

**FINAL
OPERATIONAL RANGE ASSESSMENT PROGRAM
PHASE I QUALITATIVE ASSESSMENT REPORT
SHERIDAN LOCAL TRAINING AREA
SHERIDAN, WYOMING**

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Prepared for:

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EXECUTIVE SUMMARY

The United States (U.S.) Army is conducting qualitative assessments at operational ranges to meet the requirements of Department of Defense policy and to support the U.S. Army Sustainable Range Program. The operational range qualitative assessment (hereinafter referred to as Phase I Assessment) is the first phase of the U.S. Army Operational Range Assessment Program (ORAP). This Phase I Assessment evaluates the operational range area at Sheridan Local Training Area (LTA) to assess whether further investigation is needed to determine if potential munitions constituents of concern (MCOC) are or could be migrating off-range at levels that may pose an unacceptable risk to human health or the environment. In conducting the Phase I Assessment, MCOC sources, potential off-range migration pathways, and potential off-range human and ecological receptors are evaluated as appropriate.

Sheridan LTA, occupying approximately 3,989 acres of land in north-central Wyoming, is located three miles northwest of the city of Sheridan in Sheridan County. The LTA is accessed via an unimproved road from the Sheridan Veterans Administration Medical Center west of U.S. Highway 14. The site has been used three to four times per year to train soldiers and ensure military readiness.

As part of the Operational Range Inventory Sustainment, an update to the Army Range Inventory Database-Geodatabase (ARID-GEO) was submitted to the U.S. Army Environmental Command in June 2007. The ARID-GEO (2007) identified three operational range areas encompassing a total of 3,994.11 acres and an other than operational area encompassing 3.30 acres. The total operational range area was derived from the Operational Use Area (total range area) acreage as reported in ARID-GEO (2007). In ARID-GEO (2007), the ranges overlap each other; hence, the sum of the range areas is greater than the total operational range area. The actual operational footprint is 3,986.04 acres.

The ARID-GEO (2007) identified three operational range areas: a rifle range, a known distance range, and a training and maneuver area. The existence of these ranges was confirmed by a site visit and Wyoming Army National Guard (WYARNG) personnel interviews. However, WYARNG personnel stated that the rifle range and the known distance range have not been used since approximately 1998. The rifle range covers 2.39 acres in the south-central portion of Sheridan LTA, while the known distance range covers 5.68 acres in the east-central portion of the installation. The training and maneuver area covers the remaining 3,977.97 acres.

The WYARNG last conducted live-fire exercises prior to 1998 on two live-fire small arms ranges: the rifle range and the known distance range. The WYARNG used the training and maneuver area until 2003 (when local units were deployed) for mounted and dismounted land navigation exercises and review of standard operating procedures associated with establishing field camps and preparing convoys (WYARNG, n.d.). It is expected that use of the training and maneuver area will resume when local units return from deployment.

Small caliber military and nonmilitary munitions have been used on the live-fire small arms ranges. Small caliber blank munitions, pyrotechnics, and obscurants were used up to four times per year on the training and maneuver area. Lead, antimony, copper, and zinc were identified as potential MCOC in soil (impact berm soil and surface soil) at the known distance range. Limited potential MCOC source areas were identified on the rifle range and the training and maneuver area.

Migration of MCOC from the known distance range impact berm is unlikely due to the significant

distance from the berm to the intermittent stream and off-range areas, and soil pH is approximately neutral limiting dissolution of metals. Additionally an on-installation stock pond receiving runoff from the known distance range will inhibit the off-site transport of MCOC by retaining sediment and surface water and diluting potential runoff. Also, precipitation is limited (less than 15 inches per year). Groundwater is no considered a potential migration pathway due to the depth to the water table and soil characteristics (specifically approximately neutral pH). Therefore, no groundwater or surface water pathways were identified for the known distance range.

The three operational ranges at Sheridan LTA are categorized as Unlikely.

Unlikely – Five-Year Review

Three ranges at Sheridan LTA are categorized as Unlikely, totaling 3,994.11 acres. These ranges consist of a rifle range, a known distance small arms live-fire range, and a training and maneuver area. Ranges where, based upon a review of readily available information, there is sufficient evidence to show that there are no known releases or source-receptor interactions off-range that could present an unacceptable risk to human health or the environment are categorized as Unlikely. Ranges categorized as Unlikely are required to be re-evaluated at least every five years. Re-evaluation may occur sooner if significant changes (e.g., change in range operations or site conditions, regulatory changes) occur that affect determinations made during this Phase I Assessment.

Table ES-1 summarizes the Phase I Assessment findings.

Table ES-1: Summary of Findings and Conclusions for Sheridan LTA

Category	Total Number of Ranges and Acreage	Source(s)	Pathway(s)	Human Receptors	Ecological Receptors	Conclusions and Rationale
Unlikely	One operational range; 5.68 acres	Impact berm soil and surface soil	None	Not evaluated (no pathways / release mechanisms identified)		Re-evaluate during the five-year review. No pathway / release mechanism was identified.
	Two operational ranges; 3,980.36 acres	Limited source—limited military munitions use	Not evaluated (limited source identified)		Re-evaluate during the five-year review. Limited source was identified.	

ABBREVIATIONS/ACRONYMS

amsl	Above Mean Sea Level
ARID-GEO	Army Range Inventory Database-Geodatabase
bgs	Below Ground Surface
CSM	Conceptual Site Model
DoD	Department of Defense
DODI	Department of Defense Instruction
E	Ecological receptors identified. (This refers to range grouping; pathway designation always precedes E designation.)
GW	Groundwater pathway identified. (This refers to range grouping; M designation always precedes GW designation.)
H	Human receptors identified. (This refers to range grouping; pathway designation always precedes H designation.)
LS	Limited Source
LTA	Local Training Area
M	Munitions used. (This refers to range grouping; M designation always precedes applicable pathway.)
MCOC	Munitions Constituents of Concern
mm	Millimeter
NCO	Noncommissioned Officer
NG	Nitroglycerin
ORAP	Operational Range Assessment Program
PU	Pathway unlikely or incomplete. (This refers to range grouping; M designation always precedes PU designation.)
SW	Surface water pathway identified. (This refers to range grouping; M designation always precedes SW designation.)
U.S.	United States
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Command
USDA NRCS	United States Department of Agriculture, Natural Resources Conservation Service
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VAMC	Veterans Administration Medical Center
WGFD	Wyoming Game and Fish Department
WYARNG	Wyoming Army National Guard
°F	Degrees Fahrenheit

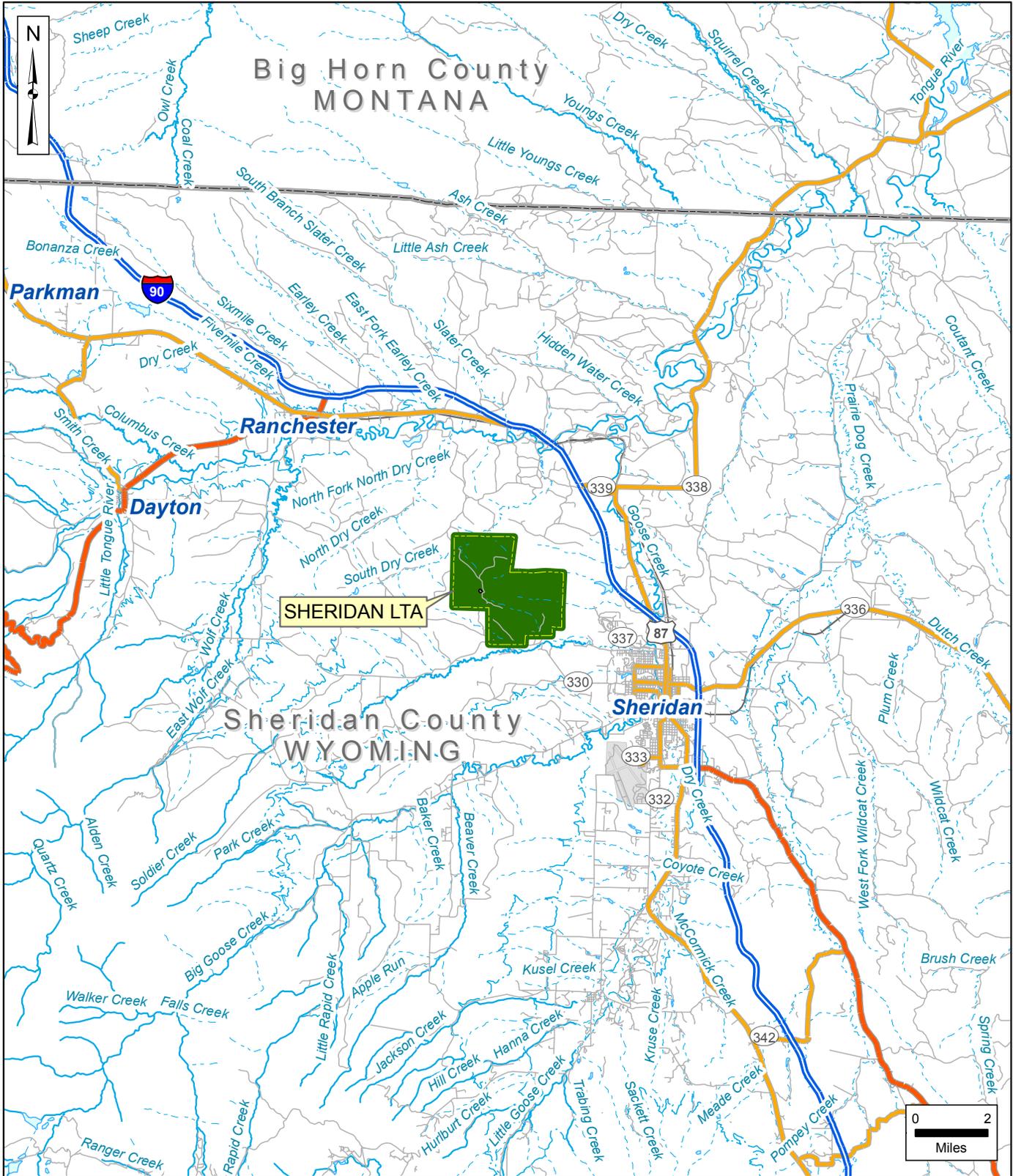
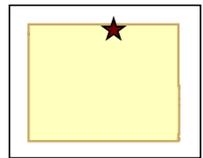


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**Operational Range Assessment Program
Phase I Qualitative Assessment
Sheridan LTA, WY**

Figure 1-1

General Location of Sheridan LTA



Installation

- Installation Boundary
- Operational Area
- Other than Operational Area

Hydrology

- Perennial Stream
- Intermittent Stream
- Canal/Ditch
- Water Body

Transportation/Administrative

- Interstate
- Highway
- Major Road
- Local Road
- County Boundary

Data Sources:

AEC, ARID-GEO, 2005
ESRI, StreetMap USA, 2005

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