

NOTICE

All drawings located at the end of the document.

**DRAFT ENVIRONMENTAL RESTORATION
RFCA STANDARD OPERATING PROTOCOL
FOR ROUTINE SOIL REMEDIATION
FY03 NOTIFICATION #03-06
IHSS GROUP 400-8**

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TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
2.0 IHSS GROUP 400-8	1
2.1 Potential Contaminants of Concern	2
2.2 Project Conditions.....	4
2.3 Remediation Plan	4
2.4 Stewardship Evaluation.....	6
2.4.1 Proximity to Other Contaminant Sources	6
2.4.2 Surface Water Protection.....	6
2.4.3 Monitoring.....	7
2.4.4 Stewardship Actions and Recommendations	7
2.5 Accelerated Action Remediation Goals.....	7
2.6 Treatment	8
2.7 Project-Specific Monitoring.....	8
2.8 Resource Conservation and Recovery Act (RCRA) Units and Intended Waste Disposition	8
2.9 Administrative Record Documents.....	8
2.10 Projected Schedule.....	9
3.0 PUBLIC PARTICIPATION.....	9
4.0 REFERENCES	9

LIST OF FIGURES

Figure 1 IHSS Group 400-8 Location Map.....	3
Figure 2 IHSS Group 400-8 Potential Remediation Area.....	5

LIST OF TABLES

Table 1 FY03 Potential Remediation Areas for IHSS Group 400-8.....	1
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ACRONYMS

AL	action level
ALARA	as low as reasonably achievable
AST	aboveground storage tank
BMP	Best Management Practice
D&D	Decontamination and Decommissioning
DOE	Department of Energy
ER	Environmental Restoration
ER RSOP	Environmental Restoration RSOP for Routine Soil Remediation
FY	Fiscal Year
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
NFA	No Further Action
PAC	Potential Area of Concern
pCi/g	picocurie per gram
PCOC	potential contaminant of concern
POC	Point of Compliance
POE	Point of Evaluation
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RISS	Remediation, Industrial D&D, and Site Services
RSOP	RFCA Standard Operating Protocol
SVOC	semivolatile organic compound
UBC	Under Building Contamination
VOC	volatile organic compound

1.0 INTRODUCTION

This Environmental Restoration (ER) Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol (RSOP) for Routine Soil Remediation (ER RSOP) (DOE 2002a) Fiscal Year (FY) 03 Notification includes the notification to remediate an Under Building Contamination (UBC) site and two Individual Hazardous Substance Sites (IHSSs) in the Rocky Flats Environmental Technology Site (RFETS) Industrial Area (IA) during FY03. The purpose of this Notification is to invoke the ER RSOP for IHSS Group 400-8 located in the southwestern IA. Activities specified in the ER RSOP are not reiterated here; however, deviations from the ER RSOP are noted where appropriate.

Soil with contaminant concentrations greater than RFCA Tier I Action Levels (ALs) and associated debris will be removed in accordance with RFCA and the ER RSOP. Soil with contaminant concentrations less than RFCA Tier I ALs will be evaluated for additional removal through the consultative process using stewardship and as low as reasonably achievable (ALARA) considerations (Sections 5.4 and 5.5 of the ER RSOP [DOE 2002a]).

The proposed remediation sites covered under ER RSOP Notification #03-06 are listed in Table 1, and the locations are shown on Figure 1.

**Table 1
FY03 Potential Remediation Areas for IHSS Group 400-8**

IHSS Group	IHSS/PAC/UBC Site	PCOCs	Media	Estimated Remediation Volume
400-8	UBC 441, Office Building	radionuclides metals nitrate SVOCs VOCs	surface soil from beneath slabs	> 1 cy
	IHSS 400-122, Underground Concrete Tank	radionuclides metals nitrate SVOCs VOCs	surface and subsurface soil	> 1 cy
	IHSS 000-121 – Tank 2, Concrete Waste Storage Tank and Tank 3 – Steel Waste Storage Tank	radionuclides metals nitrate SVOCs VOCs	surface and subsurface soil	> 1 cy

SVOC – semivolatile organic compound
VOC – volatile organic compound
cy = cubic yard

2.0 IHSS GROUP 400-8

IHSS Group 400-8 consists of UBC 441, IHSS 400-122, and IHSS 000-121, which are located at the southeastern corner of Fourth Street and Central Avenue. IHSS Group 400-8 is located approximately 1.3 miles east-northeast of the west guard gate. The footprint for Building 441 is approximately 17,075 square feet and overlaps IHSS 400-122 located on the southern side of the building. Tanks associated with IHSS 000-121 are located near the southwestern corner of Building 441. Building 441 was placed into

4

service as a laboratory in 1952. In 1966, the laboratory was converted into an office that included an addition on the southern side of the building. This building addition was constructed over approximately 7.5 feet of the existing tank system identified as IHSS 400-122 (DOE 1992 and 1996).

2.1 Potential Contaminants of Concern

Potential contaminants of concern (PCOCs) at IHSS Group 400-8 are listed in Table 1 and were determined based on process knowledge and data collected during previous investigations (DOE 1992, 1996, and 2002b).

5

2.2 Project Conditions

The following conditions are present at this site:

- Building 441 with a footprint of approximately 17,075 square feet;
- Tank T-2 (multi-chambered underground concrete tank approximately 6,000 gallons) and Tank T-3 (aboveground storage tank (AST) constructed of steel and approximately 3,200 gallons) located on the southern side of Building 441; and
- Old Process Waste Lines (OPWL) located beneath Building 441 and along the southern side of the building.

2.3 Remediation Plan

This RSOP Notification remediation plan for IHSS Group 400-8 includes the following objectives:

- Remove the concrete slabs and caissons/footers. Recycle in accordance with the RSOP for Recycling Concrete (DOE 1999) or dispose at an appropriate facility (if not removed by Remediation, Industrial Decontamination and Decommissioning [D&D] and Site Services [RISS]);
- Flush and remove sanitary sewer drains and remove other structures and piping within 3 feet of current grade (if not removed by D&D);
- Remove soil with contaminant concentrations greater than RFCA ALs as indicated through the Soil Risk Screen;
- Remove additional soil if indicated through the stewardship evaluation (Section 2.4); and
- Collect confirmation samples in accordance with the Industrial Area Sampling and Analysis Plan (IASAP) (DOE 2001a).

It is anticipated that after remediation there will be areas with concentrations of metals, radionuclides, organics, and inorganics greater than background mean plus two standard deviations or method detection limits, but below RFCA ALs. The potential remediation area is shown on Figure 2.

2.4 Stewardship Evaluation

Based on the PCOCs (Table 1 and Section 2.1) and the ER RSOP (DOE 2002a), it is anticipated that all contamination above RFCA ALs or as indicated through the Soil Risk Screen will be remediated. Figure 2 shows the potential remediation area. Additional remediation to below RFCA ALs or below levels indicated through the Soil Risk Screen is not required by RFCA, but will be evaluated using the consultative process.

Because the full extent of excavation and remediation is not known at this time, an additional stewardship evaluation will be conducted during remediation using the consultative process. A new map of residual contamination will be generated after remediation. The following sections present the stewardship evaluation.

2.4.1 Proximity to Other Contaminant Sources

IHSS Group 400-8 is located in the RFETS IA. The nearest IHSS, PAC or UBC is PAC 100-602, Building 123 Process Waste Line Break located approximately 20 feet to the south of PAC 400-122; IHSS 400-157.2 located approximately 50 feet to the south-southeast of IHSS 400-122; and UBC 123 and IHSS 100-148 located approximately 100 feet west of UBC 441. UBC 123 and IHSS 100-148 were remediated during FY02 and were proposed as NFA sites (DOE 2002c). See Figure 2 for the locations of these IHSSs, PACs, and UBC.

2.4.2 Surface Water Protection

Surface water protection includes the following considerations:

Is there a pathway to surface water from potential erosion to streams or drainages?

No. The Central Avenue Drainage Ditch is located approximately 100 feet northwest of Building 441.

Do characterization data indicate there are contaminants in surface soil?

Existing surface soil data from nine sampling locations within IHSS 122 on the southern side of IHSS Group 400-8 indicate that there is contamination in surface soil (DOE 2002b). Concentrations of arsenic and lead above the RFCA ALs were identified.

Do monitoring results from Points of Evaluation (POEs) or Points of Compliance (POCs) indicate there are surface water impacts from the area under consideration?

There are no POEs or POCs in the vicinity of IHSS Group 400-8.

Is the IHSS Group in an area with high erosion potential, based on the 100-Year Average Erosion Map?

Not applicable. The 100-Year Average Erosion Map does not include areas in the IA.

9

2.4.3 Monitoring

Monitoring includes the following considerations:

Do monitoring results from POEs or POCs indicate there are groundwater impacts from the area under consideration?

There are no POEs or POCs near IHSS Group 400-8.

Can the impact be traced to a specific IHSS Group?

Not applicable.

Are additional monitoring stations needed?

Not applicable.

Can existing monitoring locations be deleted if additional remediation is conducted?

No, because no POEs or POCs are located near IHSS Group 400-8.

2.4.4 Stewardship Actions and Recommendations

The current stewardship actions and recommendations for IHSS Group 400-8 are as follows:

- Use Best Management Practices (BMPs) to reduce erosion into surface water drainage.
- Implement near-term institutional controls until final closure and stewardship decisions are implemented, including the following:
 - Signs and barriers;
 - Restrictions on soil excavation; and
 - Soil excavations controlled through the Site Soil Disturbance Permit process.
- Implement long-term stewardship actions, including the following:
 - Federal ownership; and
 - Specific land use restrictions that will be discussed in the Site Long-Term Stewardship Plan.

These recommendations may change based on in-process remediation activities and other future RFETS remediation decisions.

2.5 Accelerated Action Remediation Goals

ER RSOP remedial action objectives include the following:

10

1. Provide a remedy consistent with the RFETS goal of protection of human health and the environment;
2. Provide a remedy that minimizes the need for long-term maintenance and institutional or engineering controls; and
3. Minimize the spread of contaminants during implementation of accelerated actions.

The accelerated action remediation goals for IHSS Group 400-8 include the following:

- Remove the concrete slabs (if not removed by RISS Facility D&D) and recycle in accordance with the RSOP for Recycling Concrete (DOE 1999), or dispose at an appropriate facility;
- Flush and remove sanitary sewer drains (if not flushed and removed by RISS Facility D&D);
- Remove other structures and piping within 3 feet of current grade (if not removed by RISS Facility D&D);
- Remove soil with contaminant concentrations greater than RFCA ALs or as indicated through the Soil Risk Screen; and
- Remove additional soil through the stewardship or ALARA evaluations (the consultative process).

2.6 Treatment

Not applicable.

2.7 Project-Specific Monitoring

High-volume air samplers may be used at the remediation area consistent with work controls to determine airborne radioactivity concentrations. Potential air sampling locations are shown on Figure 2.

2.8 Resource Conservation and Recovery Act (RCRA) Units and Intended Waste Disposition

Not applicable.

2.9 Administrative Record Documents

DOE, 1992, Historical Release Report for the Rocky Flats Plant, Golden, Colorado.

DOE, 1996, Annual Update for the Historical Release Report, RF/ER-96-0046, Rocky Flats Environmental Technology Site, Golden, Colorado, September.

DOE, 1999, RFCA Standard Operating Protocol for Recycling Concrete, Rocky Flats Environmental Technology Site, Golden, Colorado, September.

DOE, 2001a, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

DOE, 2002a, Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation, Rocky Flats Environmental Technology Site, Golden, Colorado, January.

DOE, 2002b, Draft Industrial Area Sampling and Analysis Plan FY03 Addendum #IA-03-01, Rocky Flats Environmental Technology Site, Golden, Colorado, September.

DOE, 2002c, Annual Update for the Historical Release Report for the Rocky Flats Plant, Golden, Colorado, September.

2.10 Projected Schedule

The projected schedule for remediation of IHSS Group 400-8 is August 6th through September 5, 2003.

3.0 PUBLIC PARTICIPATION

ER RSOP Notification #03-06 activities will be discussed at the December 2002 ER/D&D Status meeting.

4.0 REFERENCES

DOE, 1992, Historical Release Report for the Rocky Flats Plant, Golden, Colorado.

DOE, 1996, Annual Update for the Historical Release Report, RF/ER-96-0046, Rocky Flats Environmental Technology Site, Golden, Colorado, September.

DOE, 1999, RFCA Standard Operating Protocol for Recycling Concrete, Rocky Flats Environmental Technology Site, Golden, Colorado, September.

DOE, 2001a, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

DOE, 2002a, Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation, Rocky Flats Environmental Technology Site, Golden, Colorado, January.

DOE, 2002b, Industrial Area Sampling and Analysis Plan FY03 Addendum #IA-03-01, Rocky Flats Environmental Technology Site, Golden, Colorado, September.

DOE, 2002c, Annual Update for the Historical Release Report for the Rocky Flats Plant, Golden, Colorado, September.

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Figure 1
IHSS Group 400-8
Location Map

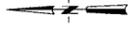
EXPLANATION
IHSS Groupings

- 400-8
- Tanks of Concern
- Foamed and Stabilized Tanks (Source Removed - Interim Status)
- Remaining Tanks
- Sumps
- Original Process Waste Lines (000-121)

Standard Map Features

- Buildings and other structures
- Demolished buildings
- Solar Evaporation Ponds (SEPs)
- Lakes and ponds
- Streams, ditches, or other drainage features
- Fences and other barriers
- Paved roads
- Dirt roads
- Industrial Area Operable Unit Boundary

DATA SOURCE BASE FEATURES:
 PACS
 Annual Release Report (ARR)
 2nd Annual Update
 Sept. 30, 1997
 Environmental Sciences, Inc. (ESI)
 1997-1998 Site Characterization and Remedial Investigation
 DOC 1502, IHSS Report and Subsequent Updates
 Buildings, fences, hydrography roads and other structures from 1994 aerial photo data
 Digitized from the orthophotographs, 1/95



Scale = 1 : 6330
 1 inch represents approximately 628 feet



State Plane Coordinate Projection
 Colorado Central Zone
 Datum: NAD27

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

GIS Dept. 303-966-7707

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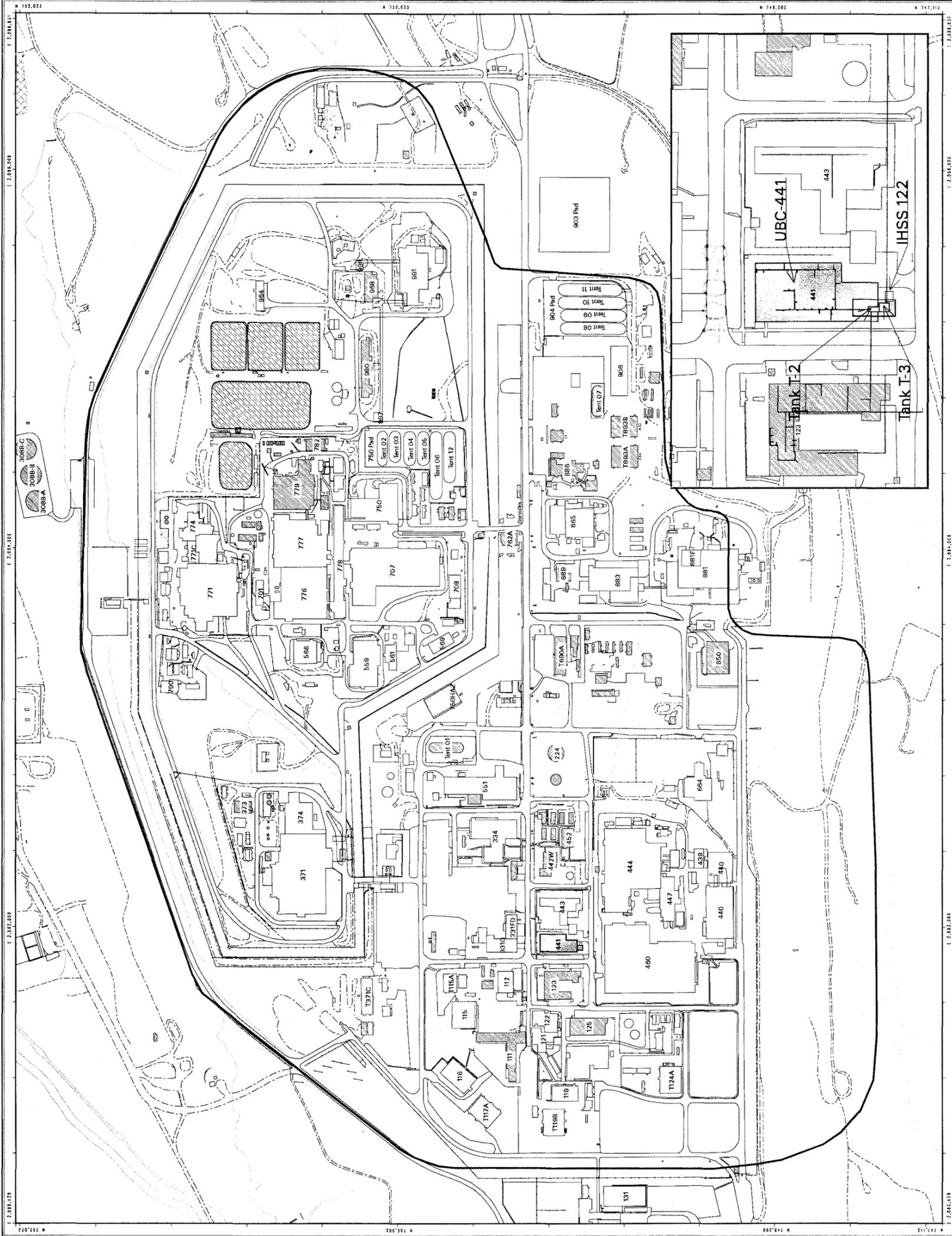
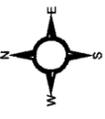


Figure 2
Potential Remediation Area
IHSS Group 400-8

KEY

-  IHSS Group 400-8
-  Building
-  Tank
-  Stream, ditch, or other drainage
-  Paved area
-  Potential air sampling location




Scale = 1:750
 State Plane Coordinate Projection
 Colorado Central Zone
 Datum: NAD 27

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by:



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