



# Operational Range Assessment Youngstown Air Reserve Station

Air Force Operational Range Assessment Program

January 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

Youngstown Air Reserve Station (ARS) is located in Vienna Township, Trumbull County, Ohio. The installation is comprised of two parcels within and adjacent to the Youngstown-Warren Regional Airport.

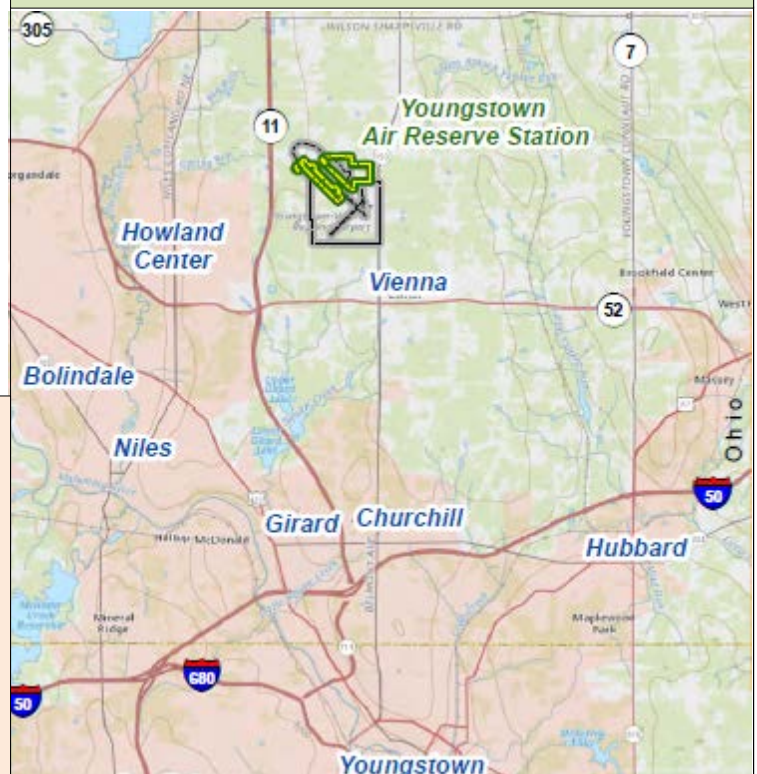
During the implementation of the ORAP one eligible range was identified and assessed under the USAF ORAP – a Small Arms Range (SAR).

## ORAP Findings: July 2018 ORA Report

- Migration mechanisms Youngstown ARS 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 Youngstown ARS.
- No unacceptable risks to human health or the environment were identified for the area evaluated at Youngstown ARS.

## Next Steps

Youngstown ARS 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

Three other areas were identified and classified as ineligible for assessment under the ORAP: an Indoor SAR, Former Practice Grenade Range (GR), and Civil Engineering Squadron (CES) Training Area (TA).

- The Indoor SAR, being built adjacent to the existing SAR, will be enclosed and such indoor ranges are excluded.
- The former GR, located adjacent and south of the SAR, has been redeveloped to include a fitness track and the CES TA. Based on coordination with the USAF ORAP technical lead it was determined due to limited reported historic use of the former GR and no current visual evidence of use (targets removed and expended munitions debris) that minimal, if any, residual MC would remain. This in addition to the former GR having been put to incompatible use, resulted in exclusion from ORAP requirements.
- The CES TA activities involve non-munitions related training to establish mock forward operating bases. The TA, composed of a gravel floor, is located north of the former firing points near the historic target area. As current use does not involve munitions, the TA gravel pad constructed post use of the GR, and based on minimal, if any, residual MC due to former practice grenade training the area was identified as ineligible for an assessment.

It should be noted, a site near the Fire TA was identified as being infrequently used for flare, ground burst simulator, and smoke grenade demonstrations. Use occurred at a maximum frequency of twice per year for less than a decade and was last used in 2012. The area has since been completely regraded and no visual evidence remains.

The ORA recommended further evaluation, under an appropriate program, of the Former Practice GR and adjacent areas in order to confirm no residual environmental or safety impacts from historic use.

### SAR Assessment Overview

The SAR, located in the northeastern portion of the installation, encompasses 4.90 acres. This area includes a 0.22-acre partially contained structure for firing and a 4.88-acre surface danger zone. The range was constructed in 1983 with a bullet trap system that deflected munitions into a sand berm. Modifications in 1999 and 2000 replaced the bullet trap system and removed the associated sand berm (i.e., removed contaminated soils). Currently the SAR is an open-air, partially contained facility with a covered firing line, pea gravel floor, concrete sidewalls, overhead baffles, and a steel bullet trap. A dust collection system pulls air from the bullet trap and firing line area to a filtration system. Small arms training is conducted monthly. Non-frangible rounds were historically used at the SAR; however munitions use transitioned to frangible rounds about 9 to 10 years ago.

The 2011 Phase 1 deemed all transport routes of MC (metals) incomplete and as such no exposure. The Phase 1 used historical sampling data from within the range, which indicated MC (lead) was not migrating through the soil column as lead did not exceed applicable screening levels in subsurface soil.

The 2018 Phase 1 indicates a potential MC source in soils near the impact/target area, firing line, and on the range floor at the SAR. However, no viable transport mechanisms were identified due to the range's built infrastructure and environmental characteristics, which prevent MC, if present, from escaping the range boundary. The most likely mechanism is leaching through the soil column to groundwater. However, vertical migration into water-producing bedrock aquifers is impeded due to low-permeable soils and clay-rich tills. There are no complete exposure pathways for the SAR; thus, there are no human health or ecological risks. As the SAR is scheduled to be closed upon completion of the Indoor SAR (currently under construction) the assessment recommended to confirm the operational status of the SAR prior to the periodic evaluation under the ORAP.

**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/>**