



Operational Range Assessment Shaw Air Force Base

Air Force Operational Range Assessment Program

May 2024

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 (MC) 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 DAF Operational Range Assessment Program (ORAP), established to comply with DoD policy, sets forth procedures for consistently conducting ORAs throughout the Air Force. The DAF 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

Shaw AFB occupies 3,429 acres of land in south-central South Carolina. The base is located about 35 miles east of Columbia. Shaw AFB has two geographically separate units (GSUs): Poinsett Electronic Combat Range (PECR) located about 10 miles south of Shaw AFB; and Wateree Recreational Area located 40 miles north of Shaw AFB.

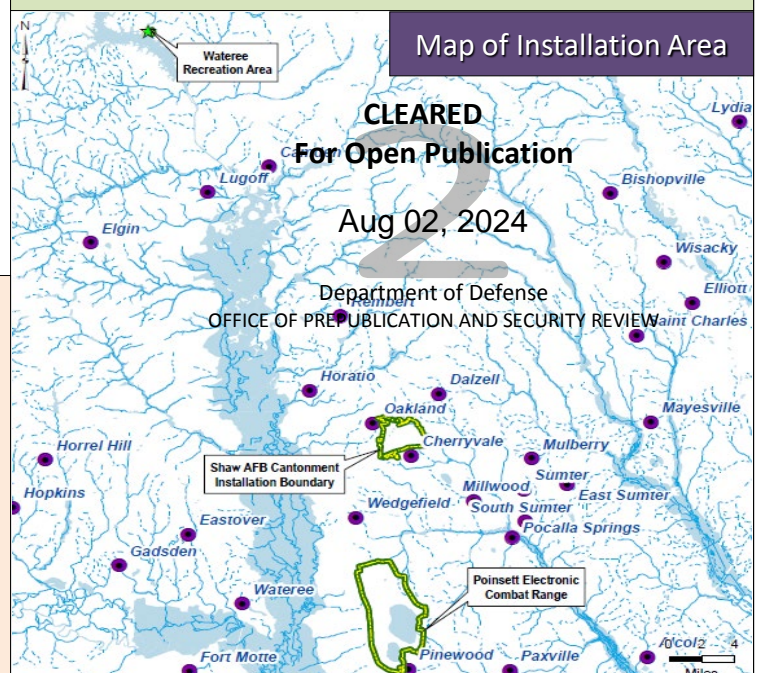
ORAP Findings: December 2022 ORA Report

- Migration pathways via surface water and groundwater were identified as likely to transport MC to off-range locations.
- An off-range migration of MC was identified at one operational range assessed under this effort. No other release or substantial threat of release at areas assessed were identified.
- No unacceptable risks to off-range human or ecological receptors were identified.

Next Steps

Shaw AFB operational ranges are scheduled to be assessed in accordance with DAF and DoD policy specifying periodic assessment at least every five years or sooner if significant changes occur that may impact assessment decisions.

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



Installation Overview Continued

During implementation of the ORAP at Shaw AFB, three operational areas were verified as eligible and assessed under the DAF ORAP – a Small Arms Range (SAR), an Explosive Ordnance Disposal (EOD), Proficiency Training Range, and Poinsett Electronic Combat Range (PECR).

SAR Assessment Overview

The SAR, a partially contained range encompassing 1.92 acres is located on the east side of Shaw AFB along Perimeter Road. The SAR has been in operation since 1966 and consists of 21 firing points, a bullet catchment system (installed in 2004), and overhead baffles. A former earthen impact berm remains within the SAR boundary and was utilized between 2002 and 2013 for practice grenade training.

The SAR was previously assessed under the ORAP in 2014 (Phase 1) and 2017 (Phase 2). This Phase 2 ORA at the SAR verified operational use and confirmed MC source areas include the historical target earthen berm, firing line/points/bullet trap, and range floor. MC (metals) present at the source areas may be in soil and/or subsurface soil. During the 2022 assessment sediment (dry), surface water (ponded), and groundwater samples were collected. Based on analytical results at the SAR, there is a confirmed off-range release of MC via stormwater and the potential for MC to infiltrate to shallow groundwater. No unacceptable risks to receptors were identified. Further evaluation of MC migration and risks is scheduled for the SAR.

EOD Proficiency Training Range Assessment Overview

The EOD Proficiency Training Range, encompassing approximately 22 acres, is located on the east-central portion of Shaw AFB. The range has been in operation since 2005 and includes a central detonation bunker, an improvised explosive device (IED) training area, a 500-foot circular radius safety zone, and a perimeter fence. The range has a net explosive weight (NEW) of five (5) pounds and is used monthly for explosives proficiency training exercises and emergency response actions, as necessary.

EOD Proficiency Training Range Overview, Continued

The EOD Range was initially assessed in 2011 (Phase 1) and periodically evaluated in 2017 (Phase 2). The 2022 periodic Phase 2 ORA verified MC present in soils (source media) may potentially leach to shallow underlying groundwater. All other exposure pathways were confirmed to be incomplete. Based on additional groundwater sample data, there is no substantial threat of an off-range MC release or risks to receptors at the EOD Proficiency Training Range. The EOD Range is identified for continued groundwater monitoring during the next periodic re-evaluation.

PECR Assessment Overview

The Poinsett ECR has provided a combat training environment for aircrews since World War II. Poinsett ECR currently encompasses 12,521 acres and is restricted to training rounds and inert bombs. The range includes two primary impact areas, a strafing pit, an EOD range, a former open burning/open detonation (OB/OD) unit, and other inactive solid waste management units (SWMUs).

The Poinsett ECR was initially studied for MC migration in 2004 and assessed under the DAF ORAP in 2007 and 2017. The latest ORA was completed in 2022.

The 2022 Phase 2 ORA conducted at Poinsett ECR identified the primary MC source area as the active northern impact area. MC of concern were deemed to be metals, explosives, and perchlorate. The Phase 2 groundwater sampling event confirmed the presence of explosives and metals in groundwater in the central portion of the range. Although MC was detected in on-range media, no dissolved fraction of MC metals at concentrations above screening levels were detected in downgradient wells.

The air, soil, and surface water exposure pathways were confirmed to be incomplete for human and ecological receptors. Based on sample results, there is no potential release of MC off-range via groundwater. The groundwater exposure pathway was identified as incomplete for human and ecological receptors.

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/>