



FINAL

Operational Range Assessment Program  
Phase I Qualitative Assessment Report  
Mabe Range Local Training Area, Virginia  
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



Final Operational Range Assessment Program Phase I Qualitative Assessment Range Assessment Reports will be released beginning in March 2008 per the Direction of Army Headquarters. The cover page of this Report reflects the official finalization date. The date on subsequent pages/figures reflects the date upon which this document's conclusions are based.

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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. This Phase I Assessment evaluates the operational range area at Mabe Range Local Training Area (Mabe Range) 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/or ecological receptors are evaluated as appropriate.

Mabe Range is located in the southwestern portion of Virginia, in Scott County, approximately six miles southeast of Big Stone Gap. The 1,732.9-acre training site contains one small arms range and two maneuver and training areas including one active area and one inactive area. These ranges have been used periodically for training by the Virginia Army National Guard. Training occurs on a triennial basis (approximately once every third year) since 1979.

There are potential surface water and groundwater pathways and human and ecological receptors downgradient of the small arms range, which is the only potential source of MCOC. However, based on the relatively limited volume of munitions use, periodic nature of use, and the characteristics of the receiving water bodies, it is unlikely that MCOC would migrate from the small arms range to off-range areas at levels that may pose an unacceptable risk to human health or the environment.

### **Unlikely – Five Year Review**

Three ranges at Mabe Range are categorized as Unlikely, totaling 1,732.9 acres. These ranges consist of a small arms range and two maneuver and training areas. 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 Mabe Range**

Category	Total Number of Ranges and Acreage	Source(s)	Pathway(s)	Human Receptors	Ecological Receptors	Conclusions and Rationale
Unlikely	2 operational ranges/1,732.5 acres	Limited or no military munitions use	Not evaluated			Re-evaluate during the five-year review. No source was identified.
	1 operational range/0.4 acres	Small arms firing range impact berm	Surface water and groundwater	Recreational users of Stock Creek and groundwater users	Sensitive environments (i.e., wetlands along Stock Creek)	Re-evaluate during the five-year review. Unlikely due to relatively limited volume of munitions use, periodic nature of use, and the characteristics of the receiving water bodies

**ABBREVIATIONS/ACRONYMS**

ARID-GEO	Army Range Inventory Database-Geodatabase
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
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.)
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 Explosives
HMX	Cyclotetramethylenetetranitramine
LS	Limited Source
M	Munitions used. (This refers to range grouping; M designation always precedes applicable pathway.)
MCOC	Munitions Constituents of Concern
NG	Nitroglycerin
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
SW	Surface water pathway identified. (This refers to range grouping; M designation always precedes SW designation.)
TNT	Trinitrotoluene
U.S.	United States
U.S.C.	United States Code
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
USGS	United States Geological Survey
VAARNG	Virginia Army National Guard



# Operational Range Assessment Program Phase I Qualitative Assessment Mabe Range, VA

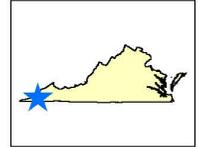
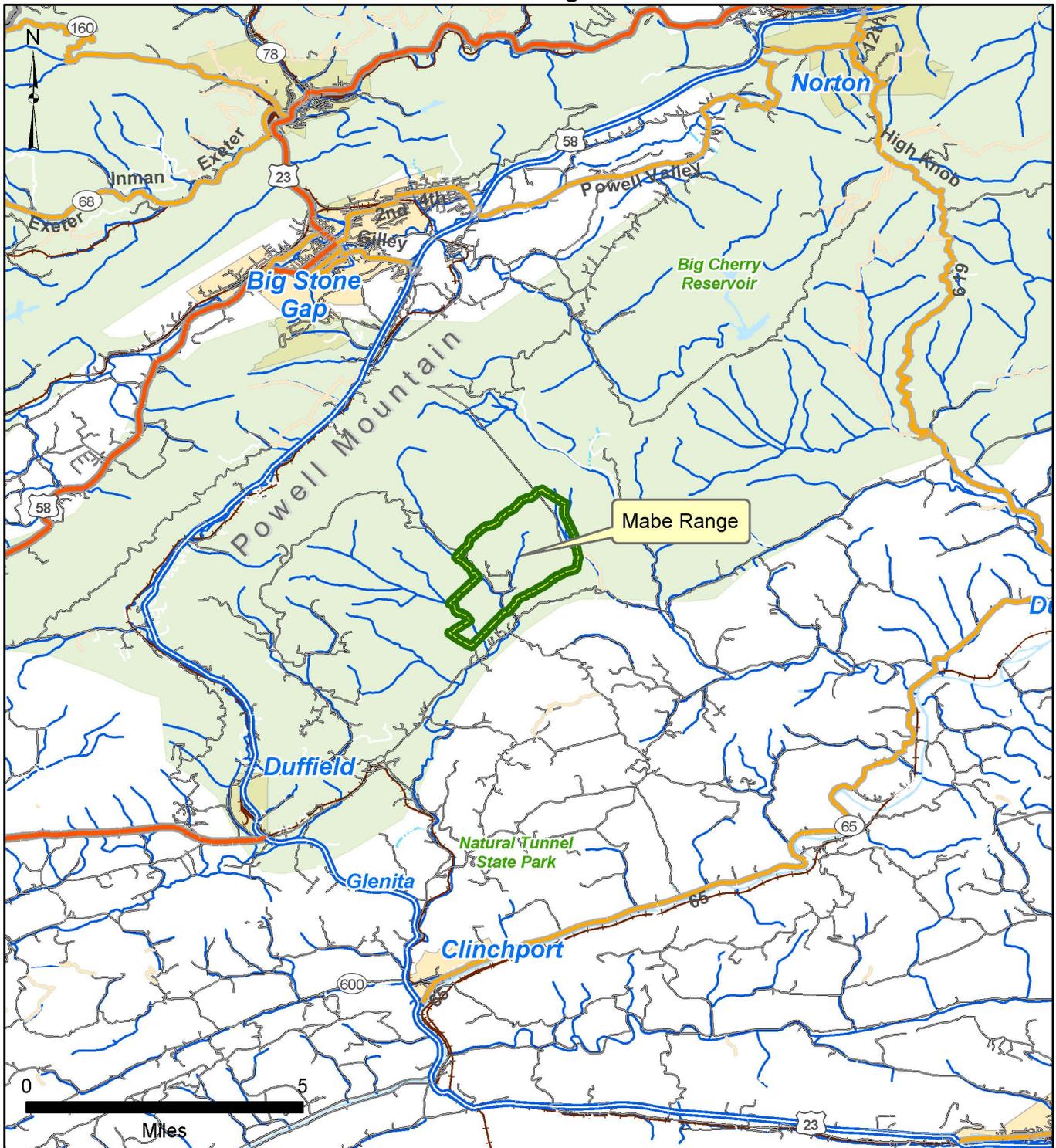


Figure 1-1  
General Mabe Range Location



**Legend**

-  Installation Boundary
-  Jefferson National Forest

Data Sources:  
ESRI StreetMap USA 2005, ARID-Geo 2006

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