
**TRACK 0 APPROVAL MEMORANDUM
EAST GARRISON AREA 1
FORMER FORT ORD, MONTEREY, CALIFORNIA**

Prepared for:



**US Army Corps
of Engineers** ®
Sacramento District

Prepared by:

**MALCOLM
PIRNIE**

2000 Powell Street, Suite 1180
Emeryville, California 94608

December 2003

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Fort Ord and Track 0 Process	1
1.2	East Garrison Area 1 Summary	4
2.0	DESCRIPTION.....	5
2.1	Area Layout	5
2.2	Environmental Setting	5
2.2.1	Topography	5
2.2.2	Geology/Hydrogeology.....	6
3.0	HISTORY AND USE	7
3.1	East Garrison Area 1	7
3.2	Adjacent Areas.....	8
3.2.1	Parts of IRP Site 39A to the West of East Garrison Area 1	8
3.2.2	IRP Site 31 to the Southeast of East Garrison Area 1.....	9
3.2.3	OE-5 to the South of East Garrison Area 1.....	9
3.2.4	Track 0 Areas to the North and East of East Garrison Area 1	9
4.0	AREA INVESTIGATIONS AND REMOVAL/REMEDIAL ACTIONS	11
4.1	East Garrison Area 1	11
4.2	Adjacent Areas.....	13
4.2.1	Parts of IRP Site 39A to the West of East Garrison Area 1	13
4.2.2	IRP Site 31 to the Southeast of East Garrison Area 1.....	14
4.2.3	OE-5 to the South of East Garrison Area 1.....	16
4.2.4	Track 0 Areas to the North and East of East Garrison Area 1	16
5.0	RATIONALE FOR TRACK 0 DESIGNATION OF EAST GARRISON AREA 1 17	
6.0	TRACK 0 CHECKLIST	18
7.0	REFERENCES	20

LIST OF FIGURES

FIGURE NO.	DESCRIPTION
1	Location Map
2	Area Map
3a, b	Area Photos
4	Area Features
5	Area Topography
6	Area Excavations

1.0 INTRODUCTION

1.1 FORT ORD AND TRACK 0 PROCESS

The former Fort Ord, a 28,000-acre United States Department of Army (Army) facility, established in 1917 and located in northwestern Monterey County, California, was primarily a training and staging facility for infantry troops. Fort Ord was a basic training center from 1947 to 1975, served as a base for 7th Infantry Division after 1975, and was selected for closure in 1991. Fort Ord was officially closed in September 1994 in response to the 1991 Base Realignment and Closure Act. No active Army division is stationed at Fort Ord; however, Army personnel operate the areas of Fort Ord still held by the Army (Army, 2000a). Much of the Installation has been or will be disposed to federal, state, local, and private entities through economic development conveyance, public benefit conveyance, negotiated sale, or other means.

Because various Army divisions used portions of Fort Ord for maneuvers, target ranges and other training/staging activities, ordnance and explosives (OE) may be present at the former of Fort Ord. Potential chemical contamination at the former Fort Ord is investigated under the Basewide Remedial Investigation/Feasibility Study (HLA, 1991). In preparation for transfer and reuse of former Fort Ord property, various OE-related investigative and removal/remedial activities have been performed at the area. Recognizing the increased risk of public exposure to explosives hazards in case of property transfer and reuse, the Army agreed to evaluate OE at former Fort Ord in an OE Remedial Investigation/Feasibility Study (RI/FS) consistent with Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). An agreement was signed between the Army, the California Environmental Protection Agency's Department of Toxic Substances Control (DTSC) and the United States Environmental Protection Agency (USEPA) to evaluate OE at the former Fort Ord subject to the provisions of the Fort Ord Federal Facility Agreement (FFA) in April 2000 (Army, 2002).

The purpose of the OE RI/FS is to review and evaluate OE-related past investigative and removal activities, and recommend response actions for areas of concern to ensure protection of human health and the environment. The OE RI/FS utilizes a "tracking" process which categorizes areas with similar OE-related characteristics to

expedite clean-up, reuse and/or transfer of Fort Ord property based on existing knowledge (Army, 2002). According to this “tracking process”, an area under investigation is assigned to one of four tracks, Track 0 through Track 3.

The following are the definitions of the four track categories as stated in the *Ordnance and Explosives Remedial Investigation/Feasibility Study Work Plan* (Army, 2000b):

- *Track 0* areas are “those that contain no evidence of OE and are not suspected as having been used for OE-related activities of any kind.”
- *Track 1* areas are “those where OE was suspected to have been used but was not found” following area reconnaissance or sampling activities.
- *Track 2* areas are “those where OE was found and a removal action has been completed.”
- *Track 3* areas are “(i) those areas where OE is suspected or known to exist, but investigations are not yet complete or need to be initiated, or (ii) any areas identified in the future.”

As part of the on-going OE RI/FS effort, a literature review was performed for evaluation of OE at former Fort Ord. Based on this review and results of area inspection, certain areas of former Fort Ord were identified to contain no evidence of OE or past use of OE, and thus designated as Track 0 areas, requiring no further OE-related investigation or action to protect human health and the environment. Subsequent to a Technical Memorandum (HLA, 2000b), which stated the rationale for Track 0 designation of these areas, the proposed No Action plan for the Track 0 areas was presented for public review in a Proposed Plan (Army, 2000a). Following a 60-day (extended from 30 days) public comment period, the Army incorporated the responses to public comments, and outlined the No Action decisions and the rationale for selection of Track 0 areas in a No Action Record-of-Decision (ROD), titled “Final Record of Decision (ROD), No Action Regarding Ordnance-Related Investigation” (Army, 2002). The Final Track 0 No Action ROD was approved by DTSC and USEPA in the summer of 2002.

The No Action ROD addressed documentation and management procedures for:

- Track 0 areas already determined as part of the prepared No Action ROD, i.e., *Track 0 ROD Process*.
- Other areas that may be identified in the future for No Action (Track 0 selection), i.e., *Track 0 “Plug-In” Process*.

The purpose of the Track 0 “Plug-In” Process, as proposed in the Proposed Plan (Army, 2000a), is to define the documentation required for areas of former Fort Ord identified as Track 0 *after* the No Action ROD was approved. The Track 0 “Plug-In” Process requires that No Action decisions for these future Track 0 areas be documented in Approval Memoranda. The Approval Memorandum describes the rationale for Track 0 designation, and includes the following (Army, 2002):

1. A description of the area
2. A description of the historical use of the area
3. A rationale for the designation of an area as Track 0
4. A checklist summarizing the key elements of Track 0 documentation
5. A map of the area detailing location and any pertinent available OE-related information.

After preparation and submission to appropriate regulatory agencies, the Approval Memorandum is made available for public review for a 30-day period, and a public notice is posted in a local newspaper. After responses to public reviews are incorporated and agency approval is obtained, a public notification of the final No Action decision for selected Track 0 areas is provided in a major local newspaper. The agency-approved Approval Memorandum for a specific Track 0 area serves as the final decision document for that area (Army, 2002).

East Garrison Area 1 was identified as a Track 0 area after the No Action ROD was signed. This document serves as the Approval Memorandum for East Garrison Area 1 (Area 1).

1.2 EAST GARRISON AREA 1 SUMMARY

Based on literature reviews, physical surveys and existing knowledge, the Army has found that Area 1 contains no evidence of OE or past OE-related activity, and proposes that Area 1 be therefore designated as a Track 0 area based on the following rationale:

- 1- A review of former Fort Ord OE-related investigation documents did not indicate evidence of the presence or past use of OE in Area 1.
- 2- The only identified areas related to weapons training within Area 1 were small arms ranges.
- 3- Investigation and remediation activities for chemical contamination at IRP Site 39A reported no evidence for presence or past use of OE at areas of concern, including Area 1 and areas adjacent to Area 1.
- 4- Investigation and remediation activities for chemical contamination at adjacent IRP Site 31 reported no evidence for presence or past use of OE at that area.
- 5- The only area adjacent to Area 1 with previously suspected of the presence or past use of OE is OE-5, which was identified for the presence of one incidental inert 3.5-inch rocket motor found in a tree. There is no available historical evidence of training with OE other than small arms in OE-5. No OE was found during various site visits, including the site walk conducted as part of the Basewide Range Assessment (BRA) program. The BRA specifically looked for evidence of OE at Site OE-5 and none was found.
- 6- The adjacent East Garrison areas to the north and east of Area 1 were determined to contain no evidence of the presence of OE nor evidence of the past use of OE; they were designated and approved as Track 0 areas in the No Action ROD.

The following sections present the background for Area 1 (i.e., area layout, environmental setting, description of adjacent areas, history and use), past OE and/or chemical specific investigations and remedial actions relevant to Area 1 and adjacent areas, the rationale for designation of Area 1 as a Track 0 area, the applicable Track 0 Checklist for Area 1, and the relevant maps/figures.

2.0 DESCRIPTION

2.1 AREA LAYOUT

Area 1 is located at the western portion of the East Garrison Area, on the northeast side of the former Fort Ord (Figure 1). Approximately 21 acres in size and forming the northern portion of Parcel L23.3.3, Area 1 is bounded by Watkins Gate Road to the north and Barloy Canyon Road to the east (HLA, 1997). There are no physical boundaries to the west and south of the area. Area 1 also forms the central eastern portion of the East Garrison Ranges area, which is also known as the Installation Restoration Program (IRP) Site 39A (Figure 2). The southern and western boundaries of Area 1 stretch approximately parallel to the southern and western boundaries of IRP Site 39A at a distance of approximately 780 feet and 1140 feet, respectively. (Area 39 A is bounded by West Camp Street to the west, and a low topographic ridge to the south.)

Areas adjacent to Area 1 are OE-5 to the south, IRP Site 31 to the southeast, and Track 0 parcels/areas to the north and east. To the west of Area 1 is land designated as part of IRP Site 39A (Figure 2).

Current structures/features at Area 1, depicted in photographs in Figure 3, include the concrete pads and wooden cover structures from the firing lines of the former small arms ranges EG-1 and EG-2 (Figure 4) (described in Section 3). A dirt road connects the former ranges to Watkins Gate Road and Barloy Canyon Road. A concrete building is located in the northeast corner of the area. The remainder of the area is undeveloped and is covered with oak trees and brush.

2.2 ENVIRONMENTAL SETTING

2.2.1 Topography

Area 1 is situated between elevations of approximately 200 to 170 feet above mean sea level in the highlands immediately southwest of the Salinas Valley. The land surface slopes easterly parallel to a vegetated ridge along the southern boundary (Figure 5). In the past, much of Area 1 was excavated and leveled to provide a flat surface for small arms firing ranges (Figure 3) (HLA, 1997).

2.2.2 Geology/Hydrogeology

Based on regional information (USGS, 2001 and HLA, 2000a), Area 1 is underlain by several hundred feet of older eolian deposits comprised of moderately well sorted and well drained, fine sand and silty sand. Surficial soils in undisturbed areas are weathered to oxidized, and partially cemented, silty clayey sand.

As of March 2003, the depth to the water table beneath Area 1 is approximately 155 feet based on topography (Figure 5) and measured water levels in the nearest monitoring well (MW-30-01-180) located approximately 1200 feet north of Area 1 (Harding ESE, 2003). Groundwater flow direction is expected to flow toward the Salinas Valley located east of Area 1.

3.0 HISTORY AND USE

Information on the history and use of Area 1 is taken from reports on IRP Site 39A (HLA, 1997 and HLA, 1998), which contains Area 1. The following sections summarize the history and use of Area 1 and adjacent areas.

3.1 EAST GARRISON AREA 1

Area 1 is part of East Garrison and East Garrison Ranges (IRP Site 39A), among the earliest establishments of the former Fort Ord. East Garrison was used, starting in 1917, as an encampment for the troops stationed at the Presidio of Monterey as well as a training area which included small arms ranges, a skeet range, physical training area and Heavy Vehicle Driver Training Course (Army, 2000a).

Area 1 contains two small-bore shooting ranges, EG-1 and EG-2, and the associated target bunker (Figure 4). These two ranges and the bunker are the only weapons-training related areas of land in Area 1. The ranges EG-1 and EG-2 appear to have been constructed between 1957 and 1964 based on historical maps and range operation procedure documents, and used until approximately 1993 for military training, local police training and recreational firing. Both ranges were excavations of level areas into a hillside with the hillside behind (south of) the ranges acting as backstops (Figure 3). Ranges EG-1 and EG-2 were active small arms ranges until the closing of the former Fort Ord in 1994.

The central south portion of Area 1 contains the northwest portion of Range EG-1 (approximately 1.5 acres of approximately 1.9 acres total range area), including all of its firing line and approximately the west half of its target area. It also includes all of Range EG-2 (approximately 0.85 acres), including its firing line and target area, and the decommissioned target bunker located approximately 270 ft to the southwest of Range EG-2 (Figure 4). The troops used pistols of .45 or less caliber, and fired towards south from 25 meters or 50 meters into the hillside at the back of the ranges. The ranges had covered firing lines on concrete pads (Figure 3). The “cover” consisted of a series of boards positioned above and 20 feet beyond the firing lines to stop bullets emanating from guns accidentally aimed too high during firing (HLA, 1997).

3.2 ADJACENT AREAS

As seen in Figure 2, Area 1 is surrounded by IRP Site 31 to the southeast, OE-5 to the south, Track 0 areas to the north and east, and parts of IRP Site 39A to the west. The entirety of Area 1, and parts of OE-5 and Track 0 areas are within the bounds of IRP Site 39A. Following is an overview of these areas.

3.2.1 Parts of IRP Site 39A to the West of East Garrison Area 1

The areas to the west of Area 1 are parts of IRP Site 39A containing two former small arms ranges – EG-3 and the moving target range – and the two target bunkers associated with these ranges (Figure 4). The remaining areas are undeveloped land (HLA, 1998).

Range EG-3, approximately 3.9 acres in size, is located approximately 110 feet to the west of Area 1, adjacent to its southwest corner (Figure 4). Located west of and of similar construction to ranges EG-1 and EG-2, Range EG-3 was originally planned to be used for tank training. According to Mr. Durham, the range was never used for tank training but small-bore (.22 caliber) rifle training. The bullets were fired from 50 meters or 100 meters towards the south into the hillside at the back of the range. Another target bunker is located in the southwest portion of the range (HLA, 1997).

The target area in the moving target range, the furthest from Area 1, is located on the low ridge south of Range EG-3 (Figure 4). It was used for small arms target practice. The other target bunker in the area was built as a concrete structure into the south of the ridge. A narrow-gauge track at the base of the structure was apparently used for moving target practice. Originally, firing lines were located on the south side of Watkins Gate Road, to the north of Range EG-3. The heavy vegetation present within and north of the area until mid 1994 indicated that the range had probably not been used for several years (HLA, 1997).

These parts of IRP Site 39A were investigated and remediated for chemical contamination related to small-arms use in areas of concern (i.e. Range EG-3 and moving target range) as part of IRP Site 39A RI/FS (HLA, 1998).

3.2.2 IRP Site 31 to the Southeast of East Garrison Area 1

IRP Site 31, the former disposal area, is adjacent to and borders Area 1 to the southeast (Figure 2). The disposal area borders the former location of the Leadership Reaction Training Compound (LRTC), and is located on the northern slope of a 60-foot deep ravine, which runs in the east-west direction, to the south of Watkins Gate Road.

The area was used for refuse disposal during the 1940s and 1950s, and a 500-ton incinerator formerly located in place of the LRTC wholly or partially burned the refuse, which was then disposed over the northern slope of the ravine. The area was investigated and remediated for chemical contamination related to disposed and incinerated debris under the Basewide RI/FS program. The area was approved for closure under the same program (USEPA, 1999 and DTSC, 1999).

3.2.3 OE-5 to the South of East Garrison Area 1

Site OE-5 is 28 acres and borders Area 1 to the south. Site OE-5 also falls within the boundaries of IRP Site 39A (Figure 2). This area is an OE site based on the discovery of a single inert 3.5-inch rocket motor in the branches of a tree. Site OE-5 was previously part of the downrange area for small arms training that began in the 1930s and continued until 1994. A review of training maps and historical documents for Site OE-5 did not identify OE-related training areas. In late 1993 and early 1994, the Army's OE contractor, HFA, initiated sampling at Site OE-5. Seventeen 100-foot by 100-foot grids were established in and adjacent to Site OE-5 and geophysical anomalies were identified (HFA, 1994); however, the documentation regarding the intrusive investigation of the anomalies could not be verified. In addition, the Basewide Range Assessment (BRA) program and various site visits did not find OE at Site OE-5.

3.2.4 Track 0 Areas to the North and East of East Garrison Area 1

Track 0 areas border Area 1 to the north and east (Figure 2). These areas, approximately 226 acres in size and among the earliest developments of the former Fort Ord, were purchased in 1917 and used as an encampment for artillery and cavalry units stationed at the Presidio of Monterey. The related parcels include the East Garrison (buildings and infrastructure), the East Garrison sewage treatment plant, a former skeet range, a small family cemetery, and undeveloped land.

The skeet range, the closest range grounds to Area 1, is located north of Watkins Gate Road, and borders the northern boundary of Area 1 (Figure 4). The area was used as a tent camp prior to the skeet range. The range, constructed sometime between 1964 and 1968, was used primarily as a recreational shooting range for trap and skeet as well as for some military training using shotguns according to Mr. Roy Durham, formerly of Fort Ord Range Control. The firing line was south of the range, just north of Watkins Gate Road, and the target area was to the north, toward South Camp Street (HLA, 1997). The former skeet range, which is located immediately to the north of Area 1 across the Watkins Gate Road, was investigated and remediated for chemical contamination as part of IRP Site 39A RI/FS (Army, 2002).

Based on literature reviews, the results of OE and/or chemical specific investigations, remedial activities, and area walks, these parcels were found to contain no evidence of OE use and, therefore, designated as Track 0 areas in the No Action ROD (Army, 2002).

4.0 AREA INVESTIGATIONS AND REMOVAL/REMEDIAL ACTIONS

Based on extensive literature reviews and physical surveys (HLA, 2000a), no evidence of OE or past OE-related activity has been found within the boundaries of Area 1. The following sections summarize chemical and/or OE-related investigation and remedial activities conducted in Area 1 and adjacent areas.

4.1 EAST GARRISON AREA 1

The only portions of Area 1 that were used for weapons-training were the small-bore shooting ranges, Range EG-2 and part of Range EG-1, and the target bunker southwest of Range EG-2 (Figure 4), as stated in Section 3. Both of these ranges were investigated for presence of chemical contamination at IRP Site 39A under the Basewide RI/FS program.

The investigation of ranges EG-1 and EG-2 was conducted in two phases from October through November 1994, and in April and August 1995 (Figure 4). The field investigation of the study area, consisting of these ranges, included visual surveys and test pit excavations to estimate surface/subsurface distribution or percent surface coverage of spent ammunition between the firing lines and last row of targets, and surface/subsurface soil sampling for chemical analysis. The maximum depth of exploration was 2.5 feet below ground surface. Soil samples were collected for analysis of selected metals, including lead, antimony, copper, tin, and zinc (considered representative of chemicals in spent small arms ammunition), and pH, from the firing lines of Range EG-1 (HLA, 1997). Field personnel were trained in ordnance recognition, which increased the potential for identification of OE during soil disturbance activities.

The investigation results for ranges EG-1 and EG-2 indicated that lead and antimony were chemicals of concern, and contamination was limited to surface soils (less than six inches below ground surface), except for one area with contamination to 2.5 feet below ground surface (HLA, 1998). The spent ammunition consisted mainly of unjacketed 9- and 11- millimeter lead bullets and .22 caliber lead bullets. The investigations also discovered a target bunker to the southwest of Range EG-2 (HLA, 1997), which was visually surveyed for spent ammunition distribution.

Based on analytical results and visual surveys, six areas of ranges EG-1 and EG-2 were recommended for soil excavation and removal under the Interim Action Record-of-Decision (IAROD) process (HLA, 1994a as referenced in HLA, 1998). These areas were the (i) surface soils in front of the firing lines (within 20 feet downrange) for both ranges, (ii) the backstop areas with moderate (1 – 10%¹) to heavy surface (>10%) coverage for both ranges, and (iii) two narrow bands with surface ammunition coverage of up to 5%, corresponding to the 50-meter target row in Range EG-1 and the 25-meter target row in Range EG-2 (HLA, 1997a as referenced in HLA, 1998).

Interim action remedial activities were performed in late 1997 and mid-1998 (Figure 6). The activities involved mechanical excavation/removal of soil and spent ammunition (ATG, 1997 in HLA, 1998), followed by confirmatory soil sampling and analysis (HLA, 1997c and HLA, 1998 as referenced in HLA, 1998). After the second (1998) phase of excavation, the remaining soil was found to meet the target cleanup concentrations (TCCs).

Since the soil contamination exceeding the respective TCCs was removed, and no further threat to human health, the environment or groundwater was expected, Study Area 1, including ranges EG-1 and EG-2, was recommended by the Army (HLA, 1998) and approved by regulatory agencies for no further action as part of IRP Site 39A RI/FS (USEPA, 2002).

With respect to OE, the IA characterization and remediation activities performed at ranges EG-1 and EG-2 under the IRP Site 39A RI/FS program included surface and intrusive activities. The Site Characterization (HLA, 1997) and Interim Action Confirmation reports (HLA, 1998) prepared for IRP Site 39A did not report any evidence to indicate the presence or past use of OE at ranges EG-1 and EG-2.

The 2000 OE Literature Review Report confirmed the areas designated as non-OE areas based on aerial photos, facility training maps, range and training area files, and other historical information. This report identified that the soil excavation conducted in IRP Site 39A would have identified OE if it were present. In addition, the report states

¹ Coverage percentage is on visual estimate of soil surface covered with spent ammunition.

that all field personnel working on the Basewide RI/FS were trained in ordnance recognition, therefore increasing the potential for locating any present OE (HLA, 2000a).

4.2 ADJACENT AREAS

4.2.1 Parts of IRP Site 39A to the West of East Garrison Area 1

The weapons-training related areas to the west of Area 1 were the small arms range EG-3, the target range in the moving target area and the two respective target bunkers associated with these ranges. These areas, together with ranges EG-1 and EG-2, were investigated as part of IRP Site 39A under the Basewide RI/FS program in two phases, conducted from October through November 1994, and in April and August 1995.

Area characterization included visual surveys and test pit excavations to estimate surface/subsurface distribution or percent surface coverage of spent ammunition between the firing lines and last row of targets, and surface/subsurface soil sampling. Soil samples were collected from the target bunker area of the moving target range for chemical analysis (HLA, 1998). No soil samples were collected from Range EG-3 since soil samples collected from Range EG-1 (Section 4.1) were considered to represent worst-case samples for ranges EG-1, EG-2 and EG-3, collectively (HLA, 1997).

As a result of the investigation at Range EG-3, two small areas near the center of range backstop with surface coverage of 1 to 10% were excavated (HLA, 1997 and HLA, 1998) (Figure 6). Field personnel were trained in ordnance recognition, which increased the potential for identification of OE during soil disturbance activities. The confirmation sampling of the excavated areas indicated soil concentrations of metals below preliminary remediation goals (PRGs) and TCCs (HLA, 1998).

The visual surveys for the moving target range indicated that usage of this range was relatively light and observed spent ammunition coverage would probably not be sufficient to cause adverse impact to soils in the area. The analytical results from the bunker area also indicated soil concentrations of metals below PRGs and TCCs. Based on the results of the investigation, no further action was recommended for this range (HLA, 1998).

Because the soil contamination exceeding the respective TCCs was removed, and no further threat to human health, the environment or groundwater was expected, the IA

study areas, including Range EG-3 and the moving target range, were recommended by the Army (HLA, 1998) and approved by regulatory agencies for no further action as part of IRP Site 39A RI/FS (USEPA, 2002). These areas of IRP Site 39A to the west of Area 1 will undergo further OE investigation/evaluation under the Basewide OE RI/FS program (USEPA, 2002).

With respect to OE, the IA characterization and remediation activities performed at Range EG-3 and the moving target range under the Basewide RI/FS program included surface and intrusive activities. The Site Characterization (HLA, 1997) and Interim Action Confirmation (HLA, 1998) reports prepared for IRP Site 39A, did not report any evidence to indicate the presence or past use of OE at Range EG-3 and the moving target range.

4.2.2 IRP Site 31 to the Southeast of East Garrison Area 1

IRP Site 31 is adjacent to Area 1 (Figure 2) and contained an incinerator and associated ash disposal area approximately 0.2 miles southeast of Area 1. The disposal area is located on the northern slope of a ravine, running in the east-west direction to the south of Watkins Gate Road. A 500-ton incinerator existed to the north of the area on top of the northern slope of the ravine in place of the former Leadership Reaction Training Compound (LRTC). The refuse that was partially or wholly burned by the incinerator during the 1940s and 1950s was disposed over the northern slope of the ravine. The resulting visible debris, which stretched about 500-ft along the northern slope, included whole, broken and melted cans, glass bottles, burnt wood pieces, concrete fragments, scrap metal and empty, crushed 55-gallon drums intermixed with loose soils of the slope. No records were found to indicate the use of the area as training grounds (HLA, 1995).

IRP Site 31 was investigated under the Basewide RI/FS Investigation for the presence of chemical contamination. The main source of contamination was incinerated debris and ash from burned refuse. The chemicals detected in collected soil samples included total petroleum hydrocarbons (TPH) as diesel, polyaromatic hydrocarbons (PAHs), dibenzofurans, pesticides, and some metals, including lead (IT, 1999).

The results of the investigation were evaluated in the Baseline Risk Assessment (BRA) and Baseline Ecological Risk Assessment (HLA, 1995 as referenced in IT, 1999)

with respect to human health risks, ecological impacts and groundwater impacts. The respective evaluations indicated that no adverse impacts to ecological receptors and groundwater were expected at the area due to the soil contamination. However, the evaluations for human health risks indicated that risk posed to a receptor by lead present at the area was not acceptable. Consequently, a health-based level of concern (HBLC) of 1860 mg/kg was developed for lead in area soils, and removal of area soils to meet this HBLC was recommended (IT, 1999).

The remedial action at the area consisted of excavation and removal of soil/debris mixture above 1860 mg/kg in surface soils following the demolition of LTRC structure (Figure 6). Field personnel were trained in ordnance recognition, which increased the potential for identification of OE during soil disturbance activities. A total of 1500 cubic yards of soil to a depth of 6 feet below ground surface were removed and placed at the OU2 Landfill in June 1998 in accordance with the Remedial Action Work Plan (IT, 1997a as referenced in IT, 1999) and Field Work Variance approved by the Army. The subsequent confirmation sampling showed that the detected lead concentrations were below the HBLC. The excavated area was graded to blend with the surrounding topography, and erosion control measures (i.e. hydroseeding and geosynthetic mat) were applied over the excavated face and disturbed areas (IT, 1999).

Post-remediation risk assessments for human and ecological receptors also concluded that no unacceptable health risks associated with future recreational, commercial, or residential development of Site 31 were expected and that remaining chemicals of concern at Site 31 would not pose any significant risk to potential ecological receptors (IT, 1999).

The Remedial Action Confirmation Report for Site 31 (IT, 1999) concluded – and the regulatory agencies (USEPA and DTSC) approved – that the clean-up levels at Site 31 were achieved (USEPA, 1999 and DTSC, 1999).

With respect to the presence of OE, the characterization and remediation activities performed at Site 31 under the Basewide RI/FS program included surface and intrusive activities (i.e. excavations and geophysical surveys [HLA, 2000a]). The Basewide Remedial Investigation RI/FS (HLA, 1995) and Remedial Action Confirmation (IT,

1999) reports prepared for Site 31, detailing these activities and the respective results, did not report any evidence to indicate the presence or past use of OE at Site 31.

4.2.3 OE-5 to the South of East Garrison Area 1

A Track 1 OE site, OE-5 borders Area 1 to the south and falls within the boundaries of Site 39A (Figure 2) and is 28 acres in size (Army, 1997). Site OE-5 is an OE site based on the discovery of a single inert 3.5-inch rocket motor in the branches of a tree, as reported in May 1993 in the Explosive Ordnance Disposal (EOD) incident report, as referenced in the OE Literature Review Report (HLA, 2000a). The site was historically used for training activities, including bayonet training and as a target area for a known distance small arms range and a machine gun range. No OE ranges were found to have been located in this area. As stated by Mr. Durham, the former range control officer (Army, 1997), “a tank subcaliber range was planned but never constructed.”

The 1993 Archive Search Report recommended OE investigation to evaluate the potential use of 3.5-inch rockets in the area. In late 1993 and early 1994, the Army’s OE contractor, HFA, initiated sampling at Site OE-5. Seventeen 100-foot by 100-foot grids were established in and adjacent to Site OE-5 and geophysical anomalies were identified (HFA, 1994); however, the documentation regarding the intrusive investigation of the anomalies could not be verified. In addition, the Basewide Range Assessment (BRA) program and various site visits did not find OE at Site OE-5.

4.2.4 Track 0 Areas to the North and East of East Garrison Area 1

Track 0 Areas/Parcels exist to the north and east of Area 1 (Figure 2), and constitute approximately 226 acres of the East Garrison Area (Army, 2002). The skeet range, immediately to the north of Area 1 included in Parcel L23.3.1 (Figure 4), is part of these Track 0 areas. Based on a literature review (HLA, 2002a) and physical surveys, these areas/parcels were determined to contain no evidence of OE or past OE-related activities of any kind, and were designated as Track 0 areas, requiring no further investigation under the OE RI/FS program. These Track 0 areas were outlined, and the rationale for respective Track 0 designations was stated in the *Final Record of Decision, No Action Regarding Ordnance-Related Investigation* (Army, 2002), approved by DTSC and USEPA in June 2002.

5.0 RATIONALE FOR TRACK 0 DESIGNATION OF EAST GARRISON AREA 1

Area 1 meets the definition of a Track 0 area because it contains “no evidence of OE and is not suspected as having been used for OE-related activities of any kind” (Section 1.1). The basis for this conclusion is the following:

- 1- A review of former Fort Ord OE-related investigation documents, including Draft Final Literature Review Report OE RI/FS (HLA, 2000a) and Literature Review Report Basewide Range Assessment (Harding ESE, 2002), did not indicate evidence for the presence or past of use of OE in Area 1.
- 2- The only identified areas related to weapons training within Area 1 were small arms ranges, EG-1 and EG-2. These ranges were investigated and remediated for presence of chemical contamination under the Basewide RI/FS for IRP Site 39A. No evidence of OE or OE-related activity was reported (HLA, 1997 and HLA, 1998).
- 3- Not only is there no evidence of OE within Area 1; with the exception of a 3.5-inch inert rocket motor found in a tree in Site OE-5 to the south of Area 1, no evidence of OE has been reported in any of the surrounding areas. Areas to the west and southwest of Area 1 were investigated as part of the IRP Site 39A RI/FS with no evidence of OE reported. Areas to the southeast of Area 1 were similarly investigated with no OE reported. Areas to the north and east of Area 1 were used as a skeet range and, prior to that, as a tent camp starting in 1917, and were designated as Track 0 (No Action) areas in the Track 0 ROD. The likelihood of otherwise unidentified OE within Area 1 as a result of activities at the adjacent areas is therefore considered very unlikely.

6.0 TRACK 0 CHECKLIST

This section presents the Track 0 Checklist as required by the No Action ROD (Army, 2002), and includes the key elements of documentation used for Track 0 designation of Area 1.

PARCEL	L23.3.3- north section
DESCRIPTION	Approximately 21 acres of land in the western portion of the East Garrison Area, constituting central eastern part of IRP Site 39A, bounded by Watkins Gate Road to the north and Barlow Canyon Road to the west, with no physical boundaries to the west or south. Area includes small arms ranges (EG-1, EG-2) and one target bunker (Figure 4).
HISTORICAL USE	<ul style="list-style-type: none">- History suggests no evidence for presence or past-use of OE.- Prior to Army purchase was ranch land. Purchased by the Army in 1917 from David Jack Corporation, used as an encampment for troops stationed at the Presidio of Monterey as well as a training area.- Includes all of Range EG-2 and northwest portion of Range EG-1, and one target bunker to the southwest of Range EG-2.- Small arms ranges EG-1 and EG-2 constructed sometime between 1957 and 1964, used until about 1993.
Supporting Documents	<ul style="list-style-type: none">- Superfund Proposal Plan: No Action is Proposed for Selected Areas at Fort Ord (Army, 2000a);- Draft Final, Site Characterization, Site 39A – East Garrison Ranges (HLA, 1997);- Interim Action Confirmation Report, Site 39A – East Garrison Ranges (HLA, 1998).- Draft Final Track 1 Ordnance and Explosives Remedial Investigation/Feasibility Study (Mactec, 2003)
<u>Components:</u>	All of these components were reviewed and listed in the following documents:
Aerial Photos	
Real Estate Records	<ul style="list-style-type: none">-U.S. Department of Defense, Ordnance and Explosives, Revised Archives Search Report (Army, 1997);
Range Control Records / Standard Operating Procedures	<ul style="list-style-type: none">- Draft Final Literature Review Report, Ordnance and Explosives, Remedial Investigation/Feasibility Study (HLA, 2000a).
Range and Training Area Maps	
Base Development Plans and Maps	

SITE INVESTIGATION ACTIVITIES

Site Walks	Basewide RI/FS: Visual surveys of IRP Site 39A (See IRP Site 39A Characterization Report [HLA, 1997]).
-------------------	--

Geophysics None

Excavations HTW Program:
- Excavation of 5 confirmation/test pits in areas associated with ranges EG-1 and EG-2 to a depth of 2.5 ft as part of Basewide RI/FS (See IRP Site 39A Characterization Report [HLA, 1997]);
- Excavation of 5 Interim Action areas of concern for chemical contamination as part of Basewide RI/FS (See IRP Site 39A Interim Action Confirmation Report [HLA, 1998]).

Soil Borings None
Wells None

ADJACENT AREAS

CBR Training Areas None
CWM Training Areas None

Small Arms Ranges
- One small arms range, Range EG-3, located approximately 100 feet to the west of Area 1, adjacent to its southwest corner. Firing was to the south.
- One small arms range (moving target range) located approximately 800 feet to the southwest of Area 1. Firing lines were located to the north of Range EG-3, south of Watkins Gate Road. Firing was to the south.
- One skeet range located adjacent and to the north of Area 1. Firing was to the north away from Area 1, towards the South Camp Street. (See IRP Site 39A Characterization Report [HLA, 1997] and IRP Site 39A Interim Action Confirmation Report [HLA, 1998]).

OE INFORMATION

Known or Suspected Adjacent OE Sites
OE-5- approximately 28 acres, borders Area 1 to the south. An inert 3.5" rocket motor was found in the branches of a tree. Site OE-5 is defined as not requiring further evaluation in the Track 1 OE RI/FS.

Incident Reports:
UXO None
OE Scrap Incident location: Parcel L23.3.3, south of Area 1.
- The inert 3.5" rocket motor located in OE-5 to the south of Area 1 on 05/11/1993 (Army, 1997).
- Two 40mm unfired cartridges were found along the road outside the boundary of OE-5 (HFA, 1994).

7.0 REFERENCES

- United States Department of the Army (Army), 1997. *U.S. Department of Defense, Ordnance and Explosives, Revised Archives Search Report, Former Fort Ord, Monterey County, California.*
- Army, 2000a. *Superfund Proposal Plan: No Action is Proposed for Selected Areas at Fort Ord, California.* February 1.
- Army, 2000b. *Ordnance and Explosives, Remedial Investigation/Feasibility Study Work Plan, Former Fort Ord, Monterey County, California.* May 15.
- Army, 2002. *Final Record of Decision, No Action Regarding Ordnance-Related Investigation, Former Fort Ord, California.* June 19.
- Department of Toxic Substances Control (DTSC), 1999. Memorandum to Office of Military Facilities (OMF), Region 1, Sacramento, regarding *Fort Ord: Responses to Comments on Post-Remediation Risk Assessments for Sites 16 & 17 and Site 31.* June 3.
- Harding ESE, 2002. *Literature Review Report, Basewide Range Assessment, Former Fort Ord, California.* March.
- Harding ESE, 2003. *Draft Report of Quarterly Monitoring, January through March 2003, Groundwater Monitoring Report, Former Fort Ord, California.* July 15.
- Harding Lawson Associates (HLA), 1991. Work Plan, Remedial Investigation/Feasibility Study, Fort Ord, California. December 2.
- HLA, 1995. *Basewide Remedial Investigation/Feasibility Study, Fort Ord, California, Volume V – Feasibility Study, Section 5.0 – Site 31.* October 25.
- HLA, 1997. *Draft Final, Site Characterization, Site 39A – East Garrison Ranges, Fort Ord, California.* May 16.
- HLA, 1998. *Interim Action Confirmation Report, Site 39A – East Garrison Ranges, Fort Ord, California.* May 16.
- HLA, 2000a. *Draft Final Literature Review Report, Ordnance and Explosives, Remedial Investigation/Feasibility Study, Former Fort Ord, California.* January 4.
- HLA, 2000b. *Track 0 Technical Memorandum, Ordnance and Explosives, Remedial Investigation/Feasibility Study, Former Fort Ord, California.* January 21.
- Human Factors Applications, Inc. (HFA), 1994. *OEW Sampling and OEW Removal Action. Ft. Ord Final Report.* December 1.

- IT Corporation (IT), 1999. *Remedial Action Confirmation Report, Site 31, Remedial Action, Basewide Remediation Sites, Former Fort Ord, California- Draft Final*. April.
- Mactec Engineering and Consulting, Inc. 2003. *Draft Final Track 1 Ordnance and Explosives Remedial Investigation/Feasibility Study, Former Fort Ord, California*. June 3.
- United States Environmental Protection Agency (USEPA), Region IX, 1999. Letter to Department of the Army, Environmental and Natural Resources, regarding *Draft Final Remedial Action Confirmation Report, Site 31 Remedial Action, Basewide Remediation Sites, Former Fort Ord, California, April 1999*. September 20.
- USEPA, Region IX, 2002. Letter to Department of the Army, Environmental and Natural Resources, regarding *Remedial Action Completion, Operable Unit #4, Site 39A – East Garrison Ranges, Former Fort Ord, California*. February 5.
- USGS, Miscellaneous Field Studies MF 2349, Online Version 1.0. Clark, J, Babb E., Rosenberg, L (USGS), 2001. *Geologic Map and Map Database of the Spreckels 7.5-minute Quadrangle, Monterey, California*. January.