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FINAL

Range Environmental Vulnerability Assessment

Marine Corps Logistics Base Albany

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Report Prepared By:

Malcolm Pirnie, Inc.

1700 West Loop South
Suite 1450
Houston, TX 77027
713-840-1511

6285-024

MALCOLM PIRNIE

Executive Summary

The Range Environmental Vulnerability Assessment (REVA) program is a proactive and comprehensive program designed to support the United States Marine Corps (Marine Corps) environmental range sustainment initiative. The Department of Defense (DoD) has issued several policy, guidance, and planning documents that drive and guide the need to assess operational ranges with respect to potential munitions constituents (MC) migration from operational ranges, including DoD Directive (DoDD) 3200.15 *Sustainment of Ranges and Operating Areas*, DoDD 4715.11 *Environmental and Explosives Safety Management on Operational Ranges Within the United States*, and specifically, DoD Instruction 4715.14 *Operational Range Assessments.*

Operational ranges across the Marine Corps are being assessed to identify areas and activities that are subject to possible impacts from external influences and to determine whether a release or substantial threat of a release of MC from an operational range to an off-range area creates an unacceptable risk to human health or the environment. This is accomplished through a baseline assessment of operational range areas, development of conceptual site models, and, where applicable, the use of fate and transport modeling / analysis of the REVA indicator MC based upon site-specific environmental conditions at the operational ranges. Indicator MC selected for the REVA program include trinitrotoluene (TNT), cyclotetramethylene tetranitramine (HMX), cyclotrimethylene trinitramine (RDX), perchlorate, and lead.

For small arms ranges (SARs), REVA focuses on lead as the indicator MC because lead is the most prevalent (by weight) potentially hazardous constituent associated with small arms ammunition. Lead is geochemically-specific regarding its mobility in the environment, and modeling of lead requires site-specific geochemical data that are generally unavailable during a baseline assessment. Therefore, instead of modeling lead transport, operational SARs at the installations are qualitatively reviewed and assessed through the Small Arms Range Assessment Protocol (SARAP) to identify factors that influence the potential for lead migration. The SARAP was developed as a qualitative approach to identify and assess factors that influence the potential for lead to migrate from an operational range. These factors include the following:

- Range design and layout
- Physical and chemical characteristics of the area
- Past and present operation and maintenance practices

In addition, potential receptors and pathways are identified relative to the SAR being assessed. The potential for an identified receptor to be impacted by MC migration through an identified pathway is evaluated.

This report presents the assessment results for the operational range and training area at Marine Corps Logistics Base (MCLB) Albany, Georgia. This report is the first comprehensive report on MC associated with the operational range at MCLB Albany and serves as the baseline of environmental conditions of the operational range.

MCLB Albany is located approximately 5 miles southeast of the center of Albany, in Dougherty County, Georgia. The installation covers approximately 3,618 acres and is divided approximately into thirds. The western third includes industrial buildings and warehouses; the central third contains administrative, community support, and recreation facilities; and the eastern third contains family housing, natural resources (lakes, wetlands, timber), the Pistol Range, and Area 4. The mission of MCLB Albany is to provide facilities and a network of support services tailored to meet the operational and environmental conditions and mission requirements of its supported commands. The installation provides, procures, repairs, stores, and distributes supplies, services, and equipment as needed to support organizations and personnel on the installation, facilities, and grounds (NAVFAC, 2006).

Military training on operational ranges at MCLB Albany consists solely of small arms training for weapon proficiency and requalification conducted at a single pistol range. The Pistol Range, initially constructed in 1954, currently consists of 20 firing points at distances of 7, 15, and 25 yards from the target area. Originally constructed with an earthen impact berm, expended rounds are now captured in a bullet trap that consists of a concrete bed containing ballistic rubber for projectile containment. A wooden baffle has also been constructed over the firing lines to limit the angle of fire at the range.

A summary of the SAR assessment results for the Pistol Range is provided in **Table ES-1**. The SAR is characterized as having a moderate environmental concern based on the surface water and groundwater scores.

Table ES-1: Summary of SAR Prioritization

Range Name	Surface Water Priority	Groundwater Priority
Pistol Range	Moderate	Moderate

The primary factors that influenced the surface and groundwater pathway scores at the Pistol Range include:

- length of range use,

- high expenditure rate,
- shallow depth to groundwater,
- high annual total precipitation,
- acidic soils, and
- high pH variability in groundwater samples.

Human receptors that utilize surface water for noncontact recreational purposes are limited in the area around the Pistol Range. Based on the distance to the nearest drinking water well, there is a very low potential for lead to migrate to potable drinking water wells. There is a moderate potential for ecological receptor interactions with surface water and no potential for ecological interaction with groundwater (no nearby discharge points).

To view the complete report, please go to http://www.ala.usmc.mil/envbr/