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## TABLES



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## APPENDICES

## LIST OF ACRONYMS AND ABBREVIATIONs

| | |
|---|---|
| 2, 4 DNT | 2,4 Dinitrotoluene |
| AAOC | Additional Areas of Concern |
| ACES | Area Covered by Environmental Services |
| AEM | Atlanta Environmental Management, Inc. |
| AOC | Area of Concern |
| AOPC | Area of Potential Concern |
| APP | Accident Prevention Plan |
| AR | Army Regulation |
| ARARs | Applicable or Relevant and Appropriate Requirements |
| ARNG | Army National Guard |
| ARPA | Archaeological Resource Protection Act |
| ASB | Anomaly Selection Board |
| ASR | Archives Search Report |
| bgs | Below Ground Surface |
| BOCC | Board of County Commissioners |
| BRAC | Base Realignment and Closure |
| BCRRT | Bonneville Conservation Restoration and Renewal Team, LLC |
| BMV | Benchmark Values |
| CAA | Clean Air Act |
| CAAA | Clean Air Act Amendment |
| CAP | Clean-up Action Plan |
| CBMR | Camp Bonneville Military Reservation |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CCA | Conservation Conveyance Authority |
| CCC | Civilian Conservation Corps |
| CERFA | Community Environmental Response Facilitation Act |
| CITA | Central Impact Target Area |
| CMTC | Citizens Military Training Camps |
| COPC | Chemicals of Potential Concern |
| CRAP | Conceptual Remedial Action Plan |
| CRZ | Contamination Reduction Zone |
| CSM | Conceptual Site Model |
| CWA | Clean Water Act |
| DA | Department of Army |
| DAESC | Department of the Army Explosive Safety Council |
| DGM | Digital Geologic / Geophysical Mapping |
| DNR | Department of Natural Resources |
| DOD | Department of Defense |
| DOE | Washington State Department of Ecology |
| EA | Environment Assessment |
| E&R | Excavation and Restoration |
| EBS | Environment Baseline Study |
| EIS | Environmental Impact Statement |
| EE/CA | Engineering Evaluation / Cost Analysis |
| EHS | Environmental Health and Safety |

## LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

| | |
|---|---|
| EOD | Explosive Ordnance Disposal |
| EPA | Environmental Protection Agency |
| ESA | Environmental Study Area |
| ESCA | Environmental Services Cooperative Agreement |
| ESH | Explosive Safety Hazard |
| ESS | Explosive Safety Submission |
| FBI | Federal Bureau of Investigation |
| FS | Feasibility Study |
| FOSET | Finding of Suitability for Early Transfer |
| GIS | Geographical Information System |
| GOCO | Government Owned, Contracts Operated |
| GPS | Global Positioning System |
| HASP | Site Wide Health and Safety Plan |
| HAZWOPER | Hazardous Waste Operation and Emergency Response Standard |
| HE | High Explosive |
| HEAT | High Explosive Anti-Tank |
| HSR | Hazard Severity Ranking |
| HSWA | Hazardous and Solid Waste Amendments |
| HWMA | Hazardous Waste Management Act |
| IAWP | Interim Action Work Plan |
| ICs | Institutional Controls |
| ID | Identification |
| IDW | Investigation Derived Waste |
| LAW | Light Anti-tank Weapon |
| LDR | Land Disposal Restrictions |
| LRA | Local Redevelopment Authority |
| MD | Munition Debris |
| MEC | Munitions and Explosives of Concern |
| mg/L | milligrams per liter |
| MRE | Meal, Ready-to-Eat |
| msl | mean sea level |
| MTCA | Model Toxics Control Act |
| N/A | Not Applicable |
| NAAQS | National Ambient Air Quality Standards |
| NCP | National Contingency Plan |
| NFA | No Further Action |
| N/A | Not Applicable |
| NESHAPs | National Emission Standards for Hazardous Air Pollutants |
| NEPA | National Environmental Policy Act |
| NPDES | National Pollutant Discharge |
| NPL | National Priority List |
| NSPS | New Source Performance Standards |
| OB/OD | Open Burn / Open Detonation |

## LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

| | |
|---|---|
| OE | Ordnance and Explosive |
| OSHA | Occupational Safety and Health Act |
| PETN | Pentaerythritol Tetranitrate |
| PHA | Project Hazard Analysis |
| PDA | Personal Digital Assistant |
| PPCD | Prospective Purchaser Consent Decree |
| PPCE | Personal Protective Clothing and Equipment |
| PPE | Personal Protective Equipment |
| PRG | Preliminary Remediation Goals |
| PSD | Prevention of Significant Deterioration |
| QAPP | Quality Assurance Project Plan |
| QA/QC | Quality Assurance / Quality Control |
| RAU 2 A | Remedial Action Unit 3 |
| RCRA | Resource Conservation and Recovery Act |
| RCW | Revised Code of Washington |
| RI | Remedial Investigation |
| RI/FS | Remedial Investigation / Feasibility Study |
| ROTC | Reserve Officer Training Corps |
| RP | Regional Park |
| RPC | Reuse Planning Committee |
| RTES | Rare, Threatened Endangered Species |
| RV | Recreational Vehicle |
| SAP | Sampling and Analysis Plan |
| SARA | Superfund Amendments and Reauthorization Act |
| SEPA | State Environmental Policy Act |
| SI | Site Investigation |
| SIPS | State Implementation Plans |
| SOP | Standard / Standing Operating Procedure |
| SOW | Statement of Work |
| SPRT | Sequential Probability Ratio Test |
| TCLP | Toxicity Characteristic Leaching Procedure |
| TCRA | Time Critical Removal Action |
| TEC | Topographic Engineering Center |
| TLVs | Threshold Limit Values |
| TSDF | Treatment, Storage and Disposal Facility |
| TSRS | Technical Specifications and Requirement Statements |
| UPL | Upper Confidence Level |
| USACE | United States Army Corps of Engineers |
| USAESCH | United States Army Engineering and Support Center, Huntsville |
| USAR | United States Army Reserve |
| USATCES | United States Army Technical Center for Explosives Safety |
| USEPA | United States Environmental Protection Agency |
| USFWS | United States Fish and Wildlife Service |

## LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

| | |
|---|---|
| UXO | Unexploded Ordnance |
| WAC | Washington Administrative Code |
| WMA | Wildlife Management Area |
| WP | White Phosphorus |

# 1.0 INTRODUCTION

## 1.1 Cleanup Action Authorization and Summary

This Cleanup Action Plan (CAP) presents selected cleanup actions for all areas in Remedial Action Unit (RAU) 3, the Site-Wide Munitions of Explosive Concern (MEC) Cleanup, for the former Camp Bonneville Military Reservation (CBMR) in Clark County, Washington (**Figures 1.1** and **1.2**). This CAP has been prepared for and is submitted by the Bonneville Conservation Restoration and Renewal Team, LLC (BCRRT), the current owner of the CBMR. The CAP is based on the Final Draft Remediation Investigation/Feasibility Study (RI/FS) for RAU 3 Revision 1 (Final RI/FS; BCRRT, 2008**a**) and the Supplemental RI/FS report (**Appendix A**), which was developed using results from the implementation of Interim Actions and investigations at CBMR and direction given by Washington Department of Ecology (WDOE).

The general objectives and scope of MEC cleanup actions evaluated in this CAP were established in the RAU 3 Final RI/FS. The Final RI/FS subdivided the MEC concerns of RAU 3 into eight general categories of Remedial Work Areas (RWAs) requiring MEC surface and/or subsurface clearance and cleanup. These areas (**Figure 1.3**) are identified as:

1. Target Areas
2. Central Impact Target Area (CITA) Targets (CITA-Targets) and Non-Target Zone (CITA-NT)
3. Open Burn/Open Demolition Areas (OB/OD)
4. Firing Points
5. Roads and Trails (R&T)
6. Central Valley Floor and Associated Wetlands (CVF)
7. Regional Park Western Slopes Area
8. Wildlife Management Area (WMA)

In order to address the MEC and Munitions Debris (MD) findings resulting from the Interim Actions and investigations undertaken to date for RAU 3 and the related need for additional site characterization, the WDOE requested that a Supplemental RI/FS be conducted to augment the analyses presented in the previously approved Final RI/FS (BCRRT, 2008a) for generation of this comprehensive RAU 3 CAP. The Supplemental RI/FS (**Appendix A**).incorporated the results of MEC surface clearance work conducted in the: CVF, Environmental Study Area (ESA), R & T Buffer Zones, subsurface MEC clearance of the expanded 2.36 in. Rocket Target Area, and transect investigations through Training Areas 4, 5, and 12.

This CAP identifies specific cleanup actions selected for each of the RWAs identified in the Final RI/FS for RAU 3 and the methods employed in the selection of these cleanup actions. The CAP also summarizes the information presented in the Supplemental RI/FS which identifies new discovered RWAs requiring MEC-related cleanup actions.

This CAP meets the specifications of regulations promulgated under the Washington State Model Toxics Control Act (MTCA) as set forth in Title 173-340 of the Washington Administrative Code (WAC) Sections 380 – Cleanup Action Plans and 400(4) – Plans Describing Cleanup Actions [WAC 173-340-380 and WAC 173-340-400(4)].

The Final RI/FS (**BCRRT 2008a**) and the Supplemental RI/FS (**Appendix A**) provided risk evaluations for each area potentially requiring MEC cleanup, described cleanup standards and preliminary cleanup action components, identified site-wide areas needing cleanup, presented remedial objectives, identified response actions, identified specific cleanup technologies along with cleanup action alternatives. The cleanup action alternatives where evaluated for each of the RWAs with respect to the requirements contained in WAC 173-340-360, and preferred cleanup actions were identified or cleanup action determinations were made by WDOE for each of the RWAs.

When the work described in this CAP is completed, it will have satisfied all the MEC cleanup and clearance requirements identified in the Final RI/FS, Supplemental RI/FS and WDOE determinations. In addition, this CAP satisfies the applicable requirements of the Prospective Purchaser Consent Decree (PPCD; WDOE, 2006) as it relates to the RAU 3 Site-Wide MEC Cleanup.

## 1.2 Additional Cleanup Requirements due to Supplemental RI/FS munitions finds.

Following the Final RI/FS issuance and resulting from MEC and MD findings during the Supplemental RI/FS investigations, a number of newly discovered munitions or munitions areas have been encountered at the CBMR. Consideration of these conditions has resulted in the WDOE either: 1) changing an area's associated MEC cleanup requirements; or 2) identifying additional areas requiring MEC cleanup. The cleanup actions for these newly discovered munitions areas include:

- MEC subsurface clearance for the entire Central Valley Floor (CVF) and the associated wetlands (previously designated as the Accessible High and Medium Intensity Reuse Areas; Final RI/FS).

  WDOE based this determination on the data that indicates the CVF and associated wetlands are an extensively used direct and indirect fire weapon target area, and an extensively used training area due to the number of sub-surface anomalies and surface MEC and MD findings discovered during the Interim Actions. In addition, a number of newly discovered RWAs in the form of specific target areas and/or waste disposal areas were identified in the CVF, including;

  - Stokes Mortar Target Area,
  - MEC Disposal Area (Burial Pit),
  - OB/OD Area,
  - 37 mm Artillery/Stokes Mortar Target Area,
  - Rifle Grenade Target Area, and
  - 2.36 in. Rocket Target Area near the Former Sewage Lagoons.

- MEC surface clearance and Institutional Controls are being required for accessible portions (areas with slope less than 25 degrees) of the Regional Park Western Slopes Area. The Western Slopes had been designated as the Limited Access Medium Intensity Reuse in the Final RI/FS).

- Expansion of the CITA fence line northward to encompass an additional 107 acres believed to have been impacted by artillery and mortar firing.

- MEC Surface Clearance of Demolition Area 1/Landfill 4 Kick-out Area encompassing 104 acres.

## 1.3 Site Location and Current Site Uses

### 1.3.1 Location and General Description

The 3,840-acre CBMR site is located northeast of Vancouver, Washington, in the southeastern region of Clark County (**Figure 1.1**). The property is approximately five miles northeast of the corporate limits of the City of Vancouver, Washington and approximately seven miles north of the Columbia River. The CBMR is located along the western foothills of the Cascade Mountain Range, with Camp Hill and Little Elkhorn Mountain to the northwest, Munsell Hill to the west, and Little Baldy Mountain to the south. Vehicular access to the CBMR is restricted to a single entrance from NE Pluss Road. The entrance is gated and monitored by site security and facility managers. In its last years of service as an active military base, the facility had been used for weekend and summer training by Army Reserve and National Guard components from Southern Washington and Northern Oregon and by the Federal Bureau of Investigation (FBI) and local law enforcement units. Since its closing by the US Army in 1995, CBMR has not been actively used with the exception of training for FBI and local law enforcement personnel conducted at the designated FBI Firing Range.

### 1.3.2 Facility Information

| | |
|---|---|
| Project Name: | Camp Bonneville Military Reservation |
| Project Coordinator: | Jerry Barnett, Project Manager<br>Clark County Public Works<br>1300 Franklin Street, 4th Floor<br>P. O. Box 9810<br>Vancouver, WA 98666-9810<br>Phone: (360) 397-6118 ext. 4969 |

## 1.4 Proposed Future Land Use

### 1.4.1 Camp Bonneville Local Redevelopment Authority and Clark County

A Local Redevelopment Authority (LRA) was initially responsible for determining cost-effectiveness and feasibility of land reuse plans for the CBMR. In 1995, the Clark County Board of County Commissioners (BOCC), appointed a five member Reuse Planning Committee (RPC) to oversee the reuse planning process. The LRA, in April 1997, received approval for a land reuse-planning grant from the Office of Economic Adjustment. A land reuse plan was developed and submitted to the BOCC. The draft Camp Bonneville Land Reuse Plan was published in 1998 (Clark County, 1998).

Negotiations for a Public Benefit Conveyance and/or the Economic Development Conveyance of the CBMR proved unsuccessful in 2000 and 2003. After the 2003 attempt, the LRA was disbanded.

Discussion of a potential Conservation Conveyance for the CBMR began in 2005, and the BOCC determined to represent Clark County directly in negotiations. In October 2006, the CBMR was transferred to the Clark County under Conservation Conveyance for remediation and subsequent development as a regional park..

### 1.4.2 Camp Bonneville Land Reuse Plan

Clark County has published an updated Preliminary Site Plan. The Camp Bonneville Reuse Plan identifies future uses of specific areas of the CBMR (Clark County, 2003). Following extensive public involvement, the reuse plan was revised on November 15, 2005 and again on March 17, 2006.

The Land Reuse Plan divides the CBMR into a Regional Park and Wildlife Management Area as is depicted on **Figure 1.4.** The central focus of the proposed CBMR Land Reuse Plan consists of approximately 1,200 acres located between the western boundary of the site and the floodplain of the Lacamas Creek Valley which comprises the planned Regional Park. The majority of the park will be subsurface cleared and/or surface cleared of munitions and munitions debris as described in this cleanup plan. The park area is designed to provide recreational opportunities for the local community and will be managed by Clark County. The recreational activities proposed in the reuse plan for the Regional Park include, but are not limited to, the following:

- Recreational trails (hiking and equestrian use);
- Group picnic areas and picnic shelters;
- Amphitheater and stage (for outdoor school and small local events);
- Meadow area for group picnicking and recreational sports activities;
- Restroom facilities;
- Tent camping facilities;
- Recreational vehicle (RV) camping facilities;
- Park directors' residences;
- Vehicular access roads;
- Parking areas;
- Native American cultural center at the Bonneville cantonment area; and
- Environmental Study Area at the southwest corner of the site.

The majority (approximately two-thirds) of the CBMR site will be classified as the WMA which includes approximately 2,188 acres. The WMA would be located east of the Lacamas Creek valley and would contain approximately 25 miles of trails. Access to these trails will be limited to hiking and equestrian uses. Informational kiosks, signage and written materials will be used to inform the users of these trails of the former military use of the CBMR and the importance of remaining on roads and trials. The majority of these trails will consist of pre-existing four-wheel drive roads, but as additional funding becomes available, more trails may be added. The WMA will be left in its current state

The remaining 572 acres of the CBMR are contained within the original Central Impact Target Area (CITA) and Central Impact Area, where no public access will be allowed.

## 1.5 Purpose and Scope of the CAP

In order to organize the CBMR site for remedial action planning purposes, the site was divided into three Remedial Action Units (RAUs). Brief definitions and status descriptions of the three RAUs, including RAU 3, are provided below:

- RAU 1: Consists of twenty discrete areas where hazardous substances have been encountered; RAU 1 remedial actions have been completed for all of the areas and a No Further Action (NFA) letter has been received from the WDOE.

- RAU 2A: Consists of twenty-one small arms ranges; a final CAP (BCRRT 2008a) has been approved by WDOE to address the residual lead. Soil lead remediation will be completed in 2009.

- RAU 2B: Consists of two former open burn/demolition areas, Demolition Areas 2 & 3; a RI Report has been completed (BCRRT 2007a), remedial actions have been completed at both areas and a NFA letter has been received from the WDOE.

- RAU 2C: Consists of the Demolition Area 1 /Landfill 4 (DA1/LF4) and the Site-Wide groundwater evaluation for potential explosive residuals and perchlorates. The Site-Wide evaluation consists of soil sampling at firing points, target areas and Pop-up Pond sediments and ongoing quarterly groundwater sampling and reporting at DA1/LF4 and the Boundary wells near Lacamas Creek. A report on the results of soil sampling and analyses at firing points, target areas and Pop-up Pond sediments and was submitted to and approved by WDOE (BCRRT 2007b). A Perchlorates Evaluation Report has also been submitted to WDOE (BCRRT 2008b, 2009).

- RAU 3: Consists of the Site-Wide MEC Cleanup at CBMR. The Final RI/FS and Supplemental RI/FS documents serve as the basis for this RAU 3 CAP.

The primary purpose of this RAU 3 CAP is to present the cleanup actions selected for all areas in RAU 3, and to describe the procedures used in selecting these actions. Specifically the RAU 3 CAP provides:

- Site description and a description of the proposed future uses of the CBMR.
- Summary of applicable Laws, Regulations, and Cleanup Standards.
- Discussions of each of the RWAs for RAU 3 including: MEC and Munition Debris (MD) findings to date; accessibility, reuse and hazard ranking considerations; cleanup action evaluation and selection
- Recommended cleanup actions
- Long term Institutional Controls (ICs) that will be implemented at specific areas of the CBMR and site-wide.
- Preliminary Schedule and Cost Conclusions

## 1.6 Organization of the RAU 3 CAP

### Table of Contents

**Section 1.0 – Introduction and General Information**

Section 1 presents an overview of:

- The regulatory basis for this CAP
- The site location and facility information
- The current and proposed future land use of CBMR
- The purpose and scope of the CAP
- The organization of the CAP document

**Section 2.0 - Applicable Laws, Regulations, Standards, and Cleanup Standards**

Section 2 identifies the relevant State, Federal and County controlling laws/regulations, and the standards governing this cleanup action. The relevant "Controlling Documents": (BCRRT, Army, State, County) are also discussed as well as the eight cleanup action protection standards.

**Section 3.0 – Institutional and Engineering Controls Applicable Site Wide**

Section 3 discusses the Institutional Controls (ICs) used at the CBMR and the engineering controls applied (fencing and signage).

**Section 4.0 - Cleanup Actions Initially Identified in the Final RI/FS**

Section 4 details the cleanup actions required at a number of RWAs identified in the Final RI/FS. Cleanup actions at the following areas are presented:

- Target Areas
- Central Valley Floor
- Central Impact (Target) Area (non-target)
- CITA Target Areas
- Open Burn/Open Demolition Areas
- Firing Points
- Roads and Trails
- Wildlife Management Area

For each of the RWAs identified above, the following information will be provided:

- The specific RWA background and the MEC and MD findings
- Accessibility rating, future reuses, and hazard ranking (modified from the Final RI/FS findings to reflect recent MEC and MD findings, as appropriate).
- The rationale for the cleanup action and selection.
- The recommended cleanup action or that action determined appropriate by WDOE.

**Section 5.0 - Additional Cleanup Action Requirements due to Supplemental RI/FS Characterization.**

Section 5 details cleanup action determinations for several RWAs based on MEC and MD findings obtained during Interim Actions conducted at a number of RWAs identified in the Final RI/FS. Cleanup actions at the following areas are presented:

- Central Valley Floor and Associated Wetlands
- Western Slopes Area
- Northern Central Impact (Target) Area Expansion
- MEC Surface Clearance of Demolition Area 1/Landfill 4 Kick-out Area

For each of the RWAs identified above, the following information will be provided:

- The specific RWA background and the MEC and MD findings to date
- Accessibility rating, future reuses, and hazard ranking (modified from the Final RI/FS findings to reflect recent MEC and MD findings, as appropriate)
- The rationale for the cleanup action and selection.
- The recommended cleanup action

**Section 6.0 – Preliminary Schedule and Remedial Action Cost**

Section 6 provides a preliminary schedule and remedial action cost for the CAP activities described herein.

**Section 7.0 – Conclusions**

This section provides an overview and conclusions regarding the MEC cleanup actions necessary for CBMR.

## Section 8.0 – References

## Appendices

**Appendix A Supplemental RI/FS Report**
**Appendix B Institutional Controls**
**Appendix C Camp Bonneville Cultural and Historical Resources Protection Plan**

# 2.0 APPLICABLE LAWS, REGULATIONS AND CLEANUP STANDARDS

- This CAP is completed under the authority of the Model Toxic Control Act (MTCA), Chapter 70.105DRCW and the MTCA Cleanup Regulation, Chapter 173-340 WAC. MTCA requires that cleanup actions under its authority shall also comply with applicable Washington State and Federal laws (WAC173-340-710). In addition, remedial actions shall comply with the substantive requirements of applicable local government requirements. MTCA requires the investigation and subsequent remedial actions of any release of hazardous substances. This investigation/remedial action will include at a minimum:

    - Notification by owner/ operator of a release is required within ninety days of discovery.
    - Establish reasonable deadlines for initiating the investigation of a hazardous waste site.
    - Provide for public participation.
    - Establish a hazard ranking system for hazardous waste sites.
    - Define a process for selecting and implementing site cleanup activities.
    - Application of permanent and effective IC's that are necessary for a remedial action to be protective of human health and the environment.

  The Final and Supplemental RI/FS for CBMR were developed in compliance with the MTCA and, if approved, the work plans developed to implement the recommended remedial activities detailed in this CAP will also follow the review, approval and public participation requirements of this law.

## 2.1 Applicable State Laws, Regulations and Standards

**State Dangerous Waste Regulations:** The Washington State Dangerous Waste Regulations [WAC 173-303] is fully authorized under the Federal Resource Conservation and Recovery Act (RCRA) statute.. This statute regulates the management of Dangerous (RCRA) Waste by designating those wastes and properly managing storage, sifting, and disposal of those wastes. The Dangerous Regulations will be adhered to for proper designation, temporary storage, and proper transport and disposal of any dangerous waste generated during the investigation and cleanup of RAU-3.

- **State Environmental Policy Act (SEPA):** The Washington State Environmental Policy Act (SEPA) [Chapter 43.21C RCW] is the state statutory program to prevent or control and mitigate ecological impacts arising from public or private actions, specifically including cleanup actions conducted under the Model Toxics Control Act (MTCA). It requires WDOE to assess possible environmental impacts that may result from its decision or actions. SEPA provides for a "Determination of Nonsignificance (DNS)" or a "Mitigated Determination of Nonsignificance" for cleanup actions under MTCA where the absence of significant negative ecological impact is demonstrated by the party conducting the cleanup. A SEPA Environmental Checklist has been prepared assessing the potential environmental impacts that may occur as a result of the implementation of the RAU 3 CAP activities.

- **State Clean Water Act:** The Washington State Clean Water Act [Chapter 90.48 RCW] is a state program whose purpose is to maintain the highest possible standards to insure the purity

of all waters consistent with public health and public enjoyment and the protection of wild life, birds, game, fish and other aquatic life. While the remedial activities outlined in the CAP do not involve the discharge of wastewater to a surface water body, should those remedial activities change, BCRRT will comply with the requirements of the Clark County NPDES Phase I program.

- **State Clean Air Act:** The purpose of the Washington State Clean Air Act [Chapter 70.94 RCW] is to secure/maintain levels of air quality that protect human health and safety and to prevent injury to plant, animal life, and property. Compliance with this Act will be addressed to include worker breathing zones and work area perimeter monitoring for dust; measures to be implemented on an as-needed basis depending on weather and dust monitoring and may require dust suppression methods; gives the authority to temporarily stop excavation and soil handling activities should the dust suppression measures be inadequate during times of dry weather and/or low humidity. Additionally, air quality requirements have been addressed in the SEPA checklist prepared for this CAP.

## 2.2 Applicable Federal Laws, Regulations And Standards

**Explosives Safety Program:** Federal explosives safety regulations and guidance are applicable to all military munitions including those remaining at CBMR. Compliance with these regulations is addressed through Explosives Safety Submittals (ESSs) along with the Interim Action Work Plan (IAWP) and amendments for the RAU 3 site-wide MEC cleanup areas. This IAWP and amendments have been approved by WDOE. Two ESSs have been reviewed and approved for RAU 3 by the United States Army Technical Center for Explosives Safety (USATCES).

- 

- Occupational Safety and Health Act (OSHA): This Cleanup Action at RAU 3 – Site-Wide MEC Cleanup Areas will comply with the applicable provisions of the Federal Occupational Safety and Health Act (as amended) and the regulations there under. This includes, but is not limited to, the OSHA Construction and Hazardous Waste Operations and Emergency Response (HAZWOPER) standards found in the OSHA regulations in the Code of Federal Regulation (CFR). The applicable regulations include: OSHA General Industry Standards (29 CFR 1910); OSHA Construction Industry Standards (29 CFR 1926); and OSHA HAZWOPER Standards (29 CFR 1910.120 and 1926.120).

For this program the following have been developed and will be implemented throughout the RAU 3 cleanup defined in this CAP:

- Accident Prevention Plan **(**APP**; Baker 2006**) and attachments:
  - Health and Safety Plan (HASP)
  - Hazard Analysis
- Explosives Safety Submittal (ESS), as amended (MKM 2007)

- **Clean Water Act (CWA):** Several portions of the Federal Clean Water Act (as variously amended and updated since original enactment and codification) can be triggered through Section 404 under the Corps of Engineers jurisdiction. A Section 404 permit will be obtained by the BCRRT prior to the implementation of Remedial Activities in the wetlands adjacent to Lacamas Creek as outlined in this CAP.

- **Clean Air Act (CAA):** Portions of the Federal Clean Air Act are applicable to the implementation of the CAP for RAU 3. The applicable provisions govern emissions of fugitive dust at the perimeter of the work area during excavation and soil handling. Compliance with these provisions will be addressed to include the following: worker breathing zone and work area perimeter monitoring for dust; measures to be implemented on an as-needed basis depending on weather and dust monitoring results for dust suppression; and a requirement to temporarily stop excavation and soil handling activities should the dust suppression measures be inadequate during times of dry weather and/or low humidity. Additionally, air quality requirements have been addressed in the SEPA checklist prepared for this CAP.

- **Endangered Species Act (ESA):** the federal ESA is administered by the US Fish and Wildlife service (wildlife, plants, and some fish species) and the National Oceanic and Atmospheric Administration (NOAA; anadromous fish). This law requires protection of listed species and associated habitat. Per the Biological Assessment completed for the project, No Effect is anticipated for the implementation of this project. Biological Opinions have been issued by each agency confirming the effect determination in the Biological Assessment (USACE, 2001).

- **National Historic Preservation Act (NHPA):** Section 106 of the NHPA requires identification and protection of archaeological, cultural and historic resources. Concurrence of the project has been issued by the Department of Archaeological and Historic Resources**.** In 1998 a Section 106 Programmatic Agreement was obtained completed among the stakeholder for CBMR. That agreement was amended in 2006 to address issues related to the MEC remediation and reuse of CBMR (Washington State Historic Preservation Officer [SHPO], 2006) Additionally, a Cultural and Historical Resources Protection Plan (CHRPP) was prepared to address remedial activities anticipated at CBMR in 2006 (Baker, 2006a) and has been updated to address the remedial activities detailed in this CAP and is provided as **Appendix C**.

- **National Environmental Policy Act (NEPA**): NEPA requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. The NEPA process consists of an evaluation of the environmental effects of a federal undertaking

including its alternatives. There are three levels of analysis depending on whether or not an undertaking could significantly affect the environment. These three levels include: categorical exclusion determination; preparation of an environmental assessment/finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS). An EA (USACE, 2001) addressing the potential impacts of the disposal and reuse of CBMR was prepared by the Army in 2001. The conclusion documented in the EA was that implication of the proposed action (i.e. site remediation and development of a regional park) would have no significant direct, indirect, or cumulative effects on the quality of the natural or human environment (FONSI).

## 2.3 Substantive Requirements of Applicable County Laws, Regulations and Standards

- Habitat Conservation Ordinance: This ordinance is detailed in Clark Counties Unified Development Code (UDC) Title 40.440 [CC 40.440]. The purpose of the Ordinance is to protect fish/ wildlife habitat while allowing reasonable use of property. Habitat areas that are protected by this ordinance include streamside riparian areas, priority habitat and species areas and species buffers for endangered, threatened or sensitive species. A new habitat conservation permit or equivalent will be obtained by the BCRRT prior to the implementation of Remedial Activities outlined in this CAP.

- Wetland Conservation Ordinance: This ordinance was designed to protect wetlands and streams that are not applicable according to the Shoreline Management and Habitat Conservation programs [CC 40.450]. A new wetlands conservation permit or equivalent may be obtained by the BCRRT prior to the implementation of Remedial Activities in the wetlands adjacent to Lacamas Creek as outlined in this CAP.

- Clark County Grading Permit: The Grading Permit allows the County to review the proposed grading activities prior to any land movement to ensure the activity will not negatively impact the environment. [CC 40.380]. One of the activities outlined in this CAP is the excavation and removal of MEC disposal pits. A grading permit or equivalent may be obtained for this activity and any other activity requiring significant land movement or grading.

## 2.4 Controlling Documents

Prospective Purchaser Consent Decree (PPCD; WDOE 2006) and attached Conceptual Remedial Action Plan (CRAP), including the following specific sections:

- Section 57 (C) – Definition of RAU 3 – Site-Wide MEC Cleanup Areas
- Sections 75 through 80 – Status of RAU 3
- Section 99, 100, and 101 – Deliverables and Schedules for the Final Action at RAU 3
- Section titled –Remedial Action Unit 3" in the CRAP

## 2.5 Cleanup Standards

The Washington Administrative Code (WAC) regulations under the Model Toxics Control Act (MTCA) require, at WAC 173-340-700 that cleanup standards be established for every cleanup action involving hazardous substances conducted in Washington State. These cleanup standards

must be appropriately protective of human health and the environment. These cleanup standards are the basis for the CAP.

Cleanup standards consider current and future uses of the site in terms of assessing any residual risk. If a cleanup standard is developed on the basis of specific current or future land uses, institutional and/or engineering controls may be part of the CAP. These Institutional/engineering controls specify that the prescribed land use is maintained after the cleanup action itself has been implemented. If a hazardous substance remains on a site after cleanup action implementation, the cleanup action must include containment measures to prevent that hazardous substance from coming into contact with humans or other ecological receptors.
These cleanup standards have been developed by following the letter of these MTCA regulations to the extent those regulations are relevant and appropriate to MEC in RAU 3 and the intent and spirit of these MTCA regulations throughout. The cleanup standards would provide a very low level of risk to human receptors (including park users, park personnel, construction personnel, and cleanup action personnel) and ecological receptors during and after cleanup action implementation.

The cleanup level is the condition where ~~"t~~he likelihood for MEC and receptor interaction is negligible" and in conjunction with the point of compliance (i.e. the area to be remediated) for each RWA constitutes the cleanup standard. The point of compliance is measured in both horizontal and vertical dimensions and is based on those areas where MEC and receptor interactions are likely to occur. This compliance point will be the physical limits of MEC clearance activities for each RWA. The horizontal compliance point/cleanup standard is limited by the horizontal extent of contamination for each of the MEC Source Sites as determined by step outs, or Land Reuse Area. These /areas are described and illustrated in Section 8.0 of the RI/FS (BCRRT, 2007). The vertical points of compliance are the cleanup depths for the RWAs (MEC surface clearance, clearance to frost depth, clearance to 24 or 48 inches, and excavation and restoration) and are described in Section 7.0 of the RI/FS (BCRRT, 2007).

These cleanup standards are designed to conform to the MTCA Method B process as that is described in WAC 173-340-705. Method B is applicable to all sites and is based on attaining a very low level of residual risk after the cleanup action is implemented. MTCA Method B does not provide quantitative cleanup standards for MEC; however MTCA does provide useful qualitative guidance and direction for a cleanup action for MEC. These cleanup standards have been developed by applying that guidance and direction.

### 2.5.1 Protection of Human Health

The intent of MTCA is to select cleanup standards that are protective of human health and the environment. Proposed site-specific cleanup standards (cleanup level and points of compliance) to address the explosive safety risk posed for areas located within the CBMR are based on the baseline explosive safety exposure assessment, described in the Final RI/FS and Supplemental RI/FS. Specifically, the cleanup level and points of compliance are defined to ensure protection of human health and the environment and to be consistent with the planned future land use, which for the CBMR is as a regional park and wildlife refuge. Eliminating all risk at the CBMR is not feasible, even after MEC cleanup is complete. Since exposure to MEC is assumed to result in some level of

explosive safety risk, ―a clean MEC site" generally means that a site is cleaned up to a point that the likelihood for MEC and receptor interaction is negligible. The cleanup level proposed for the CBMR is this condition. The points of compliance will be based on those areas (measured in both horizontal and vertical dimensions) where the MEC and receptor interactions are likely to occur. MEC clearance actions should be limited to the extent of contamination resulting from the munitions-related activity identified for the specific area and its proposed reuse (e.g. four ft below ground surface [bgs] MEC clearance for building foundations).

In General, the cleanup standards for the CBMR can be classified as follows:

- For general park areas where no construction activities or other intrusive uses will be permitted, the cleanup action will be MEC surface clearance (USACE 2004). Areas where MEC surface clearance has been or will be conducted include, but are not limited to, portions of the western slopes of the CBMR as well as roads and trails (R&T) buffers. This MEC surface clearance consists of three steps: (1) an initial survey clearance to find and remove anomalies (anomaly avoidance) conducted for worker safety during subsequent clearance activities; (2) brush removal to make the surface visible and accessible; and (3) a second instrument aided MEC surface clearance to confirm that surface MEC and MD items have been identified and removed. Each of these steps will be subject to oversight and QA/QC inspection to confirm the quality and adequacy of the MEC surface clearance actions. MEC typically consists of discrete items with minimal physical mobility in environmental media barring human intervention. There is some potential for MEC items to remain below the site surface in these areas; containment of these items will be provided by the in-place soils and by deed restrictions on intrusive activities. Additional discussion of the potential for and movement of these MEC items are discussed in **Appendix A, Section 2.2.2**. Institutional controls, in the form of recorded deed restrictions and park management policies, signage and written materials will be implemented to assure that the land use will be non-intrusive park-related activities in perpetuity (**Appendix B**). Prior to CBMR being transferred to Clark County for public use a formal Institutional Control Manual will be developed. This document will contain easy to understand reference materials to assist site personnel in managing the institutional controls required by the deed restrictions. This cleanup action will provide for a very low level of residual risk for park users.

- For those specific park areas where:

    - MEC and MD findings (as indicators of prior usage of that specific area) require MEC subsurface clearance
    - where future construction of park facilities will require excavation, or
    - where park-related activities have a significant potential to lead to subsurface intrusions,

The cleanup standard will consist of MEC subsurface clearance to an appropriate and defined depth. This MEC subsurface clearance will consist of four steps: (1) an initial survey clearance to find and remove anomalies (anomaly avoidance) conducted for worker safety during subsequent clearance activities; (2) brush removal to make the surface visible and accessible; and (3) a second instrument aided MEC surface clearance to confirm that surface MEC and MD items have been identified and removed; and (4) excavation with MEC identification support to find and remove MEC items from below the site surface to the specified depth. Each of these steps will be subject to oversight and QA/QC inspection by personnel from the site team and from WDOE to confirm the quality and adequacy of the MEC surface and subsurface clearance actions. There is some potential for MEC items to remain below the level of the subsurface MEC clearance in these areas; containment of these items will be provided by the in-place soils and by restrictions on intrusion into those soils. Institutional controls, in the form of recorded deed restrictions and park management policies, signage and written materials will be implemented to assure that the subsurface intrusions from construction and park-related activities will be consistent with the implemented MEC clearance depths in perpetuity (**Appendix B**). This cleanup standard will provide for a very low level of residual risk for park users and construction personnel.

- For the WMA, the cleanup standard will be institutional controls in the form of deed restrictions, written materials and engineering controls in the form of fences, signage, and public information programs (**Section 3.0** and Appendix B). The institutional controls will be implemented to assure that the WMA will remain an ecological preserve in perpetuity. The engineering controls will be maintained to minimize unauthorized access to this area. In addition, county personnel will be trained in MEC anomaly avoidance so that necessary access to this area for maintenance and management can be done safely. In the event that a MEC trained county employee encounters a munition they will coordinate with Army Emergency Response personnel for the removal of that item. This cleanup standard will provide for a very low level of residual risk for park users and construction personnel.

### 2.5.2 Protection of Ecological Receptors

The cleanup standards described above for human health also function to protect ecological receptors. These standards will reduce the risk of MEC-related explosions or fires to very low levels. This risk reduction will also operate to protect ecological receptors (both animal and plant species) from adverse impacts.

### 2.5.3 Protection of Natural and Cultural/Historic Resources

Cleanup standards addressing protection of Natural and Cultural/Historic Resources are drawn from the applicable or relevant and appropriate regulatory programs (ARARs). Specific standards will include the following:

- Protection of Federal and state listed rare, threatened or endangered species, including both animals and plant communities.

- Protection of surface water bodies including streams, ponds, and wetlands by conducting clearing and excavation activities within specified buffer zones around these resources with hand tools and by implementing other appropriate measures to eliminate, minimize, or mitigate the impact of the necessary cleanup actions on these resources.

- Implementation of specified measures to prevent erosion and sediment impacts on surface water bodies where and when excavation or other soil disturbing activities are necessary to implement this cleanup action.

- Re-establishment of disturbed vegetation communities to minimize addition runoff and intrusion by invasive plants.

An updated Cultural and Historic Resources Protection Plan has been prepared (**Appendix C**) and will be implemented where this cleanup action requires significant soil excavation..

# 3.0 INSTITUTIONAL AND ENGINEERING CONTROLS APPLICABLE SITE WIDE

In support of and to augment the area-specific cleanup actions set forth in **Sections 4.0 and 5.0** below, there are several cleanup action components which will be applied site-wide. These cleanup action components will also address the entire site of the former Camp Bonneville Military Reservation (CBMR) including those areas, such as certain training maneuver areas and range safety fans not specifically addressed in these following sections. These cleanup action components, which will be applied site-wide, are defined as follows:

- **Institutional Controls Plan** detailing the cleanup action components outlined below will be developed as part of the execution of this CAP. This plan will serve as a guide to future CBMR managers and will document the IC requirements and obligations associated with the site.

- **Land use controls** in the form of recorded deed covenants that ensure the former CBMR remains a regional park and WMA and is only used for park activities, wildlife management, and timber management. These site-wide land use restrictions protect the public from conducting activities that might lead to some inadvertent exposure to the low level of residual explosive risk that may remain after the area-specific actions outlined in Sections 4 through 12 have been completed. Deed covenants and land use restrictions were filed as part of the CAP for RAU 1.

- To supplement and support the deed covenants, a **detailed boundary** was also recorded with these covenants. This survey has been completed, documented, and prepared in detailed map format using the relevant specifications of the United States Public Land Survey System.

- **Engineering Controls** (ECs) are containment or treatment systems designed to prevent or limit the exposure to potentially hazardous substances. In the case of CBMR the principle ECs will be in the form of **fencing** and **signage** along the perimeter of the facility as well as the fencing and signage used to isolate the Central Impact (Target) Area. Both the perimeter and the Central Impact (Target) Area fencing (a total of 15 miles of fencing) were replaced/repaired under the completed Emergency Actions (BCRRT, 2007c). These fences will be maintained as an extension of Regional Park and WMA operations. In addition warning signs identifying the potential of unexploded military munitions have been installed at 50 ft intervals around both the Perimeter and CITA fences.

- Park operations and management will include a **public information program** to inform interested citizens in the nature and extent of the low level of residual explosive risk that may remain after implementation of the area-specific cleanup actions. This public information program will include a permit notification program, and printed media program, and an on-site information kiosk, as follows:

    - The **permit notification program** will consist of standard notices in on-site permits for the construction or installation of building foundations, underground and above-

ground utility lines, roads and other paved or graded and graveled areas, land surveying, timber management, and other tasks which will or may involve land disturbance activities.

- The **printed media program** will include broc**hures, public service news**paper advertisements, public service television and radio spots, fact sheets, and press kits.

- The **on-site information kiosk** will consist of an exhibit and display depicting the history of the former CBMR, summaries of the explosives-related cleanup actions and findings, and the residual risk issues. This kiosk will be installed near the main entrance to the regional park. The kiosk will be supplemented by additional displays, including demilitarized samples of munitions type found on the site during the cleanup actions, in the park headquarters or the environmental resources training center.

- The permit notification program cited above will be supported and reinforced by **standard operating procedures (SOPs) for construction and maintenance** related excavation activities and other potential land disturbing tasks.

- To facilitate implementation of the procedures for land disturbing activities, **two Clark County park service employees will be trained in Unexploded Ordnance and anomaly avoidance techniques**. This training will be provided by an appropriately accredited unexploded ordnance training center. These two employees will be certified as Level I MEC technicians. In the event that these two county employees encounter munitions, they will isolate the area and coordinate with Army Emergency Response personnel for the removal of that item.

It is also noted that several of the area-specific cleanup actions, outlined in the following sections, include specific land use controls for those locations. As part of the development of this CAP, Clark County, WDOE, and BCRRT Representatives met to evaluate the potential for site specific ICs and a number of RWAs within CBMR. The results of those discussions are summarized in the following **Table 3-1**. This table contains a preliminary evaluation of the need for site specific IC's such as a printed media program, permits and signage that are currently being planned for various locations within the CBMR. Both site- specific and site-wide ICs and Engineering Controls for CBMR will be detailed in a final Institutional Control Plan for review and approval by WDOE and Clark County during the implementation of the remedial activities detailed in this CAP.

**Table 3-1 SUMMARY OF PROPOSED CBMR INSTITUTIONAL CONTROLS**

| Area Designation | Comments |
|---|---|
| **CBMR SITE WIDE INSTITUTIONAL CONTROLS[1]** | |
| All areas will have one or more of the following: | 1) Land use controls<br>2) Deed restrictions -- no dig restrictions<br>3) Fencing<br>4) Signage<br>5) Public information program |
| **APPLICATION OF INSTITUTIONAL CONTROLS TO SITE FOLLOWING MEC CLEARANCE ACTIONS** | |
| Fencing and Signage | |
| Property Perimeter Fence Line | Key site-wide engineering control, fencing and signage to be maintained |
| Central Impact Target Area Perimeter Fence Line | Key site-wide engineering control, fencing and signage to be maintained |
| Central Impact Target Area - Specified Target Areas | No area-specific IC required |
| Central Impact Target Area - Non-Target Areas | No area-specific IC required |
| Public Information Program and Signage: | |
| Roads and Trails (R&T) | Area-specific IC required, signage to remain on roads and trails |
| Firing Points - includes 9 artillery firing points, 6 mortar firing points, one rifle grenade firing point, and one 3.5-inch rocket firing point | No area-specific IC required |
| **REGIONAL PARK (RP) INSTITUTIONAL CONTROLS** | |
| Public Information Program | |
| Airfield | Determined clear of MEC, No area-specific IC required |
| Camp Bonneville Cantonment | Determined clear of MEC, No area-specific IC required |
| Camp Killpack Cantonment | Determined clear of MEC, No area-specific IC required |
| Public Information Program and Signage: | |
| West Slopes Area (WSA) | Area-specific IC required, signage to remain on roads and trails |
| Reuse Construction Areas | Signs should be posted near newly constructed areas detailing the procedures needed to do additional excavation in this area. |
| **CENTRAL VALLEY FLOOR (CVF) INSTITUTIONAL CONTROLS** | |
| Public Information Program | |
| Parade Ground | No area-specific IC required |

**Table 3-1 SUMMARY OF PROPOSED CBMR INSTITUTIONAL CONTROLS**

| Area Designation | Comments |
|---|---|
| M203 HE Grenade Range Target Area | QC work will determine whether area-specific ICs will be needed. |
| M203 Practice Grenade Range Target Area | QC work will determine whether area-specific ICs will be needed. |
| New 2.36-inch Rocket Range Target Area Near Former Sewage Lagoon | No area-specific IC required |
| New Rifle Grenade Target Area in NE CVF | No area-specific IC required |
| New MEC Disposal Area (burial pit) | After the excavation of this disposal pit, no area-specific IC required. |
| Public Information Program and Signage: | |
| Tent and Yurt Camping Area in South Central CVF | Additional area-specific signage and literature (provided as part of the campground permitting paperwork) may be warranted. |
| RV and Tent Camping Area in North Central CVF | Additional area-specific signage and literature (provided as part of the campground permitting paperwork) may be warranted. |
| Public Information Program, Fencing and Signage: | |
| Central Valley Floor | No area-specific IC required |
| Wetlands Areas in Central Valley Floor | No area-specific IC required |
| **WILDLIFE MANAGEMENT AREA (WMA) INSTITUTIONAL CONTROLS** | |
| Public Information Program | |
| Demolition Area 2 | Limited accessibility, No area-specific IC required |
| Rifle Grenade Target Area | Site specific signage required |
| 3.5-inch Rocket Range Target Area | Site specific signage required |
| Public Information Program and Signage: | |
| Wildlife Management Area | Additional signage at trailheads |
| Landfill 4 - Demolition Area 1 | No area-specific IC required |

Notes

1. Institutional Controls (IC) include land use controls, deed restrictions, fencing and signage, a public information program with brochures and other written documentation (some developed specifically for children) to detail the history and current condition of CBMR, describe MEC items that could be encountered, review park rules (stay on trails) and provide information to report suspected MEC items to park personnel. Additionally, on-site information kiosks will contain exhibits and displays depicting the history of the former CBMR, summaries of the explosives-related cleanup actions and findings, and the residual risk issues. Signage will also be posted at parking areas and trailheads detailing park rules. Permits, including details of MEC residual risk and park rules, will be issued for all camping sites.

## 3.1 Cleanup Actions for Specific RWAs

The following sections address the individual RWAs that resulted from the Final RI/FS (**Section 4.0**) and those additional cleanup requirements necessary due to the Supplemental RI/FS information. (**Section 5.0**). All of the recommended cleanup actions of the Site-Wide RWAs are depicted on **Figure 3.1.**

# 4.0 CLEANUP ACTIONS INITIALLY IDENTIFIED IN THE FINAL RI/FS

During the development of the Final RI/FS RAU 3, a number of RWAs requiring cleanup were identified and appropriate cleanup actions proposed. These initially identified RWAs formed part of the basis for planning the early transfer of CBMR to BCRRT (some RWAs were managed as Emergency or Interim actions). In the text that follows, these RWAs are identified, described, and the rationale for the selected cleanup action presented.

## 4.1 Target Areas

### 4.1.1 Description

This section addresses Target Areas, including the 3.5-in. Rocket Range, Rifle Grenade Range, and Hand Grenade (HE) Range. These sites are located outside the boundary of the proposed regional park. Additionally, the two M203 Grenade Ranges and a 2.36 in. Rocket Ranges are Target Areas that are located within the proposed regional park boundary. Locations of Target Areas are shown in Figure 4.1. The locations of Target Areas were confirmed during the site reconnaissance. Evidence of Target Areas included target area features, such as automobile / appliance targets, engineered wooden structures, and expended MEC items located downrange.

No MEC were recovered or removed during the site characterization in the 3.5-in. Rocket Range, Rifle Grenade Range or Hand Grenade (HE) Range.

A total of four MEC items were recovered in the intrusive grid sampling at the two M203 Grenade Ranges (one High Explosives Range and one Practice Range) during the 1998 site characterization. An additional four MEC items were recovered on the ground surface as the intrusive sampling teams were moving between sampling grids at the M203 Ranges. The recovered items were 35 mm M73 practice rockets. The 35 mm M73 practice rocket may still contain a small explosive safety risk due to the unconsumed signaling charge, if it was fired and failed to function. No 40 mm HE or LAW HEAT munition items were encountered and observations of the ranges revealed no indication of their presence (i.e., fragmentation marks, singed holes, and explosive component debris). A time-critical removal action (TCRA) was performed at the M203 ranges in 1999. This clearance was conducted on a total of 19 acres at the two ranges to a depth of two feet. UXO and OE scap items were recovered during this interim removal action at these Grenade Ranges. Over 3,800 pounds of inert MD scrap were recovered from the M203 Grenade Ranges during this clearance action.

One intact 2.36 in. rocket was identified embedded near a tree on the east side of Munsell Hill during the 2001 site reconnaissance. This area was selected for reconnaissance due to the presence of ground scars that were identified from historic aerial photos. The 2.36 in. rocket was destroyed in place by the 707th Ordnance Company (Explosives and Ordnance Disposal) from Fort Lewis, Washington in February 2003. A buried 3.5-in. practice rocket was also reported as being found near this location in the ASR (USACE, 1997). No evidence of any 3.5-in. rockets was found during the site reconnaissance at the reported location.

The remedial actions for this RWA, - 2.36 in. Rocket Range, have already been completed, as documented in the "2.36 in. Rocket Range After Action Report" (BCRRT 2008c). The completed actions consisted of anomaly avoidance, brush clearance, surface MEC clearance and subsurface MEC clearance to 14 inches bgs. During the 2.36 in. Rocket Target Range investigation, 69 MEC items were found. Sixty-two were 2.36 in. rockets, four were 3in. Stokes mortars, and 1 was a rifle grenade. All but three of the MEC items were found on the surface.

During more than 800 MEC subsurface clearance phase excavations ("Mag and Dig" surveys to Frost Depth - 14 inches bgs), only two 2.36 in. rockets (12 and 14 inches bgs), and one Stokes Mortar (4 inches bgs) were found.

Since this RWA consisted of an expansion of a previously evaluated 2.36 in. range and the indicated remedial action has already been completed and approved, no further action is required or appropriate at this location.

### 4.1.2 Hazard Severity Ranking

The munition release mechanism resulting in the presence of MEC in the vicinity of the Target Areas is from deployed munitions that failed to function (UXO) properly when initially fired. Residual UXO poses the greatest explosive safety threat to the public as these items are fuzed and armed but failed to function. The hazard severity ranking for a Target Area is the most severe of all site types. While implementing the Central Valley Floor and Roads and Trails Interim Actions, it was observed that almost all of the items identified have been determined to be training rounds. While these rounds would have a significantly lower explosive risk, the overall explosive risk ranking is maintained at the conservative levels established in the Final RI/FS. The explosive safety relative risk ranking for Target Areas is 1 on a scale of 1 – 7, with 1 representing the highest explosive risk.

### 4.1.3 Accessibility Rating and Reuse Intensity

The accessibility of the M203 Grenade Ranges and Hand Grenade (HE) Range Target Area are designated as accessible based on a flat or gentle topographic slope and adjacent roadways. The accessibility of the other Target Areas is categorized as limited, based on a moderate topographic slope. Portions of the 3.5 in. Rocket Range, Rifle Range, and Hand Grenade (HE) Range Target Areas, are designated as high reuse intensity. The activities that will be conducted at the proposed firing range locations that overlie the historical Target Areas are categorized as surficial and non-intrusive activities.

### 4.1.4 Explosive Hazard Ranking

The explosive hazards exposure assessment ranking for Target Area sites was assigned Rank A on a scale of A – E, with A representing the greatest exposure risk. This ranking is due to the high relative explosive safety risk of Target Areas and their locations within the proposed Regional Park and/or co-location with high reuse areas. The M203 Grenade Ranges was assigned Rank D because of the prior removal action completed in that area

and medium (non-intrusive) future reuse. The explosive hazards exposure characteristics associated with Target Areas are summarized in **Table 4.1**.

**TABLE 4.1**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR TARGET AREAS**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| 3.5-in. Rocket Range Target | 1 | Limited | Low | Surface / WMA | B |
| Rifle Grenade Range Target | 1 | Limited | Low | Surface / WMA | B |
| Hand Grenade (HE) Range | 1 | Limited | Low | Surface/ WMA | B |
| M203 Grenade Ranges (includes both TA-8 and TA-9) | See note (1) | Accessible | Medium | Surface / Regional Park | D |
| 2.36 in. Rocket Target Area | See note (2) | Limited | Medium | Surface / Regional Park | E |

(1) Removal Action completed to a depth of two feet in the M203 HE Grenade Range Target in 1999 removed MEC items from site.

(2) Removal Action completed to a depth of 14 in. as detailed in the ~~2~~.36 in. Rocket Range After Action Report" (BCRRT 2008c).

### 4.1.5 Recommended Cleanup Action

For the M203 Grenade Ranges (TA8 and TA9) which had been previously cleared under the 1999 TCRA, a quality assurance validation assessment of previous clearance activities will be performed.

The validation assessment methodology will consist of QA of 20% of the previous Army cleanup for each of the M203 Grenade Ranges. (TA-8 & TA-9). The assessment failure criteria will be the discovery of any MEC or MD item in a previously cleared area. In the event of a MEC or MD item discovery, additional actions for the area would be determined by the Anomaly Selection Board (ASB). Upon successful completion of the assessment, and recommendation of the ASB to the Ecology Project coordinator, Site-specific Institutional Controls (ICs) may be the recommended action for the M203 Grenade Ranges.

The remedial action (subsurface clearance to 14 in.) for the 2.36 in. Rocket Range have already been completed, therefore, the most feasible permanent solution is Site-specific ICs.

For the three remaining Target Areas, the MEC surface clearance cleanup action alternative with ICs, is determined to be the most feasible permanent solution for three of these former Target Areas (**BCRRT 2008a**). MEC surface clearance at the 3.5-in. Rocket Range Target, Rifle Grenade Range, and the Hand Grenade (HE) Range Target, would substantially reduce the explosive hazard at these sites since the future activities anticipated to occur in these Target Areas are surficial and non-intrusive. In addition, the 3.5 in. Rocket Range Target and Rifle Grenade Range Target Areas are considered to have limited accessibility based on the topography. The implementation of the Site-specific ICs (included as part of Alternative 3) would provide for the necessary public awareness of the former military use of the site. The MEC surface clearance cleanup action combined with the ICs will achieve the cleanup standard at the Target Areas. **Table 4.2** summarizes the recommended cleanup actions for the Target Areas.

**TABLE 4.2**
**SUMMARY OF RECOMMENDED CLEANUP ACTIONS**
**FOR TARGET AREAS**

| Target Sites | Explosive Risk Rank | Depth of Activity/Reuse | Recommended Alternative |
|---|---|---|---|
| M203 HE Grenade | Negligible[1] | Surface/Parking Lot for Regional Park | ICs with subsurface QA validation |
| M203 Practice Grenade Range | Negligible[1] | Surface/Regional Park | ICs with subsurface QA validation |
| Rifle Grenade Target | Highest | Surface/WMA | MEC surface clearance with Site-specific ICs |
| Hand Grenade (HE) Target | Highest | Surface/WMA | Surface clearance with Site-specific ICs |
| 2.36 in. Rocket Target | Highest | Surface/Regional Park | ICs. (MEC Subsurface Clearance to 14-inch depth. Completed [2]) |

[1] Assuming TCRA cleanup was effective, which will be determined by QA validation.
[2] Documented in the 2.36 in. Rocket Range After Action Report (BCRRT. 2008c).

The area and extent of the targets is based upon prior characterization and reconnaissance efforts. Clearance actions will be initiated at the presumed target center and will proceed outward in a grid-based manner. The MEC surface clearance area is roughly 2.6 acres for each of the three Target Areas. The actual clearance areas will be adjusted based upon items recovered during fieldwork. The step-out procedures described in **Section 4.8** will be deployed. Site-specific ICs will include installation of signage at each of the Target Areas to increase the publics' awareness of the past military activities conducted at the site.

## 4.2 Central Impact Target Area – Non-Target Zone

### 4.2.1 Description

The central portion of the CBMR was formally used as the location of a number of artillery and mortar practice targets and a surrounding buffer zone. This area was determined by the US Army to be roughly 465 acres in extent and is generally referred to as the Central Impact Target Area (CITA; **Figure 4.2**).

For the purposes of this CAP, the targets themselves (CITA-Targets) and the remaining buffer or Non-Target Zone (CITA-NT) will be managed separately. The CITA-Targets are comprised of 15 targets that cover roughly 10 acres and are discussed in **Section 4.3**. The CITA-NT encompasses the 455 remaining acres surrounding the targets and is part of the former artillery and mortar Range Safety Fans. As such, the CITA-NT has ordnance-related characteristics common to both Target Area and Range Safety Fan sites. The CITA-NT was selected for explosive hazard exposure assessment due to its remote location and its varied MEC exposure characteristics, suggesting that this area may require a unique risk management strategy. The entire CITA (both Targets and NT) is wholly fenced with a five-strand barbed wire fence encircling the area. Additionally, signage warning of the potential danger to trespassers is in place around the CITA at 50-ft intervals.

### 4.2.2 Hazard Severity Ranking

Munition release mechanisms that may have resulted in the presence of MEC in the vicinity of the CITA-NT are from deployed munitions that failed to function. Residual HE-filled UXO items potentially present in the CITA-NT pose the greatest hazard severity ranking of all site types. The likelihood that additional UXO items are present in the CITA-NT is considered low – medium, as the vast majority of the CITA-NT is located within the Range Safety Fans. The high severity ranking and low – medium presence of additional UXO result in an explosive safety relative risk ranking of 3 on a scale of 1 – 7 for the CITA-NT.

### 4.2.3 Accessibility Rating and Reuse Intensity

The overall accessibility of the CITA-NT considered extremely limited as the entire CITA is fenced and signed with only a small portion of this area accessible by four-wheel drive vehicles. The majority of the CITA is essentially inaccessible due to very steep terrain. It is designated as a no-reuse, restricted access area since it is isolated by fencing and signage and located within the WMA. There are no overlying proposed future use sites or facilities planned in this area. People will not be allowed to venture into the area because of the fencing, signage, written documents and steep terrain; therefore the number of potential human receptors is considered negligible.

### 4.2.4 Explosive Hazard Ranking

The low – medium likelihood of MEC combined with the very limited number of potential receptors in the area, result in an explosive hazards exposure assessment

ranking of Rank C. The explosive hazards exposure characteristics associated with the CITA-NT is summarized in **Table 4.3**.

**TABLE 4.3**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR CENTRAL IMPACT TARGET AREA-NON-TARGET ZONE**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse[1] | |
| CITA-NT | 3 | Limited to Regional Park Personnel | None | NA / Restricted Access Area | C |

(1) The level of subsurface intrusion or depth of activity is designated as not applicable (NA) for those sites that are located in the CITA. No reuse is proposed for this area.

### 4.2.5 Completed Cleanup Action CITA-NT

As part of the Emergency Action summarized in the ―Emergency Actions-Emergency Action Report, Remedial Action Unit 3" (BCRRT 2007c), the fencing surrounding the entire CITA was repaired and upgraded to five-strand barb wire. New warning signs were installed at 50-ft intervals around the 3.5-mile perimeter of the CITA.

These engineering controls (fencing and signage), along with warnings contained in written materials to be provided to future park visitors and implementation and enforcement of land use controls (restrictive covenants), will achieve the stated cleanup standard for Camp Bonneville of negligible interaction with the CITA. Site-specific ICs included installation of additional signs, maintenance of the existing fence surrounding the CITA. The signage will inform the public about this area's past usage and the fence will restrict the entry to this area. The restrictive covenants will prohibit any future development and/or forestry activities within the CITA.

## 4.3 CITA-Targets

### 4.3.1 Description

The CITA-Targets are comprised of 15 targets (**Figure 4.2**). This area is unique in that all six mortar and nine artillery firing positions could each fire at the various CITA-Targets. Four MEC items were recovered during the site characterization in 1998 and included one 2.36 in. HE rocket and three 105 mm HE-filled artillery rounds. During the site reconnaissance in 2001, one additional 105 mm artillery round was identified. An additional 155-mm projectile was discovered in May 2007during the Roads and Trails Interim Action.

### 4.3.2 Hazard Severity Ranking

Documents report that artillery units conducted firing exercises at CBMR twice a year from 1969 – 1985, resulting in approximately 50 rounds being fired into the CITA during each training session. Sometime in the 1970's, however the military switched from live ammunition to sub-caliber rounds for training purposes.

MEC release mechanisms that may have resulted in the presence of MEC at the CITA-Targets are from deployed munitions that failed to function. UXO items that are potentially present and pose the greatest explosive safety threat include HE-filled munitions ranging in size from 37 mm mortars to 155 mm artillery rounds.

Residual HE-filled UXO items potentially present at the CITA-Targets pose the greatest hazard severity ranking of all site types. The likelihood that additional UXO items are present at the CITA-Targets is considered high. The high severity ranking and likely presence for additional UXO result in an explosive safety relative risk ranking of 1 on a scale of 1 – 7 for the CITA-Targets.

### 4.3.3 Accessibility Rating and Reuse Intensity

The overall accessibility of the CITA-Targets are considered extremely limited as the targets are located well within the CITA-NT and entire CITA is fenced and signed with only a small portion of this area accessible by four-wheel drive vehicles. The majority of the CITA is essentially inaccessible due to very steep terrain. This area is designated a no-reuse restricted access area as it is located within the CITA-NT and WMA, and there are no designated reuse or facilities planned in this area. The CITA-Targets are wholly contained within a fenced area with signage warning trespassers of potential danger. People are not expected to venture into this area due to the fencing, signage ICs and steep terrain. As a result, there will be very few potential human receptors.

### 4.3.4 Explosive Hazard Ranking

The high likelihood of MEC combined with the very limited number of potential receptors in the area, results in an explosive hazards exposure assessment ranking of Rank B for each of the targets in the CITA-Targets. The explosive hazards exposure characteristics associated with the CITA-Targets is summarized in **Table 4.4**.

**TABLE 4.4**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE**
**CHARACTERISTICS FOR CENTRAL IMPACT TARGET AREA-TARGETS**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse[1] | |
| CITA-Targets | 1 | Limited to Regional Park Personnel | None | NA / Restricted Access Area | B |

(1) The level of subsurface intrusion or depth of activity is designated as not applicable (NA) for those sites located in the CITA.

### 4.3.5 Recommended Cleanup Actions CITA Targets

Institutional Controls for the entire CITA, frost depth (14 in.) clearance in select areas of the CITA-Targets, and hard target removal were determined to be the most feasible permanent solutions for the CITA-Targets. Implementation of engineering controls (during the Emergency Actions) included signage to inform the public about this area's past usage, fencing to restrict access, and land use controls (restrictive deed covenants) to prohibit any future development and/or forestry activities at this site. Removal of the hard targets and frost depth MEC clearance around each target will significantly reduce the explosive hazard.

In order to implement the frost depth clearance and hard target removal actions, a temporary access road will be constructed to provide entry to the CITA-Targets. MEC frost-depth clearance will be conducted over a 200 x 200 ft area around each target, for a total of about 10acres. All hard targets (old vehicles and appliances) would be removed after surface clearance of the areas adjacent to the target. After hard-target removal, each of the 15 target locations will be MEC cleared to frost-depth (14 in.; see **Figure 4.2**). The Step-out procedures described in **Section 4.8** will be used. Site-specific ICs include both installation and maintenance of signage and fencing, and land use controls. A new hiking trail (to replace the lower DNR road) will be constructed and surface cleared with 20 foot buffers to the north of the expanded CITA.

## 4.4. Open Burn/ Open Demolition Areas

### 4.4.1 Description

The OB/OD MEC sites consist of three OB/OD sites at CBMR, known as Demolition Areas 1, 2 and 3. Demolition Area 1(DA1) is located in the northwest quadrant of the site, east of Little Elkhorn Mountain; Demolition Area 2(DA2) is located adjacent to and

west of the CITA; while Demolition Area 3(DA3) is located in the southwest quadrant of the CBMR, adjacent to Lacamas Creek and the natural gas pipeline (**Figure 4.3**).

DA 1 sits atop Landfill 4. Landfill 4 was used for disposal of building demolition debris from the Vancouver Barracks and possible military wastes (Shannon and Wilson, 1999). In 2004, the USACE physically removed the contents and associated contaminated soils at DA 1, as part of the Landfill 4 Interim Removal Action. (Tetra Tech, 2006).

### 4.4.2 Hazard Severity Ranking

The explosive hazards exposure assessment ranking for DA 2 is Rank B because of site accessibility and high relative explosive risk ranking. DA 3 while located in the CVF is not within any designated reuse area, but is north of the planned Environmental Study Area (ESA); it is designated a medium (non-intrusive) reuse intensity. The explosive hazards exposure ranking for DA 3 is Rank A because of the potential for human interaction due to its accessibility and proximity to the planned ESA in combination with the high relative explosive risk ranking.

DA 1 was reportedly used by the Air Force and Army Explosive Ordnance Disposal (EOD), local fire departments and law enforcement agencies (USACE, 1997). It was used for destruction of unserviceable munitions, and confiscated firearms and fireworks since the late 1950's. Reports state that the Demolition Areas were used to destroy 20 mm ammunition, 2.75 in. rockets, and one AIM 7E missile. The rocket motors were destroyed by burning and the warheads destroyed by detonation. It was also reported that automobiles, railroad ties, and other objects were brought onto the range for explosive training. Since 1993, the destruction of unserviceable munitions by any method (burning or detonation) was not permitted.

A wide range of explosives and ordnance were disposed of at the OB/OD areas. During the site characterization, a 2.36 in. rocket and an HE-filled 2.75-in. rocket were recovered in the vicinity of Demolition Area 1/Landfill 4 (DA1/LF4). As a result of these findings, a 10-acre MEC surface clearance was performed at DA1/LF4. Eight UXO items were recovered during the MEC surface clearance and included two HE-filled 2.75-in. rockets and six 35 mm M73 practice rockets. In 2004 under contract with the Department of the Army, Tetra Tech, Inc. conducted an Interim Removal Action and physically removed DA1. During this action 894 MEC items, 12,778 MD Items, and approximately 13,300 pounds of scrap metal were removed during the various phases of the project (Tetra Tech, 2006).

The demolition of discarded or unused military munitions may sometimes result in the "kick-out" of munitions to some distance from the demolition area. Munition release mechanisms that may have resulted in the presence of MEC in the vicinity of an OB/OD Areas are from MEC kick-outs, and low-order or incomplete detonation. At an OB/OD area, the unsuccessful demilitarization of a MEC item poses the greatest explosive safety threat to the public. The hazard severity ranking for an OB/OD Area is the second most severe of all MEC Source site types (marginal/critical explosive safety hazard). The explosive safety relative risk ranking for OB/OD Areas is 2 on a scale of 1 – 7 with 1 representing the highest explosive risk.

### 4.4.3 Accessibility Rating and Reuse Intensity

The three OB/OD sites are accessible by roads and trails. DA 1and 2 are located outside the boundary of the proposed regional park. A ―Logging Camp" that had been previously proposed at the DA 2, will either be eliminated or located within the WMA but outside of the CITA and DA 2.

### 4.4.4 Explosive Hazard Ranking

The explosive hazards exposure assessment ranking for DA 2 is Rank B because of the potential intrusive activities, site accessibility, and high relative explosive risk ranking.

DA 3 is not within any designated reuse area, but is north of the planned ESA; it is designated a medium (non-intrusive) reuse intensity. The explosive hazards exposure ranking for DA 3 is Rank A because of the potential for human interaction due to its accessibility and proximity to the planned ESA in combination with the high relative explosive risk ranking.

The explosive hazards exposure ranking for DA 1 can be subdivided into two areas. The immediate OB/OD area for DA 1 (2.5 acres) is Rank E because it has physically been removed in 2004 as part of the Landfill 4 removal action (Tetra Tech, 2006). The surrounding kick-out area associated with DA 1 is Rank B. The kick-out area associated with DA 1 is lower than the other two OB/OD areas primarily because a ten acre MEC surface clearance was conducted in 1998, and there are expected to be fewer potential receptors as it is located in the proposed WMA which is a low reuse intensity area. The explosive hazards exposure characteristics associated with each of the OB/OD Areas are summarized in **Table 4.5**.

**Table 4.5**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR OB/OD AREAS**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Demolition Area 1 (1) | 5 | Accessible | Low | Surface / WMA | E |
| Demolition Area 2 | 2 | Accessible | Low | Surface / WMA | B |
| Demolition Area 3 | 2 | Accessible | Medium | Surface / Regional Park | A |

(1) The OB/OD area associated with Demolition Area 1 was removed in 2004.

### 4.4.5 Recommended Cleanup Actions

MEC surface clearance with ICs is the recommended cleanup action for the DA1, DA2, and DA3 areas. The area and extent of the OB/OD Areas is based upon prior characterization and reconnaissance efforts. MEC surface clearance will be performed in a 500 ft x 500 ft grid centered over DA1, DA2 and DA3. Step-out procedures will be implemented as described in **Section 4.8** of this report.

For the DA1 area, additional surface clearance is proposed to augment the previously conducted 10-acre clearance (Tetra Tech, 2006). The DA1/LF4 MEC surface clearance will be performed for the portions of the "kick out" zone that had not been covered during previous actions and at an area south of DA1/LF4 where MEC was previously found (**Figure 4.3**). A 100 by 200 ft grid will be established around a single location which represents a possible MEC or munitions debris "kick out" zone. A 500-ft x 500-ft grid at the center of DA1 will also be cleared. The actual clearance area will be adjusted based upon items recovered during fieldwork. Step-out procedures will be implemented as described in **Section 4.8** of this report.

The total area for the MEC surface clearance at DAs 1, 2, and 3 is approximately 17 acres. Performing this recommended cleanup action alternative will achieve the cleanup standard of negligible interaction with the MEC. The recommended alternatives are summarized in **Table 4.6**.

**TABLE 4.6**
**SUMMARY OF RECOMMENDED CLEANUP ACTIONS – OB/OD AREAS**

| OB/OD Sites | Acres | Explosive Risk Rank | Depth of Activity/Reuse | Recommended Alternative |
|---|---|---|---|---|
| Demo Area 1 (portions of the kick-out area only) | 5.8 | High[1] | Surface/ WMA | MEC surface clearance with ICs(for portions of the kick-out area) |
| Demo Area 2 | 5.8 | Highest | Surface/ WMA | MEC surface clearance with ICs |
| Demo Area 3 | 5.8 | Highest | Surface/ Regional Park | MEC surface clearance with ICs |

(1) Demo Area 1 removed as part of 2004 removal action.

## 4.5 Firing Points

### 4.5.1 Description

The Firing Points at CBMR consist of six mortar firing positions, nine artillery firing positions, one rifle grenade range firing point, one 3.5-in. rocket range firing point, and

one M203 40 mm HE Grenade Range (Range 4). Firing Points are located near the apex of each range. The location of each Firing Point was confirmed during the site reconnaissance. No MEC items were discovered at any Firing Points locations during the reconnaissance efforts. The location of each Firing Point is shown on **Figure 4.4**.

A wide variety of ordnance may have been used at the Firing Point locations. Weapons systems used at the six mortar firing points may have included 4.2-in., 60 mm and 81 mm mortars filled with either HE or pyrotechnics. Artillery employed at the artillery firing positions included 105 mm and 155 mm Howitzers and 37 mm sub-caliber devices. A variety of rifle grenade munitions may have been used at the rifle grenade range including practice, smoke, white phosphorus (WP), fragmentation, and HEAT Practice, HEAT, WP, or smoke-filled 3.5 in. rockets may have been used at the 3.5 in. rocket range.

### 4.5.2 Hazard Severity Ranking

The ordnance release mechanism at Firing Points is a result of abandonment, burial, or mishandling of non-deployed munitions in shallow pits. Any residual military munitions would likely be located at a close distance behind the Firing Point location where the munitions were prepared. The likelihood that military munitions are present at a Firing Point location is medium.

Only non-deployed military munitions are anticipated to be present at Firing Points. The type of ordnance utilized at a particular firing position would determine if the item was internally or externally fuzed. Military munitions require a specific action, i.e., turning of timer rings, or applying power or force in order to activate the fusing system. Most artillery munitions are required to be fired in order to activate the fusing mechanism. If a military munition has not been acted upon, the fusing has not been activated, and the overall probability that the munition can be detonated by a person uncovering or picking up the item is extremely remote. However, if the item were to be acted upon in an inappropriate, specific and forceful manner, i.e., applying heat or pressure to the outside casing, it could detonate. The hazard severity ranking for a Firing Point location is considered very low (negligible explosive safety hazard). Due to the ~~"m~~medium" likelihood of MEC occurrence, however, the explosive safety relative risk ranking for Firing Points is 3 on a scale of 1 – 7, with 1 representing the highest explosive risk.

### 4.5.3 Accessibility Rating and Reuses Intensity

The Firing Points are categorized as accessible based on their proximity to roads. Although the 3.5 in. Rocket Range, Rifle Grenade Range firing positions Mortar Firing Positions 1, 2, and 5, are located outside the proposed regional park, within the WMA, they are in very close proximity to the proposed park boundary and are therefore designated a medium reuse intensity. Any Clark County proposed future use areas which overlie the Firing Point locations are limited to activities which will be non-intrusive. Former Artillery Positions 1, 2 and Artillery Position 5 underlie the planned Trailhead & Parking Area.

### 4.5.4 Explosive Hazard Ranking

The explosive hazards exposure assessment ranking for firing points which overlie a proposed future use area was assigned rank B on a scale of A to E, with A representing the greatest exposure risk. Other firing points were assigned rank C based on a combination of accessibility and future land reuse criteria. The M203 HE grenade range firing point was assigned rank D because of the prior removal action completed in that area. The explosive hazards exposure characteristics associated with firing points are summarized in **Table 4.7.**

**TABLE 4.7**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS - FIRING POINTS**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Mortar Firing Pos 1 | 3 | Accessible | Medium | Surface / WMA | C |
| Mortar Firing Pos 2 | 3 | Accessible | Medium | Surface / WMA | C |
| Mortar Firing Pos 3 | 3 | Accessible | Medium | Surface/ Regional Park | C |
| Mortar Firing Pos 4 | 3 | Accessible | Medium | Surface/ Regional Park | C |
| Mortar Firing Pos 5 | 3 | Accessible | Medium | Surface / WMA | C |
| Mortar Firing Pos 6 | 3 | Accessible | Medium | Surface/ Regional Park | C |
| Artillery Pos 1 | 3 | Accessible | Medium | Surface/ Regional Park | C |
| Artillery Pos 2 | 3 | Accessible | Medium | Surface/ Regional Park | C |
| Artillery Pos 3 | 3 | Accessible | Medium | Surface/ Regional Park | C |
| Artillery Pos 4 | 3 | Accessible | Medium | Surface/ Regional Park | C |
| Artillery Pos 5 | 3 | Accessible | High | Surface / Trail Head & Parking | B |
| Artillery Pos 6 | 3 | Accessible | Medium | Surface/ Regional Park | C |
| Artillery Pos 7 | 3 | Accessible | Medium | Surface/ Regional Park | C |
| Former Artillery Firing Pos 1 | 3 | Accessible | Medium | Surface / Trail Head & Parking | B |
| Former Artillery Firing Pos 2 | 3 | Accessible | Medium | Surface / Trail Head & Parking | B |
| Rifle Grenade Range | 3 | Accessible | Medium | Surface / WMA | C |
| 3.5-in. Rocket Range | 3 | Accessible | Medium | Surface / WMA | C |
| M203 Grenade Ranges | *[1] | Accessible | Medium | Surface/ Regional Park | D |

(1) Removal Action completed to a depth of two feet in the M203 Grenade Ranges in 1999.

### 4.5.5 Recommended Cleanup Actions

To achieve the cleanup standard of negligible interaction with MEC, subsurface clearance using Digital Geophysical Mapping (DGM) coupled with ICs is determined to be the most feasible permanent solution for the Firing Point sites, based on the analysis presented in the Final RI/FS (**BCRRT 2008a**). The depth of MEC clearance for each of the Firing Points would be 14 inches bgs and is based on the future surficial and non-intrusive reuse activities: the potential for unfired ordnance to have been intentionally buried in order to expedite end-of-fire exercise procedure; and the accessibility of the various firing points. Site-specific ICs will include installation of signage at each of the Firing Points to increase the publics' awareness of the past military activities conducted at these sites.

The total area for the cleanup action is approximately 21 acres. This is based on an approximate 2 acre clearance around each of the artillery firing positions, a 0.5 acre clearance around each of the mortar firing positions, and a 1-acre clearance around the 3.5 in. Rocket and Rifle Grenade firing points.

In order to facilitate the MEC subsurface clearance, the brush will be removed around each site and MEC surface cleared. Subsurface investigations will be based upon site-specific work plans developed to address the specific MEC issues that are likely to be encountered. Step-out procedures will be implemented as described in **Section 4.8**.

## 4.6 Roads and Trails

### 4.6.1 Description

There are approximately 46 miles of Roads and Trails throughout CBMR of which 25 miles are located within the proposed regional park (**Figure 4.5**). In addition, approximately 11 miles of Property Boundary and 3.5 miles of CITA perimeter fencing were addressed as part of the Emergency Actions, as documented in the Emergency Action Report, Remedial Action Unit 3 (BCRRT 2007c).

The Roads and Trails have the same munitions related historical use and characteristics as the Maneuver Areas. Roads and Trails were segregated for analysis because of the greater potential for human use which may require a different risk management strategy.

### 4.6.2 Hazard Severity Ranking

The reconnaissance efforts resulted in sampling of nearly all of the Roads and Trails in CBMR. While MEC and MD items were recovered within the buffer along the Road and Trails during the reconnaissance, almost all of these items were located within the CVF, CITA, or other RWAs. The buffer zones in these RWAs will be managed as part of those work areas. The few remaining items included expended pyrotechnics, small arms ammunition, Stokes Mortars and smoke grenades. The hazard severity ranking for Roads and Trails is considered low with a low explosive safety hazard and low probability for

encountering MEC. The explosive safety relative risk ranking for Roads and Trails is 5 on a scale of 1 – 7, with 1 representing the highest explosive risk.

### 4.6.3 Accessibility Rating and Reuse Intensity

Roads and Trails are located throughout CBMR. The future reuse intensity of Roads and Trails is considered high. In addition to pedestrian and equestrian traffic, maintenance will be conducted along the Roads and Trails. These activities are non-intrusive.

### 4.6.4 Explosive Hazard Ranking

The explosive hazards exposure assessment ranking for Roads and Trails is Rank D, despite the relatively large number of potential receptors, because of its low explosive safety risk. The explosive hazards exposure characteristics associated with Roads and Trails is summarized in **Table 4.8**.

**TABLE 4.8**

**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR ROADS AND TRAILS**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Roads and Trails | 5 | Accessible | High | Surface / Hiking and Horseback Riding | D |

### 4.6.5 Completed Cleanup Action

A relatively large number of potential receptors were expected along the Roads and Trails located in the proposed regional park, with fewer receptors expected on the Roads and Trails in other areas. The results of the qualitative explosive hazards exposure assessment indicated a very low level of exposure risk along the Roads and Trails. An Interim Action consisted of MEC surface clearance of a 20 foot wide buffer zone along the existing roads and trails with step-outs (see **Figure 4.5**). Site-specific ICs included installation of signs along the roads and trails at appropriate intervals to inform the public about the past military use of the site. The Draft Interim Action Work Plan for RAU 3 (BCRRT 2007d) presented the details for the implementation for this interim action and an Interim Action Completion Report is pending.

## 4.7 Wildlife Management Area

### 4.7.1 Description

The Wildlife Management Area (WMA) is comprised of approximately 2,188 acres and includes the former DNR leased lands (**Figure 4.6**). The WMA does not include the Central Impact (Target) Area which requires a separate risk management strategy and is addressed separately in **Section 5.0**. The majority of the WMA overlies one or more Range Safety Fans.

### 4.7.2 Hazard Severity Ranking

The WMA is categorized as having the ordnance related historical use and characteristics similar to those as the Range Safety Fans (critical/catastrophic explosive safety risk and low likelihood of munitions contamination). The explosive safety relative risk ranking for the WMA is 5 on a scale of 1 – 7 with 1 representing the highest explosive risk similar to Range Safety Fans.

### 4.7.3 Accessibility Rating and Reuse Intensity

The overall accessibility of the WMA is considered limited as only a small portion of this site is accessible by road. The vast majority of the WMA is categorized as either limited or inaccessible due to very steep terrain. It is designated as low reuse intensity, with no overlying proposed future use sites or facilities planned in this area. Timber harvesting and subsequent timber planting are the sole human activities proposed for the WMA. People are not expected to venture into the area because of the steep terrain; therefore the number of potential human receptors is considered very low.

### 4.7.4 Explosive Hazard Ranking

The low likelihood of an MEC source combined with the very limited number of potential receptors in the area, result in an explosive hazards exposure assessment ranking of Rank D. The explosive hazards exposure characteristics associated with the WMA is summarized in **Table 4.9**.

**TABLE 4.9**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR WILDLIFE MANAGEMENT AREA**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Wildlife Management Area | 5 | Limited | Low | Surface and Subsurface / Silviculture, Short-cuts | D |

### 4.7.5 Recommended Cleanup Action

Institutional Controls are determined to be the most feasible permanent solution for the WMA, based on the analysis to achieve the cleanup standard of negligible interaction with MEC. The ICs at the WMA will include implementation of Site-Wide ICs as described in **Section 3.0**. These Site-Wide ICs will inform the public and the forestry workers about the past military history of the CBMR. The Site-Wide ICs will also aid in MEC recognition and the proper response and reporting procedures. Construction support activities will also be provided as described in the Final RI/FS (**BCRRT 2008a**) for forest management and fire suppression logging work. The Site-Wide ICs will likely modify the timber worker and public behavior, resulting in a decrease in the potential for receptor interaction with potential MEC items. Implementation of these Site-Wide ICs will achieve the cleanup for this area. A new hiking trail (to replace the lower DNR road) will be constructed and surface cleared with 20 foot buffers to the north of the expanded CITA.

## 4.8 Central Valley Floor and Associated Wetlands

### 4.8.1 Description

The Central Valley Floor (CVF) and associated wetlands (adjacent to Lacamas Creek) comprise the major portion of the proposed regional park that has a gentle topographic slope, and low vegetative cover. Therefore, these areas provide the opportunity to draw people together for informal recreational activities. These areas cover approximately 445 acres along the Lacamas Creek valley floor. The CVF includes both future High Intensity Reuse Areas (e.g., tent camping areas) as well as Accessible Medium Intensity Reuse Areas. Surface clearance of the CVF has been completed except for the wetlands.

### 4.8.2 Associated Wetlands

Wetlands extend throughout the CVF along the Lacamas Creek basin and total roughly 110 acres. These wetlands are discussed separately due to the existence of sensitive ecological habitats, easily disturbed soils, flora and fauna, additional regulatory Agency oversight and work safety concerns (i.e. unstable saturated soil conditions and stream banks).

As described in the PPCD (WDOE 2006) and RAU 3 RI/FS (Section 6.3.3), an aerial survey was originally proposed for the identification of magnetic anomalies (i.e., potential MEC items) in the limited area of these wetlands where MEC surface clearance is practical most of the year due to terrain or saturated conditions (i.e. wetlands and stream banks).

The wetlands aerial survey was to be conducted using a magnetometer system deployed beneath a helicopter flying as low as possible above these wetlands. The resulting magnetometer data would be used to develop an inventory of metallic anomalies and their GPS coordinates. After the survey, the anomalies would be manually located for identification as either metallic scrap or MEC items and removed.

After the start of the project and discovery of numerous MEC items in the adjacent CVF, the practicality of the aerial survey came into question for the following reasons:

- The size and density of trees and brush along Lacamas Creek and the wetlands would result in the helicopter having to fly over the wetlands at higher than optimal altitudes, further reducing the effectiveness of the aerially deployed magnetometer in detecting smaller MEC items.

As a result of these and other factors, WDOE determined that the use of an aerial survey was not an appropriate technology to employ at CBMR as a substitute for MEC surface clearance. Therefore, surface investigation and surface clearance of the wetlands will need to be completed manually using standard instrument aided surface clearance techniques.

## 4.9 Step-Out Procedure for Clearance Activities

Step-out Procedures will apply to every clearance action and be completed as a separate task at the end of the Phase 1 cleanup in accordance with the Prospective Purchaser Consent Decree (PPCD; WDOE 2006) and attached Conceptual Remedial Action Plan (CRAP).

### 4.9.1 Standard Step-out Procedure

Step-out clearance is employed to insure that isolated discoveries of MEC are not evidence of additional areas of concern. Step-Out clearance procedures will be done in accordance with the following steps:

1. If a MEC or MD item, of a particular (hazardous) military munition, is found within a boundary grid of a designated clearance area, then the clearance area shall be expanded by adding a new (100 ft. x 100 ft.) grid adjacent to the grid of concern.
2. The new grid will be brush cleared.
3. The new grid will be surface cleared and if a MEC or MD item of a hazardous military munitions is discovered, the procedure will repeat until no MEC or MD items are found.

### 4.9.2 Exceptions to the Procedure

The following exceptions will stop/modify the Step-out Procedures**:**

- If the new grid extends beyond the property perimeter fence line.
- If the new grid extends to an adjacent cleanup area requiring clearance or a previously cleared area.
- 
- If worker safety compromised due to extremely steep terrain making the area inaccessible.

# 5.0 ADDITIONAL CLEANUP ACTION REQUIREMENTS DUE TO SUPPLEMENTAL RI/FS CHARACTERIZATION

While conducting the Supplemental RI/FS (**Appendix A**), numerous MEC and MD findings were reported in areas of the CBMR where such findings were not anticipated, based on the results of the Army's previous site work. These findings lead to the discovery of a number of new target impact areas and waste disposal areas. Analysis of these findings in the Supplemental RI/FS led to the conclusion that additional cleanup actions are required for some areas. In addition, the WDOE has made the determination that the findings in a number of areas change the associated cleanup requirements. This section (**Section 5.0**) details both the cleanup actions and cleanup action recommendations made in the Supplemental RI/FS.

## 5.1 Central Valley Floor and Associated Wetlands

### 5.1.1 Description

The Central Valley Floor (CVF) and associated wetlands (adjacent to Lacamas Creek) comprise the major portion of the proposed regional park that has a gentle topographic slope, and low vegetative cover. Therefore, these areas provide the opportunity to draw people together for informal recreational activities. These areas cover approximately 445 acres along the Lacamas Creek valley floor. The CVF includes both future High Intensity Reuse Areas (e.g., tent camping areas) as well as Accessible Medium Intensity Reuse Areas.

Data shows that the CVF and associated wetlands were extensively used as direct and indirect fire target areas, and an extensively used training area. The discovery of numerous subsurface anomalies, as well as surface MEC findings led WDOE to the determination that MEC subsurface clearance would be necessary. A number of newly discovered target areas and/or waste disposal areas were discovered during the CVF MEC surface clearance activities, including;

- Stokes Mortar Target Area,
- MEC Disposal Area (Burial Pit),
- Open Burn/Open Demolition Area ,
- 37 mm Artillery/Stokes Mortar Target Area,
- 2.36 in. Rocket Target Area near the Former Sewage Lagoons,
- Rifle Grenade Target Area
- Associated Wetlands

Each of these specific areas is presented on **Figure 5.1** and is briefly described in the subsections below.

During the Supplemental RI/FS and associated MEC surface clearance of the northernmost edge of the CVF, approximately 12.5 acres were determined to be permanently saturated with significant standing water. The saturated conditions and standing water made this area inaccessible for MEC surface clearance. BCRRT, Clark County and WDOE agreed that clearing the equivalent acreage in another area of the

Regional Park would meet the requirements of the PPCD. In discussion with WDOE and Clark County, BCRRT has relocated 12.5 acres of MEC surface/subsurface clearance to the southwest corner of the site adjacent to the wetlands, western slopes, and ESA.

#### 5.1.1.1 Newly Discovered Stokes Mortar Target Area

The newly discovered Stokes Mortar Target Area is located just south of the midpoint of the CVF. Throughout the Stokes Mortar investigation area, multiple subsurface anomalies have been identified in areas co-located with MEC on the surface that are indicative of this area being used as a target. Prior to transfer to BCRRT, the area had not been identified as a target area. However, the MEC and MD findings in the Stokes Mortar investigation area include numerous 3 in. Stokes mortars (fired, some fuzed and some unfuzed), 2.36 in. rockets (fired, some fuzed and some unfuzed) and 1- 37 mm projectile (fired and fuzed), a HE M-9 Rifle Grenade and numerous MD findings (see **Appendix A**).

#### 5.1.1.2 Newly Discovered MEC Disposal Area (Burial Pit)

The newly discovered MEC disposal pit is located within a flat-lying open field in the central portion of the CVF, west of Lacamas Creek. Several layers of grenade spoons, rocket parts (some can be identified as HE rocket parts), and miscellaneous munitions-related debris were identified. The pit has not been investigated vertically, but has been defined laterally. Lateral delineation of burial pit defines it as a 50 ft x 50 ft area. Vertical excavation limits will be based upon the actual depth of MEC/MD encountered in the excavation.

The recommended cleanup action for the burial pit is complete excavation of the pit contents and proper disposal of the excavated material and implementation of ICs. This alternative is determined to be the most feasible permanent solution for this area and would achieve the RAU 3 remediation standard. The area is about 50 by 50 ft with an estimated depth of 10 ft for a total of approximately 4000 cubic yards of material.

A Soil and Groundwater Sampling Program will be implemented for the burial pit to address potential explosives residues from historic OB/OD activities. The sampling will be conducted per site-specific Work Plans that focus on the potential for groundwater impacts related to the OB/OD operations/material explosive residuals and will be prepared as a separate document. The Sampling Program will be conducted in a phased approach based upon the results of the Recommended Cleanup Action, field observations, and analytical sample results.

#### 5.1.1.3 Newly Discovered Open Burn/Open Demolition Area

The newly discovered OB/OD area is located in the southern part of the CVF on its eastern border and just north of the ESA. This newly identified demolition area covers approximately 16.33 acres and was discovered during the CVF clearance action. Several inert 5 in. rocket warheads were identified on the

surface as well as rocket slag from a thermite burn. The recent findings show the area has several subsurface anomalies indicative of additional potential MEC or MD. In addition, the area has several demolition craters indicative of past surface demolition activities. The majority of the area is located within an open flat area of the CVF. Recent MEC and MD findings include 2.36 in. rockets (one fired, fuzed), 3" Stokes mortars (fired, unfuzed), a 5" rocket warhead, a 37 mm HE (unfired and unfuzed), and other miscellaneous items (see **Appendix A**).

A Soil and Groundwater Sampling Program will be implemented for OB/OD areas to address potential explosives residues from historic OB/OD activities. The sampling will be conducted per site specific Work Plans that focus on the potential for groundwater impacts related to the OB/OD operations/material explosive residuals and will be prepared as a separate document. The Sampling Program will be conducted in a phased approach based upon the results of the Recommended Cleanup Action, field observations, and analytical sample results.

#### 5.1.1.4 Newly Discovered 37 mm Artillery/Stokes Mortar Target Area

The newly identified 37 mm and Stokes mortar target area is located east of the newly discovered Stokes Mortar Target Area (Section **5.1.1.1**, above) and was identified during investigation of the CVF. The area has several subsurface anomalies co-located with MEC discovered on the surface, indicative of additional potential MEC or MD. The area was also posted with a newly discovered "Impact Area" warning sign during the brush clearance as part of the CVF Interim Action and investigation. Numerous MEC and MD items requiring demolition (3 in. Stokes mortars and 2.36 in. rockets (fired, some fuzed and some unfuzed); smoke grenades; 37 mm projectiles (fired, fuzed), have been found in this area, some of the items found were HE type munitions (see **Appendix A**).

#### 5.1.1.5 Newly Discovered 2.36 in. Rocket Target Area Near Former Sewage Lagoons

The newly discovered 2.36 in. Rocket Target Area is located east of the former sewage lagoon ponds in the northern part of the CVF. Based upon the density and type of findings discovered during MEC surface clearance, conducted as part of the CVF Interim Action and investigation, the area is considered a newly discovered target area. MEC and MD findings included numerous 2.36 in. rockets and a smoke grenade.

#### 5.1.1.6 Newly Discovered Rifle Grenade Target Area

A number of M9 Rifle Grenades (fired, fuzed) and MD items have been recovered from an area east of former Field Small Arms Ranges 1 and 2 near or in Grid N-17 ( **Figure 5.1**). Based upon the density and type of findings the area is considered a newly discovered target area.

### 5.1.1.7 Associated Wetlands

Wetlands extend throughout the CVF along the Lacamas Creek basin and total roughly 110 acres. Although part of the CVF these wetlands are discussed separately due to the existence of sensitive ecological habitats, easily disturbed soils, flora and fauna, additional regulatory Agency oversight and work safety concerns (i.e. unstable saturated soil conditions and stream banks).

As described in the PPCD (WDOE 2006) and RAU 3 RI/FS (Section 6.3.3), an aerial survey was originally proposed for the identification of magnetic anomalies (i.e., potential MEC items) in the limited area of these wetlands where MEC surface clearance is practical most of the year due to terrain or saturated conditions (i.e. wetlands and stream banks).

The wetlands aerial survey was to be conducted using a magnetometer system deployed beneath a helicopter flying as low as possible above these wetlands. The resulting magnetometer data would be used to develop an inventory of metallic anomalies and their GPS coordinates. After the survey, the anomalies would be manually located for identification as either metallic scrap or MEC items and removed.

After the start of the project and discovery of numerous MEC items in the adjacent CVF, the practicality of the aerial survey came into question for a number of reasons, including:

- The size and density of trees and brush along Lacamas Creek and the wetlands would result in the helicopter having to fly over the wetlands at higher than optimal altitudes, further reducing the effectiveness of the aerially deployed magnetometer in detecting smaller MEC items.

As a result of these and other factors, WDOE determined that the use of an aerial survey was not an appropriate technology to employ at CBMR as a substitute for MEC surface clearance. In addition, WDOE has also determined that the adjacent CVF and the wetlands areas require subsurface clearance to frost depth (14-in bgs). Therefore, MEC surface and subsurface clearance in the wetland areas must be conducted in accordance with already established clearance technologies (Schoenstadt and/or EM-61) as modified with a separate wetland protocol. The wetland protocol will include specific brush cutting, worker safety, and MEC anomaly investigation procedures to reduce the impact to potentially sensitive habitat and in consultation with the appropriate governmental oversight agencies prior to MEC clearance activities in the wetland areas.

During site reconnaissance efforts prior to the start of MEC surface clearance activities in the northeastern end of the CVF, an area of approximately 12.5 acres was discovered that is permanently saturated with significant standing water and wetland habitat. The area is extremely difficult to access due to terrain and dense vegetation. The restricted access of this habitat, along with the saturated

conditions and standing water make this area nearly impossible for MEC surface clearance work to be conducted safely and without significant damage to the habitat. BCRRT, Clark County and WDOE agreed that clearing the equivalent acreage in another area of the Regional Park would meet the requirements of the PPCD. In discussion with WDOE and Clark County, BCRRT has relocated 12.5 acres of MEC surface/subsurface clearance to the southwest corner of the CVF adjacent to the Western slopes and north of the ESA (**Figure 5.1**).

### 5.1.2 Hazard Severity Ranking

During the Interim Action in the CVF (adjacent to the wetlands), over 500 MEC and over 1,000 MD items were addressed. MEC items that could pose an explosive safety threat included 2.36 in. rockets, 3 in. Stokes Mortars, rifle grenades, smoke grenades, practice hand grenades, 105 mm HE projectile, M73 rocket practice 35 mm, and M49 trip flares. The likelihood that MEC items are present in the wetlands is considered moderate to high.

Given the numbers and types of MEC and MD findings encountered across the CVF, the WDOE has made a determination as to the appropriate cleanup action for this area, which is detailed below.

### 5.1.3 Accessibility Rating and Reuse Intensity

The greatest amount of visitor activity in the CVF and adjacent wetlands will occur in the High Intensity Reuse Areas and these uses may be considered intrusive, that is disturbing the soil surface. Examples of intrusive activities include tent camping and construction. Non-intrusive activities include RV camping, parking, archery or firing range training. The Accessible Medium Intensity Reuse Areas differ only from the High Intensity Reuse Areas in the number of people and type of activities likely to occur in these areas. The Accessible Medium Intensity Reuse Areas are categorized to be those areas where people may gather to conduct impromptu recreational activities. These recreational activities are likely to be surficial, non-intrusive activities. A moderate number of people are expected to enter the Accessible Medium Intensity Reuse Areas.

### 5.1.4 Explosive Hazard Ranking

The WDOE has determined (letter dated February 6, 2009) that MEC subsurface clearance is required for the entire CVF (including the specific RWAs identified above) for the following reasons:

- Data collected from areas of the CVF already cleared show significant surface MEC and subsurface anomalies. Over 38,000 subsurface anomalies have been detected, and a percentage of them are likely to be munitions. There are significantly more Target Areas and munitions being found in the CVF than were anticipated during early cleanup planning efforts and development of the conceptual site model. In addition to clusters of munitions found in several areas of the valley, scattered munitions have also been found randomly distributed across investigated areas of the valley floor. Although these are surface or near-surface findings, Schoenstadt data and the limited EM-61 geophysical data indicate similar distribution of subsurface anomalies at the CVF.

- These areas constitute over 70% of the CVF (a large percentage of the Valley Floor that is proposed as a high-intensity public access area).

- The majority of the new Munitions Areas of Concern have been found in the CVF.

- Munitions findings and observation since the draft CAP continue to show that the MEC distribution across the CVF is at consistently greater numbers than originally anticipated. Greater than 650 MEC items were found at the Camp, approximately 3/4 of these items have been found in the CVF.

### 5.1.5 Recommended Cleanup Action

While the MEC surface clearance of the CVF was completed, WDOE determined that MEC subsurface clearance (frost depth clearance to 14-in. bgs) is the most appropriate long-term cleanup action alternative for the CVF.

This determination is based upon finding significant new Target Areas, demo areas, surface MEC and subsurface anomalies in the CVF, the intended medium to high intensity reuse of the area in the Regional Park and high degree of public access anticipated for the CVF. This action will address the entire CVF and will require additional vegetation removal and (likely) additional subsurface investigation using EM-61 to develop an inventory of subsurface anomalies for future investigation and removal of MEC and MD.

After clearance, ICs will be employed to ensure that this is the most feasible permanent solution for the CVF (both High Intensity and Accessible Medium Intensity Reuse Areas), based on the analysis to achieve the cleanup standard of negligible interaction with MEC. The clearance action will be conducted in the footprint of the Accessible Medium Intensity Reuse Area as shown in **Figure 5.1**. The ICs will include signage to inform the public about the past military use of the area. Implementation of the MEC

surface and subsurface clearance action and these ICs will achieve the desired cleanup standard.

## 5.2 Regional Park Western Slopes Area

### 5.2.1 Description

CBMR contained a wide variety of troop training areas. Training Areas 1, 2, 3, 4, 5, 11, 12 and a portion of 13 have been grouped together as the Western Slopes area; previously described as the ―Limited Access Medium Intensity Reuse" area in the RAU 3 RI/FS (**BCRRT 2008a**). Usage of the Western Slopes area was listed by the U. S. Army as limited to non-live fire exercises such as troop movement, hand-to-hand combat, practice assaults/defense bayonet and obstacle courses. The Western Slopes Area covers roughly 600 acres along the western portion of the CBMR and are part of the regional park (see **Figure 5.2**). Pyrotechnics and blank ammunition were typically employed to evaluate the reactionary responses of troops and convoys to an ambush and to train in tactics. Military munitions containing high explosives were not used for reactionary training.

### 5.2.2 Hazard Severity Ranking

The Western Slopes Area was primarily used for troop training and the historical documentation on the CBMR suggests a low probability of encountering MEC. However, during transect investigations conducted in Training Areas 4, 5 and 12, 2-Stokes mortars (fired, unfuzed) were recovered from the northeastern corner of Training Area 12. There is also a possibility that pyrotechnic devices (i.e. flares, smoke grenades) may be present as a result of abandonment, mishandling, or loss while troops were training in this area. Any residual non-deployed pyrotechnics that may be present are potentially flammable, and may contain a small, low-order explosive charge that may cause bodily injury. However, large portions of the pyrotechnics were constructed with fiberboard containers and are therefore extremely susceptible to exposure to the elements and resultant weathering. Over time, the photo-flash powder has likely been exposed to moisture and deteriorated.

### 5.2.3 Accessibility and Reuse Intensity

The Western Slopes are classified as Limited Access Medium Intensity Reuse areas in the future Regional Park and have limited future reuse intensity due to terrain, vegetation and location outside the Central Valley in the Regional Park.

### 5.2.4 Explosive Hazard Ranking

During the implementation of the Interim Actions, far more MEC (over 650 items) and 1600 MD items have been recovered from the CBMR site than was ever anticipated. The large disparity between BCRRT's actual findings and the site conditions anticipated from review of the Army's historical site documentation has cast significant doubt on the reliability of the historical documentation. As a result of the numbers of MEC and MD findings in the CVF, the WDOE has determined that additional clearance of the Western Slopes is warranted.

### 5.2.5 Recommended Cleanup Action

The WDOE has determined (letter dated March 18, 2009) that MEC surface clearance of all areas with a slope of 25 degrees or less, which is based on access limitations of steep slopes, and Intuitional Controls are the preferred permanent solution for the Western Slopes Area (**Figure 5.2).** Of the 609 acres in the Western Slopes Area, over 425 acres will be MEC surface cleared through the cleanup actions detailed in this CAP.

## 5.3 Northern Central Impact Target Area Expansion

### 5.3.1 Description

The Northern Central Impact (Target) Area Expansion consists of approximately 107 acres, located north of the current CITA boundary, and extends approximately 500 - 1,000 feet north of Lower DNR road. MD debris findings (including 105 and 155 mm projectile fragments) along the Lower DNR Road buffer zones clearance area (20 feet on both sides of road) indicate the strong potential for targets existing north of the current CITA boundary in a roughly 107 acre area (see **Figure 5.1**). The new fence will be a five strand barb wire fence with the same signage requirements as the original CITA fence. Construction will include an external access road with 30 feet of surface clearance outside of the fence, and a ten foot buffer inside of the new CITA fence.

### 5.3.2 Characterization

MEC and MD findings in this area include 32 MD findings of various sizes of projectile fragments which can be attributed to 105 mm and 155 mm projectiles (27 along Lower DNR Road and 5 along the northern CITA Boundary Road).

While the CITA boundaries were established and fenced to include firing targets and a safety buffer zone, the MD findings indicate the potential for new additional targets to be located in the area north of the currently established CITA and beyond the Lower DNR Road, some 1000 ft to the north of the CITA.

### 5.3.3 Proposed Reuse

Because this area is becoming a portion of the CITA, no reuse is planned for this restricted access area.

### 5.3.4 Hazard Severity Ranking

The presence of the extensive MD findings suggests the potential of a target area. The munition release mechanism resulting in the presence of MEC in the vicinity of potential target area would be from deployed munitions that failed to function properly (UXO). Residual UXO poses the greatest explosive safety threat to the public as these items could be fuzed and armed but failed to function. The hazard severity ranking for a target area would be the most severe of all site types. Should a target be found in this area, its explosive safety relative risk ranking would be 1 on a scale of 1 – 7, with 1 representing the highest explosive risk.

### 5.3.5 Accessibility Rating and Reuse Intensity

The overall accessibility of the Northern CITA Expansion is considered extremely limited as the entire area will be fenced and signed. The vast majority of the Northern CITA Expansion is either limited or inaccessible due to very steep terrain. It is designated as no-reuse to very low reuse intensity since it will be isolated by fencing and signage and located within the WMA. There are no overlying proposed future use sites or facilities planned in this area. People are not expected to venture into the area because of the fencing, signage, written documents and steep terrain; therefore the number of potential human receptors is considered negligible.

### 5.3.6 Recommended Cleanup Actions

Implementation of Site-specific ICs and installation of fencing and signs will limit access. This fencing will extend from the northern CITA Interim Action fencing and enclose the entire 107 acre area.

Based upon the nature of the munitions found and the potential for targets being located north of the current CITA boundary, WDOE has determined that fencing and signage will provide the most permanent solution. .The fence will include a 5 strand barbed wire fence with the same signage requirement as the original CITA boundary. The remedy also include the construction of external access road along the perimeter of the fence with a 30 foot clearance on the outside of the fence and a 10 foot buffer on the inside of the fence line (see **Figure 5.1**).
An alternative hiking, biking and equestrian trail is being planned for the area north of the Lower DNR which will be outside the new CITA fence line.

## 5.4 MEC Surface Clearance of Demolition Area 1/Landfill 4 Kick-Out Area

### 5.4.1 Description

Historical Army investigations of the Demolition Area 1/Landfill 4 (DA1/LF4), previously certified as clean by USACE (USACE 1997), included a 10 acre MEC surface

clearance, and a 4 acre subsurface clearance. However, due to the recent MEC and MD findings within the previously cleared area and in areas adjacent to DA1/LF4, the area requiring MEC surface clearance has now been expanded from a 500 ft x 500 ft to a 1200 ft radius area; encompassing 103.82 acres (**Figure 5.2**).

### 5.4.2 Characterization

The recent investigations completed to date include:

- Anomaly avoidance, brush clearance, and MEC surface clearance of the roads traversing north and south and east of the DA1/LF4 area (approximately 2 acres);
- Anomaly avoidance of DA1/LF4 area (approximately 4 acres).

Recent MEC and MD findings in or adjacent to the DA1/LF4 included (**Appendix A**):

- 16 MEC findings: 2.36 in. (unfuzed) and 2.75 in. (fuzed and HE) rockets, 20 mm rocket (fired, fuzed), CS and smoke grenades (some live), anti-tank practice land mines (spotting charge), HE warheads; fuses and flares, and 3 in. Stokes mortars (fired, unfuzed);
- 130 MD findings of various sizes and various munitions related items including 68 pieces of M51A1, 37mm APT (counted as 1 MD finding).

### 5.4.3 Proposed Reuse

DA1/LF4 Kick-Out Area represents an expansion of the area delineating the DA1/LF4 (expanding from 500 ft x 500 ft to 1200 ft radius). The proposed reuse of this area is the same as the proposed reuse of the previously identified area (500 ft x 500 ft.): that is, DA1/LF4 Kick-Out Area will be included within the WMA with the same restrictions, controls, and cleanup actions.

### 5.4.4 Hazard Severity Ranking

At an OB/OD area, the unsuccessful demilitarization of a UXO item poses the greatest explosive safety threat to the public. The hazard severity ranking for an OB/OD Area is the second most severe of all demolition area site types (marginal/critical explosive safety hazard). The explosive safety relative risk ranking for DA1/LF4 Kick-Out Area is 2 on a scale of 1 – 7, with 1 representing the highest explosive risk.

### 5.4.5 Accessibility Rating and Reuse Intensity

DA1/LF4 Kick-Out Area is accessible by roads and trails however; it is located outside the boundary of the proposed regional park and within the WMA and is, therefore, low reuse intensity.

### 5.4.6 Explosive Hazard Ranking

DA1/LF4 Kick-Out Area is Ranked B, on a scale of A – E, with A representing the greatest exposure risk. There are expected to be fewer potential receptors as it is located in the proposed WMA, which is a low reuse intensity area. The explosive hazards exposure characteristics associated with DA1/LF4 is summarized in **Table 5.1**.

**TABLE 5.1**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR DEMO AREA 1/LANDFILL 4 KICK-OUT AREA**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| DA1/LF4 Kick Out Area | 2 | Accessible | Low | Surface / WMA | B |

### 5.4.7 Recommended Cleanup Action

The recommended cleanup action for the expanded DA1/LF4 Kick-Out Area is MEC surface clearance with ICs. This alternative is determined to be the most feasible permanent solution for this area and would achieve the RAU 3 cleanup standard. The approximate area to be surface cleared is shown in **Figure 5.2** and is 103.82 acres in size.

## 5.5 Step-Out Procedure for Clearance Activities

Step-out Procedures will apply to every clearance action and be completed as a separate task at the end of Phase 2 and in accordance with the Prospective Purchaser Consent Decree (PPCD; WDOE 2006) and attached Conceptual Remedial Action Plan (CRAP).

### 5.5.1 Standard Step-out Procedure

Step-out clearance is employed to define the extent of contamination and to insure that isolated discoveries of MEC are not evidence of additional areas of concern. Step-Out clearance procedures will be done in accordance with the following steps:

1. If a MEC or MD item, of particular (hazardous) military munitions, is found within a boundary grid of a designated clearance area, then the clearance area shall be expanded by adding a new (100 ft. x 100 ft.) gird adjacent to the grid of concern.

2. The new grid will be surface cleared and if a MEC or MD item of a hazardous military munitions is discovered the procedure will repeat until no MEC or MD items are found.

### 5.5.2 Exceptions to the Procedure

The following exceptions will stop/modify the Step-out Procedures**:**

- If the new grid extends beyond the property perimeter fence line.
- If the new grid extends to an adjacent cleanup area requiring clearance or a previously cleared area.
-
  - If worker safety is compromised due to impassible terrain making the area inaccessible.

# 6.0 PRELIMINARY SCHEDULE AND REMEDIAL ACTION COST

In order to provide the reader with a sense of the time and cost that will be involved in implementing the cleanup actions detailed in this CAP,, the nature of the MEC cleanup intended for each area, a preliminary cost estimates of the cleanup action, and a schedule to begin each cleanup action identified in this CAP is summarized and presented in **Table 6-1.**

Table 6-1
**PRELIMINARY COST ESTIMATES AND SCHEDULE FOR RAU 3 CLEANUP**

| REMEDIAL WORK AREA | ACRESS | COST | START YEAR | Cleanup Action |
|---|---|---|---|---|
| Central Valley Floor (CVF) and associated Wetlands | 440 | $9,314,000 | 2011 | MEC Subsurface Clearance to Frost Depth (14-in bgs) |
| Western Slopes Area | 425 | $10,625,000 | 2011 | MEC Surface Clearance |
| Firing Points - includes 9 artillery firing | 19 | $665,000 | 2011 | MEC Surface and Subsurface Clearance to Frost Depth (14- |
| Reuse Construction Areas - 4 ft Clearance | 6 | $63,600 | 2011 | MEC Surface and Subsurface Clearance to Depth (48-in |
| Reuse Construction Areas - 14 inch | 12 | $111,000 | 2011 | MEC Surface and Subsurface Clearance to Frost Depth (14- |
| Both M203 Grenade Range's | 2 | $45,000 | 2011 | 10% Quality assurance validation assessment of previous clearance activities |
| Rifle Grenade Target Area | 5 | $92500 | 2011 | MEC Surface Clearance; acreage and cost included in firing points task |
| 3.5-inch Rocket Range Target Area | 5.2 | $96,200 | 2011 | MEC Surface Clearance |
| HE and Grenade Range Target Areas | 5 | $92,500 | 2011 | MEC Surface Clearance; acreage and cost included in firing points task |
| Central Impact Target Area - Target Area Clearance | 15 | $675,000 | 2012 | MEC Surface and Subsurface Clearance to Frost Depth (14-in bgs) of 200-ft x 200-ft area centered on target locations |
| Northern Central Impact Target Area Expansion Perimeter Fence Line | N/A | $260,000 | 2012 | MEC Surface Clearance of 10-ft wide corridor along fence line-of travel. Installation of 5-strand barb wire fence with |
| MPPEH/Demilitarization Processing | N/A | $32,000 | 2012 | Heat-Treatment of MPPEH to remove explosive |
| Demolition Area 2 | 5.8 | $145,000 | 2012 | MEC Surface Clearance of a 500 ft x 500 ft grid centered |
| Landfill 4 - Demolition Area 1 - Kick Out | 67 | $1,675,000 | 2012 | MEC Surface Clearance |
| Step-outs sub surface | 40 | $1,800,000 | 2012 | MEC sub Surface Clearance |
| Step-outs surface | 40 | $1,000,000 | 2012 | MEC Surface Clearance |
| 10% buffer | N/A | $2,700,000 | 2012 | MEC Surface and Subsurface Clearance in step-outs over estimated 40 acres |

# 7.0 CONCLUSIONS

This CAP presents the recommended cleanup actions for each component area of the eight RWAs identified as comprising RAU 3, the Site-Wide MEC Cleanup, for the former CBMR in Clark County, Washington (**Figure 1.3**).

The CAP is based on the Final RI/FS; (BCRRT, 2008) for RAU 3 Revision 1 (**BCRRT 2008a**) and the Supplemental RI/FS report (**Appendix A**), which was developed using results from implementation of both Emergency and Interim Actions at CBMR.

A critical component of the cleanup of the CBMR and its' future use as a Regional Park is the establishment and maintenance of Institutional Controls and an IC Plan that will inform both park visitors and staff of the CBMR's history and the restrictions on the use of the facility. In **Section 3.0** of this CAP, key site-wide ICs are identified and the need for site-specific ICs at various RWAs evaluated. This information, along with that presented in **Appendix B**, will be used as the basis for development of a long-term IC Plan.

The general objectives and scope of MEC cleanup action recommendations presented in this CAP were identified in the analyses presented in both the RAU 3 Final RI/FS and the Supplemental RI/FS and through the cleanup action determinations made by WDOE. A summary of the RWA and the recommended cleanup action for each is presented in **Table 7-1**. Consistent with the organization of the CAP, **Table 7-1** divides the MEC cleanup actions recommended for the CBMR into those RWA initially identified in the Final RI/FS and PPCD and those discovered during the implementation of Emergency and Interim Actions at CBMR following the early transfer of the facility. These newly discovered RWAs were delineated through the recovery of hundreds of MEC and MD items in areas thought to have had a low potential for munitions impact. As a result of these findings, the WDOE has made the determination that the degree of cleanup required at these newly discovered target or disposal areas had to increase to provide sufficient protectiveness for the proposed future reuse of these areas within the Regional Park. The specific cleanup action determinations made by WDOE include:

- Frost depth subsurface MEC clearance (14 in. bgs) for the CVF, due to the numbers and types of MEC and MD items recovered during surface clearance of this 322-acre parcel (**Section 5-1**).
- MEC surface clearance, access limitations based on steep slopes and Intuitional Controls will be required for the Regional Park Western Slopes Area, due to concerns regarding prior site characterization (**Section 5-2**).
- Extension of the CITA to the north to include a 107-acre parcel that potentially contains additional targets (Northern CITA Expansion; **Section 5-3**).
- MEC surface clearance of a 1200 foot radius circle centered on the Demolition Area 1/Landfill 4 to encompass the Kick-out zone of 104 acres (**Section 5-4**).

The increase in subsurface MEC clearance proposed in this CAP necessitates that the Cultural and Historical Resources Protection Plan (CHRPP; Baker 2006) for the CBMR be updated to include procedures for the preservation of artifacts that may be encountered during subsurface "mag and dig" operations. An updated CHRPP Is included here as **Appendix C**.

A preliminary assessment of the potential cost of RAU 3 CAP cleanup actions and schedule for implementation of these cleanup actions are summarized and presented in **Table 6-1**. Implementation of Emergency and Interim Actions at the CBMR over the 2-$^{1}/_{2}$ years since its' early transfer to BCRRT has greatly changed our understanding of the nature and extent of munitions use across the facility, particularly in the CVF. The information gained during the Emergency and Interim Actions has been employed in the Supplemental RI/FS and this CAP to develop recommended cleanup actions for the RWA at CBMR that will be protective of human health and the environment and consistent with the proposed future reuse as a Regional Park.

**Table 7-1**

**REMEDIAL WORK AREAS AND RECOMMENDED MEC CLEANUP ACTIONS FOR CAMP BONNEVILLE**

| REMEDIAL WORK AREA DESIGNATION | ACREAGE | RECOMMENDED CLEANUP ACTION |
|---|---|---|
| M203 HE and Practice Grenade Range Target Areas | 2 | 10% Quality assurance validation assessment of previous clearance activities |
| 3.5-inch Rocket Range Target Area | 5.2 | MEC Surface Clearance |
| Central Impact Target Area - Work Road Clearance | Up to 10 | MEC Surface Clearance |
| Central Impact Target Area - Target Area Clearance | 15 | MEC Surface and Subsurface Clearance to Frost Depth (14-in bgs) of 200-ft x 200-ft area centered on target locations |
| Demolition Area 1 / Landfill 4 and Kick Out Areas | 67 | MEC Surface Clearance |
| Demolition Area 2 | 5.8 | MEC Surface Clearance of a 500 ft x 500 ft grid centered over DA 2 |
| Firing Points - includes 9 artillery firing points, 6 mortar firing points, one rifle grenade firing point, and one 3.5-inch rocket firing point | 19 | MEC Surface and Subsurface Clearance to Frost Depth (14-in bgs) |
| Reuse Construction Areas | 3 | MEC Surface and Subsurface Clearance to Depth (48-in bgs) |
| Reuse Construction Areas | 12 | MEC Surface and Subsurface Clearance to Frost Depth (14-in bgs) |
| Step-Outs | -- | Lump Sum Allowance for MEC Clearance as determined by Anomaly Selection Board (ASB) |
| Demilitarization of Accumulated Materials Posing Potential Explosive Hazard (MPPEH) | -- | Heat-Treatment of MPPEH to remove explosive residues and allow recycling of scrap metal |
| Central Valley Floor (CVF) and Newly Discovered Components | 322 | MEC Subsurface Clearance to Frost Depth (14-in bgs) |
| *Stokes Mortar Target Area in South Central CVF* | | MEC Subsurface Clearance to Frost Depth (14-in bgs) |
| *MEC Disposal Area (Burial Pit)* | | MEC Surface Clearance, Debris Excavation and Disposal |

**Table 7-1**

**REMEDIAL WORK AREAS AND RECOMMENDED MEC CLEANUP ACTIONS FOR CAMP BONNEVILLE**

| REMEDIAL WORK AREA DESIGNATION | ACREAGE | RECOMMENDED CLEANUP ACTION |
|---|---|---|
| *Open Burn/Open Demolition Area in SE CVF* | | MEC Surface Clearance, Debris Excavation and Disposal, Subsurface Clearance to Frost Depth (14-in bgs) |
| *37 mm Artillery/Stokes Target Area in South Central CVF* | | MEC Subsurface Clearance to Frost Depth (14-in bgs) |
| *2.36 in. Rocket Target Area near the Former Sewage Lagoons* | | MEC Subsurface Clearance to Frost Depth (14-in bgs) |
| *Rifle Grenade Target Area in NE CVF* | | MEC Subsurface Clearance to Frost Depth (14-in bgs) |
| Wetlands Associated with the CVF - Expanded Acreage and Subsurface Clearance | 110 | MEC Surface and Subsurface Clearance to Frost Depth (14-in bgs) |
| Western Slopes Area | 425 | MEC Surface Clearance |
| Landfill 4 - Demolition Area 1 - Kick Out Area | 104 | MEC Surface Clearance |
| Northern Central Impact Target Area Expansion Perimeter Fence Line | 1.5 | MEC Surface Clearance of 10-ft wide corridor along fence line-of-travel. Installation of 5-strand barb wire fence with warning signs at 50-ft intervals |
| CITA Step-Outs | TBD | MEC Surface and Subsurface Clearance to Frost Depth (14-in bgs) of areas determined by the ASB |

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# Figure 1-1 - Regional Map

## Camp Bonneville Military Reservation

## Vancouver, Washington

CAMP BONNEVILLE

Yacolt Burn State Forest

Vancouver metro area

Portland Intl. Airport

Portland metro area

Columbia River

WASHINGTON

OREGON

Clark County

Multnomah County

Camas

Washougal

Columbia River Gorge National Scenic Area

Steigerwald Lake Natl. Wildlife Refuge

Lacamas Creek

Lacamas L.

Salmon Creek

Fifth Plain Creek

Shanghai Creek

Little Washougal River

Seattle metro area

Pacific Ocean

Camp Bonneville Vancouver, Washington

Clark County

Portland metro area

OREGON

CANADA

AREA ENLARGED

UNITED STATES

Pacific Ocean

Atlantic Ocean

MEXICO

**BONNEVILLE**
CONSERVATION, RESTORATION & RENEWAL TEAM, LLC

BCRRT

0 1 2 3 4 mi

0 1 2 3 4 km

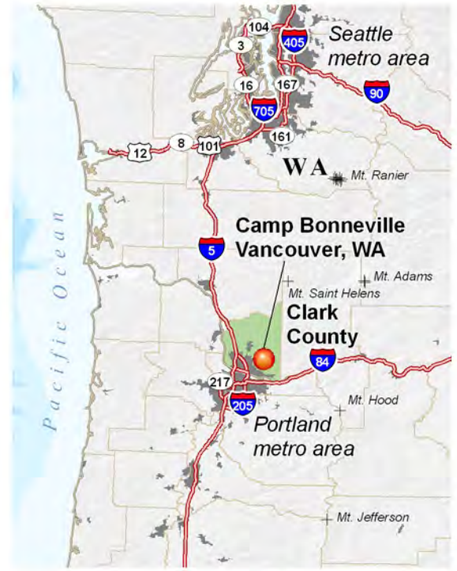
Scale - 1:100,000; 1 in equals 5.6 mi
Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons & U.S. Army Corps of Engineers

# Figure 1.2 - Facility Configuration at Time of Closure

## Camp Bonneville Military Reservation

## Vancouver, Washington

North Road - West
North Road - East
Bobcat Road
North Loop Road
Demo Area 1/ Landfill 4
Landfill 4 Road
East Loop Road
Upper DNR Road
LEASED AREA
Mortar Position 1
Mortar Position 2
APC Road
Sewage Loop Road
Elk Horn Road
Evergreen Trail
Lower DNR Road
East Fork Lacamas Creek
Reservoir Road - Bonneville
Artillery Position 4
Sewage lagoons
Mortar Position 3
Bonneville Cantonment
Magazine Road
"Pop-up" pond
West Impact Area
Car Target 2
CITA Fence North Road
Combined Impact Area 1
Combined Impact Area 2
Mortar Position 6
Artillery Position 3
Demo Area 2
Killpack Cantonment
Killpack Road
NW Corner Fence Line Road
Reservoir Road
Airfield
Main Gate
Main Road
Mortar Position 4
M203 Grenade Range Target (HE)
Crossover Road
FBI Range Road
Mortar Position 5
Former Artillery Position 2
Range Road
Artillery Position 5
Peggy's Road
Former Artillery Position 1
Central Impact Target Area
David Creek
Buck Creek
CITA Road
Steep Hill Road
Eastern Boundary Road
2.36-inch Range Target
M203 Grenade Range Target (Practice)
Artillery Position 1
Artillery Position 2
Main Gate Cemetery Road
gas pipeline (buried)
Hand Grenade (HE) Range Target Area
Rifle Grenade Range Target Area
Rifle Grenade Firing Point
3.5-inch Rocket Range Target Area
SE Corner Fence Line Road
Little Baldy Road
Bald Mountain Road
3.5-inch Rocket Range Firing Point
Demo Area 3
Artillery Position 6
Artillery Position 7
Lacamas Crk
South Gate Circle Road
South Gate
Billy's Road
DNR Fence Road
LEASED AREA





**LEGEND**

- Bridges
- Demolition areas
- Buried gas pipeline
- Roads and trails
- Streams and creeks
- Ponds and other water features
- CITA (Central Impact Target Area)
- Firing points
- Target areas
- Camp Bonneville property boundary

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BCRRT

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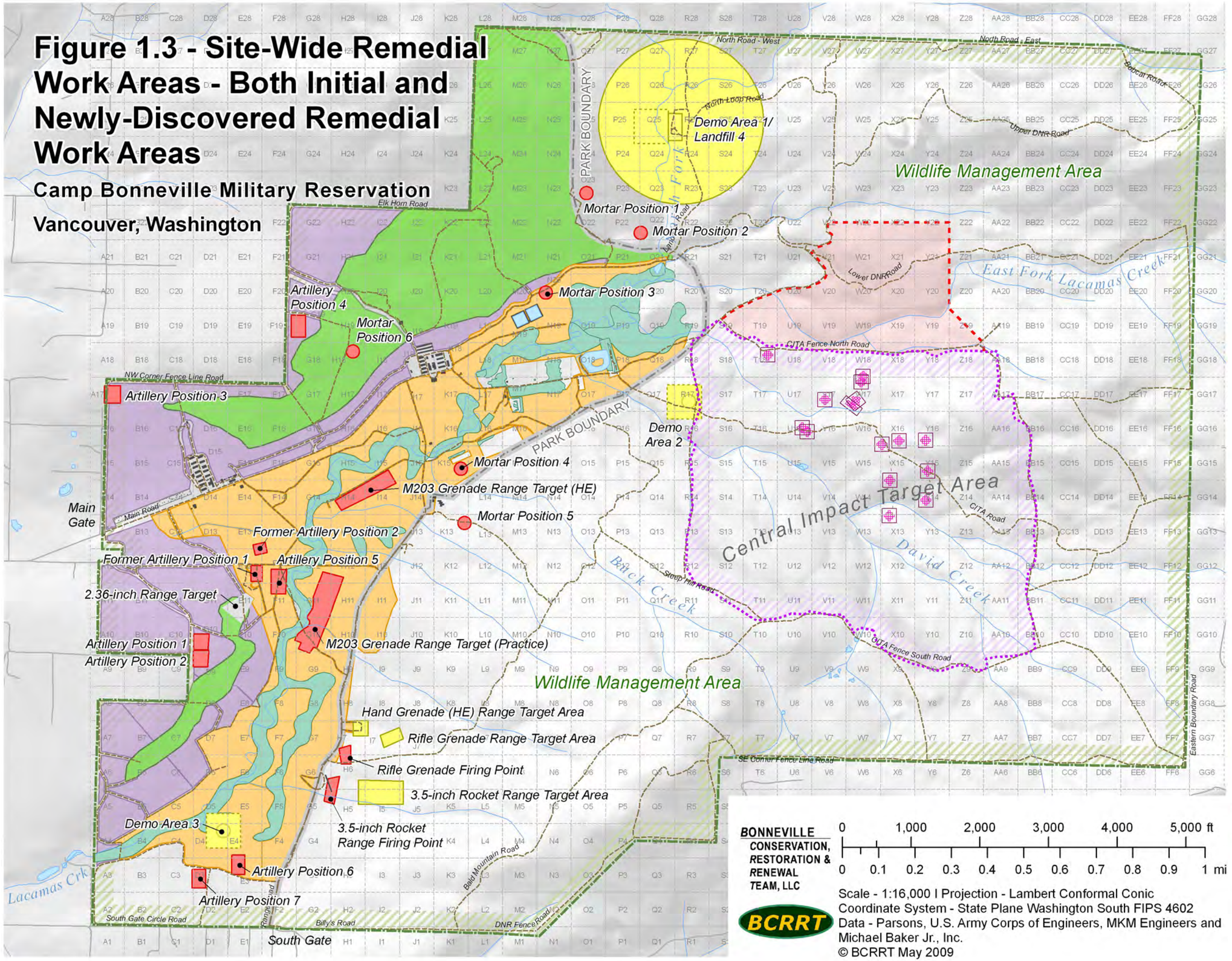
Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 1.3 - Site-Wide Remedial Work Areas - Both Initial and Newly-Discovered Remedial Work Areas

## Camp Bonneville Military Reservation

## Vancouver, Washington






**Recommended Clearance Depths**

- B3 — Site grid (with grid # shown)
- CITA (Central Impact Target Area / Central Impact Area)
- CITA targets
- Northern CITA expansion (fence)
- Western Slopes - Surface clearance (areas less than 25% slope)
- Western Slopes - Site-wide IC's (areas greater than 25% slope)
- Surface clearance
- Firing points - Sub-surface (to 14-in)

**Central Valley Floor**

- Frost-depth clearance (to 14-in)
- Frost-depth clearance (to 14-in) with wetland protocols

*Target areas and Open Burn / Open Demolition areas are identified by labels only.*

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**BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC**

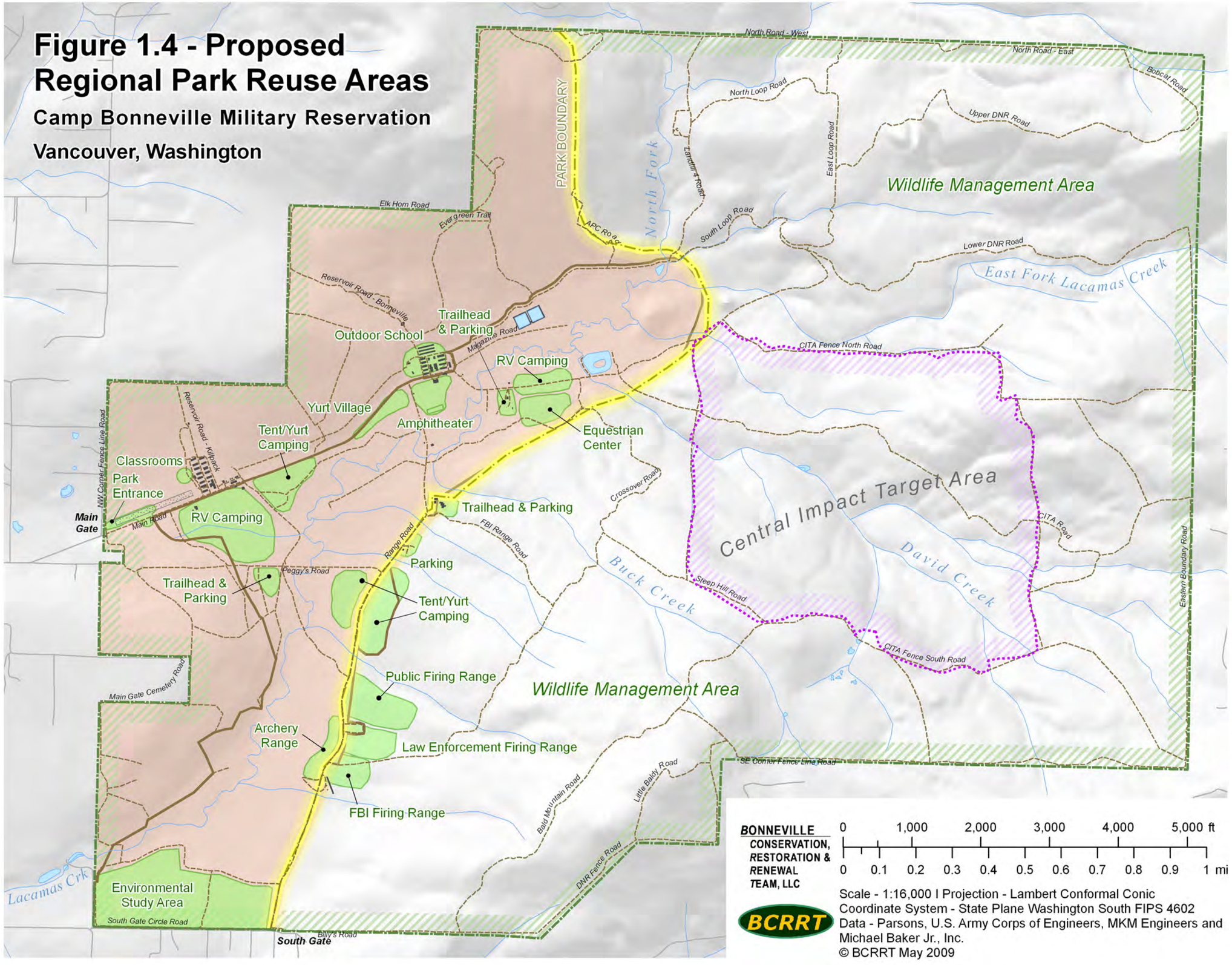
BCRRT

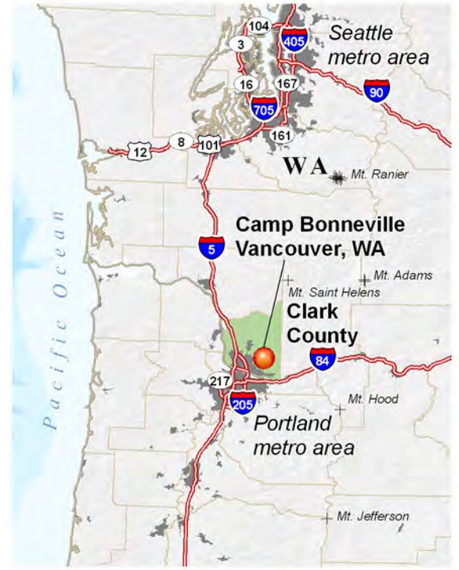
Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 1.4 - Proposed Regional Park Reuse Areas

## Camp Bonneville Military Reservation

## Vancouver, Washington





**LEGEND**

- Park / Wildlife Management Area boundary
- Central Valley Floor (CVF)
- CITA (Central Impact Target Area)
- Proposed reuse areas (High-intensity reuse areas)
- Regional Park

* While the locations/needs for the Tent/Yurt Camping, Public Firing Range, Archery Range, FBI Firing Range, and Trail Head Parking areas are being evaluated, they would be located within the Regional Park. The Logging Camp is not shown and if developed would be outside of the Regional Park.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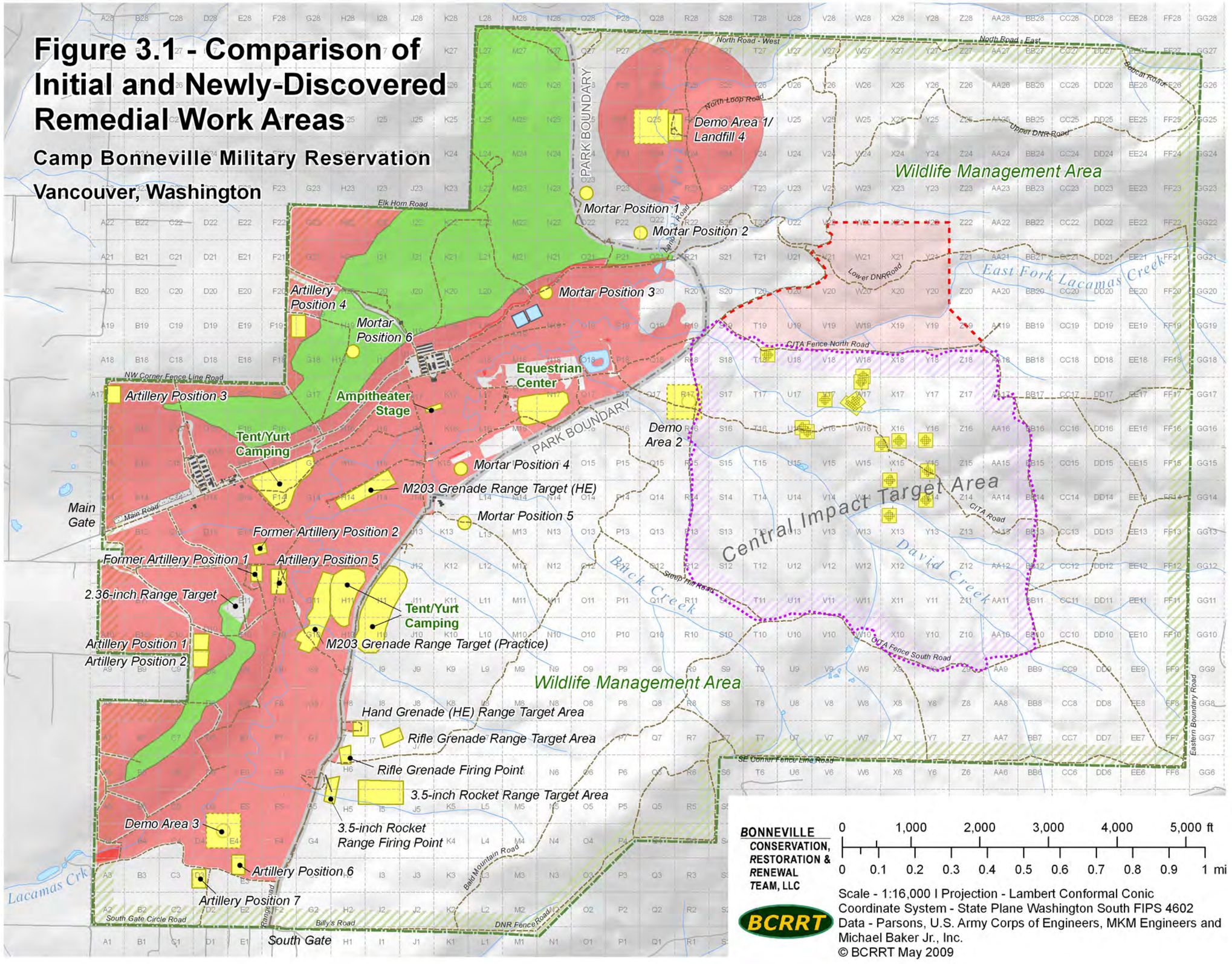
Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 3.1 - Comparison of Initial and Newly-Discovered Remedial Work Areas

## Camp Bonneville Military Reservation

## Vancouver, Washington






**LEGEND**

- B3 — Site grid (with grid # shown)
- CITA (Central Impact Target Area)

**Initial PPCD (Sec 4) Remedial Work Areas**

- Initial PPCD (Sec 4) Remedial Work Areas (sub-surface clearance)

**Newly-Discovered (Sec 5) Remedial Work Areas**

- Northern CITA expansion (fence)
- Newly-discovered (Sec 5) Remedial Work Areas
- Western Slopes - Site-wide IC's (areas greater than 25% slope)

BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC

BCRRT

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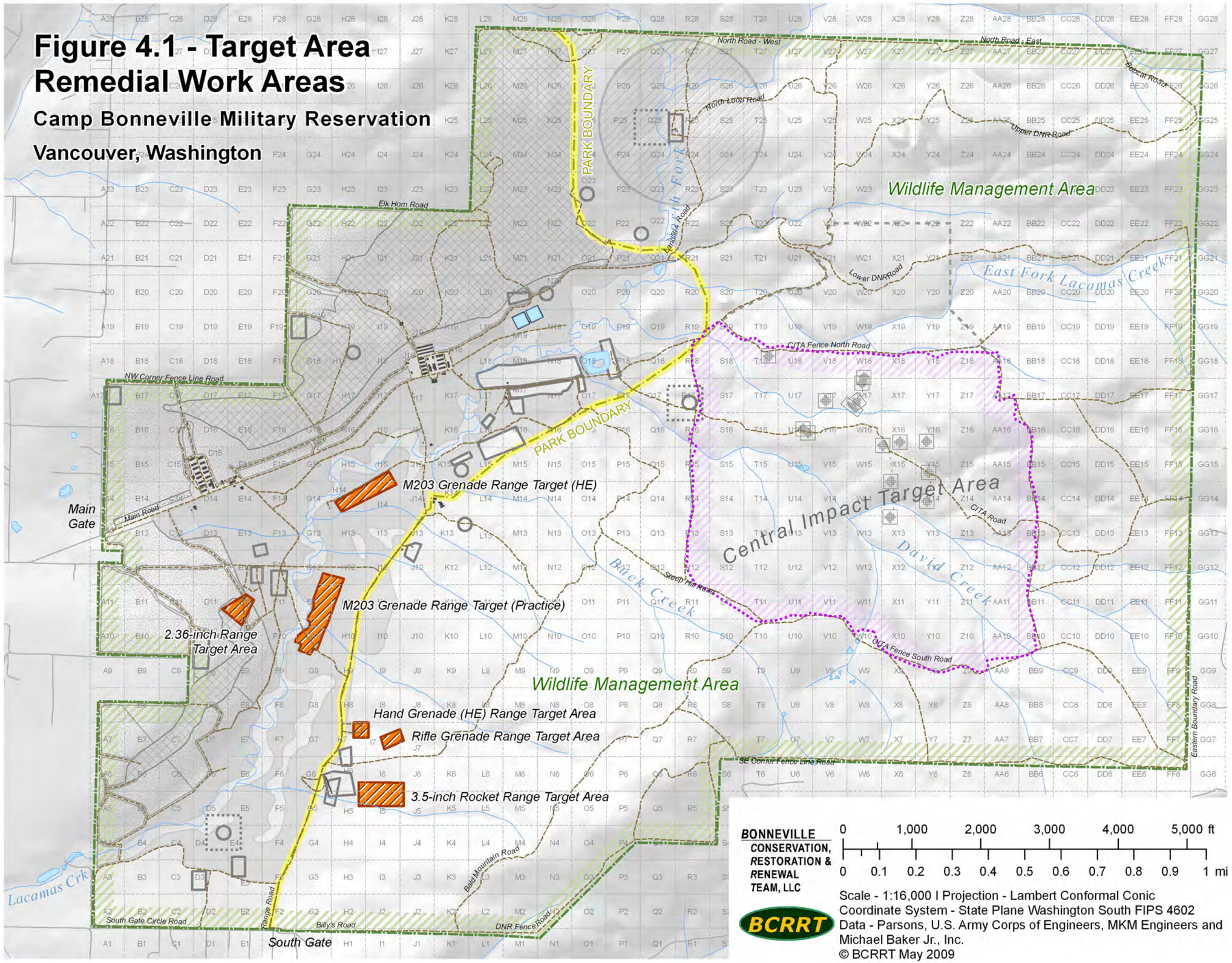
Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 4.1 - Target Area Remedial Work Areas

## Camp Bonneville Military Reservation

## Vancouver, Washington






**LEGEND**

- B3 — Site grid (with grid # shown)
- CITA (Central Impact Target Area)
- Northern CITA expansion (fence)
- Demolition areas (500' x 500' kick-out shown)
- CITA targets
- Firing points & small-arms ranges
- Target areas

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BCRRT

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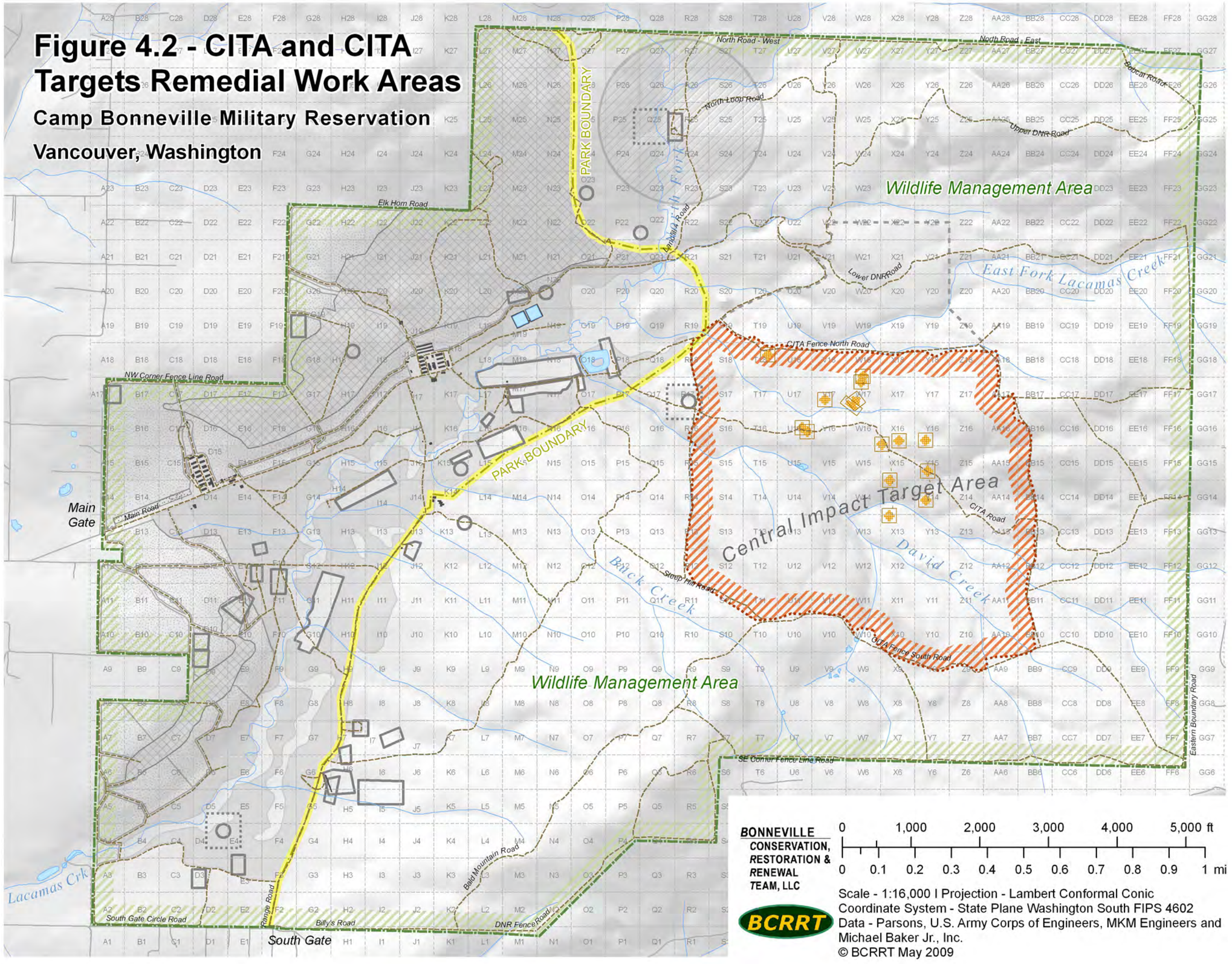
Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 4.2 - CITA and CITA Targets Remedial Work Areas

## Camp Bonneville Military Reservation

## Vancouver, Washington






**LEGEND**

- B3 — Site grid (with grid # shown)
- CITA targets
- CITA (Central Impact Target Area)

**BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC**

BCRRT

0 1,000 2,000 3,000 4,000 5,000 ft

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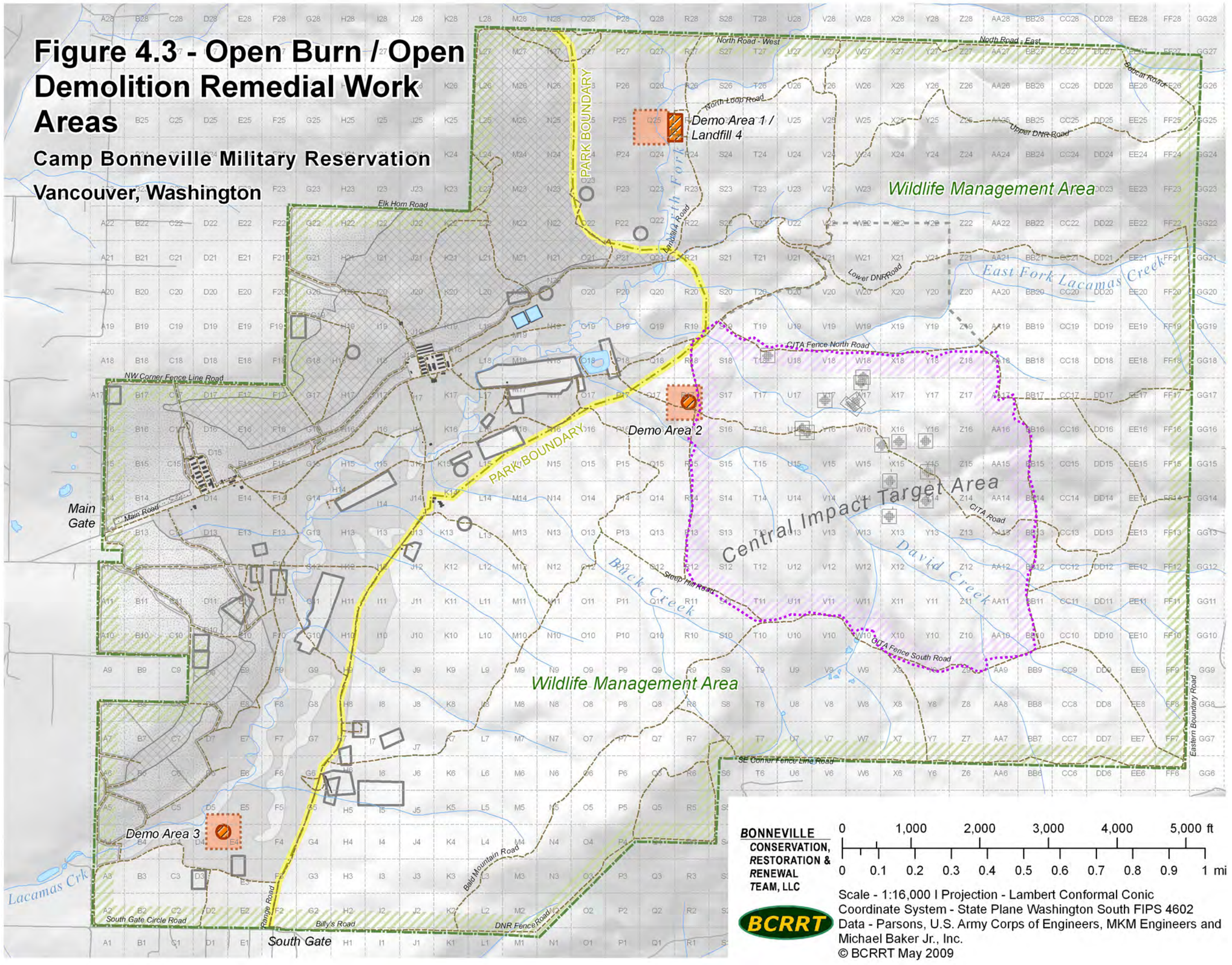
Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 4.3 - Open Burn / Open Demolition Remedial Work Areas

## Camp Bonneville Military Reservation

## Vancouver, Washington






**LEGEND**

- B3 — Site grid (with grid # shown)
- CITA (Central Impact Target Area)
- Open Burn / Open Demolition areas (500' x 500' kick-out shown)

**BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC**

BCRRT

0 1,000 2,000 3,000 4,000 5,000 ft

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 mi

Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 4.4 - Firing Point Cleanup Action Areas

## Camp Bonneville Military Reservation

## Vancouver, Washington

Mortar Position 1
Mortar Position 2
Mortar Position 3
Mortar Position 4
Mortar Position 5
Mortar Position 6
Artillery Position 1
Artillery Position 2
Artillery Position 3
Artillery Position 4
Artillery Position 5
Artillery Position 6
Artillery Position 7
Former Artillery Position #1
Former Artillery Position #2
Rifle Grenade Firing Point
3.5-inch Rocket Range Firing Point
Main Gate
South Gate
Wildlife Management Area
Wildlife Management Area
Central Impact Target Area
PARK BOUNDARY
PARK BOUNDARY
North Road - West
North Road - East
North Loop Road
Bobcat Road
Upper DNR Road
Elk Horn Road
South Loop
Lower DNR Road
East Fork Lacamas Creek
CITA Fence North Road
CITA Road
CITA Fence South Road
NW Corner Fence Line Road
Main Road
Range Road
Billy's Road
South Gate Circle Road
DNR Fence Road
Sleepy Hin Road
Bald Mountain Road
SE Corner Fence Line Road
Eastern Boundary Road
Buck Creek
David Creek
Lacamas Crk



**LEGEND**

- B3 — Site grid (with grid # shown)
- CITA (Central Impact Target Area)
- Firing points

**BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC**

BCRRT

0 1,000 2,000 3,000 4,000 5,000 ft

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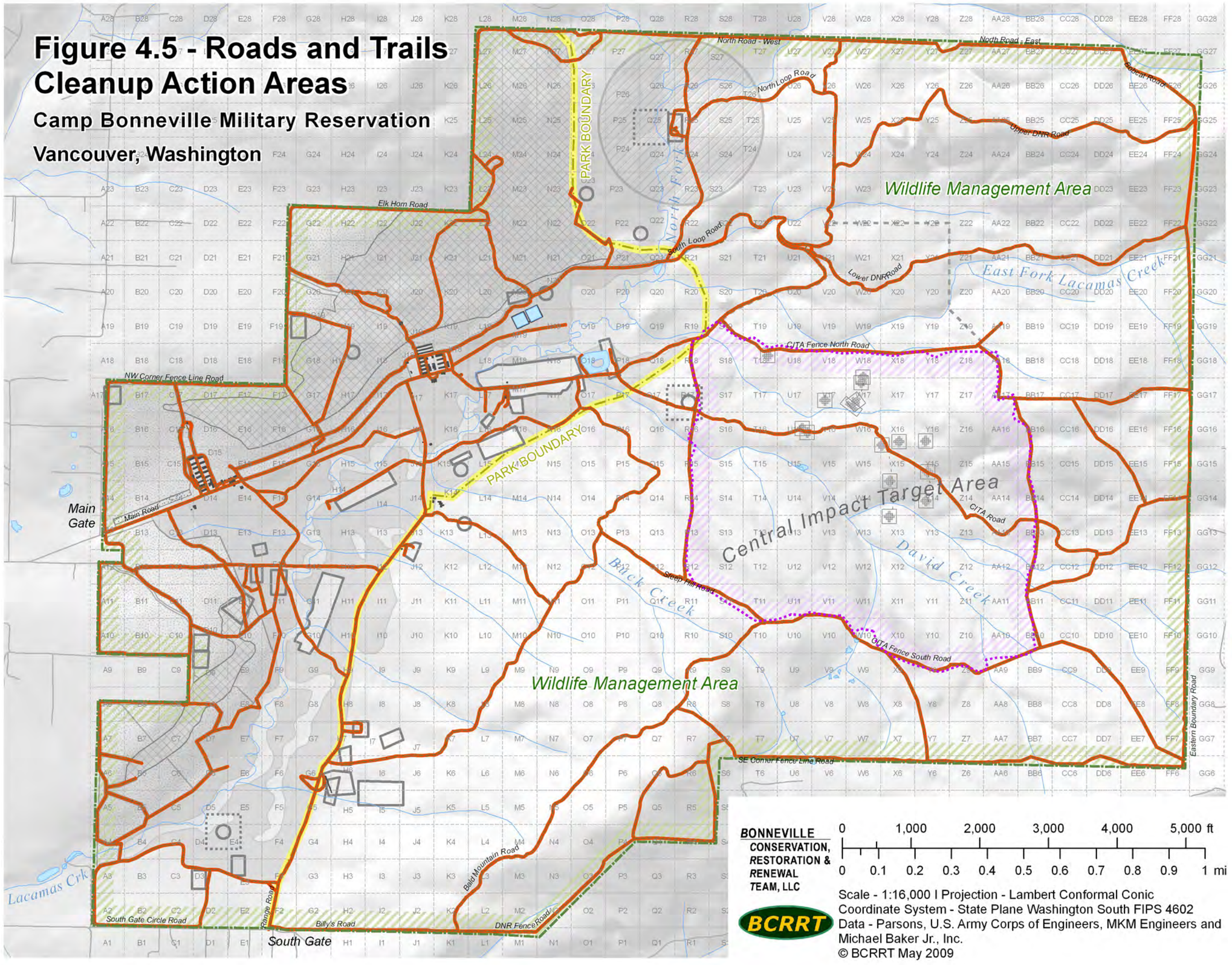
Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 4.5 - Roads and Trails Cleanup Action Areas

## Camp Bonneville Military Reservation

## Vancouver, Washington






**LEGEND**

- B3 — Site grid (with grid # shown)
- CITA (Central Impact Target Area)
- Roads and trails with 20-ft buffer on each side

BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC

BCRRT

0 1,000 2,000 3,000 4,000 5,000 ft

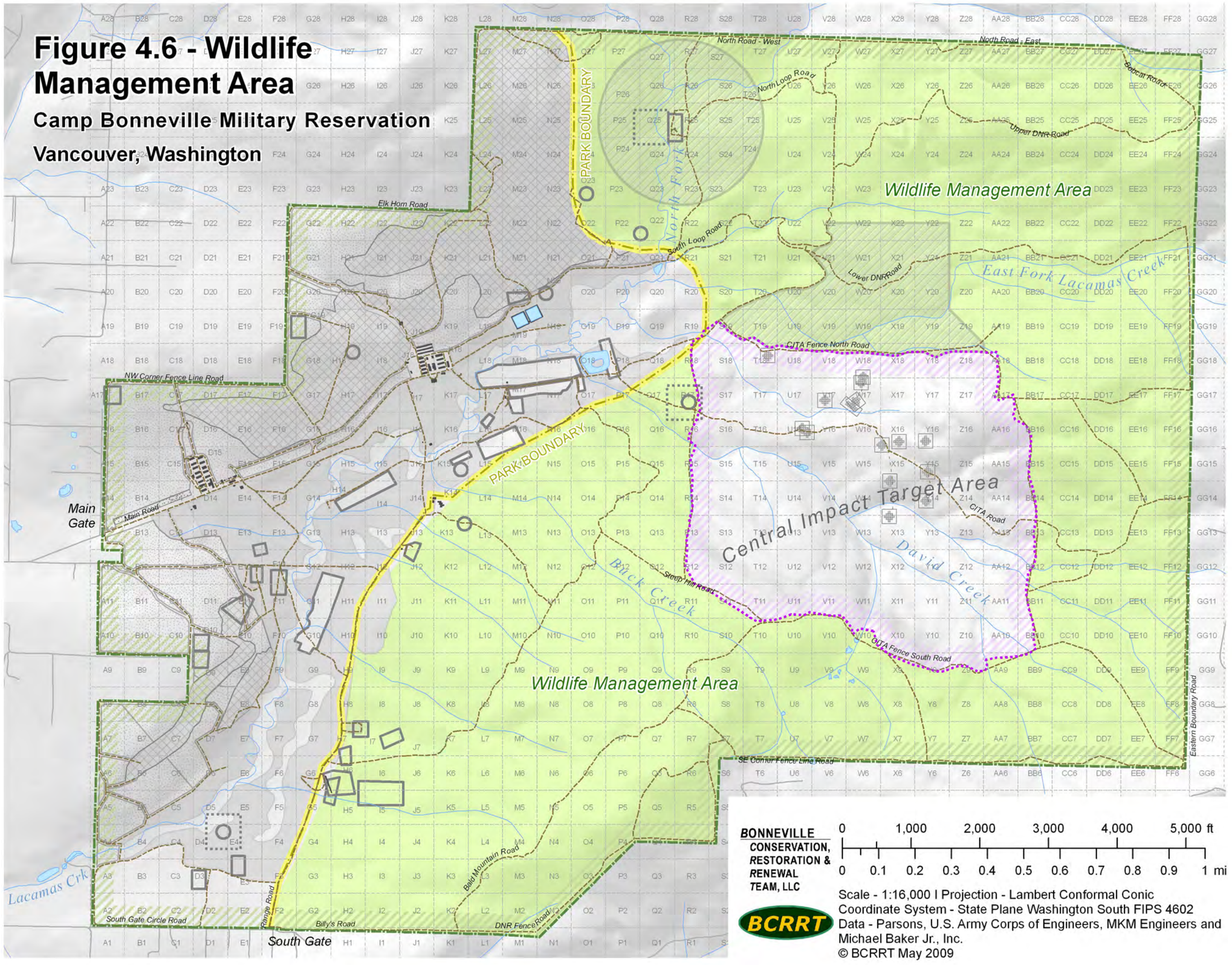
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 mi

Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 4.6 - Wildlife Management Area

## Camp Bonneville Military Reservation

## Vancouver, Washington






**LEGEND**

- B3 — Site grid (with grid # shown)
- CITA (Central Impact Target Area)
- Wildlife Management Area (Site-Wide Institutional Controls)

**BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC**

BCRRT

0 1,000 2,000 3,000 4,000 5,000 ft

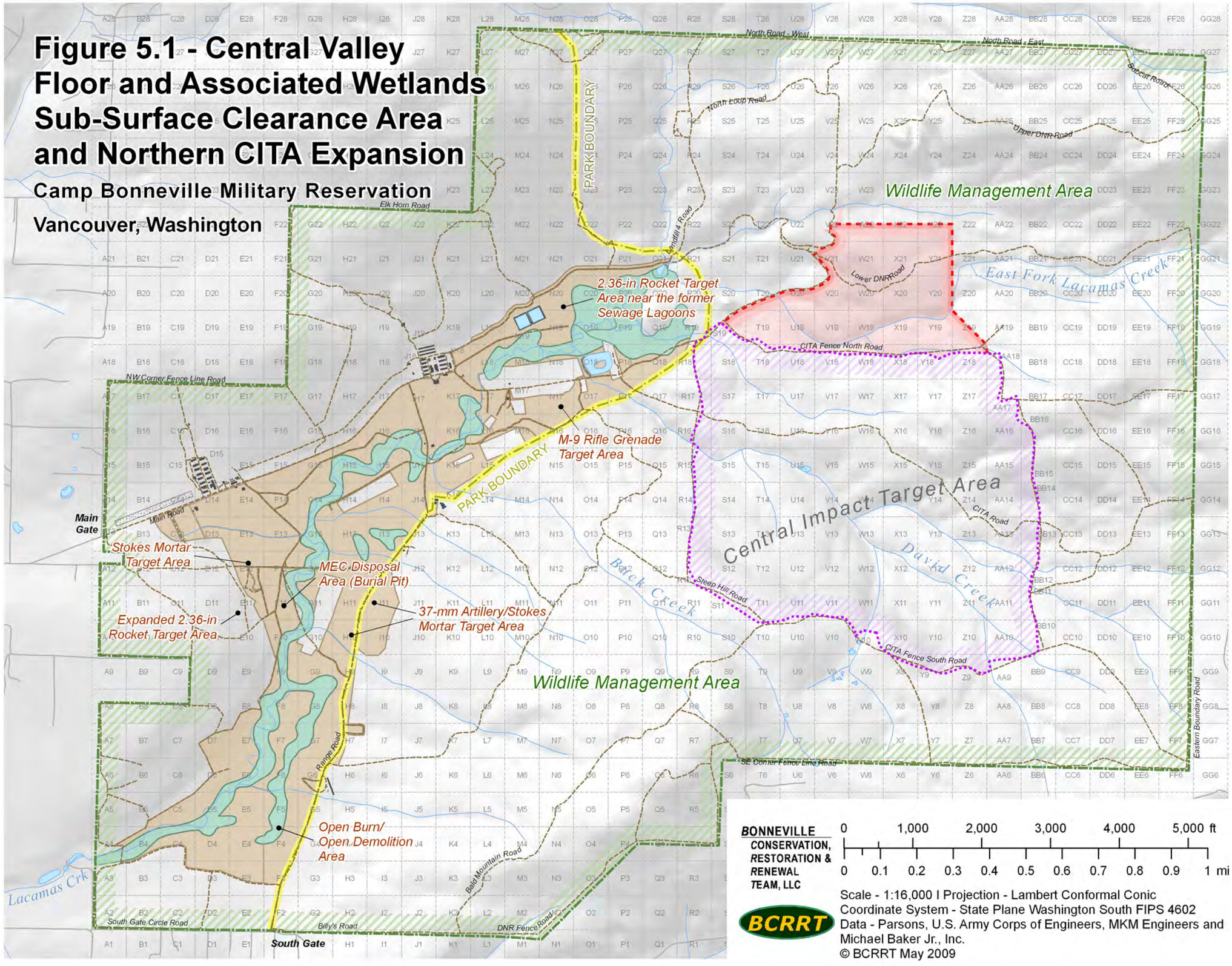
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 mi

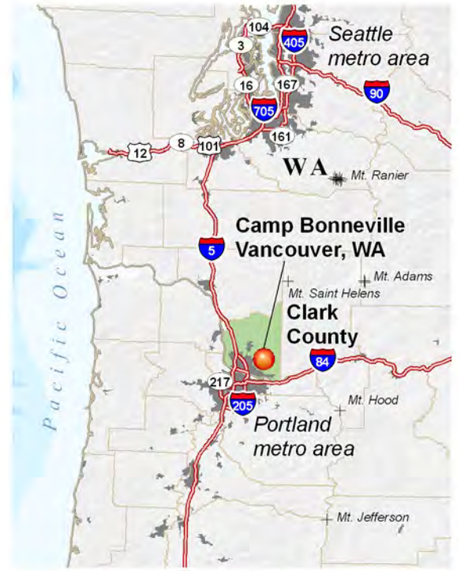
Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 5.1 - Central Valley Floor and Associated Wetlands Sub-Surface Clearance Area and Northern CITA Expansion

## Camp Bonneville Military Reservation

## Vancouver, Washington





**LEGEND**

**Additional Cleanup Areas**

- Northern CITA expansion (fence)
- Wetlands in CVF - Surface and Frost-depth clearance (to 14-in)
- Central Valley Floor - Both High Intensity and Accessible Medium Intensity reuse areas - Frost-depth clearance (to 14-in)
- Central Impact Target Area (CITA)
- Western Slopes - Surface clearance (areas less than 25% slope)
- Western Slopes - Site-wide IC's (areas greater than 25% slope)

BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC

BCRRT

0 1,000 2,000 3,000 4,000 5,000 ft

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 mi

Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 5.2 - Western Slopes Area Surface Clearance Area and Landfill 4 / Demo Area 1 Kick-out Surface Clearance Area

**Camp Bonneville Military Reservation**

**Vancouver, Washington**

Wildlife Management Area

Demo Area 1 / Landfill 4

North Loop Road

North Road - West

North Road - East

Bobcat Road

Upper DNR Road

Lower DNR Road

Landfill 4 Road

PARK BOUNDARY

Elk Horn Road

NW Corner Fence Line Road

East Fork Lacamas Creek

CITA Fence North Road

Central Impact Target Area

CITA Road

CITA Fence South Road

Steep Hill Road

Buck Creek

David Creek

Wildlife Management Area

Main Gate

Main Road

Range Road

Bald Mountain Road

SE Corner Fence Line Road

Eastern Boundary Road

Lacamas Crk

South Gate Circle Road

Billy's Road

South Gate

DNR Fence Road



## LEGEND

**Additional Cleanup Areas**

- Demo Area 1 / Landfill 4 (kick-out area is surface clearance)
- Western Slopes - Surface clearance (areas less than 25% slope)
- Western Slopes - Site-wide IC's (areas greater than 25% slope)
- Central Impact Target Area (CITA)
- Northern CITA expansion (fence)
- Central Valley Floor - Frost-depth clearance (to 14-in)

**BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC**

BCRRT

0 1,000 2,000 3,000 4,000 5,000 ft

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 mi

Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# CAMP BONNEVILLE
## Clark County, Washington

| | |
|---|---|
| Park Boundary (acres) | 1157.78 |
| Slope >= 25° (acres) | 7.03 |
| Percent Area w/ Slope >= 25° | 0.61% |

**KEY**

- 100 ft contour
- Slopes >= 25°
- Park Boundary
- Camp Bonneville
- Project Boundary
- Interstate
- State
- Arterial
- Public Road
- DNR
- DNR Private
- Private
- Alley
- Driveway
- Proposed
- Unknown
- Trails
- Section

33126 33127 33125 34130 33132 33133 33134 33135 33136 34131 23104 23103 23102 23101 24106 23110 23111 23112 24107

SUMMER PLUSS CAMP BONNEVILLE TRAIL SPUD MOUNTAIN LOOKOUT HIGHLAND MEADOWS HANCOCK LIVINGSTON DANS Livingston Mtn Dole Valley Trail

109TH 108TH 105TH 102ND 96TH 88TH 85TH 83RD 78TH 70TH 67TH 66TH 94TH

212TH 215TH 222ND 227TH 226TH 232ND 229TH 269TH 298TH

CLARK COUNTY WASHINGTON
proud past, promising future
Department of Assessment and GIS



0 750 1,500 3,000 Feet

Printed on: May 28, 2009
Project: C:\workspace\Public_Works\BonnevilleMaps\Topo.mxd (dietlemem )

**Table A-1**
**Summary of MEC Findings**
**Target Areas**
**2.36 Rocket Range and M203 HE Grenade Range Range**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| TARGET AREAS | | | | | | | | | | |
| ***2.36 Rocket Range*** | | | | | | | | | | |
| MEC-001 | 2.36-inch Rocket | 23-Jan-07 | 1330 | 544667.000 | 5059233.000 | E-11 | 7-Mar-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-007 | 2.36-inch Rocket | 1-May-07 | 1015 | 5059249.285 | 544656.849 | E-11 | 2-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-008 | 2.36-inch Rocket | 1-May-07 | 1015 | 5059244.444 | 544653.731 | E-11 | 2-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-009 | 2.36-inch Rocket | 1-May-07 | 1020 | 5059235.980 | 544652.055 | E-11 | 2-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-010 | 2.36-inch Rocket | 1-May-07 | 1022 | 5059242.145 | 544652.266 | E-11 | 2-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-011 | 2.36-inch Rocket | 1-May-07 | 1025 | 5059235.856 | 544644.906 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-012 | 2.36-inch Rocket | 1-May-07 | 1025 | 5059248.491 | 544648.728 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-013 | 2.36-inch Rocket | 1-May-07 | 1030 | 5059245.646 | 544648.952 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-014 | 2.36-inch Rocket | 1-May-07 | 1031 | 5059249.376 | 544651.207 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-015 | 2.36-inch Rocket | 1-May-07 | 1031 | 5059244.716 | 544654.949 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-016 | 2.36-inch Rocket | 1-May-07 | 1032 | 5059238.409 | 544653.820 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-017 | 2.36-inch Rocket | 2-May-07 | 1430 | 5059244.886 | 544664.125 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-018 | 2.36-inch Rocket | 2-May-07 | 1435 | 5059254.001 | 544661.570 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-019 | 2.36-inch Rocket | 2-May-07 | 1440 | 5059255.917 | 544662.008 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-020 | 2.36-inch Rocket | 2-May-07 | 1450 | 5059248.597 | 544665.797 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-021 | 2.36-inch Rocket | 2-May-07 | 1450 | 5059248.597 | 544665.797 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-022 | 2.36-inch Rocket | 2-May-07 | 1450 | 5059248.597 | 544665.797 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-023 | 2.36-inch Rocket | 2-May-07 | 1505 | 5059240.200 | 544668.038 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-024 | 2.36-inch Rocket | 2-May-07 | 1432 | 5059240.349 | 544654.502 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-025 | 2.36-inch Rocket | 2-May-07 | 1443 | 5059241.560 | 544651.934 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-026 | 2.36-inch Rocket | 2-May-07 | 1443 | 5059233.075 | 544650.064 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-027 | 2.36-inch Rocket | 2-May-07 | 1444 | 5059265.178 | 544676.226 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-028 | 2.36-inch Rocket | 2-May-07 | 1445 | 5059235.093 | 544656.927 | E-11 | 3-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-029 | 2.36-inch Rocket | 3-May-07 | 1025 | 5059260.000 | 544675.000 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-030 | 2.36-inch Rocket | 3-May-07 | 1030 | 5059255.000 | 544677.000 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-031 | 2.36-inch Rocket | 3-May-07 | 1420 | 5059247.000 | 544662.000 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-032 | 2.36-inch Rocket | 3-May-07 | 0850 | 5059254.899 | 544672.031 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-033 | 2.36-inch Rocket | 7-May-07 | 0851 | 5059240.387 | 544649.883 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-034 | 2.36-inch Rocket | 7-May-07 | 0852 | 5059236.493 | 544647.337 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-035 | 2.36-inch Rocket | 7-May-07 | 0853 | 5059233.684 | 544648.833 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-036 | 2.36-inch Rocket | 7-May-07 | 0854 | 5059234.301 | 544654.467 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-037 | 2.36-inch Rocket | 7-May-07 | 0855 | 5059231.412 | 544648.414 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-038 | 2.36-inch Rocket | 7-May-07 | 0856 | 5059233.158 | 544646.193 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-039 | 2.36-inch Rocket | 7-May-07 | 0857 | 5059231.602 | 544645.925 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-040 | 2.36-inch Rocket | 7-May-07 | 0858 | 5059230.541 | 544644.881 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |

**Table A-1**
**Summary of MEC Findings**
**Target Areas**
**2.36 Rocket Range and M203 HE Grenade Range Range**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-041 | 2.36-inch Rocket | 7-May-07 | 0859 | 5059230.883 | 544640.699 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-042 | 2.36-inch Rocket | 7-May-07 | 0900 | 5059234.940 | 544641.772 | E-11 | 8-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-043 | 2.36-inch Rocket | 7-May-07 | 0901 | 5059228.984 | 544631.541 | E-11 | 9-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-044 | 2.36-inch Rocket | 7-May-07 | 0902 | 5059230.789 | 544626.893 | E-11 | 9-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-045 | 2.36-inch Rocket | 7-May-07 | 0903 | 5059226.400 | 544629.428 | E-11 | 9-May-07 | MKM-CB-001 | 8146.01 | 1 |
| MEC-046 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 8-May-07 | 1230 | 5059246.808 | 544638.689 | E-11 | 9-May-07 | MKM-CB-007 | 8146.01 | 1 |
| MEC-189 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 0910 | 5059259.540 | 544676.13 | E-11 | 29-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-190 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 0915 | 5059260.300 | 544674.27 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-191 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 0918 | 5059262.220 | 544672.55 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-192 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 0925 | 5059263.120 | 544676.43 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-193 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1030 | 5059230.030 | 544647.71 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-194 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1040 | 5059240.900 | 544651.04 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-195 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1055 | 5059235.550 | 544655.13 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-196 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1140 | 5059236.890 | 544640.22 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-197 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1150 | 5059250.680 | 544636.16 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-198 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1223 | 5059238.070 | 544638.52 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-199 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1230 | 5059235.920 | 544628.77 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-200 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1250 | 5059226.040 | 544626.07 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-201 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1254 | 5059224.850 | 544625.86 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-202 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1300 | 5059223.130 | 544625.12 | E-11 | 29-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-203 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1340 | 5059225.490 | 544627.50 | E-11 | 30-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-204 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1350 | 5059215.230 | 544618.63 | E-11 | 30-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-205 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1415 | 5059204.450 | 544623.02 | E-11 | 30-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-206 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1420 | 5059209.700 | 544625.32 | E-11 | 30-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-207 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1450 | 5059201.660 | 544601.55 | E-11 | 30-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-208 | 2.36-inch Rocket (FIRED, FUZED) | 15-Jan-08 | 1520 | 5059257.540 | 544672.40 | E-11 | 30-Jan-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-249 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 10-Mar-08 | 1202 | 5059276.000 | 544685.000 | E-11 | 18-Mar-08 | MKM-CB-007 | 8119.02 | 1 |
| MEC-250 | 2.36-inch Rocket (FIRED, FUZED) | 11-Mar-08 | 1211 | 5059238.760 | 544667.000 | E-11 | 18-Mar-08 | MKM-CB-001 | 8119.02 | 1 |
| MEC-251 | 2.36-inch Rocket (FIRED, FUZED) | 11-Mar-08 | 1408 | 5059238.770 | 544657.810 | E-11 | 18-Mar-08 | MKM-CB-001 | 8119.02 | 1 |
| MEC-253 | 2.36-inch Rocket (FIRED, FUZED) | 12-Mar-08 | 1149 | 5059205.450 | 544624.910 | E-11 | 18-Mar-08 | MKM-CB-001 | 8119.01 | 1 |
| MEC-254 | 2.36-inch Rocket (FIRED, FUZED) | 12-Mar-08 | 1347 | 5059200.420 | 544618.810 | E-11 | 18-Mar-08 | MKM-CB-001 | 8119.01 | 1 |
| | | | | | | | | | SUBTOTAL 2.36 ROCKET RANGE | 66 |

**Table A-1**
**Summary of MEC Findings**
**Target Areas**
**2.36 Rocket Range and M203 HE Grenade Range Range**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| ***M203 HE Grenade Range*** | | | | | | | | | | |
| MEC-538 | M744 Mortar Subcal (FUZED, FIRED) | 13-Jan-09 | 0800 | 5059252.220 | 545056.730 | H-11 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-545 | M744 Mortar Subcal (FUZED, FIRED) | 13-Jan-09 | 0920 | 5059322.300 | 545087.960 | H-11 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| | | | | | | | | | SUBTOTAL M203 HE GRENADE RANGE | 2 |
| | | | | | | | | | **Grand Total** | **68** |

**Table A-2**
**Summary of MEC Findings**
**Central Impact Area and Central Impact Target Area (CITA)**
**West Impact Area - Car Target 2, Combined Impact Area 1, Combined Impact Area 2 and CITA - General**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| CENTAL IMPACT AREA AND CITA | | | | | | | | | | |
| ***West Impact Area - Car Target 2*** | | | | | | | | | | |
| MEC-233 | 105mm Smoke projectile (FIRED, FUZED) | 24-Jan-08 | 0900 | 5060431.429 | 546966.551 | T-18 | 28-Jan-08 | MKM-CB-002 | 8146.02 | 1 |
| SUBTOTAL WEST IMPACT AREA CAR TARGET 2 | | | | | | | | | | 1 |
| ***Combined Impact Area 1*** | | | | | | | | | | |
| MEC-085 | 105mm HE Partial Projectile (FIRED, UNFUZED) | 17-Oct-07 | 1017 | 5060185.86 | 547381.04 | W-17 | 14-Nov-07 | MKM-CB-002 | 8146.01 | 1 |
| SUBTOTAL COMBINED IMPACT AREA 1 | | | | | | | | | | 1 |
| ***Combined Impact Area 2*** | | | | | | | | | | |
| MEC-047 | 155 mm projectile | 10-May-07 | 1500 | 5059974.000 | 547583.000 | X-15 | 14-May-07 | MKM-CB-002 | 8146.01 | 1 |
| SUBTOTAL COMBINED IMPACT AREA 2 | | | | | | | | | | 1 |
| ***CITA - General*** | | | | | | | | | | |
| MEC-083 | 105mm Smoke cartridge (EXPELLED) | 26-Sep-07 | 0830 | 5059740.607 | 547921.243 | AA-13 | 14-Nov-07 | MKM-CB-004 | 8140.01 | 1 |
| SUBTOTAL CITA - GENERAL | | | | | | | | | | 1 |
| **Grand Total** | | | | | | | | | | **4** |

**Table A-3**
**Summary of MEC Findings**
**Open Burn/Open Demolition Areas**
**Demolitiona Area 1/Landfill 4 (DA1/LF4), Road and Trail (R and T) Step-outs, Demolition Areas 2 and 3 (DA2/DA3), and Newly Discovered OB/OD Area (northwest of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| OB/OD AREA | | | | | | | | | | |
| ***DA1/LF4*** | | | | | | | | | | |
| MEC-050 | Fuze M604 | 13-Jun-07 | 1545 | 5061352.000 | 546576.000 | R-24 | 25-Jun-07 | MKM-CB-002 | 8146.02 | 1 |
| MEC-051 | 75 mm APHE | 13-Jun-07 | 1600 | 5061364.000 | 546580.000 | R-24 | 25-Jun-07 | MKM-CB-003 | 8146.02 | 1 |
| MEC-052 | Fuze M-51 series | 13-Jun-07 | 1615 | 5061336.000 | 546572.000 | R-24 | 25-Jun-07 | MKM-CB-002 | 8146.02 | 1 |
| MEC-053 | Unfuzed warhead with high explosive | 18-Jun-07 | 1400 | 5061239.000 | 546594.000 | R-24 | 25-Jun-07 | MKM-CB-002 | 8146.02 | 1 |
| MEC-054 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 19-Jun-07 | 1030 | 5061114.000 | 546634.000 | R-23 | 25-Jun-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-056 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 19-Jun-07 | 1305 | 5061101.000 | 546629.000 | R-23 | 25-Jun-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-065 | M49 Trip Flare | 30-Jul-07 | 1418 | 5061537.46 | 546720.82 | S-26 | 23-Aug-07 | MKM-CB-004 | 8146.02 | 1 |
| MEC-067 | 20mm (FUZED/UNFIRED) | 14-Aug-07 | 1430 | 5061389.75 | 546518.63 | R-25 | 23-Aug-07 | MKM-CB-002 | 8146.02 | 1 |
| MEC-068 | 90mm partial cartridge case, Primer intact | 15-Aug-07 | 0835 | 5061395.81 | 546504.74 | Q-25 | 23-Aug-07 | MKM-CB-003 | 8146.02 | 1 |
| MEC-069 | 2.36" Rocket warhead (UNFUZED) | 16-Aug-07 | 0804 | 5061455.30 | 546501.94 | Q-25 | 23-Aug-07 | MKM-CB-001 | 8146.02 | 1 |
| MEC-081 | 2.75 Inch Rocket Warhead HE | 18-Sep-07 | 1440 | 5061547.337 | 546565.183 | R-26 | 18-Sep-07 | MKM-CB-001 | 8146.02 | 1 |
| MEC-257 | M7A3 Riot Control Grenade (CS) | 31-Mar-08 | 1015 | 5061353.120 | 546551.290 | R-24 | 1-Apr-08 | Destroyed during Demo | 8110.01 | 1 |
| MEC-258 | M6 A/T Practice Landmine (Spotting Charge) | 31-Mar-08 | 1000 | 5061351.860 | 546551.600 | R-24 | 1-Apr-08 | MKM-CB-010 | 8110.01 | 1 |
| MEC-259 | M10 A/T Practice Landmine (Spotting Charge) | 31-Mar-08 | 1227 | 5061357.510 | 546555.400 | R-24 | 1-Apr-08 | MKM-CB-010 | 8110.01 | 1 |
| MEC-260 | 2.75 Rocket Warhead MK1 MOD 1 (FUZED) | 2-Apr-08 | 1215 | 5061410.170 | 546401.390 | Q-25 | 2-Apr-08 | MKM-CB-008 | 8110.01 | 1 |
| | | | | | | | | | SUBTOTAL DA1/LF4 | 15 |
| ***DA1/LF4 R&T Step Out*** | | | | | | | | | | |
| MEC-417 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Oct-08 | 0800 | 5061099.880 | 546620.610 | R-23 | 6-Nov-08 | MKM-CB-012 | 8167.02 | 1 |
| MEC-418 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Oct-08 | 0900 | 5061109.680 | 546625.890 | R-23 | 6-Nov-08 | MKM-CB-012 | 8167.02 | 1 |
| MEC-419 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Oct-08 | 1000 | 5061127.640 | 546625.380 | R-23 | 6-Nov-08 | MKM-CB-012 | 8167.02 | 1 |
| MEC-556 | BLU-3/B (FUZED, ARMED) | 15-Jan-09 | 0830 | 5061184.470 | 546558.810 | R-23 | 15-Jan-09 | MKM-CB-014 | 8167.02 | 1 |
| | | | | | | | | | SUBTOTAL DA1/LF4 R&T STEP OUT | 4 |

**Table A-3**
**Summary of MEC Findings**
**Open Burn/Open Demolition Areas**
**Demolitiona Area 1/Landfill 4 (DA1/LF4), Road and Trail (R and T) Step-outs, Demolition Areas 2 and 3 (DA2/DA3), and Newly Discovered OB/OD Area (northwest of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| ***DA2 & DA3*** | | | | | | | | | | |
| MEC-268 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Apr-08 | 1600 | 5058187.527 | 544625.297 | D4-15 | 30-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-292 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 11-Jun-08 | 1010 | 5058282.620 | 544686.300 | E05-02 | 18-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-352 | 3-inch Stokes Mortar (FIRED, FUZED) | 21-Aug-08 | 0710 | 5058196.690 | 544538.130 | D4-17 | 21-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-395 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 9-Oct-08 | 1000 | 5058206.260 | 544545.240 | D-4 | 9-Oct-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-396 | 37mm Projectile (FUZED, UNFIRED) | 9-Oct-08 | 1220 | 5058233.970 | 544594.430 | D-4 | 9-Oct-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-397 | 3-inch Stokes Mortar (FIRED, FUZED) | 13-Oct-08 | 1100 | 5058163.720 | 544550.280 | D-4 | 13-Oct-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-403 | 2.36" Rocket (FIRED, FUZED) | 20-Oct-08 | 1422 | 5058240.340 | 544686.150 | E-4 | 21-Oct-08 | MKM-CB-008 | 8140.02 | 1 |
| | | | | | | | | | SUBTOTAL DA2 & DA3 | 7 |
| ***Newly Discovered OB/OD Area (northeast of ESA)*** | | | | | | | | | | |
| MEC-087 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Nov-07 | 0900 | 5058186 | 544750 | E-4 | 14-Nov-07 | MKM-CB-007 | 8137.01 | 1 |
| MEC-088 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Nov-07 | 0915 | 5058166 | 544762 | E-4 | 14-Nov-07 | MKM-CB-007 | 8137.01 | 1 |
| MEC-089 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Nov-07 | 0935 | 5058194 | 544749 | E-4 | 14-Nov-07 | MKM-CB-007 | 8137.01 | 1 |
| MEC-209 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Jan-08 | 1210 | 5058096.860 | 544843.28 | F-3 | 6-Feb-08 | MKM-CB-007 | 8146.02 | 1 |
| MEC-210 | M49 Trip Flare (UNFIRED, UNFUZED) | 17-Jan-08 | 1340 | 5058027.840 | 544861.33 | F-3 | 6-Feb-08 | MKM-CB-004 | 8146.02 | 1 |
| MEC-211 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Jan-08 | 1520 | 5058090.670 | 544877.38 | F-3 | 6-Feb-08 | MKM-CB-007 | 8146.02 | 1 |
| MEC-212 | 37 mm HE (UNFIRED, UNFUZED) | 18-Jan-08 | 1050 | 5058112.811 | 544796.766 | F-3 | 6-Feb-08 | MKM-CB-002 | 8140.01 | 1 |
| MEC-217 | 2.36-inch Rocket (FIRED, FUZED) | 22-Jan-08 | 1530 | 5058352.109 | 544967.396 | G-5 | 30-Jan-08 | MKM-CB-001 | 8140.02 | 1 |
| MEC-278 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-May-08 | 0915 | 5058195.575 | 544792.622 | F4 | 21-May-08 | MKM-CB-010 | 8134.01 | 1 |

**Table A-3**
**Summary of MEC Findings**
**Open Burn/Open Demolition Areas**
**Demolitiona Area 1/Landfill 4 (DA1/LF4), Road and Trail (R and T) Step-outs, Demolition Areas 2 and 3 (DA2/DA3), and Newly Discovered OB/OD Area (northwest of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-355 | Slap Flare (FUZED,UNFIRED) | 28-Aug-08 | 0828 | 5058317.788 | 544922.899 | F05-10 | 28-Aug-08 | MKM-CB-004 | 8140.02 | 1 |
| MEC-405 | 37mm Projectile (FUZED, UNFIRED) | 21-Oct-08 | 1535 | 5058279.510 | 544761.140 | E-5 | 22-Oct-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-410 | 37mm Projectile (UNFUZED, UNFIRED) | 27-Oct-08 | 1130 | 5058299.740 | 544784.080 | F-5 | 6-Nov-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-411 | M-18 Smoke Grenade Fuze (UNARMED) | 27-Oct-08 | 1500 | 5058368.120 | 544813.790 | F-5 | 6-Nov-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-412 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 28-Oct-08 | 0835 | 5058373.760 | 544918.200 | F-5 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-413 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 28-Oct-08 | 1500 | 5058102.460 | 544833.540 | F-4 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-414 | 57mm Projectile (FIRED, FUZED) | 29-Oct-08 | 1400 | 5058210.960 | 544883.000 | F-4 | 30-Oct-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-415 | Rocket Motor Ignitor | 29-Oct-08 | 1415 | 5058229.250 | 544887.080 | F-4 | 30-Oct-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-416 | 57mm Projectile (UNFUZED, UNFIRED) | 29-Oct-08 | 1430 | 5058212.550 | 544882.570 | F-4 | 30-Oct-08 | MKM-CB-014 | 8140.02 | 1 |
| SUBTOTAL PREVIOUSLY UNIDENTIFIED OB/OD AREA (NORTHEAST OF ESA) | | | | | | | | | | 18 |
| **Grand Total** | | | | | | | | | | **44** |

**Table A-4**
**Summary of MEC Findings**
**Firing Points**
**Artillery Position #5 and #6 / Mortar Position #4**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| FIRING POINTS | | | | | | | | | | |
| ***Artillery Postion #5*** | | | | | | | | | | |
| MEC-263 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Apr-08 | 0905 | 5059360.424 | 544798.058 | F12-2 | 30-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| | | | | | | | | | SUBTOTAL ARTILLERY POSITION #5 | 1 |
| ***Artillery Position #6*** | | | | | | | | | | |
| MEC-399 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Oct-08 | 0930 | 5058067.010 | 544710.860 | E-3 | 16-Oct-08 | MKM-CB-012 | 8140.02 | 1 |
| | | | | | | | | | SUBTOTAL ARTILLERY POSITION #6 | 1 |
| ***Mortar Position #4*** | | | | | | | | | | |
| MD-392 | Smoke Grenade (EXPENDED) | 19-Sep-07 | 1220 | 5061817.000 | 546621.000 | K-15 | MKM-CB-004 | 8146.01 | 6 | 1 |
| | | | | | | | | | SUBTOTAL MORTAR POSITION #4 | 1 |
| | | | | | | | | | **Grand Total** | **3** |

**Table A-5**
**Summary of MEC Findings**
**Roads Trails**
**Buffer**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| Roads and Trails (R&T) | | | | | | | | | | |
| ***R&T Buffer*** | | | | | | | | | | |
| MEC-002 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 29-Mar-07 | 1000 | 545449.000 | 5059792.000 | J-14 | 2-May-07 | MKM-CB-007 | 8146.01 | 1 |
| MEC-004 | Smoke Grenade | 10-Apr-07 | 0935 | 546001.000 | 5060693.000 | N-20 | 2-May-07 | MKM-CB-004 | 8146.01 | 1 |
| MEC-048 | Smoke Grenade | 30-May-07 | 1515 | 5060776.000 | 546129.000 | O-21 | 31-May-07 | MKM-CB-004 | 8146.02 | 1 |
| MEC-057 | Smoke Grenade | 20-Jun-07 | 1420 | 5058433.000 | 545021.000 | G-6 | 25-Jun-07 | MKM-CB-004 | 8146.02 | 1 |
| MEC-058 | 2.36-inch Rocket | 25-Jun-07 | 0850 | 5058266.000 | 544973.000 | G-4 | 25-Jun-07 | MKM-CB-001 | 8146.02 | 1 |
| MEC-062 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Jul-07 | 1330 | 5058981.000 | 545142.200 | H-9 | 3-Jul-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-063 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Jul-07 | 1345 | 545144.620 | 5058977.430 | H-9 | 3-Jul-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-064 | 3-inch Stokes Mortar (FIRED, UNFUZED), shipping plug installed | 2-Jul-07 | 1530 | 5059287.860 | 545209.022 | H-11 | 3-Jul-07 | MKM-CB-003 | 8146.02 | 1 |
| MEC-071 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-07 | 1055 | 5059419.50 | 544703.71 | E-12 | 23-Aug-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-072 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-07 | 1120 | 5059416.31 | 544709.33 | E-12 | 23-Aug-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-073 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-07 | 1520 | 5059349.30 | 544726.63 | E-12 | 23-Aug-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-074 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-07 | 1545 | 5059407.21 | 544700.52 | E-12 | 23-Aug-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-075 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Aug-07 | 0830 | 5059306.45 | 544704.15 | E-11 | 23-Aug-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-077 | 2.36-inch rocket, (FIRED, UNFUZED) | 21-Aug-07 | 0930 | 5059335.30 | 544666.40 | E-11 | 23-Aug-07 | MKM-CB-001 | 8146.02 | 1 |
| MEC-079 | 2.36-inch rocket, (FIRED, UNFUZED) | 29-Aug-07 | 0950 | 5060326.30 | 546322.32 | P-18 | 30-Aug-07 | MKM-CB-001 | 8146.02 | 1 |
| MEC-084 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 9-Oct-07 | 1049 | 5059784.84 | 545451.98 | J-14 | 14-Nov-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-167 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Dec-07 | 1000 | 5059195.14 | 544759.82 | F-11 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-172 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Dec-07 | 1055 | 5059266.04 | 544752.96 | F-11 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-248 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Feb-08 | 1200 | 5059356.470 | 545246.940 | I-12 | 26-Feb-08 | MKM-CB-007 | 8146.02 | 1 |
| MEC-266 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 16-Apr-08 | 1623 | 5059446.214 | 544836.372 | F12-18 | 30-Apr-08 | MKM-CB-010 | 8140.02 | 1 |

**Table A-5**
**Summary of MEC Findings**
**Roads Trails**
**Buffer**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-280 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-May-08 | 1048 | 5059197.170 | 545166.970 | H10_24 | 30-May-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-291 | M48 Smoke Grenade (Red) (FUZED, UNARMED) | 3-Jun-08 | 1000 | 5059404.950 | 544825.570 | F-12 | 10-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-294 | M-9 Rifle Grenade (FIRED, FUZED) | 12-Jun-08 | 0820 | 5059297.700 | 544745.510 | E11-20 | 12-Jun-08 | MKM-CB-004 | 8140.02 | 1 |
| MEC-295 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jun-08 | 0820 | 5059298.390 | 544747.690 | E11-20 | 18-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-296 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jun-08 | 0820 | 5059298.010 | 544744.570 | E11-20 | 18-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-297 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jun-08 | 0820 | 5059296.240 | 544746.180 | E11-20 | 18-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-298 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jun-08 | 0820 | 5059295.780 | 544746.650 | E11-20 | 18-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-299 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jun-08 | 0820 | 5059294.730 | 544747.170 | E11-20 | 18-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-300 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jun-08 | 0820 | 5059294.140 | 544747.590 | E11-20 | 18-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-367 | L55 A2 Smoke Grenade (FUZED, UNARMED) | 23-Sep-08 | 1000 | 5060786.220 | 546353.620 | P21-05 | 23-Sep-08 | MKM-CB-004 | 8140.02 | 1 |
| MEC-440 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1030 | 5059005.618 | 545157.926 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-448 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Nov-08 | 1446 | 5059010.120 | 545054.500 | G-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-477 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Dec-08 | 1537 | 5059421.790 | 544659.160 | E-12 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-479 | 3-inch Stokes Mortar Fuze (ARMED) | 16-Dec-08 | 0931 | 5059354.180 | 544675.000 | E-12 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-483 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Dec-08 | 0840 | 5059193.930 | 544772.110 | F-11 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-484 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Dec-08 | 0909 | 5059196.800 | 544778.710 | F-11 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-508 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 8-Jan-09 | 1520 | 5059306.510 | 544739.800 | E-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |

**Table A-5**
**Summary of MEC Findings**
**Roads Trails**
**Buffer**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-586 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 28-Jan-09 | 1125 | 5059113.490 | 544839.790 | F-10 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-588 | MK2 Hand Grenade (FUZED, ARMED) | 28-Jan-09 | 1400 | 5059159.540 | 544818.920 | F-10 | 29-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-599 | M69 Practice Hand Grenade (FUZED, UNARMED) | 18-Feb-09 | 1500 | 5060775.570 | 546173.480 | O-21 | 19-Feb-09 | MKM-CB-014 | 8140.02 | 1 |
| | | | | | | | | | SUBTOTAL R&T BUFFER | 40 |
| | | | | | | | | | **GRAND TOTAL** | **40** |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| CVF | | | | | | | | | | |
| ***ESA*** | | | | | | | | | | |
| MEC-086 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-Oct-07 | 0851 | 5057950.75 | 544571.55 | D-2 | 14-Nov-07 | MKM-CB-007 | 8137.01 | 1 |
| MEC-245 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 7-Feb-08 | 0945 | 5057986.247 | 544449.957 | C-3 | 12-Feb-08 | MKM-CB-007 | 8137.02 | 1 |
| MEC-246 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 7-Feb-08 | 1030 | 5057981.501 | 544436.294 | C-3 | 12-Feb-08 | MKM-CB-007 | 8137.02 | 1 |
| MEC-247 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Feb-08 | 1258 | 5058104.420 | 544354.420 | C-4 | 20-Feb-08 | MKM-CB-007 | 8137.02 | 1 |
| | | | | | | | | | SUBTOTAL ESA | 4 |
| ***1000" Range*** | | | | | | | | | | |
| MEC-372 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 0730 | 5059903.070 | 545582.080 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-373 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 0735 | 5059902.870 | 545587.120 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-374 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 0745 | 5059899.570 | 545587.140 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-375 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 0830 | 5059900.900 | 545591.020 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-376 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 0835 | 5059899.570 | 545592.720 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-377 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 0850 | 5059899.170 | 545593.380 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-378 | M9 Rifle Grenade (FIRED, FUZED) | 24-Sep-08 | 1315 | 5059900.810 | 545596.610 | K-15 | 25-Sep-08 | MKM-CB-004 | 7100 | 1 |
| MEC-379 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 0930 | 5059900.580 | 545596.630 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-380 | M35 Law Subcaliber (FIRED, FUZED) | 24-Sep-08 | 1330 | 5059904.420 | 545591.950 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-381 | M35 Law Subcaliber (FIRED, FUZED) | 24-Sep-08 | 1345 | 5059906.130 | 545594.390 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-382 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 0935 | 5059912.630 | 545612.650 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-383 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 0940 | 5059910.150 | 545611.390 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-384 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 0945 | 5059909.160 | 545609.710 | K-15 | 25-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-385 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 1000 | 5059912.430 | 545603.790 | K-15 | 25-Sep-08 | MKM-CB-008 | 7100 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-386 | M35 Law Subcaliber (FIRED, FUZED) | 24-Sep-08 | 1356 | 5059907.790 | 545598.780 | K-15 | 24-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-387 | 2.36" Rocket (FIRED, FUZED) | 24-Sep-08 | 1015 | 5059912.500 | 545612.570 | K-15 | 25-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-388 | M35 Law Subcaliber (FIRED, FUZED) | 25-Sep-08 | 1530 | 5059912.057 | 545614.918 | K-15 | 25-Sep-08 | MKM-CB-008 | 7100 | 1 |
| MEC-389 | 37mm Projectile w/Tracer (FIRED, UNFUZED) | 26-Sep-08 | 0900 | 5059906.013 | 545604.784 | K-15 | 1-Oct-08 | MKM-CB-010 | 7100 | 1 |
| MEC-390 | 2.36" Rocket (FIRED, FUZED) | 29-Sep-08 | 1400 | 5059892.300 | 545581.200 | K-15 | 1-Oct-08 | MKM-CB-008 | 7100 | 1 |
| MEC-391 | 2.36" Rocket (FIRED, FUZED) | 29-Sep-08 | 1420 | 5059885.800 | 545588.730 | K-15 | 1-Oct-08 | MKM-CB-008 | 7100 | 1 |
| MEC-393 | 2.36" Rocket (FIRED, FUZED) | 30-Sep-08 | 1500 | 5059928.580 | 545592.760 | K-15 | 1-Oct-08 | MKM-CB-008 | 7100 | 1 |
| MEC-408 | 2.36" Rocket (FIRED, FUZED) | 23-Oct-08 | 0900 | 5059908.220 | 545589.210 | K-15 | 23-Oct-08 | MKM-CB-014 | 7100 | 1 |
| | | | | | | | | | SUBTOTAL 1000" RANGE | 22 |
| ***CVF - Unclassified*** | | | | | | | | | | |
| MEC-049 | Grenade fuze | 30-May-07 | 1620 | 5060792 | 546154 | O-21 | 31-May-07 | MKM-CB-004 | 8146.02 | 1 |
| MEC-059 | 2.36-inch Rocket | 25-Jun-07 | 1400 | 5060166 | 546141 | O-17 | 27-Jun-07 | MKM-CB-001 | 8146.02 | 1 |
| MEC-070 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-07 | 1050 | 5059423.80 | 544611.8 | E-12 | 23-Aug-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-076 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Aug-07 | 0805 | 5059300.20 | 544690.90 | E-11 | 23-Aug-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-080 | Rifle Grenade (FIRED, UNFUZED) | 29-Aug-07 | 0850 | 5060281.19 | 546354.33 | P-17 | 30-Aug-07 | MKM-CB-004 | 8146.02 | 1 |
| MEC-090 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Nov-07 | 1009 | 5058914 | 545144 | H-9 | 14-Nov-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-091 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Nov-07 | 1255 | 5059044 | 545144 | H-10 | 14-Nov-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-092 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Nov-07 | 1350 | 5059012 | 545084 | H-9 | 14-Nov-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-093 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Nov-07 | 1430 | 5059039 | 545085 | H-10 | 14-Nov-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-094 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 29-Nov-07 | 0830 | 5059093.01 | 545141.7 | H-10 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-095 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 29-Nov-07 | 1245 | 5059181.01 | 545160.32 | H-10 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-096 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Nov-07 | 0745 | 5059190.18 | 545087.61 | H-10 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-097 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Nov-07 | 0747 | 5059190.51 | 545089.79 | H-10 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-098 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Nov-07 | 0800 | 5059201.0 | 545155.64 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-099 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Nov-07 | 1020 | 5059196.93 | 545162.78 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-100 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Nov-07 | 1230 | 5059226.58 | 545151.45 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-101 | 37mm Projectile (FIRED, FUZED) | 30-Nov-07 | 1235 | 5059228.23 | 545146.60 | H-11 | 3-Dec-07 | MKM-CB-002 | 8140.01 | 1 |
| MEC-102 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Nov-07 | 1340 | 5059237.95 | 545137.41 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-103 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Nov-07 | 1348 | 5059235.27 | 545086.94 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-104 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Nov-07 | 1415 | 5059233.28 | 545067.18 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-105 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Nov-07 | 1425 | 5059250.73 | 545160.85 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-106 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Nov-07 | 1540 | 5059259.86 | 545175.38 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-107 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Nov-07 | 1545 | 5059273.12 | 545088.55 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-108 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Dec-07 | 0745 | 5059275.61 | 545114.79 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-109 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Dec-07 | 0755 | 5059286.07 | 545139.48 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-110 | 37mm Projectile (FIRED, FUZED) | 3-Dec-07 | 0810 | 5059271.96 | 545173.96 | H-11 | 3-Dec-07 | MKM-CB-002 | 8140.01 | 1 |
| MEC-111 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Dec-07 | 0820 | 5059293.54 | 545179.00 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-112 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Dec-07 | 0900 | 5059300.97 | 545110.56 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-113 | 37mm Projectile (FIRED, FUZED) | 3-Dec-07 | 0940 | 5059307.63 | 545107.19 | H-11 | 3-Dec-07 | MKM-CB-002 | 8140.01 | 1 |
| MEC-114 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Dec-07 | 1330 | 5059312.71 | 545163.58 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-115 | Smoke Grenade (FIRED, UNFUZED) | 3-Dec-07 | 1417 | 5059301.38 | 545198.94 | H-11 | 4-Dec-07 | MKM-CB-004 | 8140.01 | 1 |
| MEC-116 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Dec-07 | 1600 | 5059311.28 | 545116.35 | H-11 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-117 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 4-Dec-07 | 1000 | 5059394.21 | 545121.60 | H-12 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-118 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 4-Dec-07 | 1020 | 5059389.23 | 545121.50 | H-12 | 4-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-119 | 3-inch Stokes Mortar (FIRED, FUZED) | 4-Dec-07 | 1500 | 5059057.91 | 545232.54 | I-10 | 5-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-121 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Dec-07 | 1000 | 5059154.32 | 545188.77 | H-10 | 5-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-122 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Dec-07 | 1015 | 5059169.22 | 545235.19 | I-10 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-123 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Dec-07 | 1330 | 5059180.97 | 545237.15 | I-10 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-124 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Dec-07 | 1350 | 5059176.48 | 545251.74 | I-10 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-125 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Dec-07 | 1400 | 5059196.40 | 545258.72 | I-11 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-126 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Dec-07 | 1425 | 5059183.58 | 545196.26 | H-10 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-127 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Dec-07 | 1440 | 5059177.91 | 545204.54 | H-10 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-128 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Dec-07 | 1520 | 5059203.18 | 545229.38 | I-11 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-129 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Dec-07 | 1540 | 5059211.87 | 545249.74 | I-11 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-130 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Dec-07 | 1550 | 5059194.93 | 545267.12 | I-11 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-131 | Smoke Grenade, (FIRED, UNFUZED) | 5-Dec-07 | 1615 | 5059219.41 | 545313.18 | I-11 | 20-Dec-07 | MKM-CB-004 | 8140.01 | 1 |
| MEC-132 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Dec-07 | 0800 | 5059220.22 | 545220.08 | I-11 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-133 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Dec-07 | 0810 | 5059201.62 | 545219.34 | I-11 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-134 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Dec-07 | 0815 | 5059213.69 | 545232.19 | I-11 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-135 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Dec-07 | 0840 | 5059228.20 | 545272.79 | I-11 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-136 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Dec-07 | 0850 | 5059250.19 | 545202.06 | H-11 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-137 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Dec-07 | 0855 | 5059248.01 | 545204.99 | H-11 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-138 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Dec-07 | 1315 | 5059259.74 | 545207.89 | H-11 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-139 | Smoke Grenade, (FIRED, UNFUZED) | 6-Dec-07 | 1400 | 5059309.91 | 545266.07 | I-11 | 20-Dec-07 | MKM-CB-004 | 8140.01 | 1 |
| MEC-140 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Dec-07 | 1430 | 5059408.09 | 545290.24 | E-13 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-141 | 37mm Projectile (FIRED, FUZED) | 10-Dec-07 | 1040 | 5059255.925 | 545251.563 | I-11 | 12-Dec-07 | MKM-CB-006 | 8140.01 | 1 |
| MEC-142 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Dec-07 | 1340 | 5059553.58 | 544639.03 | E-13 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-143 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Dec-07 | 1400 | 5059559.13 | 544642.49 | E-13 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-144 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Dec-07 | 0740 | 5059455.66 | 544829.17 | F-12 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-145 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Dec-07 | 0800 | 5059492.95 | 544775.17 | F-13 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-146 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Dec-07 | 0820 | 5059449.39 | 544749.28 | F-12 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-147 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Dec-07 | 0920 | 5059521.41 | 544690.31 | E-13 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-148 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Dec-07 | 0950 | 5059432.47 | 544685.13 | E-12 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-149 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Dec-07 | 0955 | 5059526.64 | 544650.59 | E-13 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-150 | Riot Grenade M25A1/A2 | 13-Dec-07 | 1300 | 5059436.05 | 544641.19 | E-12 | 14-Dec-07 | Consumed by detonation | 8140.01 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-151 | 3-inch Stokes Mortar (FIRED, Partial fuze intact) | 13-Dec-07 | 1420 | 5059423.83 | 544629.75 | E-12 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-152 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Dec-07 | 1420 | 5059523.5 | 544662.81 | E-13 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-153 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Dec-07 | 1425 | 5059529.96 | 544667.14 | E-13 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-154 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Dec-07 | 1425 | 5059534.11 | 544666.99 | E-13 | 14-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-155 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Dec-07 | 1500 | 5059534.61 | 544658.96 | E-13 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-156 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 14-Dec-07 | 0915 | 5059430.42 | 544617.70 | E-12 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-157 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 14-Dec-07 | 1010 | 5059440.43 | 544621.94 | E-12 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-158 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Dec-07 | 0820 | 5059499.88 | 544615.31 | E-13 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-159 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Dec-07 | 0825 | 5059499.88 | 544615.31 | E-13 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-160 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Dec-07 | 0830 | 5059503.52 | 544613.98 | E-13 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-161 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Dec-07 | 0850 | 5059509.27 | 544617.17 | E-13 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-163 | 2.36-inch rocket, (FIRED, FUZED) | 18-Dec-07 | 0900 | 5059281.86 | 544701.37 | E-11 | 3-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-164 | 2.36-inch rocket, (FIRED, FUZED) | 18-Dec-07 | 0901 | 5059281.40 | 544706.12 | E-11 | 3-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-165 | 2.36-inch rocket, (FIRED, FUZED) | 18-Dec-07 | 0904 | 5059285.57 | 544711.51 | E-11 | 3-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-166 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Dec-07 | 0910 | 5059288.89 | 544707.89 | E-11 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-168 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Dec-07 | 1010 | 5059206.84 | 544758.05 | F-11 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-169 | M49 Trip Flare, (FUZED, UNFIRED) | 18-Dec-07 | 1020 | 5059219.50 | 544743.76 | E-11 | 20-Dec-07 | MKM-CB-004 | 8140.01 | 1 |
| MEC-170 | 2.36-inch rocket, (FIRED, FUZED) | 18-Dec-07 | 1030 | 5059225.08 | 544741.06 | E-11 | 3-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-171 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Dec-07 | 1040 | 5059236.92 | 544745.41 | E-11 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-173 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Dec-07 | 1120 | 5059288.99 | 544726.78 | E-11 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-174 | M73 Rocket, Practice 35mm, (FIRED, FUZED) | 2-Jan-08 | 0848 | 5059750.83 | 545102.4 | H-14 | 3-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-175 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Jan-08 | 1422 | 5059455.55 | 545295.19 | I-12 | 3-Jan-08 | MKM-CB-007 | 8140.01 | 1 |
| MEC-176 | M49 Trip Flare, (FUZED, UNFIRED) | 4-Jan-08 | 1050 | 5059831.08 | 545472.37 | J-15 | 11-Jan-08 | MKM-CB-004 | 8140.01 | 1 |
| MEC-177 | 2.36-inch Rocket (FIRED, FUZED) | 4-Jan-08 | 1555 | 5059901 | 545593.28 | K-15 | 10-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-178 | 2.36-inch Rocket (FIRED, FUZED) | 8-Jan-08 | 1010 | 5060180.41 | 546084.90 | N-17 | 10-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-179 | 2.36-inch Rocket (FIRED, FUZED) | 8-Jan-08 | 1022 | 5060191.87 | 546086.74 | N-17 | 10-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-180 | 2.36-inch Rocket (FIRED, FUZED) | 8-Jan-08 | 1126 | 5060144.66 | 546074.38 | N-17 | 10-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-181 | 2.36-inch Rocket (FIRED, FUZED) | 8-Jan-08 | 1144 | 5060144.81 | 546061.27 | N-17 | 10-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-182 | 2.36-inch Rocket (FIRED, FUZED) | 8-Jan-08 | 1149 | 5060213.43 | 546069.00 | N-17 | 10-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-183 | 2.36-inch Rocket (FIRED, FUZED) | 10-Jan-08 | 0850 | 5060288.83 | 546246.65 | P-17 | 11-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-184 | 2.36-inch Rocket (FIRED, FUZED) | 11-Jan-08 | 0830 | 5060326.21 | 546392.62 | Q-18 | 11-Jan-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-185 | Rifle Grenade (FIRED, FUZED) | 11-Jan-08 | 1350 | 5060370.3 | 546313.61 | P-18 | 14-Jan-08 | MKM-CB-004 | 8140.01 | 1 |
| MEC-186 | Rifle Grenade (FIRED, FUZED) | 11-Jan-08 | 1358 | 5060380.94 | 546312.48 | P-18 | 14-Jan-08 | MKM-CB-004 | 8140.01 | 1 |
| MEC-187 | Rifle Grenade (FIRED, FUZED) | 11-Jan-08 | 1400 | 5060395.2 | 546326.33 | P-18 | 14-Jan-08 | MKM-CB-004 | 8140.01 | 1 |
| MEC-188 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 14-Jan-08 | 1500 | 5060754.5 | 546596.14 | R-20 | 6-Feb-08 | MKM-CB-007 | 8140.01 | 1 |
| MEC-213 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Jan-08 | 1144 | 5060715.67 | 546180.24 | O-20 | 6-Feb-08 | MKM-CB-007 | 8140.01 | 1 |
| MEC-215 | 2.36-inch Rocket (FIRED, FUZED) | 22-Jan-08 | 1033 | 5060603.21 | 546070.98 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-216 | 2.36-inch Rocket (FIRED, FUZED) | 22-Jan-08 | 1035 | 5060601.35 | 546057.64 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-218 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 0838 | 5060652.24 | 546025.609 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-219 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 0909 | 5060616.488 | 545946.538 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-220 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 0910 | 5060614.698 | 545949.212 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-221 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 1033 | 5060599.033 | 545955.303 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-222 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 1141 | 5060592.675 | 545962.678 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-223 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 1354 | 5060576.867 | 545976.05 | N-19 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-224 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 1409 | 5060579.487 | 545979.975 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-225 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 1424 | 5060601.915 | 545991.032 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-226 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 1533 | 5060601.647 | 546006.759 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-227 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 1536 | 5060599.362 | 546046.123 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-228 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 1555 | 5060597.006 | 546011.411 | N-20 | 4-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-229 | 2.36-inch Rocket (FIRED, FUZED) | 23-Jan-08 | 1615 | 5060573.671 | 545980.318 | N-19 | 5-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-231 | 2.36-inch Rocket (FIRED, FUZED) | 24-Jan-08 | 0815 | 5060598.72 | 546046.99 | N-20 | 5-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-232 | 2.36-inch Rocket (FIRED, FUZED) | 24-Jan-08 | 0847 | 5060597.31 | 546044 | N-20 | 5-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-234 | 2.36-inch Rocket (FIRED, FUZED) | 24-Jan-08 | 0912 | 5060584.6 | 546015.46 | N-19 | 5-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-235 | 2.36-inch Rocket (FIRED, FUZED) | 24-Jan-08 | 0915 | 5060582.43 | 546018.41 | N-19 | 5-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-236 | 2.36-inch Rocket (FIRED, FUZED) | 24-Jan-08 | 0933 | 5060561.75 | 546004.83 | N-19 | 5-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-237 | 2.36-inch Rocket (FIRED, FUZED) | 24-Jan-08 | 1118 | 5060566.12 | 546044.28 | N-19 | 5-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-238 | 2.36-inch Rocket (FIRED, FUZED) | 24-Jan-08 | 1136 | 5060572.92 | 546050.21 | N-19 | 5-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-239 | 2.36-inch Rocket (FIRED, FUZED) | 24-Jan-08 | 1143 | 5060580.02 | 546050.54 | N-19 | 5-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-240 | 2.36-inch Rocket (FIRED, FUZED) | 24-Jan-08 | 1150 | 5060583.17 | 546062.72 | N-19 | 5-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-241 | 2.36-inch Rocket (FIRED, FUZED) | 28-Jan-08 | 0935 | 5060551.8 | 546078.39 | N-19 | 5-Feb-08 | MKM-CB-001 | 8140.01 | 1 |
| MEC-242 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 29-Jan-08 | 1130 | 5060432.2 | 545635.02 | L-19 | 6-Feb-08 | MKM-CB-007 | 8140.01 | 1 |
| MEC-243 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Jan-08 | 1546 | 5060332.237 | 545611.553 | K-18 | 6-Feb-08 | MKM-CB-007 | 8140.01 | 1 |
| MEC-244 | Smoke Grenade (UNFIRED, FUZED) | 31-Jan-08 | 0930 | 5058518.445 | 545009.218 | G-6 | 6-Feb-08 | MKM-CB-004 | 8140.02 | 1 |
| MEC-252 | 3-inch Stokes Mortar (FIRED, FUZED) | 12-Mar-08 | 1201 | 5059107.5 | 545219.99 | I-10 | 18-Mar-08 | MKM-CB-007 | 8140.01 | 1 |
| MEC-255 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Mar-08 | 0911 | 5058187.527 | 544625.297 | D-4 | 18-Mar-08 | MKM-CB-007 | 8140.02 | 1 |
| MEC-256 | Trip Flare, M49 (UNARMED, FUZED) | 26-Mar-08 | 1100 | 5059781.254 | 544879.181 | F14-25 | 1-Apr-08 | Destroyed during Demo | 8140.02 | 1 |
| MEC-261 | 3-inch Stokes Mortar (8ea), 2.36" Rocket (FIRED, FUZED) | 15-Apr-08 | 0830 | 5059360.941 | 544781.242 | F12-2 | 17-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-262 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Apr-08 | 0815 | 5059352.769 | 544783.173 | F12-2 | 17-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-264 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 16-Apr-08 | 1617 | 5059426.954 | 544819.335 | F12-18 | 30-Apr-08 | MKM-CB-010 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-265 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 16-Apr-08 | 1619 | 5059455.659 | 544829.892 | F12-18 | 30-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-267 | 37mm Projectile (FIRED, FUZED) | 16-Apr-08 | 1407 | 5059407.609 | 544790.672 | F12-12 | 17-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-269 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Apr-08 | 1040 | 5059464.354 | 544722 | E12-25 | 30-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-270 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Apr-08 | 0822 | 5059398.593 | 544744.041 | E12-15 | 30-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-271 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Apr-08 | 0828 | 5059402.125 | 544737.115 | E12-15 | 30-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-272 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Apr-08 | 0829 | 5059403.943 | 544739.361 | E12-15 | 30-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-273 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-Apr-08 | 0817 | 5059327.573 | 544964.069 | G11-22 | 30-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-274 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-Apr-08 | 0813 | 5059330.262 | 544963.069 | G11-22 | 30-Apr-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-275 | M9 Rifle Grenade (FIRED, FUZED) | 30-Apr-08 | 1235 | 5060075.921 | 545346.447 | J16_16 | 1-May-08 | MKM-CB-004 | 8140.02 | 1 |
| MEC-276 | Smoke Grenade (FUZED) | 30-Apr-08 | 1240 | 5060086.056 | 545355.454 | J16_16 | 1-May-08 | MKM-CB-004 | 8140.02 | 1 |
| MEC-277 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-May-08 | 1130 | 5059341.83 | 545282.56 | I12-03 | 21-May-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-279 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-May-08 | 1044 | 5059190.22 | 545161.48 | H10_24 | 30-May-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-281 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 29-May-08 | 1433 | 5059279.859 | 545123.473 | H11_13 | 30-May-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-282 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 29-May-08 | 1338 | 5059229.942 | 545098.609 | H11_07 | 30-May-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-283 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 29-May-08 | 1019 | 5059194.803 | 545122.048 | H11_03 | 30-May-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-284 | 37 mm HE (FIRED, FUZED) | 29-May-08 | 1045 | 5059209.339 | 545134.71 | H11_03 | 30-May-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-285 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-May-08 | 1415 | 5059412.63 | 545192.01 | H12_15 | 30-May-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-286 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-May-08 | 0858 | 5059293.39 | 545118.62 | H11_18 | 9-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-287 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-May-08 | 1346 | 5059384.09 | 545205.41 | H12_10 | 10-Jun-08 | MKM-CB-010 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-288 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Jun-08 | 0832 | 5059382.23 | 545148.18 | H12_09 | 10-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-289 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Jun-08 | 0856 | 5059388.09 | 545160.41 | H12_09 | 10-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-290 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Jun-08 | 0859 | 5059389.09 | 545162.25 | H12_09 | 10-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-293 | Slap Flare (FUZED,UNFIRED) | 11-Jun-08 | 1206 | 5059323.91 | 544703.64 | E12-04 | 18-Jun-08 | MKM-CB-004 | 8140.02 | 1 |
| MEC-301 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jun-08 | 1109 | 5059273.8 | 545084.54 | H11-12 | 18-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-302 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 16-Jun-08 | 0920 | 5059255.34 | 545216.12 | I11-06 | 18-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-303 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 16-Jun-08 | 0916 | 5059246.55 | 545224.01 | I11-06 | 18-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-304 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 16-Jun-08 | 0917 | 5059243.04 | 545222.13 | I11-06 | 18-Jun-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-306 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jun-08 | 0850 | 5059242.598 | 545203.475 | H11-10 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-307 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jun-08 | 0850 | 5059230.64 | 545202.674 | H11-10 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-308 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jun-08 | 1112 | 5059344.572 | 545198.036 | H11-25 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-309 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jun-08 | 1114 | 5059342.391 | 545178.158 | H11-25 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-310 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jun-08 | 1151 | 5059320.179 | 545170.485 | H11-24 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-311 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jun-08 | 1202 | 5059330.116 | 545162.851 | H11-24 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-312 | 3-inch Stokes Fuze | 26-Jun-08 | 1209 | 5059340.631 | 545152.505 | H11-24 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-313 | 37mm Projectile (FIRED, FUZED) | 30-Jun-08 | 1040 | 5059170.414 | 545188.648 | H10-25 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-314 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 0842 | 5059154.767 | 545255.344 | I10-17 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-315 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 0908 | 5059156.74 | 545265.812 | I10-17 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-316 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 0926 | 5059164.425 | 545248.117 | I10-17 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-317 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 1332 | 5059347.268 | 545202.91 | H12-05 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-318 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 1337 | 5059361.758 | 545179.847 | H12-05 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-319 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 1348 | 5059353.832 | 545196.318 | H12-05 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-320 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 1353 | 5059355.95 | 545200.307 | H12-05 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-321 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 1408 | 5059365.564 | 545201.61 | H12-05 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-322 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 1412 | 5059364.234 | 545196.11 | H12-05 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-323 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 1531 | 5059361.556 | 545161.857 | H12-04 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-324 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Jul-08 | 0850 | 5059359.238 | 545216.926 | I12-01 | 9-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-325 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 10-Jul-08 | 1230 | 5059285.986 | 545216.669 | I11-16 | 22-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-326 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Jul-08 | 1345 | 5059828.887 | 544826.683 | F15-09 | 22-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-327 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-Jul-08 | 0710 | 5059452.543 | 544755.533 | F12-16 | 22-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-328 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-Jul-08 | 0720 | 5059448.26 | 544765.886 | F12-16 | 22-Jul-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-329 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 23-Jul-08 | 0640 | 5059506.227 | 544807.011 | F13-03 | 7-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-330 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 23-Jul-08 | 0746 | 5059515.007 | 544792.246 | F13-02 | 7-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-331 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 23-Jul-08 | 1420 | 5059431.259 | 544711.569 | E12-19 | 7-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-332 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 23-Jul-08 | 1440 | 5059424.948 | 544689.676 | E12-19 | 7-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-333 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 29-Jul-08 | 1300 | 5059584.252 | 544745.777 | F13-16 | 7-Aug-08 | MKM-CB-010 | 8140 | 1 |
| MEC-334 | 2.36" Rocket (FIRED, FUZED) | 4-Aug-08 | 0920 | 5060617.094 | 546037.474 | N20-04 | 7-Aug-08 | MKM-CB-008 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-335 | 2.36" Rocket (FIRED, FUZED) | 4-Aug-08 | 0930 | 5060598.962 | 546042.304 | N20-04 | 7-Aug-08 | MKM-CB-008 | 8140.02 | 1 |
| MEC-336 | 2.36" Rocket (FIRED, FUZED) | 4-Aug-08 | 1000 | 5060599.762 | 546071.507 | N20-05 | 7-Aug-08 | MKM-CB-008 | 8140.02 | 1 |
| MEC-337 | 2.36" Rocket (FIRED, FUZED) | 6-Aug-08 | 0945 | 5060588.177 | 545991.309 | N19-23 | 7-Aug-08 | MKM-CB-008 | 8140.02 | 1 |
| MEC-338 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Aug-08 | 1019 | 5060170.566 | 545326.407 | J17-06 | 14-Aug-08 | MKM-CB-010 | 8140 | 1 |
| MEC-339 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0700 | 5059346.026 | 544922.778 | G12-01 | 27-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-340 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0730 | 5059341.241 | 544933.795 | G12-02 | 27-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-341 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0730 | 5059347.486 | 544938.048 | G12-02 | 27-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-342 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0735 | 5059348.872 | 544943.778 | G12-02 | 27-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-343 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0747 | 5059341.777 | 544940.337 | G12-02 | 27-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-344 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0752 | 5059341.525 | 544962.517 | G12-02 | 27-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-345 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0833 | 5059299.579 | 544937.645 | G11-17 | 27-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-346 | 3-inch Stokes Mortar (FIRED, FUZED) | 20-Aug-08 | 0820 | 5059283.666 | 544955.057 | G11-17 | 21-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-347 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0845 | 5059294.539 | 544961.734 | G11-17 | 27-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-348 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0854 | 5059282.491 | 544957.595 | G11-17 | 27-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-349 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0905 | 5059282.67 | 544961.944 | G11-17 | 27-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-350 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0903 | 5059297.519 | 544939.186 | G11-17 | 27-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-351 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Aug-08 | 0700 | 5058199.79 | 544514.38 | D4-17 | 21-Aug-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-353 | 2.36" Rocket (FIRED, FUZED) | 26-Aug-08 | 1500 | 5058463.264 | 544630.455 | D6 | 27-Aug-08 | MKM-CB-008 | 8140.03 | 1 |
| MEC-354 | 2.36" Rocket (FIRED, FUZED) | 27-Aug-08 | 1400 | 5058455.112 | 544627.473 | D6 | 28-Aug-08 | MKM-CB-008 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-356 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 28-Aug-08 | 1429 | 5058394.185 | 544907.666 | F05-25 | 17-Sep-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-357 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 28-Aug-08 | 1435 | 5058394.241 | 544907.654 | F05-25 | 17-Sep-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-358 | M69 Practice Hand Grenade (FUZED, UNARMED) | 5-Sep-08 | 800 | 5058734.37 | 545070.311 | G08-05 | 17-Sep-08 | MKM-CB-004 | 8140.02 | 1 |
| MEC-359 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 8-Sep-08 | 1000 | 5059251.428 | 544977.344 | G11-13 | 17-Sep-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-360 | M49 Trip Flare (FUZED, UNARMED) | 8-Sep-08 | 1029 | 5058786.972 | 545054.732 | G08-10 | 17-Sep-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-361 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 8-Sep-08 | 1027 | 5059303.535 | 544980.722 | G11-18 | 17-Sep-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-362 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 8-Sep-08 | 1028 | 5059303.535 | 544980.722 | G11-18 | 17-Sep-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-363 | M18 Smoke Grenade (FUZED, UNARMED) | 9-Sep-08 | 1030 | 5058856.94 | 545080.44 | H08-21 | 17-Sep-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-364 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 10-Sep-08 | 1042 | 5059353.608 | 544963.698 | G12-03 | 17-Sep-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-365 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 10-Sep-08 | 1330 | 5059389.144 | 544976.258 | G12-08 | 17-Sep-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-368 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 24-Sep-08 | 745 | 5059464.17 | 544754.6 | F12-21 | 1-Oct-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-369 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 24-Sep-08 | 753 | 5059478.78 | 544758.79 | F12-21 | 1-Oct-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-370 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 24-Sep-08 | 758 | 5059482.18 | 544760.62 | F12-21 | 1-Oct-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-371 | M1 105mm HE Projectile (UNFIRED, UNFUZED) | 24-Sep-08 | 1545 | 5060327.27 | 545621.87 | K18-10 | 1-Oct-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-394 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 8-Oct-08 | 1600 | 5058148 | 544284.61 | B-4 | 13-Oct-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-398 | M18 Smoke Grenade (FUZED, UNARMED) | 14-Oct-08 | 1300 | 5058073.25 | 544634.32 | D-3 | 21-Oct-08 | MKM-CB-004 | 8140.02 | 1 |
| MEC-400 | 37mm Projectile, (FUZED, UNFIRED) | 16-Oct-08 | 1058 | 5058146.071 | 544737.194 | E-4 | 16-Oct-08 | MKM-CB-010 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-401 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 16-Oct-08 | 1200 | 5058153.226 | 544645.78 | E-4 | 16-Oct-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-402 | 37mm Projectile, (FUZED, UNFIRED) | 20-Oct-08 | 806 | 5058202.46 | 544734.86 | E-4 | 20-Oct-08 | MKM-CB-010 | 8140.02 | 1 |
| MEC-404 | 2.36" Rocket (FIRED, FUZED) | 21-Oct-08 | 1400 | 5058289.7 | 544705.08 | E-5 | 22-Oct-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-407 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-Oct-08 | 1600 | 5058344.27 | 544714.08 | E-5 | 23-Oct-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-420 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Nov-08 | 1320 | 5059432.51 | 545107.14 | H-12 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-421 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Nov-08 | 1340 | 5059468.81 | 545094.17 | H-12 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-422 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Nov-08 | 830 | 5059501.43 | 545074.51 | H-13 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-423 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Nov-08 | 900 | 5059580.05 | 545078.48 | H-13 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-424 | 37mm CS Rocket (FIRED, UNFUZED) | 3-Nov-08 | 1020 | 5059524.86 | 545067.05 | H-13 | 6-Nov-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-425 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 4-Nov-08 | 800 | 5059429.69 | 544920.11 | G-12 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-426 | Slap Flare (FUZED,UNFIRED) | 4-Nov-08 | 1600 | 5059628.62 | 545111.86 | H-13 | 6-Nov-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-427 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Nov-08 | 900 | 5059555.44 | 545128.37 | H-13 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-428 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Nov-08 | 1100 | 5059541.37 | 545138.59 | H-13 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-429 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Nov-08 | 1330 | 5059446.33 | 545135.41 | H-12 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-430 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Nov-08 | 1400 | 5059575.8 | 545152.25 | H-13 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-431 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Nov-08 | 900 | 5059591.88 | 545180.9 | H-13 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-432 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Nov-08 | 1000 | 5059597.16 | 545190.92 | H-13 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-433 | 105mm Subcaliber (FIRED, FUZED) | 6-Nov-08 | 1010 | 5059549.01 | 545178.24 | H-13 | 6-Nov-08 | MKM-CB-014 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-434 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Nov-08 | 1030 | 5059561.36 | 545181.73 | H-13 | 6-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-435 | Slap Flare (FUZED,UNFIRED) | 10-Nov-08 | 835 | 5059495.96 | 545229.18 | I-12 | 20-Nov-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-436 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 10-Nov-08 | 1415 | 5059363.14 | 545276.25 | I-12 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-437 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Nov-08 | 1130 | 5058827.52 | 545134.81 | H-8 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-438 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1000 | 5058921.351 | 545155.162 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-439 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1015 | 5058916.849 | 545155.319 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-441 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1040 | 5058907.657 | 545157.508 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-442 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1100 | 5058967.314 | 545125.057 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-443 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1120 | 5058975.02 | 545127.22 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-444 | M18 Smoke Grenade Fuze (UNARMED) | 13-Nov-08 | 1125 | 5058988.066 | 545130.234 | H-9 | 20-Nov-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-445 | M73 35mm LAW Subcaliber (FIRED, FUZED) | 17-Nov-08 | 1030 | 5059014.1 | 544952.09 | G-9 | 20-Nov-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-446 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Nov-08 | 1400 | 5059027.3 | 545054.1 | G-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-447 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Nov-08 | 1425 | 5058932.4 | 545051.5 | G-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-449 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 800 | 5059033.769 | 545106.753 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-450 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 839 | 5059013.642 | 545104.197 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-451 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 844 | 5059026.388 | 545102.907 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-452 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 845 | 5059023.047 | 545101.814 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-453 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 910 | 5058993.299 | 545112.886 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-454 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 944 | 5059017.312 | 545108.346 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-455 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1000 | 5059016.257 | 545115.526 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-456 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1015 | 5059002.967 | 545110.679 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-457 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1030 | 5058998.721 | 545120.362 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-458 | 37mm Projectile Fuze | 18-Nov-08 | 1100 | 5058944.232 | 545097.767 | H-9 | 20-Nov-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-459 | 37mm Projectile (FIRED, FUZED) | 18-Nov-08 | 1110 | 5058943.446 | 545098.157 | H-9 | 20-Nov-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-460 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1230 | 5058935.369 | 545121.935 | H-9 | 20-Nov-08 | MKM-CB-012 | 8140.02 | 1 |
| MEC-461 | M73 35mm LAW Subcaliber (FIRED, FUZED) | 19-Nov-08 | 1415 | 5059074.05 | 544917.81 | G-10 | 20-Nov-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-462 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Dec-08 | 1120 | 5059155.12 | 545045.32 | G-10 | 11-Dec-08 | MKM-CB-013 | 8140.02 | 1 |
| MEC-463 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Dec-08 | 1222 | 5059120.34 | 545059.15 | G-10 | 11-Dec-08 | MKM-CB-013 | 8140.02 | 1 |
| MEC-464 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Dec-08 | 1235 | 5059119.19 | 545054..08 | G-10 | 11-Dec-08 | MKM-CB-013 | 8140.02 | 1 |
| MEC-465 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Dec-08 | 1410 | 5059039.71 | 545062.88 | G-10 | 11-Dec-08 | MKM-CB-013 | 8140.02 | 1 |
| MEC-466 | 2.36" Rocket (FIRED, FUZED) | 2-Dec-08 | 1100 | 5060186.87 | 546090.54 | N-17 | 2-Dec-08 | MKM-CB-014 | 8140.01 | 1 |
| MEC-467 | 3-inch Stokes Mortar (FIRED, FUZED) | 3-Dec-08 | 1210 | 5059553.3 | 545202.63 | I-13 | 4-Dec-08 | MKM-CB-013 | 8140.02 | 1 |
| MEC-468 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Dec-08 | 1430 | 5059608.43 | 545228.29 | I-13 | 4-Dec-08 | MKM-CB-013 | 8140.02 | 1 |
| MEC-469 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 4-Dec-08 | 855 | 5059574.53 | 545285.91 | I-13 | 4-Dec-08 | MKM-CB-013 | 8140.02 | 1 |
| MEC-470 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 9-Dec-08 | 1050 | 5059611.67 | 545396.52 | J-13 | 11-Dec-08 | MKM-CB-013 | 8140.02 | 1 |
| MEC-471 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Dec-08 | 921 | 5059423.3 | 544728.94 | E-12 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-472 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Dec-08 | 1237 | 5059475.08 | 544664.94 | E-12 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-473 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Dec-08 | 1240 | 5059476.66 | 544676.07 | E-12 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-474 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Dec-08 | 1420 | 5059468.16 | 544681.58 | E-12 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-475 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Dec-08 | 1424 | 5059472.11 | 544684.62 | E-12 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-476 | MK1 Mod2 Illumination Grenade (FUZED, UNARMED) | 15-Dec-08 | 1500 | 5059401.53 | 544663.82 | E-12 | 7-Jan-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-478 | M-9 Rifle Grenade (FIRED, FUZED) | 16-Dec-08 | 925 | 5059359.42 | 544664.09 | E-12 | 7-Jan-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-480 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 16-Dec-08 | 1241 | 5059294.66 | 544715.3 | E-11 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-481 | M49 Trip Flare (FUZED, ARMED) | 16-Dec-08 | 1415 | 5059217.23 | 544743.07 | E-11 | 7-Jan-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-482 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Dec-08 | 1056 | 5059276.48 | 544900.38 | F-11 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-485 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Dec-08 | 1050 | 5059259.64 | 544769.65 | F-11 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-486 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Dec-08 | 1110 | 5059260.63 | 544774.17 | F-11 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-487 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Jan-09 | 900 | 5059068.46 | 545086.63 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-488 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Jan-09 | 935 | 5059098.02 | 545083 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-489 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Jan-09 | 1000 | 5059157.46 | 545064.96 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-490 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Jan-09 | 1040 | 5059176.54 | 545099.58 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-491 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Jan-09 | 1110 | 5059184.99 | 545069.8 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-492 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Jan-09 | 1150 | 5059142.49 | 545098.93 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-493 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Jan-09 | 1155 | 5059186.28 | 545111.76 | H-10 | 7-Jan-08 | MKM-CB-013 | 8140.02 | 1 |
| MEC-494 | MK13 Flare (FUZED, UNARMED) | 5-Jan-09 | 1330 | 5059090.06 | 545100.98 | H-10 | 7-Jan-08 | MKM-CB-014 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-495 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Jan-09 | 1420 | 5059113.03 | 545109.31 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-496 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Jan-09 | 1425 | 5059097.29 | 545099.19 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-497 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Jan-09 | 1440 | 5059105.94 | 545098.11 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-498 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Jan-09 | 1518 | 5059108.68 | 545112.26 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-499 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Jan-09 | 850 | 5059089.67 | 545142.88 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-500 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Jan-09 | 900 | 5059095.54 | 545142.75 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-501 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Jan-09 | 905 | 5059080.52 | 545143.17 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-502 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Jan-09 | 915 | 5059098.1 | 545135.36 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-503 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Jan-09 | 920 | 5059099.22 | 545125.81 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-504 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Jan-09 | 1220 | 5059100.91 | 545145.15 | H-10 | 7-Jan-08 | MKM-CB-016 | 8140.02 | 1 |
| MEC-506 | M9 Rifle Grenade (FIRED, FUZED) | 8-Jan-09 | 930 | 5059370.6 | 544646.43 | E-12 | 8-Jan-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-507 | M9 Rifle Grenade (FIRED, FUZED) | 8-Jan-09 | 1100 | 5059355.8 | 544642.53 | E-12 | 8-Jan-08 | MKM-CB-014 | 8140.02 | 1 |
| MEC-509 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 8-Jan-09 | 1530 | 5059215.73 | 544752.44 | E-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-510 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 856 | 5059242.51 | 544978.15 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-511 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1106 | 5059323.74 | 544975.63 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-512 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1114 | 5059309.31 | 544985.2 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-513 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1119 | 5059320.1 | 544988.44 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-514 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1122 | 5059331.35 | 544984.27 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-515 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1140 | 5059290.38 | 544929.34 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-516 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1150 | 5059308.46 | 544920.16 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-517 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1152 | 5059309.5 | 544926.3 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-518 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1154 | 5059301.97 | 544926.95 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-519 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1155 | 5059320.3 | 544920.25 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-520 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1200 | 5059318.48 | 544923.65 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-521 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1201 | 5059308.14 | 544923.2 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-522 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1202 | 5059295.89 | 544919.78 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-523 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1203 | 5059296.87 | 544924.24 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-524 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1206 | 5059334.71 | 544912.69 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-525 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1207 | 5059312.2 | 544910.06 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-526 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1208 | 5059320.26 | 544904.6 | G-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-527 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1408 | 5059227.61 | 545066.31 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-528 | M744 Mortar Subcal (FUZED, FIRED) | 12-Jan-09 | 1409 | 5059210.64 | 545063.67 | H-11 | 13-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-529 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1410 | 5059196.46 | 545059.64 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-530 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1414 | 5059198.37 | 545065.04 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-531 | M744 Mortar Subcal (FUZED, FIRED) | 12-Jan-09 | 1418 | 5059202.99 | 545062.8 | H-11 | 13-Jan-09 | MKM-CB-014 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-532 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1430 | 5059214.61 | 545073.16 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-533 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1431 | 5059239.1 | 545075.55 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-534 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1433 | 5059240.09 | 545081.3 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-535 | 3-inch Stokes Mortar Fuze (ARMED) | 12-Jan-09 | 1440 | 5059223.14 | 545072.51 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-536 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jan-09 | 1450 | 5059244.89 | 545077.18 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-537 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Jan-09 | 750 | 5059254.59 | 545078.68 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-539 | M744 Mortar Subcal (FUZED, FIRED) | 13-Jan-09 | 810 | 5059266.47 | 545087.57 | H-11 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-540 | M744 Mortar Subcal (FUZED, FIRED) | 13-Jan-09 | 815 | 5059270.78 | 545080.43 | H-11 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-541 | 3-inch Stokes Mortar Fuze (ARMED) | 13-Jan-09 | 815 | 5059259.09 | 545098.17 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-542 | M744 Mortar Subcal (FUZED, FIRED) | 13-Jan-09 | 820 | 5059257.6 | 545076.87 | H-11 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-543 | M744 Mortar Subcal (FUZED, FIRED) | 13-Jan-09 | 825 | 5059263.49 | 545078.02 | H-11 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-544 | M744 Mortar Subcal (FUZED, FIRED) | 13-Jan-09 | 840 | 5059281.85 | 545082.64 | H-11 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-546 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Jan-09 | 930 | 5059325.25 | 545095.93 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-547 | 37mm Projectile (FIRED, FUZED) | 13-Jan-09 | 950 | 5059301.91 | 545110.53 | H-11 | 13-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-548 | M744 Mortar Subcal (FUZED, FIRED) | 13-Jan-09 | 955 | 5059331.49 | 545104.21 | H-11 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-549 | M744 Mortar Subcal (FUZED, FIRED) | 13-Jan-09 | 1000 | 5059311.86 | 545101.07 | H-11 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-550 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Jan-09 | 1100 | 5059335.63 | 545108.9 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-551 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Jan-09 | 1305 | 5059247.79 | 545166.76 | H-11 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-552 | 37mm Projectile (FIRED, FUZED) | 13-Jan-09 | 1400 | 5059227.7 | 545154.54 | H-11 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-553 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 14-Jan-09 | 930 | 5059537.49 | 544608.3 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-554 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 14-Jan-09 | 940 | 5059569.56 | 544595.07 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-555 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 14-Jan-09 | 1005 | 5059549.58 | 544618.26 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-557 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Jan-09 | 1155 | 5059562.56 | 544652.67 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-558 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Jan-09 | 1200 | 5059530.59 | 544659.12 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-559 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Jan-09 | 1200 | 5059545.24 | 544666.33 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-560 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Jan-09 | 1205 | 5059518.26 | 544679.13 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-561 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Jan-09 | 1210 | 5059514.3 | 544668.6 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-562 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Jan-09 | 1430 | 5059514.73 | 544654.16 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-563 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Jan-09 | 1500 | 5059517.63 | 544639.95 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-564 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 19-Jan-09 | 800 | 5059549.02 | 544631 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-565 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 19-Jan-09 | 1530 | 5059553.27 | 544642.05 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-566 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 19-Jan-09 | 1545 | 5059554.26 | 544646.8 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-567 | Grenade Fuze (UNARMED) | 20-Jan-09 | 1516 | 5059532.56 | 544690.88 | E-13 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-568 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Jan-09 | 1528 | 5059527.45 | 544702.54 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-569 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Jan-09 | 1540 | 5059519.52 | 544705.6 | E-13 | 21-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-570 | Slap Flare (FUZED, UNFIRED) | 21-Jan-09 | 745 | 5059590.71 | 544683.03 | E-13 | 21-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-571 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Jan-09 | 1610 | 5059519.67 | 544742.46 | E-13 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-572 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jan-09 | 750 | 5059526.14 | 544771.97 | F-13 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-573 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jan-09 | 820 | 5059584.19 | 544753 | F-13 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-574 | Slap Flare (FUZED, UNFIRED) | 26-Jan-09 | 910 | 5059584.62 | 544752.59 | F-13 | 29-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-575 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jan-09 | 920 | 5059584.52 | 544747.63 | F-13 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-576 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jan-09 | 921 | 5059582.65 | 544746.62 | F-13 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-577 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jan-09 | 925 | 5059579.51 | 544746.71 | F-13 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-578 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jan-09 | 935 | 5059582.46 | 544746.22 | F-13 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-579 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jan-09 | 940 | 5059581.35 | 544744.61 | F-13 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-580 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jan-09 | 950 | 5059579.05 | 544744.06 | F-13 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-581 | M-18 Smoke Grenade (FUZED, UNARMED) | 26-Jan-09 | 1400 | 5059566.52 | 544803.26 | F-13 | 29-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-582 | M-8 Practice Landmine (Smoke Charge Intact) | 26-Jan-09 | 1610 | 5059565.44 | 544822.62 | F-13 | 29-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-583 | M-8 Practice Landmine (Smoke Charge Intact) | 27-Jan-09 | 800 | 5059596.04 | 544831.05 | F-13 | 29-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-584 | M-8 Practice Landmine (Smoke Charge Intact) | 27-Jan-09 | 900 | 5059587.07 | 544820.16 | F-13 | 29-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-585 | M-8 Practice Landmine (Smoke Charge Intact) | 27-Jan-09 | 1005 | 5059579.92 | 544853.13 | F-13 | 29-Jan-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-587 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 28-Jan-09 | 1320 | 5059180.95 | 544839.58 | F-10 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-589 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 28-Jan-09 | 1600 | 5059178.36 | 544795.99 | F-10 | 29-Jan-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-590 | 2.36" Rocket (FIRED, FUZED) | 29-Jan-09 | 1300 | 5059107.76 | 544796.28 | F-10 | 3-Feb-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-591 | M-9 Rifle Grenade (FIRED, FUZED) | 3-Feb-09 | 900 | 5059171.56 | 544770.51 | F-10 | 3-Feb-09 | MKM-CB-014 | 8140.02 | 1 |

**Table A-6**
**Summary of MEC Findings**
**Cental Valley Floor (CVF)**
**Environmental Study Area (ESA), 1000" Range and CVF- Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MEC-592 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Feb-09 | 1000 | 5059174.81 | 544772.08 | F-10 | 3-Feb-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-593 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 4-Feb-09 | 1332 | 5059604.72 | 544554.85 | D-13 | 11-Feb-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-594 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Feb-09 | 825 | 5059647.712 | 544498.065 | D-13 | 11-Feb-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-595 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 5-Feb-09 | 1144 | 5059568.238 | 544560.986 | D-14 | 11-Feb-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-596 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 9-Feb-09 | 1345 | 5060114.04 | 545241.53 | I-17 | 11-Feb-09 | MKM-CB-016 | 8140.02 | 1 |
| MEC-597 | 2.36" Rocket (FIRED, FUZED) | 17-Feb-09 | 840 | 5060670.55 | 546051.72 | N-20 | 19-Feb-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-598 | 2.36" Rocket (FIRED, FUZED) | 17-Feb-09 | 1530 | 5060591.31 | 545980.41 | N-20 | 19-Feb-09 | MKM-CB-014 | 8140.02 | 1 |
| MEC-600 | 2.36" Rocket (FIRED, FUZED) | 23-Feb-09 | 1400 | 5060584.71 | 545982.41 | N-19 | 26-Feb-09 | MKM-CB-014 | 8140.02 | 1 |
| | | | | | | | | | SUBTOTAL CVF - UNCLASSIFIED | 397 |
| | | | | | | | | | **GRAND TOTAL** | **423** |

**Table A-7**
**Summary of MEC Findings**
**Western Slopes**
**Dense Vegetation/Moderate Slope**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| Western Slopes | | | | | | | | | | |
| ***Training Area*** | | | | | | | | | | |
| MEC-005 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 10-Apr-07 | 1350 | 545649.000 | 5060468.000 | L-19 | 2-May-07 | MKM-CB-007 | 8146.01 | 1 |
| MEC-006 | 105 mm Shell casing with primer | 30-Apr-07 | 1455 | 5060500.000 | 544827.000 | F-19 | 2-May-07 | MKM-CB-003 | 8146.02 | 1 |
| MEC-066 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Aug-07 | 0857 | 5060961 | 546106 | O-22 | 23-Aug-07 | MKM-CB-007 | 8146.02 | 1 |
| MEC-078 | M9A1 Rifle Grenade (FIRED, FUZED) | 21-Aug-07 | 1245 | 5059131.69 | 544716.33 | E-10 | 23-Aug-07 | MKM-CB-004 | 8146.02 | 1 |
| MEC-162 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Dec-07 | 1540 | 5059114.34 | 544629.99 | F-10 | 20-Dec-07 | MKM-CB-007 | 8140.01 | 1 |
| MEC-305 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 19-Jun-08 | 0700 | 5060958.200 | 545580.510 | K-22 | 19-Jun-08 | MKM-CB-010 | 8143.01 | 1 |
| MEC-366 | 2.36" Rocket (FIRED, FUZED) | 22-Sep-08 | 1400 | 5059366.591 | 544614.934 | E-12 | 23-Sep-08 | MKM-CB-008 | 8140.02 | 1 |
| MEC-406 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-Oct-08 | 1100 | 5060942.160 | 545587.260 | K-22 | 23-Oct-08 | MKM-CB-012 | 8167.02 | 1 |
| | | | | | | | | | **Grand Total** | **8** |

**Table A-8**
**Summary of MEC Findings**
**Wildlife Management Area (WMA)**
**Dense Vegetation/Moderate Slope and R and T Step Outs**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Demilitarization Disposal Date | Disposition | Task # | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| WMA | | | | | | | | | | |
| ***Dense Vegetation/Moderate Slope*** | | | | | | | | | | |
| MEC-003 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 9-Apr-07 | 1000 | 546645.000 | 5061075.000 | R-23 | 2-May-07 | MKM-CB-007 | 8146.01 | 1 |
| MEC-055 | M-18 Smoke Grenade (live) | 19-Jun-07 | 1056 | 5061034.000 | 546640.000 | R-23 | 25-Jun-07 | MKM-CB-004 | 8146.02 | 1 |
| MEC-060 | 37mm Projectile (FIRED, FUZED) | 26-Jun-07 | 1016 | 5058879.600 | 545788.470 | L-8 | 27-Jun-07 | MKM-CB-002 | 8146.02 | 1 |
| MEC-061 | M19 A2 Rifle Grenade, Illumination, Ground, Green Star | 27-Jun-07 | 1330 | 5058345.090 | 546073.420 | N-5 | 28-Jun-07 | MKM-CB-004 | 8146.02 | 1 |
| MEC-120 | 2.36-inch rocket, (FIRED, FUZED) | 5-Dec-07 | 0940 | 5059156.53 | 545311.56 | I-10 | 5-Dec-07 | MKM-CB-001 | 8140.01 | 1 |
| MEC-230 | 105mm smoke projectile, partial (FIRED, UNFUZED) | 23-Jan-08 | 1320 | 5060445.813 | 547256.767 | V-18 | 28-Jan-08 | MKM-CB-002 | 8146.02 | 1 |
| SUBTOTAL DENSE VEGETATION MODERATE SLOPE | | | | | | | | | | 6 |
| ***R&T Step Out*** | | | | | | | | | | |
| MEC-409 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 27-Oct-08 | 0845 | 5061080.280 | 546626.100 | R-23 | 6-Nov-08 | MKM-CB-012 | 8167.02 | 1 |
| MEC-505 | 37mm Projectile (FIRED, FUZED) | 7-Jan-09 | 1230 | 5061046.710 | 546688.060 | R-23 | 8-Jan-08 | MKM-CB-014 | 8167.02 | 1 |
| SUBTOTAL R&T STEP OUT | | | | | | | | | | 2 |
| **Grand Total** | | | | | | | | | | **8** |

**Table B-1**
**Summary of MD Findings**
**Target Areas**
**2.36 Rocket Range, M203 HE Grenade Range, and Hand Grenade (HE) Range**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| TARGET AREAS | | | | | | | | | | |
| ***2.36 Rocket Range*** | | | | | | | | | | |
| MD-068 | Part of a 2.36" rocket (body) empty | 2-May-07 | 1440 | 5059257.000 | 544664.000 | E-11 | MKM-CB-001 | 8146.01 | 5 | 1 |
| MD-069 | Nose cone to a 2.36" rocket (stuck in tree trunk) | 2-May-07 | 1455 | 5059250.000 | 544661.000 | E-11 | Left in Place | 8146.01 | 2 | 1 |
| MD-070 | Nose cone to a 2.36" rocket (stuck in tree trunk) | 2-May-07 | 1455 | 5059250.000 | 544661.000 | E-11 | Left in Place | 8146.01 | 2 | 1 |
| MD-586 | Rifle Grenade Tail Boom | 15-Jan-08 | 0900 | 5059211.000 | 544686.000 | E-11 | MKM-CB-008 | 8140.01 | 6 | 1 |
| MD-588 | 2.36" Rocket Warhead Part | 15-Jan-08 | 1420 | 5059248.000 | 544666.000 | E-11 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-589 | 2.36" Rocket Warhead (EMPTY) | 15-Jan-08 | 1520 | 5059271.000 | 544692.000 | E-11 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-694 | Frag 1"x2" | 10-Mar-08 | 1016 | 5059282.000 | 544684.000 | E-11 | MKM-CB-010 | 8119.02 | 2 | 1 |
| MD-695 | Frag 1"x1" | 10-Mar-08 | 1142 | 5059270.000 | 544693.000 | E-11 | MKM-CB-010 | 8119.02 | 2 | 1 |
| MD-696 | Grenade Spoon | 10-Mar-08 | 1332 | 5059259.000 | 544691.000 | E-11 | MKM-CB-004 | 8119.02 | 6 | 1 |
| MD-699 | Grenade Spoon | 10-Mar-08 | 1507 | 5059254.000 | 544699.000 | E-11 | MKM-CB-004 | 8119.02 | 8 | 1 |
| MD-700 | 2.36" Rocket Nose Cone | 10-Mar-08 | 1516 | 5059266.000 | 544678.000 | E-11 | MKM-CB-008 | 8119.02 | 5 | 1 |
| MD-701 | Slap Flare (EXPENDED) | 10-Mar-08 | 1521 | 5059269.000 | 544675.000 | E-11 | MKM-CB-004 | 8119.02 | 7 | 1 |
| MD-703 | Frag 1"x1" | 11-Mar-08 | 0921 | 5059255.000 | 544672.000 | E-11 | MKM-CB-010 | 8119.02 | 2 | 1 |
| MD-704 | 2.36" Rocket Nose Cone | 11-Mar-08 | 0932 | 5059251.000 | 544667.000 | E-11 | MKM-CB-008 | 8119.02 | 5 | 1 |
| MD-705 | 2.36" Rocket Tail Fin Assembly | 11-Mar-08 | 0935 | 5059250.000 | 544678.000 | E-11 | MKM-CB-008 | 8119.02 | 5 | 1 |
| MD-706 | 2.36" Rocket Nose Cone | 11-Mar-08 | 1001 | 5059242.000 | 544674.000 | E-11 | MKM-CB-008 | 8119.02 | 5 | 1 |
| MD-707 | Frag 2"x2" | 11-Mar-08 | 1020 | 5059252.000 | 544667.000 | E-11 | MKM-CB-010 | 8119.02 | 2 | 1 |
| MD-708 | 2.36" Rocket Warhead | 11-Mar-08 | 1140 | 5059252.000 | 544662.000 | E-11 | MKM-CB-008 | 8119.02 | 5 | 1 |
| MD-709 | 2.36" Rocket Frag | 11-Mar-08 | 1346 | 5059242.000 | 544652.000 | E-11 | MKM-CB-008 | 8119.02 | 5 | 1 |
| MD-710 | 2.36" Rocket Nose Cone | 11-Mar-08 | 1420 | 5059237.000 | 544657.000 | E-11 | MKM-CB-008 | 8119.02 | 5 | 1 |
| MD-711 | Grenade Spoon | 11-Mar-08 | 1433 | 5059230.000 | 544658.000 | E-11 | MKM-CB-004 | 8119.02 | 8 | 1 |
| MD-712 | 2.36" Rocket Nose Cone | 11-Mar-08 | 1446 | 5059231.000 | 544650.000 | E-11 | MKM-CB-008 | 8119.02 | 5 | 1 |
| MD-713 | Frag 2"x2" | 11-Mar-08 | 1448 | 5059232.000 | 544647.000 | E-11 | MKM-CB-010 | 8119.02 | 2 | 1 |
| MD-714 | Frag "1x3" | 12-Mar-08 | 0859 | 5059228.000 | 544640.000 | E-11 | MKM-CB-010 | 8119.02 | 2 | 1 |
| MD-715 | Slap Flare (EXPENDED) | 12-Mar-08 | 0932 | 5059242.000 | 544629.000 | E-11 | MKM-CB-004 | 8119.02 | 2 | 1 |
| MD-716 | Frag (Stokes Fuze) | 12-Mar-08 | 1355 | 5059203.000 | 544614.000 | E-11 | MKM-CB-010 | 8119.02 | 2 | 1 |
| MD-717 | Frag 1"x2" | 12-Mar-08 | 1435 | 5059204.000 | 544600.000 | D-11 | MKM-CB-010 | 8119.02 | 2 | 1 |

**Table B-1**
**Summary of MD Findings**
**Target Areas**
**2.36 Rocket Range, M203 HE Grenade Range, and Hand Grenade (HE) Range**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-718 | 5.56mm Magazine with 20 blanks | 12-Mar-08 | 1446 | 5059195.000 | 544611.000 | E-11 | MKM-CB-009 | 8119.02 | 1 | 1 |
| MD-719 | Frag 1"x1" | 13-Mar-08 | 0944 | 5059188.000 | 544629.000 | E-11 | MKM-CB-010 | 8119.02 | 1 | 1 |
| MD-720 | Frag 1"x1" | 13-Mar-08 | 1000 | 5059172.000 | 544667.000 | E-11 | MKM-CB-010 | 8119.02 | 1 | 1 |
| MD-721 | Grenade Spoon | 13-Mar-08 | 1417 | 5059194.000 | 544657.000 | E-11 | MKM-CB-004 | 8119.02 | 8 | 1 |
| MD-722 | Frag 1"x1" | 13-Mar-08 | 1547 | 5059236.000 | 544692.000 | E-11 | MKM-CB-010 | 8119.02 | 1 | 1 |
| MD-723 | Frag 2"x2" | 13-Mar-08 | 1607 | 5059226.000 | 544677.000 | E-11 | MKM-CB-010 | 8119.02 | 1 | 1 |
| | | | | | | | | | SUBTOTAL 2.36 ROCKET RANGE | 33 |
| | | | | | ***M203 HE Grenade Range*** | | | | | |
| MD-1372 | M73 35mm LAW Sub Caliber | 19-Nov-08 | 1100 | 5059014.140 | 544944.870 | G-9 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1388 | M73 35mm LAW Sub Caliber | 1-Dec-08 | 0933 | 5059149.670 | 545025.150 | G-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1492 | M73 35mm LAW Sub Caliber | 12-Jan-09 | 0839 | 5059222.690 | 544994.920 | G-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1493 | 14.5mm Sub Caliber | 12-Jan-09 | 0840 | 5059232.710 | 544997.100 | G-11 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1494 | M73 35mm LAW Sub Caliber | 12-Jan-09 | 0923 | 5059223.960 | 545055.700 | G-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1495 | M73 35mm LAW Sub Caliber | 12-Jan-09 | 0930 | 5059220.360 | 545046.720 | G-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1496 | M73 35mm LAW Sub Caliber | 12-Jan-09 | 1030 | 5059191.160 | 545041.020 | G-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1498 | M73 35mm LAW Sub Caliber | 12-Jan-09 | 1047 | 5059201.250 | 545045.160 | G-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| | | | | | | | | | SUBTOTAL M203 HE GRENADE RANGE | 8 |
| | | | | | ***Hand Grenade HE Range*** | | | | | |
| MD-337 | 2.75" rocket motor (EXPENDED) | 15-Aug-07 | 1020 | 5061381.000 | 546501.000 | Q-25 | MKM-CB-003 | 8146.01 | 5 | 1 |
| | | | | | | | | | SUBTOTAL HAND GRENADE HE RANGE | 1 |
| | | | | | | | | | **GRAND TOTAL** | **42** |

| Legend | |
|---|---|
| **MEC** | Munitions and Explosives of Concern |
| **MD** | Munitions Debris |
| **MKM-CB-001** | 55-gallong drum containing MD |
| ** All listings reported as of February 28, 2009* | |

| MD Categories | |
|---|---|
| **1** | Small Arms and Ammunition |
| **2** | MD fragments |
| **3** | Projectiles |
| **4** | Landmines |
| **5** | Rockets |
| **6** | Grenades |
| **7** | Flares |
| **8** | Fuze spoons |
| **9** | Miscellaneous |

**Table B-2**
**Summary of MD Findings**
**Central Impact Target Area (CITA)**
**Combined Impact Area 1, Combined Impact Area 2 and CITA - General**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| CITA | | | | | | | | | | |
| ***Combined Impact Area 1*** | | | | | | | | | | |
| MD-078 | 1 ea piece of Frag | 10-May-07 | 1455 | 5060031.000 | 547048.000 | U-16 | MKM-CB-003 | 8146.01 | 2 | 1 |
| MD-079 | 18 pieces of Frag including 2 pcs of 81mm tail boom. | 14-May-07 | 900/ 1630 | 5060098/ 547106 | 5060110/ 547430 | CITA | MKM-CB-002 | 8161.01 | 2 | 1 |
| MD-400 | Frag 3" x 6" | 24-Sep-07 | 0930 | 5060055.000 | 547034.000 | U-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-401 | Fuze (EXPENDED) | 24-Sep-07 | 0955 | 5060071.000 | 547095.000 | U-16 | MKM-CB-004 | 8146.01 | 2 | 1 |
| MD-402 | Frag Field 23 Pieces | 24-Sep-07 | 1120 | 5060085.000 | 547099.000 | U-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-403 | Fuze (EXPENDED) | 24-Sep-07 | 1020 | 5060083.000 | 547116.000 | U-16 | MKM-CB-004 | 8146.01 | 2 | 1 |
| MD-404 | 81mm tail boom | 24-Sep-07 | 1055 | 5060093.000 | 547127.000 | U-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-405 | 81mm tail boom | 24-Sep-07 | 1115 | 5060089.000 | 547124.000 | U-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-406 | 81mm tail boom | 24-Sep-07 | 1058 | 5060092.000 | 547133.000 | U-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-407 | 81mm tail boom | 24-Sep-07 | 1115 | 5060090.000 | 547149.000 | U-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-408 | Frag Field 43 Pieces | 24-Sep-07 | 1140 | 5060088.000 | 547131.000 | U-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-410 | Frag Field 23 Pieces | 24-Sep-07 | 1330 | 5060178.000 | 547408.000 | W-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-411 | Frag Field 64 Pieces | 24-Sep-07 | 1450 | 5060182.000 | 547410.000 | W-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| | | | | | | | | | SUBTOTAL COMBINED IMPACT AREA 1 | 13 |
| ***Combined Impact Area 2*** | | | | | | | | | | |
| MD-386 | Frag 1" x 4" | 13-Sep-07 | 1517 | 5060091.000 | 547481.000 | W-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-387 | Frag Field | 13-Sep-07 | 1605 | 5060108.000 | 547449.000 | W-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-412 | Fuze (EXPENDED) | 25-Sep-07 | 0900 | 5059988.000 | 547602.000 | X-15 | MKM-CB-004 | 8146.01 | 2 | 1 |
| MD-413 | Fuze (EXPENDED) | 25-Sep-07 | 0919 | 5059953.000 | 547632.000 | X-15 | MKM-CB-004 | 8146.01 | 2 | 1 |
| MD-414 | Frag Field 109 Pieces | 25-Sep-07 | 0930 | 5059953.000 | 547626.000 | X-15 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-415 | Fuze (EXPENDED) | 25-Sep-07 | 1042 | 5059953.000 | 547648.000 | Y-15 | MKM-CB-004 | 8146.01 | 2 | 1 |
| MD-416 | Frag Field 21 Pieces | 25-Sep-07 | 1200 | 5059833.000 | 547738.000 | Y-15 | MKM-CB-002 | 8146.01 | 2 | 1 |
| | | | | | | | | | SUBTOTAL COMBINED IMPACT AREA 1 | 7 |
| ***CITA - General*** | | | | | | | | | | |
| MD-045 | 7.62 mm cartridges (30 pieces - empty) | 11-Apr-07 | 1420 | 546772.000 | 5060464.000 | L-19 | MKM-CB-005 | 8146.01 | 1 | 1 |

**Table B-2**
**Summary of MD Findings**
**Central Impact Target Area (CITA)**
**Combined Impact Area 1, Combined Impact Area 2 and CITA - General**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-055 | Frag Field (105 & 155 mm) | 12-Jan-07 | 1100 | 5060438/ 541064 | 5060451.129/ 547610.132 | U18, V18, W18, X18 | MKM-CB-002 | 8161.02 | 2 | 1 |
| MD-077 | Practice rifle grenade (empty) | 10-May-07 | 0850 | 5060145.000 | 546703.000 | R-16 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-232 | Slap Flare (EXPENDED) | 1-Jul-07 | 1530 | 5059260.000 | 546917.000 | T-11 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-385 | 105mm Illumination Round (Expended) | 13-Sep-07 | 1506 | 5060112.000 | 547371.000 | W-16 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-397 | Frag Field 4 Pieces | 24-Sep-07 | 0750 | 5060083.000 | 546885.000 | T-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-398 | Frag 3" x 5" | 24-Sep-07 | 0850 | 5060071.000 | 546932.000 | T-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-399 | Frag Field 24 Pieces | 24-Sep-07 | 0940 | 5060063.000 | 547010.000 | T-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-409 | Frag Field 21 Pieces | 24-Sep-07 | 1220 | 5060112.000 | 547316.000 | V-16 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-417 | Frag Field 9 Pieces | 25-Sep-07 | 1435 | 5059770.000 | 547848.000 | Y-14 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-418 | Frag 1" x 5" | 25-Sep-07 | 1500 | 5059819.000 | 547812.000 | Z-14 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-419 | Frag 1" x 5" | 26-Sep-07 | 0850 | 5059745.000 | 547923.000 | AA-13 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-420 | Frag 1" x 6" | 26-Sep-07 | 0910 | 5059653.000 | 548027.000 | AA-13 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-421 | Frag Field 16 Pieces | 26-Sep-07 | 1400 | 5059824.000 | 547782.000 | Y-14 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-441 | Frag 4" x 5" | 1-Nov-07 | 0830 | 5059224.000 | 547439.000 | W-10 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-625 | Frag Field | 23-Jan-08 | 1620 | 5060452.000 | 547837.000 | Z-18 | MKM-CB-006 | 8146.02 | 2 | 1 |
| MD-626 | Frag 6" x 2" | 23-Jan-08 | 1630 | 5060457.000 | 547870.000 | Z-18 | MKM-CB-006 | 8146.02 | 2 | 1 |
| | | | | | | | | | SUBTOTAL CITA | 17 |
| | | | | | | | | | **GRAND TOTAL** | **37** |

| Legend | |
|---|---|
| **MEC** | Munitions and Explosives of Concern |
| **MD** | Munitions Debris |
| **MKM-CB-001** | 55-gallong drum containing MD |
| ** All listings reported as of February 28, 2009* | |

| MD Categories | |
|---|---|
| **1** | Small Arms and Ammunition |
| **2** | MD fragments |
| **3** | Projectiles |
| **4** | Landmines |
| **5** | Rockets |
| **6** | Grenades |
| **7** | Flares |
| **8** | Fuze spoons |
| **9** | Miscellaneous |

**Table B-3**
**Summary of MD Findings**
**Open Burn/Open Demolition (OB/OD)**
**Demolition Area 1/Landfill 4 (DA1/LF4), Stepout, Demolition Areas 2 and 3 (DA2/DA3), Newly Discovered OB/OD Area (northeast of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| OB/OD AREA | | | | | | | | | | |
| ***DA1/LF4*** | | | | | | | | | | |
| MD-001 | 105mm Illumination Round (Expended) | 3-Apr-07 | 0840 | 546573.000 | 5061455.000 | R-27 | Display Board | 8146.01 | 3 | 1 |
| MD-003 | Smoke grenade (yellow smoke) expended | 3-Apr-07 | 1040 | 546552.000 | 5061575.000 | R-26 | Display Board | 8146.01 | 6 | 1 |
| MD-004 | 105mm Shell Casing (empty) | 3-Apr-07 | 1210 | 546573.000 | 5061455.000 | R-25 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-005 | M1A1 Mine Body – Practice type (empty) | 3-Apr-07 | 1220 | 546572.000 | 5061488.000 | R-25 | Display Board | 8146.01 | 4 | 1 |
| MD-006 | Slap flare (expended) | 3-Apr-07 | 1230 | 546573.000 | 5061486.000 | R-25 | Display Board | 8146.01 | 7 | 1 |
| MD-007 | HE Frag Field (Large area with many pieces) | 3-Apr-07 | 0900/1300 | 546547/ 546578 | 5061663/ 5061440 | R-25/ R-26 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-024 | 2 - Slap Flare Shipping Containers (Empty) | 4-Apr-07 | 1428 | 546725.000 | 5061555.000 | S-26 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-025 | High Explosive Bomb Fragment (9-inches long) | 4-Apr-07 | 1431 | 546719.000 | 5061553.000 | S-26 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-026 | Smoke grenade (used) | 4-Apr-07 | 1457 | 546648.000 | 5061532.000 | R-26 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-027 | 81mm Mortar Tail Boom (fragment) | 4-Apr-07 | 1526 | 546584.000 | 5061456.000 | R-25 | MKM-CB-002 | 8146.01 | 3 | 1 |
| MD-028 | 3.5-inch Rocket (Fragment) | 4-Apr-07 | 1531 | 546594.000 | 5061458.000 | R-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-029 | 5-inch artillery (over 50% intact) | 4-Apr-07 | 1539 | 546600.000 | 5061447.000 | R-25 | MKM-CB-002 | 8146.01 | 3 | 1 |
| MD-030 | Frag Field (HE Frag from Demolition Area) | 4-Apr-07 | 1557 | 546622/ 546576 | 5061493/ 5061435 | R-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-031 | Used Blasting cap and wire leads | 4-Apr-07 | 1630 | 546588.000 | 5061434.000 | R-25 | MKM-CB-002 | 8146.01 | 9 | 1 |
| MD-037 | Frag (3" round) | 9-Apr-07 | 0830 | 546564.000 | 5061351.000 | R-24 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-038 | Frag (4" x 3") | 9-Apr-07 | 0845 | 546589.000 | 5061282.000 | R-24 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-039 | Frag (5" x 2") | 9-Apr-07 | 0915 | 546575.000 | 5061345.000 | R-24 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-161 | 75mm HEAP-T (KICK OUT) | 18-Jun-07 | 0932 | 5061369.000 | 546576.000 | R-24 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-162 | Frag | 18-Jun-07 | 0950 | 5061372.000 | 546564.000 | R-24 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-163 | Arming Vane | 18-Jun-07 | 1000 | 5061237.000 | 546598.000 | R-24 | Display Board | 8146.01 | 9 | 1 |

**Table B-3**
**Summary of MD Findings**
**Open Burn/Open Demolition (OB/OD)**
**Demolition Area 1/Landfill 4 (DA1/LF4), Stepout, Demolition Areas 2 and 3 (DA2/DA3), Newly Discovered OB/OD Area (northeast of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-164 | Bomb Fuze ANM 101A1 (EXPENDED) | 18-Jun-07 | 1020 | 5061253.000 | 546581.000 | R-24 | Display Board | 8146.01 | 2 | 1 |
| MD-165 | 2.75 Rocket Warhead (Practice) | 18-Jun-07 | 1025 | 5061250.000 | 546593.000 | R-24 | Display Board | 8146.01 | 5 | 1 |
| MD-166 | CS Grenade (Expended) | 18-Jun-07 | 1030 | 5061268.000 | 546581.000 | R-24 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-167 | Magazine 7.62mm With Blank Ammo | 18-Jun-07 | 0807 | 5061367.000 | 546559.000 | R-24 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-168 | Slap Flare (EXPENDED) | 18-Jun-07 | 0811 | 5061312.000 | 546567.000 | R-24 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-169 | Fuze Spoon | 18-Jun-07 | 0820 | 5061306.000 | 546555.000 | R-24 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-170 | 3.5" Rocket nose (Practice) | 18-Jun-07 | 0825 | 5061279.000 | 546561.000 | R-24 | MKM-CB-003 | 8146.01 | 2 | 1 |
| MD-171 | Large Frag Area | 18-Jun-07 | 0845 | 5061370 / 5061371 | 546570 / 546561 | R-24 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-187 | Frag 1" x 5" | 19-Jun-07 | 1000 | 5061195.000 | 546598.000 | R-23 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-188 | Frag 2" x 3" | 19-Jun-07 | 1005 | 5061195.000 | 546619.000 | R-23 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-189 | Frag 1" x 2" | 19-Jun-07 | 1015 | 5061176.000 | 546624.000 | R-23 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-190 | 3" Stokes Mortar Fuze well | 19-Jun-07 | 1154 | 5061116.000 | 546652.000 | R-23 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-191 | 3" Stokes Mortar (Expended) | 19-Jun-07 | 1250 | 5061119.000 | 546662.000 | R-23 | Display Board | 8146.01 | 3 | 1 |
| MD-192 | Frag 2" x 3" | 19-Jun-07 | 1309 | 5061100.000 | 546646.000 | R-23 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-193 | Frag 3" x 4" | 19-Jun-07 | 1320 | 5061168.000 | 546627.000 | R-23 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-270 | Frag 3" x 5" | 30-Jul-07 | 1325 | 5061506.000 | 546655.000 | R-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-271 | Fuze spoon | 30-Jul-07 | 1326 | 5061507.000 | 546653.000 | R-25 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-272 | Frag 8" x 14" | 30-Jul-07 | 1330 | 5061530.000 | 546666.000 | S-26 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-273 | 3.5” Warhead (Practice) (EXPENDED) | 30-Jul-07 | 1345 | 5061535.000 | 546678.000 | S-26 | MKM-CB-003 | 8146.01 | 5 | 1 |
| MD-274 | Fuze spoon (2ea) | 30-Jul-07 | 1350 | 5061530.000 | 546675.000 | S-26 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-275 | Frag Field | 30-Jul-07 | 1355 | 5061529.000 | 546670.000 | S-26 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-278 | Smoke Grenade (EXPENDED) | 30-Jul-07 | 1505 | 5061539.000 | 546679.000 | S-22 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-279 | Smoke Grenade (EXPENDED) | 30-Jul-07 | 1510 | 5061546.000 | 546703.000 | S-22 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-280 | Frag Field (8 pieces) | 30-Jul-07 | 1515 | 5061539.000 | 546703.000 | S-22 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-281 | Fuze spoon | 30-Jul-07 | 1530 | 5061564.000 | 546799.000 | S-22 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-282 | 2.75" Rocket Frag (Nose Fuze) | 31-Jul-07 | 0830 | 5061539.000 | 546726.000 | S-22 | MKM-CB-003 | 8146.01 | 2 | 1 |
| MD-283 | Frag Field | 31-Jul-07 | 0900 | 5061536.000 | 546720.000 | S-22 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-310 | Practice Anti-personnel land mine (EXPENDED) | 13-Aug-07 | 1123 | 5061463.000 | 546602.000 | R-25 | MKM-CB-003 | 8146.01 | 4 | 1 |

**Table B-3**
**Summary of MD Findings**
**Open Burn/Open Demolition (OB/OD)**
**Demolition Area 1/Landfill 4 (DA1/LF4), Stepout, Demolition Areas 2 and 3 (DA2/DA3), Newly Discovered OB/OD Area (northeast of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-311 | Practice Anti-personnel land mine (EXPENDED) | 13-Aug-07 | 1125 | 5061465.000 | 546610.000 | R-25 | MKM-CB-003 | 8146.01 | 4 | 1 |
| MD-312 | M-60 Fuze Igniter | 13-Aug-07 | 1048 | 5061426.000 | 546570.000 | R-25 | Display Board | 8146.01 | 9 | 1 |
| MD-313 | 3.5" Rocket Motor Frag | 13-Aug-07 | 1045 | 5061422.000 | 546558.000 | R-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-314 | 20mm Target Practice | 13-Aug-07 | 1225 | 5061424.000 | 546575.000 | R-25 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-315 | 2.75 inch rocket warhead fuze | 13-Aug-07 | 1406 | 5061428.000 | 546562.000 | R-25 | MKM-CB-001 | 8146.01 | 2 | 1 |
| MD-316 | Slap flare launcher | 13-Aug-07 | 1449 | 5061463.000 | 546627.000 | R-25 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-317 | Frag Field 131 pieces | 13-Aug-07 | 1400 | 5061402.000 | 546514.000 | R-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-318 | Frag Field 86 pieces | 13-Aug-07 | 1400 | 5061380.000 | 546533.000 | R-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-319 | Slap Flare (EXPENDED) | 14-Aug-07 | 0710 | 5061442.000 | 546580.000 | R-25 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-320 | 37mm Frag | 14-Aug-07 | 0724 | 5061470.000 | 546580.000 | R-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-321 | 2.75" Rocket Warhead (EXPENDED) | 14-Aug-07 | 0810 | 5061463.000 | 546578.000 | R-25 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-322 | M73 LAW Sub caliber (EXPENDED) | 14-Aug-07 | 0820 | 5061454.000 | 546595.000 | R-25 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-323 | Fuze spoon | 14-Aug-07 | 0831 | 5061497.000 | 546572.000 | R-25 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-324 | 20mm Frag | 14-Aug-07 | 0845 | 5061495.000 | 546545.000 | R-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-325 | Practice M8A1 mine (EXPENDED) | 14-Aug-07 | 0917 | 5061486.000 | 546578.000 | R-25 | MKM-CB-003 | 8146.01 | 4 | 1 |
| MD-326 | 2.75" rocket warhead frag (Nose cone) | 14-Aug-07 | 1020 | 5061506.000 | 546573.000 | R-25 | MKM-CB-003 | 8146.01 | 2 | 1 |
| MD-327 | 81mm Mortar Tail Boom (fragment) | 14-Aug-07 | 1505 | 5061409.000 | 546534.000 | R-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-328 | Frag Field 352 pieces | 14-Aug-07 | 1400 | 5061378.000 | 546513.000 | R-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-329 | Rifle Grenade, Smoke (EXPENDED) | 15-Aug-07 | 1350 | 5061522.000 | 546552.000 | R-25 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-330 | 20mm Target Practice w/ Tracer | 15-Aug-07 | 1050 | 5061386.000 | 546512.000 | R-25 | Display Board | 8146.01 | 3 | 1 |
| MD-331 | 2.75" rocket warhead frag | 15-Aug-07 | 1335 | 5061480.000 | 546571.000 | R-25 | MKM-CB-003 | 8146.01 | 2 | 1 |
| MD-332 | Frag Field 217 Pieces | 15-Aug-07 | 1400 | 5061373.000 | 546570.000 | R-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-333 | 3.5" Rocket motor and fuze | 15-Aug-07 | 1440 | 5061431.000 | 546493.000 | Q-25 | MKM-CB-003 | 8146.01 | 5 | 1 |
| MD-334 | 3.5" Rocket warhead W/ Fuze Practice | 15-Aug-07 | 1426 | 5061416.000 | 546493.000 | Q-25 | MKM-CB-003 | 8146.01 | 5 | 1 |
| MD-335 | 3" stokes mortar frag | 15-Aug-07 | 1145 | 5061406.000 | 546498.000 | Q-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-336 | 3.5" Rocket (EXPENDED) | 15-Aug-07 | 1129 | 5061422.000 | 546501.000 | Q-25 | MKM-CB-003 | 8146.01 | 5 | 1 |

**Table B-3**
**Summary of MD Findings**
**Open Burn/Open Demolition (OB/OD)**
**Demolition Area 1/Landfill 4 (DA1/LF4), Stepout, Demolition Areas 2 and 3 (DA2/DA3), Newly Discovered OB/OD Area (northeast of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-338 | 3.5" rocket fuze (EXPENDED) | 15-Aug-07 | 1015 | 5061403.000 | 546487.000 | Q-25 | MKM-CB-003 | 8146.01 | 5 | 1 |
| MD-339 | 3.5" Rocket (PRACTICE)(EXPENDED) | 15-Aug-07 | 0945 | 5061424.000 | 546501.000 | Q-25 | MKM-CB-003 | 8146.01 | 5 | 1 |
| MD-340 | 3.5" Rocket (PRACTICE)(EXPENDED) | 15-Aug-07 | 0930 | 5061407.000 | 546492.000 | Q-25 | MKM-CB-003 | 8146.01 | 5 | 1 |
| MD-341 | Rifle grenade tail boom | 16-Aug-07 | 0738 | 5061441.000 | 546494.000 | Q-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-342 | 20mm Target Practice | 16-Aug-07 | 0845 | 5061459.000 | 546509.000 | Q-25 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-343 | Frag Field 84 Pieces | 16-Aug-07 | 1400 | 5061394.000 | 546499.000 | Q-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-344 | Frag Field 219 Pieces | 16-Aug-07 | 1400 | 5061489.000 | 546511.000 | Q-25 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-388 | Frag (32 Pieces) | 18-Sep-07 | 1610 | 5061522.000 | 546561.000 | R-26 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-389 | Smoke Grenade (EXPENDED) | 19-Sep-07 | 0800 | 5061736.000 | 546589.000 | R-27 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-390 | Frag 3" x 6" | 19-Sep-07 | 0840 | 5061707.000 | 546557.000 | R-27 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-391 | Frag 3" x 5" | 19-Sep-07 | 0856 | 5061701.000 | 546555.000 | R-27 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-393 | Frag Field 17 Pieces | 19-Sep-07 | 1300 | 5061785.000 | 546611.000 | R-27 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-683 | Frag 4"x5" | 6-Mar-08 | 0802 | 5061340.000 | 546619.000 | R-24 | MKM-CB-010 | 8110.02 | 2 | 1 |
| MD-684 | Frag 5"x2" | 6-Mar-08 | 0832 | 5061402.000 | 546568.000 | R-25 | MKM-CB-010 | 8110.02 | 2 | 1 |
| MD-685 | 3-inch Stokes Mortar, (EXPENDED) | 6-Mar-08 | 0841 | 5061425.000 | 546588.000 | R-25 | MKM-CB-007 | 8110.02 | 3 | 1 |
| MD-686 | 14" Projectile, Target Mk 17 Mod 1 | 6-Mar-08 | 0845 | 5061393.000 | 546568.000 | R-25 | Bldg T4366 | 8110.02 | 3 | 1 |
| MD-687 | Frag 3"x4" | 6-Mar-08 | 0946 | 5061437.000 | 546587.000 | R-25 | MKM-CB-010 | 8110.02 | 2 | 1 |
| MD-688 | Mk 81 LDGP Bomb Frag, Tail Section | 6-Mar-08 | 1445 | 5061474.000 | 546502.000 | Q-25 | MKM-CB-010 | 8110.02 | 9 | 1 |
| MD-689 | Slap Flare (EXPENDED) | 6-Mar-08 | 1453 | 5061476.000 | 546508.000 | Q-25 | MKM-CB-004 | 8110.02 | 7 | 1 |
| MD-690 | Slap Flare (EXPENDED) | 6-Mar-08 | 1521 | 5061478.000 | 546501.000 | Q-25 | MKM-CB-004 | 8110.02 | 7 | 1 |
| MD-691 | Slap Flare (EXPENDED) | 6-Mar-08 | 1530 | 5061468.000 | 546452.000 | Q-25 | MKM-CB-004 | 8110.02 | 7 | 1 |
| MD-692 | 3.5" Rocket Motor | 6-Mar-08 | 1542 | 5061487.000 | 546491.000 | Q-25 | MKM-CB-008 | 8110.02 | 5 | 1 |
| MD-735 | Slap Flare (EXPENDED) | 24-Mar-08 | 1130 | 5061505.000 | 546446.000 | Q-25 | MKM-CB-010 | 8110.01 | 7 | 1 |
| MD-736 | 37MM APT (FIRED, UNFUZED) | 24-Mar-08 | 1500 | 5061503.000 | 546446.000 | Q-25 | MKM-CB-010 | 8110.01 | 3 | 1 |
| MD-737 | Frag Field (29 pieces) | 24-Mar-08 | 1630 | 5061510.000 | 546450.000 | Q-25 | MKM-CB-010 | 8110.01 | 2 | 1 |
| MD-738 | Slap Flare (EXPENDED) | 25-Mar-08 | 1406 | 5061461.000 | 546455.000 | Q-25 | MKM-CB-004 | 8110.01 | 7 | 1 |

**Table B-3**
**Summary of MD Findings**
**Open Burn/Open Demolition (OB/OD)**
**Demolition Area 1/Landfill 4 (DA1/LF4), Stepout, Demolition Areas 2 and 3 (DA2/DA3), Newly Discovered OB/OD Area (northeast of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-739 | 3-inch Stokes Mortar, (EXPENDED) | 25-Mar-08 | 1520 | 5061408.000 | 546464.000 | Q-25 | MKM-CB-010 | 8110.01 | 3 | 1 |
| MD-740 | 3.5" Rocket Motor (EXPENDED) | 25-Mar-08 | 1600 | 5061410.000 | 546467.000 | Q-25 | MKM-CB-008 | 8110.01 | 5 | 1 |
| MD-741 | Frag Field (19 Pieces) | 25-Mar-08 | 1635 | 5061457.000 | 546490.000 | Q-25 | MKM-CB-006 | 8110.01 | 2 | 1 |
| MD-742 | 20mm APT, M75 | 25-Mar-08 | 1348 | 5061436.000 | 546487.000 | Q-25 | MKM-CB-010 | 8110.01 | 3 | 1 |
| MD-745 | Slap Flare (EXPENDED) | 27-Mar-08 | 1410 | 5061429.000 | 546466.000 | Q-25 | MKM-CB-004 | 8110.01 | 7 | 1 |
| MD-746 | Slap Flare (EXPENDED) | 27-Mar-08 | 1425 | 5061424.000 | 546456.000 | Q-25 | MKM-CB-004 | 8110.01 | 7 | 1 |
| MD-747 | Frag Field (11 Pieces) | 27-Mar-08 | 1530 | 5061419.000 | 546450.000 | Q-25 | MKM-CB-006 | 8110.01 | 2 | 1 |
| MD-749 | Slap Flare | 31-Mar-08 | 0845 | 5061345.000 | 546545.000 | R-24 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-750 | M48 Parachute Flare B/T Device | 31-Mar-08 | 1130 | 5061352.000 | 546522.000 | R-24 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-751 | 50mm Japanese Model 89 (Knee Mortar) | 31-Mar-08 | 1132 | 5061347.880 | 546544.480 | R-24 | MKM-CB-010 | 8140.01 | 3 | 1 |
| MD-752 | M-8 AT Mine | 31-Mar-08 | 1500 | 5061358.600 | 546544.400 | R-24 | MKM-CB-010 | 8140.01 | 4 | 1 |
| MD-753 | B/T Firing Device | 31-Mar-08 | 1325 | 5061352.670 | 546551.010 | R-24 | MKM-CB-010 | 8104.01 | 9 | 1 |
| MD-754 | BDU 28 Modified | 31-Mar-08 | 1330 | 5061352.670 | 546551.010 | R-24 | MKM-CB-010 | 8104.01 | 9 | 1 |
| MD-755 | 2.36in Rocket Motor | 31-Mar-08 | 1500 | 5061342.000 | 546547.000 | R-24 | MKM-CB-008 | 8104.01 | 5 | 1 |
| MD-756 | Slap Flare (EXPENDED) | 1-Apr-08 | 0900 | 5061372.000 | 546514.000 | R-25 | MKM-CB-004 | 8110.01 | 7 | 1 |
| MD-757 | Frag Field (18 Pieces) | 1-Apr-08 | 1200 | 5061376.000 | 546520.000 | R-25 | MKM-CB-006 | 8110.01 | 2 | 1 |
| MD-758 | M51A1, 37mm APT (68 EA) | 1-Apr-08 | 1300 | 5061311.320 | 546547.740 | R-24 | MKM-CB-010 | 8110.01 | 3 | 1 |
| MD-759 | AP Practice Mine (EXPENDED) | 1-Apr-08 | 1400 | 5061316.000 | 546544.000 | R-24 | MKM-CB-010 | 8110.01 | 4 | 1 |
| MD-760 | Slap Flare (EXPENDED) | 1-Apr-08 | 1430 | 5061319.000 | 546550.000 | R-24 | MKM-CB-004 | 8110.01 | 7 | 1 |
| MD-761 | M8 - AP Practice Mine (EXPENDED) | 1-Apr-08 | 1520 | 5061321.000 | 546534.000 | R-24 | MKM-CB-010 | 8110.01 | 4 | 1 |
| MD-762 | M8 - AP Practice Mine (EXPENDED) | 1-Apr-08 | 1550 | 5061325.000 | 546539.000 | R-24 | MKM-CB-010 | 8110.01 | 4 | 1 |
| MD-763 | AP Mine M2A1 (EXPENDED) | 1-Apr-08 | 1600 | 5061326.000 | 546556.000 | R-24 | MKM-CB-010 | 8110.01 | 4 | 1 |
| MD-764 | AP Mine M2A1 (EXPENDED) | 1-Apr-08 | 1640 | 5061320.000 | 546549.000 | R-24 | MKM-CB-010 | 8110.01 | 4 | 1 |
| MD-765 | Frag Field (119 Pieces) | 1-Apr-08 | 1650 | 5061320.000 | 546542.000 | R-24 | MKM-CB-006 | 8110.01 | 2 | 1 |

**Table B-3**
**Summary of MD Findings**
**Open Burn/Open Demolition (OB/OD)**
**Demolition Area 1/Landfill 4 (DA1/LF4), Stepout, Demolition Areas 2 and 3 (DA2/DA3), Newly Discovered OB/OD Area (northeast of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-766 | M2 A1 A/P Mine | 2-Apr-08 | 0905 | 5061301.000 | 546525.000 | R-24 | MKM-CB-010 | 8110.01 | 4 | 1 |
| MD-767 | 3.5inch Rocket Nose Cone | 2-Apr-08 | 0957 | 5061352.000 | 546503.000 | Q-24 | MKM-CB-008 | 8110.01 | 5 | 1 |
| | | | | | | | | | SUBTOTAL DA1/LF4 | 126 |
| ***DA1/LF4 Road &Trail (R&D) Step Out*** | | | | | | | | | | |
| MD-1236 | 37mm Projectile Frag | 27-Oct-08 | 0900 | 5061090.630 | 546660.790 | R-23 | MKM-CB-014 | 8167.02 | 2 | 1 |
| MD-1381 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 24-Nov-08 | 0900 | 5061122.970 | 546655.070 | R-23 | MKM-CB-013 | 8167.02 | 3 | 1 |
| MD-1382 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 24-Nov-08 | 1010 | 5061126.400 | 546657.430 | R-23 | MKM-CB-013 | 8167.02 | 3 | 1 |
| MD-1466 | Frag | 6-Jan-09 | 1330 | 5061179.500 | 546632.490 | R-23 | MKM-CB-014 | 8167.02 | 2 | 1 |
| MD-1467 | M69 Practice Grenade | 6-Jan-09 | 1350 | 5061189.610 | 546656.120 | R-23 | MKM-CB-014 | 8167.02 | 6 | 1 |
| MD-1468 | 37mm Projectile Frag | 6-Jan-09 | 1400 | 5061185.700 | 546652.820 | R-23 | MKM-CB-014 | 8167.02 | 3 | 1 |
| MD-1469 | Frag | 6-Jan-09 | 1410 | 5061175.540 | 546654.500 | R-23 | MKM-CB-014 | 8167.02 | 2 | 1 |
| MD-1470 | Frag | 6-Jan-09 | 1415 | 5061163.390 | 546640.050 | R-23 | MKM-CB-014 | 8167.02 | 2 | 1 |
| MD-1471 | 37mm Projectile Frag | 6-Jan-09 | 1420 | 5061155.680 | 546645.610 | R-23 | MKM-CB-014 | 8167.02 | 3 | 1 |
| MD-1472 | 37mm Projectile Frag | 6-Jan-09 | 1425 | 5061166.720 | 546668.930 | R-23 | MKM-CB-014 | 8167.02 | 3 | 1 |
| MD-1473 | 2.75" Rocket Frag | 6-Jan-09 | 1438 | 5061166.040 | 546672.140 | R-23 | MKM-CB-014 | 8167.02 | 5 | 1 |
| MD-1474 | Frag | 6-Jan-09 | 1451 | 5061152.550 | 546654.750 | R-23 | MKM-CB-014 | 8167.02 | 2 | 1 |
| MD-1475 | Frag | 6-Jan-09 | 1510 | 5061142.630 | 546696.280 | R-23 | MKM-CB-014 | 8167.02 | 2 | 1 |
| MD-1476 | Frag | 7-Jan-09 | 0810 | 5061129.270 | 546650.980 | R-23 | MKM-CB-014 | 8167.02 | 2 | 1 |
| MD-1477 | 2.75" Rocket Frag | 7-Jan-09 | 0830 | 5061131.510 | 546655.270 | R-23 | MKM-CB-014 | 8167.02 | 5 | 1 |
| MD-1478 | 37mm Projectile Frag | 7-Jan-09 | 0850 | 5061132.740 | 546659.170 | R-23 | MKM-CB-014 | 8167.02 | 3 | 1 |
| MD-1479 | Frag 3"x6" | 7-Jan-09 | 0912 | 5061124.340 | 546695.830 | R-23 | MKM-CB-014 | 8167.02 | 2 | 1 |
| MD-1480 | 2.75" Rocket Frag | 7-Jan-09 | 0925 | 5061126.540 | 546693.110 | R-23 | MKM-CB-014 | 8167.02 | 5 | 1 |
| MD-1481 | 2.75" Rocket Frag | 7-Jan-09 | 1003 | 5061124.320 | 546681.720 | R-23 | MKM-CB-014 | 8167.02 | 5 | 1 |
| MD-1482 | 3-inch Stokes Mortar Base | 7-Jan-09 | 1020 | 5061110.640 | 546659.240 | R-23 | MKM-CB-016 | 8167.02 | 3 | 1 |
| | | | | | | | | | SUBTOTAL DA1/LF4 R&T STEP OUT | 20 |
| ***DA 2 / DA 3*** | | | | | | | | | | |
| MD-912 | 3"x5" Frag | 11-Jun-08 | 0945 | 5058290.681 | 544674.505 | E05-02 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-913 | 3-inch Stokes Tail Boom | 11-Jun-08 | 0951 | 5058282.404 | 544680.223 | E05-02 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-914 | 2"x5" Frag | 11-Jun-08 | 1000 | 5058274.838 | 544685.337 | E05-02 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1133 | Frag 2"x6" | 20-Aug-08 | 1200 | 5058198.200 | 544582.181 | D04-19 | MKM-CB-006 | 8140.02 | 2 | 1 |

**Table B-3**
**Summary of MD Findings**
**Open Burn/Open Demolition (OB/OD)**
**Demolition Area 1/Landfill 4 (DA1/LF4), Stepout, Demolition Areas 2 and 3 (DA2/DA3), Newly Discovered OB/OD Area (northeast of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1138 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Aug-08 | 0720 | 5058216.061 | 544539.329 | D04-17 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1222 | Frag 9"x10" | 9-Oct-08 | 1200 | 5058238.640 | 544592.560 | D-4 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1223 | Frag Field (8 pieces) | 13-Oct-08 | 0900 | 5058158.080 | 544557.610 | D-4 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1243 | M18 Smoke Grenade | 27-Oct-08 | 1415 | 5058297.510 | 544665.150 | E-5 | MKM-CB-014 | 8140.02 | 6 | 1 |
| | | | | | | | | | SUBTOTAL DA 2 / DA 3 | 8 |
| ***Newly Discovered OB/OD Area (northeast of ESA)*** | | | | | | | | | | |
| MD-199 | Grenade, Illumination MK1M0D2 (EXPENDED) | 20-Jun-07 | 1530 | 5058031.000 | 544865.000 | F-3 | Display Board | 8146.01 | 6 | 1 |
| MD-200 | Slap Flare (EXPENDED) | 20-Jun-07 | 1533 | 5058038.000 | 544862.000 | F-3 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-201 | Smoke Grenade (EXPENDED) | 20-Jun-07 | 1540 | 5058067.000 | 544883.000 | F-3 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-202 | Fuze spoon | 20-Jun-07 | 1550 | 5058064.000 | 544881.000 | F-3 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-203 | Trip Flare Holders | 20-Jun-07 | 1558 | 5058100.000 | 544896.000 | F-3 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-204 | Slap Flare (EXPENDED) | 20-Jun-07 | 1610 | 5058091.000 | 544895.000 | F-3 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-213 | Fuze spoon | 21-Jun-07 | 0857 | 5058177.000 | 544929.000 | F-4 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-214 | Fuze spoon | 21-Jun-07 | 0910 | 5058177.000 | 544923.000 | F-4 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-215 | Fuze spoon | 21-Jun-07 | 0922 | 5058174.000 | 544920.000 | F-4 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-216 | Fuze spoon | 21-Jun-07 | 0933 | 5058169.000 | 544912.000 | F-4 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-217 | Slap Flare (EXPENDED) | 21-Jun-07 | 0947 | 5058160.000 | 544911.000 | F-4 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-219 | Smoke Grenade (EXPENDED) | 25-Jun-07 | 1210 | 5058223.000 | 544945.000 | G-4 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-220 | Smoke Grenade (EXPENDED) | 25-Jun-07 | 1215 | 5058220.000 | 544932.000 | G-4 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-222 | Slap flare launcher | 25-Jun-07 | 0755 | 5058303.000 | 544979.000 | G-5 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-223 | 3.5" Rocket frag | 25-Jun-07 | 0805 | 5058337.000 | 544987.000 | G-5 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-443 | Frag 4" x 12" | 5-Nov-07 | 1042 | 5058309.000 | 544750.000 | E-5 | Display Board | 8140.01 | 2 | 1 |
| MD-591 | Slap Flare, (EXPENDED) | 17-Jan-08 | 1130 | 5058071.000 | 544813.000 | F-3 | MKM-CB-004 | 8146.02 | 7 | 1 |
| MD-593 | Slap Flare, (EXPENDED) | 18-Jan-08 | 1030 | 5058110.000 | 544785.000 | F-4 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-594 | Frag 3" x 5" | 18-Jan-08 | 1050 | 5058158.000 | 544783.000 | F-4 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-599 | Fuze Components, (EXPENDED) | 21-Jan-08 | 0840 | 5058136.000 | 544861.000 | F-4 | MKM-CB-008 | 8140.02 | 8 | 1 |
| MD-600 | Frag 1" x 3" | 21-Jan-08 | 0850 | 5058155.000 | 544857.000 | F-4 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-601 | 7.62 Blank Ammunition | 21-Jan-08 | 0927 | 5058166.000 | 544869.000 | F-4 | MKM-CB-005 | 8140.02 | 1 | 1 |
| MD-602 | Hand Grenade, Practice (EXPENDED) | 21-Jan-08 | 0945 | 5058135.000 | 544875.000 | F-4 | MKM-CB-008 | 8140.02 | 6 | 1 |

**Table B-3**
**Summary of MD Findings**
**Open Burn/Open Demolition (OB/OD)**
**Demolition Area 1/Landfill 4 (DA1/LF4), Stepout, Demolition Areas 2 and 3 (DA2/DA3), Newly Discovered OB/OD Area (northeast of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-603 | Frag 6" x 8" | 21-Jan-08 | 1145 | 5058139.000 | 544873.000 | F-4 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-604 | Frag 2" x 4" | 21-Jan-08 | 1405 | 5058207.000 | 544914.000 | F-4 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-605 | 5" Rocket Frag, 16" x 5" | 21-Jan-08 | 1440 | 5058220.000 | 544915.000 | F-4 | MKM-CB-006 | 8140.02 | 5 | 1 |
| MD-606 | Frag 2" x 5" | 21-Jan-08 | 1506 | 5058218.000 | 544895.000 | F-4 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-607 | Smoke Grenade, (EXPENDED) | 21-Jan-08 | 1515 | 5058241.000 | 544906.000 | F-4 | MKM-CB-008 | 8140.02 | 6 | 1 |
| MD-608 | 5" Rocket Warhead | 21-Jan-08 | 1650 | 5058225.427 | 544900.816 | F-4 | MKM-CB-006 | 8140.02 | 5 | 1 |
| MD-609 | 5" Rocket Warhead | 22-Jan-08 | 0750 | 5058226.000 | 544901.000 | F-4 | MKM-CB-006 | 8140.02 | 5 | 1 |
| MD-610 | 5" Rocket Warhead | 22-Jan-08 | 0800 | 5058228.000 | 544902.000 | F-4 | Office Display | 8140.02 | 5 | 1 |
| MD-611 | Fuze Components, (EXPENDED) | 22-Jan-08 | 0810 | 5058128.810 | 544859.140 | F-4 | MKM-CB-008 | 8140.02 | 8 | 1 |
| MD-613 | Fuze Components, (EXPENDED) | 22-Jan-08 | 0840 | 5058208.260 | 544895.520 | F-4 | MKM-CB-008 | 8140.02 | 8 | 1 |
| MD-630 | 37mm Frag | 28-Jan-08 | 1000 | 5058358.000 | 544941.000 | G-5 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-631 | 37mm Frag | 28-Jan-08 | 1010 | 5058275.000 | 544886.000 | F-5 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-633 | Frag 3" x 4" | 28-Jan-08 | 1040 | 5058320.000 | 544928.000 | F-5 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-635 | 3-inch Stokes Mortar, (EXPENDED) | 28-Jan-08 | 1430 | 5058331.000 | 544964.000 | G-5 | MKM-CB-007 | 8140.02 | 3 | 1 |
| MD-724 | 5.56mm Magazine with 20 blanks | 17-Mar-08 | 1130 | 5058109.636 | 544805.149 | F3-21 | MKM-CB-009 | 8140.02 | 1 | 1 |
| MD-769 | Frag 4"x4" | 7-Apr-08 | 0840 | 5058258.609 | 544886.509 | F04-24 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-770 | 3ea Frag 2"x14" | 7-Apr-08 | 0850 | 5058261.343 | 544888.931 | F04-24 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-771 | Frag 4" Across | 7-Apr-08 | 0900 | 5058252.091 | 544891.683 | F04-24 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-772 | Frag | 7-Apr-08 | 0920 | 5058242.895 | 544893.709 | F04-24 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-773 | Smoke Grenade (EXPENDED) | 7-Apr-08 | 1345 | 5058272.210 | 544926.759 | F05-05 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-774 | Smoke Grenade (EXPENDED) | 7-Apr-08 | 1340 | 5058276.430 | 544925.321 | F05-05 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-775 | Smoke Grenade (EXPENDED) | 7-Apr-08 | 1350 | 5058274.730 | 544918.748 | F05-05 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-777 | 3-inch Stokes Fuze Well | 7-Apr-08 | 1220 | 5058133.005 | 544881.753 | F04-03 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-778 | Poly Frag, 1"x2" | 7-Apr-08 | 1240 | 5058264.411 | 544910.830 | F04-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-842 | 5-inch Rocket Frag, 5"x20" | 12-May-08 | 1600 | 5058234.000 | 544817.000 | F-04 | MKM-CB-006 | 8134.01 | 5 | 1 |
| MD-844 | Frag 2"x3" | 13-May-08 | 0850 | 5058269.000 | 544843.000 | F-05 | MKM-CB-006 | 8134.01 | 2 | 1 |
| MD-845 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-May-08 | 1049 | 5058277.000 | 544833.000 | F-05 | MKM-CB-010 | 8134.01 | 3 | 1 |
| MD-846 | Frag 4"x7" | 13-May-08 | 1109 | 5058244.000 | 544891.000 | F-04 | MKM-CB-006 | 8134.01 | 2 | 1 |
| MD-847 | Frag 2"x5" | 13-May-08 | 1135 | 5058335.000 | 544818.000 | F-05 | MKM-CB-006 | 8134.01 | 2 | 1 |

**Table B-3**
**Summary of MD Findings**
**Open Burn/Open Demolition (OB/OD)**
**Demolition Area 1/Landfill 4 (DA1/LF4), Stepout, Demolition Areas 2 and 3 (DA2/DA3), Newly Discovered OB/OD Area (northeast of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-848 | Frag 5"x5" | 13-May-08 | 1201 | 5058292.000 | 544862.000 | F-05 | MKM-CB-006 | 8134.01 | 2 | 1 |
| MD-849 | 5" Rocket Nose Plug | 13-May-08 | 1210 | 5058296.000 | 544869.000 | F-05 | MKM-CB-006 | 8134.01 | 5 | 1 |
| MD-850 | Frag 1"x4" | 13-May-08 | 1215 | 5058292.000 | 544850.000 | F-05 | MKM-CB-006 | 8134.01 | 2 | 1 |
| MD-851 | Frag 2"x4" | 14-May-08 | 0810 | 5058324.000 | 544875.000 | F-05 | MKM-CB-006 | 8134.01 | 2 | 1 |
| MD-852 | Frag 3"x6" | 14-May-08 | 0815 | 5058319.000 | 544875.000 | F-05 | MKM-CB-006 | 8134.01 | 2 | 1 |
| MD-853 | Frag 2"x2" | 14-May-08 | 0830 | 5058327.000 | 544876.000 | F-05 | MKM-CB-006 | 8134.01 | 2 | 1 |
| MD-1139 | M22 Rifle Grenade, Smoke (EXPENDED) | 21-Aug-08 | 0930 | 5058193.103 | 544902.266 | F04-14 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1140 | Frag 6"x4" | 21-Aug-08 | 1015 | 5058187.649 | 544910.846 | F04-15 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1147 | 37mm Frag | 28-Aug-08 | 1000 | 5058319.634 | 544917.670 | F05-10 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1148 | 37mm Frag | 28-Aug-08 | 1000 | 5058317.861 | 544919.740 | F05-10 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1149 | 37mm Frag | 28-Aug-08 | 0839 | 5058332.564 | 544949.970 | G05-11 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1150 | M18 Smoke Grenade | 28-Aug-08 | 1226 | 5058276.449 | 544885.074 | F05-04 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1151 | M18 Smoke Grenade | 28-Aug-08 | 1229 | 5058289.529 | 544904.771 | F05-04 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1155 | 37mm Frag | 3-Sep-08 | 1037 | 5058370.000 | 544937.000 | G05-17 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1156 | 37mm Frag | 3-Sep-08 | 1315 | 5058345.000 | 544968.000 | G05-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1157 | 37mm Frag | 3-Sep-08 | 1330 | 5058351.000 | 544971.000 | G05-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1193 | Frag (12ea) | 10-Sep-08 | 1500 | 5058223.000 | 544883.000 | F04-19 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1207 | Rocket Motor Igniter (EXPENDED) | 11-Sep-08 | 0710 | 5058263.000 | 544884.000 | F04-20 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1227 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Oct-08 | 1000 | 5058095.650 | 544785.210 | E-3 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1228 | 37mm Projectile Frag | 15-Oct-08 | 1005 | 5058105.680 | 544785.620 | E-3 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1232 | Rifle Grenade, Illumination (EXPENDED) | 15-Oct-08 | 1420 | 5058159.390 | 544754.150 | E-4 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1238 | Frag 3"x6" | 27-Oct-08 | 1015 | 5058314.940 | 544802.490 | F-5 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1239 | Frag 1"x5" | 27-Oct-08 | 1030 | 5058334.860 | 544788.980 | F-5 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1240 | 2.36" Practice Rocket | 27-Oct-08 | 1100 | 5058356.140 | 544792.000 | F-5 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1241 | 37mm Projectile Frag | 27-Oct-08 | 1115 | 5058357.840 | 544814.210 | F-5 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1242 | Rifle Grenade Tail Boom | 27-Oct-08 | 1120 | 5058342.860 | 544805.270 | F-5 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1244 | M69 Practice Grenade | 27-Oct-08 | 1420 | 5058348.660 | 544730.450 | E-5 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1245 | M69 Practice Grenade | 27-Oct-08 | 1500 | 5058351.000 | 544753.000 | E-5 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1255 | M18 Smoke Grenade | 29-Oct-08 | 1300 | 5058119.000 | 544846.000 | F-4 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1256 | 37mm Projectile Frag | 29-Oct-08 | 1310 | 5058169.000 | 544842.000 | F-4 | MKM-CB-014 | 8140.02 | 2 | 1 |

**Table B-3**
**Summary of MD Findings**
**Open Burn/Open Demolition (OB/OD)**
**Demolition Area 1/Landfill 4 (DA1/LF4), Stepout, Demolition Areas 2 and 3 (DA2/DA3), Newly Discovered OB/OD Area (northeast of ESA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1257 | Frag 1"x2" | 29-Oct-08 | 1312 | 5058201.000 | 544832.000 | F-4 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1258 | Frag 2"x4" | 29-Oct-08 | 1330 | 5058167.000 | 544812.000 | F-4 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1259 | Frag 2"x4" | 29-Oct-08 | 1340 | 5058170.000 | 544781.000 | F-4 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1260 | Frag 2"x6" | 29-Oct-08 | 1350 | 5058216.000 | 544893.000 | F-4 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1261 | 3-inch Stokes Mortar Component | 29-Oct-08 | 1500 | 5058216.000 | 544886.000 | F-4 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1262 | Frag 2"x5" | 29-Oct-08 | 1515 | 5058222.000 | 544888.000 | F-4 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1263 | Frag 4"x4" | 29-Oct-08 | 1520 | 5058221.000 | 544900.000 | F-4 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1264 | Frag 4"x5" | 29-Oct-08 | 1530 | 5058224.000 | 544850.000 | F-4 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1265 | 37mm Cartridge Casing | 29-Oct-08 | 1535 | 5058224.000 | 544896.000 | F-4 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1266 | 37mm Projectile Frag | 30-Oct-08 | 1000 | 5058302.230 | 544941.020 | G-5 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1267 | 37mm Projectile Frag | 30-Oct-08 | 1030 | 5058310.010 | 544941.890 | G-5 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1268 | 37mm Target | 30-Oct-08 | 1100 | 5058333.140 | 544943.060 | G-5 | MKM-CB-014 | 8140.02 | 2 | 1 |
| | | | | | | | | | SUBTOTAL PREVIOUSLY UNIDENTIFIED OB/OD AREA (NORTH OF ESA) | 94 |
| | | | | | | | | | **Grand Total** | **248** |

| Legend | |
|---|---|
| **MEC** | Munitions and Explosives of Concern |
| **MD** | Munitions Debris |
| **MKM-CB-001** | 55-gallong drum containing MD |
| ** All listings reported as of February 28, 2009* | |

| MD Categories | |
|---|---|
| **1** | Small Arms and Ammunition |
| **2** | MD fragments |
| **3** | Projectiles |
| **4** | Landmines |
| **5** | Rockets |
| **6** | Grenades |
| **7** | Flares |
| **8** | Fuze spoons |
| **9** | Miscellaneous |

**Table B-4**
**Summary of MD Findings**
**Firing Points**
**Artillery Positions #1, #5, #6 and #7 and Mortar Position #3**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| FIRING POINTS | | | | | | | | | | |
| ***Artillery Position #1*** | | | | | | | | | | |
| MD-1224 | MK13 Signal Flare (EXPENDED) | 14-Oct-08 | 0750 | 5059029.730 | 544496.470 | D-10 | MKM-CB-004 | 8143.02 | 7 | 1 |
| | | | | | | | | | SUBTOTAL ARTILLERY POSITION #1 | 1 |
| ***Artillery Position #5*** | | | | | | | | | | |
| MD-1427 | Smoke Grenade (EXPENDED) | 17-Dec-08 | 1052 | 5059301.480 | 544819.400 | F-11 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1432 | CS Grenade (EXPENDED) | 18-Dec-08 | 1015 | 5059311.550 | 544851.680 | F-11 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1433 | M18 Smoke Grenade (2 each) | 18-Dec-08 | 1017 | 5059319.170 | 544852.160 | F-11 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-668 | 2.36" Rocket fin assembly | 13-Feb-08 | 1057 | 5059329.000 | 544818.000 | F-11 | MKM-CB-008 | 8146.02 | 5 | 1 |
| MD-785 | M-16 AP Landmine | 14-Apr-08 | 1400 | 5059308.716 | 544795.310 | F11-22 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-787 | M8 - AP Practice Landmine | 14-Apr-08 | 1455 | 5059312.631 | 544812.879 | F11-23 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-788 | M-20 AT Practice Landmine (EXPENDED) | 14-Apr-08 | 1545 | 5059323.092 | 544819.719 | F11-23 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-789 | 2.36-inch Rocket Motor | 14-Apr-08 | 1532 | 5059307.927 | 544835.273 | F11-23 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-054 | Smoke Grenade | 18-Apr-07 | 1502 | 544849.000 | 5059374.000 | F-12 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-104 | Slap Flare Tail Fins | 29-May-07 | 1355 | 5059348.000 | 544818.000 | F-12 | MKM-CB-004 | 8146.01 | 2 | 1 |
| MD-792 | Slap Flare (EXPENDED) | 15-Apr-08 | 1505 | 5059367.365 | 544803.921 | F12-07 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-793 | 3-inch Stokes Tail Boom | 15-Apr-08 | 1330 | 544749.209 | 544813.401 | F12-08 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-902 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 9-Jun-08 | 1550 | 5058934.742 | 544964.470 | G09-07 | MKM-CB-010 | 8140.02 | 3 | 1 |
| | | | | | | | | | SUBTOTAL ARTILLERY POSITION #5 | 13 |
| ***Artillery Position #6*** | | | | | | | | | | |
| MD-1230 | 2.36" Practice Rocket | 15-Oct-08 | 1020 | 5058098.000 | 544690.000 | E-3 | MKM-CB-008 | 8140.02 | 5 | 1 |
| | | | | | | | | | SUBTOTAL ARTILLERY POSITION #6 | 1 |
| ***Artillery Position #7*** | | | | | | | | | | |
| MD-041 | Smoke Grenade (yellow smoke; expended) | 9-Apr-07 | 1600 | 544557.000 | 5058003.000 | D-3 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-654 | Smoke Grenade, (EXPENDED) | 6-Feb-08 | 0800 | 5058020.000 | 544583.000 | D-3 | MKM-CB-008 | 8137.02 | 6 | 1 |
| MD-655 | Frag 4" x 5" | 6-Feb-08 | 0915 | 5057991.000 | 544551.000 | D-3 | MKM-CB-006 | 8137.02 | 2 | 1 |

**Table B-4**
**Summary of MD Findings**
**Firing Points**
**Artillery Positions #1, #5, #6 and #7 and Mortar Position #3**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-661 | 3-inch Stokes Mortar, (EXPENDED) | 6-Feb-08 | 1630 | 5058053.000 | 544591.000 | D-3 | MKM-CB-007 | 8137.02 | 3 | 1 |
| | | | | | | | | | SUBTOTAL ARTILLERY POSITION #7 | 4 |
| ***Mortar Position #3*** | | | | | | | | | | |
| MD-129 | Smoke Grenade (empty) | 30-May-07 | 1000 | 5060656.000 | 545947.000 | N-20 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-1120 | 2.36" Rocket | 5-Aug-08 | 0900 | 5060632.156 | 545957.115 | N20-06 | MKM-CB-008 | 8140.02 | 5 | 1 |
| | | | | | | | | | SUBTOTAL MORTAR POSITION #3 | 2 |
| | | | | | | | | | **Grand Total** | **21** |

| Legend | |
|---|---|
| **MEC** | Munitions and Explosives of Concern |
| **MD** | Munitions Debris |
| **MKM-CB-001** | 55-gallong drum containing MD |
| ** All listings reported as of February 28, 2009* | |

| MD Categories | |
|---|---|
| **1** | Small Arms and Ammunition |
| **2** | MD fragments |
| **3** | Projectiles |
| **4** | Landmines |
| **5** | Rockets |
| **6** | Grenades |
| **7** | Flares |
| **8** | Fuze spoons |
| **9** | Miscellaneous |

**Table B-5**
**Summary of MD Findings**
**Roads and Trails**
**Buffers**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| Roads and Trails (R&T) | | | | | | | | | | |
| ***R&T Buffer*** | | | | | | | | | | |
| MD-035 | Rocket held Fired Illuminating Parachute L5A4 Tube (empty) | 5-Apr-07 | 1545 | 546520.000 | 5060823.000 | Q-21 | Display Board | 8146.01 | 5 | 1 |
| MD-049 | Stokes mortar shell | 16-Apr-07 | 1542 | 545141.000 | 5059954.000 | H-16 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-050 | Smoke Grenade | 17-Apr-07 | 1615 | 545295.000 | 5060008.000 | I-16 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-092 | 40 mm Practice | 23-May-07 | 1330 | 5059680.000 | 544384.000 | C-14 | Display Board | 8146.01 | 6 | 1 |
| MD-098 | 105 mm Marker | 24-May-07 | 0930 | 5059553.000 | 544896.000 | G-13 | MKM-CB-003 | 8146.01 | 2 | 1 |
| MD-102 | Smoke Grenade (extreme decomposition) | 29-May-07 | 1150 | 5059410.000 | 544837.000 | F-12 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-103 | 7.62 blank pit | 29-May-07 | 1154 | 5059417.000 | 544845.000 | F-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-105 | Stokes Body (3-inch) | 29-May-07 | 1505 | 5059396.000 | 544836.000 | F-12 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-107 | Slap flare (expended) | 29-May-07 | 0830 | 5059486.000 | 544874.000 | F-12 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-108 | 7.62 blank pit (A) | 29-May-07 | 0852 | 5059431.000 | 544844.000 | F-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-109 | 7.62 blank pit (B) | 29-May-07 | 0853 | 5059419.000 | 544849.000 | F-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-110 | 105 mm Marker | 29-May-07 | 0950 | 5059422.000 | 544848.000 | F-12 | MKM-CB-003 | 8146.01 | 2 | 1 |
| MD-111 | 7.62 blank pit (C) | 29-May-07 | 0953 | 5059421.000 | 544859.000 | F-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-114 | 7.62 blank pit (F) | 29-May-07 | 1130 | 5059405.000 | 544837.000 | F-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-115 | 5.62 blank pit | 29-May-07 | 1132 | 5059412.000 | 544843.000 | F-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-116 | Slap Flare Container | 29-May-07 | 0855 | 5059861.000 | 544847.000 | F-15 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-118 | Smoke Grenade | 30-May-07 | 1350 | 5059708.000 | 544749.000 | F-14 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-119 | Simulator | 30-May-07 | 1352 | 5059708.000 | 544749.000 | F-14 | MKM-CB-004 | 8146.01 | 9 | 1 |
| MD-123 | Smoke Grenade | 30-May-07 | 1515 | 5059695.000 | 544751.000 | F-14 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-124 | 7.62 Links | 30-May-07 | 0837 | 5060660.000 | 545931.000 | N-20 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-126 | 7.62 Blanks (100 rounds) | 30-May-07 | 0904 | 5060703.000 | 545999.000 | N-20 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-128 | Slap Flare Container | 30-May-07 | 0930 | 5060689.000 | 545996.000 | N-20 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-130 | Frag (37 mm) | 30-May-07 | 0932 | 5060734.000 | 546045.000 | N-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-131 | Practice Grenade Spoon | 30-May-07 | 1505 | 5060773.000 | 546093.000 | O-21 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-133 | Slap Flare (EXPENDED) | 30-May-07 | 1350 | 5060802.000 | 546413.000 | Q-21 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-134 | Trip Flare Spoon | 30-May-07 | 1336 | 5060813.000 | 546454.000 | Q-21 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-142 | 2.36" Rocket Motor (EXPENDED) | 13-Jun-07 | 1500 | 5059286.000 | 5444879.000 | F-11 | Display Board | 8146.01 | 5 | 1 |
| MD-143 | Fuze spoon | 13-Jun-07 | 1530 | 5059289.000 | 5444875.000 | F-11 | MKM-CB-004 | 8146.01 | 8 | 1 |

**Table B-5**
**Summary of MD Findings**
**Roads and Trails**
**Buffers**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-144 | 2.36" Rocket Motor (EXPENDED) | 13-Jun-07 | 1630 | 5059289.000 | 5444875.000 | F-11 | MKM-CB-001 | 8146.01 | 5 | 1 |
| MD-145 | MD Trash Pit | 13-Jun-07 | 1640 | 5059216.000 | 5444812.000 | F-11 | Left in Place | 8146.01 | 9 | 1 |
| MD-146 | Frag 3" X 4" | 13-Jun-07 | 0810 | 5059217.000 | 5444795.000 | F-11 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-148 | Expended Smoke Grenade | 13-Jun-07 | 0831 | 5059194.000 | 5444774.000 | F-11 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-149 | Expended Smoke Grenade | 13-Jun-07 | 0835 | 5059209.000 | 5444787.000 | F-11 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-150 | Grenade Fuze Spoon (2) | 13-Jun-07 | 0846 | 5059202.000 | 5444767.000 | F-11 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-151 | 2.36" Rocket Nose Cone | 13-Jun-07 | 0847 | 5059235.000 | 5444764.000 | F-11 | MKM-CB-001 | 8146.01 | 2 | 1 |
| MD-152 | Brass casing in concrete | 13-Jun-07 | 0850 | 5059209.000 | 5444785.000 | F-11 | MKM-CB-003 | 8146.01 | 9 | 1 |
| MD-153 | Fuze Spoon | 13-Jun-07 | 0829 | 5059277.000 | 5444751.000 | F-11 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-154 | Rifle Grenade Tail Boom | 13-Jun-07 | 0855 | 5059177.000 | 5444822.000 | F-10 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-180 | Fuze Spoon | 19-Jun-07 | 0905 | 5059119.000 | 544440.000 | C-10 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-182 | Smoke grenade fuze, (EXPENDED) | 19-Jun-07 | 0940 | 5058068.000 | 544517.000 | D-3 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-183 | Fuze Spoon | 19-Jun-07 | 0950 | 5058063.000 | 544517.000 | D-3 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-185 | Smoke Grenade (EXPENDED) | 19-Jun-07 | 1315 | 5060784.000 | 546311.000 | P-21 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-186 | 40mm Casing (EXPENDED) | 19-Jun-07 | 1322 | 5060789.000 | 546315.000 | P-21 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-194 | Smoke Grenade (EXPENDED) | 20-Jun-07 | 1000 | 5058045.000 | 544645.000 | E-3 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-195 | Smoke Grenade (EXPENDED) | 20-Jun-07 | 1005 | 5058025.000 | 544692.000 | E-3 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-196 | 5.56mm Magazine with 20 blanks | 20-Jun-07 | 1010 | 5058018.000 | 544709.000 | E-3 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-197 | Slap Flare (expended) | 20-Jun-07 | 1015 | 5058014.000 | 544729.000 | E-3 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-198 | Smoke Grenade (EXPENDED) | 20-Jun-07 | 1020 | 5058012.000 | 544753.000 | E-3 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-205 | 40mm Practice (EXPENDED) | 20-Jun-07 | 1400 | 5058577.000 | 545073.000 | G-6 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-206 | Smoke Grenade (EXPENDED) | 20-Jun-07 | 1405 | 5058565.000 | 545062.000 | G-6 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-208 | Smoke Grenade (EXPENDED) | 20-Jun-07 | 1425 | 5058466.000 | 544969.000 | G-6 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-212 | Smoke Grenade (EXPENDED) | 21-Jun-07 | 0850 | 5058175.000 | 544935.000 | F-4 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-221 | M14 Signal Cartridge | 25-Jun-07 | 0750 | 5058326.000 | 544987.000 | G-5 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-224 | M234 A1 container | 25-Jun-07 | 0810 | 5058372.000 | 544999.000 | G-5 | MKM-CB-004 | 8146.01 | 2 | 1 |
| MD-227 | Slap Flare (EXPENDED) | 25-Jun-07 | 1420 | 5060161.000 | 546176.000 | O-17 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-228 | Slap Flare (EXPENDED) | 25-Jun-07 | 1450 | 5060159.000 | 546170.000 | O-17 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-229 | Slap flare launcher | 25-Jun-07 | 1455 | 5060152.000 | 546162.000 | O-17 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-236 | Practice Grenade (EXPENDED) | 2-Jul-07 | 0900 | 5058726.000 | 545119.000 | H-7 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-238 | 7.62mm blank ammunition (FIRED) | 2-Jul-07 | 0935 | 5058721.000 | 545125.000 | H-7 | MKM-CB-005 | 8146.01 | 1 | 1 |

**Table B-5**
**Summary of MD Findings**
**Roads and Trails**
**Buffers**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-239 | Grenade Spoon (20) | 2-Jul-07 | 1030 | 5058721.000 | 545125.000 | H-7 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-240 | Smoke Grenade (EXPENDED) | 2-Jul-07 | 1040 | 5058862.000 | 545112.000 | H-8 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-241 | Smoke Grenade (EXPENDED) | 2-Jul-07 | 1050 | 5058803.000 | 545116.000 | H-8 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-242 | Frag (37 mm) | 2-Jul-07 | 1055 | 5058772.000 | 545119.000 | H-8 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-243 | 7.62mm blank ammunition (FIRED)) | 2-Jul-07 | 1100 | 5058772.000 | 545119.000 | H-8 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-244 | 3-inch Stokes Mortar (EXPENDED) | 2-Jul-07 | 1115 | 5058868.000 | 545114.000 | H-8 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-246 | 3-inch Stokes Mortar (EXPENDED) | 2-Jul-07 | 1315 | 5058905.000 | 545132.000 | H-9 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-247 | 3-inch Stokes Mortar (EXPENDED) | 2-Jul-07 | 1320 | 5058922.000 | 545136.000 | H-9 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-248 | 3-inch Stokes Mortar (EXPENDED) | 2-Jul-07 | 1350 | 5058984.000 | 545153.000 | H-9 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-249 | 3-inch Stokes Mortar (EXPENDED) | 2-Jul-07 | 1400 | 5058994.000 | 545150.000 | H-9 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-250 | 7.62mm blank ammunition (FIRED) | 2-Jul-07 | 1410 | 5058948.000 | 545144.000 | H-9 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-254 | Smoke Grenade (EXPENDED) | 2-Jul-07 | 1525 | 5059186.000 | 545175.000 | H-10 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-260 | 7.62mm blank ammunition | 3-Jul-07 | 1506 | 5059322.000 | 545216.000 | I-11 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-261 | Signal Flare Container | 3-Jul-07 | 1508 | 5059340.000 | 545228.000 | I-11 | Display Board | 8146.01 | 7 | 1 |
| MD-287 | Smoke Grenade (EXPENDED) | 2-Aug-07 | 1315 | 5060784.000 | 546311.000 | P-21 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-288 | 40mm Illumination casing | 2-Aug-07 | 1320 | 5060789.000 | 546315.000 | P-21 | Display Board | 8146.01 | 6 | 1 |
| MD-307 | 5.56mm empty brass (15 items) | 9-Aug-07 | 1350 | 5060280.000 | 546090.000 | N-17 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-355 | Slap Flare (EXPENDED) | 20-Aug-07 | 1225 | 5059419.000 | 544720.000 | E-12 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-356 | Smoke Grenade (EXPENDED) | 20-Aug-07 | 1320 | 5059416.000 | 544620.000 | E-12 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-357 | Slap Flare (EXPENDED) | 20-Aug-07 | 1340 | 5059415.000 | 544649.000 | E-12 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-359 | Rifle Grenade, Smoke (EXPENDED) | 20-Aug-07 | 1415 | 5059403.000 | 544675.000 | E-12 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-360 | Smoke Grenade (EXPENDED) | 20-Aug-07 | 1425 | 5459398.000 | 544685.000 | E-12 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-361 | Smoke Grenade (EXPENDED) | 20-Aug-07 | 1445 | 5459408.000 | 544699.000 | E-12 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-362 | Smoke Grenade (EXPENDED) | 20-Aug-07 | 1455 | 5059406.000 | 544700.000 | E-12 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-364 | Smoke Grenade (EXPENDED) | 20-Aug-07 | 1535 | 5059374.000 | 544728.000 | E-12 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-365 | 3-inch Stokes Mortar Tail boom | 21-Aug-07 | 0710 | 5059373.000 | 544722.000 | E-12 | MKM-CB-002 | 8146.01 | 2 | 1 |

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**Buffers**

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|---|---|---|---|---|---|---|---|---|---|---|
| MD-367 | Slap Flare (EXPENDED) | 21-Aug-07 | 0810 | 5059336.000 | 544675.000 | E-12 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-370 | 7.62mm blank ammunition | 21-Aug-07 | 0845 | 5059296.000 | 544708.000 | E-11 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-371 | Rifle Grenade, (EXPENDED) | 21-Aug-07 | 1230 | 5059192.000 | 544760.000 | F-11 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-372 | Nose plugs for 105mm and 155mm | 21-Aug-07 | 1120 | 5059316.000 | 544743.000 | E-11 | Display Board | 8146.01 | 2 | 1 |
| MD-373 | Rifle Grenade, (EXPENDED) | 21-Aug-07 | 1115 | 5059288.000 | 544745.000 | E-11 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-374 | Rifle Grenade tail boom | 21-Aug-07 | 1110 | 5059293.000 | 544752.000 | F-11 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-394 | MK 2 hand grenade Frag | 20-Sep-07 | 0830 | 5059171.000 | 544822.000 | F-10 | Display Board | 8146.01 | 2 | 1 |
| MD-395 | Fuze Spoons (4 ea) | 20-Sep-07 | 0850 | 5059166.000 | 544818.000 | F-10 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-396 | Pull rings from fuzes | 20-Sep-07 | 0915 | 5059138.000 | 544824.000 | F-10 | MKM-CB-004 | 8146.01 | 9 | 1 |
| MD-425 | Slap Flare Tail Boom | 9-Oct-07 | 0830 | 5059661.000 | 545460.000 | J-14 | MKM-CB-004 | 8146.01 | 2 | 1 |
| MD-426 | 3-inch Stokes Mortar (EXPENDED) | 9-Oct-07 | 0925 | 5059798.000 | 545442.000 | J-14 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-428 | Smoke Grenade (EXPENDED) | 9-Oct-07 | 0940 | 5059848.000 | 545455.000 | J-15 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-429 | 7.62mm blank ammunition, belted | 9-Oct-07 | 0945 | 5059844.000 | 545446.000 | J-15 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-430 | M73 LAW Sub caliber (EXPENDED) | 9-Oct-07 | 0950 | 5059879.000 | 545453.000 | J-15 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-431 | M73 LAW Sub caliber (EXPENDED | 9-Oct-07 | 0955 | 5059887.000 | 545450.000 | J-15 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-432 | Smoke Grenade (EXPENDED) | 9-Oct-07 | 1000 | 5059907.000 | 545482.000 | J-15 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-447 | 3-inch Stokes Mortar (EXPENDED) | 12-Nov-07 | 1244 | 5059003.000 | 545159.000 | H-9 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-464 | Trip Flare bracket with burned out flare part | 29-Nov-07 | 1218 | 5059200.000 | 545175.000 | H-11 | MKM-CB-004 | 8140.01 | 9 | 1 |
| MD-484 | 7.62mm blank ammunition, belted | 5-Dec-07 | 0840 | 5059089.000 | 545168.000 | H-10 | MKM-CB-005 | 8140.01 | 1 | 1 |
| MD-503 | M73 LAW Sub caliber (EXPENDED) | 11-Dec-07 | 1410 | 5059042.000 | 545005.000 | G-9 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-505 | 40mm Grenade, Practice, M781 | 11-Dec-07 | 1430 | 5058424.000 | 545005.000 | G-5 | MKM-CB-006 | 8140.01 | 6 | 1 |
| MD-511 | 3-inch Stokes Mortar (EXPENDED) | 13-Dec-07 | 1120 | 5059417.000 | 544694.000 | E-12 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-523 | Slap Flare (EXPENDED) | 17-Dec-07 | 1438 | 5059181.000 | 544813.000 | F-11 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-524 | 3-inch Stokes Mortar (EXPENDED) | 17-Dec-07 | 1450 | 5059190.000 | 544819.000 | F-11 | MKM-CB-007 | 8140.01 | 3 | 1 |

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**Roads and Trails**
**Buffers**

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|---|---|---|---|---|---|---|---|---|---|---|
| MD-556 | Slap Flare, (EXPENDED) | 7-Jan-08 | 1403 | 5060009.000 | 545713.000 | L-16 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-560 | Slap Flare, (EXPENDED) | 10-Jan-08 | 1043 | 5060268.000 | 546346.000 | P-17 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-561 | Slap Flare Launcher | 10-Jan-08 | 1043 | 5060268.000 | 546346.000 | P-17 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-562 | Slap Flare Launcher | 10-Jan-08 | 1043 | 5060268.000 | 546346.000 | P-17 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-563 | Slap Flare Launcher | 10-Jan-08 | 1043 | 5060268.000 | 546346.000 | P-17 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-564 | Slap Flare Launcher | 10-Jan-08 | 1043 | 5060268.000 | 546346.000 | P-17 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-565 | Slap Flare Launcher | 10-Jan-08 | 1043 | 5060268.000 | 546346.000 | P-17 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-566 | Slap Flare Launcher | 10-Jan-08 | 1043 | 5060268.000 | 546346.000 | P-17 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-567 | Slap Flare Launcher | 10-Jan-08 | 1043 | 5060268.000 | 546346.000 | P-17 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-571 | 7.62 Blank Ammunition | 11-Jan-08 | 1034 | 5060372.000 | 546395.000 | Q-18 | MKM-CB-005 | 8140.01 | 1 | 1 |
| MD-573 | 2.75" Rocket Fin Assembly | 11-Jan-08 | 1045 | 5060385.000 | 546416.000 | Q-18 | MKM-CB-008 | 8140.01 | 2 | 1 |
| MD-574 | 2.75" Rocket Frag 3" x 2" | 11-Jan-08 | 1053 | 5060390.000 | 546454.000 | Q-18 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-578 | 37mm Frag 3" x 1" | 11-Jan-08 | 1147 | 5060375.000 | 546383.000 | P-18 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-580 | 3-inch Stokes Mortar, (EXPENDED) | 11-Jan-08 | 1200 | 5060355.000 | 546349.000 | P-18 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-585 | 105mm Flare Candle (EXPENDED) | 14-Jan-08 | 1504 | 5060826.000 | 546535.000 | R-21 | MKM-CB-003 | 8140.01 | 7 | 1 |
| MD-598 | Smoke Grenade, (EXPENDED) | 21-Jan-08 | 0837 | 5060781.000 | 546290.000 | P-21 | MKM-CB-008 | 8140.01 | 6 | 1 |
| MD-615 | 2.36" Rocket Tail Fin Assembly | 22-Jan-08 | 1413 | 5060731.000 | 546023.000 | N-20 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-617 | 3-inch Stokes Mortar, (EXPENDED) | 22-Jan-08 | 1441 | 5060702.000 | 546018.000 | N-20 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-627 | 2.36" Rocket Warhead (EMPTY) | 28-Jan-08 | 0848 | 5059795.000 | 544446.000 | D-15 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-636 | Slap Flare, (EXPENDED) | 29-Jan-08 | 1030 | 5060443.000 | 545640.000 | L-19 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-637 | 3-inch Stokes Mortar, (EXPENDED) | 29-Jan-08 | 1120 | 5060431.000 | 545631.000 | L-19 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-638 | 3-inch Stokes Mortar, (EXPENDED) | 29-Jan-08 | 1122 | 5060442.000 | 545624.000 | K-19 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-639 | 3-inch Stokes Mortar, (EXPENDED) | 29-Jan-08 | 1130 | 5060443.000 | 545635.000 | L-19 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-644 | 3-inch Stokes Mortar, (EXPENDED) | 30-Jan-08 | 1105 | 5060473.000 | 545703.000 | L-19 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-656 | Smoke Grenade, (EXPENDED) | 6-Feb-08 | 0950 | 5057962.000 | 544551.000 | D-3 | MKM-CB-008 | 8137.02 | 6 | 1 |
| MD-657 | Frag 2" x 2" | 6-Feb-08 | 1218 | 5057905.000 | 544549.000 | D-2 | MKM-CB-006 | 8137.02 | 2 | 1 |

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**Buffers**

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|---|---|---|---|---|---|---|---|---|---|---|
| MD-662 | Cartridge 40mm, Green Smoke M715 (EXPENDED) | 12-Feb-08 | 1100 | 5060399.000 | 545652.000 | L-18 | Safety Display | 8140.01 | 6 | 1 |
| MD-663 | 3-inch Stokes Mortar, (EXPENDED) | 12-Feb-08 | 1500 | 5059412.000 | 544754.000 | F-12 | MKM-CB-007 | 8146.02 | 3 | 1 |
| MD-664 | 3-inch Stokes Mortar, (EXPENDED) | 12-Feb-08 | 1530 | 5059411.000 | 544753.000 | F-12 | MKM-CB-007 | 8146.02 | 3 | 1 |
| MD-665 | Smoke Grenade, (EXPENDED) | 13-Feb-08 | 0925 | 5059434.000 | 544849.000 | F-12 | MKM-CB-004 | 8146.02 | 6 | 1 |
| MD-667 | Slap Flare, (EXPENDED) | 13-Feb-08 | 1041 | 5059419.000 | 544888.000 | F-12 | MKM-CB-004 | 8146.02 | 7 | 1 |
| MD-678 | 3-inch Stokes Mortar Tail Boom | 21-Feb-08 | 1430 | 5059426.000 | 545239.000 | I-12 | MKM-CB-007 | 8146.02 | 3 | 1 |
| MD-780 | 37mm Frag, 1"x2" | 8-Apr-08 | 0925 | 5058479.019 | 544974.838 | G06-07 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-814 | Slap Flare (EXPENDED) | 16-Apr-08 | 1155 | 5059409.895 | 544749.223 | F12-11 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-816 | 2.36" Rocket Warhead | 16-Apr-08 | 1206 | 5059408.121 | 544755.601 | F12-11 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-822 | 3-inch Stokes Tail Boom | 21-Apr-08 | 0914 | 5059380.238 | 544722.926 | E12-10 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-843 | Frag 3"x6" | 13-May-08 | 0849 | 5059790.000 | 544444.000 | F-05 | MKM-CB-006 | 8134.01 | 2 | 1 |
| MD-857 | 37mm Frag | 22-May-08 | 1102 | 5059176.874 | 545166.317 | H10-24 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-858 | 37mm Frag | 22-May-08 | 1110 | 5059176.874 | 545166.317 | H10-24 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-859 | 37mm Frag | 22-May-08 | 0950 | 5059146.421 | 545167.279 | H10-19 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-903 | 3-inch Stokes Mortar Frag | 22-May-08 | 1054 | 5059176.874 | 545166.317 | H10-24 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-925 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jun-08 | 1428 | 5059294.310 | 544746.078 | E11-20 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-926 | 2.36" Rocket Motor | 12-Jun-08 | 1435 | 5059303.301 | 544747.668 | E11-20 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-927 | 2.36" Rocket Warhead Frag | 12-Jun-08 | 1505 | 5059301.455 | 544747.783 | E11-20 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-928 | Rifle Grenade Tail Boom | 12-Jun-08 | 1506 | 5059299.284 | 544747.189 | E11-20 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-929 | Rifle Grenade Tail Boom | 12-Jun-08 | 1512 | 5059300.518 | 544747.936 | E11-20 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-930 | Rifle Grenade Tail Boom | 12-Jun-08 | 1519 | 5059299.909 | 544745.386 | E11-20 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-931 | Rifle Grenade Tail Boom | 12-Jun-08 | 1520 | 5059299.909 | 544745.386 | E11-20 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-932 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jun-08 | 0820 | 5059297.353 | 544746.421 | E11-20 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-933 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jun-08 | 0820 | 5059296.269 | 544745.846 | E11-20 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-934 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Jun-08 | 0820 | 5059296.606 | 544744.975 | E11-20 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-935 | 2.36" Rocket Tail Boom (EXPENDED) | 12-Jun-08 | 0820 | 5059295.482 | 544747.029 | E11-20 | MKM-CB-008 | 8140.02 | 5 | 1 |

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|---|---|---|---|---|---|---|---|---|---|---|
| MD-936 | 2.36" Rocket Warhead Frag | 12-Jun-08 | 0820 | 5059295.482 | 544747.029 | E11-20 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-937 | Rifle Grenade | 12-Jun-08 | 0820 | 5059295.482 | 544747.029 | E11-20 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-938 | Rifle Grenade | 12-Jun-08 | 0820 | 5059295.482 | 544747.029 | E11-20 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-939 | Rifle Grenade Tail Boom | 12-Jun-08 | 0820 | 5059295.482 | 544747.029 | E11-20 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-940 | Rifle Grenade Tail Boom | 12-Jun-08 | 0820 | 5059295.482 | 544747.029 | E11-20 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-941 | Rifle Grenade Tail Boom | 12-Jun-08 | 0820 | 5059295.482 | 544747.029 | E11-20 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-947 | 3-inch Stokes Tail Boom | 16-Jun-08 | 0755 | 5059343.661 | 544721.985 | E12-05 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-956 | 37mm Frag | 26-Jun-08 | 0857 | 5059253.250 | 545196.079 | H11-10 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-959 | 37mm Frag | 26-Jun-08 | 0922 | 5059267.906 | 545199.912 | H11-15 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-960 | 37mm Frag | 26-Jun-08 | 0926 | 5059272.268 | 545203.663 | H11-15 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-961 | 37mm Frag | 26-Jun-08 | 0932 | 5059270.487 | 545205.419 | H11-15 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-962 | 37mm Frag | 26-Jun-08 | 0924 | 5059279.048 | 545209.007 | H11-15 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1065 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Jul-08 | 0911 | 5059344.720 | 545231.316 | I12-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1197 | Frag 2"x2" | 10-Sep-08 | 1335 | 5059413.000 | 545001.000 | G12-08 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1201 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 10-Sep-08 | 0918 | 5059415.000 | 545034.000 | G12-15 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1309 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1035 | 5058982.601 | 545158.011 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1313 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1108 | 5058996.764 | 545160.815 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1369 | M73 35mm LAW Sub Caliber | 19-Nov-08 | 1049 | 5059028.500 | 544925.290 | G-9 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1417 | Rifle Grenade (Practice) | 16-Dec-08 | 1540 | 5059336.980 | 544678.880 | E-12 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1418 | 3-inch Stokes Mortar Fuze Base | 16-Dec-08 | 1542 | 5059363.650 | 544679.850 | E-12 | MKM-CB-013 | 8140.02 | 2 | 1 |
| MD-1430 | 2.36" Rocket Motor | 18-Dec-08 | 0915 | 5059249.790 | 544884.920 | F-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1435 | 2.36" Rocket Motor | 18-Dec-08 | 1112 | 5059200.220 | 544776.010 | F-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1436 | Rifle Grenade Tail Boom | 18-Dec-08 | 1115 | 5059205.130 | 544765.480 | F-11 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1488 | Rifle Grenade Tail Boom | 8-Jan-09 | 1330 | 5059311.100 | 544726.830 | E-11 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1489 | Rifle Grenade Tail Boom | 8-Jan-09 | 1340 | 5059312.240 | 544729.820 | E-11 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1490 | Rifle Grenade Tail Boom | 8-Jan-09 | 1410 | 5059300.370 | 544736.630 | E-11 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1491 | 3-inch Stokes Mortar | 8-Jan-09 | 1430 | 5059302.220 | 544738.490 | E-11 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1536 | Rifle Grenade Tail Boom | 28-Jan-09 | 1110 | 5059179.230 | 544828.000 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1543 | 2.36" Rocket Motor | 28-Jan-09 | 1200 | 5059132.580 | 544843.060 | F-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1547 | Rifle Grenade Tail Boom | 28-Jan-09 | 1410 | 5059117.500 | 544810.500 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |

**Table B-5**
**Summary of MD Findings**
**Roads and Trails**
**Buffers**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1551 | 2.36" Rocket Motor | 28-Jan-09 | 1541 | 5059175.850 | 544803.080 | F-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1575 | 40mm Practice Grenade | 11-Dec-08 | 0921 | 5059893.840 | 545388.600 | J-15 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1578 | M18 Smoke Grenade | 12-Feb-09 | 0800 | 5059900.280 | 545031.700 | G-15 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1580 | 3-inch Stokes Mortar | 12-Feb-09 | 0935 | 5059897.250 | 545006.720 | G-15 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1592 | 2.36" Rocket Motor | 12-Feb-08 | 0915 | 5058019.000 | 544695.000 | E-3 | MKM-CB-014 | 8137.02 | 5 | 1 |
| MD-1597 | Frag | 18-Feb-09 | 1610 | 5060764.250 | 546075.700 | N-21 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1599 | Flare Launch Tube | 19-Feb-09 | 1000 | 5060780.930 | 546269.580 | P-21 | MKM-CB-014 | 8140.02 | 7 | 1 |
| | | | | | | | | | SUBTOTAL R&T BUFFER | 198 |
| | | | | | | | | | **GRAND TOTAL** | **198** |

| Legend | |
|---|---|
| **MEC** | Munitions and Explosives of Concern |
| **MD** | Munitions Debris |
| **MKM-CB-001** | 55-gallong drum containing MD |
| ** All listings reported as of February 28, 2009* | |

| MD Categories | |
|---|---|
| **1** | Small Arms and Ammunition |
| **2** | MD fragments |
| **3** | Projectiles |
| **4** | Landmines |
| **5** | Rockets |
| **6** | Grenades |
| **7** | Flares |
| **8** | Fuze spoons |
| **9** | Miscellaneous |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| CVF | | | | | | | | | | |
| ***ESA*** | | | | | | | | | | |
| MD-453 | Rifle Grenade, Smoke (EXPENDED) | 15-Nov-07 | 1055 | 5057943.000 | 544788.000 | E-2 | MKM-CB-004 | 8137.01 | 6 | 1 |
| MD-454 | Slap Flare (EXPENDED) | 16-Nov-07 | 1350 | 5057926.000 | 544754.000 | E-2 | MKM-CB-004 | 8137.01 | 7 | 1 |
| MD-455 | 2.36" Rocket Tail Boom & Motor (EXPENDED) | 20-Nov-07 | 1115 | 5057850.000 | 544324.000 | B-2 | MKM-CB-001 | 8137.01 | 2 | 1 |
| MD-456 | 2.36" Rocket Tail Boom & Motor (EXPENDED) | 20-Nov-07 | 1120 | 5057885.000 | 544322.000 | B-2 | MKM-CB-001 | 8137.01 | 2 | 1 |
| MD-457 | 2.36" Rocket Motor (EXPENDED) | 20-Nov-07 | 1130 | 5057874.000 | 544324.000 | B-2 | MKM-CB-001 | 8137.01 | 2 | 1 |
| MD-458 | 3-inch Stokes Mortar Tail Boom | 28-Nov-07 | 1416 | 5057959.000 | 544325.000 | B-3 | MKM-CB-002 | 8137.01 | 2 | 1 |
| MD-459 | 2.36" Rocket Warhead Shaped Charge Cone | 28-Nov-07 | 1145 | 5057975.000 | 544311.000 | B-3 | MKM-CB-001 | 8137.01 | 2 | 1 |
| MD-460 | 3-inch Stokes Mortar Tail Boom | 28-Nov-07 | 1427 | 5057960.000 | 544247.000 | B-3 | MKM-CB-002 | 8137.01 | 2 | 1 |
| MD-461 | Practice Mine, M-1 Series (EXPENDED) | 28-Nov-07 | 1530 | 5057979.000 | 544309.000 | B-3 | MKM-CB-003 | 8137.01 | 4 | 1 |
| MD-658 | Frag 2" x 4" | 6-Feb-08 | 1230 | 5057922.000 | 544509.000 | D-2 | MKM-CB-006 | 8137.02 | 2 | 1 |
| MD-659 | Smoke Grenade, (EXPENDED) | 6-Feb-08 | 1420 | 5058030.000 | 544500.000 | D-3 | MKM-CB-008 | 8137.02 | 6 | 1 |
| MD-660 | Frag 2" x 4" | 6-Feb-08 | 1520 | 5057929.000 | 544618.000 | D-2 | MKM-CB-006 | 8137.02 | 2 | 1 |
| MD-1583 | Smoke Grenade (EXPENDED) | 11-Feb-08 | 0820 | 5057989.000 | 544463.000 | C-3 | MKM-CB-014 | 8137.02 | 6 | 1 |
| MD-1584 | Grenade Fuze (EXPENDED) | 11-Feb-08 | 0910 | 5057954.000 | 544455.000 | C-3 | MKM-CB-014 | 8137.02 | 6 | 1 |
| MD-1585 | 40mm Illumination Frag | 11-Feb-08 | 0920 | 5058024.000 | 544419.000 | C-3 | MKM-CB-014 | 8137.02 | 6 | 1 |
| MD-1586 | 7.62 Blank Ammunition | 11-Feb-08 | 0930 | 5057978.000 | 544414.000 | C-3 | MKM-CB-015 | 8137.02 | 1 | 1 |
| MD-1587 | 3-inch Stokes Mortar | 11-Feb-08 | 1045 | 5057969.000 | 544439.000 | C-3 | MKM-CB-016 | 8137.02 | 3 | 1 |
| MD-1588 | Smoke Grenade (EXPENDED) | 11-Feb-08 | 1220 | 5058003.000 | 544403.000 | C-3 | MKM-CB-014 | 8137.02 | 6 | 1 |
| MD-1589 | Frag 2"x3" | 11-Feb-08 | 1430 | 5057977.000 | 544387.000 | C-3 | MKM-CB-014 | 8137.02 | 2 | 1 |
| MD-1590 | Slap Flare (EXPENDED) | 11-Feb-08 | 1510 | 5057885.000 | 544471.000 | C-2 | MKM-CB-014 | 8137.02 | 7 | 1 |
| MD-1591 | M18 Smoke Grenade (EXPENDED) | 12-Feb-08 | 0910 | 5057993.000 | 544669.000 | E-3 | MKM-CB-014 | 8137.02 | 6 | 1 |
| MD-1593 | M18 Smoke Grenade (EXPENDED) | 12-Feb-08 | 0917 | 5057993.000 | 544729.000 | E-3 | MKM-CB-014 | 8137.02 | 6 | 1 |
| MD-1594 | M18 Smoke Grenade (EXPENDED) | 12-Feb-08 | 0932 | 5057979.000 | 544789.000 | E-3 | MKM-CB-014 | 8137.02 | 6 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-670 | Slap Flare, (EXPENDED) | 18-Feb-08 | 1520 | 5058120.000 | 544342.000 | C-4 | MKM-CB-004 | 8137.02 | 7 | 1 |
| MD-671 | Slap Flare, (EXPENDED) | 18-Feb-08 | 1552 | 5058141.000 | 544383.000 | C-4 | MKM-CB-004 | 8137.02 | 7 | 1 |
| MD-672 | 3-inch Stokes Mortar | 20-Feb-08 | 1139 | 5058080.000 | 544175.000 | A-3 | MKM-CB-007 | 8137.02 | 3 | 1 |
| | | | | | | | | | SUBTOTAL ESA | 26 |
| ***Wetlands*** | | | | | | | | | | |
| MD-854 | Frag 2"x3" | 14-May-08 | 1425 | 5058460.000 | 544659.000 | E-06 | MKM-CB-006 | 8134.01 | 2 | 1 |
| MD-855 | 81mm Practice Mortar | 15-May-08 | 0835 | 5058468.000 | 544868.000 | F-06 | MKM-CB-010 | 8134.01 | 3 | 1 |
| | | | | | | | | | SUBTOTAL WETLANDS | 2 |
| ***1000" Range*** | | | | | | | | | | |
| MD-1211 | 37mm APT (4ea) (FIRED, EXPENDED) | 29-Sep-08 | 0730 | 5059913.080 | 545606.350 | K-15 | MKM-CB-006 | 7100 | 2 | 1 |
| MD-1212 | M-73 35mm LAW Subcaliber (9ea) (FIRED, EXPENDED) | 29-Sep-08 | 1000 | 5059916.070 | 545603.410 | K-15 | MKM-CB-008 | 7100 | 3 | 1 |
| MD-1213 | M-11 Rifle Grenade (Practice, EXPENDED) | 29-Sep-08 | 1100 | 5059914.910 | 545605.380 | K-15 | MKM-CB-004 | 7100 | 6 | 1 |
| MD-1214 | 2.36" Practice Rocket (7ea) (FIRED, EXPENDED) | 29-Sep-08 | 1200 | 5059915.470 | 545611.910 | K-15 | MKM-CB-008 | 7100 | 5 | 1 |
| | | | | | | | | | SUBTOTAL 1000" RANGE | 4 |
| ***CVF - Unclassified*** | | | | | | | | | | |
| MD-036 | 7.62 mm links and brass (50+ pieces) expended | 5-Apr-07 | 1548 | 546462.000 | 5060784.000 | P-21 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-040 | Fuze spoon to trip flare | 9-Apr-07 | 1545 | 546327.000 | 5060764.000 | P-21 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-044 | 7.62 mm blanks (4 pieces - linked) | 10-Apr-07 | 0930 | 546015.000 | 5060732.000 | N-20 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-051 | Slap flare (expended) | 17-Apr-07 | 1146 | 545055.000 | 5059724.000 | H-14 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-052 | Expended Slap Flare | 17-Apr-07 | 1530 | 544810.000 | 5059089.000 | F-9 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-063 | 2 ea slap flare, expended | 30-Apr-07 | 1311 | 5060303.000 | 545970.000 | N-17 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-064 | Red star parachute cartridge, expended | 30-Apr-07 | 1548 | 5060421.000 | 546245.000 | P-18 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-065 | 2 each expended grenade | 30-Apr-07 | 1150 | 5060321.000 | 546115.000 | O-18 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-075 | Light anti-tank weapon (subcaliber) | 8-May-07 | 1550 | 5059956.000 | 545493.000 | K-15 | Display Board | 8146.01 | 3 | 1 |
| MD-097 | Slap flare (expended) | 24-May-07 | 1030 | 5059615.000 | 544835.000 | F-13 | MKM-CB-004 | 8146.01 | 7 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-106 | 7.62 blank pit | 29-May-07 | 1625 | 5059481.000 | 544853.000 | F-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-112 | 7.62 blank pit (D) | 29-May-07 | 0953 | 5059424.000 | 544860.000 | F-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-113 | 7.62 blank pit (E) | 29-May-07 | 0955 | 5059429.000 | 544864.000 | F-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-117 | 5.56 Blank pit | 30-May-07 | 1055 | 5059732.000 | 544812.000 | F-14 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-120 | Smoke Grenade | 30-May-07 | 1410 | 5059687.000 | 544780.000 | F-14 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-121 | Smoke Grenade | 30-May-07 | 1420 | 5059697.000 | 544773.000 | F-14 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-122 | Smoke Grenade | 30-May-07 | 1500 | 5059716.000 | 544746.000 | F-14 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-125 | Smoke Fuze Spoon | 30-May-07 | 0841 | 5060649.000 | 545937.000 | N-20 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-132 | Smoke Grenade (EXPENDED) | 30-May-07 | 1613 | 5060790.000 | 546155.000 | O-21 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-135 | Smoke Grenade (empty) | 30-May-07 | 1240 | 5060816.000 | 546426.000 | Q-21 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-136 | Slap Flare (EXPENDED) | 30-May-07 | 1351 | 5060816.000 | 546426.000 | Q-21 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-137 | 3-inch Stokes Mortar (UNFUZED, practice) | 30-May-07 | 1100 | 5060404.000 | 545603.000 | K-18 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-147 | 7.62 Link Brass | 13-Jun-07 | 0820 | 5059233.000 | 5444795.000 | F-11 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-184 | Signal flare launch tube | 19-Jun-07 | 1310 | 5060753.000 | 546268.000 | P-21 | Display Board | 8146.01 | 7 | 1 |
| MD-207 | 30 Round 5.56 mm magazine empty | 20-Jun-07 | 1410 | 5058580.000 | 545071.000 | G-6 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-209 | 7.62mm blank ammunition 200 rounds | 20-Jun-07 | 1428 | 5058492.000 | 544968.000 | G-6 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-210 | Smoke Grenade (EXPENDED) | 20-Jun-07 | 1435 | 5058509.000 | 544997.000 | G-6 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-211 | Slap flare launcher | 20-Jun-07 | 1440 | 5058566.000 | 545088.000 | G-6 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-233 | Smoke Grenade (EXPENDED) | 2-Jul-07 | 0838 | 5058652.000 | 545109.000 | H-7 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-234 | Smoke Grenade (EXPENDED) | 2-Jul-07 | 0845 | 5058652.000 | 545109.000 | H-7 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-235 | Smoke Grenade (EXPENDED) | 2-Jul-07 | 0850 | 5058640.000 | 545107.000 | H-7 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-237 | Frag (37 mm) | 2-Jul-07 | 0910 | 5058710.000 | 545183.000 | H-7 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-245 | Smoke grenade fuze, (EXPENDED) | 2-Jul-07 | 1140 | 5058878.000 | 545135.000 | H-8 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-251 | M22 Rifle Grenade, Smoke (EXPENDED) | 2-Jul-07 | 1510 | 5059149.000 | 545153.000 | H-10 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-252 | Tail boom of Rifle Grenade | 2-Jul-07 | 1515 | 5059130.000 | 545153.000 | H-10 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-253 | Smoke Grenade (EXPENDED) | 2-Jul-07 | 1520 | 5059159.000 | 545156.000 | H-10 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-255 | 37mm Frag | 2-Jul-07 | 1545 | 5059269.000 | 545186.000 | H-11 | Display Board | 8146.01 | 2 | 1 |
| MD-256 | 3-inch Stokes Mortar (EXPENDED) | 2-Jul-07 | 1600 | 5059279.000 | 545185.000 | H-11 | MKM-CB-003 | 8146.01 | 3 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-257 | 37mm Frag | 2-Jul-07 | 1615 | 5059262.000 | 545183.000 | H-11 | Display Board | 8146.01 | 2 | 1 |
| MD-286 | Signal flare launch tube | 2-Aug-07 | 1311 | 5060753.000 | 546268.000 | P-21 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-306 | Fuze spoon | 9-Aug-07 | 1340 | 5060266.000 | 545951.000 | N-17 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-309 | 3.5" Rocket Frag | 13-Aug-07 | 0810 | 5060225.000 | 545774.000 | L-17 | MKM-CB-003 | 8146.01 | 2 | 1 |
| MD-353 | 3-inch Stokes Mortar (EXPENDED) | 20-Aug-07 | 1105 | 5059426.000 | 544666.000 | E-12 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-358 | 7.62mm blank ammunition | 20-Aug-07 | 1405 | 5059426.000 | 544644.000 | E-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-363 | 3-inch Stokes Mortar Tail boom | 20-Aug-07 | 1510 | 5059367.000 | 544739.000 | E-12 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-366 | Rifle Grenade, (EXPENDED) | 21-Aug-07 | 0740 | 5059330.000 | 544681.000 | E-12 | Display Board | 8146.01 | 6 | 1 |
| MD-368 | 81mm tail boom | 21-Aug-07 | 0955 | 5059357.000 | 544666.000 | E-12 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-369 | Practice hand grenade (EXPENDED) | 21-Aug-07 | 0950 | 5059352.000 | 544653.000 | E-12 | Display Board | 8146.01 | 6 | 1 |
| MD-378 | Practice Mine | 29-Aug-07 | 0740 | 5060343.000 | 564252.000 | P-18 | MKM-CB-003 | 8146.01 | 4 | 1 |
| MD-379 | Rifle Grenade, (EXPENDED) | 29-Aug-07 | 0815 | 5060219.000 | 546150.000 | P-18 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-380 | Slap flare launcher container | 29-Aug-07 | 0906 | 5060277.000 | 546382.000 | P-18 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-381 | Slap flare launcher container | 29-Aug-07 | 0915 | 5060278.000 | 546363.000 | P-18 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-382 | Fuze spoon (3 ea) | 29-Aug-07 | 0935 | 5060290.000 | 546362.000 | P-18 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-383 | Smoke Grenade (EXPENDED) | 5-Sep-07 | 1020 | 5059939.000 | 545154.000 | H-15 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-384 | Smoke Grenade (EXPENDED) | 5-Sep-07 | 1025 | 5059923.000 | 545144.000 | H-15 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-422 | 37mm CS Grenade, (EXPENDED) | 1-Oct-07 | 1530 | 5060160.000 | 545542.000 | K-17 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-423 | 40mm Grenade, Practice, M781 | 1-Oct-07 | 1200 | 5060031.000 | 545504.000 | J-16 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-424 | Training Submunition, plaster filled, 1/2 shell | 4-Oct-07 | 1230 | 5060256.000 | 545539.000 | K-17 | MKM-CB-004 | 8140.01 | 2 | 1 |
| MD-427 | 40mm Grenade, Practice, M781 | 9-Oct-07 | 1500 | 5059870.000 | 543392.000 | J-15 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-433 | Smoke Grenade (EXPENDED) | 9-Oct-07 | 1117 | 5059631.000 | 545427.000 | J-13 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-435 | Frag 1" x 2", part of unknown fuze | 10-Oct-07 | 1345 | 5058159.000 | 544409.000 | B-4 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-437 | 7.62mm blank ammunition, belted | 16-Oct-07 | 0900 | 5060018.000 | 545313.000 | J-16 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-438 | Fuze Spoon | 16-Oct-07 | 0930 | 5060045.000 | 545381.000 | J-16 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-439 | Smoke Grenade (EXPENDED) | 16-Oct-07 | 0935 | 5060014.000 | 545308.000 | J-16 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-440 | Slap Flare (EXPENDED) | 16-Oct-07 | 0935 | 5060014.000 | 545307.000 | J-16 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-442 | Slap Flare (EXPENDED) | 5-Nov-07 | 1020 | 5058179.000 | 544742.000 | E-4 | MKM-CB-004 | 8140.01 | 7 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-444 | Rifle Grenade, Illumination (EXPENDED) | 5-Nov-07 | 1520 | 5058389.000 | 544638.000 | E-5 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-445 | Practice hand grenade (EXPENDED) | 12-Nov-07 | 0830 | 5058731.000 | 545058.000 | G-8 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-446 | Slap Flare (EXPENDED) | 12-Nov-07 | 0900 | 5058690.000 | 544989.000 | G-7 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-448 | 3-inch Stokes Mortar (EXPENDED) | 12-Nov-07 | 1253 | 5059047.000 | 545144.000 | H-10 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-449 | 3-inch Stokes Mortar (EXPENDED) | 12-Nov-07 | 1258 | 5059043.000 | 545128.000 | H-10 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-450 | Slap Flare (EXPENDED) | 12-Nov-07 | 1330 | 5059010.000 | 545133.000 | H-9 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-451 | 7.62mm blank ammunition | 12-Nov-07 | 1340 | 5058986.000 | 545108.000 | H-9 | MKM-CB-005 | 8140.01 | 1 | 1 |
| MD-452 | 3-inch Stokes Mortar (EXPENDED) | 12-Nov-07 | 1410 | 5059069.000 | 545111.000 | H-10 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-462 | 3-inch Stokes Mortar (EXPENDED) | 29-Nov-07 | 1200 | 5059182.000 | 545151.000 | H-10 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-463 | 3-inch Stokes Mortar (EXPENDED) | 29-Nov-07 | 1210 | 5059197.000 | 545143.000 | H-11 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-465 | Slap Flare (EXPENDED) | 29-Nov-07 | 1345 | 5059163.000 | 545113.000 | H-10 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-466 | 37mm Frag | 30-Nov-07 | 0925 | 5059214.000 | 545121.000 | H-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-467 | 37mm Frag | 30-Nov-07 | 0940 | 5059216.000 | 545147.000 | H-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-468 | 3-inch Stokes Mortar (EXPENDED) | 30-Nov-07 | 1030 | 5059214.000 | 545136.000 | H-11 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-469 | 37mm Frag | 30-Nov-07 | 1225 | 5059236.000 | 545072.000 | H-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-470 | 37mm Frag | 30-Nov-07 | 1350 | 5059254.000 | 545154.000 | H-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-471 | 3-inch Stokes Mortar (EXPENDED) | 30-Nov-07 | 1510 | 5059264.000 | 545127.000 | H-11 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-472 | Slap Flare (EXPENDED) | 30-Nov-07 | 1515 | 5059248.000 | 545125.000 | H-11 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-473 | Slap Flare (EXPENDED) | 3-Dec-07 | 0850 | 5059315.000 | 545106.000 | H-11 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-474 | 37mm Frag | 3-Dec-07 | 0915 | 5059299.000 | 545133.000 | H-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-475 | 37mm Frag | 3-Dec-07 | 1005 | 5059298.000 | 545168.000 | H-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-476 | 3-inch Stokes Mortar (EXPENDED) | 3-Dec-07 | 1400 | 5059321.000 | 545152.000 | H-11 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-477 | 3-inch Stokes Mortar (EXPENDED) | 3-Dec-07 | 1505 | 5059375.000 | 545216.000 | I-12 | MKM-CB-003 | 8140.01 | 3 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-478 | Slap Flare (EXPENDED) | 3-Dec-07 | 1520 | 5059303.000 | 545168.000 | H-11 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-479 | 37mm Frag | 3-Dec-07 | 1600 | 5059303.000 | 545167.000 | H-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-480 | Smoke Grenade (EXPENDED) | 4-Dec-07 | 1005 | 5059406.000 | 545121.000 | H-12 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-481 | 3-inch Stokes Mortar (EXPENDED) | 4-Dec-07 | 1018 | 5059386.000 | 545112.000 | H-12 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-482 | Fuze Spoon | 4-Dec-07 | 1025 | 5059392.000 | 545114.000 | H-12 | MKM-CB-004 | 8140.01 | 8 | 1 |
| MD-483 | White Phosphorous Grenade, (EXPENDED) | 4-Dec-07 | 1030 | 5059392.000 | 545172.000 | H-12 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-485 | 37mm Frag | 5-Dec-07 | 0900 | 5059152.000 | 545246.000 | I-10 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-486 | 37mm Frag | 5-Dec-07 | 0915 | 5059165.000 | 545237.000 | I-10 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-487 | 3-inch Stokes Mortar (EXPENDED) | 5-Dec-07 | 1020 | 5059156.000 | 545191.000 | I-10 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-488 | 37mm Frag | 5-Dec-07 | 1331 | 5059174.000 | 545225.000 | I-10 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-489 | Smoke Grenade, (EXPENDED) | 5-Dec-07 | 1345 | 5059173.000 | 545208.000 | H-10 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-490 | 37mm Frag | 5-Dec-07 | 1347 | 5059182.000 | 545225.000 | I-10 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-491 | 37mm Frag | 5-Dec-07 | 1350 | 5059175.000 | 545218.000 | I-10 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-492 | 37mm Frag | 5-Dec-07 | 1425 | 5059198.000 | 545257.000 | I-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-493 | Slap Flare (EXPENDED) | 5-Dec-07 | 1430 | 5059201.000 | 545255.000 | I-11 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-494 | 3-inch Stokes Mortar (EXPENDED) | 5-Dec-07 | 1531 | 5059198.000 | 545184.000 | H-11 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-495 | 37mm Frag | 6-Dec-07 | 0750 | 5059216.000 | 545197.000 | H-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-496 | 37mm Frag | 6-Dec-07 | 0752 | 5059231.000 | 545202.000 | H-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-497 | 37mm Frag | 6-Dec-07 | 0755 | 5059228.000 | 545171.000 | H-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-498 | Smoke Grenade, (EXPENDED) | 6-Dec-07 | 0820 | 5059228.000 | 545322.000 | I-11 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-499 | Smoke Grenade, (EXPENDED) | 6-Dec-07 | 0825 | 5059309.000 | 545226.000 | I-11 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-500 | 37mm Frag | 6-Dec-07 | 1130 | 5059263.800 | 545252.040 | I-11 | MKM-CB-002 | 8140.01 | 2 | 1 |
| MD-501 | 3-inch Stokes Mortar (EXPENDED) | 6-Dec-07 | 1435 | 5059202.000 | 545201.000 | H-11 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-502 | 3-inch Stokes Mortar (EXPENDED) | 6-Dec-07 | 1500 | 5059201.000 | 545260.000 | I-11 | MKM-CB-003 | 8140.01 | 3 | 1 |
| MD-504 | M73 LAW Sub caliber (EXPENDED) | 11-Dec-07 | 1411 | 5059022.000 | 545005.000 | G-10 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-506 | 3-inch Stokes Mortar (EXPENDED) | 12-Dec-07 | 1100 | 5059634.000 | 544732.000 | E-13 | MKM-CB-007 | 8140.01 | 3 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-507 | 3-inch Stokes Mortar (EXPENDED) | 12-Dec-07 | 1310 | 5059552.450 | 544642.830 | E-13 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-508 | 3-inch Stokes Mortar fuze parts, found with item | 12-Dec-07 | 1310 | 5059552.450 | 544642.830 | E-13 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-509 | Slap flare (expended) | 13-Dec-07 | 0927 | 5059512.000 | 544796.000 | F-13 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-510 | 3-inch Stokes Mortar (EXPENDED) | 13-Dec-07 | 0940 | 5059504.000 | 544789.000 | F-13 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-512 | 3-inch Stokes Mortar (EXPENDED) | 13-Dec-07 | 1350 | 5059459.000 | 544670.000 | E-12 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-513 | Ammunition Can full of 7.62 blanks, live | 13-Dec-07 | 1420 | 5059459.000 | 544668.000 | E-12 | MKM-CB-005 | 8140.01 | 1 | 1 |
| MD-514 | 3-inch Stokes Mortar fuze part | 13-Dec-07 | 1440 | 5059458.000 | 544667.000 | E-12 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-515 | Slap flare (expended) | 14-Dec-07 | 0910 | 5059496.000 | 544668.000 | E-13 | MKM-CB-007 | 8140.01 | 7 | 1 |
| MD-516 | 3-inch Stokes Mortar (EXPENDED) | 14-Dec-07 | 0940 | 5059517.000 | 544637.000 | E-13 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-517 | 3-inch Stokes Mortar (EXPENDED) | 14-Dec-07 | 0950 | 5059519.000 | 544638.000 | E-13 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-518 | Rifle Grenade, (EXPENDED) | 17-Dec-07 | 0925 | 5059350.000 | 544654.000 | E-12 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-519 | Rifle Grenade, (EXPENDED) | 17-Dec-07 | 0940 | 5059368.000 | 544658.000 | E-12 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-520 | 2.36" Rocket Warhead (Empty) | 17-Dec-07 | 1140 | 5059280.000 | 544860.000 | F-11 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-521 | Rifle Grenade, tail boom | 17-Dec-07 | 1230 | 5059270.000 | 544834.000 | F-11 | MKM-CB-004 | 8140.01 | 2 | 1 |
| MD-522 | 2.36" Rocket Tail Boom & Motor (EXPENDED) | 17-Dec-07 | 1430 | 5059249.000 | 544782.000 | F-11 | MKM-CB-001 | 8140.01 | 2 | 1 |
| MD-525 | Slap Flare (EXPENDED) | 18-Dec-07 | 1009 | 5059230.000 | 544749.000 | E-11 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-526 | 3-inch Stokes Mortar (EXPENDED) | 18-Dec-07 | 1012 | 5059239.000 | 544745.000 | E-11 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-527 | Rifle Grenade, (EXPENDED) | 18-Dec-07 | 1018 | 5059770.000 | 544726.000 | E-14 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-528 | Slap Flare, (EXPENDED) | 18-Dec-07 | 1025 | 5059272.000 | 544721.000 | E-11 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-529 | Slap Flare (EXPENDED) | 18-Dec-07 | 1120 | 5059244.000 | 544743.000 | E-11 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-530 | 2.36" Rocket Motor only with fins (EXPENDED) | 18-Dec-07 | 1154 | 5059166.000 | 544761.000 | F-10 | MKM-CB-001 | 8140.01 | 2 | 1 |
| MD-531 | 3-inch Stokes Mortar (EXPENDED) | 18-Dec-07 | 1213 | 5059119.000 | 544803.000 | F-10 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-532 | Slap Flare (EXPENDED) | 18-Dec-07 | 1348 | 5059172.000 | 544771.000 | F-10 | MKM-CB-004 | 8140.01 | 7 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-533 | Slap Flare (EXPENDED) | 18-Dec-07 | 1500 | 5059121.000 | 544792.000 | F-10 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-534 | 40mm Practice Grenade (FIRED, UNFUZED) | 2-Jan-08 | 0838 | 5059805.000 | 545143.000 | H-15 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-535 | Fuze Spoon | 2-Jan-08 | 1201 | 5059870.000 | 545430.000 | J-15 | MKM-CB-004 | 8140.01 | 8 | 1 |
| MD-536 | Smoke Grenades (3 EA) (EXPENDED) | 2-Jan-08 | 1208 | 5059831.000 | 545416.000 | J-15 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-537 | Slap Flare Launcher | 2-Jan-08 | 1351 | 5059586.000 | 545366.000 | J-13 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-538 | 3-inch Stokes Mortar (EXPENDED) | 2-Jan-08 | 1422 | 5059504.000 | 545298.000 | I-13 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-539 | 81mm Mortar, Practice, (EXPENDED, UNFUZED) | 2-Jan-08 | 1508 | 5059469.000 | 545222.000 | I-12 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-540 | 3-inch Stokes Mortar, (FIRED, EXPENDED) | 3-Jan-08 | 1005 | 5059708.000 | 545204.000 | I-14 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-541 | Smoke Grenade, (EXPENDED) | 4-Jan-08 | 1036 | 5059829.000 | 545461.000 | J-15 | MKM-CB-008 | 8140.01 | 6 | 1 |
| MD-542 | Smoke Grenade, (EXPENDED) | 4-Jan-08 | 1047 | 5059835.000 | 545461.000 | J-15 | MKM-CB-008 | 8140.01 | 6 | 1 |
| MD-543 | Smoke Grenade, (EXPENDED) | 4-Jan-08 | 1130 | 5059715.000 | 545477.000 | J-14 | MKM-CB-008 | 8140.01 | 6 | 1 |
| MD-544 | Smoke Grenade, (EXPENDED) | 4-Jan-08 | 1134 | 5059707.000 | 545469.000 | J-14 | MKM-CB-008 | 8140.01 | 6 | 1 |
| MD-545 | Slap Flare, (EXPENDED) | 4-Jan-08 | 1306 | 5059883.000 | 545499.000 | K-15 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-546 | Slap Flare, (EXPENDED) | 4-Jan-08 | 1336 | 5059804.000 | 545477.000 | J-14 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-547 | 2.36" Rocket, (FIRED, UNFUZED) | 4-Jan-08 | 1549 | 5059901.000 | 545589.000 | K-15 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-548 | M73 Rocket, Practice 35mm, (EXPENDED) (LAW subcaliber) | 7-Jan-08 | 0818 | 5059940.000 | 545600.000 | K-15 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-549 | M73 Rocket, Practice 35mm, (EXPENDED) (LAW subcaliber) | 7-Jan-08 | 0818 | 5059940.000 | 545600.000 | K-15 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-550 | M73 Rocket, Practice 35mm, (EXPENDED) (LAW subcaliber) | 7-Jan-08 | 0902 | 5059948.000 | 545638.000 | K-15 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-551 | M73 Rocket, Practice 35mm, (EXPENDED) (LAW subcaliber) | 7-Jan-08 | 0906 | 5059937.000 | 545652.000 | L-15 | MKM-CB-001 | 8140.01 | 5 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-552 | M73 Rocket, Practice 35mm, (EXPENDED) (LAW subcaliber) | 7-Jan-08 | 0906 | 5059937.000 | 545652.000 | L-15 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-553 | M73 Rocket, Practice 35mm, (EXPENDED) (LAW subcaliber) | 7-Jan-08 | 0906 | 5059937.000 | 545652.000 | L-15 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-554 | M73 Rocket, Practice 35mm, (EXPENDED) (LAW subcaliber) | 7-Jan-08 | 0909 | 5059946.000 | 545639.000 | K-15 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-555 | Slap Flare, (EXPENDED) | 7-Jan-08 | 1316 | 5060053.000 | 545871.000 | M-16 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-557 | Rifle Grenade, Practice (EXPENDED) | 8-Jan-08 | 1354 | 5060201.000 | 545969.000 | N-17 | MKM-CB-008 | 8140.01 | 6 | 1 |
| MD-558 | Rifle Grenade, Practice (EXPENDED) | 8-Jan-08 | 1359 | 5060208.000 | 545974.000 | L-17 | MKM-CB-008 | 8140.01 | 6 | 1 |
| MD-559 | Frag 3" x 3" x 1.5" | 9-Jan-08 | 1111 | 5060198.000 | 546191.000 | O-17 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-568 | Frag 4" x 3" | 10-Jan-08 | 1216 | 5060393.000 | 546516.000 | Q-18 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-569 | Frag 6" x 2" | 11-Jan-08 | 0910 | 5060385.000 | 546389.000 | P-18 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-570 | 3-inch Stokes Mortar, (EXPENDED) | 11-Jan-08 | 1010 | 5060353.000 | 546355.000 | P-18 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-572 | 2.75" Rocket Parts | 11-Jan-08 | 1039 | 5060368.000 | 546405.000 | Q-18 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-575 | 2.75" Rocket Frag 8" x 8" | 11-Jan-08 | 1056 | 5060412.000 | 546448.000 | Q-18 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-576 | 2.75" Rocket Parts | 11-Jan-08 | 1141 | 5060410.000 | 546418.000 | Q-18 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-577 | 37mm Frag 3" x 1" | 11-Jan-08 | 1144 | 5060404.000 | 546395.000 | Q-18 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-579 | 2.75" Rocket Fin Assembly | 11-Jan-08 | 1154 | 5060384.000 | 546342.000 | P-18 | MKM-CB-008 | 8140.01 | 2 | 1 |
| MD-581 | Rifle Grenade, (EXPENDED) | 11-Jan-08 | 1333 | 5060347.000 | 546304.000 | P-18 | MKM-CB-008 | 8140.01 | 6 | 1 |
| MD-582 | 2.75" Rocket Frag 6" x 3" | 11-Jan-08 | 1342 | 5060363.000 | 546325.000 | P-18 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-583 | Frag 1" x 5" | 14-Jan-08 | 0912 | 5060359.000 | 546263.000 | P-18 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-584 | 40mm Frag | 14-Jan-08 | 0918 | 5060335.000 | 546305.000 | P-18 | Safety Display | 8140.01 | 6 | 1 |
| MD-587 | Frag 1" x 3" | 15-Jan-08 | 0917 | 5060730.000 | 546574.000 | R-20 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-590 | 81mm Frag 7" x 7" | 16-Jan-08 | 0910 | 5060546.000 | 546447.000 | Q-19 | MKM-CB-006 | 8140.01 | 3 | 1 |
| MD-592 | 37mm Base Fuze, (EXPENDED) | 17-Jan-08 | 1150 | 5059188.000 | 545206.000 | H-11 | Safety Display | 8146.02 | 2 | 1 |
| MD-595 | Grenade Spoon | 18-Jan-08 | 1124 | 5060727.000 | 546052.000 | N-20 | MKM-CB-008 | 8140.01 | 8 | 1 |
| MD-597 | Smoke Grenade, (EXPENDED) | 18-Jan-08 | 1420 | 5060787.000 | 546411.000 | Q-21 | MKM-CB-008 | 8140.01 | 6 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-612 | 40mm Cartridge, Flare, (EXPENDED) | 22-Jan-08 | 0830 | 5060743.000 | 546068.000 | N-20 | MKM-CB-004 | 8140.01 | 6 | 1 |
| MD-614 | 2.36" Rocket Parts, (EXPENDED) | 22-Jan-08 | 0947 | 5060665.000 | 546068.000 | N-20 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-616 | 2.36" Rocket Parts, (EXPENDED) | 22-Jan-08 | 1438 | 5060697.000 | 546024.000 | N-20 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-618 | 105mm Casing, (EXPENDED) | 22-Jan-08 | 1535 | 5058422.000 | 544988.000 | G-5 | MKM-CB-008 | 8140.02 | 3 | 1 |
| MD-622 | 2.36" Rocket Warhead (EMPTY) | 23-Jan-08 | 1145 | 5060585.000 | 545966.000 | N-19 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-623 | 2.36" Rocket Parts, (EXPENDED) | 23-Jan-08 | 1155 | 5060593.000 | 545955.000 | N-20 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-624 | 2.36" Rocket Motor, (EXPENDED) | 23-Jan-08 | 1353 | 5060580.000 | 546007.000 | N-19 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-628 | 7.62 Blank Ammunition (100 rounds) | 28-Jan-08 | 0935 | 5060553.000 | 546075.000 | N-19 | MKM-CB-005 | 8140.01 | 1 | 1 |
| MD-629 | 2.36" Rocket Motor (EXPENDED) | 28-Jan-08 | 0945 | 5060537.000 | 546067.000 | N-19 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-632 | Frag 2" x 4" | 28-Jan-08 | 1100 | 5058424.000 | 544939.000 | G-6 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-634 | Slap Flare, (EXPENDED) | 28-Jan-08 | 1210 | 5058310.000 | 544657.000 | E-5 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-640 | 37mm Frag | 29-Jan-08 | 1619 | 5058446.000 | 544969.000 | G-6 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-641 | Slap Flare, (EXPENDED) | 30-Jan-08 | 1000 | 5060488.000 | 545973.000 | N-19 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-642 | Smoke Grenade, (EXPENDED) | 30-Jan-08 | 1000 | 5058563.000 | 545019.000 | G-6 | MKM-CB-008 | 8140.02 | 6 | 1 |
| MD-643 | 7.62 Blank Ammunition | 30-Jan-08 | 1030 | 5058516.000 | 544999.000 | G-6 | MKM-CB-005 | 8140.02 | 1 | 1 |
| MD-645 | 3-inch Stokes Mortar, (EXPENDED) | 30-Jan-08 | 1150 | 5060401.000 | 545695.000 | L-18 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-646 | 7.62 Blank Ammunition | 30-Jan-08 | 1157 | 5058538.000 | 545010.000 | G-6 | MKM-CB-005 | 8140.02 | 1 | 1 |
| MD-647 | 3-inch Stokes Mortar, (EXPENDED) | 30-Jan-08 | 1538 | 5060335.000 | 545603.000 | K-18 | MKM-CB-007 | 8140.01 | 3 | 1 |
| MD-648 | Slap Flare, (EXPENDED) | 30-Jan-08 | 1606 | 5060332.000 | 545590.000 | K-18 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-649 | Frag 1" x 2" | 31-Jan-08 | 1025 | 5058305.000 | 544490.000 | D-5 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-650 | Frag .5" x 1.5" | 31-Jan-08 | 1047 | 5058292.000 | 544461.000 | C-5 | MKM-CB-006 | 8140.01 | 2 | 1 |
| MD-651 | 2.36" Rocket Warhead (EMPTY) | 24-Jan-08 | 1114 | 5060573.000 | 546015.000 | N-19 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-652 | Frag .5" x 2.5" | 24-Jan-08 | 1554 | 5060573.000 | 546015.000 | N-19 | MKM-CB-006 | 8140.01 | 2 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-653 | 2.36" Rocket Motor (EXPENDED) | 24-Jan-08 | 1613 | 5060573.000 | 546015.000 | N-19 | MKM-CB-001 | 8140.01 | 5 | 1 |
| MD-666 | Slap Flare, (EXPENDED) | 13-Feb-08 | 0941 | 5059407.000 | 544865.000 | F-12 | MKM-CB-004 | 8146.02 | 7 | 1 |
| MD-669 | 3-inch Stokes Mortar, (EXPENDED) | 13-Feb-08 | 1430 | 5059458.000 | 544835.000 | F-12 | MKM-CB-007 | 8146.02 | 3 | 1 |
| MD-673 | 2.36" Rocket Parts, (EXPENDED) | 20-Feb-08 | 1230 | 5060592.000 | 546036.000 | N-20 | MKM-CB-008 | 8140.01 | 5 | 1 |
| MD-676 | Slap Flare Container | 21-Feb-08 | 1117 | 5059442.000 | 545285.000 | I-12 | MKM-CB-004 | 8146.02 | 7 | 1 |
| MD-677 | 7.62 Blank Ammunition (100 rounds) | 21-Feb-08 | 1155 | 5059381.000 | 545174.000 | H-12 | MKM-CB-009 | 8146.02 | 1 | 1 |
| MD-680 | Slap Flare, (EXPENDED) | 27-Feb-08 | 0820 | 5059603.000 | 545005.000 | G-13 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-681 | Slap Flare, (EXPENDED) | 3-Mar-08 | 1230 | 5058119.468 | 544717.654 | E-4 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-682 | Frag 1" x 4" | 3-Mar-08 | 1400 | 5058168.088 | 544706.485 | E-4 | MKM-CB-010 | 8140.02 | 2 | 1 |
| MD-693 | Frag 1"x2" | 10-Mar-08 | 1002 | 5059284.000 | 544692.000 | E-11 | MKM-CB-010 | 8119.02 | 2 | 1 |
| MD-702 | Slap Flare (EXPENDED) | 11-Mar-08 | 0845 | 5059516.000 | 544687.000 | E-13 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-725 | Slap Flare (EXPENDED) | 19-Mar-08 | 0945 | 5059632.208 | 544851.550 | F13-25 | MKM-CB-004 | 8140.02 | 8 | 1 |
| MD-726 | Rifle Grenade, Illumination (EXPENDED) | 19-Mar-08 | 0800 | 5058033.777 | 544748.159 | E3-14 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-727 | 105mm Shell Casing (Primer expended) | 19-Mar-08 | 1000 | 5059649.595 | 544830.786 | F14-3 | MKM-CB-010 | 8140.02 | 9 | 1 |
| MD-728 | Slap Flare (EXPENDED) | 19-Mar-08 | 1130 | 5059611.816 | 544904.593 | G13-21 | MKM-CB-010 | 8140.02 | 7 | 1 |
| MD-729 | M-8 AP Practice Landmine (EXPENDED) | 19-Mar-08 | 0915 | 5059585.525 | 544855.602 | F13-19 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-730 | M-8 AP Practice Landmine (EXPENDED) | 19-Mar-08 | 0920 | 5059579.552 | 544836.239 | F13-19 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-731 | M-8 AP Practice Landmine (EXPENDED) | 19-Mar-08 | 0905 | 5059598.788 | 544840.549 | F13-19 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-732 | M-20 AT Practice Landmine (EXPENDED) | 19-Mar-08 | 0910 | 5059583.271 | 54859.658 | F13-19 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-733 | Slap Flare (EXPENDED) | 20-Mar-08 | 1130 | 5059488.395 | 544915.087 | G12-21 | MKM-CB-010 | 8140.02 | 7 | 1 |
| MD-734 | 3-inch Stokes Mortar, (EXPENDED) | 20-Mar-08 | 1135 | 5059466.545 | 544923.149 | G12-21 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-743 | Slap Flare Tail Boom | 25-Mar-08 | 1200 | 5059473.000 | 544890.000 | F-12 | MKM-CB-004 | 8140.02 | 7 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-744 | 3-inch Stokes Mortar, (EXPENDED) | 25-Mar-08 | 1210 | 5059432.000 | 544891.000 | F-12 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-748 | Frag 1"x5" | 27-Mar-08 | 1345 | 5059912.000 | 544993.000 | G15-19 | MKM-CB-006 | 8110.01 | 2 | 1 |
| MD-768 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Apr-08 | 1520 | 5060730.000 | 546246.000 | P-20 | MKM-CB-010 | 8110.01 | 4 | 1 |
| MD-776 | Smoke Grenade (EXPENDED) | 7-Apr-08 | 1500 | 5058410.875 | 544938.881 | G05-21 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-779 | Grenade Spoon | 8-Apr-08 | 0927 | 5058456.252 | 544955.736 | G06-07 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-781 | Grenade Spoon | 8-Apr-08 | 0845 | 5058535.065 | 544999.791 | G06-18 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-782 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 8-Apr-08 | 1459 | 5059828.375 | 544827.728 | F15-08 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-783 | Slap Flare (EXPENDED) | 10-Apr-08 | 1448 | 5059724.061 | 544790.417 | F14-12 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-784 | Slap Flare (EXPENDED) | 10-Apr-08 | 1430 | 5059732.327 | 544917.425 | G14-11 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-786 | Grenade Spoon | 14-Apr-08 | 0952 | 5059686.551 | 544908.813 | G14-06 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-790 | 3-inch Stokes Mortar (FIRED, UNFUZED) (Burial Pit) | 15-Apr-08 | 0830 | 5059360.981 | 544781.214 | F12-02 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-791 | M8 - AP Practice Landmine | 15-Apr-08 | 1525 | 5059381.810 | 544782.256 | F12-07 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-794 | M8 - AP Practice Landmine | 16-Apr-08 | 0830 | 5059370.214 | 544749.080 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-795 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 16-Apr-08 | 0850 | 5059379.969 | 544749.209 | F12-06 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-796 | M12A1 AT Practice Landmine | 16-Apr-08 | 0837 | 5059383.005 | 544753.015 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-797 | M8 - AP Practice Landmine | 16-Apr-08 | 0852 | 5059384.254 | 544754.664 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-798 | M8 - AP Practice Landmine | 16-Apr-08 | 0803 | 5059375.192 | 544757.433 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-799 | M8 - AP Practice Landmine | 16-Apr-08 | 0800 | 5059374.340 | 544758.722 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-800 | M8 - AP Practice Landmine | 16-Apr-08 | 0755 | 5059370.348 | 544759.405 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-801 | M8 - AP Practice Landmine | 16-Apr-08 | 0851 | 5059380.361 | 544761.293 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-802 | M12A1 AT Practice Landmine | 16-Apr-08 | 0802 | 5059362.949 | 544762.104 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-803 | M8 - AP Practice Landmine | 16-Apr-08 | 0854 | 5059386.966 | 544761.747 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-804 | M8 - AP Practice Landmine | 16-Apr-08 | 0902 | 5059388.828 | 544762.275 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-805 | M8 - AP Practice Landmine | 16-Apr-08 | 0908 | 5059382.732 | 544762.506 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-806 | M8 - AP Practice Landmine | 16-Apr-08 | 0743 | 5059363.365 | 544764.395 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-807 | M8 - AP Practice Landmine | 16-Apr-08 | 0744 | 5059366.227 | 544767.522 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-808 | M8 - AP Practice Landmine | 16-Apr-08 | 0745 | 5059371.977 | 544767.765 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-809 | 3-inch Stokes Tail Boom | 16-Apr-08 | 0902 | 5059383.649 | 544769.149 | F12-06 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-810 | M12A1 AT Practice Landmine | 16-Apr-08 | 0801 | 5059388.135 | 544769.315 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-811 | M8 - AP Practice Landmine | 16-Apr-08 | 0911 | 5059379.033 | 544770.651 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-812 | M8 - AP Practice Landmine | 16-Apr-08 | 0909 | 5059381.543 | 544772.037 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-813 | M8 - AP Practice Landmine | 16-Apr-08 | 0926 | 5059375.918 | 544778.709 | F12-06 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-815 | Slap Flare (EXPENDED) | 16-Apr-08 | 1145 | 5059398.926 | 544752.189 | F12-11 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-817 | M8 - AP Practice Landmine | 16-Apr-08 | 1150 | 5059398.264 | 544756.635 | F12-11 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-818 | M20 - AT Practice Landmine | 16-Apr-08 | 1157 | 5059399.760 | 544766.854 | F12-11 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-819 | M8 - AP Practice Landmine | 16-Apr-08 | 1205 | 5059402.339 | 544772.745 | F12-11 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-820 | M8 - AP Practice Landmine | 16-Apr-08 | 1200 | 5059400.642 | 544773.787 | F12-11 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-821 | M8 - AP Practice Landmine | 16-Apr-08 | 1152 | 5059401.127 | 544748.960 | F12-11 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-823 | 3-inch Stokes Frag | 21-Apr-08 | 1036 | 5059473.015 | 544716.081 | E12-25 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-824 | Grenade Spoon | 21-Apr-08 | 1032 | 5059479.118 | 544731.243 | E12-25 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-825 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Apr-08 | 1034 | 5059457.140 | 544742.464 | E12-25 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-826 | Slap Flare (EXPENDED) | 22-Apr-08 | 0801 | 5059312.036 | 544935.913 | G11-22 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-827 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-Apr-08 | 0800 | 5059316.642 | 544937.729 | G11-22 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-828 | Slap Flare (EXPENDED) | 22-Apr-08 | 0802 | 5059336.439 | 544940.952 | G11-22 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-829 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-Apr-08 | 0810 | 5059331.695 | 544945.418 | G11-22 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-830 | Slap Flare (EXPENDED) | 22-Apr-08 | 0815 | 5059336.719 | 544954.054 | G11-22 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-831 | Slap Flare (EXPENDED) | 22-Apr-08 | 1121 | 5059808.984 | 544934.685 | G15-02 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-832 | Slap Flare (EXPENDED) | 23-Apr-08 | 1125 | 5059794.656 | 544988.101 | G14-24 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-833 | 2.36" Rocket (Practice) | 30-Apr-08 | 1340 | 5060072.522 | 545342.933 | J16-16 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-834 | Smoke Grenade (EXPENDED) | 30-Apr-08 | 1230 | 5060082.625 | 545345.564 | J16-16 | MKM-CB-010 | 8140.02 | 6 | 1 |
| MD-835 | 2.36" Rocket Motor (FIRED, EXPENDED) | 30-Apr-08 | 1330 | 5060073.259 | 545349.477 | J16-16 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-836 | Grenade Spoon | 1-May-08 | 1357 | 5059268.891 | 545242.816 | I11-12 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-837 | Grenade Spoon | 1-May-08 | 1356 | 5059271.923 | 545248.170 | I11-12 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-838 | M18 Frag | 1-May-08 | 1402 | 5059279.108 | 545245.278 | I11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-839 | 37mm Frag | 1-May-08 | 1403 | 5059277.182 | 545255.412 | I11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-840 | Grenade Spoon | 1-May-08 | 1405 | 5059278.396 | 545257.213 | I11-12 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-841 | Grenade Spoon | 1-May-08 | 1406 | 5059279.415 | 545258.428 | I11-12 | MKM-CB-004 | 8140.02 | 6 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-856 | M73 Rocket, Practice 35mm, (EXPENDED) (LAW subcaliber) | 21-May-08 | 1501 | 5058987.425 | 544958.924 | G09-17 | MKM-CB-006 | 8140.02 | 5 | 1 |
| MD-860 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-May-08 | 1422 | 5059175.711 | 545135.865 | H10-23 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-861 | 37mm Frag | 22-May-08 | 1351 | 5059175.711 | 545135.865 | H10-23 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-862 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 22-May-08 | 1419 | 5059175.711 | 545135.865 | H10-23 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-863 | 37mm Frag | 22-May-08 | 1419 | 5059175.711 | 545135.865 | H10-23 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-904 | 37mm Frag | 22-May-08 | 1418 | 5059175.711 | 545135.865 | H10-23 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-864 | 37mm Frag | 29-May-08 | 1435 | 5059267.268 | 545132.978 | H11-13 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-865 | 37mm Frag | 29-May-08 | 1341 | 5059235.864 | 545103.488 | H11-07 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-866 | 37mm Frag | 29-May-08 | 1346 | 5059235.864 | 545103.488 | H11-07 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-867 | 37mm Frag | 29-May-08 | 1340 | 5059235.864 | 545103.488 | H11-07 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-868 | 37mm Frag | 29-May-08 | 1342 | 5059235.864 | 545103.488 | H11-07 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-869 | 37mm Frag | 29-May-08 | 1350 | 5059235.864 | 545103.488 | H11-07 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-870 | 37mm Frag | 29-May-08 | 1354 | 5059235.864 | 545103.488 | H11-07 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-871 | 37mm Frag | 29-May-08 | 1402 | 5059235.864 | 545103.488 | H11-07 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-872 | 37mm Frag | 29-May-08 | 1356 | 5059235.864 | 545103.488 | H11-07 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-873 | 37mm Frag | 29-May-08 | 1358 | 5059235.864 | 545103.488 | H11-07 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-874 | 2.36" Rocket Fuze | 29-May-08 | 1100 | 5059206.364 | 545134.902 | H11-03 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-875 | 37mm Frag | 29-May-08 | 1010 | 5059206.364 | 545134.902 | H11-03 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-876 | 37mm Frag | 29-May-08 | 1022 | 5059206.364 | 545134.902 | H11-03 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-877 | 37mm Frag | 29-May-08 | 1030 | 5059206.364 | 545134.902 | H11-03 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-878 | 37mm Frag | 29-May-08 | 1031 | 5059206.364 | 545134.902 | H11-03 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-879 | 37mm Frag | 29-May-08 | 1035 | 5059206.364 | 545134.902 | H11-03 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-880 | 37mm Frag | 29-May-08 | 1038 | 5059206.364 | 545134.902 | H11-03 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-881 | 37mm Frag | 29-May-08 | 1048 | 5059206.364 | 545134.902 | H11-03 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-882 | 37mm Frag | 29-May-08 | 1055 | 5059206.364 | 545134.902 | H11-03 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-883 | 37mm Frag | 29-May-08 | 1107 | 5059206.364 | 545134.902 | H11-03 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-884 | 37mm Frag | 29-May-08 | 1504 | 5059268.231 | 545163.430 | H11-14 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-885 | 37mm Frag | 29-May-08 | 1510 | 5059268.231 | 545163.430 | H11-14 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-886 | 37mm Frag | 29-May-08 | 1505 | 5059268.231 | 545163.430 | H11-14 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-887 | Grenade Spoon | 29-May-08 | 1509 | 5059268.231 | 545163.430 | H11-14 | MKM-CB-004 | 8140.02 | 6 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-888 | Frag 2"x5" | 29-May-08 | 1515 | 5059268.231 | 545163.430 | H11-14 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-889 | Frag 1"x4" | 30-May-08 | 0908 | 5059297.721 | 545132.016 | H11-18 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-890 | 37mm Frag | 30-May-08 | 0859 | 5059297.721 | 545132.016 | H11-18 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-891 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-May-08 | 0858 | 5059297.721 | 545132.016 | H11-18 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-892 | Frag 3"x7" | 30-May-08 | 1404 | 5059391.002 | 545190.034 | H12-10 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-893 | 37mm Frag | 30-May-08 | 0944 | 5059298.683 | 545162.468 | H11-19 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-894 | Slap Flare (EXPENDED) | 30-May-08 | 0943 | 5059298.683 | 545162.468 | H11-19 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-895 | 37mm Frag | 30-May-08 | 0956 | 5059298.683 | 545162.468 | H11-19 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-896 | 37mm Frag | 30-May-08 | 0955 | 5059298.683 | 545162.468 | H11-19 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-897 | 37mm Frag | 2-Jun-08 | 1138 | 5058967.115 | 544983.212 | G09-13 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-898 | Grenade Spoon | 2-Jun-08 | 1347 | 5058968.628 | 545013.875 | G09-14 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-899 | 37mm Frag | 2-Jun-08 | 1358 | 5058949.009 | 545027.354 | G09-14 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-900 | Slap Flare (EXPENDED) | 3-Jun-08 | 1445 | 5059829.769 | 544962.960 | G15-08 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-901 | 37mm Frag | 3-Jun-08 | 0821 | 5059404.387 | 545301.943 | I12-09 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-905 | 3-inch Stokes Mortar Tail Boom | 10-Jun-08 | 1245 | 5058957.035 | 545064.141 | G09-15 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-906 | Rifle Grenade Tail Boom | 11-Jun-08 | 1202 | 5059341.436 | 544695.416 | E12-04 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-907 | 3-inch Stokes Tail Boom | 11-Jun-08 | 1220 | 5059345.242 | 544701.929 | E12-04 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-908 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 11-Jun-08 | 1100 | 5059336.022 | 544765.609 | F12-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-909 | M-8 AP Practice Landmine (EXPENDED) | 11-Jun-08 | 1550 | 5059360.903 | 544762.402 | F12-01 | MKM-CB-010 | 8140.02 | 4 | 1 |
| MD-910 | 3-inch Stokes Tail Boom | 11-Jun-08 | 1600 | 5059361.005 | 544749.228 | F12-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-911 | M-8 AP Practice Landmine (EXPENDED) | 11-Jun-08 | 1605 | 5059357.092 | 544771.219 | F12-01 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-915 | 37mm Frag | 12-Jun-08 | 1111 | 5059277.265 | 545090.100 | H11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-916 | 37mm Frag | 12-Jun-08 | 1112 | 5059273.500 | 545089.881 | H11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-917 | 37mm Frag | 12-Jun-08 | 1113 | 5059260.822 | 545096.070 | H11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-918 | 37mm Frag | 12-Jun-08 | 1112 | 5059256.286 | 545099.170 | H11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-919 | 37mm Frag | 12-Jun-08 | 1116 | 5059254.009 | 545102.317 | H11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-920 | 37mm Frag | 12-Jun-08 | 1222 | 5059256.375 | 545103.807 | H11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-921 | 37mm Frag | 12-Jun-08 | 1222 | 5059256.375 | 545103.807 | H11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-922 | 37mm Frag | 12-Jun-08 | 1225 | 5059251.895 | 545108.200 | H11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-923 | 37mm Frag | 12-Jun-08 | 1223 | 5059257.244 | 545097.014 | H11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-924 | 37mm Frag | 12-Jun-08 | 1117 | 5059268.847 | 545112.788 | H11-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-942 | 37mm Frag | 16-Jun-08 | 1125 | 5059130.021 | 545262.885 | I10-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-943 | 37mm Frag | 16-Jun-08 | 1129 | 5059112.875 | 545267.869 | I10-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-944 | Practice Hand Grenade | 16-Jun-08 | 1134 | 5059114.248 | 545267.869 | I10-12 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-945 | MK2 Practice Grenade | 16-Jun-08 | 1137 | 5059114.187 | 545269.221 | I10-12 | MKM-CB-006 | 8140.02 | 6 | 1 |
| MD-946 | 3-inch Stokes Tail Boom | 16-Jun-08 | 0759 | 5059343.077 | 544737.615 | E12-05 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-948 | 37mm Frag | 16-Jun-08 | 0845 | 5059235.805 | 545211.865 | I11-06 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-949 | 37mm Frag | 16-Jun-08 | 0907 | 5059233.127 | 545215.328 | I11-06 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-950 | 3-inch Stokes Tail Boom | 16-Jun-08 | 0902 | 5059241.969 | 545220.037 | I11-06 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-951 | 37mm Frag | 16-Jun-08 | 0922 | 5059250.306 | 545220.311 | I11-06 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-952 | 37mm Frag | 16-Jun-08 | 0914 | 5059245.363 | 545226.017 | I11-06 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-953 | 37mm Frag | 26-Jun-08 | 0830 | 5059224.660 | 545187.179 | H11-10 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-954 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 26-Jun-08 | 0835 | 5059232.991 | 545194.666 | H11-10 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-955 | 37mm Frag | 26-Jun-08 | 0843 | 5059229.604 | 545195.239 | H11-10 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-957 | 37mm Frag | 26-Jun-08 | 0840 | 5059226.357 | 545201.479 | H11-10 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-958 | 37mm Frag | 26-Jun-08 | 0943 | 5059278.926 | 545185.595 | H11-15 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-963 | 37mm Frag | 26-Jun-08 | 1441 | 5059311.183 | 545119.951 | H11-23 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-964 | 37mm Frag | 26-Jun-08 | 1442 | 5059317.515 | 545119.340 | H11-23 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-965 | 37mm Frag | 30-Jun-08 | 0915 | 5059185.096 | 545186.347 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-966 | 37mm Frag | 30-Jun-08 | 0910 | 5059189.513 | 545185.186 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-967 | 37mm Frag | 30-Jun-08 | 0905 | 5059168.891 | 545188.644 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-968 | 37mm Frag | 30-Jun-08 | 0910 | 5059186.113 | 545188.498 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-969 | 37mm Frag | 30-Jun-08 | 0925 | 5059170.071 | 545191.852 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-970 | 37mm Frag | 30-Jun-08 | 1125 | 5059174.998 | 545189.055 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-971 | 37mm Frag | 30-Jun-08 | 1125 | 5059168.926 | 545187.280 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-972 | 37mm Frag | 30-Jun-08 | 1100 | 5059177.726 | 545189.293 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-973 | 37mm Frag | 30-Jun-08 | 1120 | 5059174.931 | 545188.035 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-974 | 37mm Frag | 30-Jun-08 | 1045 | 5059174.934 | 545190.455 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-975 | 37mm Frag | 30-Jun-08 | 1000 | 5059189.645 | 545191.634 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-976 | 37mm Frag | 30-Jun-08 | 1010 | 5059179.057 | 545191.287 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-977 | 37mm Frag | 30-Jun-08 | 1000 | 5059192.699 | 545189.895 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-978 | 37mm Frag | 30-Jun-08 | 1005 | 5059184.594 | 545195.853 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-979 | 37mm Frag | 30-Jun-08 | 1135 | 5059176.369 | 545191.922 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-980 | 37mm Frag | 30-Jun-08 | 1130 | 5059171.726 | 545198.641 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-981 | 37mm Frag | 30-Jun-08 | 1340 | 5059173.023 | 545195.568 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-982 | 3-inch Stokes Frag | 30-Jun-08 | 1015 | 5059184.090 | 545194.630 | H10-25 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-983 | 37mm Frag | 30-Jun-08 | 1345 | 5059175.622 | 545194.394 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-984 | 37mm Frag | 30-Jun-08 | 1335 | 5059191.757 | 545195.814 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-985 | 37mm Frag | 30-Jun-08 | 1335 | 5059166.666 | 545192.823 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-986 | 37mm Frag | 30-Jun-08 | 1340 | 5059187.037 | 545195.040 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-987 | 37mm Frag | 30-Jun-08 | 1345 | 5059171.453 | 545196.919 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-988 | 37mm Frag | 30-Jun-08 | 1340 | 5059175.065 | 545198.840 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-989 | 37mm Frag | 30-Jun-08 | 1340 | 5059179.787 | 545197.782 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-990 | 37mm Frag | 30-Jun-08 | 1350 | 5059167.134 | 545194.812 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-991 | 37mm Frag | 30-Jun-08 | 1400 | 5059191.872 | 545199.139 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-992 | 37mm Frag | 30-Jun-08 | 1345 | 5059177.525 | 545198.572 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-993 | 37mm Frag | 30-Jun-08 | 1355 | 5059193.011 | 545193.812 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-994 | 37mm Frag | 30-Jun-08 | 1350 | 5059169.693 | 545198.544 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-995 | 37mm Frag | 30-Jun-08 | 1400 | 5059188.228 | 545197.239 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-996 | 37mm Frag (2ea) | 30-Jun-08 | 1355 | 5059177.377 | 545199.360 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-997 | 37mm Frag | 30-Jun-08 | 1400 | 5059177.034 | 545197.367 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-998 | 37mm Frag (2ea) | 30-Jun-08 | 1420 | 5059178.072 | 545198.747 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-999 | 37mm Frag | 30-Jun-08 | 1415 | 5059182.867 | 545198.446 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1000 | 37mm Frag | 30-Jun-08 | 1405 | 5059187.263 | 545199.470 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1001 | 37mm Frag | 30-Jun-08 | 1420 | 5059189.918 | 545197.515 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1002 | 37mm Frag | 30-Jun-08 | 1340 | 5059172.083 | 545199.582 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1003 | 37mm Frag (2ea) | 30-Jun-08 | 1430 | 5059195.160 | 545198.678 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1004 | 37mm Frag | 30-Jun-08 | 1410 | 5059164.926 | 545200.785 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1005 | 37mm Frag | 30-Jun-08 | 1410 | 5059170.568 | 545203.868 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1006 | 37mm Frag | 30-Jun-08 | 1435 | 5059180.000 | 545200.599 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1007 | 37mm Frag | 30-Jun-08 | 1355 | 5059170.136 | 545203.577 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1008 | 37mm Frag | 30-Jun-08 | 1415 | 5059181.578 | 545201.993 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1009 | 37mm Frag (2ea) | 30-Jun-08 | 1405 | 5059170.832 | 545203.914 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1010 | 37mm Frag | 30-Jun-08 | 1420 | 5059181.180 | 545202.474 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1011 | 37mm Frag | 30-Jun-08 | 1415 | 5059174.992 | 545203.032 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1012 | 37mm Frag | 30-Jun-08 | 1440 | 5059180.956 | 545208.712 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1013 | 37mm Frag | 30-Jun-08 | 1435 | 5059176.682 | 545200.552 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1014 | 37mm Frag | 30-Jun-08 | 1440 | 5059166.734 | 545206.191 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1015 | 37mm Frag | 30-Jun-08 | 1440 | 5059173.812 | 545204.923 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1016 | 37mm Frag | 30-Jun-08 | 1440 | 5059177.004 | 545207.170 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1017 | 37mm Frag | 30-Jun-08 | 1435 | 5059186.347 | 545206.552 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1018 | 37mm Frag | 30-Jun-08 | 1440 | 5059166.182 | 545208.746 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1019 | 37mm Frag | 30-Jun-08 | 1445 | 5059161.913 | 545206.843 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1020 | 37mm Frag | 30-Jun-08 | 1455 | 5059168.785 | 545208.743 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1021 | 37mm Frag | 30-Jun-08 | 1440 | 5059193.268 | 545206.047 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1022 | 37mm Frag | 30-Jun-08 | 1455 | 5059165.288 | 545210.030 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1023 | 37mm Frag | 30-Jun-08 | 1450 | 5059174.584 | 545210.550 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1024 | 37mm Frag | 30-Jun-08 | 1445 | 5059187.734 | 545208.080 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1025 | 37mm Frag | 30-Jun-08 | 1445 | 5059166.684 | 545211.223 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1026 | 37mm Frag | 30-Jun-08 | 1450 | 5059173.220 | 545210.870 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1027 | 37mm Frag | 30-Jun-08 | 1445 | 5059173.969 | 545211.987 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1028 | 37mm Frag | 30-Jun-08 | 1445 | 5059184.595 | 545211.995 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1029 | 37mm Frag | 30-Jun-08 | 1445 | 5059165.947 | 545211.434 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1030 | 37mm Frag | 30-Jun-08 | 1650 | 5059176.680 | 545211.991 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1031 | 37mm Frag | 30-Jun-08 | 1650 | 5059170.795 | 545211.880 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1032 | 3-inch Stokes Frag | 1-Jul-08 | 1400 | 5059369.862 | 545190.587 | H12-05 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1033 | 3-inch Stokes Frag | 1-Jul-08 | 1401 | 5059360.404 | 545195.706 | H12-05 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1034 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 1335 | 5059351.146 | 545199.794 | H12-05 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1035 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 1405 | 5059359.473 | 545198.938 | H12-05 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1036 | 37mm Frag | 1-Jul-08 | 1417 | 5059359.169 | 545200.227 | H12-05 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1037 | 3-inch Stokes Frag | 1-Jul-08 | 1356 | 5059360.210 | 545203.774 | H12-05 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1038 | Frag | 1-Jul-08 | 0840 | 5059142.519 | 545255.641 | I10-17 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1039 | 37mm Frag | 1-Jul-08 | 0841 | 5059141.845 | 545248.790 | I10-17 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1040 | 37mm Frag | 1-Jul-08 | 0906 | 5059156.648 | 545260.923 | I10-17 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1041 | 37mm Frag | 1-Jul-08 | 0843 | 5059162.872 | 545259.028 | I10-17 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1042 | 37mm Frag | 1-Jul-08 | 0900 | 5059165.210 | 545257.432 | I10-17 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1043 | 37mm Frag | 1-Jul-08 | 0903 | 5059165.444 | 545247.433 | I10-17 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1044 | 37mm Frag | 1-Jul-08 | 0902 | 5059166.047 | 545265.771 | I10-17 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1045 | 3-inch Stokes Frag | 1-Jul-08 | 1525 | 5059363.607 | 545156.815 | H12-4 | MKM-CB-010 | 8140.02 | 3 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1046 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Jul-08 | 1540 | 5059363.607 | 545156.815 | H12-4 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1047 | 2"x7" Frag | 1-Jul-08 | 1530 | 5059354.988 | 545170.267 | H12-4 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1048 | 37mm Frag | 1-Jul-08 | 1000 | 5059190.504 | 545239.918 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1049 | 37mm Frag | 1-Jul-08 | 0955 | 5059172.555 | 545245.428 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1050 | 37mm Frag | 1-Jul-08 | 1052 | 5059180.631 | 545246.319 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1051 | 37mm Frag | 1-Jul-08 | 1108 | 5059189.811 | 545247.838 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1052 | 37mm Frag | 1-Jul-08 | 1055 | 5059178.642 | 545250.580 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1053 | 37mm Frag | 1-Jul-08 | 1103 | 5059177.397 | 545252.258 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1054 | 37mm Frag | 1-Jul-08 | 1106 | 5059191.319 | 545249.695 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1055 | 37mm Frag | 1-Jul-08 | 1100 | 5059175.215 | 545260.613 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1056 | 37mm Frag | 1-Jul-08 | 1110 | 5059186.564 | 545258.162 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1057 | 37mm Frag | 1-Jul-08 | 1111 | 5059181.695 | 545257.636 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1058 | 37mm Frag | 1-Jul-08 | 1120 | 5059195.560 | 545258.891 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1059 | 37mm Frag | 1-Jul-08 | 1115 | 5059192.876 | 545260.231 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1060 | 37mm Frag | 1-Jul-08 | 1117 | 5059182.139 | 545267.664 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1061 | 37mm Frag | 1-Jul-08 | 1120 | 5059169.459 | 545269.159 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1062 | 37mm Frag | 1-Jul-08 | 1121 | 5059178.389 | 545270.247 | I10-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1063 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Jul-08 | 0913 | 5059358.615 | 545211.578 | I12-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1064 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 2-Jul-08 | 0921 | 5059359.742 | 545214.059 | I12-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1066 | 3-inch Stokes Mortar Tail Boom | 2-Jul-08 | 0919 | 5059360.889 | 545232.104 | I12-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1067 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 7-Jul-08 | 1343 | 5059340.597 | 545251.930 | I11-22 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1068 | 37mm Frag | 7-Jul-08 | 1357 | 5059326.812 | 545261.882 | I11-22 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1069 | 3-inch Stokes Mortar Fuze Well | 7-Jul-08 | 0939 | 5059387.903 | 545251.951 | I12-07 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1070 | 3-inch Stokes Mortar Fuze Well | 7-Jul-08 | 0943 | 5059397.413 | 545249.267 | I12-07 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1071 | 2.36" Rocket Motor | 10-Jul-08 | 0820 | 5059237.643 | 544831.314 | F11-08 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1072 | Frag | 10-Jul-08 | 0840 | 5059220.288 | 544833.216 | F11-08 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1073 | 1"x1" Frag | 10-Jul-08 | 0717 | 5059223.762 | 544839.304 | F11-09 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1074 | 2.36" Tail Boom | 10-Jul-08 | 0710 | 5059242.751 | 544845.080 | F11-09 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1075 | 2.36" Tail Boom | 10-Jul-08 | 0742 | 5059235.939 | 544855.648 | F11-09 | MKM-CB-008 | 8140.02 | 5 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1076 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 10-Jul-08 | 0723 | 5059221.598 | 544865.203 | F11-09 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1077 | 2.36" Rocket Warhead | 10-Jul-08 | 1018 | 5059263.112 | 544852.361 | F11-14 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1078 | 2.36" Tail Boom | 10-Jul-08 | 1024 | 5059262.015 | 544855.056 | F11-14 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1079 | 1"x1" Frag | 10-Jul-08 | 1034 | 5059270.124 | 544861.665 | F11-14 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1080 | M18 Smoke Grenade | 10-Jul-08 | 1042 | 5059258.327 | 544871.875 | F11-14 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1081 | 37mm Frag | 30-Jun-08 | 1125 | 5059174.998 | 545189.055 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1082 | 37mm Frag | 30-Jun-08 | 1120 | 5059174.931 | 545188.035 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1083 | 37mm Frag (2ea) | 30-Jun-08 | 1420 | 5059189.918 | 545197.515 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1084 | 37mm Frag | 30-Jun-08 | 1410 | 5059170.568 | 545203.868 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1085 | 37mm Frag | 30-Jun-08 | 1435 | 5059176.682 | 545200.552 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1086 | 37mm Frag | 30-Jun-08 | 1440 | 5059166.734 | 545206.191 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1087 | 37mm Frag | 30-Jun-08 | 1455 | 5059165.288 | 545210.030 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1088 | 37mm Frag | 30-Jun-08 | 1450 | 5059174.584 | 545210.550 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1089 | 37mm Frag | 30-Jun-08 | 1445 | 5059166.684 | 545211.223 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1090 | 37mm Frag | 30-Jun-08 | 1450 | 5059173.220 | 545210.870 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1091 | 37mm Frag | 30-Jun-08 | 1650 | 5059176.680 | 545211.991 | H10-25 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1092 | M18 Smoke Grenade | 21-Jul-08 | 0944 | 5059182.952 | 544846.544 | F10-24 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1093 | 2.36" Rocket Motor | 21-Jul-08 | 0940 | 5059176.748 | 544853.483 | F10-24 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1094 | M9 Rifle Grenade | 21-Jul-08 | 0929 | 5059172.561 | 544853.979 | F10-24 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1095 | Rifle Grenade Tail Boom | 21-Jul-08 | 0946 | 5059178.696 | 544856.457 | F10-24 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1096 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 21-Jul-08 | 1124 | 5059658.065 | 544984.600 | G14-04 | MKM-CB-010 | 8140.02 | 10 | 1 |
| MD-1097 | .50 cal Spotter Round | 22-Jul-08 | 1500 | 5059553.251 | 545004.222 | G13-14 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1098 | M73 Rocket, Practice 35mm, (EXPENDED) (LAW subcaliber) | 22-Jul-08 | 1500 | 5059554.864 | 545003.518 | G13-14 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1099 | M73 Rocket, Practice 35mm, (EXPENDED) (LAW subcaliber) | 22-Jul-08 | 1400 | 5059628.320 | 545010.476 | G13-24 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1101 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 23-Jul-08 | 1340 | 5059471.174 | 544712.586 | E12-24 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1102 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 23-Jul-08 | 1220 | 5059476.573 | 544707.720 | E12-24 | MKM-CB-010 | 8140.02 | 3 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1103 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 23-Jul-08 | 0700 | 5059503.243 | 544764.769 | F13-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1104 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 23-Jul-08 | 1400 | 5059425.261 | 544717.567 | E12-19 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1105 | M18 Smoke Grenade | 28-Jul-08 | 1344 | 5059201.972 | 544825.321 | F11-03 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1106 | Rifle Grenade Tail Boom | 28-Jul-08 | 1346 | 5059203.347 | 544828.152 | F11-03 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1107 | Rifle Grenade Tail Boom | 28-Jul-08 | 1350 | 5059207.029 | 544827.481 | F11-03 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1108 | Rifle Grenade Tail Boom | 28-Jul-08 | 1352 | 5059209.046 | 544828.325 | F11-03 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1109 | 2.36" Rocket Tail Boom | 28-Jul-08 | 1355 | 5059195.440 | 544833.234 | F11-03 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1110 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Jul-08 | 1500 | 5060428.078 | 545661.657 | L19-02 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1111 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Jul-08 | 1424 | 5060423.292 | 545633.346 | L19-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1112 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Jul-08 | 1424 | 5060423.292 | 545633.346 | L19-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1113 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Jul-08 | 1424 | 5060423.292 | 545633.346 | L19-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1114 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Jul-08 | 1421 | 5060426.247 | 545634.782 | L19-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1115 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Jul-08 | 1409 | 5060426.247 | 545634.782 | L19-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1116 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 30-Jul-08 | 1409 | 5060426.425 | 545640.295 | L19-01 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1117 | 2.36" Rocket Motor | 4-Aug-08 | 0900 | 5060597.425 | 546037.033 | N20-04 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1118 | 2.36" Rocket (EXPENDED) | 4-Aug-08 | 1500 | 5060649.739 | 546061.066 | N20-10 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1119 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 4-Aug-08 | 1420 | 5060643.648 | 546034.816 | N20-09 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1121 | 37mm Frag | 5-Aug-08 | 0940 | 5060630.653 | 545959.179 | N20-07 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1122 | 2.36" Rocket Motor (EXPENDED) | 5-Aug-08 | 0850 | 5060622.036 | 545980.536 | N20-08 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1123 | 2.36" Rocket Tail Boom | 6-Aug-08 | 1012 | 5060566.636 | 546016.852 | N19-23 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1124 | Rocket Warhead Ogive | 6-Aug-08 | 1011 | 5060567.152 | 546015.985 | N19-23 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1125 | 37mm Frag | 12-Aug-08 | 1530 | 5058855.167 | 545103.844 | H08-16 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1126 | M18 Smoke Grenade | 12-Aug-08 | 0936 | 5060153.384 | 545388.066 | J17-02 | MKM-CB-004 | 8140.02 | 6 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1127 | M35 Subcal | 13-Aug-08 | 0810 | 5059640.599 | 545018.018 | G13-25 | MKM-CB-006 | 8140.02 | 5 | 1 |
| MD-1128 | 2.36" Rocket Warhead | 19-Aug-08 | 0900 | 5058474.749 | 544711.074 | E6 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1129 | Slap Flare (EXPENDED) | 19-Aug-08 | 0910 | 5058476.621 | 544701.714 | E6 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-1130 | Slap Flare (EXPENDED) | 19-Aug-08 | 0930 | 5058480.365 | 544712.945 | E6 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-1131 | Slap Flare (EXPENDED) | 19-Aug-08 | 1000 | 5058480.365 | 544707.330 | E6 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-1132 | M69 Practice Grenade (EXPENDED) | 19-Aug-08 | 1335 | 5058699.240 | 545072.232 | G07-20 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1134 | Frag 1"x3" | 20-Aug-08 | 1420 | 5058182.575 | 544374.768 | C04-12 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1135 | 3-inch Stokes Mortar Tail Boom | 20-Aug-08 | 0741 | 5059346.780 | 544939.371 | G12-02 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1136 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0822 | 5059287.405 | 544939.254 | G11-17 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1137 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 20-Aug-08 | 0840 | 5059283.483 | 544956.728 | G11-17 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1141 | M69 Practice Grenade (EXPENDED) | 25-Aug-08 | 0810 | 5058697.366 | 545020.927 | G07-24 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1142 | 37mm Frag | 25-Aug-08 | 0820 | 5058727.176 | 545038.318 | G07-24 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1143 | M69 Practice Grenade (EXPENDED) | 25-Aug-08 | 0900 | 5058726.781 | 545071.154 | G07-25 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1144 | M69 Practice Grenade (EXPENDED) | 25-Aug-08 | 1130 | 5058650.750 | 545033.386 | G07-14 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1145 | M69 Practice Grenade (EXPENDED) | 25-Aug-08 | 1100 | 5058656.951 | 544994.442 | G07-13 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1146 | 37mm Frag | 27-Aug-08 | 1329 | 5058448.349 | 544933.456 | G06-01 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1152 | 3.5" Rocket Motor (EXPENDED) | 28-Aug-08 | 1335 | 5058595.527 | 545027.082 | G07-04 | MKM-CB-008 | 8140.02 | 5 | 1 |
| MD-1153 | M18 Smoke Grenade (EXPENDED) | 3-Sep-08 | 1430 | 5058401.000 | 544966.000 | G06-21 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1158 | 37mm Frag | 4-Sep-08 | 1140 | 5058706.055 | 545054.479 | G07-20 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1159 | MK2 Practice Grenade (EXPENDED) | 4-Sep-08 | 1030 | 5058701.654 | 545027.134 | G07-19 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1160 | M69 Practice Grenade (EXPENDED) | 4-Sep-08 | 1035 | 5058698.000 | 545021.000 | G07-19 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1161 | M69 Practice Grenade (EXPENDED) | 4-Sep-08 | 1040 | 5058700.000 | 545016.000 | G07-19 | MKM-CB-004 | 8140.02 | 6 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1162 | Grenade Fuze (EXPENDED) | 4-Sep-08 | 1045 | 5058703.720 | 545020.937 | G07-19 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1163 | Grenade Fuze (EXPENDED) | 4-Sep-08 | 1320 | 5058667.000 | 545088.000 | H07-16 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1164 | Grenade Fuze (EXPENDED) | 4-Sep-08 | 1330 | 5058694.000 | 545085.000 | H07-16 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1165 | M69 Practice Grenade (EXPENDED) | 4-Sep-08 | 1335 | 5058668.000 | 545083.000 | H07-16 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1166 | M69 Practice Grenade (EXPENDED) | 4-Sep-08 | 1350 | 5058691.000 | 545085.000 | H07-16 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1167 | M69 Practice Grenade (EXPENDED) | 4-Sep-08 | 1405 | 5058688.000 | 545094.000 | H07-16 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1168 | M69 Practice Grenade (EXPENDED) | 4-Sep-08 | 1416 | 5058684.000 | 545104.000 | H07-16 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1169 | Hand Grenade Fuzes (Burial Pit) | 5-Sep-08 | 1352 | 5058756.000 | 545106.000 | H08-06 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1170 | M30 Practice Grenade (EXPENDED) | 5-Sep-08 | 1410 | 5058761.000 | 545092.000 | H08-06 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1171 | M30 Practice Grenade (EXPENDED) | 5-Sep-08 | 1422 | 5058756.000 | 545090.000 | H08-06 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1172 | M18 Smoke Grenade (EXPENDED) | 5-Sep-08 | 1430 | 5058752.000 | 545100.000 | H08-06 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1173 | M69 Practice Grenade (EXPENDED) | 5-Sep-08 | 1450 | 5058775.000 | 545087.000 | H08-06 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1174 | M69 Practice Grenade (EXPENDED) | 5-Sep-08 | 1457 | 5058758.000 | 545077.000 | H08-06 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1175 | M69 Practice Grenade (EXPENDED) | 5-Sep-08 | 1459 | 5058765.000 | 545086.000 | H08-06 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1176 | M69 Practice Grenade (EXPENDED) | 5-Sep-08 | 1507 | 5058766.000 | 545080.000 | H08-06 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1177 | M69 Practice Grenade (EXPENDED) | 5-Sep-08 | 0843 | 5058759.000 | 545090.000 | H08-01 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1178 | Frag 3"x7" | 5-Sep-08 | 0848 | 5058739.000 | 545084.000 | H08-01 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1179 | M18 Smoke Grenade (EXPENDED) | 5-Sep-08 | 0905 | 5058762.000 | 545074.000 | H08-01 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1180 | M69 Practice Grenade (EXPENDED) | 5-Sep-08 | 1104 | 5058749.000 | 545086.000 | H08-01 | MKM-CB-004 | 8140.02 | 6 | 1 |

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**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1181 | M69 Practice Grenade (EXPENDED) | 5-Sep-08 | 1109 | 5058745.000 | 545076.000 | H08-01 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1182 | M69 Practice Grenade (EXPENDED) | 5-Sep-08 | 1119 | 5058765.000 | 545104.000 | H08-01 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1183 | M69 Practice Grenade (EXPENDED) | 5-Sep-08 | 1128 | 5058744.000 | 545102.000 | H08-01 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1184 | Hand Grenade Spoon & Fuzes (MD Burial Pit) | 5-Sep-08 | 1130 | 5058740.000 | 545101.000 | H08-01 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1185 | M69 Practice Grenade (EXPENDED) | 5-Sep-08 | 1135 | 5058736.000 | 545091.000 | H08-01 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1186 | M30 Practice Grenade (EXPENDED) | 5-Sep-08 | 0814 | 5058743.000 | 545063.000 | G08-05 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1187 | 3-inch Stokes Mortar Tail Boom | 8-Sep-08 | 1024 | 5059305.923 | 544971.570 | G11-18 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1188 | 3-inch Stokes Mortar Tail Boom | 8-Sep-08 | 1026 | 5059300.033 | 544985.521 | G11-18 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1189 | 37mm Frag | 8-Sep-08 | 1526 | 5058826.673 | 545067.806 | G08-20 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1190 | M69 Practice Grenade (EXPENDED) | 8-Sep-08 | 0855 | 5058766.000 | 545071.000 | G08-10 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1191 | M69 Practice Grenade (EXPENDED) | 8-Sep-08 | 1003 | 5058776.000 | 545064.000 | G08-10 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1192 | 37mm Frag | 9-Sep-08 | 1045 | 5058852.576 | 545081.554 | H08-21 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1194 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 10-Sep-08 | 1050 | 5059348.921 | 544970.671 | G12-03 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1195 | 37mm Frag | 10-Sep-08 | 1113 | 5059344.627 | 544966.377 | G12-03 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1196 | 37mm Frag | 10-Sep-08 | 1346 | 5059366.000 | 544987.000 | G12-03 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1198 | M18 Smoke Grenade (EXPENDED) | 10-Sep-08 | 0859 | 5059399.000 | 545035.000 | G12-15 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1199 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 10-Sep-08 | 0901 | 5059407.000 | 545028.000 | G12-15 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1200 | M18 Smoke Grenade (EXPENDED) | 10-Sep-08 | 0915 | 5059401.000 | 545043.000 | G12-15 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1202 | M18 Smoke Grenade (EXPENDED) | 10-Sep-08 | 0930 | 5059408.000 | 545037.000 | G12-15 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1203 | Grenade Fuze (EXPENDED) | 11-Sep-08 | 0740 | 5058740.000 | 545029.000 | G08-03 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1204 | 37mm Frag | 11-Sep-08 | 0900 | 5058888.000 | 545134.000 | H09-02 | MKM-CB-006 | 8140.02 | 2 | 1 |

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**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1205 | M18 Smoke Grenade (EXPENDED) | 11-Sep-08 | 0930 | 5058915.000 | 545148.000 | H09-02 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1206 | 37mm Frag | 11-Sep-08 | 0945 | 5058914.000 | 545140.000 | H09-02 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1208 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 24-Sep-08 | 0751 | 5059468.980 | 544748.630 | F12-21 | MKM-CB-010 | 8140.02 | 3 | 1 |
| MD-1215 | Slap Flare (EXPENDED) | 8-Oct-08 | 1000 | 5058492.000 | 544771.000 | E-6 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1216 | Hand Grenade Fuze (EXPENDED) | 8-Oct-08 | 1100 | 5058435.000 | 544768.000 | E-6 | MKM-CB-004 | 8140.02 | 7 | 1 |
| MD-1217 | 37mm Projectile Fuze | 8-Oct-08 | 1000 | 5058784.000 | 545044.000 | G-8 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1218 | M69 Practice Hand Grenade | 8-Oct-08 | 1020 | 5058801.000 | 545067.000 | G-8 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1219 | M69 Practice Hand Grenade | 8-Oct-08 | 1030 | 5058817.000 | 545067.000 | G-8 | MKM-CB-004 | 8140.02 | 6 | 1 |
| MD-1220 | 7.62 Blank Ammo | 8-Oct-08 | 0800 | 5058731.000 | 544870.000 | F-8 | MKM-CB-005 | 8140.02 | 1 | 1 |
| MD-1221 | 37mm Projectile Frag | 8-Oct-08 | 0900 | 5058738.000 | 544890.000 | F-8 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1225 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Oct-08 | 0940 | 5058085.310 | 544727.330 | E-3 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1226 | 3-inch Stokes Mortar Tail Boom | 15-Oct-08 | 0950 | 5058072.150 | 544744.360 | E-3 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1229 | 37mm Projectile | 15-Oct-08 | 1010 | 5058108.250 | 544722.920 | E-3 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1231 | 3-inch Stokes Mortar Fuze | 15-Oct-08 | 1340 | 5058169.730 | 544747.020 | E-4 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1233 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 16-Oct-08 | 1010 | 5058212.080 | 544738.860 | E-4 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1235 | 37mm Projectile Frag | 20-Oct-08 | 1015 | 5058239.270 | 544721.760 | E-4 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1237 | 3-inch Stokes Mortar Component | 27-Oct-08 | 1000 | 5058385.070 | 544805.080 | F-5 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1246 | 37mm Projectile Frag | 27-Oct-08 | 1515 | 5058379.000 | 544654.000 | E-5 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1247 | 37mm Projectile Frag | 27-Oct-08 | 1520 | 5058394.200 | 544708.220 | E-5 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1248 | 37mm Projectile Fuze | 27-Oct-08 | 1530 | 5058390.710 | 544703.710 | E-5 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1249 | Frag 2"x2" | 27-Oct-08 | 1540 | 5058406.160 | 544700.330 | E-5 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1250 | 2.36" Rocket Motor | 27-Oct-08 | 1545 | 5058409.260 | 544702.030 | E-5 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1251 | 3.5" Practice Rocket Warhead | 27-Oct-08 | 1550 | 5058404.900 | 544675.180 | E-5 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1252 | Frag 3"x6" | 27-Oct-08 | 1600 | 5058392.160 | 544722.820 | E-5 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1253 | M18 Smoke Grenade | 27-Oct-08 | 1605 | 5058399.710 | 544744.480 | E-5 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1254 | Frag 2"x5" | 27-Oct-08 | 1610 | 5058408.000 | 544747.000 | E-5 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1269 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Nov-08 | 1325 | 5059429.460 | 545060.310 | H-12 | MKM-CB-012 | 8140.02 | 3 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1270 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Nov-08 | 1330 | 5059446.460 | 545102.590 | H-12 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1271 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Nov-08 | 0735 | 5059573.860 | 545103.300 | H-13 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1272 | CS Grenade (EXPENDED) | 3-Nov-08 | 0820 | 5059583.180 | 545058.120 | H-13 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1273 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Nov-08 | 1000 | 5059526.060 | 545093.050 | H-13 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1274 | Smoke Grenade (EXPENDED) | 4-Nov-08 | 1300 | 5059430.260 | 544990.400 | G-12 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1275 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 4-Nov-08 | 0820 | 5059439.800 | 544909.400 | G-12 | MKM-CB-012 | 8140.02 | 2 | 1 |
| MD-1276 | Smoke Grenade (EXPENDED) | 4-Nov-08 | 1400 | 5059609.220 | 545037.470 | G-13 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1277 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Nov-08 | 1150 | 5059575.990 | 545114.280 | H-13 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1278 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Nov-08 | 1400 | 5059541.370 | 545138.590 | H-13 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1279 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Nov-08 | 0800 | 5059573.240 | 545147.360 | H-13 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1280 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Nov-08 | 0820 | 5059600.780 | 545150.130 | H-13 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1281 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 6-Nov-08 | 1400 | 5059496.090 | 545191.820 | H-12 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1282 | 81mm Mortar (Fired, Unfuzed) | 10-Nov-08 | 1430 | 5059459.310 | 545238.790 | I-12 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1283 | MK2 Practice Grenade (EXPENDED) | 10-Nov-08 | 1435 | 5059488.070 | 545268.810 | I-12 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1284 | 37mm Projectile Frag | 10-Nov-08 | 1440 | 5059497.000 | 545313.000 | I-12 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1285 | 37mm Projectile Frag | 10-Nov-08 | 1450 | 5059364.710 | 545284.370 | I-12 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1286 | 81mm Mortar (Fired, Unfuzed) | 10-Nov-08 | 1500 | 5059369.580 | 545292.210 | I-12 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1287 | M69 Practice Hand Grenade | 11-Nov-08 | 1430 | 5058687.480 | 545010.700 | G-7 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1288 | 37mm Projectile Frag | 12-Nov-08 | 1000 | 5058875.460 | 545147.110 | H-8 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1289 | 37mm Projectile Frag | 12-Nov-08 | 1045 | 5058867.920 | 545147.470 | H-8 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1291 | 37mm Projectile Frag | 12-Nov-08 | 1100 | 5058828.630 | 545143.790 | H-8 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1292 | 37mm Projectile Frag | 12-Nov-08 | 1130 | 5058821.320 | 545136.160 | H-8 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1293 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 12-Nov-08 | 1200 | 5058797.560 | 545138.490 | H-8 | MKM-CB-012 | 8140.02 | 3 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1294 | 37mm Projectile Frag | 13-Nov-08 | 0940 | 5058917.545 | 545156.288 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1295 | 37mm Projectile Frag | 13-Nov-08 | 0945 | 5058934.593 | 545157.388 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1299 | 37mm Projectile Frag | 13-Nov-08 | 1008 | 5058913.433 | 545147.400 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1300 | 37mm Projectile Frag | 13-Nov-08 | 1010 | 5058906.858 | 545145.736 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1301 | 37mm Projectile Frag | 13-Nov-08 | 1015 | 5058899.725 | 545144.006 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1302 | 37mm Projectile Frag | 13-Nov-08 | 1020 | 5058895.746 | 545147.799 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1303 | 37mm Projectile Frag | 13-Nov-08 | 1025 | 5058902.212 | 545153.309 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1304 | 3-inch Stokes Mortar Fuze Frag | 13-Nov-08 | 1026 | 5058897.666 | 545152.434 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1305 | 37mm Projectile Fuze | 13-Nov-08 | 1030 | 5058895.215 | 545153.934 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1306 | 37mm Projectile Frag | 13-Nov-08 | 1050 | 5058896.109 | 545154.213 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1307 | 37mm Projectile Frag | 13-Nov-08 | 1053 | 5058898.780 | 545154.261 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1308 | 37mm Projectile Frag | 13-Nov-08 | 1032 | 5058982.391 | 545156.771 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1310 | 37mm Projectile Frag | 13-Nov-08 | 1037 | 5058987.720 | 545158.953 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1311 | 3-inch Stokes Mortar Fuze Frag | 13-Nov-08 | 1042 | 5058981.021 | 545159.076 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1312 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1100 | 5058993.143 | 545157.360 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1314 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1116 | 5058982.377 | 545138.307 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1315 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1124 | 5058981.784 | 545137.299 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1316 | 37mm Projectile Frag | 13-Nov-08 | 1132 | 5058982.508 | 545133.754 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1317 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1134 | 5058967.750 | 545160.740 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1318 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1139 | 5058999.003 | 545139.107 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1319 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1147 | 5059008.414 | 545138.116 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1320 | 37mm Projectile Frag | 13-Nov-08 | 1155 | 5059007.631 | 545142.766 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1321 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 13-Nov-08 | 1202 | 5059015.092 | 545144.783 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1322 | MK2 Practice Grenade (EXPENDED) | 17-Nov-08 | 1300 | 5059018.620 | 544952.420 | G-9 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1323 | M73 35mm Subcaliber (EXPENDED) | 17-Nov-08 | 1320 | 5059032.120 | 544974.500 | G-9 | MKM-CB-014 | 8140.02 | 3 | 1 |

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**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1324 | MK2 Practice Grenade (EXPENDED) | 17-Nov-08 | 1315 | 5059028.410 | 544948.320 | G-9 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1325 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 17-Nov-08 | 1325 | 5059034.000 | 545062.000 | G-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1326 | 37mm Projectile Frag | 17-Nov-08 | 1340 | 5059025.960 | 545064.360 | G-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1327 | 37mm Projectile Frag | 17-Nov-08 | 1342 | 5059026.000 | 545055.500 | G-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1328 | 37mm Projectile Frag | 17-Nov-08 | 1350 | 5059032.000 | 545052.000 | G-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1329 | 37mm Projectile Frag | 18-Nov-08 | 1001 | 5059034.515 | 545100.738 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1330 | 3-inch Stokes Mortar Fuze Frag | 18-Nov-08 | 1008 | 5059029.902 | 545101.988 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1331 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1015 | 5059028.374 | 545108.060 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1332 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1022 | 5059018.400 | 545108.149 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1333 | 37mm Projectile Frag | 18-Nov-08 | 1029 | 5059018.630 | 545107.347 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1334 | 37mm Projectile Frag | 18-Nov-08 | 1036 | 5059015.465 | 545102.643 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1335 | 37mm Projectile Base | 18-Nov-08 | 1043 | 5059024.976 | 545096.722 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1336 | 3-inch Stokes Mortar Fuze Frag | 18-Nov-08 | 1050 | 5058993.943 | 545113.254 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1337 | 37mm Projectile Frag | 18-Nov-08 | 1100 | 5059015.225 | 545104.155 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1338 | 37mm Projectile Frag | 18-Nov-08 | 1120 | 5059014.743 | 545097.429 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1339 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1124 | 5059006.847 | 545104.310 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1340 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1130 | 5059020.095 | 545111.817 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1341 | 37mm Projectile Frag | 18-Nov-08 | 1135 | 5059018.242 | 545113.278 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1342 | 37mm Projectile Frag | 18-Nov-08 | 1142 | 5058992.570 | 545114.745 | H-9 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1343 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1145 | 5059021.480 | 545115.747 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1344 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1146 | 5059018.758 | 545116.722 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1345 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1150 | 5058988.220 | 545121.319 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1346 | 37mm Projectile Frag | 18-Nov-08 | 1154 | 5058947.620 | 545100.788 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1347 | 37mm Projectile Frag | 18-Nov-08 | 1158 | 5058946.212 | 545099.009 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |

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**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1348 | 3-inch Stokes Mortar Component | 18-Nov-08 | 1205 | 5058947.436 | 545100.236 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1349 | 37mm Projectile Frag | 18-Nov-08 | 1352 | 5058948.623 | 545096.564 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1350 | 37mm Projectile Fuze | 18-Nov-08 | 1353 | 5058949.473 | 545097.311 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1351 | 37mm Projectile Fuze | 18-Nov-08 | 1420 | 5058945.057 | 545097.602 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1352 | 37mm Projectile Frag | 18-Nov-08 | 1422 | 5058944.676 | 545097.456 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1353 | 37mm Projectile Frag | 18-Nov-08 | 1425 | 5058944.283 | 545097.920 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1354 | 37mm Projectile Frag | 18-Nov-08 | 1430 | 5058943.366 | 545099.924 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1355 | 37mm Projectile Frag | 18-Nov-08 | 1440 | 5058941.787 | 545100.424 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1356 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 18-Nov-08 | 1442 | 5058943.984 | 545102.592 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1357 | 37mm Projectile Frag | 18-Nov-08 | 1445 | 5058945.721 | 545104.769 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1358 | 37mm Projectile Frag | 18-Nov-08 | 1450 | 5058943.627 | 545106.559 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1359 | 37mm Projectile Frag | 18-Nov-08 | 1503 | 5058936.157 | 545108.556 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1360 | M18 Smoke Grenade (EXPENDED) | 18-Nov-08 | 1504 | 5058934.018 | 545113.798 | H-9 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1361 | 37mm Projectile Frag | 18-Nov-08 | 1510 | 5058930.600 | 545117.071 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1362 | 3-inch Stokes Mortar Fuze Frag | 18-Nov-08 | 1516 | 5058928.853 | 545114.966 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1363 | 3-inch Stokes Mortar Tail Boom | 18-Nov-08 | 1522 | 5058939.639 | 545123.799 | H-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1364 | 37mm Projectile Frag | 18-Nov-08 | 1528 | 5058950.890 | 545090.360 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1365 | 37mm Projectile Frag | 18-Nov-08 | 1534 | 5058938.169 | 545088.539 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1366 | 40mm Practice Grenade | 19-Nov-08 | 0950 | 5059055.920 | 544966.920 | G-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1367 | M73 35mm LAW Sub Caliber | 19-Nov-08 | 0955 | 5059030.580 | 544924.790 | G-9 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1368 | M73 35mm LAW Sub Caliber | 19-Nov-08 | 1002 | 5059030.060 | 544933.650 | G-9 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1370 | 40mm Practice Grenade | 19-Nov-08 | 1050 | 5059026.170 | 544943.800 | G-9 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1371 | M73 35mm LAW Sub Caliber | 19-Nov-08 | 1052 | 5059021.450 | 544939.700 | G-9 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1373 | M73 35mm LAW Sub Caliber | 19-Nov-08 | 1120 | 5059011.320 | 544958.760 | G-9 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1374 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 19-Nov-08 | 1130 | 5059021.460 | 544921.610 | G-9 | MKM-CB-012 | 8140.02 | 3 | 1 |
| MD-1375 | 37mm Projectile Frag | 19-Nov-08 | 1204 | 5059016.610 | 544929.240 | G-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1376 | MK2 Practice Grenade Frag | 19-Nov-08 | 1220 | 5058945.520 | 544923.810 | G-9 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1377 | M73 35mm LAW Sub Caliber | 19-Nov-08 | 1225 | 5058969.640 | 544930.650 | G-9 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1378 | M73 35mm LAW Sub Caliber | 19-Nov-08 | 1227 | 5058988.400 | 544915.790 | G-9 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1379 | M73 35mm LAW Sub Caliber | 19-Nov-08 | 1210 | 5058977.320 | 544902.650 | F-9 | MKM-CB-014 | 8140.02 | 3 | 1 |

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**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1380 | M73 35mm LAW Sub Caliber | 19-Nov-08 | 1211 | 5059010.540 | 544909.260 | F-9 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1383 | 14.5mm Sub Caliber | 25-Nov-08 | 0950 | 5059052.580 | 544986.030 | G-10 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1384 | 14.5mm Sub Caliber | 25-Nov-08 | 0953 | 5059052.510 | 544985.970 | G-10 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1385 | M73 35mm LAW Sub Caliber | 1-Dec-08 | 0915 | 5059060.310 | 545013.200 | G-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1386 | M73 35mm LAW Sub Caliber | 1-Dec-08 | 0917 | 5059085.140 | 545017.070 | G-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1387 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Dec-08 | 0925 | 5059084.690 | 545022.280 | G-10 | MKM-CB-013 | 8140.02 | 3 | 1 |
| MD-1389 | MK2 Practice Grenade Frag | 1-Dec-08 | 0941 | 5059144.880 | 545035.610 | G-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1390 | 14.5mm Sub Caliber | 1-Dec-08 | 0949 | 5059132.680 | 545037.310 | G-10 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1391 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Dec-08 | 1015 | 5059155.810 | 545045.160 | G-10 | MKM-CB-013 | 8140.02 | 3 | 1 |
| MD-1392 | M73 35mm LAW Sub Caliber | 1-Dec-08 | 1018 | 5059146.100 | 545047.980 | G-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1393 | M73 35mm LAW Sub Caliber | 1-Dec-08 | 1102 | 5059142.980 | 545046.940 | G-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1394 | M73 35mm LAW Sub Caliber | 1-Dec-08 | 1105 | 5059136.200 | 545047.050 | G-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1395 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 1-Dec-08 | 1110 | 5059137.530 | 545045.220 | G-10 | MKM-CB-013 | 8140.02 | 3 | 1 |
| MD-1396 | M73 35mm LAW Sub Caliber | 1-Dec-08 | 1315 | 5059137.120 | 545043.830 | G-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1397 | 14.5mm Sub Caliber | 1-Dec-08 | 1318 | 5059134.960 | 545058.460 | G-10 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1398 | 14.5mm Sub Caliber | 1-Dec-08 | 1402 | 5059143.110 | 545054.350 | G-10 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1399 | M73 35mm LAW Sub Caliber | 1-Dec-08 | 1411 | 5059163.570 | 545048.880 | G-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1400 | M73 35mm LAW Sub Caliber | 1-Dec-08 | 1413 | 5059168.590 | 545047.750 | G-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1401 | 37mm Projectile Frag | 1-Dec-08 | 1425 | 5059073.540 | 545049.190 | G-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1402 | 14.5mm Sub Caliber | 1-Dec-08 | 1426 | 5059109.900 | 545037.140 | G-10 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1403 | 14.5mm Sub Caliber | 1-Dec-08 | 1503 | 5059084.960 | 545058.050 | G-10 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1404 | 37mm Projectile Frag | 1-Dec-08 | 1506 | 5059708.650 | 545343.840 | I-14 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1405 | 37mm Projectile Frag | 1-Dec-08 | 1511 | 5059705.150 | 545344.960 | I-14 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1406 | 14.5mm Sub Caliber | 3-Dec-08 | 0950 | 5059595.820 | 545217.170 | I-13 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1407 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 3-Dec-08 | 0953 | 5059534.450 | 545214.620 | I-13 | MKM-CB-013 | 8140.02 | 3 | 1 |
| MD-1408 | Smoke Grenade (EXPENDED) | 11-Dec-08 | 1023 | 5059729.960 | 545381.850 | J-14 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1409 | 37mm Projectile Frag | 11-Dec-08 | 1030 | 5059718.160 | 545384.550 | J-14 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1410 | 37mm Projectile Frag | 11-Dec-08 | 1100 | 5059661.500 | 545421.500 | J-14 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1411 | Smoke Grenade (EXPENDED) | 11-Dec-08 | 1115 | 5059690.620 | 545426.770 | J-14 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1412 | 37mm Projectile Frag | 11-Dec-08 | 1120 | 5059735.370 | 545440.670 | J-14 | MKM-CB-014 | 8140.02 | 2 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1413 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 15-Dec-08 | 1015 | 5059437.710 | 544731.140 | E-12 | MKM-CB-013 | 8140.02 | 3 | 1 |
| MD-1414 | 2.36" Rocket Warhead | 15-Dec-08 | 1018 | 5059446.330 | 544726.900 | E-12 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1415 | 3-inch Stokes Mortar Component | 15-Dec-08 | 1025 | 5059443.980 | 544718.030 | E-12 | MKM-CB-013 | 8140.02 | 3 | 1 |
| MD-1416 | Rifle Grenade (Practice) | 15-Dec-08 | 1048 | 5059472.820 | 544674.760 | E-12 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1419 | 3-inch Stokes Mortar (FIRED, UNFUZED) | 16-Dec-08 | 1600 | 5059391.860 | 544659.830 | E-12 | MKM-CB-013 | 8140.02 | 3 | 1 |
| MD-1420 | Rifle Grenade (Practice) | 16-Dec-08 | 1602 | 5059372.940 | 544666.300 | E-12 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1421 | Rifle Grenade (Practice) | 16-Dec-08 | 1605 | 5059337.340 | 544662.140 | E-12 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1422 | Rifle Grenade (Practice) | 16-Dec-08 | 1610 | 5059369.570 | 544664.140 | E-12 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1423 | 2.36" Rocket Motor | 16-Dec-08 | 1615 | 5059293.250 | 544700.280 | E-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1424 | M9 Rifle Grenade | 16-Dec-08 | 1620 | 5059251.030 | 544745.590 | E-11 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1425 | M9 Rifle Grenade | 16-Dec-08 | 1630 | 5059253.550 | 544728.200 | E-11 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1426 | M9 Rifle Grenade | 16-Dec-08 | 1635 | 5059254.220 | 544722.670 | E-11 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1428 | Smoke Grenade (EXPENDED) | 17-Dec-08 | 1100 | 5059280.880 | 544846.230 | F-11 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1429 | 2.36" Rocket Warhead | 17-Dec-08 | 1105 | 5059281.560 | 544872.800 | F-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1431 | 2.36" Rocket Motor | 18-Dec-08 | 0925 | 5059281.460 | 544872.800 | F-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1434 | 2.36" Rocket Warhead | 18-Dec-08 | 1030 | 5059203.760 | 544853.690 | F-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1437 | M18 Smoke Grenade | 18-Dec-08 | 1130 | 5059291.410 | 544774.170 | F-11 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1438 | M11 Rifle Grenade | 5-Jan-09 | 0910 | 5059043.450 | 545080.850 | H-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1439 | 14.5mm Sub Caliber | 5-Jan-09 | 0914 | 5059057.990 | 545079.950 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1440 | 37mm Projectile Frag | 5-Jan-09 | 0920 | 5059052.610 | 545075.210 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1441 | 3-inch Stokes Mortar Tail Boom | 5-Jan-09 | 0921 | 5059094.240 | 545085.030 | H-10 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1442 | 3-inch Stokes Mortar | 5-Jan-09 | 0927 | 5059042.240 | 545075.570 | H-10 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1443 | 3-inch Stokes Mortar | 5-Jan-09 | 1000 | 5059098.020 | 545082.000 | H-10 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1444 | MK2 Grenade Frag | 5-Jan-09 | 1004 | 5059104.740 | 545081.960 | H-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1445 | M73 35mm LAW Sub Caliber | 5-Jan-09 | 1006 | 5059112.970 | 545081.920 | H-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1446 | M73 35mm LAW Sub Caliber | 5-Jan-09 | 1015 | 5059118.320 | 545071.390 | H-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1447 | 37mm Projectile Frag | 5-Jan-09 | 1018 | 5059170.420 | 545089.780 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1448 | MK2 Grenade Frag | 5-Jan-09 | 1025 | 5059173.670 | 545082.930 | H-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1449 | 37mm Projectile Frag | 5-Jan-09 | 1036 | 5059188.500 | 545081.000 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1450 | M73 35mm LAW Sub Caliber | 5-Jan-09 | 1044 | 5059180.320 | 545081.160 | H-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1451 | M73 35mm LAW Sub Caliber | 5-Jan-09 | 1045 | 5059167.900 | 545067.000 | H-10 | MKM-CB-014 | 8140.02 | 5 | 1 |

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**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1452 | 37mm Projectile Frag | 5-Jan-09 | 1106 | 5059177.600 | 545097.520 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1453 | 37mm Projectile Frag | 5-Jan-09 | 1104 | 5059178.680 | 545099.850 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1454 | 37mm Projectile Frag | 5-Jan-09 | 1108 | 5059163.240 | 545115.390 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1455 | 37mm Projectile Frag | 5-Jan-09 | 1115 | 5059086.480 | 545101.840 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1456 | 3-inch Stokes Mortar | 5-Jan-09 | 1120 | 5059105.180 | 545118.430 | H-10 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1457 | 3-inch Stokes Mortar | 5-Jan-09 | 1125 | 5059107.890 | 545115.340 | H-10 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1458 | 37mm Projectile Frag | 6-Jan-09 | 1145 | 5059050.150 | 545136.320 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1459 | 37mm Projectile Frag | 6-Jan-09 | 1202 | 5059051.440 | 545134.360 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1460 | 37mm Projectile Frag | 6-Jan-09 | 1230 | 5059052.160 | 545139.050 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1461 | M18 Smoke Grenade | 6-Jan-09 | 1330 | 5059086.690 | 545143.730 | H-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1462 | 14.5mm Sub Caliber | 6-Jan-09 | 1334 | 5059145.700 | 545122.820 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1463 | 3-inch Stokes Mortar Frag | 6-Jan-09 | 1340 | 5059142.550 | 545128.820 | H-10 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1464 | 37mm Projectile Frag | 6-Jan-09 | 1345 | 5059127.550 | 545136.210 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1465 | 37mm Projectile Frag | 6-Jan-09 | 1346 | 5059138.670 | 545141.940 | H-10 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1484 | M11 Rifle Grenade | 8-Jan-09 | 0800 | 5059374.320 | 544649.670 | E-12 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1485 | M11 Rifle Grenade | 8-Jan-09 | 0810 | 5059397.430 | 544653.540 | E-12 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1486 | M11 Rifle Grenade | 8-Jan-09 | 1000 | 5059374.610 | 544655.740 | E-12 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1487 | 3-inch Stokes Mortar Tail Boom | 8-Jan-09 | 1020 | 5059400.950 | 544642.480 | E-12 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1497 | M73 35mm LAW Sub Caliber | 12-Jan-09 | 1045 | 5059194.130 | 545055.170 | G-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1499 | M73 35mm LAW Sub Caliber | 12-Jan-09 | 1050 | 5059189.660 | 545054.620 | G-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1500 | 3-inch Stokes Mortar Tail Boom | 12-Jan-09 | 1100 | 5059314.920 | 544972.450 | G-11 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1501 | 3-inch Stokes Mortar | 12-Jan-09 | 1102 | 5059324.880 | 544965.900 | G-11 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1502 | 3-inch Stokes Mortar Frag | 12-Jan-09 | 1104 | 5059315.730 | 544970.080 | G-11 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1503 | 3-inch Stokes Mortar Tail Boom | 12-Jan-09 | 1108 | 5059316.450 | 544966.220 | G-11 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1504 | 3-inch Stokes Mortar | 12-Jan-09 | 1116 | 5059311.360 | 544986.280 | G-11 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1505 | 3-inch Stokes Mortar | 12-Jan-09 | 1118 | 5059319.020 | 544985.420 | G-11 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1506 | 3-inch Stokes Mortar | 12-Jan-09 | 1142 | 5059288.150 | 544931.280 | G-11 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1507 | 3-inch Stokes Mortar | 12-Jan-09 | 1143 | 5059286.700 | 544931.150 | G-11 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1508 | 2.36" Rocket Warhead | 12-Jan-09 | 1204 | 5059297.510 | 544925.040 | G-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1509 | 3-inch Stokes Mortar | 12-Jan-09 | 1205 | 5059318.250 | 544911.920 | G-11 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1510 | M73 35mm LAW Sub Caliber | 12-Jan-09 | 1411 | 5059204.240 | 545063.740 | H-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1511 | M73 35mm LAW Sub Caliber | 12-Jan-09 | 1412 | 5059190.070 | 545060.340 | H-11 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1512 | 37mm Projectile Frag | 12-Jan-09 | 1415 | 5059196.150 | 545066.140 | H-11 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1513 | 37mm Projectile Frag | 12-Jan-09 | 1419 | 5059207.690 | 545071.820 | H-11 | MKM-CB-014 | 8140.02 | 3 | 1 |

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**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1514 | M744 Mortar Subcal | 12-Jan-09 | 1422 | 5059219.770 | 545069.010 | H-11 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1515 | 37mm Projectile Frag | 12-Jan-09 | 1427 | 5059238.370 | 545074.060 | H-11 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1516 | 37mm Projectile Frag | 12-Jan-09 | 1435 | 5059248.830 | 545082.980 | H-11 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1517 | 37mm Projectile Frag Field | 13-Jan-09 | 1120 | 5059321.500 | 545183.710 | H-11 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1518 | 37mm Projectile Frag Field | 13-Jan-09 | 1620 | 5059231.570 | 545159.210 | H-11 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1519 | 14.5mm Sub Caliber | 13-Jan-09 | 1630 | 5059198.410 | 545100.850 | H-11 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1520 | 3-inch Stokes Mortar Fuze Frag | 14-Jan-09 | 0920 | 5059538.660 | 544614.880 | E-13 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1521 | 3-inch Stokes Mortar Fuze Frag | 15-Jan-09 | 1140 | 5059523.330 | 544651.060 | E-13 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1522 | 3-inch Stokes Mortar Tail Boom | 15-Jan-09 | 1145 | 5059537.780 | 544649.600 | E-13 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1523 | 3-inch Stokes Mortar | 15-Jan-09 | 1150 | 5059566.010 | 544679.070 | E-13 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1524 | 3-inch Stokes Mortar | 15-Jan-09 | 1320 | 5059569.770 | 544681.170 | E-13 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1525 | 3-inch Stokes Mortar | 19-Jan-09 | 0800 | 5059551.020 | 544631.670 | E-13 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1526 | MK2 Hand Grenade Frag | 19-Jan-09 | 0820 | 5059057.040 | 544893.790 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1527 | 14.5mm Sub Caliber | 19-Jan-09 | 0910 | 5059039.430 | 544896.980 | F-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1528 | MK2 Hand Grenade Frag | 19-Jan-09 | 1000 | 5059070.050 | 544903.940 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1529 | M73 35mm LAW Sub Caliber | 19-Jan-09 | 1100 | 5059075.000 | 544908.540 | F-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1530 | M18 Smoke Grenade | 22-Jan-09 | 0955 | 5059670.680 | 544710.890 | E-14 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1531 | M-8 Practice Landmine | 28-Jan-09 | 0910 | 5059587.500 | 544827.060 | F-13 | MKM-CB-014 | 8140.02 | 4 | 1 |
| MD-1532 | M-8 Practice Landmine | 28-Jan-09 | 0910 | 5059586.140 | 544820.730 | F-13 | MKM-CB-014 | 8140.02 | 4 | 1 |
| MD-1533 | M-8 Practice Landmine | 28-Jan-09 | 0915 | 5059593.960 | 544818.390 | F-13 | MKM-CB-014 | 8140.02 | 4 | 1 |
| MD-1534 | M-8 Practice Landmine | 28-Jan-09 | 0920 | 5059592.720 | 544817.740 | F-13 | MKM-CB-014 | 8140.02 | 4 | 1 |
| MD-1535 | M20 - AT Practice Landmine | 28-Jan-09 | 1000 | 5059576.960 | 544846.390 | F-13 | MKM-CB-014 | 8140.02 | 4 | 1 |
| MD-1537 | Rifle Grenade Tail Boom | 28-Jan-09 | 1130 | 5059169.970 | 544818.800 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1538 | Rifle Grenade Tail Boom | 28-Jan-09 | 1140 | 5059170.490 | 544827.170 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1539 | Rifle Grenade Tail Boom | 28-Jan-09 | 1150 | 5059175.980 | 544834.060 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1540 | 2.36" Rocket Warhead (Practice) | 28-Jan-09 | 1151 | 5059137.760 | 544838.370 | F-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1541 | M11 Rifle Grenade | 28-Jan-09 | 1153 | 5059141.930 | 544839.050 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1542 | Rifle Grenade Tail Boom | 28-Jan-09 | 1155 | 5059155.080 | 544839.710 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1544 | Rifle Grenade Tail Boom | 28-Jan-09 | 1210 | 5059137.260 | 544835.520 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1545 | M11 Rifle Grenade | 28-Jan-09 | 1228 | 5059136.260 | 544845.640 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1546 | Rifle Grenade Tail Boom | 28-Jan-09 | 1235 | 5059148.120 | 544839.150 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1548 | M18 Smoke Grenade | 28-Jan-09 | 1515 | 5059127.590 | 544835.350 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1549 | 2.36" Rocket Tail Fins | 28-Jan-09 | 1530 | 5059149.990 | 544814.640 | F-10 | MKM-CB-014 | 8140.02 | 5 | 1 |

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**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1550 | 2.36" Rocket Motor | 28-Jan-09 | 1540 | 5059170.520 | 544804.180 | F-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1552 | 2.36" Rocket Motor | 28-Jan-09 | 1545 | 5059172.500 | 544810.500 | F-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1553 | Grenade Fuze | 28-Jan-09 | 1550 | 5059168.470 | 544810.630 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1554 | Rifle Grenade Tail Boom | 28-Jan-09 | 1605 | 5059148.120 | 544801.800 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1555 | MK2 Hand Grenade Frag and Fuze | 28-Jan-09 | 1610 | 5059161.150 | 544791.020 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1556 | Rifle Grenade Tail Boom | 28-Jan-09 | 1620 | 5059163.740 | 544802.190 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1557 | M18 Smoke Grenade | 29-Jan-09 | 0854 | 5059159.870 | 544788.770 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1558 | 3-inch Stokes Mortar | 29-Jan-09 | 0900 | 5059118.780 | 544809.810 | F-10 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1559 | MK2 Hand Grenade Frag | 29-Jan-09 | 1012 | 5059174.520 | 544783.030 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1560 | Rifle Grenade Tail Boom | 29-Jan-09 | 1100 | 5059164.120 | 544777.040 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1561 | 2.36" Rocket Frag | 3-Feb-09 | 1010 | 5059163.750 | 544764.030 | F-10 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1562 | Rifle Grenade Tail Boom | 3-Feb-09 | 1030 | 5059158.520 | 544763.100 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1563 | Rifle Grenade Tail Boom | 3-Feb-09 | 1040 | 5059148.940 | 544764.020 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1564 | Rifle Grenade Tail Boom | 3-Feb-09 | 1110 | 5059147.610 | 544858.480 | F-10 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1565 | 3-inch Stokes Mortar | 4-Feb-09 | 1509 | 5059628.300 | 544574.830 | D-13 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1566 | 3-inch Stokes Mortar Frag | 5-Feb-09 | 0830 | 5059511.790 | 544575.780 | D-13 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1567 | 3-inch Stokes Mortar Frag | 5-Feb-09 | 0835 | 5059565.790 | 544578.780 | D-13 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1568 | 3-inch Stokes Mortar | 9-Feb-09 | 1109 | 5059807.750 | 545467.740 | J-14 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1569 | M18 Smoke Grenade | 10-Dec-08 | 1340 | 5059820.000 | 545427.490 | J-15 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1570 | M18 Smoke Grenade Frag | 10-Dec-08 | 1345 | 5059815.000 | 545416.340 | J-15 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1571 | M18 Smoke Grenade (3ea) | 10-Dec-08 | 1346 | 5059835.480 | 545420.890 | J-15 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1572 | M18 Smoke Grenade | 10-Dec-08 | 1400 | 5059832.940 | 545417.630 | J-15 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1573 | 2.36" Rocket Motor | 10-Dec-08 | 1402 | 5059836.660 | 545426.500 | J-15 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1574 | 2.36" Rocket Motor | 10-Dec-08 | 1405 | 5059841.170 | 545434.270 | J-15 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1576 | 40mm Practice Grenade | 11-Dec-08 | 0922 | 5059846.070 | 545404.320 | J-15 | MKM-CB-014 | 8140.02 | 6 | 1 |
| MD-1577 | 2.36" Rocket Motor | 11-Dec-08 | 1000 | 5059873.790 | 545396.650 | J-15 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1579 | Frag 1"x6" | 12-Feb-09 | 0900 | 5059907.070 | 545010.900 | G-15 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1581 | Frag 1"x5" | 12-Feb-09 | 1010 | 5059883.020 | 545016.690 | G-15 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1582 | 3-inch Stokes Mortar Frag | 16-Feb-09 | 1100 | 5059880.170 | 545489.880 | J-15 | MKM-CB-016 | 8140.02 | 3 | 1 |
| MD-1595 | 37mm Projectile Frag | 17-Feb-09 | 0750 | 5060680.420 | 546052.620 | N-20 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1596 | 2.36" Rocket Frag | 17-Feb-09 | 0950 | 5060663.860 | 546023.560 | N-20 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1598 | 3-inch Stokes Mortar Fuze Frag | 18-Feb-09 | 1620 | 5060758.170 | 546074.170 | N-21 | MKM-CB-016 | 8140.02 | 3 | 1 |

**Table B-6**
**Summary of MD Findings**
**Central Valley Floor (CVF)**
**Environmental Study Area (ESA), Wetlands, 1000" Range and CVF - Unclassified**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-1600 | 2.36" Rocket Warhead (Practice) | 23-Feb-09 | 0800 | 5060540.410 | 546023.270 | N-19 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1601 | 37mm Projectile Frag | 23-Feb-09 | 0910 | 5060541.800 | 546070.510 | N-19 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1602 | 2.36" Rocket Warhead (Practice) | 23-Feb-09 | 0920 | 5060580.250 | 546022.120 | N-19 | MKM-CB-014 | 8140.02 | 5 | 1 |
| MD-1603 | 37mm Projectile Frag | 23-Feb-09 | 0950 | 5060588.500 | 546040.990 | N-19 | MKM-CB-014 | 8140.02 | 3 | 1 |
| MD-1290 | 37mm Projectile Frag | 12-Nov-08 | 1050 | 5058859.640 | 545155.570 | H-8 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1296 | 37mm Projectile Frag | 13-Nov-08 | 0946 | 5058922.879 | 545160.916 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1297 | 37mm Projectile Frag | 13-Nov-08 | 1000 | 5058918.356 | 545159.784 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1298 | 37mm Projectile Frag | 13-Nov-08 | 1006 | 5058914.535 | 545159.519 | H-9 | MKM-CB-014 | 8140.02 | 2 | 1 |
| MD-1604 | 2.36" Rocket Warhead (Practice) | 23-Feb-09 | 1340 | 5060541.710 | 546044.980 | N-19 | MKM-CB-014 | 8140.02 | 5 | 1 |
| | | | | | | | | | SUBTOTAL CVF - UNCLASSIFIED | 880 |
| | | | | | | | | | **GRAND TOTAL** | **912** |

| Legend | |
|---|---|
| **MEC** | Munitions and Explosives of Concern |
| **MD** | Munitions Debris |
| **MKM-CB-001** | 55-gallong drum containing MD |
| ** All listings reported as of February 28, 2009* | |

| MD Categories | |
|---|---|
| **1** | Small Arms and Ammunition |
| **2** | MD fragments |
| **3** | Projectiles |
| **4** | Landmines |
| **5** | Rockets |
| **6** | Grenades |
| **7** | Flares |
| **8** | Fuze spoons |
| **9** | Miscellaneous |

**Table B-7**
**Summary of MD Findings**
**Western Slopes**
**Training Areas**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| Western Slopes | | | | | | | | | | |
| ***Training Areas*** | | | | | | | | | | |
| MD-042 | 7.62 mm links and brass (50+ pieces) expended | 10-Apr-07 | 0830 | 546287.000 | 5060869.000 | P-21 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-043 | Practice cartridge artillery simulator - expended | 10-Apr-07 | 0920 | 546273.000 | 5060875.000 | P-21 | MKM-CB-004 | 8146.01 | 1 | 1 |
| MD-046 | Anti-tank practice mine (1 each) | 11-Apr-07 | 1442 | 545858.000 | 5060690.000 | M-20 | Display Board | 8146.01 | 4 | 1 |
| MD-047 | Frag | 11-Apr-07 | 0927 | 547158.000 | 5060744.000 | V-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-056 | Anti-tank practice mine, practice, M20 | 26-Apr-07 | 1347 | 5060197.000 | 544385.000 | C-17 | MKM-CB-003 | 8146.01 | 4 | 1 |
| MD-057 | Expended Slap Flare | 26-Apr-07 | 1536 | 5060195.000 | 544468.000 | D-17 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-058 | Expended Slap Flare | 30-Apr-07 | 1150 | 5060167.000 | 544855.000 | F-17 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-059 | Smoke grenade, fuze spoon | 30-Apr-07 | 1155 | 5060234.000 | 544822.000 | F-17 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-060 | Grenade spoon (practice) | 30-Apr-07 | 1520 | 5060509.000 | 544822.000 | F-19 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-061 | Trip flare spoon | 30-Apr-07 | 1549 | 5060524.000 | 544824.000 | F-19 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-062 | Practice grenade spoon | 30-Apr-07 | 1510 | 5060530.000 | 544825.000 | F-19 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-066 | Practice grenade spoon | 1-May-07 | 1040 | 5060561.000 | 544823.000 | F-20 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-067 | Grenade spoon (practice) | 1-May-07 | 1055 | 5060673.000 | 544812.000 | F-20 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-080 | 0.30 cal blank | 21-May-07 | 1000 | 5059169.000 | 544434.000 | C-11 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-081 | 0.30 cal blank | 21-May-07 | 1030 | 5059173.000 | 544440.000 | C-11 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-085 | 7.62 blank pit | 22-May-07 | 1420 | 5059396.000 | 544390.000 | C-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-086 | Slap flare (expended) | 22-May-07 | 1440 | 5059394.000 | 544290.000 | C-12 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-087 | 5.56/7.62 Blank pit | 22-May-07 | 0900 | 5059390.000 | 544211.000 | B-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-088 | 7.62 blank pit | 22-May-07 | 0945 | 5059390.000 | 544211.000 | B-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-089 | 7.62 blank pit | 22-May-07 | 1145 | 5059315.000 | 544290.000 | B-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-090 | 7.62 blank pit | 22-May-07 | 1420 | 5059396.000 | 544390.000 | C-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-093 | 7.62 blank pit | 23-May-07 | 0900 | 5059411.000 | 544518.000 | D-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-094 | 7.62 blank pit | 23-May-07 | 0925 | 5059421.000 | 544578.000 | D-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-095 | 7.62 blank pit | 23-May-07 | 1000 | 5059419.000 | 544580.000 | D-12 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-096 | Smoke grenade | 23-May-07 | 1005 | 5059403.000 | 544580.000 | D-12 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-100 | Slap flare (expended) | 24-May-07 | 1300 | 5059843.000 | 544717.000 | E-15 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-127 | Smoke Grenade Spoon | 30-May-07 | 0907 | 5060720.000 | 545999.000 | N-20 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-138 | 7.62 Blanks (100 rounds) | 5-Jun-07 | 0900 | 5059160.000 | 544023.000 | A-11 | Display Board | 8146.01 | 1 | 1 |

**Table B-7**
**Summary of MD Findings**
**Western Slopes**
**Training Areas**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-139 | 7.62 Blanks (31 rounds) | 5-Jun-07 | 0945 | 5058803.000 | 544368.000 | C-8 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-140 | Grenade Spoon | 5-Jun-07 | 1015 | 5058916.000 | 544433.000 | C-9 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-178 | Fuze Spoon | 19-Jun-07 | 0925 | 5059033.000 | 544439.000 | C-10 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-179 | Fuze Spoon | 19-Jun-07 | 0920 | 5059039.000 | 544450.000 | C-10 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-181 | 7.62mm Blank ammunition | 19-Jun-07 | 0840 | 5059128.000 | 544434.000 | C-10 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-262 | Smoke Grenade (EXPENDED) | 10-Jul-07 | 1026 | 5060658.000 | 545030.000 | H-20 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-263 | Smoke Grenade (EXPENDED) | 10-Jul-07 | 1054 | 5060625.000 | 545135.000 | H-20 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-264 | Fuze spoon | 10-Jul-07 | 1055 | 5060619.000 | 545126.000 | H-20 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-265 | Smoke Grenade (EXPENDED) | 10-Jul-07 | 1106 | 5060599.000 | 545113.000 | H-20 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-266 | Smoke Grenade (EXPENDED) | 10-Jul-07 | 1112 | 5060659.000 | 545130.000 | H-20 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-267 | Smoke Grenade (EXPENDED) | 10-Jul-07 | 1114 | 5060663.000 | 545161.000 | H-20 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-268 | Smoke Grenade (EXPENDED) | 10-Jul-07 | 1126 | 5060654.000 | 545150.000 | H-20 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-269 | Smoke Grenade (EXPENDED) | 10-Jul-07 | 0925 | 5060579.000 | 545207.000 | I-20 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-276 | 40mm Practice (EXPENDED) | 30-Jul-07 | 0940 | 5060051.000 | 544418.000 | C-16 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-289 | 40mm  M661 (EXPENDED) | 2-Aug-07 | 1215 | 5060891.000 | 546210.000 | P-22 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-290 | 7.62mm blank ammunition | 6-Aug-07 | 856 | 5058417.000 | 544061.000 | A-6 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-291 | Smoke Grenade (EXPENDED) | 6-Aug-07 | 907 | 5058366.000 | 544079.000 | A-5 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-292 | 40mm Practice (EXPENDED) | 6-Aug-07 | 908 | 5058366.000 | 544075.000 | A-5 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-293 | 7.62mm blank ammunition | 6-Aug-07 | 1209 | 5058476.000 | 544045.000 | A-6 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-294 | Frag 1" x 5" | 6-Aug-07 | 1124 | 5058475.000 | 544047.000 | A-6 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-295 | Smoke Grenade (EXPENDED) | 6-Aug-07 | 1125 | 5058547.000 | 544070.000 | A-6 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-296 | Fuze spoon | 6-Aug-07 | 1534 | 5058431.000 | 544168.000 | B-6 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-297 | Frag 4" x 6" | 7-Aug-07 | 1448 | 5058349.000 | 544386.000 | C-5 | Display Board | 8146.01 | 2 | 1 |
| MD-298 | Slap flare tail boom | 7-Aug-07 | 1045 | 5058493.000 | 544586.000 | D-6 | MKM-CB-004 | 8146.01 | 2 | 1 |
| MD-299 | Frag 2" x 3" | 7-Aug-07 | 0940 | 5058611.000 | 544577.000 | D-7 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-300 | 7.62mm blank ammunition | 7-Aug-07 | 0750 | 5058792.000 | 544462.000 | D-8 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-301 | Slap Flare (EXPENDED) | 7-Aug-07 | 0844 | 5058778.000 | 544549.000 | D-8 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-302 | Slap Flare (EXPENDED) | 7-Aug-07 | 0930 | 5058769.000 | 544498.000 | D-8 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-345 | Smoke Grenade (EXPENDED) | 16-Aug-07 | 1340 | 5059115.000 | 544481.000 | D-10 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-354 | M1 Clips with Ammo | 20-Aug-07 | 1150 | 5059396.000 | 544598.000 | E-12 | Display Board | 8146.01 | 1 | 1 |
| MD-434 | Smoke Grenade (EXPENDED) | 9-Oct-07 | 1400 | 5060845.000 | 546485.000 | Q-21 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-596 | Slap Flare, (EXPENDED) | 18-Jan-08 | 1407 | 5060635.000 | 545866.000 | M-20 | MKM-CB-004 | 8140.01 | 7 | 1 |
| MD-679 | Smoke Grenade, (EXPENDED) | 26-Feb-08 | 1600 | 5059922.000 | 544807.000 | F-15 | MKM-CB-004 | 8146.02 | 6 | 1 |
| MD-697 | Grenade Spoon | 10-Mar-08 | 1429 | 5059285.000 | 544671.000 | E-11 | MKM-CB-004 | 8119.02 | 6 | 1 |

**Table B-7**
**Summary of MD Findings**
**Western Slopes**
**Training Areas**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-698 | Slap Flare (EXPENDED) | 10-Mar-08 | 1436 | 5059284.000 | 544664.000 | E-11 | MKM-CB-004 | 8119.02 | 7 | 1 |
| MD-1100 | Slap Flare (EXPENDED) | 16-Jul-08 | 1500 | 5059034.000 | 544761.010 | F10 | MKM-CB-004 | 8140.01 | 7 | 1 |
| | | | | | | | | | SUBTOTAL TRAINING AREA | 64 |
| | | | | | | | | | **GRAND TOTAL** | **64** |

| Legend | |
|---|---|
| **MEC** | Munitions and Explosives of Concern |
| **MD** | Munitions Debris |
| **MKM-CB-001** | 55-gallong drum containing MD |
| ** All listings reported as of February 28, 2009* | |

| MD Categories | |
|---|---|
| **1** | Small Arms and Ammunition |
| **2** | MD fragments |
| **3** | Projectiles |
| **4** | Landmines |
| **5** | Rockets |
| **6** | Grenades |
| **7** | Flares |
| **8** | Fuze spoons |
| **9** | Miscellaneous |

**Table B-8**
**Summary of MD Findings**
**Wildlife Management Area (WMA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| WMA | | | | | | | | | | |
| MD-002 | Bomb Fragments (possible 250 lb old style) | 3-Apr-07 | 0904 | 546609.000 | 5061799.000 | R-27 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-008 | Frag | 3-Apr-07 | 0805 | 547304.000 | 5060748.000 | V-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-009 | Frag | 3-Apr-07 | 0807 | 547302.000 | 5060747.000 | V-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-010 | Frag | 3-Apr-07 | 0819 | 547346.000 | 5060742.000 | V-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-011 | Frag | 3-Apr-07 | 0849 | 547370.000 | 5060728.000 | W-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-012 | Frag | 3-Apr-07 | 0851 | 547379.000 | 5060739.000 | W-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-013 | Frag | 3-Apr-07 | 0852 | 547372.000 | 5060733.000 | W-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-014 | Frag (two each) | 3-Apr-07 | 0852 | 547389.000 | 5060706.000 | W-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-015 | Frag | 3-Apr-07 | 0852 | 547425.000 | 5060719.000 | W-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-016 | Frag | 3-Apr-07 | 0916 | 547474.000 | 5060738.000 | X-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-017 | Frag | 3-Apr-07 | 0917 | 547515.000 | 5060780.000 | X-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-018 | Frag | 3-Apr-07 | 1033 | 547515.000 | 5060780.000 | X-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-019 | Frag | 3-Apr-07 | 1036 | 547459.000 | 5060740.000 | W-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-020 | Frag | 3-Apr-07 | 1041 | 547439.000 | 5060723.000 | W-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-021 | Frag | 3-Apr-07 | 1044 | 547418.000 | 5060740.000 | W-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-022 | Smoke grenade spoon | 4-Apr-07 | 0910 | 547214.000 | 5061538.000 | V-25 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-023 | 40mm Grenade Simulator (M74A1 Shell, empty) – 7 each | 4-Apr-07 | 1108 | 547124.000 | 5061589.000 | U-26 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-032 | Smoke Grenade (yellow smoke; expended) | 5-Apr-07 | 1205 | 546840.000 | 5061039.000 | T-22 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-033 | Frag (2" x 3") | 5-Apr-07 | 1250 | 546785.000 | 5061001.000 | S-22 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-034 | Slap Flare Launch Tube (empty) | 5-Apr-07 | 1255 | 546785.000 | 5061006.000 | S-22 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-048 | Frag | 11-Apr-07 | 0944 | 547134.000 | 5060738.000 | U-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-053 | Cartridge 40 mm, white star parachute, M583A2 (1 each) | 17-Apr-07 | 0855 | 546227.000 | 5060910.000 | P-21 | MKM-CB-004 | 8146.01 | 3 | 1 |
| MD-071 | 1 ea 3.5" rocket, practice, expended | 7-May-07 | 0930 | 5058457.873 | 545124.805 | H-6 | Display Board | 8146.01 | 5 | 1 |

**Table B-8**
**Summary of MD Findings**
**Wildlife Management Area (WMA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-072 | 1 ea 3.5" rocket, practice, expended | 7-May-07 | 0945 | 5058445.809 | 545198.113 | H-6 | MKM-CB-003 | 8146.01 | 5 | 1 |
| MD-073 | Grenade spoon 3 each | 7-May-07 | 0946 | 5058441.000 | 545128.000 | H-6 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-074 | Small arms, brass, 100 pieces | 7-May-07 | 1049 | 5058452.000 | 545134.000 | H-6 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-076 | 60 mm tail boom | 9-May-07 | 1020 | 5061737.000 | 548438.000 | DD-27 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-082 | Smoke Grenade (empty) | 22-May-07 | 1003 | 5061013.000 | 547191.000 | V-22 | Display Board | 8146.01 | 6 | 1 |
| MD-083 | 5" long frag | 22-May-07 | 0935 | 5061009.000 | 547187.000 | V-22 | MKM-CB-002 | 8146.01 | 6 | 1 |
| MD-084 | 7.62 brass and links | 22-May-07 | 0920 | 5060990.000 | 547187.000 | V-22 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-099 | 7.62 mm Linked Ammo Blanks (100+ rounds) | 5-Apr-07 | 1244 | 5061061.000 | 546808.000 | S-22 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-101 | Frag Field (57 pieces) | 24-May-07 | 1050 | 5060747.899/ 5060732.591 | 547295.923/ 547448.823 | W-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-141 | Slap Flare (EXPENDED) | 6-Jun-07 | 1045 | 5057828.000 | 545712.000 | K-1 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-155 | Frag Field | 13-Jun-07 | 1415 | 5060732.000 | 547449.000 | X-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-156 | Frag 1" X 5" | 13-Jun-07 | 1430 | 5060814.000 | 547553.000 | X-21 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-157 | Frag 1" x 6" | 13-Jun-07 | 1433 | 5060773.000 | 547523.000 | X-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-158 | Frag 2" x 3" | 13-Jun-07 | 1435 | 5060771.000 | 547535.000 | X-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-159 | Booby Trap Kit M-117 Flash | 13-Jun-07 | 1440 | 5060726.000 | 547488.000 | X-20 | MKM-CB-004 | 8146.01 | 9 | 1 |
| MD-160 | Frag Field | 13-Jun-07 | 1445 | 5060732.9 / 5060792.3 | 547449.0 / 547556.8 | X-21 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-172 | 7.62 Blank ammunition 195 rounds | 18-Jun-07 | 1045 | 5057994.000 | 545723.000 | L-3 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-173 | Slap Flare (EXPENDED) | 18-Jun-07 | 1338 | 5058014.000 | 545735.000 | L-3 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-174 | Grenade Spoon | 18-Jun-07 | 1338 | 5058014.000 | 545735.000 | L-3 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-175 | Slap Flare Container | 18-Jun-07 | 0920 | 5057930.000 | 545645.000 | K-2 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-176 | 7.62 Ammunition 61 rounds | 18-Jun-07 | 0955 | 5057934.000 | 545670.000 | K-2 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-177 | Fuze Spoon | 18-Jun-07 | 0955 | 5057934.000 | 545670.000 | K-2 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-218 | 7.62mm blank ammunition | 21-Jun-07 | 1520 | 5060121.000 | 546208.000 | O-16 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-225 | 5.56mm Magazines (3ea with Blanks) | 25-Jun-07 | 0810 | 5058284.000 | 544997.000 | G-5 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-226 | 7.62mm blank ammunition (FIRED) | 25-Jun-07 | 0830 | 5058383.000 | 545013.000 | G-5 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-230 | 3.5" Rocket (Practice) | 26-Jun-07 | 0740 | 5058581.000 | 545442.000 | J-7 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-231 | Fuze spoon | 26-Jun-07 | 0900 | 5058814.000 | 545750.000 | L-8 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-258 | Frag Field (155mm - 60mm) | 3-Jul-07 | 1400 | 5060733 / 5060781 | 547144 / 547202 | V-20 | MKM-CB-002 | 8146.01 | 2 | 1 |

**Table B-8**
**Summary of MD Findings**
**Wildlife Management Area (WMA)**

| S.No | Item Description | Date of Finding | Time | Northing | Easting | Grid | Disposition | Task | Category | Count |
|---|---|---|---|---|---|---|---|---|---|---|
| MD-259 | Frag Field(155mm / 105mm) | 3-Jul-07 | 1445 | 5060782 / 5060748 | 547247 / 547296 | V-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-277 | 3-inch Stokes Mortar (EXPENDED) | 31-May-07 | 0714 | 5060989.000 | 546552.000 | R-22 | MKM-CB-003 | 8146.01 | 3 | 1 |
| MD-284 | Smoke Grenade (EXPENDED) | 31-Jul-07 | 1535 | 5061604.000 | 547223.000 | V-26 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-285 | Smoke Grenade (EXPENDED) | 31-Jul-07 | 1540 | 5061605.000 | 547225.000 | V-26 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-303 | 81mm mortar practice (FIRED, UNFUZED) | 8-Aug-07 | 1115 | 5059283.000 | 546021.000 | N-11 | Display Board | 8146.01 | 3 | 1 |
| MD-304 | Smoke Grenade (EXPENDED) | 8-Aug-07 | 1120 | 5059285.000 | 546021.000 | N-11 | MKM-CB-004 | 8146.01 | 6 | 1 |
| MD-305 | Fuze spoon | 8-Aug-07 | 1125 | 5059284.000 | 546025.000 | N-11 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-308 | Slap Flare (EXPENDED) | 9-Aug-07 | 0805 | 5058354.000 | 546470.000 | Q-25 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-346 | Fuze spoon | 20-Aug-07 | 0750 | 5059584.000 | 545764.000 | L-13 | MKM-CB-004 | 8146.01 | 8 | 1 |
| MD-347 | Slap flare launcher container | 20-Aug-07 | 0840 | 5059587.000 | 545763.000 | L-13 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-348 | Frag Field 8 Pieces | 20-Aug-07 | 1410 | 5060704.000 | 546990.000 | U-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-349 | Frag 1" x 3" | 20-Aug-07 | 1015 | 5060706.000 | 547008.000 | U-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-350 | Frag 1" x 5" | 20-Aug-07 | 1025 | 5060724.000 | 547059.000 | U-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-351 | Frag 1" x 3" | 20-Aug-07 | 1040 | 5060730.000 | 547089.000 | U-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-352 | Frag Field 10 Pieces | 20-Aug-07 | 1050 | 5060734.000 | 547096.000 | U-20 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-375 | Slap Flare (EXPENDED) | 22-Aug-07 | 1205 | 5058632.000 | 546751.000 | R-7 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-376 | Slap Flare (EXPENDED) | 28-Aug-07 | 1340 | 5060846.000 | 547167.000 | V-21 | MKM-CB-004 | 8146.01 | 7 | 1 |
| MD-377 | Frag Field 9 Pieces | 28-Aug-07 | 1245 | 5060845.000 | 547216.000 | V-21 | MKM-CB-002 | 8146.01 | 2 | 1 |
| MD-436 | 7.62mm blank ammunition, belted | 11-Oct-07 | 1445 | 5061028.000 | 546820.000 | S-22 | MKM-CB-005 | 8146.01 | 1 | 1 |
| MD-619 | Frag Field | 23-Jan-08 | 0930 | 5060450/ 5060445 | 547305/ 547458 | W-18 | MKM-CB-006 | 8146.02 | 2 | 1 |
| MD-620 | Frag Field | 23-Jan-08 | 1145 | 5060445/ 5040451 | 547458/ 547610 | X-18 | MKM-CB-006 | 8146.02 | 2 | 1 |
| MD-621 | Frag Field | 23-Jan-08 | 1420 | 5060451/ 5060469 | 547610/ 547762 | Y-18 | MKM-CB-006 | 8146.02 | 2 | 1 |
| MD-674 | Slap Flare, (EXPENDED) | 20-Feb-08 | 1559 | 5061048.000 | 546626.000 | R-22 | MKM-CB-004 | 8146.02 | 7 | 1 |
| MD-675 | 7.62 Blank Ammunition | 20-Feb-08 | 1610 | 5061038.000 | 546604.000 | R-22 | MKM-CB-009 | 8146.02 | 1 | 1 |
| MD-1154 | 37mm Frag | 3-Sep-08 | 0816 | 5058387.000 | 545019.000 | G05-16 | MKM-CB-006 | 8140.02 | 2 | 1 |
| MD-1209 | 3.5" Practice Rocket (14ea) (EXPENDED) | 29-Sep-08 | 1250 | 5058437.244 | 545189.025 | H-6 | MKM-CB-008 | 7100 | 5 | 1 |
| MD-1210 | 3.5" Practice Rocket (3ea) (EXPENDED) | 29-Sep-08 | 1330 | 5058440.602 | 545194.629 | H-6 | MKM-CB-008 | 7100 | 5 | 1 |
| MD-1483 | 37mm Projectile Frag | 7-Jan-09 | 1220 | 5061086.030 | 546668.270 | R-23 | MKM-CB-014 | 8167.02 | 3 | 1 |
| | | | | | | | | | **GRAND TOTAL** | **79** |

| Legend | |
|---|---|
| **MEC** | Munitions and Explosives of Concern |
| **MD** | Munitions Debris |
| **MKM-CB-001** | 55-gallong drum containing MD |
| ** All listings reported as of February 28, 2009* | |

| MD Categories | |
|---|---|
| **1** | Small Arms and Ammunition |
| **2** | MD fragments |
| **3** | Projectiles |
| **4** | Landmines |
| **5** | Rockets |
| **6** | Grenades |
| **7** | Flares |
| **8** | Fuze spoons |
| **9** | Miscellaneous |

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## LIST OF APPENDICIES

### Appendix A – Summary of MEC Findings



### Appendix B – Summary of MD Findings

## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| 2, 4 DNT | 2,4 Dinitrotoluene |
| AAOC | Additional Areas of Concern |
| ACES | Area Covered by Environmental Services |
| AEM | Atlanta Environmental Management, Inc. |
| AOC | Area of Concern |
| AOPC | Area of Potential Concern |
| APP | Accident Prevention Plan |
| AR | Army Regulation |
| ARARs | Applicable or Relevant and Appropriate Requirements |
| ARNG | Army National Guard |
| ARPA | Archaeological Resource Protection Act |
| ASB | Anomaly Selection Board |
| ASR | Archives Search Report |
| bgs | Below Ground Surface |
| BOCC | Board of County Commissioners |
| BRAC | Base Realignment and Closure |
| BCRRT | Bonneville Conservation Restoration and Renewal Team, LLC |
| BMV | Benchmark Values |
| CAA | Clean Air Act |
| CAAA | Clean Air Act Amendment |
| CAP | Clean-up Action Plan |
| CBMR | Camp Bonneville Military Reservation |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CCA | Conservation Conveyance Authority |
| CCC | Civilian Conservation Corps |
| CERFA | Community Environmental Response Facilitation Act |
| CITA | Central Impact Target Area |
| CMTC | Citizens Military Training Camps |
| COPC | Chemicals of Potential Concern |
| CRAP | Conceptual Remedial Action Plan |
| CRZ | Contamination Reduction Zone |
| CSM | Conceptual Site Model |
| CWA | Clean Water Act |
| DA | Department of Army |
| DAESC | Department of the Army Explosive Safety Council |
| DGM | Digital Geologic / Geophysical Mapping |
| DNR | Department of Natural Resources |
| DOD | Department of Defense |
| DOE | Washington State Department of Ecology |
| EA | Environment Assessment |
| E&R | Excavation and Restoration |
| EBS | Environment Baseline Study |
| EIS | Environmental Impact Statement |
| EE/CA | Engineering Evaluation / Cost Analysis |
| EHS | Environmental Health and Safety |

## LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

| | |
|---|---|
| EOD | Explosive Ordnance Disposal |
| EPA | Environmental Protection Agency |
| ESA | Environmental Study Area |
| ESCA | Environmental Services Cooperative Agreement |
| ESH | Explosive Safety Hazard |
| ESS | Explosive Safety Submission |
| FBI | Federal Bureau of Investigation |
| FS | Feasibility Study |
| FOSET | Finding of Suitability for Early Transfer |
| GIS | Geographical Information System |
| GOCO | Government Owned, Contracts Operated |
| GPS | Global Positioning System |
| HASP | Site Wide Health and Safety Plan |
| HAZWOPER | Hazardous Waste Operation and Emergency Response Standard |
| HE | High Explosive |
| HEAT | High Explosive Anti-Tank |
| HSR | Hazard Severity Ranking |
| HSWA | Hazardous and Solid Waste Amendments |
| HWMA | Hazardous Waste Management Act |
| IAWP | Interim Action Work Plan |
| ICs | Institutional Controls |
| ID | Identification |
| IDW | Investigation Derived Waste |
| LAW | Light Anti-tank Weapon |
| LDR | Land Disposal Restrictions |
| LRA | Local Redevelopment Authority |
| MD | Munition Debris |
| MEC | Munitions and Explosives of Concern |
| mg/L | milligrams per liter |
| MRE | Meal, Ready-to-Eat |
| msl | mean sea level |
| MTCA | Model Toxics Control Act |
| N/A | Not Applicable |
| NAAQS | National Ambient Air Quality Standards |
| NCP | National Contingency Plan |
| NFA | No Further Action |
| N/A | Not Applicable |
| NESHAPs | National Emission Standards for Hazardous Air Pollutants |
| NEPA | National Environmental Policy Act |
| NPDES | National Pollutant Discharge |
| NPL | National Priority List |
| NSPS | New Source Performance Standards |
| OB/OD | Open Burn / Open Detonation |

## LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

| | |
|---|---|
| OE | Ordnance and Explosive |
| OSHA | Occupational Safety and Health Act |
| PETN | Pentaerythritol Tetranitrate |
| PHA | Project Hazard Analysis |
| PDA | Personal Digital Assistant |
| PPCD | Prospective Purchaser Consent Decree |
| PPCE | Personal Protective Clothing and Equipment |
| PPE | Personal Protective Equipment |
| PRG | Preliminary Remediation Goals |
| PSD | Prevention of Significant Deterioration |
| QAPP | Quality Assurance Project Plan |
| QA/QC | Quality Assurance / Quality Control |
| RAU 2 A | Remedial Action Unit 3 |
| RCRA | Resource Conservation and Recovery Act |
| RCW | Revised Code of Washington |
| RI | Remedial Investigation |
| RI/FS | Remedial Investigation / Feasibility Study |
| ROTC | Reserve Officer Training Corps |
| RP | Regional Park |
| RPC | Reuse Planning Committee |
| RTES | Rare, Threatened Endangered Species |
| RV | Recreational Vehicle |
| SAP | Sampling and Analysis Plan |
| SARA | Superfund Amendments and Reauthorization Act |
| SEPA | State Environmental Policy Act |
| SI | Site Investigation |
| SOP | Standard / Standing Operating Procedure |
| SOW | Statement of Work |
| SPRT | Sequential Probability Ratio Test |
| TCLP | Toxicity Characteristic Leaching Procedure |
| TCRA | Time Critical Removal Action |
| TEC | Topographic Engineering Center |
| TLVs | Threshold Limit Values |
| TSDF | Treatment, Storage and Disposal Facility |
| TSRS | Technical Specifications and Requirement Statements |
| UPL | Upper Confidence Level |
| USACE | United States Army Corps of Engineers |
| USAESCH | United States Army Engineering and Support Center, Huntsville |
| USAR | United States Army Reserve |
| USATCES | United States Army Technical Center for Explosives Safety |
| USEPA | United States Environmental Protection Agency |
| USFWS | United States Fish and Wildlife Service |

## LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

| | |
|---|---|
| UXO | Unexploded Ordnance |
| WAC | Washington Administrative Code |
| WMA | Wildlife Management Area |
| WP | White Phosphorus |

# 1.0 INTRODUCTION

## 1.1 Background

The Final Remedial Action Unit (RAU) 3 Remedial Investigation/ Feasibility (RI/FS; BCRRT 2008a) for the former Camp Bonneville Military Reservation (CBMR; see **Figure 1.1**) was issued by the Bonneville Conservation Restoration and Renewal Team, LLC (BCRRT) on February 29, 2008, following approval by the Washington Department of Ecology (WDOE). In order to address the Interim Action and investigation findings, and the need for additional site characterization, WDOE requested a Supplemental RI/FS be included with the previously approved RI/FS (BCRRT, 2008d) for generation of the RAU 3 Cleanup Action Plan (CAP). The additional MEC characterization incorporated data generated during the ongoing MEC surface clearance work in the Central Valley Floor (CVF), Environmental Study Area (ESA), Roads and Trails (R & Ts), transect investigations through Training Areas 4, 5, and 12 (Training Areas), and 2.36in. Rocket Range Interim Actions. The information gained in these studies was evaluated and used in the development of this Supplemental RI/FS.

Munitions of Explosive Concern (MEC) and Munition Debris (MD) findings during the implementation of the Emergency and Interim Actions at the CBMR resulted in the discovery of newly discovered Remedial Work Areas in the CVF, Wildlife Management Area (WMA) and Western Slopes (in the Regional Park west of the CVF). Using the strategy for risk assessment presented in the Final RI/FS and a Conceptual Site Model updated to reflect the new data gathered as part of the Interim Actions described herein, these newly discovered Remedial Work Areas were evaluated for implementation of potential remedial actions. These evaluations are detailed in this Supplemental RI/FS. In addition, the updated Conceptual Site Model was used to re-evaluate the remedial actions recommended for the Remedial Work Areas (see **Figure 1.2**) defined in the Final RI/FS (BCRRT, 2008a).

BCRRT continues to hold discussions with the U.S. Army, WDOE, and Clark County to plan the characterization and management of these newly discovered Remedial Work Areas (see **Figures 1.3 and 1.4**). Characterization results through February 2009 for these areas are discussed in this Supplemental RI/FS Report, and recommended remedial actions are incorporated in the RAU 3 CAP. This document addresses only the physical MEC related material for the Interim Action areas and not the potential chemical impacts related to the presence of MEC.

This report in organized as follows: **Section 1.0 -**Introduction, **Section 2.0 -** Analysis of Emergency and Interim Action Findings, **Section 3.0 -** Central Valley Floor, **Section 4.0 -** Regional Park Western Slopes Area, **Section 5.0 –** Northern CITA Expansion , **Section 6.0 -** MEC Surface Clearance of Demolition Area 1/Landfill 4, and **Section 7.0 –** References.

The report attachments include: **Figure 1.1** Site Location Map, **Figure 1.2** Site-Wide Remedial Work Areas, **Figure 1.3** Central Valley Floor Sub-Surface Clearance and Northern CITA Expansion, **Figure 1.4** Western Slopes Surface Clearance Area and Demolition Area 1/Landfill 4 Kick-out Surface Clearance Area, **Figure 1.5** Proposed Regional Park Reuse Areas, **Figure 1.6** Interim Action MEC Findings, **Figure 1.7** Interim Action MD Findings, , **Appendix A** Summary of MEC Findings, and **Appendix B** Summary of MD Findings.

## 1.2 Relationships to other Relevant Documents

### 1.2.1 RI/FS Report for RAU 3

This Supplemental RI/FS addresses the additional MEC and MD findings since the Final February 2008 RI/FS was issued, including the MEC and MD findings in newly discovered Remedial Work Areas. This Supplemental RI/FS uses the same analytical tools and techniques as used in the Final RI/FS including:

- The Conceptual Site Model (CSM) updated to account for new information;
- The same risk analysis techniques;
- The same process used for the alternatives identification and remedy selections for the MEC Sites and Land Reuse Areas.

### 1.2.2 RAU 3 CLEANUP ACTION PLAN

The RAU 3 Cleanup Action Plan (CAP) has adopted the cleanup action selections and remediation recommendations of the Final RI/FS, as amended by this Supplemental RI/FS, and incorporates the Supplemental RI/FS as an appendix. This Supplemental RI/FS was developed simultaneously with development of the CAP, addressing the findings of the completed Interim Actions and the characterization of newly discovered Remedial Work Areas.

## 1.3 Summary of Work Completed to Date for RAU 3

This report includes consideration of field data collected through the end of February 2009.

### 1.3.1 Emergency Actions

The Emergency Actions consisted of MEC anomaly avoidance, brush clearance, fence replacement/repair, signage replacement, and formal MEC surface clearance around the perimeters of the entire site and the Central Impact Target Area (CITA). These Emergency Actions are complete and the required Emergency Action Emergency Action Report (BCRRT 2007c) have been submitted to WDOE.

### 1.3.2 Interim Actions

The Interim Actions initially consisted of MEC anomaly avoidance, brush clearance, and MEC surface clearance in 20-foot buffer zones along the Roads and Trails Remedial Work Area throughout the site, and at the nine small arms ranges slated for soils remediation for lead as detailed in the RAU 2A CAP (BCRRT 2008d). The Interim Actions have been expanded to include MEC clearance of the expanded 2.36 in. Rocket Target Area Remedial Work Area and MEC surface clearance of the CVF, the ESA and transect investigations through Training Areas 4, 5, and 12. The required Interim Action Work Plans (IAWP; BCRRT 2007d), and the Explosives Safety Submittal (ESS; MKM

2007) amendments for each Interim Action have been reviewed and approved by the appropriate oversight agencies.

### 1.3.3 Cleanup Actions Identified Subsequent to the RI/FS

Based on MEC and MD findings during implementation of the Emergency and Interim Actions, newly discovered target, range, and demolition areas have been identified at Camp Bonneville. These newly discovered Remedial Work Areas are discussed in the following sections. Some of the newly discovered Remedial Work Areas consist of expansions of Remedial Work Areas defined in the Final RI/FS, changes in the characterization of Remedial Work Areas, and others are newly discovered findings unrelated to the identified Remedial Work Areas as detailed in the Final RI/FS.

# 2.0 ANALYSIS OF EMERGENCY AND INTERIM ACTION FINDINGS

## 2.1 General Description of Emergency and Interim Actions

The MEC, MD, and subsurface anomalies identified during the **Section 1.3** above have been evaluated. **Figures 1.2 and 1.5** shows the CVF boundary, the ESA, the Training Areas, and the 2.36 in. Rocket Range. The majority of the proposed Regional Park lies within these areas.

Data collected from the Emergency and Interim Actions were evaluated for the following areas:

- The CVF has relatively flat terrain and is bounded by steep slopes to the north, east and south. The CVF consists of High Intensity Reuse Areas and Accessible Medium Intensity Reuse Areas. The ESA lies just outside of and southwest of the CVF and is classified as a Medium (non-intrusive) Intensity Reuse Area within the Regional Park.

- There are approximately 46 miles of Roads and Trails throughout Camp Bonneville, of which 25 miles are located within the proposed Regional Park (see **Figure 1.5**). Since the February 2008 Final RI/FS, MEC surface clearance work has been essentially completed in the 20-foot buffer zone along the R & Ts.

- The Training Areas (TA) 4, 5, and 12 were used historically by the U. S. Army for training operations (see **Figure 1.6**). Use consisted of non-live fire exercises such as squad tactics training with and without the use of night vision gear, hand-to-hand combat training, practice training for the assault/defense of various positions and convoys, and bayonet and obstacle course training. Pyrotechnics and blank ammunition were typically employed to add to the realism of these training activities. The TA 4, 5, and 12 were previously included in the Limited Access Medium Intensity Reuse Areas in the Final RI/FS and are now part of the Western Slopes area west of the CVF.

- The 2.36 in. Rocket Range initially consisted of 0.3 acres located just west of the CVF and within the Park Boundaries. The Interim Action findings increased the area to 2.38 acres. The remedial actions for this area were completed as documented in the 2.36 in. Rocket Range After Action Report (BCRRT April 2008c).

MEC and MD findings in the CVF and ESA, Roads and Trails Buffer Zones, Training Areas 4, 5, and 12, and 2.36 in. Rocket Range are described below.

## 2.2 MEC and MD Findings in the CVF and ESA

The following discussion only addresses those MEC and MD findings found exclusively within the CVF or ESA. MEC and MD finds are shown on **Figures 1.6 and 1.7** and presented in **Appendix A Table A-6** and **Appendix B Table B-6** and include:

- **CVF**: Over 400 MEC items and over 1,000 MD findings have been discovered in the CVF and consisted of 2.36 in. rockets, 3 in. Stokes Mortars, various rifle grenades, smoke

grenades, and practice hand grenades, 105 mm HE projectiles (unfired and unfuzed), M73 rocket practice 35mm, and M49 trip flares.

- **ESA**: 4 MEC items, consisting of 3 in. Stokes Mortars, and over 20 MD findings**.**
- In addition to the surface MEC and MD findings, subsurface anomalies were identified throughout the CVF interim actions.

The MEC and MD findings and subsurface anomalies were evaluated and used to up date the Explosive Hazard Ranking presented in **Section 3.0** based upon the rankings, ratings, scoring, costing, and alternative screening in the Final RI/FS.

## 2.3 MEC and MD Findings in the Roads and Trails Buffer Zones

The Interim Action for the Roads and Trails Buffer Zones has been completed and an After Action Report is pending. The reconnaissance efforts resulted in sampling of nearly 46 miles of Roads and Trails in Camp Bonneville. MEC and MD finds are shown on **Figures 1.6 and 1.7** and presented in **Appendix A Table A-5** and **Appendix B Table B-5** and include:

- 40 MEC items and over 300 MD items were addressed in the R & Ts and consisted of 3 in. Stokes Mortars, smoke grenades, a 37mm projectile, an illumination grenade, and grenade fuzes.
- Of these findings, 4 MEC items were found as part of the R & Ts work within the CITA. However, these MEC will be managed as part of the CITA Remedial Work Area and do not impact the proposed remediation.

Only a few of R & Ts Interim Action MEC and MD findings were outside of other Remedial Work Areas (e.g., CVF) where that Areas cleanup action would include the R & Ts buffer zones. The explosive hazards exposure assessment ranking for Roads and Trails outside of other Remedial Work Areas is Rank D, despite the relatively large number of potential receptors, because of its low explosive safety risk. The explosive hazards exposure characteristics associated with Roads and Trails are summarized in **Table 2.1**.

**TABLE 2.1**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR ROADS AND TRAILS**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Roads and Trails | 5 | Accessible | High | Surface / Hiking and Horseback Riding | D |

The Final RI/FS proposed remedial action (surface clearance) remains appropriate and the Detailed Evaluations of Alternatives, Scoring against MTCA Criteria, and Cost Estimates, and Recommended Cleanup Action are unchanged from the Final RI/FS.

## 2.4 MEC and MD Findings in the Training Areas 4, 5, and 12 Transect Investigations

The Interim Action for the Training Areas (TAs) 4, 5, and 12 Transect Investigations has been completed and an After Action Report is pending. The Interim Actions included MEC surface clearance of 10-foot wide transects systematically distributed throughout TAs 4, 5, and 12. The transects were spaced approximately 500 feet (ft) apart in a grid pattern over the entirety of each TA. MEC and MD finds are shown on **Figures 1.6 and 1.7** and presented in **Appendix A Table A-7** and **Appendix B Table B-7** and include:

- 3 MEC items and 25 MD items were found during transect clearance, and consisted of 3 in. Stokes Mortar training rounds and a 2.36 in. rocket.

Evaluation of the TA 4, 5, and 12 Transect Investigation findings are in incorporated into the Western Slopes Area (see **Section 4.0**), which was identified subsequent to the Final RI/FS.

## 2.5 MEC and MD Findings in the 2.36 In. Rocket Range

The 2.36 in. Rocket Range consisted of 0.3 acres just west of the CVF and within the Park Boundaries. The Interim Action findings increased the area to 2.38 acres (BCRRT, 2008c). The remedial action for this area was completed and is documented in the 2.36 in. Rocket Range After Action Report (BCRRT, 2008c). The completed actions consisted of anomaly avoidance, brush clearance, surface MEC clearance and subsurface MEC clearance to 14 inches. MEC and MD finds are shown on **Figures 1.6 and 1.7** and presented in **Appendix A Table A-1** and **Appendix B Table B-1** and include:

- 69 MEC items and 35 MD findings were reported (BCRRT, 2008c) and included sixty-three - 2.36 in. rockets that had been fired and fuzed; a 2.36 in. rocket that had been fired and was unfuzed, four 3 in. Stokes mortars (fired and unfuzed) and a rifle grenade (fired and unfuzed).

- 3 items were identified during the sub-surface clearance (zero to 14 ins.): a 2.36 in. rocket at 14 ins. below ground surface (bgs); a 2.36 in. rocket at 12 ins. bgs; and a 3 in. Stokes mortar at 4 ins. bgs.

The Conceptual Site Model for the 2.36 in. Rocket Range remains unchanged with the incorporation of the completed MEC and MD data (and increase in size) since this Target Area already had the highest explosive hazards exposure assessment ranking. The Target Area was ranked as A on a scale of A – E with A representing the greatest exposure risk in the Final RI/FS. This ranking was due to the high relative explosive safety risk of a Target Areas and its location within the proposed Regional Park. The explosive hazards exposure characteristics associated with Target Areas are summarized in **Table 2.2**.

**TABLE 2.2**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS**
**FOR 2.36 IN. ROCKET RANGE**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| 2.36 in. Rocket Range | 1 | Limited | Medium | NA/Regional Park | A |

## 2.6 Additional Cleanup Requirements Necessary for Remedial Work Areas Discovered Subsequent to the RI/FS

Following the Final RI/FS issuance and resulting from MEC and MD findings during the Interim Actions and investigations, a number of newly discovered or unknown conditions have been encountered at the CBMR. Consideration of these conditions has resulted in the WDOE either: 1) changing an area's classification and associated MEC cleanup requirements; or 2) identifying additional areas requiring MEC cleanup. The cleanup actions for these newly discovered RWAs include:

- MEC subsurface clearance for the entire CVF and the associated wetlands (previously designated as the Accessible High and Medium Intensity Reuse Areas; Final RI/FS).

  WDOE based this determination on their belief that the CVF and associated wetlands are an extensively used direct and indirect fire weapon target area, and an extensively used training area due to the number of sub-surface anomalies and surface MEC and MD findings discovered during the Interim Actions. In addition, a number of newly discovered RWAs in the form of specific target areas and/or waste disposal areas were identified in the CVF, including;

  - Stokes Mortar Target Area,
  - MEC Disposal Area (Burial Pit),
  - OB/OD Area,
  - 37 mm Artillery/Stokes Mortar Target Area,
  - Rifle Grenade Target Area, and
  - 2.36 in. Rocket Target Area near the Former Sewage Lagoons.

- MEC surface clearance, access limitations based on steep slopes, and Intuitional Controls are being required for the Regional Park Western Slopes Area. The Western Slopes had been designated as the Limited Access Medium Intensity Reuse in the Final RI/FS).

- Expansion of the CITA fence line northward to encompass an additional 107 acres believed to have been impacted by artillery and mortar firing.

- MEC Surface Clearance of Demolition Area 1/Landfill 4 Kick-out Area encompassing 104 acres.

The cleanup actions for Remedial Work Areas identified subsequent to the Final RI/FS are discussed in the following sections

# 3.0 CENTRAL VALLEY FLOOR

## 3.1 Central Valley and Associated Wetlands

### 3.1.1 Description

The Central Valley Floor (CVF) and associated wetlands (adjacent to Lacamas Creek) comprise the major portion of the proposed regional park that have a gentle topographic slope, and low vegetative cover. Therefore, these areas provide the opportunity to draw people together for informal recreational activities. These areas cover approximately 445 acres along the Lacamas Creek valley floor. The CVF includes both future High Intensity Reuse Areas (e.g., tent camping areas) as well as Accessible Medium Intensity Reuse Areas (e.g., hiking trails and open space; see **Figures 1.3 and 1.5**).

WDOE believes that the Central Valley Floor (CVF) and associated wetlands were extensively used as direct and indirect fire target areas, and an extensively used training area. The discovery of numerous subsurface anomalies, as well as surface MEC findings led WDOE to the determination that MEC subsurface clearance would be necessary. A number of new discovered target areas and/or waste disposal areas were discovered during the CVF MEC surface clearance activities, including;

- Stokes Mortar Target Area,
- MEC Disposal Area (Burial Pit),
- Open Burn/Open Demolition Area ,
- 37 mm Artillery/Stokes Mortar Target Area,
- 2.36 in. Rocket Target Area near the Former Sewage Lagoons,
- Rifle Grenade Target Area

### 3.1.2 Hazard Severity Ranking

During the Interim Action in the CVF, over 500 MEC and over 1,000 MD items were recovered through the end of February 2009. MEC items that could pose an explosive safety threat included 2.36 in. rockets, 3 in. Stokes Mortars, various rifle grenades, smoke grenades, practice hand grenades, 105 mm HE projectile, M73 rocket practice 35mm, and M49 trip flares. In addition to the surface MEC and MD findings, subsurface anomalies were identified throughout the CVF interim actions. The likelihood that additional MEC items are present in the CVF is considered moderate to high.

Given the numbers and types of MEC and MD findings, and subsurface anomalies encountered across the CVF, the WDOE has made a determination as to the appropriate cleanup action for this area, which is detailed below.

### 3.1.3 Accessibility Rating and Reuse Intensity

The greatest amount of visitor activity in the CVF will occur in the High Intensity Reuse Areas and these uses may be considered intrusive, that is disturbing the soil surface. Examples of intrusive activities include tent camping and construction.

Non-intrusive activities include RV camping, parking, archery or firing range training. The Accessible Medium Intensity Reuse Areas differ only from the High Intensity Reuse Areas in the number of people and type of activities likely to occur in these areas. The Accessible Medium Intensity Reuse Areas are categorized to be those areas where people may gather to conduct impromptu recreational activities. These recreational activities are likely to be surficial, non-intrusive activities. A moderate number of people are expected to enter the Accessible Medium Intensity Reuse Areas.

### 3.1.4 Explosive Hazard Ranking

The WDOE has determined (letter dated February 6, 2009) that subsurface clearance is required for the entire CVF (including the specific Remedial Work Areas identified above) due to the following reasons:

- Data collected from areas of the CVF already cleared show significant surface MEC and subsurface anomalies. Over 38,000 subsurface anomalies have been detected, and a percentage of them are likely to be munitions. There are significantly more Target Areas and munitions being found in the CVF than were anticipated during early cleanup planning efforts and development of the conceptual site model. In addition to clusters of munitions found in several areas of the valley, scattered munitions have also been found randomly distributed across investigated areas of the valley floor. Although these are surface or near-surface findings, Schonstedt data and the limited EM-61 geophysical data indicate similar distribution of subsurface anomalies at the CVF.

- These areas constitute over 70% of the CVF (a large percentage of the Valley Floor that is proposed as a high-intensity public access area).

- The majority of the new Munitions Areas of Concern have been found in the CVF.

- Munitions findings and observation since the draft CAP continue to show that the Munitions and Explosives of Concern (MEC) distribution across the Valley Floor is at consistently greater numbers than originally anticipated. Of the 500 MECs found at the Camp, approximately 3/4 of them have been found in the CVF.

### 3.1.5 Recommended Cleanup Action

While the MEC surface clearance of the CVF was completed, WDOE determined that MEC subsurface clearance (frost depth clearance to 14-in bgs) is the most appropriate long-term cleanup action alternative for the CVF.

This determination has been based upon finding significant new Target Areas demo areas, surface MEC and subsurface anomalies in the CVF, the intended medium to high intensity reuse of the area in the Regional Park and high degree of public access anticipated for the CVF. This action will address the entire CVF and will require additional vegetation removal and (likely) additional subsurface investigation using EM-

61 to develop an inventory of subsurface anomalies for future investigation and removal of MEC and MD.

After clearance, ICs will be employed to ensure that this is the most feasible permanent solution for the CVF (both High Intensity and Accessible Medium Intensity Reuse Areas), based on the analysis to achieve the cleanup standard of negligible interaction with MEC. The clearance action will be conducted in the footprint of the Accessible Medium Intensity Reuse Area as shown in **Figure 1.3**. The ICs will include signage to inform the public about the past military use of the area. Implementation of the MEC surface and subsurface clearance action and these ICs will achieve the desired cleanup standard.

Each of the newly discovered newly discovered targets, ranges, and demo areas within the CVF are evaluated individually in the subsections below.

## 3.2 Newly Discovered Stokes Mortar Target Area in the CVF

### 3.2.1 Description

The newly discovered Stokes Mortar Target Area is in the central area of the CVF, see **Figure 1.3**. Throughout the Stokes Mortar Target Area investigation area, multiple subsurface anomalies have been identified in areas co-located with MEC on the surface that are indicative of this area being used as a target. Prior to transfer to BCRRT, the area had not been identified as a target area. These findings indicate the potential for MEC/MD investigation area. The total acreage of the Stokes Mortar Target Area is 40.46 acres. Reconnaissance of this area identified a high density of trees and heavy coverage with thick brush (viney maple).

### 3.2.2 Characterization

During conduct of the CVF clearance action, MEC and MD findings in the area now known as the Stokes Mortar Target Area suggests this is a newly discovered target area. Prior to the transfer to BCRRT, this area had not been identified as a target area. Recent findings suggest that this is a newly discovered Stokes Mortar target area. Findings in the Stokes Mortar Target Area include:

- 115 MEC items and 254 MD findings including 3 in. Stokes mortars (fired, some fuzed and some unfuzed), 2.36 in. rockets (fired, some fuzed and some unfuzed), M-9 rifle grenades, and other miscellaneous items.

In addition, in two locations, multiple MEC items were recovered that had been buried/disposed of in Grid E-12 (24 3 in. Stokes and a 2.36 in. rocket) and in Grid E-11 (1 HE M-9 Rifle Grenades and six 3 in. Stokes mortars).

### 3.2.3 Proposed Reuse

As shown on **Figure 1.3** the Stokes Mortar Target Area appears to extend into a proposed RV Camping Area, relocated Yurt and Tent Camping Area, and Trail Head/Parking Area in the CVF, which are considered High Intensity Reuse Areas.

### 3.2.4 Risks Presented Under Proposed Reuse Scenario

#### 3.2.4.1 Hazard Severity Ranking

The MEC and MD findings described above for the Stokes Mortar Target Area suggest this is newly discovered target area. The munition release mechanism resulting in the presence of MEC in the vicinity of a target area is from deployed munitions that failed to function properly (UXO). Residual UXO poses the greatest explosive safety threat to the public as these items are fuzed and armed but failed to function properly. The hazard severity ranking for a target area is the most severe of all site types. While implementing the Central Valley Floor and Roads and Trails Interim Actions, it was observed that almost all of the items identified have been determined to be training rounds. Although these rounds would have a significantly lower explosive risk, the overall explosive risk

ranking is maintained at the conservative levels established in the Final RI/FS. The explosive safety relative risk ranking for Target Areas is 1 on a scale of 1 – 7 with 1 representing the highest explosive risk.

#### 3.2.4.2 Accessibility and Reuse Intensity

Portions of the Stokes Mortar Target Area overlap into high intensity reuse areas while the remaining portions would be considered medium intensity reuse areas. This area is accessible due to its overlap into high reuse areas. The proposed reuse includes an RV Camping Area, Yurt and Tent Camping Area and a Trail Head Parking Area in the CVF, which are High Intensity Reuses that would involve a combination of intrusive and nonintrusive activities.

#### 3.2.4.3 Explosive Hazard Ranking

The explosive hazards exposure assessment ranking for target area sites was assigned Rank A on a scale of A – E, with A representing the greatest exposure risk. This ranking is due to the high relative explosive safety risk of this target area and its location within the proposed Regional Park and/or co-location with high reuse areas. The explosive hazards exposure characteristics associated with the Stokes Mortar Target Area are summarized in **Table 3.1**

**TABLE 3.1**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR THE NEWLY DISCOVERED STOKES MORTAR TARGET AREA**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Newly Discovered Stokes Mortar Target Area | 1 | Accessible | High | Surface and Subsurface Recreation | A |

### 3.2.5 Detailed Evaluations of Alternatives

#### 3.2.5.1 Scoring against MTCA Criteria

The Stokes Mortar Target Area has been determined to pose the greatest explosive hazards exposure because of the target area type and the potential for receptor interaction. It received an explosive hazards exposure ranking of A. Several remedial alternatives have been evaluated and the most feasible permanent alternative was selected for the Stokes Mortar Target Area to reduce the explosive hazard exposure. Screening of the potential remedial technologies against the minimum threshold requirements is presented in the

Final RI/FS and is not duplicated herein. A range of cleanup action alternatives were evaluated, and are presented herein (see **Table 3.2)**.

Subsurface MEC clearance to frost depth (14 ins.) scored the highest of all alternatives. This cleanup action represents the preferred alternative and it was selected as the most feasible permanent solution to reduce the explosive hazard exposure within the Stokes Mortar Target Area. Additional surface MEC clearance with step-out procedures scored second highest and subsurface MEC clearance to 24 inches around targets with step-outs came in third. See **Table 3.2** for descriptions of the other alternatives considered.

#### 3.2.5.2 Cost Estimates

The cost estimates for each of the alternatives considered for the Stokes Mortar Target Area are shown in **Table 3.2**. The preferred alternative cost is $861,000.

### 3.2.6 Recommended Cleanup Action

The recommended cleanup alternative for the Stokes Mortar Target Area is frost depth clearance (up to 14 in. bgs) with implementation of ICs. This alternative is determined to be the most feasible permanent solution for this area and would achieve the RAU 3 remediation standard. The approximate total area to be cleared is 41 acres which encompasses the estimated extent of the target area. Step-out procedures will be implemented as described in the RI/FS.

**INSERT Table 3.2**

## 3.3 Newly Discovered MEC Disposal Area (Burial Pit) in the CVF

### 3.3.1 Description

The newly discovered MEC Disposal Area or burial pit was identified during clearance of the CVF. It is located within the area encompassed by the MEC Disposal Area within a flat-lying open field of the CVF. Several layers of grenade spoons, rocket parts (some can be identified as HE rocket parts), and miscellaneous munitions related debris were identified. The pit has not been investigated vertically, but has been defined laterally. Lateral delineation of the MEC Disposal Area defines it as a 50-foot x 50-foot area. Vertical delineation has not yet been determined but it is estimated that MEC or MD material may be present to a depth of 10 feet bgs.

### 3.3.2 Characterization

Recent MD findings in the MEC Disposal Area include:

- Over 100 MD findings and included fuze spoons and grenade pins and several fragments of 2.36 in. rockets.

### 3.3.3 Proposed Reuse

The MEC Disposal Area is in the Accessible Medium Intensity Reuse Area within the CVF.

### 3.3.4 Risks Presented under Proposed Reuse Scenario

#### 3.3.4.1 Hazard Severity Ranking

Because the MEC Disposal Area consists of a newly discovered burial pit, no historical information is available for the types of explosive material that may be present. It is considered to be an unknown condition and consequently, this area is ranked as having an explosive risk ranking of 1 on a scale of 1-7, with 1 representing the highest explosive risk.

#### 3.3.4.2 Accessibility Rating and Reuse Intensity

The MEC Disposal Area burial pit is located a medium Intensity reuse area and is accessible due to its proximity to roads.

#### 3.3.4.3 Explosive Hazard Ranking

The explosive hazards exposure assessment ranking for the MEC Disposal Area is B on a scale of A-E, with A representing the greatest exposure risk. This ranking is due to the high explosive safety ranking and accessibility rating. The explosive hazards exposure characteristics associated with the MEC Disposal Area are summarized in **Table 3.3**.

**TABLE 3.3**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR NEWLY DISCOVERED MEC DISPOSAL AREA**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Newly Discovered MEC Disposal Area | 1 | Accessible | Medium | Surficial | B |

### 3.3.5 Detailed Evaluations of Alternatives

#### 3.3.5.1 Scoring against MTCA Criteria

The MEC Disposal Area has been determined to pose the second greatest explosive hazards exposure because of its potential for MEC and for receptor interaction. It received an explosive hazards exposure ranking of B. Several remedial alternatives have been evaluated and the most feasible permanent alternative was selected for the MEC Disposal Area to reduce the explosive hazard exposure. Screening of the potential remedial technologies against the minimum threshold requirements is presented in the Final RI/FS and is not duplicated herein. A range of cleanup action alternatives were evaluated, and are presented herein (see **Table 3.4)**.

#### 3.3.5.2 Cost Estimates

The cost estimates for each of the alternatives considered for the MEC Disposal Area are shown in **Table 3.4**. The preferred alternative cost is $342,000.

### 3.3.6 Recommended Cleanup Action

The recommended cleanup action for the MEC Disposal Area is complete excavation of the pit contents and proper disposal of the excavated material and implementation of ICs. This alternative is determined to be the most feasible permanent solution for this area and would achieve the RAU 3 remediation standard. Vertical delineation has not yet been determined but it is estimated that MEC or MD material may be present to a depth of 10 feet bgs. The area is about 50 by 50 feet for a total of approximately 4,000 cubic yards of material.

A Soil and Groundwater Sampling Program will be implemented for the MEC Disposal Area to address potential explosives residues from historic disposal activities. The sampling will be conducted per site specific Work Plans that focus on the potential for groundwater impacts related to the disposal operations/material explosive residuals will be prepared as a separate document. The Sampling Program will be conducted in a phased approach based upon the results of the Recommended Cleanup Action, field observations, and analytical sample results.

**Insert Scoring table 3.4.**

## 3.4 Newly Discovered Open Burn/Open Demolition Area in the CVF

### 3.4.1 Description

The newly discovered Open Burn/Open Demolition Area **(**OB/OD Area) is located in the southern part of the CVF on its eastern border and just north of the ESA. This newly identified demolition area is 16.33 acres and was discovered during the CVF clearance action. Several inert 5 in. rocket warheads were identified on the surface as well as rocket slag from a thermite burn. The recent findings show the area has several subsurface anomalies indicative of additional potential MEC or MD. In addition, the area has several demolition holes indicative of past surface demolition activities. The majority of the area is located within an open flat area of the CVF. It is bordered along the western side by a wetland area and has a steep gradient along the east.

### 3.4.2 Characterization

Recent MEC and MD findings in the OB/OD Area include:

- 19 MEC items and 94 MD findings and included 2.36 in. rockets (fired, fuzed), 3 in. Stokes mortars (fired, unfuzed), 37mm HE (unfired and unfuzed), and other miscellaneous items.

### 3.4.3 Proposed Reuse

The OB/OD Area is in the Accessible Medium Intensity Reuse Area within the Central Valley Floor.

### 3.4.4 Risks Presented Under Proposed Reuse Scenario

#### 3.4.4.1 Hazard Severity Ranking

A wide range of explosives and ordnance were disposed of at the previously identified OB/OD areas. It is expected that MEC will be encountered in the OB/OD area. . The demolition of discarded or unused military munitions may sometimes result in the "kick-out" of munitions to some distance from the demolition area. Munition release mechanisms that may have resulted in the presence of MEC in the vicinity of an OB/OD Areas are from MEC kick-outs, and low-order or incomplete detonation. At an OB/OD area, the unsuccessful demilitarization of a MEC item poses the greatest explosive safety threat to the public. The hazard severity ranking for an OB/OD Area is the second most severe of all site types (marginal/critical explosive safety hazard). The explosive safety relative risk ranking for OB/OD Areas is 2 on a scale of 1 – 7, with 1 representing the highest explosive risk.

#### 3.4.4.2 Accessibility Rating and Reuse Intensity

The location of the OB/OD Area is accessible and is within the Medium Intensity reuse area of the CVF, although access is limited to the west by wetlands.

#### 3.4.4.3 Explosive Hazard Ranking

The OB/OD Area is not within any designated reuse area, but is north of the planned Environmental Study Area; it is designated a medium (non-intrusive) reuse intensity. The explosive hazards exposure ranking for the OB/OD Area is Rank A on a scale of A – E, with A representing the greatest exposure risk, because of the potential for human interaction due to its accessibility and proximity to the planned ESA in combination with the high relative explosive risk ranking. The explosive hazards exposure characteristics associated with the OB/OD Area are summarized in **Table 3.5**.

**TABLE 3.5**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR NEWLY DISCOVERED OB/OD AREA**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Newly Discovered OB/OD Area | 2 | Accessible | Medium | Surficial | A |

### 3.4.5 Detailed Evaluations of Alternatives

#### 3.4.5.1 Scoring against MTCA Criteria

The OB/OD Area has been determined to pose the greatest explosive hazards exposure because of the potential for MEC and for receptor interaction. It received an explosive hazards exposure ranking of A. Several remedial alternatives have been evaluated and the most feasible permanent alternative was selected for the OB/OD Area to reduce the explosive hazard exposure. Screening of the potential remedial technologies against the minimum threshold requirements is presented in the Final RI/FS and is not duplicated herein. A range of cleanup action alternatives were evaluated, and are presented herein (see **Table 3.6)**.

#### 3.4.5.2 Cost Estimates

The cost estimates for each of the alternatives considered for the OB/OD Area are shown in **Table 3.6**. The preferred alternative cost is $900,128.

### 3.4.6 Recommended Cleanup Action

The recommended cleanup alternative for the new OB/OD Area is frost depth (up to 14 ins. bgs) clearance with implementation of ICs. This alternative is determined to be the most feasible permanent solution for this area and would achieve the RAU 3 remediation standard. The total area to be cleared is 16.33 acres, which encompasses the estimated extent of the area. Step-out procedures will be implemented as described in the Final RI/FS.

A Soil and Groundwater Sampling Program will be implemented for OB/OD areas to address potential explosives residues from historic OB/OD activities. The sampling will be conducted per site specific Work Plans that focus on the potential for groundwater impacts related to the OB/OD operations/material explosive residuals will be prepared as a separate document. The Sampling Program will be conducted in a phased approach based upon the results of the Recommended Cleanup Action, field observations, and analytical sample results. Potential excavation and restoration would be conducted in the OB/OD Area pending residual explosive contamination evaluation sample results.

**Insert cost Table 3.6**

## 3.5 Newly Discovered 37mm Artillery/Stokes Mortar Target Area in the CVF

### 3.5.1 Description

The newly identified 37mm and Stokes Mortar Target Area is located east of the newly discovered Stokes Mortar Target Area and was identified during investigation of the CVF. The area has several subsurface anomalies co-located with MEC discovered on the surface, which are indicative of additional potential MEC or MD. The area was also previously posted with an "Impact Area" warning sign that had not been identified pre-transfer of the property and which was only discovered during the brush clearance as part of the CVF Interim Action. The area is divided between valley floor and a hillside with a steep gradient. It is bordered along the eastern side by forest. The total acreage of the 37mm and Stokes Mortar Target Area is 27.64 acres, see **Figure 1.3**.

### 3.5.2 Characterization

Historical records do not identify this area as a potential target area. While range fans for artillery firing do overlay this area, there was not an identified target. Recent MEC and MD findings in the 37mm and Stokes Mortar Target Area include (**Figure 1.3**):

- 133 MEC items and 251 MD findings that included 3 in. Stokes mortars, 2.36 in. rockets (fired, some fuzed and some unfuzed), smoke grenades, HE type munitions, M744 Mortar sub caliber, and 37mm projectiles (fired, fuzed).

### 3.5.3 Proposed Reuse

In the original Reuse Plan, the 37mm and Stokes Mortar Target Area overlapped a proposed Tent and Yurt Camping Area. (see **Figure 1.5**). The 37mm and Stokes Mortar Target Area is considered a High-Intensity Reuse Area.

### 3.5.4 Risks Presented Under Proposed Reuse Scenario

#### 3.5.4.1 Hazard Severity Ranking

Residual UXO poses the greatest explosive safety threat to the public as these items are fuzed and armed but failed to function properly. The hazard severity ranking for a Target Area is the most severe of all site types. While implementing the Central Valley Floor and Roads and Trails Interim Actions, it was observed that almost all of the items identified have been determined to be training rounds. While these rounds would have a significantly lower explosive risk, the overall explosive risk ranking is maintained at the conservative levels established in the Final RI/FS. This newly discovered target area would be ranked similarly as the other target areas, which are 1 on a scale of 1-7, with 1 representing the highest explosive risk.

#### 3.5.4.2 Accessibility Rating and Reuse Intensity

The 37mm and Stokes Mortar Target Area overlies a proposed Tent and Yurt Camping Area and will be highly accessible and involve various intrusive activities.

#### 3.5.4.3 Explosive Hazard Ranking

The explosive hazards exposure assessment for target areas Rank A on a scale of A-E, with A representing the greatest exposure risk. The 37mm and Stokes Mortar Target Area is ranked as A due to its high explosive safety ranking and high-intensity proposed reuse and accessibility. The explosive hazards exposure characteristics associated with the 37mm and Stokes Mortar Target Area are summarized in **Table 3.7**.

**TABLE 3.7**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR THE NEWLY DISCOVERED 37MM AND STOKES MORTAR TARGET AREA**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Newly Discovered 37mm and Stokes Mortar Target Area | 1 | Accessible | Medium | Surface and Subsurface Recreation | A |

### 3.5.5 Detailed Evaluations of Alternatives

#### 3.5.5.1 Scoring against MTCA Criteria

The 37mm and Stokes Mortar Target Area has been determined to pose the greatest explosive hazards exposure because of its site type and the potential for receptor interaction. It received an explosive hazards exposure ranking of A. Several remedial alternatives have been evaluated and the most feasible permanent alternative was selected for the 37mm and Stokes Mortar Target Area to reduce the explosive hazard exposure. Screening of the potential remedial technologies against the minimum threshold requirements is presented in the Final RI/FS and is not duplicated herein. A range of cleanup action alternatives were evaluated, and are presented herein, using the cost analysis in MTCA (see **Table 3.8)**.

#### 3.5.5.2 Cost Estimates

The cost estimates for each of the alternatives considered for the 37mm and Stokes Mortar Target Area are shown in **Table 3.8**. The preferred alternative cost is $1,848,000.

### 3.5.6 Recommended Cleanup Action

The recommended cleanup alternative for the newly discovered 37mm and Stokes Mortar Target Area is frost depth (up to 14 ins. bgs) clearance with, implementation of ICs (see **Figure 1.3**). This alternative is determined to be the most feasible permanent solution for this area and would achieve the RAU 3 remediation standard. The total area to be cleared in the 37mm and Stokes Mortar Target Area is 27.64 acres, which encompasses the estimated extent of the area. Step-out procedures will be implemented as described in the Final RI/FS.

**Insert SCORING Table 3.8**

## 3.6 Newly Discovered 2.36 in. Rocket Target Area near the Former Sewage Lagoons

### 3.6.1 Description

The newly discovered 2.36 in. Rocket Target Area near the Former Sewage Lagoons (2.36 in. Rocket –SL) is located east of the former sewage lagoon ponds in the northern part of the CVF. Based upon the density and type of findings discovered during MEC clearance conducted as part of the CVF Interim Action, the area is considered to be a newly discovered target area. MEC and MD findings included numerous 2.36 in. rockets. Additional MEC may also be located in the wetland east of the cleared area. The wetland area requires brush clearance to determine the eastward lateral extent of MEC. The area is level with CVF and is covered heavily with brush (vine maple) and numerous deadfall trees. The total acreage to be investigated is 5.08 acres.

### 3.6.2 Characterization

During historical investigations conducted in 1997 only one 2.36 in. rocket, no other MEC was found in the area now known as the 2.36 in. Rocket –SL. More recent pre-transfer investigations also found no MEC and MD in this area**.** However, during the CVF clearance action, MEC and MD findings were identified in the 2.36 in. Rocket –SL and include:

- 30 MEC items and 22 MD findings including 2.36 in. rockets (all fired and fuzed), and a smoke grenade).

### 3.6.3 Proposed Reuse

The 2.36 in. Rocket –SL is in the Medium Intensity Reuse Area within the CVF.

### 3.6.4 Risks Presented Under Proposed Reuse Scenario

#### 3.6.4.1 Hazard Severity Ranking

The MEC and MD findings described above for the 2.36 in. Rocket –SL suggests this is a newly discovered target area. The munition release mechanism resulting in the presence of MEC in the vicinity of a target area is from deployed munitions that failed to function properly. Residual MEC poses the greatest explosive safety threat to the public as these items are fuzed and armed but failed to function properly. While implementing the CVF and R & T Interim Actions, it was observed that almost all of the items identified have been determined to be training rounds. While these rounds would have a significantly lower explosive risk, the overall explosive risk ranking is maintained at the conservative levels established in the Final RI/FS. The hazard severity ranking for a target area is the most severe of all site types. The explosive safety relative risk ranking for target areas is 1 on a scale of 1 – 7, with 1 representing the highest explosive risk.

#### 3.6.4.2 Accessibility Rating and Reuse Intensity

The 2.36 in. Rocket –SL is located in the Medium Intensity Reuse area of the CVF. The area is considered accessible due to its proximity to a road.

#### 3.6.4.3 Explosive Hazard Ranking

The explosive hazards exposure assessment ranking for this target area was assigned Rank B on a scale of A – E, with A representing the greatest exposure risk. This ranking is due to the high relative explosive safety risk of target areas; its locations in a medium intensity reuse area and accessibility. The explosive hazards exposure characteristics associated with the 2.36 in. Rocket –SL are summarized in **Table 3.9**.

**TABLE 3.9**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR NEWLY DISCOVERED 2.36 IN. ROCKET TARGET AREA NEAR THE FORMER SEWAGE LAGOONS**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Newly Discovered 2.36 in. Rocket –SL | 1 | Accessible | Medium | Surficial | B |

### 3.6.5 Detailed Evaluations of Alternatives

#### 3.6.5.1 Scoring against MTCA Criteria

The 2.36 in. Rocket –SL has been determined to pose the second greatest explosive hazards exposure because of the site type and the potential for receptor interaction. It received an explosive hazards exposure ranking of B. Several remedial alternatives have been evaluated and the most feasible permanent alternative was selected for this area to reduce the explosive hazard exposure. Screening of the potential remedial technologies against the minimum threshold requirements is presented in the Final RI/FS and is not duplicated herein... A range of cleanup action alternatives were evaluated, and are presented herein, (see **Table 3.10)**.

#### 3.6.5.2 Cost Estimates

The cost estimates for each of the alternatives considered for the 2.36 in. Rocket –SL are shown in **Table 3.10**. The preferred alternative cost is $573,850.

### 3.6.6 Recommended Cleanup Action

The recommended cleanup alternative for the 2.36 in. Rocket Target Area is frost depth (up to 14 ins. bgs) clearance with implementation of ICs. This alternative is determined to be the most feasible permanent solution for this area and would achieve the RAU 3 remediation standard. The total area to be cleared is 5.08 acres which encompasses the estimated extent of the target area. Step-out procedures will be implemented as described in the Final RI/FS.

**Insert Table 3.10**

## 3.7 Newly Discovered Rifle Grenade Target Area

### 3.7.1 Description

A number of M-9 Rifle Grenades (fired, fuzed), several 2.36 in. rockets and a number of MD items have been recovered from an area east of the former Field Small Arms Ranges 1 and 2 near or in Grid N-17 (see **Figure 1.3**). Based upon the density and type of MEC and MD findings, the area is considered a newly discovered target area. The newly discovered Rifle Grenade Target Area is approximately 3 acres in extent.

### 3.7.2 Characterization

During the CVF MEC surface clearance Interim Action, MEC and MD were identified in the Rifle Grenade Target Area and include:

- 14 MEC items consisting of M-9 rifle grenades (fired, fuzed), 2.36 in. rockets (fired, fuzed) and numerous MD findings including debris from M-11 rifle grenades and practice rifle grenades.

### 3.7.3 Proposed Reuse

The Rifle Grenade Target Area is located in an area proposed for future use as an equestrian center and is nearby to a road and planned future RV camping area.
.

### 3.7.4 Risks Presented Under Proposed Reuse Scenario

#### 3.7.4.1 Hazard Severity Ranking

The MEC and MD findings described above for the Rifle Grenade Target Area suggest this is a newly discovered Target Area. The munition release mechanism resulting in the presence of MEC in the vicinity of a target area is from deployed munitions that failed to function properly. Residual MEC poses the greatest explosive safety threat to the public as these items are fuzed and armed but failed to function properly. The hazard severity ranking for a Target Area is the most severe of all site types. The explosive safety relative risk ranking for Target Areas is 1 on a scale of 1 – 7, with 1 representing the highest explosive risk

#### 3.7.4.2 Accessibility Rating and Reuse Intensity

The Rifle Grenade Target Area is located in the High Intensity Reuse area and will be considered very accessible, due to its' planned future use as an equestrian center and its proximity to a road and planned future RV camping area.

#### 3.7.4.3 Explosive Hazard Ranking

The explosive hazards exposure assessment ranking for this target area was assigned Rank A on a scale of A – E, with A representing the greatest exposure risk. This ranking is due to the high relative explosive safety risk of target areas,

its location in a planned high-intensity reuse area. The explosive hazards exposure characteristics associated with the Rifle Grenade Target Area are summarized in **Table 3.11**

**TABLE 3.11**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR NEWLY DISCOVERED RIFLE GRENADE TARGET AREA**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Newly Discovered Rifle Grenade Target Area | 1 | Accessible | High | Surface and Subsurface Recreation | A |

### 3.7.5 Detailed Evaluations of Alternatives

#### 3.7.5.1 Scoring against MTCA Criteria

The Rifle Grenade Target Area been determined to pose the highest explosive hazards exposure because of the MEC type and the potential for receptor interaction during the planned future reuse for this area. It has been assigned an explosive hazards exposure ranking of A. Several remedial alternatives have been evaluated and the most feasible permanent alternative was selected for this area to reduce the explosive hazard exposure, using the analysis approach required in MTCA (see **Table 3.12)**.

#### 3.7.5.2 Cost Estimates

The cost estimates for each of the alternatives considered for the Rifle Grenade Target Area are shown in **Table 3.12**. The preferred alternative cost is $344,300.

### 3.7.6 Recommended Cleanup Action

The recommended cleanup alternative for the Rifle Grenade Target Area is frost depth (up to 14 ins. bgs) clearance with implementation of ICs. Should any structures be required, additional subsurface clearance will be required prior to any excavation. This alternative is determined to be the most feasible permanent solution for this area and would achieve the RAU 3 remediation standard. The total area to be cleared approximately 3.0 acres which encompasses the estimated extent of the target area. Step-out procedures will be implemented as described in the Final RI/FS.

**Insert Table 3.12**

# 4.0 REGIONAL PARK WESTERN SLOPES AREA

The Training Areas (Nos. 1, 2, 3, 4, 5, 11, 12 and a portion of 13) west of the CVF have been grouped together into the Regional Park Western Slopes Area and is discussed in **Section 4.2**). This larger area includes the Training Areas 4, 5, and 12 where Transect Investigations were conduced as part of the Interim Measures (see **Section 4.1** below).

## 4.1 Training Areas 4, 5, and 12 Transects

### 4.1.1 Characterization, Description, and Proposed Reuse

The Training Areas 4, 5, and 12 historical training operations use consisted of non-live fire exercises such as squad tactics training with and without the use of night vision gear, hand-to-hand combat, practice training for the assault/defense of various types of positions and convoys, and bayonet and obstacle course training. Pyrotechnics and blank ammunition were typically employed to add to the realism of these training activities. Reviews of the historical documents concerning CBMR have not revealed evidence of target areas being present in the Training Areas 4, 5, and 12. The characterization, description, and proposed reuse are unchanged from the Final RI/FS, included as the Limited Access Medium Intensity Reuse Areas subsections.

### 4.1.2 Hazard Severity Ranking

The Training Areas 4, 5, and 12 (**Figures 1.4 and 1.5**) consist of those areas within the proposed Regional Park that are located between specific designated reuse areas, and do not have the accessibility characteristics of gentle slope and low vegetation characteristics. The Training Areas 4, 5, and 12 comprise approximately 210 acres, and have a low explosive safety hazard and low likelihood of occurrence with an explosive relative risk ranking of 6.

### 4.1.3 Accessibility Rating and Reuse Intensity

The Training Areas 4, 5, and 12 differs from the CVF in the number of people and the types of activities likely to occur in these areas. Very few people are expected to enter the Training Areas 4, 5, and 12, as most people would be expected to use the accessible Roads and Trails, and these areas have significant vegetative cover and or moderate-steep terrain characteristics. The anticipated activities within this area are limited to walking.

### 4.1.4 Explosive Hazard Ranking

The explosive hazards exposure assessment ranking for Training Areas 4, 5, and 12 is Rank E based on the small number of potential receptors in the Training Areas 4, 5, and 12. The explosive hazards exposure characteristics associated with Training Areas 4, 5, and 12 are summarized in **Table 4.1**.

**TABLE 4.1**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR TRANSECT INVESTIGATIONS THROUGH TRAINING AREAS 4, 5, AND 12**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse | |
| Training Areas 4, 5, and 12 | 6 | Limited Access, with ICs | Medium | Surficial / Short-cuts | E |

## 4.2 Regional Park Western Slopes Area

### 4.2.1 Description

Camp Bonneville contained a wide variety of troop training areas. Training Areas 1, 2, 3, 4, 5, 11, 12 and a portion of 13 have been grouped together as the Western Slopes area; previously described as the Limited Access Medium Intensity Reuse area in the RAU 3 RI/FS (RAU 3 CAP, **Appendix A**). Usage of the Western Slopes area was listed by the U. S. Army as limited to non-live fire exercises such as troop movement, hand-to-hand combat, practice assaults/defense bayonet and obstacle courses. The Western Slopes Area is shown in **Figure 1.4** and covers roughly 600 acres along the western portion of the CBMR and is part of the regional park. Pyrotechnics and blank ammunition were typically employed to evaluate the reactionary responses of troops and convoys to an ambush and to train in tactics. Military munitions containing high explosives were not used for reactionary training.

### 4.2.2 Hazard Severity Ranking

The Western Slopes Area was primarily used for troop training and the historical documentation on the CBMR suggests a low probability of encountering MEC. However, during transect investigations conducted in Training Areas 4, 5 and 12, two 3 in. Stokes mortars (fired, unfuzed) were recovered from the northeastern corner of Training Area 12. There is also a possibility that pyrotechnic devices (i.e. flares, smoke grenades) may be present as a result of abandonment, mishandling, or loss while troops were training in this area. Any residual non-deployed pyrotechnics that may be present are potentially flammable, and may contain a small, low explosive charge that may cause bodily injury. However, large portions of the pyrotechnics were constructed with fiberboard containers and are therefore extremely susceptible to exposure to the elements and resultant weathering. Over time, the photoflash powder has likely been exposed to moisture and deteriorated.

### 4.2.3 Accessibility and Reuse Intensity

The Western Slopes are classified as Limited Access Medium Intensity Reuse areas in the future Regional Park and have limited future reuse intensity of due to terrain, vegetation and are outside the CVF in the regional park.

### 4.2.4 Explosive Hazard Ranking

During the implementation of the Interim Actions far more MEC (over 650 items) and 1600 MD items have been recovered from the CMBR site than was ever anticipated. The large disparity between BCRRT's actual findings and the site conditions anticipated from review of historical site documentation has cast significant doubt on the reliability of the historical documentation. As a result of this concern and the numbers of MEC and MD findings in the CVF, the WDOE has determined that additional clearance of the Western Slopes is warranted.

### 4.2.5 Recommended Cleanup Action

The WDOE has determined (letter dated March 18, 2009) that MEC surface clearance, assess limitations based on steep slopes and Institutional Controls are the preferred permanent solution for the Western Slopes Area (**Figure 14).** Of the 609 acres in the Western Slopes Area, over 425 acres will be MEC surface cleared through the cleanup actions detailed in this CAP.

# 5.0 NORTHERN CENTRAL IMPACT TARGET AREA EXPANSION

## 5.1 Description

The Northern Central Impact Target Area Expansion consists of approximately 107 acres, located north of the current CITA boundary, and extends approximately 500 - 1,000 feet north of Lower DNR road. MD debris findings (including 105 and 155mm projectile fragments) along the Lower DNR Road buffer zones clearance area (20 feet on both sides of road) indicate the strong potential for targets existing north of the current CITA boundary (see **Figure 1.2**) in a roughly 107 acre area.

## 5.2 Characterization

Recent MEC and MD findings in this area include:

- 32 MD findings of various sizes of projectile fragments, which can be attributed to 105mm and 155mm projectiles (27 along Lower DNR Road and 5 along the northern CITA Boundary Road).

While the CITA boundaries were established and fenced to include firing targets and a safety buffer zone, the MD findings indicate the potential for new additional targets to be located in the area north of the currently established CITA beyond the Lower DNR Road, some 1000 ft to the north of the CITA.

## 5.3 Proposed Reuse

Because this area is becoming a portion of the CITA, no reuse is planned for this restricted access area.

## 5.4 Hazard Severity Ranking

The presence of the extensive MD findings suggests the potential of a target area. The munition release mechanism resulting in the presence of MEC in the vicinity of potential target area would be from deployed munitions that failed to function properly (UXO). Residual UXO poses the greatest explosive safety threat to the public as these items could be fuzed and armed but failed to function. The hazard severity ranking for a target area would be the most severe of all site types. Should a target be found in this area, its explosive safety relative risk ranking would be 1 on a scale of 1 – 7, with 1 representing the highest explosive risk.

## 5.5 Accessibility Rating and Reuse Intensity

The overall accessibility of the Northern CITA Expansion is considered extremely limited as the entire area will be fenced and signed. The vast majority of the Northern CITA Expansion is either limited or inaccessible due to very steep terrain. It is designated as no-reuse to very low reuse intensity since it will be isolated by fencing and signage and located within the WMA. There are no overlying proposed future use sites or facilities planned in this area. People are not expected to venture into the area because of the fencing, signage, written documents and steep terrain; therefore the number of potential human receptors is considered negligible.

## 5.6 Explosive Hazard Ranking

The high likelihood of an MEC source combined with the very limited number of potential receptors in the area, results in an explosive hazards exposure assessment ranking of Rank B on a scale of A – E with A representing the greatest exposure risk, for each potential target located in AAOC-1. The explosive hazards exposure characteristics associated with AAOC-1 is summarized in **Table 6.2**.

**TABLE 5.1**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR NORTHERN CITA EXPANSION**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse[1] | |
| Northern CITA Expansion | 1 | Limited to Regional Park Personnel | None | NA / Restricted Access Area | B |

(1) The level of subsurface intrusion or depth of activity is designated as not applicable (NA) for those sites located in the CITA.

## 5.7 Recommended Cleanup Actions

The recommended cleanup alternative for the Northern CITA Expansion consists of securing the area with fencing, no public access, and implementation of ICs. This fencing will extend from the northern CITA Interim Action fencing and enclose the entire 107 acre area. The cost to implement the recommended alternative for the Northern CITA Expansion is $200,000 (see **Table 5.2**).

The nature of the munitions found and the potential for targets being located north of the current CITA boundary, WDOE has determined that fencing and signage will provide the most permanent solution. An alternative hiking, biking and equestrian trail is being planned for the area north of the Lower DNR which will be outside the new CITA fence line.

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**INSERT TABLE 5.2**

# 6.0 MEC SURFACE CLEARANCE OF DEMOLITION AREA 1/LANDFILL 4 KICK-OUT AREA

## 6.1 Description

Historical Army investigations of the Demolition Area 1/Landfill 4 (DA1/LF4) included a 10 acre surface clearance, and a 4 acre subsurface clearance. However, due to the recent MEC and MD findings within the previously cleared area, the area requiring surface clearance has now been expanded from a 500' x 500' to a 1200' x 1200' area: encompassing 103.82 acres (see **Figure 1.4**).

## 6.2 Characterization

The recent investigations completed to date include:

- Anomaly avoidance, brush clearance, and MEC surface clearance of the roads traversing north and south and east of the DA1/LF4 area (approximately 2 acres);
- Anomaly avoidance of DA1/LF4area (approximately 4 acres).

Recent MEC and MD findings in DA1/LF4 included:

- 16 MEC findings, including: 2.36 in. rockets (unfuzed) and 2.75 in. rockets (fuzed and HE), 20 mm rocket (fired, fuzed), CS and smoke grenades (some live), anti-tank practice land mines (spotting charge), HE warheads; fuzes and flares, and 3 in. Stokes mortars (fired, unfuzed);
- 130 MD findings of various munitions.

## 6.3 Proposed Reuse

DA1/LF4 Kick-Out Area represents an expansion of the area delineating the Demolition Area 1/ LF4 (expanding from 500' x 500' to 1200' x 1200'). The proposed reuse of this area is the same as the proposed reuse of the previously identified area (500' x 500'): that is, DA1/LF4 Kick-Out Area will be included within the WMA with the same restrictions, controls, and cleanup actions.

## 6.4 Hazard Severity Ranking

At an OB/OD area, the unsuccessful demilitarization of a UXO item poses the greatest explosive safety threat to the public. The hazard severity ranking for an OB/OD Area is the second most severe of all demolition area site types (marginal/critical explosive safety hazard). The explosive safety relative risk ranking for DA1/LF4 Kick-Out Area is 2 on a scale of 1 – 7, with 1 representing the highest explosive risk.

## 6.5 Accessibility Rating and Reuse Intensity

DA1/LF4 Kick-Out Area is accessible by roads and trails however; it is located outside the boundary of the proposed regional park and within the WMA and is therefore low reuse intensity.

## 6.6 Explosive Hazard Ranking

DA1/LF4 Kick-Out Area is Ranked B, on a scale of A – E, with A representing the greatest exposure risk. There are expected to be fewer potential receptors as it is located in the proposed WMA, which is a low reuse intensity area. The explosive hazards exposure characteristics associated with DA1/LF4 is summarized in **Table 6.1**.

**TABLE 6.1**
**SUMMARY OF EXPLOSIVE HAZARDS EXPOSURE CHARACTERISTICS FOR MEC SURFACE CLEARANCE OF DEMOLITION AREA 1/LANDFILL 4 KICK-OUT AREA**

| Site | MEC Source | Receptor Interaction | | | Explosive Hazards Exposure Rank |
|---|---|---|---|---|---|
| | Explosive Relative Risk Ranking | Accessibility | Future Land Reuse | Depth of Activity / Reuse[1] | |
| DA1/LF4 Kick-Out Area | 2 | Accessible | Low | Surface/ WMA | B |

## 6.7 Recommended Cleanup Action

The WDOE's recommended cleanup action for the expanded DA1/LF4 Kick-Out Area is MEC surface clearance with ICs. This alternative is determined to be the most feasible permanent solution for this area and would achieve the RAU 3 cleanup standard. The approximate area to be surface cleared is shown in **Figure 1.4** and is 103.82 acres in size. The total cost to implement this alternative is $2,730,000 (see **Table 6.2**).

**INSERT TABLE 6.2**

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# Figure 1-1 - Regional Map

## Camp Bonneville Military Reservation

## Vancouver, Washington

CAMP BONNEVILLE

Yacolt Burn State Forest

Vancouver metro area

Portland Intl. Airport

Portland metro area

Columbia River

WASHINGTON

OREGON

Clark County

Multnomah County

Camas

Washougal

Columbia River Gorge National Scenic Area

Steigerwald Lake Natl. Wildlife Refuge

Lacamas Creek

Lacamas L.

Salmon Creek

Fifth Plain Creek

Shanghai Creek

Little Washougal River

Seattle metro area

Pacific Ocean

Camp Bonneville Vancouver, Washington

Clark County

Portland metro area

OREGON

CANADA

AREA ENLARGED

UNITED STATES

Pacific Ocean

Atlantic Ocean

MEXICO

**BONNEVILLE**
CONSERVATION, RESTORATION & RENEWAL TEAM, LLC

BCRRT

0 1 2 3 4 mi

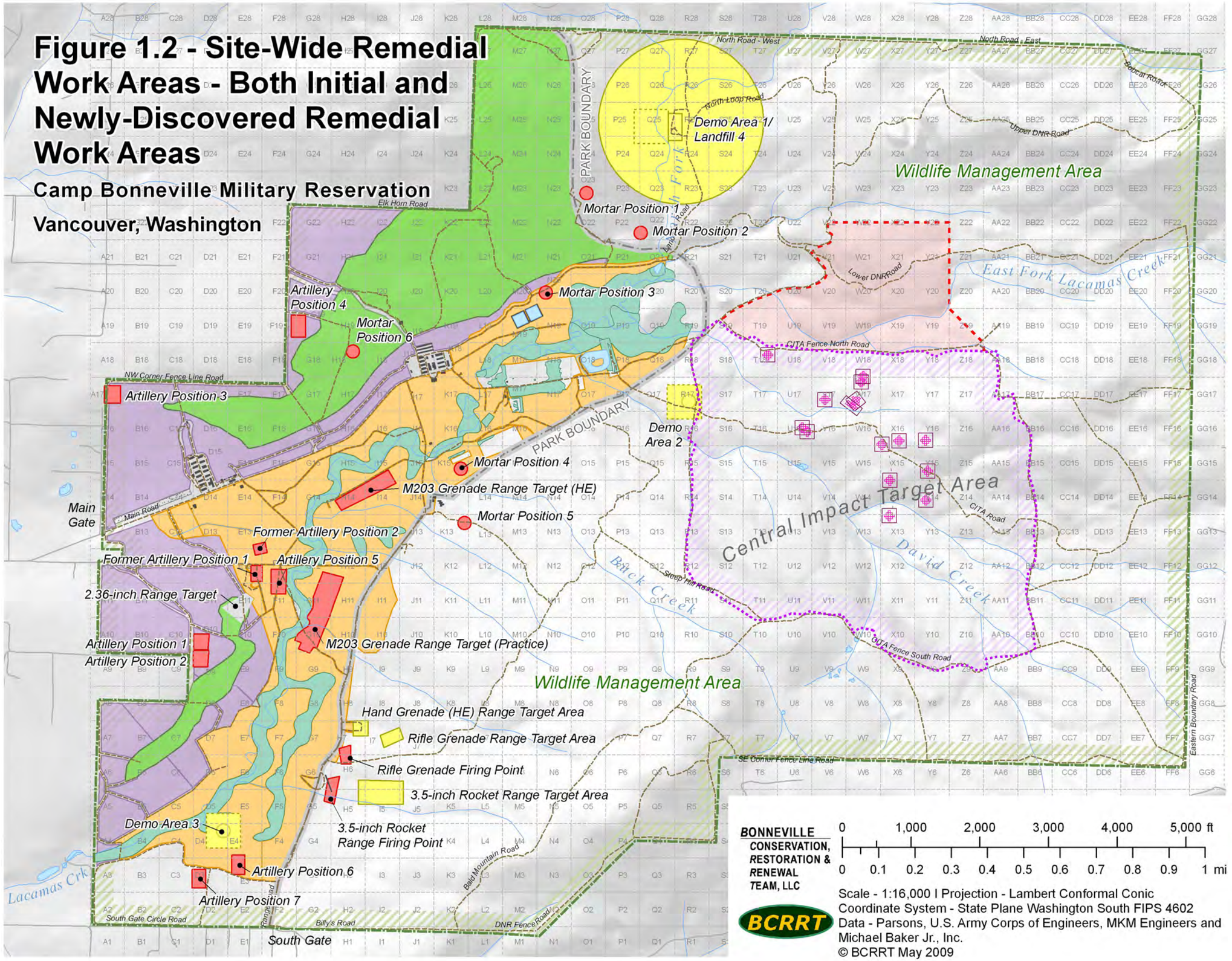
0 1 2 3 4 km

Scale - 1:100,000; 1 in equals 5.6 mi
Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons & U.S. Army Corps of Engineers

# Figure 1.2 - Site-Wide Remedial Work Areas - Both Initial and Newly-Discovered Remedial Work Areas

## Camp Bonneville Military Reservation

## Vancouver, Washington






**Recommended Clearance Depths**

- B3 — Site grid (with grid # shown)
- CITA (Central Impact Target Area / Central Impact Area)
- CITA targets
- Northern CITA expansion (fence)
- Western Slopes - Surface clearance (areas less than 25% slope)
- Western Slopes - Site-wide IC's (areas greater than 25% slope)
- Surface clearance
- Firing points - Sub-surface (to 14-in)

**Central Valley Floor**

- Frost-depth clearance (to 14-in)
- Frost-depth clearance (to 14-in) with wetland protocols

*Target areas and Open Burn / Open Demolition areas are identified by labels only.*

0 1,000 2,000 3,000 4,000 5,000 ft

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 mi

**BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC**

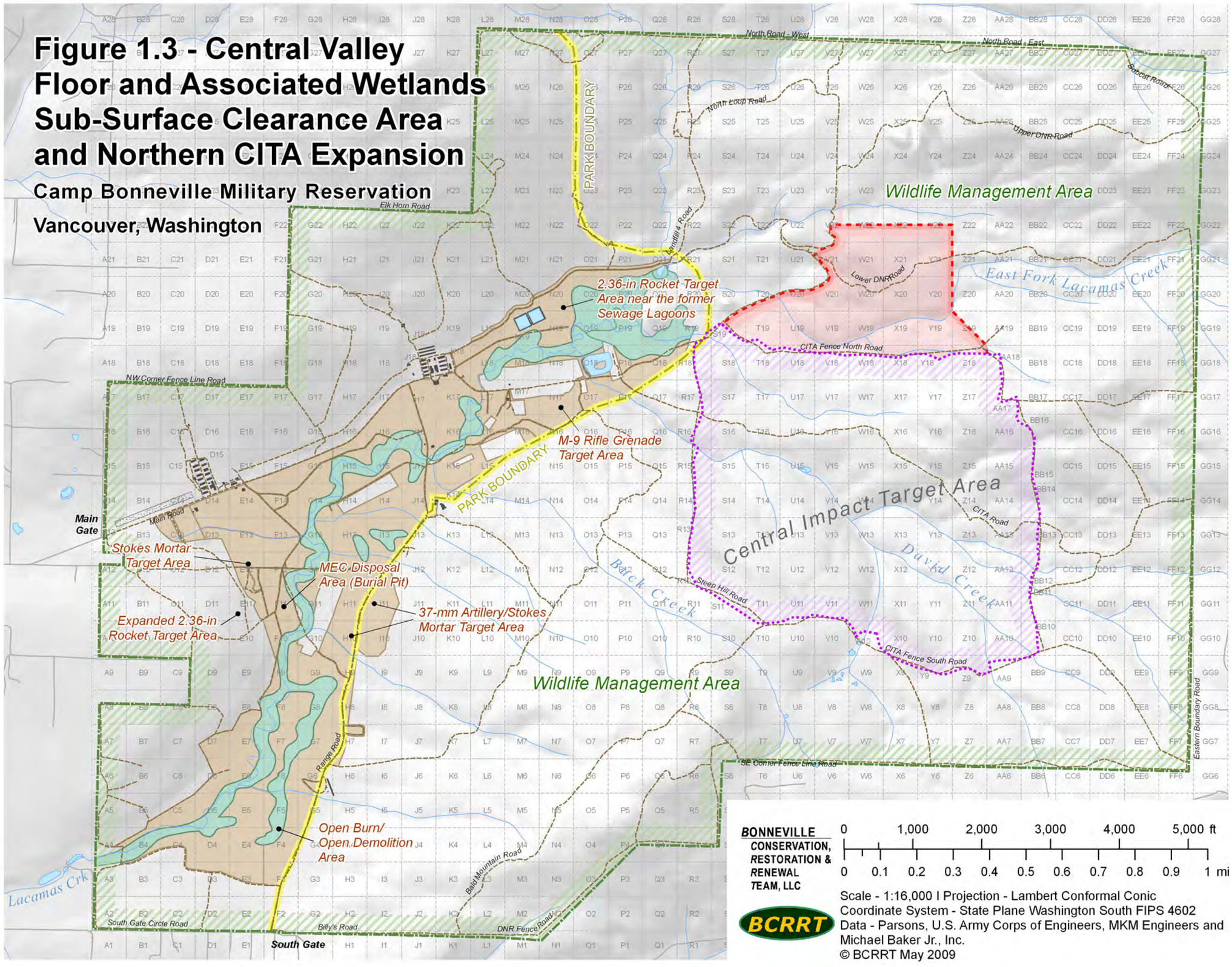
BCRRT

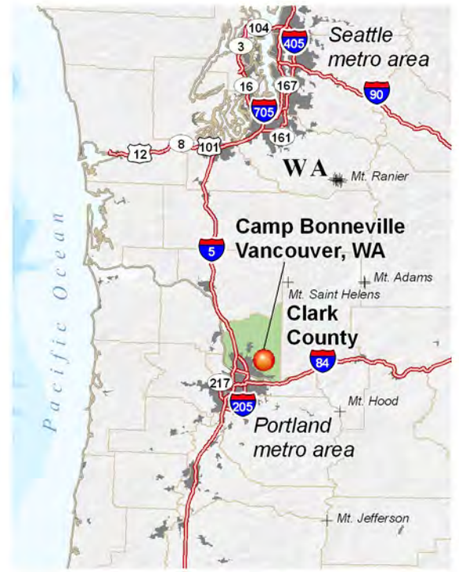
Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 1.3 - Central Valley Floor and Associated Wetlands Sub-Surface Clearance Area and Northern CITA Expansion

## Camp Bonneville Military Reservation

## Vancouver, Washington





**LEGEND**

**Additional Cleanup Areas**

- Northern CITA expansion (fence)
- Wetlands in CVF - Surface and Frost-depth clearance (to 14-in)
- Central Valley Floor - Both High Intensity and Accessible Medium Intensity reuse areas - Frost-depth clearance (to 14-in)
- Central Impact Target Area (CITA)
- Western Slopes - Surface clearance (areas less than 25% slope)
- Western Slopes - Site-wide IC's (areas greater than 25% slope)

**BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC**

BCRRT

0 1,000 2,000 3,000 4,000 5,000 ft

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 mi

Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 1.4 - Western Slopes Area Surface Clearance Area and Landfill 4 / Demo Area 1 Kick-out Surface Clearance Area

**Camp Bonneville Military Reservation**

**Vancouver, Washington**

North Road - West
North Road - East
Bobcat Road
PARK BOUNDARY
North Loop Road
Demo Area 1 / Landfill 4
Upper DNR Road
Wildlife Management Area
Elk Horn Road
Landfill 4 Road
Lower DNR Road
East Fork Lacamas Creek
CITA Fence North Road
NW Corner Fence Line Road
PARK BOUNDARY
Central Impact Target Area
CITA Road
Main Gate
Main Road
Buck Creek
David Creek
Steep Hill Road
CITA Fence South Road
Wildlife Management Area
Range Road
SE Corner Fence Line Road
Eastern Boundary Road
Bald Mountain Road
Lacamas Crk
South Gate Circle Road
Billy's Road
South Gate
DNR Fence Road



## LEGEND

**Additional Cleanup Areas**

- Demo Area 1 / Landfill 4 (kick-out area is surface clearance)
- Western Slopes - Surface clearance (areas less than 25% slope)
- Western Slopes - Site-wide IC's (areas greater than 25% slope)
- Central Impact Target Area (CITA)
- Northern CITA expansion (fence)
- Central Valley Floor - Frost-depth clearance (to 14-in)

**BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC**

BCRRT

0 1,000 2,000 3,000 4,000 5,000 ft

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 mi

Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.

# Figure 1.5 - Proposed Regional Park Reuse Areas

## Camp Bonneville Military Reservation

## Vancouver, Washington

PARK BOUNDARY

North Road - West

North Road - East

Bobcat Road

North Loop Road

Upper DNR Road

East Loop Road

Landfill 4 Road

South Loop Road

Wildlife Management Area

Elk Horn Road

Evergreen Trail

APC Road

North Fork

Lower DNR Road

East Fork Lacamas Creek

Reservoir Road - Bonneville

Trailhead & Parking

Outdoor School

Magazine Road

RV Camping

CITA Fence North Road

Yurt Village

Amphitheater

Tent/Yurt Camping

Equestrian Center

Classrooms

Park Entrance

Main Gate

Main Road

RV Camping

Trailhead & Parking

Crossover Road

FBI Range Road

Range Road

Parking

Peggy's Road

Trailhead & Parking

Tent/Yurt Camping

Central Impact Target Area

CITA Road

Buck Creek

David Creek

Steep Hill Road

Eastern Boundary Road

CITA Fence South Road

Public Firing Range

Wildlife Management Area

Main Gate Cemetery Road

Archery Range

Law Enforcement Firing Range

SE Corner Fence Line Road

Little Baldy Road

Bald Mountain Road

FBI Firing Range

DNR Fence Road

Lacamas Crk

Environmental Study Area

South Gate Circle Road

Billy's Road

South Gate

NW Corner Fence Line Road

Reservoir Road - Killpack



**LEGEND**

- Park / Wildlife Management Area boundary
- Central Valley Floor (CVF)
- CITA (Central Impact Target Area)
- Proposed reuse areas (High-intensity reuse areas)
- Regional Park

* While the locations/needs for the Tent/Yurt Camping, Public Firing Range, Archery Range, FBI Firing Range, and Trail Head Parking areas are being evaluated, they would be located within the Regional Park. The Logging Camp is not shown and if developed would be outside of the Regional Park.

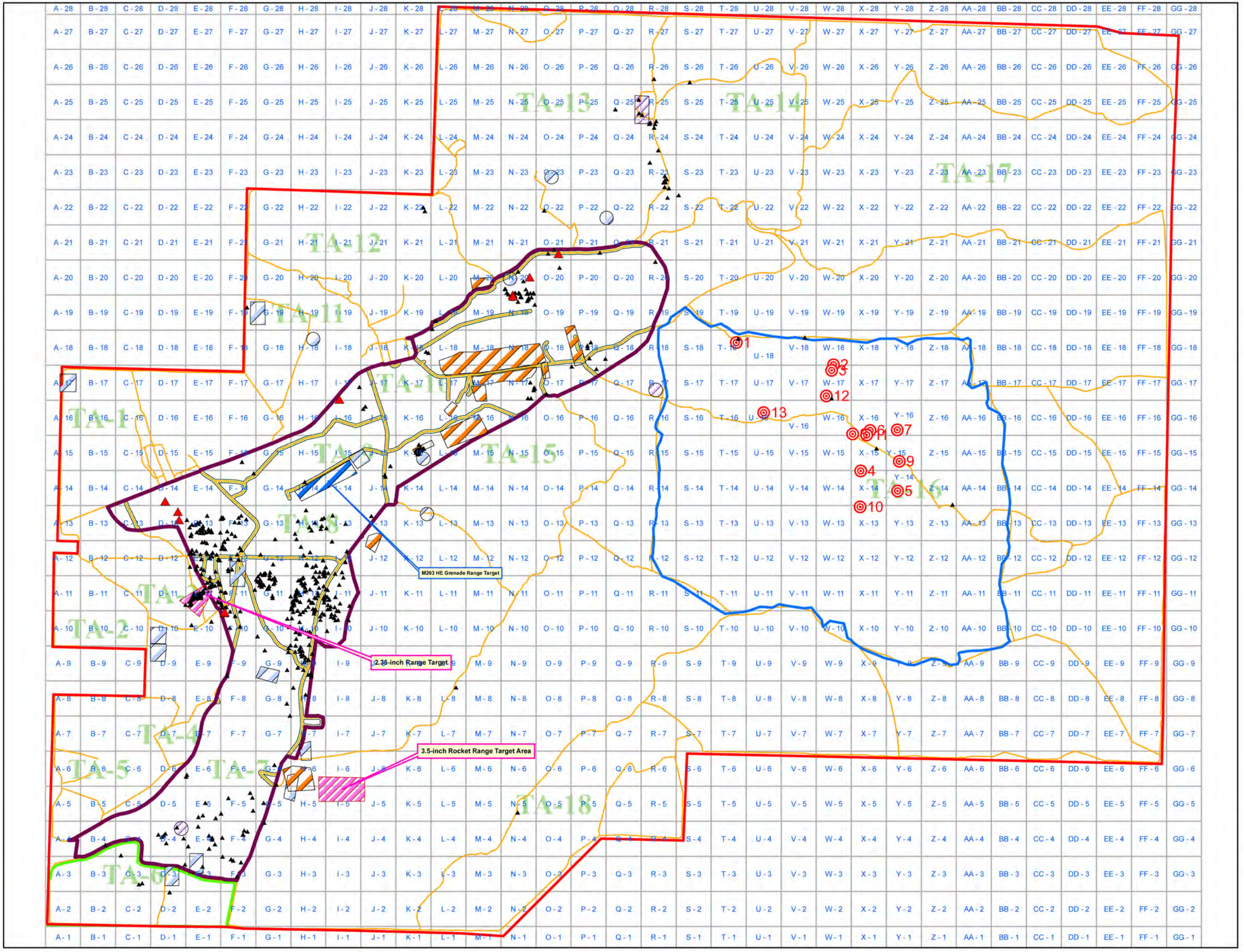

BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC

BCRRT


0 1,000 2,000 3,000 4,000 5,000 ft

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 mi

Scale - 1:16,000 I Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons, U.S. Army Corps of Engineers, MKM Engineers and Michael Baker Jr., Inc.




**Legend**

- Camp Bonneville Perimeter
- Roads and Trails with buffer zones
- Central Impact Target Area
- Central Valley Floor
- Environmental Study Area
- Demo Areas
- Firing Ranges
- Target Area
- M203 Grenade Range
- Artillery Motar Positions
- Millitary Target Points
- MEC Findings
- MEC Findings (February 2009)
- Recon Points
- 500 ft Grids

# Figure 1.6 - Interim Actions MEC Findings

N

BCRRT

0 305 610 1,220 1,830 2,440 Feet

MKM Engineers, Inc.
4153 Bluebonnett Drive
Stafford, TX 77477

PIKA INTERNATIONAL, INC.

MEC Findings (through February 2009)

Drawn On: 03/05/2009 Drawn By: QX Reviewed By: KA

TA-13

TA-14

TA-17

TA-12

TA-11

TA-1

TA-16

TA-15

TA-4

TA-3

TA-2

TA-5

TA-7

TA-18

TA-6

M203 HE Grenade Range Target

2.36-inch Range Target

3.5-inch Rocket Range Target Area

## Legend

- Camp Bonneville Perimeter
- Roads and Trails with buffer zones
- Central Impact Target Area
- Central Valley Floor
- Environmental Study Area
- Demo Areas
- Firing Ranges
- Target Area
- M203 Grenade Range
- Artillery Motar Positions
- Millitary Target Points
- Recon Points
- 500 ft Grids

**Munition Debris Categories**

- Small Arms
- Frag
- Projectiles
- Landmines
- Rockets
- Grenades
- Flares
- Fuze Spoons
- Miscellaneous

# Figure 1.7 - Interim Actions MD Findings

N

BCRRT

0 305 610 1,220 1,830 2,440 Feet

MKM Engineers, Inc.
4153 Bluebonnett Drive
Stafford, TX 77477

PIKA INTERNATIONAL, INC.

MD Findings (through February 2009)

Drawn On: 03/05/2009 Drawn By: QX Reviewed By: KA

## Table 3.10 Alternatives Analysis and Scoring - Newly Discovered 2.36 in. Rocket Target Area near the Former Sewage Lagoons

| Alternative Description | MEC Protectiveness | | Environmental Protectiveness | | Permanence | | Cost | | Long-Term Effectiveness | | Short-Term Effectiveness | | Implementability | | Public Concerns | | Total Numerical Score | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | | |
| 1) No Further Action | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 10 | $0 | 0 | No long term risk reduction | 10 | No short term risk to community or MEC technicians | 0 | Not acceptable to regulatory agencies, Clark County, or public | 0 | Anticipate high level of public concern due to remaining risk | **32** | **6** |
| 2) Institutional Controls Only | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 9 | $4,700 | 2 | Receptor awareness but fundamental risk remains | 10 | No short term risk to community or MEC technicians | 2 | Limited acceptability to regulatory agencies, Clark County, or public | 2 | Anticipate high level of public concern due to remaining risk | **37** | **5** |
| 3) Institutional Controls with Fencing and Signage - No Public Access | 4 | No source reduction | 10 | No adverse impact to ecological systems | 4 | Moderate reliability - remaining potential for receptor contact with any remaining MEC | 7 | $35,700 | 3 | Receptor awareness and access restrictions but fundamental risk remains | 9 | No short term risk to community; limited risk MEC technicians and fence installers | 3 | Limited acceptability to regulatory agencies, Clark County, or public | 3 | Anticipate high level of public concern due to remaining risk | **43** | **4** |
| 4) Surface MEC Clearance of entire area with subsurface clearance to frost depth (14") around identified targets, step-out procedures applied as appropriate, and institutional controls with fencing and signs | 7 | Near total source reduction - nearly all MEC found in frost zone | 5 | Brush clearance required over entire area, limited excavation | 8 | High reliability - little potential for frost heave to remaining bring MEC to surface barring intrusive activities | 5 | $425,800 | 5 | Long term risk is nearly eliminated | 6 | No short term risk to community; some short term risk to MEC technicians with longer exposure than Alt. 4 | 8 | Can be implemented with personnel and equipment already on site | 6 | Anticipate little public concern due to remaining risk but some concern due to ecological impacts | **50** | **2** |
| 5) Subsurface MEC Clearance to frost depth (14") of entire area, step-out procedures applied as appropriate, and institutional controls with fencing and signs | 10 | Near total source reduction - nearly all MEC found in frost zone | 3 | Brush clearance required over entire area, extensive excavation | 10 | High reliability - no potential for frost heave to remaining bring MEC to surface barring intrusive activities | 4 | $573,850 | 8 | Long term risk is nearly eliminated | 5 | No short term risk to community; some short term risk to MEC technicians with longer exposure than Alt. 5 | 7 | Can be implemented with personnel and equipment already on site | 8 | Anticipate little public concern due to remaining risk, limited concern due to ecological impacts | **55** | **1** |
| 6) Subsurface MEC clearance to 48 inches of entire area with stepouts at the perimeter as appropriate | 10 | Total source reduction - all MEC of this type found top 24" - little real improvement over Alt. 6 | 0 | Brush clearance required over entire area, extensive excavation | 10 | High reliability - no potential for frost heave to remaining bring MEC to surface barring intrusive activities | 3 | $690,900 | 10 | Long term risk is eliminated | 3 | No short term risk to community; some short term risk to MEC technicians with longer exposure than Alt. 6 | 6 | Requires use of heavy equipment not currently on site | 6 | Anticipate little public concern due to remaining risk but significant concern due to ecological impacts | **48** | **3** |

**Preferred and recommended alternative**

Alternatives that do not meet MTCA Threshold Criteria and are carried into the detailed evaluation and scoring process for completeness only.

## Table 3.12 Alternatives Analysis and Scoring - Newly Discovered Rifle Gernade Target Area

| Alternative Description | MEC Protectiveness | | Environmental Protectiveness | | Permanence | | Cost | | Long-Term Effectiveness | | Short-Term Effectiveness | | Implementability | | Public Concerns | | Total Numerical Score | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | | |
| 1) No Further Action | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 10 | $0 | 0 | No long term risk reduction | 10 | No short term risk to community or MEC technicians | 0 | Not acceptable to regulatory agencies, Clark County, or public | 0 | Anticipate high level of public concern due to remaining risk | **32** | **6** |
| 2) Institutional Controls Only | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 9 | $2,900 | 2 | Receptor awareness but fundamental risk remains | 10 | No short term risk to community or MEC technicians | 2 | Limited acceptability to regulatory agencies, Clark County, or public | 2 | Anticipate high level of public concern due to remaining risk | **37** | **5** |
| 3) Institutional Controls with Fencing and Signage - No Public Access | 4 | No source reduction | 10 | No adverse impact to ecological systems | 4 | Moderate reliability - remaining potential for receptor contact with any remaining MEC | 7 | $21,500 | 3 | Receptor awareness and access restrictions but fundamental risk remains | 9 | No short term risk to community; limited risk MEC technicians and fence installers | 3 | Limited acceptability to regulatory agencies, Clark County, or public | 3 | Anticipate high level of public concern due to remaining risk | **43** | **4** |
| 4) Surface MEC Clearance of entire area with subsurface clearance to frost depth (14") around identified targets, step-out procedures applied as appropriate, and institutional controls with fencing and signs | 7 | Near total source reduction - nearly all MEC found in frost zone | 5 | Brush clearance required over entire area, limited excavation | 8 | High reliability - little potential for frost heave to remaining bring MEC to surface barring intrusive activities | 5 | $255,500 | 5 | Long term risk is nearly eliminated | 6 | No short term risk to community; some short term risk to MEC technicians with longer exposure than Alt. 4 | 8 | Can be implemented with personnel and equipment already on site | 6 | Anticipate little public concern due to remaining risk but some concern due to ecological impacts | **50** | **2** |
| 5) Subsurface MEC Clearance to frost depth (14") of entire area, step-out procedures applied as appropriate, and institutional controls with fencing and signs | 10 | Near total source reduction - nearly all MEC found in frost zone | 3 | Brush clearance required over entire area, extensive excavation | 10 | High reliability - no potential for frost heave to remaining bring MEC to surface barring intrusive activities | 4 | $344,300 | 8 | Long term risk is nearly eliminated | 5 | No short term risk to community; some short term risk to MEC technicians with longer exposure than Alt. 5 | 7 | Can be implemented with personnel and equipment already on site | 8 | Anticipate little public concern due to remaining risk, limited concern due to ecological impacts | **55** | **1** |
| 6) Subsurface MEC clearance to 48 inches of entire area with stepouts at the perimeter as appropriate | 10 | Total source reduction - all MEC of this type found top 24" - little real improvement over Alt. 6 | 0 | Brush clearance required over entire area, extensive excavation | 10 | High reliability - no potential for frost heave to remaining bring MEC to surface barring intrusive activities | 3 | $414,550 | 10 | Long term risk is eliminated | 3 | No short term risk to community; some short term risk to MEC technicians with longer exposure than Alt. 6 | 6 | Requires use of heavy equipment not currently on site | 6 | Anticipate little public concern due to remaining risk but significant concern due to ecological impacts | **48** | **3** |

**Preferred and recommended alternative**

Alternatives that do not meet MTCA Threshold Criteria and are carried into the detailed evaluation and scoring process for completeness only.

## Table 3.2 Alternatives Analysis and Scoring - Newly Discovered Stokes Mortar Target Area in Central Valley Floor

| Alternative Description | MEC Protectiveness | | Environmental Protectiveness | | Permanence | | Cost | | Long-Term Effectiveness | | Short-Term Effectiveness | | Implementability | | Public Concerns | | Total Numerical Score | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | | |
| 1) No Further Action | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 10 | $0 | 0 | No long term risk reduction | 10 | No short term risk to community or MEC technicians | 0 | Not acceptable to regulatory agencies, Clark County, or public | 0 | Anticipate high level of public concern due to remaining risk | **32** | **7** |
| 2) Institutional Controls Only | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 9 | $20,500 | 2 | Receptor awareness but fundamental risk remains | 10 | No short term risk to community or MEC technicians | 2 | Limited acceptability to regulatory agencies, Clark County, or public | 2 | Anticipate high level of public concern due to remaining risk | **37** | **6** |
| 3) Additional Surface MEC Clearance with step-out procedures applied as appropriate | 4 | Significant source reduction - most MEC of this type near surface | 6 | Brush clearance required | 5 | Some reliability - potential for frost heave to remaining bring MEC to surface | 6 | $558,625 | 5 | Long term risk is reduced but not eliminated | 7 | No short term risk to community; some short term risk to MEC technicians | 7 | Can be implemented with personnel and equipment already on site | 6 | Anticipate limited public concern due to remaining risk | **46** | **4** |
| 4) Subsurface MEC Clearance to frost depth (14") around targets with step-out procedures applied as appropriate **Standard Target Area Treatment** | 7 | Near total source reduction - nearly all MEC found in frost zone | 6 | Brush clearance required with limited excavation | 6 | High reliability - little potential for frost heave to remaining bring MEC to surface barring intrusive activities | 6 | $637,375 | 7 | Long term risk is nearly eliminated | 6 | No short term risk to community; some short term risk to MEC technicians | 8 | Can be implemented with personnel and equipment already on site | 8 | Anticipate little public concern due to remaining risk but some concern due to ecological impacts | **54** | **2** |
| 5) Subsurface MEC Clearance to 14" throughout with step-out procedures applied as appropriate | 10 | Near total source reduction - nearly all MEC found top 14" - some improvement over Alt. 5 due to greater coverage area | 0 | Total brush clearance required | 10 | High reliability - little potential for frost heave to remaining bring MEC to surface barring intrusive activities | 5 | $861,000 | 9 | Long term risk is essentially eliminated | 5 | No short term risk to community; some short term risk to MEC technicians | 8 | Can be implemented with personnel and equipment already on site | 10 | Anticipate public acceptance due to complete coverage of subsurface MEC clearance | **57** | **1** |
| 6) Subsurface MEC Clearance to 24" around targets with step-out procedures applied as appropriate **Improved Target Area Treatment** | 8 | Near total source reduction - nearly all MEC found top 14" - little improvement over Alt. 5 | 3 | Brush clearance required with more extensive excavation than Alt. 4 | 7 | High reliability - no potential for frost heave to remaining bring MEC to surface barring intrusive activities | 6 | $721,875 | 7 | Long term risk is nearly eliminated | 5 | No short term risk to community; some short term risk to MEC technicians | 7 | Can be implemented with personnel and equipment already on site | 6 | Anticipate little public concern due to remaining risk but increased concern due to ecological impacts | **49** | **3** |
| 7) Subsurface MEC Clearance to 48" around targets with step-out procedures applied as appropriate **Maximum Target Area Treatment** | 8 | Total source reduction - all MEC of this type found top 14" - little improvement over Alt. 6 | 3 | Brush clearance required with more extensive excavation than Alt. 4 | 8 | High reliability - no potential for frost heave to remaining bring MEC to surface barring intrusive activities | 4 | $879,375 | 7 | Long term risk is eliminated | 4 | No short term risk to community; some short term risk to MEC technicians | 5 | Requires use of heavy equipment not currently on site | 5 | Anticipate little public concern due to remaining risk but significant concern due to ecological impacts | **44** | **5** |

**Preferred and recommended alternative**

Alternatives that do not meet MTCA Threshold Criteria and are carried into the detailed evaluation and scoring process for completeness only.

# Table 3.4 Alternatives Analysis and Scoring - Newly Discovered MED Disposal Area (Burial Pit) in Central Valley Floor

| Alternative Description | MEC Protectiveness | | Environmental Protectiveness | | Permanence | | Cost | | Long-Term Effectiveness | | Short-Term Effectiveness | | Implementability | | Public Concerns | | Total Numerical Score | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | | |
| 1) No Further Action | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 10 | $0 | 0 | No long term risk reduction | 10 | No short term risk to community or MEC technicians | 0 | Not acceptable to regulatory agencies, Clark County, or public | 0 | Anticipate high level of public concern due to remaining risk | **32** | **7** |
| 2) Institutional Controls Only | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 9 | $500 | 2 | Receptor awareness but fundamental risk remains | 10 | No short term risk to community or MEC technicians | 2 | Limited acceptability to regulatory agencies, Clark County, or public | 2 | Anticipate high level of public concern due to remaining risk | **37** | **6** |
| 3) Institutional Controls and Groundwater Monitoring Program | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - potential receptor contact with any remaining MEC | 6 | $150,500 | 4 | Receptor awareness but fundamental risk remains - GW is addressed | 9 | No short term risk to community or MEC technicians - very limited risk to drillers & samplers | 4 | Moderate acceptability to regulatory agencies, Clark County and public | 4 | Anticipate significant public concern due to remaining risk | **39** | **5** |
| 4) Institutional and Engineering Controls - installation of a cap in the form of an asphalt paved parking area with low density polyvinyl liner as barrier to upward migration of MEC, MD, COPCs | 8 | No source reduction, but high level of public protection if engineering controls are adequately maintained | 5 | Ecological impact offset by enhancement of park facilities | 7 | High reliability for MEC protection assuming adequate maintenance of engineering controls | 7 | $50,500 | 7 | Receptor isolation from MEC & MD if engineering controls are adequately maintained | 9 | No short term risk to community or MEC technicians - very limited risk to pavers | 6 | Fair acceptability to regulatory agencies & Clark County - can be implemented with readily available personnel & equipment | 6 | Moderate level of public concern | **55** | **4** |
| 5) Institutional and Engineering Controls with Groundwater Monitoring Program - installation of a cap in the form of an asphalt paved parking area with low density polyvinyl liner as barrier to upward migration of MEC, MD, and COPCs | 8 | No source reduction, but high level of public protection if engineering controls are adequately maintained | 5 | Ecological impact offset by enhancement of park facilities | 7 | High reliability for MEC protection assuming adequate maintenance of engineering controls | 6 | $200,500 | 8 | Receptor isolation from MEC & MD if engineering controls are adequately maintained - GW is addressed | 9 | No short term risk to community or MEC technicians - very limited risk to pavers, drillers, & samplers | 8 | Fair acceptability to regulatory agencies, Clark County and public - can be implemented with readily available personnel & equipment | 7 | Moderate level of public concern - somewhat less than Alt.4 | **58** | **3** |
| 6) Source Removal - excavation to remove MEC and MD source materials | 10 | Very high level of source removal | 5 | Localized ecological damage to surface vegetation and root zones | 10 | High reliability for MEC protection | 7 | $42,000 | 8 | MEC & MD removal | 5 | Limited short term risk to community; some risk to excavation workers | 7 | Acceptable to regulatory agencies & County | 9 | Low level of public concern | **61** | **2** |
| 7) Source Removal and Groundwater Monitoring Program - excavation to remove MEC and MD source materials | 10 | Very high level of source removal | 7 | Localized ecological damage to surface vegetation and root zones | 10 | High reliability for MEC protection | 5 | $342,000 | 10 | MEC & MD removal + GW monitoring | 5 | Limited short term risk to community; some risk to excavation workers | 8 | Acceptable to regulatory agencies & County | 10 | Eliminates nearly all public concern issues | **65** | **1** |

Preferred and recommended alternative

Alternatives that do not meet MTCA Threshold Criteria and are carried into the detailed evaluation and scoring process for completeness only.

Notes: (1) All final cleanup action alternatives assume surface MEC clearance will have been completed previously as part of characterization of AAOC-5 and the rest of the Central Valley Floor.

(2) All cleanup action alternatives that include any intrusive activities include appropriate MEC avoidance construction support.

## Table 3.6 Alternatives Analysis and Scoring - Newly Discovered Open Burn/Open Demolition Area in the Central Valley Floor

| Alternative Description | MEC Protectiveness | | Environmental Protectiveness | | Permanence | | Cost | | Long-Term Effectiveness | | Short-Term Effectiveness | | Implementability | | Public Concerns | | Total Numerical Score | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | | |
| 1) No Further Action | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 10 | $0 | 0 | No long term risk reduction | 10 | No short term risk to community or MEC technicians | 0 | Not acceptable to regulatory agencies, Clark County, or public | 0 | Anticipate high level of public concern due to remaining risk | **32** | **7** |
| 2) Institutional Controls Only | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 9 | $8,165 | 2 | Receptor awareness but fundamental risk remains | 10 | No short term risk to community or MEC technicians | 2 | Limited acceptability to regulatory agencies, Clark County, or public | 2 | Anticipate high level of public concern due to remaining risk | **37** | **6** |
| 3) Institutional Controls and Groundwater Monitoring Program | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 7 | $158,165 | 4 | Receptor awareness but fundamental risk remains - GW is addressed | 9 | No short term risk to community or MEC technicians - very limited risk to drillers & samplers | 4 | Moderate acceptability to regulatory agencies, Clark County and public | 4 | Anticipate significant public concern due to remaining risk | **40** | **5** |
| 4) Institutional and Engineering Controls - installation of a cap in the form of an asphalt paved parking area with low density polyvinyl liner as barrier to upward migration of MEC, MD, and COPCs | 8 | No source reduction, but high level of public protection if engineering controls are adequately maintained | 5 | Ecological impact offset by enhancement of park facilities | 7 | High reliability for MEC protection assuming adequate maintenance of engineering controls | 7 | $824,665 | 7 | Receptor isolation from MEC & MD if engineering controls are adequately maintained | 9 | No short term risk to community or MEC technicians - very limited risk to pavers | 6 | Fair acceptability to regulatory agencies & Clark County - can be implemented with readily available personnel & equipment | 6 | Moderate level of public concern | **55** | **4** |
| 5) Institutional and Engineering Controls with Groundwater Monitoring Program - installation of a cap in the form of an asphalt paved parking area with low density polyvinyl liner as barrier to upward migration of MEC, MD, and COPCs | 8 | No source reduction, but high level of public protection if engineering controls are adequately maintained | 5 | Ecological impact offset by enhancement of park facilities | 7 | High reliability for MEC protection assuming adequate maintenance of engineering controls | 6 | $974,665 | 8 | Receptor isolation from MEC & MD if engineering controls are adequately maintained - GW is addressed | 9 | No short term risk to community or MEC technicians - very limited risk to pavers, drillers, & samplers | 8 | Fair acceptability to regulatory agencies, Clark County and public - can be implemented with readily available personnel & equipment | 7 | Moderate level of public concern - somewhat less than Alt.4 | **58** | **3** |
| 6) Source Removal - excavation to remove MEC and MD source materials | 10 | Very high level of source removal | 5 | Localized ecological damage to surface vegetation and root zones | 10 | High reliability for MEC protection | 4 | $600,128 | 9 | MEC & MD removal | 5 | Limited short term risk to community; some risk to excavation workers | 7 | Acceptable to regulatory agencies & County | 9 | Low level of public concern | **59** | **2** |
| 7) Source Removal and Groundwater Monitoring Program - excavation to remove MEC and MD source materials | 10 | Very high level of source removal | 6 | Localized ecological damage to surface vegetation and root zones | 10 | High reliability for MEC protection | 3 | $900,128 | 10 | MEC & MD removal + GW monitoring | 5 | Limited short term risk to community; some risk to excavation workers | 10 | Acceptable to regulatory agencies & County | 10 | Eliminates nearly all public concern issues | **64** | **1** |

Preferred and recommended alternative

Alternatives that do not meet MTCA Threshold Criteria and are carried into the detailed evaluation and scoring process for completeness only.

Notes: (1) All final cleanup action alternatives assume surface MEC clearance will have been completed previously as part of characterization of AAOC-5 and the rest of the CVF.

(2) All cleanup action alternatives that include any intrusive activities include appropriate MEC avoidance construction support.

## Table 3.8 Alternatives Analysis and Scoring - Newly Discovered 37mm Artillery/Stokes Mortar Target Area in the Central Valley Floor

| Alternative Description | MEC Protectiveness | | Environmental Protectiveness | | Permanence | | Cost | | Long-Term Effectiveness | | Short-Term Effectiveness | | Implementability | | Public Concerns | | Total Numerical Score | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | | |
| 1) No Further Action | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 10 | $0 | 0 | No long term risk reduction | 10 | No short term risk to community or MEC technicians | 0 | Not acceptable to regulatory agencies, Clark County, or public | 0 | Anticipate high level of public concern due to remaining risk | **32** | **7** |
| 2) Institutional Controls Only | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 9 | $44,000 | 2 | Receptor awareness but fundamental risk remains | 10 | No short term risk to community or MEC technicians | 2 | Limited acceptability to regulatory agencies, Clark County, or public | 2 | Anticipate high level of public concern due to remaining risk | **37** | **6** |
| 3) Additional Surface MEC Clearance with step-out procedures applied as appropriate | 4 | Significant source reduction - most MEC of this type near surface | 6 | Brush clearance required | 5 | Some reliability - potential for frost heave to remaining bring MEC to surface | 6 | $1,199,000 | 5 | Long term risk is reduced but not eliminated | 7 | No short term risk to community; some short term risk to MEC technicians | 7 | Can be implemented with personnel and equipment already on site | 6 | Anticipate limited public concern due to remaining risk | **46** | **4** |
| 4) Subsurface MEC Clearance to frost depth (14") around targets with step-out procedures applied as appropriate **Standard Target Area Treatment** | 7 | Near total source reduction - nearly all MEC found in frost zone | 6 | Brush clearance required with limited excavation | 6 | High reliability - little potential for frost heave to remaining bring MEC to surface barring intrusive activities | 6 | $1,356,500 | 7 | Long term risk is nearly eliminated | 6 | No short term risk to community; some short term risk to MEC technicians | 8 | Can be implemented with personnel and equipment already on site | 8 | Anticipate little public concern due to remaining risk but some concern due to ecological impacts | **54** | **2** |
| 5) Subsurface MEC Clearance to 14" throughout with step-out procedures applied as appropriate | 10 | Near total source reduction - nearly all MEC found top 14" - some improvement over Alt. 5 due to greater coverage area | 0 | Total brush clearance required | 10 | High reliability - little potential for frost heave to remaining bring MEC to surface barring intrusive activities | 5 | $1,848,000 | 9 | Long term risk is essentially eliminated | 5 | No short term risk to community; some short term risk to MEC technicians | 8 | Can be implemented with personnel and equipment already on site | 10 | Anticipate public acceptance due to complete coverage of subsurface MEC clearance | **57** | **1** |
| 6) Subsurface MEC Clearance to 24" around targets with step-out procedures applied as appropriate **Improved Target Area Treatment** | 8 | Near total source reduction - nearly all MEC found top 14" - little improvement over Alt. 5 | 3 | Brush clearance required with more extensive excavation than Alt. 4 | 7 | High reliability - no potential for frost heave to remaining bring MEC to surface barring intrusive activities | 6 | $1,522,500 | 7 | Long term risk is nearly eliminated | 5 | No short term risk to community; some short term risk to MEC technicians | 7 | Can be implemented with personnel and equipment already on site | 6 | Anticipate little public concern due to remaining risk but increased concern due to ecological impacts | **49** | **3** |
| 7) Subsurface MEC Clearance to 48" around targets with step-out procedures applied as appropriate **Maximum Target Area Treatment** | 8 | Total source reduction - all MEC of this type found top 14" - little improvement over Alt. 6 | 3 | Brush clearance required with more extensive excavation than Alt. 4 | 8 | High reliability - no potential for frost heave to remaining bring MEC to surface barring intrusive activities | 4 | $1,837,500 | 7 | Long term risk is eliminated | 4 | No short term risk to community; some short term risk to MEC technicians | 5 | Requires use of heavy equipment not currently on site | 5 | Anticipate little public concern due to remaining risk but significant concern due to ecological impacts | **44** | **5** |

**Preferred and recommended alternative**

Alternatives that do not meet MTCA Threshold Criteria and are carried into the detailed evaluation and scoring process for completeness only.

# Table 5.2 Alternatives Analysis and Scoring - Northern CITA Area Expansion

| Alternative Description | MEC Protectiveness | | Environmental Protectiveness | | Permanence | | Cost | | Long-Term Effectiveness | | Short-Term Effectiveness | | Implementability | | Public Concerns | | Total Numerical Score | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | | |
| 3) Institutional and Engineering Controls - fence w/o public road or trail access | 0 | No source reduction | 9 | Limited adverse impact to ecological systems due additional fence construction | 5 | Limited reliability - remaining potential for receptor contact with any remaining MEC - some benefit from additional fencing & signage | 7 | $200,000 | 5 | Receptor awareness but fundamental risk remains - somewhat better than Alt. 2 | 8 | No short term risk to community; some risk to MEC technicians & fence builders | 4 | Limited acceptability (somewhat greater than Alt. 2) to regulatory agencies and Clark County | 5 | Anticipate high level of public concern due to remaining risk | **43** | **1** |
| 4) Institutional and Engineering Controls - public access to Lower DNR Road and MEC-cleared buffer zones on both sides of Lower DNR Road with fences and no public access north or south of that corridor | 3 | Significant source reduction in areas most likely to accessed by public | 5 | Some impact to ecology due to brush clearance and fence construction | 6 | Moderate reliability due to MEC removal in buffers along roads plus fences and signs | 4 | $1,042,200 | 6 | Additional MEC clearance coverage, fencing & signs, but some risk remains - significantly better than Alt. 3 | 5 | No short term risk to community; some risk to MEC technicians & fence builders | 5 | Moderate acceptability to regulatory agencies and Clark County | 6 | Anticipate significant level of public concern due to remaining risk | **40** | **2** |
| 5) Anomaly avoidance, brush clearance, and surface MEC clearance north of Lower DNR Road; fence with no public access south of the cleared buffer zone south of Lower DNR Road | 5 | Major source reduction in areas most likely to accessed by public | 2 | Major ecological impact due to extensive brush removal in Wildlife Management Area | 8 | Medium reliability due to MEC removal north of Lower DNR Road and in buffer and transects south of that road plus fences and signs | 2 | $2,175,560 | 7 | Moderate risk remains outside areas of MEC surface clearance | 3 | Significant risk to MEC personnel due to terrain and access issues | 7 | Regulatory agencies and Clark County balancing of risk and ecological issues | 6 | Trade-off in risk reduction versus ecological impact | **40** | **3** |
| 6) Anomaly avoidance, brush clearance, and surface MEC clearance north and south of Lower DNR Road with public access throughout area | 8 | Nearly complete source removal | 1 | Nearly total ecological destruction of 200 A of Wildlife Management Area | 9 | High reliability due to major source removal | 1 | $5,524,560 | 9 | Limited risk remains outside areas of MEC surface clearance | 1 | High risk to MEC personnel due to terrain and access issues | 5 | Regulatory agencies and Clark County balancing of risk and ecological issues | 5 | Trade-off in risk reduction versus ecological impact | **39** | |
| 7) Anomaly avoidance, brush clearance, and subsurface MEC clearance to frost depth (14") north and south of Lower DNR Road with public access throughout area | 10 | Complete source removal | 0 | Total ecological destruction of 200 A of Wildlife Management Area | 10 | Very high reliability due to total source removal | 0 | $8,978,400 | 10 | No remaining risk | 0 | High risk to MEC personnel due to terrain and access issues | 3 | Regulatory agencies and Clark County balancing of risk and ecological issues | 4 | Trade-off in risk reduction versus ecological impact | **37** | **4 5** |

Preferred and recommended alternative

Alternative 1 and 2 did not meet MTCA Threshold Criteria and were not carried into detailed evaluation and scoring process.

Notes:

1) Alternatives 3 and 4 include anomaly avoidance, brush removal and surface MEC clearance of transects north and south of Lower DNR Road to define the northern limit of AAOC-1, subject to worker safety issues related to adverse terrain.

2) Alternative 5 includes anomaly avoidance, brush removal, and surface removal MEC clearance of transect south of Lower DNR Road to futher define issues in this area subject to work safety issues related to adverse terrain.

3) Under Alternatives 3 through 7, the **Standard Target Area Treatment** protocol will be applied to any discrete targets identified in this area.

# Table 6.2 Alternatives Analysis and Scoring - MEC Surface Clearance of Demolition Area 1/Landfill 4

| Alternative Description | MEC Protectiveness | | Environmental Protectiveness | | Permanence | | Cost | | Long-Term Effectiveness | | Short-Term Effectiveness | | Implementability | | Public Concerns | | Total Numerical Score | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | Score | Comments | | |
| 1) No Further Action | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 10 | $0 | 0 | No long term risk reduction | 10 | No short term risk to community or MEC technicians | 0 | Not acceptable to regulatory agencies or Clark County | 0 | Anticipate high level of public concern due to remaining risk | **32** | **7** |
| 2) Institutional Controls Only - No Public Access | 0 | No source reduction | 10 | No adverse impact to ecological systems | 2 | Limited reliability - remaining potential for receptor contact with any remaining MEC | 9 | $52,000 | 2 | Receptor awareness but fundamental risk remains | 10 | No short term risk to community or MEC technicians | 1 | Limited acceptability to regulatory agencies and Clark County | 0 | Anticipate high level of public concern due to remaining risk | **34** | **6** |
| 3) Institutional and Engineering Controls - new fences w/o public road or trail access | 0 | No source reduction | 9 | Modest adverse impact to ecological systems due to fence construction | 3 | Moderate reliability due to fence and signs - some potential for receptor contact with remaining MEC | 8 | $100,000 | 4 | Receptor awareness and physical access restrictions but fundamental risk remains | 10 | No short term risk to community or MEC technicians | 2 | Limited acceptability to regulatory agencies and Clark County | 3 | Anticipate high level of public concern due to remaining risk | **36** | **5** |
| 4) Additional Surface MEC Clearance with step-out procedures applied as appropriate | 7 | Significant source reduction - most MEC & MD are "kickout" from OB/OD ops. & therefore near surface | 7 | Brush clearance required | 7 | High reliability - nearly all MEC & MD near surface -very limited potential for frost heave to bring MEC to surface | 5 | $2,730,000 | 7 | Long term risk is significantly reduced | 6 | No short term risk to community; some short term risk to MEC technicians (adverse terrain & heavy vegetation) | 7 | Can be implemented with personnel and equipment already on site | 7 | Anticipate very limited public concern due to remaining risk | **53** | **1** |
| 5) Subsurface MEC Clearance to frost depth (14") with step-out procedures applied as appropriate | 8 | Very limited increase in source reduction over Alt. 4 - nearly all MEC found in frost zone | 3 | Brush clearance required with limited excavation | 8 | High reliability - little potential for frost heave to remaining bring MEC to surface barring intrusive activities | 4 | $3,822,000 | 7 | Long term risk is nearly eliminated | 5 | No short term risk to community - increased short term risk to MEC techs relative to Alt. 4 due to longer exposure and heavy equipment | 7 | Can be implemented with personnel and equipment already on site | 8 | Anticipate very limited public concern due to remaining risk | **50** | **2** |
| 6) Subsurface MEC Clearance to 24 inches with step-out procedures applied as appropriate | 8 | No significant increase in source reduction over Alt. 5 - nearly all MEC found in frost zone | 0 | Total ecological destruction | 8 | High reliability, but little or no improvement over Alt. 5 | 2 | $4,641,000 | 9 | Long term risk is essentially eliminated | 3 | No short term risk to community - increased short term risk to MEC techs relative to Alt. 5 due to longer exposure and more heavy equipment ops. | 5 | Requires use of additional excavating equipment not currently on site | 10 | Anticipate high degree of acceptance from general public | **45** | **3** |
| 7) Subsurface MEC Clearance to 48 inches with step-out procedures applied as appropriate | 8 | No significant increase in source reduction over Alt. 5 - nearly all MEC found in frost zone | 0 | Total ecological destruction | 8 | High reliability, but little or no improvement over Alt. 5 | 0 | $5,187,000 | 9 | Long term risk is eliminated | 2 | No short term risk to community - increased short term risk to MEC techs relative to Alt. 6 due to longer exposure and more heavy equipment ops. | 5 | Requires use of additional excavating equipment not currently on site | 10 | Anticipate high degree of acceptance from general public | **42** | **4** |

Preferred and recommended alternative

Alternatives that do not meet MTCA Threshold Criteria and are carried into the detailed evaluation and scoring process for completeness only.

# APPENDIX B

# INSTITUTIONAL CONTROL CONSIDERATIONS

# APPENDIX B
# INSTITUTIONAL CONTROL ALTERNATIVES

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# APPENDIX B
# INSTITUTIONAL CONTROL ALTERNATIVES

## B.1 INTRODUCTION

B.1.1 Institutional Controls (ICs) are measures undertaken to limit public exposure to hazardous materials. These preventive measures may be voluntary in nature or may be legally enforceable requirements. The ICs may consist of educational awareness programs, legal restrictions on land use, and physical access controls. The ICs recommended in this report are an important component of the overall risk management system for Camp Bonneville upon property transfer to Clark County. Clark County will have authority and responsibility for implementing and monitoring the ICs. The ICs proposed for application at Camp Bonneville were developed in response to Washington State Model Toxics Control Act requirements, listed in WAC 173-340-440. These ICs also address the concerns expressed in the public participation meetings and Camp Bonneville Reuse Planning process. These priority concerns were listed as follows:

- Public Safety
- Liability
- Property Values
- Land Use

B.1.2 The Camp Bonneville IC Plan addresses site-wide concerns as well as site-specific camp reuse plans. The proposed controls correspond to the site-wide and site-specific elements of the Camp Bonneville Reuse Plan (1998). The Reuse Plan includes an overall recreation focus with site-specific eco-preservation programs, active and passive recreation, education uses, stakeholder use of the park, maintenance and operations, and timber harvestings functions to generate income for economic development and self sufficiency of the park. This recommended program of institutional controls is designed to complement both specific engineering controls and ordnance removal actions. ICs are a key element of the overall risk management program to protect future visitors, contractors and employees at Camp Bonneville.

B.1.3 The importance of effective implementation of ICs is magnified by the population growth in Clark County. In the 2000 Census the population was 345,238, and it was ranked as the fastest growing county in the State of Washington. The County population in 2002, according to the Washington State Office of Financial Management, was 363,400. Clark County is expected to be the primary source of visitors to the future Camp Bonneville regional park. The adjacent Portland, Oregon area has a "metro" development plan that is guided by Urban Growth Boundaries. These Urban Growth

Boundaries inhibit rezoning and land development beyond established boundaries. Clark County is excluded from the Urban Growth Boundary since it is located within the jurisdiction of the State of Washington. As such it is subject to less restrictive growth management systems. Clark County is therefore an outlet for regional population growth and development in the metro Portland area. The ICs presented here anticipate that the proposed regional park will be intensively used since Clark County is the core of suburban growth and because the future regional park is the largest new recreation facility in the metro Portland area.

## B.2 INSTITUTIONAL CONTROL REVIEW

B.2.1 Parsons has reviewed the Camp Bonneville Reuse Plan (1998) as it relates to the use of ICs as a means of risk management in coordination with Clark County and the City of Vancouver. In the initial process of review of the Camp Bonneville Reuse Plan for the proposed regional park, site-specific areas of concern were identified: 1) two proposed trails in locations that have not been investigated for the potential presence of ordnance; 2) a proposed camping site on a grenade testing range. The ICs will provide comprehensive assurances that safety planning considerations are incorporated into an effective adaptive reuse of Camp Bonneville.

B.2.2 In addition to meeting the legal and engineering requirements specified in the proposed ordnance removal actions, ICs are recommended to further reduce risk of public interaction with residual ordnance items that may remain at Camp Bonneville. The RI/FS report recommendations incorporate both residual ordnance removal actions and ICs together to facilitate the safe and comprehensive reuse of Camp Bonneville. ICs are proposed to be both site-wide and site-specific in nature. The recommendation of ICs included both implementation of specific IC measures and a collateral monitoring system designed to evaluate and regularly update the effectiveness of the ICs. The RI/FA – RAU3 also recommends responsibilities for implementation of ICs to the 10 specific site types and locations, as well as site-wide ICs for protection of human health and the environment.

## B.3 SITE-WIDE ICs

### B.3.1 Covenants

B.3.1.1 In large measure, the ICs proposed for Clark County prescribe broad legal land use of "restrictive covenants" on the Camp Bonneville acreage. The purpose of these restrictive covenants are to safeguard future park users, park operations, contractors for new construction, maintenance staff, utilities or infrastructure construction staff, timbering contractors, and for accurate monitoring purposes.

B.3.3.2 As noted earlier, Camp Bonneville is located within rapidly growing Clark County in the Portland Metropolitan Region. The County has very strong comprehensive planning regulations. The current land use designation is an institutional designation illustrated as Tier 1 Forest on the land use map. Future updates of the County plan will

reflect the site as recreation and park land uses. Since the Camp will remain in government ownership internal, land uses will remain institutional. Of more concern is the surrounding land use. Any increase of land uses surrounding the future park to higher development intensities will result in increased access to the area. It is recommended that the restrictive covenants on the site be amended to the County comprehensive plan and to the regional plan in order to discourage an increase in land use density near the park. The surrounding area is currently used for agriculture and large lot residentially zoned property. This is consistent with the mostly forested nature of Camp Bonneville.

### B.3.2 Financial Assurances

The site-wide ICs includes a financial mechanism for funding of appropriate UXO-trained staff (UXO Tech 1) for an established period of time to ensure the transition to long-term effectiveness of engineered and ICs. The UXO-trained staff will provide maintenance for the park, continuity on maintenance of the ICs, and monitor effectiveness of the controls to the intent of the risk management program. Financial assurances will address changing conditions in the park, particularly in regards to increased visitation for a recommended 5-year period.

### B.3.3 Education Outreach

Camp Bonneville has an 85 year history that encompasses American Military Heritage from WW I, to the Cold War and through Desert Storm. The education outreach program recommends audio, visual, written, and classroom outreach programs, both regionally and on site. The site-wide history lesson for visitors at Camp Bonneville should include tours, preservation lessons, environmental education, courses on 1950s Cold War threats illustrated by the Soviet Village, training bunkers, and training strategies. To facilitate an understanding of the history and the risk program, the ICs recommend site-wide retention of "signage" naming or designating roads, areas, districts and training areas for their original purposes. The signage should be amended with current recreational purposes and locations. The education process will include an expanded website; new video prepared for public television, cable television and for visitors; a school outreach program; the interpretive and retreat educational centers; a historical museum and exhibit on the Camp Bonneville site; and written materials to correspond to the identification of ordnance, safety and heritage protocols.

### B.3.4 Regional and Clark County Comprehensive Plan

Covenants adopted by Clark County that restrict development on the former Camp Bonneville to a site plan for preservation, economic, recreational and educational uses will be amended to the Regional and Clark County Comprehensive Plans. This institutional control will assure that developers and property owners representing surrounding land uses, re-zonings and any new development in the fast growing area will be made aware officially of the history, safety plans, and associated issues related to development near Camp Bonneville.

## B.4 SITE-SPECIFIC ICs

### B.4.1 Access Control

B.4.1 The Camp Bonneville Reuse Plan includes key parcels of land that are designated for complete access restrictions. The recommendation for these restricted sites is to landscape gateways, signage, trails and roadway entrances with fencing and native prickly shrubbery that prevents easy access. All new construction site plans at Camp Bonneville will call for defensible space landscape measures on restricted areas. OE Source site types will be individually evaluated so that appropriate site-specific ICs can be customized for local applicability.

B.4.2 The proposed ICs at Camp Bonneville will utilize comprehensive access control and behavior modification through public education. However, it is also understood that public education may incite a reverse reaction from a small segment of the population that may view dangerous actions as an adventure. This possibility is accepted and it is understood that there will always be some portion of the populace who refuse to heed warnings or follow directions. Access controls are recommended for the Central Impact Area since this was the target site for most all of the ordnance activities. The strategy is to remove the human element from the chain of events that could lead to an accident. The controls recommended below summarize the proposed techniques for Camp Bonneville.

### B.4.2 Signage and Fencing

B.4.2.1 Present a comprehensive sign posting system that entry is prohibited, that activities within the property are restricted in some manner, or that although the area is accessible, there is a history of a certain type of ordnance. Present this signage with dual information: historic and current designations, i.e., Artillery Range Road amended with "Jogging Trail 8 and College Center," or Mortar Range Road amended with "Lacamas Creek Fishing." The use of this signage system is based upon the safety, and institutional education. The link between *not trespassing/care in usage of Camp Bonneville* and *explosive safety* should be reinforced.

B.4.2.2 Fencing is a desired element of the ICs; and a comprehensive landscape plan with a fencing system is recommended. A fencing system is recommended for Camp Bonneville, both as a landscape feature for beneficial economic purposes and also as an enforcement tool to deny access to the public to areas designated as off limit. Fencing and gates will reinforce the link between appropriate access points, not trespassing and explosive safety. Because of the urbanization of Clark County there is greater importance to enforce trespass strictures on the large site and more effectiveness if fencing is present.

B.4.2.3 Signs and fencing will be extremely effective ICs on this site. They are valid for use in reducing the risk of exposure to potential accidents involving ordnance through personal restraint and identification of risks. The posting of signs along the perimeter and within the interior of the property provides "on the spot" warnings of the potential hazards of physical contact with residual ordnance items.

B.4.2.4 Fencing and signage are presently used at the Entrance to Camp Bonneville and on the property lines adjacent to single family developments that are 5 miles from the Vancouver City Limits at the southwest corner of the site. The wildlife management area does not have access and entry restrictions and may be accessed randomly by hunters. Signs and fencing should be concentrated near private property owners mostly in the west and southwest areas.

B.4.2.5 The installation of fencing and signage to limit access is recommended. The implementation of the Reuse Plan will include development of a landscape plan. Prior to opening the regional park for public access, a fencing and signage system should be developed and implemented. A comprehensive fencing and signage plan is recommended and can be developed at nominal cost with advice of Clark County and City of Vancouver Department of Parks and Recreation. The fencing and signage should be consistent with City and/or County Park and Recreation design guidelines.

## B.5 EDUCATION & AWARENESS PROGRAMS

B.5.1 The Clark County Government will need to modify the behavior of the park visitors and general population through public education by utilizing County stakeholder agencies that have interest in using the site. In addition, the County should amend its comprehensive plan, land use and zoning maps to reflect the restrictive covenants on Camp Bonneville property.

B.5.2 Raising public education for the potential hazards that exist within the former Camp Bonneville should be facilitated with ICs as listed below.

- Notice – Notifications during timbering, utility and infrastructure construction, and permitting;
- General Printed Media - Including brochures and news articles;
- Visual and Audio Media - Including videotapes and announcements;
- Education Classes - Including ordnance identification, safety presentations to various audiences, and preparation of packages for administrators and public officials;
- Exhibits/displays;
- Internet Website; and
- Ad Hoc Committee.

B.5.3 Potential hazards must be considered in the design and use of any site improvements or activities. Notices should be placed on Camp Bonneville property to address visitation, maintenance, operations and construction. Clark County notifications should be sent through the permitting of utility connections, infrastructure construction, surveying, timbering, and related physical land disturbance tasks. Standard application forms and brochures that explain the procedures involved in the construction notification

and building permit approval processes should be updated to reflect training and circumstances dealing with ordnance at Camp Bonneville.

B.5.4 The cost for the initial brochures on Camp Bonneville ordnance identification, Maps and Reuse Plan information documents would cost approximately $5,000. A master copy can be created electronically for reproduction purposes and revisions as needed, and included as a part of the existing City of Vancouver and Clark County building permit information packets.

## B.6 LAND USE CONTROLS

B.6.1 The inclusion of restrictive covenants and site plan requirements for Camp Bonneville in the update of the County and Regional Comprehensive Plan will discourage nearby development intensity on a voluntary basis. Restrictive covenants on the land uses of Camp Bonneville will be detailed in an official site plan and adopted by Clark County for enforcement and effectiveness of monitoring purpose. This approach will be effective because it focuses on traditional market and real estate pricing.

B.6.2 The standard permit application process of the City of Vancouver and Clark County should be amended to include information about the possibility of ordnance hazards, and specific Camp Bonneville site plan information and restrictive covenants. The cost of updating geographic information systems to include the planning and to create the capability of identifying these parcels could be provided by Clark County. The cost to document all properties and to input this information into the County system, and train County employees to call up and provide the information is estimated to be between approximately $2,500 and $3,000.

## B.7 PRINTED MEDIA AWARENESS PROGRAM

B.7.1 Ordnance education, acknowledgement of the risk involved, and reinforcement of the message are key in minimizing the hazards of ordnance. The avenue recommended to facilitate this education and understanding is through printed media in the form of brochures, fact sheets, newspaper articles, and other information packages. The opportunity to disseminate information through the printed media is readily available and can be easily facilitated because of the numerous media outlets in Metropolitan Portland. Through the use of printed media, property owners and residents from within the County and the region can be informed about the existence of ordnance hazards within the former Camp Bonneville.

B.7.2 Updated brochures and fact sheets describing the important history of the Camp, its new future as a large regional park, and explanation of ordnance hazards can be produced. Text and graphics can be used to describe how to identify ordnance, provide warnings to avoid physical contact in any way, provide instructions for dealing with ordnance if encountered, and how to report ordnance sightings. These printed materials could be produced by Clark County and should also include local sponsorship and ownership. They can be distributed as follows:

- Enclosed as flyer in local newspapers announcing the opening of the park
- Provided through schools to all students in the region
- Provided to stakeholders and community groups
- Provided as part of the City and County Park and Recreation Program

B.7.3 Newspaper articles and interviews provide another means of informing the public about the changeover from army use to County parkland. The articles can discuss the site as an environmental sanctuary as well as the potential presence of ordnance. News articles can continue to be supplied as press releases from Clark County. Interviews with Clark Count representatives, local residents, and other institutions can be included. Continued regular coverage should result in more tourism, visitor use and better information and understanding of the actual existence of and hazards of ordnance. Interviews with people who actually were involved in training at the Camp would add interest to these articles.

B.7.4 County Commissioners and City of Vancouver elected officials should be provided with more detailed current information on the risk management plan, the RI/FS Report the ICs recommended and the extent of ordnance hazards. An information package, including maps defining primary areas of concern, would be valuable for the public officials. It can also include a brief history of the site, areas of greatest concern, types and potential danger of the ordnance discovered, and other relevant organizations' contact information.

B.7.5 Regular updates to local elected officials are effective means of public outreach. Local elected officials are in regular contact with constituents and the media and are the logical broker of information regarding the new park and the Reuse Plan. The Army could provide a fact sheet about BRAC that can be customized for Camp Bonneville. Press releases should be prepared by Clark County and presented to the local newspapers. When a new fact sheet is prepared to describe the findings and recommendations of the BRAC and the proposed plans for creation of the Regional Park as well as removal tasks and ICs.

B.7.6 The estimated cost to produce an original professional quality, multi-color one page fact sheet on an 8 ½ x 11 format suitable as a mailer or handout is approximately $5,000.00. The fact sheet would be prepared to include primarily graphics with minimal text description to provide information about the presence of ordnance, plans for removal and ICs; plus information on the identification, handling, and reporting of ordnance. The cost to print and distribute the fact sheet will depend on the number of copies to be distributed. Assuming that 7,500 fact sheets are to be printed and mailed (at a cost of $2.00 each), and 5,000 fact sheets are to be printed and distributed by local institutions ($1.50 each). The total cost for design and preparation of the brochure (printing 12,500 copies and mailing 7,500 copies) will be $27,500.00. Revision of the fact sheet is anticipated to be done only once. Fact sheets or brochures should be utilized together with abstracts of additional information on ordnance cleanup, mapping, and proposed removal

and ICs. The production cost for these information packages is already included in the production cost of the fact sheets above.

## B.8 VISUAL AND AUDIO MEDIA AWARENESS PROGRAM

B.8.1 Powerpoint presentations, audio and visual media (such as videos, segments on local television stations, and radio news and talk shows) should be prepared on an on going basis to inform and educate the public. Professional quality videos that contain similar information as described in the printed materials can be produced at a cost estimate of $1,000 per minute. The videos can be produced privately by the City, by the County, or through cable television franchise agreements and could include interviews with local citizens, sponsorship, and ownership. Videotapes can be produced for use as part of the classroom education as discussed in a later section. Copies should also be provided to local libraries.

B.8.2 Public television station should provide excellent local access. Public Service Announcements should be requested on how to identify and deal with ordnance. Local contact information on ordnance handling and emergencies can be provided. It is suggested that the television programs include interviews with USACE personnel, local residents, and others who have knowledge of the history of the former Camp.

B.8.3 Local radio stations should be invited to participate in events, such as the grand opening of the regional park, and to provide public service announcements for school programs and programs of stakeholder groups that fit the demographics of the individual stations. Talk shows or news reports are both possible formats for the radio programs.

B.8.4 The provision of information using visual and radio media is an effective method of modifying behavior and educating the public. This is currently a technique used by the Army. Periodic updating of the videotapes is recommended to ensure the accuracy and timeliness of the information presented. Cable and radio stations would readily agree to assist in distribution of the information and provide free air time for public service announcements.

B.8.5 The estimated cost to produce a 5- to 7-minute videotape for distribution to the community is approximately $5,000 to $8,000. Assuming 100 copies of videotapes at $5 each (including the cost of the videotape, dubbing, and postage) the cost would be approximately $500. Add to the cost a 30 second public service announcements at $1000 and the estimated total cost to implement a media program would be $6,500 to $9,500.

## B.9 CLASSROOM EDUCATION PROGRAMS

B.9.1 The Camp Bonneville Reuse Plan includes the provision for a college environmental education center. This center should be the location for classroom education programs. In addition, the video and brochures should be the core of a public schools outreach program targeted to Clark County Public Schools. The public needs to understand the nature of ordnance hazards and be able to properly identify and avoid

ordnance if encountered. A properly educated public is more likely to make correct decisions related to the safe and proper precautions of found ordnance. Classroom education can be offered in two major categories:

- Ordnance Identification; and
- Ordnance Safety.

B.9.2 Because access to different parts of the site cannot be fully controlled, it is necessary to have public training in ordnance identification. The basic message should be to not touch anything that looks like ordnance, shrapnel, or any other unidentified material. Ordnance identification classes may be conducted through assistance from the County Public Schools Systems, all private schools, and universities. The City of Vancouver – Clark County Parks and Recreation Department should be the responsible agency.

B.9.3 The affected public should be educated about the potential dangers associated with ordnance and should understand the safety procedures to follow if they encounter any suspected ordnance item. Safety presentations should be made as a part of the ordnance identification classes. Providing education through the classroom is critical to modify children's behavior. Ordnance identification classes should be conducted on a regular basis and ordnance safety should be incorporated as a regular part of the classes held at Camp Bonneville. All visitors to the regional park should be given a brochure illustrating ordnance hazards.

B.9.4 Providing classroom education should be easily implementable. With team work between the City of Vancouver – Clark County Parks and Recreation and with the US Army providing the funding and the educational information package, local institutions would agree to participate and support the program. The USACE can provide experts to conduct ordnance identification and safety lectures. The ordnance expert presentations to local schools would be co-sponsored by the City, County or the school systems. The cost for travel and presentation materials (other than the videos) for an employee to make presentations and provide local training to local schools for one week is $500.00.

## B.10 EXHIBITS/DISPLAYS

Placing historic Camp Bonneville exhibits/displays in museums or other areas where the public will be exposed to educational information is another method of generating and preserving general awareness and educating the public on the possible risk associated with the ordnance. An exhibit should be established at Camp Bonneville as part of the college center. The cost of producing, maintaining, and updating an exhibit will vary depending upon the scope. A replica of Camp Bonneville is recommended, complete with archival records and photos of the history of the site over the past 85 years. The Army could provide decommissioned examples of the weapons and ordnance used at Camp Bonneville.

## B.11 INTERNET WEBSITE PROGRAM

B.11.1 The expansion of the City of Vancouver – Clarke County web pages on the Internet should be used in educating the public about Camp Bonneville and the presence of ordnance on the site. The web page could be designed to include the history of the camp, a background on ordnance finds and cleanup, and ordnance identification and procedures for dealing with it. The web pages would be very effective in terms of presenting substantial and updated information about ordnance hazards on the site. Creation and maintenance of the website can be sponsored by Clark County. Information to be included in the website will come from the USACE studies and other sources.

B.11.2 Existing website masters or County staff may be able to design, create and maintain a Camp Bonneville website. However, the cost to design a new website varies from $50.00 to $150 per hour. Assuming that the design would require 100 hours at $100.00 per hour (including review, revisions, and placing the site on the web), the total cost could be $10,000.00. The website enhancements can be prepared internally or externally. Any site will provide links to other important government agencies relevant to ordnance handling and identification.

## B.12 AD HOC COMMITTEE AWARENESS PROGRAM

B.12.1 A new Clark County/City of Vancouver Parks and Recreation Committee should be enabled with a revised scope of service for community awareness. The original Committee was comprised of community leaders and a representative from the USACE and served as a mechanism for implementing ideas for the Reuse Plan. An ad hoc committee should serve as the primary proponent for public education of the ordnance issues. It will work to ensure the successful implementation of each of the recommended institutional control education programs. The committee will be responsible for analyzing the effectiveness of the different programs on an annual basis and recommending changes as necessary to bring the message to the largest sector of the public.

B.12.2 An ad hoc committee would be very effective in providing a proponent for public education. This group would provide a direct and flexible administration over information dissemination programs. With the committee's annual evaluation, more effective alternatives could be enhanced and less effective ones could be discontinued. This type of committee is most effective for ensuring the implementation of institutional control programs.

B.12.3 The City of Vancouver – Clark County Parks and Recreation will oversee the formation of the ad hoc committee. Community leaders, veterans, and agency representatives will be contacted and invited to join. Joining and serving within the ad hoc committee will be by appointment and voluntary except for the Tech 1 recommended for staff to Camp Bonneville. This person will act as staff to the ad hoc committee. The members will not be paid for their time. To implement ad hoc committees as a mechanism for information dissemination will cost approximately $2,000 for the first year and $2,000 for each subsequent year. The costs would include retaining services of a

stenographer to record meeting minutes, overhead administrative costs, and other miscellaneous expenses. To create an ad hoc committee, the City of Vancouver – Clark County Parks and Recreation, Clark County Commission and USACE must jointly meet and select community leaders to join the committee.

## B.13 CONCLUSIONS

The goal of the Institutional Controls Program is to assure the maximum safety to citizens. It is technically and financially impossible to provide 100% clean up of unexploded ordnance at Camp Bonneville due to the 85 year history of ordnance use. However, ICs will demonstrably reduce risks as a protective remedy. The City of Vancouver Clark County Parks and Recreation Department will need to establish an ICs monitoring or surveying system for user suggestions, for a quick understanding of changing conditions, to identify problems and to identify shifts in the age of visitors (their capacity to relate or understand the written and audio visual information). An annual report card on ICs should be issued to the County Commission for policy and procedure revisions in all aspects of the program (education, legal, physical restrictions). Ongoing monitoring, quantification of input, and updated policy and park planning will enable Clark County to protect its citizens while enjoying access to one of the largest new urban parks in America.

# Camp Bonneville
# Cultural and Historical Resources Protection Plan

**Prepared by**
Lisa Folb, M.A., R.P.A.

**Prepared for**
Bonneville Conservation, Restoration, and Renewal Team

**Michael Baker Jr., Inc.**
November 2006;
Updated May 2009

**Michael Baker Jr., Inc.**
***A UNIT OF MICHAEL BAKER CORPORATION***
2929 N Central Ave, SUITE 800
Phoenix, Arizona 85012

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# I. INTRODUCTION

The United States War Department and its successor agency, the Department of Defense, has owned and operated the Camp Bonneville Military Reservation (Camp Bonneville) since 1909. Camp Bonneville was placed on the Base Realignment and Closure (BRAC) list and closed in 1995.

Camp Bonneville consists of three parcels, the "Early Transfer Parcel," which was 3,020 acres that was owned by the Army, and the "DNR Parcels." The DNR Parcels are two separate parcels, totaling approximately 820 acres, which are owned by the Washington Department of Natural Resources (WDNR) and were leased to the Army by WDNR. These two parcels are adjacent to the Early Transfer Parcel and respectively northeast and south of the Early Transfer Parcel.

In 1998, the United States Army (Army), the Washington State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation signed a Programmatic Agreement (PA; Appendix A) for the "Closure and Disposal of Camp Bonneville, Washington." This PA satisfies the Army's responsibility to take into account the effects of the undertaking on historic properties in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended. The PA includes two attachments (D and E), stipulating that the Army identify and evaluate significant archaeological sites, objects, buildings, structures, landscapes and other cultural resources on lands at Camp Bonneville, Washington.

On October 4, 2006, the Army transferred the Early Transfer Parcel to Clark County, which then conveyed ownership to a non-profit entity, the Bonneville Conservation, Restoration, and Renewal Team LLC (BCRRT), for the purpose of meeting its cleanup obligations on Camp Bonneville under the Prospective Purchaser Consent Decree (Decree). During its ownership of the land, BCRRT intends to take actions to ensure the conservation of the natural resources on the property. The DNR Parcels continue to be owned by WDNR and leased to the Clark County.

To ensure that private ownership does not adversely affect the cultural resources on the property, the Decree, Paragraph 112 includes a requirement for a Cultural and Historical Resources Protection Plan. This Protection Plan is designed to fulfill the requirements of the Decree. The Decree requires that the BCRRT include the Protection Plan as part of any remedial investigation work plan, emergency action work plan, interim action work plan, cleanup action plan, or long-term operation and maintenance plan. The Protection Plan includes plans for identifying cultural and historical resources and for protecting identified cultural and historical resources. The Protection Plan will also comply with Federal and State regulations that address consideration and treatment of cultural resources.

Additionally, the BCRRT will include a Cultural and Historical Resources Protection Report as part of any emergency action report, interim action report, cleanup action report, or Unexploded Ordnance findings report. This report will include a description of each cultural resource found during the implementation of the plan. This description will include identification of the cultural resource and a description of the disposition of the cultural resource.

This Protection Plan also fulfills the requirements stipulated in the Preservation Covenant for Conveyance of Property that Includes Archeological Sites, in the Environmental Covenants,

Conditions, and Restrictions section of the Draft Finding of Suitability for Early Transfer (FOSET).

In their capacity as interim land owners, the BCRRT will act as agents of Clark County to ensure that the stipulations of the Programmatic Agreement are met. This Protection Plan is unique in that its purpose is to address the treatment of cultural resources that are in private ownership. Since the landowners intend to hold the property for the purposes of conservation, no actions are planned that would directly impact the cultural resources. The intent of the plan, therefore, is to focus on processes to ensure that activities associated with conservation do not impact the cultural resources.

## II. GOALS AND OBJECTIVES

This Protection Plan has several goals and objectives as outlined below:

- Comply with the requirements of the Decree and the Draft FOSET.
- Protect and preserve the cultural resources within the Camp Bonneville project area.
- Implement cultural resource preservation as a regular component of Camp Bonneville planning.
- Identify procedures to follow in the event that conservation actions have the potential to adversely affect cultural resources.
- Ensure that the identification of previously unidentified cultural resources at Camp Bonneville is comprehensive and consistent with state and federal regulations.

## III. REGULATIONS

This Protection Plan is designed to ensure compliance with the following State and Federal regulations and guidelines.

- Indian Graves and Records (RCW 27.44)
- Archaeological Sites and Resources (RCW 27.53)
- Human Remains (RCW 68.50)
- Abandoned and Historic Cemeteries and Historic Graves (RCW 68.60)
- Department of Archaeology and Historic Preservation's *State Standards for Cultural Resource Reporting* (July 2006)
- Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-37).
- National Historic Preservation Act (NHPA; 16 USC 470 et seq.) and Section 106 (36 CFR 800).
- Native American Graves Protection and Repatriation Act (25 USC 3001 et seq.).

## IV. PROJECT AREA

This section describes the location of the project area and the local environment.

### 1. Location

Camp Bonneville Military Reservation is approximately 10 miles northeast of Vancouver, Clark County, Washington (Figure 1). It is in the westernmost foothills of the Northern Cascade Mountain Range section of the Cascade Sierra Mountains and lies along both banks of Lacamas Creek, a tributary of the Columbia River. It consists of approximately 3,840 acres.

### 2. Environment

Camp Bonneville is at the base of the westernmost foothills of the Cascade Mountain Range. It is within the southernmost section of the Puget Trough Physiographic Province and the Northern Cascade Mountain section of the Cascade Sierra Mountains Physiographic Province. The western section is relatively flat, with some rolling hills, and contains the Lacamas Creek valley, while the eastern section contains the foothills. The elevation at Camp Bonneville ranges from approximately 1452 feet above mean sea level (amsl) at the summit of Little Baldy, to approximately 250 feet amsl in the southwestern corner of the camp.

Camp Bonneville is between the Cascade Mountains to the east and the Coast Range to the west. These two mountain ranges influence the local climate, which is otherwise a mild marine climate typical of the region. The Coast Range separates the area from feeling the full effect of winter storms from the Pacific Ocean, and the Cascade Mountains separates the area from the strong temperature contrasts between summer and winter that occur in eastern Washington. The summers in this area are warm and dry and the winters are mild and wet, with an average of approximately 6.1 inches of rain per month during the winter months.

The western section of Camp Bonneville consists of prairie habitat that extends into the foothills of the Cascade Mountains. The reminder of Camp Bonneville lies within the “westside western hemlock” vegetation zone, which occurs in forested upland areas (Sadler 2003).

## V. KNOWN CULTURAL RESOURCES

Numerous archaeological surveys have been conducted at Camp Bonneville since the late 1970s. More recently, in anticipation of the disposal of Camp Bonneville, the Army conducted a cultural resources assessment and survey in 1999. This survey was conducted on 741 acres of high probability areas that had not previously inventoried. The areas included in this survey were the Lacamas Creek valley, Munsell Hill and the Little Baldy (Bald Mountain)/Buck Creek vicinity in the eastern part of the base. The sites recorded at Camp Bonneville include two historic sites (45-CL-528 and 45-CL-529), one site with both prehistoric and historic components (45-CL-318), and 16 isolated finds. None of these sites were found to be eligible for the National Register of Historic Places (Draft FOSET 2005; Sadler 2003).

The Army completed a “Cultural Resource Survey of Selected Areas, Camp Bonneville, Clark County, Washington” in 2003 (Sadler 2003). This study summarized all previous cultural resource surveys on Camp Bonneville and conducted additional field surveys. The additional field surveys were initially targeted at 741 acres considered to be high probability areas for the presence of cultural resources as determined by consultation and specified by agreement. Three small areas totaling 7.5 acres were added to the study area when background research suggested cultural resources might be present in these areas. A total of 392 acres was subjected to

systematic pedestrian survey or shovel-testing. The remaining 356.5 acres were not physically surveyed because field inspection revealed environmental conditions that would likely preclude the existence of significant archaeological resources (extremely steep slopes and wetland areas; 324.5 acres), or because safety factors precluded survey (potential unexploded ordnance in the M203 HE Grenade Ranges; 32 acres).

Two historic-period sites (45-CL-528 and 45-CL-529); one site with both prehistoric and historic components (45-CL-318); and 16 isolated fins have been recorded on the Property (see Sadler 2003: Appendix B). The SHPO concurred with the Army's determination that none of the sites or isolated finds is eligible for the National Register of Historic Places in correspondence dated September 13, 2002 and June 17, 2003.

The Cultural Resource Survey (Sadler 2003) concluded that additional prehistoric archaeological sites may remain undiscovered even in previously surveyed areas, as well as in buried alluvial contexts in the Lacamas Creek valley, or in the M203 HE Grenade Ranges that were not available for survey due to the possibility of unexploded ordnance.

The Cultural Resource Survey (Sadler 2003) did not examine areas outside the Camp Bonneville boundary. A review of archaeological site records housed at the Washington Department of Archaeology and Historic Preservation indicates that at least one large prehistoric site with a diverse artifact assemblage is within one mile of the Camp Bonneville boundary. The existence of such a site in a similar upland environment and in close proximity to Camp Bonneville suggests an increased likelihood that significant cultural resources may remain undiscovered within the Camp Bonneville boundary.

In Cowlitz Indian Tribe Resolution No. 05-29, issued to the Office of the Secretary of the Army, the Cowlitz Tribal Council declared the presence of a series of historic and prehistoric Indian villages, burial grounds, and trails on or near Camp Bonneville, and declared site number 45-CL-318 and surrounding property as a sacred site; and further resolved that actions on the said sacred site are not endorsed to take place without government-to-government consultation with the Cowlitz Indian Tribe.

In 1997, the National Parks Service-Columbia Cascades Support Office (NPS-CCSO) entered into an agreement with the Department of the Army, Headquarters I Corps, and Fort Lewis for a National Register of Historic Places evaluation of buildings and landscapes at Camp Bonneville. The NPS-CCSO completed the evaluation and documentation in 1999. Based on this information, the Army concluded that the Camp Bonneville and Camp Killpack cantonment areas at Camp Bonneville are not eligible for listing in the National Register of Historic Places. The SHPO concurred with the Army's determination that Camp Bonneville and Camp Killpack are not eligible for listing in the National Register of Historic Places in correspondence dated April 14, 1999.

In the event that previously unidentified cultural resources are found to be present at Camp Bonneville, they will be recorded and treated in accordance with this Protection Plan.

# VI. IMPLEMENTATION PLAN

The following section outlines the procedure for protecting cultural resources at Camp Bonneville. These procedures are defined in the Preservation Covenant for Conveyance of Property that May Include Archaeological Sites (PA Attachment D) and Archaeological Monitoring and Inadvertent Discovery Plan for Remedial Actions Associated with the Removal of Munitions and Explosives of Concern (MEC) at Camp Bonneville, Washington (PA Attachment E). The protection procedures included in the Draft FOSET comply with those found in the Preservation plan. The process of compliance with PA Attachment D is show in the flow chart in Figure 2 and the Attachment E process is shown in Figure 3.

## 1. Definitions

For this Protection Plan, the following definitions are used:

**Archaeological Site:**

"Archaeological site means a geographic locality in Washington, including but not limited to, submerged and submersible lands and the bed of the sea within the state's jurisdiction, that contains archaeological objects" (RCW 72.53.030).

**Archaeological Object:**

"Archaeological object means an object that comprises the physical evidence of an indigenous and subsequent culture including material remains of past human life including monuments, symbols, tools, facilities, and technological by-products" (RCW 27.53.030).

**On-Site Environmental Compliance Officer (ECO):**

BCRRT will ensure that an On-Site Environmental Compliance Officer is designated. The ECO is responsible to be on-site during all remediation activities. The ECO is responsible for communicating procedures for inadvertent discoveries and the treatment of human remains to all cleanup personnel, and implementing the notification procedures and site protection measures described herein in the event of an inadvertent discovery.

**Remediation Team:**

The Remediation Team consists of all those workers engaged in the implementation of the MEC cleanup alternatives described herein.

**Professional Archaeologist:**

Professional archaeologist means "a person who:

(a) Has designed and executed an archaeological study as evidenced by a thesis or dissertation and been awarded an advanced degree such as an M.A., M.S., or Ph.D. in archaeology, anthropology, history or other germane discipline with a specialization in archaeology from an accredited institution of higher education; and

(b) Has a minimum of one year of field experience with at least twenty-four weeks of field work under the supervision of a professional archaeologist, including no less than twelve weeks of survey or reconnaissance work and at least eight weeks of supervised laboratory experience. Twenty weeks of field work in a supervisory capacity must be documentable with a report on the field work produced by the individual" (WAC 25-48-020(4).

**Working day vs Calendar day:**
Working days are Monday through Friday, Calendar days are all the days of the year.

**Low potential impacts:**
No ground disturbance, normal maintenance and repair of existing structures and facilities, lands that have been substantially disturbed to a depth of more than eight (8) inches, and areas that have been adequately surveyed in the past with no discovery of resources.

**Moderate potential impacts:**
Slight ground disturbance not otherwise characterized as having low or high impact potential.

**High potential impacts:**
Disturbance of more than twelve (12) inches below the ground surface and more than ten thousand (10,000) square feet of area.

**Consultation:**
Arrive at mutually-agreeable and appropriate measures that BCRRT will employ to mitigate any adverse effects associated with the proposed undertaking.

## 2. Preservation Covenant for Conveyance of Property that May Include Archaeological Sites

The Preservation Covenant protects archaeological sites that may be encountered during activities that are not associated with the removal munitions and explosives of concern (MEC). In compliance with the Preservation Covenant of the PA, the following procedures will be adhered to in order to maintain and preserve site 45-CL-318 and other as yet undiscovered archaeological sites.

a. BCRRT shall notify the SHPO and the Cowlitz Indian Tribe in writing prior to undertaking any disturbance of the ground surface or any other action within 300 feet of the center of site 45-CL-318 that would affect its physical integrity. Such notice shall describe in reasonable detail the proposed undertaking and its expected effect on the physical integrity of 45-CL-318.
b. For ground-disturbing activities other than remediation of munitions and explosives of concern (MEC) (MEC remediation-related impacts are addressed later), BCRRT shall prepare and submit to the SHPO and the Cowlitz Indian Tribe a written assessment of project effects in advance of any ground-disturbing activity having moderate to high potential impacts within areas mapped as "20-100% probability" in the BCRRT Archaeological Predictive Model Map and having slopes less than 5% (Figure 4). The assessment of project effects will describe the proposed undertaking in reasonable detail, discuss its expected effects upon recorded or unrecorded archaeological resources, and will conclude with recommendations concerning the need for additional archaeological survey or other actions to avoid or mitigate adverse effects to archaeological resources, taking into account previous cultural resource surveys at Camp Bonneville (see Sadler 2003) and other recorded archaeological sites in close proximity to the proposed project.

c. BCRRT shall make every reasonable effort to prohibit any person from knowingly or inadvertently disturbing any archaeological object or archaeological site, as defined in RCW 27.53.030. In the event that any archaeological object or archaeological site is knowingly or inadvertently disturbed, BCRRT shall immediately stop the activity causing the disturbance and make a reasonable effort to protect the archaeological object or archaeological site from further disturbance. BCRRT shall provide written notification to the SHPO and the Cowlitz Indian Tribe within one (1) working day of the discovery. Within fifteen (15) calendar days of the discovery, BCRRT shall provide to the SHPO and the Cowlitz Indian Tribe a Draft Site Treatment and Restoration Plan to describe the actions BCRRT will take to mitigate the damage, restore the site of discovery, and provide for the treatment and disposition of any archaeological resources recovered.

d. Within thirty (30) calendar days of the SHPO and Cowlitz Indian Tribe's receipt of notification provided by BCRRT pursuant to paragraphs above, the SHPO will respond to BCRRT in writing as follows:
    1. That BCRRT may proceed with the proposed undertaking without further consultation; or
    2. That BCRRT must initiate and complete consultation with the SHPO before it can proceed with the proposed undertaking.

    If the SHPO and the Cowlitz Indian Tribe fail to respond to BCRRT's written notice within thirty (30) calendar days of the SHPO's receipt of the same, then BCRRT may proceed with the proposed undertaking without further consultation.

e. If the response provided to BCRRT by the SHPO pursuant to paragraph d.2. of this covenant requires consultation with the SHPO and the Cowlitz Indian Tribe, then all parties will so consult in good faith to arrive at mutually-agreeable and appropriate measures that BCRRT will employ to mitigate any adverse effects associated with the proposed undertaking. Pursuant to this covenant, any mitigation measures to which the BCRRT and SHPO mutally agree shall be carried out solely at the expense of BCRRT.

f. The SHPO and the Cowlitz Indian Tribe shall be permitted at all reasonable times to inspect the Camp Bonneville property in order to ascertain conditions and to fulfill its responsibilities hereunder.

g. In the event that another Indian tribe should request consultation regarding activities described in paragraphs (a), (b), or (c) of this covenant, BCRRT shall consult with such tribes consistent with Washington state law and Clark County ordinances.

## 3. Archaeological Monitoring and Inadvertent Discovery Plan for Remedial Actions Associated with the Removal of Munitions and Explosives of Concern (MEC) at Camp Bonneville, Washington

The following is a monitoring and inadvertent discovery plan intended to ensure the protection of archaeological objects, archaeological sites, and human remains during ground-disturbing remediation activities. The plan describes specific procedures to be followed in the event of the inadvertent discovery of archaeological objects, archaeological sites, or human remains. The plan has four components: Monitoring, Archaeological Awareness Training, Inadvertent Discovery Procedures, and Treatment of Human Remains.

### 3.1. Monitoring

The following monitoring protocol will be followed during all remediation actions that may result in ground-disturbing activity and the inadvertent discovery or disturbance of archaeological objects, archaeological sites, or human remains.

An Environmental Compliance Officer (ECO) will be on-site at Camp Bonneville during all remediation actions that may result in ground-disturbing activity and the inadvertent discovery or disturbance of archaeological objects, archaeological sites, or human remains, including but not limited to: sign and fence installation, land surveying, brush clearing, metal detection investigations, and excavation.

The procedures described in Section 6 “Human Remains” will be followed in the event of an inadvertent discovery of human remains. The procedures described in Section 7 “Inadvertent Discovery Procedures” will be followed in the event of an inadvertent discovery of any archaeological resource.

### 3.2. Archaeological Awareness Training

A Professional Archaeologist will conduct archaeological awareness training for the entire Remediation Team and the On-Site Environmental Compliance Officer prior to the commencement of any remediation action on Camp Bonneville. The training will familiarize cleanup personnel with the laws and regulations that protect archaeological objects, archaeological sites, and human remains; will aid cleanup personnel in the recognition of archaeological objects, archaeological sites, and human remains; will guide cleanup personnel in the procedures to be followed in the event of an inadvertent discovery; and will instruct cleanup personnel in the appropriate treatment of human remains.

The training will include:

- Relevant Federal and Washington State Law (Revised Code of Washington, RCW)
    - National Historic Preservation Act
    - Indian Graves and Records (RCW 27.44)
    - Archaeological Sites and Resources (RCW 27.53)
    - Human Remains (RCW 68.50)
    - Abandoned and Historic Cemeteries and Historic Graves (RCW 68.60)
    - Department of Archaeology and Historic Preservation’s *State Standards for Cultural Resource Reporting* (July 2006)
- Recognition of archaeological objects, archaeological sites and human remains

- Previously recorded archaeological sites and isolated finds at Camp Bonneville
- Inadvertent discovery procedures
- Treatment of human remains

## 3.3. Inadvertent Discovery Procedures

If any member of the Remediation Team believes that any archaeological object or archaeological site has been discovered, that person will stop work in the vicinity of the discovery and notify the ECO. The ECO will investigate, and if the discovery is confirmed, the ECO will immediately stop all ground-disturbing activity within 100 feet of the discovery. Until the procedures described in this plan have been fully implemented, the ECO and the Remediation Team, on behalf of the interests of Clark County, will: implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering; take reasonable steps to ensure the confidentiality of the discovery site; and take reasonable steps to restrict access to the site of discovery.

The ECO will notify a Professional Archaeologist, the SHPO, and the Cowlitz Indian Tribe by telephone, followed by written confirmation (by email, fax or overnight mail). Notification will be made as soon as possible, but no later than one (1) working day after the discovery. A Professional Archaeologist will inspect the discovery site as soon as possible, but no later than three (3) working days after notification. If the Professional Archaeologist determines that the discovery is of no archaeological interest (e.g., artifacts or faunal remains less than 50 years of age), then the ECO may authorize ground-disturbing activity to recommence. The Professional Archaeologist will submit a letter report to ECO, the SHPO, and the Cowlitz Indian Tribe within fifteen (15) calendar days to document the investigation, including photographs of the discovery site and items discovered, and his or her determination that the discovery is of no archeological interest.

In the event that the discovery is determined to be of archaeological interest, the Professional Archaeologist will notify ECO, the SHPO, and the Cowlitz Indian Tribe by telephone, followed by written confirmation (by email, fax or overnight mail). Notification will be made as soon as possible, but no later than one (1) working day after the discovery is determined to be of archaeological interest. The notification will describe the nature of the archaeological objects or archaeological sites encountered and the circumstances of their inadvertent discovery. The notification will include the Professional Archaeologist's opinion, either:

> (1) Sufficient information is available to determine that the archaeological resources are not eligible for listing in the National Register of Historic Places, and recommending that ground-disturbing activity be permitted to recommence without further evaluation; or
>
> (2) Additional archaeological test investigations are necessary to determine if the archaeological resources are eligible for listing in the National Register of Historic Places, and recommending that ground-disturbing activity continue to be halted.

In the first instance, the ECO may authorize ground-disturbing activity to recommence after thirty (30) days, unless the SHPO and/or the Cowlitz Indian Tribe provide a written request for further consultation within that period. In the event of a written request for further consultation, the procedures applicable to the second instance will apply.

In the second instance, the ECO, the SHPO and the Cowlitz Indian Tribe will consult in good faith to arrive at mutually-agreeable and appropriate measures that The ECO will employ to

avoid or mitigate any adverse effects associated with continued ground-disturbing activities in the affected area. Consultation must result in a written plan of action in accordance with Washington state law between the Cowlitz Indian Tribe, the SHPO, and ECO. The ECO may elect to develop programmatic archaeological resource treatment plans in consultation with the SHPO and the Cowlitz Indian Tribe in advance of any remedial actions to minimize work stoppages in the event of an inadvertent discovery.

If the mitigation measures entail the excavation and removal of archaeological resources, the Professional Archaeologist will obtain a written permit for such activities in accordance with state law. Any mitigation measures to which the ECO, the SHPO and the Cowlitz Indian Tribe mutually agree shall be carried out solely at the expense of BCRRT. The ECO will provide written notification (by email, fax or overnight mail) to the SHPO and the Cowlitz Indian Tribe when all mitigation measures have been completed. If no verbal or written response is received within three (3) working days, the ECO may authorize ground-disturbing activity to recommence.

## 3.4. Human Remains

Human remains will be treated with dignity and respect at all times.

If any member of the Remediation Team believes that any remains may have been discovered (whether believed to be human or non-human), that person will stop work in the vicinity of the discovery and notify the ECO. The ECO will investigate, and if the discovery is confirmed (whether believed to be human or non-human), the ECO will immediately stop all ground-disturbing activity within 100 feet of the discovery. Until the procedures described in this plan have been fully implemented, the ECO and the Remediation Team, on behalf of the interests of Clark County, will: implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering; take reasonable steps to ensure the confidentiality of the discovery site; and take reasonable steps to restrict access to the site of discovery.

The ECO will notify the Clark County Sheriff's Office, a Professional Archaeologist, the SHPO, and the Cowlitz Indian Tribe by telephone, followed by written confirmation (by email, fax or overnight mail). Notification will be made as soon as possible, but no later than one (1) working day after the discovery. A Professional Archaeologist will inspect the discovery site as soon as possible, but no later than three (3) working days after notification. If the Professional Archaeologist determines that the remains are demonstrably non-human, and there are no archaeological resources in association, then the ECO may authorize ground-disturbing activity to recommence. The Professional Archaeologist will submit a letter report to the ECO, the SHPO, and the Cowlitz Indian Tribe within fifteen (15) days to document the investigation, including photographs of the discovery site and the remains discovered. If non-human remains are determined to be in association with archaeological resources, then the procedures described in Inadvertent Discoveries, below, will be followed.

The Professional Archaeologist will notify the ECO immediately if archaeological excavations to expose the remains are necessary to aid in the determination. The ECO will notify the SHPO and the Cowlitz Indian Tribe by telephone, followed by written confirmation (by email, fax or overnight mail) in advance of any such excavations. The SHPO and the Cowlitz Indian Tribe will be invited to observe the excavations. In the event that the Professional Archaeologist cannot determine whether the remains are human or non-human, the ECO will retain the services

of a physical anthropologist or other qualified individual to assist in an in-field determination. Remains will be exposed only to the extent necessary to determine whether the remains are human, their cultural affiliation, antiquity, the number of individuals represented, their age, sex, stature, and to identify any pathologies or trauma evident. Measurements, observations and photographs of human remains and associated artifacts may be recorded; however, under no circumstances will any destructive testing take place without the express written consent of the SHPO.

If it is determined that the remains are demonstrably non-human, and there are no archaeological resources in association, then the ECO may authorize ground-disturbing activity to recommence. In this event, the Professional Archaeologist will submit a letter report to the ECO, the SHPO, and the Cowlitz Indian Tribe within fifteen (15) days to document the investigation, including photographs of the discovery site and the remains discovered.

If it is determined that the remains are non-human, but are in association with archaeological materials, then the procedures described in Inadvertent Discoveries will be followed.

If it is determined that the remains are human, the Professional Archaeologist will notify the Clark County Sheriff's Office, a Professional Archaeologist, the SHPO, and the Cowlitz Indian Tribe. Notification will be made by telephone, followed by written confirmation (by email, fax or overnight mail). Notification will be made as soon as possible, but no later than one (1) working day after the remains are determined to be human. The notification will describe the nature of the human remains encountered and the circumstances of their inadvertent discovery. The notification will include the Professional Archaeologist's professional opinion concerning the likely cultural affiliation (whether Native American or non-Native American) based on the archaeological context, bioanthropological observations, and other relevant data. The notification will include the Professional Archaeologist's professional opinion, either:

> (1) Sufficient information is available to determine that the human remains are non-Native American and any associated archaeological resources are not eligible for listing in the National Register of Historic Places, and recommending that ground-disturbing activity be permitted to recommence without further evaluation; or
>
> (2) Additional consultations are necessary to determine the custody, treatment and disposition of the Native American human remains; archaeological test investigations are necessary to determine if the associated archaeological resources are eligible for listing in the National Register of Historic Places; and recommending that ground-disturbing activity continue to be halted.

In the first instance, the ECO will consult with the Clark County Sheriff to determine the custody, treatment and disposition of the non-Native American human remains. If otherwise lawful, the ECO may authorize ground-disturbing activity to recommence after thirty (30) days, unless the SHPO and/or the Cowlitz Indian Tribe provide a written request for further consultation within that period. In the event of a written request for further consultation, the procedures applicable to the second instance will apply.

In the second instance, the ECO, the SHPO and the Cowlitz Indian Tribe will consult in good faith to arrive at mutually-agreeable and appropriate measures that the ECO will employ to avoid or mitigate any adverse effects associated with continued ground-disturbing activities in the affected area, and to determine the custody, treatment and disposition of the Native American

human remains. Consultation must result in a written plan of action in accordance with Washington state law between the Cowlitz Indian Tribe, SHPO, and the ECO. The ECO may elect to develop programmatic plans for the treatment of archaeological resources and human remains in consultation with the SHPO and the Cowlitz Indian Tribe in advance of any remedial actions to minimize work stoppages in the event of an inadvertent discovery.

If the mitigation measures entail the excavation and removal of archaeological resources or human remains, the Professional Archaeologist will obtain a written permit for such activities in accordance with RCW 27.53 "Archaeological Sites and Resources." Any mitigation measures to which the ECO, the SHPO and the Cowlitz Indian Tribe mutually agree shall be carried out solely at the expense of BCRRT. The ECO will provide written notification (by email, fax or overnight mail) to the SHPO and the Cowlitz Indian Tribe when all mitigation measures have been completed. If no verbal or written response is received within three (3) working days, the ECO may authorize ground-disturbing activity to recommence.

## 3.5. Intrusive Activities

The cleanup actions at the CBMR will include intrusive activities to various depths as part of Corrective Action Plan (CAP) implementation(s). An example of one such intrusive activity is the Remedial Action Unit (RAU) 3 Site-Wide Munitions of Explosive Concern (MEC) Cleanup.

Intrusive activities will consist of the following four steps:

1. An initial survey clearance to find and remove anomalies (anomaly avoidance) conducted for worker safety during subsequent clearance activities;
2. Brush removal to make the surface visible and accessible;
3. A second instrument aided surface clearance to confirm that surface MEC and MD items have been identified and removed;
4. Limited excavation with MEC identification support to find and remove MEC items from below the site surface to the specified depth.
5. If any member of the Remediation Team believes that any archaeological object or archaeological site has been discovered, that person will stop work in the vicinity of the discovery and notify the ECO. The ECO will investigate, and if the discovery is confirmed, the ECO will immediately stop all ground-disturbing activity within 100 feet of the discovery.

Monitoring by the ECO, Archaeological Awareness Training, Inadvertent Discovery Procedures, and Human Remains protocols will be implemented during any cleanup activities in accordance with **Sections 3.1 to 3.4**.

## 3.6. Excavation and Processing or Removal Activities

The cleanup actions at the CBMR will include excavation and processing and/or removal of soil from the site. An example of one such activity is the RAU 2A lead contaminated soil removal at the former firing ranges where excavated soils are processed to remove bullets and bullet fragments and applicable off-site disposal.

In order to evaluate the processed soils/soils removed from the CBMR, for the presence of archaeological objects and human remains, the following procedures will be employed:

1. All soil materials requiring sifting will be processed using a vibrating multi-stage screening system. The mesh size interval on the screens will be varied with a larger spacing at the top and the smallest at the bottom level per the following:

    - Primary screen will have a spacing of 5-inches (to capture vegetation debris, large rocks etc);
    - Secondary level will have a spacing of 3-inches (to capture smaller rocks, brush debris etc); and
    - Tertiary level will have a spacing of 0.5-inches (to capture bullets and bullet fragments).

2. As soils are segregated by the screening system during the work day, the different size fraction materials will be isolated into "day piles" for temporary storage. It is thought that objects of archeological interest are more likely to be found in the Primary and Secondary screen day piles.

3. After the end of soil screening activities for each work day a Professional Archeologist (as defined by the Secretary of the Interior [see **Section 1**]), or an Archeologist working under the supervision of a Professional Archeologist, accompanied by a trained hazwaste/UX0 technician will be given access to the Primary and Secondary screen day piles. The Archeologist or Professional Archeologist will examine the materials in these day piles for the presence of objects of archeological interest.

4. Should the Archeologist or Professional Archeologist identify any potential objects of archeological interest, those objects will be photographed and removed from the day pile for further evaluation. Following evaluation of these objects by the Professional Archeologist and depending upon the results of that evaluation and the type of object identified (i.e. archaeological object or human remain) the reporting and notification procedures detailed in **Sections 3.3 and 3.4** will be followed.

5. When objects of archeological interest are identified in a day pile, the Archeologist or Professional Archeologist will notify the Construction Manager of this finding. The Construction Manager will determine the location from which the sifted soil was excavated. The Professional Archeologist will inspect that location for additional objects of archeological interest. No additional soil excavation will occur at this location until it has been cleared by the Professional Archeologist.

6. Once the day piles have been examined by the Archeologist or Professional Archeologist and determined to be clear of objects of archeological interest (or those objects have been removed) the day piles will be released for disposition as described in the applicable Operations Plan.

7. Depending upon the volume of the materials deposited into the Primary and Secondary screen day piles, the frequency of day pile inspections may be adjusted.

Monitoring by the ECO, Archaeological Awareness Training, Inadvertent Discovery Procedures, and Human Remains protocols will be implemented during any cleanup activities in accordance with **Sections 3.1 to 3.4**.

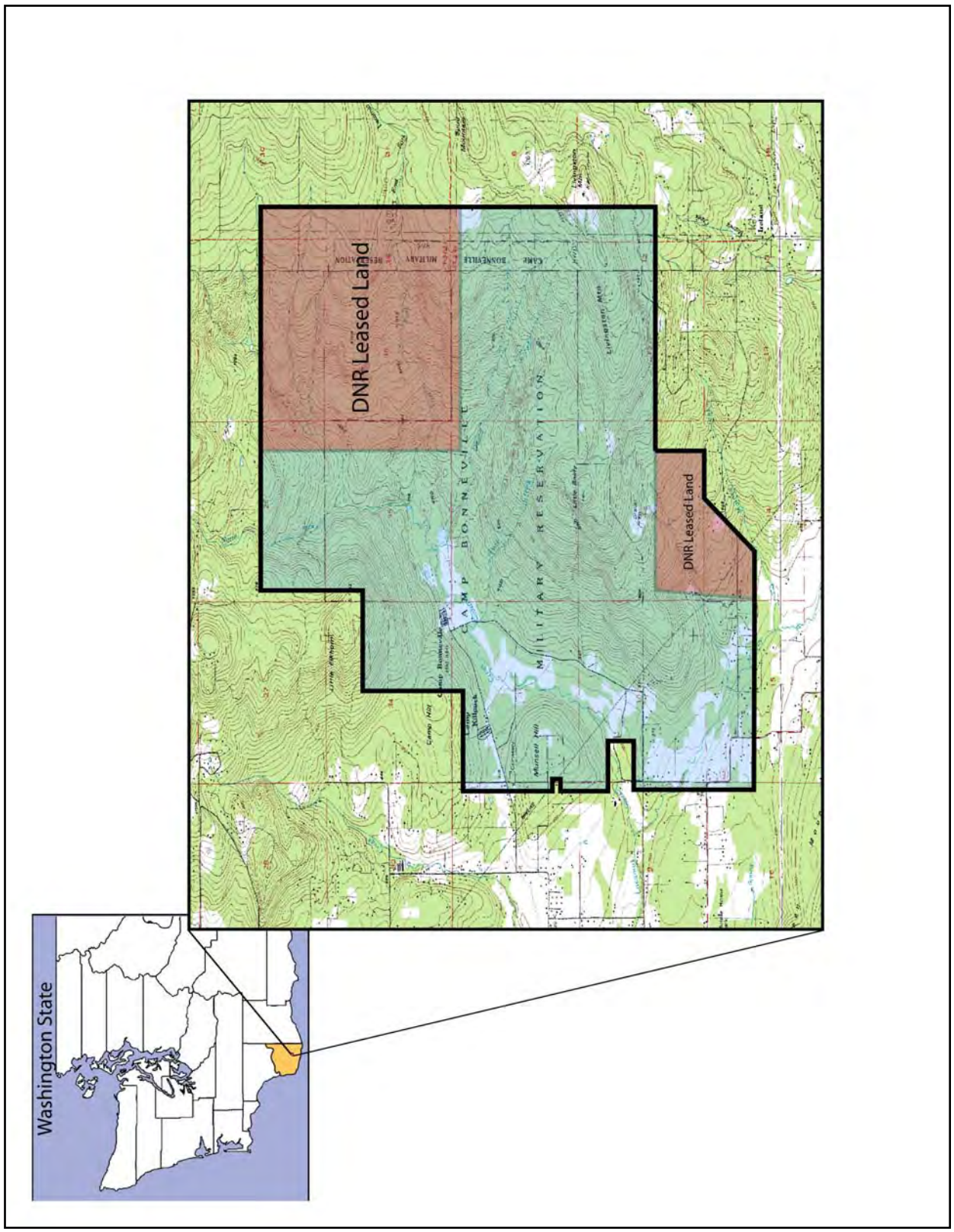


**Figure 1. Location of Camp Bonneville, Clark County, WA**

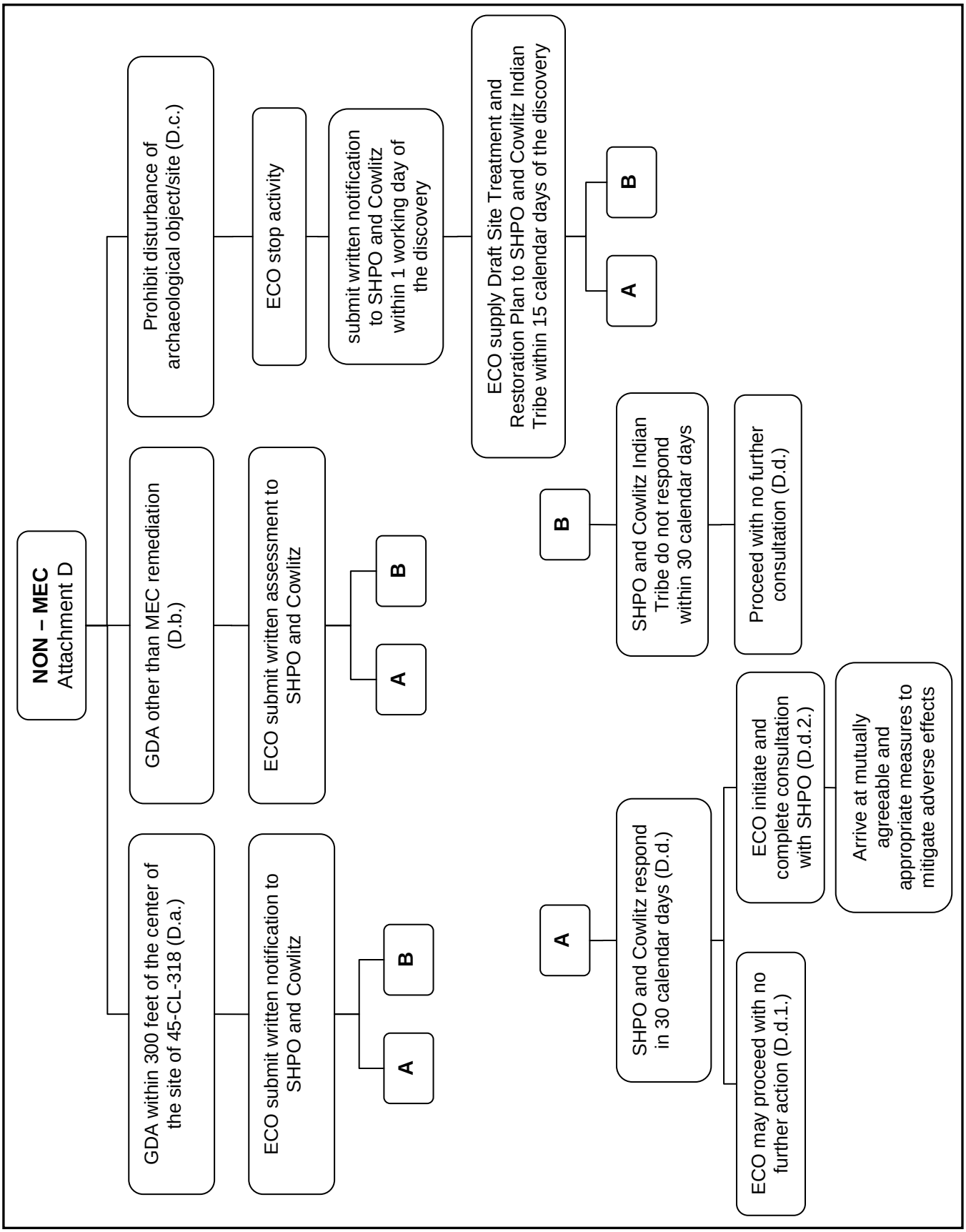


**Figure 2. Flow Chart of PA Attachment D Compliance Process.**

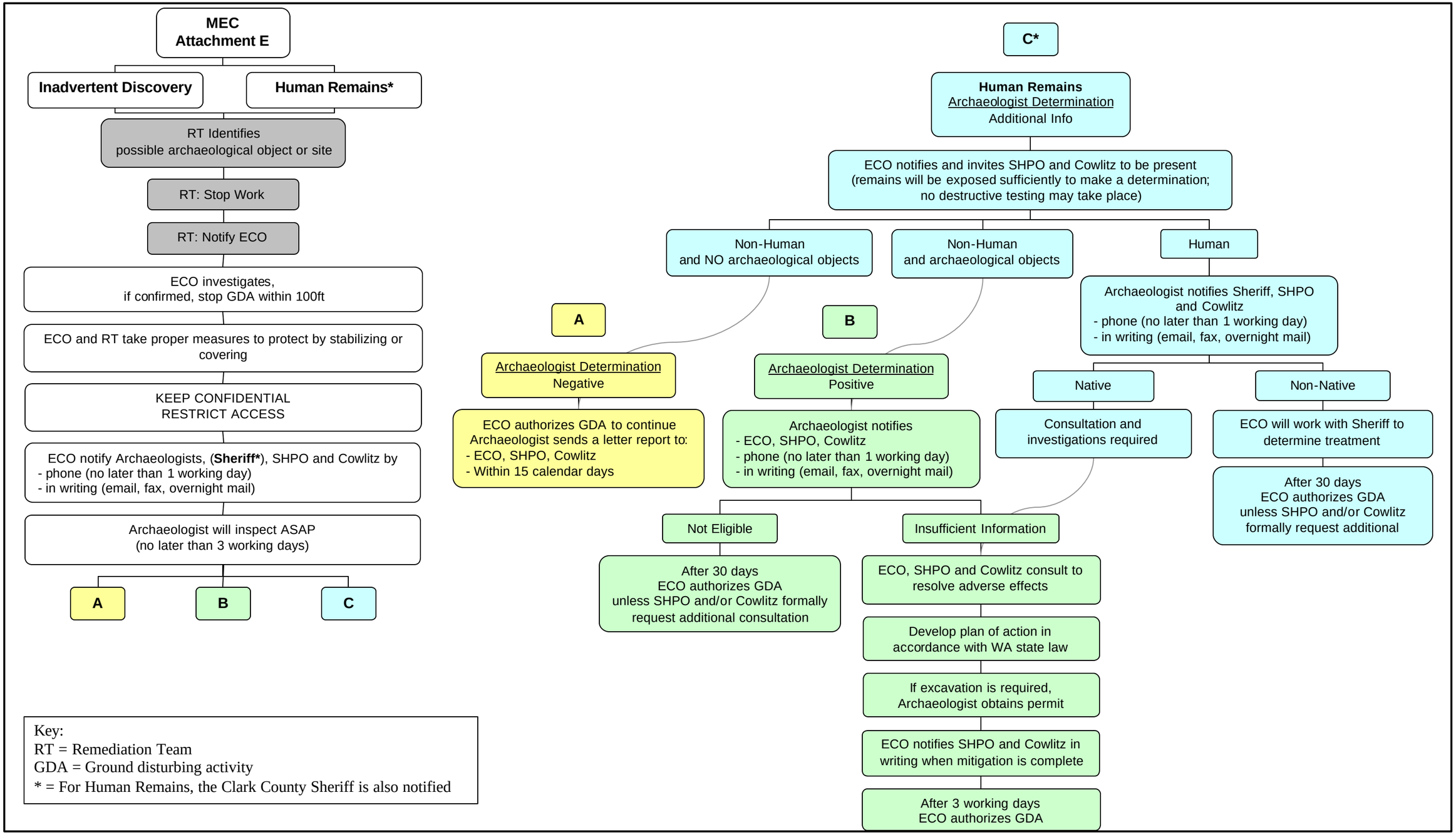


**Figure 3. Flow Chart of PA Attachment E, Archaeological Monitoring and Inadvertent Discovery Plan for Remedial Actions Associated with the Removal of MEC,Compliance Process.**

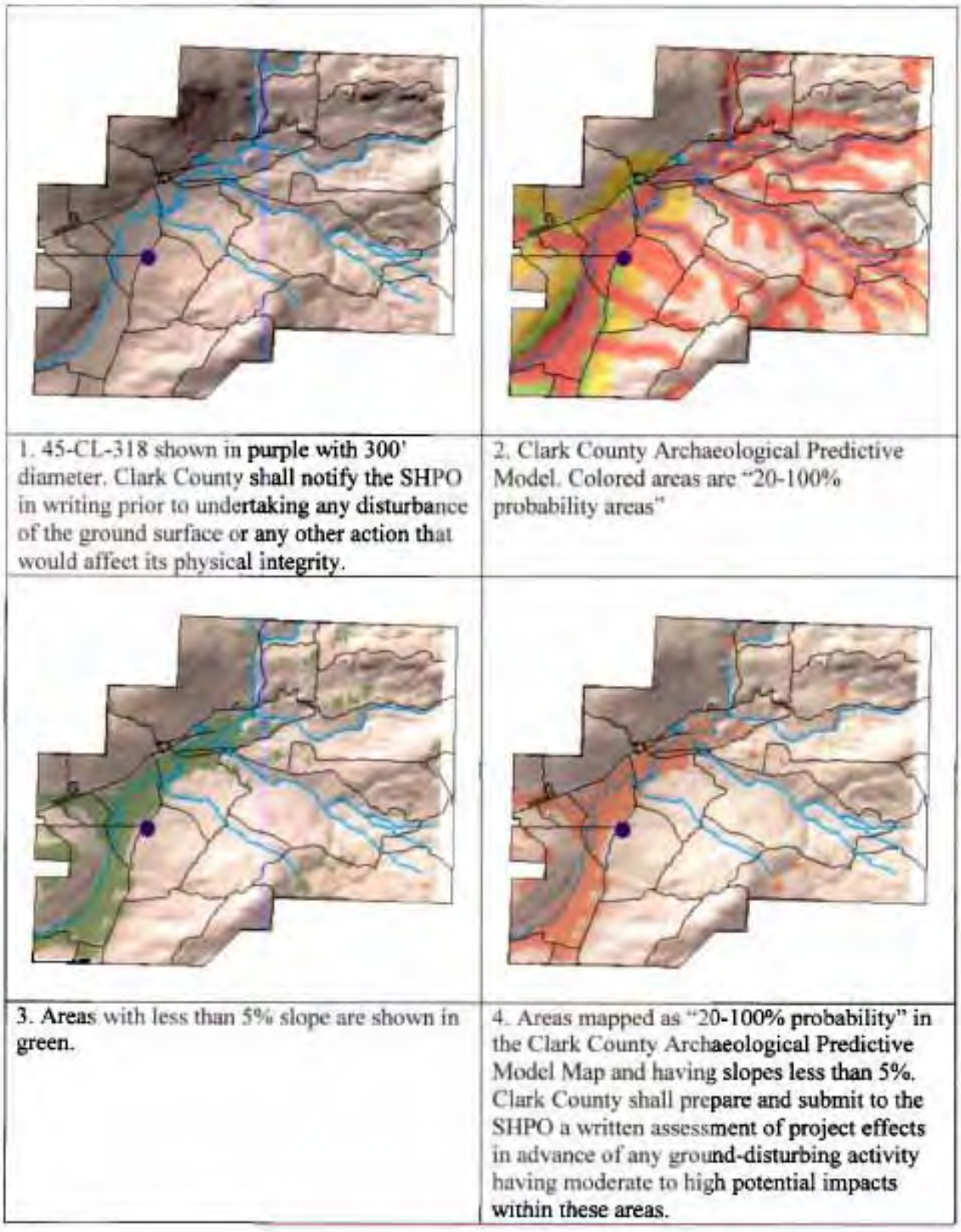


**Figure 4. Demonstration of the probability areas for the identification of areas of concern for ground disturbing activity not associated with MEC**

# REFERENCES CITED

Draft Finding of Suitability for Early Transfer (FOSET)
2005 Camp Bonneville, Clark County, Washington.

Sadler, Dale L.
2003 *Cultural Resources Survey of Selected Areas, Camp Bonneville, Clark County, Washington.* Fort Lewis, Washington.

# APPENDIX A: PROGRAMMATIC AGREEMENT

## Programmatic Agreement Among United States Army, Washington State Historic Preservation Officer, Advisory Council on Historic Preservation, Cowlitz Indian Tribe, and Clark County, Washington for the Closure and Disposal of Camp Bonneville, Washington

AMENDMENT #1
PROGRAMMATIC AGREEMENT
AMONG
UNITED STATES ARMY,
WASHINGTON STATE HISTORIC PRESERVATION OFFICER,
ADVISORY COUNCIL ON HISTORIC PRESERVATION,
COWLITZ INDIAN TRIBE, and
CLARK COUNTY, WASHINGTON
For the
Closure and Disposal of Camp Bonneville, Washington

WHEREAS the United States Army (Army), the Washington State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) entered into a Programmatic Agreement related to the closure and disposal of Camp Bonneville, Washington, in 1998; and

WHEREAS several conditions have changed and events have occurred since the Programmatic Agreement was executed by the Parties in 1998 that may necessitate amending certain provisions of the Programmatic Agreement; and

WHEREAS the federal regulations implementing Section 106 of the National Historic Preservation Act, 36 CFR Part 800 (Protection of Historic Properties), were revised effective 05 August 2004; and

WHEREAS in 2001 the Cowlitz Indian Tribe became a federally recognized Indian Tribe eligible for the special programs and services provided by the United States to Indians because of their status as Indians; and

WHEREAS the Cowlitz Indian Tribe is now entitled to have a consulting role in any continuing actions pursuant to the Section 106 process at Camp Bonneville; and

WHEREAS the Cowlitz Indian Tribe executed Cowlitz Indian Tribe Resolution 05-29, which declared Site 45-CL-318 and surrounding property is a sacred site to the Tribe, and notified the Army of the designation as a sacred site; and

WHEREAS the Cowlitz Indian Tribe participated as a consulting party in the development of this Amendment to the Programmatic Agreement and agreed to sign as an invited signatory; and

WHEREAS the Chinook Indian Tribe, the Confederated Tribes of the Grand Ronde Community of Oregon, and the Yakama Indian Nation were consulted in the development of the 1998 Programmatic Agreement and this Amendment and offered no comment; and

WHEREAS Clark County participated as a consulting party in the development of the 1998 Programmatic Agreement and had an opportunity to sign the Agreement but did not do so; and

WHEREAS Clark County participated as a consulting party in the development of this Amendment to the Programmatic Agreement and agreed to sign as an invited signatory; and

WHEREAS, pursuant to Article IX (A) and (B) of the Programmatic Agreement, the Army, the SHPO and the ACHP consulted and determined that certain provisions of the Programmatic Agreement should be revised;

NOW THEREFORE the Army, the SHPO, the ACHP, the Cowlitz Indian Tribe and Clark County (hereinafter "the Parties") agree that the Programmatic Agreement should be amended as follows:

## I. Identification and Evaluation

Paragraphs I (C) and I (D) are added as follows:

C. The Army completed a "Cultural Resource Survey of Selected Areas, Camp Bonneville, Clark County, Washington" in May 2003 (Sadler 2003). This study summarized all previous cultural resource surveys on Camp Bonneville and conducted additional field surveys. The additional field surveys were initially targeted at 741 acres considered to be high probability areas for the presence of cultural resources as determined by consultation and specified by agreement. Three small areas totaling 7.5 acres were added to the study area when background research suggested cultural resources might be present in these areas. A total of 392 acres was subjected to systematic pedestrian survey or shovel-testing. The remaining 356.5 acres were not physically surveyed because field inspection revealed environmental conditions judged likely to preclude the existence of significant archaeological resources (steep slopes, 252 acres); or environmental conditions that precluded field survey (wetland areas, 72.5 acres); or because safety factors precluded survey actions (potential unexploded ordnance in the M203 HE Grenade Ranges, 32 acres).

   Two historic-period sites (45-CL-528 and 45-CL-529); one site with both prehistoric and historic components (45-CL-318); and 16 isolated finds have been recorded on the Property (see Sadler 2003: Appendix B). The Washington State Historic Preservation Officer concurred with the Army's determination that none of these sites or isolated finds is eligible for the National Register of Historic Places in correspondence dated September 13, 2002 and June 17, 2003.

   The Cultural Resource Survey (Sadler 2003) concluded that additional prehistoric archaeological sites may remain undiscovered even in previously surveyed areas, as well as in buried alluvial contexts in the Lacamas Creek valley, or in the M203 HE Grenade Ranges that were not available for survey due to the possibility of

unexploded ordnance.

The Cultural Resource Survey (Sadler 2003) did not examine areas outside the Camp Bonneville boundary. A review of archaeological site records housed at the Washington Department of Archaeology and Historic Preservation indicates that at least one large prehistoric site with a diverse artifact assemblage is located within one mile of the Camp Bonneville boundary. The existence of such a site in a similar upland environment and in close proximity to Camp Bonneville suggests an increased likelihood that significant cultural resources may remain undiscovered within the Camp Bonneville boundary.

In Cowlitz Indian Tribe Resolution No. 05-29, issued to the Office of the Secretary of the Army, the Cowlitz Tribal Council declared the presence of a series of historic and prehistoric Indian villages, burial grounds, and trails on or near Camp Bonneville, and declared site number 45-CL-318 and surrounding property as a sacred site; and further resolved that actions on the said sacred site are not endorsed to take place without government-to-government consultation with the Cowlitz Indian Tribe.

D. In 1997, the National Parks Service-Columbia Cascades Support Office (NPS-CCSO) entered into an agreement with the Department of the Army, Headquarters I Corps, and Fort Lewis for a National Register of Historic Places evaluation of buildings and landscapes at Camp Bonneville. The NPS-CCSO completed the evaluation and documentation in 1999. Based on this information, the Army concluded that the Camp Bonneville and Camp Killpack cantonment areas at Camp Bonneville are not eligible for listing in the National Register of Historic Places. The Washington State Historic Preservation Officer concurred with the Army's determination that Camp Bonneville and Camp Killpack are not eligible for listing in the National Register of Historic Places in correspondence dated April 14, 1999.

**IV. Disposal of Camp Bonneville Properties**

Paragraph IV (J) is added as follows:

J. Conservation Conveyances to Local Redevelopment Authority (LRA)

In disposing of real property that may contain historic properties to an LRA pursuant to the conservation conveyance authority provided in 10 U.S.C. § 2694a (Conveyance of surplus real property for natural resource conservation) appropriate preservation covenants (At Attachments C and D) will be incorporated into the transfer instruments. The Army will promptly notify the SHPO and ACHP in writing of such transfer of property. Property conveyed pursuant to 10 U.S.C. § 2694a requires that the property be used and maintained for the conservation of natural resources in perpetuity.

**V. Environmental Remediation**

Paragraph V (C) is added as follows:

C. The Army will conduct and/or fund environmental remediation at Camp Bonneville, including removal of unexploded ordnance (UXO). The removal of UXO may require ground-disturbing activities that could expose archaeological resources. In order to preserve any archaeological resources found during remediation, an "Archeological Monitoring Plan for Remedial Actions associated with the Removal of Munitions and Explosives of Concern (MEC) at Camp Bonneville" (See Attachment E) will be attached to the transfer instruments and run with the land and will be binding upon the Army, the transferee, including the Clark County LRA, its successors and assigns and all subsequent transferees.

**VII. Status Reports**

Article VII is amended by replacing the original text with the following:

Until such time as all Camp Bonneville properties have transferred from Army control in accordance with the terms of this agreement, the Army will, on or before January 1 of each year, provide an annual status report to all signatories to the Programmatic Agreement and its Amendments. The annual report shall summarize activities carried out under the terms of this PA during the preceding year and other such information on identification and resolution efforts and the projections for completion of the activities. The signatories to the Programmatic Agreement shall review this information to determine what, if any, revisions or amendments to the Agreement are necessary. If amendments are needed, the signatories to this agreement will consult, in accordance with Article IX of this Agreement, to make such revisions.

**VIII. Dispute Resolution**

Article VIII is amended by replacing the original text with the following:

A. Should the SHPO, the ACHP, the Cowlitz Indian Tribe and/or Clark County object within thirty (30) days to any plans or other documents provided by the Army or others for review pursuant to this agreement, or to any actions proposed or initiated by the Army pursuant to this agreement, the Army shall notify the Parties and consult with the objecting party to resolve the objection. If the Army determines that the objection cannot be resolved, the Army shall forward all documentation relevant to the dispute to the ACHP. Within thirty (30) days after receipt of all pertinent documentation, the ACHP will either:

(1) Provide the Army with recommendations, which the Army will take into account in reaching a final decision regarding the dispute; or

(2) Notify the Army that it will comment pursuant to 36 C.F.R. 800.7(c), and proceed to comment.

Any ACHP comment will be taken into account by the Army in accordance with 36 C.F.R. 800.7(c)(4) with reference to the subject of the dispute.

B. Any recommendations or comment provided by the ACHP pursuant to Stipulation VII1.A above will pertain only to the subject of the dispute; the Army's responsibility to carry out all other actions under this agreement that are not the subjects of the dispute will remain unchanged.

C. At any time during implementation of the measures stipulated in this agreement by the Army, if an objection to any such measure or its manner of implementation is raised by interested persons, then the Army shall notify the Parties and consider the objection and consult, as appropriate, with the objecting party, the SHPO, the ACHP, the Cowlitz Indian Tribe and Clark County to attempt to resolve the objection.

**IX. Amendments**

Article IX is amended by replacing the original text with the following:

A. The Army, the SHPO, the ACHP, the Cowlitz Indian Tribe and/or Clark County may request that this PA be revised, whereby the parties will consult to consider whether such revision is necessary.

B. This PA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

**X. Termination of Agreement**

Article X is amended by replacing the original text with the following:

The Army, the SHPO, the ACHP, the Cowlitz Indian Tribe and/or Clark County may terminate this PA by providing thirty (30) days written notice to the other signatory parties. During the period after notification and prior to termination, the Army, the SHPO, the ACHP, the Cowlitz Indian Tribe and Clark County will consult to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the Army will comply with 36 C.F.R. 800.4 through 800.6 with regard to individual undertakings associated with the BRAC disposal action.

Execution and implementation of this Programmatic Agreement and all Amendments thereto evidences that the Army has afforded the ACHP a reasonable opportunity to comment on the closure and disposal of excess and surplus property at Camp Bonneville, and that the Army has taking into account the effects of the undertaking on historic properties. Execution and compliance with this Programmatic Agreement and all Amendments thereto fulfils the Army's Section 106 responsibilities regarding the closure and disposal of Camp Bonneville.

**XI. Expiration of the Programmatic Agreement**

Article XI is added to the Programmatic Agreement as follows:

This Programmatic Agreement and all Amendments thereto shall take effect on the date the Agreement and Amendments are signed by the last signatory and will remain in effect, unless terminated pursuant to Article X above, until such time as all Camp Bonneville properties are transferred from Army control and the transfer instruments are recorded in the Public Records of Clark County, Washington.

**DEPARTMENT OF THE ARMY**

**By:** _____ **Date:** 26 JUNE 2006

**WASHINGTON STATE HISTORIC PRESERVATION OFFICER**

**By:** _____ **Date:** _____

**ADVISORY COUNCIL ON HISTORIC PRESERVATION**

**By:** _____ **Date:** _____

**COWLITZ INDIAN TRIBE**

**By:** _____ **Date:** _____

**CLARK COUNTY**

**By:** _____ **Date:** _____

**Programmatic Agreement, Attachment D**

Attachment D of the Programmatic Agreement, "Standard Preservation Covenant for Conveyance of Property that Includes Archeological Sites," is replaced with the following:

**Attachment D: Preservation Covenant for Conveyance of Property that May Include Archaeological Sites.**

In consideration of the conveyance of the real property that includes site 45-CL-318 and may include other as yet undiscovered archaeological sites located on lands owned by the Department of Defense at the Camp Bonneville Military Reservation, Clark County, Washington, Clark County hereby covenants on behalf of itself, its heirs, successors, and assigns at all times to the Washington State Historic Preservation Office (SHPO) to maintain and preserve site 45-CL-318 and other as yet undiscovered archaeological sites in accordance with the provisions of the following paragraphs of this covenant.

a. Clark County shall notify the SHPO and the Cowlitz Indian Tribe in writing prior to undertaking any disturbance of the ground surface or any other action within 300 feet of the center of site 45-CL-318 that would affect its physical integrity (center point is 134810 E, 1150207 N, NAD 1983 HARN State Plane Washington South FIPS 4602 Feet). Such notice shall describe in reasonable detail the proposed undertaking and its expected effect on the physical integrity of 45-CL-318.
b. For ground-disturbing activities other than remediation of munitions and explosives of concern (MEC) (MEC remediation-related impacts are addressed in Attachment E), Clark County shall prepare and submit to the SHPO and the Cowlitz Indian Tribe a written assessment of project effects in advance of any ground-disturbing activity having moderate to high potential impacts within areas mapped as "20-100% probability" in the Clark County Archaeological Predictive Model Map and having slopes less than 5% (these areas are mapped in Attachment F; "moderate to high potential impacts" are defined in Clark County Ordinance 40.570.080 C.3.k). The assessment of project effects will describe the proposed undertaking in reasonable detail, discuss its expected effects upon recorded or unrecorded archaeological resources, and will conclude with recommendations concerning the need for additional archaeological survey or other actions to avoid or mitigate adverse effects to archaeological resources, taking into account previous cultural resource surveys at Camp Bonneville (see Sadler 2003) and other recorded archaeological sites in close proximity to the proposed project.
c. Clark County shall make every reasonable effort to prohibit any person from knowingly or inadvertently disturbing any archaeological object or archaeological site, as defined in RCW 27.53.030. In the event that any archaeological object or archaeological site is knowingly or inadvertently disturbed, Clark County shall immediately stop the activity causing the disturbance and make a reasonable effort to protect the archaeological object or archaeological site from further disturbance. Clark County shall provide written notification to the SHPO and the Cowlitz

Indian Tribe within one (1) working day of the discovery. Within fifteen (15) calendar days of the discovery, Clark County shall provide to the SHPO and the Cowlitz Indian Tribe a Draft Site Treatment and Restoration Plan to describe the actions Clark County will take to mitigate the damage, restore the site of discovery, and provide for the treatment and disposition of any archaeological resources recovered.

d. Within thirty (30) calendar days of the SHPO and Cowlitz Indian Tribe's receipt of notification provided by Clark County pursuant to paragraphs (a), (b), or (c) of this covenant, the SHPO will respond to Clark County in writing as follows:
    1. That Clark County may proceed with the proposed undertaking without further consultation; or
    2. That Clark County must initiate and complete consultation with the SHPO before it can proceed with the proposed undertaking.

    If the SHPO and the Cowlitz Indian Tribe fail to respond to Clark County's written notice within thirty (30) calendar days of the SHPO's receipt of the same, then Clark County may proceed with the proposed undertaking without further consultation.
e. If the response provided to Clark County by the SHPO pursuant to paragraph d.2. of this covenant requires consultation with the SHPO and the Cowlitz Indian Tribe, then all parties will so consult in good faith to arrive at mutually-agreeable and appropriate measures that Clark County will employ to mitigate any adverse effects associated with the proposed undertaking. Pursuant to this covenant, any mitigation measures to which Clark County and the SHPO mutually agree shall be carried out solely at the expense of Clark County.
f. The SHPO and the Cowlitz Indian Tribe shall be permitted at all reasonable times to inspect the Camp Bonneville property in order to ascertain conditions and to fulfill its responsibilities hereunder.
g. In the event that another Indian tribe should request consultation regarding activities described in paragraphs (a), (b), or (c) of this covenant, Clark County shall consult with such tribes consistent with Washington state law and Clark County ordinances.
h. In the event of a knowing violation of this covenant, and in addition to any remedy now or hereafter provided by law, the SHPO may, following reasonable notice to Clark County, institute suit to enjoin said violation or to require the restoration of any archaeological site affected by such violation. The successful party shall be entitled to recover all costs or expenses incurred in connection with any such suit, including all court costs and attorney's fees.
i. This covenant is binding on Clark County, its heirs, successors, and assigns in perpetuity. Restrictions, stipulations, and covenants contained herein shall be inserted by Clark County verbatim or by express reference in any deed or other legal instrument by which it divests itself of either the fee simple title or any other lesser estate in site 45-CL-318 or other property that may contain unrecorded archaeological sites or any part thereof.
j. The failure of the SHPO to exercise any right or remedy granted under this instrument shall not have the effect of waiving or limiting the exercise of any other right or remedy or the use of such right or remedy at any other time.

k. The covenant shall be a binding servitude upon the real property that includes site 45-CL-318 and other potential archeological sites and shall be deemed to run with the land.

Execution of the transfer instrument shall constitute conclusive evidence that Clark County agrees to be bound by the foregoing conditions and restrictions and to perform the obligations herein set forth.

**Programmatic Agreement, Attachment E**

Attachment E is added to the Programmatic Agreement as follows:

**Archaeological Monitoring and Inadvertent Discovery Plan for Remedial Actions Associated with the Removal of Munitions and Explosives of Concern (MEC) at Camp Bonneville, Washington**

# 1 Introduction

The Camp Bonneville Military Reservation (Camp Bonneville) comprises approximately 3,020 acres of land in Clark County, Washington. Camp Bonneville currently leases 820 acres of adjoining land from the Washington Department of Natural Resources (WDNR). The Department of Defense used Camp Bonneville for troop training from 1910 to 1995. Training included the use of small arms, assault weapons, field artillery and air defense artillery. The United States Congress approved the closure of Camp Bonneville under the 1995 Base Realignment and Closure (BRAC) Commission.

The Camp Bonneville property is proposed for transfer to Clark County via a conservation conveyance under the authority provided in 10 U.S.C. § 2694a (Conveyance of surplus real property for natural resource conservation). The WDNR leased land will be returned to WDNR. WDNR may retain the 820 acres for its own use or may transfer it to Clark County. Clark County will manage the Camp Bonneville property as a regional park to provide recreational opportunities for the local community and to support natural resource conservation.

The Department of the Army will conduct or fund remedial actions associated with the removal of munitions and explosives of concern (MEC) from Camp Bonneville. These remedial actions may involve ground-disturbing activities and have the potential to result in the inadvertent discovery of archaeological resources or human remains. This plan describes procedures that will be followed in the event of the inadvertent discovery of archaeological resources or human remains resulting from these remedial actions at Camp Bonneville, Washington, and the leased WDNR land.

# 2 Definitions

Archaeological Site: "Archaeological site means a geographic locality in Washington, including but not limited to, submerged and submersible lands and the bed of the sea within the state's jurisdiction, that contains archaeological objects" (RCW 72.53.030).

Archaeological Object: "Archaeological object means an object that comprises the physical evidence of an indigenous and subsequent culture including material remains of past human life including monuments, symbols, tools, facilities, and technological by-products" (RCW 27.53.030).

On-Site Environmental Compliance Officer (ECO): Clark County will ensure that an On-Site Environmental Compliance Officer is designated. The ECO is responsible to be on-site during all remediation activities. The ECO is responsible for communicating procedures for inadvertent discoveries and the treatment of human remains to all

cleanup personnel, and implementing the notification procedures and site protection measures described herein in the event of an inadvertent discovery.

Remediation Team: The Remediation Team consists of all those workers engaged in the implementation of the MEC cleanup alternatives described herein.

Professional Archaeologist: Professional archaeologist means "a person who:

(a) Has designed and executed an archaeological study as evidenced by a thesis or dissertation and been awarded an advanced degree such as an M.A., M.S., or Ph.D. in archaeology, anthropology, history or other germane discipline with a specialization in archaeology from an accredited institution of higher education; and

(b) Has a minimum of one year of field experience with at least twenty-four weeks of field work under the supervision of a professional archaeologist, including no less than twelve weeks of survey or reconnaissance work and at least eight weeks of supervised laboratory experience. Twenty weeks of field work in a supervisory capacity must be documentable with a report on the field work produced by the individual" (WAC 25-48-020(4)).

SHPO: Washington State Historic Preservation Officer.

# 3 Archaeological Monitoring and Inadvertent Discovery Plan

The following describes an archaeological monitoring and inadvertent discovery plan intended to ensure the protection of archaeological objects, archaeological sites, and human remains during ground-disturbing remediation activities[1]. The plan describes specific procedures to be followed in the event of the inadvertent discovery of archaeological objects, archaeological sites, or human remains. The plan has four components: Monitoring; Archaeological Awareness Training; Inadvertent Discovery Procedures; and Treatment of Human Remains.

## *3.1 Monitoring*

The following monitoring protocol will be followed during all remediation actions that may result in ground-disturbing activity and the inadvertent discovery or disturbance of archaeological objects, archaeological sites, or human remains.

An Environmental Compliance Officer (ECO) will be on-site at Camp Bonneville during all remediation actions that may result in ground-disturbing activity and the inadvertent discovery or disturbance of archaeological objects, archaeological sites, or human remains, including but not limited to: sign and fence installation, land surveying, brush clearing, metal detection investigations, and excavation.

The procedures described in Section 3.3 "Inadvertent Discovery Procedures" will be followed in the event of an inadvertent discovery of any archaeological resource. The

[1] This plan is founded on the assumption that the Camp Bonneville property will transfer out of federal ownership prior to the implementation of the subject remedial actions. Hence, Washington state law will apply, rather than the provisions of the Archaeological Resources Protection Act (ARPA) and the Native American Graves Protection and Repatriation Act (NAGPRA).

procedures described in Section 3.4 "Treatment of Human Remains" will be followed in the event of an inadvertent discovery of human remains.

## 3.2 Archaeological Awareness Training

A Professional Archaeologist will conduct archaeological awareness training for the entire Remediation Team and the On-Site Environmental Compliance Officer prior to the commencement of any remediation action on Camp Bonneville. The training will familiarize cleanup personnel with the laws and regulations that protect archaeological objects, archaeological sites, and human remains; will aid cleanup personnel in the recognition of archaeological objects, archaeological sites, and human remains; will guide cleanup personnel in the procedures to be followed in the event of an inadvertent discovery; and will instruct cleanup personnel in the appropriate treatment of human remains.

The training will include:

- Relevant Federal and Washington State Law (Revised Code of Washington, RCW)
    - National Historic Preservation Act
    - Indian Graves and Records (RCW 27.44) http://apps.leg.wa.gov/rcw/default.aspx?cite=27.44
    - Archaeological Sites and Resources (RCW 27.53) http://apps.leg.wa.gov/rcw/default.aspx?cite=27.53
    - Human Remains (RCW 68.50) http://apps.leg.wa.gov/rcw/default.aspx?cite=68.50
    - Abandoned and Historic Cemeteries and Historic Graves (RCW 68.60) http://apps.leg.wa.gov/rcw/default.aspx?cite=68.60
- Recognition of archaeological objects, archaeological sites and human remains
- Previously recorded archaeological sites and isolated finds at Camp Bonneville
- Inadvertent discovery procedures
- Treatment of human remains

## 3.3 Inadvertent Discovery Procedures

If any member of the Remediation Team believes that any archaeological object or archaeological site has been discovered, that person will stop work in the vicinity of the discovery and notify the ECO. The ECO will investigate, and if the discovery is confirmed, the ECO will immediately stop all ground-disturbing activity within 100 feet of the discovery. Until the procedures described in this plan have been fully implemented, the ECO and the Remediation Team, on behalf of the interests of Clark County, will: implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering; take reasonable steps to ensure the confidentiality of the discovery site; and take reasonable steps to restrict access to the site of discovery.

The ECO will notify a Professional Archaeologist, the SHPO, and the Cowlitz Indian Tribe by telephone, followed by written confirmation (by email, fax or overnight mail). Notification will be made as soon as possible, but no later than one (1) working day after the discovery. A Professional Archaeologist will inspect the discovery site as soon as possible, but no later than three (3) working days after notification. If the

Professional Archaeologist determines that the discovery is of no archaeological interest (e.g., artifacts or faunal remains less than 50 years of age), then the ECO may authorize ground-disturbing activity to recommence. The Professional Archaeologist will submit a letter report to Clark County, the SHPO, and the Cowlitz Indian Tribe within fifteen (15) calendar days to document the investigation, including photographs of the discovery site and items discovered, and his or her determination that the discovery is of no archeological interest.

In the event that the discovery is determined to be of archaeological interest, the Professional Archaeologist will notify Clark County, the SHPO, and the Cowlitz Indian Tribe by telephone, followed by written confirmation (by email, fax or overnight mail). Notification will be made as soon as possible, but no later than one (1) working day after the discovery is determined to be of archaeological interest. The notification will describe the nature of the archaeological objects or archaeological sites encountered and the circumstances of their inadvertent discovery. The notification will include the Professional Archaeologist's opinion, either:

(1) Sufficient information is available to determine that the archaeological resources are not eligible for listing in the National Register of Historic Places, and recommending that ground-disturbing activity be permitted to recommence without further evaluation; or

(2) Additional archaeological test investigations are necessary to determine if the archaeological resources are eligible for listing in the National Register of Historic Places, and recommending that ground-disturbing activity continue to be halted.

In the first instance, Clark County may authorize ground-disturbing activity to recommence after thirty (30) days, unless the SHPO and/or the Cowlitz Indian Tribe provide a written request for further consultation within that period. In the event of a written request for further consultation, the procedures applicable to the second instance will apply.

In the second instance, Clark County, the SHPO and the Cowlitz Indian Tribe will consult in good faith to arrive at mutually-agreeable and appropriate measures that Clark County will employ to avoid or mitigate any adverse effects associated with continued ground-disturbing activities in the affected area. Consultation must result in a written plan of action in accordance with Washington state law (RCW 27.44 or RCW 27.53) between the Cowlitz Indian Tribe, the SHPO, and Clark County. Clark County may elect to develop programmatic archaeological resource treatment plans in consultation with the SHPO and the Cowlitz Indian Tribe in advance of any remedial actions to minimize work stoppages in the event of an inadvertent discovery.

If the mitigation measures entail the excavation and removal of archaeological resources, the Professional Archaeologist will obtain a written permit for such activities in accordance with RCW 27.53 "Archaeological Sites and Resources." Any mitigation measures to which Clark County, the SHPO and the Cowlitz Indian Tribe mutually agree shall be carried out solely at the expense of Clark County. Clark County will provide written notification (by email, fax or overnight mail) to the SHPO and the Cowlitz Indian Tribe when all mitigation measures have been completed. If no verbal or written response

is received within three (3) working days, Clark County may authorize ground-disturbing activity to recommence.

## 3.4 Treatment of Human Remains

Human remains will be treated with dignity and respect at all times.

If any member of the Remediation Team believes that any remains may have been discovered (whether believed to be human or non-human), that person will stop work in the vicinity of the discovery and notify the ECO. The ECO will investigate, and if the discovery is confirmed (whether believed to be human or non-human), the ECO will immediately stop all ground-disturbing activity within 100 feet of the discovery. Until the procedures described in this plan have been fully implemented, the ECO and the Remediation Team, on behalf of the interests of Clark County, will: implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering; take reasonable steps to ensure the confidentiality of the discovery site; and take reasonable steps to restrict access to the site of discovery.

The ECO will notify the Clark County Sheriff's Office, a Professional Archaeologist, the SHPO, and the Cowlitz Indian Tribe by telephone, followed by written confirmation (by email, fax or overnight mail). Notification will be made as soon as possible, but no later than one (1) working day after the discovery. A Professional Archaeologist will inspect the discovery site as soon as possible, but no later than three (3) working days after notification. If the Professional Archaeologist determines that the remains are demonstrably non-human, and there are no archaeological resources in association, then the ECO may authorize ground-disturbing activity to recommence. The Professional Archaeologist will submit a letter report to Clark County, the SHPO, and the Cowlitz Indian Tribe within fifteen (15) days to document the investigation, including photographs of the discovery site and the remains discovered. If non-human remains are determined to be in association with archaeological resources, then the procedures described in Section 3.3 will be followed.

The Professional Archaeologist will notify Clark County immediately if archaeological excavations to expose the remains are necessary to aid in the determination. Clark County will notify the SHPO and the Cowlitz Indian Tribe by telephone, followed by written confirmation (by email, fax or overnight mail) in advance of any such excavations. The SHPO and the Cowlitz Indian Tribe will be invited to observe the excavations. In the event that the Professional Archaeologist cannot determine whether the remains are human or non-human, Clark County will retain the services of a physical anthropologist or other qualified individual to assist in an in-field determination. Remains will be exposed only to the extent necessary to determine whether the remains are human, their cultural affiliation, antiquity, the number of individuals represented, their age, sex, stature, and to identify any pathologies or trauma evident. Measurements, observations and photographs of human remains and associated artifacts may be recorded; however, under no circumstances will any destructive testing take place without the express written consent of the SHPO (in accordance with RCW 27.44.020).

If it is determined that the remains are demonstrably non-human, and there are no archaeological resources in association, then the ECO may authorize ground-disturbing activity to recommence. In this event, the Professional Archaeologist will submit a letter report to Clark County, the SHPO, and the Cowlitz Indian Tribe within fifteen (15) days to document the investigation, including photographs of the discovery site and the remains discovered.

If it is determined that the remains are non-human, but are in association with archaeological materials, then the procedures described in Section 3.3 will be followed.

If it is determined that the remains are human, the Professional Archaeologist will notify the Clark County Sheriff's Office, a Professional Archaeologist, the SHPO, and the Cowlitz Indian Tribe. Notification will be made by telephone, followed by written confirmation (by email, fax or overnight mail). Notification will be made as soon as possible, but no later than one (1) working day after the remains are determined to be human. The notification will describe the nature of the human remains encountered and the circumstances of their inadvertent discovery. The notification will include the Professional Archaeologist's professional opinion concerning the likely cultural affiliation (whether Native American or non-Native American) based on the archaeological context, bioanthropological observations, and other relevant data. The notification will include the Professional Archaeologist's professional opinion, either:

(1) Sufficient information is available to determine that the human remains are non-Native American and any associated archaeological resources are not eligible for listing in the National Register of Historic Places, and recommending that ground-disturbing activity be permitted to recommence without further evaluation; or

(2) Additional consultations are necessary to determine the custody, treatment and disposition of the Native American human remains; archaeological test investigations are necessary to determine if the associated archaeological resources are eligible for listing in the National Register of Historic Places; and recommending that ground-disturbing activity continue to be halted.

In the first instance, Clark County will consult with the Clark County Sheriff to determine the custody, treatment and disposition of the non-Native American human remains. If otherwise lawful, Clark County may authorize ground-disturbing activity to recommence after thirty (30) days, unless the SHPO and/or the Cowlitz Indian Tribe provide a written request for further consultation within that period. In the event of a written request for further consultation, the procedures applicable to the second instance will apply.

In the second instance, Clark County, the SHPO and the Cowlitz Indian Tribe will consult in good faith to arrive at mutually-agreeable and appropriate measures that Clark County will employ to avoid or mitigate any adverse effects associated with continued ground-disturbing activities in the affected area, and to determine the custody, treatment and disposition of the Native American human remains. Consultation must result in a written plan of action in accordance with Washington state law (RCW 27.44 or RCW 27.53) between the Cowlitz Indian Tribe, SHPO, and Clark County. Clark County may elect to develop programmatic plans for the treatment of archaeological resources and human remains in consultation with the SHPO and the Cowlitz Indian Tribe in advance

of any remedial actions to minimize work stoppages in the event of an inadvertent discovery.

If the mitigation measures entail the excavation and removal of archaeological resources or human remains, the Professional Archaeologist will obtain a written permit for such activities in accordance with RCW 27.53 "Archaeological Sites and Resources." Any mitigation measures to which Clark County, the SHPO and the Cowlitz Indian Tribe mutually agree shall be carried out solely at the expense of Clark County. Clark County will provide written notification (by email, fax or overnight mail) to the SHPO and the Cowlitz Indian Tribe when all mitigation measures have been completed. If no verbal or written response is received within three (3) working days, Clark County may authorize ground-disturbing activity to recommence.

Attachment F

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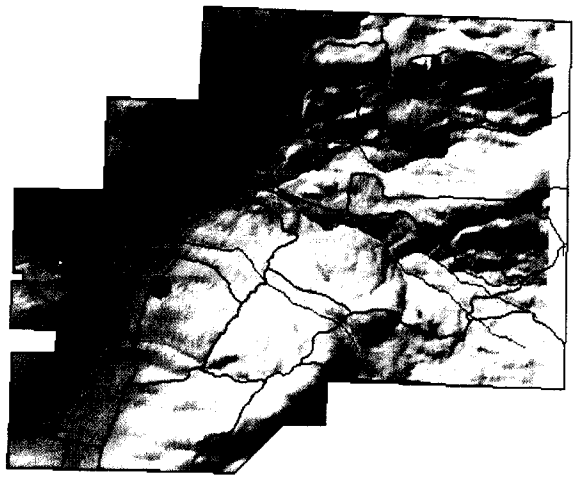
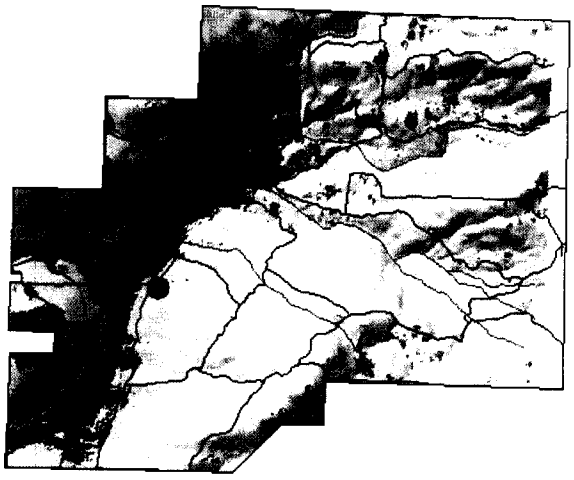
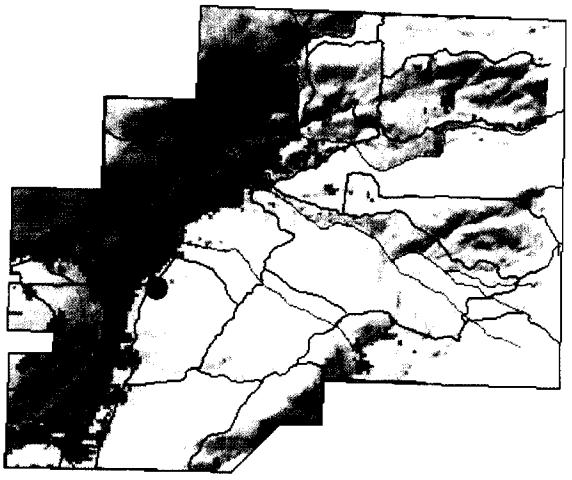
|  |  |
| 1. 45-CL-318 shown in purple with 300' diameter. Clark County shall notify the SHPO in writing prior to undertaking any disturbance of the ground surface or any other action that would affect its physical integrity. | 2. Clark County Archaeological Predictive Model. Colored areas are "20-100% probability areas" |
|  |  |
| 3. Areas with less than 5% slope are shown in green. | 4. Areas mapped as "20-100% probability" in the Clark County Archaeological Predictive Model Map and having slopes less than 5%. Clark County shall prepare and submit to the SHPO a written assessment of project effects in advance of any ground-disturbing activity having moderate to high potential impacts within these areas. |

# APPENDIX B: ARCHAEOLOGICAL AWARENESS TRAINING

Presented By Lisa Folb, Nathan Reynolds, and Paul Solimano

## Camp Bonneville

Archaeology Awareness Training

## Introductions

Lisa Folb

Archaeologist with Michael Baker Jr., Inc.

Nathan Reynolds

Ecologist with the Cowlitz

Paul Solimano

Archaeologist – Applied Archaeological Research

## Awareness Training

- Relevant Laws
- Previously recorded sites and isolated finds
- Inadvertent discovery procedures
- Treatment of human remains
- Recognize objects, sites, & human remains

## Relevant Laws

- Indian Graves and Records (RCW 27.44)
- Archaeological Sites and Resources (RCW 27.53)
- Human Remains (RCW 68.50)
- Abandoned and Historic Cemeteries and Historic Graves (RCW 68.60)
- Department of Archaeology and Historic Preservation's *State Standards for Cultural Resource Reporting* (July 2006)
- Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-37).
- National Historic Preservation Act (NHPA; 16 USC 470 et seq.)
- and Section 106 (36 CFR 800).
- Native American Graves Protection and Repatriation Act (25 USC 3001 et seq.)

## Previously Recorded Cultural Resources

- 2 historic-period sites
  (45-CL-528 and 45-CL-529)
- 1 prehistoric and historic-period site
  (45-CL-318)
- 16 isolated finds

## Cultural Resources Survey was not 100%

- Sites may be present in these locations:
  - buried sites
  - alluvial contexts
  - floodplain/wetlands
  - higher elevations
  - areas with unexploded ordnance

## Agreement Documents

Programmatic Agreement (PA)

and

Finding of Suitability for Early Transfer (FOSET)

Cultural Resources Identification Procedure

## Agreement Documents Cont.

- Attachment D to the PA
  - Preservation Covenant

(Included in the FOSET)

- Attachment E
  - Monitoring and Inadvertent Discovery Plan

## Definitions

- Archaeological Site – geographic locality that contains archaeological objects
- Archaeological Object – the physical evidence of an indigenous culture
- On-Site Environmental Compliance Officer (ECO) – on-site during all remediation activities
- Remediation Team – all workers engaged in the implementation of the MEC cleanup
- Professional Archaeologist – advanced degree in appropriate discipline and has fieldwork experience
- SHPO – State Historic Preservation Officer

## Definitions Cont.

- Calendar Days vs Working Days
- Low, moderate, high potential to impact
  - Low potential impacts: no ground disturbance, normal maintenance and repair of existing structures and facilities, lands that have been substantially disturbed to a depth of more than eight (8) inches, and areas that have been adequately surveyed in the past with no discovery of resources.
  - Moderate potential impacts: slight ground disturbance not otherwise characterized as having low or high impact potential.
  - High potential impacts: disturbance of more than twelve (12) inches below the ground surface and more than ten thousand (10,000) square feet of area.

## For Your Information

- SHPO and Cowlitz may visit Camp Bonneville at any reasonable time

## Preservation Covenant

Primary Concern:

Protection of site 45-CL-318

300 feet of the center

ECO will notify the SHPO and Cowlitz Indian Tribe in writing

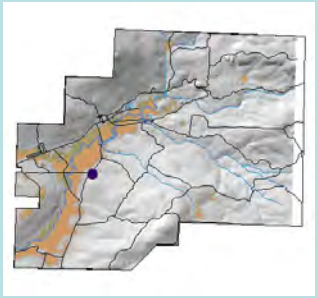
*Letter contents:*

*describe the undertaking and the expected effect to the integrity of the site.*

## Other Concerns:

- Ground-disturbing Activities **not** associated with MEC remediation
- ECO will submit to the SHPO
  - a written assessment of effects for activities with a potential for **moderate** or **high** impacts within the areas that are in the intersection of
    - 20–100% probability and
    - Slope < 5%

## 20-100% Probability + < 5% slope



## Letter Contents

- *Assessment of project effects:*
  - *1. Describe undertaking*
  - *2. Discuss effects on recorded and unrecorded cultural resources*
  - *3. Recommendations for*
    - *A) additional cultural resources survey or*
    - *B) other actions to avoid/mitigate adverse effects to cultural resources*

## Protection

- Prohibit known or inadvertent disturbance of cultural resources
- If there is a disturbance, stop activity, protect, notify SHPO

## SHPO Result

Respond in 30 Calendar days saying either:

- Proceed with no further consultation
- Initiate and complete consultation before proceeding

If no response in 30 days – Proceed

*Consultation = mutually-agreeable and appropriate measures to mitigate adverse effect*

## Attachment E

Monitoring and Inadvertent Discovery Plan

To be followed during all MEC activities

- Monitoring
- Awareness Training
- Inadvertent Discovery Procedures
- Human Remains

## Monitoring

ECO will be onsite during all remediation actions that result in ground-disturbing activity
- Sign and fence installation
- Land surveying
- Brush cleaning
- Metal detection investigations
- Excavation

## Inadvertent Discovery Plan

- Stop work
- Notify ECO

## ECO Responsibility

- If confirmed
  - Stop ground-disturbing activity within 100ft
  - Take appropriate measures to protect until procedures in plan are fully executed by
    - stabilization
    - covering
- KEEP CONFIDENTIAL
- RESTRICT ACCESS

## ECO Responsibility Cont.

1. Notify Archaeologist, SHPO, and Cowlitz
   - Telephone (no later than ONE WORKING day)
   - Written confirmation (emails, fax, overnight mail)
2. Archaeologist will inspect ASAP
   no later than THREE WORKING days

## Archaeologist Determination - Negative

Not an archaeological site:
- ECO authorizes activity to continue
- Archaeologist sends a letter report to
  - ECO, SHPO, Cowlitz, and Clark County
  - Within 15 CALENDAR days

*Letter: document finding and results, photos, determination*

## Archaeologist Determination - Positive

- Archaeologist notifies
  - ECO, SHPO, Cowlitz
    - Telephone (no later than ONE WORKING day)
    - Written confirmation (emails, fax, overnight mail)

Contents: nature of the finding, circumstances of discovery, and an opinion
- Not Eligible
- Insufficient Information

## "Not Eligible"

SHPO and Cowlitz must provide comments within 30 CALENDAR days

## "Additional Information"

- ECO, SHPO, and Cowlitz will Consult to agree on measures to avoid or mitigate the adverse effect
- May result in typical archaeological procedures

## Treatment of Human Remains

Human remains will be treated with dignity and respect at all times

## Any Identification of Bone

- Stop work
- Notify the ECO

## ECO Responsibility

- If confirmed
  - Stop ground-disturbing activity within 100ft
  - Take appropriate measures to protect until procedures in plan are fully executed by
    - stabilization
    - covering
- KEEP CONFIDENTIAL
- RESTRICT ACCESS

## ECO Responsibility Cont.

1. Notify Clark County Sheriff's Office, Archaeologist, SHPO, and Cowlitz
   - Telephone (no later than ONE WORKING day)
   - Written confirmation (emails, fax, overnight mail)
2. Archaeologist will inspect ASAP
   no later than THREE WORKING days

## Archaeologist Determination - Negative

Remains are non-human and no archaeological resources present:

- ECO authorizes activity to continue
- Archaeologist sends a letter report to
  - ECO, SHPO, Cowlitz, and Clark County
  - Within 15 CALENDAR days

*Letter: document finding and results, photos, determination*

## Archaeologist Determination – Additional Information

- SHPO and Cowlitz will be invited to be present
- Remains will be excavated sufficiently to make a determination
- If non-human, and no associated archaeological objects – activity may continue

## Archaeologist Determination – Positive

- If human – Archaeologist will notify the Sheriff, SHPO, and Cowlitz
- If non-Native – ECO will work with Sheriff to determine treatment
- If Native – ECO, SHPO, and Cowlitz with Consult

## Summary

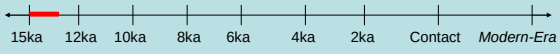
- Stop Work
- Notify ECO
- Restrict Access
- Keep Confidential
- Treat Human Remains with Respect and Dignity

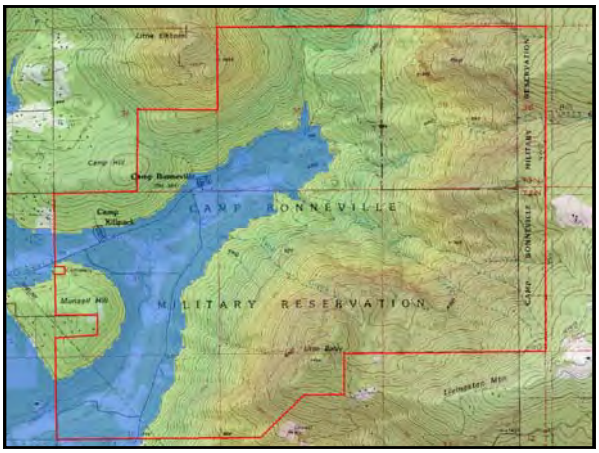
## Ecological and Cultural History of Southwest Washington State

Nathan Reynolds
Ecologist -- Cowlitz Indian Tribe

## 15,000-13,000 years ago:

- Humans likely on the landscape of the Americas
- End of last Ice Age
- Missoula Floods






## 12,000-10,500 years ago:

- Humans elsewhere in PNW

15ka 12ka 10ka 8ka 6ka 4ka 2ka Contact *Modern-Era*

## 10,500-9,000 years ago:

- Climate equivalent to today
  - Conifer forest assemblage similar to today
  - Eco-zonation similar to today
- First known traces of humans in Clark County

15ka 12ka 10ka 8ka 6ka 4ka 2ka Contact *Modern-Era*

## 9,000-4,500 years ago:

- Climate warmer than today
  - Mild moist winters, warm dry summers
  - Conifer forests receded, replaced by White oak/ Douglas-fir woodlands and savannahs, and prairie habitats
  - Change in tool technology
    - Smaller points
    - Enhanced food processing/storage
    - Enhanced harvesting efficiency
  - Housing becomes more sedentary

15ka 12ka 10ka 8ka 6ka 4ka 2ka Contact *Modern-Era*

## 4,500-2,000 years ago:

- Climate cools, again equivalent to today
- Conifer forests advance
- Prairie areas persist due to anthropogenic burning practices
- Population densities increase

15ka 12ka 10ka 8ka 6ka 4ka 2ka Contact *Modern-Era*

## 2,000 years ago to Contact:

- Climate stays stable
- Even higher population density
- Cultural Organization
  - Politically independent villages
  - No Hollywood chiefs
  - Strong intermarriage/Trade relations
  - Some landscape ownership/some shared areas
  - Class stratification

15ka 12ka 10ka 8ka 6ka 4ka 2ka Contact *Modern-Era*

## Contact (~1800AD):

- Coastal/River Trade
- Lewis and Clark
  - Portland Basin Population ~15,500
  - Disease waves already evident
- Significant aspects of culture
  - Monumental architecture
  - Material culture
  - Trade Items/Trade Skills


## Post-Contact:

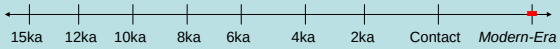
- Continued Disease (Malaria 1830-1835)
  - Fragmentation of Indian Culture, Dispersal
  - 1-2 % of pre-contact population survives
- Euro-American settlers arrive 1845
- Mostly empty landscape
  - Described as an "untamed wilderness"


## Post-Contact (continued):

- No treaty, reservation or compensation for land
- Assimilation into White Culture
- Cessation of prairie burning
- Late 1800's
  - Recruitment and relocation of Indian individuals to the Yakima Reservation

## Modern Era:

- Cowlitz Tribal Organization formed 1912
  - Includes Salish/Sahaptin peoples
- In 1972, granted compensation for lands taken by USA – $ not awarded.
- Cowlitz Indian Tribe
  - recognized in 2000
  - acknowledged in 2002




## Camp Bonneville Process From the Cowlitz Indian Tribe Perspective

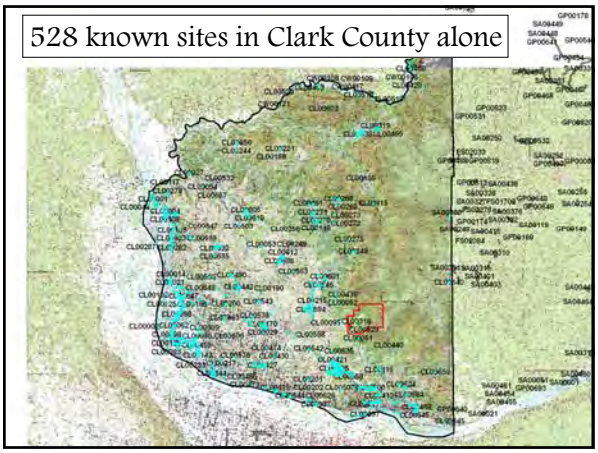
- Applied to be LRA – not selected
- Promoted need for cultural resource survey
- Army conducted survey
  - much information incorrect, missed altogether
  - less than satisfactory field survey process
  - Army would not revisit CR survey document
- Assisted preparation of Inadvertent Discovery plan
  - Monitoring, monitoring, monitoring
  - Possible to revisit idea of new CR survey?

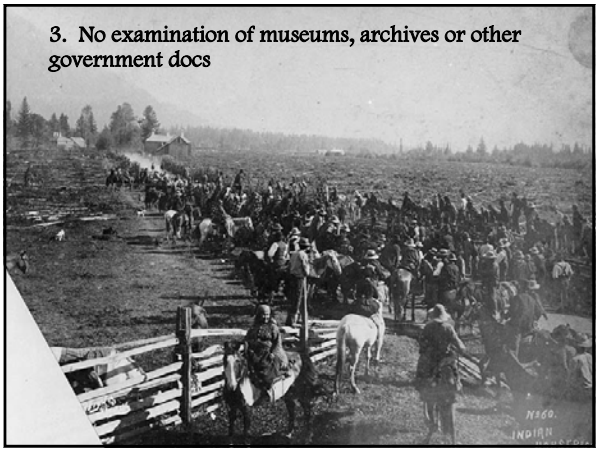
## Why should BCRRT care?

1. Oral histories:
   - Ralph Dreher, RAB Meeting, Aug 9th 2006
     - Artifacts: 11 bowls on the "Dubose", arrowheads
     - Possible burials
     - Trails/trade routes through the site
   - Other neighbors concur

## 2: Other rich archaeological sites in close proximity

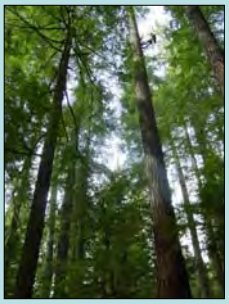
- 45-CL-95, recorded in 1972
- 0.8 miles from front gate of Camp B
- Artifacts included:
  - CCS flakes, projectile points, perforated sinker, flaked cobbles, blades, stone bowls, pestles, stone club, and 1- 12" artifact of unknown use.

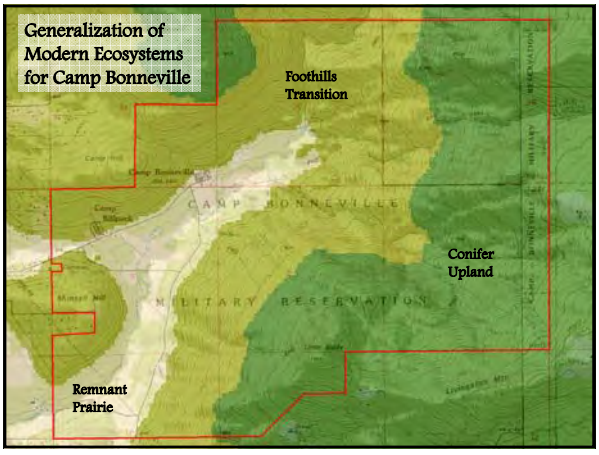



## Overview of Camp Bonneville-Specific Ecology and Anthropology








## Prairie Habitat

- Activities
  - Gathering roots
  - Gathering seeds
  - Processing plant foods
  - Hunting deer/elk
  - Hunting waterfowl
  - Tool repair
- Archaeology
  - Mortars/Pestles
  - Stone bowls
  - Oven features
  - CCS projectile points, lost and broken
  - CCS flakes/blanks
  - Bone

## Foothills Transition Habitat

- Activities
  - Cooking
  - Food processing
  - Hide preparation
  - Occupation/housing
  - Hunting/Butchering
  - Tool making/repair
- Archaeology
  - Fire-cracked rock
  - Mortars/Pestles/bowls grinding rocks
  - Scrapers
  - Cobble choppers
  - CCS flakes/blanks/lost points/broken points
  - Bone

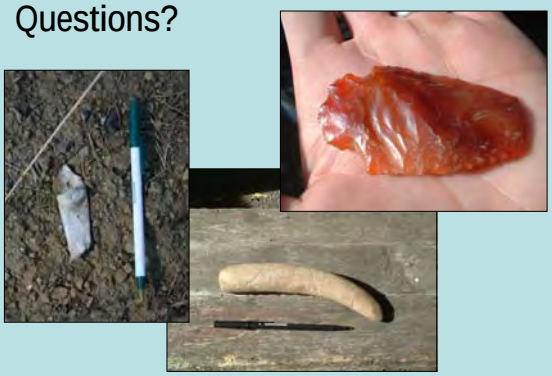
## Conifer Upland Habitat

- Activities
  - Hunting
  - Butchering
  - Tool repair
- Archaeology
  - Cobble choppers
  - CCS flakes/blanks/lost points/broken points
  - Bone

## Disturbances that likely altered the archaeologic signature

- Forest Fire 1902
- Grading and shaping of earth surface
  - Plowing/discing fields
  - Road building
  - Ordnance
  - Berms
- Surface collection of artifacts

## Questions?



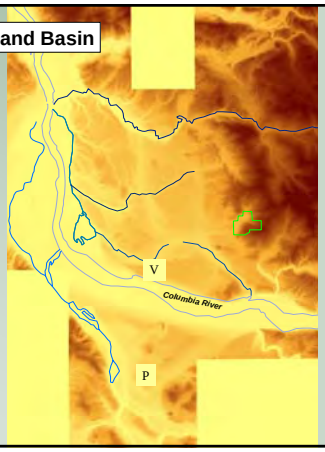
# Prehistoric Archaeology in the Portland Basin

Paul S. Solimano
Applied Archaeological Research, Portland

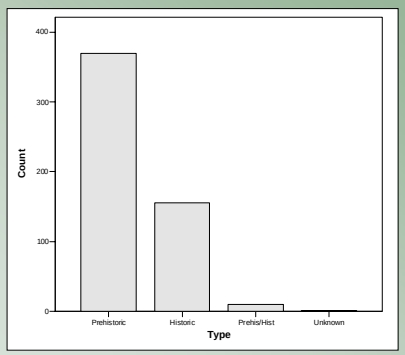
## Regional Prehistory

- What does the empirical archaeological record look like?
- What do we know about prehistory in the area?
- How does this information bear on Camp Bonneville?
- What types of sites and artifacts are likely to be found at Camp Bonneville?

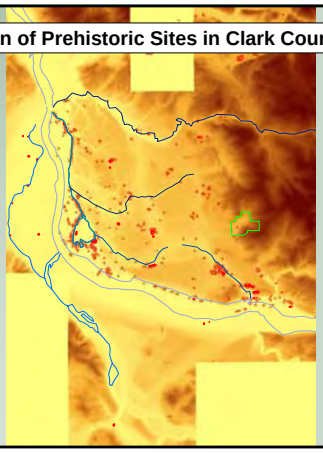
## The Portland Basin




## Sites by Period

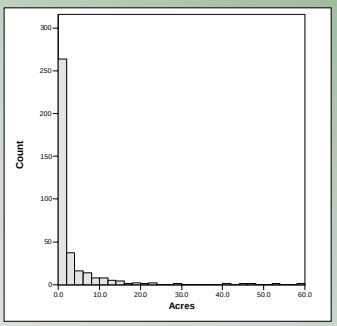



## Distribution of Prehistoric Sites in Clark County



## Detail of Prehistoric Site Distribution

## Prehistoric Sites by Size




| Descriptive | m² | Acres |
|---|---|---|
| Mean | 12,566 | 3 |
| Median | 3,500 | 0.8 |
| Std. Dev | 27,383 | 7 |
| Range | 239,445 | 60 |

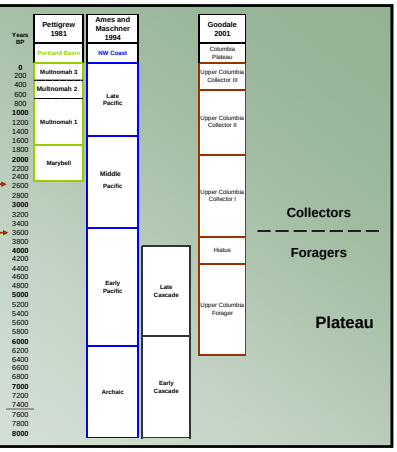
- Over 100 sites that are more than 3 acres
- Over 60 sites that are more than 5 acres
- ca. 225 sites one half acre or less

## What do we know about prehistory in the area?

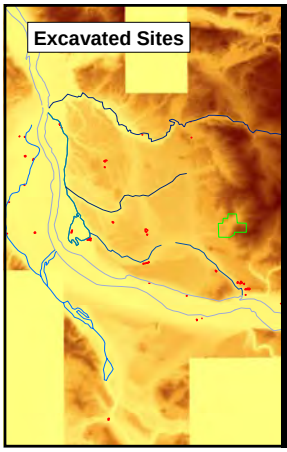
ca. 2500 First Houses

ca. 3600 Processing Feature

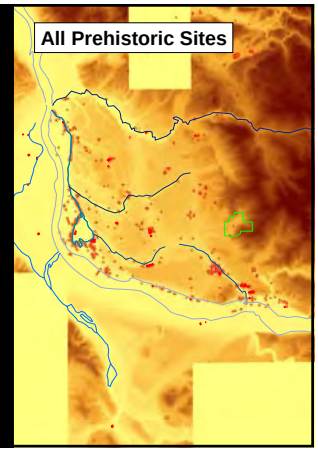
Portland Basin




## Excavated Sites



## All Prehistoric Sites

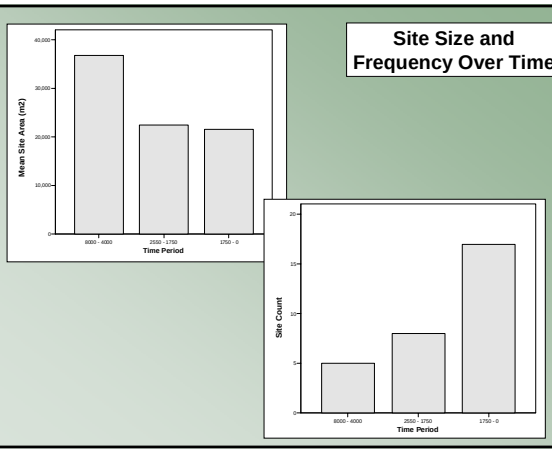


## Artifact Classes

- Projectile point
- Bifaces
- Flake Tools
- Unifaces
- Drill
- Gravers
- Microblade
- Used Spalls
- Used Flakes
- Tabular Tools
- Flaked Cobbles
- Cobble Choppers
- Perif Flaked Cobbs
- Flaked spalls
- Edge-battered Cobble
- Edge-ground Cobble
- Hammerstones
- Anvil
- Microblade Core
- Misc or UnID GS
- Abrader
- Shaft Abrader
- Adz
- Celt
- Atlatl Weights
- Mano
- Grinding Slabs
- Pestle/Maul
- Netweights
- Pecked stones
- Stone mortors/bowls
- Cores

| | | Site No. | Classes | Assemblage Size |
|---|---|---|---|---|
| 8000 - 4000 | | CL00632 | 5 | 13 |
| | | CL00631 | 8 | 27 |
| | | CL00096 | 9 | 80 |
| | | CL00428 | 12 | 552 |
| | | Geertz | 12 | 308 |
| | Total Sites | 5 | 5 | 5 |
| 6000 - 4000 | | CL00412 | 19 | 394 |
| | | CL00527 | 10 | 29 |
| | | CL00055 | 11 | 374 |
| | Total Sites | 3 | 3 | 3 |
| 2550 - 1750 | | CL00124 | 8 | 25 |
| | | CL00479 | 5 | 24 |
| | | CL00454 | 9 | 19 |
| | | CL00500 | 10 | 165 |
| | | CL00500 | 5 | 91 |
| | | MU00009 | 11 | 1011 |
| | Total Sites | 6 | 6 | 6 |
| 1750 - 0 | | CL00427 | 9 | 81 |
| | | MU00057 | 8 | 101 |
| | | CO00034 | 11 | 30 |
| | | CL00031 | 14 | 408 |
| | | CO00004 | 11 | 108 |
| | | MU00001 | 15 | 511 |
| | | CO00003 | 16 | 858 |
| | | MU00006 | 12 | 242 |
| | | CO00007 | 8 | 239 |
| | | MU00026 | 5 | 21 |
| | | CL00004 | 8 | 88 |
| | | CL00004 | 5 | 7 |
| | | CL00006 | 15 | 172 |
| | | CO00005 | 11 | 546 |
| | Total Sites | 14 | 14 | 14 |
| Total | | 28 | 28 | 28 |

## Site Size and Frequency Over Time




| P3 | N | Range | Mean |
|---|---|---|---|
| 8000 - 4000 | 5 | .66 | -.17 |
| 6000 - 4000 | 3 | 3.14 | 1.00 |
| 2550 - 1750 | 6 | 2.76 | -.54 |
| 1750 - 0 | 14 | 3.03 | .08 |

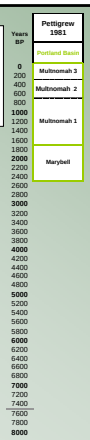
| Time Period | Descriptive | Richness | Evenness | Number of 100 year increments | Increase in Richness for each 100 year increment | Increase in Unevenness for each 100 year increment | Number of Assemblages | Increase in Richness for each Assemblage | Increase in Unevenness for each Assemblage |
|---|---|---|---|---|---|---|---|---|---|
| 8000 - 4000 | N=5 | | | 40 | 0.25 | 0.043 | 5 | 0.2 | 0.34 |
| | Mean | 10 | 1.72 | | | | | | |
| | Range | 11 | 3.26 | | | | | | |
| 2550 - 1750 | N=8 | | | 8 | 1.2 | 0.21 | 8 | 1.2 | 0.21 |
| | Mean | 9 | 1.66 | | | | | | |
| | Range | 13 | 3.77 | | | | | | |
| 1750 - 700 | N=10 | | | 10.5 | 0.95 | 0.18 | 10 | 1 | 0.2 |
| | Mean | 10 | 1.93 | | | | | | |
| | Range | 11 | 3.5 | | | | | | |
| 700 - 0 | N=8 | | | 7 | 1.6 | 0.32 | 6 | 1.8 | 0.37 |
| | Mean | 14 | 3 | | | | | | |
| | Range | 21 | 5.71 | | | | | | |

| Period | | Interior | Columbia River Floodplain |
|---|---|---|---|
| Pre 3000 | Count | 8 | 1 |
| | Expected | 4.4 | 4.6 |
| | Large | 50 | 993 |
| | Small | 971 | 38 |
| 2550 - 1750 | Count | 6 | 2 |
| | Expected | 3.9 | 4.1 |
| | Large | 186 | 929 |
| | Small | 911 | 206 |
| 1750 - 700 | Count | 3 | 7 |
| | Expected | 4.9 | 5.1 |
| | Large | 898 | 254 |
| | Small | 256 | 862 |
| 700 - 0 | Count | 0 | 8 |
| | Expected | 3.9 | 4.1 |
| | Large | 1000 | 45 |
| | Small | 14 | 982 |

More sites in uplands

More sites in lowlands

## What do we know about prehistory in the area?



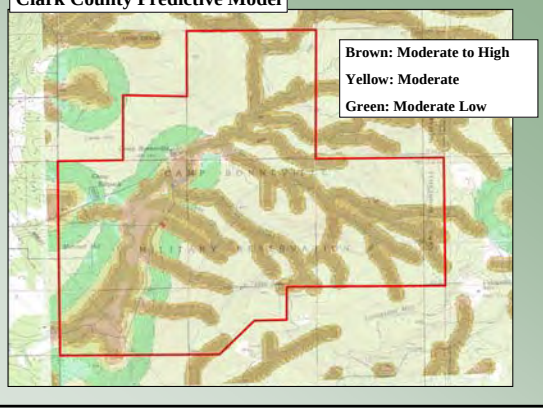

**Collectors**

- More Complex Settlement Patterns
- Substantial Houses
- Complex Resource Use
- Extensive Storage

**Foragers**

- Simpler Settlement Patterns
- No Houses
- Wide Diet Breath
- Little Storage Technology

## Clark County Predictive Model



**Brown: Moderate to High**

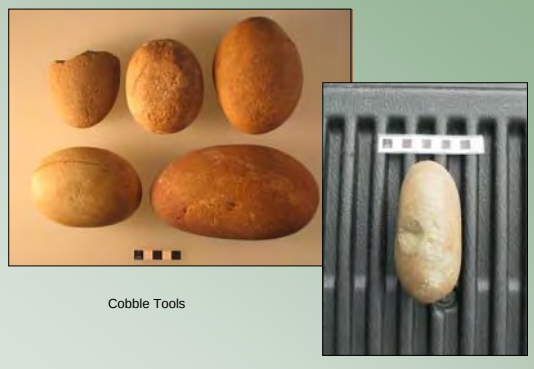
**Yellow: Moderate**

**Green: Moderate Low**

## Implications for Camp Bonneville

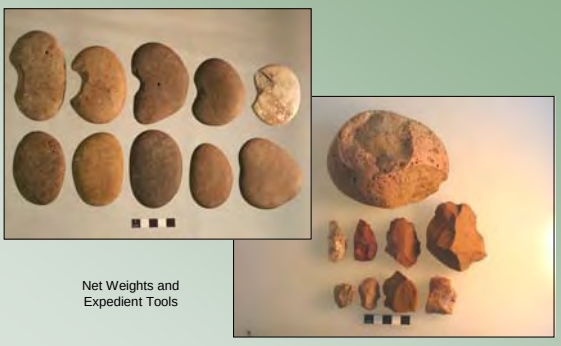
Projectile Points and Bifacial Tools

## Implications for Camp Bonneville



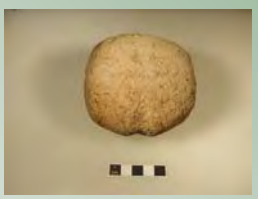
Cobble Tools

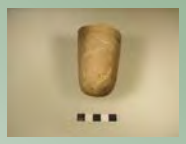
## Implications for Camp Bonneville

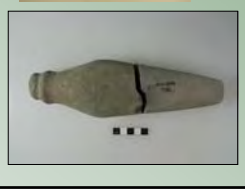


Net Weights and Expedient Tools

## Implications for Camp Bonneville

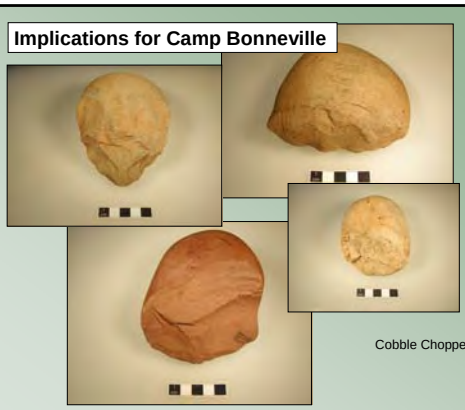






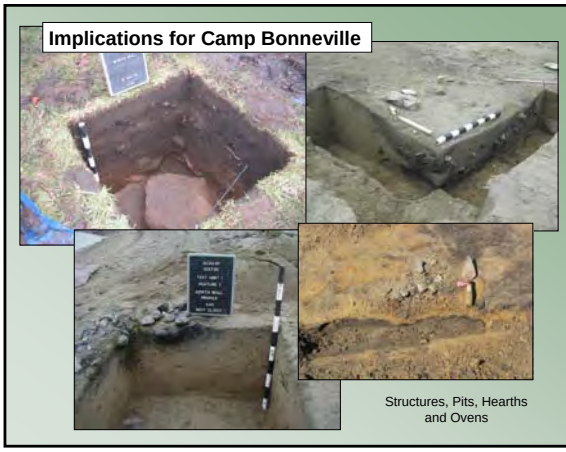
Ground and Pecked Stone

## Implications for Camp Bonneville



Cobble Choppers

## Implications for Camp Bonneville



Structures, Pits, Hearths and Ovens

## Implications for Camp Bonneville

- High likelihood for prehistoric sites.
- Ground disturbance increases discovery probability.
- Sites likely occur in a wider variety of environments than suggested by the Clark County Predicative Model.
- Sites will date to nearly the entire Holocene, but post-ca. 700 bp sites may not be found.
- A variety of functional sites may be expected (i.e. residential and task specific).