

**FINAL
OPERATIONAL RANGE ASSESSMENT PROGRAM
PHASE I QUALITATIVE ASSESSMENT REPORT
LAKE SHELBYVILLE TRAINING AREA-FINDLAY
FINDLAY, ILLINOIS**

APRIL 2009

Prepared for:

UNITED STATES ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
P.O. Box 1715
Baltimore, Maryland 21203

and

UNITED STATES ARMY ENVIRONMENTAL COMMAND
Aberdeen Proving Ground, Maryland 21010

Prepared by:

EARTH RESOURCES TECHNOLOGY, INC.
10810 Guilford Road, Suite 105
Annapolis Junction, MD 20701



ABBREVIATIONS/ACRONYMS

| | |
|----------|--|
| ACSIM | Assistant Chief of Staff for Installation Management |
| amsl | Above Mean Sea Level |
| ARID-GEO | Army Range Inventory Database-Geodatabase |
| ARNG | Army National Guard |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CSM | Conceptual Site Model |
| DMAIL | Department of Military Affairs, Illinois |
| 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.) |
| ERT | Earth Resources Technology |
| F | Fahrenheit |
| ft | Feet |
| 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 Explosives |
| HMX | Cyclotetramethylenetetranitramine |
| ILARNG | Illinois Army National Guard |
| ILDNR | Illinois Department of Natural Resources |
| ILSWS | Illinois State Water Survey |
| ISE | Installation Services Environmental Division |
| ISGS | Illinois State Geological Survey |
| ITAM | Integrated Training Area Management |
| JFHQ | Joint Force Headquarters |
| LS | Limited Source |
| M | Munitions used. (This refers to range grouping; M designation always precedes applicable pathway.) |
| mm | Millimeter |
| MCOC | Munitions Constituents of Concern |
| NCO | Non-Commissioned Officer |
| NCSS | National Cooperative Soil Survey |
| NG | Nitroglycerin |
| NRCS | Natural Resource 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.) |
| REC | Record of Environmental Consideration |
| RDX | Cyclotrimethylenetrinitramine |
| RFMSS | Range Facility Management Support System |

| | |
|----------|--|
| SW | Surface water pathway identified. (This refers to range grouping; M designation always precedes SW designation.) |
| SWIRCD | Southwestern Illinois Research, Conservation and Development, Inc. |
| TA | Training Area |
| 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 |
| USGS | United States Geological Survey |
| WP | White Phosphorus |
| ° | Degrees |

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 areas at Lake Shelbyville Training Area (TA)-Findlay (herein referred to as Lake Shelbyville TA) 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.

Lake Shelbyville TA is comprised of approximately 759.39 acres in central Illinois, within Moultrie and Shelby Counties. As part of the Operational Range Inventory Sustainment, an update to the Army Range Inventory Database-Geodatabase (ARID-GEO) was submitted to the U.S. Army Environmental Command in March 2006. The ARID-GEO 2006 reports that Lake Shelbyville TA is comprised of 115.55 acres and contains one light maneuver and training range which encompasses the entire training area. However, information obtained during the site visit to Lake Shelbyville TA and subsequent communications with ILARNG and USACE, identified five operational ranges, totaling 759.39 acres, including the range identified by ARID-GEO 2006.

The 759.39-acre Lake Shelbyville TA is comprised of five non-contiguous parcels of land that are located along the shoreline of Lake Shelbyville. Three ranges are located on the west side of Lake Shelbyville, and two ranges on the east side (**Figure 1-1**). The property, on which the five ranges that comprise Lake Shelbyville TA are located, is owned by the U.S. Army Corps of Engineers and has been leased to the Illinois Army National Guard since 1992 (**Figure 1-2**). Lake Shelbyville TA is used to host company-level weekend training events and is currently active; however the TA has not been utilized for approximately three years due to local unit deployments.

The 759.39-acre operational range complex at Lake Shelbyville TA consists of four maneuver and training ranges and one non-live-fire range. Munitions usage within the three maneuver and training ranges located on the west side of Lake Shelbyville include small caliber blanks and pyrotechnics/obscurants; however, there are no fixed firing points. The one maneuver and training range on the east side of Lake Shelbyville is used strictly for bivouacking, and no munitions use takes place. Munitions usage within the one non-live-fire range, on the east side of the lake, includes large caliber training/practice munitions, but no fixed firing points. There are no known concentrated MCOC sources identified at Lake Shelbyville TA. Based on the limited use of Lake Shelbyville TA and the lack of concentrated sources, it is unlikely that MCOC would migrate off of the operational ranges at concentrations that may pose an unacceptable risk to human health or the environment.

The five operational ranges at Lake Shelbyville TA are categorized as unlikely.

Unlikely – Five-Year Review

The five ranges at Lake Shelbyville TA are categorized as Unlikely, totaling 759.39 acres. The ranges consist of four maneuver and training ranges and one non-live-fire 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 Lake Shelbyville Training Area

| Category | Total Number of Ranges and Acreage | Source(s) | Pathway(s) | Human Receptors | Ecological Receptors | Conclusions and Rationale |
|----------|---------------------------------------|--|------------|--------------------------------------|----------------------|--|
| Unlikely | Five operational ranges; 759.39 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. |