surface and subsurface UXO and UXO waste in 1997, and collecting soil samples during the 1999 sampling effort. Subsequent risk assessment determined that chemical contaminants posed an acceptable risk to human health or the environment. Because UXO could remain in the area, institutional controls will be maintained.

1.2.33 STF-02: Security Training Facility Gun Range

The STF-02 site consists of an area that was used beginning in 1983 for security force practice maneuvers, including small arms target practice in a berm approximately 76 m (250 ft) northeast of the former STF-601 building. The berm was used from approximately 1983 to 1990. Approximately 5 million rounds were fired into the berm, including tracer rounds. None of the lead bullets that were fired into or that ricocheted away from the berm into the "kickout" areas have been picked up. (Kickout is a term used to describe the ricocheted effects of lead bullets.) Approximately 61 tons of lead and 3.4 tons of copper may be present. Smoke bombs and practice grenades were discharged into the outlying training areas outside the soil impact berms. Gun-cleaning solvent may have been used in this area as well.

As described in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001), sampling of the STF gun range was conducted in 2000 with those efforts concentrated on two larger areas of concern that included the kickout area and the remainder of the area (berms, inside the range between the berms, the area around the Experimental Organic-Cooled Reactor leach pond, the sand area, and the shooting house). For the kickout area, contaminants were determined to pose an acceptable risk to human health or the environment. For the remainder of the area, lead poses an unacceptable human health and ecological risk requiring remediation. Because of the presence of lead, institutional controls will be maintained at the site.

1.3 Remedial Action Objectives

The selected remedy for the OU 10-04 Phase I remedial action includes implementation of institutional controls at OU 10-04 sites, development of a Sitewide institutional control plan that establishes uniform requirements of the institutional control remedy components of all CERCLA FFA/CO institutional control sites at the INEEL, and development and implementation of long-term ecological monitoring at the INEEL.

1.3.1 Institutional Controls for Operable Unit 10-04 Sites

Institutional controls will be applied initially at those sites listed in Section 1.2. Institutional controls will be maintained in the interim until the selected remedies have been implemented at those sites that will be addressed in Phases II through IV under OU 10-04 as identified in the *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a). The institutional controls will remain in effect until the results of a 5-year review determine that the controls are no longer necessary for a given site.

Since the phased approach to remediation for OU 10-04 sites postpones detection and removal of contaminants at those sites that will be addressed in the subsequent remediation phases, institutional control requirements will be implemented to ensure adequate protection of human health and the environment. Any preremediation removal of surface ordnance and explosives under the Phase I remedial action for institutional controls will not initiate full remediation of any site for UXO or TNT/RDX. Rather, remediation for UXO and TNT/RDX contamination will be implemented in future remediation phases. Postremediation institutional control requirements for these sites will be addressed in future remedial design/remedial action work plans and associated operations and maintenance plans.

1.3.2 Sitewide Institutional Control Plan

The *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a) mandates development of a comprehensive INEEL-wide approach for establishing, implementing, enforcing, and monitoring institutional controls in accordance with EPA Region 10 policy (EPA 1999) at all CERCLA sites requiring institutional controls within the INEEL. The following elements for the WAGs 6 and 10 institutional control plan and the INEEL-wide institutional control plan will involve procedures for controlling activities as outlined in the policy:

- A comprehensive listing of all areas or locations in WAGs 6 and 10 and all other areas and locations on the INEEL that have or will have institutional controls for protection of human health or the environment. The information in this list will include (at a minimum) the location of the area, the objectives of the restriction or control, the timeframe for which the restrictions apply, and the tools and procedures that will be applied to implement the restrictions or controls and to evaluate the effectiveness of these restrictions or controls.

- Identification—made legally binding where appropriate—of all relevant entities and persons, including, but not limited to, the following: employees, contractors, lessees, agents, licensees, and invitees relevant to the INEEL and WAGs 6 and 10 institutional controls.

- Identification of all existing activities and reasonably anticipated future activities, including, but not limited to, the following: future soil disturbance, routine and nonroutine utility work, well placement and drilling, grazing activities, groundwater withdrawals, paving, construction, renovation work on structures, or other activities that could occur on INEEL CERCLA sites with institutional controls.

- A tracking mechanism that identifies all land areas under restriction or control.

- A process to promptly notify both the EPA and the State of Idaho before any anticipated change in land-use designation, restriction, land users, or activity for any institutional control requirement by a decision document.

In addition, WAGs 6 and 10 and the INEEL-wide comprehensive approach will incorporate by reference the *Idaho National Engineering and Environmental Laboratory Comprehensive Facility & Land Use Plan* (INEEL 2004a), installation maps, a comprehensive permitting system, and other installation polices and orders.

The *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a) further provides that an institutional control status report would be submitted to the Agencies within 6 months of the Record of Decision signature and that the report would be updated at least annually thereafter until the first 5-year review. As a minimum, these reports will contain the following components:

- A description of the means employed to meet institutional control requirements
- A description of the means employed to meet waste site-specific objectives, including the results of visual field inspections of all areas subject to waste site-specific restrictions
- An evaluation of the effectiveness of the approach at meeting all WAG-wide institutional control requirements and waste site-specific objectives
- A description of any deficiencies of the approach and the efforts or measures that have been or will be taken to correct problems.

The Record of Decision also provides that the INEEL-wide institutional control plan will provide notification requirements for activities or changes in areas or locations covered by institutional controls, identify a point of contact for institutional controls, and establish requirements for deletion or termination of institutional controls.

1.3.3 Long-Term Ecological Monitoring

The *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a) mandates implementation of an INEEL-wide, long-term comprehensive approach for ecological monitoring to ensure protection of the INEEL ecosystem. The long-term ecological monitoring at the INEEL will include the following activities:

- Activities will be planned to develop a comprehensive surveillance and monitoring plan that supports minimizing the uncertainty in the Sitewide ecological risk assessment; allows coordination with ongoing air, soils, surface water, groundwater, and vadose zone surveillance and monitoring efforts; allows coordination with other Agency activities (such as sage grouse studies); and addresses stakeholder concerns.
- A schedule for site walk-downs and visual inspections in the WAG site areas will be developed to ensure that assumptions in the risk assessment are still applicable.
- Yearly sampling and analysis of site-specific flora and fauna for ecological contamination based on location or area-specific field sampling plans (FSPs) (approximately 10% of these samples will be collected from off-Site locations for background comparison and to monitor off-Site migration of contamination by ecological receptors).

- Contaminated media (such as sample residue, sampling equipment, and personal protective equipment generated as a result of these activities) will be appropriately characterized, assessed, and dispositioned in accordance with regulatory requirements.

- An annual status report will be provided to the Agencies. These annual reports will support the 5-year review.

- Selected research studies will be performed to support the development and understanding of long-term trends in the INEEL's ecology (such as measuring effects to INEEL populations or individual species).

2. DISCUSSION OF REMEDIATION ACTIVITIES

2.1 Remedial Action Working Documents

The Phase I remedial action was conducted in accordance with the requirements delineated in the *Remedial Design/Remedial Action Work Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004a). In addition, the *Operations and Maintenance Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004b) describes the long-term activities and procedures required to satisfy the requirements of the *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a) and the *Operable Units 6-05 and 10-04, Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Remedial Design/Remedial Action Scope of Work* (DOE-ID 2003) for Phase I remediation at the areas listed in Section 1.2.

2.2 Implementation of Institutional Controls

2.2.1 Visible Access Restrictions

Visible access restrictions at the WAG 10 sites listed in Section 1.2 consist of institutional control signs, which are the predominant method of access restriction at the INEEL. The signs identify the location of each of the controlled sites to any persons who may intentionally or inadvertently enter or disturb the site. The institutional control signs provide information on the principal hazard(s) at the site, the media of concern, a point of contact with phone number, and a warning to not disturb the area without previous authorization. The point of contact for the INEEL is the Warning Communications Center, which will coordinate any calls to the appropriate contact person within WAG 10 or Long-Term Stewardship. The signs have been posted along the route of most likely access to the individual sites. Appendix A provides copies of the signs that have been posted at the individual sites. Each sign provides a map of the institutionally controlled site as well as the location of the sign with respect to the site.

In addition to individual institutional control signs emplaced at each site, visible access restrictions to the INEEL include “No Trespassing” signs placed intermittently along the public highways that either cross or border along the INEEL. These signs provide a warning to unauthorized personnel that access to the INEEL is restricted to those individuals either in the employ of or having authorized business with the INEEL.

2.2.2 Land Use Restrictions

Land use restrictions for the WAG 10 sites listed in Section 1.2 are outlined in the Comprehensive Facility and Land Use Plan (CFLUP), which can be accessed on the Internet at http://cflup.inel.gov (INEEL 2004a). The CFLUP provides a description of the site, a contact phone number for additional information, a list of the contaminants of concern, and the selected remedy for the site as listed in the *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a). Copies of the CFLUP pages for each of the sites are provided in Appendix B. A photograph of the individual site is provided in the corresponding CFLUP page.

The DOE-ID will notify the EPA and DEQ prior to any transfer, sale, or lease to a nonfederal entity (such as a state or local government or a private person) of any DOE-ID-managed real property that is the subject of institutional controls required by the *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and*

10-04 (DOE-ID 2002a). Furthermore, the appropriate provisions in the conveyance or lease documents required to maintain effective institutional controls will be discussed with the Agencies. The land use restrictions will remain in effect until institutional controls are no longer mandated as agreed upon either as a result of completion of a remedial action as documented in a corresponding remedial action report or based upon the results of a 5-year review.

2.2.3 Drilling or Excavation Activity Restrictions

Any disturbance of soil, such as drilling or excavation, will be conducted in accordance with the requirements delineated in MCP-3480, "Environmental Instructions for Facilities, Processes, Materials and Equipment," and will require the completion of an environmental checklist. The environmental checklist provides a written description of the project and a review of the environmental aspects of the project and any potential sources of impact, including the following:

- Air pollutants
- Asbestos emissions
- Biological hazards
- Chemical use and storage
- Contaminated sites disturbance
- Cultural/historical resource disturbance
- Discharge to wastewater systems or groundwater
- Drinking water contamination
- Hazardous/mixed waste generation and management
- Hazardous/radioactive material or waste handling and transportation
- Industrial waste generation and management
- Interaction with wildlife/habitat
- Managing property and materials
- Polychlorinated biphenyl contamination
- Radioactive materials use and storage
- Radioactive waste generation and management
- Storage of hazardous/radioactive material or waste in tanks
- Surface water and storm water contamination
- Use, reuse, and recycling of resources
- Work within areas subject to flooding.

The environmental checklist will provide conditions requiring completion prior to beginning a project that might disturb soil within a specified site and will identify the applicable instructions from MCP-3480 with which the project must comply as well as any applicable or relevant and appropriate requirements.

2.2.4 Maintenance of Containment Barriers

Two sites within WAG 10 require the maintenance of containment barriers, including BORAX-02 (BORAX-I Burial Site) and BORAX-09 (BORAX-II through BORAX-V). In accordance with the *Record of Decision Stationary Low-Power Reactor-1 and Boiling Water Reactor Experiment-I Burial Grounds (Operable Units 5-05 and 6-01), and 10 No Action Sites (Operable Units 5-01, 5-03, 5-04, and 5-11)* (INEL 1996a), a human intrusion barrier was constructed at the BORAX-I site over the consolidated soils and buried reactor components consisting of basalt riprap. A chain-link fence was installed around the burial ground with appropriate signage, and two granite monuments also were installed to warn potential future intruders. The site is inspected and maintained in accordance with the *Stationary Low-Power Reactor-1 and Boiling Water Reactor Experiment-I Burial Grounds Engineered Barriers Project Operation and Maintenance Plan, Operable Units 5-05 and 6-01* (INEL 1996b).

The BORAX-09 site consists of the entombed belowground structures remaining from AEF-601, including subfloor concrete foundations, reactor components, and other artifacts remaining from the BORAX experiments. An existing chain-link fence with barbed wire surrounding the facility was left in place, and the site is posted as a radiation area to restrict entry. The site is inspected and maintained in accordance with the *Operations and Maintenance Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004b).

2.3 Operations and Maintenance

The *Operations and Maintenance Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004b) describes the long-term remedial design/remedial action activities for Phase I of WAGs 6 and 10, OU 10-04 at the INEEL. These activities include removal or isolation of surface ordnance and explosives discovered during routine operations that, based on expert evaluation, pose an unacceptable near-term physical hazard.

Contact with surface ordnance and explosives is considered more likely than for buried items and, hence, can present a significant physical hazard; therefore, a safety assessment will be performed for the identified surface ordnance and explosives. A decision to remove, detonate in place, or isolate the identified items before remediation of sites contaminated with ordnance and explosives will be based on the determined hazard level. Any items determined to pose an unacceptable near-term physical hazard will be removed and disposed of by detonation, detonation in place, or isolated and posted with signs. Such actions occurring during Phase I will not initiate full remediation of these areas, since full remediation will be performed in subsequent phases.

2.4 Institutional Control Plan

The *INEEL Sitewide Institutional Controls Plan* (DOE-ID 2004c) has been prepared in partial fulfillment of the requirements outlined in the *Remedial Design/Remedial Action Work Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004a). The plan is based on the guidance in the May 3, 1999, "EPA Region 10 Final Policy on the Use of Institutional Controls at Federal Facilities" (EPA 1999); the September 29, 2000, *EPA Guidance Institutional Controls: A Site Manager's Guide to Identifying, Evaluating, and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups* (EPA 2000); and the April 9, 2003, DOE policy, "Use of Institutional Controls" (DOE P 454.1). These policies establish measures that ensure short- and long-term effectiveness of institutional controls that protect human health and the environment at federal facility sites undergoing remedial action pursuant to CERCLA and/or corrective action pursuant to the Resource Conservation and Recovery Act (RCRA) (42 USC § 6901 et seq.).

The *INEEL Sitewide Institutional Controls Plan* (DOE-ID 2004c) documents the site-specific institutional controls currently in place at the INEEL. It identifies common institutional control measures and describes methods used to inspect institutionally controlled sites at the INEEL and methods to evaluate whether the institutional control requirements are being met. The plan provides a list of INEEL-wide institutionally controlled sites, identifies the institutional control objectives for each site, and presents the timeframe during which institutional controls will be in effect. The plan provides a means by which future revisions to the plan will incorporate changes in institutional controls that may arise as Records of Decision (RODs) for individual OUs are integrated into comprehensive RODs or as agreements are made with the Agencies that modify institutional control requirements.

The *INEEL Sitewide Institutional Controls Plan* (DOE-ID 2004c) delineates the responsibilities for DOE-ID, the INEEL contractor, and the individual regulatory agencies (DEQ and EPA). The plan outlines the requirements for performing institutional control assessments, corrective actions required if failed controls are encountered, the requirements for changing or terminating institutional controls, and the method by which new sites requiring institutional controls are incorporated into the plan. Furthermore, the plan provides the requirements for preparation of the annual institutional controls assessment report and for review of Sitewide institutional controls during subsequent 5-year reviews.

The *INEEL Sitewide Institutional Controls Plan* (DOE-ID 2004c) will be updated on a 5-year basis, in conjunction with the 5-year reviews, or as needed to incorporate Agency agreements or changes to decision documents. Specific sites that need revision, such as new sites or sites that no longer require control, will be revised in the CFLUP (INEEL 2004a) following notification to the Agencies. New sites and deleted sites accumulated in the electronic database will be listed in the report following the annual review of institutional controls.

2.5 Ecological Monitoring

The *Long-Term Ecological Monitoring Plan for the Idaho National Engineering and Environmental Laboratory* (INEEL 2004b) has been prepared in partial fulfillment of the requirements outlined in the *Remedial Design/Remedial Action Work Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004a). The plan presents the approach for long-term ecological monitoring at the INEEL with two primary objectives. The first is to verify that the objectives of each INEEL remedial action are maintained. The second is to determine that the long-term, INEEL-wide ecological impact of the contamination left in place is within acceptable limits. The OU 10-04 ecological risk assessment presented in the *Comprehensive Remedial Investigation/Feasibility Study for Waste Area Groups 6 and 10 Operable Unit 10-04* (DOE-ID 2001) was an INEEL-wide assessment with the primary purpose of assessing risk to ecological receptors from contamination released to the environment from INEEL activities, as identified by CERCLA. The OU 10-04 ecological risk assessment documented the large degree of uncertainty in the analysis of long-term ecological impacts while supporting the decision of no action with long-term monitoring that will be implemented under the *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a). The following elements have been provided in the plan.

In accordance with the *Long-Term Ecological Monitoring Plan for the Idaho National Engineering and Environmental Laboratory* (INEEL 2004b), a FSP will be prepared on an annual basis to describe the field investigations to be conducted at the INEEL within a fiscal year (FY). For FY 2003, sampling was performed in accordance with the *Long-term Ecological Monitoring Field Sampling Plan for 2003* (INEEL 2003). During FY 2003, the Long-Term Ecological Monitoring Project collected both analytical data and effects data. The analytical data included biotic (e.g., whole mice and plant tissues) and abiotic (i.e., soil) samples. The effects data ranged from vegetative cover surveys and small mammal population estimates to histopathologic studies of captured mice. Results for this sampling effort are presented in the

Fiscal Year 2003 Ecological Monitoring Annual Report (ICP 2004a). For FY 2004, sampling was performed in accordance with the *Long-Term Ecological Monitoring Field Sampling Plan for 2004* (ICP 2004b). Results will be presented in a forthcoming report scheduled for completion in September 2005.

3. PREFINAL AND FINAL INSPECTION

The prefinal inspection of the OU 10-04 Phase I sites was conducted on June 15, 2004, in accordance with the prefinal inspection checklist. The project had most items 100% complete. The items not yet completed at the time of the prefinal inspection included the following:

- The visible access restriction (i.e., CERCLA sign) at the NODA site was located within the boundary of the site rather than on the perimeter

- The CFLUP descriptions were not yet finalized and available on the Internet.

Not all sites were visited by the Agencies during the prefinal inspection. Progress was accepted as satisfactory by the Agencies in attendance. Agreement was reached with the Agencies that the final inspection would be satisfied by including the completed CFLUP descriptions in this Remedial Action Report along with a map of each site showing the location of the sign. The prefinal inspection checklist is included in Appendix C. The submittal of this Remedial Action Report will suffice as the final inspection checklist of the Phase I sites.

4. SUMMARY AND VERIFICATION OF WORK PERFORMED

The primary work activities for the OU 10-04 Phase I remedial action included:

- Establishing institutional controls for OU 10-04 sites
- Establishing visible access restrictions for the sites listed in Section 1.2
- Updating land use restrictions in the CFLUP (INEEL 2004a) for the sites listed in Section 1.2
- Ensuring that restrictions for drilling or excavation activities are in place
- Ensuring that the integrity of containment barriers is maintained, as necessary
- Implementing the INEEL-wide, long-term ecological monitoring.

4.1 Summary of Work Performed

The OU 10-04 Phase I remedial action has been completed in accordance with the *Remedial Design/Remedial Action Work Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004a). The Phase I remedial action included the activities listed above.

4.2 Verification of Work Performed

Verification of the work performed was documented through the use of photographs, review and download of the CFLUP documentation from the Internet for each site, review of INEEL site-specific procedures, and review of the *Long-Term Ecological Monitoring Plan for the Idaho National Engineering and Environmental Laboratory* (INEEL 2004b) and associated FSP.

A prefinal inspection of the Phase I sites was conducted with the Agencies to verify that the work outlined in the *Remedial Design/Remedial Action Work Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004a) was accomplished. Results of this inspection are documented in the checklist presented in Appendix C. Downloaded copies of the CFLUP documentation from the Internet are provided in Appendix B with printed copies of the individual CERCLA signs provided in Appendix A.

5. COSTS

Costs incurred to date and those projected for future activities under the OU 10-04 Phase I remedial action are provided in Table 5-1. These costs include the material and labor costs associated with the implementation of institutional controls at the WAG 6 and 10 sites at the INEEL; costs for development of the *INEEL Sitewide Institutional Controls Plan* (DOE-ID 2004c) as well as costs expended to date for inspections of institutional controls conducted under the plan and projected costs for performing annual assessments of institutional controls, maintaining institutional controls, and preparing annual assessment reports; projected costs associated with performing the annual OU 10-04 Phase I operations and maintenance activities; and costs associated with the ecological monitoring efforts expended to date as well as those projected for future activities. Higher costs are reflected for ecological monitoring than as previously provided in the *Remedial Design/Remedial Action Work Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004a) to reflect revised costs from the first 2 years of monitoring in addition to the projected costs for 2005 through 2078 being corrected for inflation taking into account the revised costs. As stated in the Remedial Design/Remedial Action Work Plan (DOE-ID 2004a), the ecological monitoring costs were derived based on the assumption that the same level of sampling would be performed each year in the future. It is anticipated that the frequency and extent of sampling may be reduced in the future. In addition, costs for sitewide institutional controls not previously included in the Remedial Design/Remedial Action Work Plan (DOE-ID 2004a) have been provided.

Table 5-1. Phase I remedial design/remedial action costs.

Activity	Cost (Net Present Value) ($)
Phase I remedial design	89,000
Phase I implementation of institutional controls	31,000
Sitewide institutional controls	
Plan development	11,000
Costs expended to date	50,000
Projected costs from 2005 through 2095	11,780,000
Projected operations and maintenance costs from 2005 through 2035	3,717,000
Ecological monitoring	
Costs expended to date	1,640,000
Projected costs from 2005 through 2078	58,712,000
TOTAL PROJECT COST IN NET PRESENT VALUE	76,030,000

6. CERTIFICATION THAT REMEDY IS OPERATIONAL AND FUNCTIONAL

As stated in the *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a), the remedial action objectives and the remedial action goals were established to reduce or eliminate the risk to human health and the environment. Access restrictions and institutional controls have been established for the sites listed herein to ensure that current or future exposure to human health and the environment does not exceed the remedial action objectives.

This report certifies that the remedies selected in the *Record of Decision Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area and Miscellaneous Sites, Operable Units 6-05 and 10-04* (DOE-ID 2002a) as detailed in the *Remedial Design/Remedial Action Work Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004a) have been completed and the remedy is operational and functional. Institutional controls and operations and maintenance of the remedial action sites will be implemented as outlined in the *Operations and Maintenance Plan for Operable Units 6-05 and 10-04, Phase I* (DOE-ID 2004b) to ensure that the remedy remains protective of human health and the environment.

In accordance with the "National Oil and Hazardous Substances Pollution Contingency Plan" (40 CFR 300), a statutory review of the selected remedy will be conducted no less than every 5 years for sites where contamination above the risk-based concentrations is left in place. In the event that contamination above these concentrations remains at a given site, a 5-year review will evaluate the remedy to determine if it remains protective of human health and the environment. The 5-year reviews will be conducted for all sites pre- or post-remediation with institutional controls where the site is not available for unlimited use and unrestricted exposure until the year 2095 at a minimum (i.e., until the 100-year institutional control period expires) or until it is determined during a 5-year review with concurrence of the Agencies that controls and reviews are no longer necessary.

7. REFERENCES

40 CFR 300, 2004, "National Oil and Hazardous Substances Pollution Contingency Plan," *Code of Federal Regulations*, Office of the Federal Register, December 2004.

42 USC § 6901 et seq., 1976, "Resource Conservation and Recovery Act (Solid Waste Disposal Act)," *United States Code*.

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DOE-ID, 2004c, *INEEL Sitewide Institutional Controls Plan*, DOE/ID-11042, Rev. 1, U.S. Department of Energy Idaho Operations Office, June 2004.

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Wyle, 1995, *Removal Action Report for the Ordnance Removal Action, Operable Unit 10-03,* 31-ICP-06-1, Rev. 2, Wyle Laboratories, prepared for the Idaho National Engineering Laboratory, March 1995.

Appendix A

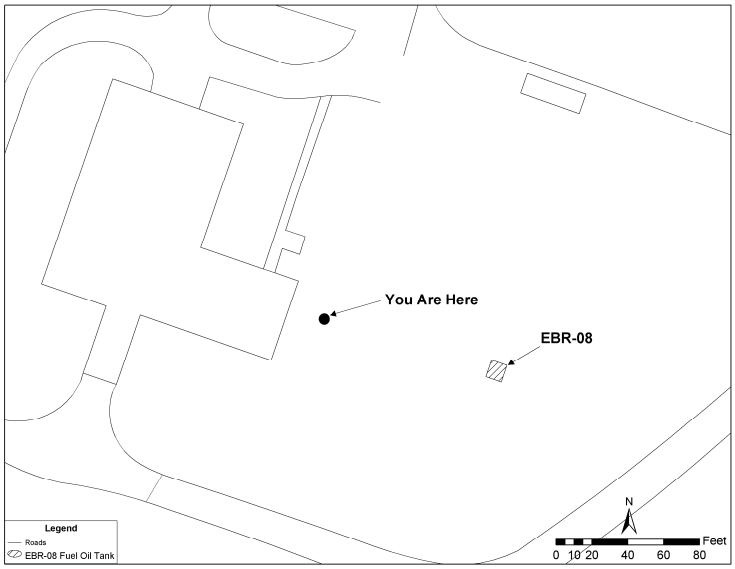
Visible Access Restrictions

Appendix A

Visible Access Restrictions

Institutionally Controlled Area

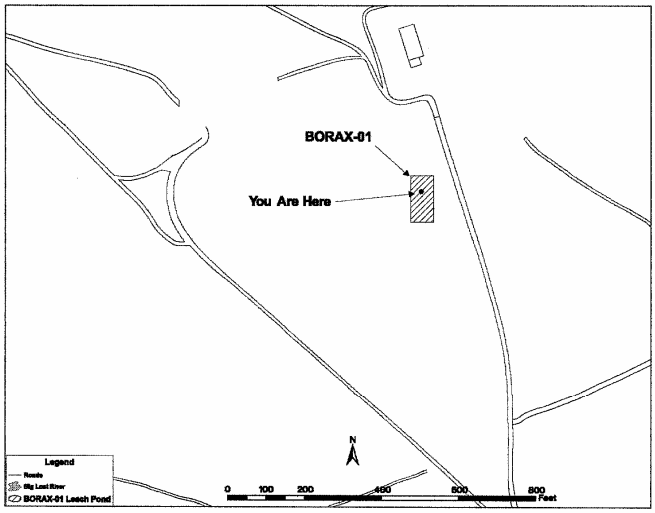
EBR-08 Fuel Oil Tank



WARNING: Potential Diesel Fuel Contamination in Soil
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

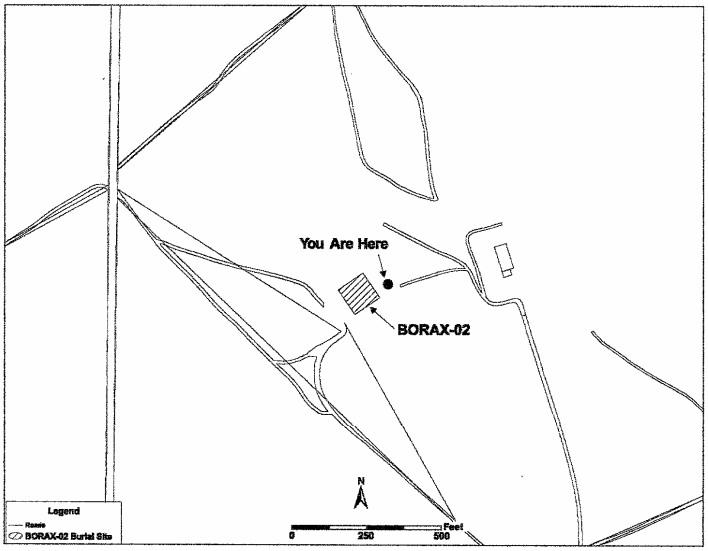
BORAX-01 - Leach Pond



WARNING: Potential Radiological Contamination
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

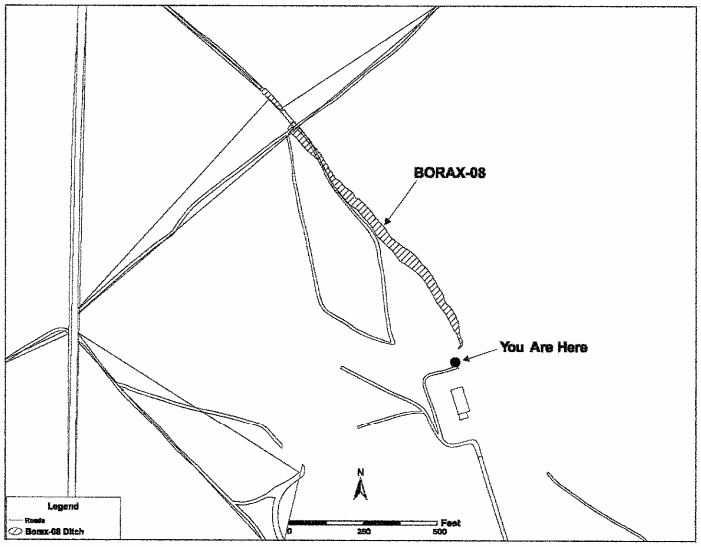
BORAX-02 Burial Site



WARNING: Potential Radiological Contamination
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

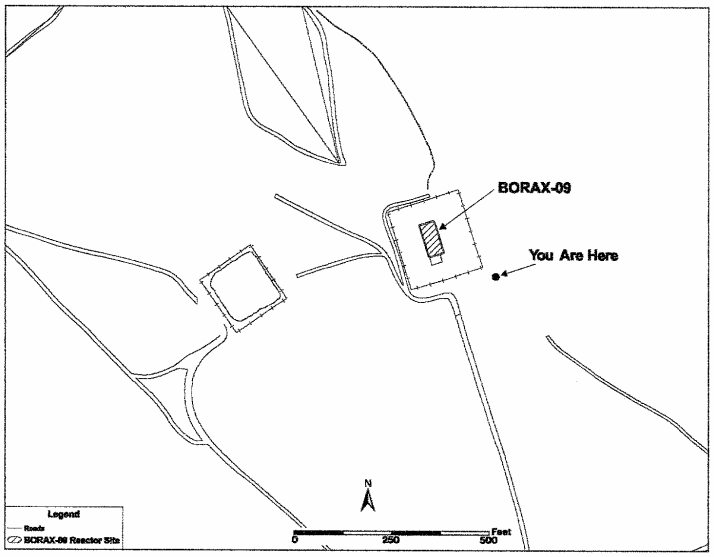
BORAX-08 Ditch



WARNING: Potential Radiologically Contaminated Soil
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

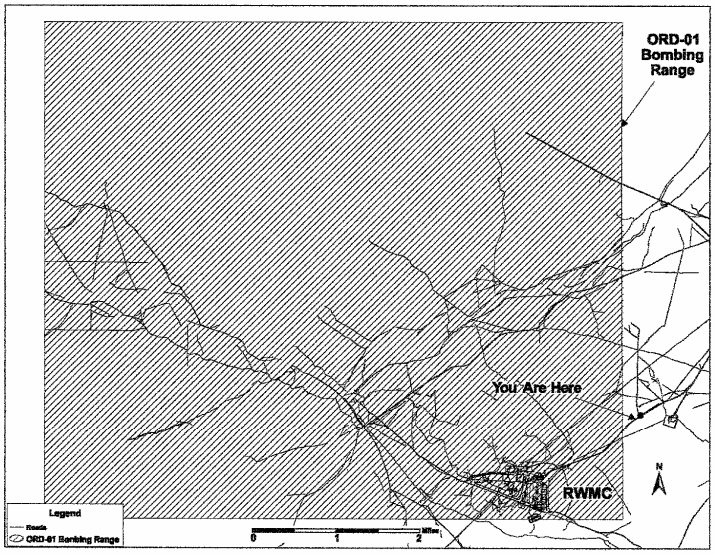
BORAX-09 Reactor Sites



WARNING: Potential Radiological Contamination
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

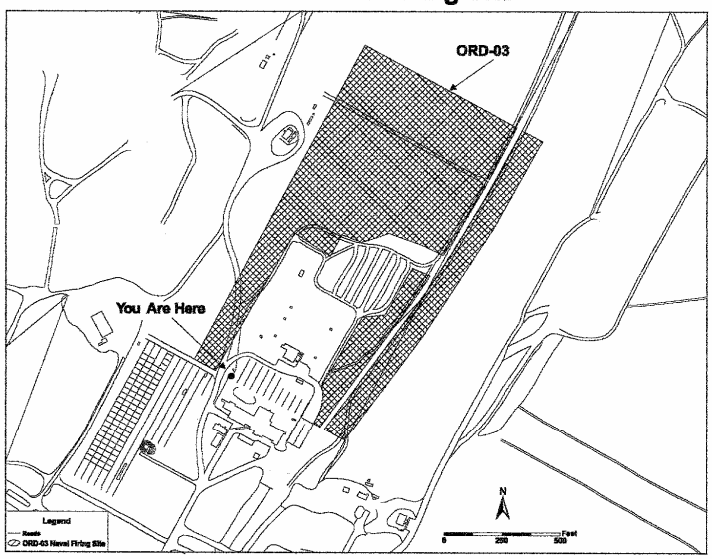
ORD-01 Arco High Altitude Bombing Range



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

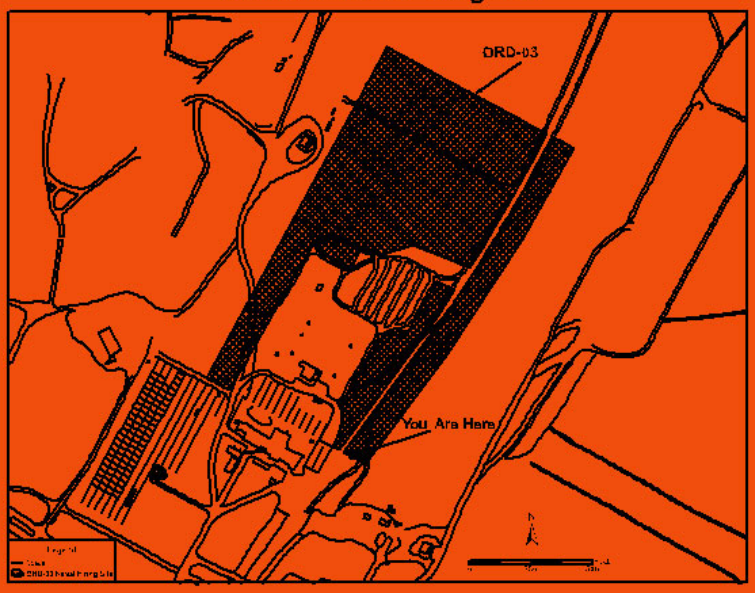
ORD-03 Naval Firing Site



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

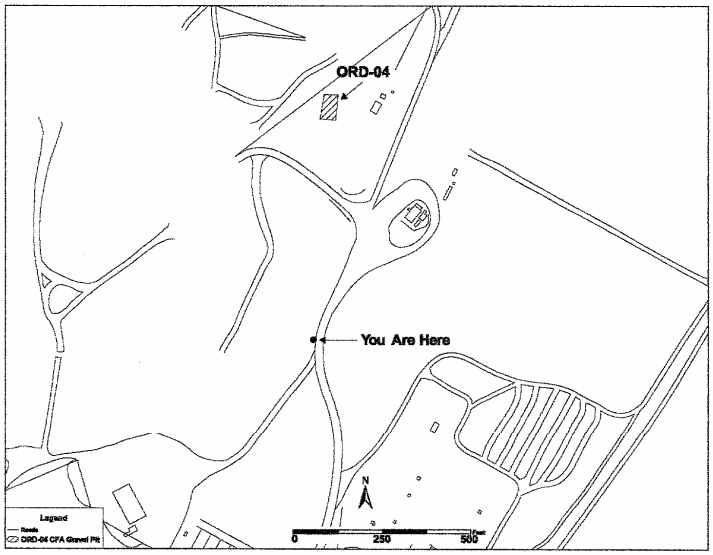
ORD-03 Naval Firing Site



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

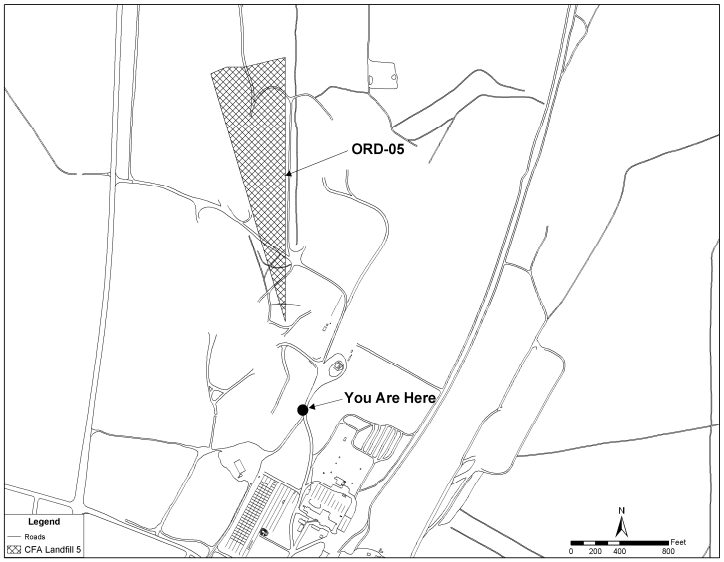
ORD-04 CFA Gravel Pit



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

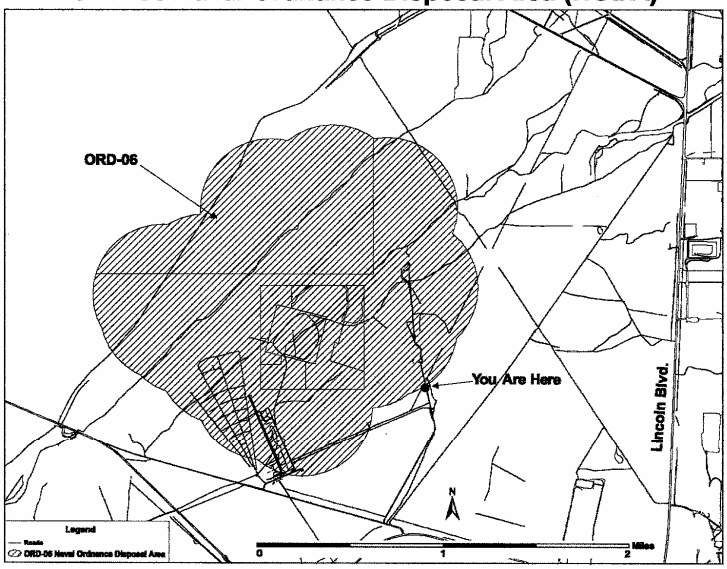
ORD-05 CFA Landfill



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

ORD-06 Naval Ordnance Disposal Area (NODA)



WARNING: Potential Unexploded Ordnance and Chemical Contaminants in Soil
Before Disturbing This Area Contact WCC at 526-1515

Institutionally Controlled Area

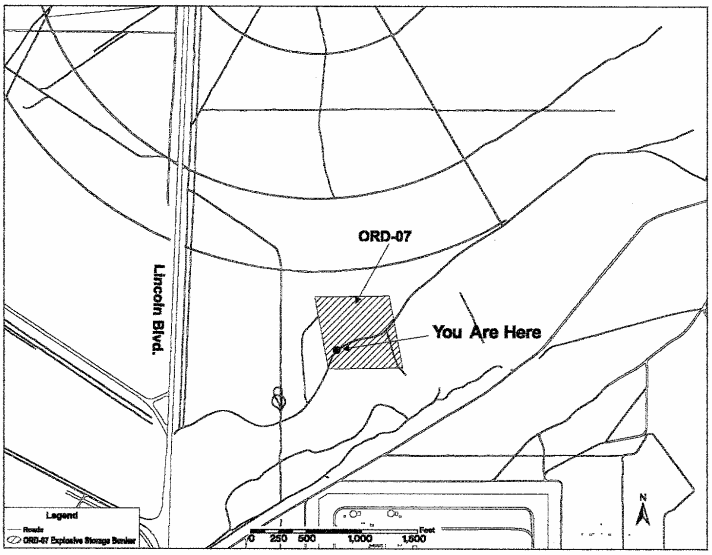
ORD-06 Naval Ordnance Disposal Area (NODA)

WARNING: Potential Unexploded Ordnance and Chemical Contaminants in Soil

Before Disturbing This Area Contact WCC at 526-1515

Institutionally Controlled Area

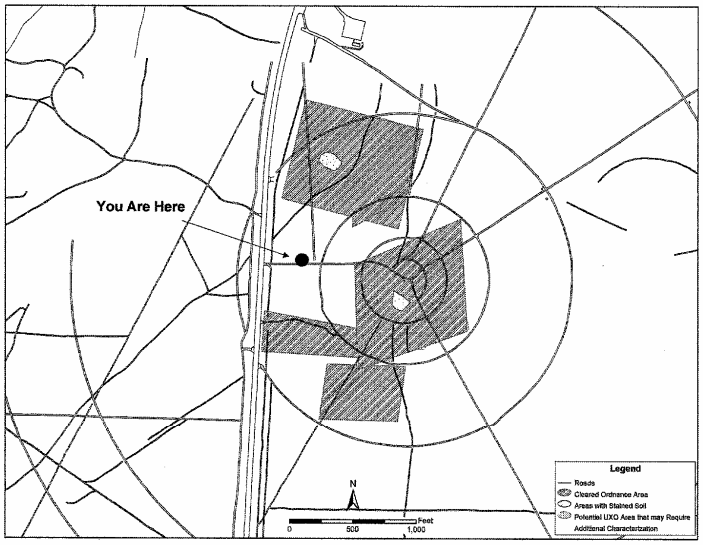
ORD-07 Explosive Storage Bunkers



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

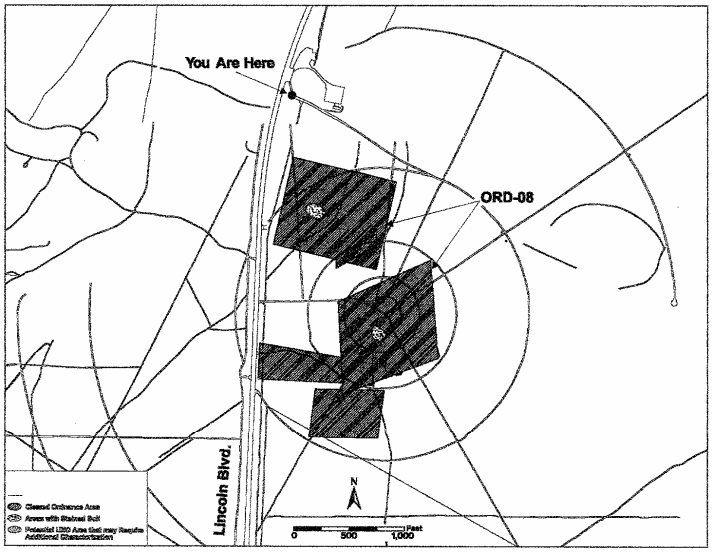
ORD-08 National Oceanic & Atmospheric Administration



Warning: Potential Unexploded Ordnance and Chemically Contaminated Soil.
Before Disturbing This Area Contact WCC at 526-1515

Institutionally Controlled Area

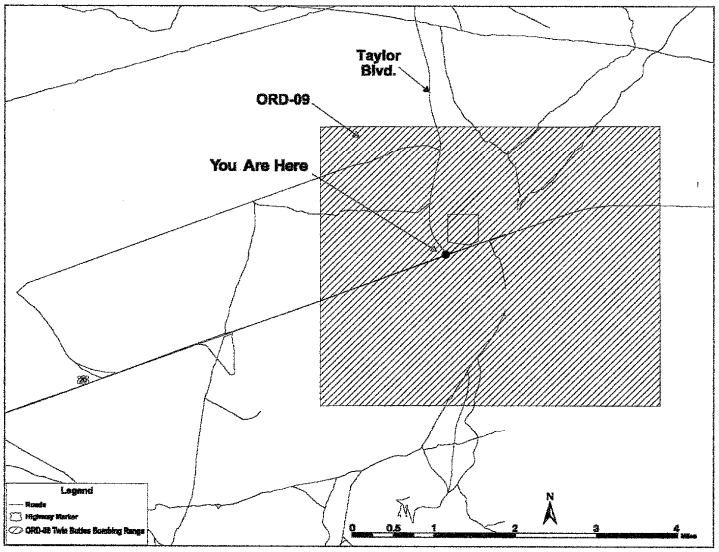
ORD-08 National Oceanic & Atmospheric Administration



WARNING: Potential Unexploded Ordnance and Chemically Contaminated Soil
Before Disturbing This Area Contact WCC at 526-1515

Institutionally Controlled Area

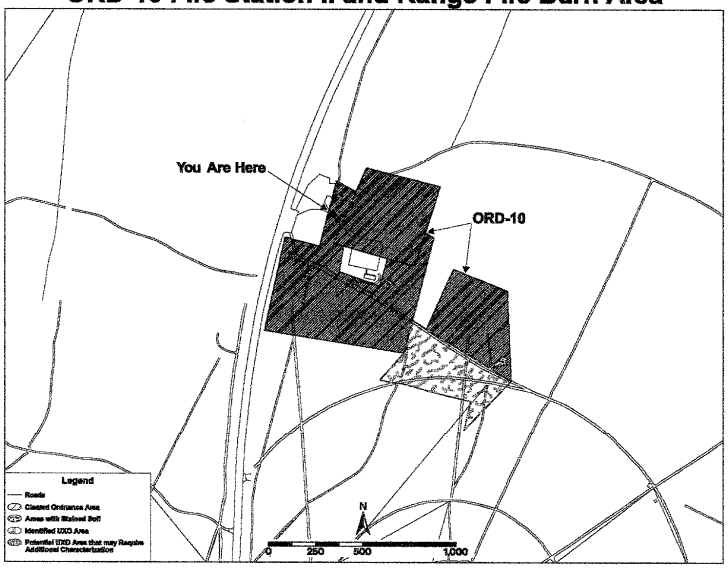
ORD-09 Twin Buttes Bombing Range



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

ORD-10 Fire Station II and Range Fire Burn Area

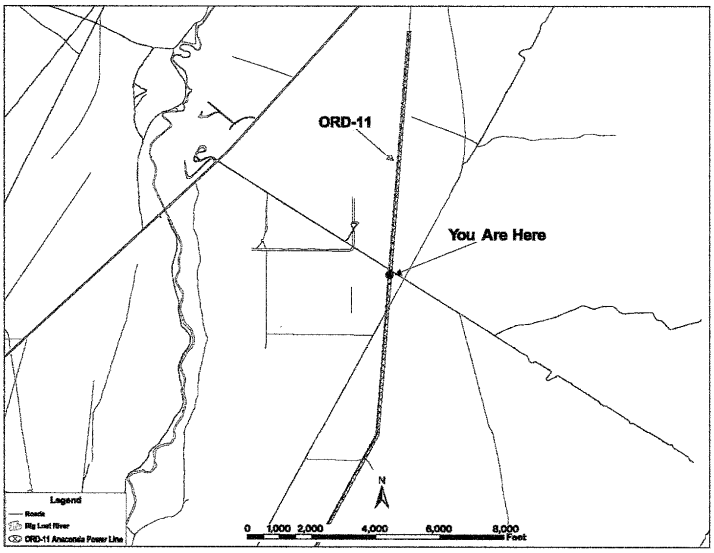


WARNING: Potential Unexploded Ordnance and Chemically Contaminated Soil

Before Disturbing This Area Contact WCC at 526-1515

Institutionally Controlled Area

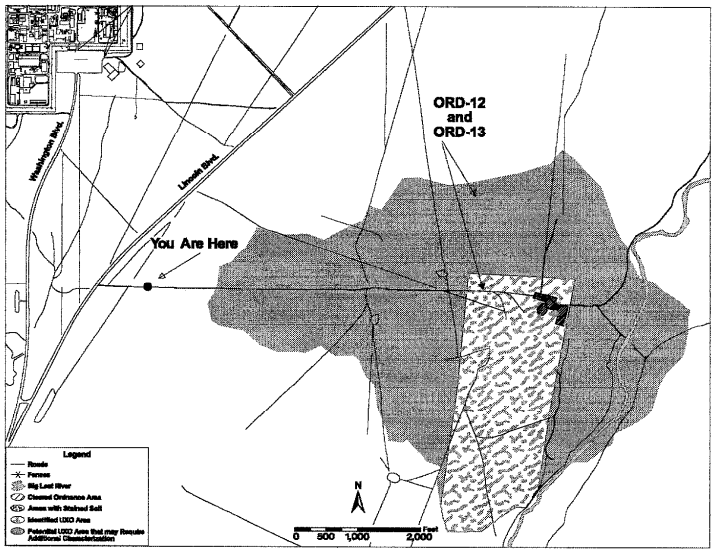
ORD-11 Anaconda Power Line



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

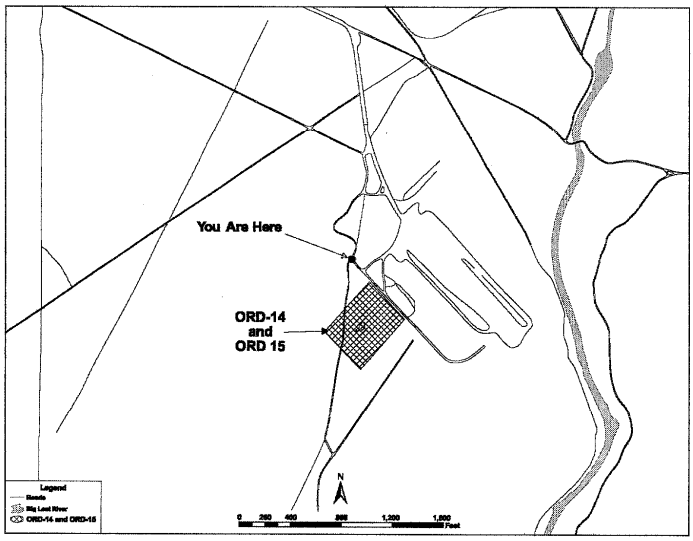
ORD-12 Old Military Structures
ORD-13 Mass Detonation Area



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area Contact WCC at 526-1515

Institutionally Controlled Area

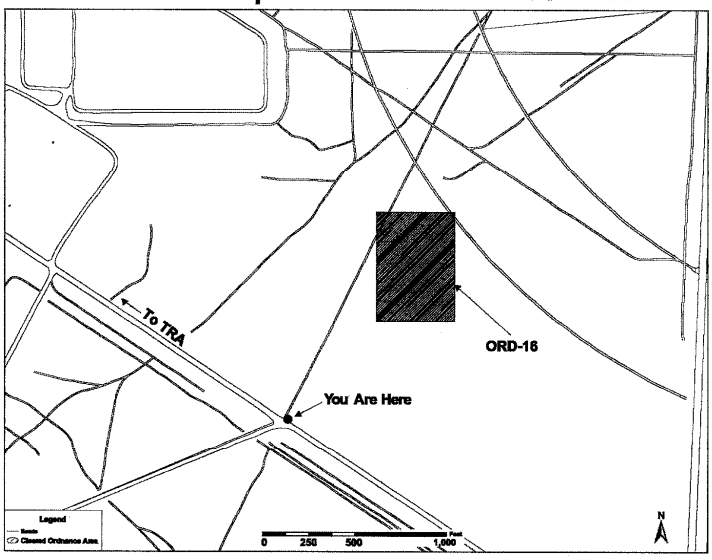
ORD-14 Dairy Farm Revetments
ORD-15 Experimental Field Station



WARNING: Potential Unexploded Ordnance and Chemically Contaminated Soil
Before Disturbing This Area Contact WCC at 526-1515

Institutionally Controlled Area

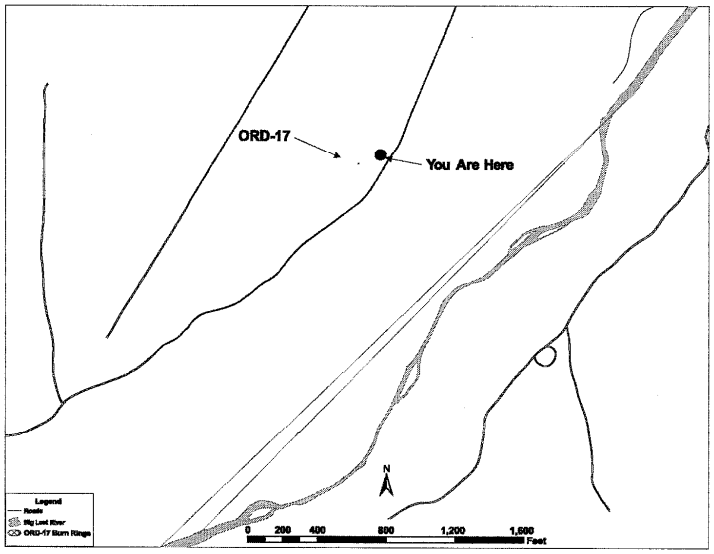
ORD-16 Unexploded Ordnance East of TRA



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

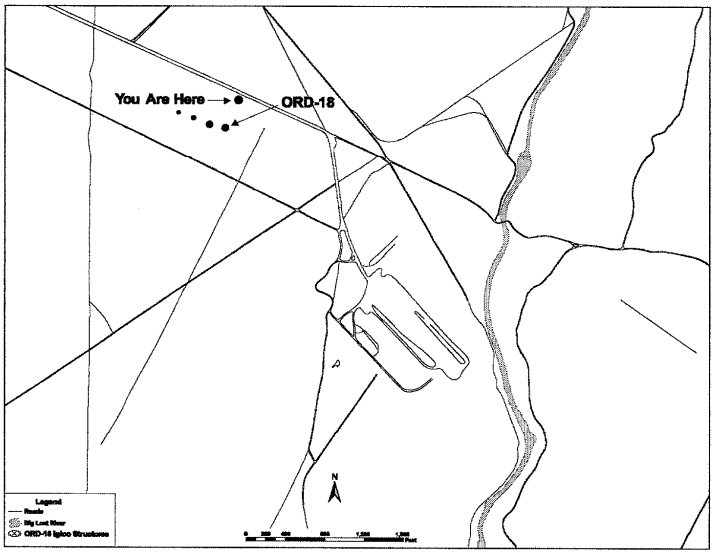
ORD-17 Burn-ring South of Experimental Field Station



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

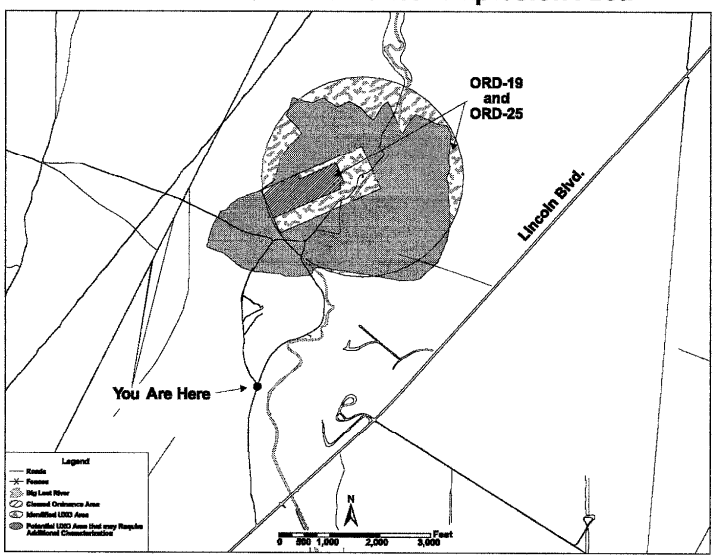
ORD-18 Igloo Structures Northwest fo Experimental Field Station



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

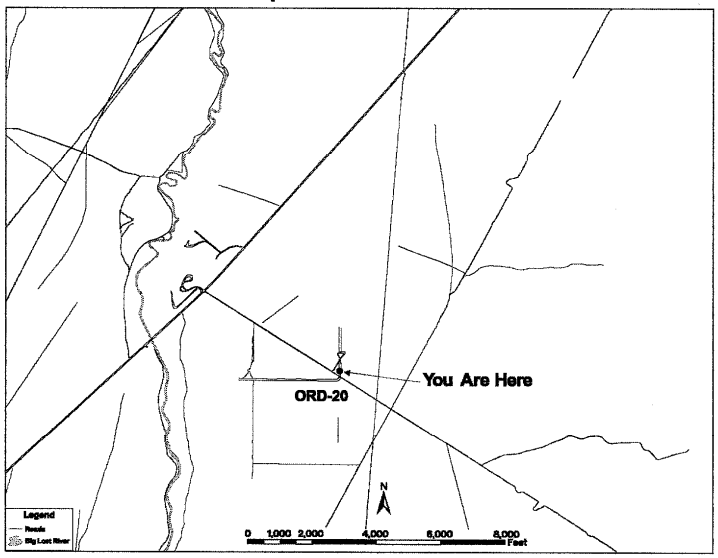
ORD-19 and ORD-25 Railcar Explosion Area



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

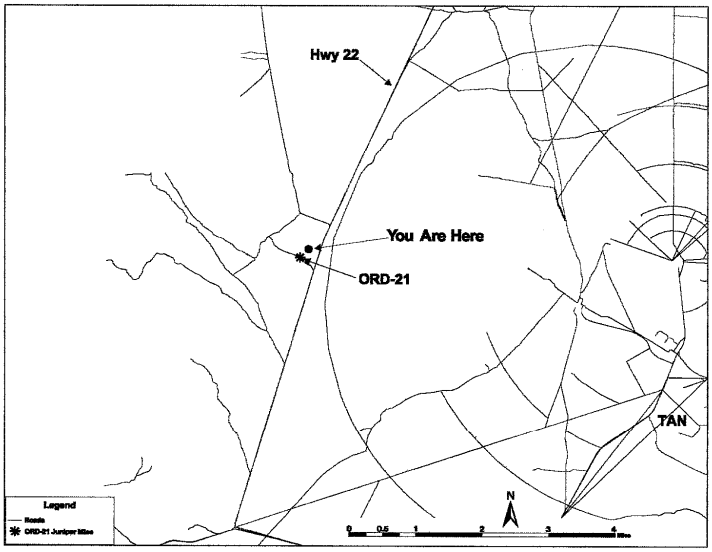
ORD-20 Unexploded Shell East of ARVFS



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

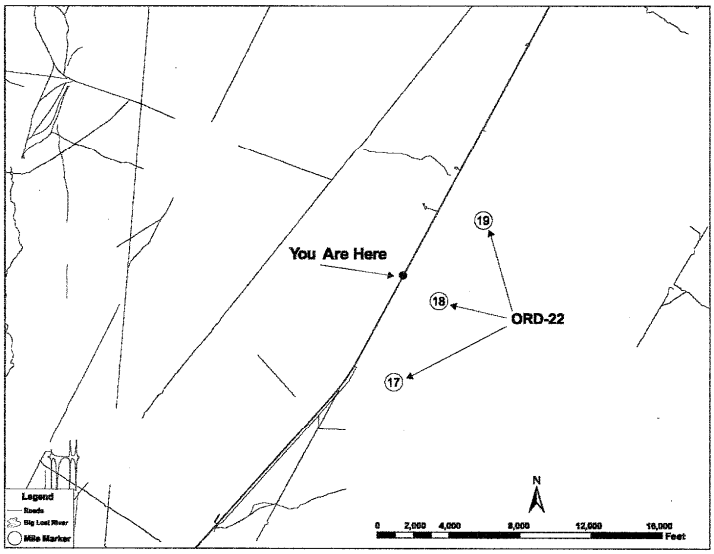
ORD-21 Juniper Mine



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

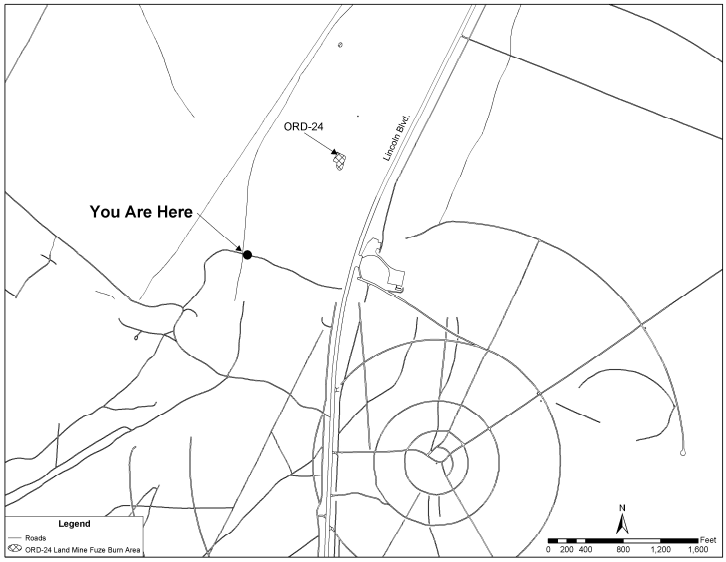
ORD-22 Projectiles Found Near Mile Markers 17, 18, and 19



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

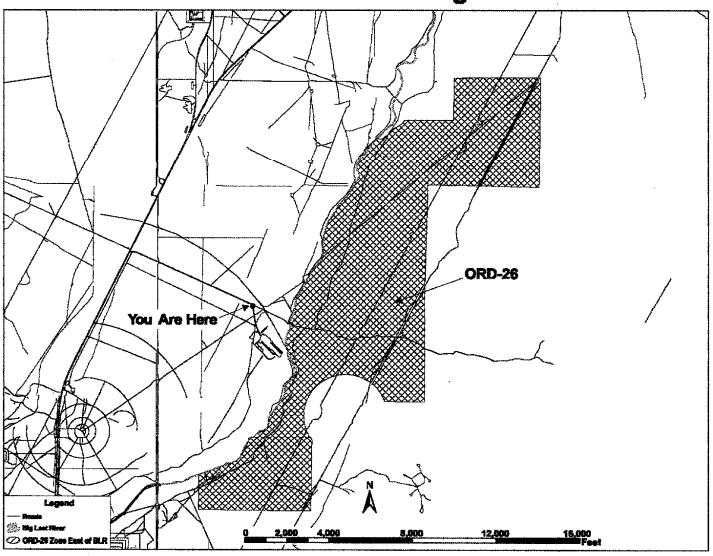
Land Mine Fuze Burn Area - ORD-24



WARNING: Potential Unexploded Ordnance and Chemically Contaminated Soil
Before Disturbing This Area Contact WCC at 526-1515

Institutionally Controlled Area

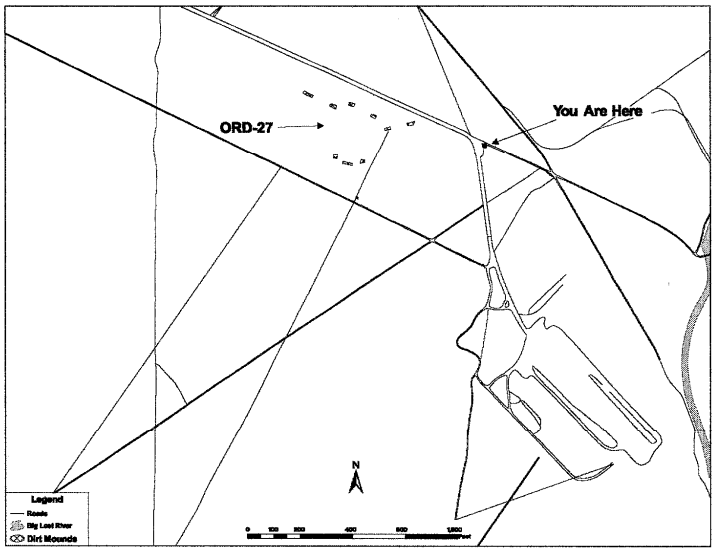
ORD-26 Zone East of the Big Lost River



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

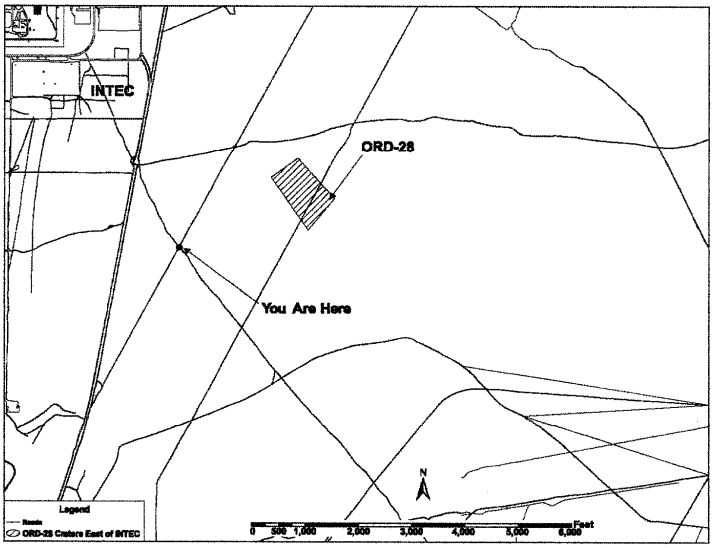
ORD-27 Dirt Mounds



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

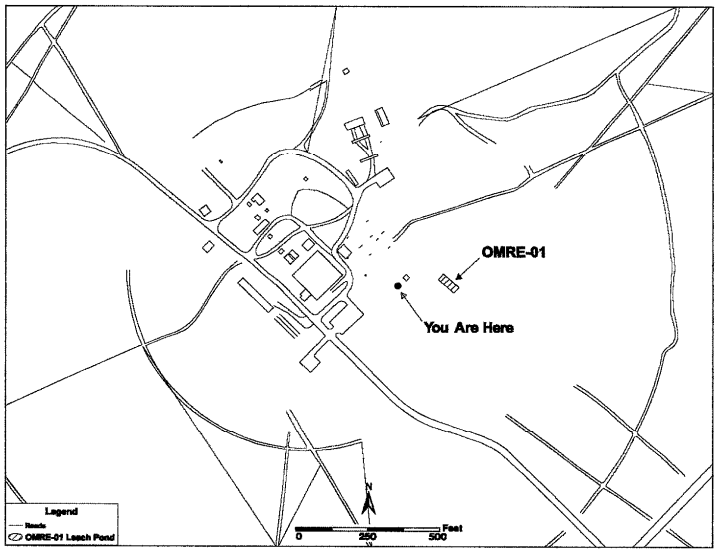
ORD-28 Craters East of INTEC



WARNING: Potential Unexploded Ordnance
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

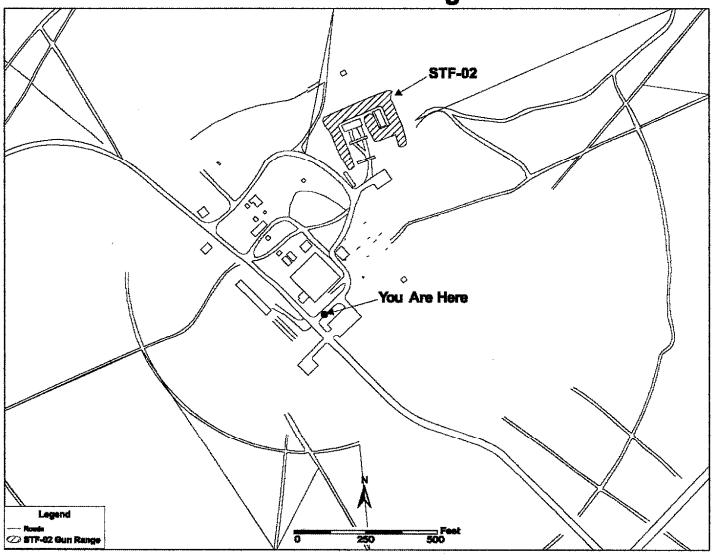
OMRE-01 Leach Pond



WARNING: Potential Radiological Contamination
Before Disturbing This Area
Contact WCC at 526-1515

Institutionally Controlled Area

STF-02 Gun Range



WARNING: Lead Contaminated Soil
Before Disturbing This Area
Contact WCC at 526-1515

Appendix B

Listing of Operable Unit 6-05 and 10-04 Sites in the Comprehensive Facility and Land Use Plan

Appendix B

Listing of Operable Unit 6-5 and 10-4 Sites in the Comprehensive Facility and Land Use Plan

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: BORAX-01 **Waste Area Group:** WAG 6

Location: BORAX-01 BORAX II and V Leach Pond

Description: BORAX-01 consists of the BORAX II through V leach pond, which was used from 1954 to 1964 to collect low-level radioactively contaminated liquid discharges from the reactor experiments. Discharges to the pond were intermittent; however no records were kept pertaining to the amounts and types of effluents. D&D activities were conducted in 1984, 1991 and 1992. However, some contamination remains which makes the site inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern:
ROD Selected Remedy: No further action and institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict exposure to contaminated soil.

Restrictions: Institutional controls (warning signs and CFLUP) will be maintained until discontinued based on the results of a 5-year review.

Institutional Controls: Visible access restrictions; control drilling and excavation activities; property lease requirements.

Comment: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Control land use as industrial.

Restrictions: Institutional controls (warning signs and CFLUP) will be maintained until discontinued based on the results of a 5-year review.

Institutional Controls: Warning sign is posted at access point to site and monument is emplaced at the site.

Comment: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: BORAX-02 **Waste Area Group:** WAG 6

Location: BORAX-02 BORAX-I Burial Site

Description: The BORAX-02 site consists of the BORAX-I Reactor Burial Site. This reactor was constructed in 1953 as a small, simple and inexpensive light-water reactor. It was proposed that before its replacement, the reactor be purposely subjected to a single, very quick, destructive excursion. The purpose of the experiment was to determine its inherent safety under extreme conditions. The excursion was more destructive than had been predicted, and the steam explosion scattered fuel plate fragments up to 300-ft. Cleanup of the site was performed in 1955 and in 1996. Radionuclide contaminated surface soil was consolidated with the reactor vessel and buried in place. BORAX-02 was capped in 1996, two granite monuments installed, and a fence was built around the perimeter of the site. However, some contamination remains which makes the site inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Cs-137
ROD Selected Remedy: No further action and institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Maintain land-use controls to inhibit intrusion into the buried waste and radionuclide contaminated soil.

Restrictions: Institutional controls (warning signs and CFLUP) will be maintained until discontinued based on the results of a 5-year review.

Institutional Controls: Warning sign is posted at access point to site and monuments are emplaced at opposite corners of the site.

Comment: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Maintain land-use controls to inhibit intrusion into the buried waste and radionuclide contaminated soil.

Restrictions: Institutional controls (warning signs and CFLUP) will be maintained until discontinued based on the results of a 5-year review.

Institutional Controls: Warning sign is posted at access point to site and monuments are emplaced at opposite corners of the site.

Comment: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: BORAX-08 **Waste Area Group:** WAG 6

Location: BORAX-08 BORAX Ditch

Description: This site consists of an unlined ditch approximately 1,565-feet long and 3.25-feet wide that received contaminated drainage from BORAX II through BORAX V reactors. A 4-inch raw water line led from the reactor to a 9-inch corrugated underground metal pipe that emptied into the ditch just outside the north security fence of the facility. There are no records of the constituents or volumes released to the ditch. Contaminated soil was removed from the ditch in 1995. However, some contamination remains which makes the site inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Cs-137
ROD Selected Remedy: No further action and institutional controls

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Control land use as industrial until discontinued based on the results of a 5-year review.

Restrictions: Industrial

Institutional Controls: Warning sign is posted at access point to site.

Comment: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Control land use as industrial until discontinued based on the results of a 5-year review.

Restrictions: Industrial

Institutional Controls: Warning sign is posted at access point to site.

Comment: Property transfer requirements including issuance of a finding of suitability to transfer and control of land use consistent with the OU 10-04 ROD.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: BORAX-09 **Waste Area Group:** WAG 6

Location: BORAX-09 BORAX II, III, IV, and V Reactor Facilities (Building 171)

Description: BORAX II through V Reactor Building site consists of the entombed below ground structures remaining from AEF-601. A D&D removal and containment action was conducted at BORAX-09 beginning in April 1996 and concluding in May 1997. However, some contamination remains which makes the site inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Radionuclides
ROD Selected Remedy: No further action and institutional controls

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Maintain integrity of containment barrier

Restrictions: Burial site-no unauthorized intrusion into the entombment structures and buried waste.

Institutional Controls: Visible access restrictions (warning signs) and control of activities (drilling and excavation), property lease requirements including control of land use consistent with the OU 10-04 ROD

Comment: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Maintain integrity of containment barrier

Restrictions: Burial site-no unauthorized intrusion into the entombment structures and buried waste.

Institutional Controls: Visible access restrictions (warning signs) and control of activities (drilling and excavation), property lease requirements including control of land use consistent with the OU 10-04 ROD

Comment: Property transfer requirements including issuance of a finding of suitability to transfer and control of land use consistent with the OU 10-04 ROD.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: EBR-08 **Waste Area Group:** WAG 6

Location: EBR-08 EBR-I (WMO-703) Fuel Oil Tank

Description: This site is the former location of a fuel oil tank. The underground storage tank was removed in 1990. Some diesel fuel soil contamination remains at the site at excavation depth of 8 to 10-foot. The sample results fall well beneath the state risk based action limit. However, potential contamination may remain at depth, which makes the site inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential chemical contamination at depth below 5-foot.
ROD Selected Remedy: No further action and institutional controls

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Industrial

Restrictions: Restrict the site to industrial land use until discontinued based on the results of a 5-year review.

Institutional Controls: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-01 **Waste Area Group:** WAG 10

Location: ORD-01 Arco High Altitude Bombing Range

Description: The Arco High Altitude Bombing Range was used during World War II by the Army for aerial bombing practice. The extent of the bombing range is over 26,400 acres. The primary ordnance at this site had been practice bombs that were sand-filled, spotting charges and initiators. While the entire site was searched on foot by field crews in 1996, and visual assessment observed no signs of craters, detonation tests, surface UXO, pieces of explosives, or soil contamination, there is potential for UXO to remain in the area. Therefore, institutional controls are required at this site.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: Removal and disposal of unexploded ordnance and institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Pending

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal

entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-03 **Waste Area Group:** WAG 10

Location: ORD-03 CFA-633 Naval Firing Site and Downrange Area

Description: The CFA-633 Naval Firing Site and Downrange Area correspond to the Naval Proving Ground. The Naval Proving Ground, also known as the Naval Gun Range, was used extensively for ordnance testing research during World War II. Although UXO has been detected and cleared from these sites, clearance is not assumed complete and the potential exists to encounter unexploded ordnance.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property

that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-04 **Waste Area Group:** WAG 10

Location: ORD-04 CFA Gravel Pit

Description: The ORD-04 site consists of a gravel pit located west of the Naval Fire Site and is located within the boundaries of the CFA Landfill area. Unexploded ordnance has been found in this area. The UXO has been removed but potential UXO remains. Therefore, the site is inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-05 **Waste Area Group:** WAG 10

Location: ORD-05 CFA Sanitary Landfill Area

Description: The ORD-05 site consists of the CFA Sanitary Landfill Area. The area was cleared by visual inspection in 1995. However, the potential for UXO remains in this area. Therefore, the site is inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-06 **Waste Area Group:** WAG 10

Location: ORD-06 Naval Ordnance Disposal Area (NODA)

Description: The Naval Proving Ground, including the Naval Ordnance Disposal Area, was used extensively for ordnance testing research during World War II. The original site appears on maps as a square. The current site is larger because a range fire exposed ordnance beyond the original boundary. The site boundary has been enlarged to reflect the expanded area of concern. Although the detected UXO has been cleared from the site, clearance is not assumed to be complete and the potential exists to encounter unexploded ordnance.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance and potential exposure to chemically (TNT) contaminated soil.
ROD Selected Remedy: Removal, treatment of TNT/RDX fragments, treatment of contaminated soil and institutional controls. UXO will be removed and disposed.

Institutional Control Scenarios

Time Frame: Remediation Pending

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal

entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-07 **Waste Area Group:** WAG 10

Location: ORD-07 Explosive Storage Bunkers - North of INTEC

Description: The ORD-07 site consists of collapsed explosive storage bunkers northeast of INTEC. The site was used for explosive storage during testing performed in the 1944 to 1949 timeframe. Unexploded ordnance has been found in this area. The UXO has been removed but potential UXO remains. Therefore, the site is inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-08 **Waste Area Group:** WAG 10

Location: ORD-08 National Oceanic & Atmospheric Administration (NOAA)

Description: The Naval Proving Ground, including the NOAA area, was used extensively for ordnance testing research during World War II. The area contains a number of small craters, low-ordered bomb casings and detonators, and some widely scattered pieces of explosives. Although UXO has been previously detected and cleared from these sites, clearance is not complete and the potential exists to encounter unexploded ordnance and chemical contaminants from unexploded ordnance. Because the possibility of exposure to TNT and RDX and the potential for UXO to remain in the area, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance and potential exposure to chemically (TNT) contaminated soil.
ROD Selected Remedy: Removal, treatment of TNT/RDX fragments, treatment of contaminated soil and institutional controls. UXO will be removed and disposed.

Institutional Control Scenarios

Time Frame: Remediation Pending

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-09 **Waste Area Group:** WAG 10

Location: ORD-09 Twin Buttes Bombing Range

Description: The Twin Buttes Bombing Range was used by B-17 bombers flying practice missions during World War II. The site was cleared to a maximum depth of 4-foot during a 1994 removal action. Later assessments determined that UXO remains in the area. Therefore, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: Removal and disposal of unexploded ordnance and institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Pending

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-10 **Waste Area Group:** WAG 10

Location: ORD-10 Fire Station II and Range Fire Burn Area

Description: This area is adjacent to the former Fire Station II training site and includes an area of approximately 800-acres. Naval Proving Ground activities at this site included some low-order bomb detonations that scattered UXO and pieces of explosives over several areas. In the early 1970s, the area was included in a range fire that reportedly burned some UXO. Although UXO has been detected and cleared from the area, clearance is not assumed complete and the potential exists to encounter unexploded ordnance or chemicals in the soil. Therefore, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance and potential exposure to chemically (TNT) contaminated soil.
ROD Selected Remedy: Removal, treatment of TNT/RDX fragments, treatment of contaminated soil and institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Pending

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-11 **Waste Area Group:** WAG 10

Location: ORD-11 Anaconda Power Line

Description: The ORD-11 site consists of the Anaconda Power Line road, frequently used during power line maintenance. Unexploded ordnance has been found in this area. The UXO has been removed in a 1993 Interim Action, but potential UXO remains. Therefore, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-12 **Waste Area Group:** WAG 10

Location: ORD-12 Old Military Structures

Description: The ORD-12 site consists of the vicinity around old military structures which were built to simulate and test effects on personnel housing and administrative structures of detonations. Unexploded ordnance has been found in this area. The UXO has been removed but potential UXO remains. Therefore, the site is inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-13 **Waste Area Group:** WAG 10

Location: ORD-13 Mass Detonation Area

Description: ORD-13 has been used for a number of small- to large-scale sympathetic and mass detonation tests, with test shots ranging up to 500,000-lbs of explosives. The site includes numerous blast craters varying in dimension from a few feet to several tens of feet and is littered with large quantities of UXO, pieces of explosives, and structural debris. Although UXO has been detected and cleared from the area, clearance is not assumed complete and the potential exists to encounter unexploded ordnance. Therefore, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: Removal and disposal of unexploded ordnance and institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Pending

Use Control Objectives: Restrict land use to industrial.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-14 **Waste Area Group:** WAG 10

Location: ORD-14 Dairy Farm Revetments

Description: Revetments are standing concrete slabs used as targets. These revetments are in the area of the dairy farm site. Unexploded ordnance has been found in this area. The UXO has been removed but potential UXO remains. Therefore, the site is inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-15 **Waste Area Group:** WAG 10

Location: ORD-15 Experimental Field Station

Description: This site is located within the Naval Proving Ground gunnery range and includes multiple craters within which a variety of explosive-tests were conducted. Remnants of World War I and World War II vintage bombs were found and removed from this area. Two areas of widespread heavy concentrations of explosive-contaminated soils were found, as well as several large craters. Although UXO has been detected and cleared from this site, clearance is not assumed complete and the potential exists to encounter unexploded ordnance. Because of the potential for exposure to chemical contaminants and to UXO, institutional controls will be maintained at this site.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance and potential exposure to chemically (TNT) contaminated soil.
ROD Selected Remedy: Removal, treatment of TNT/RDX fragments, treatment of contaminated soil and institutional controls. UXO will be removed and disposed.

Institutional Control Scenarios

Time Frame: Remediation Pending

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-16 **Waste Area Group:** WAG 10

Location: ORD-16 Unexploded Ordnance East of TRA

Description: Approximately 18 low-ordered U.S. general purpose bombs were found at this site, located east of TRA. The bombs were transported to the Mass Detonation Area for disposal by detonation during the 1996 removal action. Although UXO has been previously detected and cleared from the area, clearance is not assumed complete and the potential exists to encounter unexploded ordnance. Therefore, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-17 **Waste Area Group:** WAG 10

Location: ORD-17, Burn Ring South of Experimental Field Station

Description: ORD-17 consists of the area contained within a round, metal containment barrier or ring approximately 6-inches high and 10-foot in diameter. The site resembles a campfire ring or pit. It is suspected of having been used as a smoke generator or an illumination marker for nighttime gunnery activities associated with the concrete revetment walls. Wire coils and burn residues similar to those left following the burning of tires were found within the metal ring. Although UXO has been detected and cleared from this site, clearance is not assumed complete and the potential exists to encounter unexploded ordnance. Because of the potential for UXO to remain in the area, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-18 **Waste Area Group:** WAG 10

Location: ORD-18 Igloo- Type Structures Northwest of Experimental Field Station

Description: The ORD-18 site consists of igloo-type structures located northwest of the Experimental Field Station. The site includes a number of excavations, berms, and craters. It cannot be determined how or why these features were put there. Unexploded ordnance has been found in this area. The UXO has been removed but potential UXO remains. Therefore, the site is inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-19 **Waste Area Group:** WAG 10

Location: ORD-19 Railcar Explosion Area

Description: The ORD-19 site contains the debris scattered from a sympathetic detonation test involving five railroad cars, each loaded with 30,000-lbs of explosive ordnance. Live projectiles, inert sea mines (depth charges) and bulk explosives (RDX) have been found in the area. Although UXO has been previously detected and cleared from the area, clearance is not complete and the potential exists to encounter unexploded ordnance. Therefore, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: Removal and disposal of unexploded ordnance and institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Pending

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-20 **Waste Area Group:** WAG 10

Location: ORD-20 Unexploded Shell East of ARVFS

Description: The ORD-20 site is located east of both the Army Reentry Vehicle Facility Site and the Anaconda Power Line Road. Unexploded ordnance has been found in this area. The shell has been removed but potential UXO remains. Therefore, the site is inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-21 **Waste Area Group:** WAG 10

Location: ORD-21 Juniper Mine

Description: The ORD-21 site consists of the abandoned and back-filled Juniper mine. Unexploded ordnance is known to exist buried at a depth of 135 feet at the Juniper Mine. Because UXO remains, the site is inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with a warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with a warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-22 **Waste Area Group:** WAG 10

Location: ORD-22 Projectiles found near Mile Markers 17, 18 and 19

Description: The ORD-22 site consists of an area east of Lincoln Boulevard representing the extreme downrange impact area for projectiles fired from the CFA-633 Naval Firing Station. Unexploded ordnance has been found in this area. Because of the remote location of the projectiles, they were demilitarized and left in place. Because of the potential for UXO remaining in this area, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-24 **Waste Area Group:** WAG 10

Location: ORD-24 Land Mine Fuze Burn Area

Description: The ORD-24 site consists of approximately five separate ordnance disposal locations between a meander of a former channel of the Big Lost River and an old abandoned irrigation canal that was hand dug in the early 1900s. The site was used by Naval Proving Ground personnel for disposal of land mine pressure plates, aerial bomb packaging materials, and as an area to dispose of land mine fuzes by burning. Several inert items were found and excavated from this area. There is potential for UXO to remain in this area, and potential exposure to chemically (TNT) contaminated soil. Institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance and potential exposure to chemically (TNT) contaminated soil.
ROD Selected Remedy: Removal, treatment of TNT/RDX fragments, treatment of contaminated soil and institutional controls. UXO will be removed and disposed.

Institutional Control Scenarios

Time Frame: Remediation Pending

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-25 **Waste Area Group:** WAG 10

Location: ORD-25 Ordnance and Dry Explosives East of the Big Lost and North of NRF (Same as Railcar Site #19)

Description: This site contains the debris scattered from a sympathetic detonation test involving five railroad cars, each loaded with 30,000-lbs of explosive ordnance. Live projectiles, inert sea mines (depth charges) and bulk explosives (RDX) have been found in the area. Although UXO has been previously detected and cleared from the area, clearance is not complete and the potential exists to encounter unexploded ordnance. Therefore, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-26 **Waste Area Group:** WAG 10

Location: ORD-26 Zone East of the Big Lost River

Description: The ORD-26 site consists of a large area east of the Big Lost River channel. Unexploded ordnance has been found in this area. The UXO has been removed but potential UXO remains. Therefore, the site is inappropriate for free residential use at this time, as per the OU 10-04 ROD.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-27 **Waste Area Group:** WAG 10

Location: ORD-27 Dirt Mounds Near the Experimental Field Station, NOAA, and NRF

Description: The ORD-17 site consists of numerous large and small dirt mounds. The dirt mounds are considered to be a subset of the Experimental Field Station site. Because of the potential for UXO to remain in the area, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: ORD-28 **Waste Area Group:** WAG 10

Location: ORD-28 Craters East of INTEC

Description: The ORD-28 site includes three small craters southeast of the INTEC facility. The area adjacent to and surrounding the craters is littered with widely scattered debris and pieces of explosives resulting from explosives tests or associated cleanup detonations. This area was within the impact zone of "extreme elevation" antiaircraft proof firings from the Naval Proving Ground gun emplacements. Although UXO has been previously detected and cleared from the area, clearance is not assumed complete and the potential exists to encounter unexploded ordnance. Therefore, institutional controls will be maintained.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Potential unexploded ordnance.
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Restrict land use to industrial land use.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: OMRE-01 **Waste Area Group:** WAG 10

Location: OMRE-01 OMRE Leach Pond

Description: The OMRE Leach Pond was used for reactor wastewater disposal from 1957 to 1963. The area was decontaminated and decommissioned in 1979. Investigations in 1999 and 2000 determined that institutional controls are required at this site due to external exposure attributed to Cs-137.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Cs-137
ROD Selected Remedy: No further action with institutional controls.

Institutional Control Scenarios

Time Frame: Remediation Complete/DOE Control

Use Control Objectives: Land use will be restricted to prohibit potential exposure to radiologically contaminated soil.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

Time Frame: Post Operations/DOE Control

Use Control Objectives: Land use will be restricted to prohibit potential exposure to radiologically contaminated soil.

Restrictions: DOE-ID will notify EPA and the State before any transfer, sale or lease to a non-Federal entity (such as a state or local government or a private person) of any DOE-ID managed real property that is the subject of institutional controls required by a CERCLA decision document, and will discuss with EPA and the State appropriate provisions in the conveyance or lease documents to maintain effective institutional controls.

Institutional Controls: Access route to the area is posted with warning sign.

Comment: Institutional controls will be maintained until residual risk is removed or reduced to acceptable levels based on the results of a 5-year review.

INEEL Waste Area Group Institutional Controls Report

CERCLA Site: STF-02 **Waste Area Group:** WAG 10

Location: STF-02 STF Gun Range

Description: The STF area has been used from 1983 to 1990 for security force practice maneuvers including small arms large target practice. The lead contamination associated with the STF-02 firing range is from the bullets fired during small arms target practice. The lead contamination is present as large fragments as well as finely disseminated fragments in the soils. Institutional controls will be maintained until clean up is completed and it is determined that the hazards have been removed.

For additional information: Contact the Warning Communication Center (208) 526-1515

Contaminants of Concern: Lead
ROD Selected Remedy: Removal, treatment and disposal of contaminated soil on or off the INEEL.

Institutional Control Scenarios

Time Frame: Remediation Pending

Use Control Objectives: Industrial

Restrictions: Restrict the site to industrial land use until remediation is complete.

Institutional Controls: Warning sign is posted at site access point.

Appendix C

Prefinal Inspection Checklist

Appendix C

Prefinal Inspection Checklist

WAG 10 OU 10-04 Remedial Action, Phase I

Prefinal Inspection Checklist, 07/22/04

		Satisfactory		
Inspection Item	Verification Location	Yes	No	Comments
Institutional controls for Operable Unit 6-05 and 10-04 sites were established in accordance with the *Remedial Design/Remedial Action Work Plan for Operable Units 6-05 and 10-04, Phase I* (DOE/ID-11101, Section 2.1).	See the following:	X		
Visible access restrictions (i.e., warning signs) have been established at all institutional control sites in accordance with the *INEEL Sitewide Institutional Controls Plan for CERCLA Response Actions* (DOE/ID-11042, Appendix A) for the following sites: BORAX-01: BORAX II through V Leach Pond BORAX-02: BORAX-I Burial Site BORAX-08: BORAX Ditch BORAX-09: BORAX II through V EBR-08: EBR-I (WMO-703) Fuel Oil Tank OMRE-01: OMRE Leach Pond ORD-01: Arco High Altitude Bombing Range ORD-03: CFA-633 Naval Firing Site and Downrange Area ORD-04: CFA Gravel Pit ORD-05: CFA Sanitary Landfill Area ORD-06: Naval Ordnance Disposal Area ORD-07: Explosive Storage Bunkers – North of INTEC ORD-08: National Oceanic and Atmospheric Administration ORD-09: Twin Buttes Bombing Range ORD-10: Fire Station II Zone and Range Fire Burn Area ORD-11: Anaconda Power Line ORD-12: Old Military Structures ORD-13: Mass Detonation Area	Photographic Record	X		Warning signs were appropriately placed at the sites inspected with the exception of ORD-06, the Naval Ordnance Disposal Area, and ORD-08, the National Oceanic and Atmospheric Administration site. The sign at ORD-06 was emplaced within the defined boundary of the contamination at the site rather than outside the boundary. One sign was placed at an access point at ORD-08 but not at a second access point. The ORD-06 sign has since been replaced with a sign emplaced at the most likely access point outside the defined contamination boundary. A second sign has been added at ORD-08.

		Satisfactory		
Inspection Item	Verification Location	Yes	No	Comments
ORD-14: Dairy Farm Revetments ORD-15: Experimental Field Station ORD-16: UXO East of TRA ORD-17: Burn-Ring South of Experimental Field Station ORD-18: Igloo-Type Structures Northwest of Experimental Field Station ORD-19: Rail Car Explosion Area ORD-20: UXO East of ARVFS ORD-21: Juniper Mine ORD-22: Projectiles Found Near Mile Markers 17 and 19 ORD-24: Land Mine Fuze Burn Area ORD-25: Ordnance and Dry Explosives East of the Big Lost River (Same as the Rail Car Explosion Area) ORD-26: Zone East of the Big Lost River ORD-27: Dirt Mounds Near the Experimental Field Station, NOAA, and NRF ORD-28: Craters East of INTEC STF-02: STF Gun Range				
Land use restrictions updated in the *Comprehensive Facility and Land Use Plan* in accordance with the *INEEL Sitewide Institutional Controls Plan for CERCLA Response Actions* (DOE/ID-11042, Appendix A) for the following sites: BORAX-01: BORAX II through V Leach Pond BORAX-02: BORAX-I Burial Site BORAX-08: BORAX Ditch BORAX-09: BORAX II through V EBR-08: EBR-I (WMO-703) Fuel Oil Tank OMRE-01: OMRE Leach Pond ORD-01: Arco High Altitude Bombing Range ORD-03: CFA-633 Naval Firing Site and Downrange Area ORD-04: CFA Gravel Pit ORD-05: CFA Sanitary Landfill Area ORD-06: Naval Ordnance Disposal Area ORD-07: Explosive Storage Bunkers – North of INTEC ORD-08: National Oceanic and Atmospheric Administration ORD-09: Twin Buttes Bombing Range ORD-10: Fire Station II Zone and Range Fire Burn Area	http://cflup.inel.gov/	X		The site listings in the *Comprehensive Facility and Land Use Plan* were drafted at the time of the prefinal inspection. The listings have since been completed and can be found at the verification location provided.

		Satisfactory		
Inspection Item	Verification Location	Yes	No	Comments
ORD-11: Anaconda Power Line ORD-12: Old Military Structures ORD-13: Mass Detonation Area ORD-14: Dairy Farm Revetments ORD-15: Experimental Field Station ORD-16: UXO East of TRA ORD-17: Burn-Ring South of Experimental Field Station ORD-18: Igloo-Type Structures Northwest of Experimental Field Station ORD-19: Rail Car Explosion Area ORD-20: UXO East of ARVFS ORD-21: Juniper Mine ORD-22: Projectiles Found Near Mile Markers 17 and 19 ORD-24: Land Mine Fuze Burn Area ORD-25: Ordnance and Dry Explosives East of the Big Lost River (Same as the Rail Car Explosion Area) ORD-26: Zone East of the Big Lost River ORD-27: Dirt Mounds Near the Experimental Field Station, NOAA, and NRF ORD-28: Craters East of INTEC STF-02: STF Gun Range				
Drilling or excavation activities are restricted in accordance with the *INEEL Sitewide Institutional Controls Plan for CERCLA Response Actions* (DOE/ID-11042, Appendix A).	MCP-3480, "Environmental Instructions for Facilities, Processes, Materials, and Equipment"	X		MCP-3480 and the required use and implementation of an environmental checklist as required therein restricts soil disturbance activities in accordance with the Sitewide Institutional Control Plan (DOE/ID-11042).
Integrity of containment barriers are maintained in accordance with the *INEEL Sitewide Institutional Controls Plan for CERCLA Response Actions* (DOE/ID-11042, Appendix A) for the following sites: BORAX-02: BORAX-I Burial Site BORAX-09: BORAX-II through V.	Photographic Record	X		The containment barriers at BORAX-02 and BORAX-09 are inspected and maintained in accordance with the respective operations and maintenance plans.
Idaho National Engineering and Environmental Laboratory-Wide Long-Term Ecological Monitoring has been implemented in accordance with the *Remedial Design/Remedial Action Work Plan for Operable Units 6-05 and 10-04, Phase I* (DOE/ID-11101, Section 2.3).	*Long-Term Ecological Monitoring Plan for the Idaho National Engineering and Environmental Laboratory* (INEEL/EXT-02-01191, Rev. 1)	X		The long-term ecological monitoring has been implemented in accordance with the Phase I RD/RA Work Plan (DOE/ID-11101), the Long-Term Ecological Monitoring Plan (INEEL/EXT-02-01191, Rev. 1), and the annual Field Sampling Plan.