



FINAL

Operational Range Assessment Program Phase I Qualitative Assessment Report Deepwoods Training Site, Maine

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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AUGUST 2008



ABBREVIATIONS/ACRONYMS

ARID-GEO	Army Range Inventory Database-Geodatabase
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CSM	Conceptual Site Model
DoD	Department of Defense
DODI	Department of Defense Instruction
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.)
HMX	Cyclotetramethylenetetranitramine
LS	Limited Source.
M	Munitions used. (This refers to range grouping; M designation always precedes applicable pathway.)
MCOC	Munitions Constituents of Concern
MDIFW	Maine Department of Inland Fisheries and Wildlife
MEARNG	Maine Army National Guard
MEDEP	Maine Department of Environmental Protection
MEDOC	Maine Department of Conservation
MEDWP	Maine Department of Environmental Health and Human Services, Division of Environmental Health, Drinking Water Program
MEGIS	Maine Office of Geographic Information Systems
mg/kg	Milligram/kilogram
MGS	Maine Geological Survey
NG	Nitroglycerin
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
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
TS	Training Site
µg/kg	Micrograms/kilogram
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	United States Department of Agriculture
USDOE	United States Department of Energy
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

USGS	United States Geological Survey
°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 Deepwoods Training Site (TS) 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.

Deepwoods TS is a 340,232.70-acre facility located within Hancock and Washington counties, approximately 20 miles east of Bangor. The Maine Army National Guard began using the training site which is privately owned via a land-use agreement in 1972. The Army Range Inventory Database-Geodatabase (2007) identified 50 operational ranges including one practice grenade range, one demolition range, and 48 maneuver and training areas encompassing 340,232.70 acres.

The primary MCOC source at Deepwoods TS is the 0.63-acre demolition range located in the central region of the TS. In general, MCOC from the source area potentially impact the following source media: soil (e.g., impact areas surrounding targets) and surface water / sediment (e.g., shallow groundwater discharge to surface water).

MCOC can be released to surface water / sediment (downstream) or the food chain via leaching/infiltration and groundwater discharge to the surface water pathway. Once potential MCOC are deposited in surface water / sediment, they have the potential to migrate downstream and / or be taken up by aquatic plants or animals. Release mechanisms for surface water / sediment are natural stream flow and sediment transport. Drainage at Deepwoods TS is directed through overland flow and surface runoff to the many surface water bodies found at the training site. Flow is to the west in the westernmost portion of the training site, to the south in the west-central and central regions of the training site, to the north and northwest in the north-central portion of the training site, and to the east in the eastern portion of the training site. The primary receptors are sensitive environments (i.e., wetlands, Atlantic salmon habitat) and rare, threatened, and endangered species located outside the range boundaries downstream from the training site.

The 50 operational ranges at Deepwoods TS are categorized as Unlikely.

Unlikely – Five-Year Review

Fifty ranges at Deepwoods TS are categorized as Unlikely, totaling 340,232.70 acres. These ranges consist of 48 maneuver and training areas, one practice grenade range, and one demolition area. Based upon a review of readily available information, ranges where 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 Deepwoods Training Site

Category	Total Number of Ranges and Acreage	Source(s)	Pathway(s)	Human Receptors	Ecological Receptors	Conclusions and Rationale
Unlikely	50 ranges, 340,232.70 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.
		Demolition range: soil and sediment within the demolition pit	Shallow groundwater discharge to surface water pathway (Narraguagus River)	None	Sensitive environments / species (i.e., wetlands, Atlantic salmon habitat)	Re-evaluate during the five-year review. Based on available sampling data and site geology, there was no indication of a potential source receptor interaction that would present an unacceptable risk to off-range human health or the environment.