



FINAL

Operational Range Assessment Program Phase I Qualitative Assessment Report Bangor 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



Printed on
recycled
paper



JULY 2008



ABBREVIATIONS/ACRONYMS

AFB	Air Force Base
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
E	Ecological receptors identified. (This refers to range grouping; pathway designation always precedes E designation.)
ESRI	Environmental Systems Research Institute, Inc.
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.)
ITAM	Integrated Training Area Management
LS	Limited Source.
M	Munitions used. (This refers to range grouping; M designation always precedes applicable pathway.)
MCOC	Munitions Constituents of Concern
MEARNG	Maine Army National Guard
MEDWP	Maine Department of Environmental Health and Human Services, Division of Environmental Health, Drinking Water Program
MGS	Maine Geological Survey
NG	Nitroglycerin
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
ORAP	Operational Range Assessment Program
PU	Pathway unlikely or incomplete. (This refers to range grouping; M designation always precedes PU designation.)
RFMSS	Range Facility Management Support System
SW	Surface water pathway identified. (This refers to range grouping; M designation always precedes SW designation.)
TS	Training Site
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
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 Bangor 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.

Bangor TS is a 159.54-acre facility located in Penobscot County within the city of Bangor, Maine. The northeastern boundary of the TS abuts the Bangor International Airport. Bangor TS was originally part of Dow Air Force Base. Following permanent closure of Dow Air Force Base in 1968, the property was transferred to the city of Bangor, and the Bangor International Airport was developed. The property is currently leased to the Maine Army National Guard by the U.S. Air Force. The Army Range Inventory Database-Geodatabase (2007) identified six operational range areas encompassing 159.54 acres. Training activities conducted at Bangor TS include the use of maneuver and training areas, landing zones, and a firing range.

Primarily, MCOC sources identified at Bangor TS consist of one firing range. In general, MCOC from source areas potentially impact soil (e.g., impact berms, impact areas surrounding targets).

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 Bangor TS is to the west/northwest toward Hermon Bog in the northern portion and to the south toward Shaw Brook in the southern portion.

One operational range (firing range) at Bangor TS was identified as having the potential for off-range migration of potential MCOC. Based on the hydrogeologic characteristics of the area surrounding the training site, which indicate the majority of groundwater flow discharges to the surface water and wetlands on the training site and in the immediate vicinity of the training site, it is unlikely that potential MCOC migrate along the groundwater pathway to impact down gradient human receptors (i.e., water supply wells).

The primary ecological receptors are sensitive environments (i.e., wetlands) and rare / threatened / endangered species (Atlantic salmon, wood turtle, upland sandpiper, and creeper) located downstream of the operational range complex. Filtration of runoff and surface water within the site by on-range wetlands and dispersal and dilution of contaminants within surface water upstream from ecological receptors likely limits the exposure of ecological receptors to MCOC migrating off-range. Therefore, potential MCOC from the training site are unlikely to pose an unacceptable risk to off-range ecological receptors.

The six operational ranges at Bangor TS are categorized as Unlikely.

Unlikely – Five-Year Review

Six ranges at Bangor TS are categorized as Unlikely, totaling 159.54 acres. These ranges consist of maneuver and training areas, landing zones, and one firing range. 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 Bangor Training Site

Category	Total Number of Ranges and Acreage	Source(s)	Pathway(s)	Human Receptors	Ecological Receptors	Conclusions and Rationale
Unlikely	6 ranges, 159.54 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.
		Firing range	Wetlands / surface water (Souadabscook and George Pond sub-watersheds) and shallow groundwater	Off-range residents downstream	Sensitive environments (i.e., wetlands, Atlantic salmon, creeper, upland sandpiper, wood turtle)	Re-evaluate during the five-year review. Limited potential for off-range MCOC migration was identified.