

Camp Abbot

Military Munitions Response Program
Site Inspections



US Army Corps
of Engineers



Sunriver Resort website

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

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

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

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

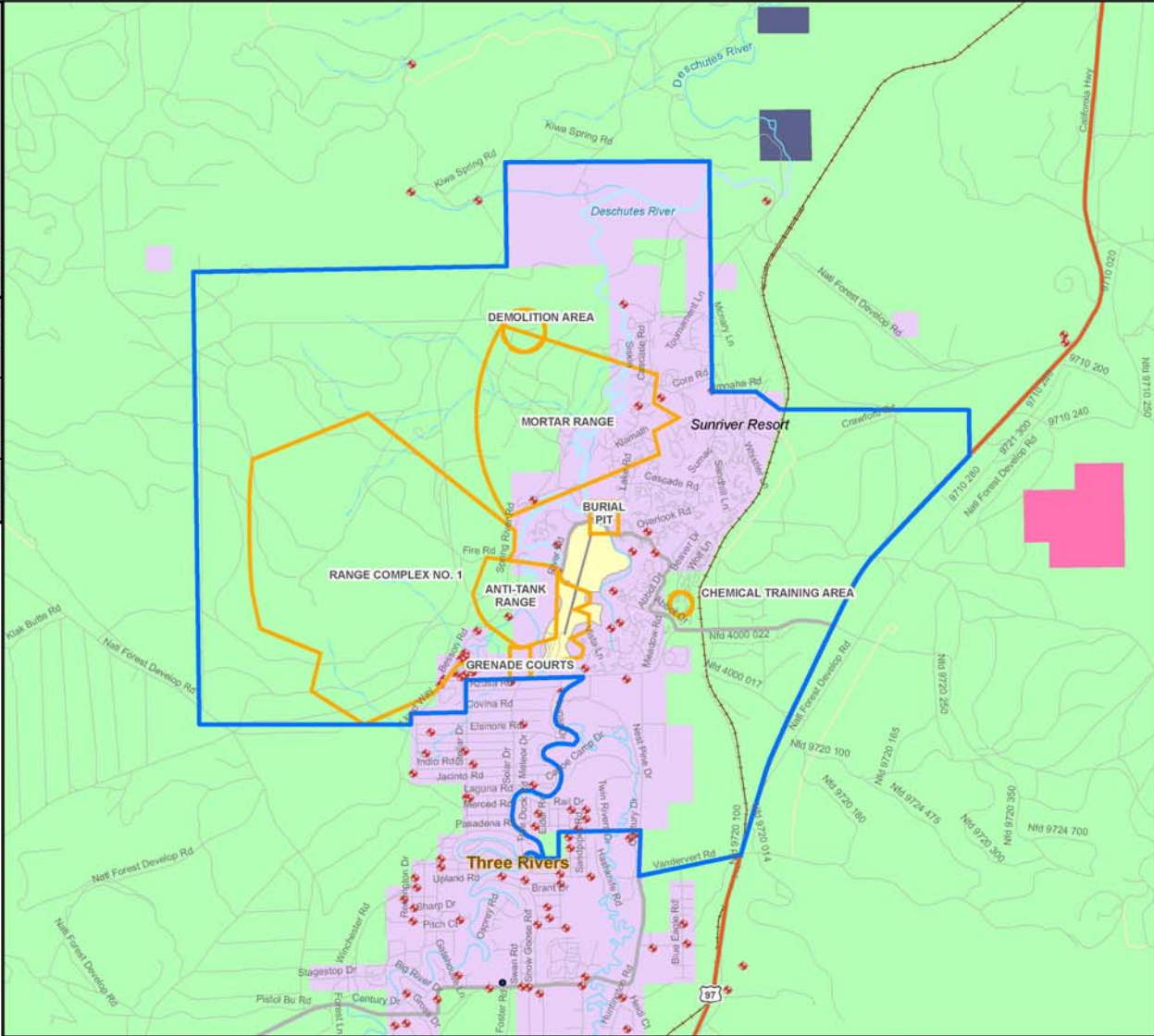
SI Process

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

Supply Problems

- Shortages of ammunition and weapons still affected ERTC programs
- Each center given a .50 caliber machine gun, but a low ammo allowance limited its use
- Flame throwers for demolition specialists and general assault demolitions were scarce
- Anti-tank rocket allowance was 1 per 50 men

OFFICE: MNRVL
 DRAWN BY: K. Masterson
 DRAWING NUMBER: CABO_027_site/layout_SSWP
 DATE: 07/06/06

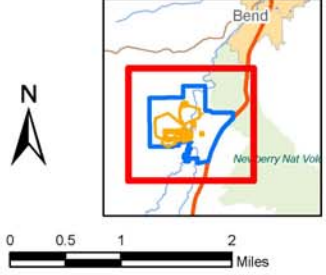


Legend

- Camp Abbot Property Boundary
- Camp Abbot AOCs
- Groundwater Wells
- Privately Owned Land
- Federal Energy Regulatory Commission
- Bureau of Land Management
- Oregon Department of State Lands
- US Department of Agriculture Forest Service

NOTES:

- 1) AOC boundaries were derived from the Camp Abbot ASR Supplement.
- 2) Groundwater well data were obtained from the US Geological Survey (USGS).
- 3) Land ownership shapefile was obtained from the Oregon Geospatial Data Clearinghouse (<http://www.gis.state.or.us/data/alphabet.html>).
- 4) These ranges are located within the Upper Deschutes Watershed.



REFERENCE/PROJECTION: State Plane NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
 OMAHA DESIGN CENTER

FIGURE 1
SITE LAYOUT
 CAMP ABBOT

Current & Future Use

- Recreation
 - Rafting, fishing
 - Hiking, biking
 - Golf, skiing...
- Residential
- Commercial
- National Forest



Sunriver Resort



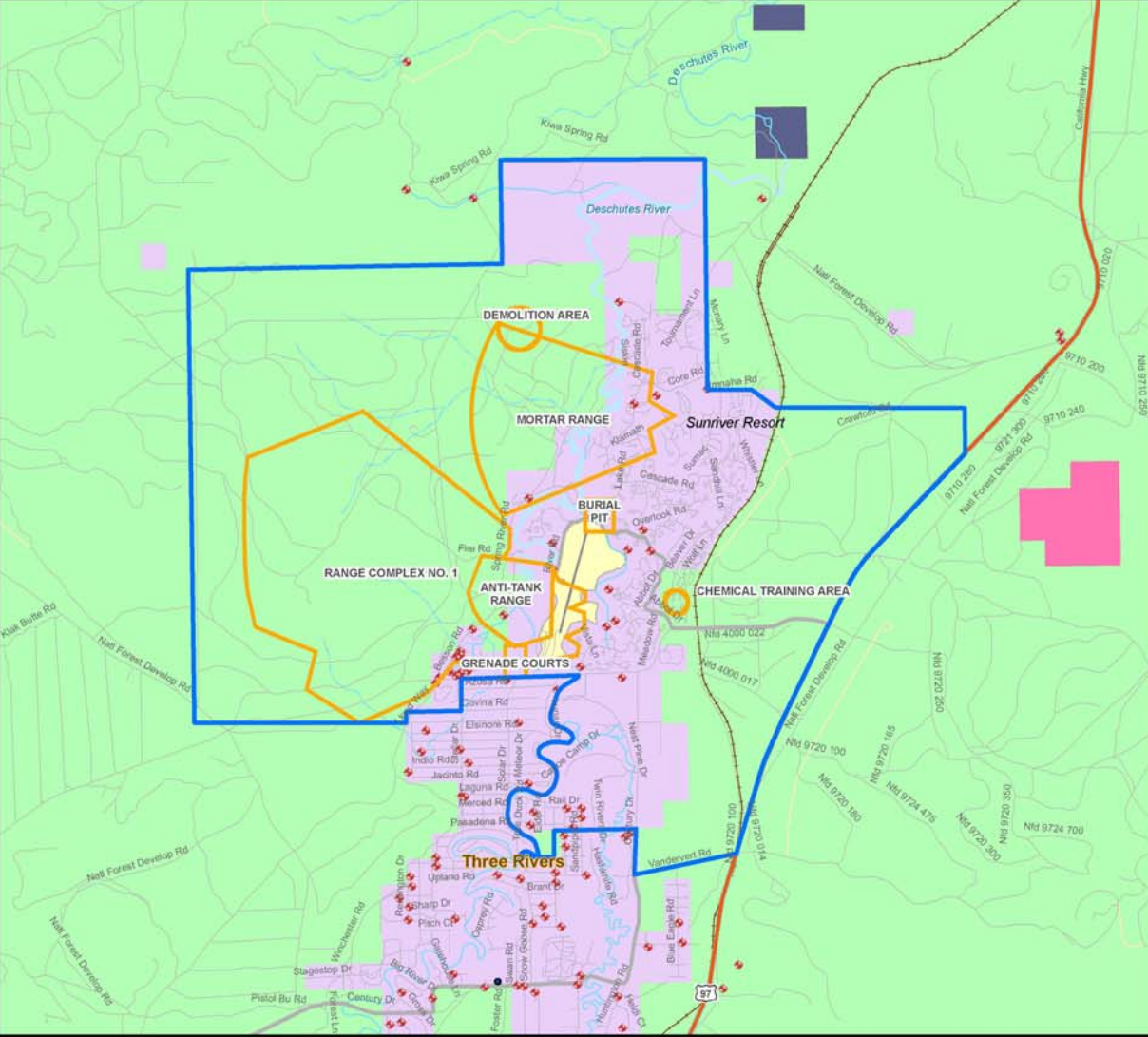
Project History

- 1993-94 Inventory Project Report
- 1995 Archive Search Report (ASR)
- 2005 Preliminary Assessment/Site Inspection (Weston for USEPA)
 - 28 samples
 - Explosives--not detected
 - Metals—some “significant” or “elevated”
- 2004 ASR Supplement

7 Areas of Concern (AOCs)

- Range Complex No. 1 (small arms ranges)
- Explosive Munitions Ranges
 - Anti-Tank Range
 - Demolition Area
 - Mortar Range
- Grenade Courts
- Burial Pit
- Chemical Training Area

DRAWING CABO_027_site layout_SSWP
 NUMBER
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 K. Masterson
 OFFICE
 MNRVL

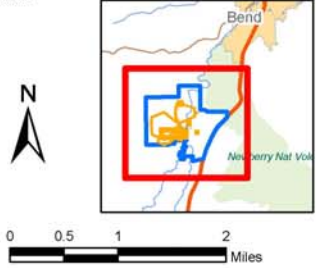


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OMAHA DESIGN CENTER

FIGURE 1
SITE LAYOUT
 CAMP ABBOT

Encounters with Munitions

- Grenade spoons, 2004 & 1995
- 2.36" rocket
 - 1988
 - USFS employee kicked out of ground
 - Forest Rd 40 1-1/2 mi west of Sunriver
- Artillery round
 - West of Sunriver
 - Reported to Sheriff
- 60 & 81mm mortar rounds
 - Cliff near Cardinal Landing Bridge
- Rockets, bullets, grenades
 - Reportedly found by youths

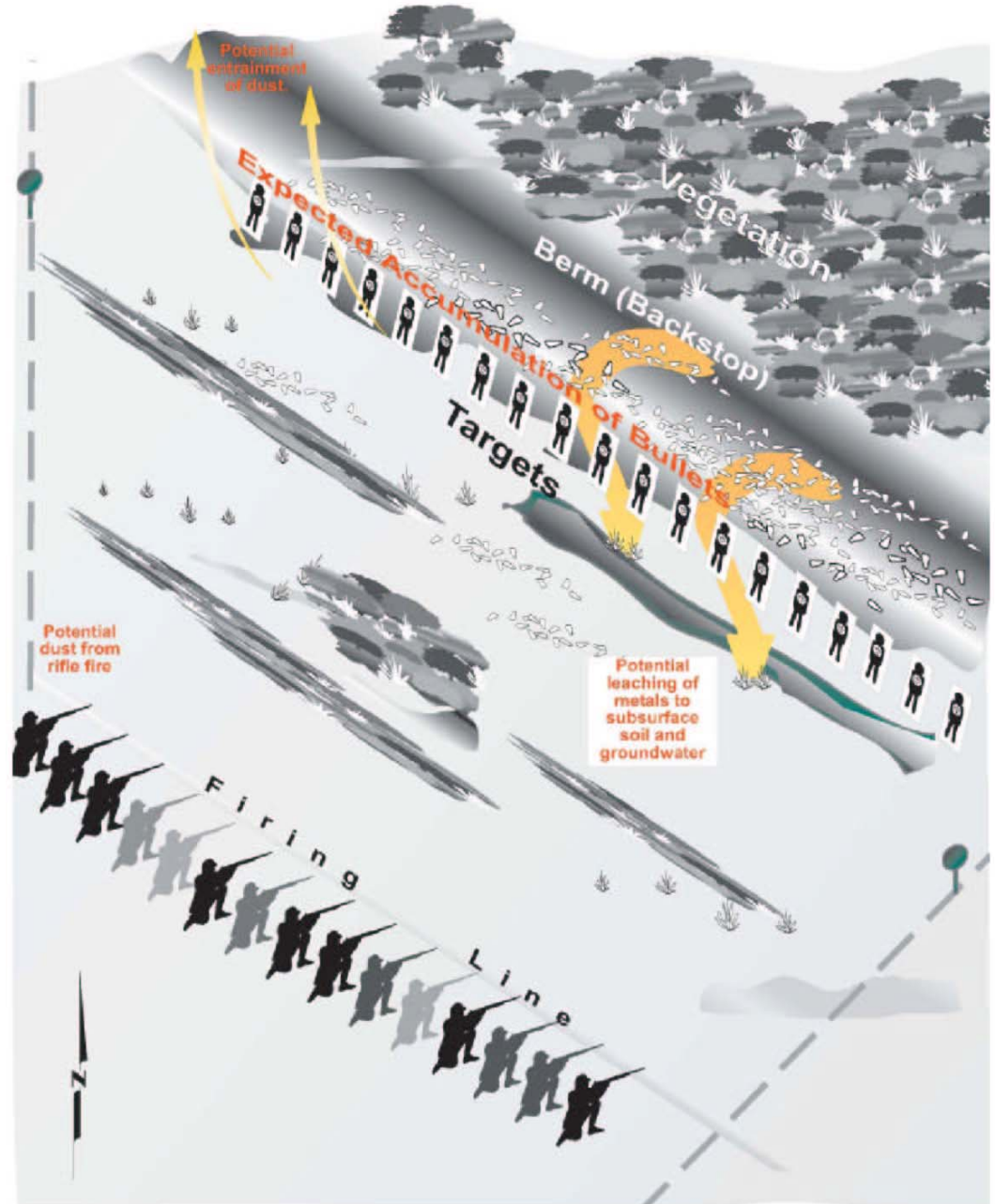


Potentially Affected Media

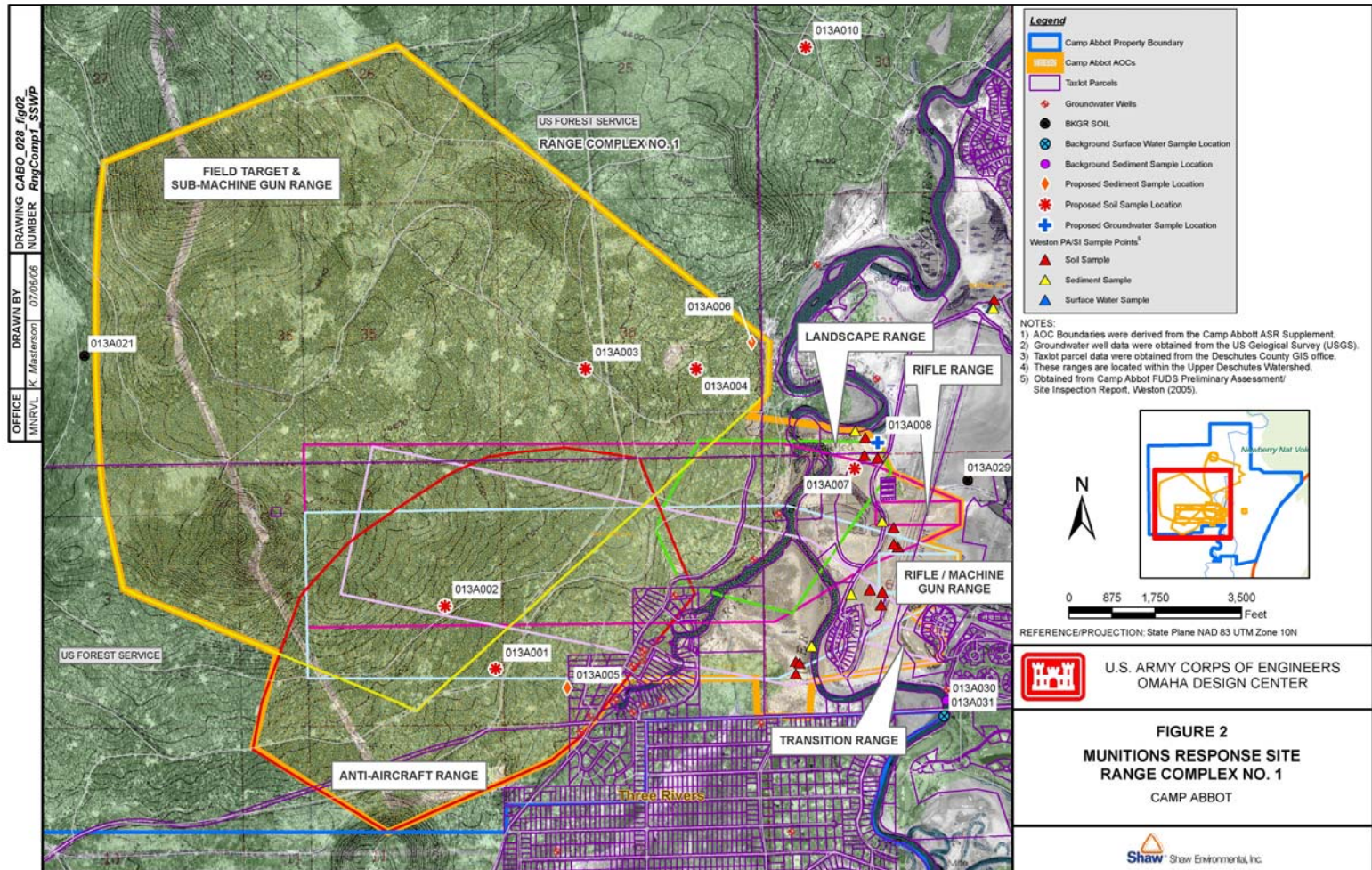
- Soil
- Surface water & sediment
- Groundwater

Conceptual Site Model- Small Arms Ranges

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

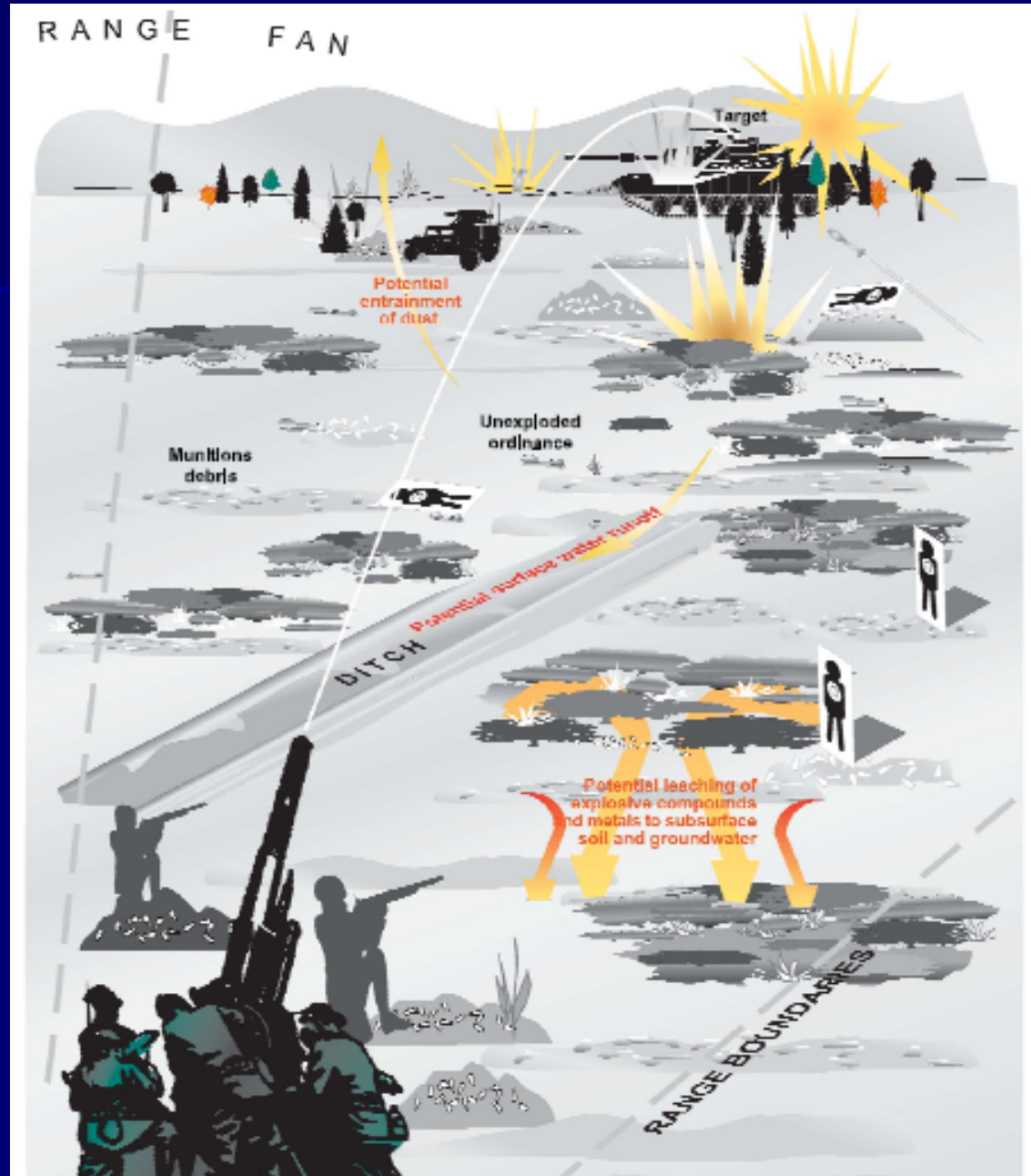


Range Complex No. 1

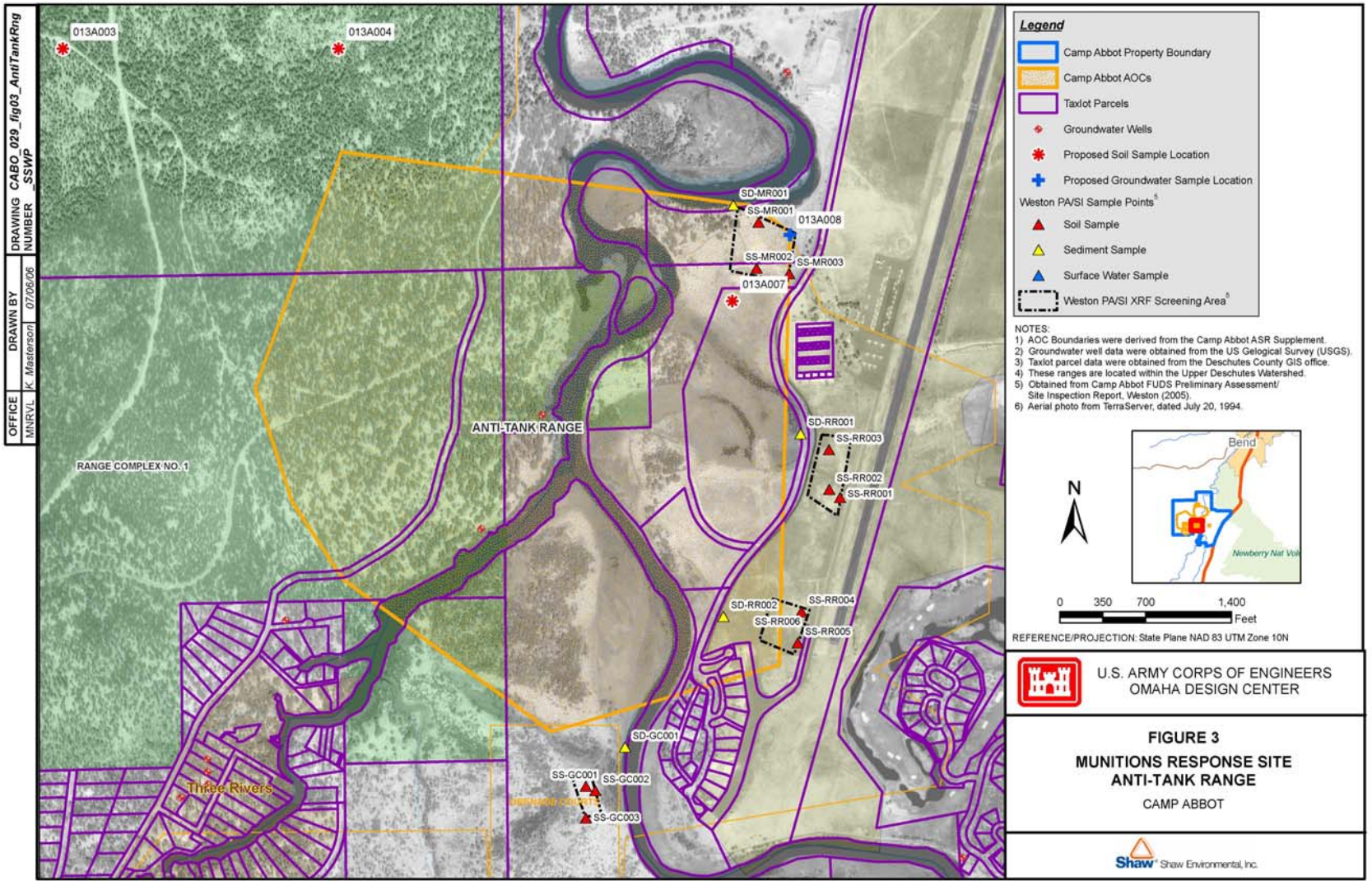


Conceptual Site Model- Explosive Munitions Ranges

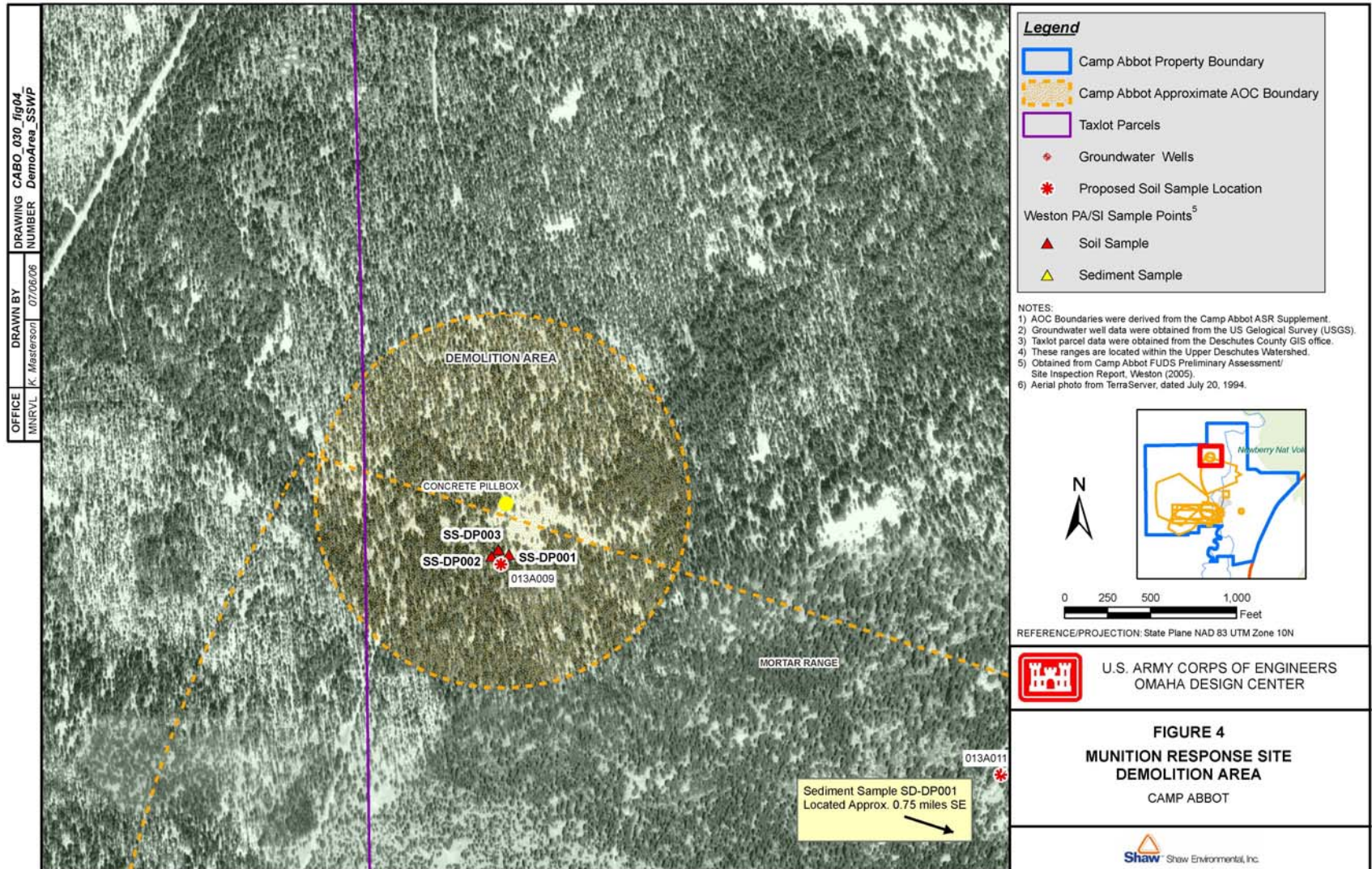
- Explosive projectiles and propellant
- Metals



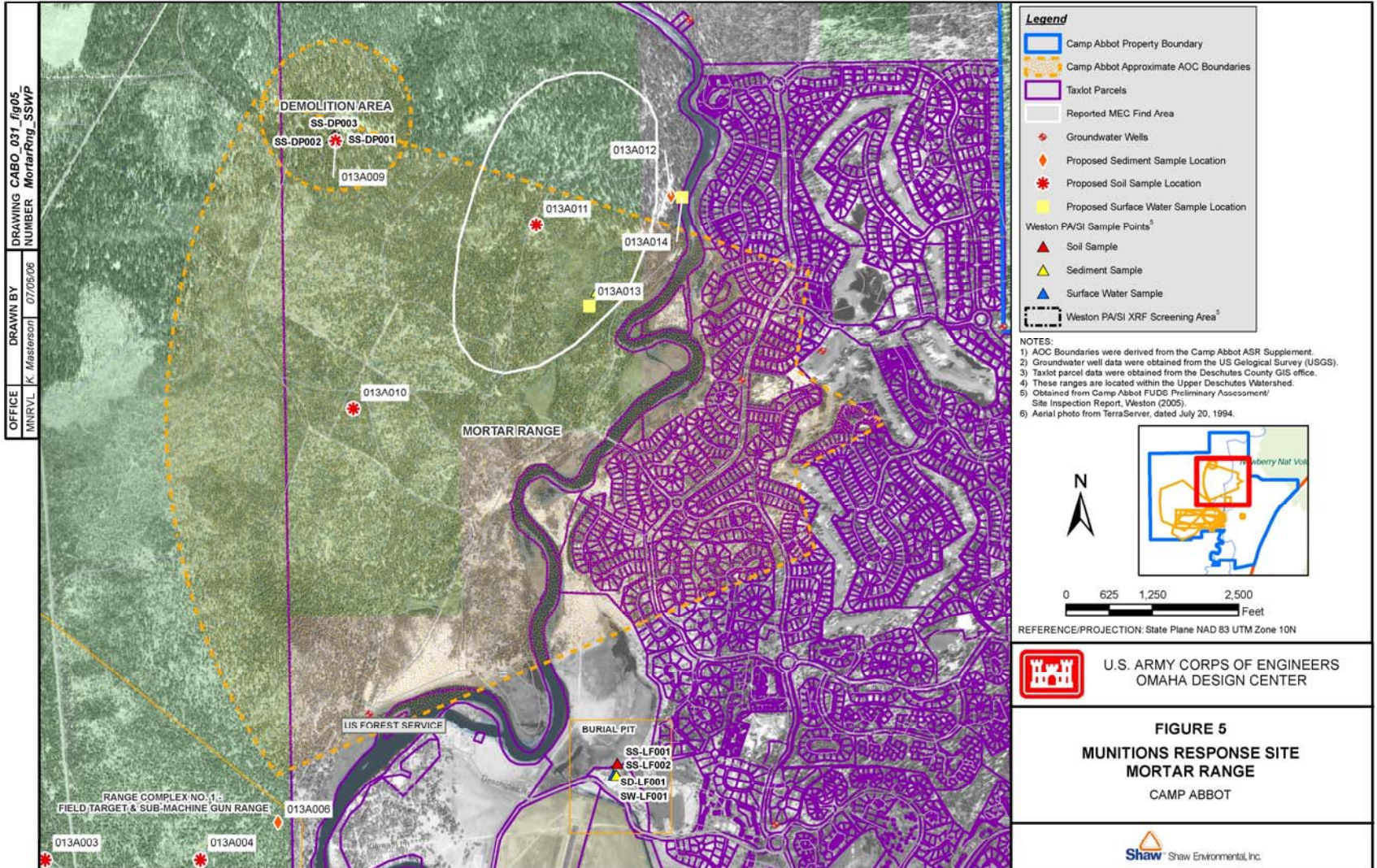
Anti-Tank Range



Demolition Area

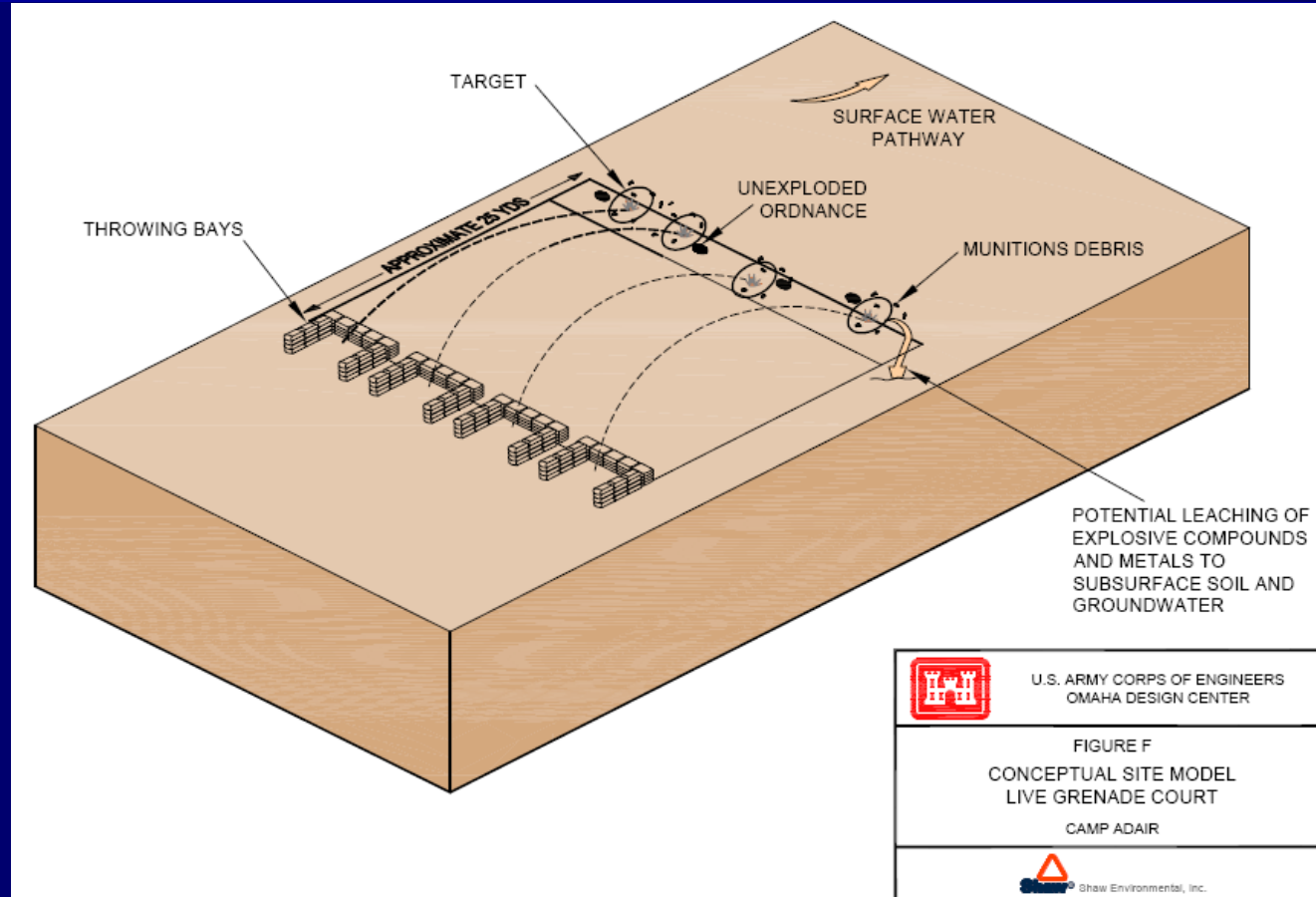


Mortar Range

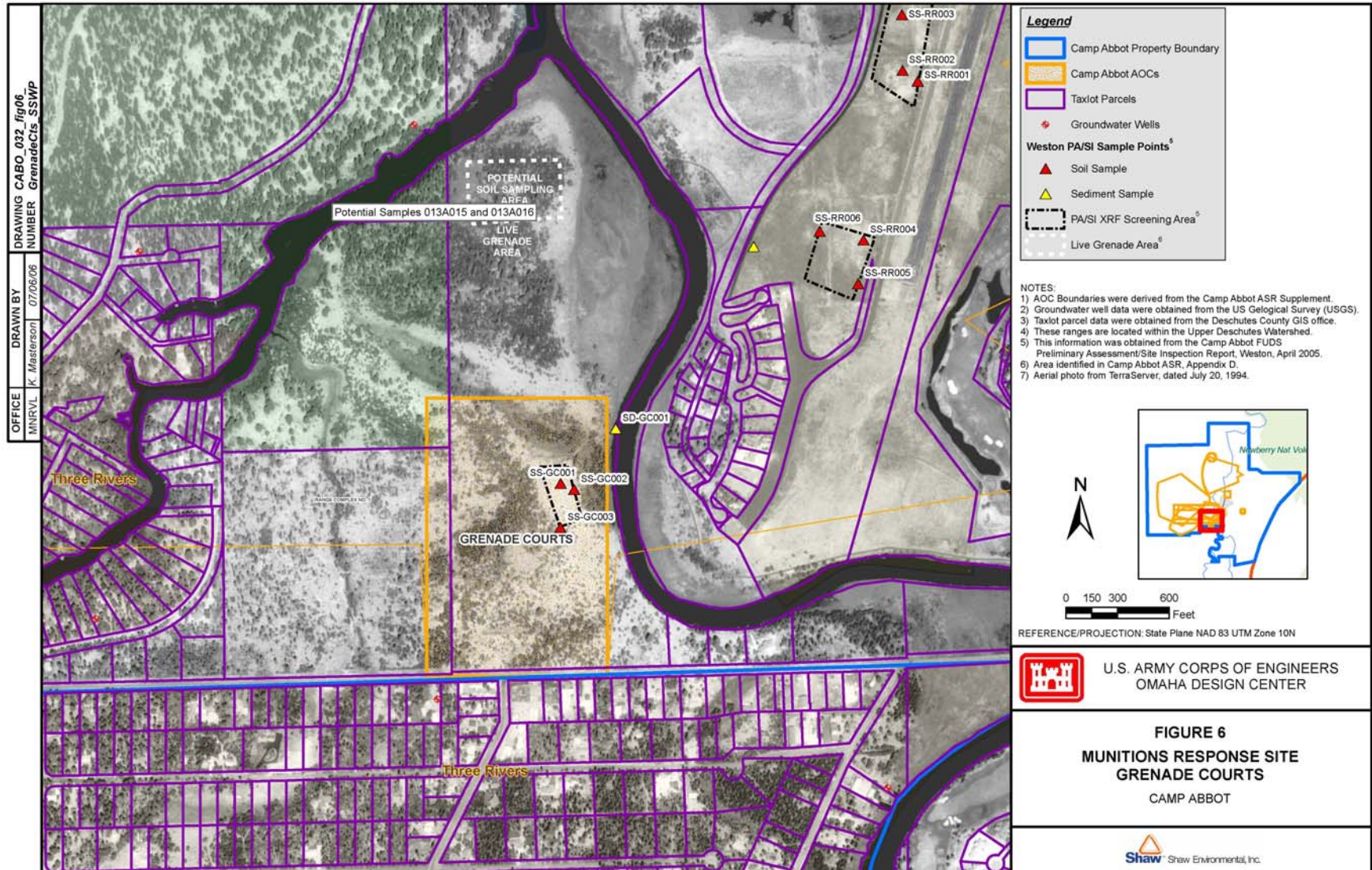


Conceptual Site Model- Grenade Courts

- Explosives
- Metals



Grenade Courts



Grenade Courts

- Throwing bays or trench
 - Sandbags
 - Concrete
- Targets at 25 yards
 - Circle outline
 - Crater
 - Foxhole
- 5-foot high ready line barrier, 15 yards behind throwing area
- Grenade spoons found



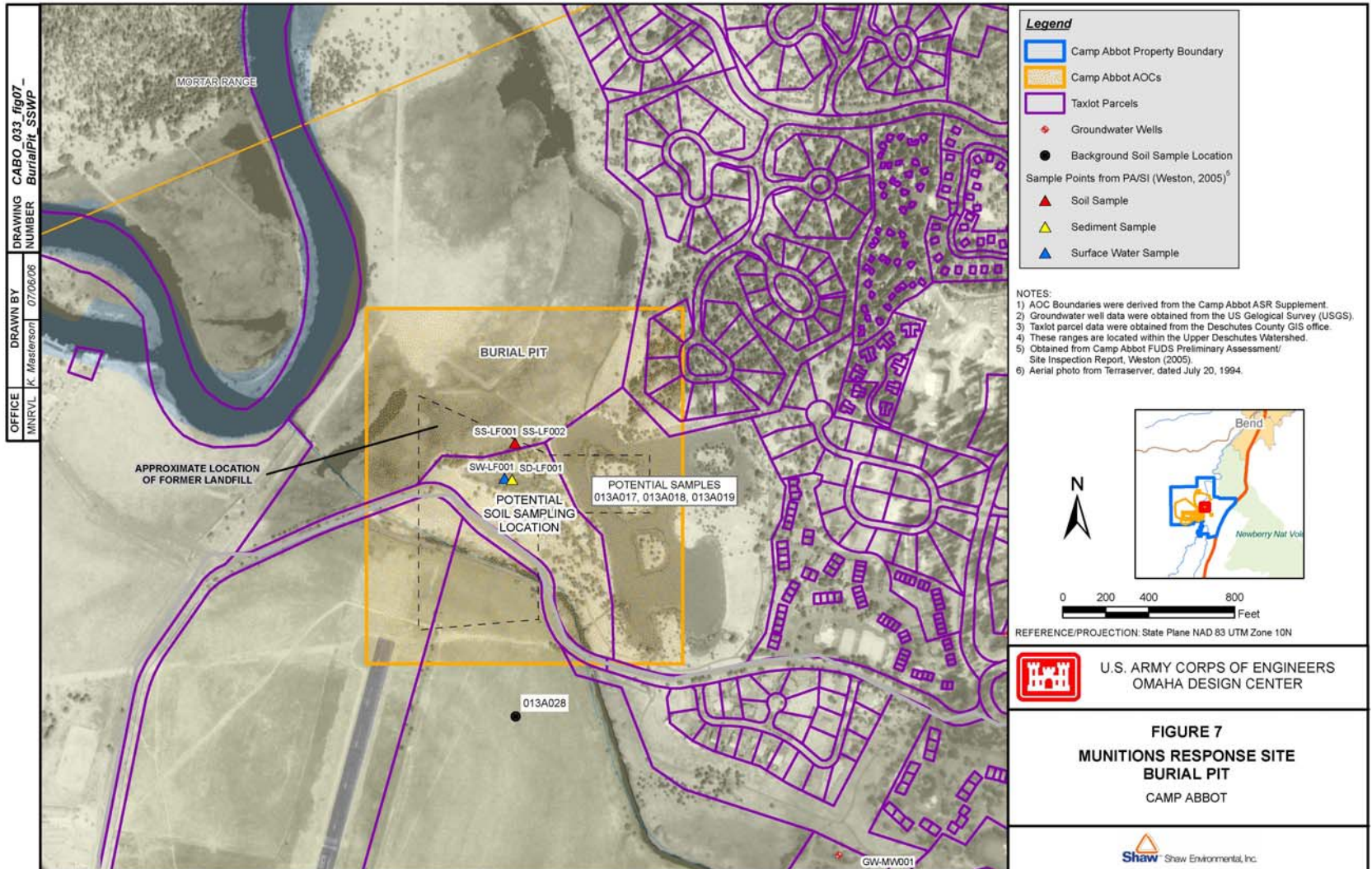
Fort Leonard Wood 577th Engineer Battalion website

<http://www.wood.army.mil/577th/>

Conceptual Site Model- Burial Pit

- Within landfill area
- Horseshoe shaped area, bermed and ringed with stone
- "Local inhabitants indicate both OE and CWM contamination may be buried in the old landfill"
- Use of chemical agents at Camp Abbot was very limited
- Need to confirm location of suspected pit
- Potential munitions, explosives, metals

Burial Pit



Conceptual Site Model- Chemical Training Area

- Gas chamber (gas mask training)
- Indoor sniff sets for odor identification
- Adjacent to cantonment
- Close to camp hospital
- Outdoor use would not be done here
- Limited quantities



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









Questions and Comments



Sunriver Resort website

