Operational Range Assessment
Joint Base San Antonio – Lackland

Air Force Operational Range Assessment Program February 2019

Background

DoD uses and manages operational ranges to support national security objectives and maintain the high state of operational readiness essential to its mission requirements. The Department conducts non-regulatory, proactive, and comprehensive operational range assessments (ORAs) to support the long-term sustainability of these ranges while protecting human health and the environment. The purpose of an ORA is to determine if there is a release or substantial threat of a release of munitions constituents from an operational range to an off-range area that exceeds an applicable regulatory standard or creates a potential unacceptable risk to human health or the environment.

The USAF Operational Range Assessment Program (ORAP), established to comply with DoD policy, sets forth procedures for consistently conducting ORAs throughout the Air Force. The USAF ORAP assessment methodology uses an installation-wide approach to verify the ORAP inventory and accomplish range-specific assessments. An Air Force ORA is comprised of two primary phases: Qualitative Assessment, Phase 1 and Quantitative Assessment, Phase 2 (if required).

- A Qualitative Assessment, Phase 1, encompasses records review, interviews, and a visual survey.
- A Quantitative Assessment, Phase 2, encompasses records review, interviews, visual survey, and environmental media sampling.

Installation Overview

Joint Base San Antonio (JBSA), part of Air Education Training Command, is comprised of three primary locations: JBSA – Lackland, JBSA-Randolph, and JBSA-Fort Sam Houston. This summary sheet pertains only to JBSA – Lackland.

JBSA – Lackland (formerly Lackland Air Force Base) is located in Bexar County within San Antonio, Texas

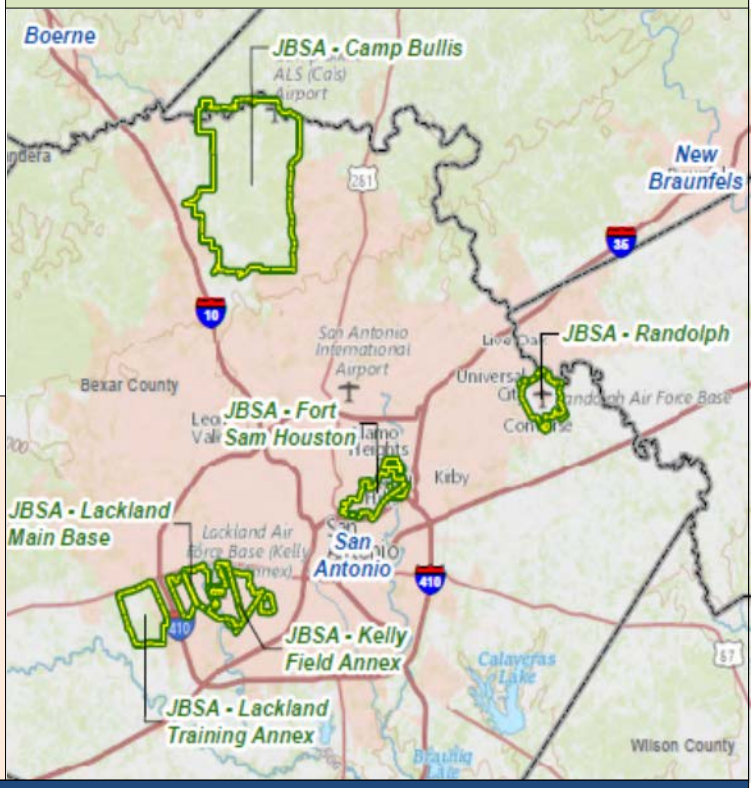
ORAP Findings: June 2018 ORA Report

- Munitions constituents (MC) may be transported to off-range locations through the surface water and groundwater pathways.
- An actual off-range migration of MC exists for one of the two areas assessed.
- No unacceptable risks to humans or the environment were identified for the areas evaluated at JBSA – Lackland.

Next Steps

JBSA – Lackland is scheduled to be assessed in accordance with USAF and DoD policy specifying periodic assessment at least every five years.

- One area is scheduled for further evaluation earlier than the specified five years due to an actual off-range MC release finding



Installation Overview Continued

city limits. JBSA – Lackland includes the Lackland Training Annex, Main Base, and Kelly Field Annex. JBSA – Lackland maintains a geographically separate unit, McMullen Range. McMullen Range is an active air-to-ground bombing and gunnery range located in southern Texas.

During implementation of the ORAP at JBSA – Lackland three areas were verified as eligible for an assessment under the USAF ORAP – Munitions Training Area (TA); Lackland Training Annex (LTA) Range Complex with multiple sites; and Explosive Ordnance Disposal (EOD) TA. The newly identified EOD TA will be assessed during the next scheduled ORA at JBSA – Lackland.

Furthermore, a Weapons Test Facility on JBSA – Lackland and McMullen Range were determined to be ineligible for an assessment under the USAF ORAP and will not be further discussed. The Weapons Test Facility is identified as completely enclosed and McMullen Range is assessed under the Navy initiative.

Munitions TA Assessment Overview

The Munitions Training Area, approximately 33.2 acres, is located in the northeastern corner of JBSA – Lackland Main Base. The area has reportedly been used for training since 2000. A 2009 visual survey of the area identified evidence of small caliber blank use as well as improvised explosive device training. The Munitions TA is presently used for chemical, biological, radiological, and nuclear defense training at the indoor Mask Confidence Training Facility. No other training activities are known to occur and no current munitions use was identified.

In 2018 an initial Phase 1 concluded that no source of MC in quantities that would be available for off-range transport exists at the Munitions TA as such no transport mechanisms were evaluated. Based on available information, incomplete exposure pathways to human and ecological receptors were identified for air, soil, surface water, and groundwater. No human health or ecological risks exists.

LTA Range Complex Assessment Overview

For purposes of an assessment under the ORAP a virtual range complex, the LTA Range Complex, was established due to ranges being located in close proximity and/or within associated safety zones. The Range Complex is located on the southern portion of the Lackland Training Annex, approximately 1 mile southwest of the Lackland Main Base. The Lackland Training Annex was previously operated by the Atomic Energy Commission. The area, also referred to as Medina Base or Annex, was used as a munitions inspection, repair, and storage facility. During the 1960s, the property was transferred to the Air Force.

The Range Complex is approximately 1,315.7 acres in size and consists of four sub-areas: Firing Ranges A-J, the Emergency EOD Range, the EOD Proficiency Training Range, and the Basic Expeditionary Airmen Skill Training (BEAST) Area.

- Firing Ranges A-J is composed of 12 ranges including 10 SARs (Ranges A, B, C, D-1, E, F, G, G-1, I, and J), one multi-purpose range (Range D), and a practice grenade range (Range H). Firing Ranges A-J have been in use since the 1960s for small arms and grenade training, and possible open burn/open detonation operations. The frequency of use varies, but all ranges are used at least once per week, except for Range J which has been inactive since 2015. The primary users is the Air Force; however, other military units and non-military organizations use the facilities.

- The Emergency EOD Range is inactive and has not been used in at least two years as all emergency detonations have occurred at Camp Bullis. The EOD Emergency Range may have been used as early as the mid-1980s. The Emergency EOD Range has a 50-pound non-fragmenting explosive limit.

- The EOD Proficiency Training Range was constructed in 2006. Historic use of the area may have included open burn/open detonation operations. The range has a five pound non-fragmenting explosive limit and is utilized for training one to two times per month.

LTA Range Complex Assessment Overview Continued

- The BEAST Area was established in 2008. Training simulates combat conditions with increasingly stressful situations. Approximately 600–900 trainees use the area from Monday to Friday for 50 weeks out of the year. A portion of the area was previously identified as Scorpions Nest used for simulated combat training, and a former Pistol Range. No munitions are currently used; however, small caliber items have been found in the area.

In 2008 an assessment focusing only on Firing Ranges A-J was completed. Storm water runoff and leaching was identified as a potential mechanisms to transport MC from soils and sediments. No known receptors were identified that could complete a source-receptor interaction for these pathways. Based on the analysis, a release and associated migration of MCs to off-range receptors was determined not to be apparent.

In 2011 a Phase 1 ORA was completed for Ranges A-J, the Emergency EOD Range, and the EOD Proficiency Training Range. No significant source of MC was identified for the Emergency EOD Range based on infrequent use. However, Ranges A-J and the EOD Range were identified as having the potential to contain MC that could enter the environment and migrate toward potential receptors. All potential pathways were evaluated; however, only the surface water/sediment pathway was determined as a likely transport mechanism. Groundwater was deemed not to be a likely exposure pathway as the Navarro clay confining unit is encountered within the area prohibiting leaching to the Edwards Aquifer and limiting the potential for shallow groundwater. As such, a complete source-receptor interaction was identified for the surface water/sediment pathway and a Phase 2, sampling, was recommended.

In 2018 a Phase 2 ORA was finalized. The effort included the collection of soil, sediment, and surface water samples to evaluate MC transport and exposure pathways. Samples were analyzed for metals, explosives, and as appropriate perchlorate.

LTA Range Complex Assessment Overview

Samples were obtained from four discharge areas on the western side of the Range Complex which receives runoff associated with Firing Ranges A-J, the Emergency EOD Range, and the BEAST Area. The majority of the eastern side of the Range Complex, including most of the Firing Ranges A-J safety zones and the EOD Proficiency Training Range, drain to Medio Creek that flows through the eastern portion of the Range Complex. In the vicinity of the EOD Proficiency Training Range precipitation appears to pool in a large depression. As such samples on the eastern side of the Range Complex were collected from the depression and downstream of the complex from Medio Creek.

Sediment/soil sample results from the western portion of the Range Complex had detections of metals (copper, lead, and zinc) which exceeded naturally occurring conditions and applicable screening levels. Sample results taken from the depression on the eastern side of the Range Complex identified metals (copper, iron, lead, and zinc) above naturally occurring conditions. Although metals did not exceed residential or industrial soil screening criteria, two metals (iron and lead) did exceed soil protection of groundwater levels. Surface water and sediment results from Medio Creek did not have detections of MC (explosives, metals, or perchlorate) above naturally occurring conditions and/or applicable screening levels.

The effort concluded, MC is present in soils and available for transport via surface water/sediment and groundwater media as shallow groundwater, if present, is suspected to daylight to surface water. The ORA identified an actual MC release (western portion) at the Range Complex. However, no unacceptable risk to human beings or the environment exists as the possible risks are significantly reduced due to site characteristics such as distance to receptors, severity of exceedance, and soil conditions. Further evaluation and action was recommended to address apparent off-range MC transport on the western side of the LTA Range Complex.

For more information on this assessment or the Air Force Operational Range Assessment Program contact the Ranges Subject Matter Expert, Technical Branch, Environmental Quality Directorate, Air Force Civil Engineer Center
For more information on the DoD Operational Range Assessment Program visit https://denix.osd.mil/orap/home/