



FINAL

Operational Range Assessment Program Phase I Qualitative Assessment Report Youngstown Weekend Training Site, New York

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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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 Youngstown Weekend Training Site (WETS) 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.

Youngstown WETS encompasses approximately 856 acres in western New York. The training site is located approximately three miles east of downtown Youngstown, two miles west of Ransomville, and four miles north of Lewiston. Lake Ontario is located approximately 2.5 miles north of the training site and the Niagara River is four miles to the west. The Army Range Inventory Database-Geodatabase (2007) identifies eight operational ranges totaling approximately 847 acres and approximately nine acres of non-operational area at Youngstown WETS. Operational areas include firing ranges, a demolition range, and maneuver and training areas. The training site provides support for western New York Army National Guard and reserve units for field training, range and weapons familiarization, and qualification firing.

MCOC source areas identified at Youngstown WETS consist of acidic, loam soils associated with impact berms, target areas, and localized impact areas associated with the two firing ranges and a demolition range. In addition, potential MCOC may be deposited directly into surface water within the source areas (i.e., drainage ditches). A potential historical source of MCOC may exist based on the previous use of the eastern portion of the training site by the United States Air Force. Release mechanisms for soil may include leaching from soil to shallow groundwater or erosion and runoff to off-range surface soil or to nearby streams. Shallow groundwater at Youngstown WETS likely discharges to surface water prior to migrating off the operational range boundary. Surface water drainage is to the northwest via drainage ditches and Four Mile Creek, and to the north/northeast via drainage ditches and Six Mile Creek into Lake Ontario. No potential human receptors were identified downstream of Youngstown WETS. Potential ecological receptors include sensitive environments (i.e., wetlands) off-installation downstream.

Based on current and historical military munitions usage and a review of potential migration pathways and potential human and/or ecological receptors, none of the operational ranges at Youngstown WETS were identified as having the potential for off-range migration of MCOC at levels that may pose an unacceptable risk to human health or the environment. Additionally, potential MCOC from ranges flow through a large on-site wetland complex before leaving the training site. Wetlands exhibit a slow moving flow regime and consist of organic, anaerobic soils, and wetland vegetation. The natural ecological factors in these areas tend to retain water and bind up associated chemicals and nutrients within the system. Therefore, the natural ecological processes associated with the wetland system, such as that found at Youngstown WETS, would likely inhibit downstream migration of potential MCOC to off-range areas at levels that may pose an unacceptable risk to the environment.

The eight operational ranges at Youngstown WETS are categorized as Unlikely.

Unlikely – Five-Year Review

Eight ranges at Youngstown WETS are categorized as Unlikely, totaling 847 acres. These ranges consist of three firing ranges, four maneuver and training areas, and a demolition range. 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 Youngstown Weekend Training Site

Category	Total Number of Ranges and Acreage	Source(s)	Pathway(s)	Human Receptors	Ecological Receptors	Conclusions and Rationale
Unlikely	4 operational ranges; 837 acres	Small arms firing ranges, demolition range, and maneuver and training area	Drainage ditches, Four Mile Creek, and Six Mile Creek	None	Sensitive environments (i.e., wetlands)	Re-evaluate after the five-year review. On-site wetlands inhibit the migration of potential MCOC to off-range areas based on sampling data.
	4 operational ranges; 10 acres	Maneuver and training areas and medium caliber practice firing range	Not evaluated (no source identified)			Re-evaluate after the five-year review. No source was identified based on sampling data.

ABBREVIATIONS/ACRONYMS

ARID-GEO	Army Range Inventory Database-Geodatabase
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.)
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
LOOW	Lake Ontario Ordnance Works
LS	Limited Source
M	Munitions used. (This refers to range grouping; M designation always precedes applicable pathway.)
MCOC	Munitions Constituents of Concern
NG	Nitroglycerin
NRCS	Natural Resources Conservation Service
NYARNG	New York Army National Guard
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
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
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
WETS	Weekend Training Site



Operational Range Assessment Program
Phase I Qualitative Assessment
Youngstown WETS, New York



Figure 1-1
General Youngstown Weekend Training Site Location



Installation
 Installation Boundary

Data Sources:
ARID-GEO 2007, ESRI StreetMap 2005

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