FINAL
Operational Range Assessment Program
Phase I Qualitative Assessment Report
Pohakuloa Training Area, Hawaii
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

August 2009
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 Pöhakuloa Training Area’s operational range area 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.

Pöhakuloa Training Area encompasses approximately 110,063 acres in Hawai‘i County, Hawai‘i. The installation is located 36 miles west of Hilo on a plain formed by the convergence of the Mauna Kea, Mauna Loa and Hualalai volcanoes. The primary mission of PTA is to provide combat training for brigade-strength units of the 25th Infantry Division, Hawai‘i Army National Guard, Army Reserves, and the U.S. Marine Corps.

Pöhakuloa Training Area is composed of 153 operational ranges encompassing a total of 109,950.42 acres. The installation’s remaining 112 acres are identified as non-operational range area (cantonment area). Training activities at PTA include live-fire weapons training, aerial drops, rotary wing training, and light maneuver exercises. Over the course of one year, 15,000-20,000 troops train at PTA. This training is year round, but adds up to three months annually (Interview, 2006).

Despite the utilization of a variety of munitions at PTA, the migration of on-range MCOC to off-range areas is unlikely. Pathways via surface water and groundwater pathways are hindered by limited precipitation, great depth to aquifer, densely vegetated washes, and highly permeable soil/geology.

The 153 operational ranges at PTA are categorized as unlikely (e.g., Referred, Inconclusive, or Unlikely).

Unlikely – Five Year Review

153 ranges at PTA are categorized as Unlikely, totaling 109,950.42 acres. These ranges consist of live-fire ranges, maneuver training areas, and an impact area. 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 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, 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 PTA

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Number of Ranges and Acreage</th>
<th>Source(s)</th>
<th>Pathway(s)</th>
<th>Human Receptors</th>
<th>Ecological Receptors</th>
<th>Conclusions and Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlikely</td>
<td>129 operational ranges; 50,660.49 acres</td>
<td>Small caliber, medium caliber, large caliber, pyrotechnics, obscursants, and other munitions</td>
<td>Migration pathways are unlikely or incomplete.</td>
<td>Not Evaluated- migration pathways are unlikely or incomplete.</td>
<td></td>
<td>Re-evaluate during the five-year review. (No pathways present)</td>
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<tr>
<td></td>
<td>24 operational ranges; 59,289.93 acres</td>
<td>Limited small caliber munitions</td>
<td>Not Evaluated, Limited or no munitions have been used on range.</td>
<td></td>
<td></td>
<td>Re-evaluate during the five-year review. (Limited Source of MCOC)</td>
</tr>
</tbody>
</table>
# ABBREVIATIONS/ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ARID-GEO</td>
<td>Army Range Inventory Geodatabase</td>
</tr>
<tr>
<td>bgs</td>
<td>Below Ground Surface</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act</td>
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<tr>
<td>CSM</td>
<td>Conceptual Site Model</td>
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<tr>
<td>DNT</td>
<td>Dinitrotoluene</td>
</tr>
<tr>
<td>DoD</td>
<td>Department of Defense</td>
</tr>
<tr>
<td>DODI</td>
<td>Department of Defense Instruction</td>
</tr>
<tr>
<td>°F</td>
<td>Degrees Fahrenheit</td>
</tr>
<tr>
<td>ft</td>
<td>Feet</td>
</tr>
<tr>
<td>HMX</td>
<td>Cyclotetramethylenetetranitramine</td>
</tr>
<tr>
<td>LS</td>
<td>Limited Source</td>
</tr>
<tr>
<td>MCOC</td>
<td>Munitions Constituents of Concern</td>
</tr>
<tr>
<td>MGW</td>
<td>Munitions used/Groundwater Pathway</td>
</tr>
<tr>
<td>MGW (H/E)</td>
<td>Munitions used/Groundwater Pathway (Human and Ecological)</td>
</tr>
<tr>
<td>mm</td>
<td>Millimeters</td>
</tr>
<tr>
<td>MPU</td>
<td>Munitions used/Pathway Unlikely</td>
</tr>
<tr>
<td>MSW</td>
<td>Munitions used/Surface Water Pathway</td>
</tr>
<tr>
<td>MSW (H/E)</td>
<td>Munitions used/Surface Water Pathway (Human and Ecological)</td>
</tr>
<tr>
<td>MSWGW</td>
<td>Munitions used/Surface Water and Groundwater Pathways</td>
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<tr>
<td>MSWGW (H/E)</td>
<td>Munitions used/Surface Water and Groundwater Pathways (Human and Ecological receptors)</td>
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<tr>
<td>ORAP</td>
<td>Operational Range Assessment Program</td>
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<tr>
<td>PETN</td>
<td>Pentaerythritoltetranitrate</td>
</tr>
<tr>
<td>PRC</td>
<td>PRC Environmental Management, Inc.</td>
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<tr>
<td>PRG</td>
<td>Preliminary Remediation Goal</td>
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<td>PTA</td>
<td>Pōhakuloa Training Area</td>
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<tr>
<td>RDX</td>
<td>Cyclotrimethylenetetranitramine</td>
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<tr>
<td>RFMSS</td>
<td>Range Facility Management Support System</td>
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<tr>
<td>TNT</td>
<td>Trinitrotoluene</td>
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<tr>
<td>U.S.</td>
<td>United States</td>
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<td>USACE</td>
<td>United States Army Corps of Engineers</td>
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<td>USACHPPM</td>
<td>United States Army Center for Health Promotion and Preventive Medicine</td>
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<td>USAEC</td>
<td>United States Army Environmental Command</td>
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<td>USEPA</td>
<td>United States Environmental Protection Agency</td>
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<td>USFWS</td>
<td>United States Fish and Wildlife Service</td>
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<td>WP</td>
<td>White Phosphorus</td>
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