



US Army Corps
of Engineers

Camp Adair

Public Meeting

July 18, 2006

Agenda



- Welcome / Project Introduction:
Mike Nelson, USACE Seattle
- Administrative Comments:
Mike Nelson, USACE Seattle
- MMRP SI work:
Dale Landon, Shaw
Environmental - USACE Omaha contractor
- Questions and Answers: Mike Nelson



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Camp Adair Adair Air Force Station

Military Munitions Response Program
Site Inspections



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Background

- For decades, Department of Defense (DoD) has used military munitions in training and testing to achieve force readiness
- When ranges are put to another use, it is necessary to protect human health and the environment from potential hazards



What Could Be There?

- Munitions and Explosives of Concern (MEC)
 - Unexploded Ordnance (UXO)
 - Discarded Military Munitions
 - Explosive Munitions Constituents
- Munitions Constituents (MC)



Why Now?

- In 2002 (National Defense Authorization Act), Congress required DoD to:
 - Create an inventory of defense sites known or suspected of containing munitions or munitions constituents
 - Prioritize sites needing action
 - Give Congress a response plan



DoD's Response

- Military Munitions Response Program
- DoD has identified over 3,300 sites
 - Active installations (1,333)
 - Base Realignment & Closure (318)
 - Formerly Used Defense Sites—FUDS (1,658)
- Site Inspections to be completed by 2010



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FUDS Site Inspections

- U.S. Army Corps of Engineers (USACE)
- Shaw Environmental, Inc.
- Oregon Department of Environmental Quality
- U.S. Environmental Protection Agency
- Stakeholders--Land owners, residents, public



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Site Inspection (SI) Goal

- Are munitions or munitions constituents present?





Possible Outcomes of SI

- Eliminate a site from further action
- Determine need to investigate further
 - Remedial Investigation (RI)
 - Feasibility Study (FS)
- Determine need for a time-critical removal action



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Yardsticks

- SI provides information needed for
 - EPA's Hazard Ranking System for National Priorities List (Superfund) sites
 - DoD's new Munitions Response Site Prioritization Protocol



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SI Process

- Review data
- Technical Project Planning (TPP)
- **Work Plan**
- Field work
- SI Report



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Site History

- Army acquired 57,000 acres, beginning in 1941
- Many residents were displaced from farms, homes, and the town of Wells



Ben Maxwell, 1941

Salem (Oregon) Public Library Historic Collection



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Infantry Division Training

- Camp Adair trained triangular (three-regiment) infantry divisions from 1942 to 1944



Ben Maxwell, 1942

Salem (Oregon) Public Library Historic Collection



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Divisions at Camp Adair

- 96th Deadeye
 - Aug 42 – May 43
- 104th Timberwolf
 - Sep 42 – Aug 43
- 70th Trailblazer
 - Jun 43 – Jul 44
- 91st Powder River
 - Nov 43 – Mar 44

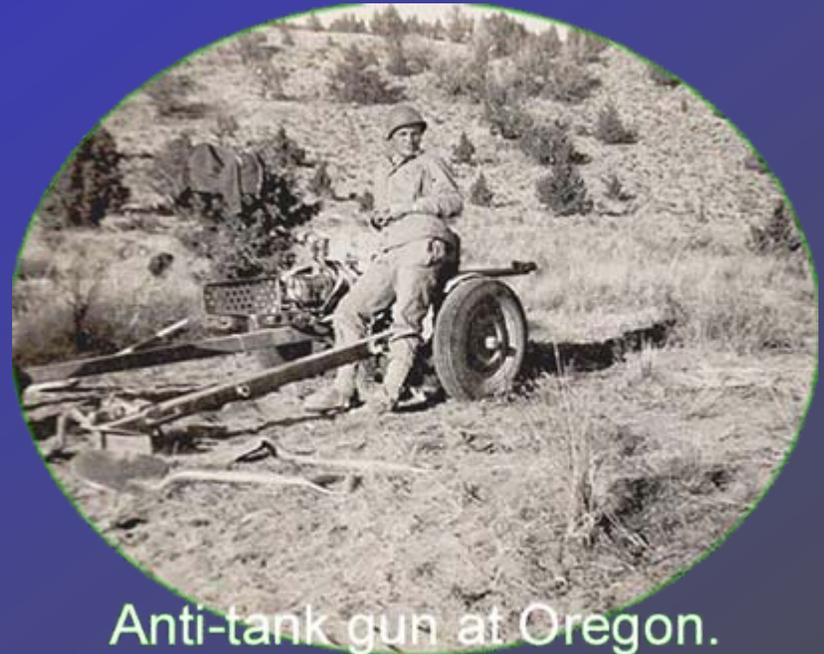




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Training Activities

- Small arms
- Mortars & rockets
- 37 & 57 mm gun
- 105 & 155 mm howitzer
- Tank/aircraft (bombs to 500 lb)
 - ~265,000 HE rounds fired in last two years



Anti-tank gun at Oregon.

Timberwolf Artifacts website

<http://timberwolf104.tripod.com>



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Other Activity (1944-46)

- Navy/Marine pilot bombing and gunnery
- Storage facility
- POW Camp
- Navy Hospital



Ben Maxwell, 1942

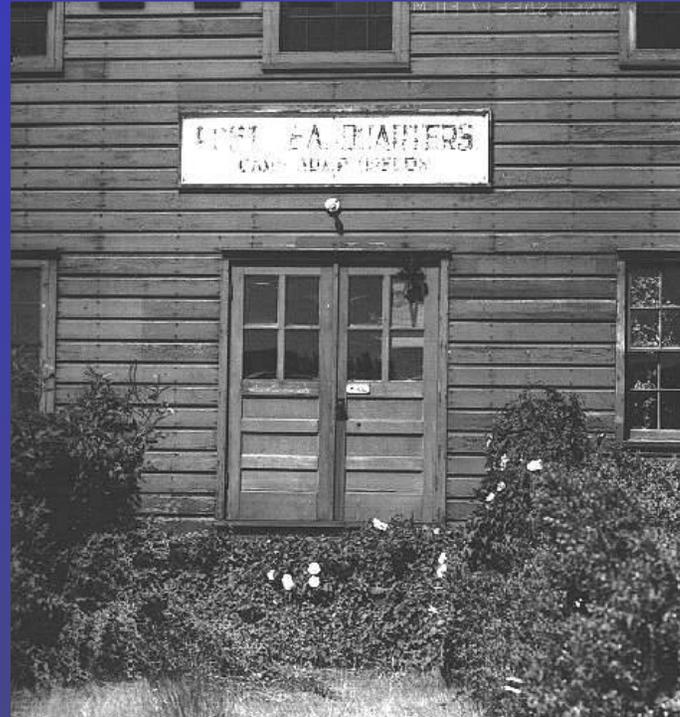
Salem (Oregon) Public Library Historic Collection



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Other Activity (Post-War)

- Declared surplus in April 1946
- Certificate of Clearance in 1947
- 1950's removal of buildings
- Adair Air Force Station (1958-1969)
 - Munitions activity only at skeet range



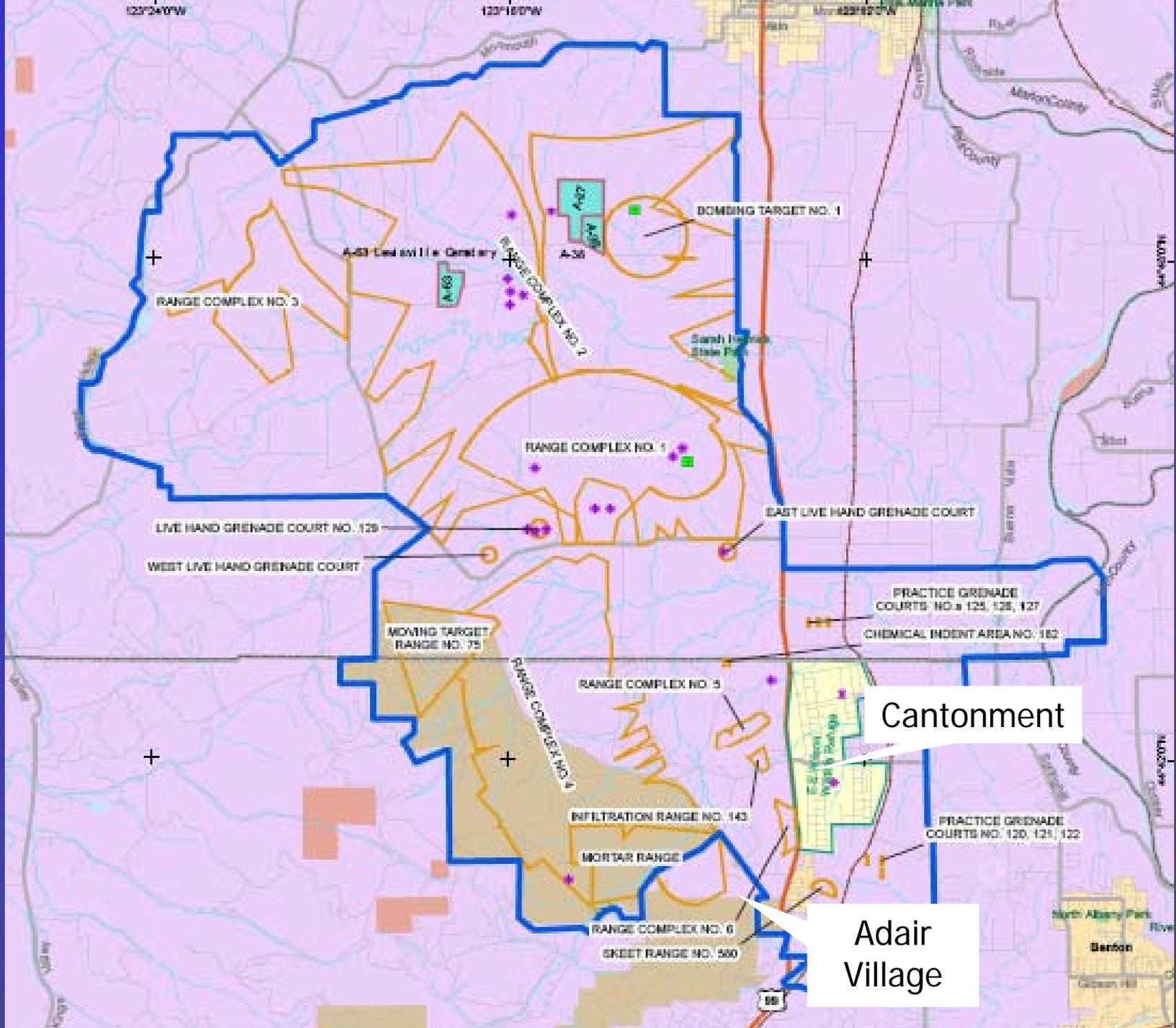
Ben Maxwell,
1954 Salem
(Oregon) Public
Library Historic
Collection



Ben Maxwell, 1957
Salem (Oregon) Public
Library Historic
Collection



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Current & Future Use

- Agricultural
- Forest
- Residential
- Commercial
- Wildlife management
- Recreation
- National Guard



Polk County (Oregon) website



E.E. Wilson Wildlife Area website



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Project History

- 1992 Inventory Project Report
- 1996 Screening Site Inspection (URS for USEPA)
- 2001 Archive Search Report (ASR)
- 2004 ASR Supplement
- Other Environmental Work
 - Hazardous/toxic waste



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Encounters with Munitions

- Live 60mm mortar-north of Airlie Rd-2001
- MK I illumination grenade-landfill-1997
- 60mm mortar-OR Fish & Wildlife-1995
- Incendiary round hit/burned-near Monmouth-1986
- Smoke rounds-near pillboxes-1956+
- 81mm mortar-1951
- Hand grenades-Live Hand Grenade Courts
- 2.36" rocket-Parade Field/Coffin Butte
- Mortar-south central cantonment pond digging



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Potentially Affected Media

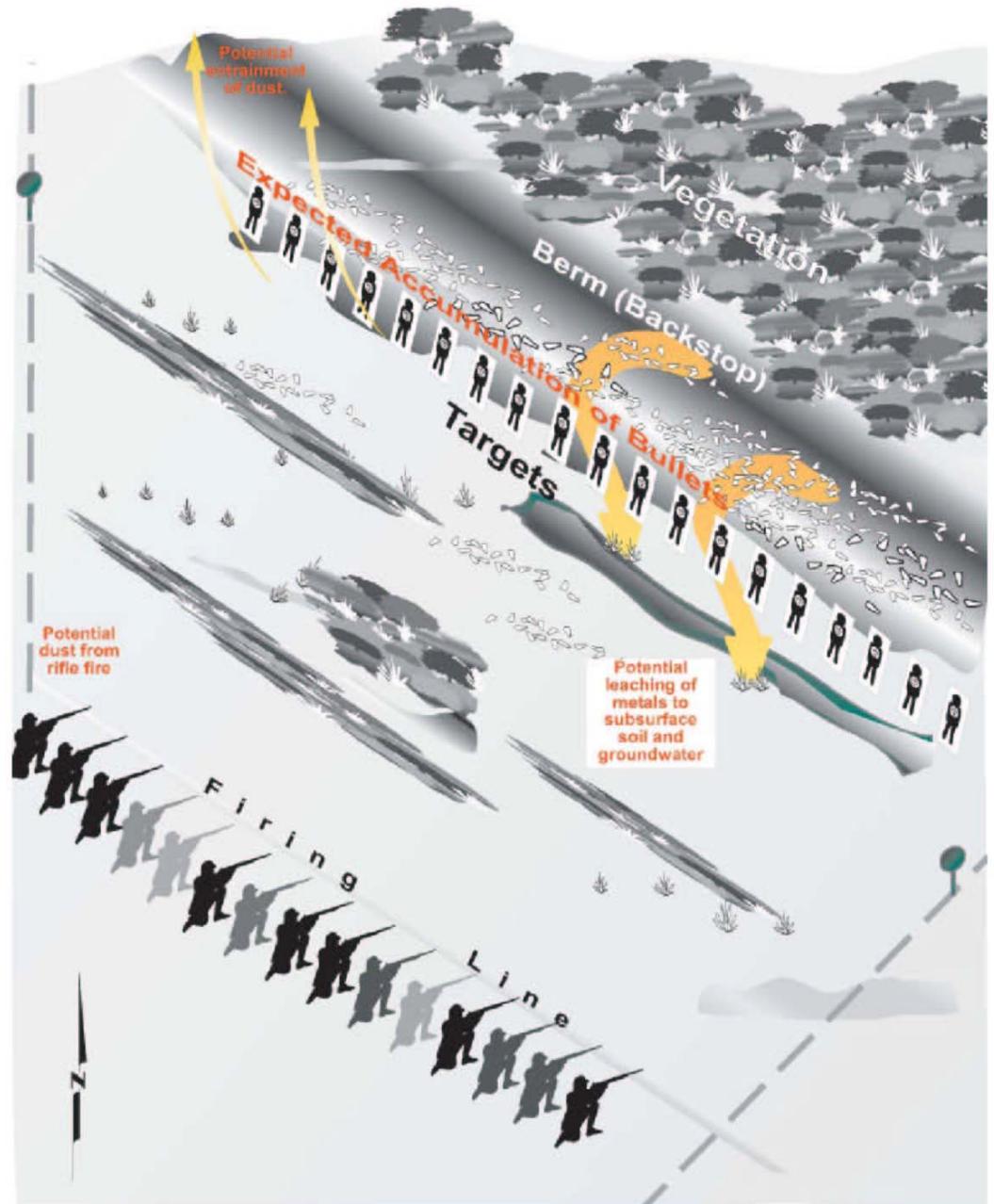
- Soil
- Surface water & sediment
- Groundwater



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Conceptual Site Model- Small Arms Ranges

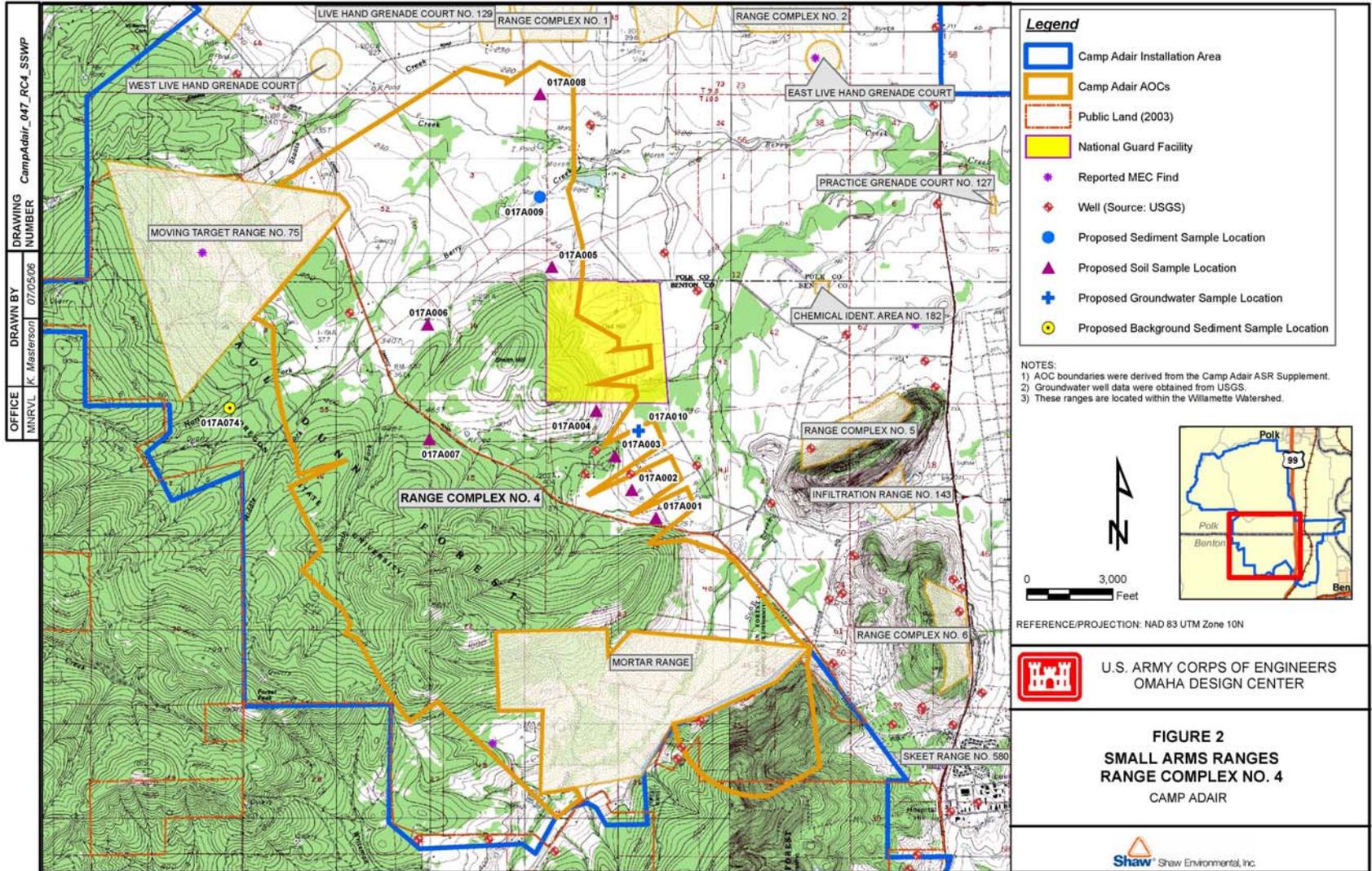
- Non-explosive projectiles (lead)
- Black powder propellant





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Range Complex No. 4



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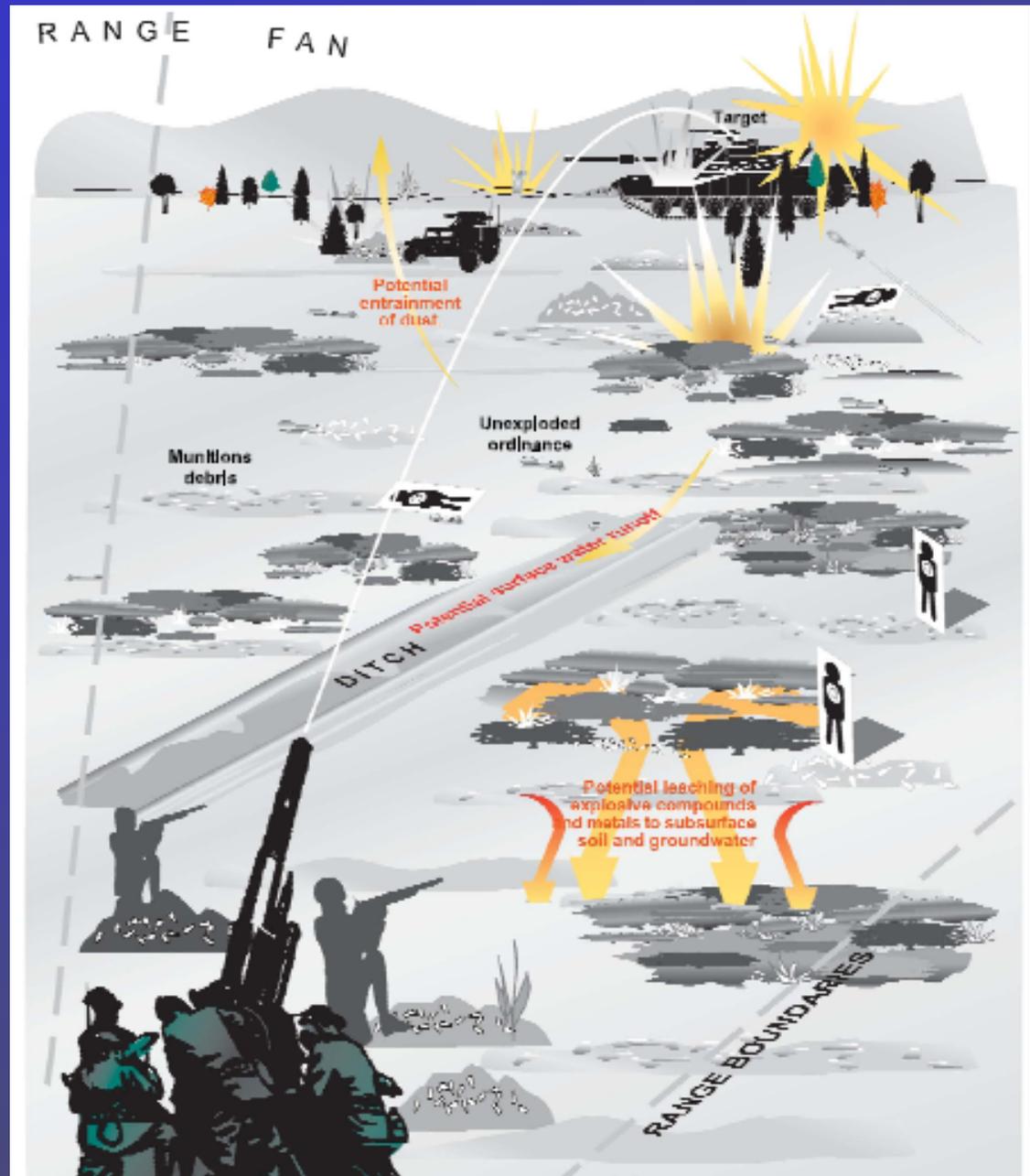
FIGURE 2
SMALL ARMS RANGES
RANGE COMPLEX NO. 4
CAMP ADAIR



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Conceptual Site Model- Explosive Munitions Ranges

- Explosive projectiles and propellant
- Metals

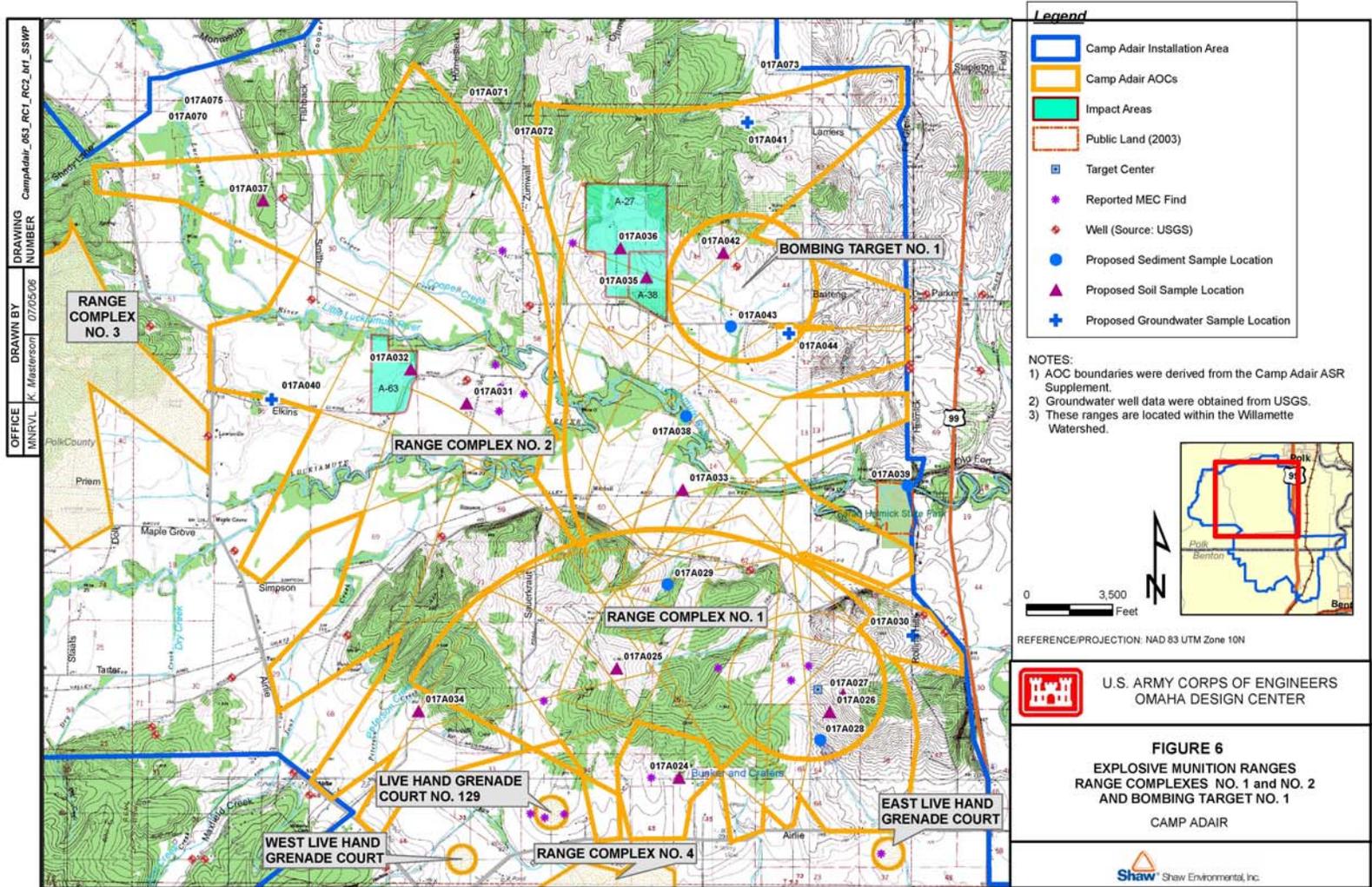




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Range Complex No. 1 & 2

Bombing Target No. 1





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Range Complex No. 1 & 2

Bombing Target No. 1

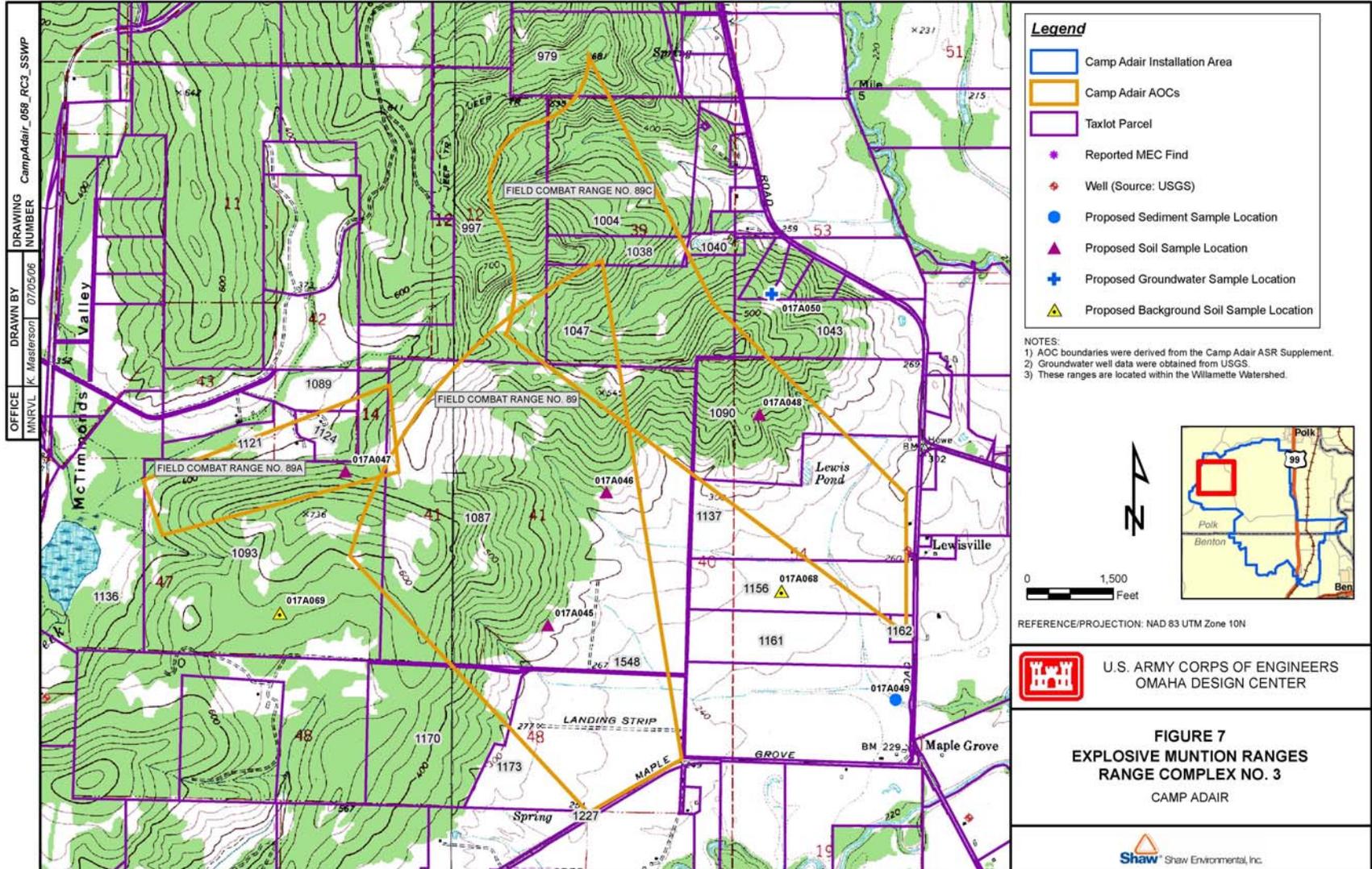
- Fortified Training Area
- Bombing Targets
- Field Combat Ranges
- Moving Target Ranges
- Mortar Range
- Infiltration Range

- Live HE 60mm mortar, 2001
- Detonated by Oregon State Police Bomb Disposal Unit





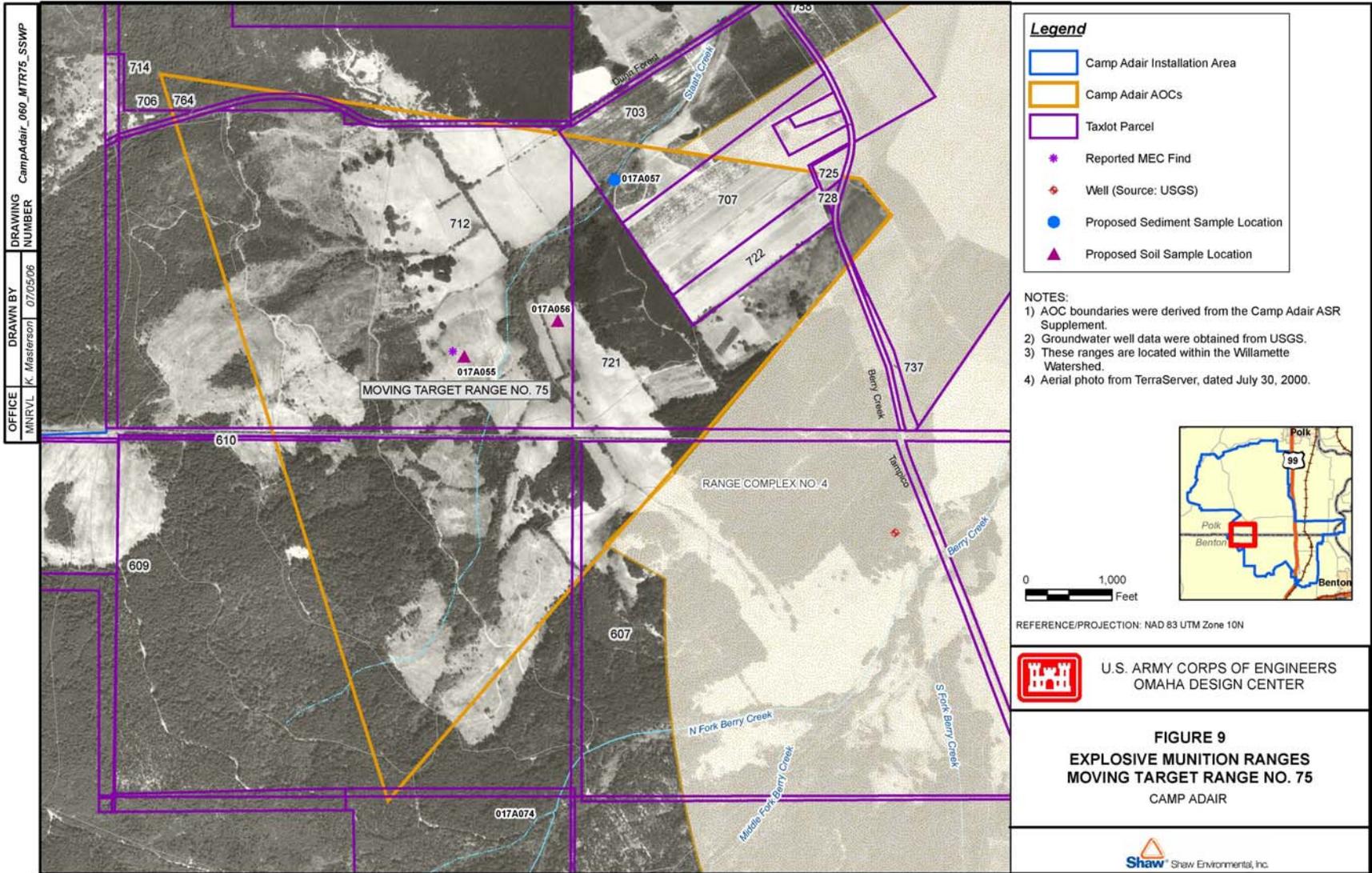
Range Complex No. 3





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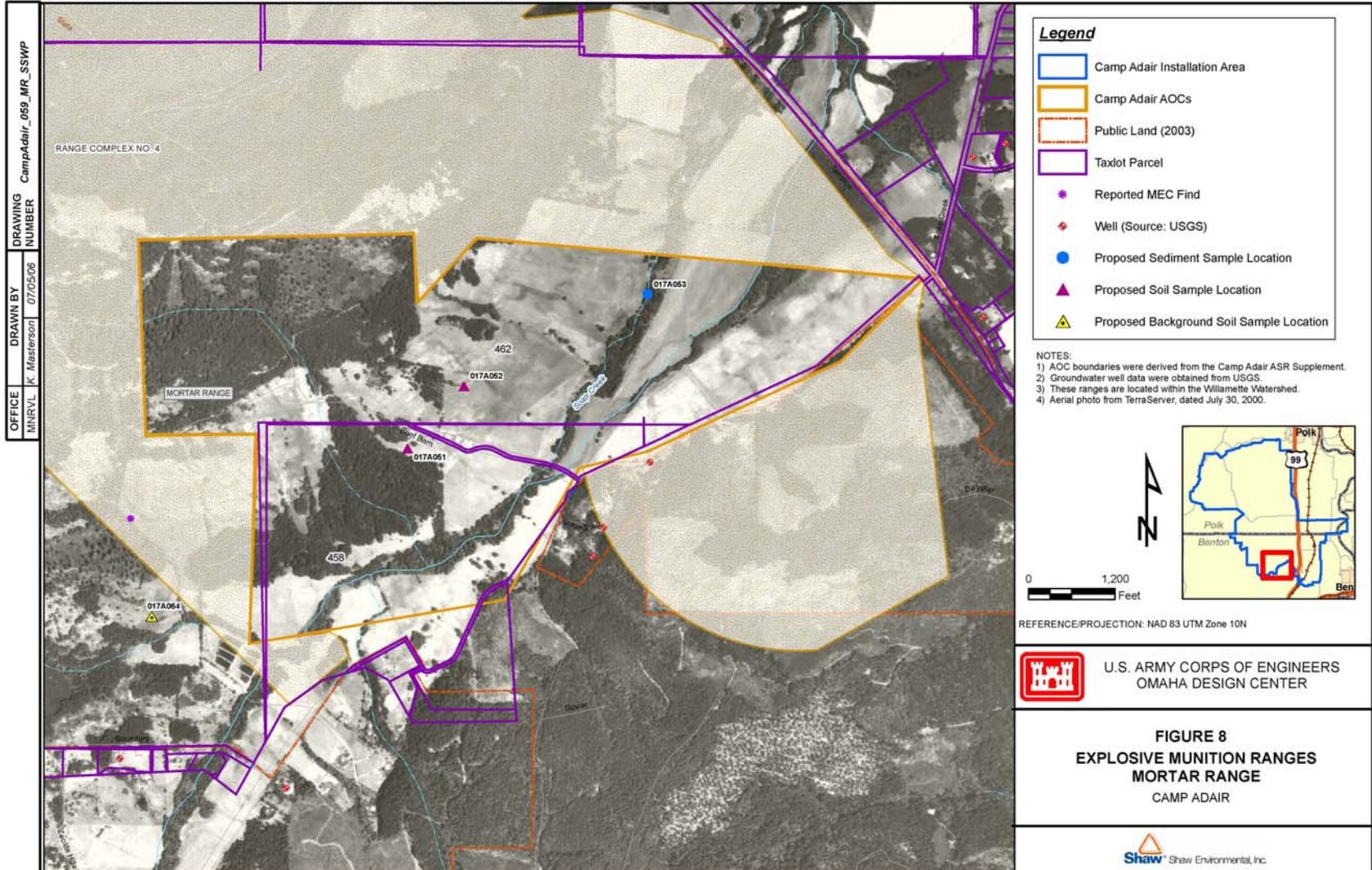
Moving Target Range No. 75





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Mortar Range



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FIGURE 8
EXPLOSIVE MUNITION RANGES
MORTAR RANGE
CAMP ADAIR

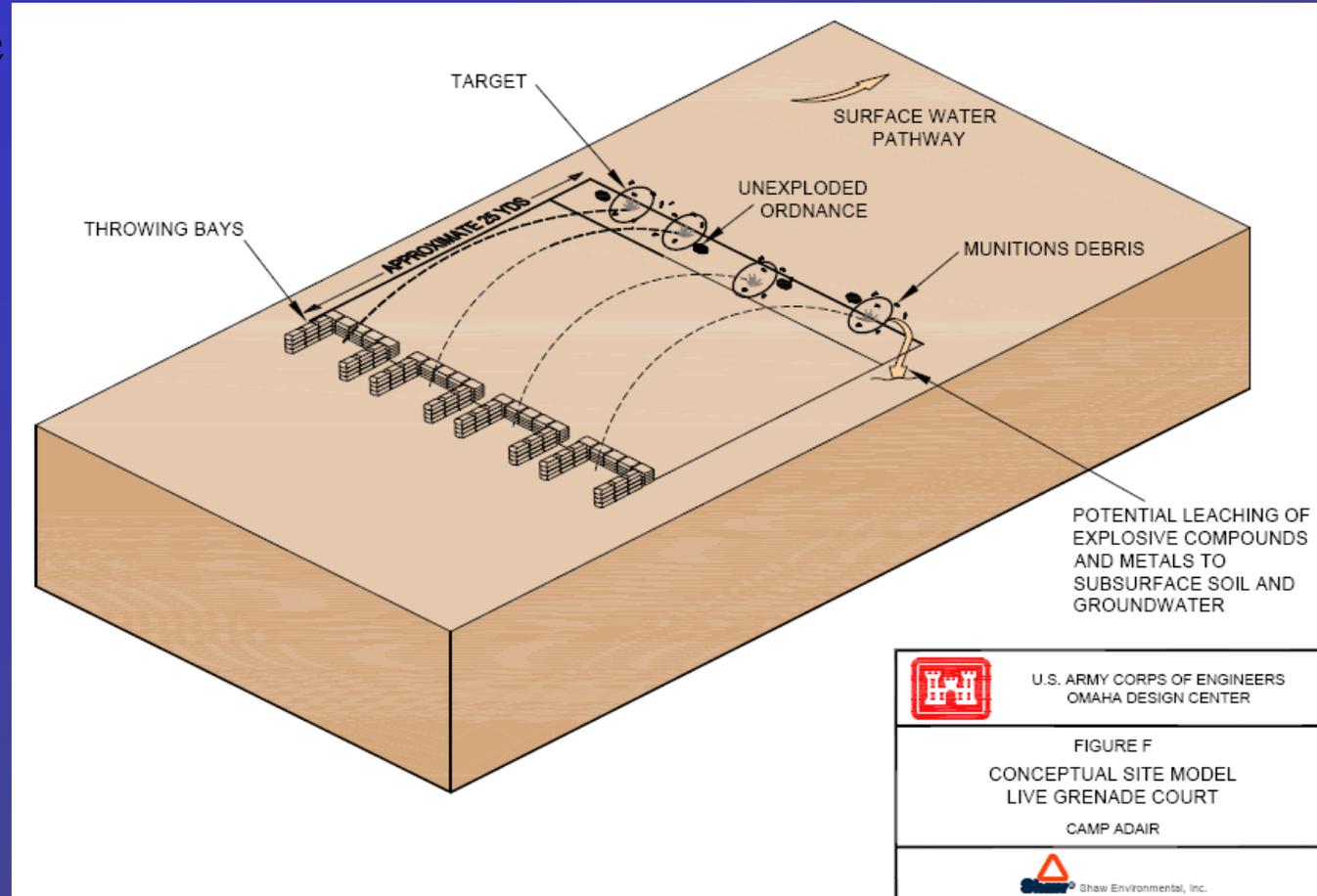




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Conceptual Site Model- Live Hand Grenade Courts

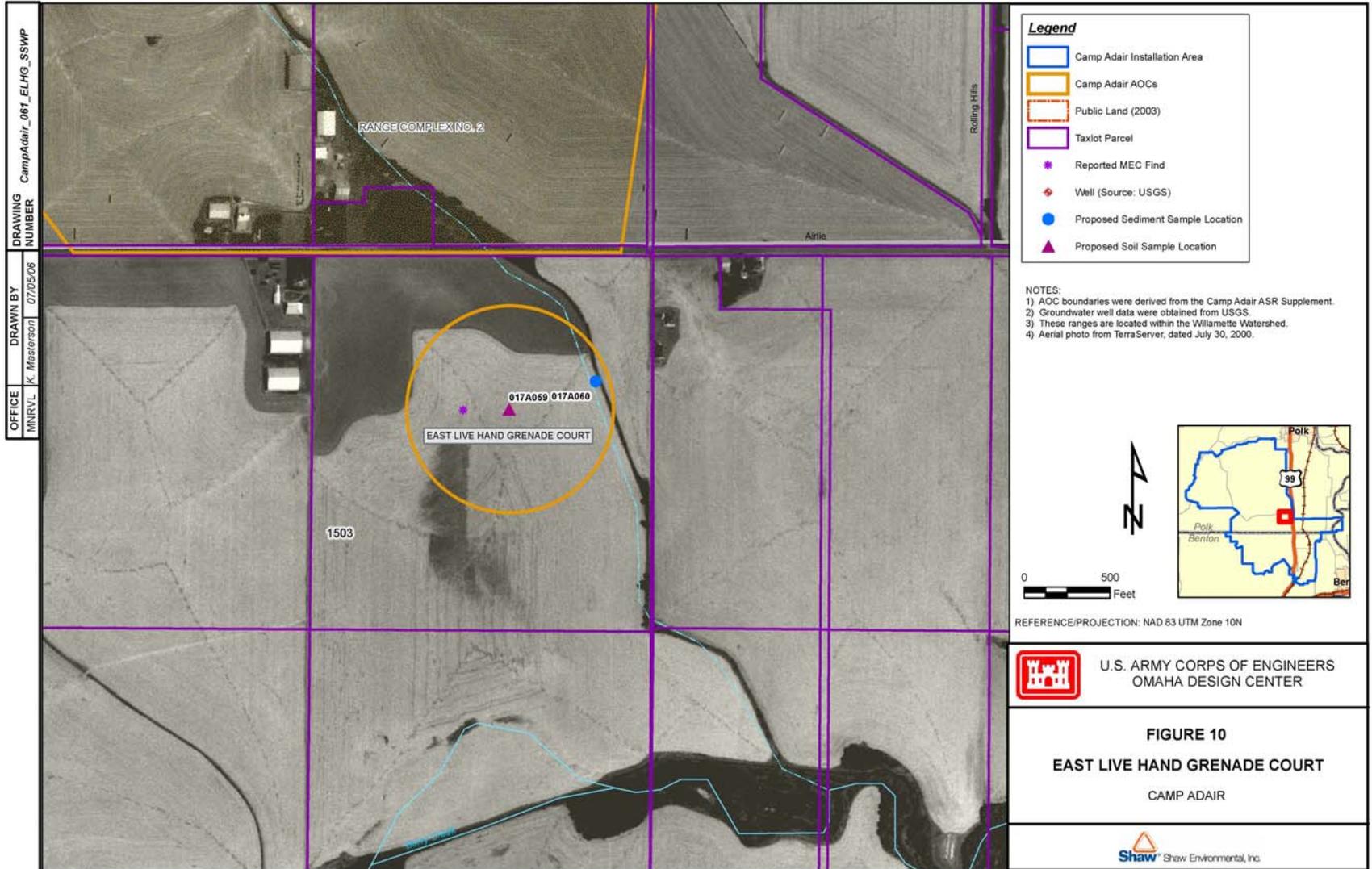
- Explosives
- Metals





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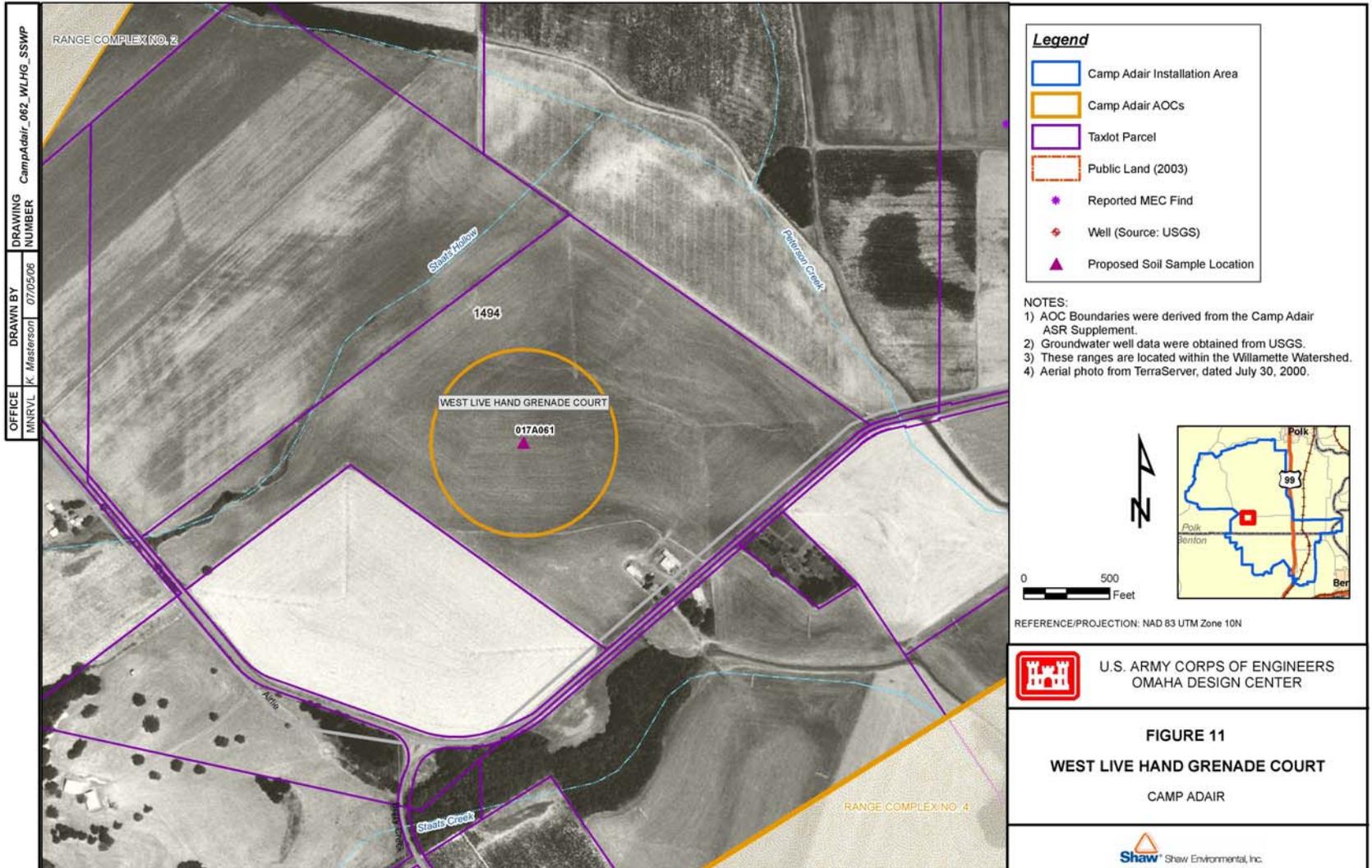
East Live Hand Grenade Court





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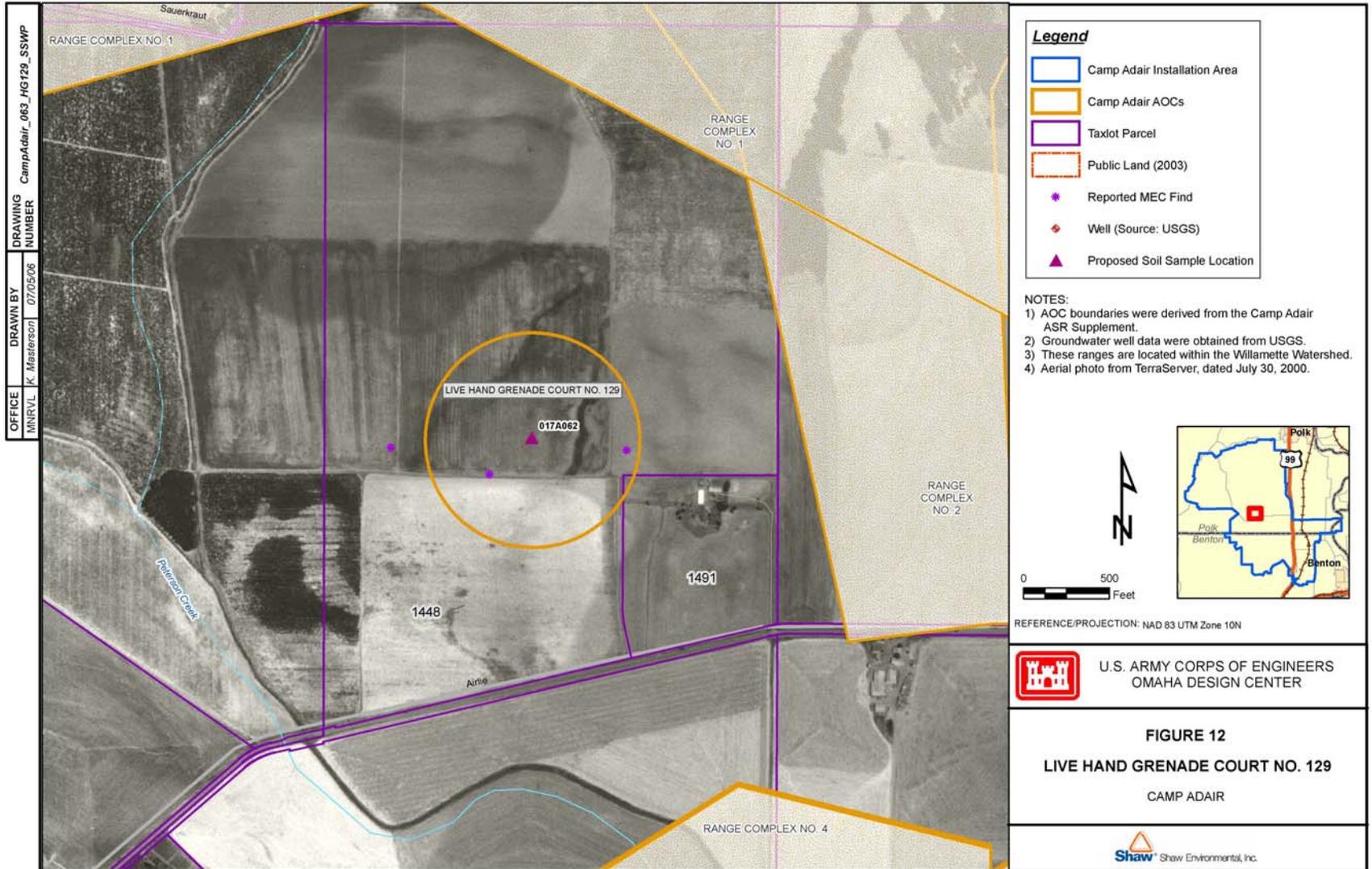
West Live Hand Grenade Court





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Hand Grenade Court No. 129





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Field Investigation

- Reconnaissance
 - Methods
 - Visual
 - Magnetometer
 - Objectives
 - Avoid UXO
 - Select samples
 - Munitions eval
- Sampling
 - Shallow Soils
 - Surface water/sediment
 - Groundwater (existing wells)

UXO Clearance and Sample Supplies



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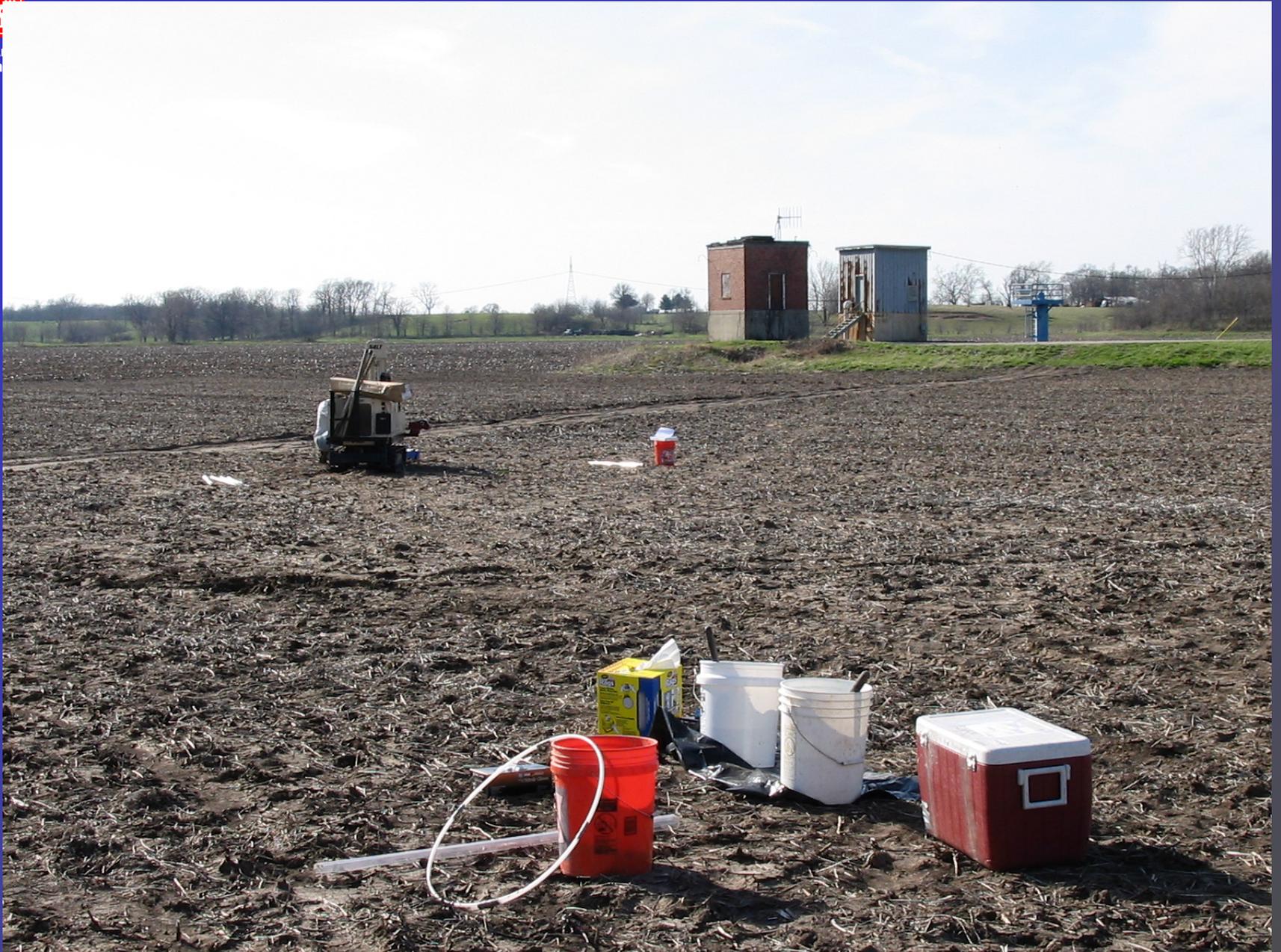


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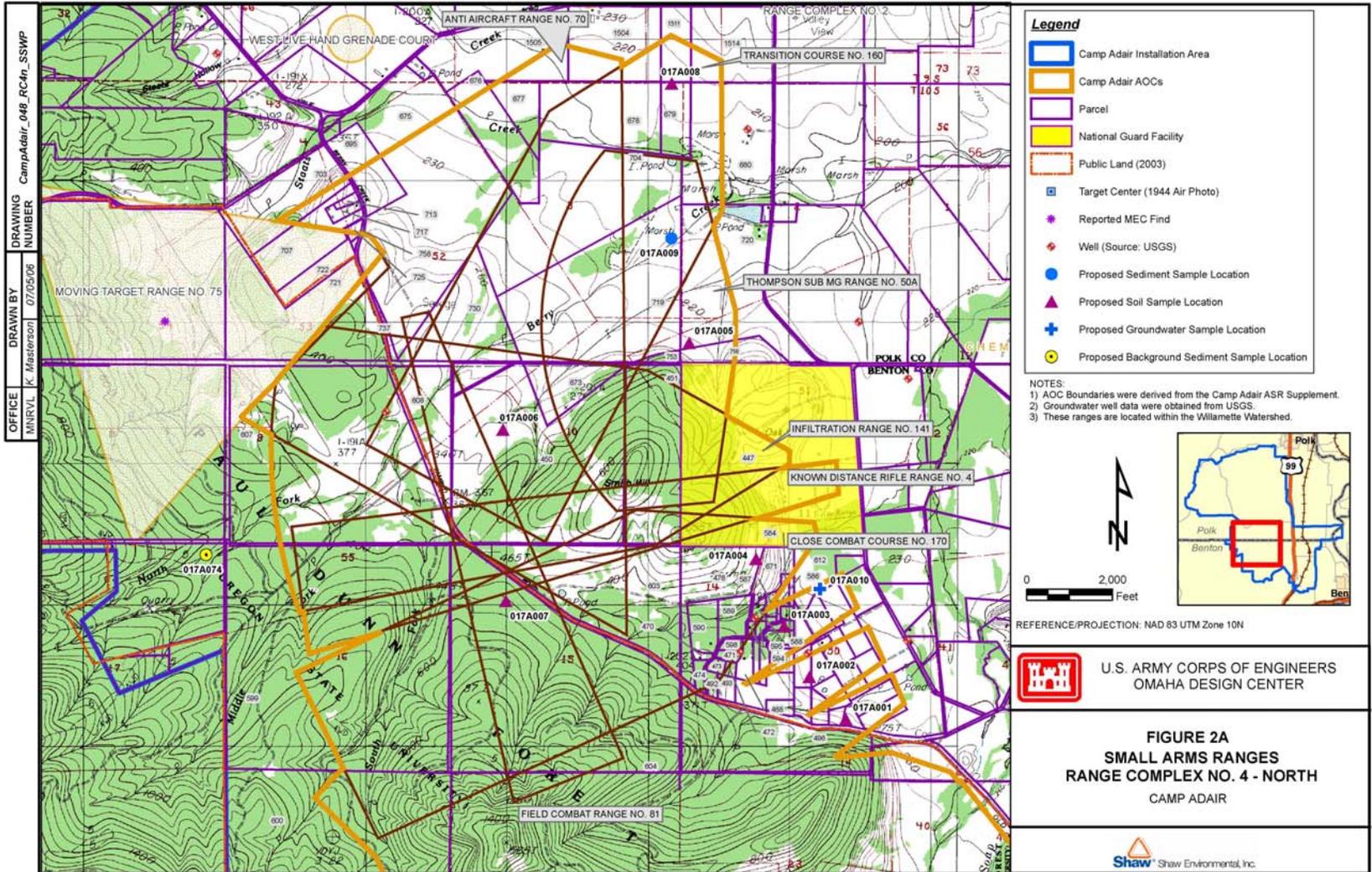
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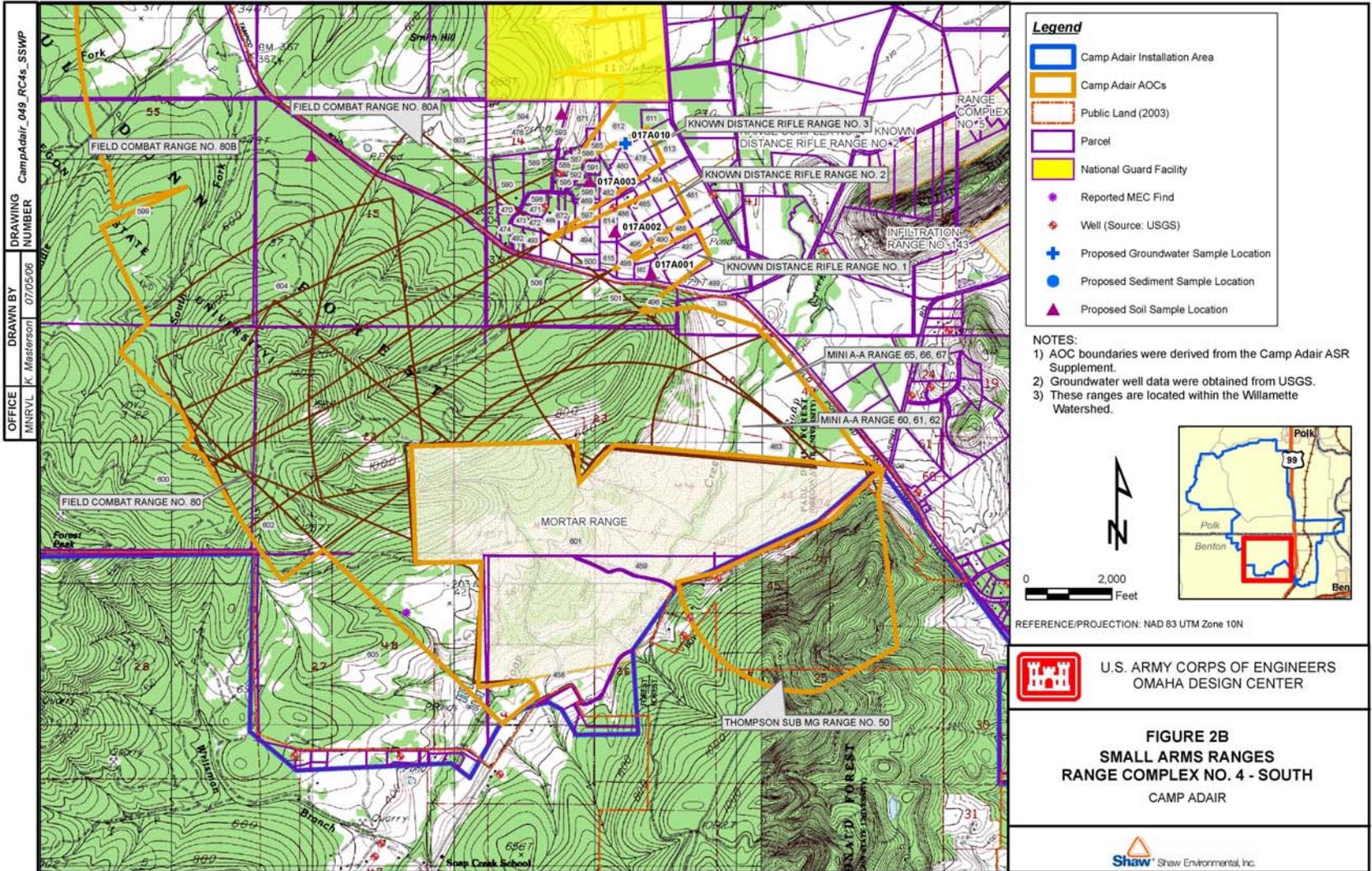




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Questions and Comments



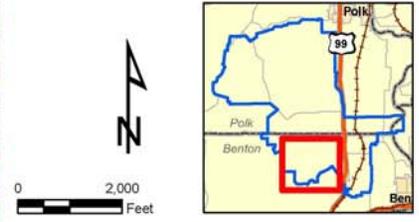


OFFICE: MINRVL
 DRAWN BY: K. Masterscott
 DRAWING NUMBER: 07/05/06
 CampAdair_049_RC4s_SSWP

Legend

- Camp Adair Installation Area
- Camp Adair AOCs
- Public Land (2003)
- Parcel
- National Guard Facility
- Reported MEC Find
- Well (Source: USGS)
- Proposed Groundwater Sample Location
- Proposed Sediment Sample Location
- Proposed Soil Sample Location

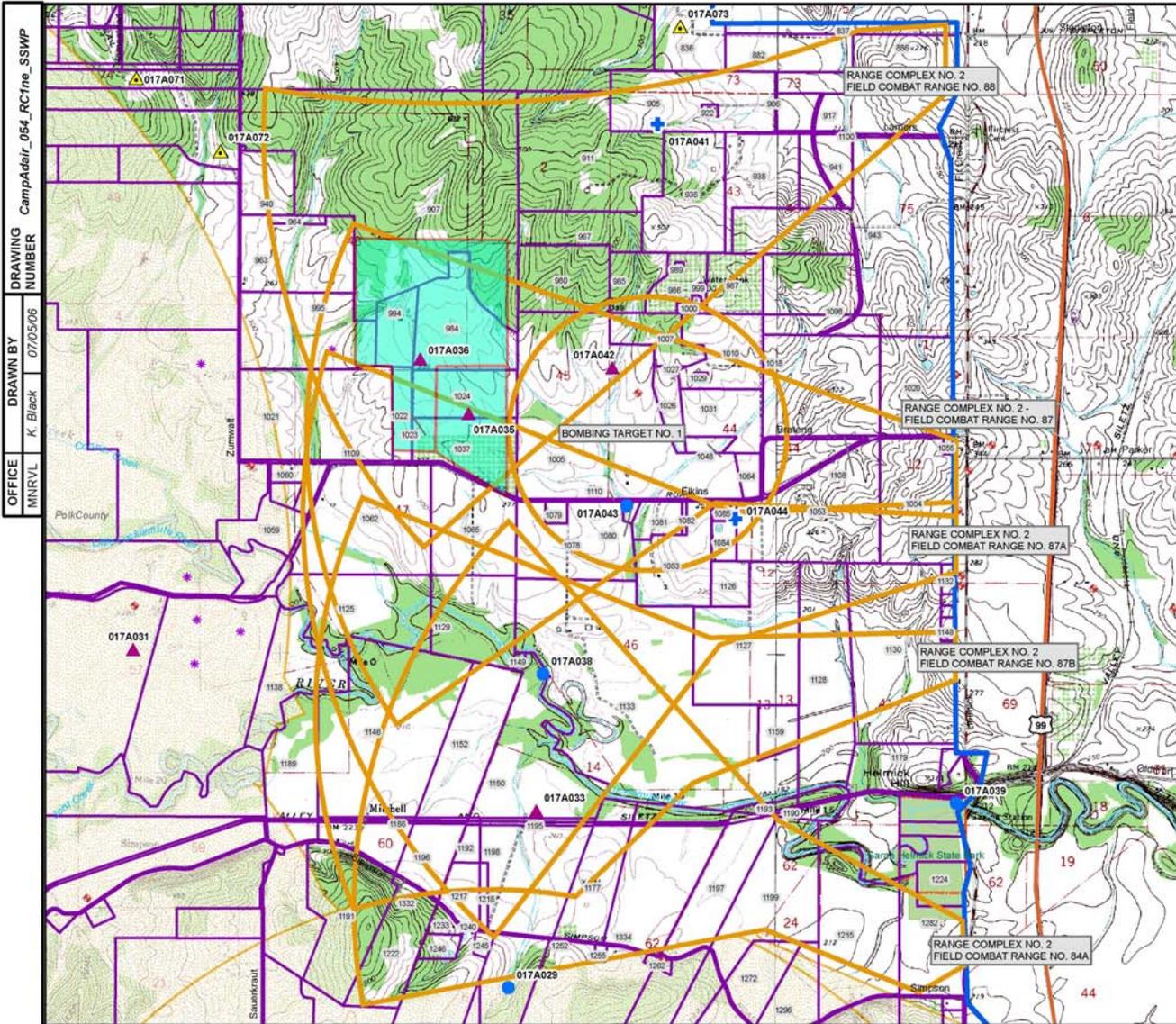
NOTES:
 1) AOC boundaries were derived from the Camp Adair ASR Supplement.
 2) Groundwater well data were obtained from USGS.
 3) These ranges are located within the Willamette Watershed.



REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

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FIGURE 2B
SMALL ARMS RANGES
RANGE COMPLEX NO. 4 - SOUTH
CAMP ADAIR

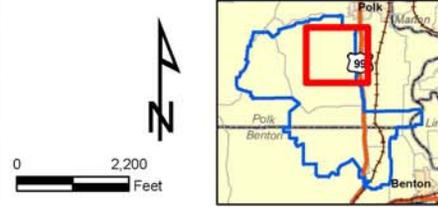


DRAWING NUMBER: CampAdair_054_RC1inc_SSWP
 DRAWN BY: K. Black
 DATE: 07/05/06
 OFFICE: MINRVL

Legend

- Camp Adair Installation Area
- Camp Adair AOCs
- Impact Areas
- Taxlot Parcel
- Public Land (2003)
- Reported MEC Find
- Well (Source: USGS)
- Proposed Sediment Sample Location
- Proposed Soil Sample Location
- Proposed Groundwater Sample Location
- Proposed Background Soil Sample Location

NOTES:
 1) AOC boundaries were derived from the Camp Adair ASR Supplement.
 2) Groundwater well data were obtained from USGS.
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FIGURE 6A
EXPLOSIVE MUNITIONS RANGES
RANGE COMPLEXES NO. 1 and 2 (NORTHEAST)
CAMP ADAIR

Shaw Environmental, Inc.

