AL

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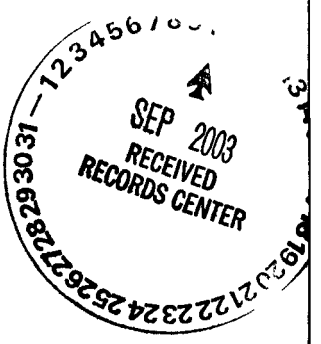
KAISER•HILL COMPANY

ENVIRONMENTAL RESTORATION
RFCA STANDARD OPERATING PROTOCOL
FOR ROUTINE SOIL REMEDIATION
DRAFT FY03 NOTIFICATION #03-11
IHSS GROUP 900-11, PAC SE-1602



September 2003

ADMIN RECORD
BZ-A-000624

1/16

ENVIRONMENTAL RESTORATION
RFCA STANDARD OPERATING PROTOCOL
FOR ROUTINE SOIL REMEDIATION
DRAFT FY03 NOTIFICATION #03-11
IHSS GROUP 900-11, PAC SE-1602

September 2003

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ACRONYMS

AL	Action Level
ALARA	As Low As Reasonably Achievable
BM+2SD	Background Mean + 2 Standard Deviations
BZ	Buffer Zone
BZSAP	Buffer Zone Sampling and Analysis Plan
COC	Contaminant Of Concern
D&D	Decontamination and Decommissioning
DOE	Department of Energy
ER	Environmental Restoration
ER RSOP	Environmental Restoration RFCA Standard Operating Protocol
FY	Fiscal Year
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
nCi/g	nanoCuries per gram (nano = 10^{-9})
NTA	North Target Area (IHSS Group 900-11, PAC SE-1602, East Firing Range)
PAC	Potential Area of Concern
PCOC	Potential Contaminant of Concern
pCi/g	picoCuries per gram (pico = 10^{-12})
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 and Industrial Site Services
RSOP	RFCA Standard Operating Protocol
SSRS	Subsurface Soil Risk Screen
STA	South Target Area (IHSS Group 900-11, PAC SE-1602, East Firing Range)
SVOC	Semi-Volatile Organic Compound
SWD	Soil-Water Database
UST	Underground Storage Tank
UBC	Under Building Contamination
VOC	Volatile Organic Compound
WRW	Wildlife Refuge Worker

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 addresses the remediation of Potential Areas of Concern (PACs) at the Rocky Flats Environmental Technology Site (RFETS) Buffer Zone (BZ) during FY04 The purpose of this Notification is to invoke the ER RSOP for IHSS Group 900-11, PAC SE-1602 PAC SE-1602 is one of four sites within IHSS Group 900-11 Activities specified in the ER RSOP are not reiterated here, however, deviations from the ER RSOP are included where appropriate

PAC SE-1602 encompasses two target areas in what is known as the East Firing Range where the RFETS Security Force practiced with pistols, rifles, and machine guns Target practice resulted in contamination from lead and possibly depleted uranium Lead and depleted uranium bullets and bullet fragments may be present at the surface and in the shallow subsurface

IHSS Group 900-11, PAC SE-1602 is shown in Figures 1 and 2 Proposed remediation sites covered under ER RSOP Notification #03-11 are listed in Table 1

Table 1
Potential Remediation Areas for IHSS Group 900-11, PAC SE-1602

IHSS Group 900-11	IHSS/PAC/UBC Site	PCOCs	Media	Estimated Remediation Volume
PAC SE-1602	East Firing Range-North Target Area	Metal (Lead)	Surface Soil	212 cu yds - Low Level Mixed Waste 228 cu yds - Low Level Waste Total - 440 cubic yards
	East Firing Range-South Target Area	Radionuclides (Uranium),	Surface Soil	
		Metals (Lead and Uranium)	Surface Soil	

2.0 IHSS GROUP 900-11, PAC SE-1602

IHSS Group 900-11, PAC SE-1602 includes the East Firing Range-North Target Area (NTA) and East Firing Range-South Target Area (STA) The PAC sites are shown in Figure 2

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2.1 Potential Contaminants of Concern

Potential contaminants of concern (PCOCs) at IHSS Group 900-11, PAC SE-1602 are listed in Table 1 The PCOCs at PAC SE-1602 were determined based on process knowledge (DOE 1999 and 2002b, Richmond 2003)

2.2 Project Conditions

The following conditions are present within the IHSS Group 900-11, PAC SE-1602 East Firing Range area

- NTA consists of a firing range and berm (approximately 300 feet by 200 feet) Rounds were fired from west to east towards the berm Bullets were found in the berm and may be present up to 20 feet east of the berm Ricocheting bullets may also be present in other directions Handgun and shotgun bullets of various caliber were used in this area (DOE 1999)

- STA is located south of the firing range and on the hillside south of Woman Creek Rounds were fired from the firing range south towards targets and into the hillside Target frames are still present in the target area Bullets were found from the target area to the road above the hillside and may also be present in the drainage Handgun, shotgun and rifle bullets of various calibers (up to 50 caliber), as well as depleted uranium armor-piercing bullets were used in this area (DOE 1999) Depleted uranium armor-piercing bullets were only used for one morning on one day at the firing range (Richmond 2003)

2.3 RFCA Subsurface Soil Risk Screen Evaluation

The SSRS is performed when non-radionuclides and uranium are present in the soil between 6 inches and 3 feet below ground surface, or when americium and plutonium are present between 3 feet and 6 feet below ground surface Current site conditions are evaluated to determine if remediation is required by the SSRS Some aspects of the SSRS cannot be evaluated now, but will be evaluated after characterization See Attachment 5, Figure 3 of the RFCA Modification (DOE et al 2003), for reference to subsections 2 3 1 to 2 3 5

2.3.1 Screen 1-Are COC concentrations below (RFCA) Table 3 WRW Soil Action Levels?

No At Well 3087 a subsurface sample collected from 0 to 9 feet during installation had plutonium-239/240 activities above the RFCA Wildlife Refuge Worker (WRW) AL (Table 2) Well 3087 is located adjacent to the STA not in it It lies about 300 feet west of the northeast corner of the STA between the Central Interceptor Ditch (CID) and access road Other subsurface samples collected in 3087 from 9 to 25 feet did not show elevated plutonium-239/240 activity (Table 2) Elevated plutonium-239/240 activities in subsurface soil at 3087 may be due to surface soil carried into the subsurface during

installation Groundwater samples collected at Well 3087 have not exhibited plutonium-239/240 activities above Groundwater ALs

Table 2
Subsurface Soil Analyses for Plutonium-239/240 at Well 3087

Date	Sample	Start Depth	End Depth	Result	RFA	Units
6/16/87	BH30870010	0 ft.	9 ft.	180	50	pCi/g
	BH308710WS	9 ft.	10 4 ft	0.33	3	nCi/g
	BH30871020	11 5 ft.	17 2 ft.	0 06	3	nCi/g
	BH308720WT	20 ft.	20.8 ft.	0 15	3	nCi/g
	BH308725BR	24 5 ft	25.2 ft.	0 08	3	nCi/g

2.3.2 Screen 2: Is there potential for subsurface soil to become surface soil?

Yes IHSS Group 900-11, PAC SE-1602 is located in an area subject to erosion and landslides in accordance with Attachment 5, Figure 1 of the RFCA Modification (DOE et al 2003)

2.3.3 Screen 3: Does subsurface soil radiological contamination exceed criteria in (RFCA) Section 5.3 and Attachment 14?

No No subsurface soil samples have been collected within IHSS Group 900-11, PAC SE-1602 Soil data from wells near the East Firing Range indicate plutonium-239/240 activities are less than 3 nCi/g

2.3.4 Screen 4: Is there an environmental pathway and sufficient quantity of COC that would cause exceedance of (RFCA) Surface Water Standards (SWS)?

Migration via groundwater and erosion are the two possible pathways whereby surface water could become contaminated by plutonium or americium from IHSS Group 900-11 Plutonium and americium contamination is being evaluated in the IHSS 155 (903 Lip Area) IM/IRA (DOE in press) Remediation of IHSS 155 surface soils will include the NTA of IHSS PAC SE-1602 thus removing this potential source for contamination Migration via groundwater is unlikely because consistently elevated activities for plutonium or americium are not present in groundwater from the PAC SE-1602 area (see Section 2 5 3 and Table 3)

Because PAC SE-1602 lies within a landslide and high erosion zone (see above) sliding and erosion may be a concern (Attachment 5, Figure 1 of the RFCA Modification (DOE et al 2003)) However, a lack of sufficient source volume in PAC SE-1602 alone makes the existence of a pathway to surface water from this area due to sliding or erosion unlikely

The nearest POC for surface water is GS01, which lies approximately 6600 feet southeast of the STA along Woman Creek There are no records indicating elevated plutonium, americium, or uranium activities, or lead concentrations from this monitoring location (DOE 2002c, 2003b) GS01 monitors a drainage basin much broader area than the PAC SE-1603 area alone

2.3.5 Screen 5: Are COC concentrations above (RFCA) Table 3 Action Levels for ecological receptors?

No soil sample results within IHSS Group 900-11, PAC SE-1602 are above Ecological Receptor ALs

Summary

No subsurface and little surface soil sampling has been performed within IHSS Group 900-11, PAC SE-1602 Within PAC SE-1602 two surface-soil analyses for plutonium-239/240 were greater than WRW ALs all other COC concentrations were less than WRW ALs (see Section 2 5 2) There is potential for subsurface soil to become surface soil

2.4 Remediation Plan

This ER RSOP Notification remediation plan for IHSS Group 900-11, PAC SE-1602 includes the following objectives

- Remove spent lead bullets and fragments and associated soil on and around the NTA berm If possible and practical, soils and bullets will be segregated for disposal Bullets, bullet fragments, and associated soil requiring containerization will be disposed of in accordance with 1-PRO-079-WGI-001, *Waste Characterization, Generation, and Packaging* (DOE 2002d)

- Use target frames to select areas where depleted uranium bullets are anticipated Locate spent depleted-uranium bullets and fragments within the top 30 centimeters (1-foot) or as near as possible to the surface in the STA Locate depleted uranium bullets with a backpack, sled, or stroller mounted sodium iodide (NaI) detector(s) Use a grid search pattern to cover the area Mark depleted uranium bullets with pin flags or by other highly visible means

- Remove depleted uranium bullets or fragments in the STA A remediation worker will remove bullets or fragments at marked locations with a shovel and place them in an appropriate disposal container Lead bullets encountered in this activity will also be removed and segregated Bullets and fragments will be disposed of in accordance with 1-PRO-079-WGI-001, *Waste Characterization, Generation, and Packaging* (DOE 2002d)

- Consult with regulatory agencies if contaminant concentrations are greater than the proposed Ecological Receptor ALs but lower than the WRW ALs

- Confirmation soil analyses will be collected at all locations where depleted uranium bullets were removed to show that remediation is successful

- Remove asphalt from the East Firing Range-NTA parking area as low level waste

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2.5 Stewardship Evaluation

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 and will be documented in the IHSS Group 900-11, PAC SE-1602 Closeout Report A new map of residual contamination will be generated after remediation

2.5.1 Proximity to Other Contaminant Sources

IHSS Group 900-11, PAC SE-1602 lies within the RFETS BZ The NTA and is located just to the east/southeast of IHSS 155, the 903 (Pad) Lip Area IHSS 155 is also in IHSS Group 900-11 The STA is not immediately adjacent to an IHSS

2.5.2 Surface Water Protection

Surface water protection includes the following considerations

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

There are potential pathways to surface water from IHSS Group 900-11, PAC SE-1602 Drainage from the NTA is to the south, and surface runoff is conveyed to Woman Creek Drainage from the STA is to the north, and surface runoff is also conveyed to Woman Creek

Do characterization data indicate there are contaminants in surface soil?

Existing surface soil data for IHSS Group 900-11, IHSS 155, the 903 Lip Area, to the west and north, indicate that plutonium-239/240 and americium-241 activities are above WRW ALs (DOE in press) Three surface soil samples have been collected within PAC SE-1602 and two of these contain contamination related to IHSS 155 Results from the two PAC SE-1602 samples collected between 0 and 0 5 feet, at 090100 and 090200, exhibited plutonium-239/240 activities greater than the WRW AL Samples at 090300 from 0-0 5 and 0 5-1 feet and from 0 5-1 feet in 090100 and 090200 had activities less than the WRW AL Surface soil from PAC SE-1602 will be remediated with respect to plutonium as part of the IHSS 155 project (DOE in press)

Surface soil samples surrounding the PAC SE-1602 STA (five locations) contained lead concentrations greater than the Ecological Receptor AL but generally below the Background Mean + 2 Standard Deviations (BM+2SD) In one case lead at PT057 was also above the BM+2SD

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

Surface water may be impacted by soil within IHSS Group 900-11, PAC SE-1602 However, plutonium, americium, and lead water-quality standards for the nearest RFCA Point of Compliance (POC) (GS01) downstream from IHSS Group 900-11, PAC SE-1602 PCOCs have been not exceeded The drainage basin for GS01 extends beyond the NTA and STA of PAC SE-1602 and includes part of the Industrial Area (IA) along its

north side The size of the GS01 drainage basin and nature of its subbasins may make identification of a specific source difficult Surface water monitoring locations SW053 and SW054 collect water from small drainages below the NTA of PAC SE-1602 that flow into Woman Creek Lead concentrations at these two locations have generally been below the Surface Water AL (93 analyses) However, in three cases lead concentrations exceeded the Surface Water AL

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

IHSS Group 900-11, PAC SE-1602 is located in an area subject to erosion in accordance with Figure 1 of the RFCA Modification (DOE et al 2003)

2.5.3 Monitoring

Monitoring includes the following considerations

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

Groundwater analytical data indicate that RFCA groundwater ALs are exceeded at a number of wells in the vicinity These wells and their RFCA groundwater AL exceedances are listed in Table 3 In general the Volatile Organic Compounds (VOCs), carbon tetrachloride, tetrachloroethene, and trichloroethene concentrations are greater than RFCA Tier II groundwater ALs in Wells 00391, 00491, 01291, 01298, 01698, 0171, 1487, 60394, 60494, 60594, 90099 and 90399 None of these wells lies within PAC SE-1602, most are between the NTA (downgradient from it) and Woman Creek Carbon tetrachloride concentrations are greater than the RFCA Tier I groundwater AL in Wells 00391, 00491, 01298, 0171, 1487, and 90099 Trichloroethene concentrations are greater than the RFCA Tier I groundwater AL at Wells 01298 and 90099 Note that VOCs are not Potential Contaminants of Concern (PCOCs) for PAC SE-1602

Both nickel and selenium were found at concentrations greater than RFCA Tier II groundwater ALs at Well 2987 (Table 3) Well 2987 (abandoned) was located between the access road and the CID on the north side of Woman Creek Note that nickel and selenium are also not PCOCs for PAC SE-1602

As shown in Table 3, only in Well 90299 did uranium–235 exceed the RFCA Tier II groundwater AL Well 90299 is located downgradient from the NTA above both the access road and Woman Creek

Five of twenty-one plutonium-239/240 analyses in Well 00391 and three of nineteen analyses in Well 0171 were above RFCA Tier II ALs There does not seem to be a pattern over time for the elevated activities with those below the ALs in either well Elevated americium-241 activities are not present in either well Both wells are within the 903 Lip Area, IHSS 155 Well 00391 lies about 150 feet west-northwest of the NTA Well 0171 (abandoned) was about 450 feet west of the NTA The elevated groundwater activities detected in these two wells is probably due to surface soil contamination associated with IHSS 155 being carried downhole during well installation

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Wells in the IHSS PAC SE-1602 NTA area capture groundwater from either IHSS Group 900-11 (903 Pad) (DOE 2000) or the East Trenches Plume (DOE 2003a) VOCs are known contaminants in the 903 Pad and East Trenches Plume and these are the probable sources areas for the VOCs in the wells on the north side of the Woman Creek drainage Metals are not thought to be COCs in the 903 Pad (DOE 1995) therefore there appears to be a point source for nickel and selenium in Well 2987 Plutonium-239/240 and uranium-235 are soil COCs in IHSS Group 900-11 and could therefore impact groundwater

Table 3
Contamination in Groundwater Wells in the PAC SE-1602 Area

00391	160	130	-	1100	-	-	-	0 5
00491	40	120	113	500	-	-	-	-
01291	-	12	-	15	-	-	-	-
01298	15 1	560	-	164	-	-	-	-
01698	6	30 3	-	50 8	-	-	-	-
0171	180	430	190	2300	-	-	-	0 91
1487	18	470	-	690	-	-	-	-
23196	-	-	-	-	-	-	-	-
2987	-	-	-	-	2150	442	-	-
50092	-	-	-	-	-	-	-	-
60394	-	9	-	-	-	-	-	-
60494	61 4	64 5	-	167	-	-	-	-
60594	8	78 6	-	-	-	-	-	-
90099	40	1400	100	750	-	-	-	-
90299							2 13	-
90399	13	380	-	450	-	-	-	-
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	pCi/L

Can the impact be traced to a specific IHSS Group?

Impacts can not be traced solely to IHSS Group 900-11, PAC SE-1602, although, SE-1602 could be a secondary source of radionuclide contamination VOC concentrations are likely sourced from the East Trenches and/or 903 Pad areas Nickel and selenium in Well 2987 do not appear to associated with any other wells and may be natural

Are additional monitoring stations needed?

Not applicable at this time The need for and placement of monitoring stations will be re-evaluated in the *Long-Term Stewardship Plan*

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

Not applicable Existing wells monitor contamination from areas within and outside IHSS Group 900-11, PAC SE-1602

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2.5.4 Actions and Recommendations

The current stewardship actions and recommendations for IHSS Group 900-11, PAC SE-1602 are as follows

- Use Best Management Practices to reduce erosion into surface water drainage
- Implement near-term institutional controls until final closure and stewardship decisions are implemented, including the following
  - Fencing and signs to restrict access, and
  - Soil excavations controlled through the Site Soil Disturbance Permit process
- Implement long-term stewardship actions, including the following
  - Prohibitions on construction of buildings in the Buffer Zone,
  - Restrictions on excavations or other soil disturbance, and
  - Prohibitions on groundwater pumping in the area of IHSS Group 900-11

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

2.6 Accelerated Action Remediation Goals

ER RSOP remedial action objectives include the following

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

2.7 Treatment

Not applicable

2.8 Project-Specific Monitoring

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

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

Not applicable

2.10 Administrative Record Documents

DOE, 1995, Final Phase II RFI/RI Report, 903 Pad, Mound, East Trenches Area, Operable Unit No 2, RF/ER-95-0079 UN, U S DOE, Rocky Flats Plant, Golden, CO

DOE, 1999, Annual Update for the Historical Release Report, RF/RMRS-99-428 UN, September

DOE, 2000, Characterization Report for the 903 Drum Storage Area, 903 Lip Area, and Americium Zone, RF/RMRS-99-427 UN, Rev 1, KH, June 26, 2000

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

DOE, 2002b, Final Buffer Zone Sampling and Analysis Plan, June

DOE, 2002c, Final Rocky Flats Environmental Technology Site, Automated Surface-Water Monitoring Report, Water Years 1997-2000, RF/EMM/WP-02-SWMANLRRP UN, September 2002

DOE, 2002d, RFETS Administrative Procedure 1-PRO-079-WGI-001, Waste Characterization, Generation, and Packaging, Rev 4, May 31,2002

DOE, 2003a, Integrated Monitoring Plan Background Document, Rocky Flats Environmental Technology Site, Golden, Colorado, April

DOE, 2003b, Automated Surface Water Monitoring Report – Second Quarter FY 03, Rocky Flats Environmental Technology Site, Golden, Colorado

DOE, in press, IHSS Group 900-11, IHSS 155 903 Outer Lip Area IM/IRA

DOE, CDPHE, EPA, 2003, Modifications to the Rocky Flats Cleanup Agreement Attachment, U S Department of Energy, Colorado Department of Public Health and Environment, and U S Environmental Protection Agency, Rocky Flats Environmental Technology Site, Golden, Colorado, June

Richmond, 2003, Personal communication Mr Louis C Richmond, WSLLC, to Nicholas Demos, July 30, 2003

2.11 Projected Schedule

Remediation of IHSS Group 900-11, SE-1602 is expected to begin in first quarter of FY 04

3.0 PUBLIC PARTICIPATION

ER RSOP Notification #03-11 activities were discussed at the September 2003 ER/D&D Status meeting A PDF version of this notification was provided to the local

governments This notification is available at the Rocky Flats Reading Rooms and on the EDDIE website at www rfets gov

4.0 REFERENCES

DOE, 1995, Final Phase II RFI/RI Report, 903 Pad, Mound, East Trenches Area, Operable Unit No 2, RF/ER-95-0079 UN, U S DOE, Rocky Flats Plant, Golden, CO

DOE, 1999, Annual Update for the Historical Release Report, RF/RMRS-99-428 UN, September

DOE, 2000, Characterization Report for the 903 Drum Storage Area, 903 Lip Area, and Americium Zone, RF/RMRS-99-427 UN, Rev 1, KH, June 26, 2000

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

DOE, 2002b, Final Buffer Zone Sampling and Analysis Plan, June

DOE, 2002c, Final Rocky Flats Environmental Technology Site, Automated Surface-Water Monitoring Report, Water Years 1997-2000, RF/EMM/WP-02-SWMANLRRP UN, September 2002

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DOE, 2003a, Integrated Monitoring Plan Background Document, Rocky Flats Environmental Technology Site, Golden, Colorado, April

DOE, 2003b, Automated Surface Water Monitoring Report – Second Quarter FY 03, Rocky Flats Environmental Technology Site, Golden, Colorado

DOE, in press, IHSS Group 900-11, IHSS 155 903 Outer Lip Area IM/IRA

DOE, CDPHE, EPA, 2003, Modifications to the Rocky Flats Cleanup Agreement Attachment, U S Department of Energy, Colorado Department of Public Health and Environment, and U S Environmental Protection Agency, Rocky Flats Environmental Technology Site, Golden, Colorado, June

Richmond, 2003, Personal communication Mr Louis C Richmond, WSLLC, to Nicholas Demos, July 30, 2003

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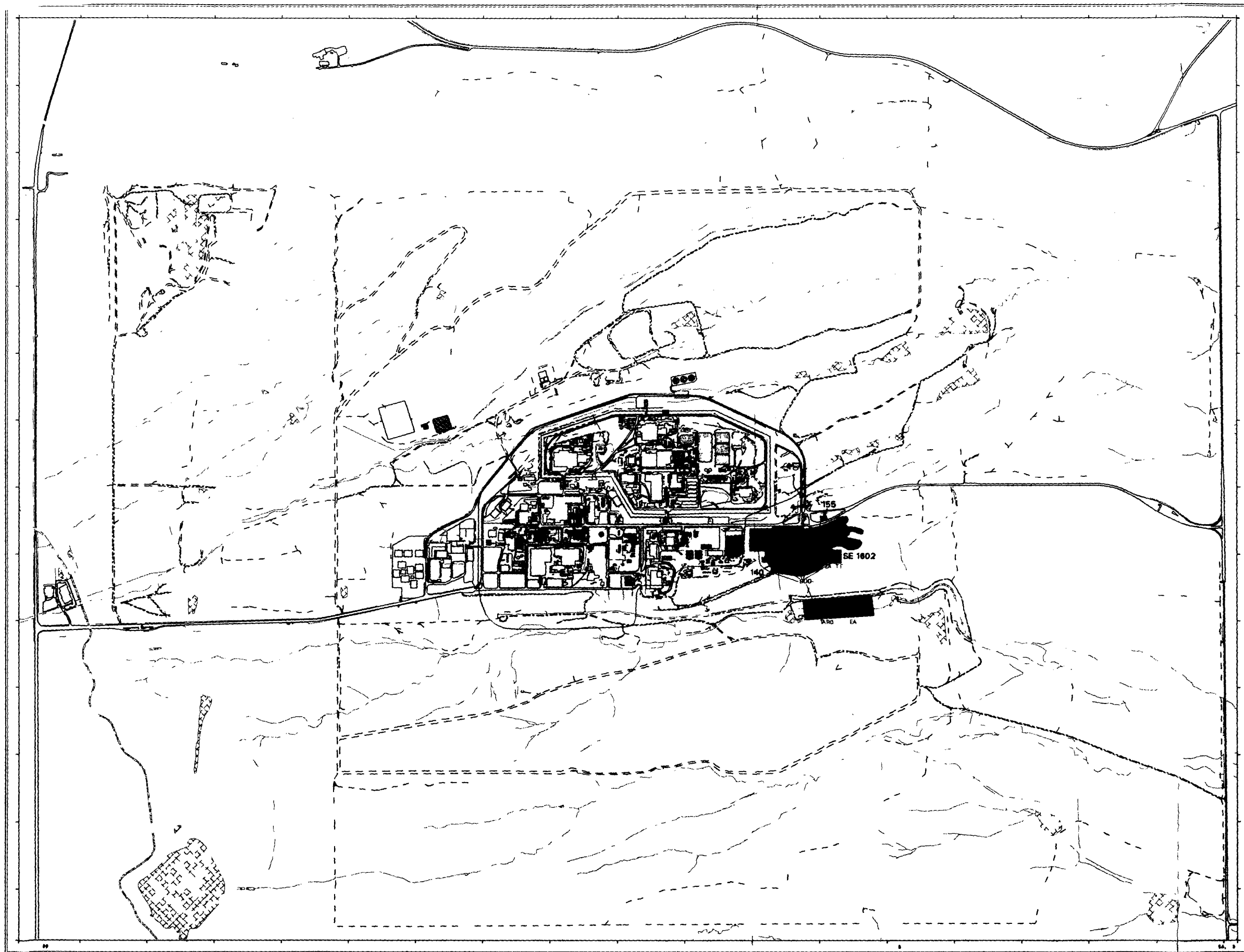
Figure 1
IHSS Group 900-11 PAC SE-1602



EXPLANATION

IHSS Groupings

900 11

Standard Map Feature

Building and other structure

Demolished building and Other Structure

Lakes and ponds

Stream ditches, other drainage areas

Fence and other barrier

Paved roads

Dirt road

Solar Evaporation Ponds (SEPs)

Industrial Area Operable Unit Boundary

DATA SOURCE BASE FEATURE
PACs
Historical Release Report (HRR)
2nd Annual Update
Sept 30, 199
Individual Hazardous Substance Sites (IHSS)
DOE, 1992, HRR Report and Subsequent Updates.
Buildings, fences, hydrography, roads and other structures from 1994 aerial fly-over data captured by EG&G RSL, Las Vegas.
Digitized from the orthophotographs, 1/95

0 1000 2000

State Plane Coordinate Projection
Colorado Central Zone
Datum NAD27

U S Department of Energy
Rocky Flats Environmental Technology Site

GIS Dept. 303-966-7707

Prepared by: CH2MHILL

Prepared for: KAISER-HILL

September 04, 2003

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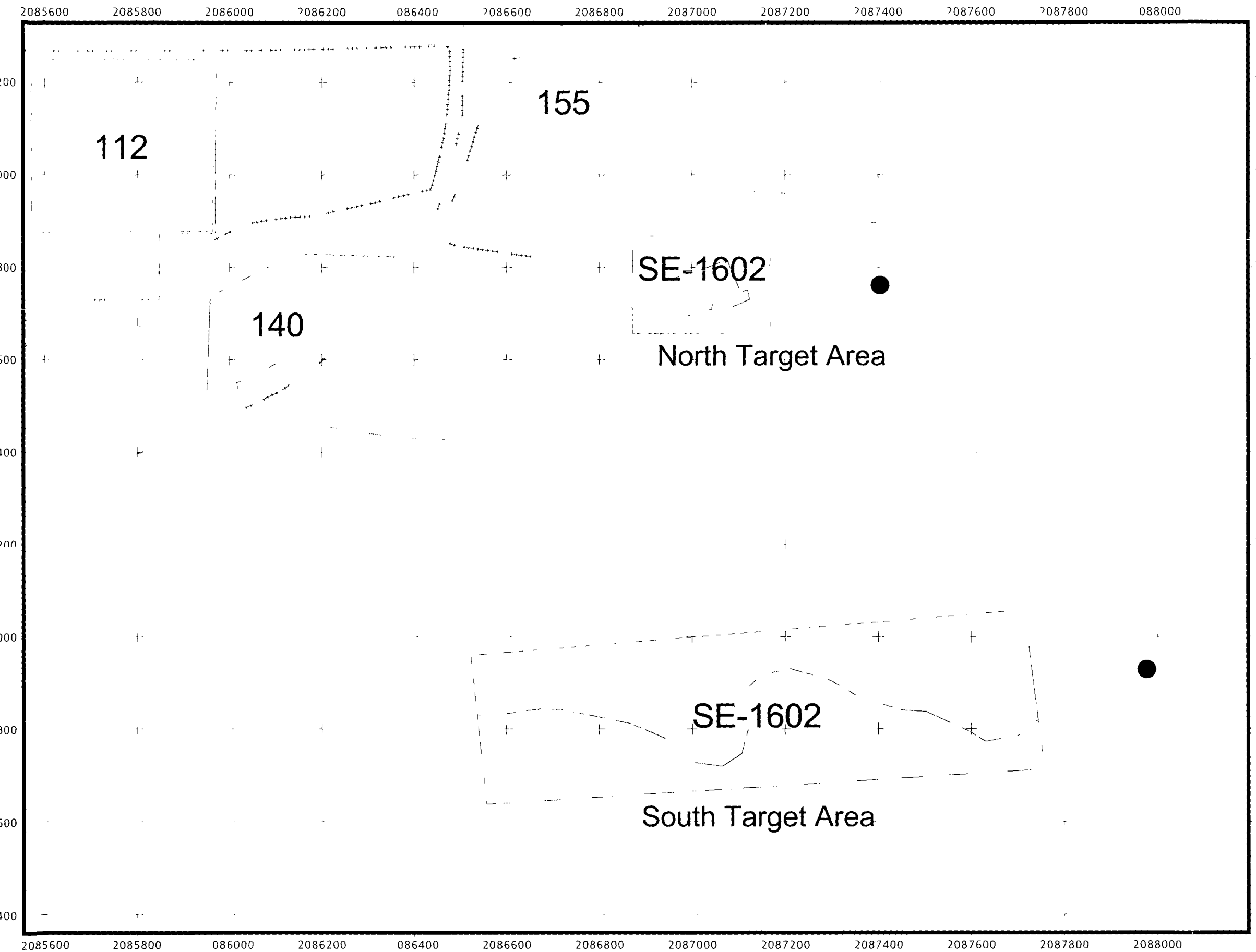

Figure 2
Potential Remediation Areas
IHSS Group 900 11
PAC SE 1602

KEY

- PAC SE 160
- IHSS
- Streams
- Paved Road
- Dirt Road
- Fence
- Approximate Location of Air Sampler

100 0 100 200 300 Feet

Scale 1 500

State Plane Coordinate Projection
Colorado Central Zone
Datum NAD 27

U S Department of Energy
Rocky Flats Environmental Technology Site

Prepared by RADMS

Prepared for KAISER HILL

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