

SITE OE-63

CANYON TRAINING AREA

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## PLATES

- 63-1 Site OE-63 Location Map – Former Fort Ord
- 63-2 Site OE-63; 1999 Aerial Photo
- 63-3 Conceptual Site Model, Site OE-63

## ATTACHMENT

- 63-A Evaluation of Previous Work Checklists

## SITE OE-63 – CANYON TRAINING AREA

A summary report for Site OE-63 is provided below. This report consists of two parts. The first part, contained in Sections 3.63.1 through 3.63.5, includes a presentation and assessment of archival data. Specific elements include a review of site history and development, evaluation of potential ordnance at the site, a summary of previous ordnance and explosives (OE) investigations, and a conceptual site model. The above-mentioned information was used to support the second part of this report, which is the Site Evaluation (Section 3.63.6). The Site Evaluation was conducted in accordance with the procedures described in the *Final Plan for Evaluation of Previous Work (Harding Lawson Associates [HLA, 2000])* and may restate some information presented previously. The Site Evaluation discusses the evaluation of the literature review process (Section 3.63.6.1) and evaluation of the reconnaissance process(es) (Section 3.63.6.2). These discussions are based upon information from standardized literature review and reconnaissance review checklists (Attachment 63 - A). Section 3.63.7 provides conclusions and recommendations for the site. References are provided in Section 3.63.8.

### 3.63 Site OE-63 (Canyon Training Area)

#### 3.63.1 Site Description

Site OE-63 is approximately 28 acres and is located at the southern end of Fort Ord and east of the Laguna Seca Raceway (Plate 63-1). An area encompassing Site OE-63 (area “T”) was identified during interviews conducted during the Preliminary Assessment/Site Investigation (PA/SI) phase of the Fort Ord Archives Search (ASR; *U.S. Army Engineer Division, Huntsville [USAEDH], 1997*).

#### 3.63.2 Site History and Development

The following presents a summary of the site history and development that is based on archival research and review of historical training maps and aerial photographs. Plates have been prepared that present pertinent features digitized from historical training maps and scanned aerial photographs reviewed by Harding ESE. It should be noted that minor discrepancies between source maps, combined with the natural degradation of older source maps and photographs, has resulted in misalignment of some map features. In addition, camera angle and lens distortion introduced into older aerial photographs, combined with changes in vegetation and site features over time may contribute to the misalignment of some map features with respect to the aerial photographs.

##### *1940s Era*

This site lies within a tract of land purchased from private landowners by the government after July 1940 (*Arthur D. Little, Inc. [ADL], 1994*). Review of 1940s era documentation including historical maps and aerial photographs indicates no specific training sites in the area. Site OE-63 and nearby Site OE-62 are within area T identified during an interview with former Fort Ord Fire Chief Mr. Fred Stephani. He stated that area T was reportedly used from 1948 to 1950 and included the use of small arms and flares (*USAEDH, 1997*). The results of the review of 1940s era documentation are as follows:

- No specific training area is designated on the 1945 and 1946 maps (*U.S. Army [Army], 1945, 1946*).
- No specific training areas are apparent on the 1945 aerial photographs (*Army, 1945*).

### 1950s Era

Review of 1950s era documentation identified no specific training areas within the Site OE-63 boundary. The location of Site OE-63 was within larger training areas as depicted on 1950s maps as follows:

- Site OE-63 within the larger training area for “Division Artillery” on the 1954 and 1956 training maps (*Army, 1954 and 1956*). No site-specific training areas are identified on the maps.
- Site OE-63 within the training area for the “1<sup>st</sup> Brigade” on the 1957 and 1958 training area maps (*Army, 1957 and 1958*). No specific training areas are identified on the maps. The mission of the 1<sup>st</sup> Brigade was to conduct basic combat support training (*Army, 1968*).

### 1960s Era

Review of 1960s training maps and aerial photographs show no specific training areas within the footprint of Site OE-63:

- The 1964 and 1968 training maps indicate that the site is within the larger “Training Area R (G-3)” (*Army, 1964; U.S. Army Corps of Engineers [USACE], 1968*). G-3 stands for “Operations and Plans” (*Army, 1985*). Training within area R included aviation training with helipads present to the northeast of Site OE-63 (*Army, 1967*).
- An aerial photograph from March 13, 1969, shows no clear indication of a defined training area. No structures or permanent features are apparent on the aerial photographs.

### 1970s Era to Present

No specific training areas or facilities within Site OE-63 are identified on training maps from the 1970s and thereafter. The results of the review of 1970s era documentation are as follows:

- Site OE-63 is within the larger “Training Area R (G-3)” on the 1972 map. Two helicopter training areas are present to the northeast of Site OE-63 (*Army, 1972*).
- On the 1976 through 1987 maps, the larger training area “R” is subdivided into sections R 1 and R 2, Site OE-63 falls within “R 2.” R 1 and R 2 are identified as Engineer Training Areas (*Army, 1976 and 1987*).
- On the January 1978 Ranges and Training Area map, a “Noise Buffer Zone (In this area, no firing of blank Ammo: Pyrotechnics, Explosives or Simulators)” covers most of Site OE-63 (*Army, 1978*). This restriction is noted on the last available training map (*Army, 1987*).
- Aerial photographs from 1975, 1978, and 1999 (Plate 63-2) show no clear indication of a disturbed/cleared area, defined training area, or distinguishable site boundary.

### Future Land Use

Site OE-63 lies on undeveloped property that was transferred to the Bureau of Land Management (BLM) in 1996. Future reuse of this area will be habitat reserve under the jurisdiction of the BLM (*USACE, 1997*). The property is open to the public for hiking, biking, and horseback riding with use restricted to marked trails.

### 3.63.3 Potential Ordnance based on Historical Use of the Area

No evidence has been found to suggest that this site was used for anything other than a troop training and maneuver area. Information gathered during site investigation activities indicates that blank small arms ammunition and pyrotechnics were used at this site.

### 3.63.4 History of OE Investigations

The following describes the OE investigations that have been conducted at Site OE-63.

#### *1997 Revised Archives Search Report (ASR)*

The purpose of the archives search conducted at Fort Ord was to gather and review historical information to determine the types of munitions used at the site, identify possible disposal areas, identify unknown training areas and recommend follow-up actions. The archives search was conducted in accordance with U.S. Army Corps of Engineers guidance (*USAESCH, 1995*). The archives search included a Preliminary Assessment/Site Investigation (PA/SI) consisting of interviews with individuals familiar with the sites, visits to previously established sites, reconnaissance of newly identified training areas, and the review of data collected during sampling or removal actions. Requirements for preparation of an ASR are described in Section 2.0 of this report.

Site OE-63 was identified during interviews conducted during the PA/SI phase of the Fort Ord archives search (*USAEDH, 1997*). The area (T) was identified as being used for training from 1948 to 1950 (Plate 63-2). Area T included Site OE-63 as well as adjacent Site OE-62. Ordnance reportedly used included small arms ammunition and flares. No sampling of Site OE-63 has occurred. However, site reconnaissance was conducted in 1996 by the USACE Unexploded Ordnance (UXO) Safety Specialist. The reconnaissance of area T involved walking a portion of the site and sweeping the path walked using a Schonstedt Model GA-52/Cx magnetometer. No evidence was found to support the use of the area as an impact area (e.g., fragmentation, fuzes, or projectiles). Only expended blank small arms ammunition and expended pyrotechnic items were found (*USAEDH, 1997*). On the basis of the reconnaissance performed, the ASR recommended that no further OE-related investigation was necessary at Site OE-63 (*USAEDH, 1997*).

#### *2001 Basewide Range Assessment*

Site OE-63 was investigated as part of a basewide range assessment (BRA) for small arms and multi-use ranges. The assessment of Site OE-63 for potential hazardous and toxic waste-related contamination included a data review, site reconnaissance, and mapping of the site. For the BRA, the areas of investigation were identified as Historical Areas (HA). Site OE-63 was identified as HA-193. Prior to conducting the site reconnaissance, a review of historical maps and aerial photographs was conducted. Areas of interest (e.g., training area boundaries, disturbed vegetation areas and roads) were identified from maps and photos and their locations (way points) loaded into a Global Positioning System (GPS) unit. The site reconnaissance was conducted by a two-person team that included an OE Specialist and a second team member trained in OE recognition. The site reconnaissance included walking portions of the site and navigating to the way points using the GPS unit (Plate 63-2). Only expended blank small arms ammunition was found during the site reconnaissance conducted at HA-193 (Site OE-63). No evidence was found indicating that the site was used for the firing of weapons other than small arms blank ammunition was observed. An open pit, concertina wire, and fence posts were also observed during the site reconnaissance.

### 2003 Site Walk

A site walk was conducted at Site OE-63 on October 23, 2003. The site walk location was selected to fill gaps in reconnaissance efforts conducted previously at this site. The site walk consisted of walking a portion of the site and visually inspecting the path and area immediately surrounding it for evidence of OE. The path walked was recorded using a GPS unit. No ordnance related items or evidence of the use of OE were found during the site walk performed at Site OE-63. Expended blank small arms ammunition was observed. A description of the site walk is included as an attachment to Appendix C of this report.

#### 3.63.5 Conceptual Site Model

Conceptual site models (CSMs) are generally developed during the preliminary site characterization phase of work to provide a basis for the sampling design and identification of potential release (functioning of the OE item; e.g., detonation) and exposure routes. CSMs usually incorporate information regarding the physical features and limits of the area of concern (the site), nature and source of the contamination (in this case OE), and exposure routes (potential scenarios that may result in contact with OE).

A review of site-specific information including a literature search of aerial photographs, maps, technical manuals, and field observations did not identify any specific training locations/areas within the boundary of Site OE-63. It is provided to help evaluate the adequacy of the investigation completed to date and to identify potential release and exposure pathways.

##### 3.63.5.1 Training Practices

Training practices are discussed below to provide information on the types of OE that may have been used at the site and the possible location of OE potentially remaining at the site.

##### *Maneuver Area*

A maneuver area may have included using the site for squad patrols (Plate 63-3). Infantry platoons and squads conduct three types of patrols: reconnaissance, combat and tracking (*Army, 1992*). Each patrol includes specific objectives using infantry troops, sometimes with engineer support, to gather information or conduct combat operations. Combat patrols could include the use of blank small arms ammunition and possibly pyrotechnics (e.g., signals).

##### 3.63.5.2 Site Features

This site is located in the south-central portion of Fort Ord to the east of the Laguna Seca Raceway and bordered by Highway 68 on the south. The site includes rolling hills, dominated by grassland and some oak woodland. With the exception of a dirt road, no site-specific features are visible on aerial photographs or identified on training maps. A Noise Buffer Zone was established on the southeast side of Fort Ord by January 1978. The southern half of Site OE-63 is included in the buffer zone. Within the buffer zone “No firing of Blank Ammo: Pyrotechnics, Explosives or simulators” was allowed. Site OE-63 continued to be used for engineering training through November 1987.

Based on the historical information this area was used for general training and maneuvers from the 1940s until base closure in 1994. However, it appears that the use of OE was restricted in the area that includes Site OE-63 beginning in 1978.

### 3.63.5.3 Potential Sources and Location of OE

Based on review of site data, the types of OE that should be expected at this site include pyrotechnic items (signals) and small arms ammunition. Because signals by design items are non-penetrating, they would be expected to be present at or near the ground surface. No evidence of an impact area at Site OE-62 was found during the historical review of reconnaissance.

### 3.63.5.4 Potential Exposure Routes

This site is within land transferred to the BLM and is open to the public for hiking, biking, and horseback riding. Use is restricted to marked trails. This area has been accessible to the public for approximately 6 years. To date, no instances of OE items being found by the public in this area have been reported. Because expended pyrotechnics (OE scrap) were found during site reconnaissance, the possibility exists (although unlikely) that a recreational user could come into contact with surface OE such as illumination signals. The results of the literature review do not indicate that Site OE-63 was an impact area. In addition, no evidence of fragmentation, fuzes, or projectiles were observed during two site reconnaissances conducted at Site OE-63.

Although no OE items were found at Site OE-63 a brief discussion of the potential injuries that could result from contact with live illumination signals is provided below. This item was selected for discussion, because a scrap M125 Series illumination signal was found during site reconnaissance.

For each of the OE items potentially remaining at the site, the following discussions provide information on: (1) how the item was designed to function, (2) the likelihood the item would function if found onsite and handled, and (3) the type of injury the item could cause if it functions. Additional information on these items is provided in Attachment 27Y-A2.

#### **Signals, Illumination, Ground, Clusters: Green Star, M125A1; Red Star, M158; White Star, M159.**

These signals were designed for daytime and nighttime signaling. Star cluster signals consist of 5-star illuminant assemblies and a rocket motor propulsion assembly combined in a hand-held aluminum launching tube. The base of the launching tube contains a primer and an initiating charge. As shipped, the firing pin cap is assembled to the forward end and must be reversed for firing. Stabilizing fins on the tail assembly of the rocket are folded parallel to the axis of the signal. A bolt, which also transfers the initiating charge flash to the propellant, extends into the center of the solid propellant, which fills the propulsion assembly. The illuminant assembly is mounted on top of the propulsion assembly with a delay assembly and an expelling charge between. It was functioned by striking the primer with the firing pin, which ignites the initiating charge to ignite the rocket propellant. As the rocket emerges from the tube, the fins unfold for flight stability. Before rocket motor burnout, at 200 feet, the black powder expelling charge is ignited performing a two-fold purpose of expelling and igniting the 5-star illuminant assemblies. Burn time is 6 to 10 seconds with burnout occurring at 250 to 300 feet above the ground (*Army, 1977*). It is unlikely that incidental contact could cause a signal to function as the cap must be removed, placed over the base and struck sharply. If caused to function, the type of injury that could be sustained would be burns from the initiating charge and possibly the rocket motor.

**Summary:** It is unlikely that a person could cause a signal to function through casual contact if one were found at the site and be burned, because it: (1) would require precise placement of components and a hard blow to function, and (2) would have been exposed to moisture, degradation, and weathering for many years, which could decrease the effectiveness of the components that cause it to function.

### 3.63.6 Site Evaluation

The available data (e.g., archival and reconnaissance data) regarding Site OE-63 were reviewed and evaluated according to procedures described in the *Final Plan for Evaluation of Previous Work (HLA, 2000)*. The evaluation process is documented through the completion of a series of checklists. Copies of the checklist are provided as Attachment 63-A. This section presents a summary of the results of the checklist evaluation. It is divided into two sections, an assessment of the literature review and an assessment of the reconnaissance performed at the site.

#### 3.63.6.1 Literature Review

##### *Type of Training and OE Expected*

As part of the archives search, an interview was conducted with Mr. Fred Stephani. Mr. Stephani served as a Fort Ord fire fighter from 1942 until 1944 at which time he left the Fort Ord fire department and joined the Army. Mr. Stephani returned to the Fort Ord fire department in 1947 where he worked until he retired as Fire Chief in 1978. Mr. Stephani stated that area T was reportedly used from 1948 to 1950 and included the use of small arms and flares (*USAEDH, 1997*). However, no specific training is identified for this site on any available Fort Ord training maps. The 1954 and 1956 training maps indicate that Site OE-63 is within a larger “Division Artillery” training area. The 1957 and 1958 training area maps indicate that Site OE-63 was within the larger “1<sup>st</sup> Brigade’s” training area. On 1964 through 1972 maps, the site is within the larger “Training Area R” under G-3 (Operations and Plans). On February 1976 through 1987 Ranges and Training Area Overlay maps, the site is within the larger training area “R 2.”

A Noise Buffer Zone was established on the southeastern side of Fort Ord by January 1978. No firing of ammunition was allowed including pyrotechnics, explosives, or simulators in the “Noise Buffer Zone.” All of Site OE-63 is within the “Noise Buffer Zone” from training maps dating January 1978 to November 1987.

##### *Subsequent Use of the Area*

Based on review of historical data, this area appears to have been used for general training and maneuvers throughout the base history. This site remains undeveloped; therefore, no evidence as to potential OE use can be ascertained on the basis of subsequent use of the area.

##### *Establishment of Site Boundaries*

A general area of use (area T) was created from an interview conducted by the USACE with Mr. Stephani. The location identified by Mr. Stephani was a general area of potential activities and was not surveyed or based on specific knowledge of training procedures. Following the interview USACE personnel, including the UXO Safety Specialist, evaluated the area boundary using the interview notes, site walk information, Fort Ord training maps, and aerial photographs. Based on the follow-up evaluation the Site OE-63 boundary was established as part of the archives search. No additional information was found as the result of the literature review to warrant changes to the current boundary of Site OE-63.

##### *Summary of Literature Review Analysis*

A review of Fort Ord specific documentation including training facilities maps and plans, aerial photographs and the Archives Search Report indicates that Site OE-63 was included within larger training and maneuver areas. Training activities that have occurred within and near the site include engineering training and aviation training. An interview conducted as part of the archives search indicated that “small



arms and flares” were used in this area. A site walk conducted as part of the archives search found no evidence to support the use of Site OE-63 as an impact area. Only expended blank small arms ammunition and expended pyrotechnic items were found. On the basis of the literature review, no further OE-related investigation is warranted.

### 3.63.6.2 Preliminary Assessment /Reconnaissance Review

This section describes the items that were found during reconnaissance and the types of fillers that would be used in the items and the implications for the site history. Three site reconnaissances have been conducted at Site OE-63. The first site walk was conducted in 1996 by the USACE UXO Safety Specialist. The object of the reconnaissance was to determine whether sites identified during the PA/SI required further action. The second reconnaissance was conducted in 2001 as part of the Fort Ord BRA. Site OE-63 was identified as an area historically used for the firing of small arms ammunition and flares. The site reconnaissance was conducted to determine whether sampling for residual lead associated with small arms use was warranted. The third reconnaissance, conducted in October 2003, was performed to fill gaps in reconnaissance efforts conducted previously at this site.

#### *Reconnaissance Methods Discussion*

The site reconnaissance conducted in 1996 was completed as part of the PA/SI phase of the archives search for known and suspected OE sites at the former Fort Ord. Several areas of potential ordnance use were identified based on information gathered during interviews conducted as part of the PA/SI. Site OE-63 was identified in those interviews as a training area used from 1948 to 1950. Small arms and flares were reportedly used. The USACE UXO Safety Specialist walked a portion of the site visually searching the path walked while simultaneously searching for subsurface OE using a magnetometer. The area walked was within the western portion of the Site OE-63 boundary, and also included land immediately to the west of the site. Expended blank small arms ammunition and expended pyrotechnics were found. No evidence of fragmentation, fuzes, or projectiles were observed. No evidence of other types of training or use as an impact area was identified as a result of reconnaissance. The model numbers of the expended pyrotechnics found by the USACE UXO Safety Specialist are not identified. The USACE UXO Safety Specialist assigned Site OE-63 a Risk Assessment Code (RAC) score of 5, which indicates that no further OE-related investigation is necessary (*USAEDH, 1997*). The recommendation of no further OE-related investigation was reviewed by the Ordnance and Explosives Mandatory Center of Expertise (MCX) and Design Center (Army Corps of Engineers Huntsville Division [CEHND]). The CEHND reviewed the recommendation and agreed that no further OE-related investigation was necessary at Site OE-62 (*USAEDH, 1997*).

The Fort Ord BRA reconnaissance of HA-193 was conducted in 2001. The site reconnaissance was conducted by a two-person team that included an OE specialist and a second member trained in OE recognition. Prior to conducting the site reconnaissance, historical features were identified from training maps and aerial photographs and their locations entered into a GPS unit (way points). The team then conducted the site visit using a magnetometer to detect OE as they navigated to the way points. The path of the site walk was digitally recorded with a GPS unit. The following features or items were required to be mapped if present based on a visual search of the site as part of the BRA reconnaissance: 1) targets; 2) firing lines; 3) range fan markers; 4) survey bench marks; 5) areas of stained soil that could indicate petroleum hydrocarbon or bulk explosives contamination; 6) OE or OE scrap; 7) potential sample locations based on, a) the presence of spent ammunition (lead) (accumulations of 1 to 10 percent and areas exceeding 10 percent), or b) accumulations of OE or OE scrap; 8) other training related features (e.g., fighting positions, fox holes, etc.); and 9) areas of thick vegetation that could limit access to the investigation area. The path walked during the 2001 reconnaissance is shown on Plate 63-2. Other than expended blank small arms ammunition casings, a small open pit, and concertina wire (Non-OE scrap) no

evidence of training was observed at HA-193 (Site OE-63). Based on the absence of features including targets, range markers, and OE scrap, and the presence of only spent blank small arms ammunition casings, no further investigation for chemical contamination was recommended for HA-193 (Site OE-63) under the Fort Ord BRA.

The most recent site reconnaissance involved walking a portion of the site and performing a visual survey of the path walked as well as the area immediately surrounding the path. The site walk team also carried a GPS unit to record the path of the reconnaissance. No ordnance related items or evidence of the use of OE were found during the site walk performed at Site OE-63. Expended blank small arms ammunition was observed. A description of the site walk is included as an attachment to Appendix C of this report.

### *Site Boundaries Review*

Through the archives search, a general area of concern was identified during interviews with Mr. Stephani. The area T boundary generated by Mr. Stephani (Plate 63-1), encompasses both Site OE-63 and nearby Site OE-62 (approximately 5,000 feet to the west). No evidence of a specific training area or features associated with training areas (e.g., targets) were identified during either the ASR or the BRA site reconnaissance, and no modification to the Site OE-63 boundary is necessary based on the review of the ASR or BRA site reconnaissance data.

### *Quality Assurance/Quality Control*

The site reconnaissance conducted as part of the PA/SI was performed in accordance with USACE guidance (*USACE, 1995*). The site reconnaissance is conducted to look for evidence of past ordnance use. Visible evidence found during the site reconnaissance provides information on the type, extent, and magnitude of ordnance present. Physical features that may be present at a former site include impact craters caused by penetrating ordnance, the presence of OE and/or OE scrap on the ground surface, and soil staining associated with the use of bulk explosives. Upon completion of the reconnaissance at each site a Risk Assessment Code (RAC) worksheet was completed and submitted to the Mandatory Center of Expertise (MCX) and Design Center (CEHND) as required (*USACE, 1995*).

Although the Fort Ord BRA is not a part of the OE program, many of the Data Quality Objectives (DQOs) identified for the Site Assessment Phase of the BRA investigation are the same DQOs established for the site reconnaissance phase of the current OE site investigation program being implemented at the former Fort Ord (*Parsons, 2001*). The DQOs for the BRA and the OE investigation program identify similar inputs to the decisions used to help answer questions regarding historical site use and to define the boundaries of the area of use. The DQOs for the OE investigation program site reconnaissance identify various inputs to the decision such as compilation of historical information regarding potential OE at the site (e.g., the review of interview records, field notes, aerial photographs, and historic maps). The DQOs for the BRA historical review identified similar sources of information including the review of interview records, historical maps, and aerial photographs. As part of the DQOs for a site inspection conducted for the OE investigation program, documentation of the type and location of OE and OE scrap if found is recorded. As part of the DQOs for the BRA site reconnaissance the quantity, type and location of OE and OE scrap found is also recorded. Both programs include using the results of the site inspections to determine if additional work (i.e., sampling for OE and chemicals associated with OE) is necessary. The Fort Ord BRA was conducted in accordance to the *Basewide Range Assessment Work Plan (IT Corporation [IT], 2001)*.

For this site, the following conclusions can be made regarding the quality of the reconnaissance data:

- The site reconnaissance conducted at Site OE-63 for the ASR was conducted in accordance with USACE guidance.
- The data collected and observations made by the UXO Safety Specialist are useful because only OE scrap (expended pyrotechnics) were found. The OE scrap found is consistent with OE authorized for use in general training and maneuver areas. No evidence of high explosive or penetrating OE was observed and that no further OE-related investigation recommended.
- The BRA work conducted at Site OE-63 met the DQOs established for that program. Many of the DQOs from the BRA are the same DQOs that are currently in use for the OE investigation program.
- The data collected and observations made by the BRA and site walk teams conducting the reconnaissance at Site OE-63 are useful because no OE or OE scrap was found which further supports the conclusion that no further OE-related investigation is necessary at Site OE-63.

### 3.63.7 Conclusions and Recommendations

The following section presents conclusions and recommendations for this site based on the review and analysis of data associated with historical information and sampling performed at the site.

#### 3.63.7.1 Conclusions

##### *Site Use and Development*

- Site OE-63 was identified as a training area through an interview conducted during the PA/SI. No specific training locations were identified within Site OE-63 during the literature search (which included the review of training maps, Fort Ord specific range/training area operating procedures, and aerial photographs) or during the site reconnaissance. Site reconnaissance conducted at Site OE 63 identified the presence of expended blank small arms ammunition and expended pyrotechnic items. No evidence to support the use of high explosives projectiles or other ordnance was found at this site.
- This site is within land that is under jurisdiction of the BLM and is to be maintained as habitat reserve. Since the reuse of the property that includes Site OE-63 will continue as habitat reserve, the change encounter of OE by the public is not likely.

##### *Reconnaissance Evaluation*

To date, no intrusive grid sampling has been conducted at this site. Based on a literature review and on the results of site reconnaissance, no sampling is necessary.

- The data collected during the site reconnaissance conducted within Site OE-63 support the conclusion that training did not include the use of high explosives, Site OE-63 was not an impact area and that the OE scrap found is consistent with use as a training and maneuver area.
- Based on historical use of the site and materials found at the site, it is unlikely OE is present at the site. However, the following OE items, if present at the site, are considered to pose an acceptable risk if encountered for the following reasons.

**Signals, Illumination, Ground, Clusters: Green Star, M125A1; Red Star, M158; White Star, M159.** It is unlikely that a person could cause a signal to function through casual contact if one were found at the site and be burned, because it: (1) would require precise placement of components and a hard blow to function, and (2) would have been exposed to moisture, degradation, and weathering for many years, which could decrease the effectiveness of the components that cause it to function.

- The observations made during the site walk at Site OE-63 are useful because no evidence of OE was observed, which supports the conclusion that no further OE-related investigation is necessary at this site.
- Although the site reconnaissances conducted at Site OE-63 did not include walking the entire site, the quantity and quality of the information generated is sufficient to make an informed decision regarding the site. The investigation (site reconnaissance) was sufficient to confirm that the type of OE used at Site OE-63. Additionally, because the OE potentially remaining at Site OE-63 pose an acceptable risk if encountered, further effort to refine the site boundaries or conduct 100 percent sampling of the site would not add significantly to the understanding of the site or change the conclusions of this report.

### 3.63.7.2 Recommendations

Based on the review of existing data:

- It is not anticipated that OE will be found at Site OE-63, and no further OE-related investigation is recommended. However, because OE were used throughout the history of Fort Ord, the potential for OE to be present at Site OE-63 cannot be ruled out.
- This site qualifies as a Track 1, Category 3 site because it was used for training. OE items that potentially remain pose an acceptable risk based on site-specific evaluations conducted in the RI/FS.

Upon approval of the proposed remedy (no further OE-related investigation), Site OE-63 will be incorporated into the basewide OE RI/FS 5-year review schedule. The purpose of the “5-year review” is to determine whether the remedy at Site OE-63 continues to be protective of human health and the environment. The 5-year review will also document any newly identified site-related data or issues identified during the review, and will identify recommendations to address them as appropriate.

### 3.63.8 References

Arthur D. Little, Inc. (ADL), 1994. *Final Community Environmental Response Facilitation Act (CERFA) Report, Fort Ord Monterey, California*. Real Estate Fort Ord (Military Reservation). April.

Harding Lawson Associates (HLA), 2000. *Final Plan for Evaluation of Previous Work Ordnance and Explosives Remedial Investigation/Feasibility Study, Former Fort Ord, California*. December 4.

IT Corporation (IT), 2001. *Basewide Range Assessment Work Plan And Contractor Quality Control Plan Small Arms And Multi-Use Ranges Fort Ord, California*. Revision C. January.

Interview with Fred Stephani, 1996. *Interviews conducted from September 1995 to May 1996*. Draft. May 30.

U.S. Army (Army), 1945. *Training Facilities, Fort Ord and Vicinity, California*. Revised August 1945.

- \_\_\_\_\_, 1946. *Master Plan, Fort Ord, California*. April 5.
- \_\_\_\_\_, 1954. *Training Areas That Cannot Be Used At Same Time: (As Presented In Use)*. Circa 1954.
- \_\_\_\_\_, 1956. *Map of Fort Ord Training Areas & Facilities. Enclosure I to Annex "O"*. Revised: 20 December 1956.
- \_\_\_\_\_, 1957. *Map of Fort Ord Training Areas & Facilities. Enclosure I to Annex "H"*. Revised: 15 July 1957.
- \_\_\_\_\_, 1958. *Map of Fort Ord Training Areas & Facilities. Enclosure 1 to Appendix 1 to Annex "H"*. Revised: 10 January 1958.
- \_\_\_\_\_, 1964. *Field Training Areas & Range Map, Fort Ord. Appendix 2, Annex O*. April 27.
- \_\_\_\_\_, 1967. *Back Country Roads, Field Training Area and Range Map, Fort Ord, California*. January.
- \_\_\_\_\_, 1972. *Field Training Area and Range Map. Appendix 3, To Annex W, FT Ord Reg 350-1*. Revised: July 1.
- \_\_\_\_\_, 1976. *Ranges and Training Area Overlay, Fort Ord and Vicinity. Appendix IV to Annex W, Fort Ord Reg 350-1*. Revised as of February 1976.
- \_\_\_\_\_, 1977. *Technical Manual, Army Ammunition Data Sheets: Military Pyrotechnics (Federal Supply Class 1370). TM 43-0001-37*. February.
- \_\_\_\_\_, 1978. *Ranges and Training Area Overlay, Fort Ord and Vicinity. Appendix C to Fort Ord Reg 350-5*. Revised as of January 1978.
- \_\_\_\_\_, 1985. *Authorized Abbreviations, Brevity Codes, and Acronyms, Regulation 310-50, 1985*. Headquarters Department of the Army, Washington, D.C. November 15.
- \_\_\_\_\_, 1987. *Ranges and Training Area Overlay, Fort Ord and Vicinity*. Revised 15 November 1987.
- \_\_\_\_\_, 1992. *Field Manual FM 7-8, Infantry Rifle Platoon and Squad*. April 22. Change 1, 1 March 2001.
- U.S. Army Corps of Engineers (USACE), 1968. *Training Facilities Map*. Sacramento District. March.
- \_\_\_\_\_, 1972. *Training Ranges and General Road Maps*. June 9.
- \_\_\_\_\_, 1984. *Training Facilities Map, Basic Information Maps, Master Plan*. June.
- \_\_\_\_\_, 1995. *Procedures For Conducting Preliminary Assessments At Potential Ordnance Response Sites*. ETL 1110-1-165. April.
- \_\_\_\_\_, 1997. *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord California*. Sacramento District. April.

U.S. Army Engineer Division, Huntsville (USAEDH), 1997. *Revised Archives Search Report Fort Ord California, Monterey County, California.* Prepared by U.S. Army Corps of Engineers St. Louis Division. December.

## PLATES

## Disclaimer

The following plates have been prepared to present pertinent features digitized from historical training maps and scanned aerial photographs. It should be noted that minor discrepancies between source maps, combined with the natural degradation of older source maps and photographs, has resulted in misalignment of some map features. In addition, camera angle and lens distortion introduced into older aerial photographs, combined with changes in vegetation and site features over time may contribute to misalignments of some map features with respect to the aerial photographs.



ATTACHMENT 63-A

**ATTACHMENT 63-A  
EVALUATION OF PREVIOUS WORK: SITE OE-63  
EVALUATION CHECKLIST PART 1: LITERATURE REVIEW**

Yes                  No                  Inconclusive

**TYPE OF TRAINING AND OE EXPECTED**

**1. Is there evidence that the site was used as an impact area (i.e., fired OE such as mortars, projectiles, rifle grenades or other launched ordnance)?**

	No	
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**Sources reviewed and comments**

The Archives Search Report (ASR) states that the area was identified during interviews with Mr. Fred Stephani. He said that the area was used from 1948 to 1950 and training activities included the use of small arms and flares. Mr. Stephani identified Site T that includes both Site OE-62 and Site OE-63 (Fred Map). No specific training site is shown in this location on the training maps. On the 1972 USACE map, the site is within a larger Training and Maneuver area R. On the 1976 Ranges and Training Area Overlay map, Area R is subdivided into two R 1 and R 2 and Site OE-63 falls within R 2. A Noise Buffer Zone was established on the southeast side of Fort Ord by January 1978. Site OE-63 is included in the buffer zone. Within the buffer zone "(No Firing of Blank Ammo: Pyrotechnics, Explosives or simulators)" was allowed. Site OE-63 remains in R 2 through November 1987 (last available training map).

**2. Is there historical evidence that training involved use of High Explosive (HE) or Low Explosive (LE) items?**

Yes		
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**Sources reviewed and comments**

Small arms and flares. Mr. Stephani interview, RAC sheet for Site T, Site OE-62 & OE-63, Revised Archives Search Report (ASR), USAEDH 1997; Review of Fort Ord facilities and training maps.

**3. Is there historical evidence that training involved use of pyrotechnic and/or smoke producing items (e.g., simulators, flares, smoke grenades) but not explosives?**

Yes		
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**Sources reviewed and comments**

Expended small arms blank ammunition and expended pyrotechnic items found during site recon. (Mr. Stephani interview, RAC sheet for Site T, Site OE-62 & OE-63, Revised Archives Search Report (ASR), USAEDH 1997; Review of Fort Ord facilities and training maps).

**ATTACHMENT 63-A  
EVALUATION OF PREVIOUS WORK: SITE OE-63  
EVALUATION CHECKLIST PART 1: LITERATURE REVIEW**

Yes                  No                  Inconclusive

**DEVELOPMENT AND USE OF THE SURROUNDING AREA**

**4. Does subsequent development or use of the area indicate that OE would have been used at the site?**

	No	
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**Sources reviewed and comments**

No development has occurred. No reported OE items found by hikers or the BLM.

**5. Does use of area surrounding the site indicate that OE would have been used at the site?**

	No	
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**Sources reviewed and comments**

"CMT Biv" and "RWO 4" located to the west (Site OE-62). Further to the west was the Laguna Seca Training Area (Circa 1954 map), and the Laguna Seca Training Area and Survey Training Area (December 20, 1956 map). No defined training areas after that time. CMT Biv was a bivouac area. The specific use of RWO 4 is unknown, however, the abbreviation RWO is noted in areas used for land navigation training.

**ESTABLISHMENT OF SITE BOUNDARIES**

**6. Is there evidence of training areas on aerial photographs that could be used to establish**

	No	
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**Sources reviewed and comments**

No clear indication of a defined training area. No structures or permanent features, with the exception of a dirt road, were observed ( 3/13/69; 12/17/75; 6/16/78; 3/25/86; 11/4/88; 10/4/89).

**7. Is there evidence of training on historical training maps that could be used to establish boundaries?**

	No	
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**Sources reviewed and comments**

According to the ASR the area was identified during interviews with Mr. Stephani. The boundary shown on the Fred Map (Site T) is larger, encompassing both Sites OE-62 and OE-63. At this time it is unknown how the shape and location of the site were determined.

**ATTACHMENT 63-A  
EVALUATION OF PREVIOUS WORK: SITE OE-63  
EVALUATION CHECKLIST PART 1: LITERATURE REVIEW**

Yes                  No                  Inconclusive

**8. Should current boundaries be revised?**

		Inconclusive
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**Sources reviewed and comments**

At this time it is unknown how the shape and location of the site were determined.

**RESULT OF LITERATURE EVALUATION**

***Does the literature review provide sufficient evidence to warrant further investigation?***

	No	
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**Comments**

No sampling or further OE-related investigation is recommended based on the literature review.

**References**

USAEDH, 1997. Revised Archives Search Report, Former Fort Ord, California, Monterey County, California. Prepared by U.S. Army Corps of Engineers St. Louis District.  
Risk Assessment Procedures For Ordnance And Explosive Waste (OEW) Sites (RAC Sheet), Site T, OE-62 & OE-63, January 18, 1996.  
Fred Map, generated from a 1995 interview with former Fort Ord Fire Chief Fred Stephani.  
\_\_\_\_\_, 1964. Field training Areas and range Map, April 27.  
\_\_\_\_\_, 1987. Ranges and Training Area Overlay, November 15.  
\_\_\_\_\_, Circa 1954. Training Areas That Cannot Be Used at The Same Time.  
\_\_\_\_\_, 1956. Fort Ord Training Areas and Facilities, December 20.  
Ranges And Training Area Overlay, Revised July 15, 1976  
Ranges And Training Area Overlay, Revised June 1, 1977  
Ranges And Training Area Overlay, Revised January 1978  
Ranges And Training Area Overlay, Revised March, 1980  
Ranges And Training Area Overlay, Revised June 1, 1981  
Ranges And Training Area Overlay, Revised April 1, 1982  
Ranges And Training Area Overlay, Revised November 15, 1987

ATTACHMENT 63-A  
 EVALUATION OF PREVIOUS WORK: SITE OE-63  
 EVALUATION CHECKLIST PART 2: RECONNAISSANCE EVALUATION

**Yes                  No                  Inconclusive**

**1. Is there evidence that the site was used as an impact area (i.e., fired OE such as mortars, projectiles, rifle grenades or other launched ordnance)**

	No	
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**Sources reviewed and comments**

Based on the RAC sheet, the site reconnaissance conducted under the Basewide Range Assessment (BRA), and the 2003 site walk, only expended pyrotechnics and small arms blanks were identified.

**2. Is there evidence that training involved use of High Explosive (HE) or Low Explosive (LE) items?**

Yes		
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**Sources reviewed and comments**

Expended small arms blank ammunition (RAC Sheet for Site T).

**3. Is there evidence that training involved use of pyrotechnic and/or smoke producing items (e.g., simulators, flares, smoke grenades) but not explosives?**

Yes		
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**Sources reviewed and comments**

RAC sheet notes expended pyrotechnic items (RAC Sheet for Site T).

**4. Does subsequent development or use of the area indicate potential that OE would have been used at the site?**

	No	
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**Sources reviewed and comments**

No reports of OE items found by the BLM. No development of this area has occurred.

**5. Does use of area surrounding the site indicate that OE would have been used at the site?**

		Inconclusive
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**Sources reviewed and comments**

"CMT Biv" and "RWO 4" located to the west (Site OE-62). Further to the west was the Laguna Seca Training Area (Circa 1954 map), and the Laguna Seca Training Area and Survey Training Area (December 20, 1956 map). No defined training areas after that time. Possible that Site OE-63 was used by personnel training at adjacent sites.

ATTACHMENT 63-A  
 EVALUATION OF PREVIOUS WORK: SITE OE-63  
 EVALUATION CHECKLIST PART 2: RECONNAISSANCE EVALUATION

**6. Is there evidence of training areas on aerial photographs that could be used to establish site boundaries?**

Yes	No	Inconclusive
	No	

**Sources reviewed and comments**

No clear indication of a defined training area. No structures or permanent features, with the exception of a dirt road, were observed ( 3/13/69; 12/17/75; 6/16/78; 3/25/86; 11/4/88; 10/4/89).

**7. Is there evidence of training on historical training maps that could be used to establish boundaries?**

	No	
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**Sources reviewed and comments**

interviews with Mr. Stephani. The boundary shown on the Fred Map is larger than the boundary in the ASR and includes both Sites OE-62 and OE-63. An area "R" that includes the location of Site OE-63, is delineated on the April 27, 1964. Area R continues to be present through the '70s and '80s eventually shifting to include Site OE-62 as well as OE-63. Area R is subdivided into two parts in the mid 70s remaining that way through the 80s. One half labeled "1" includes Site OE-62 and the other half "2" includes Site OE-63. Area 1 is identified as an Engineer Training Area, Area 2 is not identified.

**8. Was sampling and/or reconnaissance performed within appropriate area?**

Yes		
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**Sources reviewed and comments**

2003 site walk for Site OE-63. A portion of Site OE-63 was also included in the site recon. (RAC sheet for Site T, OE-62 & OE-63).

**9. Does reconnaissance indicate OE and/or ordnance-related scrap are present at the site?**

Yes		
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**Sources reviewed and comments**

Expended small arms blank ammunition and expended pyrotechnics reportedly found (RAC sheet for Site T, OE-62 & OE-63).

ATTACHMENT 63-A  
 EVALUATION OF PREVIOUS WORK: SITE OE-63  
 EVALUATION CHECKLIST PART 2: RECONNAISSANCE EVALUATION

	Yes	No	Inconclusive
<b>10. Were the type(s) of items found consistent with the type of training identified for the site?</b>	Yes		

**Sources reviewed and comments**  
 Other than a maneuver area, no specific type of training has been identified for this site. The items reportedly found here are consistent with the type of items found in other training and maneuver areas.

<b>11. Were the type(s) of items found consistent with the era(s) in which training was identified?</b>			Inconclusive
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**Sources reviewed and comments**  
 No identification of the type of expended items was presented; therefore this cannot be determined.

<b>12. Was HE fragmentation found?</b>		No	
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**Sources reviewed and comments**  
 RAC sheet for Site T, OE-62 & OE-63, site recon conducted for Basewide Range Assessment, and 2003 site walk.

<b>13. Was HE found?</b>		No	
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**Sources reviewed and comments**  
 RAC sheet for Site T, OE-62 & OE-63, site recon conducted for Basewide Range Assessment, and 2003 site walk.

<b>14. Was LE found?</b>		No	
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**Sources reviewed and comments**  
 RAC sheet for Site T, OE-62 & OE-63, site recon conducted for Basewide Range Assessment, and 2003 site walk.

<b>15. Were pyrotechnics found?</b>		No	
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**Sources reviewed and comments**  
 RAC sheet for Site T, OE-62 & OE-63, site recon conducted for Basewide Range Assessment, and 2003 site walk.

ATTACHMENT 63-A  
 EVALUATION OF PREVIOUS WORK: SITE OE-63  
 EVALUATION CHECKLIST PART 2: RECONNAISSANCE EVALUATION

**16. Were smoke producing items found?**

Yes	No	Inconclusive
	No	

**Sources reviewed and comments**  
 RAC sheet for Site T, OE-62 & OE-63, site recon conducted for Basewide Range Assessment, and 2003 site walk.

**17. Were explosive items found (e.g. rocket motors with explosive components, fuzes with explosive components)?**

	No	
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**Sources reviewed and comments**  
 RAC sheet for Site T, OE-62 & OE-63, site recon conducted for Basewide Range Assessment, and 2003 site walk.

**18. Do items found in the area indicate training would have included use of training items with energetic components?**

Yes		
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**Sources reviewed and comments**  
 Expended small arms blank ammunition and expended pyrotechnics reportedly found (RAC sheet for Site T, OE-62, and OE-63).

**19. Were items found in a localized area (possibly the remnants of a cleanup action)?**

	No	
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**Sources reviewed and comments**  
 (RAC sheet for Site T, OE-62 & OE-63, and site recon conducted for Basewide Range Assessment).

**20. Is it appropriate to divide the site into sectors to focus on areas of common usage, similar topography and vegetation, and/or unique site features?**

	No	
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**Sources reviewed and comments**  
 No indication that the site should be divided.



ATTACHMENT 63-A  
 EVALUATION OF PREVIOUS WORK: SITE OE-63  
 EVALUATION CHECKLIST PART 2: RECONNAISSANCE EVALUATION

**21. Should site boundaries be revised?**

Yes	No	Inconclusive
		Inconclusive

**Sources reviewed and comments**

Not sure what the boundary is based on. Area T from the Fred interview encompasses both Sites OE-62 and OE-63. (RAC sheet for Site T, OE-62 & OE-63).

**22. Has the field data been collected and managed in accordance with quality control standards established for the project?**

Yes		
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**Sources reviewed and comments**

Data collected for the Basewide Range Assessment (BRA) was managed in accordance the DQOs established in the Basewide Range Assessment Work Plan (IT, 2001). The site reconnaissance conducted as part of the PA/SI was in performed in accordance with USACE guidance (USACE, 1995).

**Result of Reconnaissance Evaluation**

**Does the reconnaissance evaluation provide sufficient evidence to warrant further investigation?**

	No	
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**Comments**

No reason to conduct further OE-related investigation based on the RAC evaluation and site reconnaissance conducted under the BRA.

**References**

USAEDH, 1997. Revised Archives Search Report, Former Fort Ord, California, Monterey County, California. Prepared by US Army Corps of Engineers St. Louis District.

\_\_\_\_\_, 1996. Risk Assessment Procedures For Ordnance And Explosive Waste (OEW) Sites (RAC Sheet), Site T. January 18.

US Army Corps of Engineers, 1995. Procedures For Conducting Preliminary Assessments At Potential Ordnance Response Sites. ETL 1110-1-165, April.

IT Corporation (IT), 2001. Basewide Range Assessment Work Plan And Contractor Quality Control Plan Small Arms And Multi-Use Ranges Fort Ord, California. Revision C. January.