



Operational Range Assessment Selfridge Air National Guard

Air Force Operational Range Assessment Program

December 2018

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

Selfridge Air National Guard Base (ANGB) is located in Harrison Township within Macomb County in southeastern Michigan. The facility is approximately 25 miles northeast of the city of Detroit, Michigan.

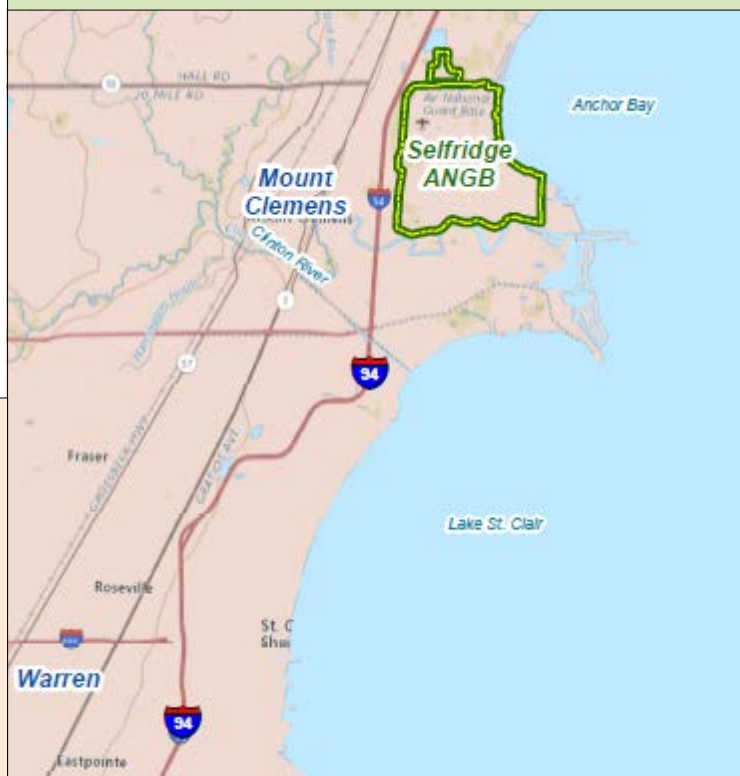
During implementation of the ORAP at Selfridge ANGB, one range was verified as eligible and assessed under the USAF ORAP – a small arms range (SAR).

ORAP Findings: November 2017 ORA Report

- Migration mechanisms at Selfridge ANG were identified as unlikely to transport munitions constituents (MC) to off-range locations.
- No actual or potential off-range migration of MC exists for the area assessed at Selfridge ANG.
- No unacceptable risks to human health or the environment were identified for the area evaluated at Selfridge ANG.

Next Steps

Selfridge ANG is scheduled to be assessed in accordance with USAF and DoD policy specifying periodic assessment at least every five years or sooner if significant changes occur that may impact assessment decisions.



Installation Overview Continued

The following summarizes USAF ORAP efforts for the SAR. This is the third ORA at the SAR.

SAR Assessment Overview

The SAR, constructed in 1974, is located in the eastern portion of the installation. The range boundary is defined by a perimeter fence, which encloses an area of approximately 18.5 acres. The SAR's primary use area, covering approximately 1.85 acres, has been used continuously for live-fire training. The range is used several times a week for training by ANG units as well as local police departments.

In 2003, the SAR was renovated and converted from a 100-meter to a 25-meter range. The range is partially contained with a covered firing line, overhead wooden baffles, a partially vegetated range floor, vegetated earthen side berms, and an earthen impact berm. The impact berm is the same earthen impact berm used when configured as a 100-meter range.

It should be noted, a second set of berms exist in the eastern portion of the SAR. These berms were built by the Federal Bureau of Investigation (FBI) who intended to use this area as a range for weapons training. However, the area has never been used.

The initial ORA Phase I was completed in 2009. Due to the SAR's earthen impact berm and no reported efforts to address possible metals throughout its history, it was identified as a potential source area. Samples collected under other programs, indicate the soils are slightly alkaline. Under these conditions, MC (metals) associated with the SAR would remain relatively insoluble, reducing the probability of mobilization. Additionally, soil samples collected on-range indicate metal concentrations decrease as distance from the berm increases. Surface water samples were collected from an associated off-range culvert show detections below established U.S. Environmental Protection Agency for drinking water standards. Although a source present, the ORA concluded no complete exposure pathways exist at the SAR.

SAR Assessment Overview Continued

The 2014 Phase 1 ORA confirmed an MC source exists at the SAR due to historical sampling results, and as berm soil removal/replacement is not known to have occurred. The report concluded that the air, soil, and groundwater migration and exposure pathways were incomplete. However, transport of MC via stormwater through surface water/sediment media may be viable. No complete source-receptor exposure scenarios were identified for humans. However, a potentially complete ecological interaction may exist. Further assessment, a Phase 2, was recommended to evaluate the surface water/sediment pathway.

The 2017 ORA consisted of records reviews, interviews, a visual survey, and media sampling. The assessment verified MC present in the surface and subsurface soils at the SAR's berm, target area/floor, and firing points that may be available for transport off-range through runoff and infiltration. This effort indicates, although unlikely, there is a limited potential for MC to percolate to shallow groundwater. Shallow groundwater in the vicinity of the SAR likely discharge to the range's drainage channels and leaves the range as surface water. Surface water/sediment within the SAR's drainage system subsequently discharges to Lake Saint Clair. To assess potential migration, surface water and sediment samples were collected from within the SAR's drainage system. Samples were analyzed for MC metals (copper, lead, and zinc). Surface water and sediment samples were collected from the SAR's drainage system immediately prior to its entrance to the underground culvert where drainage leaves the SAR boundary. Sample results indicate all MC were below applicable human health and ecological screening values and similar to background concentrations. Therefore, MC are not migrating off-range, and the surface water/sediment and groundwater pathways were determined to be incomplete. Based on the conclusions of the 2017 ORA Phase 2, no further evaluation for the SAR is warranted at this time as MC are not migrating at levels that adversely affect human health or the environment.

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/>