APPENDIX D

Standard Operating Procedures

STANDARD OPERATING PROCEDURE FOR CHIPPING OPERATIONS

1.0 PURPOSE

The purpose of this standard operating procedure (SOP) is to provide the minimum procedures and safety and health requirements applicable to the conduct of chipping operations in areas that are considered environmentally sensitive.

2.0 SCOPE

This SOP applies to all personnel involved in the conduct of chipping operations either using a disk-type or rotary-drum-type chipper.

3.0 REGULATORY REFERENCES

- Weston Corporate Safety and Health Program (FLD47)
- OSHA General Industry Standards, 29 CFR 1910
- OSHA Construction Standards, 29 CFR 1926
- USACE EM 385-1-1, Safety and Health Requirements Manual
- AR 385-10, Army Safety Program
- Operators Manual and Manufacturers Recommendations

4.0 RESPONSIBILITIES

4.1 Remediation Project Manager (RPM)

The RPM is responsible for ensuring availability of resources required to safely implement this SOP.

4.2 Senior Unexploded Ordnance Supervisor (SUXOS)

The SUXOS is responsible for incorporating this SOP in plans, procedures, and training.

4.3 UXO Safety Officer (UXOSO)

The UXOSO ensures that all chipping operations are being conducted in a safe manner, in accordance with the appropriate work plans, FLD 47, and this SOP.

4.4 Chipper Team Leader

The chipper team leader is responsible for the daily maintenance, upkeep, and repair of the machine, and certification of operator personnel.

4.5 Qualified Biologist

The Qualified Biologist will identify locations where mulch is not to be spread, to avoid affecting the re-establishment of Habitat Management Plan annual plants.

5.0 CHIPPING OPERATIONS

5.1 General

Chipping is required whenever vegetation removal is being conducted in the Habitat Management Area. In addition, it may be necessary to conduct chipping to improve ground visibility and safety.

5.2 Chipper Operation

The chipper will be manned by brush feeders (laborers). When feeding material into the chipper, feeders must exercise care not to place hands, or any other parts of the body, or loose clothing on the feed table when the chipper is in operation. Care will be taken not to reach past the "SAFE" point established on the feed table/chute. This point varies between chipping machines and will be identified to all personnel.

- A push stick of material consumable by the chipper will be available, one on either side of the chipper, for pushing material into the chipper when it is necessary to probe beyond the safe point.
- Brush draggers will be employed to drag brush to the feeders. The draggers will trim the brush as necessary to fit it into the chipper, and pass it to the feeders.
- Limbs and wood stock 3 inches or greater in diameter need not be chipped. These items can be left in the field as a source of habitat for bugs, salamanders, and other creatures.
- The chipper team leader must oversee the operation with regard to safety, work progress, weather/wind conditions, materials being chipped, and other factors that affect the operation.
- Poison oak will not be chipped by itself. If it is entangled within brush, it will be chipped based on the team leaders' discretion.
- Any time the chipper is operated while disconnected from the team vehicle, the chipper's wheels will be blocked or chocked to prevent it from rolling.
- Fluid levels and gauges will be checked periodically and at every break.

5.3 Chipped Mulch

Mulch will, in most locations, be spread over the area from which the original brush material was cut and be limited to 3 inches in depth. Mulch will not be spread any closer than 5 feet from the roadsides whenever possible. Mulch will not be spread in certain locations where sensitive annual plant habitat occurs, as identified by the Qualified Biologist.

5.4 Field Sanitation

The team decontamination station will be located at least 50 feet upwind of the chipping operation. If the team vehicle is attached to the chipper, the team equipment in the pickup bed will be covered with a tarp or plastic sheet material.

5.5 Hearing Conservation

The first day, the noise level will be measured using an appropriate measuring device(s). Readings will be taken at the machine, as well as in the vicinity of the machine, and noise attenuation devices selected and issued. Directives of FLD 01 will be adhered to at all times.

6.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Modified Level D PPE will be required for personnel engaged in chipping operations to include:

- Coveralls – appropriately taped at ankles and openings
- Surgical/inner gloves
- Leather or canvas work/outer gloves
- Leather gauntlets
- Work boots – leather or suitable material
- Tyvek hood when in poison oak
- Hard hats
- Hearing protection −brush feeders will wear noise attenuating helmets or ear plugs, both will be worn if uninterrupted work period extends beyond 45 minutes
- Brush draggers will wear noise attenuating helmets or ear plugs
- Eye protection −all personnel will wear safety glasses, brush feeders will also wear face shields/screens
- Disposable dust masks - at any time that dust is being generated, disposable dust masks will be worn

No one will approach within 35 feet of an operating chipper without the appropriate PPE and hearing protection.

7.0 TRAINING

All personnel who work on a chipping crew will be qualified and certified through machine-specific, site-specific, and on-the-job training. This training will consist of:

- Mechanical operations and maintenance of the chipper
- Features of the chipper and its operational limits and characteristics
- Safety parameters relevant to chipping operations

STANDARD OPERATING PROCEDURE FOR MECHANICAL VEGETATION CUTTING

1.0 PURPOSE

The purpose of this standard operating procedure (SOP) together with FLD 47 is to provide the minimum procedures and safety and health requirements applicable to the conduct of mechanical vegetation cutting operations.

2.0 SCOPE

All personnel performing operations utilizing mechanical equipment for vegetation cutting will conform to this SOP. This SOP is not a stand-alone document, and all personnel will become familiar with associated documents and/or manuals related to this operation.

3.0 REGULATORY REFERENCES

- Weston Solutions, Inc., Corporate Safety and Health Program
- OSHA General Industry Standards, 29 CFR 1910
- OSHA Construction Standards, 29 CFR 1926
- USACE EM 385-1-1, Safety and Health Requirements Manual
- AR 385-10, Army Safety Program
- Operator's Manual and Manufacturer's Recommendations

4.0 RESPONSIBILITIES

4.1 Remediation Project Manager (RPM)

The RPM is responsible for ensuring availability of resources required to safely implement this SOP.

4.2 Senior Unexploded Ordnance Supervisor (SUXOS)

The SUXOS is responsible for incorporating this SOP in plans, procedures, and training.

4.3 UXO Safety Officer (UXOSO)

The UXOSO ensures that all mechanical vegetation cutting operations are being conducted in a safe manner in accordance with the work plan and this SOP.

4.4 Mechanical Vegetation Cutting Team Leader

The team leader is responsible for the daily maintenance, upkeep, and repair of the machine and certification of operator personnel.

4.5 UXO Escort/Ground Safety Observer

The UXO Escort/Ground Safety Observer ensures that personnel and equipment remain within the site, and marks any munitions and explosives of concern (MEC) encountered and reports their location to the SUXOS.

4.6 Team Members

The team members are responsible for the proper and safe operation and maintenance of all equipment, such as weed eaters and chainsaws, and walking behind brush hogs.

5.0 MECHANICAL VEGETATION CUTTING OPERATIONS

Vegetation cutting operations will be consistent with the operator's manual and terrain features, and permits the Ground Safety Observer to perform those duties as directed to include a visual search/survey of the area(s) to be worked in.

- Personnel will not enter within 50 feet of an operating piece of equipment. If, at any time, personnel enter closer than 50 feet, the operator will immediately stop, return the engine to idle speed, and disengage power to all attachments.
- A communications check with the team personnel prior to operations commencing will be conducted. Hand signals are devised and used as a secondary means of communication. All team personnel must know these hand signals prior to operations commencing.
- The direction and manner in which the vegetation is to be removed will be directed by the team leader. Prior to cutting operations commencing, a visual search/survey is conducted to determine the hazards that may be encountered, including MEC, terrain slope, vegetation, wildlife, and environmental concerns. The team leader will also determine the personal protective equipment (PPE) requirements based on the identified hazards.
- The Ground Safety Observer precedes the equipment and performs a visual search for MEC, ordnance scrap, rats' nests, surface debris, and any other obstruction/object that may pose a hazard to team personnel. Hazardous items, impassable terrain, or vegetation that may affect operations will be marked and team personnel notified. The operator shall follow a route selected by the Ground Safety Observer while operations are ongoing.
- Team personnel will ensure that a 6-inch ground clearance is maintained during cutting operations. Those areas marked as hazards are to be avoided.

- MEC or MEC-related items encountered are marked and avoided. Notification of these items will be made to the SUXOS.

5.1 Safety

Safety is paramount. All personnel will observe those safety precautions/warnings that apply, or may apply, to vegetation cutting operations. Those listed below are general in nature and personnel will need to review applicable publications for more specific safety precautions/warnings. Distances are the minimum required.

- Maintain 200 feet from essential non-UXO personnel; UXO personnel engaged in intrusive work; and other mechanical equipment (e.g., backhoe).
- Maintain 50 feet between equipment and team personnel.
- Distances may be increased by the UXOSO, as determined by site history, MEC items encountered, terrain features, and other factors that may apply.
- Use equipment safety features (e.g., guards).
- Safety precautions/warnings found in the operator's manual(s)/manufacturer's publication(s) will be observed.
- Maintain 6 inches of ground clearance during cutting operations.
- Communications will be maintained between the Team Leader/UXO Escort, operator, and Ground Safety Observer at all times.
- Maintain site control.
- Observe safety precautions for items encountered or suspected.
- Ensure PPE is serviceable and worn/used in a proper manner.

6.0 PERSONAL PROTECTIVE EQUIPMENT

Level D PPE will be required for personnel engaged in mechanical vegetation cutting. Clothing includes, but is not limited to:

- Coveralls or work clothing as prescribed
- Work gloves, leather or canvas as appropriate
- Safety glasses
- Face shields when appropriate
- Hard hats when working within 100 feet of equipment
- Hearing protection, noise attenuators or ear plugs when within 50 feet of equipment
- Dust mask, as required by wind conditions and/or the presence of airborne particulate matter

- Other PPE as needed (e.g., face shield, Kevlar chaps, etc.)

7.0 TRAINING

All personnel who work on a mechanical vegetation cutting crew will be qualified and certified through machine-specific, site-specific, and on-the-job training. This training will consist of:

- Mechanical operations and maintenance of the vegetation cutting equipment
- Features of the equipment and its operational limits and characteristics
- Safety parameters relevant to mechanical operations

STANDARD OPERATING PROCEDURE FOR DEMOLITION AND MEC CLEARANCE OF FIELD LATRINES

1.0 PURPOSE

The purpose of this standard operating procedure (SOP) is to provide the minimum procedures and safety and health requirements applicable to the conduct of demolition and munitions and explosives of concern (MEC) clearance of field latrines on the former Fort Ord.

2.0 SCOPE

This SOP applies to all personnel involved in the conduct of MEC clearance of field latrines, and the use of earth moving machinery for the operation.

3.0 REGULATORY REFERENCES

- Weston Corporate Safety and Health Program
- OSHA General Industry Standards, 29CFR 1910
- OSHA Construction Standards, 29CFR 1926
- USACE EM 385-1-1, Safety and Health Requirements Manual
- AR 385-10, Army Safety Program

4.0 RESPONSIBILITIES

4.1 Remediation Project Manager (RPM)

The RPM is responsible for ensuring availability of resources required to safely implement this SOP.

4.2 Senior Unexploded Ordnance Supervisor (SUXOS)

The SUXOS is responsible for incorporating this SOP in plans, procedures, and training and ensuring that all personnel conducting field latrine demolition operations are familiar with and comply with this SOP.

4.3 UXO Safety Officer (UXOSO)

The UXOSO ensures that all operations pertaining to field latrines are being conducted in a safe manner and in accordance with the appropriate work plans and this SOP. The UXOSO conducts safety audits of the operations and ensures that all personnel are properly trained and utilizing the appropriate personal protection equipment (PPE).

4.4 UXO Team Leader

The UXO Team Leader is responsible for supervision of the team conducting the demolition and clearance of the field latrines. The UXO Team Leader is required to conduct training of personnel involved in field latrine operations to ensure that equipment operators and line tenders thoroughly understand this SOP.

5.0 OPERATIONS

5.1 General

- Visual clearance of field latrines is required prior to backfilling.
- The backhoe or similar machine will be used to push or pull the structure from the pit. Accessibility and structure design will dictate which method to employ. This operation will involve an equipment operator and a UXO Supervisor, who is acting as a safety observer.
- A minimum of three UXO Technicians will perform the search operation: One UXO Team Leader, and two UXO Tech I/IIs. One UXO Tech I/II will conduct the search, while the other one tends the safety line.

The worker conducting the inspection will don Level C PPE consisting of:

- Tyvek coveralls with hood
- Rubber boots, rubber gloves with inner cotton gloves
- Full face respirator with high-efficiency particulate (HEPA) filters
- Safety harness

The technician will visually inspect for anomalies from the edge of the latrine opening. The contents will be moved around with a long-handled rake or hoe-matic to ensure that the pit is clear of MEC.

In the event MEC is encountered, and it is determined to be safe to move, it will be decontaminated using a 50/50 bleach/water mixture, placed in a plastic bag, and transported to the safe holding area. In the event the item is deemed unsafe to move, the UXOSO will be notified for guidance.

Upon approval from the UXO Quality Control Specialist and the UXOSO, the pit will be backfilled. The structure will be disposed of in accordance with the appropriate work plans.

6.0 SAFETY

6.1 General

- Pits required to be left open and unattended will be clearly marked with caution tape or orange safety fence.
- At no time will any personnel enter the concrete septic pit.
- One end of the safety line will be attached to the harness; if no other solid anchor is available, the other end will be attached to the backhoe or team vehicle. The UXO Team Leader will collect and control keys for that vehicle.

6.2 PPE

- Personnel around the backhoe will wear hard hats.
- Level C PPE will consist of: full-face respirator with HEPA filters (N/P/R 99,100), Tyvek coveralls with hood, rubber boots, and rubber gloves.
- The line tender will wear Level C PPE with the respirator readily available.

6.3 Personnel Decontamination Station (PDS)

- The PDS will be set up prior to starting the operation in an upwind location.
- Personnel will be decontaminated using a 10% bleach/water solution.
- The minimum equipment required for the PDS is:
  - Plastic tarp
  - Large trash bag or receptacle
  - Deck sprayer for 10% bleach solution

STANDARD OPERATING PROCEDURE FOR HANTAVIRUS EXPOSURE PROTECTION

1.0 PURPOSE

The purpose of this standard operating procedure (SOP) along with FLD 43 is to provide the minimum procedures and safety and health requirements applicable to the conduct of operations involving potential exposure to Hantavirus.

2.0 SCOPE

To establish a policy to protect personnel engaged in activities at the former Fort Ord from potential exposure to Muerto Canyon Virus (MCV). Hantavirus Pulmonary Syndrome (HPS) is a respiratory disease, which is caused by a type of Hantavirus. The particular Hantavirus responsible for HPS is the MCV.

3.0 BACKGROUND

There have been confirmed cases of fatal Hantavirus infection in California in recent years. As a result, this SOP has been developed to provide guidance to personnel whose occupational activities might expose them to sources of this virus.

4.0 METHOD OF TRANSMISSION

MCV is transmitted to humans through the inhalation of aerosolized excreta (feces, urine, and saliva) and contaminated dust from rodents and their nests. This includes rats, deer mice, brush mice, and western chipmunks. Some sites where personnel will be working are infested with significant numbers of rat nests that may be encountered during the conduct of activities.

5.0 SYMPTOMS OF MCV

Workers infected with MCV develop febrile or respiratory illness within 45 days of their exposure. The initial symptoms are flu-like and may progress to life-threatening respiratory distress. Besides supportive measures, there are no proven therapeutic agents available at this time for MCV. Workers showing symptoms should seek medical attention immediately. The physician should be informed that MCV is a potential occupational risk and a blood sample should be drawn for comparison with the baseline serum sample. The blood samples should be forwarded to the California State Department of Health for transfer to the Center of Disease Control for testing. The required storage for drawn serum of -20° C may be impractical for extended periods in many locations. The serum will aid in diagnosis by clarifying baseline status, but it is not essential.

5.1 Medical Program

All employees working at the former Fort Ord have baseline blood serum samples drawn during the conduct of their pre-employment physical. The examination also includes a medical and occupational history review, blood and urine tests for contaminants of interest, electrocardiogram, pulmonary function tests, chest x-ray, and general physical examination including hearing and vision.

6.0 SPECIALIZED TRAINING

Specialized training regarding MCV is conducted during site-specific training for personnel who will be employed at the site. It includes use of protective equipment, safe and effective use and application of functional tools and equipment, work procedures and practices, medical surveillance requirements, recognition of symptoms and signs of exposure, physical nature of possible sources of exposure, and appropriate first aid.

7.0 EXPOSURE PREVENTION

The following procedures will be used to minimize exposure to MCV.

7.1 Indoor Work Areas

It is not anticipated that employees will be working in "indoor work areas" where there is a potential for exposure to MCV. If this should occur, or if additional buildings or housing to support operations are acquired that have been closed up or vacant for long periods of time, the following procedures will apply:

- Open building and air it out for at least 30 minutes prior to cleanup
- Spray the indoor area with a household disinfectant
- Wait 30 minutes prior to completion of cleanup

7.2 Field Latrines

The Army field latrines located throughout the former Fort Ord are considered to be contaminated with MCV. These latrines will be entered only as necessary to determine if munitions and explosives of concern (MEC) are located within the structure prior to demolition and removal. Field toilet facilities will consist of port-a-johns, strategically located within the work sites.

7.3 Outdoor Work Areas

Rat nests exist in varying numbers throughout the installation. It is expected that these are the prime threat of exposure for employees. When encountered during the course of brush clearing activities, the rat nests are cordoned off with engineer's tape and avoided. During brush clearing in close proximity to the nests, care is exercised to avoid disturbing the nests or creating dust clouds from them. The presence of these nests is recorded on grid sheets by the team leaders. During the conduct of geophysical and MEC activities, cordoned-off rat nests are avoided and the engineer's tape left in place.

7.4 Excavation Team Operations

After all brush cutting and geophysical and MEC activities in the grid are complete, the unexploded ordnance (UXO) excavation team disinfects, searches, and clears the areas beneath the nests.

7.5 Decontamination Method

MCV is easily killed in the environment with common disinfectant solutions such as household bleach/water solution (50/50 for Equipment and Nests, 10% for Personnel) or rubbing alcohol. These solutions and direct sunlight will kill the virus in less than 1 hour.

7.5.1 Decontamination Equipment

The below-listed equipment may be used for nest decontamination and destruction:

- Backhoe
- Backpack fire pumps
- 5-gallon water containers, buckets, and brushes
- Plastic storage and disposal bags
- Drop cloth
- Bleach/water and alcohol
- Rakes and pitchforks
- Other search and clearance equipment normally carried by teams

8.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Level C is the PPE required for personnel engaged in activities where a possibility of exposure to MCV exists. The UXO Safety Officer, in conjunction with the certified industrial hygienist, will make any applicable changes. Level C items include:

- Half-face, air-purifying respirator with high-efficiency particulate (HEPA) filter cartridges (N/P/R 99,100) and non-vented goggles or high-filtration dust mask with non-vented goggles
- Coveralls with hood (disposable if possible); rubber or plastic gloves; rubber boots or disposable shoe covers
- Wrist and ankles will be sealed with tape
- Hard hats will be worn in vicinity of earth moving equipment (backhoe)

Prior to donning a mask/respirator, the wearer must be clean-shaven in the areas of the face that help to create an air-tight seal between the face and the mask/respirator.

9.0 PROCEDURES FOR CLEARING RODENT NESTING AREAS

The below-listed procedures are used by the excavation team when disinfecting, searching, and clearing nests:

- All members of the team dress in prescribed PPE listed in Section 8.0.
- If the backhoe is to be used, the operator positions the backhoe in such a manner as to access nest(s) from the upwind side.
- The nest is drenched with bleach/water solution.
- Nest materials are swept clear of the next location with the backhoe or the rakes and pitchforks, with care being taken not to spread the materials over too large an area.
- The nest is checked with a magnetometer. If no anomalies are detected, the team continues to the next area; if an anomaly is detected, the team proceeds to the next step.
- Contacts are excavated as necessary, leaving materials dislodged.
- Spray again with bleach/water solution. Drench all materials and original nest site.

Be Prepared for Rodents or Snakes to Flee the Nest as Activities Progress.

The decision to use the backhoe or rakes and hand tools to clear nests is at the team leader's discretion, based on consideration for:

- Access to the nests with the backhoe
- Nest size, quantity, and location
- Environmental affect likely to be incurred through maneuvering the backhoe in and out of position (i.e., tire ruts, impressions, and outrigger disturbance of topsoils)

10.0 FIELD SANITATION

Upon completion of work in a potential MCV contamination area, team personnel process themselves through the team field sanitation station. Waste materials are placed in plastic bags with disinfectant solution that will completely wet the item disposed of. The plastic bag is then placed in trash receptacles for disposal as ordinary waste. Non-waste materials (coveralls, gloves, etc.) are placed in plastic bags with disinfectant solution, which will completely wet the items. Upon return to the support compound, the items are then processed for ordinary laundering.

11.0 RESPIRATOR FIT TESTING, INSPECTION, AND MAINTENANCE

Employees required to wear a respirator must be fitted properly and tested for a face seal prior to use of the respirator in a contaminated area. Manufacturers provide fitting instructions and use limitations on their product packaging. The following points should be considered for respirator inspection and maintenance:

- The wearer of a respirator will inspect it prior to its use.
- Supervisory personnel will periodically spot check respirators for fit and condition.
- Respirators not discarded after use will be cleaned after use, according to the manufacturer's instructions, by the user.
- Respirators not discarded after one use will be stored in a suitable container away from areas of contamination.
- Inspection and maintenance of respirators will be documented in the team leader's notebook.

STANDARD OPERATING PROCEDURE FOR BACKHOE/EXCAVATOR OPERATIONS

1.0 BACKGROUND

Backhoes/excavators are used at the former Fort Ord to excavate during investigation of subsurface magnetic anomalies, during clearing of rodent nests, and for minor road repair to facilitate site access and egress.

2.0 SCOPE

This standard operating procedure (SOP) contains information specific to the former Fort Ord. It is incumbent upon all designated operators to familiarize themselves with this SOP and Weston Solutions, Inc. (WESTON) FLD 22, and to periodically review them in an effort to remain current with safe, productive backhoe/excavator procedures.

3.0 OPERATIONS

Employees who operate backhoes on the former Fort Ord will be qualified through on-the-job training (OJT) consisting of equivalent OJT that was documented through previous employment or experience, or documented through formal training. When engaged in backhoe/excavator operations the operator will perform daily inspection and maintenance functions and operate the backhoe as directed. Inspections will be documented using the WESTON Equipment Inspection Form or forms from the Operation's Manual. The operator will also conduct OJT for other operators at the team leader's discretion.

3.1 Personal Protective Equipment (PPE)

Modified Level D PPE will be required for personnel engaged in backhoe operations. Clothing items will be:

- Coveralls or work clothing as prescribed
- Work gloves, leather or canvas, as appropriate
- Safety glasses - as wind conditions and airborne particulate matter dictate
- Hard hats
- Work boots (sturdy and of sufficient height to aid in ankle support)
- Hearing protection: noise attenuating helmet or earplugs will be worn by anyone within 25 feet of the backhoe while it is operating; FLD 01 will be followed and hearing protection for any other backhoe brought on site will be determined through a noise survey (sound-level meter survey)

- Dust masks - as wind conditions and airborne particulate matter dictate

NOTE: *If the backhoe is being used for the clearance of rat nests to facilitate a magnetometer sweep, PPE will be in accordance with the Hantavirus SOP.*

3.2 General Safety Precautions

Maintain minimum separation distances as identified in the appropriate work plans.

The backhoe/excavator will not be operated without a spotter. This includes using the front and rear attachments and backing the tractor. Prior to starting an excavation, a safety arc will be etched in the ground with the rear boom fully extended. If operating on a hard surface, the safety arc will be marked with bright spray paint. Prior to anyone entering the safety arc, the operators will:

- Swing the boom arm fully to one side
- Lower the bucket to the ground
- Return the engine to idle speed
- Hold her/his hands clear of the controls or in the "hands up" position

3.2.1 Equipment Safety Precautions

See the operator's manual.

3.3 Team Composition

One unexploded ordnance (UXO) Technician will serve as a safety observer and director for other team personnel and all members of the backhoe team will be UXO qualified. The minimum team makeup will be:

- One operator
- One ground person

3.3.1 Ground Personnel

Team members working on a backhoe/excavator team will be qualified through OJT and will perform such tasks as magnetometer checks, manual excavation, and checks of the hole.

3.4 Training

Training will be documented in UXO Supervisors' field notebooks and in LFR\WESTON on-site records.

3.5 General Operational Procedures

The operator will have a radio in place so s/he can monitor radio transmissions while driving the backhoe to and from excavation sites. Prior to shutting off the tractor engine the operator should let the engine run at idle speed for a few minutes to allow the turbo charger to cool. Prior to excavation operations the UXO Team Leader will establish/review hand signals with all members of the team. The backhoe will not be used to excavate closer than 12 inches from MEC in accordance with EP-385-1-95A, Section 14, Paragraph b. Removed dirt will be placed at least 2 feet from the expected edge of the excavation, and on the uphill side when working on a slope. Excavations will not be deeper than 4 feet without authorization from the UXO Safety Officer. Such excavations require a competent person as defined by 29 CFR 1926.651-653 to determine step/slope requirements.

STANDARD OPERATING PROCEDURE FOR MEC WITH UNKNOWN FILLER

1.0 PURPOSE

The purpose of this standard operating procedure (SOP) is to provide the step-by-step procedures and safety and health requirements applicable in the event ordnance items are discovered and the filler cannot be positively determined at the former Fort Ord.

A Chemical Warfare Material (CWM) Risk Assessment has been completed for the former Fort Ord. The results indicated that the probability of encountering CWM munitions is "unlikely" while the probability of encountering CWM Chemical Identification Sets is "seldom."

2.0 SCOPE

This SOP applies to all personnel involved in the conduct of munitions and explosives of concern (MEC) clearance on the former Fort Ord.

3.0 REGULATORY REFERENCES

- AR 385-61, AR 385-64, DA Pam 385-61, and DA Pam 385-64 for safety concerning Recovered Chemical Warfare Material (RCWM) containing explosives
- AR 50-6, Chemical Surety
- AR 190-11 Security for RCWM
- EP 75-1-3 RCWM Response Process

4.0 RESPONSIBILITIES

4.1 Remediation Project Manager (RPM)

The RPM is responsible for ensuring availability of resources required to safely implement this SOP.

4.2 Senior Unexploded Ordnance Supervisor (SUXOS)

The SUXOS is responsible for incorporating this SOP in plans, procedures, and training and ensuring that all personnel conducting MEC operations are familiar with and comply with this SOP.

4.3 UXO Safety Officer (UXOSO)

The UXOSO ensures that all operations pertaining to MEC clearance are being conducted in a safe manner and in accordance with the appropriate work plans and this SOP. The UXOSO conducts safety audits of the operations and ensures that all personnel are properly trained and utilizing the appropriate personal protective equipment (PPE).

4.4 UXO Team Leader

The UXO Team Leader is responsible for supervision of the team conducting the clearance operation. The UXO Team Leader is required to conduct training of personnel involved in MEC operations to ensure that every member of the MEC team thoroughly understands this SOP.

5.0 OPERATIONS

5.1 General

There are three ordnance items of concern that require positive identification of the filler prior to any disposition, the Livens Projector, the 4-inch Stokes mortar, and the 4.2-inch mortar.

- Visual recognition of the Livens Projector, 4.2-inch mortar, and the 4-inch Stokes is necessary and requires training on recognition features to ensure everyone uses the same techniques. The 4-inch Stokes mortar of concern is 19.56 (19/16) inches in length, measured from the end of the tail boom to the top of the threaded fuze well. 4-inch Stokes mortars of lesser lengths contain known fillers and will be treated as any other MEC item.
- All Livens Projectors and all 4.2-inch mortars are common in dimensions and have different fillers. These ordnance items along with the 19.56-inch-long, 4-inch Stokes will be treated as MEC with unknown fillers.
- Upon recognition/identification of a Livens Projector, a 4.2-inch mortar, or a 4-inch Stokes by any UXO team member conducting a MEC clearance operation, the team member will immediately notify the Team Leader who will measure the item. If the measurements indicate a possible CWM-filled Stokes, or if the item recognized/identified is a 4.2-inch mortar or a Livens Projector, the Team Leader will notify the SUXOS and the UXOSO.
- The UXO team and any other teams in the area will evacuate the area, proceeding at least 200 feet upwind, and await the UXOSO and the SUXOS.
- Upon arrival of the UXOSO, the UXO Team Leader will accompany her/him to the location of the suspect item.
- In the event the UXOSO and SUXOS determine that the item contains a known filler other than CWM, it shall be disposed of in accordance with the work plan.

- Upon verification by the UXOSO and SUXOS of an MEC item with an unknown filler, the exact location will be recorded using a Global Positioning System unit and backfilled with excavated material. The UXO Team Leader will evacuate to the safe area upwind, and the UXOSO and SUXOS will notify the RPM who will notify the Fort Ord Reuse Authority (FORA) who will notify the Presidio of Monterey Police who will notify the Technical Escort Unit (TEU). Following the property transfer from the Army to FORA, FORA will notify the local law enforcement agency who will notify the local Explosive Ordnance Disposal (EOD) unit assigned to the region. In addition, when FORA notifies the local law enforcement agency, they will also notify the Presidio of Monterey Police Department and the local BRAC Fort Ord Field office.
- In the event TEU or the EOD unit positively identifies the filler as CWM, or the filler remains unknown, TEU or the EOD unit will make the determination for and conduct a safe disposal of the item.
- In the event TEU or the EOD unit positively identifies the filler as non-CWM, they will release the item to WESTON for disposal in accordance with the work plan.

6.0 SAFETY

6.1 General

At no time will a Livens Projector, a 4.2-inch mortar, or a 4-inch Stokes mortar measuring 19.56 inches in length (fuzed or unfuzed) be moved prior to disposition determination by TEU.

6.2 PPE

Standard PPE for field MEC operations will be utilized in accordance with the work plan.

STANDARD OPERATING PROCEDURE FOR MATERIAL OR ACTIVITY NONCONFORMANCES

1.0 PURPOSE

This standard operating procedure (SOP) describes the means for the identification, control, handling, review, and disposition of nonconforming material and activities during all phases of the work at the former Fort Ord to prevent the unintended use or delivery of inadequate materials and/or work products.

2.0 RESPONSIBILITES

Unexploded Ordnance Quality Control (UXOQC) personnel have the responsibility to identify, document, and report material, items, or activities that do not conform to prescribed technical and/or quality requirements during all phases of the project.

2.1 Remediation Project Manager (RPM)

The RPM has overall responsibility for implementing this procedure and for ensuring the availability of the resources needed to implement this SOP, and will also ensure that this SOP is incorporated in plans, procedures, and training for sites where this SOP is to be implemented.

2.2 Senior UXO Supervisor (SUXOS)

The SUXOS will be responsible on behalf of the RPM for receipt of all nonconformance reports (NCRs) and the determination of their disposition to correct the nonconforming condition accordingly.

2.3 UXO Quality Control Specialist (UXOQCS)

The UXOQCS will be responsible on behalf of the RPM for ensuring this SOP is effectively implemented.

3.0 PROCEDURES

UXOQC personnel will document nonconforming materials, items, or activities in an NCR. Instructions for completing an NCR are provided with the form. A hard copy or an electronic version may be used. The initiator shall fill out the description and apparent cause of the nonconforming condition. The UXOQCS will review, validate, denote severity level (Attachment 1), assign the corrective action due date, and sign the NCR. The UXOQCS will

establish and maintain a log of NCRs issued and track the progress of each NCR using the NCR log (Attachment 2).

3.1 Nonconformance Condition/Release

After the NCR is received and validated by the SUXOS, a nonconforming condition may be conditionally released if justified in writing and approved by the RPM or, where applicable, by the customer. Justification of release will be retained on file as a project record.

3.2 NCR Disposition/Review

The SUXOS may designate a competent individual, knowledgeable in the requirements and with access to pertinent information, to provide recommendations for the NCR's disposition as one of the following rework categories to meet the original requirements: re-clear, resurvey, reacquire, reprocess, or other with explanation. The RPM shall also review and concur with the recommended corrective action prior to implementation. Any corrective action is to be completed by the corrective action due date assigned on the NCR form.

For a severity level of 1, root cause analysis and corrective action (see SOP for Corrective and Preventive Action) to prevent recurrence is required.

3.3 NCR Closure

A verifier appointed by the UXOQCS will verify satisfactory completion of actions for disposition of the nonconformance. Reworked items will be re-inspected to demonstrate conformance to the requirements. If UXOQC personnel determine the corrective action completed is insufficient, the UXOQCS will disapprove the corrective action and initiate a new NCR documenting the determining unsatisfactory factors in the closeout comments section. If the corrective action implemented by the SUXOS effectively eliminated the nonconforming condition, the manner in which the corrective action was verified by UXOQC personnel will be documented by UXOQC personnel in the closeout comments section.

ATTACHMENT 1
Severity Level Descriptions

SEVERITY LEVEL	DESCRIPTION
1	A classification assigned to a condition that indicates repeated failures to prescribe or implement requirements properly, whose effect is systemic in nature, and that undermines the ability to ensure and demonstrate confidence in quality or safety.
2	A classification assigned to a condition that indicates a systemic failure to prescribe or implement requirements properly and whose effect undermines the ability to ensure and demonstrate confidence in quality or safety.
3	A classification assigned to a condition that indicates a systemic failure to prescribe or implement requirements properly. Its effect, however, on quality or safety is minimal.
4	A classification assigned to an obviously isolated condition that indicates a failure to prescribe or implement requirements properly and is non-systemic, but could lead to a Severity Level 3 or higher condition.

ATTACHMENT 2
Nonconformance Report (NCR) Log

NCR NUMBER	SITE	GRID NUMBER	SEVERITY LEVEL	DATE INITIATED	CURRENT STATUS	DATE COMPLETED	COMMENTS
TOTAL							

NCRs	
COMPLETE:	
INCOMPLETE:	
% COMPLETE	%

STANDARD OPERATING PROCEDURE FOR CORRECTIVE AND PREVENTIVE ACTION

1.0 PURPOSE

This standard operating procedure (SOP) describes the method for conducting root cause analyses of severity level 1 nonconformities identified by NCRs and customer complaints, and evaluating the need for action to ensure that the nonconformities do not recur. Descriptions of the severity levels are provided in the SOP for Material and Activity Nonconformances.

The procedure establishes the methodology to conduct trend analyses of nonconformities identified through NCRs for severity levels 2, 3, and 4, corrective actions, quality surveillance reports, and internal audit results, to identify the repetitive nonconformities and determine preventive action to eliminate the cause of potential repetitive nonconformities.

2.0 RESPONSIBILITIES

2.1 Remediation Project Manager (RPM)

The RPM will establish an operations project team to investigate the root cause of a severity level 1 nonconformance and recommend action to prevent the recurrence.

The RPM is responsible for reviewing the results of the root cause analysis and trend analysis, assigning corrective and preventive actions, and monitoring process performance as a part of the RPM's management review.

2.2 Unexploded Ordnance Quality Control Specialist (UXOQCS)

The UXOQCS will provide support to effectively implement this SOP. Additionally, all root cause analyses, trend analyses, and preventive action reports will be reviewed and recommendations will be provided if applicable.

2.3 Senior UXO Supervisor (SUXOS)

The SUXOS will periodically conduct trend analysis of nonconformities from the sources described herein, and report the results to the RPM and UXOQCS.

3.0 PROCEDURES

3.1 Root Cause Analysis

The operations project team appointed by the RPM will determine the root cause of a severity level 1 nonconformance. The root cause determination will depend upon project-specific factors affecting the product development, product conformity, or process performance. The nonconformity may be classified using event and causal factor codes (Attachment 1) following the root cause analysis. The root cause analysis will identify corrective actions to prevent recurrence. The record of the root cause analysis and corrective action taken will be maintained on file with the UXOQCS as a part of the project record.

3.2 Trend Analysis

The operations project team review results from the following sources and perform a trend analysis when sufficient information and data are available to ensure that the analysis is meaningful. Typically, a trend analysis should be conducted once at least every 6 months for projects of 1 year or longer in duration. For short-duration projects, the trend analysis should be done at about the halfway point.

(1) Corrective actions (severity level 1 NCRs, customer complaints)

(2) Internal and external (including customer) audit results, quality surveillance/audit reports

(3) NCRs (severity levels 2, 3, or 4)

3.3 Preventive Action

For the period under review, the project operations team shall determine the root cause(s) of potential repetitive nonconformities and evaluate the need for action to prevent their recurrence. The project operations team will prepare a report identifying the nonconformities for each area of the project processes/procedures, a consolidated summary of root causes of the nonconformities, and a statement of trends that are developing or have developed, and submit the report to the RPM. The RPM will provide appropriate corrective actions to the UXOQCS to prevent recurrence of the adverse trends. The team and the UXOQCS will verify implementation of the preventive actions and report the results to the RPM. The record of trend analysis and preventive action taken will be maintained on file by the UXOQCS as a part of the project record.

ATTACHMENT 1
Event and Causal Factor Codes

EVENT		CASUAL FACTOR	
CODE	DESCRIPTION	CODE	DESCRIPTION
A	Noncompliance with standards, policies, procedures, or other administrative controls	1	Incorrect or inadequate procedures
B	Human error/inattention to detail	2	Insufficient, inadequate, or lack of training
C	Failure to meet contractual requirements	3	Inadequate supervision/management skills or practices

STANDARD OPERATING PROCEDURE FOR UNANTICIPATED CHEMICAL CONTAMINATION CONDITIONS

1.0 PURPOSE

The purpose of this standard operating procedure (SOP) is to provide the step-by-step procedures applicable in the event that unanticipated chemical contamination conditions are encountered or suspected.

Unanticipated chemical contamination conditions may include, but are not limited to:

- oily, shiny, pigmented, or saturated soil or free product;
- soil a with strong chemical odor;
- discovery of objects or structures of environmental concern such as underground storage tanks and associated piping, buried drums, sumps, etc.;
- discovery of suspected debris of environmental concern such as buried refuse, painted building materials, asbestos-containing pipes, or Transite™;
- other conditions that vary materially from those documented during previous investigations;
- discovery of areas containing a high concentration of spent ammunition; and
- discovery of bulk explosives.

2.0 SCOPE

This SOP applies to all personnel involved in operations that have the potential to disturb or expose soil.

3.0 REFERENCE DOCUMENTS

- Weston Corporate Safety and Health Program (FLD47)
- ESCA RP Waste Management SOP
- 29 CFR 1910.120
- 29 CFR 1926.65
- 22 CCR Division 4.5

4.0 RESPONSIBILITIES

4.1 Remediation Project Manager (RPM)

The RPM is responsible for ensuring that the Fort Ord Reuse Authority (FORA), the United States Department of the Army (Army), and the appropriate regulatory agencies (identified in Table 2 of this SOP) are notified.

4.2 Senior Unexploded Ordnance Supervisor (SUXOS)

The SUXOS is responsible for incorporating this SOP in plans, procedures, and training. The SUXOS will be responsible for providing notification to the Environmental Services Cooperative Agreement Remediation Program (ESCA RP) Team members identified in Table 1 of this SOP.

4.3 UXO Safety Officer (UXOSO)

The UXOSO ensures that all operations are being conducted in a safe manner and in accordance with the appropriate work plan and this SOP. The UXOSO conducts safety audits of the operations and ensures that all personnel are properly trained and utilizing the appropriate personal protective equipment (PPE).

4.4 Field Personnel

Field personnel will be conducting the fieldwork activities. Personnel conducting fieldwork activities are responsible for completing their tasks according to specifications outlined in this SOP and associated work plans. In the event that suspected soil contamination is encountered during fieldwork activities, field personnel must notify the SUXOS immediately.

4.5 Environmental Professional

The environmental professional is a member of the ESCA RP Team who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and reach conclusions regarding conditions indicative of releases or threatened releases of hazardous substances to the soil. The environmental professional will be responsible for determining whether initial screening-level soil samples should be collected and/or notifying the RPM that the Army should be notified immediately, and FORA and the appropriate regulatory agencies should be notified within 24 hours by contacting their representatives listed in Table 2.

5.0 OPERATIONS

If suspected soil contamination is encountered during the fieldwork activities, the following procedures will be followed:

1. All field activities that may potentially disturb the unanticipated chemical contamination will be immediately stopped. Field personnel encountering the unanticipated chemical contamination must immediately notify the SUXOS and move to a safe location to avoid odors or leaking fluids (i.e., upwind or uphill).
2. If there is no immediate danger to personnel, field personnel will create an appropriate exclusion zone with markers and/or barricades around the suspect area to prevent further soil disturbance in this area.
3. If an emergency situation requiring medical attention, containment assistance, or other emergency assistance arises, the emergency procedures specified in the Site Safety and Health Plan will be followed.
4. The SUXOS will immediately notify the ESCA RP Team representatives listed in Table 1.
5. An environmental professional on the ESCA RP Team will be mobilized to visually assess the suspect area. If it is determined by the environmental professional that contamination by chemical compounds is possible (based upon visual observation or the analytical results of initial screening-level sampling), the environmental professional will notify the RPM.

   Examples of suspect contamination include the discovery of:

   - oily, shiny, or saturated soil or free product;
   - significant areas (greater than 3 square feet) of pigmented soil that do not appear to be related to native soil coloring;
   - soil with a strong chemical odor;
   - objects or structures of environmental concern such as underground storage tanks and associated piping, buried drums, sumps, etc.;
   - significant quantities of suspect debris of environmental concern such as asbestos-containing pipes, Transite™, or similar ACM;
   - significant quantities of suspected debris of environmental concern such as treated wood waste, chipping, cracking, or alligatoring paint (indicative of LBP), or electrical components;
   - other conditions that vary materially from those documented during previous investigations;
   - areas of high concentrations of spent ammunition; and
   - bulk explosives.

   Examples of the above are found in Attachment 1.

   The RPM will notify the Army immediately and FORA and the appropriate regulatory agencies within 24 hours by contacting their representatives listed in Table 2. Information provided to the Army will include the location of the discovery (including Global Positioning System [GPS] location) and approximate depth of discovery; the site conditions at the time of discovery; and a description of changes to the site conditions since the discovery.

6. If practicable and if it is safe to leave the area exposed, the suspected contamination will not be disturbed until the Army has determined whether soil samples or remedial activities are necessary. Work should not resume in the affected area until remedial activities have been completed or the suspected chemical contamination is determined to be benign.
7. If the suspected contamination is *not* a U.S. Army-retained condition (for example building debris) the ESCA RP Team may collect samples of the debris for classification purposes as described in the Waste Management SOP.
8. If samples collected by the ESCA RP Team indicate that the building debris may have affected site soils (for example if the material contains lead-based paint and fails the Soluble Threshold Limit Concentration [STLC]), the ESCA RP Team will consult with FORA and regulatory agencies to determine if additional investigation is necessary.
9. If only building materials are affected, the ESCA RP Team will remove the debris until no visible material is present, segregate the debris for disposal, and classify the material for waste disposal as described in the Waste Management SOP.

6.0 PERSONAL PROTECTIVE EQUIPMENT

Appropriate PPE for the particular fieldwork activity will be utilized in accordance with the appropriate work plan. Equipment and clothing coming in contact with the potential contamination will be decontaminated in accordance with the appropriate work plan.

7.0 NOTIFICATIONS AND REPORTING

If unanticipated contamination is encountered or suspected in the field, the persons indicated in Table 1 must be notified immediately.

Table 1
ESCA RP Team Contact List

Contact		Telephone (office/cell)
ESCA RP Team		
Weston:	Linda Temple (ESCA Remediation Project Manager) and	(831) 384-3221 / (831) 229-1668
	Greg Clark (Site Safety Officer)	(831) 384-3221 / (831) 240-1391
LFR:	Christopher Spill (ESCA Technical Project Manager) or	(831) 384-3221 / (510) 387-3765
	Wendy Devaney (ESCA Remediation Project Engineer) and	(510) 596-9608 / (510) 590-7317
	Kristie Reimer (ESCA Remediation Program Manager)	(831) 384-3221 / (650) 224-8545

Notes:
Weston = Weston Solutions, Inc.
LFR = LFR Inc.

If unanticipated contamination is visually confirmed in the field by an ESCA RP Team representative identified in Table 1, the appropriate persons indicated in Table 2 will be notified within 24 hours by an ESCA RP Team representative. The Army representative will be notified immediately.

Table 2
Client and Regulatory Agency Contact List

Contact		Telephone (office/cell)
FORA:	Stan Cook (FORA ESCA Program Manager)	(831) 883-3672
ESCA RP Team		
Weston:	Dwight Gemar (ESCA Remediation Project Engineer)	(707) 562-3352 / (925) 899-4674
LFR:	Chuck Pardini (ESCA Program Quality Manager)	(650) 469-7224 / (510) 813-1053
Army:	Gail Youngblood (Environmental Coordinator)	(831) 242-7918
U.S. EPA:	Judy Huang (Remediation Project Manager)	(415) 972-3681
DTSC:	Roman Racca (Project Manager)	(916) 255-6407
Monterey County Department of Environmental Health, if needed		(831) 755-4500
Other agencies as applicable, e.g., National Response Center		(800) 424-8802

Notes:
U.S. EPA = United Stated Environmental Protection Agency
DTSC = Department of Toxic Substances Control

If unanticipated contamination is encountered, the ESCA RP Team will document it in a report that is submitted to the regulatory agencies within 30 days after the discovery of the unanticipated contamination. This report will include the following:

- brief description of the nature of suspected contamination and how it was discovered;
- verification of notification of personnel listed in Table 2;
- description/verification that the procedures outlined in this SOP were followed to alert the Army of the presence of a retained condition (if applicable); and
- characterization (including stockpile and confirmation sampling) data collected.

Photograph #1

Description of Photograph:

Example of product on equipment in trash pile.

Photograph #2

Description of Photograph:

Example of significantly stained oily soil.

Photograph #3

Description of Photograph:

View of pigmented soil.

Photograph #4

Description of Photograph:

Example of unanticipated buried tank.

Photograph #5

Description of Photograph:

Example of partially buried and damaged drum.

Photograph #6

Description of Photograph:

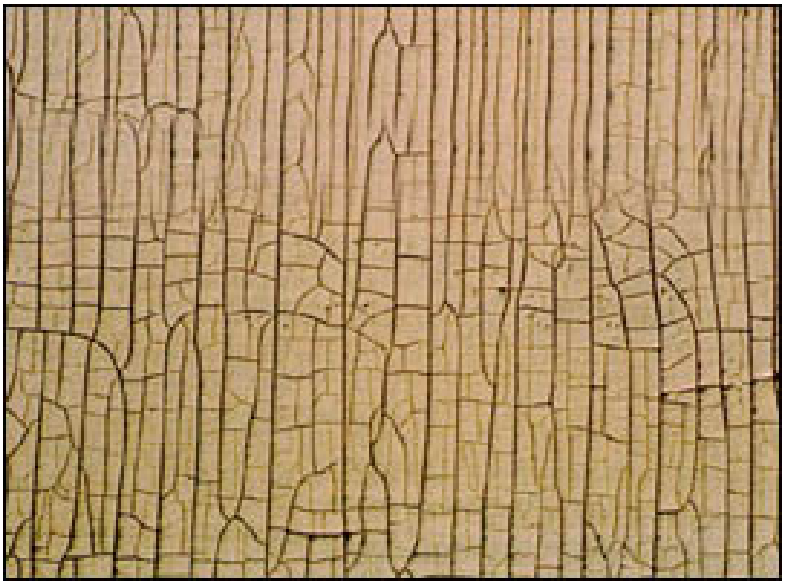
Example of Transite™ pipe.

Photograph #7

Description of Photograph:

Example of asbestos-containing pipe wrap on water main.

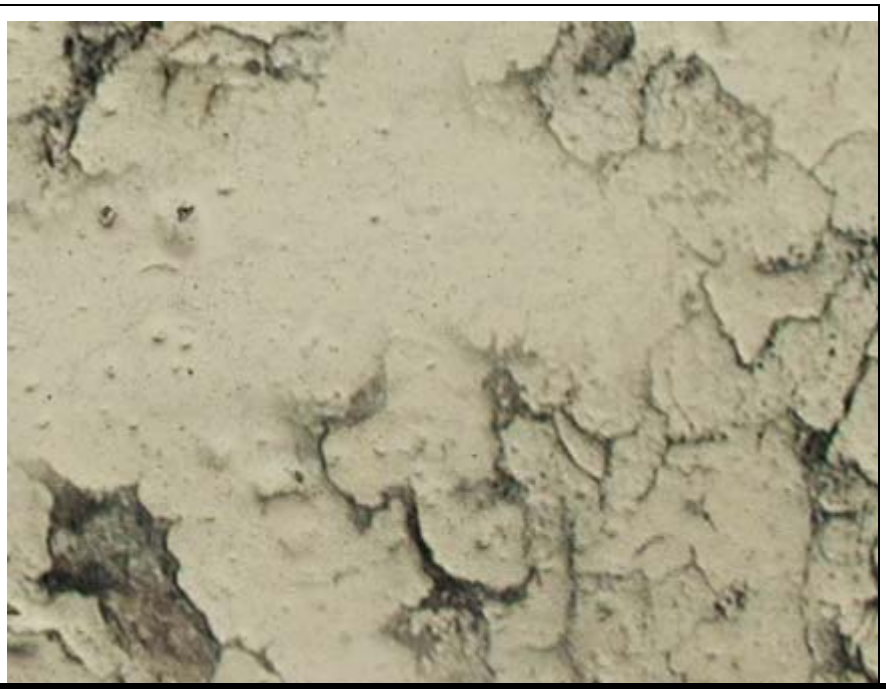
Photograph Taken By:
Michael Doherty



Photograph #8

Description of Photograph:

Example of alligatoring LBP.



Photograph #9

Description of Photograph:

Example of cracking LBP.

Photograph #10

Description of Photograph:

Exampling of severely chipping LBP.

STANDARD OPERATING PROCEDURE FOR MANAGEMENT AND CHARACTERIZATION OF WASTE STREAMS FROM FIELD ACTIVITIES

1.0 PURPOSE

The purpose of this standard operating procedure (SOP) is to provide the step-by-step procedures for identifying waste streams generated from field activities and to provide guidance for the characterization and proper disposition of these waste streams.

For the purposes of this SOP "waste streams" have been defined as any material that was generated by field activities that will not be reused onsite. For the purposes of this report waste streams do not include environmental conditions retained by the U.S. Army such as potentially contaminated soil. If these materials are uncovered field personnel should refer to the soil management plan and the SOP for Unanticipated Chemical Contamination Conditions. For the purposes of this report waste streams do include recyclable materials. The Fort Ord Reuse Authority (FORA) Environmental Services Cooperative Agreement (ESCA) Remediation Project (RP) Team has identified the following potential waste streams at the Site which would be covered by this SOP:

- Painted construction debris;
- Lead affected soil, rock or fines;
- Lead-based paint chips;
- Friable asbestos-containing material;
- Non-friable asbestos-containing material;
- Treated wood;
- Unpainted construction debris not planned for recycling;
- Unpainted concrete-recyclable;
- Metal-recyclable;
- Asphalt-recyclable;
- White goods;
- Universal Waste-Florescent Bulbs;
- Universal Waste- Mercury switches, thermometers and gauges;
- Universal Waste-Batteries;
- Light Ballasts;
- Lubricating fluids;
- Vehicles and related debris (non tire);
- Tires-recyclable;
- Wood and vegetative mulch;

- Personal protective equipment (PPE) and field consumables;
- Decontamination water;
- Residual fluids in latrine pits; and
- Munitions debris.

Additionally, the ESCA RP Team understands that the reuse or recycling of some materials (specifically; asphalt road base, vegetative mulch, soil and/or gravel) may not be practicable due to concerns of residual constituents remaining within these materials. With consolation with the regulatory agencies the RP Team may choose to classify these materials as munitions debris (MD).

2.0 SCOPE

This SOP applies to all personnel involved in the characterization, manifesting, and disposition of waste stream materials. This document is intended to aid in planning for and handling waste streams which may be encountered at the Site. Not all waste streams described may be present at the Site.

3.0 REFERENCE DOCUMENTS

- Weston Corporate Safety and Health Program (FLD47)
- American Society for Testing and Materials (ASTM) Standard E1908-03
- 14 CCR Division 7
- 22 CCR Division 4.5
- 27 CCR Division 2
- MBUAPCD Rule 424
- Department of Toxic Substances Control (DTSC) "Information Advisory - Clean Imported Fill Material" Dated October 2001
- 29 CFR 1910.120
- 29 CFR 1926.65
- 40 CFR 61
- 40 CFR 260 to 279
- 40 CFR 761
- 49 CFR 171 to 173, 179

4.0 RESPONSIBILITIES

4.1 Remediation Project Manager (RPM)

The RPM is responsible for the proper classification, handling and disposition of the waste streams.

4.2 Senior Unexploded Ordnance Supervisor (SUXOS)

The SUXOS is responsible for incorporating this SOP in plans, procedures, and training of field crews. The SUXOS is also responsible for notifying the environmental professional when suspect hazardous waste is encountered or when materials will require classification prior to disposal. The SUXOS will be responsible for certifying that materials leaving the Site are free from explosives using Form 1348.

4.3 UXO Quality Control Specialist (UXOQCS)

The UXOQCS also certifies that materials leaving the Site are FFE on Form 1348.

4.4 Field Personnel – HAZWOPER Trained

Field personnel will be conducting the discovery, handling, segregation, containerization, and related activities associated with the disposition of waste streams. Field personnel are responsible for completing their tasks according to specifications outlined in this protocol and associated work plans. In the event that suspected hazardous waste is encountered during activities, field personnel must notify the SUXOS immediately.

4.5 Environmental Professional

A member of the ESCA RP Team who possesses sufficient specific education, training, or experience necessary to exercise professional judgment to develop opinions and conclusions regarding the classification and condition of Site waste streams. The environmental professional will be responsible for determining whether sufficient data exists to accurately classify and characterize materials into appropriate waste streams for disposition.

4.6 Generator

The generator is the owner or operator of the waste stream and is ultimately responsible for properly characterizing and handling the waste streams generated at the Site.

The hazardous waste generator for the ESCA RP Team **prior** to the transfer of property to the Fort Ord Reuse Authority is:

The Ord Military Community
US Army DLIFLC – Presidio of Monterey
P.O. Box 5005
Monterey, California 93944
(831) 242-7933
Contact: Richard Schmitt

Mr. Schmitt should be notified at least 1 week prior to planned shipment of manifested waste to ensure that material disposal is authorized by and are properly characterized, logged, and manifested by the Army. Mr. Schmitt, or his authorized signatory, are the only designated Army contacts authorized to sign manifests and associated profiles, land disposal restrictions or similar waste documents on the behalf of U.S. Army.

The hazardous waste generator for the project team **after** the transfer of property to the Fort Ord Reuse Authority is:

The Fort Ord Reuse Authority
100 12th Street, Building 2880
Marina, California 93933
(831) 883-3672
Contact: Stan Cook

Mr. Cook should be notified at least 1 week prior to planned shipment of manifested waste to ensure that material disposal is authorized by and are properly characterized, logged, and manifested by FORA. Mr. Cook, or his authorized signatory, are the only designated contacts authorized to sign manifests and associated profiles, land disposal restrictions or similar waste documents on the behalf of FORA.

4.6.1 Generator Training Requirements

As required signatories responsible for filling out hazardous waste manifests should have an appropriate level of training necessary to understand classification, handling manifesting and disposal of the generated waste streams.

5.0 OPERATIONS

As described in Section 1, the ESCA RP Team has identified 23 possible waste streams that may be developed in the course of munitions cleanup operations at the portions of the former Fort Ord covered by the ESCA RP. The intent of this SOP is to ensure that potentially hazardous waste streams are identified, segregated, properly classified and handled in the course of field activities. Each waste stream released from the Site will have documentation showing that the material was characterized, shown to be free from explosives, and detailing the material's final disposition. A minimum of three individuals (the SUXOS, UXOQCS, and Environmental Professional) will investigate each waste stream to verify that either it is free from explosives or that the waste stream is either non-hazardous or is properly classified and manifested for off-Site disposal.

The ESCA RP Team understands that some materials that are generally considered non-hazardous or recyclable (Specifically - asphalt road base, vegetative mulch, soil and gravel) may have been affected by constituents which would disallow the reuse of the material off-Site. The ESCA RP Team will therefore seek regulator approval prior to the transport or disposition of the materials off-Site. Alternately these materials may be classified as munitions debris in the event of off-Site disposal.

A description of the process of classifying the environmental disposition of each of the 23 identified potential waste streams is found below. Please note that every waste stream may not be generated by field activities at the Site.

5.1 Painted Construction Debris

Painted building debris will be inspected for lead-based paint or will be assumed to contain lead unless determined otherwise by sampling and analytical testing. Building debris containing lead will be segregated and loose and flaking lead-based paint will be removed and managed as a separate waste stream. The remaining painted building components will be characterized following the procedures set out in ASTM E1908-03 and 22 CCR Div 4.5. Depending on the results of the total threshold limit concentration (TTLC), soluble threshold limit concentration (STLC) and toxicity characteristic leaching procedure (TCLP) tests the materials will be labeled, packaged and manifested for disposal as either a federal hazardous waste, State of California hazardous waste or as non-hazardous waste at an appropriately permitted landfill.

5.2 Lead Affected Soil, Rock, or Fines

If lead contamination is suspected or if lead affected soil is discovered during the building survey or building demolition field activities, affected soil will be excavated and stored on an impermeable surface and covered with plastic sheeting or placed in lined closed top dumpsters. Composite samples will be collected from the soil and will be analyzed using the procedures set forth in 22 CCR Division 4.5. The RP Team anticipates that one composite soil sample consisting of four to eight aliquots will be sufficient for characterizing the soil associated with each building identified as having lead affected soil.

For larger excavation areas soil samples will be collected in general accordance with the Department of Toxic Substances Control (DTSC) “Information Advisory - Clean Imported Fill Material” dated October 2001. LFR anticipates that waste soil piles up to 1,000 cubic yards will be characterized by 1 composite soil sample per every 250 cubic yards of material or other analytical procedures as requested by the presumed disposal location.

5.3 Lead-Based Paint Chips and Ceramic Tiles

Known lead-containing waste streams created during work activities should be segregated from non-lead-containing waste streams. For example ceramic tiles and paint chips removed from buildings should be handled as lead-hazardous waste until bulk composite samples are collected and analyzed using the procedures set forth in 22 CCR

Division 4.5.

Depending on the results of the total threshold limit concentration (TTLC), soluble threshold limit concentration (STLC) and toxicity characteristic leaching procedure (TCLP) tests the materials will be labeled, packaged and manifested for disposal as either a federal hazardous waste, State of California hazardous waste or as non-hazardous waste at an appropriately permitted landfill.

5.4 Regulated Asbestos-Containing Material

Suspect asbestos-containing materials will be sampled and analyzed by polarized light microscopy for asbestos content. Materials determined to be greater than or equal to 1% asbestos will be considered an asbestos-containing material (ACM). Friable asbestos-containing materials and non-friable ACM that has been subjected to mechanical removal methods or is significantly damaged will be placed in labeled and doubled six-mil poly bags for transportation to the disposal facility as California Hazardous Waste.

5.5 Non-Friable Asbestos-Containing Material

Non-friable ACM such as roofing materials, floor tiles, Transite panels, etc., that are intact and have not been subjected to mechanical removal methods will be disposed of as nonhazardous asbestos-containing construction debris at a permitted Class 3 landfill. Shipment logs will be kept for non-friable ACM, a hazardous waste manifest is not required.

5.6 Treated Wood Waste

Used lumber treated with pentachlorophenol, creosote or other preservative treatments such as electric poles, telephone poles, and railroad ties will be disposed of at an approved landfill or hazardous waste disposal facility permitted to accept treated wood waste (TWW).

TWW will be segregated onsite from other materials and stored off the ground or on an impervious surface. Treated wood waste will be covered during inclement weather and labeled with the following information:

TREATED WOOD WASTE – Do not burn or scavenge.

TWW Handler
Name:_____
Address:_____
Accumulation Date:_____

Shipment logs will be kept for TWW, a hazardous waste manifest is not required.

5.7 Unpainted Construction Debris Not Planned for Recycling

Unpainted construction debris not suspected as being a TWW will be collected as disposed of at a permitted class 3 facility.

5.8 Unpainted Concrete-Recyclable

Unpainted concrete such as building foundations, non-asbestos concrete pipes and culverts, and like building materials will be collected, segregated and recycled.

5.9 Metal-Recyclable

Metals waste such as barbed wire, concertina wire, and used pipes will be collected and segregated and picked up by a metal recycler.

5.10 Asphalt-Recyclable

Asphalt and asphaltic concrete (AC) that is segregated during removal operations, for example demolition of road ways and parking lots, will be collected, segregated and sent for recycling.

5.11 White Goods

White goods will be collected and sent to a certified appliance recycler (CAR) for the removal of materials that require special handling and eventual recycling of the appliances.

5.12 Universal Waste-Lamps

Florescent lamps, sodium vapor lamps and high intensity discharge lamps will be removed intact, placed in padded recycling containers and brought to a recycler.

5.13 Universal Waste-Mercury Switches, Thermometers, and Gauges

Mercury switches, thermometers and gauges not installed in a building and not associated with an appliance or vehicle will be removed intact and placed in a padded recycling container for shipment to a mercury recycling facility.

5.14 Universal Waste-Batteries

Batteries found in alarm boxes, emergency lighting, rechargeable tools, as well as disposable batteries should be collected and stored as universal waste until they are sent to an approved recycler and/or disposal facility. Lead-acid type batteries (such as automotive batteries) should be recycled. Lead acid type batteries would be considered a hazardous waste if disposal is required.

5.15 Ballasts and Capacitors

Electrical ballasts and capacitors that are suspected to have been manufactured prior to 1979 and are not labeled “No-PCBs” should be removed intact and handled as if the unit contained PCBs at levels greater than or equal to 50 ppm and the disposition of these materials would be regulated under Toxic Substances Control Act (TSCA) and would be considered a Hazardous Waste in California.

Ballasts and capacitors labeled non-PCB may contain Di (2-ethylhexyl) phthalate (DEHP) and should also be removed intact segregated and sent to an approved recycler.

5.16 Lubricating Fluids

Used oil should be collected and segregated from other fluids to prevent contamination which would prevent recycling. The ESCA RP Team does not anticipate generating more than 55-gallons of waste oil from activities on the Site. Used oil should be collected by a certified hauler or delivered to a certified collection center to be recycled.

5.17 Vehicles and Related Debris (Non-Tire)

Vehicles and vehicle components should be sent to an approved recycler to allow for the reclamation of refrigerants, mercury switches, automotive fluids and similar items before scraping the vehicle.

5.18 Tires-Recyclable

The FORA ESCA RP Team does not anticipate generating more than 10 waste tires from operations at the Site however waste tires will be stored for collection by an approved Waste Tire Hauler and logged on a comprehensive trip log for recycling.

5.19 Wood and Vegetative Mulch

Where appropriate vegetative mulch will remain onsite to be used for erosion control or seed base. If a market exists salvage wood may be cut into fire wood and sold instead of being mulched.

5.20 Personal Protective Equipment (PPE) and Field Consumables

Used PPE will be disposed of as nonhazardous solid waste unless there is evidence of gross contamination, in which case the PPE will either be disposed as hazardous waste appropriate to the material handled or sampled and chemically tested to confirm a designation as non-hazardous.

5.21 Decontamination Water

Decontamination fluids will be containerized in DOT-approved 55-gallon drums or in temporary polyethylene storage tanks. When full, the drum and/or tank contents will be sampled and the samples submitted to an EPA–approved analytical laboratory for chemical analysis. The decontamination fluid containers will be labeled “Potentially Hazardous Waste Pending Further Investigation” until a hazardous or non-hazardous determination can be made based on the laboratory analysis results. The contents will then be disposed of appropriately based on the hazard designation.

5.22 Residual Fluids in Latrine Pits

Residual fluids from pit latrines will be pumped by an approved septic pumping company for treatment at a sewage waste treatment plant.

5.23 Munitions Debris

Non-recyclable munitions debris that requires disposal will be 100% investigated by the UXO technician before submitting the material for approval as free from explosives by the SUXOS and UXOQCS. The FFE munitions debris will be disposed of at an approved landfill.

6.0 LABELS AND HAZARD COMMUNICATION

All containerized materials will be appropriately labeled as required to allow workers sufficient warning as to the hazard potential of the container's contents. Labels should be of sufficient size to be clearly legible and display the container's content including if the material is a hazardous, an asbestos-containing, a TWW, a PCB-containing waste, a mercury-containing waste, or a non-hazardous waste. Additional information may be required on the label as required by specific regulation.

7.0 DISPOSAL OPTIONS

Hazardous, Asbestos-Containing, and TWW waste streams that are not scheduled for recycling will be stored in either satellite accumulation points or temporary (less than 90-day) storage areas. These waste streams will be manifested and transported for disposal or recycling in accordance with appropriate regulatory requirements. Disposal of hazardous streams will be at approved Class 1 treatment, storage, and disposal facilities.

Non-hazardous waste streams will be stored in general storage areas. Non-hazardous waste streams will be shipped using bills of lading, waste shipment records, or similar documentation. Non-hazardous waste streams not scheduled for recycling will be disposed only at approved Class 2 or Class 3 facilities.