

Site OE-69

(Unnamed)

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- 69-2 Site OE-69; 1999 Aerial Photo
- 69-3 Conceptual Site Model, Site OE-69

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- 69-A Evaluation of Previous Work Checklists

SITE OE-69 (UNNAMED)

3.69 Site OE-69 (Unnamed)

A summary report for Site OE-69 is provided below. This report consists of two parts. The first part, contained in Sections 3.69.1 through 3.69.5, 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 3.69.6). 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 3.69.6.1) and evaluation of reconnaissance process(es) (Section 3.69.6.2). These discussions are based upon information from standardized literature review and sampling review checklists (Attachment 69-A). Section 3.69.7 provides conclusions and recommendations for the site. References are provided in Section 3.69.8.

3.69.1 Site Description

Site OE-69 is approximately 37 acres and is located on the eastern side of the former Fort Ord (Fort Ord; Plate 69-1). An area encompassing Site OE-69 (Area AN) was identified as a suspected OE area during interviews with former Fire Chief Mr. Fred Stephani conducted as part of the Fort Ord Archives Search Report (ASR; *U.S. Army Engineer Division, Huntsville [USAEDH], 1997*). Mr. Stephani stated that “small arms and maybe rifle grenades” were used in this area.

3.69.2 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 that no specific training sites were in use in the area. The results of the documentation review are summarized below:

- No disturbed/cleared vegetation is visible on a 1945 aerial photograph.
- No specific training area is designated in this area on the 1945 and 1946 training maps (*U.S. Army [Army], 1945, 1946*).

1950s Era

No specific training areas are indicated within the site vicinity on 1950s training maps. On the 1954, 1956, 1957, and 1958 maps, Site OE-69 lies within a larger area used by the “34th Engineering Group” (*Army, 1954, 1956, 1957, and 1958*).

1960s Era

The 1960s training maps indicate an aviation training area just west of the site. The training maps indicate that Site OE-69 is within a larger training area “O.”

- The southwestern corner of Site OE-69 lies within a training area that included part of a “Land Navigation Area” (*U.S. Army Corps of Engineers [USACE], 1961*).
- The 1964 and 1968 maps show an Aviation Training Area (Plate 69-2) about 300 feet west of site OE-69 (*Army, 1964 and USACE, 1968*). The larger training area “O” is identified as “G-3” and “84th Engineering Group” simultaneously in the 1964 training map. According to the Fort Ord Range officer present at Fort Ord from 1970 through 1990, training at the aviation training areas included helicopters landing and taking off as part of a practice emergency evacuation scenario and did not involve the use of OE (*Stickler, 2003*).
- The map indicates a “Helipad” about 400 feet west of the site and a “Boy Scout Area” approximately 2,000 feet south of the site (*Army, 1967*). Helipads were used for the purpose of emergency evacuations (*Army, 1980*).

1970s Era to Present

Review of 1970s and 1980s training maps and aerial photographs is as follows:

- The 1972 Field Training Area and Range Map identifies the site area as a “Helicopter Training Area” (*Army, 1972*).
- On the Ranges and Training Area Overlay map, a Boy Scout Camp is approximately 2,000 feet south of the site area (*Army, 1976*).
- A “Noise Buffer Zone” was established on the southeast side of Fort Ord by January 1978 (*Army, 1978*). All of Site OE-69 is included in the Noise Buffer Zone on the 1978 through 1987 maps (*Army, 1987a*). Within the Noise Buffer Zone, “No Firing of Blank Ammo: Pyrotechnics, Explosives or Simulators” was allowed.
- Aerial photographs from December 17, 1975, and June 16, 1978, show no clear indication of a defined boundary or cleared/disturbed areas.
- On the Army 1972 through 1987 maps, the site lies within the larger training area “O.” On Army maps from 1978 through 1987 (*Army, 1978 and 1987a*), training area “O” is identified as “Engineer Training Area.”

Future Land Use

Site OE-69 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.

3.69.3 Potential Ordnance Based on Historical Use of the Area

This section identifies the types of ordnance that may have been used in this area. Based on the interview with Mr. Stephani, small arms ammunition and possibly rifle grenades were used for training. Information concerning the types of rifle grenades that could have been used during training was obtained from Technical Manual, Army Ammunition Data Sheets for Grenades (Army, 1987a) Technical Manual, Pyrotechnic, Screening, Marking, and Countermeasure Devices (Navy, 1982), and *The American Arsenal* (Hogg, 2001) and is summarized below. It is believed that if rifle grenades were fired at Site OE-69, firing would have involved the use of practice rifle grenades and possibly smoke producing rifle grenades. Rifle fired illumination signals M17A1 through M22A1 were available for use during the 1940s and 1950s. Practice rifle grenade training would have been conducted during daylight hours and therefore, the use of rifle fired illumination signals is not expected to have occurred at Site OE-69.

3.69.3.1 Practice Rifle Grenades

Rifle grenades are designed for fire from U.S. rifles and carbines by a launcher that is attached to the gun muzzle. A special blank cartridge issued with the grenade is required to complete the launching. The M11A2 antitank practice grenade was available for use during the 1940s and 1950s. The M11A2 was designed for training in marksmanship. This item was an inert loaded dummy grenade similar in shape and weight to the high explosive antitank (HEAT) M9A1 grenade. No explosive charge was associated with this practice item. The M11A2 differed from the M9A1 in that the fins could be replaced in case they were damaged or wore out. Because of the proximity to Highway 68 and the helipads, it is not expected that the HEAT M9A1 antitank grenade would have been fired in this area.

3.69.3.2 Rifle Grenades, Smoke

Rifle fired smoke grenades were designed to be fired from a rifle or carbine fitted with a launcher for signaling or laying smokescreens by ground units. The models that were available for use in the 1940s and 1950s include the M20, M22, and M23 Series smoke rifle grenades. It is not known whether training with smoke-producing rifle grenades occurred at Site OE-69. Additional information on some of the models of rifle fired smoke signals potentially used at Site OE-69 is provided in Attachment 27X-A2.

The potential use of high explosive rifle grenades in this area was considered during the evaluation of Site OE-69. However, based on the following reasons it is believed that use of this site would not have included the use of HE items; 1) Site OE-69 lies outside of the area established for the firing of high explosive ordnance (MRA); 2) Site OE-69 is not identified as a rifle grenade training area on historic training maps, 3) no range fan (typically associated with live fire ranges) is delineated in this area on available training maps; 4) no firing points or targets were observed on aerial photographs or during site reconnaissance; 5) areas identified as "Rifle Grenade Range" and delineated by range fans are present within the MRA on training maps from 1954, 1956, 1957 and 1958; 6) based on the proximity to Highway 68 and the "Helipad," it is not likely that HE rifle grenades would have been fired in this area; and 7) no evidence of HE rifle grenades (fragmentation) was observed during site reconnaissance.

3.69.4 History of OE Investigations

The following describes the OE investigations that have been conducted at Site OE-69.

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.

An area encompassing Site OE-69 (Area AN) was identified as a suspected OE area during interviews with Mr. Stephani conducted as part of a Fort Ord archive search (*USAEDH, 1997*). Mr. Stephani stated that area AN was reportedly used for firing “small arms and maybe rifle grenades at a fixed target from the bottom to the side of the ridge” and “from the Boy Scout Area up to the other side of the same ridge.”

A site reconnaissance was conducted in 1995 by the USACE Unexploded Ordnance (UXO) Safety Specialist. The reconnaissance involved walking a portion of the site and sweeping the path walked using a Schonstedt Model GA-52/C magnetometer for detection of surface and subsurface ferrous anomalies. A map of the area covered by the site reconnaissance performed for Area AN (Site OE-69) is not included with the Risk Assessment Code (RAC) worksheets. No evidence to support the use of rifle grenades was encountered during the reconnaissance event. Additionally, no evidence was found to support the use of Site OE-69 as an impact area (e.g., fixed targets, fragmentation, fuzes, or projectiles). On the basis of the reconnaissance performed, no further OE-related investigation was recommended in the ASR (*USAEDH, 1997*). No sampling of OE at Site OE-69 has occurred.

2001 Basewide Range Assessment

Site OE-69 was investigated as part of a basewide range assessment (BRA) for small arms and multi-use ranges currently being conducted at the former Fort Ord. The assessment of Site OE-69 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 (HAs). Site OE-69 was identified as HA-199. 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 69-2). No evidence was found indicating the presence of small arms blank ammunition, pyrotechnics or rifle grenades. Additionally, no fixed targets were reported.

3.69.5 Conceptual Site Model

Conceptual site models (CSMs) are generally developed during the preliminary site characterization phase of work to provide the basis for 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 contaminant (in this case OE), and exposure routes (potential scenarios that may result in contact with OE).

The CSM for Site OE-69 is based on currently available site-specific and general information including a literature search of aerial photographs, maps, technical manuals, and field observations. A CSM is provided on Plate 69-3. It is provided here to help evaluate the adequacy of the investigation completed to date and to identify potential release and exposure pathways.

3.69.5.1 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.

Practice Rifle Grenade Training

Information concerning practice rifle grenade training was obtained from *Policies and Procedures for Firing Ammunition for Training, Target Practice and Combat (Army, 1983)*. Range information for rifle grenade training was obtained from TM 43-0001-29 (*Army, 1977*) and information on World War II grenade launchers was obtained from *The American Arsenal (Hogg, 2001)*. According to the policies and procedures, live rifle grenades will be fired behind a protective barrier equivalent to a screen of sandbags 0.5 meter thick or reinforced concrete walls 0.16 meter thick. It is suspected that in the practice training area, the procedure of setting up a protective barrier would have included sandbags. The maximum danger radius for the live rifle grenade is 200 meters. The maximum range of the practice rifle grenade M29 (version found in TM 43-0001-29) is 150 meters, therefore it is expected that the training area used would be at least 150 meters in length. According to information in *The American Arsenal*, the depth to which the launcher is inserted into the stabilizer tube determines the range attained by the fired grenade. Therefore, it is expected that targets would be placed at various distances to practice firing at different ranges. Because the practice rifle grenades are inert, no OE associated with this practice would be expected. Blanks used to launch the rifle grenades may be present.

Rifle Grenades, Smoke

General information on the use of rifle-fired smoke grenades was obtained from the Army Field Manual 21-60 (*Army, 1987b*). Rifle fired smoke grenades (pyrotechnics) available in the 1940s and 1950s were used by the military for a variety of purposes including visual signals (communication) and smokescreens. Pyrotechnics produce either smoke or light and are consumed in the process. When used for communication, prearranged signals are developed based on the color and characteristics of the pyrotechnic device used. This allows personnel in the field to rapidly transmit prearranged messages over short distances (*Army, 1987b*).

Aviation Training

According to the Fort Ord Range Control officer present at Fort Ord from 1970 through 1990, training at the aviation training areas included helicopters landing and taking off as part of a practice emergency evacuation scenario (*Stickler, 2003*). He also stated that the use of OE was not a part of this training. The former Range Control officer also noted that Range Control was responsible for the scheduling and the inspection of these training areas prior to checkout of the unit using the area. No conceptual site model is provided for this training activity because the use of OE at this training area is not expected.

3.69.5.2 Site Features

This site is located on the eastern side of Fort Ord, adjacent to Highway 68 on the east. On the 1964 and 1968 training maps, an aviation training area is indicated within the site boundaries. The 1967 map indicates a helipad just west of the site. A Noise Buffer Zone was established on the southeast side of Fort Ord by January 1978. All of Site OE-69 is included in the Noise Buffer Zone. Within the Noise Buffer Zone “No Firing of Blank Ammo: Pyrotechnics, Explosives or Simulators” was allowed. The 1978 through 1987 Army training maps indicate that Site OE-69 was within the larger training area “O (engineering training area).”

3.69.5.3 Potential Sources and Location of OE

Inert practice rifle grenades and rifle fired smoke grenades may have been used at this site. Inert practice rifle grenades would not present a safety risk because the only live components associated with inert practice rifle grenades are blanks required to launch it. If smoke rifle grenades were used, the possibility exists that live smoke grenades could be present at the site. Rifle fired grenades and signals by design are non-penetrating and if present at this site would typically be found on or near the ground surface. No evidence of the firing of rifle grenades was observed at Site OE-69 during site reconnaissance.

3.69.5.4 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. The public has had access to this area for approximately 6 years. To date, no instances of OE items being found by the public in this area have been reported. Because no OE items were discovered during site reconnaissance, or reportedly previously, it is unlikely that a potential exposure by the public to OE exists at this site.

3.69.6 Site Evaluation

The available data (e.g., archival and reconnaissance data) regarding Site OE-69 were reviewed and evaluated according to procedures described in the *Final Evaluation of Previous Work (HLA, 2000)*. The evaluation process is documented through the completion of a series of checklists. Copies of the checklists are provided as Attachment 69-A. This section presents a summary of the results of the checklist evaluations. It is divided into two sections, an assessment of the literature review and an assessment of the reconnaissance performed at the site.

3.69.6.1 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 “AN” may have been used for firing small arms and possibly rifle grenades at a fixed target. There is no evidence from Fort Ord historical documentation that indicate the type of rifle grenades that may have been used or the specific location where they would have been used. The 1961 training map shows the southwest corner of Site OE-69 within the “Land Navigation Area.” The area just west of Site OE-69 area was used for aviation training in the 1960s and the early 1970s. Based on review of historical information and interview records, it is possible that small arms and practice rifle grenades could have been used during training.

Subsequent Use of the Area

Evidence from an interview indicates that small arms ammunition and possibly practice rifle grenades may have been used for training. A nearby area was used as for aviation and helicopter training in the 1960s and up to the mid-1970s. The land that includes Site OE-69 was transferred to the BLM in 1996 and will remain undeveloped. The land is open to the public for recreational use such as hiking, biking, and horseback riding.

Establishment of Site Boundaries

A general area of use (area AN) 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-69 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-69.

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-69 has been used for various training activities including engineering training, aviation training, land navigation, and the firing of small arms and possibly rifle grenades. A site walk conducted as part of the archives search found no evidence to support the use of rifle grenades at Site OE-69. Additionally, no evidence of OE was found during the site reconnaissance. Based on the proximity of the site to aviation training areas and Highway 68, it is expected that if rifle grenades had been used in this area they would have been practice grenades (inert) and not live. On the basis of the literature review no further OE-related investigation is warranted.

3.69.6.2 Preliminary Assessment/Reconnaissance Review

This section describes the items that were found during reconnaissance and how these items support historical information concerning past use of the site. The site boundaries are assessed in terms of the items found. Discussions regarding the reconnaissance methods and quality control measures used during the site investigation are also presented in this section.

Two site reconnaissance events were conducted at Site OE-69. The first reconnaissance event consisted of a site walk in 1995 by the USACE UXO Safety Specialist. The object of the reconnaissance was to determine whether sites identified during the Preliminary Assessment/Site Investigation (PA/SI) required further action. The second reconnaissance was conducted in 2001 as part of the Fort Ord BRA. Site OE-69 was identified during interviews with Mr. Stephani as an area historically used for the firing of small arms ammunition and possibly rifle grenades at a fixed target. The site reconnaissance was conducted by field personnel including an OE specialist to determine whether sampling for residual lead associated with small arms use was warranted. The paths walked during the site reconnaissances are shown on Plate 69-2.

Reconnaissance Methods Discussion

The site reconnaissance conducted in 1995 was completed as part of the PA/SI phase of the archives search for known and suspected OE sites at 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-69 was identified in interviews as a training area. During the interviews, it was indicated that small arms and possibly rifle grenades were used.

The USACE UXO Safety Specialist walked over a portion of the site visually searching the path walked while simultaneously searching for subsurface OE using a Schonstedt GA-52/Cx magnetometer. Expended blank and live small arms ammunition were found. No evidence of fragmentation, fuzes, or projectiles was observed. No evidence of rifle grenades was encountered during the site walk. No evidence of other types of training, use as an impact area, or a fixed target was identified as a result of reconnaissance. The USACE UXO Safety Specialist assigned a RAC score of 4 for the site, and recommended no further action. The recommendation was forwarded to 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-69 (*USAEDH, 1997*).

The Fort Ord BRA reconnaissance 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 recorded digitally using the 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. No evidence of OE, small arms ammunition, or fixed targets was found at Site OE-69. Based on the absence of features including targets, range markers, fighting positions, spent small arms ammunition, and OE scrap, no further OE-related investigation was recommended for Site OE-69 under the Fort Ord BRA.

Site Boundaries Review

Through the archives search, a general area of concern was identified during interviews with Mr. Stephani. No evidence of a specific training area or features associated with training areas (e.g., targets) was identified during either the ASR or BRA site reconnaissance, and no modification to the Site OE-69 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-69 for the ASR was conducted in accordance with USACE guidance
- The data collected and observations made by the UXO Safety Specialist are useful because no OE or OE scrap was found, supporting the conclusions that OE was not used during training at Site OE-69 and that no further OE-related investigation is necessary.
- The BRA work conducted at Site OE-69 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 team conducting the reconnaissance at Site OE-69 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-69.

3.69.7 Conclusions and Recommendations

The following section presents conclusions and recommendations for this site based on the review and analysis of data of historical information and data gathered during reconnaissance events performed at the site.

3.69.7.1 Conclusions

Site Use and Development

- Site OE-69 was identified through an interview conducted during the PA/SI as a training area that included the use of small arms ammunition and possibly rifle grenades. Based on interview records, it appears that practice rifle grenades could have been used within Site OE-69.
- There was no evidence found during both reconnaissance events conducted at Site OE-69 to support the use of rifle grenades.

- Aviation training areas were identified near the site vicinity on training maps. No evidence of pyrotechnics or other ordnance was found at this site during both site reconnaissance events.
- This site is within land that is under the jurisdiction of the BLM and is to be maintained as habitat reserve. Since the reuse of the property that includes Site OE-69 will continue as habitat reserve, the chance 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 evidence from the literature review and results from site reconnaissance events, no sampling is necessary.

- The data collected during the site reconnaissance conducted within Site OE-69 support the conclusion that OE were not used in this area
- Although the site reconnaissance conducted at Site OE-69 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 OE was not used at Site OE-69. Additionally, because OE was not used at Site OE-69, 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.

3.69.7.2 Recommendations

Based on the review of existing data:

- It is not anticipated that OE will be found at Site OE-69 and no further OE-related investigation is recommended. However, because OE was used throughout the history of Fort Ord, the potential for OE to be present at Site OE-69 cannot be ruled out.
- This site qualifies as a Track 1, Category 1 site because there is no evidence to indicate OE was used at this site.

Upon approval of the proposed remedy (no further OE-related investigation), Site OE-69 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-69 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.

3.69.8 References

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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

69-A

ATTACHMENT 69-A
 EVALUATION OF PREVIOUS WORK: SITE OE-69
 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)?

		Inconclusive
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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. Mr. Stephani identified an Area AN (Stephani Interview Map). He said that "small arms and maybe rifle grenades were fired at a fixed target from the bottom to the side of the ridge then from the boy scout area up to the other side of the same ridge. The area just west of the site was used for aviation training in the 1960s and the early 1970s. No evidence of OE-related items found during the recon (RAC sheet for Site AN). This site is within a larger area defined as an engineer training area beginning in the '50s (34th Engineering Group), continuing into the '60s (Area O, 84th Engineering Group and G-3) and in the '70s and '80s (Area O, Engineer Training Area). A noise buffer zone was established on the southeast side of Fort Ord by January 1978. All of Site OE-69 is included in the buffer zone. Within the buffer zone "(No Firing of Blank Ammo: Pyrotechnics, Explosives or

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

		Inconclusive
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Sources reviewed and comments

Do not know the type of rifle grenade that may have been used (e.g., HE, LE, Smoke, etc.) or the specific location in this area. Fred interview, RAC sheet for Site AN, 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?

	No	
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Sources reviewed and comments

No evidence of pyrotechnics or smoke producing items (Mr. Stephani interview, RAC sheet for Site AN, Revised Archives Search Report (ASR), USAEDH 1997; Review of Fort Ord facilities and training maps).

ATTACHMENT 69-A
 EVALUATION OF PREVIOUS WORK: SITE OE-69
 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.

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

Site OE-69 is within a large engineer training area that included part of a Land Navigation Area ('61) to the southwest and an aviation training area ('68) to the west. Boundary of Fort Ord is to the east and north of the site.

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 (12/17/75; 6/16/78; 3/25/86; 11/4/88; 10/4/89; 7/6/92).

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

No defined training areas on the maps. According to the ASR the area was identified during interviews with Mr. Fred Stephani. This site is within a larger area defined as an engineer training area beginning in the '50s (34th Engineering Group), continuing into the '60s (Area O, 84th Engineering Group) and in the '70s and '80s (Area O, Engineer Training Area).

ATTACHMENT 69-A
 EVALUATION OF PREVIOUS WORK: SITE OE-69
 EVALUATION CHECKLIST PART 1: LITERATURE REVIEW

Yes No Inconclusive

8. Should current boundaries be revised?

	No	
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Sources reviewed and comments

The only boundary for this site comes from the Mr. Stephani interview conducted as part of the ASR. No map of the recon walk is included with the RAC sheet for this site (RAC sheet for Site AN).

RESULTS OF LITERATURE EVALUATION

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

	No	
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Comments

Results of the literature review do not indicate that any further OE-related investigation is necessary.

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 AN, November 16, 1995.
- Stephani Interview Map, generated from a 1995 interview with former Fort Ord Fire Chief Fred Stephani.
- Field training Areas and range Map, April 27, 1964.
- Ranges and Training Area Overlay, November 15, 1987.
- Fort Ord Training Areas and Facilities, December 20, 1956.
- Training Areas That Cannot Be Used at The Same Time, Circa 1954.
- Field Training Area and Range Map, Revised July 1, 1972
- 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

ATTACHMENT 69-A
 EVALUATION OF PREVIOUS WORK: SITE OE-69
 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 and the 2001 Basewide Range Assessment (BRA) site reconnaissance.

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

	No	
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Sources reviewed and comments

Based on the RAC sheet and the 2001 BRA site reconnaissance.

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

	No	
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Sources reviewed and comments

Based on the RAC sheet and the 2001 BRA site reconnaissance.

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 development of this area has occurred.

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

On the 1961 USACE map, the southern part of the site appears to have been within a land navigation area. This site is within a larger area defined as an engineer training area beginning in the '50s (34th Engineering Group), continuing into the '60s (Area O, 84th Engineering Group) and in the '70s and '80s (Area O, Engineer Training Area).

ATTACHMENT 69-A
 EVALUATION OF PREVIOUS WORK: SITE OE-69
 EVALUATION CHECKLIST PART 2: RECONNAISSANCE EVALUATION

Yes No Inconclusive

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

	No	
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Sources reviewed and comments

No clear indication of a defined training area. No structures or permanent features (12/17/75; 6/16/78; 3/25/86; 11/4/88; 10/4/89; 7/6/92).

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

No defined training areas on the maps. According to the ASR the area was identified during interviews with Fred Stephani. This site is within a larger area defined as an engineer training area beginning in the '50s (34th Engineering Group), continuing into the '60s (Area O, 84th Engineering Group) and in the '70s and '80s (Area O, Engineer Training Area).

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

		Inconclusive
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Sources reviewed and comments

The site was identified as area AN on the Stephani Interview Map. No map for the path walked during the site reconnaissance was included (RAC sheet for Site AN). The 2001 site reconnaissance site walk was within site boundaries as indicated by the path walk recorded with a GPS unit.

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

	No	
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Sources reviewed and comments

No evidence of OE including small arms (RAC sheet for Site AN).

10. Were the type(s) of items found consistent with the type of training identified for the site?

		Not Applicable
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Sources reviewed and comments

No evidence of OE including small arms (RAC sheet for Site AN and the 2001 BRA site reconnaissance).

ATTACHMENT 69-A
 EVALUATION OF PREVIOUS WORK: SITE OE-69
 EVALUATION CHECKLIST PART 2: RECONNAISSANCE EVALUATION

Yes No Inconclusive

11. Were the type(s) of items found consistent with the era(s) in which training was identified?

		Not Applicable
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Sources reviewed and comments

No evidence of OE including small arms (RAC sheet for Site AN and the 2001 BRA site reconnaissance).

12. Was HE fragmentation found?

	No	
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Sources reviewed and comments

No evidence of OE including small arms (RAC sheet for Site AN and the 2001 BRA site reconnaissance).

13. Was HE found?

	No	
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Sources reviewed and comments

No evidence of OE including small arms (RAC sheet for Site AN and the 2001 BRA site reconnaissance).

14. Was LE found?

		Yes
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Sources reviewed and comments

Small arms ammunition only (RAC sheet for Site AN and the 2001 BRA site reconnaissance).

15. Were pyrotechnics found?

	No	
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Sources reviewed and comments

No evidence of OE including small arms (RAC sheet for Site AN and the 2001 BRA site reconnaissance).

16. Were smoke producing items found?

	No	
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Sources reviewed and comments

No evidence of OE including small arms (RAC sheet for Site AN and the 2001 BRA site reconnaissance).

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

No evidence of OE including small arms (RAC sheet for Site AN and the 2001 BRA site reconnaissance).

ATTACHMENT 69-A
 EVALUATION OF PREVIOUS WORK: SITE OE-69
 EVALUATION CHECKLIST PART 2: RECONNAISSANCE EVALUATION

Yes No Inconclusive

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

		Not Applicable
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Sources reviewed and comments

No evidence of OE including small arms (RAC sheet for Site AN and the 2001 BRA site reconnaissance).

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

		Not Applicable
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Sources reviewed and comments

No evidence of OE including small arms (RAC sheet for Site AN). Evidence of small arms was found during the 2001 BRA site reconnaissance.

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

21. Should site boundaries be revised?

	No	
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Sources reviewed and comments

The only boundary for this site comes from the Stephani interview map. The 2001 BRA site reconnaissance was performed within the site boundaries. No OE or pyrotechnics were found during both site reconnaissance events. No revision to the site boundary necessary based on the reconnaissance evaluation.

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

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 performed in accordance with USACE guidance (USACE, 1995).

ATTACHMENT 69-A
 EVALUATION OF PREVIOUS WORK: SITE OE-69
 EVALUATION CHECKLIST PART 2: RECONNAISSANCE EVALUATION

Yes No Inconclusive

Result of Reconnaissance Evaluation

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

	No	
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Comments

No evidence of an impact area or OE-related training was found during site reconnaissance and no further OE-related investigation is recommended.

References

Risk Assessment Procedures For Ordnance And Explosive USAEDH, 1997. Revised Archives Search Report, Former Fort Ord, California, Monterey County, California. Prepared by US Army Corps of Engineers St. Louis District.

Risk Assessment Procedures For Ordnance And Explosive Waste (OEW) Sites (RAC Sheet), Site AN, November 16, 1995.

U.S. Army Corps of Engineers (USACE), 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 26.