



**US Army Corps
of Engineers**
Rock Island District



Defense Environmental Restoration Program
for
Formerly Used Defense Sites
Ordnance and Explosives

Archives Search Report

CONCLUSIONS AND RECOMMENDATIONS

for
the former

**STANISLAUS BOMBING TARGET
STANISLAUS COUNTY, CALIFORNIA
PROJECT NUMBER JO9CA107401
JULY 2002**



DRAFT

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
For
FORMERLY USED DEFENSE SITE

CONCLUSIONS AND RECOMMENDATIONS

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR
STANISLAUS BOMBING TARGET
STANISLAUS COUNTY, CALIFORNIA
PROJECT NUMBER JO9CA107401

JULY 2002

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ORDNANCE AND EXPLOSIVES
 ARCHIVES SEARCH REPORT
 FOR
 STANISLAUS BOMBING TARGET
 STANISLAUS COUNTY, CALIFORNIA
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ACKNOWLEDGMENT

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ORDNANCE AND EXPLOSIVES
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CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are provided by the Archives Search Report Team. These recommendations may not be the actions taken to remediate this site.

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ORDNANCE AND EXPLOSIVES
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1. INTRODUCTION

a. **Subject and Purpose**

(1) This report presents the conclusions and recommendations of a historical records search and site inspection for ordnance and explosive (OE) presence at the Former Stanislaus Bomb Target Number 7, Stanislaus County, California. The former target is west of US Interstate 5 and north of Flat Oak Road. The Bomb Target is located approximately 3.5 miles northwest of Naval Auxiliary Air Station (NAAS) Crows Landing (NAASCL). The investigation focused on the original 640 acres that was acquired in 1943 for Stanislaus Bomb Target Number 7 and an additional 71 acres as recommended by this ASR for a total of 711 acres (see plates 1, 2 and 3).

(2) The purpose of this investigation was to characterize the site for potential OE presence utilizing available historical records, interviews, and on-site visual inspection results.

b. **Scope**

(1) This report presents the former Stanislaus Bomb Target Number 7 history, site description, real estate ownership information, and confirmed ordnance presence (prior to and after site closure), based on available records, interviews, site inspections, and analyses. The analyses provide a complete evaluation of all information to assess current day potential ordnance presence, where actual ordnance presence has not been confirmed.

(2) The conclusions and recommendations presented in this report were made from available records and the visual site inspection. The conclusions, including ordnance risk assessments, were based on direct or documented evidence and reasonably inferred evidence from the investigation. The recommendations were based on present DERP-FUDS program goals and policies with implementation subject to approval and appropriate funding actions.

(3) For the purpose of this report, OE presence consists of live ammunition, live ammunition components, CWM or explosives which have been lost, abandoned, discarded, buried, fired, or thrown from demolition pits or burning pads. These items were either manufactured, purchased, stored, used, and/or disposed of by the War Department/Department of Defense. Such ammunition/components are no longer under accountable record control of any DOD organization or activity.

(4) **Expended** small arms ammunition (.50 caliber or smaller) is **not** considered OE presence. OE further includes "explosive soil" which refers to any mixture in soil, sands, clays, etc., such that the mixture itself is explosive. Generally, 10 percent or more by weight of secondary explosives in a soil mixture is considered explosive soil.

2. CONCLUSIONS

a. **Summary of Conclusions**

Table 2-1 on page 4 has been provided to summarize the conclusions that were made on land within or adjacent to the former Stanislaus Bomb Target Number 7.

b. **Historical Site Summary**

(1) Stanislaus Bomb Target No. 7 was one of several aerial targets established during WW2 by the Navy. Their locations were in the foothills west of the present day US Interstate 5.

(2) In 1943, the United States, lease on an annual basis a parcel of land totaling 640 acres for the U.S. Navy to establish an aerial bombing target for practice bombs near NAASCL. The target was placed in the foothills west of the present day Interstate 5 (see plates 1, 3 and 3).

(3) The Navy improved the property by constructing a dirt road and erecting a barrier fence along the west, north and east side and signs were posted warning people that an active bomb target existed on that site.

(4) Although the target afforded excellent training for naval pilots, it was difficult to keep the grass from burning during the summer. Since this was a prime cattle grazing land the ranchers vowed to not lease any more land to the government for target practice. (see plate 3).

(5) No site layout or as-built maps were located that showed the target as it existed. Several documents exist that associate the target with NAASCL and one document states that an aircraft crashed into the target.

(6) NAASCL Target 7 was included on a list of targets for immediate release in January 1946. By May 1946, the Commandant of the Twelfth Naval District terminated the lease and listed it as surplus property.

(7) No clearance records indicating that HE bombs were used at this location were uncovered during this ASR. However, the on-site inspection and personal interviews substantiated the fact that only practice ordnance was used on this target.

c. Site Eligibility

Former land usage by the War Department was confirmed for the site as summarized in sections 2 and 5 of the findings volume. The site was used as a practice-bombing target from the middle of 1943 to the end of WWII.

d. Visual Site Inspection

(1) The visual site inspection was conducted on 11 through 15 June 2001. The primary task of the SI team was to assess OE presence or potential due to use as a Bombing Target. On-site inspection by the SI team was limited to non-intrusive methods. Subsurface sampling was not authorized or permitted.

(2) A rights-of-entry was not required as the present owners were agreeable to having the SI team inspect the property.

(3) Since this was originally grazing lands, the Navy did not have to clear any timber and scrub bushes to construct the bomb targets. The SI team discovered that Stanislaus Bomb Target No. 7 apparently consisted of several targets within the 640-acres. This was evidenced by the locations 100-pound practice or miniature practice bombs debris. Mr. Cox, the current owner, stated that the only improvement the Navy made on the property was to build a road. He also stated that the Navy dug a huge trench and buried the trash left over from the targets.

**TABLE 2-1
Summary of Conclusions**

Area	Former Usage	Present Usage	*Size Acres	FUDS ELIGIBILITY			ORDNANCE PRESENCE			Risk Assessment code
				Confirmed FUDS	Potential FUDS	Not Eligible	Confirmed Ordnance	Potential Ordnance	No OE Presence	
A	Target Area	Grazing	13	YES	---	---	YES	---	---	4
B	Target Area	Grazing	13	YES	---	---	YES	---	---	4
C	Vehicle Target	Grazing	18	YES	---	---	YES	---	---	4
D	Vehicle Target	Grazing	13	YES	---	---	YES	---	---	4
E	Suspected Burial Site	Grazing	3	YES	---	---	---	YES	---	4
F	Safety Buffer Zone	Grazing	253	YES	---	---	---	YES	---	4
G	Remaining Lands	Grazing	398	YES	---	---	---	---	YES	5
Total INPR acreage			640							
Revised ASR acreage			711							
*Approximate acreage										

(4) There is no evidence of present day live OE or CWM and there is no evidence of high explosive ordnance use or any history of OE or CWM incidents associated with this area.

e. Confirmed Ordnance Areas

(1) Confirmed ordnance and explosives (OE) presence is based on verifiable historical record evidence of direct witness of OE items (with explosive components and/or inert debris/fragments) since site closure. Additional field data are not needed to identify a confirmed site. Presence is based on verifiable historical evidence or direct witness of ordnance items.

(2) Verifiable historical record evidence is based on OE items actually seen on site since site closure and authenticated by: historical records (Archive Records, Preliminary Assessment Reports, Site Investigation Reports), local fire departments and law enforcement agencies/bomb squads, military Explosive Ordnance Disposal (EOD) Units, newspaper articles, photographs or maps.

(3) Direct witness of OE items consists of the site inspection team(s) and other credible witnesses as determined by the ASR Research Team Leader (landowners, workers on-site, soldiers who served there, etc.) verifying that they have seen OE presence on the surface or subsurface since site closure.

(4) Based on the site inspection, target areas: Bomb Target (A), Bomb Target (B), Vehicle Target (C) and Vehicle Target (D) are confirmed OE presence subsites.

f. Potential Ordnance Areas

(1) Potential ordnance and explosive (OE) presence is based on a lack of confirmed OE presence. Potential OE presence is inferred from records, present day site features, non-verifiable direct witness, or indirect witness. Additional field data are needed to confirm potential OE sites.

(2) Inference from historical records is based on no OE items actually seen on site since site closure and would include documentation (records, aerial photographs, maps) indication possible OE presence derived from common practice in

production, storage, use, or disposal at that time and from records indicating known OE usage.

(3) Inference from present day site features would be the indication of possible OE presence from such obvious features as target circles, depressions, mounds/backstops, OB/ODF areas/pits, etc. Indirect witness would be people who have stated that they have heard of OE presence on-site (hear-say evidence).

(4) The SI team's inspection of the Safety Buffer Zone (Area F) revealed body pieces of practice bombs. The possibility of subsurface spotting charges exists in these areas making it a potential of OE presence.

g. **No OE Presence Ordnance Areas**

No OE presence ordnance subsites are based on a lack of confirmed or potential ordnance presence. The remaining lands are free from any visible or subsurface magnetic anomalies. This subsite has no history of OE and the SI team confirmed that these areas are no OE presence ordnance areas.

h. **Other Environmental Hazards**

There are no other known man-made environmental hazards that resulted from the Department of Defense usage of the site.

3. RECOMMENDATIONS

a. **Summary of Recommendations**

Table 3-1 on page 8 includes an overall summary of the site recommendations. Explanations are included in subsequent paragraphs.

b. **Preliminary Assessment of Eligibility Actions**

The Preliminary Assessment of Eligibility Actions for the Former Stanislaus Bomb Target Number 7 Findings and Determination of Eligibility (FDE) accurately cited that 640-acres are FUDS eligible. However an additional 71-acres was added due to OE debris located outside the original 640-acres. Recommend that the FDE be changed to reflect a total acreage for the Former Stanislaus Bomb Target Number 7 as 711 acres.

c. **Ordnance and Explosives Actions**

The OE debris consisted of practice miniature and 100-pound bomb bodies and associated body parts. The SI team did not note any spotting charges that had failed to function. Within the target areas, the SI team did note many subsurface metallic anomalies. Since site closure no intact or partially functioned spotting charges have ever been encountered on this site. The danger from subsurface OE is greater due to the area's relatively dry conditions. An EE/CA is recommended to determine if dud-fired spotting charges remain in the subsurface practice bombs or in the suspected burial site. Data confirming the use of high explosive ordnance or physical evidence of craters or metal fragments from HE bombs were not noted during this inspection. Without the physical evidence of HE ordnance use, and due to the area's remoteness, the Risk Assessment (RAC) scores a value of 4.

d. **Other Environmental Remediation Actions**

There are no recommendations for other environmental hazards that resulted from the on-site SI inspection.

**TABLE 3-1
Summary of Recommendations**

Area	Former Usage	*Size Acres	PAE Actions		OE Actions		HTRW Actions	BD/DR Actions
			Prepare INPR	No Further Action Indicated	Perform IRA	Perform EE/CA	Perform SI	Perform SI
A	Target Area	13	---	---	---	YES	---	---
B	Target Area	13	---	---	---	YES	---	---
C	Target Area	18	---	---	---	YES	---	---
D	Target Area	13	---	---	---	YES	---	---
E	Suspect Burial Site	3	---	---	---	YES	---	---
F	Buffer Zone	253	---	---	---	YES	---	---
G	Remaining Lands	398	YES Amend FDE		---	---	---	---
Total INPR acreage		640						
Revised ASR acreage		711						
*Approximate acreage								

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ATTACHMENTS

RISK ASSESSMENTS

RISK ASSESSMENT

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- G. RISK ASSESSMENT AREA F
- H. RISK ASSESSMENT AREA G

19 June 1999

RISK ASSESSMENT PROCEDURES FOR
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	Vernalis Dive Bomb/Rocket Range #7	Rater's Name	Heleg-Greza, Nickolas
Site Location	Stanislaus Cty, CA	Phone Number	309-782-1486
DERP Project #	JO9CA107401	Organization	CEMVR-ED-DO
Date Completed	14 June 2001	Score	<u>4</u>

OE RISK ASSESSMENT: **Entire Site**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Team (USAESCH-OE) to prioritize the remedial action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) Detachments actions, field observations, interviews, and measurements. This information is used to assess the risk involved based on the potential OE hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OE sites should view the USAESCH-OE videotape entitled "A Life Threatening Encounter: OEW". Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Circle all that apply)	VALUE
A. Conventional ordnance and ammunition:	10
Medium/large caliber (20mm and larger)	10
Bombs, explosive	10
Grenades, hand or rifle, explosive	10
Landmine, explosive	10
Rockets, guided missile, explosive	10
Detonators, blasting caps, fuzes, boosters, bursters	6
Bombs, practice (w/spotting charges)	<u>6</u>
Grenades, practice (w/spotting charges)	4
Landmine, practice (w/spotting charges)	4
Small arms, complete round (.22 cal - .50 cal)	1
Small arms, expended	0
Practice ordnance (wo/spotting charges)	0
Conventional ordnance and ammunition (largest single value)	<u>6</u>

What evidence do you have regarding conventional unexploded ordnance? The area contains expended and subsurface practice bombs

B. Pyrotechnics (for munitions not described above):	VALUE	
Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10	
Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	6	
Flares, signals, simulators, screening smokes (other WP)	4	than
Pyrotechnics (select the single largest value)		<u>0</u>
What evidence do you have regarding pyrotechnics?		<u>None</u>

C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):	VALUE	
Primary or initiating explosives (Lead Styphnate, Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10	Lead
Demolition charges	10	
Secondary explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8	
Military dynamite	6	
Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)	3	
High explosives (select the largest single value)		<u>0</u>
What evidence do you have regarding bulk explosives?		<u>None</u>

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized).	VALUE	
Solid or liquid propellants	6	
Propellants		<u>0</u>
What evidence do you have regarding bulk propellants?		<u>None</u>

E. Chemical Warfare Materiel (CWM) and Radiological Weapons:	VALUE	
Toxic chemical agents (choking, nerve, blood, blister)	25	
War Gas Identification Sets	20	
Radiological	15	
Riot Control Agents (vomiting, tear)	5	
Chemical and Radiological (select the largest single value)		<u>0</u>
What evidence do you have regarding chemical or radiological?		<u>None</u>

TOTAL HAZARD SEVERITY VALUE (Sum of values A through E (maximum of 61)

6

Apply this value to Table 1 to determine Hazard Severity Category

TABLE 1
HAZARD SEVERITY*

<u>DESCRIPTION</u>	<u>HAZARD SEVERITY* CATEGORY</u>	<u>HAZARD SEVERITY VALUE</u>
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

*Apply Hazard Severity Category to Table 3

**If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

PART II. Hazard Probability. The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DoD) site.

AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Circle all that apply)

A. Locations of OE hazards:	VALUE
On the surface	⑤
Within tanks, pipes, vessels, or other confined areas	4
Inside walls, ceilings, or other building/structure	3
Subsurface	2

Location (select the single largest value) 5

What evidence do you have regarding location of OE?
visible on the surface. The OE debris is

B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.)	VALUE
Less than 1,250 feet	5
1,250 feet to 0.5 mile	4
0.5 mile to 1.0 mile	③
1.0 mile to 2.0 miles	2
Over 2 miles	1

Distance (select the single largest value) 3

What are the nearest inhabited structures/buildings?
U.S. Interstate 5 are w/i 1 mile of site. Cox ranch and

C. Number(s) of building(s) within a 2 mile radius measured from the OE hazard area, not the installation boundary.	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	①
0	0

Number of buildings (select the single largest value) 1

Narrative: Cox Ranch with 5 outbuilding

D. Types of Buildings (within a 2 mile radius)	VALUE
Educational, child care, residential, hospitals hotels, commercial, shopping centers	⑤
Industrial, warehouse, etc.	4
Agricultural, forestry, etc.	3
Detention, correctional	2
No buildings	0

Types of buildings (select the single largest value) 5
 Describe the types of buildings: Home and outbuildings

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:	VALUE
No barrier nor security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	③
Security Guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area).	0

Accessibility (select the single largest value) 3

Describe the site accessibility: There are locked gates to pass through. The
property owner maintains a fence with locked gates around the site.

F. Site Dynamics. This deals with site conditions are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility. VALUE

Expected 5
 None anticipated 0

Site dynamics (select value) 0
 Describe the site dynamics: The site will remain as grazing land

TOTAL HAZARD PROBABILITY VALUE (sum of largest values for A through F (maximum of 30) 17

Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.

TABLE 2
 HAZARD PROBABILITY

<u>DESCRIPTION</u>	<u>LEVEL</u>	<u>HAZARD PROBABILITY VALUE</u>
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

*Apply Hazard Probability Level to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINAL III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by USAESCH - Immediately call USAESCH-OE-S (comm 205-895-1582/1598).
- RAC 2 High priority on completion on INPR - Recommend further action by USAESCH.
- RAC 3 Complete INPR - Recommend further action by USAESCH.
- RAC 4 Complete INPR - Recommend further action by USAESCH.
- RAC 5 Usually indicates that No DoD Action Indicated (NDAI). Submit NDAI and RAC to USAESCH.

PART IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

Each year the owner, Mr Cox, and family ride horseback all over the former site, especially during calving season. Other than the same bits and pieces of practice bombs noted by the SI team, they have never seen any complete OE items. Mr Cox feels confident that no live and dangerous OE exists on his property. The same can not be said of the items in the burial pit. The SI team suspects two burial pits on the site. Recommend an EE/CA to determine if there are any remaining spotting charges in the burial site (AREA E) and under the bomb target in AREA A. To the best of anyone's knowledge, there has been no UXO related incidents since site closure.

19 June 1999

RISK ASSESSMENT PROCEDURES FOR
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	Vernalis Dive Bomb/Rocket Range #7	Rater's Name	Heleg-Greza, Nickolas
Site Location	Stanislaus Cty, CA	Phone Number	309-782-1486
DERP Project #	JO9CA107401	Organization	CEMVR-ED-DO
Date Completed	14 June 2001	Score	4

OE RISK ASSESSMENT: **AREA A**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Team (USAESCH-OE) to prioritize the remedial action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) Detachments actions, field observations, interviews, and measurements. This information is used to assess the risk involved based on the potential OE hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OE sites should view the USAESCH-OE videotape entitled "A Life Threatening Encounter: OEW". Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Circle all that apply)	VALUE
A. Conventional ordnance and ammunition:	10
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Bombs, explosive	10
Grenades, hand or rifle, explosive	10
Landmine, explosive	10
Rockets, guided missile, explosive	10
Detonators, blasting caps, fuzes, boosters, bursters	6
Bombs, practice (w/spotting charges)	6
Grenades, practice (w/spotting charges)	4
Landmine, practice (w/spotting charges)	4
Small arms, complete round (.22 cal - .50 cal)	1
Small arms, expended	0
Practice ordnance (wo/spotting charges)	0
Conventional ordnance and ammunition (largest single value)	<u>6</u>

What evidence do you have regarding conventional unexploded ordnance? The area contains expended practice bombs. However, there are a number of subsurface metallic anomalies.

B. Pyrotechnics (for munitions not described above):	VALUE	
Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10	
Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	6	
Flares, signals, simulators, screening smokes (other WP)	4	than
Pyrotechnics (select the single largest value)		<u>0</u>
What evidence do you have regarding pyrotechnics?		<u>None</u>

C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):	VALUE	
Primary or initiating explosives (Lead Styphnate, Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10	Lead
Demolition charges	10	
Secondary explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8	
Military dynamite	6	
Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)	3	
High explosives (select the largest single value)		<u>0</u>
What evidence do you have regarding bulk explosives?		<u>None</u>

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized).	VALUE	
Solid or liquid propellants	6	
Propellants		<u>0</u>
What evidence do you have regarding bulk propellants?		<u>None</u>

E. Chemical Warfare Materiel (CWM) and Radiological Weapons:	VALUE	
Toxic chemical agents (choking, nerve, blood, blister)	25	
War Gas Identification Sets	20	
Radiological	15	
Riot Control Agents (vomiting, tear)	5	
Chemical and Radiological (select the largest single value)		<u>0</u>
What evidence do you have regarding chemical or radiological?		<u>None</u>

TOTAL HAZARD SEVERITY VALUE (Sum of values A through E (maximum of 61)

6

Apply this value to Table 1 to determine Hazard Severity Category

TABLE 1
HAZARD SEVERITY*

<u>DESCRIPTION</u>	<u>HAZARD SEVERITY* CATEGORY</u>	<u>HAZARD SEVERITY VALUE</u>
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

*Apply Hazard Severity Category to Table 3

**If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

PART II. Hazard Probability. The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DoD) site.

AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Circle all that apply)

A. Locations of OE hazards:	VALUE
On the surface	5
Within tanks, pipes, vessels, or other confined areas	4
Inside walls, ceilings, or other building/structure	3
Subsurface	<u>2</u>

Location (select the single largest value) 2

What evidence do you have regarding location of OE? The suspected
OE debris is subsurface.

B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.)	VALUE
Less than 1,250 feet	5
1,250 feet to 0.5 mile	4
0.5 mile to 1.0 mile	3
1.0 mile to 2.0 miles	<u>2</u>
Over 2 miles	1

Distance (select the single largest value) 2

What are the nearest inhabited structures/buildings? Cox ranch and
U.S. Interstate 5 are between 1 and 2-miles from this sub site.

C. Number(s) of building(s) within a 2 mile radius measured from the OE hazard area, not the installation boundary.	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	<u>1</u>
0	0

Number of buildings (select the single largest value) 1

Narrative: Cox Ranch with 5 outbuilding

D. Types of Buildings (within a 2 mile radius)	VALUE
Educational, child care, residential, hospitals hotels, commercial, shopping centers	⑤
Industrial, warehouse, etc.	4
Agricultural, forestry, etc.	3
Detention, correctional	2
No buildings	0

Types of buildings (select the single largest value) 5
Describe the types of buildings: Home and outbuildings

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:	VALUE
No barrier nor security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	③
Security Guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area).	0

Accessibility (select the single largest value) 3

Describe the site accessibility: There are locked gates to pass through. The
property owner maintains a fence with locked gates around the site.

F. Site Dynamics. This deals with site conditions are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility. VALUE

Expected 5
 None anticipated 0

Site dynamics (select value) 0

Describe the site dynamics: The site will remain as grazing land

TOTAL HAZARD PROBABILITY VALUE (sum of largest values for A through F (maximum of 30) 13

Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.

TABLE 2
 HAZARD PROBABILITY

<u>DESCRIPTION</u>	<u>LEVEL</u>	<u>HAZARD PROBABILITY VALUE</u>
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

*Apply Hazard Probability Level to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINAL III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by USAESCH - Immediately call USAESCH-OE-S (comm 205-895-1582/1598).
- RAC 2 High priority on completion on INPR - Recommend further action by USAESCH.
- RAC 3 Complete INPR - Recommend further action by USAESCH.
- RAC 4 Complete INPR - Recommend further action by USAESCH.
- RAC 5 Usually indicates that No DoD Action Indicated (NDAI). Submit NDAI and RAC to USAESCH.

PART IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

The extent of the subsurface metallic anomalies cover the entire summit and extends approximately 600 feet in all directions.

Recommend an EE/CA to determine if there are any remaining spotting charges in the practice bombs.

To the best of anyone's knowledge, there has been no UXO related incidents since site closure.

19 June 1999

RISK ASSESSMENT PROCEDURES FOR
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	Vernalis Dive Bomb/Rocket Range #7	Rater's Name	Heleg-Greza, Nickolas
Site Location	Stanislaus Cty, CA	Phone Number	309-782-1486
DERP Project #	JO9CA107401	Organization	CEMVR-ED-DO
Date Completed	14 June 2001	Score	4

OE RISK ASSESSMENT: **AREA B**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Team (USAESCH-OE) to prioritize the remedial action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) Detachments actions, field observations, interviews, and measurements. This information is used to assess the risk involved based on the potential OE hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OE sites should view the USAESCH-OE videotape entitled "A Life Threatening Encounter: OEW". Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Circle all that apply)	VALUE
A. Conventional ordnance and ammunition:	10
Medium/large caliber (20mm and larger)	10
Bombs, explosive	10
Grenades, hand or rifle, explosive	10
Landmine, explosive	10
Rockets, guided missile, explosive	10
Detonators, blasting caps, fuzes, boosters, bursters	6
Bombs, practice (w/spotting charges)	6
Grenades, practice (w/spotting charges)	4
Landmine, practice (w/spotting charges)	4
Small arms, complete round (.22 cal - .50 cal)	1
Small arms, expended	0
Practice ordnance (wo/spotting charges)	0
Conventional ordnance and ammunition (largest single value)	<u>6</u>

What evidence do you have regarding conventional unexploded ordnance? The area contains expended practice bombs. However, there are subsurface metallic anomalies.

B. Pyrotechnics (for munitions not described above):	VALUE
Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10
Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	6
Flares, signals, simulators, screening smokes (other WP)	4 than
Pyrotechnics (select the single largest value)	<u>0</u>
What evidence do you have regarding pyrotechnics?	<u>None</u>

C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):	VALUE
Primary or initiating explosives (Lead Styphnate, Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10 Lead
Demolition charges	10
Secondary explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8
Military dynamite	6
Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)	3
High explosives (select the largest single value)	<u>0</u>
What evidence do you have regarding bulk explosives?	<u>None</u>

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized).	VALUE
Solid or liquid propellants	6
Propellants	<u>0</u>
What evidence do you have regarding bulk propellants?	<u>None</u>

E. Chemical Warfare Materiel (CWM) and Radiological Weapons:	VALUE
Toxic chemical agents (choking, nerve, blood, blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control Agents (vomiting, tear)	5
Chemical and Radiological (select the largest single value)	<u>0</u>
What evidence do you have regarding chemical or radiological?	<u>None</u>

TOTAL HAZARD SEVERITY VALUE (Sum of values A through E (maximum of 61)

6

Apply this value to Table 1 to determine Hazard Severity Category

TABLE 1
HAZARD SEVERITY*

<u>DESCRIPTION</u>	<u>HAZARD SEVERITY* CATEGORY</u>	<u>HAZARD SEVERITY VALUE</u>
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

*Apply Hazard Severity Category to Table 3

**If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

PART II. Hazard Probability. The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DoD) site.

AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Circle all that apply)

A. Locations of OE hazards:	VALUE
On the surface	⑤
Within tanks, pipes, vessels, or other confined areas	4
Inside walls, ceilings, or other building/structure	3
Subsurface	②

Location (select the single largest value) 5

What evidence do you have regarding location of OE? The suspected OE debris is subsurface.

B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.)	VALUE
Less than 1,250 feet	5
1,250 feet to 0.5 mile	4
0.5 mile to 1.0 mile	3
1.0 mile to 2.0 miles	②
Over 2 miles	1

Distance (select the single largest value) 5

What are the nearest inhabited structures/buildings? Cox ranch and U.S. Interstate 5 are approximately 1-mile from this sub site.

C. Number(s) of building(s) within a 2 mile radius measured from the OE hazard area, not the installation boundary.	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	①
0	0

Number of buildings (select the single largest value) 1

Narrative: Cox Ranch with 5 out building

D. Types of Buildings (within a 2 mile radius)	VALUE
Educational, child care, residential, hospitals hotels, commercial, shopping centers	5
Industrial, warehouse, etc.	4
Agricultural, forestry, etc.	3
Detention, correctional	2
No buildings	0

Types of buildings (select the single largest value) 5
Describe the types of buildings: Home and out-buildings

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:	VALUE
No barrier nor security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security Guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area).	0

Accessibility (select the single largest value) 3

Describe the site accessibility: There are locked gates to pass through. The
property owner maintains a fence with locked gates around the site.

F. Site Dynamics. This deals with site conditions are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

Expected None anticipated 5
0

Site dynamics (select value) 0

Describe the site dynamics: The site will remain as grazing land

TOTAL HAZARD PROBABILITY VALUE (sum of largest values for A through F (maximum of 30) 19

Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.

TABLE 2
HAZARD PROBABILITY

<u>DESCRIPTION</u>	<u>LEVEL</u>	<u>HAZARD PROBABILITY VALUE</u>
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

*Apply Hazard Probability Level to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINAL III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by USAESCH - Immediately call USAESCH-OE-S (comm 205-895-1582/1598).
- RAC 2 High priority on completion on INPR - Recommend further action by USAESCH.
- RAC 3 Complete INPR - Recommend further action by USAESCH.
- RAC 4 Complete INPR - Recommend further action by USAESCH.
- RAC 5 Usually indicates that No DoD Action Indicated (NDAI). Submit NDAI and RAC to USAESCH.

PART IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

The extent of the subsurface metallic anomalies cover the entire summit and extends approximately 600 feet in all directions.

Recommend an EE/CA to determine if there are any remaining spotting charges in the practice bombs.

To the best of anyone's knowledge, there has been no UXO related incidents since site closure.

19 June 1999

RISK ASSESSMENT PROCEDURES FOR
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	Vernalis Dive Bomb/Rocket Range #7	Rater's Name	Heleg-Greza, Nickolas
Site Location	Stanislaus Cty, CA	Phone Number	309-782-1486
DERP Project #	JO9CA107401	Organization	CEMVR-ED-DO
Date Completed	14 June 2001	Score	4

OE RISK ASSESSMENT: **AREA C**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Team (USAESCH-OE) to prioritize the remedial action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) Detachments actions, field observations, interviews, and measurements. This information is used to assess the risk involved based on the potential OE hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OE sites should view the USAESCH-OE videotape entitled "A Life Threatening Encounter: OEW". Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Circle all that apply)	VALUE
A. Conventional ordnance and ammunition:	10
Medium/large caliber (20mm and larger)	10
Bombs, explosive	10
Grenades, hand or rifle, explosive	10
Landmine, explosive	10
Rockets, guided missile, explosive	10
Detonators, blasting caps, fuzes, boosters, bursters	6
Bombs, practice (w/spotting charges)	6
Grenades, practice (w/spotting charges)	4
Landmine, practice (w/spotting charges)	4
Small arms, complete round (.22 cal - .50 cal)	1
Small arms, expended	0
Practice ordnance (wo/spotting charges)	0
Conventional ordnance and ammunition (largest single value)	<u>6</u>

What evidence do you have regarding conventional unexploded ordnance? The area contains expended practice bombs. However, there are subsurface metallic anomalies.

B. Pyrotechnics (for munitions not described above):	VALUE	
Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10	
Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	6	
Flares, signals, simulators, screening smokes (other WP)	4	than
Pyrotechnics (select the single largest value)		<u>0</u>
What evidence do you have regarding pyrotechnics?		<u>None</u>

C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):	VALUE	
Primary or initiating explosives (Lead Styphnate, Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10	Lead
Demolition charges	10	
Secondary explosives (PETN, Compositions A, B, C, Teteryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8	
Military dynamite	6	
Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)	3	
High explosives (select the largest single value)		<u>0</u>
What evidence do you have regarding bulk explosives?		<u>None</u>

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized).	VALUE	
Solid or liquid propellants	6	
Propellants		<u>0</u>
What evidence do you have regarding bulk propellants?		<u>None</u>

E. Chemical Warfare Materiel (CWM) and Radiological Weapons:	VALUE	
Toxic chemical agents (choking, nerve, blood, blister)	25	
War Gas Identification Sets	20	
Radiological	15	
Riot Control Agents (vomiting, tear)	5	
Chemical and Radiological (select the largest single value)		<u>0</u>
What evidence do you have regarding chemical or radiological?		<u>None</u>

TOTAL HAZARD SEVERITY VALUE (Sum of values A through E (maximum of 61)

6

Apply this value to Table 1 to determine Hazard Severity Category

TABLE 1
HAZARD SEVERITY*

<u>DESCRIPTION</u>	<u>HAZARD SEVERITY* CATEGORY</u>	<u>HAZARD SEVERITY VALUE</u>
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

*Apply Hazard Severity Category to Table 3

**If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

PART II. Hazard Probability. The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DoD) site.

AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Circle all that apply)

A. Locations of OE hazards:	VALUE
On the surface	5
Within tanks, pipes, vessels, or other confined areas	4
Inside walls, ceilings, or other building/structure	3
Subsurface	2
Location (select the single largest value)	<u>5</u>
What evidence do you have regarding location of OE? OE debris is subsurface.	<u>The suspected</u>

B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.)	VALUE
Less than 1,250 feet	5
1,250 feet to 0.5 mile	4
0.5 mile to 1.0 mile	3
1.0 mile to 2.0 miles	2
Over 2 miles	1
Distance (select the single largest value)	<u>5</u>
What are the nearest inhabited structures/buildings? U.S. Interstate 5 are approximately 1-mile from this sub site.	<u>Cox ranch and</u>

C. Number(s) of building(s) within a 2 mile radius measured from the OE hazard area, not the installation boundary.	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0
Number of buildings (select the single largest value)	<u>1</u>
Narrative: Cox Ranch with 5 outbuilding	

D. Types of Buildings (within a 2 mile radius)	VALUE
Educational, child care, residential, hospitals hotels, commercial, shopping centers	5
Industrial, warehouse, etc.	4
Agricultural, forestry, etc.	3
Detention, correctional	2
No buildings	0

Types of buildings (select the single largest value) 5
 Describe the types of buildings: Home and outbuildings

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:	VALUE
No barrier nor security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security Guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area).	0

Accessibility (select the single largest value) 3
 Describe the site accessibility: There are locked gates to pass through. The
 property owner maintains a fence with locked gates around the site.

F. Site Dynamics. This deals with site conditions are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

Expected	5
None anticipated	0
Site dynamics (select value)	<u>0</u>
Describe the site dynamics:	<u>The site will remain as grazing land</u>

TOTAL HAZARD PROBABILITY VALUE (sum of largest values for A through F (maximum of 30)) 19

Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.

TABLE 2
HAZARD PROBABILITY

<u>DESCRIPTION</u>	<u>LEVEL</u>	<u>HAZARD PROBABILITY VALUE</u>
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

*Apply Hazard Probability Level to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINAL III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by USAESCH - Immediately call USAESCH-OE-S (comm 205-895-1582/1598).
- RAC 2 High priority on completion on INPR - Recommend further action by USAESCH.
- RAC 3 Complete INPR - Recommend further action by USAESCH.
- RAC 4 Complete INPR - Recommend further action by USAESCH.
- RAC 5 Usually indicates that No DoD Action Indicated (NDAI). Submit NDAI and RAC to USAESCH.

PART IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

The extent of the subsurface metallic anomalies is sporadic and spread out along the roadway. The visible OE debris is mostly made up of miniature practice bombs. All of these were broken up due to the hard surface of this area.

To the best of anyone's knowledge, there has been no UXO related incidents since site closure.

Recommend an EE/CA to determine if there are any remaining spotting charges in the practice bombs that are buried in the softer soil near the summit of the nearby hills.

19 June 1999

RISK ASSESSMENT PROCEDURES FOR
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	Vernalis Dive Bomb/Rocket Range #7	Rater's Name	Heleg-Greza, Nickolas
Site Location	Stanislaus Cty, CA	Phone Number	309-782-1486
DERP Project #	JO9CA107401	Organization	CEMVR-ED-DO
Date Completed	14 June 2001	Score	4

OE RISK ASSESSMENT: **AREA D**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Team (USAESCH-OE) to prioritize the remedial action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) Detachments actions, field observations, interviews, and measurements. This information is used to assess the risk involved based on the potential OE hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OE sites should view the USAESCH-OE videotape entitled "A Life Threatening Encounter: OEW". Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Circle all that apply)	VALUE
A. Conventional ordnance and ammunition:	10
Medium/large caliber (20mm and larger)	10
Bombs, explosive	10
Grenades, hand or rifle, explosive	10
Landmine, explosive	10
Rockets, guided missile, explosive	10
Detonators, blasting caps, fuzes, boosters, bursters	6
Bombs, practice (w/spotting charges)	6
Grenades, practice (w/spotting charges)	4
Landmine, practice (w/spotting charges)	4
Small arms, complete round (.22 cal - .50 cal)	1
Small arms, expended	0
Practice ordnance (wo/spotting charges)	0
Conventional ordnance and ammunition (largest single value)	<u>6</u>

What evidence do you have regarding conventional unexploded ordnance? The area contains expended practice bombs. However, there are subsurface metallic anomalies.

B. Pyrotechnics (for munitions not described above):	VALUE	
Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10	
Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	6	
Flares, signals, simulators, screening smokes (other WP)	4	than
Pyrotechnics (select the single largest value)		<u>0</u>
What evidence do you have regarding pyrotechnics?	<u>None</u>	

C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):	VALUE	
Primary or initiating explosives (Lead Styphnate, Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10	Lead
Demolition charges	10	
Secondary explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8	
Military dynamite	6	
Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)	3	
High explosives (select the largest single value)		<u>0</u>
What evidence do you have regarding bulk explosives?	<u>None</u>	

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized).	VALUE	
Solid or liquid propellants	6	
Propellants		<u>0</u>
What evidence do you have regarding bulk propellants?	<u>None</u>	

E. Chemical Warfare Materiel (CWM) and Radiological Weapons:	VALUE	
Toxic chemical agents (choking, nerve, blood, blister)	25	
War Gas Identification Sets	20	
Radiological	15	
Riot Control Agents (vomiting, tear)	5	
Chemical and Radiological (select the largest single value)		<u>0</u>
What evidence do you have regarding chemical or radiological?	<u>None</u>	

TOTAL HAZARD SEVERITY VALUE (Sum of values A through E (maximum of 61)

6

Apply this value to Table 1 to determine Hazard Severity Category

TABLE 1
HAZARD SEVERITY*

<u>DESCRIPTION</u>	<u>HAZARD SEVERITY* CATEGORY</u>	<u>HAZARD SEVERITY VALUE</u>
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

*Apply Hazard Severity Category to Table 3

**If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

PART II. Hazard Probability. The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DoD) site.

AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Circle all that apply)

A. Locations of OE hazards:	VALUE
On the surface	5
Within tanks, pipes, vessels, or other confined areas	4
Inside walls, ceilings, or other building/structure	3
Subsurface	2

Location (select the single largest value) 5

What evidence do you have regarding location of OE? The suspected
OE debris is subsurface.

B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.)	VALUE
Less than 1,250 feet	5
1,250 feet to 0.5 mile	4
0.5 mile to 1.0 mile	3
1.0 mile to 2.0 miles	2
Over 2 miles	1

Distance (select the single largest value) 5

What are the nearest inhabited structures/buildings? Cox ranch and
U.S. Interstate 5 are approximately 1-mile from this sub site.

C. Number(s) of building(s) within a 2 mile radius measured from the OE hazard area, not the installation boundary.	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0

Number of buildings (select the single largest value) 1

Narrative: Cox Ranch with 5 outbuilding

D. Types of Buildings (within a 2 mile radius)	VALUE
Educational, child care, residential, hospitals hotels, commercial, shopping centers Industrial, warehouse, etc.	⑤ 4
Agricultural, forestry, etc.	3
Detention, correctional	2
No buildings	0

Types of buildings (select the single largest value) 5
 Describe the types of buildings: Home and outbuildings

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:	VALUE
No barrier nor security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	③
Security Guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area).	0

Accessibility (select the single largest value) 3

Describe the site accessibility: There are locked gates to pass through. The
property owner maintains a fence with locked gates around the site.

F. Site Dynamics. This deals with site conditions are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

Expected	5
None anticipated	0
Site dynamics (select value)	<u>0</u>
Describe the site dynamics:	<u>The site will remain as grazing land</u>

TOTAL HAZARD PROBABILITY VALUE (sum of largest values for A through F (maximum of 30)) 19

Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.

TABLE 2
HAZARD PROBABILITY

<u>DESCRIPTION</u>	<u>LEVEL</u>	<u>HAZARD PROBABILITY VALUE</u>
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

*Apply Hazard Probability Level to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINAL III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by USAESCH - Immediately call USAESCH-OE-S (comm 205-895-1582/1598).
- RAC 2 High priority on completion on INPR - Recommend further action by USAESCH.
- RAC 3 Complete INPR - Recommend further action by USAESCH.
- RAC 4 Complete INPR - Recommend further action by USAESCH.
- RAC 5 Usually indicates that No DoD Action Indicated (NDAI). Submit NDAI and RAC to USAESCH.

PART IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

The visible OE debris in this sub site are 100-practice bombs. Many of them are located in a streambed that runs alongside an old roadbed. The extent of subsurface metallic anomalies is sporadic and spread out along the streambed and the roadbed. To the best of anyone's knowledge, there has been no UXO related incidents since site closure.

Recommend an EE/CA to determine if there are any remaining spotting charges in the practice bombs that are buried in the softer soil further up the hill.

19 June 1999

RISK ASSESSMENT PROCEDURES FOR
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	Vernalis Dive Bomb/Rocket Range #7	Rater's Name	Heleg-Greza, Nickolas
Site Location	Stanislaus Cty, CA	Phone Number	309-782-1486
DERP Project #	JO9CA107401	Organization	CEMVR-ED-DO
Date Completed	14 June 2001	Score	4

OE RISK ASSESSMENT: **AREA E**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Team (USAESCH-OE) to prioritize the remedial action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) Detachments actions, field observations, interviews, and measurements. This information is used to assess the risk involved based on the potential OE hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OE sites should view the USAESCH-OE videotape entitled "A Life Threatening Encounter: OEW". Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Circle all that apply)	VALUE
A. Conventional ordnance and ammunition:	10
Medium/large caliber (20mm and larger)	10
Bombs, explosive	10
Grenades, hand or rifle, explosive	10
Landmine, explosive	10
Rockets, guided missile, explosive	10
Detonators, blasting caps, fuzes, boosters, bursters	6
Bombs, practice (w/spotting charges)	6
Grenades, practice (w/spotting charges)	4
Landmine, practice (w/spotting charges)	4
Small arms, complete round (.22 cal - .50 cal)	1
Small arms, expended	0
Practice ordnance (wo/spotting charges)	0
Conventional ordnance and ammunition (largest single value)	0

What evidence do you have regarding conventional unexploded ordnance? Witnesses stated that the navy buried the ordnance as they cleared the targets in the vicinity. This is supported by subsurface metallic anomalies.

B. Pyrotechnics (for munitions not described above):	VALUE
Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10
Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	6
Flares, signals, simulators, screening smokes (other WP)	4 than
Pyrotechnics (select the single largest value)	<u>0</u>
What evidence do you have regarding pyrotechnics?	<u>None</u>

C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):	VALUE
Primary or initiating explosives (Lead Styphnate, Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10 Lead
Demolition charges	10
Secondary explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8
Military dynamite	6
Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)	3
High explosives (select the largest single value)	<u>0</u>
What evidence do you have regarding bulk explosives?	<u>None</u>

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized).	VALUE
Solid or liquid propellants	6
Propellants	<u>0</u>
What evidence do you have regarding bulk propellants?	<u>None</u>

E. Chemical Warfare Materiel (CWM) and Radiological Weapons:	VALUE
Toxic chemical agents (choking, nerve, blood, blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control Agents (vomiting, tear)	5
Chemical and Radiological (select the largest single value)	<u>0</u>
What evidence do you have regarding chemical or radiological?	<u>None</u>

TOTAL HAZARD SEVERITY VALUE (Sum of values A through E (maximum of 61)

6

Apply this value to Table 1 to determine Hazard Severity Category

TABLE 1
HAZARD SEVERITY*

<u>DESCRIPTION</u>	<u>HAZARD SEVERITY* CATEGORY</u>	<u>HAZARD SEVERITY VALUE</u>
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

*Apply Hazard Severity Category to Table 3

**If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINAL III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by USAESCH - Immediately call USAESCH-OE-S (comm 205-895-1582/1598).
- RAC 2 High priority on completion on INPR - Recommend further action by USAESCH.
- RAC 3 Complete INPR - Recommend further action by USAESCH.
- RAC 4 Complete INPR - Recommend further action by USAESCH.
- RAC 5 Usually indicates that No DoD Action Indicated (NDAI). Submit NDAI and RAC to USAESCH.

PART IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

This location is a suspected ordnance burial site. The extent of subsurface metallic anomalies resembles a trench, which supports witness statement that ordnance was buried here following a surface clearance.

To the best of anyone's knowledge, there has been no UXO related incidents since site closure.

Recommend an EE/CA to determine if there are any remaining spotting charges in the practice bombs that are buried at this location.

19 June 1999

RISK ASSESSMENT PROCEDURES FOR
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	Vernalis Dive Bomb/Rocket Range #7	Rater's Name	Heleg-Greza, Nickolas
Site Location	Stanislaus Cty, CA	Phone Number	309-782-1486
DERP Project #	JO9CA107401	Organization	CEMVR-ED-DO
Date Completed	14 June 2001	Score	4

OE RISK ASSESSMENT: **AREA F**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Team (USAESCH-OE) to prioritize the remedial action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) Detachments actions, field observations, interviews, and measurements. This information is used to assess the risk involved based on the potential OE hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OE sites should view the USAESCH-OE videotape entitled "A Life Threatening Encounter: OEW". Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Circle all that apply)	VALUE
A. Conventional ordnance and ammunition:	10
Medium/large caliber (20mm and larger)	10
Bombs, explosive	10
Grenades, hand or rifle, explosive	10
Landmine, explosive	10
Rockets, guided missile, explosive	10
Detonators, blasting caps, fuzes, boosters, bursters	6
Bombs, practice (w/spotting charges)	6
Grenades, practice (w/spotting charges)	4
Landmine, practice (w/spotting charges)	4
Small arms, complete round (.22 cal - .50 cal)	1
Small arms, expended	0
Practice ordnance (wo/spotting charges)	0
Conventional ordnance and ammunition (largest single value)	<u>6</u>

What evidence do you have regarding conventional unexploded ordnance? The area contains scattered OE debris from miniature and 100-practice bombs. bombs. The same with subsurface metallic anomalies.

B. Pyrotechnics (for munitions not described above):	VALUE	
Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10	
Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	6	
Flares, signals, simulators, screening smokes (other WP)	4	than
Pyrotechnics (select the single largest value)		<u>0</u>
What evidence do you have regarding pyrotechnics?	<u>None</u>	

C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):	VALUE	
Primary or initiating explosives (Lead Styphnate, Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, etc.)	10	Lead Tetracene,
Demolition charges	10	
Secondary explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8	
Military dynamite	6	
Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)	3	
High explosives (select the largest single value)		<u>0</u>
What evidence do you have regarding bulk explosives?	<u>None</u>	

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized):	VALUE	
Solid or liquid propellants	6	
Propellants		<u>0</u>
What evidence do you have regarding bulk propellants?	<u>None</u>	

E. Chemical Warfare Materiel (CWM) and Radiological Weapons:	VALUE	
Toxic chemical agents (choking, nerve, blood, blister)	25	
War Gas Identification Sets	20	
Radiological	15	
Riot Control Agents (vomiting, tear)	5	
Chemical and Radiological (select the largest single value)		<u>0</u>
What evidence do you have regarding chemical or radiological?	<u>None</u>	

TOTAL HAZARD SEVERITY VALUE (Sum of values A through E (maximum of 61)

6

Apply this value to Table 1 to determine Hazard Severity Category

TABLE 1
HAZARD SEVERITY*

<u>DESCRIPTION</u>	<u>HAZARD SEVERITY* CATEGORY</u>	<u>HAZARD SEVERITY VALUE</u>
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	V	0

*Apply Hazard Severity Category to Table 3

**If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

PART II. Hazard Probability. The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DoD) site.

AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Circle all that apply)

A. Locations of OE hazards:	VALUE
On the surface	5
Within tanks, pipes, vessels, or other confined areas	4
Inside walls, ceilings, or other building/structure	3
Subsurface	2

Location (select the single largest value) 5

What evidence do you have regarding location of OE? The suspected OE debris is subsurface.

B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.)	VALUE
Less than 1,250 feet	5
1,250 feet to 0.5 mile	4
0.5 mile to 1.0 mile	3
1.0 mile to 2.0 miles	2
Over 2 miles	1

Distance (select the single largest value) 5

What are the nearest inhabited structures/buildings? Cox ranch and U.S. Interstate 5 are approximately 1-mile from this sub site.

C. Number(s) of building(s) within a 2 mile radius measured from the OE hazard area, not the installation boundary.	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0

Number of buildings (select the single largest value) 1

Narrative: Cox Ranch with 5 outbuilding

D. Types of Buildings (within a 2 mile radius)	VALUE
Educational, child care, residential, hospitals hotels, commercial, shopping centers	⑤
Industrial, warehouse, etc.	4
Agricultural, forestry, etc.	3
Detention, correctional	2
No buildings	0

Types of buildings (select the single largest value) 5
 Describe the types of buildings: Home and outbuildings

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:	VALUE
No barrier nor security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	③
Security Guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area).	0

Accessibility (select the single largest value) 3
 Describe the site accessibility: There are locked gates to pass through. The
 property owner maintains a fence with locked gates around the site.

F. Site Dynamics. This deals with site conditions are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

Expected	5
None anticipated	0
Site dynamics (select value)	<u>0</u>
Describe the site dynamics:	<u>The site will remain as grazing land</u>

TOTAL HAZARD PROBABILITY VALUE (sum of largest values for A through F (maximum of 30)) 19

Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.

TABLE 2
HAZARD PROBABILITY

<u>DESCRIPTION</u>	<u>LEVEL</u>	<u>HAZARD PROBABILITY VALUE</u>
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

*Apply Hazard Probability Level to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINAL III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by USAESCH - Immediately call USAESCH-OE-S (comm 205-895-1582/1598).
- RAC 2 High priority on completion on INPR - Recommend further action by USAESCH.
- RAC 3 Complete INPR - Recommend further action by USAESCH.
- RAC 4 Complete INPR - Recommend further action by USAESCH.
- RAC 5 Usually indicates that No DoD Action Indicated (NDAI). Submit NDAI and RAC to USAESCH.

PART IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

This sub area is relatively clear of OE debris. The occasional items are broken miniature and 100-pound practice bombs. There is the occasional subsurface metallic anomaly further away from the targets. The SI team thinks that these are from target misses. Recommend an EE/CA to determine if there are any remaining spotting charges in the practice bombs that may have impacted on the softer hillsides.. To the best of anyone's knowledge, there has been no UXO related incidents since site closure.

19 June 1999

RISK ASSESSMENT PROCEDURES FOR
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	Vernalis Dive Bomb/Rocket	Rater's Name	Heleg-Greza, Nickolas
	Range #7		
Site Location	Stanislaus Cty, CA	Phone Number	309-782-1486
DERP Project #	JO9CA107401	Organization	CEMVR-ED-DO
Date Completed	14 June 2001	Score	5

OE RISK ASSESSMENT: **AREA G**

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Team (USAESCH-OE) to prioritize the remedial action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) Detachments actions, field observations, interviews, and measurements. This information is used to assess the risk involved based on the potential OE hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OE sites should view the USAESCH-OE videotape entitled "A Life Threatening Encounter: OEW". Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Circle all that apply)	VALUE
A. Conventional ordnance and ammunition:	10
Medium/large caliber (20mm and larger)	10
Bombs, explosive	10
Grenades, hand or rifle, explosive	10
Landmine, explosive	10
Rockets, guided missile, explosive	10
Detonators, blasting caps, fuzes, boosters, bursters	6
Bombs, practice (w/spotting charges)	6
Grenades, practice (w/spotting charges)	4
Landmine, practice (w/spotting charges)	4
Small arms, complete round (.22 cal - .50 cal)	1
Small arms, expended	0
Practice ordnance (wo/spotting charges)	0
Conventional ordnance and ammunition (largest single value)	<u>0</u>

What evidence do you have regarding conventional unexploded ordnance? None

B. Pyrotechnics (for munitions not described above):	VALUE	
Munition (containers) containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10	
Munition containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	6	
Flares, signals, simulators, screening smokes (other WP)	4	than
Pyrotechnics (select the single largest value)		<u>0</u>
What evidence do you have regarding pyrotechnics?	<u>None</u>	

C. Bulk High Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):	VALUE	
Primary or initiating explosives (Lead Styphnate, Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10	Lead
Demolition charges	10	
Secondary explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8	
Military dynamite	6	
Less sensitive explosives (Ammonium Nitrate, Explosive D, etc.)	3	
High explosives (select the largest single value)		<u>0</u>
What evidence do you have regarding bulk explosives?	<u>None</u>	

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized).	VALUE	
Solid or liquid propellants	6	
Propellants		<u>0</u>
What evidence do you have regarding bulk propellants?	<u>None</u>	

E. Chemical Warfare Materiel (CWM) and Radiological Weapons:	VALUE	
Toxic chemical agents (choking, nerve, blood, blister)	25	
War Gas Identification Sets	20	
Radiological	15	
Riot Control Agents (vomiting, tear)	5	
Chemical and Radiological (select the largest single value)		<u>0</u>
What evidence do you have regarding chemical or radiological?	<u>None</u>	

TOTAL HAZARD SEVERITY VALUE (Sum of values A through E (maximum of 61)

6

Apply this value to Table 1 to determine Hazard Severity Category

TABLE 1
HAZARD SEVERITY*

<u>DESCRIPTION</u>	<u>HAZARD SEVERITY* CATEGORY</u>	<u>HAZARD SEVERITY VALUE</u>
CATASTROPHIC	I	21 and/or greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE	<u>V</u>	0

*Apply Hazard Severity Category to Table 3

**If hazard severity value is 0, you do not need to complete Part II of this form. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINAL III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by USAESCH - Immediately call USAESCH-OE-S (comm 205-895-1582/1598).
- RAC 2 High priority on completion on INPR - Recommend further action by USAESCH.
- RAC 3 Complete INPR - Recommend further action by USAESCH.
- RAC 4 Complete INPR - Recommend further action by USAESCH.
- RAC 5 Usually indicates that No DoD Action Indicated (NDAI). Submit NDAI and RAC to USAESCH.

PART IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

The SI team did not see or note any subsurface metallic anomalies in this area.

Recommend a NDAI for this sub area.

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR
STANISLAUS BOMBING TARGET
STANISLAUS COUNTY, CALIFORNIA
PROJECT NUMBER JO9CA107401

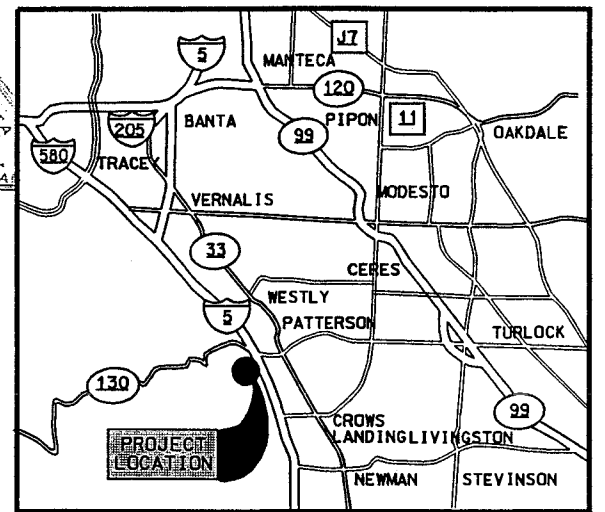
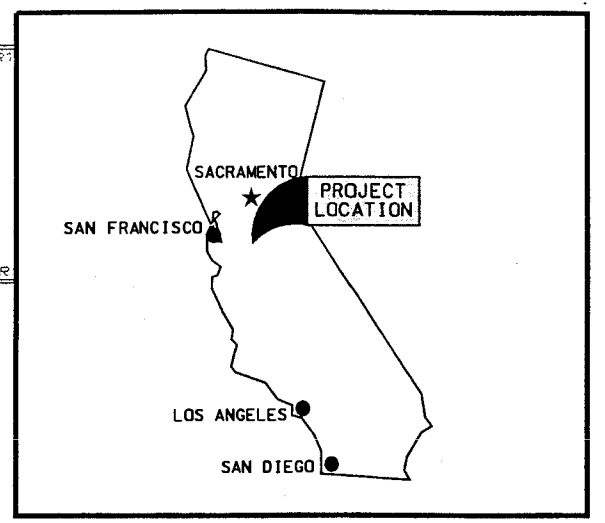
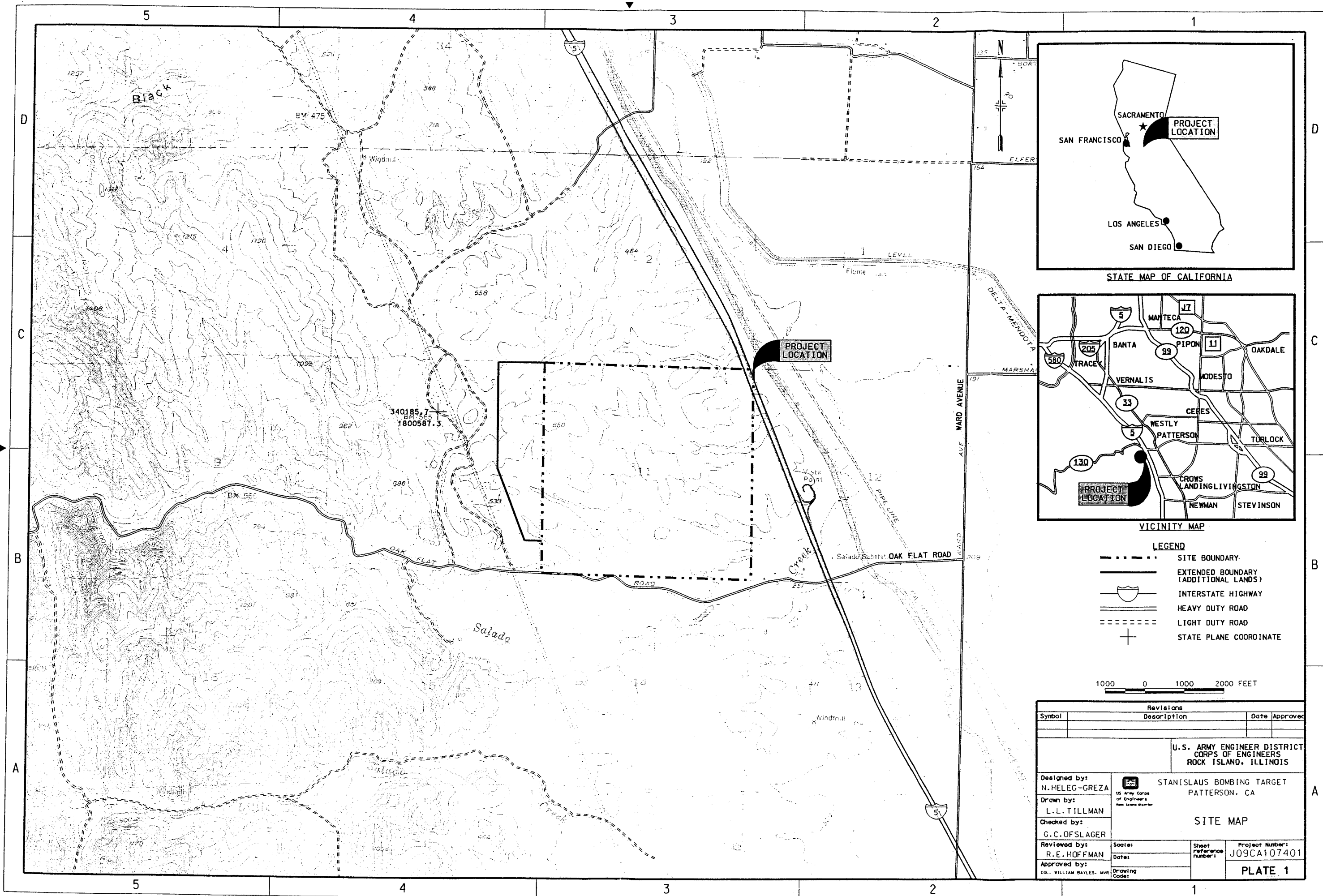
REPORT PLATES

REPORT PLATES

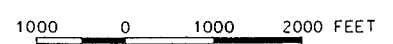
Table of Contents

1. SITE MAP
2. TARGET LAYOUT CIRCA 1945
3. OE PROJECT AREAS / CURRENT OWNERSHIP
4. PHOTOGRAPH LOCATIONS

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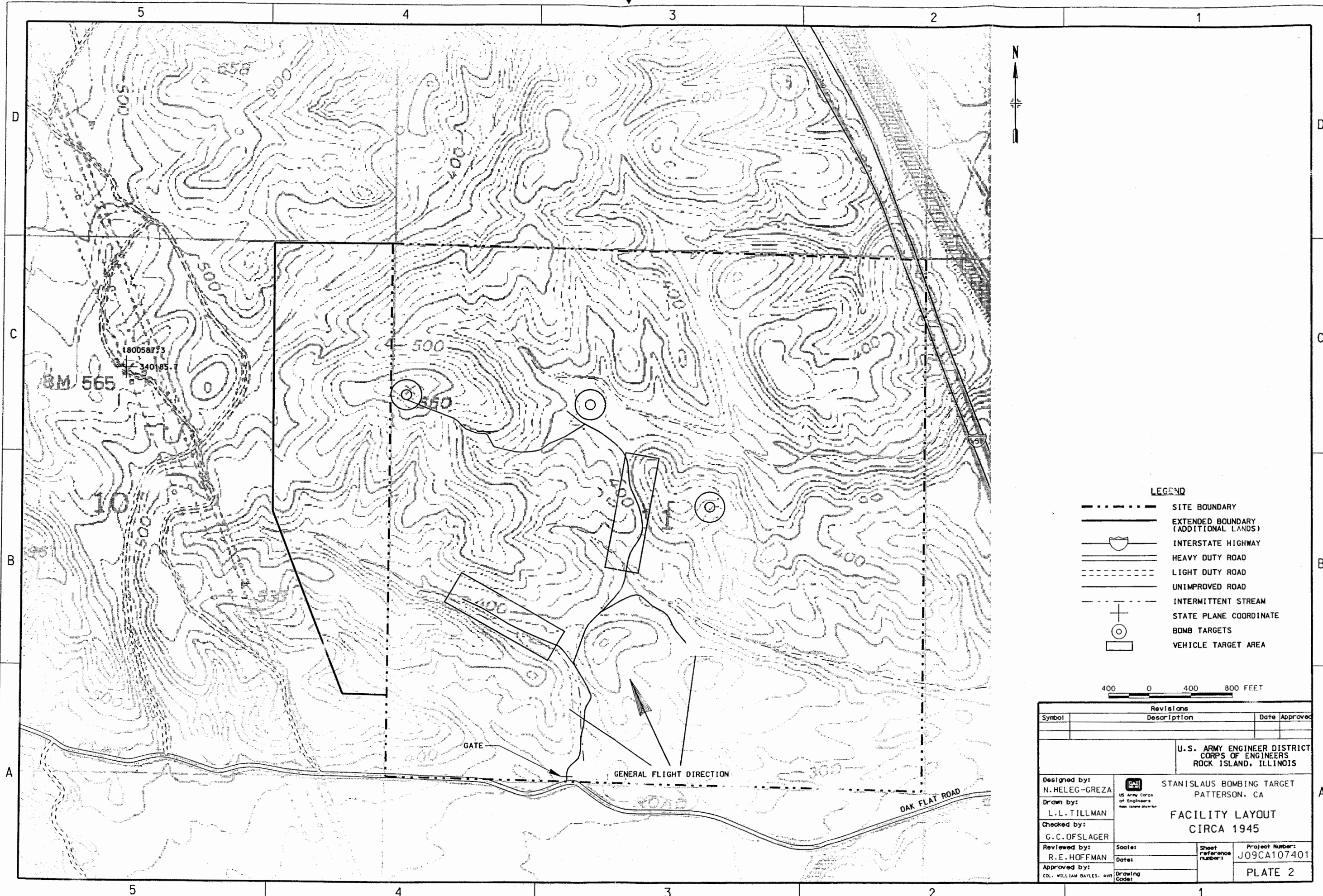


- LEGEND**
- SITE BOUNDARY
 - EXTENDED BOUNDARY (ADDITIONAL LANDS)
 - INTERSTATE HIGHWAY
 - == HEAVY DUTY ROAD
 - ==== LIGHT DUTY ROAD
 - + STATE PLANE COORDINATE

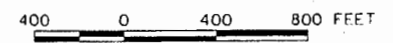


Revisions		Date	Approved
Symbol	Description		
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS			
Designed by: N. HELEG-GREZA	 STANISLAUS BOMBING TARGET PATTERSON, CA	SITE MAP	
Drawn by: L.L. TILLMAN			
Checked by: G.C. OFSLAGER			
Reviewed by: R.E. HOFFMAN	Scales: Dates:	Sheet reference number:	Project Number: JO9CA107401
Approved by: COL. WILLIAM BAYLES, MVR	Drawing Code:	PLATE 1	

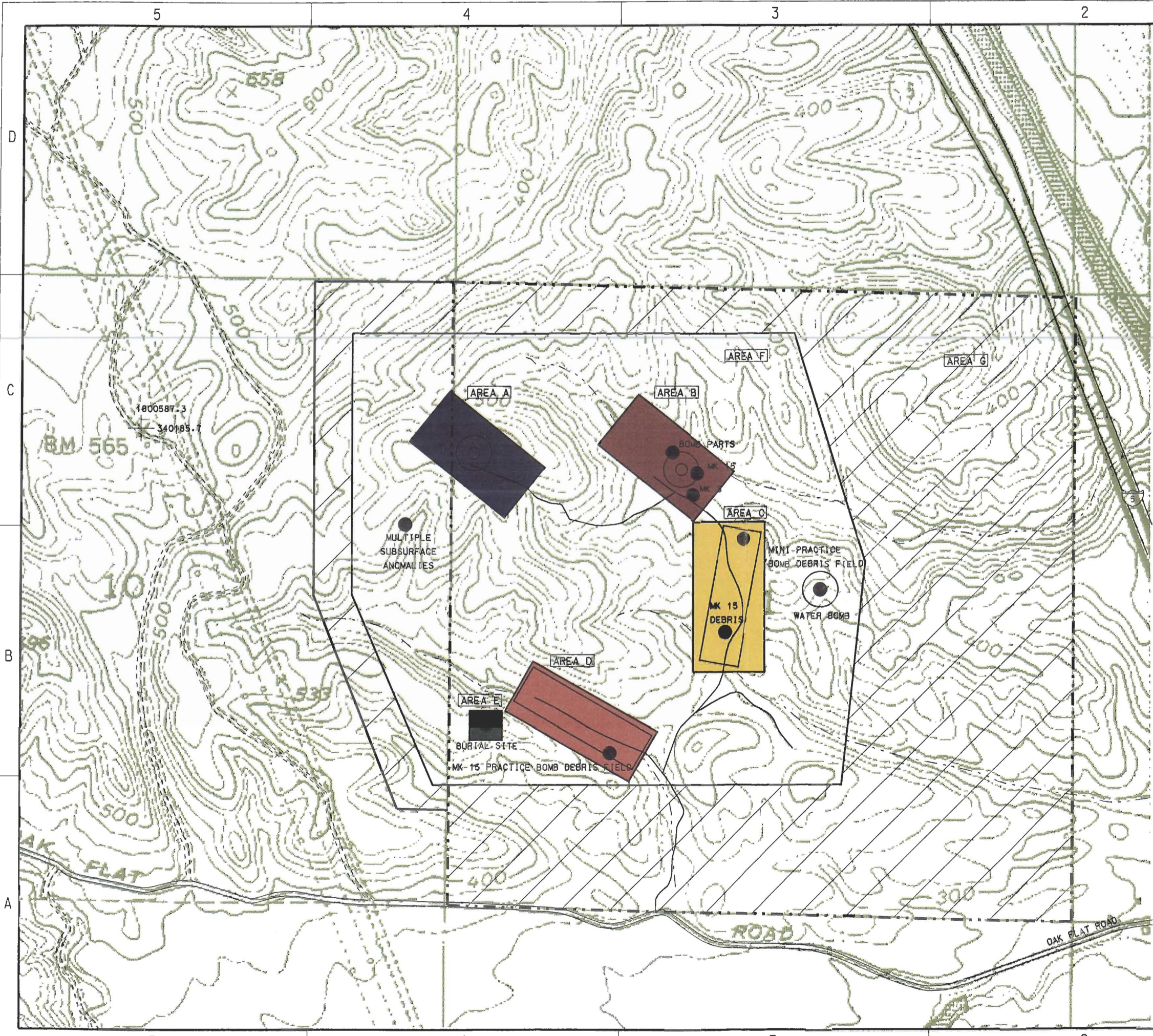
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- LEGEND**
- SITE BOUNDARY
 - EXTENDED BOUNDARY (ADDITIONAL LANDS)
 - INTERSTATE HIGHWAY
 - HEAVY DUTY ROAD
 - LIGHT DUTY ROAD
 - UNIMPROVED ROAD
 - - - - - INTERMITTENT STREAM
 - + STATE PLANE COORDINATE
 - BOMB TARGETS
 - VEHICLE TARGET AREA



Revisions		Date		Approved	
Symbol	Description				
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS					
Designed by: N. HELEG-GREZA Drawn by: L. L. TILLMAN Checked by: G. C. OFSLAGER Reviewed by: R. E. HOFFMAN Approved by: COL. WILLIAM BAYLES, MWR	STANISLAUS BOMBING TARGET PATTERSON, CA FACILITY LAYOUT CIRCA 1945	Scale: Dates: Drawing Code:	Sheet reference number: Project Number: J09CA107401	PLATE 2	



OE PRESENCE			
AREA	DESCRIPTION	PRESENCE	ACREAGE
A	BOMB TARGET	CONFIRMED	13
B	BOMB TARGET	CONFIRMED	13
C	VEHICLE TARGET	CONFIRMED	18
D	VEHICLE TARGET	CONFIRMED	13
E	SUSPECTED BURIAL SITE	POTENTIAL	3
F	SAFETY BUFFER ZONE	POTENTIAL	253
G	REMAINING LANDS	NONE	398
TOTAL ACREAGE			711

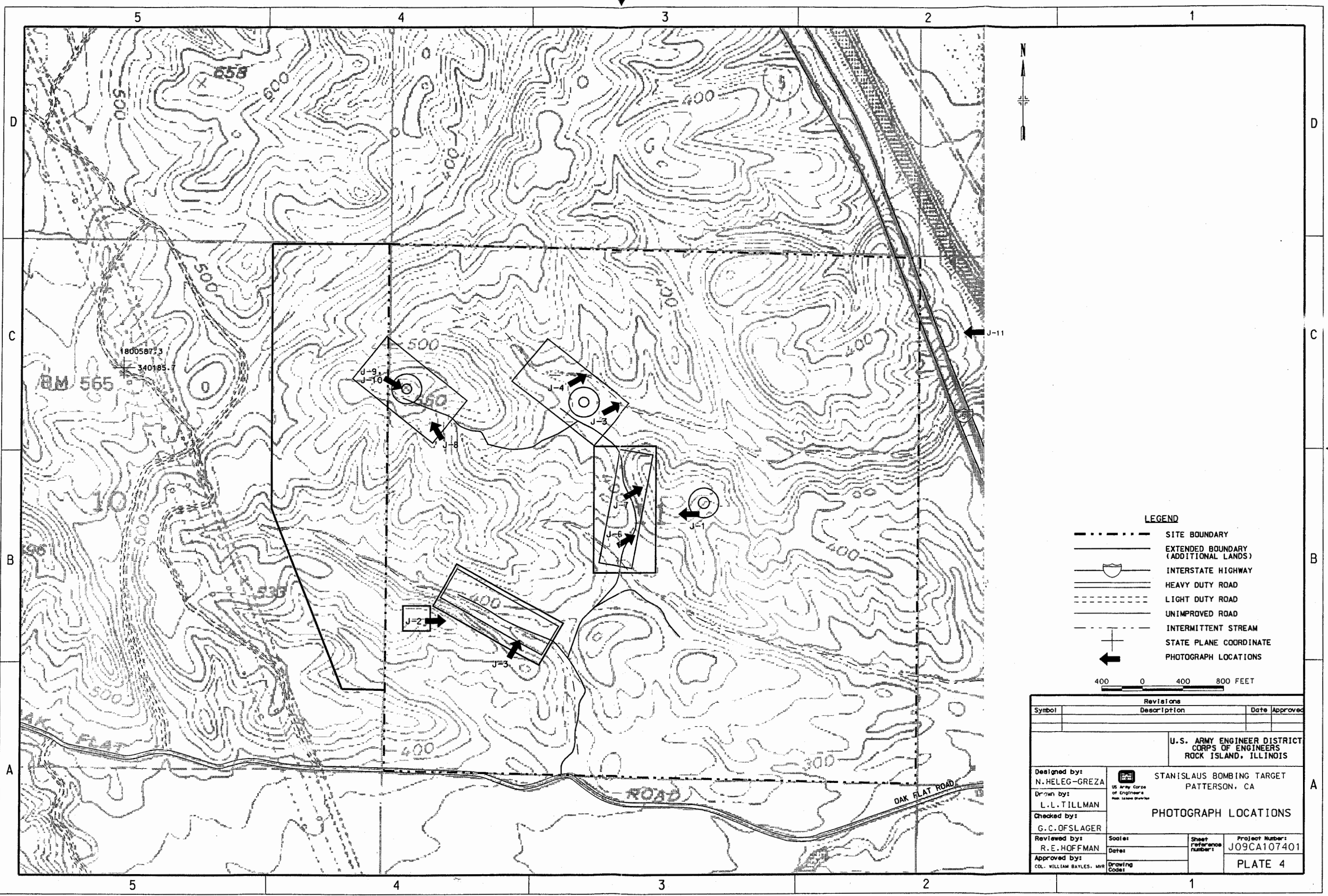
NOTE: ENTIRE SITE AREA IS OWNED BY STANLEY COX.

- LEGEND**
- SITE BOUNDARY
 - EXTENDED BOUNDARY (ADDITIONAL LANDS)
 - ANOMALIES
 - ⊖ INTERSTATE HIGHWAY
 - ══ HEAVY DUTY ROAD
 - LIGHT DUTY ROAD
 - UNIMPROVED ROAD
 - - - - - INTERMITTENT STREAM
 - + STATE PLANE COORDINATE



Revisions		Date	Approved
Symbol	Description		
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS			
Designed by: N. HELEG-GREZA	STANISLAUS BOMBING TARGET PATTERSON, CA		
Drawn by: L.L. TILLMAN	OE PROJECT AREAS/ OWNERSHIP		
Checked by: G.C. OFSLAGER	Scale:	Sheet reference number:	Project Number: JO9CA107401
Reviewed by: R.E. HOFFMAN	Date:		
Approved by: COL. WILLIAM BAYLES, WVR	Drawing Code:		PLATE 3

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LEGEND

- SITE BOUNDARY
- EXTENDED BOUNDARY (ADDITIONAL LANDS)
- INTERSTATE HIGHWAY
- HEAVY DUTY ROAD
- LIGHT DUTY ROAD
- UNIMPROVED ROAD
- INTERMITTENT STREAM
- + STATE PLANE COORDINATE
- ← PHOTOGRAPH LOCATIONS

400 0 400 800 FEET

Revisions		Date		Approved	
Symbol	Description				
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS					
Designed by: N. HELEG-GREZA		STANISLAUS BOMBING TARGET PATTERSON, CA PHOTOGRAPH LOCATIONS			
Drawn by: L.L. TILLMAN					
Checked by: G.C. OFSLAGER					
Reviewed by: R.E. HOFFMAN		Scale: Dates:		Sheet Reference Number: Project Number: J09CA107401	
Approved by: COL. WILLIAM BAYLES, MWR		Drawing Code:		PLATE 4	