

***FINAL***

**ENVIRONMENTAL CONDITION OF  
PROPERTY REPORT**

**SERGEANT ERNEST VEUVE HALL AND  
AREA MAINTENANCE SUPPORT ACTIVITY 75  
U.S. ARMY RESERVE CENTER (MT004)  
I STREET, FORT MISSOULA  
MISSOULA, MONTANA 59801**

***Prepared For:***

**U.S. Army Corps of Engineers – Louisville District  
600 Dr. Martin Luther King, Jr. Place  
Louisville, Kentucky 40202-2232**

**JUNE 2007**

## CERTIFICATION

All information/documentation provided accurately reflects the environmental condition of the property. This Environmental Condition of Property (ECP) Report is in general accordance with the U.S. Department of Defense (DoD) requirements for completion of an ECP Report.

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<b>RICHARD E. WARD</b> <b>Environmental Division ARIM</b> <b>Chief Environmental Division</b> <b>96th Regional Readiness Command</b>	<b>DATE</b>
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The undersigned certifies the contents of this report are in general accordance with DoD policies for the completion of an ECP.

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## EXECUTIVE SUMMARY

Fuller, Mossbarger, Scott and May Engineers, Inc. (FMSM), under contract to the U.S. Army Corps of Engineers (USACE), Louisville District, has prepared this ECP Report for the Sergeant Ernest Veuve Hall and Area Maintenance Support Activity (AMSA) 75 U.S. Army Reserve (USAR) Center (Facility ID MT004), hereafter referred to as the "Site", or "USAR Center." The Site is located on I Street in Fort Missoula, Missoula, Montana and encompasses approximately 17 acres on **two** parcels.

This ECP Report was conducted in conformance with primary Department of Defense and Army guidance, the Department of Defense's Base Redevelopment and Realignment Manual, DoD 4165.77-M (BRRM), Army regulations and the American Society for Testing and Materials (ASTM) Designation D 6008-96 (2005), *Standard Practice for Conducting Environmental Baseline Surveys*, as secondary guidance when it was not inconsistent with the primary guidance.

This ECP Report details the history of the property, including the U.S. Army Reserve and any prior tenant uses of the Site and the resulting environmental condition of the property.

The Site is situated on approximately 17 acres of land, in **two** parcels: **one parcel includes the Veuve Hall Complex and AMSA 75 and the second parcel is the weekend training (WET) Site.** The Veuve Hall Complex includes three permanent buildings: Veuve Hall USAR Center building, an Organizational Maintenance Shop (OMS), and the Old Bakery building. At the time of the site visit the Veuve Hall Complex was occupied by the 881st Transportation Company. The WET Site contains two permanent buildings: **the Powder Magazine (T-334) owned by the USAR, and a sewer lift station (T-360) owned by the City of Missoula.** **AMSA 75 includes three** permanent structures: the approximately 33,000 square-foot AMSA 75 building (T-150) and **two** small concrete block **sheds**.

Based on a review of aerial photographs and U.S. Geological Survey (USGS) topographic maps dating back to 1964, the Site has served as a USAR Center since prior to 1964. The Veuve Hall building and the Old Bakery were constructed in 1910. The Veuve Hall building served as a barracks at various times throughout its history. The U.S. Army Reserve began occupancy of the building around 1947. The OMS building was constructed in 1959. The AMSA 75 building was constructed in 1945 as a gymnasium for detainees at a World War II (WWII) detention center. The USAR AMSA activities began at the Site in the 1950s.

Areas of potential environmental concern were reviewed and FMSM identified hazardous substance and petroleum impacts relating to the environmental condition of the property.

- A spill of malathion occurred adjacent to the OMS building, at the former Building T-101, in the 1960s. A 1991 site assessment reportedly did not encounter malathion in the soil, however the document was not available for review;
- The landfill and septic system at the WET Site have not been evaluated for environmental conditions;
- Potential MEC has been identified at the WET Site;
- The OWS discharge is a potential environmental condition. The Fort Missoula complex has documented groundwater contamination associated with discharges of waste into leach pits, dry wells, and the subsurface;
- Soil contamination (elevated TPH levels) in the vicinity of the former AMSA Leach Pit has been documented. There is no documented assessment of the soil on site for volatile organic compounds (VOCs). The historical use of hazardous substances, such as solvents, at AMSA 75 and the USDA Forestry Service laboratory located in Building T-150 and the historical operation of leach pits and dry wells on the Site warrants additional evaluation of the AMSA facility.

Veuve Hall and the Old Bakery were determined to be contributing members of the Fort Missoula Historic District and are eligible for listing on the National Register of Historic Places (NRHP).

In accordance with Department of Defense policy defining the classifications (See Sherri Goodman Memorandum dated 21 October 1996), the Property has been classified as Type 7. This classification does not include categorizing the property based on *de minimis* conditions that generally do not present material risk of harm to the public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

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## LIST OF ACRONYMS

ACM	asbestos-containing material
AMP	Asbestos Management Plan
AMSA	area maintenance support activity
AR	army regulation
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	CERCLA Information System
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
DoD	Department of Defense
ECP	Environmental Condition of Property
EDR	Environmental Data Resources, Inc.
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMSM	Fuller, Mossbarger, Scott, and May Engineers, Inc.
HABS	Historic American Buildings Survey
LBP	lead-based paint
LCM	lead-containing material
LTA	local training area
LUST	leaking underground storage tank
MEC	munitions and explosives of concern
MEP	military equipment parking
NPL	National Priorities List
NPS	National Park Service
NWI	National Wetlands Inventory
OMS	organizational maintenance shop
OWS	oil/water separator

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PCBs	polychlorinated biphenyls
pCi/l	picoCuries per liter
POL	petroleum, oil, and lubricants
POV	privately-owned vehicle
RCRA	Resource Conservation and Recovery Act
RCRIS	RCRA Information System
RRC	Regional Readiness Command
RQ	reportable quantity
SHWS	State hazardous waste sites
Site	U.S. Army Reserve Center (MT004)
SPPC	Spill Prevention Control and Countermeasure
SWPPP	Stormwater Pollution Prevention Plan
TSD	treatment, storage, or disposal
USACE	United States Army Corps of Engineers
USAR	United States Army Reserve
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USFS	United States Forest Service
USGS	United States Geological Survey
USS	Unit Supply Storage
UST	underground storage tank
UXO	unexploded ordnance
WET	weekend training
WWI	World War I
WWII	World War II

## 1.0 INTRODUCTION

FMSM was contracted by the USACE – Louisville District, to prepare an ECP Report for the Sergeant Ernest Veuve Hall USAR Center (MT004). The facility is located within the Fort Missoula complex, Missoula, Montana, hereafter referred to as the “Site” or “USAR Center”. The Site is comprised of approximately 17 acres in two separate parcels. The Veuve Hall Complex and AMSA 75 parcel is located on I Street between G Street and J Street. The WET parcel is located approximately 1,000 feet southwest of Veuve Hall, along the bank of the Bitterroot River. In support of the ECP Report, a visual reconnaissance of the Site was conducted on 15 and 16 August 2006. The purpose of the visit was to visually obtain information indicating the environmental condition of property at the Site.

### 1.1 PURPOSE OF ENVIRONMENTAL CONDITION OF PROPERTY REPORT

The Military Department with real property accountability shall assess, determine and document the environmental condition of all transferable property in an ECP Report. This ECP Report is based on readily available information. Pursuant to the Department of Defense’s policy, set forth in the Base Redevelopment and Realignment Manual (DoD 4165.66-M, March 1, 2006) Section C8.3 (BRRM), the primary purposes of the ECP Report include the following:

- Provide the Army with information it may use to make disposal decisions;
- Provide the public with information relative to the environmental condition of the property;
- Assist in community planning for the reuse of Base Realignment and Closure (BRAC) property;
- Assist Federal agencies during the property screening process;
- Provide information for prospective buyers;
- Assist prospective new owners in meeting the requirements under EPA’s “All Appropriate Inquiry” regulations;
- Provide information about completed remedial and corrective actions at the property;
- Assist in determining appropriate responsibilities, asset valuation, and liabilities with other parties to a transaction.

The ECP Report contains the information required to comply with the provisions of 40 Code of Federal Regulations (CFR) Part 373, which require that a notice accompany contracts for the sale of, and deeds entered into, for the transfer of federal property on which any hazardous substance was stored, released or disposed of. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 120(h) stipulates that a notice is required if certain quantities of designated hazardous substances have been stored on the property for one year or more – specifically, quantities exceeding 1,000 kilograms or the reportable quantity, whichever is greater, of the substances specified in 40 CFR 302.4 or one kilogram of acutely hazardous waste as defined in 40 CFR 261.30. A notice is also required if hazardous substances have been disposed of or released on the property in an amount greater than or equal to the reportable quantity. Army Regulation (AR) 200-1 requires that the ECP Report address asbestos, lead-based paint, radon and other substances potentially hazardous to human health.

This ECP Report used the American Society for Testing and materials (ASTM) Designation D 6008-96 (2005), *Standard Practice for Conducting Environmental Baseline Surveys* as a guideline when not inconsistent with the BRRM, CERCLA § 120, Army regulations and other applicable Army guidance.

## 1.2 SCOPE OF SERVICES

This ECP report covers the Veuve Hall Complex inclusive of Veuve Hall (T-26), the OMS (T-25), the historic Old Bakery (T-105), the AMSA 75 facility (T-150), and the WET Site, which contains two former Fort Missoula buildings: the Powder Building (T-334), owned by the USAR, and the sanitary sewer lift station (T-360), owned by the City of Missoula. Site maps are provided in Appendix A. Appendix B provides photographs taken during the August 2006 site visit. Appendix C provides chain of title information for the property. Historical environmental documents and reports are provided in Appendix D, while Appendix E contains the Environmental Data Resources, Inc. (EDR) reports and agency letters.

This ECP report classifies the property into one of seven DoD Environmental ECP categories as defined by Deputy Under Secretary of Defense S. Goodman Memorandum, "Clarification of 'Uncontaminated' Environmental Condition of Property at BRAC Installations" (21 October 1996). The property classification categories are as follows:

- Category 1 – Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).
- Category 2 – Areas where only the release or disposal of petroleum products has occurred.

- Category 3 – Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.
- Category 4 – Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.
- Category 5 – Areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or remedial actions are under way, but all required remedial actions have not yet been taken.
- Category 6 – Areas where release, disposal, and/or migration of hazardous substances has occurred, but required actions have not yet been implemented.
- Category 7 – Areas that are not evaluated or require additional evaluation.

## 2.0 SITE LOCATION AND PHYSICAL DESCRIPTION

### 2.1 SITE LOCATION

The USAR Center is located on Fort Missoula in the central portion of Missoula County, Montana. Fort Missoula is located in the southwestern portion of the City of Missoula. The Veuve Hall Complex is located on I Street near the intersection with G Street. The AMSA 75 facility is located on I Street at the intersection of J Street. The WET Site is located approximately 1,000 feet to the southwest and is accessed by B Street. Figure 1 in Appendix A provides a general site location map.

### 2.2 ASSET INFORMATION

Facility Name and Address:	Sergeant Ernest Veuve Hall and AMSA 75 USAR Center (MT004) I Street, Fort Missoula Missoula, Montana 59801
Property Owner:	United States Government
Date of Ownership:	1877 (No Deed Identified)
Current Occupant:	U. S. Army Reserve, 881 <sup>st</sup> Transportation Company
Zoning:	P-II, Public Lands and Institutions
County, State:	Missoula County, Montana
USGS Quadrangle(s):	Southwest Missoula, Montana
Section/Township/Range:	Section 31, Township 13 North, Range 19 West
Latitude/Longitude:	46° 50' 51.4" N; 114° 2'30.5" W
Legal Description:	Being those parcels or tracts of land, situated and lying in the West ½ of Section 31, Township 13 North, Range 19 West and the Northeast ¼ of Section 36, Township 13 North, Range 20 West in the City and County of Missoula, State of Montana

## 2.3 PHYSICAL DESCRIPTION

The Site is situated on approximately 17 acres of land and is comprised of **two** separate parcels of land; the Veuve Hall Complex, the AMSA 75 facility, and the WET Site (Figure 19, Appendix A).

### 2.3.1 Veuve Hall Complex

The Veuve Hall Complex is located on I Street at the intersection with G Street. It includes Veuve Hall, the OMS, the Old Bakery, and the associated military equipment parking (MEP) areas and privately-owned vehicle (POV) parking areas (Figure 2, Appendix A).

Veuve Hall (T-26): Veuve Hall is an administration building and unit supply storage (USS) building (Photographs 1 and 2 in Appendix B-1). It is a two-story structure with a full basement. The roof consists of terracotta shingles, and the exterior walls are finished in a stucco veneer. The building was constructed in 1910 and has been expanded and renovated over the years. The interior courtyard-sides of the north and south wings are bordered with a covered porch. This is repeated on the exterior western side of the building.

The basement is constructed of poured concrete walls and floor and is partially finished. Most of the rooms are used for USS (Figure 5, Appendix A). Two offices, 13 USS rooms, a wood shop, two latrines, three small arms and ammunition vaults, and two boiler rooms are present. In addition, several floor drains are present in the boiler rooms. Two rooms adjacent to the boiler rooms were old coal storage bins prior to the system being powered by natural gas. They are now used for USS.

The first floor is comprised primarily of office space (Figure 6, Appendix A). There are 29 offices, one conference room, one office supply storage room, one janitorial supply storage room, and one USS room. The northeast corner of the first floor contains the old kitchen. A former cold storage room on the southeast corner is now used to store office supplies. The second floor of the building is mostly occupied by offices and classrooms (Figure 7, Appendix A). There are 21 offices, five classrooms, one conference room, one office supply storage room, one USS room with exercise area and a communications room. Photographs 3 through 8 in Appendix B-1 show interior areas of Veuve Hall.

OMS (T-25): The OMS is located across the street and east of Veuve Hall. It is a one-story masonry structure with two vehicle bays (Figure 8, Appendix A). Two flammable storage closets were present with small amounts of oils, antifreeze, solvents, paint, and lubricants in storage. A corrosive materials cabinet stored chemicals used in a portable reverse osmosis system that produces potable water in the field. Only limited vehicle maintenance is currently being conducted at the OMS. Most of the area is dedicated to

USS. Adjacent to and west of the OMS is the vehicle wash bay and overhang. The OMS does not appear to have floor drains. Photographs 13 through 18 in Appendix B-1 show exterior and interior views of the OMS.

Two MEP areas are located to the north and south of the OMS. A petroleum, oil and lubricants (POL) storage shed and a diesel above-ground storage tank (AST) are located in the south MEP (Photographs 19 and 20, Appendix B-1). The AST has a small amount of diesel fuel left but is no longer in service. A dry well is present in the middle of the south MEP area that receives only stormwater runoff from the MEP (Photograph 21, Appendix B-1).

The wash bay drain discharges to the oil/water separator (OWS), and the OWS is connected to the municipal sanitary system. It is not known where the OWS discharged prior to its connection with the sanitary sewer system.

Old Bakery (T-105): The Old Bakery building is located southeast of the OMS and is in a deteriorated condition (Figure 9, Appendix A). The exterior of the building is similar to Veuve Hall, with a masonry wall structure and terracotta roof and was constructed around the same time period (circa 1910). The building is currently used for plumbing supply storage, construction material storage, and unit supply storage. Photographs 23 through 28 in Appendix B-1 show exterior and interior views of Building T-105.

### **2.3.2 WET Site**

The WET Site is a separate parcel located along B Street and the banks of the Bitterroot River (Figure 3, Appendix A and Photographs 29 through 36, Appendix B-1). This parcel is known on post as the WET Site due to its primary use for weekend training. It includes the Powder Magazine (T-334) that is owned by the USAR and a sewer lift station that is owned by the City of Missoula (T-360). The WET Site is primarily a grass-covered area with dense trees and undergrowth along the river.

The Powder Magazine is a 19<sup>th</sup> century structure that housed black powder during its use up to the turn of the last century. It is constructed of local rock and mortar with a wood roof.

The lift station was historically used to pump sanitary sewer waste to the adjacent drainage field. Building T-360 is currently owned by the City and is reportedly used as a pump station for the city sanitary sewer system.

The WET Site also contains a portion of the old Fort Missoula landfill (Figure 3, Appendix A). Two monitoring wells are located on the property. Based on available information, the landfill appears to extend off the Site to the west.

### 2.3.3 AMSA 75 Facility

The AMSA 75 facility is situated on approximately 1.5 acres of land and includes three permanent structures: the AMSA building and two small concrete block sheds. The AMSA building is referred to as Building T-150 in the reports and installation maps reviewed during this investigation. Building T-150 is described as a 33,000 square-foot, two-story high building (Figures 10 and 11 in Appendix A). The building is shared between the AMSA (west side) and the Forest Service soil laboratory on the east side. Second-story lofts are present on both the west and east ends of the structure. This ECP report includes all of Building T-150 and the associated 1.5-acre parcel. Figure 4 in Appendix A provides a current plan view layout of the Site. Appendix B-2 provides photographs taken during the August 2006 site visit.

The structure is wood-framed post and beam construction. Exterior walls are comprised of fiber board with transite paneling. Photographs 41 and 42 in Appendix B-2 illustrate the exterior of the building. Interior walls are primarily gypsum wall board. The foundation is slab concrete.

A fenced compound at the south end of the Site and is accessed via I Street. The fencing is a chain-link security type fencing topped with barbed wire. The fenced compound includes paved military equipment parking (MEP) area, a concrete block shed, and several portable storage containers. There are two privately-owned vehicle (POV) parking areas contained within the Site. An asphalt paved POV parking area is located adjacent to the southwest corner of Building T-150. A gravel POV parking area is located adjacent to the southeast corner of the soils laboratory. The second concrete block shed is located outside the fenced compound and adjacent to the gravel POV parking area (see Photograph 63 in Appendix B-2). Both POV parking areas are located outside the security fencing. Photographs 43 and 49 in Appendix B-2 provide views of the POV parking area and MEP area, respectively.

The majority of the Site is covered by impervious surface features (e.g., asphalt parking areas, driveways, concrete walkways, building, etc.). The remaining ground surface is covered by lawn area and the gravel POV parking area. Topographically, the Site is relatively flat.

Building T-150 Floor Plan: The main portion of the first floor (Figure 10 in Appendix A and Photographs 56 through 62 in Appendix B-2) is the shop bay. There are two large overhead doors to provide vehicle access. A floor drain at the center of the building leads to the oil/water separator (OWS) at the west side of the bay area. The west side of the shop also contains a hot-water parts washer and a petroleum, oil and lubricant (POL) storage and dispensing area. Also along the west side are the battery storage and charging room, a personal locker room and a latrine. Along the north side are a break room, office, and parts room. Electrical vehicle jacks, a tire installation machine, and a flammable storage cabinet are contained on the east side of the shop. There is a

small building addition that serves as a welding room along the south side of the building.

A small loft is on the second floor of Building T-150 (Figure 11 in Appendix A). This area is used for office space (Photograph 55, in Appendix B-2).

USDA Forest Service Soils Laboratory: The soils laboratory (Photographs 66 through 72 in Appendix B-2) occupies the east half of Building T-150. The technicians at the soils laboratory analyze soil samples to determine their physical and chemical composition. Reportedly, hazardous materials analyses are not conducted in the laboratory. Two offices are present on the north side of the building. A garage along the north side is being used as a soil sample staging area as well as a laboratory equipment storage area. There is a storage room adjacent to the garage and was locked during the August 2006 site visit and was not viewed. A combination classroom and laboratory area occupies the middle of the building. The central portion of the laboratory contains dry and wet chemical laboratory equipment stations. A multiple use storage room is present on the west side of the laboratory. This room contains various laboratory supplies, laboratory equipment and three corrosive chemical storage lockers. A soil sample processing room with equipment is present in the southern side of the building. In addition to the soil processing room, a laboratory is also located along the southern side of the building. There are two laboratories and a latrine along the east side of the building. The dry laboratory has a walk-in oven for sample processing.

The second floor of the soils laboratory consists of a small open loft. This area is used for dry laboratory materials and equipment storage.

## **2.4 SITE HYDROLOGY AND GEOLOGY**

### **2.4.1 Surface Water Characteristics**

Figure 12 in Appendix A provides a portion of the 1999 Southwest Missoula, Montana United States Geological Survey (USGS) topographic map which includes the Site. As shown, the Site is situated at an elevation of approximately 3,155 feet above mean sea level and located in the Bitterroot River Valley. The Site is situated on a stream terrace associated with the Bitterroot River. There are no piped stormwater systems at the Site. Stormwater runoff at the Veuve Hall Complex and the AMSA facility sheet flows to and infiltrates at dry wells on the Site and to off-site dry wells along the streets. The WET Site has little impervious surface and stormwater runoff flows directly to the Bitterroot River.

No surface water features are located in the immediate vicinity of the Site. The Bitterroot River, located approximately 1,000 feet southwest of the Veuve Hall Complex, is the closest major surface water feature. The Bitterroot River discharges to Clark Fork. The general surface water flow in the site area is to the southwest, toward the

Bitterroot River. The general flow direction of the Bitterroot River in the Missoula region is to the northwest.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), Community Panel 30063C1460D, the Veuve Hall Complex is not included in the 100-year floodplain. Figure 13 in Appendix A depicts the extent of the nearest 100-year floodplain in relation to the Veuve Hall Complex and AMSA facility. The WET Site is located within the 100-year floodplain based on the FIRM, Community Panel 30063C1455D. Figure 14 in Appendix A depicts the extent of the 100-year floodplain in relation to the WET Site.

#### **2.4.2 Geology and Soils**

The Site is situated in an area of recent alluvial deposits associated with the Bitterroot River. The alluvial deposits are composed of unconsolidated and poorly sorted, stream-deposited sand, gravel, and silt, with boulders present. The alluvial deposits may be up to 35 feet thick. The alluvial materials are located above Miocene lake deposits that are composed of sandy silt, silt, clay, shale, marl and some poorly sorted conglomerate. The lake deposits may be up to 350 feet thick.

Groundwater is found in the near-surface alluvial deposits. The depth to groundwater documented in water wells near the site ranged from 23 to 39 feet below the surface. Groundwater flow would be affected by the local surface slope to the southwest toward the Bitterroot River, and the regional slope of the river to the northwest. The groundwater flow direction in the site vicinity would likely be to the west.

According to information acquired from the Soil Survey Geographic Database for Missoula County, the specific type of soil at the Site is from the Moiese Series. The Moiese series consists of very deep, excessively drained soils that formed in alluvium and glacial outwash. These soils are on stream terraces and alluvial fans but are not considered to be hydric soils. Slopes are 0 to 4 percent.

These soil types have moderately rapid permeability to a depth of 18 inches and rapid or very rapid below this depth. In a typical profile, the surface layer is approximately nine inches thick and usually characterized as a gravelly loam. The subsoil has a depth of approximately 60 inches and is usually characterized as a very gravelly sandy loam.

### **2.5 SITE UTILITIES**

**Water Service** – The City of Missoula provides potable water service to the Site.

**Sanitary Sewer System** – The City of Missoula provides sanitary sewer service to the Site.

**Gas & Electric** – Northwestern Energy provides both natural gas and electric service to the Site.

## **2.6 WATER SUPPLY WELLS & SEPTIC SYSTEMS**

Based upon a review of available historical site and agency records and interviews with site personnel, no evidence was discovered indicating that a water supply well was located at the Site. There once was a potable well used by the post located approximately 1,000 feet southeast of the Site. However, this well, with an associated pump station, is no longer in service. A septic system was in use at Fort Missoula until a sanitary sewer system was developed. The septic system leach field is located approximately 2000 feet west and down-gradient of the Site.

A search of Federal and State water well databases identified 34 wells within ½ mile of the Site. A review of the well data sheets indicates that 29 of these wells are state-registered monitoring wells and five are monitored by the USGS for research purposes. The databases indicated that there are no water supply wells within 1 mile of the Site.

Septic systems and dry wells were used historically at the Site until the Fort Missoula sanitary sewer system was developed. The WET Site contains the septic drainage field formerly used by the Fort Missoula sanitary sewer system (Figure 3, Appendix A and Photograph 39, Appendix B-1). The Fort Missoula sanitary sewer system is connected to a sewage treatment plant and no longer uses the septic drainage field on the WET Site.

## 3.0 SITE HISTORY

### 3.1 HISTORY OF OWNERSHIP

Appendix C contains a chain of title report completed for the Site. The current owner is the United States of America. A deed for the Site could not be obtained. Records were researched at the Missoula County Recorders' Office dating back to 1900. No conveyance to the United States of America was found of record. **Western Montana, including the Missoula area, was part of the Oregon Territory that was acquired by the United States of America in a treaty with Great Britain in 1846.** Historical accounts of Fort Missoula from various reports suggest that the property has been under the control of the United States military since 1877.

Available business directories, including City, cross-reference, and telephone directories, were reviewed at approximately five-year intervals for the years spanning 1976 through 2006. According to a City Directory provided by EDR and dated 25 July 2006, the address of the USAR Center was not listed in the research source (Polk's City Directory and Robinson's City Directory). Subsequent city directory searches do not list the Site. A copy of information from the City Directory is included in Appendix E.

### 3.2 PAST USES AND OPERATIONS

Fort Missoula was constructed in 1877 and covered 7,921 acres. However, the cantonment area of the post was 1200 acres. In 1888, the 25<sup>th</sup> Infantry Regiment was stationed at the installation but the installation was abandoned in 1898. It was reopened in 1904 and served as a training center during World War I (WWI). The Fort was abandoned in 1921 until it was reopened by the Civilian Conservation Corps in 1933. It was turned over to the Department of Immigration in 1941 and used as a detention center throughout WWII. After WWII, the Fort was reallocated to various tenants, including the Army Reserve, Navy Reserve, Marine Corps Reserve, Montana National Guard, and the U.S. Forest Service (USFS).

Building T-26, Veuve Hall, was constructed in 1910, with renovations completed in 1938. The facility served as a barracks at various times throughout its history, including as a student dormitory during WWI, a Civilian Conservation Corps facility during the Great Depression, and a temporary detention barracks during WWII. The U.S. Army Reserve began occupancy of the building around 1947. The USAR Center's primary functions included administration, logistics, and training activities. The WET Site was used by reservists for drill activities on various weekend exercises. The WET Site also includes a closed landfill and septic drain field.

The OMS was reportedly constructed in the 1950s and has been historically used for vehicle maintenance. Activities at the OMS are currently limited to preventative maintenance, including vehicle fluid changes such as motor oil, water, and antifreeze.

Equipment requiring heavier maintenance activities is currently sent off site. Vehicle washing historically occurred in the adjacent wash bay. The wash bay area carried rinse water to an OWS located next to the OMS, which currently discharges to the municipal sanitary sewer. Oil changing was performed on outside racks adjacent to the wash bay and reportedly over bare soil. This area was identified as contaminated with waste oil and the racks were removed. The contamination was remediated in the 1990s (Soil Sampling Report for Fort Missoula, Grease Rack Area, MCS Environmental, Inc., 22 April 1998).

Building T-105, the Old Bakery, was also built around 1910. The building reportedly operated as a kitchen/bakery during most of its history. The USAR presently uses the building for storage.

AMSA 75 occupies a historical gymnasium that was constructed in 1945. This gymnasium was built to replace an identical building that was constructed at the same location in 1940 but burned down in 1944.

Building T-150 has been used by the USAR for military vehicle repair since the 1950s. These activities reportedly included vehicle overhauls and general maintenance. The AMSA portion of Building T-150 is currently used for preventative maintenance on military equipment, such as checking vehicle fluids (motor oil, water, and antifreeze), and light maintenance activities. However, because this is an AMSA and serviced equipment and vehicles from many USAR locations, it is probable that the Site was used to repair larger machinery and vehicles and perform more extensive maintenance and repair work in the past.

Historical aerial photographs and topographic maps were reviewed for information regarding past use and operations at the Site. Figures 12, 15, and 16 in Appendix A provide USGS topographical maps of the Site and surrounding areas for the years 1964, 1978, and 1999. Figures 17 through 19 in Appendix A provide aerial photographs of the Site and surrounding areas for the years 1976, 1982, and 2003.

The 1964 USGS topographical map (Figure 15, Appendix A) shows the Site to include Veuve Hall, the OMS, the Old Bakery, and the AMSA building. There are no structures shown on the WET Site. The surrounding areas are similar to today.

The 1976 aerial photograph (Figure 17, Appendix A) shows the four buildings on I Street to be present. To the north is a park, and the old post fire station as they exist today. To the east is an open field with scattered footprints of former buildings. To the south are open fields, a gravel POV parking area, and the United States Department of Agriculture (USDA) administration building. To the west is the parade ground as it exists today.

The 1976 aerial photograph also shows the WET Site including the lift station and the Powder Magazine building. The Bitterroot River is to the south and the Montana National Guard complex is to the north. An area of soil disturbance is shown to the northwest of the site with a criss-crossing pattern of dirt roads.

The 1978 USGS topographical map (Figure 16, Appendix A) shows similar conditions found in the 1964 map, both on and adjacent to the Site.

The 1982 aerial photograph (Figure 18, Appendix A) shows similar conditions to the 1976 photograph with the exception that the POV parking area to the south of the OMS appears to be paved.

The 1999 USGS topographical map (Figure 12, Appendix A) shows similar conditions at Veuve Hall and the AMSA as in the 1978 map. The OMS and Bakery area are no longer detailed on the map and the structures are not shown (an apparent oversight during the map revision).

The 2003 aerial photograph (Figure 19, Appendix A) shows similar conditions as in 1982 with the exception that the southern MEP area is depicted as paved. The open pavilion building in the southern MEP is depicted. The small concrete block POL shed is now present south of the AMSA building.

With respect to the WET Site, the 2003 aerial photograph shows similar conditions as in the 1982 photograph with the following exceptions. The new indoor tank range (T-1001), is now present and adjacent to the WET Site and T-330 of the Montana National Guard complex. The fairgrounds are present to the north and northeast.

### **3.3 PAST USE, STORAGE, DISPOSAL, AND RELEASE OF HAZARDOUS SUBSTANCES**

#### **3.3.1 Past Use and Storage of Hazardous Substances**

Information related to the past use and storage of hazardous substances at the Site was compiled through review of available site records, search of Federal and State environmental databases, and interviews with Army Reserve personnel. In general, chemical products used and stored at the Site would have contained CERCLA hazardous substances and would have been stored on a rotational basis in amounts necessary to support the unit through direct support level maintenance.

Veuve Hall: Veuve Hall has been historically used for administration and classrooms. Chemical storage was not identified beyond miscellaneous janitorial supplies.

OMS (T-25): Chemicals formerly used and stored at the OMS were associated with vehicle and facility maintenance activities. Solvents and POL products were stored within designated areas of the OMS building. Other chemicals, POL products, and

waste material reportedly have been stored in the POL cement storage shed located in the MEP. The use of portable hazardous materials vaults and POL vaults reportedly have also occurred within the MEP.

Storage of Malathion, Building T-101: T-101 was an old storage building that was destroyed by fire in the late 1960s. It was located under a portion of the current OMS (T-25). This building reportedly stored an unknown quantity of 55-gallon drums containing the pesticide malathion.

Storage of Munitions, Oils and Paint, Powder Magazine (T-334): The Powder Magazine was reportedly active from 1877 to 1927 when the War Department authorized the construction of storage elsewhere. Prior to the decommissioning, the magazine reportedly held artillery ammunition, black powder, paints, oils, and other materials.

Storage of POL and Chemicals in Building T-150: Chemicals formerly used and stored at the Site were associated with vehicle and facility maintenance activities on the AMSA side of T-150. POL products were also stored within designated areas within the AMSA side of T-150. Other potentially hazardous materials and POL products would have been stored in the AMSA concrete block shed located in the MEP. The use of portable HAZMAT vaults and POL vaults would have also occurred somewhere within the MEP.

Chemicals formerly used and stored at the Site in were also associated with the Forest Service soils laboratory located in Building T-150. Acids, detergents, and 1,1,1-trichloroethane (1,1,1-TCA) were reportedly stored inside designated areas within the soils laboratory.

T-150 Drum Storage Area: According to the Site Screening Inspection (SSI) report for Building T-150 (November 1992), an outdoor drum storage area was present adjacent to the AMSA cement storage shed. At that time, 16 drums in various positions were observed without secondary containment or other protection. The drums reportedly contained oil, ferric chloride, and calcium hypochlorite. No evidence was documented that product had leaked or was spilled in this area. This storage area or other uncontained storage of chemicals was not observed during the site visit of 15 August 2006.

Soils Laboratory Storage Shed: The Forest Service cement storage shed behind the soils laboratory was reportedly used to store bulk quantities of 1,1,1-TCA. Approximately 60 gallons of 1,1,1-TCA was observed in this shed during a September 1993 site visit (Draft Preliminary Assessment of Fort Missoula, ETA, Inc. January 1994).

### **3.3.2 Past Disposal and Release of Hazardous Substances**

Information related to past disposal and potential release of hazardous substances at the Site was compiled through review of available site records, search of Federal and

State environmental databases, and interviews with Army Reserve personnel. No stained soil or stressed vegetation was observed during the August 2006 site visit. However, the record and reports reviewed have indicated several disposal and release events of concern.

Release of Malathion, Building T-101: T-101 was a previous storage building that was destroyed by fire in the late 1960s. This building reportedly stored bulk malathion that apparently leaked during a fire. The fire debris was eventually removed from the site and the area was paved. The soil at the site was sampled during a 1991 study and no malathion was detected in the soil samples. The 1991 study was not available, but was referenced in the 1994 Final Preliminary Assessment report. The 1994 assessment report recommended additional soil and groundwater sampling to identify contaminated areas.

OMS: The OMS has operated since the 1950s. During this period, operations have included vehicle maintenance and washing in centralized locations. The majority of the site documentation and personal knowledge has typically consisted of the previous 10 to 20 years. Chemicals and petroleum products, as well as maintenance and discharge procedures, used over the 50-plus-year history of the Site are not well documented. Discharges from these site activities were reportedly directed to the OWS.

A vehicle maintenance rack adjacent to the OMS and adjacent to the wash bay was cited by state officials for a release due to oil stains on the surface soil. The soil was tested and determined to be contaminated with petroleum product. The soil was removed and post remedial sampling determined the area to be free of contamination. The vehicle maintenance rack was subsequently removed.

Old Landfill at WET Site: A closed landfill, reported to be in operation from 1956 to 1980, is located at the western end of the WET Site and extends west onto the adjoining property. No report reviewed during this investigation illustrated the exact boundary of the landfill. An October 1996 Ordnance, Ammunition and Explosives report indicated that four live artillery rounds were excavated from the landfill in the 1970s. This report references a 1994 groundwater investigation, during which monitoring wells 9 and 10 were installed at the WET Site. A 50-foot radius was screened for unexploded ordnance (UXO) before the wells were installed. The screening did not produce any evidence of additional buried UXO.

Sewer System Drain Field: A septic field is located on the northern side of the WET Site. This field was originally constructed to accept the septic discharge of Fort Missoula until the 1970s. A lift station was constructed to transfer sanitary waste to the municipal sewer system (Photograph 30, Appendix B-1). However, the drain field is still used as a back-up system should the lift station fail. Disposal practices at the Fort, including USAR activities, cause this area to be a potential source of contamination. No

documentation was available that suggests that the drainage field was ever sampled for contamination (soil or groundwater).

Oil/Water Separator: The Site has had an AMSA operation since the 1950s. During this period, operations have included vehicle maintenance and perhaps washing in centralized locations. The majority of the site documentation and personal knowledge has typically covered only the previous 10 to 20 years. Chemicals and petroleum products, as well as maintenance and discharge procedures, used over the 50-plus year history of the Site are not well documented. Discharges from these site activities were typically directed to the OWS. No documentation was reviewed that would suggest that soils surrounding the OWS have been assessed.

AMSA Leach Pit: According to the Site Screening Inspection report for Building T-150 (November 1992), the AMSA waste discharge previously drained into a leach pit located to the west of T-150. The existence of the leach pit was not verified during the site visit of 15 August 2006. In the mid-1970s, a 1000-gallon perforated tank was installed in the ground to replace a car body that was used originally to form a collection void. The tank is reportedly 4 feet in diameter and 34 inches below grade. Documentation indicates that soils surrounding this leach pit were contaminated with total petroleum hydrocarbons (TPH) exceeding 2,600 parts per million (ppm). No documentation was reviewed to suggest that contaminated soils around this leach pit have been removed or remediated.

Soils Laboratory Dry Well: This dry well is located behind the soil laboratory portion of T-150 and adjacent to the cement storage shed used by the soils laboratory for chemical storage (Photograph 64, in Appendix B-2). According to the SSI report for Building T-150 (November 1992), the dry well is 11 feet deep and 5 feet in diameter and was constructed in 1962. It was connected to the soils laboratory and received wastewater discharges from undetermined receptacles in the building. The wastewater was reportedly composed of small amounts of detergents and neutralized acid. The dry well was observed during the 15 August 2006 site visit to be filled in with fine aggregate material. It is not known if the wastewater is now sent directly to the sanitary sewer at this time. No documentation was reviewed to suggest that the soils around this dry well were assessed.

Groundwater Contamination: According to a February 1996 groundwater study conducted by the CDM Federal Programs Corporation, groundwater at Fort Missoula is contaminated with low concentrations of volatile organic compounds (VOCs). VOCs included, tetrachloroethane (PCE), toluene, 1,1,1-TCA, bromodichloromethane, chloroform, methylene chloride, trichloroethylene (TCE), and 1,1,1,2-tetrachloroethane. Most of the levels detected were below federal drinking water maximum contaminant levels (MCLs), including all samples collected from monitoring wells on or adjacent to the Site; however, levels above MCLs did exist. The study concludes that groundwater

in the Fort Missoula area is contaminated by up-gradient sources and suggests that regionwide usage of dry wells for sanitary and stormwater discharge may contribute to the conditions. Based on the local geology and hydrology, the up-gradient direction would be east of the Site.

### **3.4 PAST PRESENCE OF BULK PETROLEUM STORAGE TANKS**

Four underground storage tanks (USTs) are documented to have been present on the Veuve Hall Complex. UST 1 was a 5,000-gallon heating oil tank removed from the Veuve Hall courtyard. Some contaminated soil surrounding this tank was removed. USTs 2 and 3 were adjacent to the Old Bakery and were reported as 500- and 1,000-gallon UST fuel tanks. UST 4, a 250-gallon UST fuel tank, was removed from the lift station (T-360) at the WET Site. This tank was replaced with a small AST to run the generator for the lift station in the event of a power outage.

The AMSA facility previously had a 2,000-gallon UST. It was located just southwest of Building T-150 and removed by a contractor in 1990. Soil samples collected adjacent to the UST did not identify contamination. The UST held waste oil from the vehicle maintenance and waste oil from the OWS located on the AMSA side of T-150.

The former AMSA UST was replaced with a 500-gallon vaulted above-ground storage tank (AST) equipped with a leak detection system between the primary and secondary containment structures. This AST was confirmed to be present during the 15 August 2006 site visit.

### **3.5 REVIEW OF PREVIOUS ENVIRONMENTAL REPORTS**

A review of site records produced several reports pertaining to the Site and to the Fort Missoula complex. The following subsections provide a brief summary of these reports. Copies of the reports, unless otherwise specified, are provided in Appendix D.

#### **3.5.1 2005 Asbestos Survey for T-26**

ITI of South Florida, Inc. performed a survey of asbestos-containing material (ACM) at the Veuve Hall (T-26) in January 2005. The survey included a review of available records and a site investigation of the facilities, including bulk sample analysis of suspected ACM. Confirmed non-friable ACM was found in black mastic under the vinyl floor. It was presumed that non-friable ACM occurs in fire doors, electrical wiring and roofing materials. The report concluded that an imminent asbestos hazard was not present at the facility during the site visit.

### **3.5.2 2004 Asbestos Survey for T-150**

ITI of South Florida, Inc. performed a survey of ACM at Building T-150 in June 2004. The survey included a review of available records and a site investigation of the facilities, including bulk sample analysis of suspected ACM. Confirmed ACM was found in vinyl floor tiles, in black mastic and transite exterior wall panels. It is presumed that ACM occurs in fire doors, electrical wiring and roofing materials. The report concluded that an imminent asbestos hazard was not present at the facility during the site visit.

### **3.5.3 2004 Natural Resource Survey**

The Vernardo Group, Inc., performed a reconnaissance-level biological survey at Fort Missoula Center in July 2004. The objective of this report was to document and map natural resources found at the Site. The survey found that three special-status species including two plants and one bird species have a **limited** potential of occurring on or near the Fort Missoula Local Training Area (LTA) (WET Site) as well as priority bird species, as identified by the Montana Partners-in-Flight. The special-status species include the narrowleaf penstemon (*Penstemon angustifolius*), the pointed broom sedge (*Carex scoparia*), and the yellow-billed cuckoo (*Coccyzus americanus*). In addition, wetlands and other waters of the U.S. also are present at the WET Site.

### **3.5.4 2004 HABS Level II Documentation**

SWCA Environmental Consultants performed a Historic American Buildings Survey (HABS) Level II analysis of Veuve Hall and the Old Bakery in December 2004. The survey included an inspection of both interior and exterior architecture. A report containing information about the present condition and a complete history of the buildings was compiled. Veuve Hall and Old Bakery were determined to be contributing members of the Fort Missoula Historic District and eligible for the National Register of Historic Places.

### **3.5.5 2003 Cross Connection Report**

The 2003 Cross Connection Report for Stormwater and Sanitary Sewer System was prepared for Veuve Hall by Stantec Consulting, Inc. in December 2003. The report evaluates drain lines, manholes, catch basins, and other elements associated with the stormwater collection system. The report recommended that waste resulting from sediment, floatables, oil and grease be collected from the OWS at the Site (at the OMS) and disposed of properly. The OWS was reported to be operating inefficiently.

### **3.5.6 2003 File Memo for Stormwater Pollution Prevention Plan**

Stantec Consulting Inc. prepared a memo in December 2003 referencing a site visit for a stormwater pollution prevention plan (SWPPP) assessment. The memo stated an

industrial stormwater permit and associated SWPPP were not required for the site because the land use activities are not defined as stormwater discharges associated with industrial activity, there are no state waters on or adjacent to the facility, there is a small facility with minor vehicle maintenance conducted inside, and the aboveground storage tank is a double walled tank with a built in secondary containment.

### **3.5.7 2003 Facility Spills Contingency Plan Veuve Hall**

Stantec Consulting, Inc. compiled a Facilities Spill Contingency Plan for the USAR Center in December 2003. This plan outlines the procedures that should be taken in the event of a petroleum, oil, lubricant, hazardous waste, or hazardous material spill. It contains an emergency action checklist, emergency contacts, and spill notification procedures. It also includes reporting levels that allow those notified of the spill to realize the magnitude of the event.

### **3.5.8 2003 Spill Prevention, Control, and Countermeasure Plan**

Stantec Consulting, Inc., compiled a Spill Prevention, Control and Countermeasures (SPCC) Plan for the USAR Center in December 2003. This plan outlines the response procedures taken in the event of a petroleum, oil, lubricant, hazardous waste, or hazardous material spill. It contains an emergency action checklist, emergency contacts, and spill notification procedures. In addition, the plan includes site specific information that could help prevent or better understand what to do in the event of a spill.

### **3.5.9 2002 Restoration Plan of Post Bakery**

In 2002, a plan for the restoration of the Old Bakery Building was developed. The document includes the unit environmental impact checklist, the mission training plan, the site drawing, and the public affairs plan. The restoration plan was not implemented and no restoration has occurred for the Old Bakery Building.

### **3.5.10 2000 Asbestos Management Plan**

An Asbestos Management Plan (AMP) was prepared for the USAR Center in August 2000. The reported purpose of the AMP is to prevent exposure of airborne asbestos fibers to occupants, visitors, custodial, and maintenance personnel. The AMP outlines procedures to prevent disturbance of ACM, maintain ACM that is in good condition, and limit human exposure to ACM.

### **3.5.11 2000 Stormwater Management Report**

TERRACON prepared the Stormwater Management Report for the USAR Center in April 2000. The purpose was to assess best management practices at the facility and to

evaluate the applicable State and/or Federal stormwater permit requirements. There was a recommendation to update the SPCC Plan. The report recommended that the facility manager continue to conduct the weekly visual inspection of the facility and conduct training of personnel to use good housekeeping and preventative maintenance.

### **3.5.12 1999 Lead Assessment**

MCS Environmental, Inc. performed a lead assessment for the USAR Center in February 1999. The document contains daily log sheets, test results, lead air sample sheets, and record of the disposal. The waste was reportedly below the level of lead considered hazardous waste and was disposed of as construction debris. Lead-containing material was removed from walls, windows, and doors.

### **3.5.13 1998 Waste Evaluation**

A waste evaluation was performed for the USAR Center in May 1998. The source of the waste was a spill from the automotive lubricating rack at the OMS (T-25). The soils were sampled and found to be contaminated with lubricants. Contaminated soil was removed. The lubricating rack was also removed.

### **3.5.14 1998 Final Report for the Limited Lead-Based Paint Abatement Project**

MCS Environmental, Inc. prepared the final report for the limited lead-based paint abatement project at T-26 (Veuve Hall) in December 1998. All materials covered with lead-based paints were reportedly removed and properly disposed.

### **3.5.15 1997 Composite Spill Prevention Plan**

CH2M Hill, Inc., prepared a Composite Spill Prevention Plan, Installation Spill Contingency Plan, Hazardous Waste Management Plan, and Pollution Prevention Plan for the USAR Center in March 1997. The Composite Plan fulfills the requirements of the U.S. Army and the U.S. Environmental Protection Agency (USEPA) to have a Spill Prevention Plan, an Installation Spill Contingency Plan, a Hazardous Waste Management Plan, and a Pollution Prevention Plan. The plan was updated in the 2003 Spill Prevention, Control, and Countermeasures Plan that is currently in effect for the Site.

### **3.5.16 1997 Radon Results**

The Radon Measurements Laboratory performed an analysis of radon levels in Veuve Hall, the OMS, and Building T-150 in 1997. Numerous tests were performed, and the results of the laboratory measurements are contained in the document. The report stated that the facility has levels of radon above the USEPA recommended action level of 4 picoCuries per liter (pCi/l).

### **3.5.17 1996 Final Groundwater Sampling Report**

CDM Federal Programs prepared a groundwater sampling study of Fort Missoula in February 1996. The study consisted of four quarterly sampling events in 1995 from two water wells and 14 monitoring wells on the Fort Missoula complex. The results indicated that groundwater at the site was contaminated with low concentrations of seven volatile organic compounds. Two monitoring wells used in the study, MW-6R and MW-13, are located on the Veuve Hall Complex, roughly north and south of the OMS. Contaminants detected in sample from MW-6R and MW-13 did not exceed drinking water standards. Two monitoring wells used in the study, MW-9 and MW-10, are located on the WET Site and contaminants analyzed during this event were not detected in these two wells.

### **3.5.18 1996 Ordnance, Ammunition and Explosives Archives Search Report**

The USACE St. Louis Engineering Support Center prepared the Ordnance, Ammunition and Explosives Archives Search Report in October 1996. The purpose of this report was to document all past ordnance activities, uses, and disposals at the site. Areas of concern include a former Powder Magazine located at the WET Site, an area that was formerly used for live grenade training (north of the WET Site at the Army National Guard complex) and a historic landfill in which discarded artillery rounds have been found. The report stated the former live grenade training pits were located where the Army National Guard maintenance building now stands, which is not located on the USAR parcel.

### **3.5.19 1995 Field Report of UST Removal**

MSE Inc. prepared a field report of the underground storage tank removal for Building T-150 in May 1995. The report indicated that the tank was a perforated boiler tank previously used for leaching purposes. The tank was not registered and did not meet the Montana Department of Health and Environmental Sciences (MDHES) Underground Storage Tank Program definition as an underground storage tank. A sample of the tank contents contained low concentration levels of barium, nitrobenzene, and 2-butanone. The levels were below the regulatory limits and the tank contents were disposed as non-hazardous waste. The report indicated that confirmation soil samples collected from the tank pit contained TPH levels greater than the Montana action level of 100 ppm. No additional assessment or soil removal was reported. The report indicated that three agencies were contacted and no further action was required by the MDHES, the Montana Water Quality Division, or the Missoula County Health Department because the tank was unregulated.

### **3.5.20 1995 Hazardous Waste Compliance Inspection**

A hazardous waste compliance inspection was performed in June 1995 for Building T-150. The inspector discussed the potential health, environmental, and regulatory complications associated with the use of aerosols. It was recommended to puncture, crush, or dismantle used oil filters.

### **3.5.21 1994 Preliminary Assessment of Fort Missoula**

Engineering Technologies Associates, Inc., performed a preliminary assessment of Fort Missoula in March 1994. The purpose of this study was to document a site reconnaissance and review available records to evaluate the site as a threat to the environment and the need for further investigation. The study found that groundwater contamination is present at Fort Missoula due to deposition of hazardous substances from up-gradient sources. These up-gradient sources are likely the approximately 250 Class V injection wells used by light industry throughout Missoula until 1992 when the USEPA shut them down. The report also identifies sources within Fort Missoula that may potentially be sources of contamination. According to the report, because of the documentation of observed release of Level I contamination, it was expected that the Hazard Ranking System would be above the 28.5 threshold for inclusion on the National Priorities List (NPL). The assessment report recommended a Site Inspection with the following parameters:

- A geophysical survey should be performed in suspected areas of past landfilling;
- A soil gas survey should be performed to help identify areas of VOC contamination;
- Monitoring wells should be completed to help delineate contamination migration;
- Both soil and groundwater sampling should be undertaken to identify contaminated areas

These recommendations have not been completed based on the review of historical reports provided for this ECP report.

### **3.5.22 1994 Hazard Ranking System Scoring Package of Fort Missoula**

Engineering Technologies Associates, Inc. performed a risk analysis of Fort Missoula in March 1994. This report determined the degree to which it was a hazard to humans and the environment. The report itemizes the hazards by building, taking into consideration groundwater migration pathway, surface water migration pathway, soil exposure pathway, and air migratory pathway. The study included the following areas of concern within the Site: the sewer system drainage field at the WET Site, the wash

rack at the OMS (T-25), Building T-150 and associated areas, and the malathion fire site at T-101. Fort Missoula received a total score of 23.17. A score exceeding 28.5 needs to be considered for inclusion on the National Priorities List.

### **3.5.23 1993 Asbestos Survey**

The Directorate of Environmental Compliance and Management performed a survey of asbestos-containing materials at the Site in August 1993. The survey located and documented the presence of ACM at the Site. The survey identified several materials with confirmed ACM in Veuve Hall (T-26) including green and black floor tiles, boiler piping and pipe fitting insulation. The boiler piping and pipe fittings were identified as a possible threat to occupants, and it was recommended that access be restricted to these areas or the ACM be removed as soon as possible.

The survey identified several materials with confirmed ACM in the AMSA building (T-150) including transite siding, roofing materials, and pipe and pipe fitting insulation. The pipe and pipe fitting ACM were identified as a possible threat to occupants, and it was recommended that access be restricted to these areas or the ACM be removed as soon as possible.

### **3.5.24 1992 Site Screening Inspection for Fort Missoula OMS #2**

Resource Applications, Inc. performed a site screening inspection of the Site in November 1992. The report refers to the AMSA site as the "OMS #2". The purpose of this study was to provide information for the USEPA revised Hazard Ranking System. The scope of the study included one field visit with no sample collections. Other information was based on a review of existing documents, records and discussions with installation personnel. Five of twelve hazardous sources analyzed for the report were from the Site.

#### 4.0 ADJACENT PROPERTIES

Veuve Hall Complex & AMSA 75: Figure 19 in Appendix A provides a 2003 aerial view of the Site and adjacent properties. Table 1 provides a list of properties adjacent to the Site with their zoning and the directional location in regards to the Site. Photographs 22, 52, 10, and 9 in Appendix B provide views of adjacent properties and surrounding land use.

<b>TABLE 1 LIST OF ADJACENT PROPERTIES – VEUVE HALL COMPLEX &amp; AMSA 75</b>			
<b>Direction From Site</b>	<b>Name/Type of Property</b>	<b>Address</b>	<b>Zoning</b>
North	Park & Old Post Fire Station	Ft. Missoula Road	P-II (Public land)
South	Single Family Residential	J Street	Unzoned
East	Open Fields	I Street, Ft. Missoula	Unzoned
West	Parade Grounds and Western Montana Mental Health Center	H Street	P-II

WET Site: The Fairgrounds and the Montana Army National Guard Complex are located to the north, undeveloped fields are to the east and west, the Bitterroot River is to the south, and open fields are to the west. Table 2 provides a list of properties adjacent to the WET Site with the directional location in regards to the Site and their zoning. Photographs 37, 35, 27 and 32 in Appendix B provide views of adjacent properties and surrounding land use.

<b>TABLE 2 LIST OF ADJACENT PROPERTIES – WET SITE</b>			
<b>Direction From Site</b>	<b>Name/Type of Property</b>	<b>Address</b>	<b>Zoning</b>
North	Fairgrounds & National Guard	B Street, Ft. Missoula	P-II
South	Bitterroot River		Unzoned
East	Undeveloped		Unzoned
West	Undeveloped		Unzoned

Appendix A and Appendix E provide historical aerial photographs, topographic maps, and EDR Reports, which were used to evaluate any potential environmental impacts on adjacent properties that may have also impacted the environmental condition at the Site. Land use at all adjacent properties does not appear to have changed significantly over the years and does not appear to have impacted the environmental conditions of the USAR Center. In general, the size of Fort Missoula has decreased over the years as select parcels were sold primarily to Missoula County or the University of Montana. The land use conversion of these properties has included recreation (golf courses), education centers, medical facilities, and institutional or commercial office space. The general land use for these adjacent properties does not appear likely to have an adverse effect on the environmental conditions of the Site.

## 5.0 REVIEW OF REGULATORY INFORMATION

A component of the ECP is the review of reasonably obtainable Federal, State, and local government records for the Site and surrounding properties, where there has been a release or likely release of hazardous substances or petroleum products, and which is likely to cause or contribute to a release or threatened release of hazardous substances or petroleum products on the Federal real property. A regulatory database summary was acquired from EDR on 16 August 2006. The regulatory database summary consolidates standard federal, state, local, and tribal environmental record sources based on ASTM recommended minimum search distances from the Site. A copy of the complete EDR report is included in Appendix E.

### 5.1 FEDERAL ENVIRONMENTAL RECORDS

The regulatory information presented in Table 3 was obtained from the EDR federal regulatory database search report.

TABLE 3 Federal Database Search								
Database	Search Distance (miles)	Site	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	>1	Total Plotted
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
Delisted NPL	1.000		0	0	0	0	NR	0
NPL Recovery	TP		NR	NR	NR	NR	NR	0
CERCLIS	0.500		0	0	0	NR	NR	0
CERC-NFRAP	0.500		0	0	0	NR	NR	0
CORRACTS	1.000		0	0	0	0	NR	0
RCRA TSD	0.500		0	0	0	NR	NR	0
RCRA Lg. Quantity Gen	0.250		0	0	NR	NR	NR	0

**TABLE 3  
 Federal Database Search**

Database	Search Distance (miles)	Site	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	>1	Total Plotted
RCRA Sm. Quantity Gen	0.250		0	0	NR	NR	NR	0
ERNS	TP		NR	NR	NR	NR	NR	0
HMIRS	TP		NR	NR	NR	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
US Brownfields	0.500		0	0	0	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0

<b>TABLE 3 Federal Database Search</b>								
<b>Database</b>	<b>Search Distance (miles)</b>	<b>Site</b>	<b>&lt;1/8</b>	<b>1/8 – 1/4</b>	<b>1/4 – 1/2</b>	<b>1/2 – 1</b>	<b>&gt;1</b>	<b>Total Plotted</b>
MLTS	TP		NR	NR	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0

TP = Target Property; NR = Not Required

According to the EDR report, no sites were located within the designated radius for each of the searched Federal Databases.

## 5.2 STATE AND LOCAL ENVIRONMENTAL RECORDS

The regulatory information presented in Table 4 was obtained from the EDR State and Local regulatory database search report. Sites identified by this database search are discussed in the following subsections.

<b>TABLE 4 State Database Search</b>								
<b>Database</b>	<b>Search Distance (miles)</b>	<b>Site</b>	<b>&lt;1/8</b>	<b>1/8 – 1/4</b>	<b>1/4 – 1/2</b>	<b>1/2 – 1</b>	<b>&gt;1</b>	<b>Total Plotted</b>
State Hazardous Waste	1.000	X	0	0	0	2	NR	3
WQA	0.500		0	0	0	NR	NR	0
DEL SHWS	1.000		0	0	0	0	NR	0
LUST	0.500	X	0	1	1	NR	NR	3
UST	0.250	X	1	1	NR	NR	NR	3

**TABLE 4  
 State Database Search**

Database	Search Distance (miles)	Site	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	>1	Total Plotted
SPILLS	TP		NR	NR	NR	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
BROWNFIELDS	0.500		0	0	0	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0

TP = Target Property; NR = Not Required

### 5.2.1 State Hazardous Waste Sites (SHWS) Within 1 Mile

The state hazardous waste site database is the state equivalent to CERCLA Information System (CERCLIS). These sites may or may not be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds are identified along with sites where cleanup will be paid for by potentially responsible parties. **The Site is not listed in the State SHWS database.**

According to the EDR report, two SHWS are located within 1 mile of the Site. They include the Missoula Vocational Tech Center and All American Bumper and Plating.

### 5.2.2 Leaking UST (LUST) Within 1/2 Mile.

LUST records contain an inventory of reported leaking underground storage tank incidents. The LUST database identifies two LUST files within 1/2 mile of the USAR Center, one of which is on the Site. They include Veuve Hall and the Larchmont Municipal Golf Course. The LUSTs on the Site are not active files and the USTs have been removed along with any contaminated soil. The Larchmont Municipal Golf Course is listed as an inactive facility.

### 5.2.3 Statewide UST List Within 1/4 Mile

USTs are regulated under Subtitle I of RCRA and must be registered with the state department responsible for administering the UST program.

According to the EDR report, there are two UST sites within 1/4 mile of the Site. They include the USAR facilities at Fort Missoula (Area Maintenance Support Activity (AMSA) 75 and Veuve Hall Complex), and the Larchmont Municipal Golf Course. The USTs at Veuve Hall have been removed along with any contaminated soil. The AMSA facility is listed on the UST database, however, no longer has a UST in the ground. The UST was removed in 1990. The Larchmont Municipal Golf Course is listed with two inactive tanks.

### 5.3 TRIBAL ENVIRONMENTAL RECORDS

The regulatory information presented in Table 5 was obtained from the EDR's Tribal database search report.

<b>TABLE 5 Tribal Database Search</b>								
<b>Database</b>	<b>Search Distance (miles)</b>	<b>Site</b>	<b>&lt;1/8</b>	<b>1/8 – 1/4</b>	<b>1/4 – 1/2</b>	<b>1/2 – 1</b>	<b>&gt;1</b>	<b>Total Plotted</b>
Indian Reservation	1.000		0	0	0	0	NR	0
Indian LUST	0.500		0	0	0	NR	NR	0
Indian UST	0.250		0	0	NR	NR	NR	0

NR = Not Required

According to the EDR report, no sites were located within the designated radius for each of the searched Tribal Databases.

### 5.4 EDR PROPRIETARY RECORDS

The regulatory information presented in Table 6 was obtained from the EDR's Proprietary Records database search report.

<b>TABLE 6 EDR Proprietary Database Search</b>								
<b>Database</b>	<b>Search Distance (miles)</b>	<b>Site</b>	<b>&lt;1/8</b>	<b>1/8 – 1/4</b>	<b>1/4 – 1/2</b>	<b>1/2 – 1</b>	<b>&gt;1</b>	<b>Total Plotted</b>
Manufactured Gas Plants	1.000		0	0	0	0	NR	0

NR = Not Required

According to the EDR report, no sites were located within the designated radius for each of the searched EDR Proprietary Databases.

## 5.5 UNMAPPED SITES

The EDR database search listed 15 unmapped sites. Unmapped sites are those with insufficient address information such that they can only be identified as within the zip code of the target property. Three of the 15 sites are present at Fort Missoula: U.S. Army Reserve Center Bldg 26 MSLA is Veuve Hall (T-26), the target property; Missoula Landfill is the landfill at the WET Site and the target property, and Fort Missoula OMS2 is the AMSA 75 site (T-150) located to the south of Veuve Hall. A reasonable effort was made to locate the other sites and assess their relevance to this ECP report. Only one other orphaned site was identified through a driving reconnaissance of the surrounding area. American Dental is located on South Avenue East and is over one mile away.

## 5.6 SUMMARY OF PROPERTIES EVALUATED TO DETERMINE RISK TO THE SITE

To summarize Subsections 5.1 through 5.5, four separate properties, in addition to the USAR Center, were evaluated as potential risk properties to the Site. The properties evaluated were identified as a result of information obtained during area reconnaissance and regulatory database searches and are listed below in Table 7.

Company/Site	Database	Elevation in Regards to Site	Potential Risk to Site	Comment
Larchmont Municipal Golf Course	LUST, UST	Higher	Low	LUST greater than 900 feet away and at slightly higher elevation (+2') with 2 inactive tanks
USAR AMSA 75	LUST	Lower	Low	Source contamination is present down-gradient from the Site
Missoula Vocational Tech Center	SHWS, LUST, UST	Lower	Low	Over 1/2 mile away and at lower elevation
All American Bumper & Plating	SHWS WQA	Lower	Low	Over 1/2 mile away and at lower elevation

Based on an evaluation of available site information and details concerning the properties listed in Table 7, none of these properties is classified as "High Risk". "High Risk" properties are those that exhibit significant environmental conditions that have the probability of adversely affecting the environmental conditions at another site.

## 6.0 SITE VISIT AND REVIEW OF ENVIRONMENTAL CONDITIONS

Findings documented in the following subsections are based on the 15 -16 August 2006 site and area reconnaissance, a review of available site records, and information obtained from U.S. Army Reserve personnel. There were many military vehicles parked there during the August 2006 site visit (Photographs 22 through 24 in Appendix B).

### 6.1 UNDERGROUND/ABOVEGROUND STORAGE TANKS

During the site investigation, no obvious signs of USTs were observed. Five previous USTs at the Site were reported to have been removed. Three ASTs were observed; one in the MEP area south of the OMS, one northwest of the AMSA building, and one at the sanitary sewer lift station at the WET Site. The AST in the MEP area is a 2,000-gallon diesel fuel tank that is reportedly no longer in service. However, it still contains a residual quantity of fuel (Photograph 19 in Appendix B-1). The AST at the AMSA is a 500-gallon vaulted AST equipped with leak detection (Photograph 48 in Appendix B-2). The AST at the lift station is now owned by the City of Missoula (Photograph 30 in Appendix B-1).

### 6.2 INVENTORY OF CHEMICALS / HAZARDOUS SUBSTANCES

Veuve Hall: During the site visit, FMSM observed two janitor closets and one janitorial supply storage area where cleaning supplies were stored (Figure 6). In general, good housekeeping procedures appeared to be followed and all cleaning chemicals observed were identified and in closed containers. An unapproved flammable materials cabinet was present in the basement. The cabinet had spray paint, oil-based enamel paints, solvents, adhesives, metal polish, lubricants, etc. These products were stored in small containers not exceeding one gallon in volume. The boiler rooms stored and used a corrosive (e.g., Nalco 2828 plus) primarily composed of potassium and sodium hydroxide in 15-gallon containers.

OMS: During the August 2006 site visit, limited quantities of hazardous substances and petroleum products for use in light vehicle maintenance were observed at the OMS. Two flammable storage closets were observed within the OMS containing motor oils, antifreeze, solvents, paint, and lubricants (Figure 8 in Appendix A and Photograph 14 in Appendix B-1). These products were stored in small containers not exceeding one gallon in volume. These chemicals were also present in the storage room accessible from outside the OMS and adjacent to the wash pad (Photograph 16 in Appendix B-1). Though these chemicals are present, they are not stored in sufficient quantities to exceed corresponding CERCLA threshold quantity limits. A corrosive materials cabinet was present with chemicals used in the portable reverse osmosis system that produces potable water in the field (Photograph 15 in Appendix B-1). A monitoring well was observed just east of the OMS building (Photograph 28 in Appendix B-1).

A POL storage shed was observed in the south MEP (Photographs 19 and 20 in Appendix B-1). The POL shed contains small quantities of motor oil, fuel additives, spray paint, lubricants, antifreeze, and empty drums for spill response.

Old Bakery: During the August 2006 site visit, a small quantity of paint, lubricant, and antifreeze was observed on an open shelf (Photograph 26 in Appendix B-1).

Building T-150 (AMSA Side): The Site occupies the west half of Building T-150. Fifty-five-gallon drums of lubricant and antifreeze are stored on portable dollies with secondary containment inside the west side of the building (Photograph 61 in Appendix B-2). Several portable waste oil receptacles were present that receive crankcase oil directly from vehicles during oil changes. A battery storage room on the west side contains a small inventory of new and used batteries (Photograph 60 in Appendix B-2). Small containers of flammable substances such as paint, cleaners, solvents, etc. are stored in an approved cabinet on the east side of the building (Photograph 62 in Appendix B-2).

A hazardous material (HAZMAT) storage vault is located in the MEP area. The vault contains bulk storage containers for hazardous materials collection. These containers are held in the vault until they are filled and shipped by a licensed waste hauler for proper disposal. Waste motor fluids, aerosol paint & containers, used oil filters, and used petrochemical absorbents were the common items observed in the vault (Photographs 45 and 47 in Appendix B-2). Next to the HAZMAT vault is a POL vault that stores bulk motor oil, lubricants, antifreeze, and other liquids used at the AMSA side (Photographs 45 and 46 in Appendix B-2). Additionally, there is a cement-block shed located next to the POL and HAZMAT vaults that holds bulk petrochemical absorbents and spill response equipment (Photograph 44 in Appendix B-2).

Building T-150 (USDA Side): The USFS soils laboratory occupies the eastern half of Building T-150. In general, chemicals used at the laboratory appear to be associated with various acids, such as sulphuric, hydrochloric, and chromic acids as well as 1,1,1-TCA. Acids were observed in approved and unapproved storage cabinets in the large storage room on the west side of the laboratory during the 15 August 2006 site visit (Photograph 72 in Appendix B-2). Also observed were acids and other chemicals in the laboratories, usually staged near the various work stations. Liquid substances were also observed in unmarked containers near laboratory stations.

A cement-block storage building is present behind the laboratory (Photograph 63 in Appendix B-2). This building was locked during the site visit; however, this building reportedly has been used to store bulk quantities of 1,1,1-TCA.

### **6.3 WASTE DISPOSAL SITES**

A former landfill is located on the western side of the WET Site (Photograph 39 in Appendix B).

No signs of land filling or illegal waste disposal activities were observed at the Veuve Hall Complex or the AMSA facility during the site visit. However, it appeared that used soil samples were discarded in the small grassy area between the cement-block storage shed and the back door of the soils laboratory (Photograph 65 in Appendix B-2). It appeared that this material was soil waste discarded from the laboratory.

### **6.4 PITS, SUMPS, DRYWELLS, AND CATCH BASINS**

Veuve Hall has floor drains in the basement and exterior stairwells that lead to the basement on the east side of the building. Sumps are located in each of the boiler rooms in the basement (Photograph 6 in Appendix B-1). These sumps collect condensation from the boiler system and can also collect boiler water or hot water discharged to the floor during an over pressurization release.

Floor drains were not observed in the OMS building during the August 2006 site visit. A drain and dry well were located in the middle of the southern MEP area (Photograph 21 in Appendix B-1). The drywell collects stormwater from the southern MEP area. A vehicle wash pad is present on the west side of the OMS. The wash pad collects wash water in a grit trap before it is processed through the OWS (Photograph 18 in Appendix B-1). The discharge is reportedly to the municipal sanitary sewer.

OWS: The Building T-150 shop currently has a central drain system that leads to an OWS on the west side of the building (Photographs 57 and 58 in Appendix B-2). The oil waste product is collected in the OWS and then disposed in the waste oil AST outside the building. The separated water reportedly discharges into the sanitary sewer system.

MEP Area Dry Well: A dry well was observed in the southern portion of the AMSA MEP area (Photograph 49 in Appendix B-2). The size and depth of this dry well is not known. The dry well currently receives stormwater runoff from the MEP area.

### **6.5 ASBESTOS CONTAINING MATERIAL**

Veuve Hall: The Directorate of Environmental Compliance and Management performed a survey of asbestos containing materials for Veuve Hall in August 1993. The survey located and documented the presence of ACM at the Site. The survey identified several materials with confirmed ACM including green and black floor tiles, piping and pipe fitting insulation. The piping and pipe fitting ACM were identified as a possible threat to occupants, and it was recommended that access be restricted to these areas or the

ACM be removed as soon as possible. ACM materials of concern were reportedly removed.

An AMP was prepared for Veuve Hall in August 2000. The AMP outlines procedures to prevent disturbance of ACM, maintain ACM that is in good condition, and limit human exposure to ACM. A follow-up January 2005 asbestos survey performed by ITI of South Florida, Inc. concluded that an imminent asbestos hazard was not present at the facility during the site visit.

In 2004, ITI of South Florida, Inc. performed an asbestos survey at Building T-150, which located and documented the presence of ACM in the AMSA building. The 2004 survey reaffirmed the findings of a 1993 report, with the exception that no ACM was found in pipe insulation. Other ACM was noted to be in good condition at the time of the 2004 survey. The presence of ACM was also assumed in fire doors, electrical wiring, and roofing materials. The site visit did not identify additional ACM concerns. An Asbestos Management Plan (August 2000) is in place for the AMSA building.

The August 2006 site visit did not reveal additional ACM concerns. No documents were reviewed indicating that an asbestos survey was conducted at the OMS or the Old Bakery.

## **6.6 POLYCHLORINATED BIPHENYL CONTAINING EQUIPMENT**

No transformers containing polychlorinated biphenyls (PCBs) are present at the Site. According to the Regional Facilities Manager, 96<sup>th</sup> Regional Readiness Command (RRC) ARIM, Fort Missoula was inventoried in the 1990s by Montana Power (the electric utility at that time) for PCB-containing transformers associated with power transmission lines. Transformers confirmed or suspected of having PCBs were removed.

During the site visit, older-style fluorescent light fixtures were observed at Veuve Hall, the OMS, and the AMSA building. No fluorescent light fixtures were observed at the Old Bakery (T-105). Due to the age of the buildings, it is possible that some of the older florescent light fixtures utilize small PCB-containing ballasts. The ballasts currently present at the Site appear to be in good condition. Any ballasts without the label "No PCBs" should be assumed to contain PCBs and should be managed in accordance with applicable local, State, and Federal regulations.

## **6.7 LEAD**

Veuve Hall: MCS Environmental, Inc. performed a lead assessment and abatement for Veuve Hall in 1999. Lead-based paint (LBP) and lead-containing material (LCM) reportedly remain at the building, but are sequestered and do not pose an unacceptable risk to human health. The document contains daily log sheets, test results, lead air

sample sheets, and record of the disposal activity. The waste was below the level of lead considered hazardous waste and was disposed of as construction debris.

No documents were reviewed indicating an LBP survey was conducted at the OMS, the Old Bakery, the Powder Magazine (T-334), or the Sewer Lift Station (T-360). Because of the age of these structures, it is possible that LBP is present on the interior and exterior walls, windows, and doors of the buildings. Peeling paint and interior surface damage can be seen throughout the Old Bakery (Photograph 25 in Appendix B-2).

An LBP survey has not been conducted at the AMSA facility. Due to the age of Building T-150, it is possible that LBP is present on both the interior walls and exterior windows and doors of the AMSA building. Painted surfaces in Building T-150 were observed to be in good condition during the site visit.

## **6.8 RADON**

As reported in the EDR report, the USEPA radon zone for Missoula County, Montana is Zone 1. Zone 1 is a high priority zone, which has a predicted average indoor screening level greater than 4.0 pCi/l.

The Radon Measurements Laboratory performed an analysis for radon in Veuve Hall, the OMS, and Building T-150 in 1997. The buildings contained concentrations of radon above the USEPA recommended action level of 4.0 pCi/l. The three buildings have operating radon venting systems in-place as observed during the August 2006 site visit. No recent radon testing results were available to confirm efficiency of radon venting system.

## **6.9 MUNITIONS AND EXPLOSIVES OF CONCERN**

No indications were identified during the August 2006 site reconnaissance of the presence of munitions and explosives of concern (MEC), including UXO, at the Site. However, the records search did reveal a report relating to MEC and UXO issues. The Powder Magazine previously contained artillery ammunition, black powder, and other explosive materials. An October 1996 Ordnance, Ammunition, and Explosives report, states that four live artillery rounds were excavated from the WET Site landfill in the 1970s. The discarded artillery rounds found in the former landfill were reported to be properly disposed by the military. The only artillery range, documented in the 1996 Ordnance, Ammunition and Explosives Archives Search Report, was located approximately 5 miles east of the Site and is not believed to affect the environmental condition of property at the USAR Center.

## **6.10 RADIOLOGICAL MATERIALS**

During the 2006 site visit and records review process, FMSM did not identify past storage or use of radiological commodities at the USAR Center.

## **7.0 REVIEW OF SPECIAL RESOURCES**

### **7.1 LAND USE**

Figure 19 in Appendix A provides a 2003 aerial photograph of the Site and surrounding properties and depicts current land use. The site is located in a mixed-use area that combines commercial, institutional, military, and residential land uses.

### **7.2 COASTAL ZONE MANAGEMENT**

Coastal Zone Management is not applicable to the Site.

### **7.3 WETLANDS**

Veuve Hall Complex and AMSA 75 Facility: The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) map shows no jurisdictional wetlands identified within the Veuve Hall Complex and AMSA facility. The nearest wetland is located approximately ¼ mile southwest of the site. Soils at the Site do not meet the requirements of a hydric soil. Figure 20 in Appendix A provides an NWI map illustrating wetlands areas in relation to the Site.

WET Site: The USFWS NWI map (Figure 20 in Appendix A) shows a wetland associated with the Bitterroot River to be on or adjacent to the property. During the August site visit, floodplain woodland was observed and a high probability exists that wetlands are present within this floodplain woodland area.

### **7.4 100-YEAR FLOODPLAIN**

A review of the FEMA digital FIRM indicates that the Veuve Hall Complex and the AMSA facility lie outside the 100-year floodplain (Figure 13 in Appendix A). However, Figure 14 in Appendix A shows that the majority of the WET Site lies within the 100-year floodplain of the Bitterroot River.

### **7.5 NATURAL RESOURCES**

The Vernardo Group, Inc. performed a reconnaissance-level biological survey at Fort Missoula Center in July 2004. The objective of this report was to document and map natural resources found at the Site. Based on the developed nature of the Veuve Hall Complex and lack of sensitive natural resources, specific natural resources are not believed to be present. The survey found that three special-status species including two plants and one bird species have a chance of occurring on or near the WET Site. Appendix D contains copies of the Natural Resource Survey Report.

## **7.6 CULTURAL RESOURCES**

A HABS Level II documentation report of Veuve Hall and the Old Bakery were prepared for the 96<sup>th</sup> RRC by SWCA Environmental Consultants in December 2004. A report containing information about the present condition and a complete history of the buildings was compiled. Veuve Hall and Old Bakery were determined to be contributing members of the Fort Missoula Historic District and eligible for listing on the National Register of Historic Places.

No cultural or historic resource reports are available for Building T-150. It is not identified in the National Registration Information System database. The structure is greater than 50 years old.

## **7.7 OTHER SPECIAL RESOURCES**

A review of other special resources was conducted which included a search for various federally managed and protected lands within or near the Site. The Site is not within an Officially Designated Wilderness Area according to wilderness.net. It is not within a National Wetlands Management District according to the USFWS. The National Park Service does not include the Site on the Wild and Scenic Rivers list for the Bitterroot River or the Wild and Scenic Trails list for the Lewis and Clark Trail.

## 8.0 CONCLUSIONS

Fuller, Mossbarger, Scott and May Engineers, Inc. was contracted by the USACE – Louisville District to prepare an Environmental Condition of Property report for the Sergeant Ernest Veuve Hall USAR Center and AMSA 75 (MT004) at Fort Missoula, Missoula County, Montana, in response to the BRAC 2005 legislation.

Findings of this ECP are based on interviews with Army Reserve personnel, existing environmental information, including visual observations, site records, Federal, State, and local database and file information, related to the storage, release, treatment, or disposal of hazardous substances or petroleum products or derivatives on the property. The following paragraphs present the findings related to the environmental condition of property that was evaluated during the ECP Report process.

- **Use & Storage of CERCLA Hazardous Substances** – Chemicals containing CERCLA hazardous substances would have been used and stored at the Site in amounts necessary to support unit-level vehicle and building maintenance activities. The quantities stored would not likely have exceeded corresponding CERCLA reportable quantities.
- **Storage of Malathion, Building T-101** – Building T-101 was a previous storage building destroyed by fire in the late 1960s. It was located partially within the footprint of the current OMS and reportedly stored bulk quantities of malathion in 55-gallon drums. Several 55-gallon drums of malathion leaked during the fire. The site was assessed in a 1991 study and malathion was not detected; however, the referenced report was not available for review.
- **USTs/ASTs** – Five USTs are documented to have been present on the Site. UST 1 was a 5,000-gallon heating oil tank removed from the Veuve Hall courtyard. USTs 2 and 3 were removed from the Old Bakery (T-105) and were reported as 500- and 1,000-gallon fuel tanks. UST 4 was removed from the lift station (T-360) at the WET Site and was a 250-gallon fuel tank. This particular tank was replaced with a small AST to run the generator for the lift station in the event of a power outage. Contaminated soils associated with the UST removals were reportedly removed. UST 5 was a 2,000-gallon waste oil UST located southwest of the Building T-150 that was removed in 1990. Soil samples were collected adjacent to the UST and contamination was not identified. The former UST was replaced with a 500-gallon vaulted AST. This AST was present during the 15 August 2006 site visit.
- **Petroleum Release** – A vehicle maintenance rack outside of the OMS (T-25) was cited by state officials as a release site due to oil stains on the soil below in the early 1990s. Contaminated soil was removed and post remedial sampling

determined the area to be free of contamination. The vehicle maintenance rack was subsequently removed.

- **Oil/Water Separator** – The OMS has performed vehicle maintenance during operations at the USAR Center. Discharges from these site activities were typically directed to the OWS. It is not known where the OWS discharged prior to its connection with the sanitary sewer system.

An OWS is located on the AMSA side of Building T-150. The OWS currently discharges to the municipal sanitary sewer system. Waste oil from the OWS is placed in the 500-gallon waste oil AST. No documentation was reviewed to indicate that soils surrounding the OWS were evaluated.

- **AMSA Leach Pit** – The OWS formerly drained into a leach pit located to the west of Building T-150. Soils surrounding this leach pit are contaminated with elevated levels of TPH and suspected to contribute to groundwater contamination. No documentation was reviewed that would suggest that contaminated soils around this leach pit have been removed or that the contaminated soils have been assessed for VOCs and a possible source of documented groundwater contamination.
- **Soils Laboratory Dry Well** – A dry well is located behind the USFS side of Building T-150. The soils laboratory has historically used 1,1,1-TCA and other chemicals that were potentially discharged into this dry well. No documentation was reviewed that would suggest that soils around this dry well were tested for contamination.
- **Groundwater Contamination** – Groundwater at Fort Missoula is contaminated with low concentrations of VOCs including PCE, toluene, 1,1,1-TCA, bromodichloromethane, chloroform, methylene chloride, TCE, and 1,1,1,2-tetrachloroethane. Groundwater entering Fort Missoula is reportedly contaminated by up-gradient sources, likely located east of the Site, such as local drywells historically used to accept sanitary and stormwater discharges.
- **Closed Landfill at WET Site** – A closed landfill is located at the western end of the WET Site that extends west onto the adjoining property. This landfill was historically used for municipal and potentially non-municipal disposal at Fort Missoula. UXO was reportedly found in the landfill in the past. The landfill is located within a floodplain area.
- **Sewer System Septic Field** – The septic field is located on the north side of the WET Site. Reportedly, this field was originally constructed to accept septic discharge from Fort Missoula until the 1970s. Disposal practices at Fort

Missoula prior to 1970 identify this drainage system as a potential source of contamination. The septic field is located in a floodplain area.

- **Polychlorinated Biphenyl Materials** – No PCB containing transformers are known to exist at the Site.

During the 2006 site visit, older-style fluorescent light fixtures were observed at Veuve Hall, the OMS, and the AMSA building. No fluorescent lighting was observed at the Old Bakery. Any ballasts without the label "No PCBs" should be assumed to contain PCBs. These ballasts should be managed in accordance with applicable local, State, and Federal regulations.

- **Asbestos** – ACM was identified to be present at Veuve Hall and abatement activities were conducted to address potential health hazards. The building has had an AMP in place since August 2000. No documents were reviewed indicating ACM surveys at the OMS or the Old Bakery.

Asbestos surveys were performed at the Site in 1993 and 2004 that documented the presence of ACM in Building T-150. Confirmed non-friable ACM was found in vinyl floor tiles, in black mastic, and transite exterior wall panels. The report concluded that an imminent asbestos hazard was not present at the facility. The 2004 survey reaffirmed the findings of a 1993 report, with the exception that no ACM was found in the pipe or pipe insulation. ACM was noted to be in good condition at the time of the 2004 survey. The 15 August 2006 site visit did not reveal additional ACM concerns. Demolition of the building in the future, should it occur, will require proper disposal in accordance with State and Federal laws.

- **Lead-Based Paint** – Veuve Hall has been surveyed for LBP and the building was remediated for LBP and LCM in 1999. LBP reportedly remains in the building, but has been sequestered and does not pose an unacceptable risk to human health. No documents were reviewed indicating an LBP survey was conducted at the OMS, the Old Bakery, the Powder Magazine, or the Sewer Lift Station. Based on the age of the structures, it is possible that LBP is present.

A LBP survey has not been conducted at the AMSA building. Due to the age of Building T-150, it is assumed that LBP is present on both the interior walls and exterior windows and doors of the facility. Painted surfaces in Building T-150 were observed to be in good condition during the site visit.

- **Radon** – A radon survey conducted at Veuve Hall, the OMS, and the AMSA building in 1997 revealed levels of radon above the USEPA recommended **action level** of 4.0 pCi/l. Both buildings have operating radon venting systems in-place as observed during the August 2006 site visit. No recent radon testing results were available to confirm efficiency of radon venting system.

- **Munitions and Explosives of Concern** – The Powder Magazine, located on the WET Site, was active from 1877 to 1927 and held artillery ammunition, black powder, and other potentially explosive materials. Four live artillery rounds were reportedly excavated in the 1970s from the landfill that extends on to the WET Site. No MEC was found within 50 feet of a monitoring well installed on the western portion of the WET Site.
- **Radiological Materials** – No radiological materials were stored on Site at the time of the August 2006 site visit. There is no evidence that radiological commodities were used or stored at the Site.
- **Nearby Properties** – Potential environmental sites of concern, located within corresponding ASTM search radius distances from the Site, were evaluated. None of the evaluated sites of concern are considered “High Risk”. “High Risk” properties are those that exhibit environmental conditions that have the probability of adversely affecting the environmental conditions at another site.

#### ENVIRONMENTAL CONDITION OF THE PROPERTY

In accordance with DoD policy identifying ECP to be transferred under BRAC procedures established in October 1996 and using for additional guidance the ASTM Designation D5746-98 (2002), *Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities*, the Site has been classified as Type 7, an area or parcel of real property that is unevaluated or requires additional evaluation. The classification is based on the following:

- A spill of malathion occurred adjacent to the OMS building, at the former Building T-101, in the 1960s. A 1991 site assessment reportedly did not encounter malathion in the soil, however the document was not available for review;
- The landfill and septic system at the WET Site have not been evaluated for environmental conditions;
- Potential MEC has been identified at the WET Site;
- The OWS discharge is a potential environmental condition. The Fort Missoula complex has documented groundwater contamination associated with discharges of waste into leach pits, dry wells, and the subsurface;
- Soil contamination (elevated TPH levels) in the vicinity of the former AMSA Leach Pit has been documented. There is no documented assessment of the soil on site for volatile organic compounds (VOCs). The historical use of hazardous substances, such as solvents, at AMSA 75 and the USDA Forestry Service laboratory located in Building T-150 and the historical operation of leach pits and dry wells on the Site warrants additional evaluation of the AMSA facility.

## 9.0 LIMITATIONS

This ECP Report was prepared to review certain elements of the environmental condition of property related to the storage, release, treatment, or disposal of hazardous substances or petroleum products. It documents efforts to determine or discover the presence or likely presence of a release or threatened release of these materials. Project activities were performed in general conformance with the BRRM, ASTM D6008 guidance, the project prescribed scope of work, and generally accepted practices in the consulting industry. The degree of care and skill is consistent with that generally exercised in the industry under similar conditions.

FMSM has relied on certain information provided by the USACE, USAR, and other parties referenced in the report. This information was assumed to be accurate and complete unless information to the contrary arose during the course of the investigation. Historic documentation (e.g., information on past environmental practices, environmental records, USARC operational changes, unit and equipment changes, chemical/substance inventories and storage, current as-built drawings, etc.) and facility personnel knowledge regarding chemicals used or stored on the Site and the quantities stored, was often limited or non-existent. Therefore, statements regarding storage of chemicals or presence of hazardous substances reflect best available data and are not warranted for either completeness or accuracy over the history of the facility.

In preparing this report, FMSM was required to review previous documents from other sources (collectively referred to herein as the Prior Reports). The Prior Reports may present findings regarding the abatement or remediation of known concerns at the time of their preparation or within the limit of the project scope of work. The Prior Reports may include statements or opinions of the original authors of the Prior Reports as to the satisfactory completion of work. FMSM notes that environmental laws and regulations, including abatement or remedial action levels, are periodically reviewed and updated by the various regulatory agencies and may have changed since the respective dates of the Prior Reports.

FMSM has summarized Prior Reports in fulfilling the prescribed scope of work for the project. This summarization may include statements or opinions as to the satisfactory completion of work. These statements or opinions are those of the original report authors. FMSM neither warrants nor certifies the accuracy or completeness of these statements. The summarization of previous documents has not reviewed or updated those conclusions with regards to actions from the time of that document to date, current regulatory agency abatement, or remedial standards. Rather, this summary provides the original author's conclusions at the time the report was prepared. Evaluation of the completeness of previous documents or statements of abatement or remediation is beyond the current scope of service included in this contract.

A limited site reconnaissance was performed to visually identify materials or conditions representing recognized adverse environmental conditions. Identification of hidden conditions, observation of the effects of activities or incidents occurring after completion of the reconnaissance, buried conditions, conditions obscured by dense foliage, conditions beneath buildings, other structures, or covered by building/paving materials, or conditions otherwise obscured, is beyond the scope of this work. The conditions described in this report are valid only for the time that the observations were made. Some conditions may change with time.

The findings and conclusions contained in this report are based in part on the information available at the time of the study. The findings and conclusions should be considered not as scientific certainties, but as probabilities based on professional judgment of the significance of the limited data gathered in the course of the site evaluation, interviews and literature review. If additional or corrected information becomes available, FMSM requests the opportunity to review/modify conclusions, as warranted.

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