US Army Corps
of Engineers
HUNTSVILLE ENGINEERING
AND SUPPORT CENTER

FINAL [redacted]

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

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT

PRELIMINARY ASSESSMENT

BRUNEAU PRECISION BOMBING RANGE NO. 2

Owyhee County, Idaho

Project Number - F10ID014101

July 2005
[redacted]

Prepared by
US ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

RESTORATION INFORMATION MANAGEMENT SYSTEM
PROJECT FACT SHEET
FORMERLY USED DEFENSE SITES
September 2004
TAG Review Date: 27 July 2005

1. **SITE NAME:** Bruneau Precision Bombing Range No. 2

SITE NUMBER: F10ID014100

LOCATION: City: Bruneau
County: Owyhee
State: Idaho

PROJECT NUMBER: F10ID014101

CATEGORY: MMRP

INPR RAC: 4

ASR RAC: 3

TAG RAC: **4**

2. **POC'S:**

GEOGRAPHIC DISTRICT:
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Office: CENWS-PM-HW
Phone: 206-764-3448

GEOGRAPHIC DIVISION:
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Office: CENWD-MT-MH
Phone: 402-697-2523

HEADQUARTERS:
Name: Sue Abu-Eid
Office: CEMP-NWD
Phone: 202-761-4827

ASR/INPR TEAM:
Name: Bradford McCowan
Office: CEHNC-OE-CX
Phone: 256-895-1174

ASR SUPPORT DISTRICT:
Name: Tom Murrell
Office: CEMVS-ED-P
Phone: 314-331-8787

ASR TECHNICAL REVIEWER:
Name: Ron Thornhill
Office: SJMAC-ESM
Phone: 918-420-8395

3. **SITE DESCRIPTION:**

a. Bruneau Precision Bombing Range No. 2 is located in Owyhee County, Idaho seven miles southwest of Bruneau and consists of 2,552.2 acres.

b. The property was used as a practice-bombing target.

c. During the site visit, the team did not find physical evidence of MEC or MPPEH Debris.

4. **SITE HISTORY:**

a. DoD acquired the property between 23 June and 27 September 1943.

b. There was evidence of MEC use on this property (documentation).

c. There is no evidence of chemical warfare training, storage or disposal activities associated with the FUDS property.

d. A certificate of clearance was issued on 17 September 1954 and another issued on 17 July 1964. No MEC incidences since closure.

e. The property was declared excess and disposed of by 13 July 1956.

5. **PROJECT DESCRIPTION:**

Size:	2,552.2 acres
Former Use:	Practice Bomb Range
Present Use:	Agricultural
Possible End Use:	Same
MEC Presence:	
Confirmed:	None
Potential:	Practice Bombs w/spotting charges
ASR Recommends:	RAC 3
HNC Safety:	RAC 4

6. **CURRENT STATUS:**

The U.S. Army Corps of Engineers, St. Louis District, completed the Archives Search Report for Bruneau Precision Bombing Range No. 2 in December 2004.

7. **STRATEGY:**

RI/FS

8. **ISSUES AND CONCERNS: The Huntsville Center Technical Advisory Group met and evaluated this ASR on 27 July 2005. The consensus was a score of RAC 4. The following issues were addressed:**

a. The author indicates an aerial photo shows "possible cratering." The photo shows one "crater" outside the FUDS property and is labeled "possible." The two certificates of clearance do not indicate finding anything other than practice bombs and spotting charges.

b. The author includes an interview from a landowner stating he had found live belted .50 caliber ammunition. This could not be substantiated.

c. There are known Federally-and State-listed species occurring in the site area. An on-site inspection by the appropriate federal and state personnel may be necessary to verify the presence, absence or location of listed species, or natural communities.

9. **SCHEDULE SUMMARY:**

Phase	Orig. Start	Sch. Start	Actual Start	Orig. Comp.	Sch. Comp.	Actual Comp.

10. **FUNDING/BUDGET SUMMARY:**

Year	Phase	EXEC FOA	IN House Required	Contract Required	Funds Obligated

RISK ASSESSMENT PROCEDURES FOR MILITARY MUNITIONS RESPONSE PROJECTS

Property Name:	Bruneau Precision Bombing Range No. 2	Rater's Name:	RonThornhill
Property Location:	Owyhee, ID	Phone Number:	918-420-8395
FUDS Property/Project #:	F10ID014100	District:	DAC
Property Type:	Practice Bombing Range	Office Symbol:	SJMAC-ESM
Score:	4	Date Completed:	01 June 2005

RISK ASSESSMENT:

This risk assessment (RAC) procedure was developed to address explosives safety hazards related to munitions. This procedure does not address environmental hazards associated with munitions constituents. The U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Directorate (CEHNC-OE) developed this procedure in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Corps of Engineers to prioritize the response action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from record searches, reports of Explosive Ordnance Disposal (EOD) actions, field observations (site visits), and interviews. This information is used to assess the risk involved based on the potential MMRP hazards identified for the project. The risk assessment evaluates two factors, hazard severity and hazard probability.

Part I - 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: (Check all that apply)

A. Conventional ordnance and ammunition:	VALUE
Projectiles, explosive (20 millimeter and larger)	10☐
Bombs, explosive	10☐
Grenades, hand or rifle, explosive	10☐
Landmine, explosive	10☐
Rockets, guided missile, explosive	10☐
Other Explosive item not previously stated	10☐
Bomb, practice (w/spotting charge)	6☒
Detonators, blasting caps, fuses, boosters, bursters	6☐
Practice ordnance (w/ spotting charges, other than bombs)	4☐
Small arms, complete round (.50 cal or less)	1☐
Small arms, expended (.50 cal or less)	0☐
Practice ordnance (w/o spotting charges)	0☐
Conventional ordnance and ammunition (enter largest single value checked)	6

What evidence do you have regarding conventional unexploded ordnance? Documentation indicate this property was a practice bombing range. Clearance report indicates finding practice bombs and spotting charges. No evidence of MEC during site visit.

B. Pyrotechnics (for munitions not described above):

	VALUE
Munitions containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10☐
Munitions containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	10☐
Containers containing WP or other pyrophoric material or flame or incendiary material	6☐
Flares, signals, simulators, screening/burning smokes (other than WP)	4☐
Pyrotechnics (enter the single largest value checked)	0

What evidence do you have regarding pyrotechnics? None

C. Bulk Explosives (HE) (not an integral part of conventional ordnance; un-containerized):

	VALUE
Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10☐
Secondary explosives (Demolition charges, PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8☐
Insensitive explosive substances (explosive contaminated soils, ammonium nitrate)	3☐
Bulk Explosives (HE) (enter the single largest value checked)	0

What evidence do you have regarding bulk explosives? None

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized)

	VALUE
Solid or liquid propellants	6☐
Bulk Propellants (select 6 or 0)	0

What evidence do you have regarding bulk propellants? None

E. Recovered Chemical Warfare Materiel (RCWM), Weaponized Industrial Chemicals and Radiological Materiel:

	VALUE
Toxic chemical agents (H-Mustard, G-Nerve, V-Nerve and L-Lewisite)	25☐
Chemical Agent Identification Sets	20☐
Radiological Materiel (If rad waste is identified please call the HTRW–CX at 402-697-2555)	15☐
Weaponized Industrial Chemicals (Hydrogen Cyanide AC; Cyanogen Chloride, CK; Phosgene, CG)	10☐
Riot Control Agents (vomiting, tear)	5☐
Chemical and Radiological (enter the single largest value checked)	0

What evidence do you have regarding chemical or radiological? None

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TOTAL HAZARD SEVERITY VALUE (Sum of value A through E, maximum of 61) 6
Apply this value to Table 1 to determine Hazard Severity Category

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Property Name:
Project Number:
Property Type:

TABLE 1
HAZARD SEVERITY*

DESCRIPTION	CATEGORY	HAZARD SEVERITY VALUE
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 and complete Part II of this form.
**If hazard severity value is 0, complete Part II of this form. Then 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, explosives, incendiary, pyrotechnic, radiological, or RCWM materials on a formerly used Department of Defense (DOD) site.

AREA, EXTENT, ACCESSIBILITY OF MMRP HAZARD (Check all that apply)

A. Locations of MMRP 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 (enter the single largest value checked)	2

What evidence do you have regarding the location of MMRP? No indication of MEC present on the surface.

Property Name:
Project Number:
Property Type:

B. Distance to nearest inhabited location/structure likely to be at risk from MMRP 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 (enter the single largest value checked)	3

What are the nearest inhabited structures/buildings? Land use is for agriculture and residential farm houses.

C. Number(s) of building(s) within a 2-mile radius measured from the MMRP hazard area, not the installation boundary.

	VALUE
26 and over	5☐
16 to 25	4☐
11 to 16	3☐
6 to 10	2☒
1 to 5	1☐
0	0☐
Number of buildings (enter the single largest value checked)	2

Narrative: There are 6-10 farm houses within a 2-mile radius.

Property Name:
Project Number:
Property Type:

D. Types of Buildings (within 2-mile radius)

	VALUE
Educational, childcare, residential, hospitals, hotels, commercial, shopping centers	5☒
Industrial, warehouse, etc.	4☐
Agricultural, forestry, etc.	3☒
Detention, correctional	2☐
No buildings	0☐
Types of buildings (enter the single largest value checked)	5

Describe the types of buildings: Agricultural propety includes farm houses.

E. Accessibility to site refers to access by humans to military munitions. 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☐
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 (enter the single largest value checked)	4

Describe the site accessibility: Property containing livestock is fenced.

F. Site Dynamics. This deals with site conditions that 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☐
Not anticipated	0☒
Site Dynamics (enter the single largest value checked)	0

Describe the site dynamics: Site dynamics not expected to change.

TOTAL HAZARD PROBABILITY VALUE 16
(Sum of largest values for A through F (maximum of 30). Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.

TABLE 2
HAZARD PROBABILITY*

DESCRIPTION VALUE	LEVEL	HAZARD PROBABILITY
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 ☐	4 ☐
MARGINAL III	2 ☐	3 ☐	4 ☒	4 ☐	4 ☐
NEGLIGIBLE IV	3 ☐	4 ☐	4 ☐	4 ☐	4 ☐

None (V) = RAC 5 ☐

RISK ASSESSMENT CODE (RAC)

RAC 1-4 Recommend and approve further action as appropriate. Refer to EP 1110-1-18 for discussion of MMRP projects and the process to be followed for execution of project response actions.

RAC 5 Usually indicates that No DOD Action Indicated (NDAI) is necessary. Recommend and approve NDAI and follow instructions for project closeout in accordance with current program guidance.

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.
No MEC or MPPEH Debris found during the site visit. There was no evidence of chemical warfare training, storage, or disposal activities associated with this property. No reports of MEC since closure. Two certificates of clearance indicate nothing other than practice bombs with spotting charges were found on the property. Recommend a RAC score of 4.

Property Name:
Project Number:
Property Type:

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EXECUTIVE SUMMARY

Bruneau Precision Bombing Range No. 2 and **Mountain Home Air Force Range No. 2** are the same property. Historical documents (i.e., textual documents, maps, etc.) obtained from the archives interchange one or the other property name within the text. The 1988 Inventory Project Report (INPR) lists this property as "Mountain Home Air Force Range No. 2" and the Formerly Used Defense Site Management Information System (FUDSMIS) database lists this property as "Bruneau Precision Bombing Range No. 2".

This Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Preliminary Assessment (PA) will use "Bruneau Precision Bombing Range No. 2" for all references.

The U.S. Army Corps of Engineers administers the Defense Environmental Restoration Program (DERP) Formerly Used Defense Site (FUDS) program. The St. Louis District of the Corps of Engineers prepared this Military Munitions Response Program (MMRP) Preliminary Assessment (PA) for **Project No. F10ID014101, Bruneau Precision Bombing Range No. 2**, in support of DERP-FUDS. St. Louis District completed this effort in coordination with U.S. Army Engineering and Support Center, Huntsville (USAESCH), the Center of Expertise (CX) and Design Center for Ordnance and Explosives (OE) and the Seattle District.

This PA compiles information obtained through historical research at various archives and records holding facilities. The investigation was primarily a textual, cartographic and photographic research and analysis effort. It also makes use of site visits and interviews to gather information concerning the site. The research directed efforts towards determining presence of munitions and explosives of concern (MEC) as a result of previous use, storage, and/or disposal. The research places particular emphasis on establishing the types, quantities and areas of former OE and chemical warfare (CW) activities. This process obtains information for use in developing recommendations for further action at the former Bruneau Precision Bombing Range No. 2.

The former Bruneau Precision Bombing Range No. 2 consisted of 2,552.20 acres located 7 miles southwest of Bruneau, Idaho. The property is located in Sections 2 and 3 of Township 7 South, Range 4 East and Sections 34 and 35 of Township 6 South, Range 4 East. The War Department indicated a necessity for this property on 23 June 1943 and acquired the land from the Department of Interior by Public Land Order 172, dated 27 September 1943 for use as the Mountain Home Precision Bombing Range No. 2. After creation of the U.S. Air Force in 1947, the range became known as Mountain Home Air Force Range No. 2. A letter dated 27 October 1952 to the Secretary of the Air Force reported that these lands were needed for an indefinite period beyond 28 October 1952, which was the termination of the unlimited national emergency.

Bruneau Precision Bombing Range No. 2 was declared excess to the needs of the Air Force on 24 November 1953 and relinquished to the Department of the Interior, Bureau of Land Management on 25 November 1955. The range was retransferred to the Department of the Interior by Public Land Order 1898, dated 13 July.

Two Certificates of Clearance were issued from Headquarters, 2700th Explosive Ordnance Disposal Squadron, McClellan Air Force Base, California, for Mountain Home Precision Bombing Range No. 2.

The first Certificate of Clearance was issued 17 September 1954 and stated "All of this land has been given a careful search and has been cleared of all dangerous and/or explosive materials reasonably possible to detect. It is recommended that the southern half of Section 3, T7S, R4E as shown on the inclosed Real Estate Map of Mountain Home Precision Bombing Range # 2 dated 28 August 1952 be restricted to surface use only. All other tracts are recommended for any use for which the land is suited.".

The second Certificate of Clearance was issued 24 July 1964 for the restricted use portion noted in the 17 September 1954 clearance document. The Certificate of Clearance states "All lands (320 acres more or less), within the Mountain Home Precision Bombing Range # 2, and located within Owyhee County, State of Idaho ...have been thoroughly searched and are cleared of all explosive ordnance and ordnance residue reasonably possible to detect... There are no restrictions of the future use of all the above described lands. ...Because surface erosion of this land may expose sub-surface ordnance not detected during search operations, all present and/or future users, owners, and/or inhabitants of these lands are hereby advised that if, at any time, an itmn[sic] identified or suspected of being military ordnance is located, the nearest government civil authority should be contacted."

Two hundred forty (240) acres of the land remain with the Department of Interior, Bureau of Land Management, since relinquishment by the Air Force. The remainder of acreage was sold to private ownerships and the majority of the land is used for agricultural purposes.

The types of munitions associated with the site included:

- Bomb, Practice, 100 Pound, M38A2
- Spotting Charge, M1A1
- Bomb, General Purpose, (GP), 100-pound, AN-M30
- Fuze, Bomb, Tail, AN-M100 Series
- Fuze, Bomb, Nose, AN-M103A1
- Cartridge, Caliber .50

Based on the findings of this investigation, there is an MEC potential on the former Bruneau Precision Bombing Range No. 2 FUDS. The investigation team uncovered historical evidence that the Air Force used practice bombs and possibly high explosive

bombs at Bruneau Precision Bombing Range No. 2. The 2003 INPR states locals have reported finding live and expended .50 caliber rounds along with bomb debris. The historic presence of 50-cal ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity. The 2004 property inspection conducted by the US Army Engineer District, St. Louis did not find evidence of Munitions and Explosive of Concern (MEC) debris on the surface of the site.

The investigation team uncovered no historical or physical evidence of chemical warfare materials storage, usage or disposal at Bruneau Precision Bombing Range No. 2.

The beginning of this report contains the completed Risk Assessment Procedures for Military Munitions Response Projects form for Bruneau Precision Bombing Range No. 2. Using the information available, this form resulted in a Risk Assessment Code (RAC) score of 3 for the site. A RAC 3 score indicates further consideration as appropriate in accordance with the guidelines in EP 1110-1-18 Engineering and Design - Ordnance and Explosives Response. Further action recommendations regarding MEC at Bruneau Precision Bombing Range No. 2 will originate from US Army Engineering and Support Center, Huntsville (USAESCH) and the US Army Engineer District, Seattle, and would typically include a Site Inspection (SI) to delineate areas of MEC potential.

RISK ASSESSMENT PROCEDURES FOR MILITARY MUNITIONS RESPONSE PROJECTS

(Revised 10 May 2004)

Property Name	Bruneau Precision Bombing Range No. 2 (aka Mountain Home Air Force Range No. 2)	Rater's Name	Thomas Murrell
Property Location	Bruneau, Owyhee County, Idaho	Phone No.	314-331-8787
FUDS Property/ Project #	F10ID014101	District	St. Louis
Property Type	FUDS	Office Symbol	CEMVS-ED-P
Score	3	Date Completed	26 September 2004

RISK ASSESSMENT:

This risk assessment (RAC) procedure was developed to address explosives safety hazards related to munitions. This procedure does not address environmental hazards associated with munitions constituents. The U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Directorate (CEHNC-OE) developed this procedure in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Corps of Engineers to prioritize the response action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from record searches, reports of Explosive Ordnance Disposal (EOD) actions, field observations (site visits), and interviews. This information is used to assess the risk involved based on the potential MMRP hazards identified for the project. The risk assessment evaluates two factors, hazard severity and hazard probability.

PART I. 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: (Check all that apply)

A. Conventional ordnance and ammunition:	**VALUE**
Projectiles, explosive (20 millimeter and larger)	10 ☐
Bombs, explosive	10 ☒
Grenades, hand or rifle, explosive	10 ☐
Landmine, explosive	10 ☐
Rockets, guided missile, explosive	10 ☐
Other Explosive item not previously stated	10 ☐
Bomb, practice (w/spotting charge)	6 ☒
Detonators, blasting caps, fuzes, boosters, bursters	6 ☐
Practice ordnance (w/spotting charges, other than bombs)	4 ☐
Small arms, complete round (.50 cal or less)	1 ☒
Small arms, expended (.50 cal or less)	0 ☒
Practice ordnance (w/o spotting charges)	0 ☐

Conventional ordnance and ammunition (enter largest single value checked) 10

WHAT EVIDENCE DO YOU HAVE REGARDING CONVENTIONAL UNEXPLODED ORDNANCE? Historical documents indicated practice bombs with spotting charges were used on this site. The 2003 INPR states locals have reported finding live and expended .50 caliber rounds along with bomb debris. The historic presence of 50-cal ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity. The 1950 aerial photography shows cratering in and around the bomb target, which would indicate the possible use of other than practice bombs, i.e., high explosive bombs. The 2004 St. Louis District site visit team located no evidence of MEC debris on the surface of the site.

B. Pyrotechnics (for munitions not described above):

	VALUE
Munitions containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10 ☐
Munitions containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	10 ☐
Containers containing WP or other pyrophoric material or flame or incendiary material	6 ☐
Flares, signals, simulators, screening/burning smokes (other than WP)	4 ☐
Pyrotechnics (enter the single largest value checked)	0

WHAT EVIDENCE DO YOU HAVE REGARDING PYROTECHNICS? None. The investigation team did not uncover evidence that this site used or stored pyrotechnics.

C. Bulk Explosives (HE) (not an integral part of conventional ordnance; uncontainerized):

	VALUE
Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10 ☐
Secondary explosives (Demolition charges, PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8 ☐
Insensitive explosive substances (explosive contaminated soils, ammonium nitrate)	3 ☐
High explosives (enter the single largest value checked)	0

WHAT EVIDENCE DO YOU HAVE REGARDING BULK EXPLOSIVES? None. The investigation team did not uncover evidence that this site used or stored bulk explosives.

D. Bulk Propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized):

	VALUE
Solid or liquid propellants	6 ☐
Bulk Propellants (select 6 or 0)	0

WHAT EVIDENCE DO YOU HAVE REGARDING BULK PROPELLANTS? None. The investigation team did not uncover evidence that this site used or stored bulk propellants.

E. Recovered Chemical Warfare Material (RCWM), Weaponized Industrial Chemicals and Radiological Material:

	VALUE
Toxic chemical agents (H-Mustard, G-Nerve, V-Nerve and L-Lewisite)	25 ☐
Chemical Agent Identification Sets	20 ☐
Radiological Materiel (If rad waste is identified, please call the HTRW-CX at (402) 697-2555)	15 ☐
Weaponized Industrial Chemicals (Hydrogen Cyanide AC; Cyanogen Chloride, CK; Phosgene, CG)	10 ☐
Riot Control Agents (vomiting, tear)	5 ☐
Chemical and Radiological (enter the single largest value checked)	0

WHAT EVIDENCE DO YOU HAVE REGARDING CHEMICAL OR RADIOLOGICAL? None. The investigation team did not uncover evidence that this site used or stored RCWM.

TOTAL HAZARD SEVERITY VALUE (Sum of value A through E, Maximum of 61 Apply this value to Table 1 to determine Hazard Severity Category	10

TABLE 1
HAZARD SEVERITY*

DESCRIPTION	CATEGORY	HAZARD SEVERITY VALUE
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 and complete Part II of this form.

**If hazard severity value is 0, complete Part II of this form. Then 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, explosives, incendiary, pyrotechnic, radiological, or RCWM materials on a formerly used Department of Defense (DoD) site.

AREA, EXTENT, ACCESSIBILITY OF MMRP HAZARD (Check all that apply)

A. Locations of MMRP 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 (enter the single largest value checked) 2

WHAT EVIDENCE DO YOU HAVE REGARDING THE LOCATION OF MMRP? Potential MEC hazards exist in the form of possible malfunctioned spotting charges in the practice bombs. The bomb functioned on the surface, lacking structural density and strength to bury deeply into the ground. Subsurface debris may also be found due to the possibility of the use of high explosive bombs on the target site.

B. Distance to nearest inhabited location/structure likely to be at risk from MMRP 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 (enter the single largest value checked) 3

WHAT ARE THE NEAREST INHABITED STRUCTURES/BUILDINGS? The nearest inhabited buildings are farm houses.

C. Number(s) of building(s) within a 2-mile radius measured from the MMRP 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 (enter the single largest value checked) 2

NARRATIVE: The number of buildings within a 2-mile radius is 6-10 farm houses and barns.

D. Types of Buildings (within 2 mile radius)

	VALUE
Educational, childcare, residential, hospitals, hotels, commercial, shopping centers	5 ☒
Industrial, warehouse, etc.	4 ☐
Agricultural, forestry, etc.	3 ☒
Detention, correctional	2 ☐
No buildings	0 ☐

Types of buildings (enter the single largest value checked) 5

DESCRIBE THE TYPES OF BUILDINGS. The are has a number of farm houses with various farming structures, i.e., barns.

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 ☐
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 (enter the single largest value checked) 4

DESCRIBE THE SITE ACCESSIBILITY. The site is farmland with fencing contain livestock with gates to inhibit vehicles.

F. Site Dynamics. This deals with site conditions that 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 ☐
Not anticipated	0 ☒
Site Dynamics (enter the single largest value checked)	0

DESCRIBE THE SITE DYNAMICS: The property has been in agricultural use since the release of the property from Government use.

TOTAL HAZARD PROBABILITY VALUE (sum of largest values for A through F (maximum of 30). Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.	16

TABLE 2
HAZARD PROBABILITY*

DESCRIPTION VALUE	LEVEL	HAZARD PROBABILITY VALUE
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 ☐	4 ☐
MARGINABLE III	2 ☐	3 ☐	4 ☐	4 ☐	4 ☐
NEGLIGIBLE IV	3 ☐	4 ☐	4 ☐	4 ☐	4 ☐

NONE (V) = RAC 5 ☐

RISK ASSESSMENT CODE (RAC)

RAC 1-4 Recommend and approve further action as appropriate. Refer to EP 1110-1-18 for discussion of MMRP projects and the process to be followed for execution of project response actions.

RAC 5 Usually indicates that No DOD Action Indicated (NDAI) is necessary. Recommend and approve NDAI and follow instructions for project closeout in accordance with current program guidance.

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.

Historical documents indicated practice bombs with spotting charges were used on this site. The 2003 INPR states locals have reported finding live and expended .50 caliber rounds along with bomb debris. The historic presence of 50-cal ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity. The 1950 aerial photography shows cratering in and around the bomb target, which would indicate the possible use of other than practice bombs, i.e., high explosive bombs. The 2004 St. Louis District site visit team located no evidence of MEC debris on the surface of the site.

US Army Corps
of Engineers
HUNTSVILLE ENGINEERING
AND SUPPORT CENTER

DRAFT

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

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT

PRELIMINARY ASSESSMENT

BRUNEAU PRECISION BOMBING RANGE NO. 2

Owyhee County, Idaho

Project Number - F10ID014101

December 2004

Prepared by
US ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

Munitions Response Site Prioritization Summary Form
(14 September 2004 version)

Property Name	Bruneau Precision Bombing Range No. 2 (aka Mountain Home Air Force Range No. 2)	**Rating Organization**	U.S. Army Corps of Engineers St. Louis District
Property Location	Bruneau, Owyhee County, Idaho	**Office Symbol**	CEMVS-ED-P
FUDS Property/Project #	F10ID014101	**Rater's Name**	Thomas Murrell
Property Type	FUDS	**Rater's Phone No.**	314-331- 8787
Investigation Type	Preliminary Assessment	**Date Completed**	28 September 2004

The Department of Defense (DoD) promulgated a Munitions Response Site (MRS) Prioritization Protocol to implement the requirement established in section 311(b) of the National Defense Authorization Act for Fiscal Year 2002 [codified at 10 U.S. Code (U.S.C.) § 2710(b)] for the Department to assign a relative priority for munitions responses to each location in the Department's inventory of defense sites known or suspected of containing unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC). This Munitions Response Site (MRS) Prioritization Summary Form encapsulates the scoring of the attached Tables of the Munitions Response Site Prioritization rule found in Appendix A to the rule (32 CFR Part 179).

PART I - Explosive Hazard Evaluation Module		
Table	**Classifications Within the EHE Module Data Element**	**Score**
1	Module Munitions Type	25
2	Module Source of Hazard	10
3	Information on the Location of Munitions	20
4	Ease of Access	8
5	Status of Property	5
6	Population Density	1
7	Population Near Hazard	2
8	Types of Activities/Structures	5
9	Ecological and/or Cultural Resources	3
	EHE Module Score	**79**
10	**EHE Module Rating**	**C**

PART II – Chemical Warfare Material Hazard Evaluation Module		
Table	**Classifications Within the CHE Module Data Element**	**Score**
11	CWM Configuration	0
12	Sources of CWM	0
13	Information on the Location of CWM	0
14	Ease of Access	8
15	Status of Property	5
16	Population Density	1
17	Population Near Hazard	2
18	Types of Activities/Structures	5
19	Ecological and/or Cultural Resources	3
	CHE Module Score	**24**
20	**CHE Module Rating**	**G**

PART III – HEALTH HAZARD EVALUATION MODULE: Evaluation pending; this module requires results from quantitative sampling data which has not occurred at the Preliminary Assessment point of the CERCLA process.

PART IV – MUNITIONS RESPONSE SITE PRIORITY (HIGHEST RATING OF PARTS I, II AND III): The Munitions Response Site Priority rating is **4.**

PART I - Explosive Hazard Evaluation Module

Table 1 Classifications Within the EHE Module *Munitions Type* Data Element		
Classification	**Description**	**Score**
Sensitive	• All UXO that are considered likely to function upon any interaction with exposed persons (i.e., submunitions, cluster munitions, 40mm high-explosive grenades, white phosphorus (WP) munitions (including practice munitions with sensitive fuzes, but excluding all other practice munitions), and high explosive anti-tank (HEAT) munitions • All hand grenades containing an explosive filler • Bulk primary explosives, or mixtures of these with environmental medial such that the mixture is explosive.	30
High explosive (used or damaged)	• All UXO containing a high-explosive filler (e.g., RDX, Composition B) that are not considered "sensitive" • All DMM containing a high-explosive filler that have been damaged by burning or detonation • All DMM containing a high-explosive filler that have deteriorated to the point of instability	25
Pyrotechnic (used or damaged)	• All UXO containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) • All DMM containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) that have been damaged by burning or detonation or that have deteriorated to the point of instability	20
High explosive (unused)	• All DMM containing a high-explosive filler that have not been damaged by burning or detonation • All DMM containing a high explosive filler that are not deteriorated to the point of instability	15
Propellant	• All UXO containing only a single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) • All DMM containing only a single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are damaged by burning or detonation • All DMM containing only a single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are deteriorated to the point of instability.	15
Bulk secondary HE, pyrotechnics, or propellant	Bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture being explosive	10
Pyrotechnics(not used or damaged)	• All DMM containing a pyrotechnic fillers (i.e., red phosphorous), other than white phosphorous filler, that have not been damaged by burning or detonation • All DMM containing a pyrotechnic fillers (i.e., red phosphorous), other than white phosphorous filler, that are not deteriorated to the point of instability.	10

Table 1
Classifications Within the EHE Module *Munitions Type* Data Element

Classification	Description	Score
Practice	• All UXO that are a practice munition not associated with a sensitive fuze • All DMM that are a practice munition not associated with a sensitive fuze that have not been damaged by burning or detonation • All DMM that are a practice munition not associated with a sensitive fuze that have not deteriorated to the point of instability	5
Riot control	• All UXO or DMM containing only a riot control agent (e.g., tear gas)	3
Small arms	• All UXO or DMM that are classified as small arms ammunition. physical evidence or historical evidence that no other munitions type (e.g., grenades, subcaliber training rockets, demolition charges) was used or is present on the MRS is required for selection of this category	2
Evidence of no munitions	• Following investigation of the MRS, there is physical evidence there are no UXO or DMM present or there is historical evidence indicating that no UXO or DMM are present.	0

Notes:

- *Former* (as in "former range") means the MRS is a location that was: (1) closed by a formal decision made by the Department Component with administrative control over the location, or (2) put to a use incompatible with the presence of UXO, DMM, or MC.
- *Historical evidence* means that the investigation: (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information.
- *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.
- *Practice munitions* means munitions that contain an inert filler (e.g., wax, sand, concrete), a spotting charge (i.e., a small charge of red phosphorus, photoflash powder, or black powder used to indicate the point of impact), and a fuze
- The term *small arms ammunition* means ammunition that is .50 caliber or below, and shotgun shells.

NARRATIVE/COMMENTS: Historical documents indicated practice bombs with spotting charges were used on this site. Twenty-eight (28) gage blank shot gun shells were used as spotting charge primers for the practice bombs. The spotting charge contained 3 lbs. of black powder. The 2003 INPR states locals have reported finding live and expended .50 caliber rounds along with bomb debris. The historic presence of 50-cal ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity. The 1950 aerial photography shows cratering in and around the bomb target, which would indicate the possible use of other than practice bombs, i.e., high explosive bombs. The 2004 St. Louis District site visit team located no evidence of MEC debris on the surface of the site.

Table 2
Classifications Within the EHE Module *Source of Hazard* Data Element

Classification	Description	Score
Former range	• The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include: impact or target areas, associated buffer and safety zones, firing points, and live-fire maneuver areas.	10
Former munitions treatment (i.e., OB/OD) unit	• The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	• The MRS is a former range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	• The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	• The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	• The MRS is a location that is a former munitions maintenance, manufacturing or demilitarization facility.	4
Former firing points	• The MRS is a firing point, when the firing point is delineated as an MRS separate from the rest of a former range.	4
Former missile or air defense artillery emplacements	• The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a range.	2
Former storage or transfer points	• The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	• The MRS is a former military range where only small arms were used. There must be evidence that no other type of munitions (e.g., grenades) were used or are present at the location to place an MRS into this category.	1
Evidence of no munitions	• Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0

Table 2 Classifications Within the EHE Module *Source of Hazard* Data Element		
Classification	**Description**	**Score**

Notes:

- *Former* (as in "former range") means the MRS is a location that was: (1) closed by a formal decision made by the Department Component with administrative control over the location, or (2) put to a use incompatible with the presence of UXO, DMM, or MC.
- *Historical evidence* means that the investigation: (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information.
- *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.
- *Practice munitions* means munitions that contain an inert filler (e.g., wax, sand, concrete), a spotting charge (i.e., a small charge of red phosphorus, photoflash powder, or black powder used to indicate the point of impact), and a fuze
- The term *small arms ammunition* means ammunition that is .50 caliber or below, and shotgun shells.

NARRATIVE/COMMENTS: Historical evidence indicated practice bombs with spotting charges were used on the former Bruneau Precision Bombing Range No. 2. The 2003 INPR states locals have reported finding live and expended .50 caliber rounds along with bomb debris. The historic presence of 50-cal ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity. The 1950 aerial photography shows cratering in and around the bomb target, which would indicate the possible use of other than practice bombs, i.e., high explosive bombs. The 2004 St. Louis District site visit team located no evidence of MEC debris on the surface of the site.

Table 3 Classifications Within the EHE *Information on the Location of Munitions* Data Element		
Classification	**Description**	**Score**
Confirmed surface	• Physical evidence indicates there are UXO or DMM on the surface of the MRS • Historical evidence (e.g., a confirmed incident report or accident report) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	• Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed in the future by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or there are on-going intrusive activities (e.g., plowing, construction, dredging) at the MRS that are likely to expose UXO or DMM. • Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed in the future by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or there are on-going intrusive activities (e.g., plowing, construction, dredging) at the MRS that are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	• Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed in the future by naturally occurring phenomena, or there are no intrusive activities	15

Table 3
Classifications Within the EHE *Information on the Location of Munitions* Data Element

Classification	Description	Score
	occurring at the MRS that are likely to either occur, or if the activities do occur, are likely to cause UXO or DMM to be exposed. Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed in the future by naturally occurring phenomena, or there are no intrusive activities occurring at the MRS that are likely to either occur, or if the activities do occur, are likely to cause UXO or DMM to be exposed.	
Suspected (physical evidence)	There is physical evidence other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	There is physical or historical evidence indicating the UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	The presence of small arms ammunitions is confirmed or suspected, regardless of other factors such as geological stability. There must be evidence that no other types of munitions (e.g., grenades) were used or are present at the MRS to include it in this category.	1
Evidence of no munitions	Following investigation of the MRS, there is physical evidence there are no UXO or DMM present or there is historical evidence indicating that no UXO or DMM are present.	0

Notes:

- *Historical evidence* means that the investigation: (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information.
- *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.
- *In the subsurface* means the munition (i.e., a DMM or UXO) is (1) entirely beneath the ground surface, or (2) fully submerged in a water body.
- *On the surface* means the munition (i.e., a DMM or UXO) is: (1) entirely or partially exposed above the ground surface (i.e., above the soil layer), or (2) entirely or partially exposed above the surface of a water body (e.g., as a result of tidal activity).
- The term *small arms* am*munition* means ammunition that is .50 caliber or below and shotgun shells.

NARRATIVE/COMMENTS: Historical evidence indicated practice bombs with spotting charges were used on this site. The 2003 INPR states locals have reported finding live and expended .50 caliber rounds along with bomb debris. The historic presence of 50-cal ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity. The 1950 aerial photography shows cratering in and around the bomb target, which would indicate the possible use of other than practice bombs, i.e., high explosive bombs. The 2004 St. Louis District site visit team located no evidence of MEC debris on the surface of the site.

Table 4 Classifications Within the EHE *Ease of Access* Data Element		
Classification	**Description**	**Score**
No barrier	• There is no barrier preventing access to all parts of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	• There is a barrier preventing access to parts of the MRS but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	• There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	• There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
Notes: • *Barrier* means a natural obstacle or obstacles (e.g., difficult terrain, dense vegetation, deep or fast moving water), a man-made obstacle or obstacles (e.g., fencing), or a combination of natural and man-made obstacles		

NARRATIVE/COMMENTS: This remote site has cattle fences/guards which inhibit access, but do not prevent access to entire property.

Table 5 Classifications Within the EHE *Status of Property* Data Element		
Classification	**Description**	**Score**
Non-DoD control	• The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by the Department. Examples are privately owned land or water bodies; land or water bodies owned or controlled by American Indian or Alaskan Native Tribes or State or local governments; and lands or water bodies managed by other Federal agencies.	5
Scheduled for transfer from DoD control	• The MRS is on land or is a water body that is owned, leased, or otherwise possessed by the Department, and the Department plans to transfer that land or water body to the control of another entity (e.g., a State, American Indian, Alaskan Native, or local government; a private party; another Federal agency) within 3 years from the date the rule is applied.	3
DoD control	• The MRS is on land or is a water body that is owned, leased, or otherwise possessed by the Department. With respect to property that is leased or otherwise possessed, the Department must control access to the MRS 24-hours per day, every day of the calendar year.	0

NARRATIVE/COMMENTS: Two hundred forty (240) acres remain under the jurisdiction of the Department of Interior, Bureau of Land Management. The remaining land is under private ownership.

Table 6 Classifications Within the EHE *Population Density* Data Element		
Classification	**Definition**	**Score**
> 500 persons per square mile	There are more than 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	5
100- 500 persons per square mile	There are 100 to 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	3
< 100 persons per square mile	There are fewer than 100 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	1

Notes:

- If an MRS is in more that one county, the Department Component will use the largest population value among the counties. If the MRS is within or borders a city or town, the population density for the city or town instead of the county population density is used.

NARRATIVE/COMMENTS: According to US Census Data from the year 2000, there are 2 people per square mile living in Owyhee County, ID.

Table 7 Classifications Within the EHE *Population Near Hazard* Data Element		
Classification	**Description**	**Score**
26 or more structures	• There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25	• There are 16 - 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15	• There are 11 - 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10	• There are 6 - 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5	• There are 1 - 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0	• There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0

Notes:

- The term *inhabited structures* means permanent or temporary structures, other than Department munitions-related structures, that are routinely occupied by one or more persons for any portion of a day.

NARRATIVE/COMMENTS: There are homesteads with farming buildings located within 2 miles of this site.

Table 8: Classifications Within the EHE *Types of Activities/Structures* Data Element		
Classification	**Description**	**Score**
Residential, educational, commercial, or subsistence	• Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or, within the MRS's boundary that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, play grounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	• Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or within the MRS's boundary that are associated with parks, nature preserves or other recreational uses.	4
Agricultural, forestry	• Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or within the MRS's boundary that are associated with agriculture or forestry.	3
Industrial or warehousing	• Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or within the MRS's boundary that are associated with industrial activities or warehousing.	2
No known or recurring activities	• There are no known or recurring activities occurring up to 2 miles from the MRS's boundary or within the MRS's boundary.	1

Notes:

- The term *inhabited structures* means permanent or temporary structures, other than Department munitions-related structures, that are routinely occupied by one or more persons for any portion of a day.

NARRATIVE/COMMENTS: The majority of the property is currently used for agricultural purposes. There are homesteads with farming buildings located within 2 miles of this site.

Table 9 Classifications Within the EHE *Ecological and/or Cultural Resources* Data Element		
Classification	**Description**	**Score**
Ecological and cultural resources present	• There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	• There are ecological resources present on the MRS.	3
Cultural resources present	• There are cultural resources present on the MRS.	3
No ecological or cultural resources present	• There are no ecological resources or cultural resources present on the MRS.	0

Notes:

- *Ecological resources* means that: (1) a threatened or endangered species (designated under the Endangered Species Act (ESA)) is present on the MRS; or (2) the MRS is designated under the ESA as critical habitat for a threatened or endangered species; or (3) there are identified sensitive ecosystems such as wetlands or breeding grounds present on the MRS.
- *Cultural resources* means there are recognized cultural, traditional, spiritual, religious, or historical features (e.g., structures, artifacts, symbolism) on the MRS. Requirements for determining if a particular feature is a cultural resource are found in the National Historic Preservation Act, Native American Graves Protection and Repatriation Act, Archeological Resources Protection Act, Executive Order 13007, and the American Indian Religious Freedom Act. For example, American Indians or Alaska Natives deem the MRS to be of religious significance or there are areas that are used by American Indians or Alaska Natives for subsistence activities (e.g., hunting, fishing).

NARRATIVE/COMMENTS: The U.S. Fish and Wildlife Service and Idaho Department of Fish and Game indicated that threatened or endangered species may inhabit on or near the site. The Northwest Archaeological Associates identified no culturally significant historic or archeological sites in the vicinity.

Table 10 Determining the EHE Rating from the EHE Module Score	
Overall EHE Module Score	**EHE Rating**
The MRS has an overall EHE module score from 92 to 100	EHE Rating A
The MRS has an overall EHE module score from 82 to 91	EHE Rating B
The MRS has an overall EHE module score from 71 to 81	EHE Rating C
The MRS has an overall EHE module score from 60 to 70	EHE Rating D
The MRS has an overall EHE module score from 48 to 59	EHE Rating E
The MRS has an overall EHE module score from 38 to 47	EHE Rating F
The MRS has an overall EHE module score less than 38	EHE Rating G

PART II – Chemical Warfare Material Hazard Evaluation Module

Table 11 Classifications Within the CHE *CWM Configuration* Data Element Classification	Description	Score
CWM, explosive configuration, either UXO or damaged DMM	The CWM known or suspected of being present at the MRS is: • Explosively configured CWM that are UXO (i.e., CWM/UXO) • Explosively configured CWM that are DMM that have been damaged (CWM/DMM)	30
CWM mixed with UXO	• The CWM known or suspected of being present at the MRS are CWM/DMM that are co-mingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are DMM (undamaged)	• The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM, not-explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS is: • Non-explosively configured CWM/DMM • Bulk CWM/DMM (e.g., ton container).	15
CAIS K941 and CAIS K942	• The CWM/DMM known or suspected of being present at the MRS is CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	• The CWM known or suspected of being present at the MRS are only CAIS/DMM. The CAIS present cannot include CAIS K941, toxic gas set M-1; and K942, toxic gas set M-2/E11 for the MRS to be assigned this rating.	10
Evidence of no CWM	• Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS	0

Notes:

- The notation *CWM/DMM* means CWM that are DMM.
- The term *CWM /UXO* means CWM that are UXO.
- *Historical evidence* means that the investigation: (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information.
- *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.

NARRATIVE/COMMENTS: The investigation team did not uncover evidence that the property used or stored CWM materials.

Table 12
Classifications Within the CHE *Sources of CWM* Data Element

Classification	Description	Score
Live-fire involving CWM	• The MRS is a former range that supported live-fire of explosively configured CWM and the CWM/UXO are known or suspected of being present on the surface or in the subsurface. • The MRS is a former range that supported live-fire with conventional munitions, and CWM/DMM are on the surface or in the subsurface co-mingled with conventional munitions that are UXO.	10
Damaged CWM/DMM or CAIS/DMM, surface or subsurface	• There are damaged CWM/DMM on the surface or in the subsurface at the MRS.	10
Undamaged CWM/DMM or CAIS/DMM, surface	• There are undamaged CWM/DMM on the surface at the MRS.	10
Undamaged CWM/DMM, or CAIS/DMM, subsurface	• There are undamaged CWM/DMM in the subsurface at the MRS.	5
Former Production Facilities of CWM or CAIS	• The MRS is a facility that formerly engaged in production of CWM, and there are CWM/DMM suspected of being present on the surface or in the subsurface.	3
Former Research, Development, Testing, and Evaluation (RDT&E) facility using CWM or CAIS	• The MRS is at a facility that formerly was involved in non-live fire RDT&E activities (including static testing) involving CWM, and there are CWM/DMM suspected of being present on the surface or in the subsurface.	3
Former Training Facility using CWM or CAIS	• The MRS is a location that formerly was involved in training activities involving CWM and/or CAIS (e.g., training in recognition of CWA, decontamination training) and CWM/DMM are suspected of being present on the surface or in the subsurface.	2
Former Storage or Transfer points of CWM	• The MRS is a former storage facility or transfer point (e.g., inter-modal transfer) for CWM.	1
Evidence of no CWM	• Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0

Table 12 Classifications Within the CHE *Sources of CWM* Data Element		
Classification	Description	Score

Notes:

- *The notation CWM/DMM means CWM that are DMM.*
- *The term CWM /UXO means CWM that are UXO.*
- *Historical evidence* means that the investigation: (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information.
- *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.
- *In the subsurface* means the CWM (i.e., a DMM or UXO) is (1) entirely beneath the ground surface, or (2) fully submerged in a water body.
- *On the surface* means the CWM (i.e., a DMM or UXO) is: (1) entirely or partially exposed above the ground surface (i.e., above the soil layer), or (2) entirely or partially exposed above the surface of a water body (e.g., as a result of tidal activity).

NARRATIVE/COMMENTS: The investigation team did not uncover evidence that the property used or stored CWM materials.

Table 13 Classifications Within the CHE *Information on the Location of CWM* Data Element		
Classification	Description	Score
Confirmed surface	• Physical evidence indicates there are CWM on the surface of the MRS • Historical evidence (e.g., a confirmed incident report or accident report) indicates there are CWM on the surface of the MRS.	25
Confirmed subsurface, active	• Physical evidence indicates the presence of CWM in the subsurface of the MRS and the geological conditions at the MRS are likely to cause CWM to be exposed in the future by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or there are on-going intrusive activities (e.g., plowing, construction, dredging) at the MRS that are likely to expose CWM. • Historical evidence indicates that CWM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause CWM to be exposed in the future by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or there are on-going intrusive activities (e.g., plowing, construction, dredging) at the MRS that are likely to expose CWM.	20
Confirmed subsurface, stable	• Physical evidence indicates the presence of CWM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause CWM to be exposed in the future by naturally occurring phenomena, or there are no intrusive activities occurring at the MRS that are likely to either occur, or if the activities do occur, are likely to cause CWM to be exposed. • Historical evidence indicates that CWM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause CWM to be exposed in the future by naturally occurring phenomena, or there are no intrusive activities occurring at the MRS that are likely to either occur, or if the activities do occur, are likely to cause CWM to be exposed.	15

Table 13
Classifications Within the CHE *Information on the Location of CWM* Data Element

Classification	Description	Score
Suspected (physical evidence)	• There is physical evidence other than the documented presence of CWM, indicating that CWM may be present at the MRS.	10
Suspected (historical evidence)	• There is historical evidence indicating that CWM may be present at the MRS.	5
Subsurface, physical constraint	• There is physical or historical evidence indicating the CWM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the CWM.	2
Evidence of no CWM	• Following investigation of the MRS, there is physical evidence there is no CWM present or there is historical evidence indicating that no CWM are present.	0

Notes:

- *Historical evidence* means that the investigation: (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information.
- *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.
- *In the subsurface* means the CWM (i.e., a DMM or UXO) is (1) entirely beneath the ground surface, or (2) fully submerged in a water body.
- *On the surface* means the CWM (i.e., a DMM or UXO) is (1) entirely or partially exposed above the ground surface (i.e., above the soil layer), or (2) entirely or partially exposed above the surface of a water body (e.g., as a result of tidal activity).
- The term *small arms* am*munition* means ammunition that is .50 caliber or below, or for shotgun shells.

NARRATIVE/COMMENTS: The investigation team did not find any physical evidence or clear historical evidence confirming CWM presence on the property.

Table 14 Classifications Within the CHE *Ease of Access* Data Element		
Classification	**Description**	**Score**
No barrier	• There is no barrier preventing access to all parts of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	• There is a barrier preventing access to parts of the MRS but not the entire MRS.	8
Barrier to MRS access is complete, but not monitored	• There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	• There is a barrier preventing access to all parts of the MRS, and there is active continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
Notes: • *Barrier* means a natural obstacle or obstacles (e.g., difficult terrain, dense vegetation, deep or fast moving water), a man-made obstacle or obstacles (e.g., fencing), or a combination of natural and man-made obstacles.		

NARRATIVE/COMMENTS: This remote site has cattle fences/guards which inhibit access, but do not prevent access to entire property.

Table 15 Classifications Within the CHE *Status of Property* Data Element		
Classification	**Description**	**Score**
Non-DoD control	• The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by the Department. Examples are privately owned land or water bodies, land or water bodies owned or controlled by American Indian or Alaskan Native Tribes, or State or local governments, and lands or water bodies managed by other Federal agencies.	5
Scheduled for transfer from DoD control	• The MRS is on land or is a water body that is owned, leased, or otherwise possessed by the Department, and the Department plans to transfer that land or water body to control of another entity (e.g., a State, American Indian, Alaskan Native, or local government; a private party; another Federal agency) within 3 years from the date the rule is applied.	3
DoD control	• The MRS is on land or is a water body that is owned, leased, or otherwise possessed by the. With respect to property that is leased or otherwise possessed, the Department controls access to the property 24-hours per day, every day of the calendar year.	0

NARRATIVE/COMMENTS: Two hundred forty (240) acres remain under the jurisdiction of the Department of Interior, Bureau of Land Management. The remaining land is under private ownership.

Table 16 Classifications Within the CHE *Population Density* Data Element		
Classification	**Definition**	**Score**
> 500 persons per square mile	There are more than 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	5
100- 500 persons per square mile	There are 100 to 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	3
< 100 persons per square mile	There are fewer than 100 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	1

Notes:
- If an MRS is in more that one county, the Department Component will use the largest population value among the counties. If the MRS is within or borders a city or town, the population density for the city or town instead of the county population density is used.

NARRATIVE/COMMENTS: According to US Census Data from the year 2000, there are 2 people per square mile living in Owyhee County, ID.

Table 17 Classifications Within the CHE *Population Near Hazard* Data Element		
Classification	**Description**	**Score**
26 or more structures	• There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25	• There are 16 - 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15	• There are 11 - 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10	• There are 6 - 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5	• There are 1 - 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0	• There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0

Notes:
- The term *inhabited structures* means permanent or temporary structures, other than Department munitions-related structures, that are routinely occupied by one or more persons for any portion of a day.

NARRATIVE/COMMENTS: There are homesteads with farming buildings located within 2 miles of this site.

Table 18
Classifications Within the CHE *Types of Activities/Structures* Data Element

Classification	Description	Score
Residential, educational, commercial, or subsistence	• Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or within the MRS's boundary that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, play grounds, community gathering areas, religious sites or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	• Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or within the MRS's boundary that are associated with parks, nature preserves or other recreational uses.	4
Agricultural, forestry	• Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary, within the MRS's boundary that are associated with agriculture or forestry.	3
Industrial or warehousing	• Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary, within the MRS's boundary that are associated with industrial activities or warehousing.	2
No known or recurring activities	• There are no known of recurring activities occurring up to 2 miles from the MRS's boundary or within the MRS's boundary.	1

Notes:

- The term *inhabited structures* means permanent or temporary structures, other than Department munitions-related structures, that are routinely occupied by one or more persons for any portion of a day.

NARRATIVE/COMMENTS: The majority of the property is currently used for agricultural purposes. There are homesteads with farming buildings located within 2 miles of this site.

Table 19
Classifications Within the CHE *Ecological and/or Cultural Resources* Data Element

Classification	Description	Score
Ecological and cultural resources present	• There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	• There are ecological resources present on the MRS.	3
Cultural resources present	• There are cultural resources present on the MRS.	3
No ecological or cultural resources present	• There are no ecological resources or cultural resources present on the MRS.	0

Notes:

- *Ecological resources* means that: (1) a threatened or endangered species (designated under the Endangered Species Act (ESA)) is present on the MRS; or (2) the MRS is designated under the ESA as critical habitat for a threatened or endangered species; or (3) there are identified sensitive ecosystems such as wetlands or breeding grounds present on the MRS.
- *Cultural resources* means there are recognized cultural, spiritual, traditional, religious, or historical features (e.g., structures, artifacts, symbolism) on the MRS. Requirements for determining if a particular feature is a cultural resource are found in the National Historic Preservation Act, Native American Graves Protection and Repatriation Act, Archeological Resources Protection Act, Executive Order 13007, and the American Indian Religious Freedom Act. For example, American Indians or Alaska Natives deem the MRS to be of spiritual significance or there are areas that are used by American Indians or Alaska Natives for subsistence activities (e.g., hunting, fishing).

NARRATIVE/COMMENTS: The U.S. Fish and Wildlife Service and Idaho Department of Fish and Game indicated that threatened or endangered species may inhabit on or near the site. Likewise, the Northwest Archaeological Associates identified no culturally significant historic or archeological sites in the vicinity.

Table 20
Determining the CHE Rating from the CHE Module Score

Overall CHE Module Score	CHE Rating
The MRS has an overall CHE module score from 92 to 100	CHE Rating A
The MRS has an overall CHE module score from 82 to 91	CHE Rating B
The MRS has an overall CHE module score from 71 to 81	CHE Rating C
The MRS has an overall CHE module score from 60 to 70	CHE Rating D
The MRS has an overall CHE module score from 48 to 59	CHE Rating E
The MRS has an overall CHE module score from 38 to 47	CHE Rating F
The MRS has an overall CHE module score less than 38	CHE Rating G

PART III – Health Hazard Evaluation Module

Table 21 Health Hazard Evaluation Module Rating					
Contaminant Hazard Factor		**Receptor Factor**		**Migration Pathway Factor**	
Significant	High (H)	Identified	High (H)	Evident	High (H)
Moderate	Middle (M)	Potential	Middle (M)	Potential	Middle (M)
Minimal	Low (L)	Limited	Low (L)	Confined	Low (L)

NARRATIVE/COMMENTS: The HHE module requires results from quantitative sampling data, which has not occurred at the Preliminary Assessment point of the CERCLA process. Therefore this table was not scored.

Table 22 Health Hazard Evaluation Module Rating				
Contaminant Hazard Factor	Receptor Factor	Migration Pathway		
		Evident	Potential	Confined
Significant	Identified	HHH	HHM	HHL
	Potential	HHM	HMM	HML
	Limited	HHL	HML	HLL
Moderate	Identified	HHM	HMM	HML
	Potential	HMM	MMM	MML
	Limited	HML	MML	MLL
Minimal	Identified	HHL	HML	HLL
	Potential	HML	MML	MLL
	Limited	HLL	MLL	LLL

NARRATIVE/COMMENTS: The HHE module requires results from quantitative sampling data, which has not occurred at the Preliminary Assessment point of the CERCLA process. Therefore this table was not scored.

Table 23 Health Hazard Evaluation Module		
Combination	**Frequency**	**Category**
HHH	1	A
HHM	3	B
HHL	3	C
HMM	3	
HML	6	D
MMM	1	
HLL	3	E
MML	3	
MLL	3	F
LLL	1	G

NARRATIVE/COMMENTS: The HHE module requires results from quantitative sampling data, which has not occurred at the Preliminary Assessment point of the CERCLA process. Therefore this table was not scored.

Table 24 Health Hazard Evaluation Module Rating				
Contaminant Hazard Factor	Receptor Factor	Migration Pathway		
		Evident	Potential	Confined
Significant	Identified	A	B	C
	Potential	B	C	D
	Limited	C	D	E
Moderate	Identified	B	C	D
	Potential	C	D	E
	Limited	D	E	F
Minimal	Identified	C	D	E
	Potential	D	E	F
	Limited	E	F	G

NARRATIVE/COMMENTS: The HHE module requires results from quantitative sampling data, which has not occurred at the Preliminary Assessment point of the CERCLA process. Therefore this table was not scored.

PART IV – Munitions Response Site Priority

Table 25
MRS Priority Based on Highest Hazard Evaluation Module Rating

EHE Module Rating	Priority	CHE Module Rating	Priority	HHE Module Rating	Priority
Hazard Evaluation A (Highest)	2	Hazard Evaluation A (Highest)	1	Hazard Evaluation A (Highest)	2
Hazard Evaluation B	3	Hazard Evaluation B	2	Hazard Evaluation B	3
Hazard Evaluation C	4	Hazard Evaluation C	3	Hazard Evaluation C	4
Hazard Evaluation D	5	Hazard Evaluation D	4	Hazard Evaluation D	5
Hazard Evaluation E	6	Hazard Evaluation E	5	Hazard Evaluation E	6
Hazard Evaluation F	7	Hazard Evaluation F	6	Hazard Evaluation F	7
Hazard Evaluation G (Lowest)	8	Hazard Evaluation G (Lowest)	7	Hazard Evaluation G (Lowest)	8
No Longer Required		No Longer Required		No Longer Required	
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected HHE Hazard	

NARRATIVE/COMMENTS: Completion of Part I - Explosive Hazard Evaluation Module resulted in a Hazard Evaluation **C** or **4**. Completion of Part II – Chemical Warfare Material Hazard Evaluation Module resulted in a Hazard Evaluation G or **7**. The evaluation of HHE module (Part III Health Hazard Evaluation) is pending and was not scored. This results in an overall MRS Priority of **4** for Bruneau Precision Bombing Range No. 2.

ACKNOWLEDGEMENTS

ACKNOWLEDGEMENTS

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1.0 INTRODUCTION

1.1 AUTHORITY

Completion of this investigation on the former Bruneau Precision Bombing Range No. 2 supports several Federal laws and rules, Department of Defense (DoD) Directives and Standards, and Army Regulations as outlined in the subsequent sub-paragraphs.

1.1.1 LAWS

In 1980, Congress enacted the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly known as Superfund, to respond to threats posed by uncontrolled releases of hazardous substances into the environment. This statute, amended in 1986 by the Superfund Amendments & Reauthorization Act (SARA), establishes the process for undertaking remedial actions at inactive waste sites containing hazardous substances, as well as reporting requirements for releases of hazardous substances.

In 1986, Congress established the Defense Environmental Restoration Program (DERP) at 10 United State Code (USC) 2701 et seq. This program directed the Secretary of Defense to "carry out a program of environmental restoration at facilities under the jurisdiction of the Secretary." In March 1990, the Environmental Protection Agency (EPA) issued a revised National Contingency Plan (NCP). Under 40 Code of Federal Regulations (CFR) 300.120, which designates DoD to be the removal response authority for incidents involving DoD military weapons and munitions under the jurisdiction, custody and control of DoD.

1.1.2 MILITARY MUNITIONS RESPONSE PROGRAM

The Senate Committee on Armed Services of the 106th Congress, 1st Session wrote Senate Report 106-50, available @ http://thomas.loc.gov/cgi-bin/cpquery/z?cp106:sr050:, which directed the DoD to determine the Unexploded Ordnance (UXO) liability costs at all military ranges and provide a report to Congress. As a result, the Army issued a data call to inventory all military ranges, generally referred to as the Advanced Range Survey (ARS). The DoD submitted the initial report reflecting the results of the ARS on 21 May 2001, to Congress.

In September 2001, the DoD established the Military Munitions Response Program (MMRP) within the DERP in recognition of the requirements and the complexity posed at MMRP sites. In addition to defining the requirements for responses at its MMRP sites, DoD established a requirement to identify, through an inventory, all locations other than operational ranges requiring a military munitions response. This investigation supports this program and the information gathered will confirm and/or append the earlier inventory.

1.1.3 2004 Draft DoD Directive Military Munitions Policy at Other than Operational Ranges (4715.MRP)

As of the writing of this report, the DoD is drafting a policy directive in lieu of the withdrawn DoD proposed range rule. The phrase "Other than Operational Ranges" replaces the previous definitions for Closed, Transferring, or Transferred ranges. The planned policy will direct the Service Components to conduct munitions responses in accordance with CERCLA and the NCP. The policy is expected to be finalized in Fiscal Year 2004.

1.1.4 Compensation and Liability Act (CERCLA) Preliminary Assessment

Since the beginning of DERP, the U.S. Army Corps of Engineers has acted as the agency responsible for environmental restoration at Formerly Used Defense Sites (FUDS). Beginning in 1990, the U.S. Army Engineering and Support Center, Huntsville (USAESCH) has served as the Center of Expertise (CX) and Design Center for Ordnance and Explosives (OE). In cooperation with the USAESCH, the U.S. Army Corps of Engineers, St. Louis District (CEMVS), began preparing Archive Search Reports (ASRs) in 1992 in support of environmental restoration at active DoD installations, Formerly Used Defense Sites (FUDS), and installation transitions under Base Realignment and Closure (BRAC) recommendations. In May 2004, Corps of Engineers guidance dictated slight modification and expansion of the ASR format to clearly meet requirements of the CERLA process. As such, the historical records research and analysis reports became MMRP Preliminary Assessments (PA), including a pathway and environmental hazard assessment.

1.2 Subject

Bruneau Precision Bombing Range No. 2 and **Mountain Home Air Force Range No. 2** are the same property. Historical documents (i.e., textual documents, maps, etc.) obtained from the archives interchange one or the other property name within the text. The 1988 Inventory Project Report (INPR) lists this property as "Mountain Home Air Force Range No. 2" and the Formerly Used Defense Site Management Information System (FUDSMIS) database lists this property as "Bruneau Precision Bombing Range No. 2".

This CERCLA Preliminary Assessment will use "Bruneau Precision Bombing Range No. 2" for all references.

The former Bruneau Precision Bombing Range No. 2 consisted of 2,552.20 acres located 7 miles southwest of Bruneau, Idaho, in Sections 2 and 3 of Township 7 South, Range 4 East and Sections 34 and 35 of Township 6 South, Range 4 East.

Bruneau Precision Bombing Range No. 2 was authorized for acquisition on 23 June 1943 and Public Land Order 172, dated 27 September 1943, officially withdrew the land for use as a precision bombing range. The property was declared excess to the needs of the Air Force according to a Headquarters 9th Air Base Group letter to the Commander, 15th Air Force, dated 24 November 1953. Bruneau Precision Bombing Range No. 2 acreage was relinquished to the Department of the Interior, Bureau of Land Management on 25 November 1955, and retransferred to the Department of the Interior by Public Land Order 1898, dated 13 July 1959.

1.3 PURPOSE

This CERCLA PA compiles information obtained through historical research at various archives and records holding facilities, interviews with individuals associated with the site or its operations, and personal visits to the site. All efforts are directed towards determining Historic Military Munitions usage at FUDS properties, including the Military Munition Range(s) (MMR), the types of munitions used at the site, possible disposal areas, and any unknown training areas. Information obtained during this process can be used to evaluate the risk of Munitions and Explosives of Concern (MEC) and/or Recovered Chemical Warfare Material (RCWM) presence, and develop the appropriate Summary, Conclusions and Recommendations for further environmental removal and/or remedial action.

1.4 SCOPE

This investigation concentrated on the potential that MEC/RCWM could remain on the former Bruneau Precision Bombing Range No. 2 from the training activities occurring during the WW II era. The PA presents and discusses the findings of historical research and other tasks directed towards establishing the site Military Munitions Usage. The report includes the history site summary, a site description, characterization of the immediate surrounding areas, real estate ownership information, findings of a visual site survey, a pathway and environmental hazard assessment, and the evaluation of MEC/RCWM presence.

2.0 PREVIOUS INVESTIGATIONS

2.1 CORPS OF ENGINEERS INVESTIGATIONS

DERP-FUDS INVENTORY PROJECT REPORT (INPR)

The initial Inventory Project Report (INPR) for Bruneau Precision Bombing Range No. 2 (aka Mountain Home Air Force Range No. 2), Project Number F10ID014100, was completed by Walla Walla District in November 1988. The 1988 INPR was reevaluated in accordance with current policy by U.S. Army Engineering and Support Center, Huntsville (USAESCH) and completed on 18 August 2003. Based upon historical documentation, historical aerial photography and a property visit conducted on 24 August 2004, a possibility exists of hazardous/toxic waste at the site that is eligible for cleanup under DERP-FUDS. The potential categories of hazardous waste were identified as Ordnance and Explosives (OE). A copy of the 2004 and 1988 INPR are furnished as APPENDIX F-1 and APPENDIX F-2.

2.2 OTHER INVESTIGATIONS

There are no other reports related to the possibility of military Munitions and Explosives of Concern (MEC), or previously, Ordnance and Explosives (OE) hazards remaining at Bruneau Precision Bombing Range No. 2.

3.0 PROPERTY DESCRIPTION

3.1 LOCATION

The former Bruneau Precision Bombing Range No. 2 consisted of 2,552.20 acres located 7 miles southwest of Bruneau, Idaho and 22 miles southwest of Mountain Home Air Force Base, Idaho.

3.2 PRIOR LAND USE

Prior to DoD usage, the Bruneau Precision Bombing Range No. 2 consisted of undeveloped rangeland belonging to the Department of Interior.

3.3 EXISTING LAND USE AND OWNERSHIP

Most of the usable land has been conveyed to private ownership through the Desert Land Act. Two hundred forty (240) acres remain under the control of the Department of Interior, Bureau of Land Management. The majority of the land is used for agricultural purposes. (USACE INPR 2003; Nettleton 1988).

3.4 CLIMATIC DATA

Information from the weather service station located at Mountain Home Air Force Base, Idaho (located approximately 10 miles northeast of the site) provided the closest climatological data. Data recorded at this office is given in TABLE 3.4.1.

The property is located in the Snake River Plain approximately 4-miles south of the Strike Reservoir on the Snake River. Elevation at the site ranges from 2,700 feet in the southeast corner to 2,800 feet in the northwest corner. A desert composed of sand, lava rock and craters extends to the west and to the east. Agriculture, which is practiced extensively in the Snake River Valley, depends upon irrigation for all crops due to insufficient rainfall during the growing season.

Except in autumn, the main feature of the climate is its variety. In winter there are frequent periods of persistent southwest wind, with a resulting mildness that matches the winters of the north Pacific Coast. There are also periods of several days when the temperature stays below freezing and approaches or falls below zero.

During cold periods, precipitation falling as snow occasionally accumulates to a depth of a foot or more. Cloudy and unsettled weather prevails throughout the winter, with measurable amounts of precipitation on about one-third of the days.

In the spring there is a gradual warming. Normally, spring months are the wettest and windiest. Winds of 20 to 30 mph for days at a time are common.

The summer season begins with a relatively sudden break in the disagreeable spring weather. Home heating, usually discontinued about the first of June, is sometimes needed intermittently until the first part of July. Suitable weather for outside evening activities is very uncertain during June, even though the afternoons may be mild. As night falls, the temperature often drops rapidly into the 40s, accompanied by a chilling wind from snows remaining on the nearby mountains. During the summer, precipitation usually falls as local showers, often accompanied by light to moderate thunderstorms and occasionally by hail. Damage by excessive precipitation, lightning, high winds, or hail is uncommon and quite localized. Long periods of extremely hot weather in July and August are also uncommon. Although afternoon temperatures may run into the 90s, nights are usually cool.

Exceptionally fine weather predominates during the autumn season. The sudden summer showers are gradually replaced by short periods of cloudy and unsettled weather with more general rains. Continuous home heating is not needed until mid-October. Evenings during September are ideal for outdoor activities, and pleasant afternoons are the rule until toward the end of November. The first cold wave may appear during late November but usually not until late December.

TABLE 3.4.1
CLIMATOLOGICAL DATA FOR MOUNTAIN HOME AFB, IDAHO

Month	Temperature		Precipitation	Wind	
	Mean Minimum (°F)	Mean Maximum (°F)	Mean (inches)	Mean Speed (knots)	Prevailing Direction
January	22	36	1.0	10	ESE
February	26	44	0.8	10	ESE
March	32	54	0.9	10	ESE
April	38	64	0.7	11	NW
May	45	72	0.7	11	NW
June	52	83	0.8	9	NW
July	59	93	0.3	8	NW
August	58	91	0.3	7	NW
September	49	81	0.5	8	NW
October	39	68	0.5	9	NW
November	30	49	1.0	9	ESE
December	23	38	0.9	10	ESE
Mean	39	64	8.4	9	NW

(FEDERAL CLIMATE COMPLEX ASHEVILLE, NC, 2000)

3.5 TOPOGRAPHY

The primary topography of the Bruneau site is flat with gorges and gullies. The site surface does slope to the east and southeast, but only falls about 100 feet in 2 miles.

3.6 GEOLOGY AND SOILS

3.6.1 GEOLOGY AND PHYSIOLOGY

The former Bruneau Precision Bombing Range No. 2 is located in the Malheur-Boise section of the High Lava Plains subprovince in the Columbia Intermontane physiographic province. The High Lava Plain subprovince is a crescent-shaped belt, convex to the south, that extends from the Teton Mountains on the east to the Cascade Mountains on the west. The lavas of the High Plain are younger than those of surrounding areas. Although the Malheur-Boise section has seen considerable erosion and dissection, the extent of the modification is less than that of the northern and southern lava sections. The lavas are less veneered with the terrestrial sediments than the more eroded lavas. The lavas here are also more commonly mixed with fluviatile and lacustrine sediments.

Of the three sections of the High Lava Plains the Malheur-Boise section is the lowest in altitude. This section is considerably more dissected than the other two sections. There are more lacustrine and fluviatile sediments interbedded in the lavas. This interbedding of weak and strong beds is largely responsible for the more advanced stream dissection. Plain-like expanses do exist, but they are the exception, not the rule. Numerous mesa-like tracts occur where Quaternary basalts cap the lacustrine sediments (Thornbury 1965).

Typically, unconsolidated deposits along stream valleys consist of sand and gravel that form productive aquifers. The thickness of the deposits along present stream valleys commonly is less than 250 feet.

3.6.2 SOILS

In the simplest terms, the primary soil of the Bruneau site consists of a sand-silt/sand-clay mixture. These types of soils are typically found on fan terraces and in foothills. In a representative profile, the soil has a surface layer of 8 inches of brown silty sandy clay. The subsurface is 5 inches of pale brown fine silty sandy clay. The substratum is 23 inches of pale brown silty sandy clay. From 36 to over 60 inches deep, the soil is light brownish gray silty sandy clay.

The soil is very deep and well drained. The runoff is slow to medium, the permeability is moderately rapid, and the available water capacity is high. The hazard of water erosion is slight and wind erosion is high. The potential for frost development in the soil extends to a depth of 24 inches in the site area.

3.7 HYDROLOGY

3.7.1 SURFACE WATER

The site is centered over Halfway Gulch and runoff from the gulch flows generally east into Little Valley which is orientated southwest to northeast. From here runoff empties into Jacks Creek which flows southwest to northeast through Little Valley then empties into the Bruneau River just southeast of the Strike Reservoir – Bruneau Arm. The nearest gaging station is on the Bruneau River near Grand View, Idaho. Data from this gaging station is included below in TABLE 3.7.1.

TABLE 3.7.1
Owyhee County, Idaho
Hydrologic Unit Code 17050101
Latitude 42°56'00", Longitude 115°57'00" NAD27
Drainage area 2,650.00 square miles
Contributing drainage area 2,650 square miles
Gage datum 2,372.30 feet above sea level NGVD29

Year	Annual mean streamflow, in ft^3/s	Year	Annual mean streamflow, in ft^3/s	Year	Annual mean streamflow, in ft^3/s
1895	199	1911	398	1945	463
1896	412	1913	332	1946	311
1899	556	1914	458	1947	193
1910	594	1915	224	1948	238

3.7.2 GROUND WATER

The Bruneau site is underlain by discontinuous volcanic- and sedimentary-rock aquifers. These aquifers are composed of a variety of volcanic and sedimentary rocks. These aquifers are not as productive as the unconsolidated-deposit or basaltic rock aquifers of the surrounding areas. Volcanic- and sedimentary-rock aquifers generally yield freshwater but may yield saltwater locally. The volcanic rocks that comprise the aquifers consist of silicic volcanic rocks in southern Idaho. The sedimentary rocks consist primarily of semiconsolidated sand and gravel eroded from volcanic rocks.

The permeability of the various rocks that compose the aquifer is extremely variable. Interflow zones and faults of basaltic lava flows; fractures of tuffaceous, welded silicic volcanic rocks; and interstices in coarse ash, sand and gravel mostly yield less than 100 gallons per minute. Where major faults are present, the rocks commonly contain

geothermal water under confined conditions. As is the case in the Mountain Home site area, the hydrogeologic characteristics of the specific aquifers underlying the site are unknown because there is little demand for groundwater.

The depth to groundwater in the site vicinity is typically 300 to 500 feet below the surface. The water in the aquifers tends to flow north towards the Snake River. The water is generally of good enough quality to be used for all purposes. It is unknown whether there is any contamination from the residue of munitions left on the site.

There are several wells that flow at the ground surface directly to the east of the site. These wells are drilled into aquifers where the potentiometric surface is greater than the land surface.

3.8 NATURAL RESOURCES

The information provided for this site has been compiled from the U.S. Fish and Wildlife Service (USFWS) and Idaho Department of Fish and Game (IDFG) data.

The project area is located in Sections 2 and 3, Township 7 South, Range 4 East and Sections 34 and 35, Township 6 South, Range 4 East in Owyhee County. The USFWS has indicated that the bald eagle may nest or winter in the area of the project site. The IDFG Conservation Data Center has three records mapped for this general area (within one mile of the project site) and indicates that three state species may occur near project area.

TABLE 3.8.1

GROUP	FEDERAL	STATE	COMMON NAME	SCIENTIFIC NAME
	T		BALD EAGLE	*HALIAEETUS LEUCOCEPHALUS*
		P	FERRUGINOUS HAWK	*BUTEO REGALIS*
		U	WOODHOUSE'S TOAD	*BUFO WOODHOUSII*
		SC	GROUNDSNAKE	*SONORA SEMIANNULATA*

FEDERAL STATUS: E – ENDANGERED, T – THREATENED, C – CANDIDATE
STATE STATUS: SC – SPECIES OF CONCERN; P - PROTECTED NON-GAME SPECIES;
U – UNPROTECTED NON-GAME SPECIES

Federally endangered and threatened species are protected by Federal law and must be considered prior to project development. If it is determined that the proposed project may affect a federally listed or proposed species or critical habitat, the lead Federal Agency should initiate consultation with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Informal consultation may be used to exchange information and resolve conflicts with respect to listed species prior to a written request for formal consultation. Federal agencies are required to confer with the U.S. Fish and Wildlife Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued

existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)).

Candidate species are those species presently under review by the U.S. Fish and Wildlife Service for consideration for federal listing. Candidate species should be considered in the planning process in the event that they become listed or proposed for listing prior to project completion. Candidate species receive no statutory protection under the ESA; however, if early evaluation of the project indicates that it is likely to affect a candidate species, technical assistance should be requested from the U.S. Fish and Wildlife Service.

Species of concern are taxa for which further biological research and field study are needed to resolve their conservation status or are considered sensitive, rare, or declining on lists maintained by Natural Heritage Programs, State wildlife agencies, other Federal agencies, or professional/academic scientific societies. Species of concern are included for planning purposes only.

No additional information on the occurrence of rare or endangered species or natural communities within the area of interest is known at this time. This does not mean that other State or Federally listed species may not be present. An on-site inspection by a biologist familiar with the project site and with the species listed is recommended to verify the presence, absence, or location of listed species or natural communities, and to definitively assess the potential for direct, indirect, and cumulative effects likely to result if remedial action is recommended as part of the final PA.

3.9 HISTORICAL/CULTURAL RESOURCES AND DEMOGRAPHICS

3.9.1 HISTORICAL AND CULTURAL RESOURCES

Northwest Archaeological Associates, Inc. was contacted regarding known culturally significant historic or archeological sites near Bruneau Precision Bombing Range No. 2. At the time of the writing of this Preliminary Assessment, there are no significant historic or archeological sites in the vicinity (Northwest Archaeological Associates, Inc. 2004).

3.9.2 DEMOGRAPHICS

OWYHEE COUNTY, IDAHO

PEOPLE QUICKFACTS	OWYHEE COUNTY	IDAHO
Population, 2003 estimate	11,186	1,366,332
Population, percent change, April 1, 2000 to July 1, 2003	5.1%	5.6%
Population, 2000	10,644	1,293,953
Population, percent change, 1990 to 2000	26.8%	28.5%

PEOPLE QUICKFACTS	OWYHEE COUNTY	IDAHO
Persons under 5 years old, percent, 2000	7.8%	7.5%
Persons under 18 years old, percent, 2000	31.9%	28.5%
Persons 65 years old and over, percent, 2000	12.1%	11.3%
Female persons, percent, 2000	47.8%	49.9%
White persons, percent, 2000 (a)	76.9%	91.0%
Black or African American persons, percent, 2000 (a)	0.2%	0.4%
American Indian and Alaska Native persons, percent, 2000 (a)	3.2%	1.4%
Asian persons, percent, 2000 (a)	0.5%	0.9%
Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	0.1%	0.1%
Persons reporting some other race, percent, 2000 (a)	16.5%	4.2%
Persons reporting two or more races, percent, 2000	2.7%	2.0%
Persons of Hispanic or Latino origin, percent, 2000 (b)	23.1%	7.9%
White persons, not of Hispanic/Latino origin, percent, 2000	71.7%	88.0%
Living in same house in 1995 and 2000', pct age 5+, 2000	51.4%	49.6%
Foreign born persons, percent, 2000	11.9%	5.0%
Language other than English spoken at home, pct age 5+, 2000	23.0%	9.3%
High school graduates, percent of persons age 25+, 2000	67.6%	84.7%
Bachelor's degree or higher, pct of persons age 25+, 2000	10.2%	21.7%
Persons with a disability, age 5+, 2000	2,053	200,498
Mean travel time to work (minutes), workers age 16+, 2000	25.6	20.0
Housing units, 2002	4,555	552,117
Homeownership rate, 2000	69.6%	72.4%
Housing units in multi-unit structures, percent, 2000	4.0%	14.4%
Median value of owner-occupied housing units, 2000	$82,500	$106,300
Households, 2000	3,710	469,645
Persons per household, 2000	2.85	2.69
Median household income, 1999	$28,339	$37,572
Per capita money income, 1999	$13,405	$17,841
Persons below poverty, percent, 1999	16.9%	11.8%

BUSINESS QUICKFACTS	OWYHEE COUNTY	IDAHO
Private nonfarm establishments with paid employees, 2001	151	37,622
Private nonfarm employment, 2001	1,523	467,316
Private nonfarm employment, percent change 2000-2001	4.2%	3.7%
Nonemployer establishments, 2000	504	84,378
Manufacturers shipments, 1997 ($1000)	225,164	16,952,872
Retail sales, 1997 ($1000)	31,571	11,649,609
Retail sales per capita, 1997	$3,126	$9,623
Minority-owned firms, percent of total, 1997	F	4.7%
Women-owned firms, percent of total, 1997	F	23.5%
Housing units authorized by building permits, 2002	44	13,488
Federal funds and grants, 2002 ($1000)	46,436	8,377,844

GEOGRAPHY QUICKFACTS	OWYHEE COUNTY	IDAHO
Land area, 2000 (square miles)	7,678	82,747
Persons per square mile, 2000	1.4	15.6
Metropolitan Area	None	
FIPS Code	073	16

(A) INCLUDES PERSONS REPORTING ONLY ONE RACE.
(B) HISPANICS MAY BE OF ANY RACE, SO ALSO ARE INCLUDED IN APPLICABLE RACE CATEGORIES.

FN: FOOTNOTE ON THIS ITEM FOR THIS AREA IN PLACE OF DATA
NA: NOT AVAILABLE
D: SUPPRESSED TO AVOID DISCLOSURE OF CONFIDENTIAL INFORMATION
X: NOT APPLICABLE
S: SUPPRESSED; DOES NOT MEET PUBLICATION STANDARDS
Z: VALUE GREATER THAN ZERO BUT LESS THAN HALF UNIT OF MEASURE SHOWN
F: FEWER THAN 100 FIRMS (U.S. CENSUS DATA)

4.0 HISTORICAL PROPERTY SUMMARY

Bruneau Precision Bombing Range No. 2 and Mountain Home Air Force Range No. 2 are the same property. Historical documents (i.e., textual documents, maps, etc.) obtained from the archives interchange one or the other property name within the text. The 1988 Inventory Project Report (INPR) lists this property as "Mountain Home Air Force Range No. 2" and the Formerly Used Defense Site Management Information System (FUDSMIS) database lists this property as "Bruneau Precision Bombing Range No. 2".

4.1 CHRONOLOGICAL PROPERTY SUMMARY

The Army Air Corps started construction of Mountain Home Army Airfield on 30 November 1942 and completed construction in August 1943. Various Bombardment Groups such as the 467th, 490th and the 494th trained at the field during the remainder of World War II (Mountain Home Army Airfield, Idaho 1942, 1943, 1944a, 1944b, 1944c).

The War Department indicated a necessity for the precision bombing range property on 23 June 1943 and acquired the land from the Department of Interior by Public Land Order 172, dated 27 September 1943 for use as the Mountain Home Precision Bombing Range No. 2 (War Department 1943; Federal Register Public Land Order 172, 1943; War Department O.C.E., 1959a (map-see APPENDIX H-1)).

Mountain Home Army Airfield became a sub base of Walla Walla Army Airfield and then Petersen Field, Colorado in 1946. After creation of the U.S. Air Force in 1947, the range became known as Mountain Home Air Force Range No. 2. A memorandum dated 24 February 1947 lists Bruneau Precision Bombing Range No. 2 (aka Mountain Home Air Force Range No. 2) not in current use, and no immediate future use was foreseen. A letter dated 27 October 1952 to the Secretary of the Air Force reported that these lands were needed for an indefinite period beyond 28 October 1952, which was the termination of the unlimited national emergency (Department of Interior 1952).

The property was declared excess to the needs of the Air Force according to a Headquarters 9th Air Base Group letter to the Commander, 15th Air Force, dated 24 November 1953. Bruneau Precision Bombing Range No. 2 acreage was relinquished to the Department of the Interior, Bureau of Land Management on 25 November 1955, and retransferred to the Department of the Interior by Public Land Order 1898, dated 13 July 1959 (200th Army Air Forces Base Unit (PETERSEN FIELD, COLORADO SPRINGS, COLORADO) 1946; Walla Walla Army Airfield, Washington 1946; 200th Army Air Forces Base Unit, Mountain Home Army Airfield 1947; 9th Bombardment Wing 1953a; War Department O.C.E. 1959-see APPENDIX H-1 and H-2).

4.2 HISTORIC MILITARY MUNITIONS USAGE

4.2.1 SUMMARY OF MEC ACTIVITIES

Historical maps designate this range as the Mountain Home Air Force Range No. 2. After acquisition, the previously mentioned Bombardment Groups were allowed to practice bomb this range. Aerial photography indicates the bombing range had a target center consisting of concentric circles, with each circle approximately 200 feet diameter larger than the previous circle, out to the final 1,000-foot circle. A Bureau of Land Management letter referenced in a U.S. Army Corps of Engineers, North Pacific Division memorandum, dated 25 November 1955, indicated that no improvements were built on this range (U.S. Army Corps of Engineers, North Pacific Division, 1955; U.S. Army Corps of Engineers, Seattle District 2003; USDA Aerial Photograph 1950 - see PLATE 6.)

Details for all Mountain Home bombing ranges, including Bruneau Precision Bombing Range No. 2, are:

> "a. The earth fill emplacements for the 10' squares, circles and identification numerals will be confined by 2" x 12" planks on edge, supported by 2" x 4" stakes at 3' centers, set at least 18" into the ground. ...
>
> b. Target circles, numerals and leg markers will be limed and the rate of application will be approximately 2-½ tons per acre.
>
> c. Target centers will be 30' x 30', lath construction, and painted white.
>
> d. Clearing, as itemized in the estimate, will consist of removal of sagebrush in the immediate vicinity of the targets and does not provide for construction of firebreak areas." ... (US Army Corps of Engineers, Portland District Engineer 1945).

A 1945 historical document states the bombardiers training at Mountain Home Army Airfield were required to drop individual high altitude, individual low altitude and train release bombs in formation. The bombardiers were required to do individual formation and formation train bombing while navigators are required to drop five individual high, five individual high formation and two high altitude train bombs in formation. An example of the number of bombs being issued for training in October 1944 are: "The total amount of Bombs, practice, one hundred (100 pound) number M38A2; received, sanded, spotted and issued for training during the month of October was seven thousand (7,000)."..."Total amount of sand all loaded by hand, and transferred to the magazine area, then used for sanding, one hundred pound practice bombs – one million four hundred thousand pounds. (1,400,000 lbs.)." (Mountain Home Army Airfield 1944c, 1945).

A Final Report of Clearance of Mountain Home Precision Bombing Range No. 2, dated 17 September 1954, indicated that personnel from the 2700th Explosive Ordnance Disposal Squadron, McClellan Air Force Base, California, performed removal actions on the range. The clearance report states 2,600 manhours were used to remove 52,000 pounds of scrap metal and the only explosives recovered and destroyed by burning were 400 pounds of black powder which came from spotting charges used in practice bombs (2700th Explosive Ordnance Detachment 1954).

After the September 1954 clearance, the US Army Corps of Engineers, Walla Walla District placed a limitation of use on the southern half of Section 3, Township 7 South, Range 4 East, and recommended the land be restricted to surface use only. A follow up letter dated 15 September 1958 from the USACE Real Estate Division to the Commander of the USAF Air Material Command advised the Bureau of Land Management that all the land was clear for unrestricted use, except for the southern half of Section 3, T7S, R4E, which should be restricted to surface use indefinitely. The letter states the Department of the Air Force will be queried as to whether unexpended munitions lose their explosive properties over a period of time and, if so, in the future request the property be used for any purpose (Bureau of Land Management 1958; US Army Corps of Engineers, Real Estate Division 1958).

Range clearance personnel again traveled to the site in July 1964 to do another clearance sweep of the affected 320 acres. A total of 576 manhours were spent during this clearance operation that yielded 500 pounds of inert ordnance residue piled in a central location on the range for future disposition by the Marketing and Distribution Section of Mountain Home Air Force Base, ID. At this time, no hazardous items were recovered (Tyson, Herbert G., Major, US Air Force).

The 2003 USACE Inventory Project Report (INPR) does not rule out the use of bombs containing high explosives on this range. Aerial photography dated 1950 (see PLATE 6) shows impact cratering on and around the target site. The cratering found on the 1950 aerial photography is not usually detected from the use of just practice bombs. Additionally, statements from landowners revealed live and expended .50 caliber small arms rounds were found on the range over the years. The historic presence of 50-cal. ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity (USACE INPR 2003; USACE PA 2004, USDA Aerial Photograph 1950 - see PLATE 6.).

4.2.2 Summary of RCWM Activities

The records search found no indication that any Army Air Corps personnel conducted CWM training, storage or disposal activities or any indication of chemical spray missions occurring at Bruneau Precision Bombing Range No. 2. All gas chamber exercises using tear or chlorine gas and the proper use of gas masks would have occurred at Mountain Home Army Airfield (Mountain Home Army Airfield 1944b).

4.2.3 CERTIFICATES OF CLEARANCE

Two Certificates of Clearance were issued from Headquarters, 2700th Explosive Ordnance Disposal Squadron, McClellan Air Force Base, California, for Mountain Home Precision Bombing Range No. 2.

The first Certificate of Clearance was issued 17 September 1954 and stated "All of this land has been given a careful search and has been cleared of all dangerous and/or explosive materials reasonably possible to detect. It is recommended that the southern half of Section 3, T7S, R4E as shown on the inclosed Real Estate Map of Mountain Home Precision Bombing Range # 2 dated 28 August 1952 be restricted to surface use only. All other tracts are recommended for any use for which the land is suited." (Tyson, Herbert G., 1st Lieutenant, US Air Force, 2700th Explosive Ordnance Disposal Squadron 1954).

The second Certificate of Clearance was issued 24 July 1964 for the restricted use portion noted in the 17 September 1954 clearance document. The Certificate of Clearance states "All lands (320 acres more or less), within the Mountain Home Precision Bombing Range # 2, and located within Owyhee County, State of Idaho ...have been thoroughly searched and are cleared of all explosive ordnance and ordnance residue reasonably possible to detect... There are no restrictions of the future use of all the above described lands. ...Because surface erosion of this land may expose sub-surface ordnance not detected during search operations, all present and/or future users, owners, and/or inhabitants of these lands are hereby advised that if, at any time, an itmn[sic] identified or suspected of being military ordnance is located, the nearest government civil authority should be contacted." (Tyson, Herbert G., Major, US Air Force 1964)

4.2.4 EOD INCIDENTS

No explosive ordnance disposal (EOD) incident reports were noted during the records search.

4.3 POTENTIAL AREAS OF ENVIRONMENTAL INTEREST

The research did not identify other potential areas of environmental interest.

4.4 MAP ANALYSIS

WAR DEPARTMENT, O. C. E.
1959 *Mountain Home Air Force Range No. 2 Military Reservation*, dated 25 November 1944, revised 23 November 1959. Real Estate Files, Box 88340003053, Folder Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Seattle District, Seattle, WA (see APPENDIX H-1).

This real estate map for Mountain Home Air Force Range No. 2 shows 2,552.20 acres in Sections 2 and 3, T7S, R4E and Sections 34 and 35 of T6S, R4E near Bruneau, Idaho. The map shows the circular bombing target in Section 3 and a road approaching from the east to the bomb target site.

WAR DEPARTMENT, O. C. E.
1959 *Mountain Home Air Force Range No. 2 Military Reservation, Danger Area*, dated 25 November 1944, revised 23 November 1959. Real Estate Files, Box 88340003053, Folder Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Seattle District, Seattle, WA (see APPENDIX H-2).

This real estate map for Mountain Home Air Force Range No. 2 shows 2,552.20 acres in Sections 2 and 3, T 7 S., R 4 E. and Sections 34 and 35 of T 6 S., R 4 E. near Bruneau, Idaho. The map shows the circular bombing target in Section 3 and a road approaching from the east to the bomb target site. The danger area is outlined for the 320 acres on the S-½ of Section 3, T6S, R4E. It is designated also in Public Land Order 3703. All other information is the same as shown on APPENDIX H-1.

Map analysis and aerial photograph referencing was performed on the following U.S. Geological Survey (USGS) 1:24,000 scale USGS 7.5' quadrangles:

C.J. STRIKE DAM, IDAHO - 1992 EDITION
CHALK HILLS, IDAHO - 1992 EDITION
GRAND VIEW, IDAHO - 1992 EDITION
LITTLE VALLEY, IDAHO - 1992 EDITION

These USGS quadrangles show hydrographic, planimetric and topographic features. The property lies on relatively flat terrain. The bombing target is located south of Halfway Gulch. Numerous perennial and intermittent streams run through the site area. Only a couple of small trails are identified as to running through the site area. There were no OE related items identified on the quadrangles.

4.5 AERIAL PHOTOGRAPHIC INTERPRETATION

Government and contractor personnel conducted an aerial photography search to find available imagery which covers the site. Generally, the search was limited to imagery

with less than 1:24,000 scale and provided stereo viewing, but acquired others as needed. Photographic analysis and land use interpretation were performed using the following photographic sources:

PHOTOGRAPHY DATE	APPROXIMATE SCALE	SOURCE	FRAME IDENTIFIER (S)
05 Jun 1940	1:20,000	EROS	8100618 2-9 thru 11 8100618 2-39 thru 41 8100618 2-64 thru 67
30 Jun 1946	1:20,000	EROS	GS-CI-9-61 thru 64 GS-CI-110-53 thru 55 GS-CI-11-13 thru 16
12 Sept 1950	1:20,000	USDA (NATIONAL ARCHIVES)	CVS-2G-137 thru 140
11 Oct 1950	1:20,000	USDA (NATIONAL ARCHIVES)	CVS-3G-26 thru 29 CVS-3G-33 thru 36
22 Jul 1953	1:20,000	EROS	Strip 32 3819 thru 3820 Strip 33 3786 thru 3769
5 Aug 1953	1:20,000	EROS	Strip 34 4574 thru 4575
7 Sep 1957	1:20,000	USDA	CVS-9T-162 thru 165 CVS-11T-175 thru 178 CVS-15T-172 thru 175
7 Sep 1969	1:20,000	USDA	CVS-5KK-138 thru 141 CVS-5KK-150 thru 154 CVS-5KK-235 thru 239
20 Jun 1998	1:40,000	EROS	NAPP 10600-268 thru 275
19 Jul 1998	1:40,000	EROS	NAPP 10613-10

12 SEPTEMBER AND 11 OCT 1950 AERIAL PHOTOGRAPH (SEE PLATE 6): A bombing target of approximately 1000' in diameter was identified with four smaller circles of 200', 400', 600', and 800' in diameter **(1)**. Numerous cratering is seen in and around the target circles, with some craters as far as 3000 feet from the center of the target. A large number "2" is shown north of the target. Northwest of the bombing target is an area of scraped soil with a possible building **(2)** measuring 20' x 20'. The area appears on the photo as a darkened area with defined sides. No other features in this area were detected. Located to the northeast approximately 900' of the possible building and due north of the target are two areas of disturbed soil **(3)**. Measurements for each area are approximately 80' x 60' and 60' x 50'. No other OE related items were identified.

20 JUNE AND 19 JULY 1998 AERIAL PHOTOGRAPH (SEE PLATE 7): All features previously detected (bombing target **(1)**, possible building **(2)**, and possible debris areas **(3)**) on the 1950 aerial photos are not visible. The property has been divided into several

irrigated farm fields. No OE related items were identified on the 1998 aerial photographs.

4.6 INTERVIEWS

Interviews are conducted by telephone and in person, both prior to and during the property inspection. The primary purpose of the interviews was to make initial contact with individuals knowledgeable of the site and to coordinate follow-up visits during the site inspection phase of the Preliminary Assessment's preparation. APPENDIX I contains a record of all interviews. Pertinent information derived from these interviews is covered within the text of the report.

5.0 PROPERTY ELIGIBILITY

5.1 CONFIRMED FUDS

The former Bruneau Precision Bombing Range No. 2 consisted of 2,552.20 acres located 7 miles southwest of Bruneau, Idaho. The property is located in Sections 2 and 3 of Township 7 South, Range 4 East and Sections 34 and 35 of Township 6 South, Range 4 East. This real estate acreage concurs with the acreage stated in the 2003 USACE Inventory Project Report (APPENDIX F-1). The War Department indicated a necessity for this property on 23 June 1943 and acquired the land from the Department of Interior by Public Land Order 172, dated 27 September 1943 for use as the Mountain Home Precision Bombing Range No. 2 (War Department 1943; Federal Register Public Land Order 172, 1943; War Department O.C.E., 1959a (map-see APPENDIX H-1)).

After creation of the U.S. Air Force in 1947, the range became known as Mountain Home Air Force Range No. 2. A letter dated 27 October 1952 to the Secretary of the Air Force reported that these lands were needed for an indefinite period beyond 28 October 1952, which was the termination of the unlimited national emergency (Department of Interior 1952).

Bruneau Precision Bombing Range No. 2 was declared excess to the needs of the Air Force in a 2nd Indorsement dated 24 November 1953 from Headquarters 9th Bombardment Wing, Mountain Home Air Force Base, Idaho. The indorsement states that Mountain Home Precision Bombing Range No. 2 (aka Bruneau Precision Bombing Range No. 2) was not on the real estate accountable records at the time Mountain Home Air Force Base was reactivated on 1 February 1951. Bruneau Precision Bombing Range No. 2 was relinquished to the Department of the Interior, Bureau of Land Management on 25 November 1955. The range was retransferred to the Department of the Interior by Public Land Order 1898, dated 13 July 1959 (9th Bombardment Wing, 1953a; War Department O.C.E., 1959a and 1959b (maps-see APPENDIX H-1 and H-2)).

Two hundred forty (240) acres of the land remain with the Department of Interior, Bureau of Land Management, since relinquishment by the Air Force. The remainder of acreage was sold to private ownership. Primary owners are Hubert D. and Mary B. Allen; Bob, Bradley M., Connie J., Brent C., Rachel, Wilbur C. and Barbara J. Mastre; C.A. Merrick; Thomas W. and Terry Thomas; Samuel Ward; and Worthington Cal. Trust (see PLATE 3). A 1988 historical document from the Sheriff of Owyhee County, Idaho verified Bruneau Precision Bombing Range No. 2 had access by vehicle and farm activities were over all four sections and some open rangeland was in part of Section 34 during that time (US Army Corps of Engineers, Walla Walla District (INPR) 1988; Nettleton, Tim, Sheriff, Owyhee County, Idaho 1988; County of Owyhee 2004-on file at St. Louis District Corps of Engineers, CEMVS-ED-P).

5.2 ADDITIONAL CONFIRMED FUDS ACREAGE

This investigation did not identify any additional confirmed FUDS acreage associated with Bruneau Precision Bombing Range No. 2.

5.3 POTENTIAL FUDS

The 1950 aerial photography shows cratering in and around the bomb target, which would indicate the possible use of other than practice bombs, i.e., high explosive bombs. The cratering extends outside the FUDS boundary, but remains within the MMR range data boundary (see PLATE 8).

6.0 VISUAL PROPERTY INSPECTION

6.1 GENERAL PROCEDURES AND SAFETY

The purpose of the Preliminary Assessment (PA) visual property inspection is to characterize the site based upon ascertaining ordnance and/or explosives presence or disposal on the former Bruneau Precision Bombing Range No. 2. The intent is to collect sufficient field visual evidence at this Military Munitions Response Program (MMRP) project/property of the potential for Munitions and Explosives of Concern (MEC), Recovered Chemical Warfare Material (RCWM), and/or Munitions Constituents (MC). The investigation is an important PA task in differentiating between properties with little or no threat to human health, safety, or the environment from those that require additional investigation and action. Permission was obtained from various private owners and the Bureau of Land Management (BLM), Boise Field Office, Boise, Idaho, to access the property. The inspection was limited to visual, non-intrusive methods (i.e., no digging for or handling of potential MEC/RCWM (former reference was OE) or MC. An Abbreviated Site Safety and Health Plan (ASSHP) was developed and followed by the team to prevent injury during the inspection (see APPENDIX J).

6.2 PROPERTY INSPECTION SYNOPSIS

On 24 August 2004, Mr. Gregg Kocher and Mr. Thomas Murrell, US Army Engineer District, St. Louis (CEMVS-ED-P) inspected Bruneau Precision Bombing Range No. 2. Mr. Clarence (Pete) Arthur was interviewed concerning past activities on the property. Mr. Arthur has been initially involved in transforming the high plains desert into productive agricultural cropland by extensive water irrigation. He stated the Air Force or the Department of Defense cleaned up the bombing range in the mid 1960's and remembered finding linked live 50-cal machine gun ammunition prior to the clean up. Mr. Arthur added the debris piles of practice bombs were also cleaned up in the 1960's and the land has been used for growing crops ever since and has never had any ordnance related or any other problems.

Mr. Arthur gave the team permission to drive to the general center of the target. No live ordnance or ordnance debris was found at the target site.

7.0 PROPERTY MEC / RCWM TECHNICAL DATA

7.1 MEC (MUNITIONS AND EXPLOSIVES OF CONCERN)TECHNICAL DATA

7.1.1 MEC GENERAL

This investigation identified the following conventional ordnance items associated with Bruneau Precision Bombing Range No. 2. The following listing has been compiled from historical documentation. The 2004 property inspection conducted by the US Army Engineer District, St. Louis did not find any munitions.

- Bomb, Practice, 100 Pound, M38A2
- Spotting Charge, M1A1
- Bomb, General Purpose, (GP), 100-pound, AN-M30
- Fuze, Bomb, Tail, AN-M100 Series
- Fuze, Bomb, Nose, AN-M103A1
- Cartridge, Caliber .50

APPENDIX E contains Ordnance Technical Data Sheets of the ordnance items listing above.

7.1.2 MEC CONSTITUENTS

The Ordnance Technical Data Sheets listed above and included in APPENDIX E include information regarding the munitions constituents on the items identified at Bruneau Precision Bombing Range No. 2.

The M38A2 bomb has no explosive components until fitted with an M1A1 Spotting charge, which contains three pounds of black powder and a blank 28-gage shotgun shell.

The AN-M30 bomb contains a filler of 50/50 amatol, TNT or Tritonal and is fuzed in the nose with the AN-M103 fuze and fuzed in the tail with the AN-M100A2 fuze.

The types of munitions constituents released when an item functions differs somewhat from its original state. A comprehensive determination of munitions constituents released during detonation does not currently exist. As of this writing, the EPA's Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: *Stationary Point and Area Sources,* is being updated to include Chapter 15: Ordnance Detonation, available @ http://www.epa.gov/ttn/chief/ap42/ch15/. In June 2004, the EPA released a draft section on the first batch of air emission factors for munitions, which included 9 items within the Signals and Simulators section and 1 item (M485A2 – 155 mm Illumination) in the Projectiles, Canisters and Charges section. Eleven sections have been identified to be included within Chapter 15 including:

1. Small cartridges (<30mm)
2. Medium cartridges (30-75mm)
3. Large cartridges (>75mm)
4. Projectiles, canisters and charges
5. Grenades
6. Rockets, rocket motors, and igniters
7. Mines and smoke pots
8. Signals and simulators
9. Blasting caps, demolition charges, and detonators
10. Fuzes and primers
11. Guided missiles

This appears to be the best source of constituent data following detonation currently available, although it would not directly correspond to all the historic munitions noted above.

Furthermore, MEC may exist at Bruneau Precision Bombing Range No. 2 that are no longer intact or did not completely function (e.g. low order detonation, ruptured dud round). This investigation did not attempt to determine all the potential breakdown or daughter products of the constituents identified that may currently exist on site.

More detailed and complete information regarding the properties of the identified constituent items can be found at the Internet website for the National Institute of Health's Hazardous Substances Data Bank on Chemical Properties, Environmental Fate and Human Health Effects @ http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB.

7.2 RCWM (Recovered Chemical Warfare Material) Technical Data

7.2.1 RCWM General

The investigation team did not uncover evidence of the use of Chemical Warfare Materials (CWM) at Bruneau Precision Bombing Range No. 2. The activities at this site did not include the storage, disposal or use of CWM in training.

7.2.2 RCWM Constituents

Since the investigation team did not identify any CWM associated with Bruneau Precision Bombing Range No. 2, there are no RCWM constituents to discuss.

8.0 EVALUATION OF MEC/RCWM PRESENCE

8.1 GENERAL EVALUATION OF MEC/RCWM PRESENCE

8.1.1 GENERAL INVESTIGATION PROCESS

This Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) PA investigation effort follows a process of collecting historical data from national, regional, and state and local repositories with the purpose of quantifying the Munitions and Explosives of Concern (MEC) and Recovered Chemical Warfare Materials (RCWM) use on Bruneau Precision Bombing Range No. 2. In addition to historic research, map analysis and photo interpretation methods are performed, and interviews are conducted with individuals familiar with the site. Finally, a visual site investigation of the Formerly Used Defense Site (FUDS) is accomplished to ascertain current conditions and characterize the MEC/RCWM potential.

8.1.2 EVALUATION OF MEC PRESENCE

Historical documents suggest that sand-filled M38A2 practice bombs with spotting charges were dropped on the former Bruneau Precision Bombing Range No. 2. The 2003 INPR states locals have reported finding live and expended .50 caliber rounds along with bomb debris. The historic presence of 50-cal ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity. The 1950 aerial photography shows cratering in and around the bomb target, which would indicate the possible use of other than M38A2 practice bombs, i.e., high explosive bombs. During the visual site survey, no evidence of practice bombs or other ordnance debris was found. The Risk Assessment Procedures for projects in the Military Munitions Response Program (MMRP) assigns a RAC score of "3" to the site based upon the data and information collected and considered in the PA. The RAC "3" score is the resulting risk score, primarily because of the "Occasional Hazard Probability Level" of this FUDS. If this property was located in a less remote area, a higher Hazard Probability Level would result, and thus, an increased risk would be assigned. In accordance with guidelines for MMRP projects, it is recommended that approval of further action be conducted as appropriate. EP 1110-1-18 discusses MMRP projects and the process to be followed for project execution.

8.1.3 EVALUATION OF RCWM PRESENCE

The research effort did not uncover evidence of any RCWM ever being associated with the former Bruneau Precision Bombing Range No. 2.

8.2 PROPERTY-SPECIFIC LOCATIONS

8.2.1 MILITARY MUNITIONS RESPONSE AREAS (MRA)

The one Military MRA associated with this precision bombing range is the bombing target center and the immediate area surrounding the target. The usual radial safety fan of 3,000 feet for this type of bombing range lies outside of the property leased by the DoD.

TABLE 8.2.1 - Military Munitions Response Areas (MRA)

NO.	Military Munitions Response Areas (MRA)	Acreage (est.)	MEC/RCWM Related Function	MEC/RCWM Potential
R01	Bombing Target	649	Bombing practice using sand-filled practice bombs with spotting charges; potential for high explosive bomb use.	Documented Past Use. The 1950 aerial photography shows cratering in and around the bomb target, which would indicate the possible use of other than practice bombs, i.e., high explosive bombs. The 2003 INPR states locals have reported finding live and expended .50 caliber rounds along with bomb debris. The historic presence of 50-cal. ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity.

8.2.2 STORAGE AREAS AND INDOOR RANGES

No storage areas or indoor ranges were present on the property.

9.0 PATHWAY AND ENVIRONMENTAL HAZARD ASSESSMENT

9.1 GROUNDWATER PATHWAY

9.1.1 HYDROGEOLOGIC SETTING

The regional geology and soils are discussed in Section 3.6.1 of this report and the ground water setting in Section 3.7.2.

The former Bruneau Precision Bombing Range No. 2 is located in the Malheur-Boise section of the High Lava Plains sub province in the Columbia Intermontane physiographic province. The High Lava Plain sub province is a crescent-shaped belt, convex to the south, which extends from the Teton Mountains on the east to the Cascade Mountains on the west. The lavas of the High Plain are younger than those of surrounding areas. Although the Malheur-Boise section has seen considerable erosion and dissection, the extent of the modification is less than that of the northern and southern lava sections. The lavas are less veneered with the terrestrial sediments than the more eroded lavas. The lavas here are also more commonly mixed with fluviatile and lacustrine sediments.

Of the three sections of the High Lava Plains, the Malheur-Boise section is the lowest in altitude. This section is considerably more dissected than the other two sections. There are more lacustrine and fluviatile sediments interbedded in the lavas. This interbedding of weak and strong beds is largely responsible for the more advanced stream dissection. Plain-like expanses do exist, but they are the exception, not the rule. Numerous mesa-like tracts occur where Quaternary basalts cap the lacustrine sediments (Thornbury 1965).

Typically, unconsolidated deposits along stream valleys consist of sand and gravel that form productive aquifers. The thickness of the deposits along present stream valleys commonly is less than 250 feet.

In the simplest terms, the primary soil of the Bruneau site consists of a sand-silt/sand-clay mixture. These types of soils are typically found on fan terraces and in foothills. In a representative profile, the soil has a surface layer of 8 inches of brown silty sandy clay. The subsurface is 5 inches of pale brown fine silty sandy clay. The substratum is 23 inches of pale brown silty sandy clay. From 36 to over 60 inches deep, the soil is light brownish gray silty sandy clay.

The soil is very deep and well drained. The runoff is slow to medium, the permeability is moderately rapid, and the available water capacity is high. The hazard of water erosion is slight and wind erosion is high. The potential for frost development in the soil extends to a depth of 24 inches in the site area.

The U.S. EPA's Safe Drinking Water Information System (SDWIS) Drinking Water Mapping Application (DWMA) indicates that there are no groundwater drinking wells

within 4 miles of the site. The DWMA indicates that the nearest groundwater well used for drinking is more than 6 miles north of the site.[1]

Additionally, the U.S. Geological Survey (USGS), National Water Information System (NWIS) indicates 8 other groundwater wells within 4 miles of the site. It is not clear if these wells are used for drinking water since they are not included in the SDWIS DWMA. The purpose of at least some of the wells is assumed to be for residential and agricultural purposes, such as irrigation or live stock watering.[2]

Additional local research would be required to confirm that there are no additional wells present.

9.1.2 GROUNDWATER TARGETS

As discussed above, the EPA's SDWIS DWMA indicates that there are no groundwater drinking wells within 4 miles of the site. However, the USGS NWIS indicates 8 other wells within the four mile radius of the site. While there is no suspected contamination, the 25 people who potentially use these wells are considered a primary target population.

9.1.3 GROUNDWATER CONCLUSIONS

A detectable release of hazardous substances into the groundwater resulting from potential MC remaining from the use of the former Bruneau Precision Bombing Range No. 2 is not suspected. However, the resulting MC resulting from the deterioration of the small arms and spotting charges potentially could result in contamination given the relatively shallow depth of the aquifer. There are approximately 25 people considered a primary target for this release.

9.2 SURFACE WATER PATHWAY

9.2.1 HYDROLOGIC SETTING

The regional surface water is discussed in Section 3.7.1 of this report. The site is centered over Halfway Gulch and runoff from the gulch flows generally east into Little Valley which is orientated southwest to northeast. From here runoff empties into Jacks Creek which flows southwest to northeast through Little Valley then empties into the Bruneau River just southeast of the Strike Reservoir – Bruneau Arm.

The U.S. EPA's Safe Drinking Water Information System (SDWIS) Drinking Water Mapping Application (DWMA) indicates that there are no drinking water intakes which rely on surface water within 15 miles of the site.[3]

FEMA flood hazard maps do not have data for this area.[4] However, given the location of this site and its relative elevation, it is likely located within the >500-year flood plain.

9.2.2 SURFACE WATER TARGETS

This investigation did not identify any surface drinking water intakes within 15 miles down gradient of the former Bruneau Precision Bombing Range No. 2.[5]

The site drainage eventually reaches C. J. Strike reservoir to the northwest of Bruneau Precision Bombing Range No. 2. This reservoir was built for power generation and also serves as a very popular fishery for the region. Commonly caught fish include bluegill, perch, trout, large and small mouth bass, crappie, catfish and sturgeon. Since there is no suspected release from the site, these are considered a secondary target.

The U.S. Fish and Wildlife Wetland Inventory maps indicate that there are wetlands located on the site or along the surface water migration path from this site.[6] On site there is a fresh water pond with emergent wetlands totaling about 6.7 acres. Since there is not a suspected release to surface drinking water, these wetlands are considered a secondary target.

This investigation did not identify any sensitive environments in the near vicinity of the site or along the surface water migration pathway.

9.2.3 SURFACE WATER CONCLUSIONS

The investigation team found no clear indications, such as stressed vegetation or discolored water indicating a release of Munitions Constituents (MC) to area surface water. It appears unlikely that any detectable levels of MC migrated from the property via surface water would reach surface water bodies due to the rapid permeability and slow runoff of the soils on the property.

9.3 SOIL EXPOSURE AND AIR PATHWAYS

9.3.1 PHYSICAL CONDITIONS

The primary topography of the Bruneau site is flat with gorges and gullies. The site surface does slope to the east and southeast, but only falls about 100 feet in 2 miles.

The land has been used for agriculture since it was relinquished from the DoD in 1959.

ACCESS

- There is no barrier or security system barring access to the site.

Although this investigation did not positively locate any munitions debris on site, there is clear past use of the site based on textual documents, aerial photography and/or interviews.

9.3.2 SOIL AND AIR TARGETS

POPULATION (RESIDENTIAL/COMMERCIAL/ INDUSTRIAL) TARGETS
The former Bruneau Precision Bombing Range No. 2 continues is an agricultural site with approximately 25 residents in the area.

RESOURCE TARGET (GRAZING)
The former Bruneau Precision Bombing Range No. 2 is in use for agriculture. There are about 25 people occupying residences within 4 miles. Due to the remoteness of the site, there appears limited potential for trespassers and recreational use of the property.

TERRESTRIAL SENSITIVE TARGET
Potential Terrestrial Sensitive Environments consisting of the habitats of Federal and State listed rare, threatened or endangered animal and plant species (see Section 3.6 Natural Resources) may be present in the vicinity of Bruneau Precision Bombing Range No. 2. However, this investigation did not positively establish these habitats to be present on site.

As discussed above in surface water, there are wetlands located within 4 miles of the site.

9.3.3 SOIL EXPOSURE AND AIR PATHWAY CONCLUSIONS

When munitions functioned at Bruneau Precision Bombing Range No. 2 while it was in operation between 1943 and 1959, they released substances into the atmosphere, which would have been detectable at the time. However, that material has long since dispersed and there is not a recent suspected release to the air, nor would any material from past munitions functioning be currently detectable except in case of detonation of the Munitions and Explosives of Concern (MEC). Measurable releases of MC from the property via wind erosion of soil are not suspected. However, there is the potential release of MC to surface soil. The MC at Bruneau Precision Bombing Range No. 2 are listed in Section 7 of this report.

GRAZING OF CATTLE
Cattle grazing on the property would be likely to come into direct contact with and ingest MC remaining in surface soil. However, there was no evidence of livestock grazing during the site visit.

PEOPLE IN RESIDENCES

Direct contact of MC remaining in surface soil by persons residing on site is possible. Although the potential exposure is lessened by the development of the site with homes, roads and lawns; residential gardens and landscaping of the property provide an exposure pathway.

[1] Section 9.1 Groundwater Pathway
U.S. Environmental Protection Agency
Safe Drinking Water Information System (SDWIS) web page

[2] Section 9.1 Groundwater Pathway
U.S. Geological Survey (USGS), National Water Information System (NWIS)
Ground Water Data for the Nation web page

U.S. Geological Survey (USGS)
Ground Water Atlas of the United States web page

[3] Section 9.2 Surface Pathway
U.S. Environmental Protection Agency
Safe Drinking Water Information System (SDWIS) web page

[4]ESRI and FEMA (Federal Emergency Management Agency)
2004 *Hazard Information and Awareness Online Hazard Maps*, web page queried for site location

[5]Section 9.2 Surface Pathway
U.S. Environmental Protection Agency
Safe Drinking Water Information System (SDWIS) web page

[6]U.S. Fish and Wildlife Service
2004 *National Wetlands Inventory, Wetlands Mapper*, web page queried for site location

10.0 SUMMARY OF MMRP AND HTRW FINDINGS

10.1 SUMMARY OF MMRP FINDINGS

10.1.1 CONFIRMED MEC PRESENCE

Based on the findings of this investigation, there is an MEC (Munitions and Explosives of Concern) and/or RCWM (Recovered Chemical Warfare Material) potential on the former Bruneau Precision Bombing Range No. 2 property. The investigation team confirmed the potential for MEC at Bruneau Precision Bombing Range (PBR) No. 2 based on historical records indicating ordnance use on site and interviews concerning past MEC incidents.

The 2003 INPR states locals have reported finding live and expended .50 caliber rounds along with bomb debris. The historic presence of 50-cal ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity.

The 1950 aerial photography shows cratering in and around the bomb target, which would indicate the possible use of other than practice bombs, i.e., high explosive bombs. The cratering extends outside the FUDS boundary, but remains within the MMR (Military Munitions Response) range data boundary (see PLATE 8). The 2004 St. Louis District site visit team located no evidence of MEC debris on the site.

10.1.2 POTENTIAL MEC PRESENCE

A potential exists of the presence of MEC on Bruneau Precision Bombing Range No. 2. Two Certificates of Clearance were issued from Headquarters, 2700th Explosive Ordnance Disposal Squadron, McClellan Air Force Base, California, for Mountain Home Precision Bombing Range No. 2.

The first Certificate of Clearance was issued 17 September 1954 and stated "All of this land has been given a careful search and has been cleared of all dangerous and/or explosive materials reasonably possible to detect. It is recommended that the southern half of Section 3, T7S, R4E as shown on the inclosed Real Estate Map of Mountain Home Precision Bombing Range # 2 dated 28 August 1952 be restricted to surface use only. All other tracts are recommended for any use for which the land is suited."

The second Certificate of Clearance was issued 24 July 1964 for the restricted use portion noted in the 17 September 1954 clearance document. The Certificate of Clearance states "All lands (320 acres more or less), within the Mountain Home Precision Bombing Range # 2, and located within Owyhee County, State of Idaho ...have been thoroughly searched and are cleared of all explosive ordnance and ordnance residue reasonably possible to detect... There are no restrictions of the future use of all the above described lands. ...Because surface erosion of this land may expose sub-surface ordnance not detected during search operations, all present and/or future users, owners, and/or inhabitants of

these lands are hereby advised that if, at any time, an itmn[sic] identified or suspected of being military ordnance is located, the nearest government civil authority should be contacted."

10.1.3 Uncontaminated Areas

The entire site may be contaminated with the MEC discussed in Section 10.1.1 - Confirmed MEC Presence.

10.1.4 Site Information Analysis

Two hundred forty (240) acres of the land remain with the Department of Interior, Bureau of Land Management, since relinquishment by the Department of the Air Force. The remainder of acreage was sold and is in numerous private ownerships being used for agricultural purposes (see PLATES 3 and 4).

10.2 Summary of HTRW Findings

Based on the findings of this investigation, there is not a Hazardous, Toxic and Radioactive Waste (HTRW) potential on the former Bruneau Precision Bombing Range No. 2 FUDS. The investigation team did not locate any evidence that the previous use by Army and Navy produced HTRW that may remain on site.

10.2.1 Confirmed HTRW Presence

The only confirmed HTRW which would remain due to past DoD (Department of Defense) activities on the former Bruneau Precision Bombing Range No. 2 would consist of residue from munitions used in practice bombing training during the World War II era. Debris such as broken bomb body parts of 100-pound M38A2 practice bombs, components of M1A1 spotting charges, and perhaps parts of 100-pound, AN-M30-series bombs with AN-M100-series tail fuzes and AN-M103A1 nose fuzes are expected to exist on the subject FUDS property. The Munitions Constituents (MC) of these munitions are expected to be found in small quantities (refer to Section 7.0 for discussion of MC). No other HTRW hazards exist on this Precision Bombing Target Range.

10.2.2 Potential HTRW Presence

The potential for HTRW (limited to MC) to be released or migrate off the property into Groundwater, nearby Surface Waters, Soils, and though the Air are discussed in Section 9.0 of this Preliminary Assessment.

Groundwater. A detectable release of hazardous substances into the groundwater resulting from potential MC remaining from the use of the former Bruneau Precision Bombing Range No. 2 is not suspected. However, the resulting MC resulting from the

deterioration of the small arms and spotting charges potentially could result in contamination given the relatively shallow depth of the aquifer. There are approximately 25 people considered a primary target for this release.

SURFACE WATER. The investigation team found no clear indications, such as stressed vegetation or discolored water indicating a release of MC to area surface water. It appears unlikely that any detectable levels of MC migrated from the property via surface water would reach surface water bodies due to the rapid permeability and slow runoff of the soils on the property.

SOILS AND AIR. When munitions functioned at Bruneau Precision Bombing Range No. 2 while it was in operation between 1943 and 1959, they released substances into the atmosphere, which would have been detectable at the time. However, that material has long since dispersed and there is not a recent suspected release to the air, nor would any material from past munitions functioning be currently detectable except in case of detonation of the MEC. Measurable releases of MC from the property via wind erosion of soil are not suspected. However, there is the potential release of MC to surface soil. The MC at Bruneau Precision Bombing Range No. 2 are listed in Section 7 of this report.

11.0 RECOMMENDATION

Based on the findings of this investigation, there is an Munitions and Explosive of Concern (MEC) potential on the former Bruneau Precision Bombing Range No. 2. Based on the findings of this Preliminary Assessment, the property was found to have contained MEC in the form of practice bombs, .50 cal. spent and live ammunition, and possibly high explosive bombs.

The constituents of the small arms more appropriately represent a HTRW hazard. No ordnance debris was found during the 2004 property inspection by the St. Louis District.

The beginning of this report contains the completed Risk Assessment Procedures for Military Munitions Response Projects form for Bruneau Precision Bombing Range No. 2. Using the information available, this form resulted in a Risk Assessment Code (RAC) score of 3 for the property. A RAC 3 indicates further consideration as appropriate in accordance with the guidelines in EP 1110-1-18 Engineering and Design - Ordnance and Explosives Response. Further action recommendations regarding MEC at Bruneau Precision Bombing Range No. 2 will originate from the US Army Engineering and Support Center, Huntsville, and the US Army Engineer District, Seattle, and would typically include a Site Investigation (SI) to delineate areas of MEC potential.

APPENDICES

APPENDICES

A REFERENCE SOURCES AND RECORDS REVIEWED
B REFERENCES
C ABBREVIATIONS, ACRONYMS, AND BREVITY CODES
D GLOSSARY
E ORDNANCE TECHNICAL DATA SHEETS
F TEXTUAL REFERENCES
G STILL PHOTOGRAPH REFERENCES (NOT USED)
H MAPS / DRAWINGS REFERENCES
I INTERVIEWS
J ABBREVIATED SITE SAFETY AND HEALTH PLAN (ASSHP)
K VISUAL PROPERTY INSPECTION REPORT
L VISUAL PROPERTY INSPECTION PHOTOGRAPHS
M PRELIMINARY ASSESSMENT FORM
N TAG REVIEW FACT SHEET
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APPENDIX A

REFERENCE SOURCES AND RECORDS REVIEWED

APPENDIX A – REFERENCE SOURCES AND RECORDS REVIEWED

APPENDIX B contains full references of all in text citations along with the location of the copied document. The research team searched at the following locations for records relating to OE at Bruneau Precision Bombing Range No. 2. At these repositories the research team used finding aids and records managers to assist in locating documents relevant to the research topic. The Preliminary Assessment team also accumulated complementary documents reviewed on Bruneau Precision Bombing Range No. 2 but not specifically used. These complementary documents are stored with the original Preliminary Assessment documents.

A.1 TEXTUAL REPOSITORIES

A.1.1 NATIONAL ARCHIVES AT COLLEGE PARK

8601 ADELPHI ROAD
COLLEGE PARK, MD 20740
POC: RICH BOYLAN
301-713-6800

Record Group 18: Records of the Army Air Forces

Entry 1A, Air Adjutant General Conf. and Secret Decimal Files, 1945-1948
- Box 288, Decimal 684-686 vol. 2
- Box 289, Decimal 686 vol. 3 to 5
- Box 290, Decimal 686 vol. 6 to 8
- Box 291, Decimal 686 vol. 9 to 11
- Box 292, Decimal 686 vol. 12 to 686.63
- Box 293, Decimal 686.9 to 710

Entry 1C, Air Adjutant General Conf. and Secret Bulky Files, 1945-1948
- Box 558, Decimal 660 to 686 Airbase
- Box 559, Decimal 686 to 720

Entry 1D, Air Adjutant General Secret and Conf. Decimal Files, 1946-1947
- Box 558, Decimal 660-686 Airbases
- Box 559, Decimal 686 Airbases
- Box 672, Decimal 684-686 vol. 3
- Box 673, Decimal 686-686.6
- Box 674, Decimal 686.9-800

Entry 1G, Air Adjutant General Decimal Files, 1948
- Boxes 839 – 841, Decimals 680 - 686

Entry 1I, Air Adjutant General Secret and Conf. Bulky Files, Jan-Oct 1948
- Boxes 838 and 839, Decimal 684
- Box 840, Decimal 686
- Box 841, Decimal 686.6-800

Entry 2A, Decimal Files 1944-1946, Site Surveys 1946
Box 2248, Decimal 684 1944-1945
Boxes 2249 – 2250, Decimal 684
Box 2261, ID-IA
Box 2288, Decimal 686, IA to IN
Box 2317, GA-IN

Entry 2C, Unclassified Decimal Files 1947
Box 2802, Decimal 686, GA to IL

Entry 2E, Air Adjutant General Unclassified Decimal Files, 1948
Box 3188, Decimal 680.4-684

Entry 292A, Air Adjutant General Unclassified Decimal Files 1942-1944
Box 1545, Decimal 600, Moses Lake-Mountain Home
Box 1641, Decimal 680-684 Target Ranges
Box 1642, Decimal 684-686
Box 1644, Decimal 686 GA-MD

Entry 293A, Air Adjutant General Security Classified Correspondence, 1939-1942
Box 12, Decimal 560-686
Box 338, Decimal 686 Airbases
Box 341, Decimal 686 Airbases

Entry 293B, Air Adjutant General Formerly Security Classified Correspondence 1939-1942
Box 330, Decimal 678-686

Entry 294A, Central Decimal Files, October 1942-1944
Box 846, Decimal 600 A-600.1-B
Box 869, Decimal 680.3 D-686 C
Box 870, Decimal 686 D-686 G
Box 871, Decimal 686 H-686 L
Box 872, Decimal 686 M-686 P
Box 873, Decimal 686 Q-686 T
Box 874, Decimal 686 U-686 A-A
Box 875, Decimal 686 B-D-686.61

Entry 294B, Formerly Security Classified Bulky Files, October 1942-1944
Box 912, Montgomery - Muskogee

Record Group 77: Records of the Office of the Chief of Engineers
Entry 1011, Security Classified Subject Files, 1940-45
Box 581, Mt. Tam –Municipal Airport

Entry 1013, Correspondence with Districts 1941-1945
- Box 238, Portland 400.225-411.8
- Box 239, Portland 412.1-430
- Box 240, Portland 440-486.4
- Box 241, Portland 486.92-600.3
- Box 242, Portland 600.1-618.34
- Box 243, Portland 618.38-Prince River
- Box 319, Seattle 553.4-600.1
- Box 320, Seattle 600.1-600.12
- Box 321, Seattle 600.13-671.3
- Box 322, Seattle 672-Syracuse 323.45

Entry 1023, Correspondence Relating to Airfields 1940-1945
- Box 16, Airfields 4/21/42-8/18/42
- Box 17, Airfields 3/14/42-4/1/42
- Box 18, Airfields 4/25/42-5/7/42
- Box 19, Airfields Decimal 600.15 through Airfields Series 1-3

Record Group 107: Records of the Office of the Secretary of War
Entry 102, Secretary of War, Stimson, Files
- Box 130, Aviation Fields and Bombing Ranges Mc-N

Record Group 160: Records of the Headquarters Army Service Forces
Entry 27, Installations Branch, Correspondence Files 1942-1946
- Box 12, M
- Box 13, M
- Box 14, M-O
- Box 45, 8th Service Command
- Box 46, 8th Service Command
- Box 47, 8th Service Command
- Box 48, 9th Service Command
- Box 49, 9th Service Command
- Box 50, 9th Service Command
- Box 51, 9th Service Command

Entry 196A, Special Services Division Records, 1941-1945
- Box 285, Morrison Field-Myrtle Beach Bombing Range

Record Group 168: Records of the National Guard Bureau
Entry 1, History Files 1949-1963
- Box 2, DC - IL

Record Group 175: Records of the Chemical Warfare Service
Entry 2, Index Briefs to Correspondence 1918-1942
- Box 315, Motor Vehicle-Musser

Entry 2B, Miscellaneous Series, 1942-1945
Boxes 15 and 16, Air Force and Army Commands

Record Group 237: Records of the Federal Aviation Administration
Entry 37, Records of the IATCB Minutes, 1941-1946
Boxes 1-4

Record Group 341: Records of the Headquarters U.S. Air Force
Entry Old Accession 341-60A-1302, Deputy Director for Facilities, 1958
Box 21, McGuire AFB-Myrtle Beach AFB

Entry 126, Real Property Files, 1941-1967
Boxes 3 through 6

Entry 494, Correspondence Relating to Real Estate 1948-1955
Box 18, CO – IL, 1948
Box 41, Mitchell Field-Myrtle Beach, 1948
Box 74, GA – IN, 1949
Box 102, Mitchell Field-New Orleans, 1949

Record Group 429: Records of Organizations in the Executive Office of the President
Entry 12, Real Property Surveys
Box 63, Moorestown-Myrtle Beach

Entry 16, Federal Property Council Files, 1970-1975
Box 24

A.1.2 WASHINGTON NATIONAL RECORDS CENTER
4205 SUITLAND ROAD
SUITLAND, MD 20409
POC: VELECIA CHANCE
301-457-7010

The team reviewed the finding aids this repository, but did not find any applicable records.

A.1.3 U.S. ARMY CHEMICAL-BIOLOGICAL DEFENSE COMMAND
HISTORICAL OFFICE
BUILDING E5027
ABERDEEN PROVING GROUND, MD 21010-5423
POC: JEFF SMART
410-671-4430

The team reviewed the finding aids this repository, but did not find any applicable records.

A.1.4 U.S. AIR FORCE HISTORICAL RESEARCH AGENCY USAFHRA/HO MAXWELL AIR FORCE BASE POC: ARCHIE DIFANTE, AL 334-953-2447

US Army Corps of Engineer Records
- Mountain Home Army Airfield, ID, 5 Boxes

Unit Histories
- Microfilm Reel: A1908, 168.7032-96 to 168.7032-135
  - 168.7032-134 to 168.7032-135, 2nd Air Force, 1944
- Microfilm Reel: A1909, 168.7032-136 to 168.7032-144
  - 168.7032-136 to 168.7032-137, 2nd Air Force, 1945
- Microfilm Reel: B2225, 283.54-16 to 283.54-18
  - 283.54-16, Gowen Field, ID
- Microfilm Reel: B2428, 286.68-17 to 281.72
  - 281.68-20 to 281.68-25, 200th AAFBU, Petersen Field, CO
    - Mt. Home Sub-base, ID, October 1946-March 1947
- Microfilm Reel: B2426, 286.65-6 to 286.68-9
  - 286.68-1 to 286.68-9, Mt. Home Army Airfield, ID, Jan 1939-Oct 1944
- Microfilm Reel: B2427, 286.68-10 to 286.68-19
  - 286.68-10 to 286.68-18, Mt. Home Army Airfield, ID, Oct 1944-Mar 1945
- Microfilm Reel: B2428, 286.68-19 to 286.169-1
  - 286.68-19 to 286.68-26, Mt. Home Army Airfield, ID, Apr 1945-Sep 1945
- Microfilm Reel: B2656, 289.53-14 to 289.55-1
  - 289.53-18, Walla Walla Army Airfield, WA, September 1946
- Box: GP-AB-3202-HI to GP-AB-6101-HI
  - GP-AB-4205-HI, 4205th Airbase Group, Mt. Home AFB, May-Jun 1949
- Box: K-GP-AB-1701-HI to K-GP-AB-1707-HI
  - K-GP-AB-1706-HI, 1706th Airbase Group, Mt. Home AFB, July 1951
- Box: K-WG-9-HI, May-July 1953
  - 9th Bombardment Wing, Medium, Mt. Home, AFB, May-July 1953
- Box: K-WG-9-HI, Dec 1953-Apr 1954
  - 9th Bombardment Wing, Medium, Mt. Home, AFB, Dec 1953-Apr 1954
- Box: K-MP-6418-HI to K-ORD-2702-HI
  - 2700th Explosive Ordnance Disposal Sq., Hill AFB, UT, Jul-Dec 1955

A.1.5 NATIONAL PERSONNEL RECORDS CENTER
MILITARY RECORDS
9700 PAGE AVENUE
ST. LOUIS, MO 63132-5100
(314) 538-4085

Record Group 342: Records of US Air Force Commands, Activities, and Organizations
- Accession 342-52A-5103
  - Box 1 of 1
- Accession 342-52B-3007
  - Box 70 of 149
- Accession 342-53A-4010
  - Boxes 12 and 20 of 21
- Accession 342-53B-4011
  - Box 9 of 9
- Accession 342-54Q-6040
  - Box 5 of 10
- Accession 342-57H-3001
  - Boxes 16 and 21 of 23
- Accession 342-57Q-3001
  - Box 1 of 1
- Accession 342-57B-3007
  - Box 7 of 13
- Accession 342-58F-6143
  - Boxes 3 and 11 of 15
- Accession 342-62B-1115
  - Box 31 of 39
- Accession 342-62A-4293
  - Box 1 of 1

A.1.6 NATIONAL ARCHIVES AND RECORDS ADMINISTRATION – PACIFIC ALASKA REGION
6125 SAND POINT WAY NE
SEATTLE, WA 98115
POC: JOHN FITZGERALD
(206) 526-6501

Record Group 121: Records of the Public Building Service
- Entry: Real Property Disposal Case Files, 1949-1977
  - Boxes: 35 and 36

Record Group 291: Records of the Federal Property Resource Service
- Entry: Real Property Disposal Case Files, 1959-1966
  - Boxes 13, 20, 42, 53, 58, 61, 73, 107

A.1.7 US ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
ENGINEERING/CONSTRUCTION DIVISION
4735 EAST MARGINAL WAY SOUTH
SEATTLE, WA 98124
POC: JONATHAN A. MAAS
(206) 764-6745

The team reviewed and copied the Inventory Project Backup Files for Bruneau Precision Bombing Range No. 2.

A.1.8 US ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
REAL ESTATE DIVISION
4735 EAST MARGINAL WAY SOUTH
SEATTLE, WA 98124
POC: JONATHAN A. MAAS (ENGINEERING DIVISION)
(206) 764-6745

The team reviewed and copied the Realty Control File for Bruneau Precision Bombing Range No. 2.

A.1.9 MOUNTAIN HOME AIR FORCE BASE, MOUNTAIN HOME, ID
BASE HISTORIAN OFFICE
MOUNTAIN HOME AIR FORCE BASE, ID 83648
POC: MSGT DUGRES OR SSGT BROWN, HISTORIAN
(208) 828-6318

This office provided no additional historical information pertaining to Bruneau Precision Bombing Range No. 2.

A.1.10 MOUNTAIN HOME AIR FORCE BASE, MOUNTAIN HOME, ID
BASE CIVIL ENGINEERING OFFICE
MOUNTAIN HOME AIR FORCE BASE, ID 83648
POC: MSGT DUGRE (HISTORIAN)
(208) 828-6318

This office provided no additional historical information for Bruneau Precision Bombing Range No. 2.

A.2 CARTOGRAPHIC AND AERIAL PHOTOGRAPHY REPOSITORIES

A.2.1 NATIONAL ARCHIVES AT COLLEGE PARK
8601 ADELPHI ROAD
COLLEGE PARK, MD 20740
STILL PICTURES BRANCH

Record Group 111: Records of the Office of the Chief Signal Officer
Entry SC-111, 1941-1954
Entry SC-111, 1955-1981

A.2.2 NATIONAL ARCHIVES AT COLLEGE PARK
8601 ADELPHI ROAD
COLLEGE PARK, MD 20740
CARTOGRAPHIC BRANCH

Record Group 77: Records of the Office of the Chief of Engineers
Entry Map Files

Defense Intelligence Agency (DIA)
1945 Aerial Photography, dated 25 July 1945.
1949 Aerial Photography, dated 30 September 1949.
2001 Aerial Photography, dated 8 August 2001.

APPENDIX B

REFERENCES

APPENDIX B – REFERENCES

INVENTORY PROJECT REPORT (INPR)

US Army Corps of Engineers, Seattle District

2003 *Inventory Project Report, Mountain Home Air Force Range No. 2, Project Number F10ID014100*, dated 18 August 2003, updated from October 1988. Inventory Project Files, Folder Mountain Home Air Force Range No. 2, Project Number F10ID014100, US Army Corps of Engineers, Seattle District, Seattle, WA (see APPENDIX F-1).

US Army Corps of Engineers, Walla Walla District

1988 *Inventory Project Report, Mountain Home Air Force Range No. 2, Project Number F10ID014100*, dated 8 November 1988. Inventory Project Files, Folder Mountain Home Air Force Range No. 2, Project Number F10ID014100, US Army Corps of Engineers, Seattle District, Seattle, WA. (see APPENDIX F-2)

REFERENCES

Bureau of Land Management

1958 Letter: *From Boise Land Office, ID to Real Estate Division, U.S. Army Corps of Engineers, Walla Walla District, WA,* dated 27 August 1958. Record Group 342, Accession No. 342-63A-3210, Box 1 of 4, Folder Dedudding, Mt. Home PBR No. 2, National Personnel Records Center, St. Louis, MO (see APPENDIX F-3).

Department of Interior

1952 Letter: *Asst. Secretary of the Interior to the Secretary of the Air Force,* dated 27 October 1952. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA. (see APPENDIX F-4)

Federal Climate Complex Asheville, NC.

Air Force Combat Climatology Center, June 2000 Summary. Climatic Data Summaries from: http://www.afccc.af.mil/ and http://www.ncdc.noaa.gov/oa/ncdc.html
AFCCC/DOO, 151 Patton Ave Rm 120, Asheville, NC 28801-5002

Harkness, Alan L.

1998 *Soil Survey of Owyhee County Area, Idaho.* US Department of Agriculture, Natural Resource Conservation Service.

Mountain Home Army Airfield, Idaho

1942 *History of Mountain Home Army Airfield, 7 December 1941 – 31 December 1942,* dated 31 December 1942. Microfilm Reel B2426, Call No. 286.68-1, Frames 0305-0306, USAFHRA, Maxwell AFB, AL. (see APPENDIX F-5)

1943 *History of Mountain Home Army Airfield, 1 January 1943 – 31 August 1943,* dated 31 August 1943. Microfilm Reel B2426, Call No. 286.68-2, Frames 0307-0472, USAFHRA, Maxwell AFB, AL (see APPENDIX F-6).

1944a *History of Mountain Home Army Airfield, April 1944,* dated 30 April 1944. Microfilm Reel B2426, Call No. 286.68-9, Frames 1291-1303, USAFHRA, Maxwell AFB, AL (see APPENDIX F-7).

1944b *History of Mountain Home Army Airfield, July 1944,* dated 31 July 1944. Microfilm Reel B2427, Call No. 286.68-11, Frames 0099-0113, USAFHRA, Maxwell AFB, AL (see APPENDIX F-8).

1944c *History of Mountain Home Army Airfield, October 1944,* dated 31 October 1944. Microfilm Reel B2427, Call No. 286.68-14, Frames 0422-0462, USAFHRA, Maxwell AFB, AL (see APPENDIX F-9).

1945 *History of Mountain Home Army Airfield, 1 – 15 February 1945,* dated 15 February 1945. Microfilm Reel B2427, Call No. 286.68-18, Frames 1537-1576, USAFHRA, Maxwell AFB, AL (see APPENDIX F-10).

Nettleton, Tim, Sheriff, Owyhee County, Idaho

1988 Letter: *Owyhee County Idaho Sheriff to US Army Corps of Engineers, Walla Walla District, Reference: Former Sites Used by DOD,* dated 23 February 1988. Inventory Project Files, Folder F10ID014300, Mountain Home Air Force Range No. 4, US Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA (see APPENDIX F-11).

Northwest Archeological Associates, Inc.

2004 Letter: *From Lorelea Hudson, Project Manager, Northwest Archeological Associates, Inc., to Alix Borrok, U.S. Army Corps of Engineers CEMVS-ED-P,* dated 1 March 2004. File Research of Northwest Archeological Associates Inc., Seattle WA (see APPENDIX F-12).

200th Army Air Forces Base Unit (Special) (PETERSEN FIELD, COLORADO SPRINGS, COLORADO)

1946 *History of 200th AAF Base Unit (Special), Colorado Springs, Colorado, October 1946,* dated 31 October 1946. Microfilm Reel B2428, Call No. 281.68-20, Frames 0406-0420, USAFHRA, Maxwell AFB, AL (see APPENDIX F-13).

Federal Register, Public Land Order 172

1943 *Public Land Order 172,* dated 27 September 1943. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA (see APPENDIX F-14).

Thornbury, William D.

1965 *Regional Geomorphology of the United States.* Department of Geology, Indiana University, John Wiley and Sons, New York.

Tyson, Herbert G., 1st Lieutenant, US Air Force, 2700th Explosive Ordnance Disposal Squadron

1954 Memorandum: *Certificate of Clearance,* dated 17 September 1954. Record Group 342, Accession No. 342-63A-3210, Box 1 of 4, Folder Dedudding, Mt. Home PBR No. 2, National Personnel Records Center, St. Louis, MO (see APPENDIX F-15)

Tyson, Herbert G., Major, US Air Force, 2700th Explosive Ordnance Disposal Squadron

1964 Memorandum: *Certificate of Clearance,* dated 24 July 1964. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA (see APPENDIX F-16).

Tyson, Herbert G., Major, US Air Force

1964 Report: *Range Clearance Report,* dated 25 June 1964. Record Group 342, Accession No. 342-67D-1805, Box 27 of 35, Folder , Mt. Home Real Estate, National Personnel Records Center, St. Louis, MO (see APPENDIX F-17).

US Army Corps of Engineers, North Pacific Division

1955 Letter: *From Assistant Chief for Real Estate to Director, Bureau of Land Management,* dated 25 November 1955. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, US Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA (see APPENDIX F-18).

US Army Corps of Engineers, Portland District Engineer

1945 Memorandum: *Subject: Estimate Request No. 2242 – Precision Bombing Targets, Mountain Home Army Airfield, Mountain Home, Idaho,* dated 31 March 1945. Record Group 342, Accession No. 342-57H-3001, Box 16 of 23, Folder 600.1 Mountain Home, Idaho, National Personnel Records Center, St. Louis, MO (see APPENDIX F-19).

US Army Corps of Engineers, Real Estate Division

1958 Letter: *From Chief of Real Estate Division to Commander U.S. Air Force Air Material Command,* dated 15 September 1958. Record Group 342, Accession No. 342-63A-3210, Box 1 of 4, Dedudding, Mt. Home PBR No. 2, National Personnel Records Center, St. Louis, MO (see APPENDIX F-20).

US Census Data

http://quickfacts.census.gov/qfd/index.html

US Geological Survey

USGS Water Resources: http://water.usgs.gov/

1992 *Little Valley, Idaho, Quadrangle, 7.5 Minute Series (topographic),* dated 1992.

Walla Walla Army Air Field, Washington

1946 *An Interim History of Walla Walla Army Air Field (Fifteenth Air Force), For the Period 21 October 1945 to 18 April 1946.* Microfilm Reel B2656, Call No. 289.53-18, Frames 1185-1186, USAFHRA, Maxwell AFB, AL (see APPENDIX F-21).

War Department

1943 Memorandum: *Subject: Acquisition of Land – Mountain Home Precision Bombing Range, Site Nos. 1, 2, 3, Idaho,* dated 23 June 1943. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, US Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA (see APPENDIX F-22).

Whitehead, R. L.

1994 *Ground Water Atlas of the United States; Segment 7-Idaho, Oregon, Washington.* Hydrologic Investigations Atlas 730-H, U.S. Geological Survey, Reston, VA.

9th Air Base Group

1953 Memorandum: *Subject: Declaration of Excess Real Property, Mountain Home Precision Bombing Range No. 2,* dated 24 November 1953. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, US Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA (see APPENDIX F-23).

9th Bombardment Wing

1953a Letter: *From Headquarters 9th Bombardment Wing to Commander Fifteenth Air Force,* dated 24 November 1953. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, US Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA (see APPENDIX F-24).

1953b *History of the 9th Bombardment Wing, Medium, 1 June-30 June 1953,* dated 31 July 1953. Box K-WG-9-HI May-July 1953, Call No. K-WG-9-HI July 1953, USAFHRA, Maxwell AFB, AL (see APPENDIX F-25).

200th Army Air Forces Base Unit, Mountain Home Army Airfield

1947 Letter: *Adjutant to Commanding General, Army Air Forces, Reference: Army Air Forces Letter 85-44, Subject: Rescission of Interdepartmental Air Traffice Control Board Clearances*, dated 24 February 1947. Record Group 18, Entry 2C, Decimal File 1947, Box 2794, Folder Mountain Home Army Airfield, Idaho, National Archives and Records Administration, Archives II, College Park, MD (see APPENDIX F-26).

2700th Explosive Ordnance Detachment

1954 Memorandum: *Subject: Final Report on Mountain Home PBR No. 2,* dated 17 September 1954. Record Group 342, Accession No. 342-63A-3210, Box 1 of 4, Folder Dedudding, Mt. Home PBR No. 2, National Personnel Records Center, St. Louis, MO (see APPENDIX F-27).

APPENDIX C

ABBREVIATIONS, ACRONYMS, AND BREVITY CODES

APPENDIX C – ABBREVIATIONS, ACRONYMS, AND BREVITY CODES

AA	Anti-Aircraft
AAF	Army Air Field
ACM	Asbestos-Containing Materials
ACSIM	Assistant Chief of Staff for Installation Management
ADR	Alternative Dispute Resolution
AEC	Army Environmental Center
AECS	Army Environmental Cleanup Strategy
AFAR	Army Federal Acquisition Regulation
AGO	Adjutant General's Office
AHA	Activity Hazards Analysis
AMSCO	Army Management Structure Code
AP	Armor Piercing
APDS	Armor Piercing Discarding Sabot
APERS	Antipersonnel
APT	Armor Piercing with Tracer
AR	Army Regulation
ARARs	Applicable or Relevant and Appropriate Requirements
ARC	Annual Report to Congress
ARC	Administrative Record Coordinator
ARIMS	Army Records Information Management System
ASA(I&E)	Assistant Secretary of the Army for Installations, and Environment
ASR	Archives Search Report
ASSHP	Abbreviated Site-Specific Safety and Health Plan
AST	Aboveground Storage Tanks
ASTSWMO	Association of State and Territorial Solid Waste Management Officials
ATG	Air-to-Ground
ATSDR	Agency for Toxic Substances and Disease Registry
Aux	Auxiliary
AWP	Annual Workplan
BAR	Browning Automatic Rifle
BD	Base Detonating
BD/DR	Building Demolition/Debris Removal
BDI	Budget Development Instructions
BE	Base Ejection
BES	Budget Estimate Submission
BGR	Bombing and Gunnery Range
BLM	Bureau of Land Management
BRAC	Base Realignment and Closure
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
BWM	Biological Warfare Materiel
BY	Budget Year

CA	Cooperative Agreement
CADD	Computer-Aided Design/Drafting
Cal	Caliber
CBDA	Chemical and Biological Defense Agency
CBDCOM	Chemical and Biological Defense Command
CE	Corps of Engineers
CEFMS	Corps of Engineers Financial Management System
CEHNC	Corps of Engineers, Engineering and Support Center, Huntsville
CEMVS	Corps of Engineers, St. Louis District
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFO	Chief Financial Officer
CFR	Code of Federal Regulations
cfs	Cubic Feet Per Second
CHF	Contaminant Hazardous Factor
CMR	Command Management Review
COE	Chief of Engineers
COMP	Composition
CON/HTRW	Containerized/Hazardous, Toxic, and Radioactive Waste
COR	Contracting Officer's Representative
CRA	Continuing Resolution Authority
CSM	Chemical Surety Material
CSM	Command Sergeant Major
CSM	Conceptual Site Model
CSS	Chemical Safety Submission
CTC	Cost-to-Complete
CTG	Cartridge
CWM	Chemical Warfare Material
CWS	Chemical Warfare Service
CX	Center of Expertise
CY	Current Year
DA	Department of the Army
DARCOM	Development and Readiness Command
DASA (ESOH)	Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health
DD	Decision Document
DDESB	DoD Explosives Safety Board
DENIX	Defense Environmental Network and Information Exchange
DEP	Director of Environmental Programs
DEP	Department of Environmental Protection
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DERP-FUDS	Defense Environmental Restoration Program-

DID	Data Item Descriptions
DLA	Defense Logistic Agency
DMM	Discarded Military Munitions
DNAPL	Dense, non-aqueous Phase Liquid
DoD	Department of Defense
DoDGAR	Department of Defense Grant and Agreement Regulations
DoDI	Department of Defense Instruction
DOE	Department of Energy
DOI	Department of Interior
DOJ	Department of Justice
DPC	Defense Plant Corporation (also called PLANCOR)
DQO	Data Quality Objective
DSMOA	Defense and State Memorandum of Agreement
DUSD (ES)	Deputy Under Secretary of Defense (Environmental Protection)
DUSD(I&E)	Deputy Under Secretary of Defense for Installation and Environmental
E	East
EDC	Engineering During Construction
EDD	Electronic Data Deliverable
EE/CA	Engineering Evaluation/Cost Analysis
EIS	Environmental Impact Statement
ELR	Environmental Liability Report
EM	Engineer Manual
EO	Executive Order
EOD	Explosive Ordnance Disposal
EP	Engineering Pamphlet
EPA	Environmental Protection Agency
ER	Engineer Regulation
ER	Environmental Restoration
ERDA	Environmental Restoration Defense Account
ER-FUDS	Environmental Restoration – Formerly Used Defense Sites
ESD	Explanation of Significant Differences
ESS	Explosives Safety Submission
ETL	Engineer Technical Letter
F&A	Finance and Accounting
FACA	Federal Advisory Committee Act
FAD	Funding Authorization Document
FAR	Federal Acquisition Regulation
FDD	Funding Distribution Document
FDE	Findings and Determination of Eligibility
FFERDC	Federal Facilities Environmental Restoration Dialogue Committee
FFID	Federal Facility Identification
FFMC	Federal Farm Mortgage Corporation
FFMIA	Federal Financial Management Improvement Act

FGDC	Federal Geographic Data Committee
FMR	Financial Management Regulation
FOA	Field Operating Activity
FOIA	Freedom of Information Act
FORSCOM	Forces Command
FOUO	For Official Use Only
FPMI	FUDS Program Management Indicators
FPS	FUDS Property Screening
FR	Federal Register
FS	Feasibility Study
FSP	Field Sampling Plan
FUDS	Formerly Used Defense Sites
FUDSMIS	Formerly Used Defense Sites Management Information System
FY	Fiscal Year
FYDP	Future Years Defense Plan
GIS	Geographic Information System
GMRA	Government Management Reform Act
GOCO	Government Owned/Contractor Operated
GPRA	Government Performance and Results Act
GSA	General Services Administration
HC	Hexachoroethane
HE	High Explosive
HEAT	High Explosive Anti-Tank
HEI	High Explosive Incendiary
HEP	High Explosive Plastic
HQ	Headquarters
HQDA	Headquarters, Department of the Army
HQUSACE	Headquarters, U.S. Army Corps of Engineers
HRS	Hazard Ranking System
HTRW	Hazardous, Toxic, and Radioactive Waste
HTRW CX	HTRW Center of Expertise
HTW	Hazardous and Toxic Waste
IAG	Interagency Agreement
IAS	Initial Assessment Study
IAW	In Accordance With
IC	Institutional Control
IDW	Investigation Derived Waste
IGE	Independent Government Estimate
ILLUM	Illuminating
INPR	Inventory Project Report
IR	Installation Restoration
IRA	Interim Removal Action
IRP	Installation Restoration Program
ITR	Independent Technical Review

LCP	Life-Cycle Plan
LDR	Land Disposal Restriction
LTM	Long-Term Management
LUC	Land Use Control
M&S	Management and Support
MAP	Management Action Plan
MC	Munitions Constituents
MCACES	Micro Computer Aided Cost Engineering System
MCX	Mandatory Center of Expertise
MEC	Munitions and Explosives of Concern
MFR	Memorandum for Record
MG	Machine Gun
MG	Major General
MM	Military Munitions
MM CX	Military Munitions Center of Expertise
MM/mm	Millimeter
MMR	Military Munitions Response
MMRP	Military Munitions Response Program
MOA	Memorandum of Agreement
MoM	Measures of Merit
MPF	Migration Pathway Factor
MPPEH	Material Potentially Presenting an Explosive Hazard
MR	Military Range
MRA	Munitions Response Area
MRS	Munitions Response Site
MSC	Major Subordinate Command
MT	Mechanical Time
MTS	Matter Tracking System
MTSQ	Mechanical Time Super Quick
N	North
NARA	National Archives and Records Administration
NAS	Naval Air Station
NCDC	National Climatic Data Center
NCP	National Contingency Plan
NCP	National Oil and Hazardous Substance Pollution Contingency Plan
n.d.	No Date
NDAA	National Defense Authorization Act
NDAI	No DoD Action Indicated
NEPA	National Environmental Policy Act
NEW	Net Explosive Waste
NFS	National Forest Service
NG	National Guard
NGVD	National Geodetic Vertical Datum
NIMA	National Imagery and Mapping Agency

NIOSH	National Institute of Safety and Health
NMAS	National Map Accuracy Standards
NOAA	National Oceanic and Atmospheric Administration
NOFA	No Further Action
NPL	National Priority List
NPRC	National Personnel Records Center
NR	Not Required
NRC	National Records Center
NRI	Natural Resource Injury
NTCRA	Non-Time-Critical Removal Action
NWS	National Weather Service
O&M	Operations and Maintenance
OADUSD (CL)	Office of the Assistant Deputy Under Secretary of Defense (Environmental Cleanup)
OC	Office of Counsel
OCE	Office Chief of Engineers
OCONUS	Outside Continental United States
ODEP	Office of the Director of Environmental Programs
ODUSD(I&E)	Office of the Deputy Under Secretary of Defense (Installations and Environment)
OE	Ordnance and Explosive
OMA	Operations and Maintenance Appropriation
OMB	Office of Management and Budget
OSD	Office of the Secretary of Defense
OSHA	Occupational Safety and Health Administration
OSWER	Office of Solid Waste and Emergency Response
OTSG	Office of the Surgeon General
PA	Preliminary Assessment (Enhanced)
PA	Preliminary Assessment
PAE	Preliminary Assessment of Eligibility
PAO	Public Affairs Office
PAO	Public Affairs Officer
PBC	Performance Based Contract
PCB	Polychlorinated Biphenyls
PCO	Project Closeout
PD	Point Detonating
PDI	Program Development Instruction
PDM	Program Decision Memorandum
PDR	Programming Data Requirements
PDT	Project Delivery Team
PEAR	Project Execution Accounting Report
PgDT	Program Delivery Team
PgM	Program Manager
PgMP	Program Management Plan

PIBD	Point Initiating, Base Detonating
PIP	Public Involvement Plan
PIRS	Project Information Retrieval System
PL	Public Law
PLANCOR	Defense Plant Corporation (also called DPC)
PM	Project Management
PM	Project Manager
PMP	Project Management Plan
PN	PRP Negotiations
POC	Point of Contact
POL	Petroleum, Oils, and Lubricants
POM	Program Objective Memorandum
PP	Proposed Plan
PP&E	Property, Plant, and Equipment
PPBES	Planning, Programming, Budgeting, Execution System
PRB	Project Review Board
PRESBUD	President's Budget
PRG	Preliminary Remediation Goal
PROMIS	Project Management Information System
PROSPECT	Proponent Sponsored Engineer Corps Training
PRP	Potentially Responsible Party
PRSC	Post Removal Site Control
PSM	Program Support Managers
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QASAS	Quality Assurance Specialist - Ammunition Surveillance
QC	Quality Control
QMP	Quality Management Plan
QSM	Quality System Manager
R	Range
RA	Remedial Action
RA	Removal Action
RAB	Restoration Advisory Board
RAC	Risk Assessment Code
RA-C	Remedial Action Construction
RACER	Remedial Action Cost Engineering and Requirements
RA-O	Remedial Action Operation
RC	Response Complete
RCRA	Resource Conservation and Recovery Act of 1976
RCWM	Recovered Chemical Warfare Material
RD	Remedial Design
RD	Remedial/Removal Design
RD/RA	Remedial Design/Remedial Action
RDX	Royal Dutch Explosive

RF	Receptor Factor
RFC	Reconstruction Finance Corporation
RG	Record Group
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RIP	Remedy-in-Place
RmA-C	Removal Action – Construction
RmD	Removal Design
RMIS	DoD Restoration Management Information System
ROD	Record of Decision
ROE	Right of Entry
RRSE	Relative Risk Site Evaluation
RSE	Remedial System Evaluation
S	South
S&A	Supervision and Administration
S&R	Supervision and Review
SAF	Subject to Availability of Funds
SAP	Simplified Acquisition Procedures
SARA	Superfund Amendments and Reauthorization Act of 1986
SBCCOM	US Army Soldier and Biological Chemical Command
SCS	Soil Conservation Service
SEDD	Staged Electronic Data Deliverable
SEP	Supplemental Environmental Program
SFFAS	Statement of Federal Financial Accounting Standards
SI	Site Investigation/Inspection
SMAP	Statewide Management Action Plan
SOL	Statute of Limitations
SOOH	Site Ownership and Operation History
SOP	Standard Operating Procedures
SOW	Scope of Work
SOW	Statement of Work
SPCC	Spill Prevention, Containment, and Countermeasures
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
Stat	United States Statutes at Large
SWMU	Solid Waste Management Units
T	Township
TAG	Technical Assistance Grant
TAPP	Technical Assistance for Public Participation
TBC	To-be-Considered
TCRA	Time-Critical Removal Action
TECOM	Test Evaluation Command
TEU	Technical Escort Unit
TI	Technical Impracticability wavier

TLM	Technical Liaison Manager
TM	Technical Management
TNT	Tri-Nitro-Toluene
TOSC	Technical Outreach Services to Communities
TP	Target Practice
TPP	Technical Project Planning
TPS	Third-Party Site
TRC	Technical Review Committee
TSCA	Toxic Substances Control Act
TSG	The Surgeon General
UPB	Unit Price Book
USA	United States of America
USACE	U.S. Army Corps of Engineers
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USADACS	U.S. Army Defense Ammunition Center and School
USAEC	U.S. Army Environmental Center
USAED	U.S. Army Engineer District
USAESCH	U. S. Army Engineering and Support Center, Huntsville
USATCES	U.S. Army Technical Center for Explosives Safety
USATHMA	U.S. Army Toxic and Hazardous Materials Agency
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USO	United Services Organization
UST	Underground Storage Tank
UU/UE	Unrestricted Use/Unlimited Exposure
UXO	Unexploded Ordnance
VE	Value Engineering
VV&A	Verification, Validation, and Accreditation
W	West
WAA	War Assets Administration
WD	War Department
WGS	World Geodetic System
WNRC	Washington National Records Center
WW I	World War I
WW II	World War II
XML	eXtensible Mark-up Language

APPENDIX D

GLOSSARY

APPENDIX D – GLOSSARY

THE FOLLOWING GLOSSARY CONTAINS A LIST OF POSSIBLY USED SELECTED TERMS WITHIN THIS CERCLA PRELIMINARY ASSESSMENT.

ACTION MEMORANDUM.
Approves time-critical removal action and concludes the engineering evaluation/cost analysis. Provides a concise, written record of the decision to select an appropriate removal action. As the primary decision document, it substantiates the need for a removal action, identifies the proposed action, and explains the rationale for the removal action selected.

ACTIVE RANGE[i]
A military range that is currently in service and is being regularly used for range activities

ADMINISTRATIVE RECORD.
The body of documents that "forms the basis" for the selection of a particular response at a site. Documents that are included are relevant documents that were relied upon in selecting the response action as well as relevant documents that were considered but were ultimately rejected. Until the Administrative Record is certified, it shall be referred to as the "Administrative Record file".

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS).
Applicable requirements are cleanup standards, standards of control, and other substantive environmental protection requirements promulgated under Federal or state environmental law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstance found at a CERCLA site. Relevant and appropriate requirements are cleanup standards that, while not "applicable", address situations sufficiently similar to those encountered at a CERCLA site that their use is well suited to the particular site.

APPROVAL MEMORANDUM.
Documents the decision to perform a removal action based on an evaluation of the NCP factors contained in 40 CFR 300.415(b). Secures management approval and funding to conduct the engineering evaluation/cost analysis.

BIOLOGICAL WARFARE MATERIEL (BWM). BWM is any item configured as a munition containing an etiologic agent that is intended to kill, seriously injure, or incapacitate a person through physiological effects; includes biological agent identification sets. BWM can also include etiological agents that are designed to damage or destroy crops that are intended for human consumption. (CESO Memorandum, 13 April 1998, Subject: Applicability of Biological Warfare Material and Non-Stockpile Chemical Warfare Response Activity Interim Guidance)

BENEFICIAL USE.
The use of a FUDS eligible real property or appurtenance for any purpose by an individual or non-DoD entity subsequent to DoD ownership, use, or control.

BUDGET ESTIMATE SUBMISSION (BES).
This is each service's 2-year budget proposal based on PDM. The first two budget years of the POM are the service's budget estimate submission, although all other POM years' fiscal data are summarized and included.

BUDGET YEAR (BY) ANNUAL WORKPLAN (AWP).
This is CEMP-DE's draft work directive for BY execution. The draft quarterly obligation or execution plan of the PRESBUD (BY program of the Future Years Defense Plans [FYDP]) is the initial draft BY AWP. This BY AWP will be updated each time the POM and BES are updated. Upon HQDA approval in October after Congressional authorization and appropriation of the PB, this becomes the Current Year (CY) annual workplan.

BUY-OUT AGREEMENT.
Buy-out agreement means an agreement under which terms of the settlement provide a final fixed cash amount from the Judgment Fund in exchange for a negotiated release and no further technical participation by USACE. One or more of the other PRPs are lead for response actions.

CATEGORICALLY EXCLUDED PROPERTIES.
Those properties are those at which, by the nature of operation or control that occurred, environmental restoration activities under the FUDS program are not required. Categorically excluded properties include United Services Organization (USO) properties, recruiting centers, and cemeteries.

CENTER OF EXPERTISE (CX).
A CX is a USACE organization that has been approved by HQUSACE as having a unique or exceptional technical capability in a specialized subject area that is critical to other USACE commands. These services may be reimbursable or centrally funded.

CHEMICAL AGENT[ii]
A chemical substance that is intended for use in military operations to kill, seriously injure, or incapacitate a person through its physiological effects. Excluded from consideration are industrial chemicals, riot control agents, chemical herbicides, smoke, and incendiary materiels.

CHEMICAL AGENT IDENTIFICATION SETS (CAIS)[iii]
CAIS are military training aids containing small quantities of various chemical warfare agents and other chemicals.

CHEMICAL WARFARE AGENTS (CWA)
Are the V- and G-series nerve agents, H-series (i.e., "mustard" agents) and L-series (i.e., lewisite) blister agents, and certain industrial chemicals used by the military as weapons, including hydrogen cyanide (AC), cyanogens chloride (CK), or carbonyl dichloride (called phosgene or CGI00. CWA do not include riot control agents (e.g., w-chloroacetophenone (CN) and ochlorobenzylidenemalononitrile (CS) tear gas), chemical herbicides, smoke or incendiary compounds, and industrial chemicals that are not configured as a military munition.

CHEMICAL WARFARE MATERIAL (CWM) [iv]
An item configured as a munition containing a chemical substance that is intended to kill, [seriously injure], or incapacitate a person through physiological effects. Also includes V- and G- series nerve agent, H-series blister agent, and lewisite in other than munition configurations. Due to their hazards, prevalence, and military-unique application, chemical agent identifications sets (CAIS) are also considered CWM. CWM does not include: riot control agents, chemical herbicides, smoke and flame producing items, or soil, water, debris or other media contaminated with chemical agent. CWM also falls under the definition of Ordnance and Explosives.

CHEMICAL WARFARE MATERIAL (CWM) [v] is a general term that includes four subcategories of specific materials:

CWM, explosively configured are all munitions that contain a CWA fill and any explosive component. Examples include M55 rockets with CWA, the M23 VX mine, and the M360 105-millimeter GB artillery cartridge.

CWM, nonexplosively configured are all munitions that contain a CWA fill but that do not include any explosive components. Examples include any chemical munition that does not contain an explosive component and VX or mustard agent spray canisters.

CWM, bulk container are all non-munitions-configured containers of CWA (e.g., a tone container).

Chemical Agent Identification Sets (CAIS). All forms of CAIS are scored the same except for CAIS K941, toxic gas set M-1; and K942, toxic gas set M-2/E-11, which are scored higher due to the relatively large quantities of agent they contain.

CLOSED RANGE [vi]
A military range that has been taken out of service as a range and that either has been put to new uses that are incompatible with range activities or is not considered by the military to be a potential range area. A closed range is still under the control of a DoD component.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA).
Congress enacted CERCLA, commonly known as Superfund, on 11 December 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.

CONCEPTUAL SITE MODEL (CSM).
A description of a FUDS and its environment that is based on existing knowledge. It describes sources of military munitions or HTRW at a property; actual, potentially complete, or incomplete exposure pathways; current or reasonably anticipated future land use; and potential receptors.

CONTRIBUTION AGREEMENT.
Contribution agreement means an agreement under which the settlement terms provide for "pay-asyou-go" reimbursement from the Judgment Fund to the other PRPs or from other PRPs to the United States on a percentage basis as costs are incurred and paid. The USACE PRP District may have a continued technical participation role or cost monitoring role as laid out in the agreement. Typically, the contribution agreement includes a clause allowing for buy-out settlement at an appropriate point in the response actions. One or more of the other PRPs are lead for response actions.

CORPS OF ENGINEERS FINANCIAL MANAGEMENT SYSTEM (CEFMS).
CEFMS is a Windows-based relational database system to be used as a financial execution and management tool at the District level. It records the project funding, obligation, expenditures, and disbursements for authorized projects. It shares financial data with P2. It supports the preparation of the Project Execution Accounting Report (PEAR) and other financial reports for management use.

COST-TO-COMPLETE (CTC).
This is an estimate of current and future costs of a project using the appropriate cost-to-complete software, such as RACER or MCACES.

COST RECOVERY.
Cost recovery involves money received from private parties to compensate DoD for its costs in response action activities for which the private party bears some responsibility. Cost recovery amounts involve completed response action activities and are available for redeposit to the ERFUDS account for use on other FUDS projects.

COST SHARING.
Cost sharing involves amounts contributed by a private party to DoD to compensate it for response action activities being planned or currently being conducted by DoD for which the private party bears responsibility. Cost sharing amounts are available to be used by DoD in its performance of response action activities at the particular site involved.

CURRENT LIABILITY.
These are liabilities incurred that will be covered by available budgetary resources (i.e., current year and six prior years) encompassing not only new budget authority but also other resources available to cover liabilities for specified purposes in a given year which includes unliquidated obligations."

CURRENT YEAR (CY) ANNUAL WORKPLAN (AWP).
This is CEMP-DE's official work directive based on the CY appropriated budget for Divisions and Districts to execute. It consists of all CY line items in the official FYDP.

DATA QUALITY OBJECTIVE (DQO).
A Data Quality Objective is a qualitative and quantitative statement developed to clarify study objectives, define the type of data needed, and specify the tolerable levels of potential decision errors. A DQO is used as the basis for establishing the type, quality, and quantity of data needed to support the decisions that will be made. (EM 1110-1-4009)

DECISION DOCUMENT.
The Department of Defense has adopted the term Decision Document for the documentation of remedial action (RA) decisions at non-National Priorities List (NPL) FUDS Properties. The decision document shall address the following: Purpose, Site Risk, Remedial Alternatives, Public/Community Involvement, Declaration, and Approval and Signature. A Decision Document for sites not covered by an interagency agreement or Federal facility agreement is still required to follow a CERCLA response. All Decision Documents will be maintained in the FUDS Property/Project Administrative Record file. An Action Memorandum is the decision document for a removal response action.

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM (DERP).
Congressionally authorized in 1986, DERP promotes and coordinates efforts for the evaluation and cleanup of contamination at Department of Defense installations and Formerly Used Defense Sites. (10 USC 2701 et. seq.)

DEFENSE SITE[vii]
Means locations that are or were owned by, leased to, or otherwise possessed or used by the Department of Defense. The term does not include any operational range, operating storage or manufacturing facility, or facility that is used for or was permitted for the treatment or disposal of military munitions.

DESIGN CENTER.
A specified USACE field office assigned a singular technical mission that is permanent and USACE-wide in scope. The designated office is to be considered the "lead activity" in a specialized area where capability needs to be concentrated for maximum effectiveness, economy, and efficiency. The MM Design Center (in coordination with the District PM) will execute all phases of the MMRP response project after the approval of the INPR, unless the removal action is transferred to an approved District. (ER 1110-1-8153)

DETERMINATION OF ELIGIBILITY.
This is an activity conducted by USACE exclusively to determine if a property and project are eligible under the FUDS Program. Information gathered during the determination of eligibility, along with recommendations for further action, if appropriate, is reported in the Inventory Project Report (INPR).

DISCARDED MILITARY MUNITIONS (DMM)[viii]
Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include unexploded ordnance, military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of consistent with applicable environmental laws and regulations.

DOD GOALS FOR THE DERP.
Formerly called the Defense Planning Guidance (DPG), the DoD Goals for DERP contains the Secretary of Defense's long-range goals and fiscal guidance. It is a major link between Planning and Programming.

DOD RELATIVE RISK SITE EVALUATION PRIMER.
The *DoD Relative Risk Site Evaluation Primer* issued in the summer 1997 provides information and guidance on the relative risk site evaluation framework used by DoD, in concert with stakeholders, to help sequence environmental work at projects at FUDS.

DOD'S UPDATED BES AND THE PRESIDENT'S BUDGET (PRESBUD).
BES will be updated based on the Program Budget Decision. The first budget year of the updated BES is the PRESBUD. OMB assembles the one-year PRESBUD to be submitted to Congress.

ENGINEERING EVALUATION/COST ANALYSIS (EE/CA).
An EE/CA is prepared for all non-time-critical removal actions as required by Section 300.415(b)(4)(i) of the NCP. The goals of the EE/CA are to identify the extent of a hazard, to identify the objectives of the removal action, and to analyze the various alternatives that may be used to satisfy these objectives for cost, effectiveness, and implementability. (EP 75-1-3)

EE/CA APPROVAL MEMORANDUM.
Secures management approval and funding to conduct the engineering evaluation/cost analysis.

EXPLOSIVE COMPOUNDS.
As used in the phrase "explosive compounds released to soil, surface water, sediments, or groundwater as a result of ammunition or explosives production or manufacturing at ammunition plants", explosives compounds such as the trinitrotoluene found in "red water" or "pink water" from TNT manufacturing. (*DoD Management Guidance for the DERP*)

EXPLOSIVES OF MUNITIONS EMERGENCY RESPONSE.
All immediate response activities by an explosives and munitions emergency response specialist to control, mitigate, or eliminate the actual or potential threat encountered during an explosives or munitions emergency. An explosives or munitions emergency response may include in-place render-safe procedures, treatment, or destruction of the explosives or munitions, and/or transporting those items to another location to be rendered sate, treated, or destroyed. Any reasonable delay in the completion of an explosives or munitions emergency response caused by a necessary, unforeseen, or uncontrollable circumstance will not terminate the explosives of munitions emergency. Explosives and munitions emergency responses can occur on either public or private lands and are not limited to responses at RCRA facility. [Munitions Rule, 40 CFR 260.10]

FIVE-YEAR REVIEWS.
Reviews conducted no less often than every 5 years after the start of the remedial action or more frequently if required by the ROD/DD for remedial actions that do not allow unlimited use and unrestricted exposure. These reviews are conducted to ensure that the remedial actions are still protective of human health, safety, and the environment.

FORMER RANGE[ix]
Former range means the munitions response site is a location that was:

(1) Closed by a formal decision made by the DoD Component with administrative control over the location, or

(2) Put to a use incompatible with the presence of UXO, DMM, or MC.

FORMERLY USED DEFENSE SITES (FUDS)[x]
A Formerly Used Defense Site is real property that was formerly owned by, leased by, possessed by, or otherwise under the operational control of the Secretary of Defense or the military components that predate the Department of Defense (hereinafter referred to collectively as "DoD"). Accordingly, DERP-FUDS include: all sites for which real property accountability previously rested with DoD irrespective of current ownership or current responsibility for accountability within the Federal government; all sites previously used by DoD components under lease or other agreements; and all sites previously occupied by DoD components over which significant control was exercised without the benefit of a formal real estate instrument or other agreements. FUDS may also include manufacturing facilities which were operated by contractors, as well as National Guard and Reserve facilities where property accountability at one time rested with DoD. A determination that a facility fits within the definition of DERP-FUDS does not constitute an admission of DoD cleanup liability for that site. Eligibility of DERP property is determined upon completion of an Inventory Project Report in accordance with the DERP-FUDS manual or as described in the DoD DERP Management Gu*idance.*

FORMERLY USED DEFENSE SITES (FUDS) PROPERTY.
A FUDS is defined as a facility or site (property) that was under the jurisdiction of the Secretary of Defense and owned by, leased to, or otherwise possessed by the United

States at the time of actions leading to contamination by hazardous substances. By the Department of Defense Environmental Restoration Program (DERP) policy, the FUDS program is limited to those real properties that were transferred from DoD control prior to 17 October 1986. FUDS properties can be located within the 50 States, District of Columbia, Territories, Commonwealths, and possessions of the United States.

FUDS ACCRUED ENVIRONMENTAL RESTORATION LIABILITY.
Cost to conduct environmental restoration activities to correct past contamination problems at Formerly Used Defense Sites properties.

FUDS CHARTER.
The FUDS Charter designates the Secretary of the Army as Executive Agent for the FUDS program and designates the Chief of Engineers the full responsibility for FUDS program management and execution. It further designates the Director of Military Programs (CEMP) of Headquarters U.S. Army Corps of Engineers (HQUSACE), acting on behalf of the Chief of Engineers, to accomplish FUDS programming, to develop program workplans, and to approve project priorities for funding considerations. Within CEMP, the Chief of the HQUSACE DoD Team (CEMP-DE) is assigned all management and execution responsibilities of the FUDS program. Much of the execution responsibilities have been re-delegated from CEMP to USACE Divisions and Districts.

FUDS PROJECT.
A FUDS Project is a unique name given to an area of an eligible FUDS property containing one or more releases or threatened releases of a similar response nature, treated as a discrete entity or consolidated grouping for response purposes. This may include buildings, structures, impoundments, landfills, storage containers, or other areas where hazardous substance are or have come to be located, including FUDS eligible unsafe buildings or debris. Projects are categorized by actions described under installation restoration (HTRW and CON/HTRW), military munitions response program, or building demolition/debris removal. An eligible FUDS Property may have more than one project.

FUDSMIS.
The FUDS Management Information System (MIS) is the corporate information system that supports planning, programming, budgeting, annual workplan development, execution, and reporting requirements for the FUDS program.

FUTURE YEARS DEFENSE PLANS (FYDP).
This contains executable project actions to match available dollars provided in the POM for the current year and subsequent six program years. The FYDP is a series of proposed annual funded workplans that contains all eligible projects and all phases of work identified by Divisions and Districts for all eligible FUDS properties. It is also DoD's master plan database. It contains resourcing decisions made through PPBS. DoD uses it for internal analysis and Congress uses it during review of budget requests. FYDP is a continuous process and is constantly updated based on POM Exhibits, BES, and

PRESBUD. However, regularly scheduled updates occur three times during each PPBS cycle:

- After the submission of the services' POM.
- After the submission of the services' BES.
- After the President submits his budget to Congress reflecting any final adjustments made to the DoD budget.

HAZARDOUS WASTE CONSTITUENT.
A hazardous waste constituent is the specific substance in a hazardous waste that makes it hazardous and, therefore, subject to regulation under Subtitle C of RCRA. 40 CFR Part 260.10 defines the term hazardous waste constituent as a constituent that caused the (EPA) Administrator to list the hazardous waste in Part 261, Subpart D, of this chapter, or a constituent listed in Table 1 of Part 261.24 of this chapter.

HISTORICAL EVIDENCE[xi]
Historical evidence means that the investigation:

(1) Found written documents or records, or
(2) Documented interviews of persons with knowledge of site conditions, or
(3) Found and verified other forms of information.

INACTIVE RANGE[xii]
A military range that is not currently being used, but that is still under military control and considered by the military to be a potential range area, and that has not been put to a new use that is incompatible with range activities.

INELIGIBLE PROPERTIES.
These are properties that are ineligible for action under the FUDS program.

INFORMATION REPOSITORY.
A repository, generally located at libraries or other publicly accessible locations in or near the community affect by the FUDS project, which contains accurate and up to date documents reflecting the on-going environmental restoration activities. This may include the EE/CA, PIP, RAB meeting minutes, public notices, public comments and responses to those comments, etc. (EP 1110-3-8)

INTEGRATED COMMAND ACCOUNTING REPORT (ICAR).
The ICAR is the official Department of Army (DA) financial report that originates from each military District providing accounting information for each appropriation, program, and subprogram from which funds are authorized. This report extracts financial information from CEFMS finance and accounting (F&A) database and is submitted monthly from each military District and Division office to HQ, where it is consolidated (Districts and Divisions combined) and sent to DA level. Information contained in the report includes funds authorized, obligations, disbursements, unobligated balances, etc., at program and subprogram level. Army uses this report to measure execution (obligations) of the FUDS program.

INTERAGENCY AGREEMENTS (IAG).
These are agreements set up between EPA and the DoD component that serve as the vehicle for remedy selection for all NPL properties when DoD is lead agency and addresses the completion of all necessary FUDS eligible remedial responses. This includes the review of cleanup alternatives, remedy selected, a cleanup schedule, and operation and maintenance arrangements. States can also be party to these agreements.

INVENTORY PROJECT REPORT (INPR).
The report resulting from the determination of FUDS eligibility. The INPR includes data as well as a recommendation for further action and guides investigators through further site studies. The INPR documents whether DoD is responsible for contamination at a FUDS.

LANDHOLDING AGENCY.
A Federal department or agency with statutory authority to control real property. (GSA Federal Management Regulation, Chapter 102, Subchapter C, Part 102–75.1160)

LAND USE CONTROLS (LUCs).
Physical, legal, or administrative mechanisms that restrict the use of, or limit access to, contaminated property to reduce risk to human health and the environment. Physical mechanisms encompass a variety of engineered remedies to contain or reduce contamination and physical barriers to limit access to property, such as fences or signs. The legal mechanisms are generally the same as those used for institutional controls (ICs) as discussed in the National Contingency Plan. ICs are a subset of LUCs and are primarily legal mechanisms imposed to ensure the continued effectiveness of land use restrictions imposed as part of a remedial decision. Legal mechanisms include restrictive covenants, negative easements, equitable servitudes, and deed notices. Administrative mechanisms include notices, adopted local land use plans and ordinances, construction permitting, or other existing land use management systems that may be used to ensure compliance with use restrictions. (*DoD Management Guidance for the DERP*)

LEAD REGULATORY AGENCY.
States or tribes are generally the lead regulator for environmental investigations and response at non-NPL FUDS. In certain circumstances, EPA may serve as lead regulator when the state or tribe requests EPA assume the lead or when EPA chooses to exert its lead regulator role. In cases where a non-NPL FUDS is on or affecting tribal land, the lead regulator role generally falls to the affected tribe. Project-specific circumstances may warrant assumption of the lead regulator role by EPA. When a FUDS is either proposed for inclusion or listed on the NPL, EPA is the lead regulator.

LIABILITY.
A probable and measurable outflow of resources arising from past transactions or events. (*DoD Management Guidance for the DERP*)

LIFE CYCLE COST (LCC).
CTC plus prior year actual expenditure plus prior year unliquidated obligations.

LIFE-CYCLE PLAN (LCP).
The LCP contains all historical data (FY84 through prior year) and CTC plan (CY through Timeto-Complete [TTC]). The official LCP contains the POM balanced FYDP.

LONG-TERM MANAGEMENT (LTM).
Term used for environmental monitoring, review of site conditions, and maintenance of a remedial action to ensure continued protection as designed once a FUDS achieves Response Complete. Examples of LTM include landfill cap maintenance, leachate disposal, fence monitoring and repair, 5-year review execution, and land use control enforcement. This term should be used until no further environmental restoration response actions are appropriate or anticipated. (*DoD Management Guidance for the DERP*)

MATERIAL POTENTIALLY PRESENTING AN EXPLOSIVE HAZARD (MPPEH)[xiii]
Material potentially containing explosives or munitions (e.g., munitions containers and packaging material; munitions debris remaining after munitions use, demilitarization, or disposal; and range-related debris); or material potentially contaminated with a high enough concentration of explosives such that the material presents an explosive hazard (e.g., equipment, drainage systems, holding tanks, piping, ventilation ducts) associated with munitions production, demilitarization or disposal operations. Excluded from MPPEH are munitions within DoD's established munitions management system and other hazardous items that may present explosion hazards (e.g., gasoline cans, compressed gas cylinders) that are not munitions and are not intended for use as munitions.

MILITARY MUNITIONS.
All ammunition products and components produced for or used by the U. S. armed forces for national defense and security, including ammunition products or components under the control of the Department of Defense, the Coast Guard, the Department of Energy, and the National Guard. The term includes confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes and incendiaries, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. The term does not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components, except that the term does include non-nuclear components of nuclear devices that are managed under the nuclear weapons program of the Department of Energy after all required sanitization operations under the *Atomic Energy Act* of 1954 (42 USC 2011, et seq.) have been completed. [*10 USC2710(e)(3)(A)*]

MMRP [MILITARY MUNITIONS RESPONSE PROGRAM] SITE
Any area on a defense site that is known or suspected to contain UXO, DMM, or MC. Examples include former ranges and munitions burial areas. An MMRP Site is essentially the same as a Munition Response Area and/or Munition Response Site but without regard to whether the boundaries overlap with other MMRP sites.

MILITARY RANGE.
Designated land or water area set aside, managed, and used to conduct research on, develop, test, and evaluate military munitions and explosives, other ordnance, or weapon systems, or to train military personnel in their use and handling. Ranges include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, and buffer zones with restricted access and exclusionary areas. [Military Munitions Rule, 40 CFR. 266.201]

MUNITION DEBRIS[xiv]
Remnants of munitions (e.g., penetrators, projectiles, shell casings, links, fins) remaining after munitions use, demilitarization or disposal.

MUNITION RESPONSE AREA (MRA)[xv]
Any area on a defense site that is known or suspected to contain UXO, DMM, or MC. Examples include former ranges and munitions burial areas. A munitions response area is comprised of one or more munitions response sites.

MUNITION RESPONSE SITE (MRS)[xvi]
A discrete location within a MRA that is known to require a munitions response.

MUNITIONS CONSTITUENTS (MC).
Any materials originating from unexploded ordnance, discarded military munitions, or other military munitions, including explosive and non-explosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions. [10 USC 2710(e)(4)]

MUNITIONS AND EXPLOSIVES OF CONCERN (MEC)[xvii]
This term, which distinguishes specific categories of military munitions that may pose unique explosives safety risks, means:

(a) Unexploded Ordnance (UXO), as defined in 10 U.S.C. 2710 (e) (9);
(b) Discarded military munitions (DMM), as defined in 10 U.S.C. 2710 (e) (2); or
(c) Munitions constituents (e.g., TNT, RDX) present in high enough concentrations to pose an explosive hazard.

MUNITIONS RESPONSE.
Response actions, including investigation, removal and remedial actions to address the explosives safety, human health, or environmental risks presented by unexploded Ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC).

NATIONAL OIL AND HAZARDOUS SUBSTANCE POLLUTION CONTINGENCY PLAN (NCP).
Revised in 1990, the NCP provides the regulatory framework for responses under CERCLA. The NCP designates the Department of Defense as the removal response authority for ordnance and explosives hazards.

NATURAL ATTENUATION.
The reduction of contaminant concentrations in the environment through biological processes (aerobic and anaerobic biodegradation, plant and animal uptake), physical phenomena (advection, dispersion, dilution, diffusion, volatilization, sorption/desorption), and chemical reactions (ion exchange, complexation, abiotic transformation). Terms such as intrinsic remediation or biotransformation are included within the more general natural attenuation definition. (Interim Army Policy on Natural Attenuation for Environmental Restoration)

NATURAL RESOURCE PROFESSIONAL.
An individual with an undergraduate or graduate degree in natural resource management sciences, and who has responsibility for supporting natural resource management on Army lands. Such individuals may be Department of the Army civilian employees, contractors, or other individuals providing natural resource management support on Army lands through interagency agreement, cooperative agreement, or similar arrangements. (Army Interim Policy For Integrating Natural Resource Injury Responsibilities And Environmental Response Activities)

NO DOD ACTION INDICATED (NDAI).
This is a Formerly Used Defense Sites (FUDS) where USACE has made a programmatic decision that the property or project conforms to the following:

- It is not eligible for consideration under the FUDS program.
- It is categorically excluded from the FUDS program
- The hazards found were not the result of DoD actions on or before 17 October 1986, pose no threat to human health or safety or the environment and, no additional environmental restoration activities are required.

NON-CURRENT LIABILITIES
These include liabilities incurred for which revenues or other sources of funds necessary to pay the liabilities have not been made available through congressional appropriations or current earnings of the reporting entity (i.e., non-current liability equals to the program CTC minus the current-year program funding).

NON-STOCKPILE CHEMICAL WARFARE MATERIEL[xviii]
CWM (see definition) that is not included in the chemical stockpile. Non-stockpile CWM is divided into five categories: buried CWM, recovered CWM (items recovered during range clearing operations, from chemical burial sites, and from research and development testing), former chemical weapon production facilities, binary chemical weapons, and miscellaneous CWM (unfilled munitions and devices and equipment specially designed for use directly in connection with employment of chemical weapons). (HQDA Interim

Guidance for Biological Warfare Materiel (BWM) and Non-stockpile Chemical Warfare Materiel (CWM) Response Activities).

NON-TIME-CRITICAL REMOVAL ACTION (NTCRA).
A NTCRA is an action initiated in response to a release or threat of a release that poses a risk to human health and welfare, or the environment. Initiation of removal cleanup actions may be delayed for 6 months or more.

ORDNANCE AND EXPLOSIVES (OE) [xix]
Anything related to munitions designed to cause damage to personnel or material through explosive force, incendiary action or toxic effects. OE is: bombs and warheads, missiles; artillery, mortar and rocket ammunition, small arms ammunition; antipersonnel and antitank mines; demolition charges; high explosives and propellants; depleted uranium rounds; military chemical warfare materials as defined [below]; and all similar and related items or components, explosive in nature or otherwise designed to cause damage to personnel or material (e.g., fuze, boosters/propellants or soils/media contaminated with explosives if the concentration is sufficient to be reactive.) . . .Unexploded Ordnance (UXO) is an item of explosive ordnance which has failed to function as designed or has been abandoned, discarded or improperly disposed of and is still capable of functioning, causing damage to personnel or material.

OPERATIONAL RANGE[xx]
A military range that is used for range activities, or a military range that is not currently being used, but that is still considered by the DoD Component to be a range area; is under the jurisdiction, custody, or control of the Department of Defense; and has not been put to a new use that is incompatible with range activities.

OTHER THAN OPERATIONAL RANGE.
Replaces the previous definitions for Closed, Transferring, or Transferred ranges.

PERFORMANCE BASED CONTRACT (PBC).
Performance-based contracting methods are intended to ensure that required performance quality levels are achieved and that total payment is related to the degree that services performed meet contract standards. Performance-based contracts: (a) Describe the requirements in terms of results required rather than the methods of performance of the work; (b) Use measurable performance standards (i.e., terms of quality, timeliness, quantity, etc.) and quality assurance surveillance plans; (c) Specify procedures for reductions of fee or for reductions to the price of a fixed-price contract when services are not performed or do not meet contract requirements; and (d) Include performance incentives where appropriate. (Federal Acquisition Regulations, part 37.601)

PHYSICAL EVIDENCE[xxi]
Physical evidence means:

(1) Recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or
(2) The results of field or laboratory sampling and analysis procedures, or
(3) The results of geophysical investigations.

PLANNING, PROGRAMMING, BUDGETING, AND EXECUTION SYSTEM (PPBES).
Army's system that mirrors the DoD's PPBS.

POTENTIALLY RESPONSIBLE PARTIES (PRP).
A PRP is defined in CERCLA Section 107 as any person related to a property that is a:

- Current owner or operator.
- Past owner or operator at the time of disposal of any hazardous substance, pollutant, or contaminant.
- Person who arranges for disposal, treatment, or transport for disposal or treatment of hazardous substances.
- Transporter who has selected the site for the disposal of a hazardous substance.

POTENTIALLY RESPONSIBLE PARTY/HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (PRP/HTRW) PROJECT.
A FUDS where HTRW cleanup requirements exist and parties other than DoD are potentially responsible parties for the hazardous substances, pollutants, or contaminants.

POTENTIALLY RESPONSIBLE PARTY/MILITARY MUNITIONS RESPONSE (PRP/MMRP) PROJECT.
A FUDS where MMRP cleanup requirements exist and parties other than DoD are potentially responsible parties for disposal of the MMRP materials.

PRELIMINARY ASSESSMENT (PA).
The Preliminary Assessment is a limited-scope investigation that collects readily available information about a project and its surrounding area. The PA is designed to distinguish, based on limited data, between sites that pose little or no threat to human health and the environment and sites that may pose a threat and require further investigation. The PA also identifies sites requiring assessment for possible emergency response actions. If the PA results in a recommendation for further investigation, a Site Inspection is performed. Refer to the EPA publication *Guidance for Performing Preliminary Assessments Under CERCLA*, September 1991, for additional information.

PROGRAM BUDGET DECISION (PBD).
This is a comptroller driven, appropriation-oriented decision upon review and analysis of the services' BES.

PROGRAM DECISION MEMORANDUM (PDM).
This is DoD's decision document designed to provide each service feedback on how closely its POM meets the DoD Goals for the DERP and to provide each service a baseline for developing BES and PB.

PROGRAM MANAGEMENT.
Component of the PMBP undertaken by all USACE echelons to manage programs. It consists of the development, justification, management, defense, and execution of programs within available resources, in accordance with applicable laws, policies, and regulations, and includes accountability and performance measurements. Under program management, programs, projects, and other commitments are aggregated for oversight and direction by the organization's senior leadership. Program management takes project management to a greater level of interdependence and broadens the corporate perspectives and responsibilities.

PROGRAM MANAGER.
Program managers integrate program information and facilitate management. Program managers and Program Management Team members keep higher echelons of the customer's organization updated on all work USACE is performing on their behalf, and assist customers in accessing USACE resources across organizational boundaries. Program managers are responsible for making accurate program projections necessary to support workload analysis at the local, regional, and national level. (ER 5-1-11)

Program Objective Memorandum (POM).
This is the memorandum that documents each service's proposals for resource allocation for six program years to meet fiscal constraints contained in the DoD Goals for the DERP and each service's objectives.

PROJECT DELIVERY TEAM (PDT).
The PDT is a multi-disciplined project team lead by the Project Manager with responsibility for assuring that the project stays focused, first and foremost on the public interest, and on the customer's needs and expectations, and that all work is integrated and done in accordance with a PMP and approved business and quality management processes. The PDT focuses on quality project delivery, with heavy reliance on partnering and relationship development to achieve better performance. The PDT shall consist of everyone necessary for successful development and execution of all phases of the project. The PDT will include the customers, the PM, technical experts within or outside the local USACE activity, specialists, consultants/contractors, stakeholders, representatives from other Federal and state agencies, and higher level members from Division and Headquarters who are necessary to effectively develop and deliver the project actions. The customer is an integral part of the PDT. (ER 5-1-11)

PROJECT EXECUTION ACCOUNTING REPORT (PEAR).
The PEAR contains the same financial information as the ICAR above, except it is reported at each individual project level authorized by the Funding Authorization Document (FAD).

PROJECT FILE.
The body of documents that contains the rationale and justification for the selection of the response action and that supports FUDSMIS data and Cost-to-Complete estimates. It contains all documents in the Administrative Record file as well as additional supporting documentation not included in the Administrative Record file due to issues such as privacy, financial confidentiality, etc.

PROJECT MANAGEMENT.
The application of knowledge, skills, tools, and techniques to project activities to meet or exceed defined expectations.

PROJECT MANAGEMENT BUSINESS PROCESS (PMBP).
The fundamental USACE business process used to deliver quality projects. It reflects the USACE corporate commitment to provide "customer service" that is inclusive, seamless, flexible, effective, and efficient. It embodies communication, leadership, systematic and coordinated management, teamwork, partnering, effective balancing of competing demands, and primary accountability for the life cycle of a project.

PROJECT MANAGEMENT PLAN (PMP) (PGMP FOR PROGRAMS).
A living document used to define expected outcomes and guide execution and control of project (or program) actions. Primary uses of the PMP are to facilitate communication among participants, assign responsibilities, define assumptions, and document decisions. Establishes baseline plans for scope, cost, schedule, safety, and quality objectives against which performance can be measured, and to adjust these plans as actual performance dictates. The project delivery team develops the PMP.

PROJECT MANAGER (PM).
The PM is responsible for management and leadership of a project during its entire life cycle, even when more than one USACE District or activity is involved. The PM will generally reside at the geographic District but can be elsewhere as needed. The PM and PDT are responsible and accountable for ensuring the team takes effective, coordinated actions to deliver the completed project according to the PMP. The PM manages all project resources, information and commitments, and leads and facilitates the PDT towards effective development and execution of project actions. (ER 5-1-11)

PROPOSED PLAN.
In the first step in the remedy selection process, the lead agency identifies the alternative that best meets the requirements in CERCLA 300.430(f)(1) and presents that alternative to the public in a proposed plan. The purpose of the proposed plan is to supplement the RI/FS and provide the public with a reasonable opportunity to comment on the preferred

alternative for remedial action, as well as alternative plans under consideration, and to participate in the selection of remedial action at a site.

PUBLIC INVOLVEMENT PLANS (PIP)
Formerly called the Community Relations Plan, the Public Involvement Plan serves as the framework to establish a successful information exchange with the public during the Environmental Restoration Process. The PIP follows guidelines set forth under CERCLA and the SARA. Each PIP must be tailored to fit the individual site and situation and should also accommodate any site-specific agreements between the U.S. Army and the EPA or state environmental agencies. The PIP is not a static document and should be revised to reflect the development and progress of actions at the project.

QUALITY ASSURANCE (QA).
An integrated system of management activities involving planning, implementation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed to meet project requirements defined in the PMP.

QUALITY CONTROL (QC).
The overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established in the PMP; operational techniques and activities that are used to fulfill requirements for quality.

QUALITY MANAGEMENT.
Processes required to ensure that the actions at the project would satisfy the needs and objectives for which it was undertaken, consisting of quality planning, quality assurance, quality control, and quality improvement.

QUALITY MANAGEMENT PLAN (QMP).
A document that describes a quality system in terms of the organizational structure, policy and procedures, functional responsibilities of management and staff, lines of authority, and required interfaces for those planning, implementing, documenting, and assessing all activities conducted.

QUALITY SYSTEM MANAGER (QSM).
The FUDS Program Manager at a geographic Military Division or District designated as the principal manager within the organization having management oversight and responsibilities for quality management process of the FUDS program at that level.

RANGE[xxii]
Means a designated land or water area set aside, managed, and used to conduct research, development, testing, and evaluation of military munitions, other ordnance, or weapon systems, or to train military personnel in their use and handling. Ranges include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, electronic scoring sites, buffer zones with restricted access, and exclusionary areas, and

airspace areas designated for military use according to regulations and procedures established by the Federal Aviation Administration such as special use airspace areas, military training routes, or other associated airspace.

RANGE CLEARANCE[xxiii]
The recovery, collection, and on-range destruction of military munitions (e.g., unexploded ordnance (UXO)), munitions debris, and other range-related debris (e.g., targets) on operational ranges to maintain or enhance operational safety or to allow the continued use of the range for its intended purpose. The term "range clearance" does not include toe on-range disposal or burial of UXO and munitions constituents, when the burial is not a result of normal use.

RANGE RELATED DEBRIS[xxiv]
Debris, other than munitions debris, collected from operational ranges or from former ranges (e.g., targets).

RECORD OF DECISION (ROD).
The ROD is a public document that explains which alternatives will be used to clean up a Superfund site. The ROD for sites listed on the NPL is created from information generated during the RI/FS.

RECOVERED CHEMICAL WARFARE MATERIEL (RCWM).
An item configured as a munition containing a chemical substance that is intended to kill, seriously injure, or incapacitate a person through its physiological effects. Also includes V- and G- series nerve agents, H- series blister agent, and lewisite in other-than-munition configurations. Due to their hazards, prevalence, and military-unique application, chemical agent identification sets (CAIS) are also considered CWM. CWM does not include: riot control agents, chemical herbicides; smoke and flame producing items; or soil, water, debris, or other media contaminated with chemical agent. (HQDA Interim Guidance for Biological Warfare Materiel and Non- Stockpile Chemical Warfare Materiel Response Activities). (EP 75-1-3)

RECOVERED CHEMICAL WARFARE MATERIEL (RCWM)[xxv]
Non-stockpile CWM that was previously discarded, buried, or fired and discovered either unexpectedly or during planned environmental restoration operations.

REMEDIAL OR REMEDIAL ACTION (RA).
Those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health, welfare or the environment. The term includes, but is not limited to, such actions at the location of the release as storage; confinement; perimeter protection using dikes, trenches, or ditches; clay cover; neutralization; cleanup of released hazardous substances and associated contaminated materials; recycling or reuse; diversion; destruction; segregation

of reactive wastes; dredging or excavations; repair or replacement of leaking containers; collection of leachate and runoff; on-site treatment or incineration; provision of alternative water supplies; and any monitoring reasonably required to assure that such actions protect the public health, welfare, and the environment. The term includes the costs of permanent relocation of residents and businesses and community facilities where the President determines that, alone or in combination with other measures, such relocation is more cost-effective and environmentally preferable to the transportation, storage, treatment, destruction, or secure disposition off-site of hazardous substances, or may otherwise be necessary to protect the public health or welfare. The term includes off-site transport and off-site storage, treatment, destruction, or secure disposition of hazardous substances and associated contaminated materials. (*DoD Management Guidance for the DERP*)

REMEDIAL ACTION-CONSTRUCTION (RA-C).
The period during which the final remedy is being put in place. The end date signifies that the construction is complete, all testing has been accomplished, and that the remedy will function properly. (*DoD Management Guidance for the DERP*)

REMEDIAL ACTION-OPERATIONS (RA-O).
The period during which the remedy is in place and operating to achieve the cleanup objective identified in the Record of Decision or equivalent agreement. Any system operation or monitoring requirements during this time shall be termed RA-O. (*DoD Management Guidance for the DERP*)

REMEDIAL DESIGN (RD).
A phase of remedial action that follows the remedial investigation/feasibility study and includes development of engineering drawings and specifications for a site cleanup.

REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS).
An in-depth study designed to gather the data necessary to determine the nature and extent of known contamination at a site, assess risk to human health and the environment, and establish criteria for cleaning up the site. During the FS, the RI data are analyzed and remedial alternatives are identified. The FS serves as the mechanism for the development, screening, and detailed evaluation of alternative remedial actions.

REMEDY IN PLACE (RIP).
Designation that a final remedial action has been constructed and implemented and is operating as planned in the remedial design. An example of a remedy in place is a pump-and-treat system that is installed, is operating as designed, and will continue to operate until cleanup levels have been attained. Because operation of the remedy is ongoing, the site cannot be considered Response Complete. (*DoD Management Guidance for the DERP*)

REMOVAL OR REMOVAL ACTION.
The cleanup or removal of released hazardous substances from the environment. Such actions may be taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 9604(b), and any emergency assistance which may be provided under the *Disaster Relief and Emergency Assistance Act* [42 USC 5121 et seq.] The requirements for removal actions are addressed in 40 CFR §§300.410 and 300.415. The three types of removals are emergency, time-critical, and non time-critical removals. (*DoD Management Guidance for the DERP*)

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA).
Enacted in 1976, RCRA promotes the protection of health and the environment. It regulates waste generation, treatment, storage, transportation, and disposal for facilities currently in operation.

RESPONSE ACTION.
A CERCLA-authorized action involving either a short-term removal action or a long-term removal response. This may include, but is not limited to, removing hazardous materials, containing or treating the waste on-site, and identifying and removing the sources of ground water contamination and halting further migration of contaminants.

RESPONSE COMPLETE (RC).
The remedy is in place and required remedial action-operations (RA-O) have been completed. If there is no RA-O phase, then the remedial action-construction end date will also be the RC date (*DoD Management Guidance for the DERP*)

RESTORATION ADVISORY BOARD (RAB).
A Restoration Advisory Board (RAB) is a forum for the discussion and exchange of information between representatives of the Department of Defense (DoD), regulators, state and local governments, tribal governments, and the affected community. RABs provide an opportunity for stakeholders to have a voice and actively participate in the review of technical documents, to review restoration progress, and to provide individual advice to decision makers regarding restoration activities at FUDS Properties and Projects.

RISK ASSESSMENT CODE (RAC).
An expression of the risk associated with a hazard. The RAC combines the hazard severity and accident probability into a single Arabic number on a scale from 1 to 5, with 1 being the greatest risk and 5 the lowest risk. The RAC is used to prioritize response actions.

SITE INSPECTION (SI).
Activities undertaken to determine whether there is a release or potential release and the nature of associated threats. The purpose is to augment the data collected in the PA and to generate, if necessary, sampling and other field data to determine the presence, type, distribution, density, and location of hazardous substances or military munitions.

SMALL ARMS AMMUNITION[xxvi]
Small arms ammunition means ammunition that is .50 caliber or smaller and shotgun shells.

STAKEHOLDER.
Stakeholders include Federal, state, and local officials, tribal officials, community organizations, property owners, and others having a personal interest or involvement or having a monetary or commercial involvement in the FUDS Property that is to undergo a remedial/response action.

TECHNICAL ASSISTANCE FOR PUBLIC PARTICIPATION (TAPP).
The TAPP is a DoD program that allows USACE to contract for independent technical assistance to Restoration Advisory Boards and Technical Review Committees based on community member requests for assistance in interpreting scientific and engineering issues related to FUDS property restoration activities.

TECHNICAL PROJECT PLANNING (TPP).
The process for designing data collection programs at FUDS properties. The TPP process helps ensure that the requisite type, quality, and quantity of data are obtained to satisfy project objectives that lead to informed decisions and project/property closeout.

THIRD-PARTY SITE (TPS).
A TPS is neither an active nor a former DoD property. It is a site where the source for contamination originated from a FUDS property and DoD is a potentially responsible party under CERCLA. Under the DERP FUDS program, on a PRP project is authorized for a TPS.

TIME-CRITICAL REMOVAL ACTION (TCRA).
A TCRA is a response to a release or threat of release that poses such a risk to public health (serious injury or death), or the environment, that clean up or stabilization actions must be initiated within 6 months.

TRANSFERRED RANGE[xxvii]
A military range that is no longer under military control and has been leased, transferred, or returned to another entity, including Federal entities. This includes a military range that is no longer under military control but was used under the terms of a withdrawal, executive order, special-use permit or authorization, right-of-way, public land order, or other instrument issued by the Federal land manager.

TRANSFERRING RANGE[xxviii]
A military range that is proposed to be leased, transferred, or returned from the Department of Defense to another entity, including Federal entities. This includes a military range that is used under the terms of a withdrawal, executive order, special-use permit or authorization, right-of-way, public land order, or other instrument issued by the Federal land manager. An active range will not be considered a ``transferring range" until the transfer is imminent.

TRIBES.
Federally recognized American Indian and Alaskan Native governments.

UNEXPLODED ORDNANCE (UXO).
Military munitions that:

- Have been primed, fused, armed, or otherwise prepared for action;
- Have been fired, dropped, launched, projected or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material; and
- Remain unexploded either by malfunction, design, or any other cause. [10 USC 2710 (e)(9)]

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[i] Environmental Protection Agency, Military Munitions Rule, published 12 February 1997 (62 FR 6622)

[ii] Corps of Engineers Safety Office (CESO), *ER 385-1-92, Safety - Safety and Occupational Health Requirements for Hazardous, Toxic, and Radioactive Waste (HTRW) Activities*, 1 September 2000

[iii] Department of Defense, Munitions Response Site Prioritization Protocol; Proposed Rule, 22 August 2003; 32 CFR Part 179

[iv] Corps of Engineers Safety Office (CESO), *ER 385-1-92, Safety - Safety and Occupational Health Requirements for Hazardous, Toxic, and Radioactive Waste (HTRW) Activities*, 1 September 2000

[v] Department of Defense, Munitions Response Site Prioritization Protocol; Proposed Rule, 22 August 2003; 32 CFR Part 179

[vi] Originally defined in the 26 September 1997 DOD proposed range rule, *Closed, Transferred, and Transferring Ranges Containing Military Munitions*, Title 32 Code of Federal Regulations (CFR) Part 178, which the DoD withdrew on 13 November 2000.

[vii] 10 U.S.C. 2710(e)(1)

[viii] 10 U.S.C. 2710(e)(2)

[ix] Department of Defense, Munitions Response Site Prioritization Protocol; Proposed Rule, 22 August 2003; 32 CFR Part 179

[x] Department of the Army Office of the Assistant Secretary Installations Logistics and Environment, Memorandum Subject: Formerly Used Defense Sites (FUDS) Program Charter, 29 June 1994

[xi] Department of Defense, Munitions Response Site Prioritization Protocol; Proposed Rule, 22 August 2003; 32 CFR Part 179

[xii] Environmental Protection Agency, Military Munitions Rule, published 12 February 1997 (62 FR 6622)

[xiii] Department of the Army Office of the Assistant Secretary Installations and Environment, Memorandum for the Assistant Chief of Staff For Installation Management, Subject: Definition Related to Munitions Response Action, 28 October 2003:

[xiv] Department of the Army Office of the Assistant Secretary Installations and Environment, Memorandum for the Assistant Chief of Staff For Installation Management, Subject: Definition Related to Munitions Response Action, 28 October 2003:

[xv] Department of the Army Office of the Assistant Secretary Installations and Environment, Memorandum for the Assistant Chief of Staff For Installation Management, Subject: Definition Related to Munitions Response Action, 28 October 2003:

[xvi] Department of the Army Office of the Assistant Secretary Installations and Environment, Memorandum for the Assistant Chief of Staff For Installation Management, Subject: Definition Related to Munitions Response Action, 28 October 2003:

[xvii] Department of the Army Office of the Assistant Secretary Installations and Environment, Memorandum for the Assistant Chief of Staff For Installation Management, Subject: Definition Related to Munitions Response Action, 28 October 2003:

[xviii] U. S. Army Corps of Engineers (EP 75-1-3 CECW-ET), *EP 75-1-3, Explosives - Recovered Chemical Warfare Materiel Response*, 04 January 2002

[xix] Corps of Engineers Safety Office (CESO), *ER 385-1-92, Safety - Safety and Occupational Health Requirements for Hazardous, Toxic, and Radioactive Waste (HTRW) Activities*, 1 September 2000

[xx] 10 U.S.C. 2710(e)(5)

[xxi] Department of Defense, Munitions Response Site Prioritization Protocol; Proposed Rule, 22 August 2003; 32 CFR Part 179

[xxii] Section 1043 of the proposed FY 2004 DoD Authorization Act.

[xxiii] Department of the Army Office of the Assistant Secretary Installations and Environment, Memorandum for the Assistant Chief of Staff For Installation Management, Subject: Definition Related to Munitions Response Action, 28 October 2003:

[xxiv] Department of the Army Office of the Assistant Secretary Installations and Environment, Memorandum for the Assistant Chief of Staff For Installation Management, Subject: Definition Related to Munitions Response Action, 28 October 2003:

[xxv] U. S. Army Corps of Engineers (CESO-I), *ER 385-1-95, Safety - Safety and Health Requirements for Ordnance and Explosives (OE) Operations*, 16 June 2003

[xxvi] Department of Defense, Munitions Response Site Prioritization Protocol; Proposed Rule, 22 August 2003; 32 CFR Part 179

[xxvii] Originally defined in the 26 September 1997 DOD proposed range rule, *Closed, Transferred, and Transferring Ranges Containing Military Munitions*, Title 32 Code of Federal Regulations (CFR) Part 178, which the DoD withdrew on 13 November 2000.

[xxviii] Originally defined in the 26 September 1997 DOD proposed range rule, *Closed, Transferred, and Transferring Ranges Containing Military Munitions*, Title 32 Code of Federal Regulations (CFR) Part 178, which the DoD withdrew on 13 November 2000.

APPENDIX E

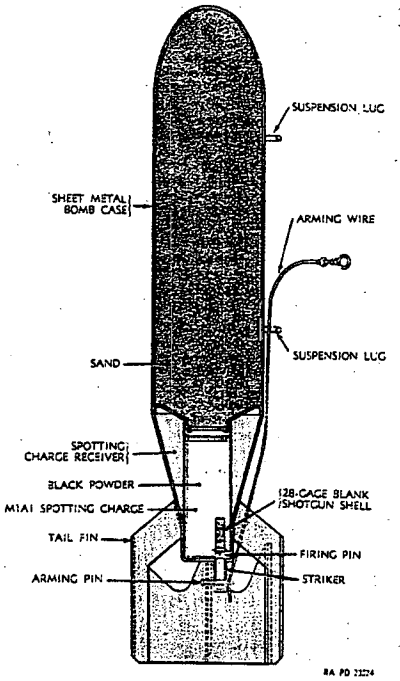
ORDNANCE TECHNICAL DATA SHEETS

Munitions Technical Data Sheets

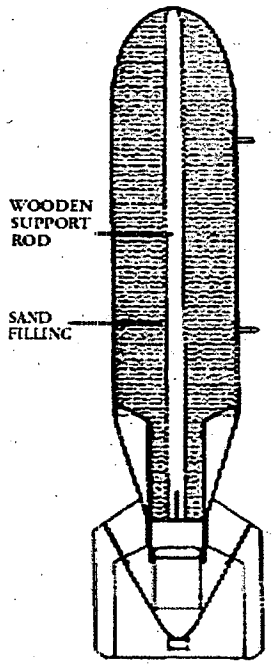
PAGE

E-1	Bomb, Practice, 100 Pound, M38A2
E-2	Spotting Charges, M1A1, M3, M5
E-4	Bomb, General Purpose, (GP), 100-pound , AN-M30
E-5	Fuze, Bomb, Tail, AN-M100 Series
E-8	Fuze, Bomb, Nose, AN-M103A1
E-11	Cartridge, Caliber .50

BOMB, PRACTICE, 100 POUND, M38A2



with M1A1 spotting charge



with M5 spotting charge

Description. This bomb simulates a General Purpose bomb of the same size. It is constructed of light sheet metal, approximately 22-gage, formed by rolling a rectangular sheet of metal into the form of a cylinder approximately 8 inches in diameter, and spot-welding the seam. The rounded nose is pressed from the same metal, as is the tail, which is formed in the shape of a cone. The tail portion ends in box type fins, which are welded to the cone. Inside of the smaller end of the conical tail section is welded the spotting charge receiver. The spotting charge is assembled in a sleeve at the base of the bomb, within the fin box. Authorized spotting charges are the M1A1, M3, and M5. When using the M5 spotting charge a wooden support rod is installed in the bomb. Two suspension lugs are bolted to the bomb body during fabrication. The Suspension Band M1 is provided for single suspension. The band is a separate component. The over-all length of the bomb body is 47.5 inches. When empty, the bomb body weighs approximately 14 pounds. When completely loaded with sand and spotting charge, the weight of the bomb is approximately 100 pounds.

Over-all length.....47.5 inches
Diameter.....8.13 inches
Weight empty.....15.7 pounds
Weight sand loaded & spotting charge.....100 pounds

References:

Complete Round Chart #5981, 1 January 1940
TM 9-1904, *Ammunition Inspection Guide*, March 1944
NAVSEA OP 1664 Volume 2, *U.S. Explosive Ordnance*, 28 May 1947

M5 Spotting Charge. The spotting charge consists of a glass bottle filled with FS smoke mixture. An ordinary bottle cap seals the mixture. The bottle is held to the Practice Bomb M38A2 by a wire twisted around the neck of the bottle and attached to the tail vanes. The charge assembly weighs 2.54 pounds.

SUMMARY OF PROPELLANT, EXPLOSIVES & PYROTECHNICS (PEP)

SPOTTING CHARGE, M1A1 (1938-1945)

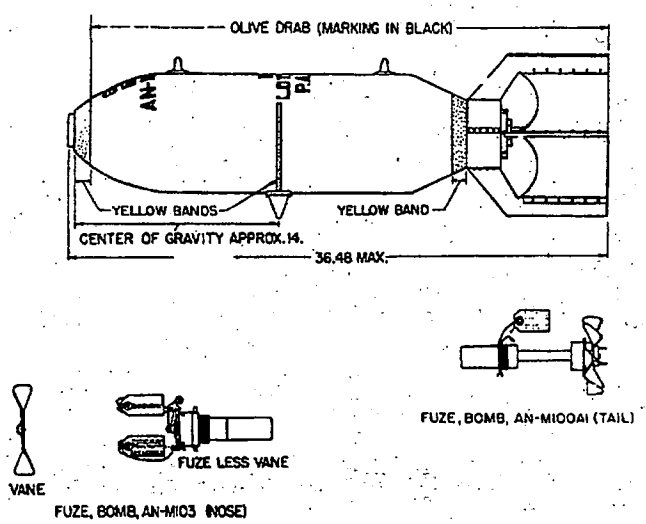
COMPONENT	PEP	QUANTITY
Percussion primer in 28-gage blank shotgun shell	Primer mix (approximate proportions) • Potassium chlorate (53%) • Lead thiocyanate (25%) • Antimony sulfide (17%) • TNT, Grade III (5%)	[less than 1 grain *]
Propellant in 28-gage blank shotgun shell	Smokeless powder -- Pyrocellulose (Nitrocellulose with 12.6% nitrogen):	Approximately 12-17 grains
Spotting charge	Black powder: • Potassium nitrate (74%) • Charcoal (15.6%) • Sulfur (10.4%)	3 pounds

* 15.4 GRAINS = 1 GRAM; 7,000 GRAINS = 1 POUND

REFERENCES:

TM 9-1904, *Ammunition Inspection Guide*, 2 March 1944
NAVSEA OP 1664 Volume 2, *U.S. Explosive Ordnance*, 28 May 1947

BOMB, GENERAL PURPOSE (GP), 100-POUND, AN-M30



Description. The GP and newer M series bombs of 100-pound weight have the same dimensions. The GP is distinguishable from the M-series by the fact that it has a base plug in the tail and a single suspension lug in addition to two Army lugs. General purpose bombs are a relatively thin-cased bomb with an ogival nose, parallel sidewalls, and a tapered aft section. It uses both the box type and conical type fin assembly. The box-type fin assembly is secured to the aft end of the bomb with a fin locknut, while the conical-type fin assembly is secured to the bomb body by means of a support tube. The two Army lugs are 14 inches apart, each 7 inches from the center of gravity. The single suspension lug is on the center of gravity 14 inches behind the nose. The weight of the case is 42.1 pounds and the fins weigh between 5.6 to 17.5 pounds. The filler is 50/50 amatol, TNT, or Tritonal. Percentage of filler is approximately 49 percent. The AN-M30 Bomb is fuzed in the nose with the AN-M103 Fuze and in the tail with the AN-M100A2 Fuze. Alternate fuzes that may be used as substitutes or for special purposes are the M103, M118, or M119 Nose Fuzes, and the M112, M100, M106, or its modifications, or the AN-M100A1 Tail Fuzes.

Length, assembled bomb
- **Fin assembly AN-M103A1** ..... 40.26 inches
- **Fin assembly M135** ..... 54.2 inch

Diameter ..... 8.18 inch

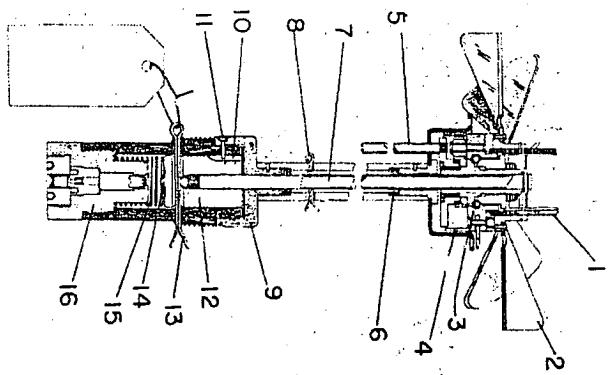
Weight of Filler
- **TNT** ..... 57 pound
- **Amatol** ..... 54 pound
- **Tritonal** ..... 62 pound

Fuze:
- **Nose** AN--M103, M103, M118, M119
- **Tail** AN-M103, M112, M100, M106, AN-M100A1

Painting and Markings ..... Olive drab with black stencil, 2 yellow bands (1aft, 1 center)

REFERENCES: TM 9-1904, *Ammunition Inspection Guide*, 2 March 1944, TM 9-1325-200, *Bombs and Bomb Components*, April 1966

Fuze, Bomb, Tail, AN-M100 Series



Description: The tail fuzes in the AN-M100 series are of the mechanical impact type. These fuzes are used in general purpose (GP) high explosive bombs, fragmentation bombs and some chemical bombs. There are three fuzes in the series: AN-M100, AN-M101 and AN-M102, each of which has modifications (e.g. AN-M101A1). These fuzes are identical except for the length of the arming stem and minor changes such as numbers of threads. They are made of cadmium-plated steel and brass parts. The explosives are contained within the M14 primer detonator, which has four versions, depending upon the delay desired.

Functioning: As the vanes (eight or four) rotate, a pinion gear revolves around a stationary gear. After 100 to 150 revolutions, the fuze is armed; after 720 revolutions, the arming stem is unscrewed from the striker block; and after 1200 revolutions, the arming stem, vanes and gear assembly fly off, leaving the striker held only by a creep spring. Upon impact, the striker is driven into the primer detonator by inertia. The fuze can be pre-armed for dive-bombing and sometimes is pre-armed at the factory.

Overall Length ..... 9.26", 12.26" or 16.26" (M100, M101, M102)
Diameter ..... Body – 2.3", Vanes – 5"
Firing Action ..... Impact inertia
Firing Delay ..... Interchangeable 0.01, 0.025, 0.1 and 0.024 seconds
Primer detonator ..... M14 primer detonator

Summary of Propellant, Explosives & Pyrotechnics (PEP)

Fuze, Bomb, Tail, AN-M100 Series (1940 – circa 1968)

COMPONENT	PEP	QUANTITY
Fuze, Bomb, Tail, AN-M100 series	Primer Detonator, M14 (non-delay), consisting of:	
	Primer, Percussion, M39A1: • Lead thiocyanate (38.13%) • Potassium chlorate (37.05%) • Ground glass (10.45%) • Barium nitrate (8.68%) • TNT (5.69%)	.4 grains
	Relay charge, Lead azide	.95 grains
	Detonator, M17:	
	1. Intermediate charge, Lead azide	4.08 grains
	2. Detonator, Tetryl	1.23 grains
	OR	
	Primer Detonator, M14 (.025 second delay), consisting of:	
	Primer, Percussion, M39A1: • Lead thiocyanate (38.13%) • Potassium chlorate (37.05%) • Ground glass (10.45%) • Barium nitrate (8.68%) • TNT (5.69%)	.4 grains
	Charge, delay, black powder: • Potassium nitrate (74%) • Charcoal (15.6%) • Sulfur (10.4%)	.15 grains
	Fuse powder: • Potassium nitrate (70%) • Sulfur (16%) • Coal (14%)	1.3 grains

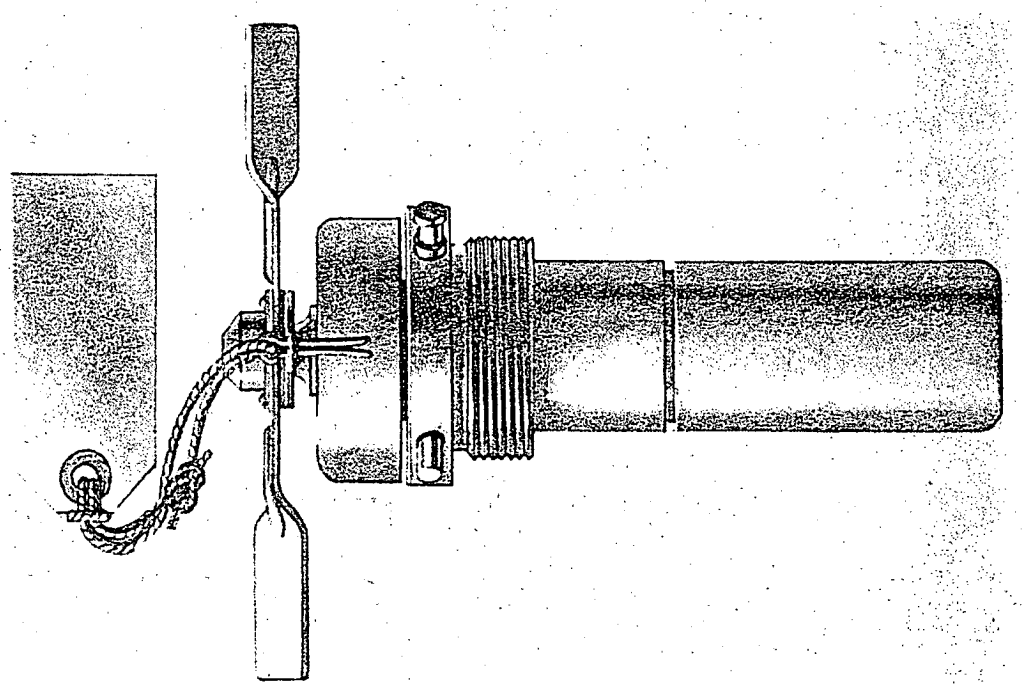
	M6 Relay charge, Lead azide **OR** Primer Detonator, M14 (.025 second delay), consisting of:	.95 grains
	Primer, Percussion, M39A1: • Lead thiocyanate (38.13%) • Potassium chlorate (37.05%) • Ground glass (10.45%) • Barium nitrate (8.68%) • TNT (5.69%)	.4 grains
	Charge, delay, black powder: • Potassium nitrate (74%) • Charcoal (15.6%) • Sulfur (10.4%)	46.2 grains
	Charge, igniter, black powder:	.8 grains
	Charge, lower, Tetryl	1.27 grains
	Charge, upper, Lead azide	3.86 grains

* 15.4 grains = 1 gram; 7,000 grains = 1 pound

References:

TM 9-1984, *Disposal of Allied Bombs and Fuzes*, 12 November 1942
TM 9-1904, *Ammunition Inspection Guide*, 2 March 1944
OP 1280, *Aircraft Bombs*, 17 February 1945
OP 1664, *U.S. Explosive Ordnance*, 28 May 1947
Complete Round Charts, Book III, *Bombs, Pyrotechnics, Grenades, Mines, Rockets, JATOS, Demolition Material & Miscellaneous Items of Ammunition*, 15 October 1959
TM 9-1325-200/NAVWEPS OP 3530/TO 1-1-28, *Bombs and Bomb* Components, 29 April 1966
US Army Defense Ammunition Center's "MIDAS" web site

Fuze, Bomb, Nose, AN-M103A1



Description: The Nose Fuze AN-M103A1 is an impact fuze of the arming-vane type and has mechanical delay arming. It is used in all of the AN-series of general purpose bombs. It can be set for instantaneous or 0.1-second delay action by means of an external setting pin. When shipped, the pin is in the deep slot or delay position. To set for instantaneous action, lift the pin, rotate one quarter-turn, and drop it into shallow slot. The fuze is safe for dive bombing and for take-offs and landings anywhere, including decks of carriers.

Overall Length .....7.23 inches
Weight .....3.7 pounds
Firing Action.....Impact
Firing Delay .....0.1 second

Summary of Propellant, Explosives & Pyrotechnics (PEP)

Fuze, Bomb, Nose, AN-M103A1 (1940 – circa 1968)

COMPONENT	PEP	QUANTITY
Fuze, Bomb, Nose, AN-M103	Detonator, M20:	
	3. Lower charge, Tetryl	2.47 grains
	4. Intermediate charge, Lead azide	2.24 grains
	5. Upper charge, Primer mix:	.73 grains
	• Potassium chlorate (33.4%)	
	• Antimony sulfide (33.3%)	
	• Lead azide (28.3%)	
	• Carborundum (5%)	
	Primer, Percussion, M39A1:	
	1. Primer mix:	.4 grains
	• Lead thiocyanate (38.13%)	
	• Potassium chlorate (37.05%)	
	• Ground glass (10.45%)	
	• Barium nitrate (8.68%)	
	• TNT (5.69%)	
	2. Charge, closing cup, Tetryl	2.3 grains
	3. Charge, delay, black powder:	
	• Potassium nitrate (74%)	1.01 grains
	• Charcoal (15.6%)	
	• Sulfur (10.4%)	
	4. Charge, ignition, black powder	.16 grains
	5. Charge, relay, Lead azide	.98 grains
	6. Pellet, booster, Tetryl	825 grains

* 15.4 grains = 1 gram; 7,000 grains = 1 pound

REFERENCES:

TM 9-1984, *Disposal of Allied Bombs and Fuzes*, 12 November 1942

TM 9-1904, *Ammunition Inspection Guide*, 2 March 1944

OP 1280, *Aircraft Bombs*, 17 February 1945

OP 1664, *U.S. Explosive Ordnance*, 28 May 1947

Complete Round Charts, Book III, *Bombs, Pyrotechnics, Grenades, Mines, Rockets, JATOS, Demolition Material & Miscellaneous Items of Ammunition*, 15 October 1959

TM 9-1325-200/NAVWEPS OP 3530/TO 1-1-28, *Bombs and Bomb* Components, 29 April 1966

US Army Defense Ammunition Center's "MIDAS" web site

CARTRIDGE, CALIBER .50

General. In general, a small-arms cartridge is identified as an assembly of a cartridge case, primer, a quantity of propellant within the cartridge case, and a bullet or projectile. Blank cartridges are sealed with paper closure disks in lieu of bullets. Dummy cartridges are composed of a cartridge case and a bullet.

Case. The cartridge case for all U.S. caliber .50 rounds is made of brass, although some foreign-made cases are steel.

Propellant. Cartridges are loaded with varying weights of propellant. This is to impart sufficient velocity to the projectile to obtain the required ballistic performance. These propellants are usually of the single base (nitrocellulose) type. The propellant grain configuration may be cylindrical with a single, lengthwise perforation, spheroid (ball) or flake. Most propellants are coated with a deterrent (to assist in controlling the rate of combustion) and with a final coating of graphite (to facilitate flow of propellant and eliminate static electricity in loading cartridges). The IMR 4814 propellant is a single-base type originally produced by DuPont and known as improved military rifle powder. It is composed of nitrocellulose with traces of diphenylamine and potassium sulfate added.

Primer. Cartridges contain percussion primer. The percussion primer of brass or gliding metal cup that contains a pellet of sensitive explosive material secured by a paper disk and a brass anvil. Most primers loaded after 1950 were non-corrosive and contain lead styphnate.

Bullets.

Ball. The bullet consists of three parts: a gliding metal jacket, a soft steel core, and a point filler of antimony-lead alloy. The bullet is unpainted.

Tracer. The bullet is the similar to the M1 with the addition of a tracer and igniter composition. The tip is painted orange.

Blank. No bullet

Incendiary. The bullet consists of four parts: a gliding metal jacket, a hollow steel cylindrical core, an incendiary composition, and a lead base filler. The tip is painted light blue.

Armor-Piercing. The bullet consists of three parts: a gliding metal jacket, a tungsten-chrome steel core, and a point filler of lead hardened with antimony. The tip is painted black.

Armor-Piercing Incendiary. The bullet is similar to the armor-piercing bullet, except that the point filler is incendiary mixture instead of lead. The tip is painted aluminum.

Armor-Piercing Incendiary Tracer. The bullet consists of a hard steel core with compressed pyrotechnic mixture in the cavity in the base of the core, The core is covered by a gliding-metal jacket with incendiary mixture between the core point and jacket. The tip is painted aluminum and red

Dummy. The complete cartridge is inert. The cartridge case is tin-coated, has three holes drilled in the side and an empty primer pocket. The bullet may be tin-coated.

High Pressure Test. The cartridge case is distinguished from other cartridges by the tinned cartridge case. The bullet consists of a gliding metal jacket and a core made up of 2 slugs, a front and rear slug.

TM 9-1300-200

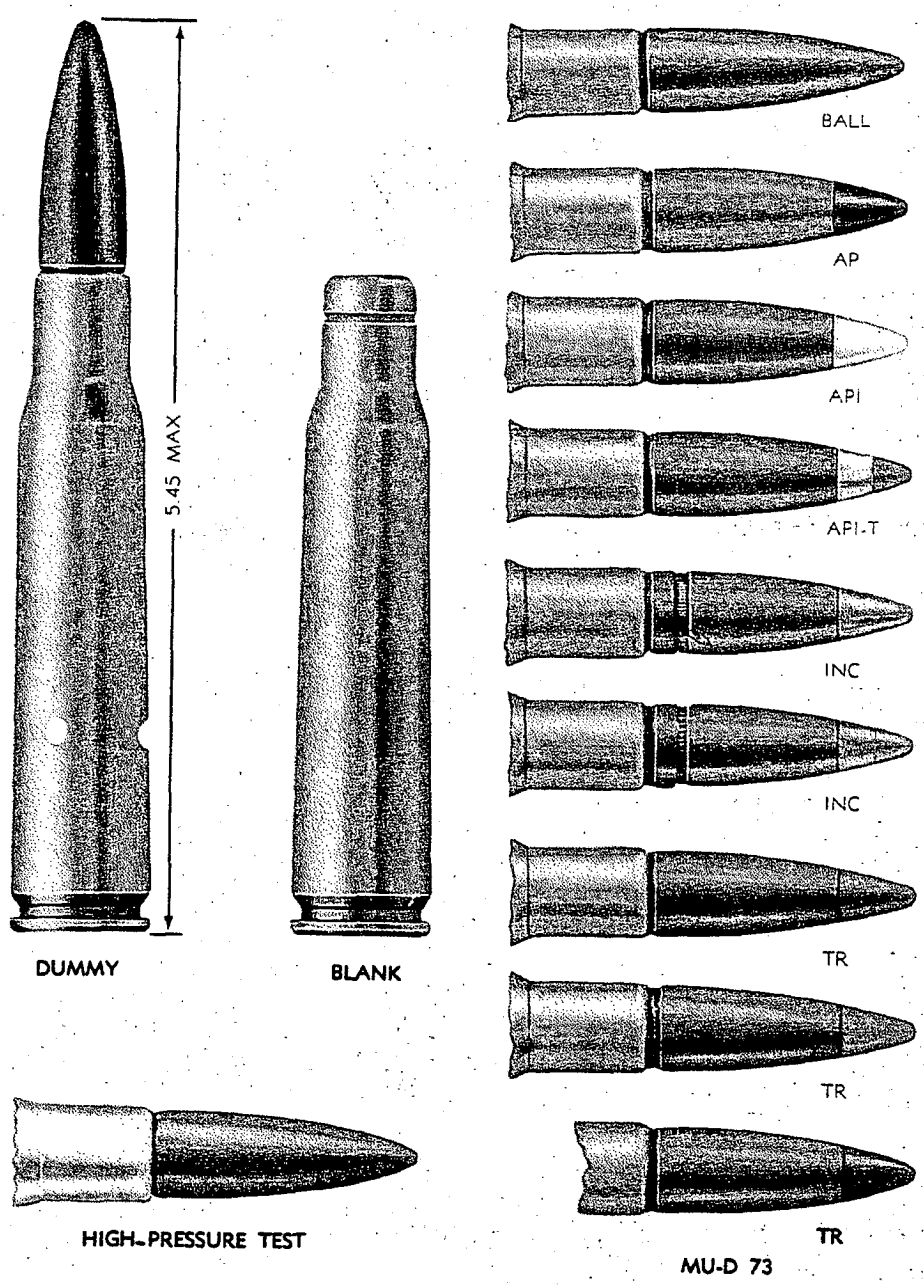


Figure 3-9. Caliber .50 cartridges.

3-9

Historical Notes. The caliber .50 military cartridge (known commercially as the .50 BMG or Browning Machine Gun) was adopted by the U.S. Army in 1923 for the M2 heavy machine gun, and later for the M3 aircraft machine gun and the more recent M85 machine gun. It is still in service today. The original M1923 loading used an 803-grain bullet. It was found to be too heavy and by 1934 it was replaced with the M1 Ball cartridge that used a 753-grain bullet. By

World War II, the M2 Ball cartridge was loaded with a 711-grain bullet (nominal). The current M33 Ball cartridge utilizes a 688-grain bullet.

SUMMARY OF PROPELLANT, EXPLOSIVES & PYROTECHNICS (PEP)

CARTRIDGE, CALIBER .50, BALL, M1 (1934-1940)

COMPONENT	PEP	QUANTITY
Percussion primer No. 28	Primer composition FA90A: • Potassium chlorate (50.5%) • Lead thiocyanate (23.8%) • PETN, Class B (14.2%) • Antimony sulfide (11.4%) • [remainder is gum solution]	1.9 grains *
Propellant	Smokeless powder -- (Nitrocellulose with (13.15-13.25% nitrogen):	240 grains
Bullet	Mild steel core with lead-antimony point filler and cupro-nickel jacket	753 grains (total): • Core, 405 grains • Jacket, 266 grains • Point filler, 82 grains

CARTRIDGE, CALIBER .50, AP, M1 (1934-1940)

COMPONENT	PEP	QUANTITY
Percussion primer No. 28	Primer composition FA90A: • Potassium chlorate (50.5%) • Lead thiocyanate (23.8%) • PETN, Class B (14.2%) • Antimony sulfide (11.4%) • [remainder is gum solution]	1.9 grains
Propellant	Smokeless powder -- (Nitrocellulose with (13.15-13.25% nitrogen):	240 grains
Bullet	Crome-tungsten steel core with lead-antimony point filler and cupro-nickel jacket	753 grains (total): • Core, 413 grains • Jacket, 266 grains • Point filler, 82 grains

CARTRIDGE, CALIBER .50, AP, M2 (WWII-ONWARD)

COMPONENT	PEP	QUANTITY
Percussion primer No. 28	Primer composition FA90A: • Potassium chlorate (50.5%) • Lead thiocyanate (23.8%) • PETN, Class B (14.2%) • Antimony sulfide (11.4%) • [remainder is gum solution]	1.9 grains
OR Percussion primer No. 50M (currently listed in MIDAS)	Primer composition 5061W: • Barium Nitrate (43%) • Lead styphnate (38%) • Antimony sulfide (9%) • Calcium silicide (8%) • Tetracene (2%)	2.25 grains
Propellant	Smokeless powder -- (Nitrocellulose with (13.15-13.25% nitrogen):	250 grains
OR Propellant (currently listed in MIDAS)	WC 860 • Nitrocellulose (78.67%) • Nitroglycerine (9.5%) • Dibutylphthalate (8%) • Diphenylamine (1.13%) • Calcium carbonate (1%) • Potassium Nitrate (.8%) • Sodium sulfate (.5%) • Graphite (.4%)	235 grains
Bullet	Crome-tungsten steel core with lead-antimony point filler and cupro-nickel jacket	718 grains (total): • Core, 410 grains • Jacket, 253 grains • Point filler, 56 grains

CARTRIDGE, CALIBER .50, BALL, M2 (WWII-ONWARD)

COMPONENT	PEP	QUANTITY
Percussion primer No. 28	Primer composition FA90A: • Potassium chlorate (50.5%) • Lead thiocyanate (23.8%) • PETN, Class B (14.2%) • Antimony sulfide (11.4%) • [remainder is gum solution]	2 grains

OR Percussion primer No. 50M (currently listed in MIDAS)	Primer composition 5061W: • Barium Nitrate (43%) • Lead styphnate (38%) • Antimony sulfide (9%) • Calcium silicide (8%) • Tetracene (2%)	2.25 grains
Propellant	Smokeless powder -- Nitrocellulose (13.15-13.25% nitrogen). Later loadings used IMR 4895: • Nitrocellulose (91.18%) • Dinitrotoluene (7.0% • Diphenylamine (.87%) • Potassium sulfate (.55%) • Graphite (.4%)	250 grains
OR Propellant (currently listed in MIDAS)	WC 860 • Nitrocellulose (78.67%) • Nitroglycerine (9.5%) • Dibutylphthalate (8%) • Diphenylamine (1.13%) • Calcium carbonate (1%) • Potassium Nitrate (.8%) • Sodium sulfate (.5%) • Graphite (.4%)	235 grains
Bullet	Mild steel core with lead-antimony point filler and cupro-nickel jacket	711.5 grains (total): • Core 402 grains • Jacket 253 grains • Point filler 56.5 grains

CARTRIDGE, CALIBER .50, TRACER, M1 (1940-ONWARD)

COMPONENT	PEP	QUANTITY
Percussion primer No. 28	Primer composition FA90A: • Potassium chlorate (50.5%) • Lead thiocyanate (23.8%) • PETN, Class B (14.2%) • Antimony sulfide (11.4%) [remainder is gum solution]	2 grains
OR Percussion primer No. 50M (currently listed in MIDAS)	Primer composition 5061W: • Barium Nitrate (43%) • Lead styphnate (38%) • Antimony sulfide (9%) • Calcium silicide (8%) • Tetracene (2%)	2.25 grains

COMPONENT	PEP	QUANTITY
OR Percussion primer No. 35 (currently listed in MIDAS as an alternate)	Primer composition FA958: • Barium Nitrate (39%) • Lead styphnate (28%) • Antimony sulfide (12%) • Aluminum powder (10%) • PETN (8%) • Tetracene (3%)	1.9 grains
Propellant	Smokeless powder -- Nitrocellulose (13.15-13.25% nitrogen) Later loadings used IMR 4895: • Nitrocellulose (91.18%) • Dinitrotoluene (7.0% • Diphenylamine (.87%) • Potassium sulfate (.55%) • Graphite (.4%)	50 grains
OR Propellant (currently listed in MIDAS)	IMR 5010 • Nitrocellulose (89.92%) • Dinitrotoluene (8.25%) • Diphenylamine (.88%) • Potassium sulfate (.55%) • Graphite (.4%)	240 grains
Bullet	Lead-antimony core with cupro-nickel jacket	685 grains (total): • Core, 207 grains • Jacket, 408 grains • Tracer, approx. 70 grains
Igniter composition (for tracer)	I-276: • Barium peroxide (83.98%) • Magnesium powder (15%) • Zinc stearate (1.02%)	11 grains
Tracer composition	R-256-3 (red): • Strontium nitrate (33.3%) • Strontium peroxide (26.7%) • Magnesium powder (26.7%) • Calcium resinate (7.3%) • Strontium oxalate (5%)	60 grains
OR Igniter composition for tracer (listed in MIDAS as an alternate)	I-276: • Barium peroxide (81.94%) • Magnesium powder (15%) • Calcium resinate (1.78%) • Zinc stearate (.85%)	10 grains

COMPONENT	PEP	QUANTITY
OR Tracer composition (listed in MIDAS as an alternate)	R-256-2 (red): • Strontium nitrate (31.18%) • Magnesium powder (25.63%) • Strontium peroxide (24.66%) • Calcium resinate (7.90%) • Polyvinyl chloride (5.98%) • Strontium oxalate (4.63%)	60 grains

CARTRIDGE, CALIBER .50, INCENDIARY, M1 (WWII-ONWARD)

COMPONENT	PEP	QUANTITY
Percussion primer No. 28	Primer composition FA90A: • Potassium chlorate (50.5%) • Lead thiocyanate (23.8%) • PETN, Class B (14.2%) • Antimony sulfide (11.4%) • [remainder is gum solution]	2 grains
OR Percussion primer No. 50M (currently listed in MIDAS)	Primer composition 5061W: • Barium Nitrate (43%) • Lead styphnate (38%) • Antimony sulfide (9%) • Calcium silicide (8%) • Tetracene (2%)	2.25 grains
Propellant	• Smokeless powder -- Nitrocellulose (13.15-13.25% nitrogen).	250 grains
OR Propellant (currently listed in MIDAS)	WC 860 • Nitrocellulose (78.67%) • Nitroglycerine (9.5%) • Dibutylphthalate (8%) • Diphenylamine (1.13%) • Calcium carbonate (1%) • Potassium Nitrate (.8%) • Sodium sulfate (.5%) • Graphite (.4%)	233 grains
Bullet	Lead-antimony slug, steel tubular dowel and incendiary mixture encased by cupro-nickel jacket	633 grains (total): • Slug, 137 grains • Tubular dowel, 227 grains • Jacket, 235 grains • incendiary mix, 34 grains

Incendiary mix	IM-11 • Barium nitrate (50%) • Magnesium powder (25%) • Aluminum powder (25%)	34 grains

*15.4 grains = 1 gram; 7,000 grains = 1 pound

REFERENCES:

Technical Regulation No. 1350-A, *Infantry and Aircraft Ammunition: Ammunition for Small Arms and Automatic Guns,* 18 May 1934

TM 9-1900, *Small Arms Ammunition*, 23 May 1942

History of Modern U.S. Military Small Arms Ammunition, Vol. I 1880-1939, F.W. Hackley (undated)

Primer, Pyrotechnic, and Incendiary Compositions for Small Arms Ammunition, Frankford Arsenal, October 1954

TM 9-1900, *Ammunition General*, June 1956

Frankford Arsenal Report No. R-1407-1, *Small Arms Incendiary Ammunition, A Review of the History and Development,* Vol. 1, Chapters I,II,III, December 1956

TM 9-1305-200, *Small Arms Ammunition*, 14 June 1961

Small Arms Ammunition Pamphlet, 23-1, Frankford Arsenal, August 1968

TM 43-0001-27, *Army Ammunition Data Sheets, Small Arms*, 29 June 1981

TM 43-0001-27, *Army Ammunition Data Sheets, Small Arms*, 29 April 1994

U.S. Army Defense Ammunition Center's "MIDAS" web site

APPENDIX F

TEXTUAL REFERENCES

APPENDIX F - TEXTUAL REFERENCES

INVENTORY PROJECT REPORTS (INPRs)

F-1 US Army Corps of Engineers, Seattle District.
2003 *Inventory Project Report, Mountain Home Air Force Range No. 2, Project Number F10ID014100*, dated 18 August 2003, updated from October 1988. Inventory Project Files, Folder Mountain Home Air Force Range No. 2, Project Number F10ID014100, US Army Corps of Engineers, Seattle District, Seattle, WA.

F-2 US Army Corps of Engineers, Walla Walla District.
1988 *Inventory Project Report, Mountain Home Air Force Range No. 2, Project Number F10ID014100*, dated 8 November 1988. Inventory Project Files, Folder Mountain Home Air Force Range No. 2, Project Number F10ID014100, US Army Corps of Engineers, Seattle District, Seattlea, WA.

REFERENCES

F-3 Bureau of Land Management.
1958 Letter: *From Boise Land Office, ID to Real Estate Division, U.S. Army Corps of Engineers, Walla Walla District, WA,* dated 27 August 1958. Record Group 342, Accession No. 342-63A-3210, Box 1 of 4, Folder Dedudding, Mt. Home PBR No. 2, National Personnel Records Center, St. Louis, MO.

F-4 Department of Interior.
1952 Letter: *Asst. Secretary of the Interior to the Secretary of the Air Force,* dated 27 October 1952. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA.

F-5 Mountain Home Army Airfield, Idaho.
1942 *History of Mountain Home Army Airfield, 7 December 1941 – 31 December 1942,* dated 31 December 1942. Microfilm Reel B2426, Call No. 286.68-1, Frames 0305-0306, USAFHRA, Maxwell AFB, AL.

F-6 1943 *History of Mountain Home Army Airfield, 1 January 1943 – 31 August 1943,* dated 31 August 1943. Microfilm Reel B2426, Call No. 286.68-2, Frames 0307-0472, USAFHRA, Maxwell AFB, AL.

F-7 1944a *History of Mountain Home Army Airfield, April 1944,* dated 30 April 1944. Microfilm Reel B2426, Call No. 286.68-9, Frames 1291-1303, USAFHRA, Maxwell AFB, AL.

F-8 1944b *History of Mountain Home Army Airfield, July 1944,* dated 31 July 1944. Microfilm Reel B2427, Call No. 286.68-11, Frames 0099-0113, USAFHRA, Maxwell AFB, AL.

F-9 1944c *History of Mountain Home Army Airfield, October 1944,* dated 31 October 1944. Microfilm Reel B2427, Call No. 286.68-14, Frames 0422-0462, USAFHRA, Maxwell AFB, AL.

F-10 1945 *History of Mountain Home Army Airfield, 1 – 15 February 1945,* dated 15 February 1945. Microfilm Reel B2427, Call No. 286.68-18, Frames 1537-1576, USAFHRA, Maxwell AFB, AL.

F-11 Nettleton, Tim, Sheriff, Owyhee County, Idaho.
1988 Letter: *Owyhee County Idaho Sheriff to US Army Corps of Engineers, Walla Walla District, Reference: Former Sites Used by DOD,* dated 23 February 1988. Inventory Project Files, Folder F10ID014300, Mountain Home Air Force Range No. 4, US Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA.

F-12 Northwest Archeological Associates Inc.
2004 Letter: *From Lorelea Hudson, Project Manager, Northwest Archeological Associates, Inc., to Alix Borrok, U.S. Army Corps of Engineers CEMVS-ED-P,* dated 1 March 2004. File Research of Northwest Archeological Associates Inc., Seattle WA.

F-13 200th Army Air Forces Base Unit (Special) (PETERSEN FIELD, COLORADO SPRINGS, COLORADO).
1946 *History of 200th AAF BU, Petersen Field, Colorado, October 1946,* dated 31 October 1946. Microfilm Reel B2428, Call No. 281.68-20, Frames 0406-0420, USAFHRA, Maxwell AFB, AL.

F-14 Federal Register, Public Land Order 172.
1943 *Public Land Order 172,* dated 27 September 1943. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA.

F-15 Tyson, Herbert G., 1st Lieutenant, US Air Force, 2700th Explosive Ordnance Disposal Squadron.
1954 Memorandum: *Certificate of Clearance,* dated 17 September 1954. Record Group 342, Accession No. 342-63A-3210, Box 1 of 4, Folder Dedudding, Mt. Home PBR No. 2, National Personnel Records Center, St. Louis, MO.

F-16 Tyson, Herbert G., Major, US Air Force, 2700th Explosive Ordnance Disposal Squadron.
1964 Memorandum: *Certificate of Clearance,* dated 24 July 1964. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA.

F-17 Tyson, Herbert G., Major, US Air Force.
1964 Report: *Range Clearance Report,* dated 25 June 1964. Record Group 342, Accession No. 342-67D-1805, Box 27 of 35, Folder , Mt. Home Real Estate, National Personnel Records Center, St. Louis, MO.

F-18 US Army Corps of Engineers, North Pacific Division.
1955 Letter: *From Assistant Chief for Real Estate to Director, Bureau of Land Management,* dated 25 November 1955. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, US Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA.

F-19 US Army Corps of Engineers, Portland District Engineer.
1945 Memorandum: *Subject: Estimate Request No. 2242 – Precision Bombing Targets, Mountain Home Army Airfield, Mountain Home, Idaho,* dated 31 March 1945. Record Group 342, Accession No. 342-57H-3001, Box 16 of 23, Folder 600.1 Mountain Home, Idaho, National Personnel Records Center, St. Louis, MO.

F-20 US Army Corps of Engineers, Real Estate Division.
1958 Letter: *From Chief of Real Estate Division to Commander U.S. Air Force Air Material Command,* dated 15 September 1958. Record Group 342, Accession No. 342-63A-3210, Box 1 of 4, Dedudding, Mt. Home PBR No. 2, National Personnel Records Center, St. Louis, MO.

F-21 Walla Walla Army Air Field, Washington.
1946 *An Interim History of Walla Walla Army Air Field (Fifteenth Air Force), For the Period 21 October 1945 to 18 April 1946.* Microfilm Reel B2656, Call No. 289.53-18, Frames 1185-1186, USAFHRA, Maxwell AFB, AL.

F-22 War Department.
1943 Memorandum: *Subject: Acquisition of Land – Mountain Home Precision Bombing Range, Site Nos. 1, 2, 3, Idaho,* dated 23 June 1943. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, US Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA.

F-23 9th Air Base Group.

1953 Memorandum: *Subject: Declaration of Excess Real Property, Mountain Home Precision Bombing Range No. 2,* dated 24 November 1953. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, US Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA.

F-24 9th Bombardment Wing.

1953a Letter: *From Headquarters 9th Bombardment Wing to Commander Fifteenth Air Force,* dated 24 November 1953. Realty Control Files, Box 88340003053, Folder Realty Control Files, Mountain Home Air Force Range No. 2, US Army Corps of Engineers, Real Estate Division, Seattle District, Seattle WA.

F-25 1953b *History of the 9th Bombardment Wing, Medium, 1 June-30 June 1953,* dated 31 July 1953. Box K-WG-9-HI May-July 1953, Call No. K-WG-9-HI July 1953, USAFHRA, Maxwell AFB, AL.

F-26 200th Army Air Forces Base Unit, Mountain Home Army Airfield.

1947 Letter: *Adjutant to Commanding General, Army Air Forces, Reference: Army Air Forces Letter 85-44, Subject: Rescission of Interdepartmental Air Traffic Control Board Clearances*, dated 24 February 1947. Record Group 18, Entry 2C, Decimal File 1947, Box 2794, Folder Mountain Home Army Airfield, Idaho, National Archives and Records Administration, Archives II, College Park, MD.

F-27 2700th Explosive Ordnance Detachment.

1954 Memorandum: *Subject: Final Report on Mountain Home PBR No. 2,* dated 17 September 1954. Record Group 342, Accession No. 342-63A-3210, Box 1 of 4, Folder Dedudding, Mt. Home PBR No. 2, National Personnel Records Center, St. Louis, MO.

APPENDIX F-1

U.S. Army Corps of Engineers, Seattle District

Inventory Project Report, Mountain Home Air Force Range No. 2, Project Number F10ID014100, dated 18 August 2003, updated from October 1988.

DEPARTMENT OF THE ARMY
NORTHWESTERN DIVISION, CORPS OF ENGINEERS
P.O. BOX 2870
PORTLAND, OREGON 97208-2870

Reply to
Attention of:

CENWD-MT-H (200)

14 OCT 2003

MEMORANDUM FOR Commander, Seattle District

SUBJECT: Defense Environmental Restoration Program Formerly Used Defense Sites (DERP FUDS) Inventory Project Report for Site No. F10ID014100, Mountain Home Air Force Range No. 2, Bruneau, Idaho

1. Reference memorandum, CEHNC-OE-CX, dated 19 August 2003, subject as above (copy enclosed).

2. The potential for an ordnance and explosives (OE) project at the subject property has been revisited by the U.S. Army Engineering and Support Center, Huntsville (CEHNC) in accordance with current policy. The enclosed memorandum recommends an OE project. The Risk Assessment Code (RAC) is 4.

3. This memorandum serves to document approval of Ordnance and Explosive Waste (OEW) Project No. F10ID014101, Mountain Home Air Force Range No. 2, also known as Bruneau Precision Bombing Range No. 2. The enclosure includes a signed copy of the Findings and Determination of Eligibility. Please ensure that the Formerly Used Defense Sites Management Information System (FUDSMIS) is updated to reflect this project approval, including the RAC 4 determination and cost to complete information.

5. Any questions may be referred to David Nusz at (402) 697-2523.

Encl

WILLIAM T. GRISOLI
Brigadier General, USA
Commanding

CEHNC-OE-CX 19 August 2003
SUBJECT: DERP-FUDS Inventory Project Report (INPR) Site No. F10ID014100, Mountain Home Air Force Range No. 2, Bruneau, ID

4. The point of contact is Ms. Carrie Douglas at 256-895-1465.

FOR THE DIRECTOR OF ORDNANCE
AND EXPLOSIVES:

Carrie W. Douglas

4 Encls

CARRIE W. DOUGLAS
Inventory Project Report Manager
for Directorate of Ordnance and
Explosives

CF:
Commander, U.S. Army Engineer District, Seattle,
ATTN: CENWS-PM-HW (Jonathan Maas), P.O. Box 3755,Seattle, WA 98124-3755
Commander, HQUSACE, ATTN: CEMP-RF (Julie Kaiser), 411 G Street, NW, Washington, DC 20314-1000

2

1 May 03

B. Pyrotechnics (for munitions not described above):	VALUE
Munition 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)	10☐
Containers containing WP or other pyrophoric material or flame or incendiary material	6☐
Flares, signals, simulators, screening/burning smokes (other than WP)	4☐
Pyrotechnics (enter the single largest value checked)	0

What evidence do you have regarding pyrotechnics? _____

C. Bulk Explosives (HE) (not an integral part of conventional ordnance; un-containerized):	VALUE
Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10☐
Secondary explosives (Demolition charges, PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8☐
Insensitive explosive substances (explosive contaminated soils, ammonium nitrate)	3☐
High explosives (enter the single largest value checked)	0

What evidence do you have regarding bulk explosives? _____

For questions concerning the use of this RAC worksheet call (256) 895-1174.

2

1 May 03
Previous Editions Obsolete

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized): VALUE

Solid or liquid propellants 6☐

Bulk Propellants (select 6 or 0) 1 0

What evidence do you have regarding bulk propellants? _____

E. Recovered Chemical Warfare Materiel (RCWM), Weaponized Industrial Chemicals and Radiological Materiel: VALUE

Toxic chemical agents (H-Mustard, G-Nerve, V-Nerve and L-Lewisite) 25☐

Chemical Agent Identification Sets 20☐

Radiological Materiel (If rad waste is identified please call the HTRW -CX at 402-697-2555) 15☐

Weaponized Industrial Chemicals (Hydrogen Cyanide AC; Cyanogen Chloride, CK; Phosgene, CG) 10☐

Riot Control Agents (vomiting, tear) 5☐

Chemical and Radiological (enter the single largest value checked) 0

What evidence do you have regarding chemical or radiological? _____

TOTAL HAZARD SEVERITY VALUE (Sum of value A through E 10
(maximum of 81)
Apply this value to Table 1 to determine Hazard Severity Category

For questions concerning the use of the RAC worksheet call (206) 553-1171

3

1 May 03

TABLE 1
HAZARD SEVERITY*

DESCRIPTION	CATEGORY	HAZARD SEVERITY VALUE
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 and complete Part II of this form.

**If hazard severity value is 0, complete Part II of this form. Then 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, explosives, incendiary, pyrotechnic, radiological, or RCWM materials on a formerly used Department of Defense (DOD) site.

AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Check 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	2.5 ☒
Location (enter the single largest value checked)	2.5

What evidence do you have regarding the location of OE? Small Arms and bomb debis have been found on the surface, but no live bombs have been found.

For questions concerning the use of this RAC worksheet call (334) 895-1174.

4

1 May 03

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	3☐
No buildings	0☒

Types of buildings (enter the single largest value checked) 0

Describe the types of 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☐
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 (enter the single largest value checked) 4

Describe the site accessibility: Land used for farming and grazing.

For questions concerning the use of this RAO worksheet call (250) 395-1171

1 May 03
Previous Editions Obsolete

F. Site Dynamics. This deals with site conditions that 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 (enter the single largest value checked) 0

Describe the site dynamics; _____

TOTAL HAZARD PROBABILITY VALUE 7
(sum of largest values for A through F (maximum of 30)

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

TABLE 2
HAZARD
PROBABILITY*

DESCRIPTION VALUE	LEVEL	HAZARD PROBABILITY
FREQUENT	A☐	27 or greater
PROBABLE	B☐	21 to 26
OCCASIONAL	C☐	15 to 20
REMOTE	D☐	8 to 14

For questions concerning the use of this RAC worksheet call (256) 895-1174.

7

1 May 03

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☐	4☒
MARGINABLE III	2☐	3☐	4☐	4☐	4☐
NEGLIGIBLE IV	3☐	4☐	4☐	4☐	4☐

None (V) = RAC 5☐

RISK ASSESSMENT CODE (RAC)

RAC 1 Expedite INPR, recommending further action by USAESCH-Immediately call CEHNC-OE-S (commercial 256-895-1582/1598).

RAC 2 High priority on completion of 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) is necessary, 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.

For questions concerning the use of this RAC worksheet call (256) 895-1174.

8

1 May 03
Previous Editions Obsolete

Mountain Home A.F. Range No.2 was used as a high altitude bombing range from 1943 to 1954. During the eleven years a large number of heavy bombing groups were flying the area. Typical bombing loads used for practice were composed of 100 pound practice bombs which contained live fuzes with explosive spoting charges. Due to a lack of records the use of high explosives bombs can not be ruled out.

For questions concerning the use of this RAC worksheet call (256) 895-1174.

9

PROJECT SUMMARY SHEET
FOR
DERP-FUDS OE PROJECT NO. F10ID014101
MOUNTAIN HOME AIR FORCE RANGE NO. 2
BRUNEAU, IDAHO
18 August 2003
(Based on information from Oct 98 INPR)

PROJECT DESCRIPTION: The site was used by the Air Force as a high altitude precision bombing range from 1943 until 1954. In addition the site was used as a .50 caliber gunnery range. The site contains a target area of 320 acres in which Public Land Order 3703 dated 10 June 1965 declared the land could be dangerous to use. Landowners on the site have found live and expended .50-caliber ammunition. There is the probability of unexploded ordnance remaining in the subsurface. No improvements are known to have been constructed on the site.

PROJECT ELIGIBILITY: This site was used by the Army as a precision bombing range and .50-caliber gunnery range. Any ordnance presence would be from the military use of the site and is therefore eligible under the DERP-FUDS Program.

POLICY CONSIDERATIONS: The site has been used for ordnance purposes by the United States military and is a possible danger to the public. Currently, DOD policy permits remediation of DOD-generated ordnance.

PROPOSED PROJECT: The Inventory Project Report should be referred to the Huntsville Center OE-MCX for a determination of further action.

RISK ASSESSMENT CODE (RAC): Attached. The RAC score for this site is 4, indicating the site warrants further action.

SEATTLE DISTRICT POC: Jonathan Maas, 206-764-6745

Exc 3

APPENDIX F-2

U.S. Army Corps of Engineers, Walla Walla District

Inventory Project Report, Mountain Home Air Force Range No. 2, Project Number F10ID014100,
dated 8 November 1988.

ROADIFER

CENPW-EN-GB (1110-1-263) 8 November 1988

MEMORANDUM FOR: Commander, North Pacific Division, ATTN: CENPD-EN-TE

SUBJECT: Defense Environmental Restpration Program (DERP)

1. Enclosed is one full copy each of the Inventory Project Report for Mountain Home Air Force Range No. 2, F10ID014100, and Pocatello Precision Bombing Range No. 2, F10ID012200. Five copies of the photographs and site map are also included. As of the date that this letter was signed, the ownership of the test file on the PAX system was changed from NPW to NPD.

2. The HRS scores for these two projects, as given from the CDC, are:

a. Mountain Home Air Force Range No. 2:

HTW 0
DEBRIS 0
ORDNANCE 47

b. Pocatello Precision Bombing Range No. 2:

HTW 0
DEBRIS 0
ORDNANCE 29

FOR THE COMMANDER:

ROADIFER/jm
KADEN/EN-GB-GE
MIKLANCIC/EN-GB

2 Encls

MARVIN G. BRAMMER, P.E.
Chief, Engineering Division

BRAMMER/EN
IM-SM
EN

DEFENSE ENVIRONMENTAL RESTORATION ACCOUNT (DERA)
U.S. ARMY ENGINEER DISTRICT, WALLA WALLA
INVENTORY PROJECT REPORT

MOUNTAIN HOME AIR FORCE RANGE NO. 2
MOUNTAIN HOME, IDAHO

PROJECT NUMBER F10ID014100
(Part 2 of 5 Parts)

PART I - PROJECT DESCRIPTION

1. Introduction: The Walla Walla District, U.S. Army Corps of Engineers has conducted an evaluation of the former high altitude precision bombing range which was called the Mountain Home Air Force Range No. 2 located about 22 miles southwest of the city of Mountain Home, Idaho.

2. Purpose of Report:

a. This report is a record of the past and current use, ownership, and condition of the site based on documentary sources, interviews, and field inspection.

b. This report is to signify no remedial work under the DERA program is warranted and is submitted as a negative determination.

3. Field Inspection: A site inspection was made on 11 September 1986 by the Walla Walla District DERA survey team. Features of the site observed during the inspection are described in paragraph 4 below. A set of photographic prints of the site at the time of the inspection are on file in the District office.

4. Description of the Site Area: The land is owned by a variety of owners and is irrigated and cultivated for crop production. The owners and tenants are unaware the area was used for a target area and, therefore, unaware of the danger in the south half of Section 3. The land is slowly being developed with residential houses and has already been developed with wells and water lines for irrigation. One landowner acknowledges routinely finding spent machine gun shells and sometimes other types of spent ordnance, and has stated some of the neighbors had found both spent and unfired rounds of machine gun cartridges. He had been in the area 15 years and had wondered why the debris was so plentiful but was not aware of the military's involvement.

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM (DERP)
FOR FORMERLY USED SITES

PROJECT DESCRIPTION

MOUNTAIN HOME AIR FORCE RANGE NO. 2
BRUNEAU, IDAHO

PROJECT NUMBER F10ID014100

1. Introduction: At the request of Huntsville Division and North Pacific Division, the Walla Walla District, U.S. Army Corps of Engineers investigated the former Mountain Home Air Force Range No. 2 to determine the existence of unexploded ordnance, explosive wastes, hazardous and toxic wastes, and unsafe debris. Accidental detonation of any unexploded ordnance that could be present can cause severe injury or death.

2. Scope of Proposed Work:

i. Confirmation Study - to confirm the location and extent of OEW at the site.
ii. OEW Removal Project - to remove all ordnance as identified in the confirmation study.

3. Description of Site: The project site was formerly used as a precision bombing range and machine gun range from 1943 to 1959. The land is primarily agriculturally developed with some undeveloped sagebrush covered rangeland. The site is located in Owyhee County approximately 8 miles west southwest of Bruneau, Idaho. The site contains a target area (see Site Location Map, Attachment 3) which has been described in Public Land Order 3703 dated 10 June 1965 as land whose use might involve danger. The target area is presently under the ownership of Mrs. Alice Desilet. The site is primarily under private ownerships with the exception of about 240 acres that are under the jurisdiction the Department of Interior, Bureau of Land Management. The land is presently used for agricultural purposes and some of the owners have reported finding both live and spent .50 caliber ammunition and practice bomb debris. Access to the site is limited to unimproved dirt roads.

4. Site Investigation: A site inspection was performed by Walla Walla District personnel on 11 September 1986. During the site inspection the area was observed and photographed for any indications of use as a bombing range (PART I - Attachment 3). No indications of the sites prior use as a bombing range were observed during the site inspection.

PART II - FINDINGS OF FACT AND DETERMINATION

The findings of fact and determination is attached as a supplement to this Inventory Project Report.

PART III - POLICY CONSIDERATIONS

This site has been evaluated in terms of current DERA policies and guidance as of the date of this report.

PART IV - PROJECT RECOMMENDATIONS

There is no evident need for a DERA cleanup project at this site.

DEFENSE ENVIRONMENTAL RESTORATION ACCOUNT
FOR FORMERLY USED SITES
FINDINGS AND DETERMINATION OF ELIGIBILITY
MOUNTAIN HOME AIR FORCE RANGE NO. 2
PROJECT NO. F101D014100

FINDINGS OF FACT

1. This site is located about 22 miles southwest of Mountain Home, Idaho, and involved a total of 2,552.20 acres of public domain land acquired in 1943 for the Army Air Force for use as a high altitude precision bombing range. Acquisition was by Public Land Order.

2. In 1954, the entire area was determined excess to the needs of the Department of the Air Force and jurisdiction was returned to the Department of Interior in November 1955. The Public Land Order originally withdrawing the land was revoked in 1959, but set aside from public use 320 acres (south half of Section 3) because of contamination by unexploded ordnance. This was later revoked by Public Land Order 3703 in June 1965; however, notice was given that use of this land involves danger. All lands within the 320-acre target area have been searched and cleared of ordnance and residue. Since there was some chance that subsurface ordnance may have been present, the recommended use was grazing only.

3. In 1974 the south half of Section 3 was acquired from the U.S. Government by Sonnich Sonnichsen under a Desert Land Act Patent. Mr. Sonnichsen died in 1981 and the land is now owned by his widow, Alice Sonnichsen, of Boise, Idaho. According to Mrs. Sonnichsen, the land has been farmed for about 10 years and she is unaware of any problems with hazardous materials, etc. The patent instrument was examined and contains no release of liability or obligation to restore the site.

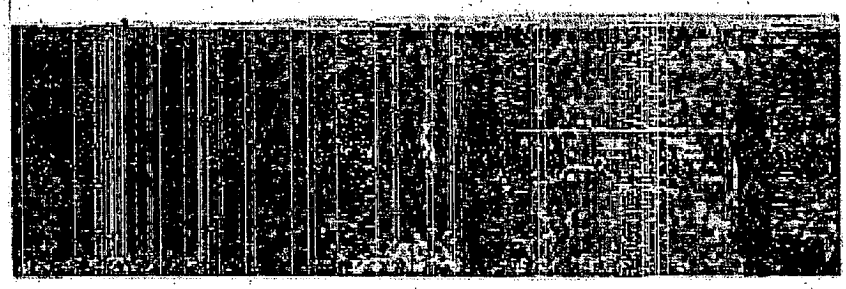
4. Walla Walla District personnel visited the site on 11 September 1986. The land is owned by a variety of owners and is irrigated and cultivated for crop production. The owners and tenants are unaware the area was used for a target area and, therefore, unaware of the danger in the south half of Section 3. The land is slowly being developed with residential houses and has already been developed with wells and waterlines for irrigation. One landowner acknowledges routinely finding spent machine gun shells and sometimes other types of spent ordnance, and has stated some of the neighbors have found both spent and unfired rounds of machine gun cartridges. He had been in the area 15 years and had wondered why the debris was so plentiful but was not aware of the military's involvement.

DETERMINATION

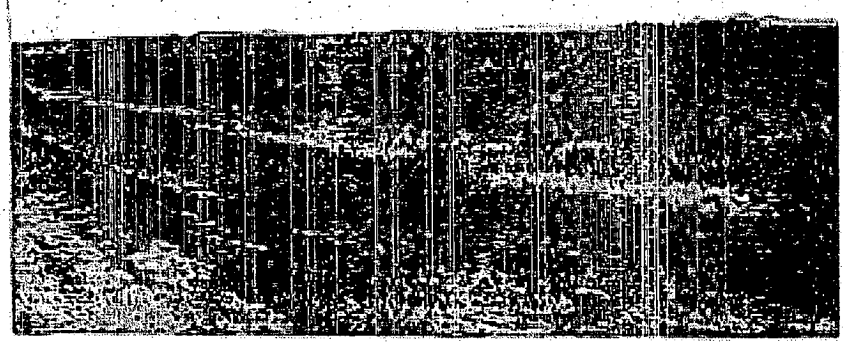
Based on the foregoing Findings of Fact, the site has been determined to be a formerly-used DOD property; however, under current policy, it is also determined that an environmental restoration project is not an appropriate undertaking within the purview of the Defense Environmental Restoration Account for the reasons stated above.

Date

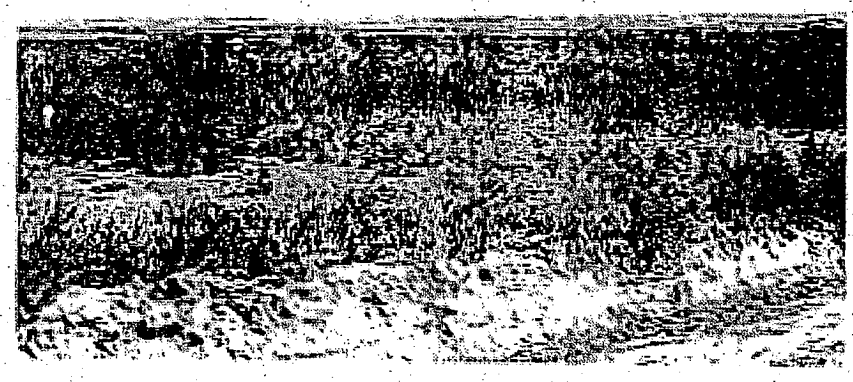
R. E. ABBOTT
Colonel, CE
Commanding



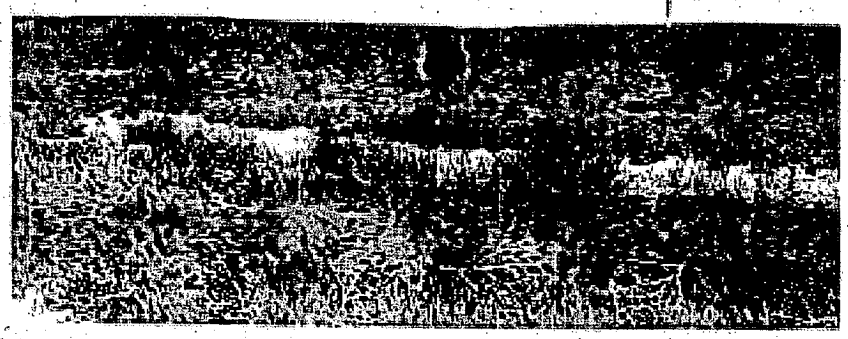
LOOKING SOUTH OVER SECTION 3 TOWARDS DANGER AREA



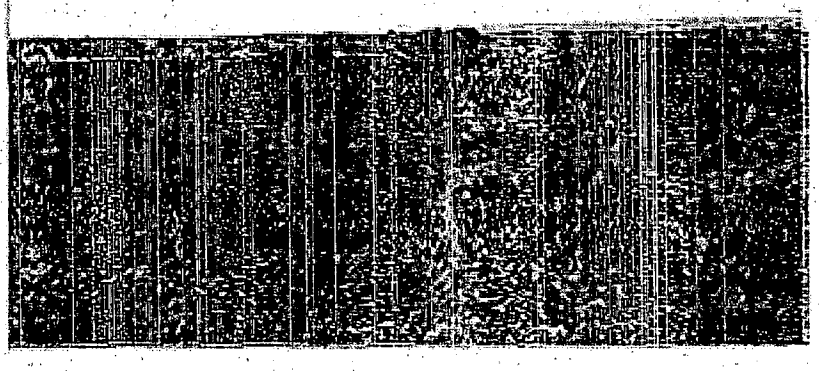
LOOKING SOUTHEAST OVER SECTIONS 2 AND 3,
SECTION 2 IN DISTANCE



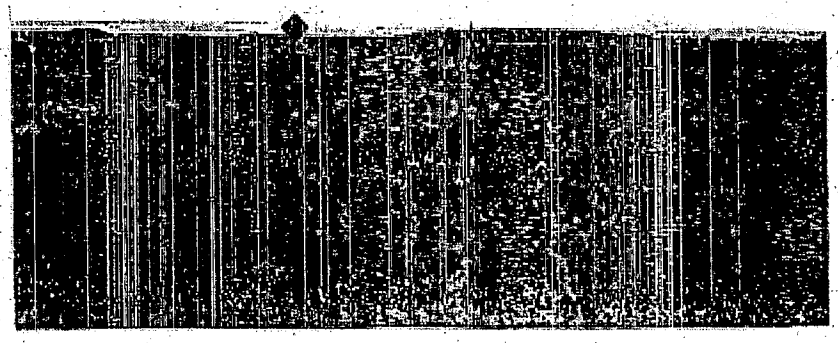
LOOKING NORTHEAST OVER SECTIONS 34 AND 35, SECTION 35 IN DISTANCE



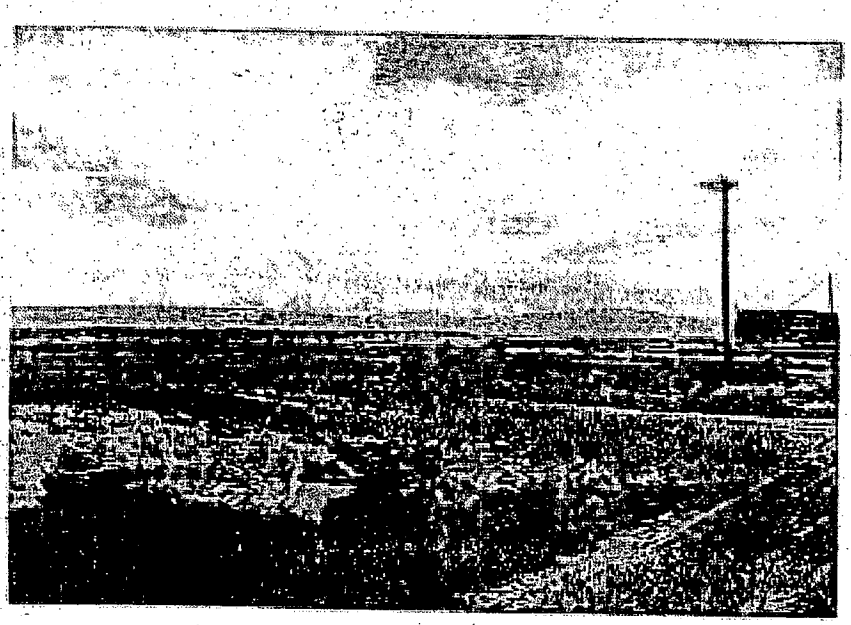
LOOKING NORTHWEST OVER SECTION 34



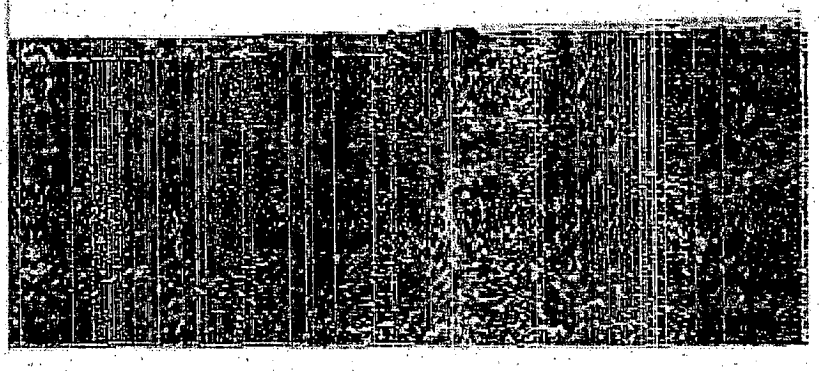
LOOKING SOUTH OVER SECTION 2



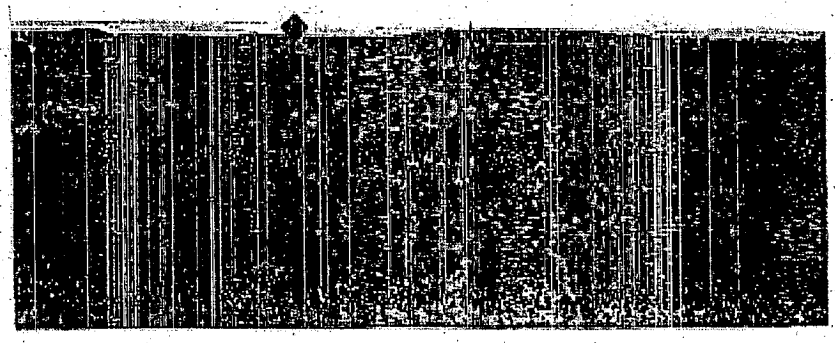
LOOKING EAST OVER SECTIONS 2 AND 35 ROAD IS SECTION LINE



INTERSECTION OF SECTIONS 2, 3 AND 35



LOOKING SOUTH OVER SECTION 2



LOOKING EAST OVER SECTIONS 2 AND 35 ROAD IS SECTION LINE

5. Agency Coordination: The following environmental agencies will be coordinated concerning the restoration project.

Idaho Department of Fish and Game
Idaho Department of Health and Welfare
United States Bureau of Land Management
United States Fish and Wildlife Service

6. NEPA and AR-200-2 Compliance: Compliance with the National Environmental Policy Act (1969) and Army Regulation 200-2 will involve the preparation of an environmental assessment and coordination with associated resource stewardship agencies. There will be a thirty-day public interest review period to obtain additional comments. The Corps of Engineers will evaluate the comments received and decide within thirty days whether the signing of a Findings of No Significant Impact will be appropriate. If significant impacts are uncovered, an environmental impact statement will be prepared. The public interest review period for the draft document would be forty-five days as well as an additional thirty days for the final document. However, there would be a minimum of 90 days for public review before a decision would be made. After evaluating the comments, the Record of Decision would be signed indicating which alternative was selected.

ARCHAEOLOGICAL EVALUATION

The Idaho State Historic Preservation Office has been contacted and provided information on this Defense Environmental Restoration Program study for review and comment. A records search performed by the Idaho State Historic Preservation Office revealed that the project site has never been surveyed and would have to be surveyed before any remedial work was performed.

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM (DERP)
FOR FORMERLY USED SITES

FINDINGS AND DETERMINATION OF ELIGIBILITY

MOUNTAIN AIR FORCE RANGE NO. 2
BRUNEAU, IDAHO

PROJECT NUMBER F10ID014100

FINDINGS OF FACT

1. Project Identification: An ordnance and explosive wastes removal project consisting of the detection and removal of probable unexploded ordnance is proposed at the former Mountain Home Air Force Range No. 2. Accidental detonation of unexploded ordnance can cause severe injury or death.

2. Acquisition: The Mountain Home Air Force Range No. 2 involves a total of 2,552.20 acres. These lands were reserved for the War Department by Public Land Order 172 dated 27 September 1943.

3. Utilization: This site was known as Mountain Home Air Force Range No. 2 and was used by the Air Force as a high altitude precision bombing range until 1954. In addition the site was used as a .50 caliber gunnery range. No improvements are known to have been constructed on the site. The facility was not under other than DoD control during it's use as a bombing range.

4. Disposal: In 1954, the entire area was determined excess to the needs of the Department of the Air Force. Public Land Order 172 was revoked by Public Land Order 1898 dated 13 July 1959 returning most of the site to the public domain. The 320 acres that comprise the target area in the southern half of Section 3 were not included because of risks of contamination of unexploded ordnance. Subsequently, Public Land Order 3703 dated 10 June 1965 returned the target area to the public domain but set forth notice that use of the land might involve danger. Nearly all of the usable land has since been conveyed out of the public domain and patented under the Desert Land Entry Act into private ownership. There remains approximately 240 acres which is under the jurisdiction of the Department of Interior, Bureau of Land Management.

5. Evaluations: The site has since been used for agricultural purposes. During the site inspection no direct evidence was found indicating the site was used as a bombing or .50 caliber range, however, discussions with some of the land owners indicate that live .50 caliber munitions exist on the site. There is also still a possibility that unexploded practice bombs or conventional bombs may exist in the subsurface. Other than that described above, there is no other evidence of unsafe debris, HTW, or unexploded ordnance resulting from DOD use of this site.

DETERMINATION

Based on the foregoing Findings of Fact, the site, as described above, has been determined to be a formerly used DoD property. Moreover, it is determined that an environmental restoration project, to the extent set out herein, is an appropriate undertaking within the purview of the Defense Environmental Restoration Program established under 10 USC 2701 et seq., for the reasons stated above.

Date

LLOYD A. DUSCHA, P.E.
Deputy Director
Directorate of Engineering & Construction

II-2

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM (DERP)
FOR FORMERLY USED SITES

POLICY CONSIDERATIONS

MOUNTAIN HOME AIR FORCE RANGE NO. 2
BRUNEAU, IDAHO

PROJECT NUMBER F10ID014100

1. Current policy permits the removal of DOD-generated ordnance and explosive wastes. All ordnance materials that may remain at the Mountain Home Air Force Range No. 2 are the result of the DOD use of the site as a high altitude precision bombing range and as a .50 caliber gunnery range.

III-1

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM (DERP)
FOR FORMERLY USED SITES

SITE SURVEY SUMMARY SHEET

MOUNTAIN HOME AIR FORCE RANGE NO. 2
BRUNEAU, IDAHO

PROJECT NUMBER F10ID014100

Site Name: Mountain Home Air Force Range No. 2

Location: 2,552.20 acres of cultivated farm and pasture lands approximately 8 miles west southwest of Bruneau, Idaho which includes all of Sections 34 and 35, Township 6S, Range 4E, and Sections 2 and 3, Township 7S, Range 4E, located in Owyhee County, Idaho.

Description of Problems: The site was formerly used as a high altitude bombing range and .50 caliber gunnery range. The site contains a target area of 320 acres in which Public Land Order 3703 dated 10 June 1965 declared the land could be dangerous to use. PLO 3703 also opened the target area to public use and it is now privately owned. Land owners on the site have found live and expended .50 caliber ammunition. There is the probability of unexploded ordnance remaining in the subsurface. The accidental detonation of any unexploded ordnance that could be present can result in severe injury or death.

Site History: The site was acquired from public domain land in 1943 for use as a high altitude precision bombing range and as a fifty caliber gunnery range. During the eleven uears, 1943 to 1954, when the site was active, a large number of heavy bombing groups were actively flying the area. Typical bombing loads used for practice were composed of 100 pound practice bombs which can contain high explosive fuses. Due to the lack of records it is not known if high explosive bombs were used at the site while it was active. In addition, there is the probability of live .50 caliber ammunition existing on the site as evidenced by the occasional discoveries of such ammunition by the landowners. The site was determined excess to the needs of the Air Force and relinquished to the public domain on 13 July 1959 by Public Land Order 1898. The target area was not included in this Public Land Order due to the risks of contamination of unexploded ordnance. The target area was returned to the public domain on 10 June 1965 by Public Land Order 3703 with the provision that danger may be involved in it's use. The land has since been broken up and is now under the ownerships of eight private owners and the Bureau of Land Management.

Category of Hazard: Ordnance and Explosive Waste (OEW)

POC/District: Richard A. Kaden, 509-522-6844 - CENPW-EN-GB
John W. Roadifer, 509-522-6776 - CENPW-EN-GB

I-3

Status: The 2,552.20 acre site is under the jurisdictions of eight private landowners and the Department of Interior, Bureau of Land Management and is mostly agriculturally developed.

Description of the Proposed Remedial Action: Complete a confirmation study to determine the extent, if any, of OEW occurrence at the project site. Dependent on the results of the confirmation study a project would be undertaken to locate and remove and/or destroy all unexploded ordnance on the former bombing range.

HRS Summary: The Hazardous Ranking System Score is Debris 0, HTW 0, and Ordnance 47.

I-4

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM (DERP)
FOR FORMERLY USED SITES

PROJECT RECOMMENDATIONS

MOUNTAIN HOME AIR FORCE RANGE NO. 2
BRUNEAU, IDAHO

PROJECT NUMBER F10ID014100

1. It is recommended that the ordnance and explosive waste (OEW) removal project be approved as proposed. The project will include:

   a. A confirmation study to determine the extent of OEW contamination.

   b. Based on the results of the confirmation study, a project consisting of a detailed ground sweep of the impact area combined with the removal/destruction of all hazardous ordnance materials found, is recommended.

2. These recommendations are based on the policies established under DERP. There is no known agreement to preclude this restoration work.

IV-1

Idaho FUDS Review Worksheet

Name: Mountain Home Air Force Bombing Range No. 2, F0ID014100
(approximately 320acre^2 target Area, Total area: 2,552.20 acre^2)

Priority: NOFA

Project Number	Eligible projects	Date	Reviewer	Notes
F0ID014100	None	Dec 18,1997	G.E.May	OEW RAC-5

1.

2.

Open issues. none

1.

Probability Level / Severity Category:		Frequent A	Probable B	Occasional C	Remote D	Improbable E
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

Table 1 Consists of Table 3 From Risk Asscessment Procedures For Ordnance and Explosive Waste (OEW Sites

F0ID014401 Mt Hm Rg5.doc

LAND OWNERSHIP MTN HOME AF RANGE 2

T. 6 S., R 4 E., B.M.

SECTION 35: RICHARD WARD
A. L. TRUSSEL
B. D. BURROUGH
TERRY THOMAS
TOM THOMAS

SECTION 34: BOB MASTRE
C. MERRICK
RICHARD WARD

T. 7 S., R. 4 E., B.M.

SECTION 2: ROLF GLERUM
C. MERRICK
TOM GIBSON
A. L. TRUSSEL
BOB MASTRE

SECTION 3: ALICE SONNICHSEN
C. N. MERRICK
TOM GIBSON

Bill Henry (Ch)

DEFENSE ENVIRONMENTAL RESTORATION ACCOUNT

PROJECT NUMBER F10ID014100 (PART 2 OF 5 PARTS)

MOUNTAIN HOME AIR FORCE RANGE NO. 2, IDAHO

REAL ESTATE REPORT

This site is located about 22 miles southwest of the City of Mountain Home and about 7 miles southwest of the Town of Bruneau, in Owyhee County, in the State of Idaho, and was acquired in 1943 for the Army Air Forces for use as a high altitude precision bombing range. A total of 2,552.20 acres were acquired and disposed of as follows:

2,552.20 acres public domain land acquired in 1943 by Public Land Order No. 172 dated 27 Sep 1943 which granted the War Department use of the lands as a precision bombing range for the term of the unlimited national emergency, plus 6 months. That land order was subsequently amended by Department of Interior, BLM, letter dated 27 Oct 1952 which granted the Air Force continued use of the land beyond 28 Oct 1952, the date of termination of the unlimited national emergency, plus 6 months.

In 1954, the entire area was determined excess to the needs of the Department of Air Force and the right to use the 2,552.20 acres was relinquished to the Department of Interior, BLM, by OCE letter dated 25 Nov 1955.

PLO No. 172, which withdrew 2,552.20 acres from the public domain for use by the Air Force, was revoked by PLO No. 1898 dated 13 Jul 1959; however, that same PLO 1898 set aside from public use 320 of those acres because of contamination by unexploded ordnance. That 320 acre safety withdrawal was subsequently revoked by PLO 3703 dated 10 Jun 1965; however, that order gives notice that use of the land involves danger.

7 Enclosures
1. PLO 172 (allows temporary use of 2,552.20 acres for this site)
2. BLM Ltr, 27 Oct 52 (allows use of the land beyond 28 Oct 1952)
3. OCE Ltr, 25 Nov 55 (relinquishes all 2,552.20 acres)
4. Certificate of Clearance & Recording Advice)
5. PLO 1898 (revokes PLO 172 & sets aside 320 acres, this site)
6. PLO 3703 (revokes PLO 1898 as it pertains to 320 acres set aside as a public safety measure)
7. RE Drawing No. 0-33-31, sheet 1 of 1 (dupe)

(12 May 1986)

Atch 4

MOUNTAIN HOME AIR FORCE RANGE NO. 2

PROJECT NO. F10ID014100

Paragraph 2: Acquisition

This site is located approximately 22 miles southwest of Mountain Home and just 7 miles southwest of Bruneau, Idaho reached via Highway 51 and Cattle Drive Road. Four complete sections of public domain land totalling 2,552.20 acres were reserved for use by the War Department by Public Land Order 172 dated 27 September 1943.

Paragraph 3: Utilization

The lands were used as a precision bombing range involving a specified target area and surrounding buffer zones. The Department of Defense used this site from the World War II era through 1954 when it was determined excess to the needs of the Department of the Air Force. The target area was located in the south half of Section 3, T. 7 S., R. 4 E., containing 320 acres.

Paragraph 4: Disposal

Public Land Order 172 constituting the original withdrawal notice was revoked by Public Land Order 1898 dated 13 July 1959 returning the~~se lands~~ entire 2,552.20 acres to the public domain. However, this revocation order removed the south half of Section 3 from public use due to the risks of contamination of unexploded ordnance. Subsequently Public Land Order 3703 dated 10 June 1965 eliminated that restriction but set forth notice that use of the land might involve danger. Nearly all of the usable land has since been conveyed out of the public domain and patented under the Desert Land Entry Act into private ownership.* The following table lists the current owners as of February 1987:

These land were inspected and photographed by Walla Walla District personnel in September 1986 and again in February 1987.

The private land including the south half of Section 3 has been intensely cultivated since 1974. The owner reported no discoveries of ordnance or munitions and the land has been completely disced over and tilled without uncovering any such debris. Owners of other surrounding lands reported finding a number of spent small arms cartridges, however, such debris did not pose any concerns or problems for their agricultural operations. Concerning the only remaining public domain land in the N½N½, SW¼NE¼, and the NW¼SE¼ of Section 34, the Bureau of Land Management reported no problems and no complaints from any of their grazing lessees as to any ordnance contamination.

* From the time of disposal in 1959 [illegible] present, there has not been any intervening owners who could have contaminated [illegible] contamination to this site.

APPENDIX F-3

Bureau of Land Management

Letter: *From Boise Land Office, ID to Real Estate Division, U.S. Army Corps of Engineers, Walla Walla District, WA,* dated 27 August 1958.

= = = =

BUREAU OF LAND MANAGEMENT
Land Office
P. O. Box 2237
Boise, Idaho

Idaho 06855

AUG 27 1958

Mr. Max K. Tysor
Chief, Real Estate Division
U. S. Corps of Engineers
Walla Walla District
Building 602, City-County Airport
Walla Walla, Washington

Dear Mr. Tysor:

Regarding your file NTWRN-2-NPW (Mountain Home Precision Bombing Range No. 2, Idaho), we have a letter of request dated 3 November 1954, in which you solicited our acceptance of your clearance certificate, however, you placed a limitation of use on the southern half of Section 3, T. 7 S., R. 4 E., B. M., Idaho, recommending that it be restricted to surface use only. The cause for the request for such a restriction was not set forth in your letter, nor is it indicated in the file as of this date. We, therefore, request that the true picture of the status of this land be set forth in order that a determination can be made as to whether it should be restricted as to use or entry upon patent allowance for an indefinite period of time.

It may be necessary for these offices to retain these lands within a withdrawn status until the cause for the restriction is removed.

Very truly yours,

/s/ Donald I. Bailey
Donald I. Bailey
Manager

C O P Y

APPENDIX F-4

Department of Interior

Letter: *Asst. Secretary of the Interior to the Secretary of the Air Force,* dated 27 October 1952.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON 25, D. C.

OCT 27 195.

My dear Mr. Secretary:

Reference is made to a letter of October 15, 1952, from the Deputy Chief of Real Estate, Office of the Chief of Engineers, Department of the Army, reporting that certain lands withdrawn for the Departments of the Army and the Air Force will be needed for an indefinite period beyond October 28, 1952, the date when the jurisdiction over the lands will revert to other agencies because of the termination of the unlimited national emergency.

As requested by the Deputy Chief, permission is hereby granted to the Department of the Air Force to continue the use of the lands embraced in such of the withdrawals as were made for its use by the Executive orders and public land orders hereinafter listed, pending the issuance of a public land order revoking the limitation of six months after the termination of the emergency contained in the existing withdrawals. This permission is subject to valid existing rights, the provisions of existing withdrawals, and the provisions of any public land order that may be issued revoking the time limitation.

Executive Orders Nos. 8101, 8102 as amended, 8343 as amended, 8450, 8507 as amended, 8577, 8578, 8579, 8636, 8652, 8755 as amended, 8769 as amended, 8830, 8847 as amended, 8872, 8877, 8884, 8892, 8954, 8957, 9000, 9020, 9053, 9104 as amended, 9153-A as amended, 9215.

Public Land Orders Nos. 6, 10, 15, 26, 47, 56, 58, 66, 85, 87, 89, 95 as amended, 97 as amended, 98, 103, 164, 168, 172, 207, 255, 265 as amended, 274, 290, 36 as amended.

Sincerely yours,

Fred G. Aandahl

Assistant Secretary of the Interior

Hon. Thomas K. Finletter
Secretary of the Air Force
Washington 25, D. C.

USAF FILE NO. .....

APPENDIX F-5

Mountain Home Army Air Field, Idaho

History of Mountain Home Army Airfield,
7 December 1941 – 31 December 1942,
dated 31 December 1942.

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HISTORY

of

ARMY AIR BASE

MOUNTAIN HOME, IDAHO

7 December 1941 to 31 December 1942

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R E S T R I C T E D

INSTALLMENT II

7 December 1941 to 31 December 1942

It was in June, 1942, that the Army Air Corps training program touched Mountain Home for the first time. By then it had become apparent that additional bases for heavy bombardment training, constructed on a scale seldom before approached, were urgently required to support the rising crescendo of battle. On all fronts there was a need for more and bigger bombers.

On 20 June 1942, the District Engineer of the United States Engineering Corps in Portland Oregon, received telephonic instructions from the Division Engineer, followed by telegraphic instructions from the Commanding General, Second Air Force, to investigate immediately a proposed site for an air base in the vicinity of Jerome, Idaho. Subsequent investigation led to the choice of the present Mountain Home site, as an alternative. The decision was dictated by engineering advantages and low costs (Exhibit: "Site Report, Army Air Corps Instrument Landing Base, Mountain Home, Idaho, July 6, 1942").

Construction of the base dates from 30 November 1942. Contractors' equipment was on the ground and dirt was flying as the year closed.

R E S T R I C T E D

APPENDIX F-6

Mountain Home Army Air Field, ID

History of Mountain Home Army Airfield,
1 January 1943 – 31 August 1943,
dated 31 August 1943.

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HISTORY

of

ARMY AIR BASE

MOUNTAIN HOME, IDAHO

1 January 1943 to 31 August 1943

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R E S T R I C T E D

INSTALLMENT III

1 January 1943 to 31 August 1943

This was the period of construction. The entire station, covering an area of nine square miles and costing $12,257,000 (project total, as of date of completion), was built in less than nine months. Construction consistently ran ahead of schedule (Exhibit 4: Weekly Reports on Construction, Air Force Facilities).

The Base was functioning within four months of the beginning of construction. Runways were in use in seven months. Even as construction proceeded, officers and men began moving in.

I. ORGANIZATION AND FORMATION OF THE BASE

A. Official Name: Army Air Base, Mountain Home, Idaho.

B. Date of Organization:

1. 29 January 1942 Lt. Col. Carlos L. Rehris, AC, was assigned to Army Air Base, Mountain Home, Idaho, as Commanding Officer (Exhibit 5).

2. 29 January 1942 Lt. Col. Rehris assumed command (Exhibit 6).

3. 25 February 1942 Base assigned to 15th Bombardment Training Wing (Exhibit 7).

4. 24 March 1942 Col. Arthur J. Melanson arrived AAB, Mountain Home, to succeed Lt. Col. Rehris in command (Exhibits 8 and 9).

5. 15 May 1942 Base assigned to II Bomber Command (Exhibit 10).

6. 2 June 1942 TWX from II Bomber Command to COAB Mountain Home authorized use of runway by personnel at own risk pending transfer of Base from Army Engineering Corps to Army Air Forces (Exhibit 11).

7. 7 August 1942, Col. Melanson notified Commanding General II Bomber Command that NW-SE and EW runways were open for day operation and limited night operation, lighted by flare pots (Exhibit 12).

- 1 -

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Installment III, History AAB, Mountain Home, Idaho.

8. 7 August 1943 field officially opened 1515 o'clock Mountain Time. First plane to use runway thereafter was Army No. 129013 B-34, Pilot Tipp, landed 1527 o'clock 7 August.

9. 20 August 1943 first meeting of full Base staff held in office of CCAB Mountain Home (Exhibit 13).

10. 21 August 1943 Army Air Forces accepted Base from Army Engineers. In same ceremony, Army-Navy "E" for excellence in construction achievement was awarded J. A. Terteling & Sons, Boise, Idaho, general contractors who, with their associates, built the Base (Exhibit 14).

C. Personnel:

1. Earliest arrivals among Base personnel:

a. Officers:

Carlos L. Reavis, Lt. Col., AC
Wilbur G. Long, 1st Lt., MC
Robert F. Erb, Capt., Signal Corps
E. Briscoe Lett, 1st Lt., MC
Elmer R. Beucus, 1st Lt., AC

b. Enlisted men:

Sgt. Fred Bechtel and Cpl. Ned J. Oakline arrived 9 February 1943 from AAB, Pocatello, Idaho.

D. Organizations and Detachments Assigned to AAB, Mountain Home:

1. 25 January 1943 Mountain Home Sub-Depot (397th) activated (Exhibit 15).

2. 26 February 1943 eight enlisted men transferred from Gowen Field to Det #21 902nd SM Co Avn (Serv), AAB, Mountain Home (Exhibit 16).

3. 1 March 1943 474th Serv Sq activated at Gowen Field, permanent station to be AAB, Mountain Home, Under Ogden Air Depot Control Area Command, SO #9. (See Par 14.)

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Installment III, History AAB, Mountain Home, Idaho.

4. Det 206th Ord Co (Arm)(Serv) assigned #36, per authority 2AF General Order #34.

5. 26 March 1943 six enlisted men placed on DS at AAB Mountain Home from 40th Base Hq & AB Sq, Gowen Field (Exhibit 17).

6. First enlisted men transferred to 1136th Guard Sq (Exhibit 18). (See also Unit History, attached as Exhibit 40.)

7. Det Medical Department:

   a. 1st Lt. E. Briscoe Letts, first medical officer reporting to station, arrived 9 April 1943 from Sioux City, Iowa (Exhibit 19).

   b. Three enlisted men reported 14 April 1943 per Gowen Field Special Order #104.

8. 5 April 1943 301st Airdrome Sq activated AAB, Pocatello, Idaho (Exhibit 20). (Arrival delayed - see Par 16.)

9. 10 April 1943 6th Altitude Training Unit activated AAB, Mountain Home (Exhibit 21).

10. 1 May 1943 470th Bomb Gp (Hv), 800th Bomb Sq (Hv), 801st Bomb Sq (Hv), 802nd Bomb Sq (Hv), and 803rd Bomb Sq (Hv) activated AAB, Mountain Home (Exhibit 22).

11. *20th Base Hq & AB Sq:

   a. Det 20th Base Hq & AB Sq placed on DS AAB Mountain Home per AAB Salt Lake City Special Order #120 dated 30 April 1943.

   b. Det 20th Base Hq & AB Sq placed on DS AAB Mountain Home per AAB Salt Lake City SO #170 dated 19 June 1943.

   c. Administration of 20th Base Hq & AB Sq transferred on 6 July 1943 from AAB Salt Lake City to AAB Mountain Home.

*History of 20th Base Hq & AB Sq will follow. Not completed in time for transmission with Base history.

- 3 -

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Installment III, History AAF, Mountain Home, Idaho.

d. 20th Base Eq & AB Sq transferred from AAB Salt Lake City to AAF Mountain Home for permanent change of station per Salt Lake City Special Order #107 dated 12 July 1943.

12. 10 May 1943 450th AAF Band activated AAB Mountain Home (Exhibit 22).

13. 6 June 1943 Det 21st Airways Communication Sq organized AAB Mountain Home. (See Unit History, attached as Exhibit 41.)

14. 22 June 1943 823rd WAAC Post Hq Co., AAF, activated AAB Mountain Home (Exhibit 24).

15. 22 June 1943 474th Service Sq transferred from Gowen Field, Boise, Idaho to AAB Mountain Home, for permanent change of station (Exhibit 25).

16. 3 August 1943 301st Airdrome Sq assigned AAB Mountain Home and attached 470th Bomb Gp (H) for general supervision of training (Exhibit 26).

17. 10 August 1943 452nd Avn Sq activated AAF Mountain Home (Exhibit 27).

18. 15 August 1943 823rd WAAC Post Hq Co transferred from this station per confidential order.

19. 20 August 1943 69th Airdrome Sq ordered transferred AAB Mountain Home from AAB Casper, Wyoming, o/a 1 September 1943 (2AF Ltr 370.5G to Commanding Officer, AAB Casper Wyo.)

20. Movement of 467th Bomb Gp (H) from AAB, Wendover Field, Utah to AAF Mountain Home announced (Exhibit 28).

21. Establishment of Det 18th Repl Wing AAB Mountain Home announced in Mountain Home General Order #4, per authority of 2AF Memo 35-39 dated 6 August 1943 (Exhibit 29).

22. 26 August 1943 movement orders 69th Airdrome Sq rescinded (Exhibit 30).

23. 470th Bomb Gp (H) designated Parent OTU instead of RTU (Exhibit 31).

24. 29 August 1943 order moving 467th Bomb Gp (H) to AAB Mountain Home rescinded (Exhibit 32).

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Installment LII, History AAB, Mountain Home, Idaho.

E. General:

1. First edition of "The Sage", base newspaper, printed 26 May 1943 (Exhibit 33).

2. Officers' Club formed week of 19 May 1943, with Lt. Col. C. E. Cusack, Base Quartermaster, as first president, and 2nd Lt. Paul R. Berry, MC, as secretary-treasurer. First social function held in Engineers' recreation hall 29 May 1943. First members of Board of Governors: Major J. M. Collins, Chairman, Major Horace G. Smith, Major Everett L. Chrisman, Captain H. H. Cooper.

3. Last concrete poured into runways at 0846 o'clock Saturday 19 June 1943.

4. Base Headquarters moved from temporary location adjacent to quarters of Area Engineer in contractors' area to permanent buildings 9 July 1943.

5. Base Hospital opened 13 July 1943 with Major John M. Collins as first Base Surgeon (Exhibits 34 and 35).

6. Base Theater opened 15 July 1943 for first program.

7. First Training Memorandum published 16 July 1943 (Exhibit 36).

8. First Chaplain, 1st Lt. William A. Slater, reported 17 July 1943.

9. Colors presented to Major Henry H. Covington, Jr., Commanding Officer of 470th Bomb Gp (H), by Major Robert Warren of 15th Wing in review held Saturday, 31 July 1943.

10. Officers' Club moved to permanent quarters 14 August 1943. (Exhibit 37: Stationery designed by Club Officer and copyrighted for Club use.)

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R E S T R I C T E D

Installment III, History AAB, Mountain Home, Idaho.

Security Officer, Camouflage Officer, Investigating Officer and Historical Officer: Major Theodore A. Huntley (assigned Secretary-Treasurer Officers' Club IAOD 23 August 1943).
Courts and Boards Officer, Claims Officer and Legal Assistance Officer: Capt. Frederic A. Mifflerd.
Signal Officer: Capt. Robert F. Erb.
Ordnance Officer: 1st Lt. Ernest C. Farris.
Classification Officer: 1st Lt. Eugene J. Schomburg.
Civilian Personnel Officer: 1st Lt. Harry Kershaw.
Finance Officer: 2nd Lt. Bertram H. Loveman (succeeded 6 July 1943 by Capt. Leo A. Sandstrom).

Statistical Officer: 2nd Lt. Robert D. Cooper.
Special Services Officer: 2nd Lt. James H. Williams.
Public Relations Officer: 2nd Lt. Malcolm G. Bratton.
Post Exchange Officer: 2nd Lt. Charles F. Molloy.
Postal Officer and Fiscal Officer: 2nd Lt. William H. Parks.
Commanding Officer Sub-Depot: Major Everett L. Chrisman.
Commanding Officer 470th Bomb Gp (H): Major Henry H. Covington, Jr.
Deputy Commanding Officer 470th Bomb Gp (H): Major Ronald J. Barnick.

II. FUNCTIONS.

A. Original Functions:

1. The Base was built for the training of heavy bombardment crews. All functions serve this end.

2. Training program (first phase) proceeded smoothly, under exceptionally favorable conditions as to weather, terrain, organization and administration, and with an excellent performance record. Inspectors have given the Base a high rating.

B. Changes in Function:

1. None in this interval.

III. CHANGES IN ORGANIZATIONS.

A. Name of Unit: None.

B. Personnel: None, except as expanding operations resulted in normal accretions.

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R E S T R I C T E D

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Installment III, History AAB, Mountain Home, Idaho.

B. General and Special Staff:

1. Staff functions were handicapped constantly by serious personnel shortages, both military and civilian. Difficulties were surmounted by assiduous devotion to duty and application of common sense principles to problems encountered in putting the Base on its feet. In Base administration per se, it was Colonel Melanson's policy to give staff officers responsibility in proportion to demonstrated capacity, holding them to a high standard of performance and keeping informed at all times of significant developments.

VI. Training.

A. Problems Encountered:

1. Viewed broadly, the training program at Mountain Home proceeded at a constantly accelerated pace despite personnel shortages and limited labor supply. The training program did not hit its full stride until midsummer. Gunnery ranges had not been completed as of 31 August 1943. Gunnery training was accordingly handicapped and this phase of the training program retarded. (For flight training, see history of 470th Bomb Gp (H), forwarded under separate cover.) Camouflage training was hampered by delays in arrival of requisitioned supplies and by supply shortages, including tools required for construction and maintenance. In short, the Base never had the personnel required to carry out comprehensively and on schedule all of the training programs and other duties required by directives from higher headquarters. Except for ground school and flight training within the 470th Bomb Gp (H), it was a fight from the beginning to find time and assemble personnel either for training or instruction.

VII. MORALE.

Except for restlessness among men who chafed under domestic service and ardently desired overseas assignments, the morale on the base was high in spite of the factors of isolation and absence of feminine companionship.

The town of Mountain Home, with a population of approxi-

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[illegible]

CORPS OF ENGINEERS

SITE REPORT
ARMY AIR CORPS
[illegible]
MOUNTAIN HOME, IDAHO
July 6, 1942

OFFICE OF THE DISTRICT ENGINEER
PORTLAND, OREGON

0327

APPENDIX F-7

Mountain Home Army Air Field, ID

History of Mountain Home Army Airfield,
April 1944,
dated 30 April 1944.

Inclosure IV

[redacted]

RETURN TO
Director
Aerospace Studies Inst
ATTN: Archives Branch
Maxwell AFB, Alabama

History
of
Army Air Field
Mountain Home, Idaho
for
April 1944

DECLASSIFIED
EO 11652

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1294

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[illegible]

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[illegible]

[illegible]

[illegible] 1944

When the 400th Bombardment Group (Heavy) departed this station they left on schedule with 72 fly-away planes, all in excellent condition, which is a commendation to the maintenance section of the field. In that all the planes required minor adjustments and some work done on them before they could be flown away.

However, when that group left, they left behind some forty airplane which were in very poor condition and which had to be completely overhauled and restored to proper training condition. These planes were older models of T-24 type aircraft and were used solely for training. It was necessary to give each plane a thorough inspection before it could be turned over to the new bombardment group arriving this station for training.

With a serious shortage of personnel qualified to do repair work on these planes, Second Air Force sent to this station some 400 men in detached service to aid the maintenance section in getting these planes flyable as soon as possible. By proper scheduling of time, the back log of work was reduced and all training obligations were met.

The record of airplanes in flyable condition and in commission for the month of April on a twenty-four hour basis was not available because all flying was under the

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Appendix F – Textual References
Page F-64

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TRAINING

April 1944

Training discussed in this section refers to training of base personnel only. Information and statistics regarding the training of the 498th Bombardment Group (Heavy) and the 494th Bombardment Group (Heavy) can be found in the histories of those bombardment groups for this month.

Again the preceding months of this year all personnel of the field attended [illegible] hours a week of infantry drill and military regulations. Only persons excused were those whose health did not permit regular drill.

Orientation presented three training films during the month in the "Why We Fight" series. As was stated before, these films had been shown previously at this station and their effect was reduced [illegible] "Prelude to War" was [illegible] of the field theaters. [illegible] attendance was not [illegible] and was limited to those who had not seen the film before. The attendance was [illegible] April. "The [illegible]" was shown twice [illegible] and attendance was [illegible] those who had not previously seen the film. The attendance was 536. [illegible] April the third film in the series "Divide and Conquer" was shown four times [illegible] and was previously attendance was limited to those who had not seen the film. Attendance was [illegible] [illegible] that when

1303

APPENDIX F-8

Mountain Home Army Air Field, ID

History of Mountain Home Army Airfield, July 1944,
dated 31 July 1944.

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Inclosure VII

[redacted]

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Aerospace Studies Inst
ATTN: Archives Branch
Maxwell AFB, Alabama

History
of
Army Air Field
Mountain Home, Idaho
for
July 1944

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[illegible]

[illegible]

July 1944

[illegible]

The mission of the Mountain Home Army Air Field remained the training of combat crews for overseas duty in [illegible] type aircraft for the month of July. There were no new functions added during the month.

[illegible]

On 11 July 1944, the first class of combat crews which had been transferred to this station from Peterson Field, Colorado Springs, Colorado, completed their training, graduated, and left for the staging area at Topeka, Kansas. (1)

PROHIBITATION:

No units or detachments of the field were redesignated during the month of July 1944.

INACTIVATION:

No units or detachments were inactivated during the month of July.

NEW INCORPORATE UNITS:

On 14 July 1944, a new section was added to the base unit in accordance with the provisions of Regulation 20-5, Headquarters Second Air Force, dated 20 March 1944. The section was Section 3 and was used to house students for administrative purposes on the field. (2)

[illegible]

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TRAINING

July 1944

The training operations in the month of July went much more smoothly than in the previous month as personality problems, problems of actual responsibility, and other general problems connected with the training program were ironed out.

The personnel recently transferred from Peterson Field, Colorado, began to work more harmoniously with those from Mountain Home toward the accomplishment of the mission. Since the newly arrived men found more time to become acquainted with the physical aspects of the field before they had to [illegible] training.

[illegible] training accomplished during the month was the completion of combat crew training for Class [illegible] 9-15. Class [illegible] 8-15 completed third phase air and ground combat training. Class [illegible] 9-10 completed second phase air and ground combat training. Efficiency of training was marked satisfactory by both Pre-[illegible] and [illegible] inspectors, as all minimum requirements were met as near as practicable. Also during the month the committments for Class [illegible] 10-[illegible] arrived and that class completed first phase air and ground combat training.

There were no changes in the combat crew training program during the month of July, 1944.

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When Class FF 7-15 departed this station (that had completed 100 percent of their "must" requirements, [illegible] percent of the required missions, and 15 percent of the ground school.

Training accomplished for the other three classes was as follows: Class [illegible] 8-17 had completed [illegible] of the "must" requirements, 93% of the required missions to date, and [illegible] of the ground school; Class [illegible] 9-10 accomplished 32% of the "must" requirements, [illegible] of the required missions to date, and 45% of the ground school; Class [illegible] 10-9 had finished [illegible] of the "must" requirements, [illegible] of the required missions to date, and 15% of the ground school.

A total of 3,424.85 hours were flown this month and [illegible] hours were lost to weather.

On [illegible] July, a Liberator bomber crashed and burned after an emergency landing, killing one. The rest of the crew escaped with minor injuries, and the airplane was a total wreck. Cause of the crash was designated as engine trouble.

Static personnel continued to devote two (2) hours [illegible] to infantry drill, and the only persons excused were those who, in the opinion of the medical department, were physically incapable of performing such duties.

On [illegible] July, [illegible] and [illegible] July, there were [illegible] [illegible] of the orientation film, [illegible] of [illegible] at one of the field theaters, at which all personnel were required to attend one showing. [illegible] actual attendance [illegible]

Appendix F – Textual References
Page F-71

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APPENDIX F-9

Mountain Home Army Air Field, ID

History of Mountain Home Army Airfield, October 1944,

dated 31 October 1944.

[redacted]

RETURN TO

[illegible]

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[illegible] DATA

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[redacted]

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The month of October found Mountain Home Army Air Field continuing its mission as a heavy bombardment (B-24) Combat Crew Training Station. During the month, however, the official designation of the installation was changed. The Army Air Field, Mountain Home, Idaho became the Mountain Home Army Air Field, Mountain Home, Idaho.[1/]

The tri-directorate administrative system continued with further evidences of its success in furthering cooperative relations among sections and departments of the Field.

The following change in administrative policy was inaugurated. Letters from sections and sub-sections to the Commanding Officer for ultimate transmittal to higher head quarters were incorsed through station channels [illegible] incorsements rather than incorsements to the letter itself. This achieved the intended purpose of adhering to the proper channels without needless incorsements to the letter and permitted the adjutant to make the first incorsement.

1/ Par. 1, General Order 13, [illegible] Mountain Home Army Air Field, 14 October 1944.

-1-

Appendix F – Textual References
Page F-75

ORDNANCE

This activity received at this station during the month of October a total of four thousand five hundred (4,500) boxes of cal..50 ammunition which had to be unloaded and transported to the magazine storage area since no full head extends to that destination.

One car of spent brass was loaded for shipment to the Toole Ordnance Depot, Toole, Utah, containing two thousand ten (2,000) boxes as well as one hundred fifty (150) boxes of shotgun ammunition received from Pueblo, Colorado and two hundred eleven (211) boxes of Carbide ammunition from Umatilla Ordnance Depot.

The total amount of Bomba, practice, one hundred (100) number M38A2; received, handed, spotted and issued for training during the month of October was seven thousand (7,000).

The total amount of cal..50 ammunition issued and expended to Combat Crew Training School for training during the month of October was six hundred fifty nine thousand eight hundred twenty six (659,826) rounds.

An idea of the amount of weight handled by this activity, during October can be derived from the following figures:

Total amount of sand, all loaded by hand, and transferred to the magazine area then [illegible] used for sanding ma-

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hundred pound practice bombs - one million four hundred thousand pounds. (1,400,000 lbs.)

Total amount of weight of boxes of ammunition and spent brass and other shipments both leaving and received at this station - six hundred thousand eight hundred sixty one (600,861) pounds.

Total weight handled in October: two million eight hundred sixty one (2,000,861) pounds.

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CHAPTER IV

TRAINING

Once again all heavy bombardment crews in training at this station met the minimum training requirements as set forth in the Army Air Forces Training Standard 10-2.

For Class Mount in Home 10-8 only one week before their graduation remained in October. Upon completion of their training their record was 100% for minimum training requirements, 93% for "missions completed" in all three phases of training, and 97% for "hours flown."[21] The final week of training for this class was not a very active one in respect to training. The requirements and accomplishments however, were not very great.[22]

October was an intensive month of training for Class Mountain Home 11-10. From a 65.5% of completion of requirements at the start of the month[23] they developed to 83% by the end of the month.[24] The intervening reporting

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21/ 2AF Form 301A, Group MH 10-8, 7 October 1944.

22/ Chart, Extract of Operational Status for Oct 1944, Class MH 10-8

23/ 2AF Form 301A, Group MH 11-10, 7 Oct 1944

24/ 2AF Form 301A, Group MH 11-10, 28 Oct 1944

periods showed their progress to be [illegible] and impressive.[25] To cite a few individual training requirements, the first week of the month found this Class had an average number of missions completed per crew of 39.56, the second week [illegible] to [illegible], the third to 52.[illegible], and the fourth to [illegible]; for the average number of bomb releases at all altitudes per bombardier, the figures for the four reporting periods, [illegible], [illegible], [illegible], [illegible] and 75. This class enjoyed a general progress rating of "very satisfactory" in the final week.[26] Missions and flying time accomplished both exceeded the requirements.[27]

Class Mountain Home 11-11 also made the [illegible] column during this month by bettering their requirements in the missions and flying time.[28]

25/ 1. 2AF Form 301A, Group MH 11-10, 14 Oct. 44
2. 2AF Form 301A, Group MH 11-10, 21 Oct. 44

26/ 1. Stat Control Report 10, Hq [illegible], Mt Home, Ida, 6 Oct 44
2. Stat Control Report 10, Hq [illegible], Mt Home, Ida, 14 Oct 44
3. Stat Control Report 10, Hq [illegible], Mt Home, Ida, 21 Oct 44
4. Stat Control Report 10, Hq [illegible], Mt Home, Ida, 28 Oct 44

27/ Chart, Extract of Operational Status for Oct 44, Class MH 11-10

28/ Chart, Extract of Operational Status for Oct 44, Class MH 11-11.

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APPENDIX F-10

Mountain Home Army Air Field, ID

History of Mountain Home Army Airfield,
1-15 February 1945,
dated 15 February 1945.

[redacted]

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Maxwell AFB, Alabama

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EO 11652

HISTORY

of

[illegible]

for

period

1 February 1945 - 15 February 1945

[illegible] HISTORY

[redacted]

CHAPTER V

TRAINING

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The Standardization Board's pilots flight checked fifty three per-cent of standardization rides, sixty-five per-cent of instrument rides and gave ten C-1 checks in this period. The remaining percentage in each case were not flown due to weather, DNIF (duty not involved in flying) personnel or lack of airplanes.

The navigator flight checked forty-six and seventy percent of scheduled instructor personnel. Fifty-three and nine-tenths per-cent of scheduled check were cancelled due to weather, DNIF (duty not involved in flying) personnel and lack of airplanes.

The bombardier flight checked forty-one per-cent of scheduled missions, both bombing and C-1. The remaining percentage of scheduled checks were cancelled due to weather, DNIF personnel, or lack of airplanes.

The engineers of the Standardization Board flew thirty-two operational missions during the first fifteen days of February. Eight engineers were given proficiency checks; six of these were instructor personnel. Two other men were found unsatisfactory and it was the recommendation of the board that they be reclassified. One of these men was a combat crew replacement pool engineer and the other was a ball turret gunner with a 748 classification. The engineers also spot checked two crew engineers, who were

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charts are being kept up to schedule in accordance with latest directives.

During the period of 1 February to 15 February 1945, inclusive, Section II bombardiers flew ninety-seven missions dropping 404 low altitude and 475 high altitude bombs and making thirty-four low altitude and twenty-nine high-altitude camera attacks. All bombardiers were required to drop individual high altitude, individual low altitude and train release bombs in formation.

There have been no policy changes or difficulties in training during this time and all equipment is in good condition.

Section III bombing section completed forty-nine high altitude bombing missions and nineteen camera bombing missions during the period of 1 February to 15 February 1945, inclusive.

Bombing scoring by Section III has been disbanded and moved to a central scoring section under direction of Lieutenant Arthur E. Brindley.

Bombardiers must do individual formation and formation train bombing while navigators are required to drop five individual high, five individual high formation and two high altitude tr in bombs in formation of the bomb each.

At present fifty percent of the bombardiers go through

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quarters because of lack of funds.

During this period all airplane commanders and pilots of MH 3-6 class have completed at least the minimum of link trainer time, and have passed the Second Air Force Link Instrument Check in accordance with Second Air Force Memorandum 50-13, dated 12 April 1944.[12/]

The maintenance men of the Link Trainer Department have been installing the A-7 bomb trainer and feel that this experience will help them to improve in future maintenance work on the link trainer.

Captain Powell of the Standardization Board has been exceptionally helpful in allowing the link trainer instructors to accompany him while giving instrument checks, pointing out to them procedures and idiosyncrasies of radio navigation. This, we feel, will improve the instructors ability to simulate these conditions in the link trainer. There have been no transfers into or from the Link Trainer Department during this month.

No significant policy changes have been made in Flight Control. There were two changes made, one relating to bombing range assignments and the other to instrument area and altitude assignments.[13/] In the interest of safety

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12/ Reg 50-13, 2AF Hq, Instrument Flying Proficiency, 12 Apr 1944

13/ Ltr, Hq MHAAF, O of Flt Cont O, no file no. Subj: Bomb Range and Instrument Assignments TO: All Flight Control Personnel, 9 Feb 45

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it was decided to establish a more strict control over aircraft using the bombing ranges at night. In the event of flight failure on one or more of the targets, all aircraft in the future will leave the range, call formal control and stand by for re-assignment to another range. On nights when low ceilings are existant, particular care will be given instrument altitude assignments. Only enough aircraft in each zone to fill available altitudes will be given assignments. The remainder, if unable to bomb or fly in the pattern, will be recalled and landed pending improvement of ceiling conditions.

Assigned temporarily for "on-the-job training", Second Lieutenant Barmesh was given additional navigation training pending transfer to a combat crew. This brings Flight Control personnel to exact manning table strength with four officers and six enlisted men.

The use of Flight Control enlisted personnel for kitchen police, guard duty, and room orderly at frequent intervals still constitutes a problem in as much as no replacements are available when personnel are absent from duty due to these detail assignments. The constant flow of information through flight control communications channels demands the presence of three trained men at all times, which is not now possible, thus forcing loss of operating efficiency.

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APPENDIX F-11

Nettleton, Tim, Sheriff, Owyhee County, Idaho

Letter: *Owyhee County, Idaho, Sheriff to US Army Corps of Engineers, Walla Walla District, Reference: Former Sites Used by DOD,*
dated 23 February 1988.

TIM NETTLETON
SHERIFF

GARY B. AMAN
CHIEF DEPUTY

State of IDAHO
COUNTY OF OWYHEE
OFFICE OF
SHERIFF
MURPHY, IDAHO 83650
PHONE 208/495-1154

OWYHEE COUNTY SHERIFFS
1865-1971

February 23, 1988

Commander
Department of the Army
ATTN: CENPWEN-GB-GE
Walla Walla District, Corps of Engineers
Walla Walla, Washington, 99362-9265

Ref: Former sites used by DOD

	Access	Type of use
Marsing	#2 Gravel road to South West corner-Full access by 4X4.	Open range Farm activities in Sec.28.
Mtn Home	#1 2 track road/full access by 4X4.	Open range
Mtn Home	#2 gravel road/full access	Farm activities 2-3 & 34-35 open range is part of 34.
Mtn Home	#3 Improved dirt road	Open range. BLM seeding of burn area.
Mtn Home	#4 2-track road	Open range.

Page (1)

Saylor Creek- Gravel & 2 track. Presently in use. Contact Mtn Home command @ 208-828-2071. Open range joint use area. AF has disposed of any ordnances that have been located

I am the Civil Defence Officer, also involved in fire control in all areas. Lived and cowboyed 30 years then Sheriff 13 years reference areas in question. During WWII, there were several practice bombs that were unexploded, both in and out of the ranges. All have been cleaned up as far as we know.

As to any ordinance around Saylor Creek, Mtn Home A.F.B. has done a good job. To our knowluage-there is no problem.

Sincerely yours,

Tim Nettleton

Tim Nettleton, Sheriff
Owyhee County, Idaho

P.S. Thanks for the maps.

TN:bm

Page (2)

APPENDIX F-12

Northwest Archeological Associates, Inc.

Letter: *From Lorelea Hudson, Project Manager, Northwest Archeological Associates to Alix Borrok, U.S. Army Corps of Engineers CEMVS-ED-P,* dated 1 March 2004.

Northwest Archaeological Associates, Inc.
Cultural Resources Management Services
5418 20th Avenue NW, Suite 200, Seattle, WA 98107

March 1, 2004

Alix Borrok, Historian
CEMVS-ED-P
US Army, Corps of Engineers
Ordnance and Technical Services Branch
1222 Sprue Street
St. Louis, MO 63103-2833

Re: Idaho SHPO Records Check
–Bruneau PBR No. 2
–Mountain Home AF Range No. 3

Dear Ms. Borrok,

A review of the Idaho State Historic Preservation Office (SHPO) archaeological and historical site files for the above project areas was completed February 25, 2004. No sites were recorded in the Bruneau PBR No. 2, but three sites were within the Mountain Home AF Range No. 3; [redacted] and [redacted]. The location of site [redacted] is unclear and may not actually be within the project (see site record). This site is a large number of red ochre paintings and, I believe, is likely eligible for the National Register of Historic Places (NRHP). The final two sites are isolated finds that have been determined ineligible for the NRHP by SHPO.

The five USGS quad maps supplied by your office, pertinent sections of the SHPO's quad maps, and three site inventory records are included with this letter. I also have attached our invoice in a separate envelope.

Please contact me if you have any questions or need additional information. It was good working with you again and do drop by if you are ever in Seattle. Thanks again for calling.

Sincerely,

Lorelea Hudson
Sr. Archaeologist/Project Manager

Tel: (206) 781-1909
Fax: (206) 781-0154
Email: lhudson@northwestarch.com

APPENDIX F-13

200th Army Air Forces Base Unit (Special) (PETERSEN FIELD, COLORADO SPRINGS, COLORADO)

History of 200th AAFBU, Petersen Field, Colorado, October 1946,

dated 31 October 1946.

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HISTORY

of

200TH ARF BASE UNIT (SPECIAL)

for

October 1945

COLORADO SPRINGS, COLORADO

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HEADQUARTERS
200TH AAF BASE UNIT (Special)
Colorado Springs, Colorado

OCTOBER 1946

I. ORGANIZATION AND ADMINISTRATION

Introduction

The month of October was one which saw many changes taking place in the organization and administration of the 200th AAF Base Unit. The personnel turnover, both of officers and enlisted men, was very active, being occasioned by the accelerated program of relief from active duty of officers under the provisions of RR-1, and the many calls made upon our enlisted strength for the manning of Very Heavy Bombardment Projects.

Organization and Administration

Our organization was radically affected by the assignment to this Base Unit of a total of eleven satellite stations during the month.[1/] The assumption of all command and administrative responsibilities for these stations greatly added to the volume of our administrative work, at a time when the availability of trained personnel, especially in the officers categories, is at its lowest ebb due to officer separations and enlisted transfers. The stations taken over were as follows, and each having been assigned a squadron designation by this Headquarters:

Sq. X La J	LaJunta, Colorado
Sq X Pue	Pueblo, Colorado
Sq. X Gow	Gowen Field, Boise, Idaho
Sq X Mou	Mountain Home, Idaho
Sq X Poc	Pocatello, Idaho
Sq X Ton	Tonopah, Nevada
Sq X Clo	Clovis AAFld, Clovis, New Mexico
Sq X Wal	Walla Walla AFld, Walla Walla, Washington
Sq X Kea	Kearney AAFld, Kearney, Nebraska
Sq X Casp	Casper AAFld, Casper, Wyoming
Sq X Cast	Castle Fld, Merced, California

1/ GO 18 Hq, 200th AAF BU (Sp) d 24 Oct 46
GO 19 Hq, 200th AAF BU (Sp) d 1 Nov 46

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Many problems were posed by the assumption of these satellites, as they had to be manned after compliance with the many separation and relief from active duty directives of higher headquarters. And since so few personnel were available at each of these stations, it had to be decided just how the few officers at each could fulfill all of the many duties required for efficient minimum operation of the bases. First, an inspection and survey of facilities at these stations, and qualifications of personnel on duty had to be conducted. Accordingly, a number of times during the month, inspection and survey teams were dispatched from this Headquarters to investigate conditions and report thereupon, and make appropriate recommendations to the Commanding Officer. Our Station Air Inspector, Lt. Col. Ramputi, was the head of each of these teams, which were ordered to our satellites during the month as follows:

To La Junta and Pueblo, a team of six officers. 2/

To Tonopah, Gowen Field, Mountain Home and Pocatello, a team of six officers 3/

To Tonopah, a team of five officers and two enlisted men 4/

2/ Par 1 SO 144, Hq,200th AAF BU (Sp) dd 10 Oct 46
3/ Par 16 SO 145 Hq,200th AAF BU (Sp) dd 11 Oct 46
4/ Par 21 SO 156 Hq,200th AAF BU (Sp) dd 28 Oct 46

S-E-C-R-E-T

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In the latter office, more help is needed to efficiently maintain reports for all of our newly acquired squadrons. The Military Personnel Section found it necessary to organize a Satellite Section, maintaining control of Satellite Administrative Records, handling their Service Records, pay of enlisted men, Statistical Records, and information services. A complete Cardex System has been instituted on all officers and enlisted personnel at the following stations:

La Junta AAF, La Junta, Colorado
Gowen Army Air Field, Boise, Idaho
Mountain Home Army Air Field, Mountain Home, Idaho
Pocatello Army Air Field, Idaho
Tonopah Army Air Field, Tonopah, Nevada
Pueblo Army Air Base, Pueblo, Colorado

This section also assumed responsibility for the processing and handling of Forms 66-2 and Forms 20, pertaining to the satellite stations.

Due to confliction of directives received from higher headquarters, and the postponement and delay of directives already issued, there was more confusion in the flow of military personnel at the station during the month than has ever been experienced before. This was especially true of officer separations. Upon the receipt of latest directives regarding officers category statements from higher headquarters, a meeting of all non-regular army officers at this station was called[28] and was held in the Base Theatre 1 and 2 October, to discuss new directives, and to effect processing of new statements by the officers. All new statements were submitted by the deadline of 10 October, set by Headquarters Army Air

28/ Daily Bulletin No. 200th AAF BU Nos. 169 and 172 dd 1 and 4 Oct 46

12

R-E-S-T-R-I-C-T-E-D

0420

APPENDIX F-14

Federal Register, Public Land Order 172

Public Land Order 172,
dated 27 September 1943.

UNITED STATES
DEPARTMENT OF THE INTERIOR

Public Land Order 172

WITHDRAWING PUBLIC LANDS FOR USE OF THE WAR DEPARTMENT
AS PRECISION BOMBING RANGES

IDAHO

By virtue of the authority vested in the President and pursuant to Executive Order No. 9337 of April 24, 1943, it is ordered as follows:

Subject to valid existing rights, the public lands within the following-described areas are hereby withdrawn from all forms of appropriation under the public-land laws, including the mining and mineral-leasing laws, and reserved for the use of the War Department as precision bombing ranges:

Boise Meridian

T. 6 S., R. 2 E.,
secs. 26, 27, 34, and 35.
T. 6 S., R. 4 E.,
secs. 34 and 35.
T. 7 S., R. 4 E.,
secs. 2 and 3.
T. 9 S., R. 6 E.,
secs. 15, 16, 21, and 22.

The areas described, including both public and non-public lands, aggregate 7,672.20 acres.

This order shall take precedence over but not modify the order of April 8, 1935, of the Secretary of the Interior, establishing Idaho Grazing District No. 1, so far as such order affects the above-described lands.

The jurisdiction granted by this order shall cease at the expiration of the six months' period following the termination of the unlimited national emergency declared by Proclamation No. 2487 of May 27, 1941 (55 Stat. 1647). Thereupon, jurisdiction over the lands hereby reserved shall be vested in the Department of the Interior, and any other Department or agency of the Federal Government according to their respective interests then of record. The lands, however, shall remain

2

withdrawn from appropriation as herein provided until otherwise ordered.

September 27, 1943 (SGD.) ABE FORTAS
Acting Secretary of the Interior.

C
O
P
Y

APPENDIX F-15

Tyson, Herbert, G., 1st Lieutenant, US Air Force, 2700th Explosive Ordnance Disposal Squadron

Memorandum: *Certificate of Clearance,*
dated 17 September 1954.

C O P Y

HEADQUARTERS
DETACHMENT # 4
2700TH EXPLOSIVE ORDNANCE DISPOSAL SQUADRON
MCCLELLAN AIR FORCE BASE
CALIFORNIA

CERTIFICATE OF CLEARANCE

17 September 1954

All lands within Mountain Home Precision Bombing Range #2, located approximately 7 miles West of Bruneau, Idaho, and lies in sections 34, and 35, T.6.S and sections 2 and 3 T.7.S, R.4.E, Owyhee County, Idaho. All of this land has been given a careful search and has been cleared of all dangerous and/or explosive materials reasonably possible to detect. It is recommended that the southern half of section 3, T.7.S R.4E, as shown on the inclosed Real Estate Map of Mountain Home Precision Bombing Range #2 dated 28 August 1952 be restricted to surface use only. All other tracts are recommended for any use for which the land is suited. Date of final clearance was 17 September 1954.

1 Incl
Real Estate Map of
Mountain Home PBR #2

/s/ Herbert G. Tyson
HERBERT G. TYSON
1st Lt. USAF
Commander
Det. #4, 2700th
E.O.D. Sq.

C O P Y

APPENDIX F-16

Tyson, Herbert, G., Major, US Air Force, 2700th Explosive Ordnance Disposal Squadron

Memorandum: *Certificate of Clearance,* dated 24 July 1964.

Section I

CERTIFICATE OF CLEARANCE

Unrestricted For Any Future Use

Date: 24 July 1964

All lands (320 acres more or less), within the Mountain Home Precision Bombing Range #2, and located within Owyhee County, State of Idaho, as described in attachment #1, have been thoroughly searched and are cleared of all explosive ordnance and ordnance residue reasonably possible to detect.

The land described in attachment #1 is all of the area lying within the following described boundary: "Begining at the southeast corner of Section 3, T7S, R4E, thence north to the northeast corner of the SE ¼ of Section 3, thence west to the northwest corner of the SW ¼ of Section 3, thence south to the southwest corner of the SW ¼ of Section 3, thence East to the point of begining contains 320 acres, more or less". (Boise-Meridian)

Attached real estate map (attachment #2) Dwg No 0-33-31, dated 25 Nov 1944, of Mountain Home AA Fld, Precision Bombing Range #2, reflects the area decontaminated.

There are no restrictions of the future use of all the above described lands.

Because surface erosion of this land may expose sub-surface ordnance not detected during search operations, all present and/or future users, owners, and/or inhabitants of these lands are hereby advised that if, at any time, an item identified or suspected of being military ordnance is located, the nearest government civil authority should be contacted.

Date of clearance was 24 July 1964.

Herbert G. Tyson
HERBERT G. TYSON
Major, USAF
Commander

2 Atch's
1. Legal Land Description
2. Map (Mountain Home PBR #2 Section 3, T7S, R4E)

111912

**** CERTIFICATE OF CLEARANCE ****

United States Air Force

to

Whom it May Concern

Recorded	
Compared	
Ind.-Direct	
Ind.-Reverse	
Bk. & Pg. B.	
Bk. & Pg. R.	
Assigned	
Released	

STATE OF IDAHO, Owyhee County, } ss.
Filed for record this 20th day of August, 19 64 at 11:40 o'clock a. M, at request of Robert S. Thorne and recorded in Book 18 of Miscellaneous 381, of the records of said county.
Nick Ihli
Ex-Officio Recorder,
Deputy,
.90

382

APPENDIX F-17

Tyson, Herbert G., Major, US Air Force

Report: *Range Clearance Report,*
dated 25 June 1964.

Section II

Range Clearance Report

1. Reference and authority: ISD letter, dated 25 June 1964, subject: Range Clearance, Mountain Home PBR#2, Idaho, and indorsements.

2. The area cleared is that portion of Mountain Home PBR#2 under a restricted to grazing use only clearance. This area is located approximately 34 miles south and east of Mountain Home Air Force Base in the county of Owyhee, Idaho.

3. Range area decontaminated totaled 320 acres.

4. Clearance commenced 15 July 1964 and was completed 24 July 1964.

5. A total of nine (9) enlisted personnel participated in the conduct of this clearance.

6. Total manhours utilized: 576

a. In decontamination: 572 manhours

b. Travel to and from Range: 4 manhours

* c. Travel to and from Home Station: 0 manhours

Total manhours: 576

* Manhours of travel to and from Home Station are not shown since operation was conducted consecutively with range decontamination of excess portion of Saylor Creek Air Force Range located nearby.

7. Total cost of clearance:

a. POL costs:

(1) Gasoline 240 gals @ $.24/gal - $57.60

(2) Motor Oil 2 gals @ $1.92/gal - $3.84

Total $61.44

b. Demolition material costs: No demolition materials were utilized during the clearance.

c. Vehicle maintenance costs: $99.17

d. Transportation & Per Diem Costs:

* (1) Transportation (TPA) - 0

(2) Per Diem - $1152.00

Total $1152.00

* Transportation costs included in Report of Clearance of Saylor Creek AF Range.

Total cost of clearance - $1312.61

e. Cost per acre - $4.10/acre.

8. Hazardous items recovered and disposition of same: None.

9. Approximately 500 lbs of inert ordnance residue was recovered and piled in a central location on the range for future disposition by the Marketing and Distribution Section, Mountain Home AFB.

10. Vehicle used:

a. 2 each, Truck Cargo, 5 ton.

b. 2 each, 1 ton 4x4 Crew Cabs, C-120 Series.

The vehicles utilized were adequate.

11. No difficulties were encountered.

12. Recommendations: It is recommended that should it be necessary in the future to restrict any part of the land, said land should be posted as such or fenced.

13. Personnel participating in this operation are as follows:

SMSgt Arthur S. McCloskey NCOIC
MSgt Robert Phelps
TSgt T.J. Harris
TSgt George Dunn
TSgt David Evans
SSgt Leo N. Fricks
SSgt James Crader
SSgt Fredric A. Sieron
SSgt William Sackery

Herbert G. Tyson
HERBERT G. TYSON
Major, USAF
Commander

APPENDIX F-18

U.S. Army Corps of Engineers, North Pacific Division

Letter: *From Assistant Chief for Real Estate to Director, Bureau of Land Management,* dated 25 November 1955.

FF,

WCM

HO'N

EJF

602 ENGLM
MR. HOME PRECISION BOMBING
RANGE NO. 2, IDAHO

25 NOV 1955

Director
Bureau of Land Management
Department of the Interior
Washington 25, D. C.

Dear Sir:

Reference is made to Public Land Order No. 172, dated 27 September 1943, whereby the War Department assumed jurisdiction over an aggregate of 7,672.20 acres of land for the purpose of maintaining precision bombing ranges.

A portion of this land consisting of approximately 2,522.20 acres has been determined by the Department of the Air Force to be no longer required for its needs. This portion is more particularly described as follows:

> Sections 34 and 35, T. 6 S., R. 4 E., B.M., and Sections 2 and 3, T. 7 S., R. 4 E., B.M., containing an aggregate of 2,552.20 acres, more or less.

No improvements have been placed on the land and, as indicated in the inclosed copy of letter from the Bureau of Land Management, Idaho State Office, the required restoration has been accomplished. The land has been given a careful visual inspection and has been cleared of all explosive materials reasonably possible to detect. However, as indicated by the inclosed copy of certificate, which has been placed on record in Owyhee County, Idaho, the South ½ of Section 3, Township 7 South, Range 4 East, Boise Meridian, should be restricted to surface use only.

This office requests that appropriate action be taken to amend the above described public land order and to delete therefrom the above described lands.

Your cooperation in having made this land available is appreciated.

Sincerely yours,

2 Incl
1-Cy ltr 13 Sep 55
2-Cert of Clearance
17 Sep 55

Chief, Corps of Engineers for
Real Estate

cc: North Pac Div Engr

Walla Walla Dist Engr

APPENDIX F-19

U.S. Army Corps of Engineers, Portland District Engineer

Memorandum: *Subject: Estimate Request No. 2242 – Precision Bombing Targets, Mountain Home Army Airfield, Mountain Home, Idaho,*
dated 31 March 1945.

AIR MAIL

Subject: Estimate Request No. 2242 - Precision Bombing Targets, Mountain Home Army Air Field, Mountain Home, Idaho.

PADPG
PO 614(Mt. Home)-22 1st Ind. (Basic: 7 March 45. OG, 4AF, S.F., to DE, Portland).

Office, District Engineer, Portland 5, Oregon, 31 March 1945. - To the Commanding Officer, Mountain Home Army Air Field, Mountain Home, Idaho.

1. In compliance with request in paragraph 1 of basic letter, there are inclosed, for your review and recommendation, and for forwarding to Headquarters, 4th Air Force, plot plan, Drawing MMH-1-1/69, and estimate of cost, in the amount of $26,200. The estimate covers the cost for constructing and/or modifying 5 day and night precision bombing targets, used by Mountain Home Army Air Field, and is based on provisions set forth on inclosures 1 and 2 to basic letter, and shown on Drawing MMH-1-1/69.

2. The extent of the work proposed, as covered in the estimate, shown on the plot plan, and discussed with Major T. I. Pasco, Base Bombing Officer, is briefly as follows:

a. The earth fill emplacements for the 10' squares, circles and identification numerals will be confined by 2"x12" planks on edge, supported by 2"x4" stakes at 3' centers, set at least 18" in the ground. This type of construction is recommended in lieu of the 15" diameter logs called for on 4th Air Force diagram, inclosure 1, since due to the locality of the bombing ranges, the cost of furnishing logs at these sites would be excessive.

b. Target circles, numerals and leg markers will be limed and the rate of application will be approximately 2-1/2 tons per acre.

c. Target centers will be 30'x30', lath construction, and painted white.

d. Clearing, as itemized in the estimate, will consist of removal of sagebrush in the immediate vicinity of the targets and does not provide for construction of firebreak areas.

e. Generator houses for ranges 1 and 5 will be 8'x12' in size, with concrete floors. New generators will be provided for these ranges, and will have time clock control.

13

APPENDIX F-20

U.S. Army Corps of Engineers, Real Estate Division

Letter: *From Chief of Real Estated Division to Commander U.S. Air Force Air Material Command,* dated 15 September 1958.

NPWRM
NPW 602 (Mt Home PBR #2, Ida)

15 September 1958

SUBJECT: Restriction to Surface Use, Certificate of Clearance, Mountain Home Precision Bombing Range No. 2

TO: Commander
Air Materiel Command
United States Air Force
Wright-Patterson Air Force Base, Ohio
ATTENTION: MCSQM

1. References:

a. Copy of Certificate of Clearance dated 17 September 1954, Inclosure 1.

b. Copy of letter dated 17 September 1954 from Commander, Detachment No. 4, 2700th Explosive Ordnance Squadron to Commander, 2700th Explosive Ordnance Disposal Squadron, Wright-Patterson Air Force Base, Ohio, Inclosure 2.

c. Copy of letter dated 27 August 1958 from Bureau of Land Management, Boise, Idaho, Inclosure 3.

2. This office advised the Bureau of Land Management in reply to their letter dated 27 August 1958 that the use of the S½ of Section 3, T. 7 S., R. 4 E., Boise Meridian, should be restricted to surface use indefinitely. However, the Bureau was informed that the Department of the Air Force would be queried as to whether unexpended munitions lose their explosive properties over a period of time and, if so, might the Air Force, at some future date, be willing to recommend that the S½ of said Section 3 be used for any purpose for which the land is suited.

3. This office will relay the decision or comments of your Command to the Bureau of Land Management, Boise, Idaho.

FOR THE DISTRICT ENGINEER:

3 Incl (trip)
as listed

MAX K. TYSOR
Chief, Real Estate Division

APPENDIX F-21

Walla Walla Army Air Field, Washington

History of Walla Walla Army Air Field, September 1946,

dated 30 September 1946.

-R-E-S-T--R-I-C-T-E-D-

AN INTERIM HISTORY
of
WALLA WALLA ARMY AIR FIELD
(FIFTEENTH AIR FORCE)

For the Period
21 OCTOBER 1945 to 18 APRIL 1946

WALLA WALLA, WASHINGTON

-R-E-S-T-R-I-C-T-E-D-

On the 26th of December, Major Joseph M. Savage was announced as Management Control Officer in place of Major William M. Jones.[13] On December 29th, Civil Service employees numbered 444.

On the first of January Lt.Col. Edward C. Haberstad was announced as the Commanding Officer of the 423rd AAF BU, Sub-Base, Mountain Home, Idaho, and Colonel Merlin I. Carter as Commanding Officer of the 423rd AAF BU, Sub-Base, Gowen Field, Boise, Idaho.[14] Also on this date, activation of "H" Squadron, 423rd AAF BU at Mountain Home, Idaho was announced.[15]

Three changes were made during the month in the office of the Base Commander. On January 11th, Colonel John A. Macready assumed command of the Base during temporary absence of Col. John V. Hart.[16] January 26th, Colonel George A. Whatley assumed command during temporary absence of Colonel Hart, vice Colonel Macready released.[17] Then on the 31st of January, Colonel Macready again assumed command of the field.[18] On the 17th of January inactivation was announced of "B" Squadron, 423rd AAF BU, WWAAF. During the month of January approval was granted by the commanding officer of WWAAF for lease arrangements of the hotel at Tollgate, Oregon. As a result, Special Service had a new form of entertainment and recreation to offer the personnel of WWAAF. Week-end ski trips were scheduled as long as weather conditions permitted travel to ski resort.

13/ WWAAF GO #52, 26 Dec 45
14/ WWAAF GO # 1, 1 Jan 46
15/ WWAAF GO # 1, 1 Jan 46
16/ WWAAF GO #3 , 11 Jan 46
17/ WWAAF GO # 8, 26 Jan 46
18/ WWAAF GO # 9, 31 Jan 46

-6-

APPENDIX F-22

War Department

Memorandum: *Subject: Acquisition of Land – Mountain Home Precision Bombing Range, Site Nos. 1, 2, 3, Idaho,*
dated 23 June 1943.

P.D.
25/June/43

ADDRESS REPLY TO
CHIEF OF ENGINEERS, U. S. ARMY
WASHINGTON, D. C.

WAR DEPARTMENT
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON

REFER TO FILE NO. CE 601.1 (Mountain Home Airfield, Idaho) SPELR
(Misc.)

25 June 1943

SUBJECT: Acquisition of Land - Mountain Home Precision Bombing Range, Site Nos. 1, 2, & 3, Idaho.

TO: The Commanding General, Army Service Forces.

1. There is a military necessity for the acquisition of the property indicated under subject above and described more in detail in paragraph 2 below.

2. Description of land and other pertinent data are as follows:

a. BRIEF DESCRIPTION OF THE LAND: Certain tracts or parcels of land located in Owyhee County, Idaho, Range No. 3, outlined in black on the attached map. Since both Ranges Nos. 1 and 2 are all Government owned land, appraisal was not made and maps are not available.

b. PROPOSED USE: High Altitude Precision Bombing Ranges
c. ACREAGE INVOLVED: 7,680 acres, more or less.
d. IMPROVEMENTS: None.
e. ESTIMATED COST: $48.00 annual rental for State-owned land in Range No. 3.

f. ESTATE TO BE ACQUIRED: Leasehold interest in State land. Temporary use or transfer of 7,040 acres Public Domain land.

g. METHOD OF ACQUISITION: Negotiation.

3. The determination of military necessity is based upon the first indorsement of the Commanding General, Army Air Forces, dated May 14, 1943.

4. Funds for this acquisition are available from Public 649, 77th Congress, approved July 2, 1942.

5. It is recommended that the Under Secretary of War be informed that there is a necessity for the acquisition of the above-mentioned land, and that he be requested to authorize this office to acquire the necessary land for this project.

For the Chief of Engineers:

2377

THOMAS M. ROBINS,
Major General,
Assistant Chief of Engineers.

3 Incls:
1. Ltr. 4/17/43 w/3 Inds.
2. Ltr. 4/17/43 w/5 Inds. & 1 Incl.
3. Directive Map

APPENDIX F-23

9th Air Base Group

Memorandum: *Subject: Declaration of Excess Real Property, Mountain Home Precision Bombing Range No. 2,*
dated 24 November 1953.

HEADQUARTERS
9TH AIR BASE GROUP
MOUNTAIN HOME AFB, IDAHO

DMAI 601.53 24 NOV 1953

SUBJECT: Declaration of Excess Real Property, Mountain Home Precision Bombing Range No. 2

TO: Commander
Fifteenth Air Force
March AFB, California

1. Real property formerly under the jurisdiction of this base which is designated as Mountain Home Precision Bombing Range No. 2 is no longer required by this station. Request that acquisition action which is presently being held in abeyance by Walla Walla District Engineers, Real Estate Division, be cancelled.

2. Precision Bombing Range No. 2 contained four (4) square miles whereas Air Force Regulation 87-16 and SAC Regulation 85-5 requires a nine (9) square mile area for a Precision Bombing Range. Practice bombing targets will be constructed on Saylor Creek Bombing and Gunnery Range.

3. The following information required by paragraph 8, AFR 87-4 is furnished:

a. Precision Bombing Range No. 2 is located in Owyhee County, Idaho, approximately 7 miles SWW of Bruneau and 22 miles SW of Mountain Home, Idaho. Inclosure No. 1 is a map showing location of facility.

b. Land consists of one (1) tract containing 2560 acres all located on Department of Interior land.

1 Incl
Drawing (Quad)

J.Y. KINSALL
Lt. Colonel, USAF
Deputy Commander

46470

APPENDIX F-24

9th Bombardment Wing

Letter: *From Headquarters 9th Bombardment Wing to Commander Fifteenth Air Force,*
dated 24 November 1953.

HQ 9th ABG DMAI Subject: Declaration of Excess Real Property, Mountain Home Precision Bombing Range No. 2

DMAI (24 Nov 53) 2nd Ind

HQ 9TH BOMBARDMENT WING, MEDIUM, Mountain Home AFB, Idaho

13 JAN 1954

TO: Commander, Fifteenth Air Force, March AFB, California

1. Records at this station indicate that Mountain Home Precision Bombing Range No. 2 was declared excess to the needs of the Air Force and was not on the real estate accountable records at the time Mountain Home Air Force Base was reactivated under Military Air Transport Service 1 February 1951.

2. Mountain Home Precision Bombing Range No. 2 was not picked up on the accountable records of Mountain Home Air Force Base after jurisdiction of this base had changed to Strategic Air Command due to the lack of any real estate instrument which authorized this base to pick up accountability.

3. Request for re-acquisition of subject land area did not originate at this base. Informal information from Real Estate Division, Walla Walla District indicates that re-acquisition action was initiated by that office in compliance with request from Strategic Air Command.

4. Decision to request termination of acquisition action for this land area was made at a Bombing and Gunnery Range conference held at this base 14 November 1953 which was attended by Lt. Colonel James T. McNeeley, 15th Air Force Gunnery Officer and Mr. Robert W. Phillips, Chief of Facilities Branch.

FOR THE COMMANDER:

Herald F. Hildebrand

HERALD F. HILDEBRAND
Captain, USAF
Assistant Adjutant

1 Incl
n/c

3196

3

APPENDIX F-25

9th Bombardment Wing

History of the 9th Bombardment Wing, Medium,
1 June-30 June 1953,
dated 31 July 1953.

~~SECRET~~

DECLAS
AF/DESPB
LTR 13 DEC 73

SECURITY INFORMATION

HISTORY OF THE 9TH BOMBARDMENT WING, MEDIUM

1 JUNE - 30 JUNE 1953

Prepared for the 9th Bombardment Wing, Medium
9th Air Base Group and 9th Medical Group
by
Alice E. Hicks, (Historian)

31 July, 1953

Alice E. Hicks
ALICE E. HICKS
Historian

William C. Kingsbury
WILLIAM C. KINGSBURY
Colonel, USAF
Commanding Officer

(Fifteenth Air Force, Strategic Air Command)

MOUNTAIN HOME AIR FORCE BASE, IDAHO

~~SECRET~~

SECURITY INFORMATION

7

CHAPTER I

ORGANIZATION AND ADMINISTRATION

This base was complimented on the reception and treatment that is accorded transients who visit here. General Powers, SAC, made a statement to Colonel Kingsbury relevant to this hospitality and remarked that he intended a visit here in the near future.

Colonel Baker, Base Commander, considered this to be a very fine compliment coming from General Powers who has a reputation for his demands of utmost efficiency at all times. This attitude indicates that the staff members are supporting in a credible manner the policies of SAC with reference to exhibiting a genuine atmosphere of friendly hospitality to Inspectors and personnel of USAF and SAC.[10]

This station is required to utilize local funds for fire presuppression of the bombing and gunnery ranges used by the 9th Bomb Wing. Initial notification of this requirement was forwarded to this station from SAC Headquarters in the form of a bill amounting to $7,200.00, payable to the United States Bureau of Land Management. Another bill for the same amount is expected for the second range. Fifteenth Air Force was contacted concerning this matter and they agreed to furnish funds over and above the normal budget authorization for the purpose of defraying these expenses. Major Obermiller, AIO officer, will attend a meeting of the Land Management Bureau in Boise 19 July concerning reimbursement for fire presuppression on Craters of the Moon and Saylor Creek Aerial Gunnery Ranges.[11]

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10. Minutes of Staff Meeting June 1953

11. Info fur by Air Installations Officer

SECRET

SECURITY INFORMATION

A unit training program is being set up which promises to be the outstanding training program of the Fifteenth Air Force. The new basic airmen in the Air Police Squadron will attend this school for 6 weeks - 8 hours daily. Air Police and security tactics will be taught in the classroom. Field problems and bivouac will conclude the first Phase of training.[12]

Ground Training

During the month of June 122 airmen participated in class room instructions given by the Survival School. A new survival school has been established near Idaho City.

Classes started on 16 June in the Gunnery School. The first class was a pre-evaluation class with four (4) students. A refresher course started 29 June with 19 students attending. The Gun Camera section has scored and processed 300 feet of gun camera film. The Photo Lab lacks experienced personnel to process 16mm gun camera film. As a result of this, gunners in the 9th Bombardment Wing are not getting maximum proficiency in meeting the requirements of SAC Manual 50-9.

Firing on the Range has been in full operation since 17 June with men firing as follows: Carbine, 380; .45 Pistol, 121; Skeet, an average of 15 men a day firing.

The Instruments School has had six (6) students a week in the course which is held four (4) hours a week.

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12. Info fur by Lt Thomas L. Ridenhour, Air Police Squadron

SECRET

SECURITY INFORMATION

APPENDIX F-26

200th Army Air Forces Base Unit, Mountain Home Army Airfield

Letter: *Adjutant to Commanding General, Army Air Forces, Reference: Army Air Forces Letter 85-44, Subject: Rescission of Interdepartmental Air Traffic Control Board Clearances,*
dated 24 February 1947.

NRA IV - RG18 Entry 2C - Decimal File 1947, Box 2794

(4) BLDGS. & GROUNDS 17 DJM (3)

HEADQUARTERS, SQ X MOU
200th AAF BU (Special)
Mountain Home Army Air Field
Mountain Home, Idaho

A4FA-686 24 February 1947

SUBJECT: Rescession of Clearance on Bombing and Gunnery Ranges

TO: Commanding General
Army Air Forces
Washington 25, D. C.
(ATTENTION: Air Installation Division, AC/AS-4)

Reference AAF letter 85-44 29 October 1945 subject: Rescission of Interdepartment Air Traffic Control Board Clearances. The following Bombing and Gunnery Ranges this field are not in current use and although excess of these installations has been disapproved, no immediate future use is foreseen by this headquarters.

Mountain Home Ground Gunnery Range T3S R5E Elmore County, Idaho
Precision Bombing Range #1 T6S R2E Owyhee County, Idaho
Precision Bombing Range # 2 T6S & T7S R4E Owyhee County, Idaho
Precision Bombing Range #3 T9S R6E Owyhee County, Idaho
Precision Bombing Range #4 T11S & T12S R4E R5E Owyhee County, Idaho
Precision Bombing Range #5 T7S, T8S, T9S & T10S R7E, R8E, R9E R10E, R11E & R12E Owyhee County, Idaho
Air-to-Air Ground Gunnery Range #6 T11S & T12S R15E, T11S 14E Twin Falls, Idaho

FOR THE COMMANDING OFFICER:

William K. Hurlbury
WILLIAM K. HURLBURY
1st Lt, Air Corps
Adjutant

TO CENTRAL FILES
No action necessary
Cy filed in AFDIN-4 files
AFDIN-4A/1 19 Mar 47

TO: Mail & Records Division, AAG.
From: Air Installations Division
AC/AS-4, Room 5E1087, The Pentagon
Date 19 MAR 1947
Chief, Administration Section

APPENDIX F-27

2700th Explosive Ordnance Detachment

Memorandum: *Subject: Final Report on Mountain Home PBR No. 2,*
dated 17 September 1954.

C O P Y

HEADQUARTERS
DETACHMENT # 4
2700TH EXPLOSIVE ORDNANCE DISPOSAL SQUADRON
MCCLELLAN AIR FORCE BASE
CALIFORNIA

17 September 1954

SUBJECT: Final Report on Mountain Home PBR #2.

TO: Commander, Att'n MCSQM
2700th Explosive Ordnance Disposal Squadron
Wright-Patterson Air Force Base, Ohio

1. The clearance project of Mountain Home Precision Bombing Range #2 was commenced on 12 August 1954 and was completed on 17 September 1954. One officer and nine airmen were utilized on the project. The total number of Man hours used in the completion of the project was 2670. The only sources of information which aided in the clearance of the range was a map of the area furnished by the Walla Walla District Engineers office and talking to residents of Bruneau, Idaho.

2. The total amount of scrap recovered from the range was 52,000 pounds. All of the scrap was turned in to the Base Disposal officer at Mountain Home Air Force Base.

3. The only explosive components found on the range was black powder from spotting charges. Approximately 400 pounds was recovered and destroyed by burning.

4. It is believed that the range is as free of military scrap and explosives as can be reasonably detected, and that the land can be used for anything it is suited for with the exception of the southern half of section 3, T.7.S, R.4 E. Which was the main impact area. This tract should be restricted to surface use only.

/s/ Herbert G. Tyson

HERBERT G. TYSON
1st Lt, USAF
Detachment Commander

C O P Y

APPENDIX G

STILL PHOTOGRAPH REFERENCES

(NOT USED)

APPENDIX H

MAPS / DRAWINGS REFERENCES

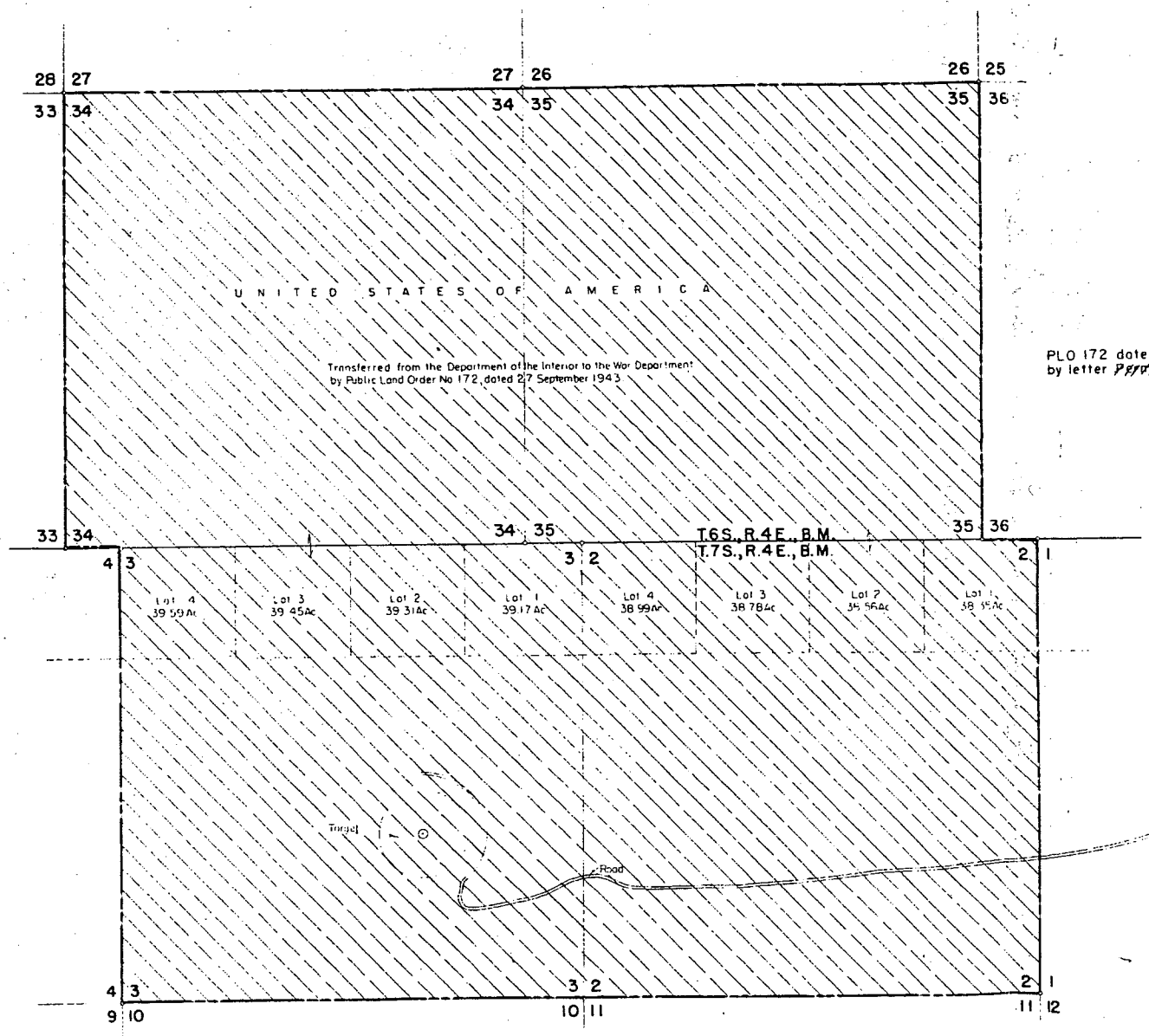
APPENDIX H - MAP / DRAWINGS REFERENCES

H-1 War Department, O.C.E.
1959a *Real Estate, Mountain Home Air Force Range No. 2 Military Reservation*, dated 25 November 1944, revised 23 November 1959. Real Estate Files, Box 88340003053, Folder: Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Seattle District, Seattle, WA.

H-2 War Department, O.C.E.
1959b *Real Estate, Mountain Home Air Force Range No. 2 Military Reservation*, dated 25 November 1944, revised 23 November 1959. Real Estate Files, Box 88340003053, Folder: Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Seattle District, Seattle, WA.

APPENDIX H-1
War Department, O.C.E.

Real Estate, Mountain Home Air Force Range No. 2 Military Reservation, dated 25 November 1944, revised 23 November 1959. Real Estate Files, Box 88340003053, Folder: Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Seattle District, Seattle, WA.



ACQUISITION AUTH

RE-D 2377 DATED
RE-D UN#'D DATED
Canceled by UN#'D
Dated 4-15-54

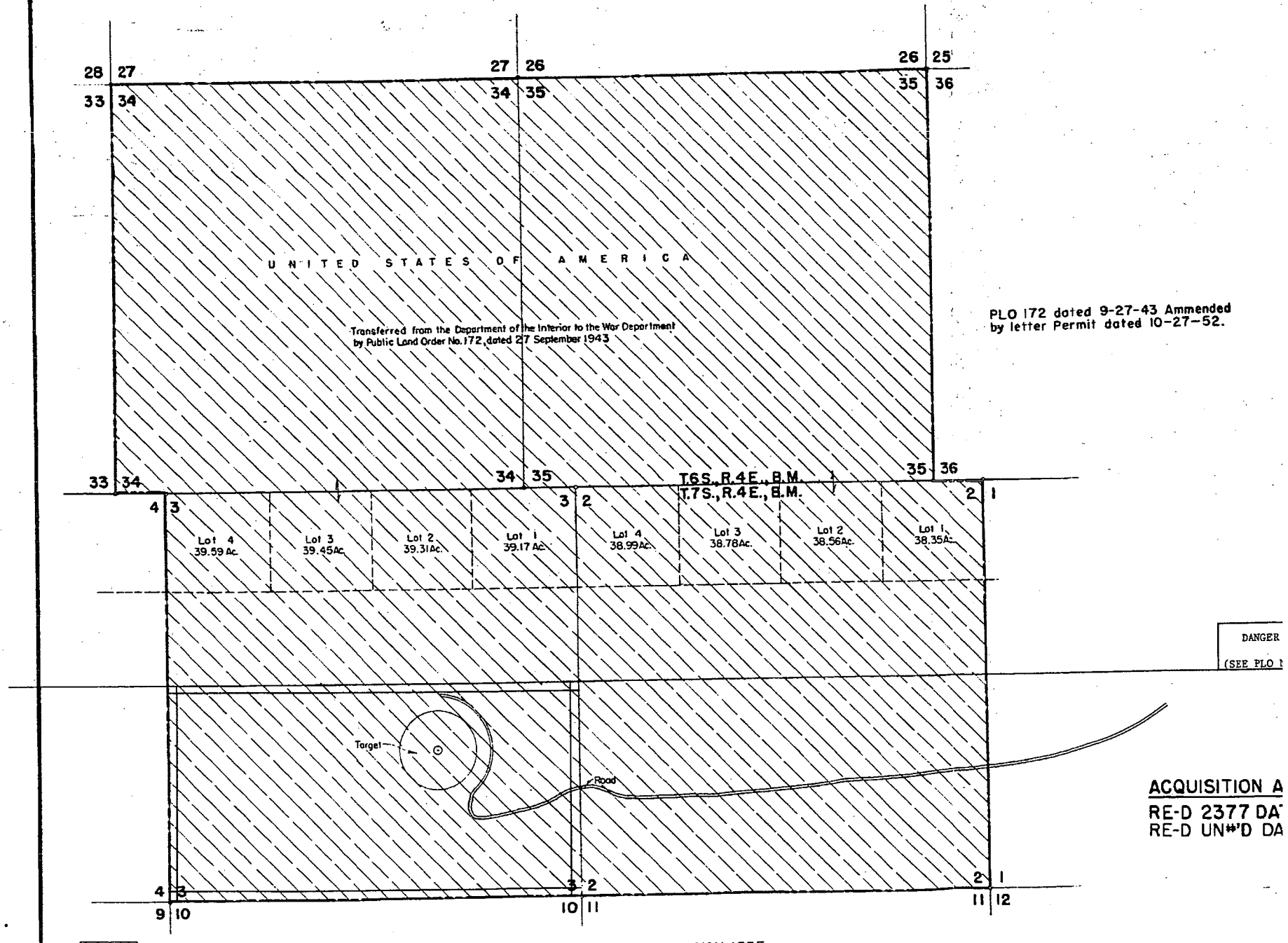
2,552.20 ACRES RELINQUISHED TO DEPT. OF INTERIOR, (B.L.M.) 25 NOV. 1955.
RETRANSFERED TO DEPT. OF INTERIOR BY P.L.O. 1898 DATED 7-13-59.

Incl #3

Title redesignated by USAF installations directory 7-1-56

APPENDIX H-2
War Department, O.C.E.

Real Estate, Mountain Home Air Force Range No. 2 Military Reservation, dated 25 November 1944, revised 23 November 1959. Real Estate Files, Box 88340003053, Folder: Mountain Home Air Force Range No. 2, U.S. Army Corps of Engineers, Seattle District, Seattle, WA.



2,552.20 ACRES RELINQUISHED TO DEPT OF INTERIOR, (B.L.M.) 25 NOV. 1955.
RETRANSFERED TO DEPT. OF INTERIOR BY PLO 1898 DATED 7-13-59.

Title redesignated by USAF installations directory

APPENDIX I

INTERVIEWS

APPENDIX I – INTERVIEWS

TELEPHONE OR VERBAL CONVERSATION RECORD DATE 24 August 2004
For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION Ordnance on Bruneau Precision Bombing Range No. 2		
INCOMING CALL		
PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION
PERSONAL INTERVIEW		
PERSON INTERVIEWING Tom Murrell	ADDRESS CEMVS-ED-P	PHONE NUMBER AND EXTENSION 314-331-8787
PERSON INTERVIEWED Clarence (Pete) Arthur	OFFICE Resident, Bruneau, ID	PHONE NUMBER AND EXTENSION

SUMMARY OF CONVERSATION:

Mr. Arthur stated that the Air Force or the Department of Defense cleaned up the Bombing Range in the mid 1960's. He remembered finding linked live 50-cal machine gun ammunition prior to the clean up. He added that the debris piles of practice bombs were cleaned up in 1960. He also said the land has been used for crops ever since and has never had any ordnance related or any other problems.

APPENDIX J

ABBREVIATED SITE SAFETY AND HEALTH PLAN (ASSHP)

Date: September 10, 2004

ABBREVIATED SITE SAFETY AND HEALTH PLAN (ASSHP) FOR

Date: September 10, 2004

Site name:	**Bruneau Precision Bombing Range No. 2**
Site Location:	Owyhee County, ID (near Bruneau)
Purpose of Visit:	The purpose of this site visit is to reconnoiter, document and photograph areas of the former site potentially contaminated with munitions and explosives of concern (MEC).
Date(s) of site visit:	24 August 2004
ASSHP prepared by:	Gregg E. Kocher

Office:	U.S. Army Corps of Engineers, St. Louis District, CEMVS-ED-P
Address:	1222 Spruce Street, St. Louis, MO 63103-2833
Telephone:	314-331-8790 DSN: 555-8790

Date Prepared: 8/23/2004

SIGNATURE: _____ DATE: 8/23/2004

ASSHP REVIEWED/APPROVED BY (USACE Command designated approval authority):

_____ 8/25/04

Signature/Title: DATE

NOTE: This ASSHP is to be used only for non-intrusive site visits and it must be approved prior to the start of the field visit. All team members must read and comply with the ASSHP, and attend the safety briefings. The UXOSO/OE Safety Specialist will ensure the Safety Briefing Checklist and the plan acceptance forms are filled out prior to the start of the site visit.

I. SITE DESCRIPTION AND PREVIOUS INVESTIGATIONS

A. SITE DESCRIPTION

- **Size:** Approximately 2,552 acres
- **Present usage** (Check all that apply)

☐ Military	☐ Recreational	▌ Agricultural
☐ Residential	☐ Commercial	☐ Landfill
☐ Natural Area	☐ Industrial	
☐ Other Specify		

☐ Secured	☐ Active	☐ Unknown
▌ Unsecured	▌ Inactive	

B. PAST USES: During World War II, the War Department acquired approximately 2,552 acres of land near Bruneau, ID for use as a precision bombing range. Reportedly, there was a debris pile north of the target center. Today, the area consists of cultivated fields.

C. SURROUNDING POPULATION:

▌ Rural	☐ Residential	☐ Commercial
☐Urban	☐Industrial	
☐ Other specify		

D. PREVIOUS SAMPLING/INVESTIGATION RESULTS:

(1) MEC ENCOUNTERED:

Location:		Description:
No MEC was encountered during 2004 property inspection. Reported debris pile north of target center. The 2003 INPR states locals have reported finding live and expended .50 caliber rounds along with bomb debris. The historic presence of 50-cal ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity. The 1950 aerial photography shows cratering in and around the bomb target, which would indicate the possible use of other than practice bombs, i.e., high explosive bombs		None (not clear what was in debris pile)

(2) SAMPLES: (Air, Water, Soil, Vegetation)

Chemical	Concentration	Media	Location
Not Applicable			

II. DESCRIPTION OF ON-SITE ACTIVITIES:

■ Walk-through	■ Drive-through	☐ Fly over
■ On road	■ Off road	☐ On path
■ Off path		
☐ Other Specify		

Activities/Tasks to be Performed (Summarize):

The team plans on performing a visual, non-intrusive inspection of the areas suspected of having an MEC hazard potential, taking GPS waypoints and pictures of items of interest. The traverse will include walked and driven portions.

III. SITE PERSONNEL AND RESPONSIBILITIES:

A. USACE PROJECT MANAGER:

NAME:	Tom Murrell
OFFICE:	U.S. Army Corps of Engineers, St. Louis District, CEMVS-ED-P
ADDRESS:	1222 Spruce Street, St. Louis, MO 63103-2833
PHONE:	314-331- 8787

RESPONSIBILITIES

The ASSHP Project Manager (PM) is overall responsible Corps of Engineers employee responsible for conducting the MMRP PA. He will assign a Team Leader, (in most situations this will be the PM). The PM will ensure that the ASSHP is completed along with coordinating and executing the site visit.

B. TEAM LEADER:

NAME:	See USACE PM above
OFFICE:	U.S. Army Corps of Engineers, St. Louis District, CEMVS-ED-P
ADDRESS:	1222 Spruce Street, St. Louis, MO 63103-2833
PHONE:	Same as USACE PM above or 314-331-8266

RESPONSIBILITIES

The ASSHP team leader coordinates the site visit and is the lead author / editor of this MMRP PA.

C. UXOSO/OE SAFETY SPECIALIST:

NAME:	Gregg E. Kocher
OFFICE:	U.S. Army Corps of Engineers, St. Louis District, CEMVS-ED-P
ADDRESS:	1222 Spruce Street, St. Louis, MO 63103-2833
PHONE:	314-331-8790

RESPONSIBILITIES

Brief this ASSHP. Ensure the ASSHP guidelines are followed. Provide UXO escort duties.

D. FIRST AID/CPR CERTIFIED:

NAME:	Tom Murrell and Gregg E. Kocher
OFFICE:	U.S. Army Corps of Engineers, St. Louis District, CEMVS-ED-P
ADDRESS:	1222 Spruce Street, St. Louis, MO 63103-2833
PHONE:	314-331-8787 and 8790, respectively

RESPONSIBILITIES

Administer First Aid in the event of an emergency.

E. TEAM MEMBERS: (other than those listed above)

NAME:	
OFFICE:	
ADDRESS:	
PHONE:	

RESPONSIBILITIES

The non-CEMVS-ED-P ASSHP team members were invited to witness and participate in the site visit.

IV. HAZARD ANALYSIS:

A. Safety and health hazards anticipated:

☐ Chemical
▌ Ordnance (specify):

Practice bombs, possibly high explosive bombs (per 1950 aerial photograph (see PLATE 6).

▌ Heat Stress	☐ Cold Stress	▌ Tripping Hazard
☐ Noise	☐ Electrical	☐ Falling Object
☐ Foot hazard	☐ Biological	☐ Overhead Hazard

☐ Radiological	☐ Confined Space	☐ Water
■ Explosive	☐ Climbing	☐ Flammable
☐ Other specify:		

B. Overall Hazard Evaluation:

☐ High	☐ Moderate	■ Low	☐ Unknown

JUSTIFICATION: (Provide a brief justification supporting the overall rating.)

This assessment was developed using the Site Investigation Hazard Analysis and Risk Assessment Code

V. ACCIDENT PREVENTION:

A. GENERAL PRECAUTIONS:

Prior to the on-site visit, all team members are required to read this ASSHP and sign the form acknowledging that they have read and will comply with it. In addition, the UXOSO/OE Safety Specialist will hold a brief tailgate meeting in which site specific topics regarding the day's activities will be discussed. The buddy system will be enforced at all times. If unanticipated hazardous conditions arise, team members are to stop work, evacuate the area and notify the UXOSO/OE Safety Specialist.

VI. STANDARD OPERATION SAFETY PROCEDURES, ENGINEERING CONTROLS AND WORK PRACTICES

A. SITE RULES/PROHIBITIONS: At any sign of hazardous conditions, stop tasks, evacuate area and notify the UXOSO/OE Safety Specialist. Smoking, eating and drinking allowed in designated areas only.

B. MATERIAL HANDLING PROCEDURES: Do not handle.

C. DRUM HANDLING PROCEDURES: Do not handle.

D. CONFINED SPACE ENTRY: Do not enter.

E. IGNITION SOURCE AND ELECTRICAL PROTECTION: Do not smoke.

F. SPILL CONTAINMENT: N/A

G. EXCAVATION SAFETY: Do not enter trenches/excavations.

H. ILLUMINATION: Work during daylight hours only.

I. SANITATION: Use existing sanitary facilities.

J. BUDDY SYSTEM: Two persons on-site maintaining constant contact with each other. To be adhered to at all times.

K. ENGINEERING CONTROLS: N/A

L. HEAT/COLD STRESS: Dress appropriately. Take sufficient breaks and drink plenty of fluids. Watch for signs/symptoms of cold/heat stress. Monitoring may be applicable depending on the site weather conditions and type of personal protection equipment (PPE) worn.

M. Ordnance

(1) General Information

a. The cardinal principle to be observed involving explosives, ammunition, severe fire hazards or toxic materials is to limit the exposure to a minimum of personnel, for the minimum amount of time, to a minimum amount of hazardous material consistent with a safe and efficient operation.

b. Old, damaged, and possibly deteriorated explosive-loaded ordnance requires extreme caution. Some explosives may react with metals, other explosives, air, or chemicals in the earth to produce extremely sensitive explosive compounds.

c. When chemical agents may be present, further precautions are necessary. If the munition has green markings leave the area immediately, since it may contain a chemical filler.

d. Consider ordnance that has been exposed to fire as extremely hazardous. Chemical and physical changes may have occurred to the contents, which render it more sensitive than it was in its original state.

(2) On-Site Instructions:

a. DO NOT touch or move any ordnance items regardless of the markings or apparent condition.

b. DO NOT visit an ordnance site if an electrical storm is occurring or approaching. If a storm approaches during a site visit, leave the site immediately and seek shelter.

c. DO NOT use radio or cellular phones in the vicinity of suspect ordnance items.

d. DO NOT walk across an area where the ground cannot be seen. If dead vegetation or dead animals are observed, leave the area immediately due to potential chemical agent contamination.

e. DO NOT drive vehicles into suspected MEC areas; use clearly marked lanes.

f. DO NOT carry matches, lighted cigarettes, lighters or other flame producing devices into a MEC site.

g. DO NOT rely on color codes for positive identification of ordnance items or their contents.

h. Approach ordnance items from the side, avoid approaching the front and rear areas.

i. Always assume ordnance items contain a live charge until it can be determined otherwise.

(3) Specific Action Upon Locating Ordnance:

a. DO NOT touch, move or jar any ordnance item, regardless of its apparent condition.

b. Approach the item cautiously, take photographs and a full description. Take notes of the markings or any other identifiers/features.

c. DO NOT be misled by markings on the ordnance item stating "practice", "dummy", or "inert". Even practice bombs have explosive charges that are used to mark/spot the point of impact; or the item could be mismarked.

d. DO NOT roll an ordnance item over or scrape the item to identify the markings.

e. The location of any ordnance items found during the site investigation should be clearly marked so it can be easily located and avoided.

f. The U.S. Army Engineering and Support Center, Huntsville, (256) 895-1598, will be notified upon location of any UXO.

N. POISONOUS SNAKES OR INSECTS:

(1) DO NOT handle any snake, even those that appear to be dead.

(2) Avoid areas of limited visibility such as tall grass or heavy vegetation.

(3) Roll sleeves down and use insect repellant.

O. POISONOUS PLANTS:

(1) Avoid areas of limited visibility such as tall grass or heavy vegetation.

(2) Roll sleeves down and use barrier cream and wear gloves.

P. OTHER (specify):

VII. SITE CONTROL AND COMMUNICATIONS:

A. SITE MAP: See Attached.

B. SITE WORK ZONES:

C. BUDDY SYSTEM: To be adhered to at all times.

D. COMMUNICATIONS:

(1) ON-SITE: Verbal communications will be used among team members to communicate to each other on-site. If this communication is not possible, the following hand signals will be used.

GRIP PARTNER'S WRIST OR BOTH HANDS AROUND WAIST - Leave the area immediately.

HAND GRIPPING NOSE – Unusual smell detected

THUMBS UP – OK, I am alright or I understand

THUMBS DOWN – No, negative

(2) OFF-SITE: Off-site communications will be established on every site. Communications may be established by using an on-site cellular phone or by locating the nearest public phone or private phone which may be readily accessed.

■ Cellular Phone: 314-799-3464 (Kocher)

□ Public/Private phone

□ Other. TBD on-site before commencing site visit.

(3) EMERGENCY SIGNALS: In the case of small groups, a verbal signal for emergencies shall suffice. The emergency signal for large groups should be incorporated at the discretion of the UXOSO/OE Safety Specialist.

■ Verbal

■ Nonverbal - whistle

VIII. EMERGENCY RESPONSE:

A. Team members are to be alert to the dangers associated with the site at all times. If a hazardous condition arises, stop work, evacuate the immediate area and notify the UXOSO/OE Safety Specialist.

B. FIRST AID: A first aid kit and emergency eye wash (as applicable) will be located in the UXOSO/OE Safety Specialist's field car. If qualified persons (i.e. a fire department, medical facility or physician) is not accessible within five minutes of the site, at least one member will be qualified to administer first aid and CPR.

C. EMERGENCY TELEPHONE NUMBERS:

1. MEDICAL FACILITY:	911, or 208-587-8401
2. FIRE DEPARTMENT	Bruneau Fire Dept.: 911, or 208-845-2150
3. POLICE DEPARTMENT	Owyhee County Sheriff: 911, or 208-495-1154
4. POISON CONTROL CENTER:	800-222-1222
5. USAESCH OE SAFETY OFFICE	256-895-1598
6. FORSCOM EOD:	404-362-5953 / 3324
7. TEU:	401-671-2773
8. PROJECT MANAGER:	314-331-8787 Tom Murrell
9. Other (list):	Mike Dace, CEMVS-ED-P, 314-331-8036

D. DIRECTIONS TO THE NEAREST HOSPITAL/MEDICAL FACILITY:

Elmore Medical Center, 895 N. 6th East, Mountain Home, ID **(See attached maps at end of ASSHP)**

IX. MONITORING EQUIPMENT AND PROCEDURES:

A. EXPOSURE MONITORING: For non-intrusive on-site activities such as site visits, air monitoring is normally not required. However, if the site situation dictates the need for monitoring, complete the following information on a separate page and attach the page to the ASSHP.

- Monitoring equipment to be used.

- Documentation of equipment calibration and results.

- Action Levels.

B. HEAT/COLD STRESS MONITORING: Include an enclosure with the condition to be monitored and the procedures. If heat stress monitoring is necessary, the monitoring criteria published in Chapter 8 of the NIOSH/OSHA/USCG/EPA "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities" (Oct '85) will be followed. If cold stress

monitoring is necessary, it will be conducted IAW the most current published American Conference of Governmental Industrial Hygienist (ACGIH) cold stress standards.

X. PERSONAL PROTECTIVE EQUIPMENT:

A. GENERAL:

Typically, for non-intrusive site visits, Level D is required. Team members should avoid wearing outer or undergarments made of wool, silk or synthetic textiles such as rayon or nylon. These materials can generate sufficient static charge to ignite explosives. Hard hats will be worn if an overhead hazard exists, safety glasses if an eye hazard is present, and safety shoes will be worn if a foot hazard exists.

B. NON-INTRUSIVE SITE VISIT:

Level of Protection:

Initial: Level D ☒ Modified (specify)

Short or long-sleeved shirt, long pants, boots

Contingency: Evacuate site if higher level of protection is needed.

XI. DECONTAMINATION PROCEDURES:

Decontamination procedures are not anticipated for this site investigation. Team members are cautioned not to walk, kneel or sit on any surface with potential leaks, spills or contamination.

XII. TRAINING:

All site personnel will have completed the training required by EM 385-1-1 and CFR 29 1910.120 (e). The USACE Project Manager will ensure and the UXOSO/OE Safety Specialist will verify that all on-site personnel have completed the appropriate training prior to submitting the plan to the Safety Office for review. Additionally, the UXOSO/OE Safety Specialist will inform personnel before entering, of any potential site-specific hazards and procedures.

XIII. LOGS, REPORTS AND RECORD KEEPING:

Site logs are maintained by the Project Manager. This is to include historical data, personnel authorized to visit the site, all records, standard operating procedures and the ASSHP submitted. Any air monitoring logs, SOPs, and attachments to plans.

IX. GENERAL:

The number of persons visiting the site will be held to a minimum. No more than 8 persons per UXOSO/OE Safety Specialist will be allowed on site. The more persons on-site, the greater potential for an accident. The UXOSO/OE Safety Specialist may modify this ASSHP, if site conditions warrant it, and without risking the safety and health of the team members. This modification will be coordinated with the team members and the UXOSO/OE Safety Specialist will notify the approving authority of the change as the situation allows.

SITE BRIEFING CHECKLIST

(Check subjects discussed)

SITE NAME: Bruneau Precision Bombing Range No. 2	DATE/TIME: 24 August 2004

GENERAL INFORMATION

- ☑ PURPOSE OF VISIT
- ☑ IDENTIFY KEY SITE PERSONNEL
- ☑ TRAINING AND MEDICAL REQUIREMENTS

SITE SPECIFIC INFORMATION

- ☑ Site description/past use
- ☑ Results of previous studies
- ☑ Potential site hazards
- ☑ MEC safety procedures
- ☐ Site SOP
- ☐ Site control and communications
- ☐ Emergency hand signals
- ☑ Emergency response
  - ☐ Location of first aid kit
  - ☐ Emergency phone numbers & location
  - ☐ Location of nearest medical facility and location of map to facility
- ☑ PPE and decontamination

Stress the following during the briefing: If hazardous conditions arise, stop work, evaluate the area and notify the UXOSO/OE Safety Specialist.

PLAN ACCEPTANCE FORM

ABBREVIATED SAFETY AND HEALTH PLAN

FOR

Bruneau Precision Bombing Range No. 2,
Owyhee County, ID

I have read and agree to abide by the contents of the Safety and Health Plan and I have attended the Safety Briefing for the aforementioned site.

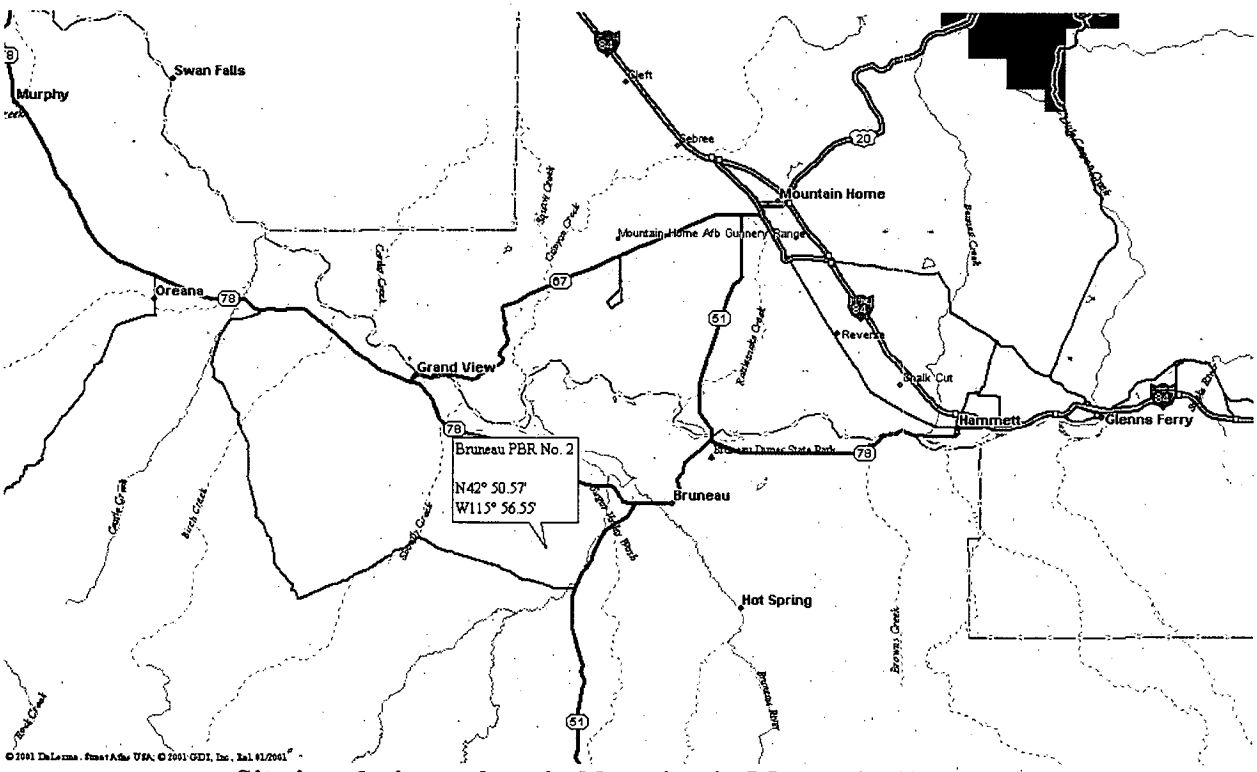
NAME (PRINTED)	OFFICE	SIGNATURE	DATE
Tom Murrell	CEMVS-ED-P		
Gregg Kocher	CEMVS-ED-P		[illegible]

Person presenting the safety briefing:

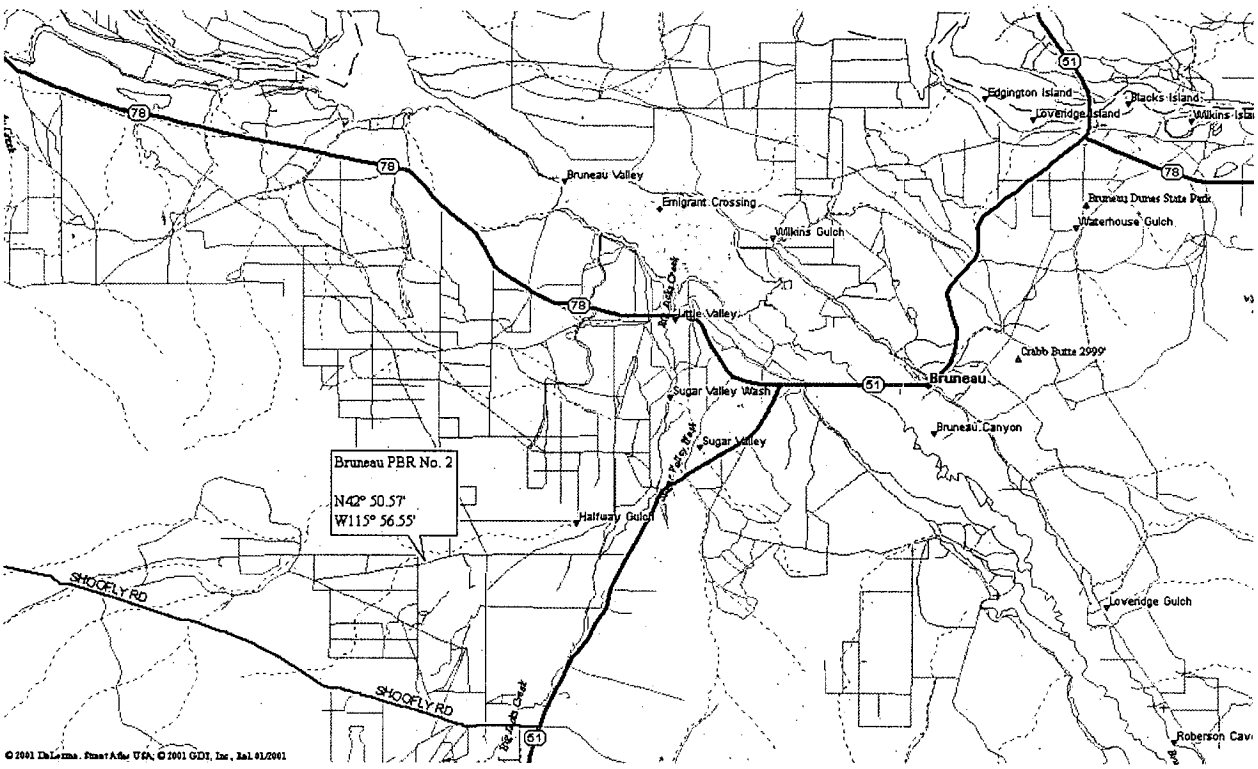
SIGNATURE

DATE

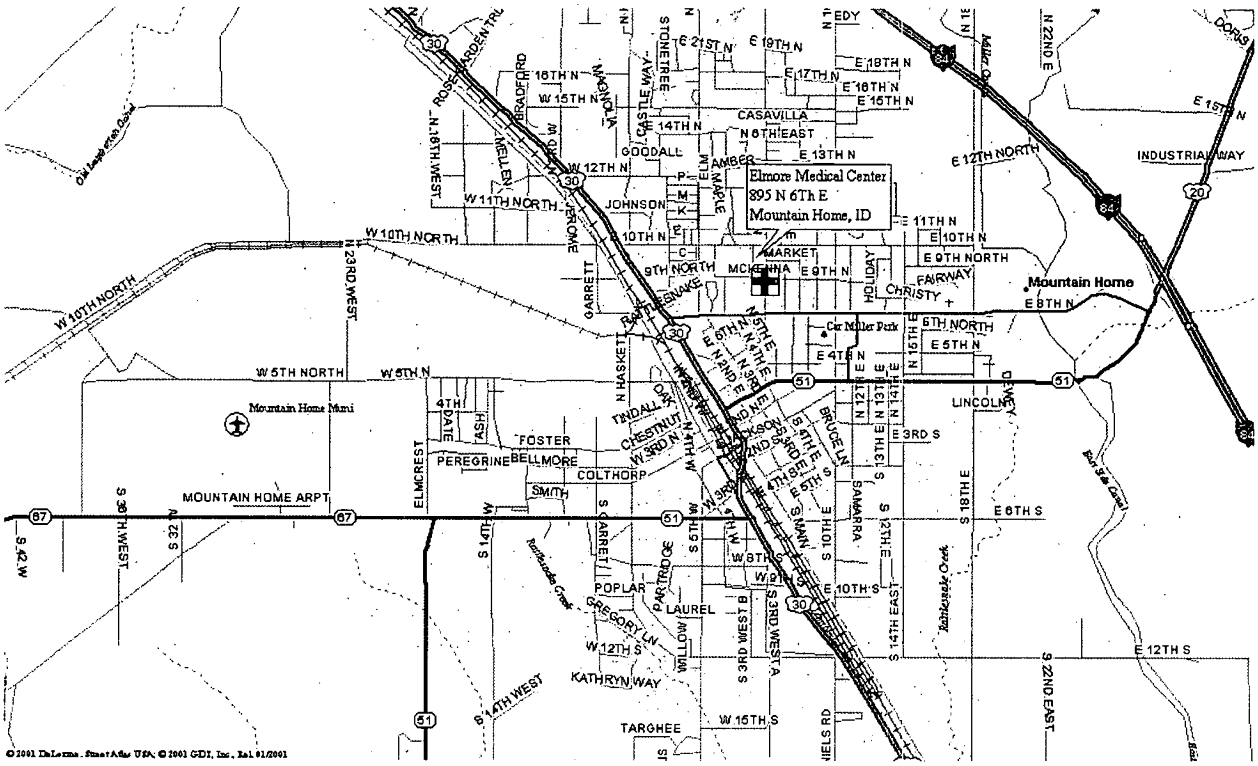
Maps to hospital: (approximately 28 miles from site)



Site in relation to hospital location in Mountain Home, ID



General view of site



Elmore Medical Center, 895 N. 6th East, Mountain Home, ID

APPENDIX K

VISUAL PROPERTY INSPECTION REPORT

APPENDIX K – VISUAL PROPERTY INSPECTION REPORT

CELMS-ED-P (200-1c) 14 Aug 04

MEMORANDUM FOR RECORD

SUBJECT: Research and Site Visit Trip Report for Idaho and Oregon Preliminary Assessment

1. From 24-26 August 2004, Gregg Kocher and myself conducted property visits for two Idaho and one Oregon Preliminary Assessment Reports for the Seattle District.

2. On 24 August 04, **Bruneau Precision Bombing Range #2 (F10ID0141)** was inspected. We talked with Mr. Clarence (Pete) Arthur, who was responsible for transforming the high plains desert into productive agricultural cropland by extensive water irrigation. Mr. Arthur stated the Air Force or the Department of Defense cleaned up the bombing range in the mid 1960's and remembered finding linked live 50-cal machine gun ammunition prior to the clean up. Mr. Arthur added that debris piles of practice bombs were cleaned up in 1960 and the land has been used for crops ever since and has never had any ordnance related or any other problems. Mr. Arthur gave us permission to drive down to the general center of the target. No live ordnance or ordnance debris was found during the property inspection.

3. On 24 August 04, Mountain Home Air Force Bombing #3 (F10ID0142) was inspected. Part of the site has been reacquired by the Air Force for use as a Laser Target Range. The area of the original target center has been cleared of any ordnance and any trace of the target circles has been removed from the property.

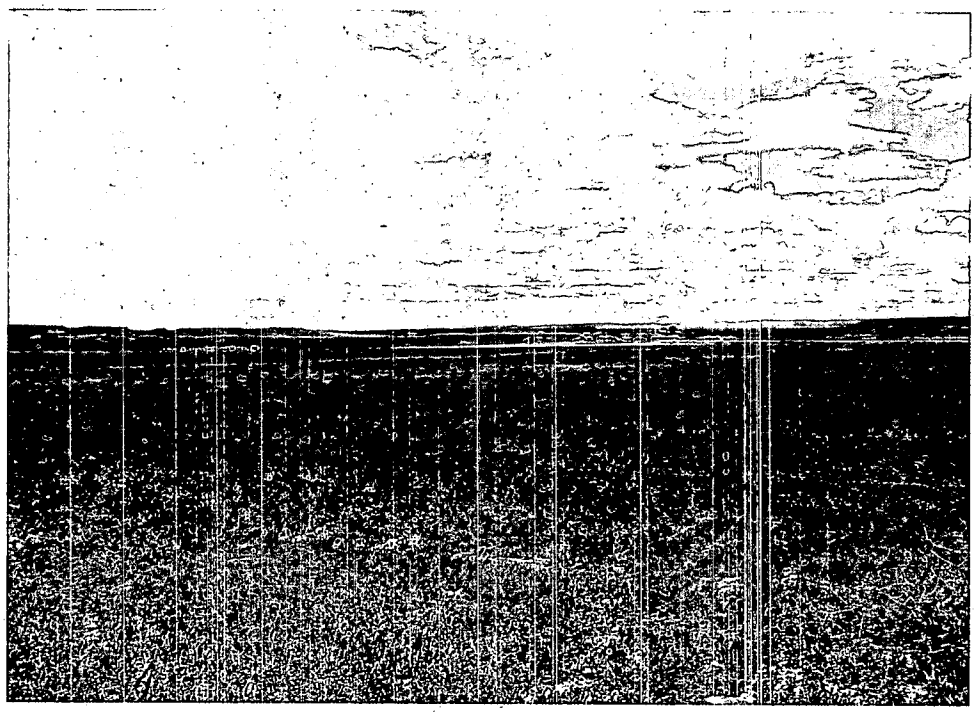
4. On 25 August 04, Pendleton Bombing Range (F10OR0210) was inspected. The main access road into the property from the west was locked. Access to the road was granted by a local property owner whose land backs up to the road. Documentation on this site indicates that while it was purchased it was never used. We walked the left parcel that is a half-mile squared. There was no indication of any military use of the property. Access to the east parcel was not possible due to a second locked gate.

5. POC is the undersigned at 314-331-8787.

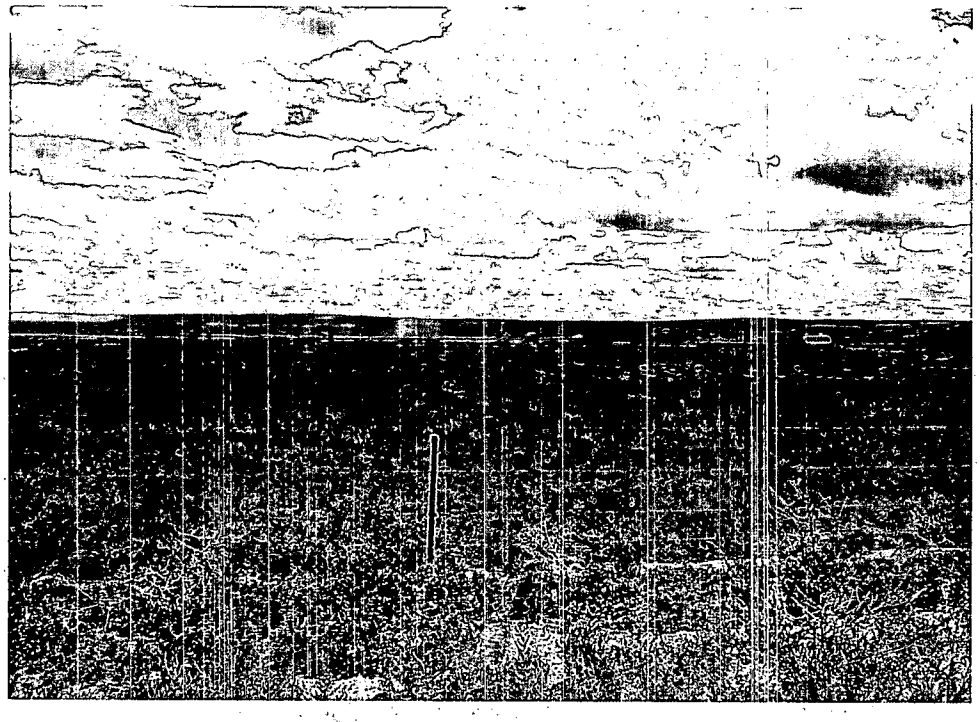
/S/
THOMAS E. MURRELL
Project Manager

APPENDIX L

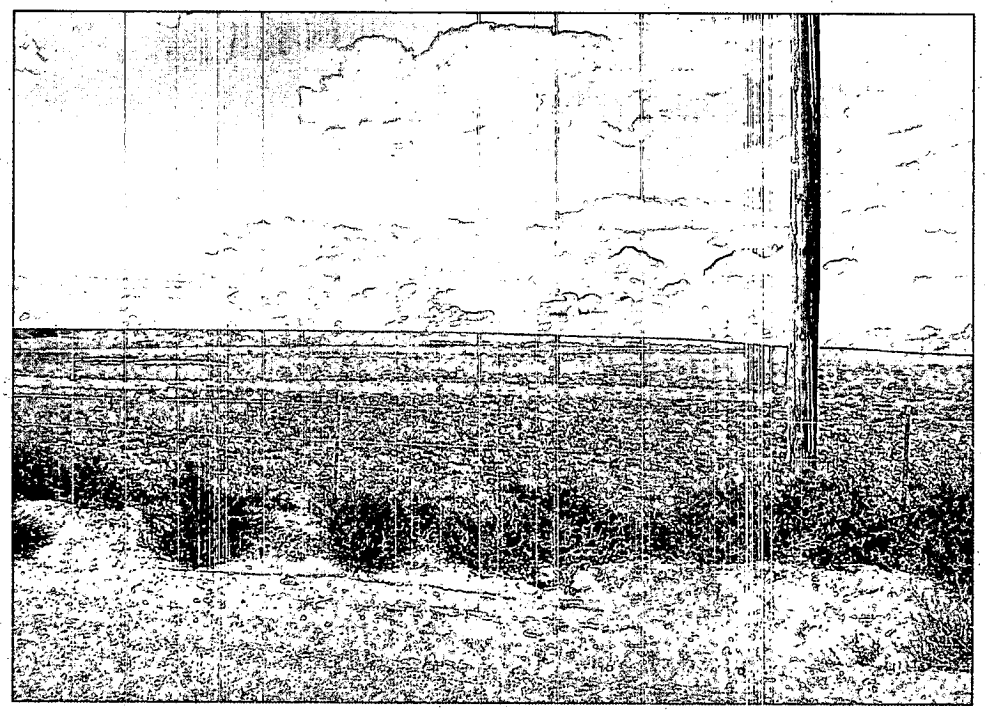
VISUAL PROPERTY INSPECTION PHOTOGRAPHS



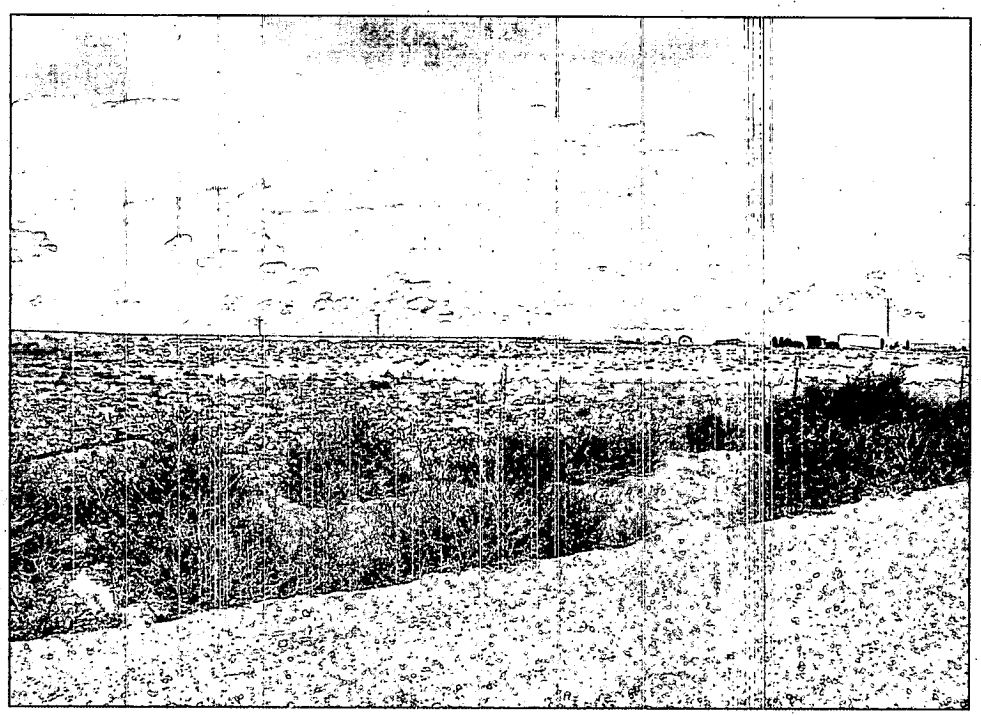
Target Area, Looking Southeast from Cattle Drive Road



Target Area, Looking South from Cattle Drive Road



Suspect Debris Pile Area, North Side of Cattle Drive Road



Target Area, Looking Southwest from Cattle Drive Road

APPENDIX M

PA (PRELIMINARY ASSESSMENT) DATA AND SITE CHARACTERISTICS FORM

Reference: U. S. Environmental Protection Agency, Guidance for Performing Preliminary Assessments Under CERCLA, EPA/540/G-91/013, Publication 9345.0-01A, September 1991; Appendix D.

OMB Approval Number: 2050-0095
Approved for Use Through: 1/92

EPA Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State:	CERCLIS Number:
Idaho	*Not Applicable*

CERCLIS Discovery Date: *Not Applicable*

1. General Site Information

Name:	Street Address:				
Bruneau Presision Bombing Range No. 2	*Not Applicable*				
City: *N/A*	State: *ID*	Zip Code: *83604*	County: *Owyhee*	Co. Code: *(ID) (73)*	Cong. Dist: *1*
Latitude: Longitude: *N42° 38.178', W115° 44.858'*	Approximate Area of Site: *2552.2* Acres *see above* Square Ft.		Status of Site: ☐ Active ☐ Not Specified ■ Inactive ☐ NA (GW plume, etc.)		

2. Owner/Operator Information

Owner: *Department of the Interior POC Kelley Moore*	Owner: *Bob Mastre*
Street Address: *3948 Development Avenue*	Street Address: *PO Box 1374*
City: *Boise*	City: *Bonners Ferry*
State: *ID* Zip Code: *83705* Telephone: *(208) 384-3452*	State: *ID* Zip Code: *83805* Telephone: *(208) 267-2742*
Owner: *Samuel and Marina Ward*	Owner: *Worthington California Trust*
Street Address: *29899 Mormon Blvd.*	Street Address:
City: *Bruneau*	City: *Folsom*
State: *ID* Zip Code: *83604* Telephone: *(208) 845-2905*	State: *CA* Zip Code: *95630* Telephone:
Owner: *Bradley and Connie Mastre*	Owner: *Brent and Rachel Mastre*
Street Address: *28765 Cattle Drive Road*	Street Address: *28983 Cattle Drive Road*
City: *Bruneau*	City: *Bruneau*
State: *ID* Zip Code: *83604* Telephone: *(208) 845-2030*	State: *ID* Zip Code: *83604* Telephone: *(208) 845-2500*
Owner: *Wilbur and Barbara Mastre*	Owner: *C.A. Merrick*
Street Address: *29811 Mormon Blvd.*	Street Address: *30389 Mormon Blvd.*
City: *Bruneau*	City: *Bruneau*
State: *ID* Zip Code: *83604* Telephone: *(208) 845-2833*	State: *ID* Zip Code: *83604* Telephone: *(208) 845-2902*
Owner: *Terry Thomas*	Owner: *Thomas Thomas*
Street Address: *PO Box 145*	Street Address: *29415 Mormon Blvd.*
City: *Bruneau*	City: *Bruneau*

1

Type of Ownership:	How Initially Identified:
▌Private ☐ County ▌Federal Agency ☐ Municipal Name **Dept of Interior** ☐ State ☐ Other _____ ☐ Indian	☐ Citizen Complaint ▌Federal Program ☐ PA Petition ☐ Incidental ☐ State/Local Program ☐ Not Specified ☐ RCRA/CERCLA Notification ▌Other ***DERP-FUDS***

3. *Site Evaluator Information*

Name of Evaluator:	Agency/Organization:	Date Prepared:
Thomas Murrell, 314-331-8787	***U.S. Army Engineer District, St. Louis (CEMVS-ED-P)***	***24 September 2004***

Street Address:	City:	State:
1222 Spruce St	***St Louis***	***Missouri***

Name of EPA or State Agency Contact:	Street Address:	
Contact Region 10	***1435 North Orchard Street***	
City:	State:	Telephone:
Boise	***Idaho***	***(800)424-4EPA***

4. *Site Disposition (for EPA use only)*

Emergency Response/Removal Assessment Recommendation:	CERCLIS Recommendation:	Signature:
Yes No Date: _____	Higher Priority SI Lower Priority SI NFRAP RCRA Other _____ Date: _____	Name (typed): Position:

5. *General Site Characteristics*

Predominant Land Uses Within 1 Mile of Site (check all that apply):

Industrial	▲**Agriculture**	DOI
Commercial	Mining	Other Federal Facility
Residential	DOD	_____
Forest/Fields	DOE	Other _____

Site Setting:
- Urban
- Suburban
- **Rural**

Years of Operation:
- Beginning Year ***1943***
- Ending Year ***1959***
- Unknown

6. *Waste Characteristics Information*

Source Type: (check all that apply)	Source Waste Quantity: (include units)	Tier*:
Landfill	_____	_____
Surface Impoundment	_____	_____
Drums	_____	_____
Tanks and Non-Drum Containers	_____	_____
Chemical Waste Pile	_____	_____
Scrap Metal or Junk Pile	_____	_____
Tailing Pile	_____	_____
Trash Pile (open dump)	_____	_____
Land Treatment	_____	_____
Contaminated Ground Water Plume (unidentified source)	_____	_____
Contaminated Surface Water/Sediment		
Other ***Impact area for former ranges***	***undetermined***	_____

General Types of Waste (check all that apply)

Metals	Pesticides/Herbicides
Organics	Acids/Bases
Inorganics	Oily Waste
Solvents	Municipal Waste
Paints/Pigments	Mining Waste
Lab/Hospital Waste	***Explosives***
Radioactive Waste	
Construction/Demolition Waste	
Other ***Munition Constituents***	

Physical State of Waste as Deposited (check all that apply):

Solid Sludge Powder
Liquid Gas

7. Ground Water Pathway

Is Ground Water Used for Drinking Water Within 4 Miles:
▲**Yes**
No

Type of Drinking Water Wells Within 4 Miles (check all that Apply):
Municipal
▲**Private**
None

Depth to Shallowest Aquifer:
50 Feet

Karst Terrain/Aquifer Present:
Yes
▲**No**

Is There a Suspected Release to Ground Water:
Yes
▲**No**

Have Primary Target Drinking Water Wells Been Identified:
Yes
No
If Yes, Enter Primary Target Population:
N/A People

Nearest Designated Wellhead Protection Area:
Underlies Site
> 0 – 4 Miles
None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - ¼ Mile	*0*
> ¼ - ½ Mile	*0*
> ½ – 1 Mile	*15*
> 1 – 2 Miles	*10*
> 2 – 3 Miles	*0*
> 3 – 4 Miles	*0*
Total Within 4 Miles	*25*

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (check all That apply):
▲Stream ▲River ▲Pond Lake
Bay Ocean Other _____

Shortest Overland Distance From Any Source to Surface Water:
2640 Feet
_____ Miles

Is There a Suspected Release to Surface Water:
Yes
▲**No**

Site is Located in:
Annual – 10 yr Floodplain
> 10 yr – 100 yr Floodplain
> 100 yr – 500 yr Floodplain
> 500 hr Floodplain

Drinking Water Intakes Located Along the Surface Water Migration Path:
Yes
▲**No**

Have Primary Target Drinking Water Intakes Been Identified:
Yes
▲**No**

If Yes, Enter Population Served by Primary Target Intakes:
_____ People

List All Secondary Target Drinking Water Intakes:

Name	Water Body	Flow (cfs)	Population Served

Total within 15 Miles _____

Fisheries Located Along the Surface Water Migration Path:
Yes
▲**No**

Have Primary Target Fisheries Been Identified:
Yes
▲**No**

List All Secondary Target Fisheries:

Water Body/Fishery Name	Flow (cfs)
CJ Strike Reservoir	

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:
▲**Yes**
No

Have Primary Target Wetlands Been Identified:
Yes
▲**No**

List Secondary Target Wetlands:

Water Body	Flow (cfs)	Frontage Miles
Fresh Water Pond	_____	< 1
Fresh Water Pond	_____	< 1
2 Fresh Water emergent wetlands		< 1
Freshwater forest shrub	_____	< 1

Other Sensitive Environments Located Along the Surface Water Migration Path:
Yes
▲ **No**

Have Primary Target Sensitive Environments Been Identified:
Yes
▲ **No**

List Secondary Target Sensitive Environments:

Water Body	Flow (cfs)	Sensitive Environment Type
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Soil Exposure Pathway

Are People Occupying Residences or Attending School or Daycare on or Within
200 Feet of Areas of Known or Suspected
Contamination:
Yes
▲**No**

If Yes, Enter Total Resident Population:

____ People

Number of Workers Onsite:

None
▲ **1 – 100**
101 – 1,000
> 1,000

Have Terrestrial Sensitive Environments Been Identified on Or Within 200 Feet of Areas of Known or Suspected Contamination:
Yes
▲***No***

If Yes, List Each Terrestrial Sensitive Environment

_____

_____

10. Air Pathway

Is There a Suspected Release to Air:
Yes
▲**No**

Enter Total Population on or Within:

Onsite	*0*
0 – ¼ Mile	*0*
> ¼ - ½ Mile	*0*
> ½ - 1 Mile	*15*
> 1 – 2 Miles	*10*
> 2 – 3 Miles	*0*
> 3 – 4 Miles	*0*
Total Within 4 Miles	*25*

Wetlands Located Within 4 Miles of the Site:

▲**Yes**
No

Other Sensitive Environments Located Within 4 Miles of the Site:

Yes
▲**No**

List All Sensitive Environments Within ½ Mile of the Site:

Distance	Sensitive Environment Type/Wetlands Area (acres)
Onsite	_____
0 – ¼ Mile	_____
> ¼ - ½ Mile	_____

APPENDIX N

TAG REVIEW FACT SHEET

APPENDIX N – TAG REVIEW FACT SHEET

1. SITE NAME: Bruneau Precision Bombing Range No. 2 (aka Mountain Home Air Force Range No. 2)

SITE NUMBER: F10ID0141

LOCATION:
City: Bruneau
County: Owyhee
State: Idaho

PROJECT NUMBER: 01

CATEGORY: MEC (OE)

INPR RAC: 4

PA RAC: 3

TAG RAC:

2. POC'S:

TECHNICAL MANAGER:
Name:
Office:
Phone:

GEO DISTRICT POC:
Name:
Office:
Phone:

GEO DIVISION POC:
Name:
Office:
Phone:

HEADQUARTERS POC:
Name:
Office:
Phone:

SUPPORT DISTRICT (PA) POC:
Name: Thomas M. Murrell
Office: CEMVS-ED-P
Phone: (314) 331-8787

3. SITE DESCRIPTION:

NOTE: BRUNEAU PRECISION BOMBING RANGE NO. 2 AND **MOUNTAIN HOME AIR FORCE RANGE NO. 2** ARE THE SAME PROPERTY. HISTORICAL DOCUMENTS (I.E., TEXTUAL DOCUMENTS, MAPS, ETC.) OBTAINED FROM THE ARCHIVES INTERCHANGE ONE OR THE OTHER PROPERTY NAME

WITHIN THE TEXT. THE 1988 INVENTORY PROJECT REPORT (INPR) LISTS THIS PROPERTY AS "MOUNTAIN HOME AIR FORCE RANGE NO. 2" AND THE FORMERLY USED DEFENSE SITE MANAGEMENT INFORMATION SYSTEM (FUDSMIS) DATABASE LISTS THIS PROPERTY AS "BRUNEAU PRECISION BOMBING RANGE NO. 2".

THIS CERCLA PRELIMINARY ASSESSMENT WILL USE "BRUNEAU PRECISION BOMBING RANGE NO. 2" FOR ALL REFERENCES.

Bruneau Precision Bombing Range No. 2 was authorized for acquisition on 23 June 1943. Public Land Order 172, dated 27 September 1943, officially withdrew the land for use as a precision bombing range. The property was declared excess to the needs of the Air Force according to a Headquarters 9th Air Base Group letter to the Commander, 15th Air Force, dated 24 November 1953. Bruneau Precision Bombing Range No. 2 acreage was relinquished to the Department of the Interior, Bureau of Land Management on 25 November 1955, and retransferred to the Department of the Interior by Public Land Order 1898, dated 13 July 1959. Two hundred forty (240) acres of the land remain with the Department of Interior, Bureau of Land Management, since relinquishment by the Air Force. The remainder of acreage was sold to private ownerships and the majority of the land is used for agricultural purposes.

4. SITE HISTORY: The War Department indicated a necessity for this property on 23 June 1943 and acquired the land from the Department of Interior by Public Land Order 172, dated 27 September 1943 for use as the Mountain Home Precision Bombing Range No. 2. After creation of the U.S. Air Force in 1947, the range became known as Mountain Home Air Force Range No. 2. A letter dated 27 October 1952 to the Secretary of the Air Force reported that these lands were needed for an indefinite period beyond 28 October 1952, which was the termination of the unlimited national emergency.

Bruneau Precision Bombing Range No. 2 was declared excess to the needs of the Air Force in a 2nd Indorsement dated 24 November 1953 from Headquarters 9th Bombardment Wing, Mountain Home Air Force Base, Idaho. The indorsement states that Mountain Home Precision Bombing Range No. 2 (aka Bruneau Precision Bombing Range No. 2) was not on the real estate accountable records at the time Mountain Home Air Force Base was reactivated on 1 February 1951. Bruneau Precision Bombing Range No. 2 was relinquished to the Department of the Interior, Bureau of Land Management on 25 November 1955. The range was retransferred to the Department of the Interior by Public Land Order 1898, dated 13 July 1959.

Two hundred forty (240) acres of the land remain with the Department of Interior, Bureau of Land Management, since relinquishment by the Air Force. The remainder of acreage was sold to private ownership

CERTIFICATES OF CLEARANCE.

Two Certificates of Clearance were issued from Headquarters, 2700th Explosive Ordnance Disposal Squadron, McClellan Air Force Base, California, for Mountain Home Precision Bombing Range No. 2.

The first Certificate of Clearance was issued 17 September 1954 and stated "All of this land has been given a careful search and has been cleared of all dangerous and/or explosive materials reasonably possible to detect. It is recommended that the southern half of Section 3, T7S, R4E as shown on the inclosed Real Estate Map of Mountain Home Precision Bombing Range # 2 dated 28 August 1952 be restricted to surface use only. All other tracts are recommended for any use for which the land is suited."

The second Certificate of Clearance was issued 24 July 1964 for the restricted use portion noted in the 17 September 1954 clearance document. The Certificate of Clearance states "All lands (320 acres more or less), within the Mountain Home Precision Bombing Range # 2, and located within Owyhee County, State of Idaho ...have been thoroughly searched and are cleared of all explosive ordnance and ordnance residue reasonably possible to detect... There are no restrictions of the future use of all the above described lands. ...Because surface erosion of this land may expose sub-surface ordnance not detected during search operations, all present and/or future users, owners, and/or inhabitants of these lands are hereby advised that if, at any time, an itmn[sic] identified or suspected of being military ordnance is located, the nearest government civil authority should be contacted."

5. PROJECT DESCRIPTION:

SIZE (acres): The former Bruneau Precision Bombing Range No. 2 (also known as Mountain Home Air Force Range No. 2) consisted of 2,552.20 acres located 7 miles southwest of Bruneau, Idaho, in Sections 2 and 3 of Township 7 South, Range 4 East and Sections 34 and 35 of Township 6 South, Range 4 East.

PAST USE: Historical documentation designates this range as the Mountain Home Air Force Range No. 2. After acquisition of the property, the Bombardment Groups used the land as a precision bombing range for primarily practice bombs. Aerial photography dated 1950 shows impact cratering on and around the target site. The cratering found on the 1950 aerial photography is not usually detected from the use of practice bombs. Additionally, statements from landowners revealed live and expended .50 caliber small arms rounds were found on the range over the years. The historic presence of 50-cal. ammunition indicates the range may have mistakenly been used for strafing, as there were strafing ranges on other properties in the vicinity.

CONFIRMED ORDNANCE CONTAMINATION: The general area of the target center was inspected during the 2004 property visit. No surface evidence of munitions were found. Based on the historical documents obtained for this investigation, there is an MEC (Munitions and Explosives of Concern) and/or RCWM (Recovered Chemical Warfare Material) potential on the former Bruneau Precision Bombing Range No. 2 property.

SUSPECTED ORDNANCE CONTAMINATION: The 1950 aerial photography shows cratering in and around the bomb target, which would indicate the possible use of other than practice bombs, i.e., high explosive bombs. The cratering extends outside the FUDS boundary, but remains within the Military Munitions Response (MMR) range data boundary.

6. CURRENT STATUS: The Preliminary Assessment was completed by the St. Louis District in December 2004 and a RAC score of "3" was assigned. RAC "3" indicates further consideration as appropriate in accordance with the guidelines in EP 1110-1-18 Engineering and Design - Ordnance and Explosives Response. Further action recommendations regarding MEC at Bruneau Precision Bombing Range No. 2 will originate from US Army Engineering and Support Center, Huntsville (USAESCH) and the US Army Engineer District, Seattle, and would typically include a Site Inspection (SI) to delineate areas of MEC potential.

7. STRATEGY:

8. ISSUES AND CONCERNS:

9. SCHEDULE SUMMARY:

Phase	Original Start	Schedule. Start	Actual Start	Original. Comp	Schedule. Comp	Actual Comp

10. FUNDING/BUDGET SUMMARY

Year	Exec Phase	In-House FOA	Contract Required	Funds Required	Funded	Obligated

APPENDIX O

RESPONSE TO COMMENTS
(FINAL PA REPORT ONLY)

APPENDIX P

REPORT DISTRIBUTION

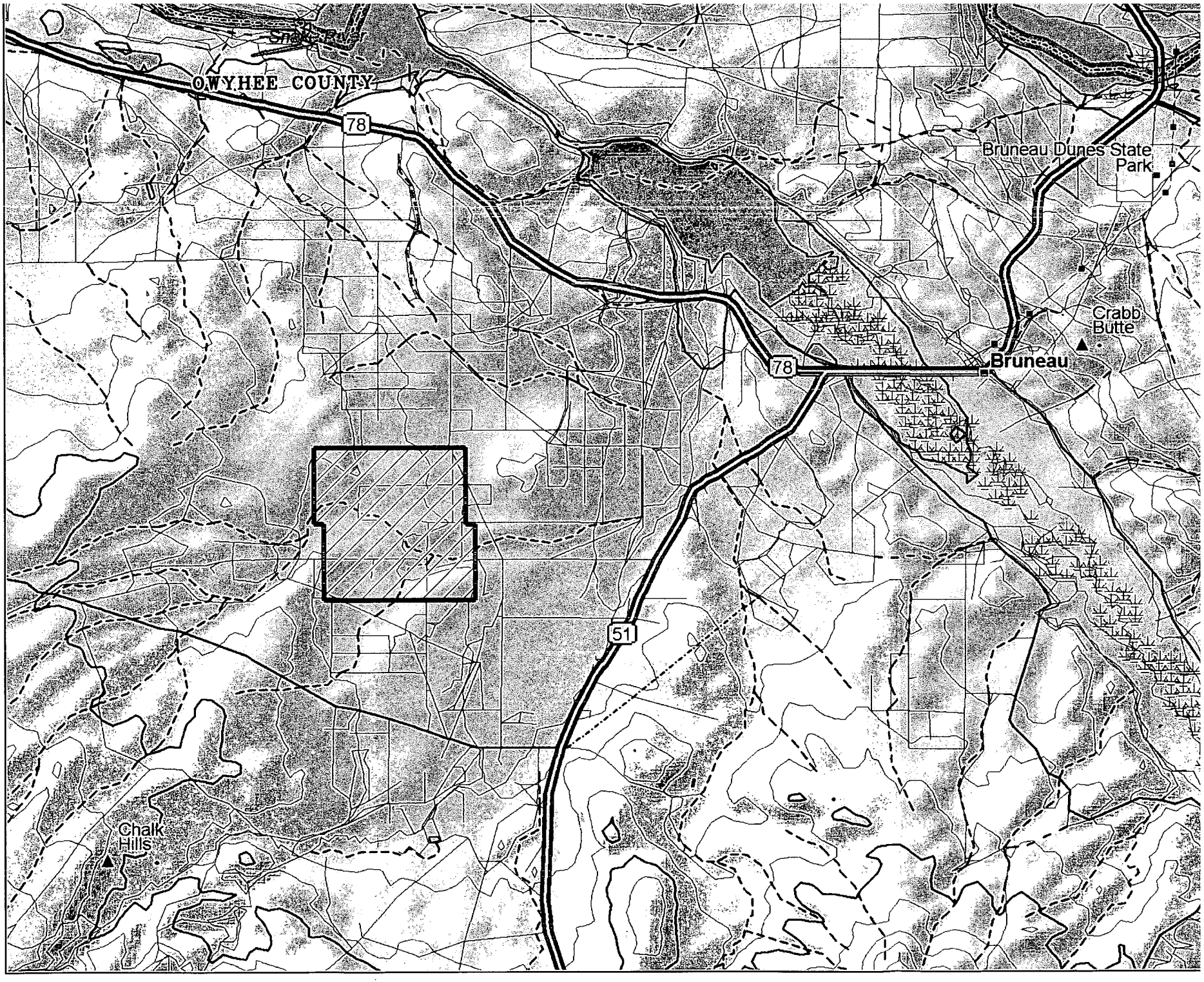
APPENDIX P – REPORT DISTRIBUTION

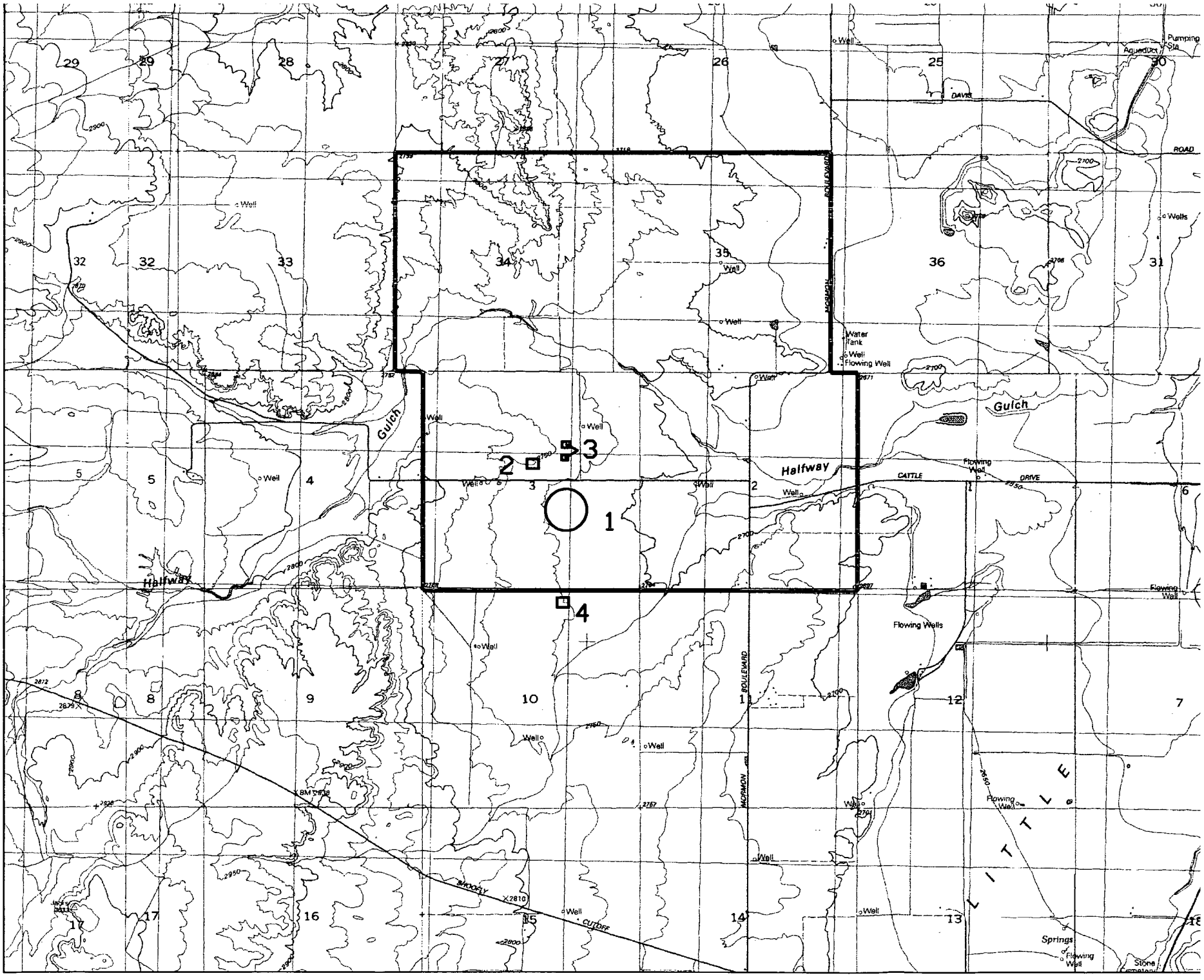
ADDRESSEE	COPIES
Commander, U.S. Army Engineering and Support Center Huntsville, ATTN: CEHNC-ED-SY-O (D. Mardis) P.O. Box 1600 Huntsville, AL 35807-4301	2
Commander, U.S. Army Engineer District, Seattle District ATTN: CENWS-PM P.O. Box 3755 Seattle, WA 98124-3755	1

REPORT PLATES

REPORT PLATES

1 VICINITY MAP
2 SITE MAP
3 LAND OWNERSHIP
4 CURRENT LAND USAGE
5 SITE INSPECTION ROUTE MAP
6 1950 AERIAL PHOTO
7 1998 AERIAL PHOTO
8 MMR DATA


Snake River
OWYHEE COUNTY
78
Bruneau Dunes State Park
Crabb Butte
Bruneau
78
51
Chalk Hills



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Aqueduct
DAVIS
ROAD
MORMON BOULEVARD
Water Tank
Well
Flowing Well
Gulch
Halfway
CATTLE
DRIVE
Flowing Wells
Springs
Stone
LITTLE
SHOOFLY
CUTOFF
1
2
3
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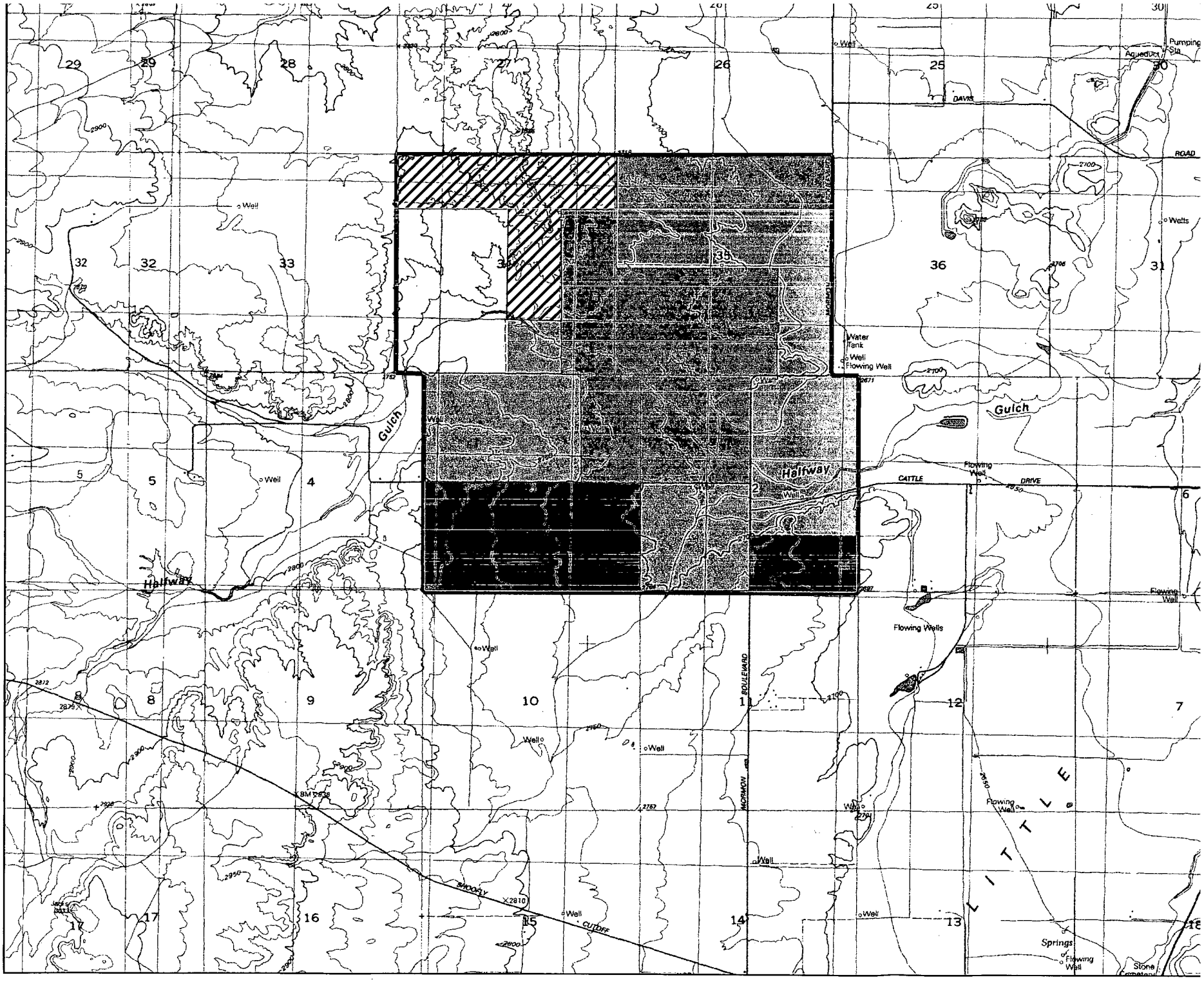

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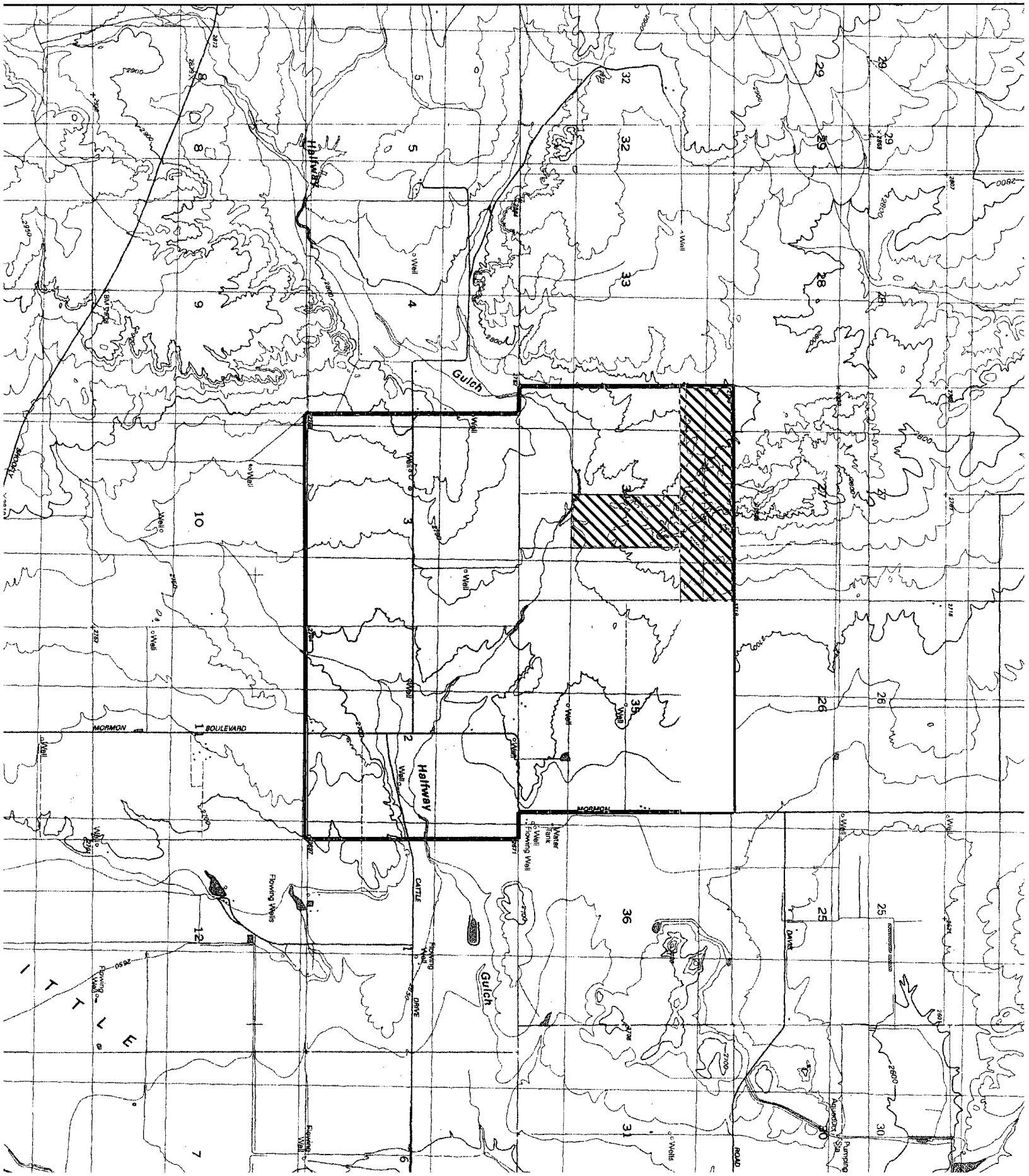

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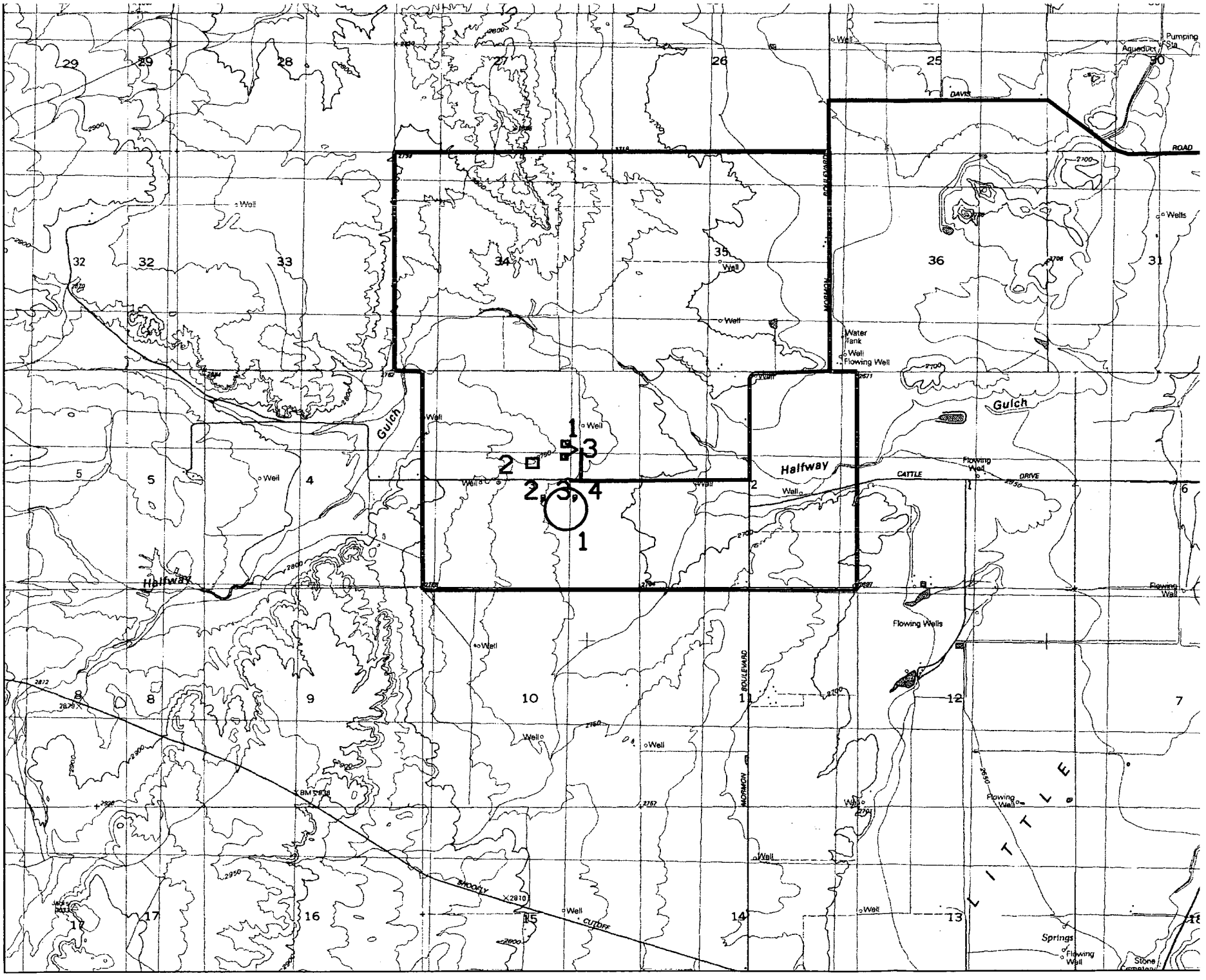

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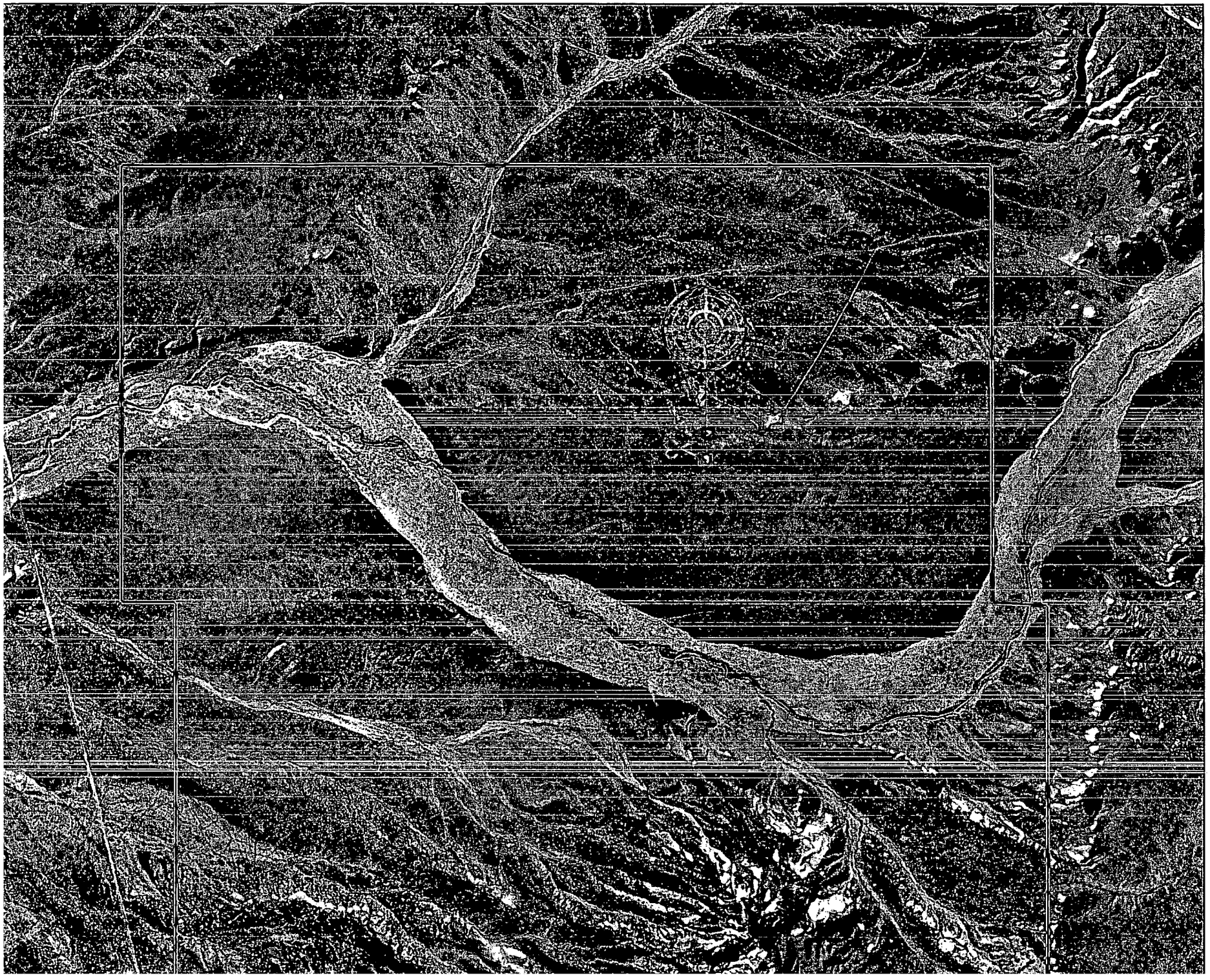

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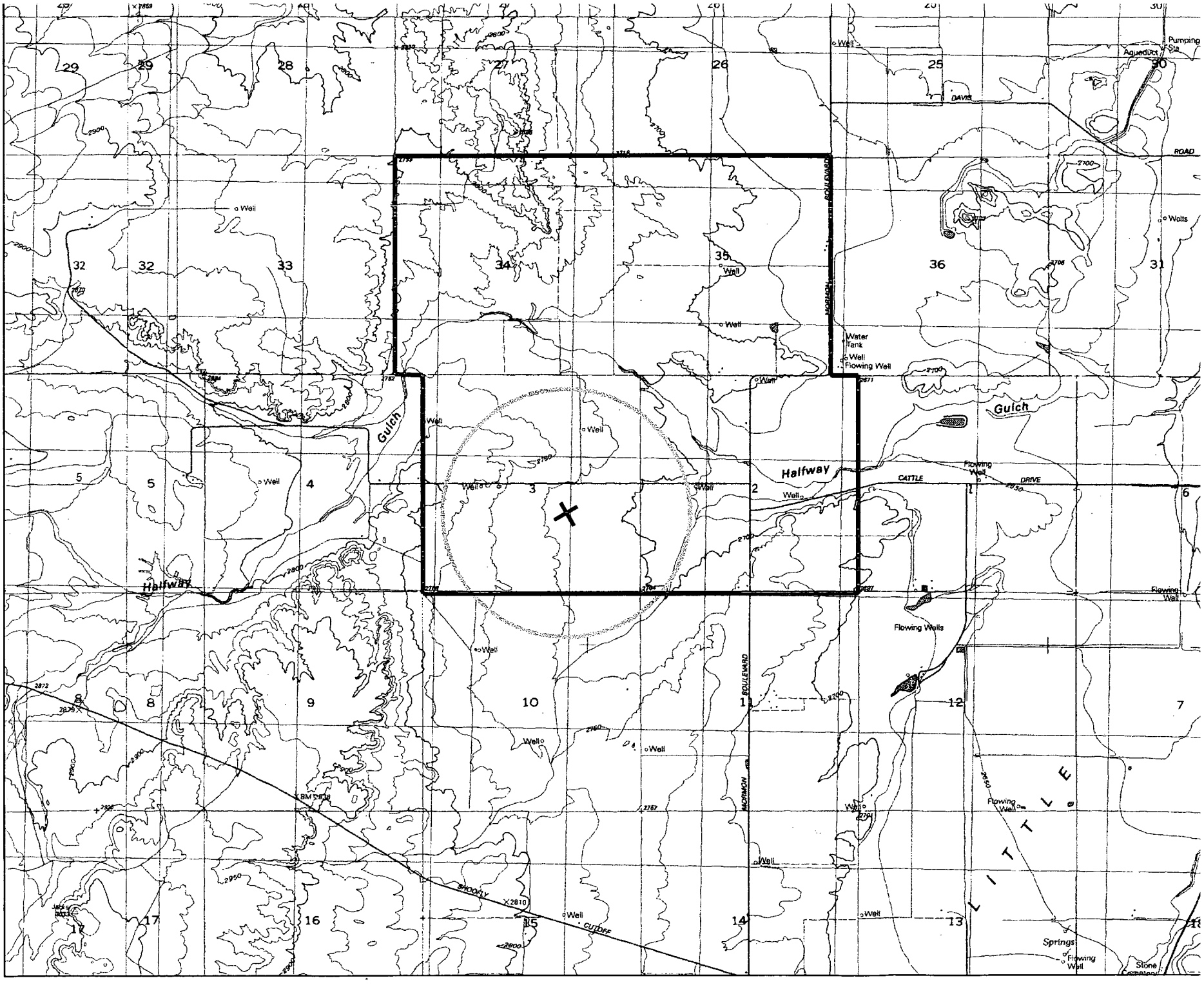

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