



FINAL

# Operational Range Assessment Program Phase I Qualitative Assessment Report Camp Minden, Louisiana

U.S. Army Operational Range Assessment Program  
Qualitative Operational Range Assessments

Prepared for:

U.S. Army Environmental Command and  
U.S. Army Corps of Engineers Baltimore District



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## ABBREVIATIONS/ACRONYMS

AAMCOM	U.S. Army Armament, Munitions, and Chemical Command
AOC	Areas of Concern
ARID-GEO	Army Range Inventory Database-Geodatabase
ATSDR	Agency for Toxic Substances and Disease Registry
BG	Burning Ground
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CPG	Central Proving Ground
CSM	Conceptual Site Model
DNT	Dinitrotoluene
DoD	Department of Defense
DODI	Department of Defense Instruction
E	Ecological receptors identified. (This refers to range grouping; pathway designation always precedes E designation.)
e <sup>2</sup> M	engineering-environmental Management, Inc.
ESRI	Environmental Systems Research Institute, Inc.
FOSET	Finding of Suitability for Early Transfer
GIS	Geographic Information System
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.)
HE	High Explosive
HMX	Cyclotetramethylenetrinitramine
IRP	Installation Restoration Program
IT Corp.	International Technology Corporation
LAAP	Louisiana Army Ammunition Plant
LAARNG	Louisiana Army National Guard
LADOTD	Louisiana Department of Transportation and Development
LS	Limited Source
M	Munitions used. (This refers to range grouping; M designation always precedes applicable pathway.)
MCOC	Munitions Constituents of Concern
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
MMRP	Military Munitions Response Program
NG	Nitroglycerin
OB/OD	Open Burn / Open Detonation
ORAP	Operational Range Assessment Program
PETN	Pentaerythritoltetranitrate
PU	Pathway unlikely or incomplete. (This refers to range grouping; M designation always precedes PU designation.)
RDX	Cyclotrimethylenetrinitramine
RFMSS	Range Facility Management Support System
Shaw	Shaw Environmental, Inc.
SVOC	Semivolatile Organic Compound
SW	Surface water pathway identified. (This refers to range grouping; M designation always precedes SW designation.)

TNT	Trinitrotoluene
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
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOC	Volatile Organic Compound
°F	Degrees Fahrenheit

## **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 Camp Minden 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.

Camp Minden occupies approximately 15,000 acres of land located two miles southwest of the town of Minden and immediately north of the village of Doyline, Louisiana. The installation can be accessed via Interstate Route 20 and State Highway 80 which parallel Camp Minden's northern boundary. Camp Minden consists of 1,788.84 acres of non-operational areas surrounded by 13,219.29 acres of operational range area. The operational range area, which consists of 18 ranges, is currently used by the Louisiana Army National Guard to provide tactical training for Army National Guard troops (Shaw Environmental, Inc., 2006a). The non-operational area is composed of 27 small parcels scattered throughout the west-central region of the installation (Army Range Inventory Database-Geodatabase, 2005).

Current training at Camp Minden includes both non-live-fire and live-fire activities. Non-live-fire activities are conducted within the installation's maneuver training areas and obstacle courses. Live-fire activities are conducted within Camp Minden's two small arms ranges, which are located in the eastern half of the installation. In addition to current munitions use, portions of Camp Minden were historically utilized for the production and testing of medium and large caliber munitions. In general, Camp Minden's historical production and testing sites are located on non-operational use areas and are being addressed under the Installation Restoration Program (IRP) or the Military Munitions Response Program (MMRP). However, two of these historical sites are within the current operational range area and are, therefore, being addressed under the ORAP. In general, MCOC from primary source areas potentially impact the following source media: (1) soil (i.e., impact berms, impact areas surrounding targets) and (2) surface water / sediment (i.e., direct deposition into wetlands).

MCOC can be released to groundwater (down gradient), surface water / sediment (downstream), off-range soil, or the food chain via a variety of release mechanisms. Release mechanisms for soil may include leaching from soil to groundwater or erosion and runoff to off-range surface soil or to nearby streams. Once potential MCOC are deposited in surface water / sediment, they have the potential to migrate downstream, recharge shallow groundwater, or be taken up by aquatic plants or animals. Release mechanisms for surface water / sediment are natural stream flow and sediment transport.

Drainage at Camp Minden is directed south into Lake Bistineau via Boone Creek and Bayou Dorcheat in the east, and Caney Branch and Clarke Bayou in the west. The primary human receptors are users of water from off-installation potable water wells and recreational users of Clarke Bayou, Bayou Dorcheat, and Lake Bistineau located down gradient from Camp Minden. The primary ecological receptors are wetlands and a state protected nature preserve located down gradient and off-installation.

The 18 operational ranges at Camp Minden are categorized as Unlikely.

**Unlikely – Five-Year Review**

A total of 18 ranges at Camp Minden are categorized as Unlikely, totaling 13,219.29 acres. These ranges consist of 14 maneuver and training areas, two small arms ranges, and two confidence / obstacle courses. 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 (i.e., 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 Camp Minden**

Category	Total Number of Ranges and Acreage	Source(s)	Pathway(s)	Human Receptors	Ecological Receptors	Conclusions and Rationale
Unlikely	2 operational range areas; 1,061.50 acres	Historical open burn / open detonation area within the historical Central Proving Ground. The firing line and wetlands beyond the targets of a small arms range.	Leaching to shallow groundwater which discharges into perennial surface water bodies.	Persons fishing in Clarke Bayou, Bayou Dorcheat, and Lake Bistineau, and recreational users of Lake Bistineau State Park and down gradient surface water bodies. Persons receiving potable water from shallow groundwater wells located down gradient from the installation.	Down gradient wetlands and state protected nature preserves.	Re-evaluate during the five-year review. The receptors identified are not currently affected by potential MCOC based on limited exposure, and analytical data. Past MCOC migration is being or has been remediated by the IRP or MMRP.
Unlikely	16 operational range areas; 12,157.79 acres	No source—limited or no military munitions use.	Not evaluated (no source identified).			Re-evaluate during the five-year review. No source was identified.