

# Marine Corps Base Camp Lejeune (MCB Camp Lejeune) Restoration Advisory Board (RAB) Meeting Minutes

MEETING DATE:	May 25, 2022	
LOCATION:	Coastal Carolina Community College, Business Technology Building, Jacksonville, North Carolina	
ATTENDEES:	Thomas Richard/MCB Camp Lejeune Laura Spung/MCB Camp Lejeune David Towler/MCB Camp Lejeune Dave Cleland/Navy Lindsey Mills/Navy Randy McElveen/NCDEQ Jennifer Tufts/EPA Laura Bader/RAB Co-Chair	Matt Louth/CH2M Monica Fulkerson/CH2M
FROM:	Matt Louth/CH2M	

#### I. Welcome and Introductions

DATE:

Mr. Richard began the meeting.

#### II. Munitions Response Site Prioritization Protocol (MRSPP) at Site UXO-31

June 1, 2022

**Objective:** The purpose of this agenda item is to provide site background, review the MRSPP process, present the Site UXO-31 MRSPP results, discuss the Site UXO-31 Preliminary Assessment/Site Inspection (PA/SI) approach, and to provide the schedule.

**Overview:** A presentation was reviewed by Mr. Louth. The Off-Base Surface Danger Zones (SDZs) are ranges that were located at the Base boundary, consisting of 1,632 acres from four Former Ranges (1945 – 2001): Rocket Range #1 (2.25-inch [in] to 5-in Aircraft Rockets), Direct Fire Artillery Range (G-7) (Small Arms to 155mm Howitzers), G-6 Artillery Range (75 millimeter [mm] to 155mm Howitzers), and Impact Area N-1 & Bomb Target 3 (variety of Rockets, Artillery, and Mortars). The target area was the eastern end of Browns Island. Each range had a safety buffer zone or SDZ. Review of historic maps indicated that some SDZs were located off-Base.

Off-Base SDZ Investigations were conducted between 2010 and 2013. In 2010, the PA/SI was conducted, which consisted of an aerial digital geophysical mapping (DGM) survey via helicopter, terrestrial DGM in accessible areas, and media sampling (no risk identified). During the PA/SI, 4,854 anomalies were identified. In 2013, the Expanded Site Inspection (ESI) was conducted, during which 1,004 anomalies were investigated. The other anomalies were primarily underwater, too deep, or associated with erosion-control netting. Anomaly investigation identified 7 munitions and explosives of concern (MEC) Items including 2.75" and 5" rocket warheads and flares, located mostly north of Browns Island and 59 material potentially presenting an explosive hazard (MPPEH) items including flares,

cartridge casings, rockets, and bombs. The majority of the MEC/MPPEH was found within an approximate 175-acre area north of Browns Island (leading to the focused area known as Site unexploded ordnance [UXO]-31). Warning signs were installed around this area in 2014 and are inspected regularly.

Next, the MRSPP Process was reviewed. In 2001, Congress directed the Department of Defense (DOD) to identify and prioritize munitions response sites. In 2005, the final rule passed and in 2007, protocol was issued. Using this process, priority is assigned based on known or suspected to contain UXO, discarded munitions (DMM), and/or munitions constituents (MC). The priority is considered along with stakeholder input, economic factors, and program requirements for sequencing munitions response actions.

Evaluation modules include the EHE (Explosive Hazard Evaluation) module, which evaluates explosive hazards posed by MEC; the CHE (Chemical Warfare Materiel (CWM) Hazard Evaluation) module, which evaluates (scores) hazards associated with CWM; and the HHE (Health Hazard Evaluation) module, which evaluates health and environmental hazards posed by munitions constituents (MC) and incidental contaminants. Following these modules, Site UXO-31 has an EHE rating of B, no known or suspected CWM, and no known or suspected MC hazard. Following MRSPP, Site UXO-31 scored a site priority of 3.

A PA/SI is planned for Site UXO-31 to identify potential threats to human health or the environment, determine the presence/absence of high anomaly density areas, and recommend if further evaluation through a Remedial Investigation and Feasibility Study (RI/FS) is required or if the site should be eliminated from further consideration (no further action). A PA Report will be prepared to summarize previous work and findings and research for new site information. DGM will be conducted within ~200 acres, possibly using an unmanned aerial vehicle (drone), to identify anomalies and high-density anomaly areas, including the 175-acre Munitions Response Site (MRS), plus some portion of the SDZs outside the MRS. Surface soil and surface water samples will be collected within the MRS. An SI Report will be prepared to document the investigation and its findings.

The PA Report is in progress and will be submitted in Summer 2022. The SI Work Plan will be prepared in Fall/Winter 2022, and field investigations are expected in Spring/Summer 2023.

No questions, comments, or concerns were noted by the RAB.

## III. Overview of Vapor Intrusion Program at MCB Camp Lejeune

**Objective:** The purpose of this agenda item is to explain what vapor intrusion (VI) is, present the VI program background and previous investigations, discuss the VI Five-Year Update, review VI mitigation systems (VIMS) and monitoring, including VIMS at Installation Restoration Program (IRP) sites, and to provide the path forward.

**Overview:** A presentation was reviewed by Mr. Louth. As defined by the United States Environmental Protection Agency (USEPA), vapor intrusion is the migration of volatile chemicals from subsurface into indoor air. There is potential for VI at volatile organic compounds (VOC)-contaminated sites. VIMS prevent vapors from moving into indoor air.

MCB Camp Lejeune has a long history of VI investigation and mitigation at a variety of sites. Approximately 1,000 buildings were evaluated in accordance with the IRP, Resource Conservation and Recovery Act (RCRA) Program, and Underground Storage Tank (UST) Program; and as part of due diligence assessments for military construction (MILCON) including:

- IRP approximately 520 Buildings
- RCRA 70 Buildings
- UST approximately 220 Buildings
- UST-Land Use Restriction (LUR) approximately 130 Buildings
- MILCON Due Diligence approximately 50 Buildings

VI investigations have been conducted at MCB Camp Lejeune for 15 years. Basewide VI investigation of IRP sites were conducted between 2007 and 2011, which identified and evaluated buildings for VI potential. Based on the findings of this investigation, in 2012-2013 the Base elected to install VIMS at seven buildings. A Five-Year Update was conducted in 2013, which identified and evaluated additional buildings for VI potential. Between 2015 and 2020, a VI evaluation of UST sites designated as No Further Action (NFA) with land use restrictions (LURs) was conducted. From 2015-2017, a preferential pathway evaluation and pilot study was conducted at Building HP57. In 2018, the IRP Five-Year Update identified additional buildings for VI evaluation. In 2019-2020, additional UST sites with LURs were identified as NFA. In 2021, a Five-Year Update monitoring event was conducted.

For the Five-Year Update, desktop evaluations were conducted in 2021 to review data collected since the last Basewide VI Evaluation. A decision matrix developed in accordance with USEPA, North Carolina Department of Environmental Quality (NCDEQ), and DOD guidance was used to evaluate most recent data. The VI potential at buildings within 100 feet of screening level exceedances or potential preferential pathways was evaluated.

The VI Evaluation approach included preparing a work plan; conducting the investigation, which included inspecting and performing leak checks of existing subslab probes, replacing and/or installing new subslab probes, and collecting subslab soil gas and/or indoor air samples; and preparing a report.

The desktop evaluation was updated using recent groundwater data. Additional field investigation was conducted at 8 buildings within 4 IRP sites. The evaluation concluded no further investigation of VI recommended at 7 buildings (Buildings G480, 1603, 626, AS515, and AS545) and recommended long-term monitoring for 1 building (Building 1601). Building 1601 is scheduled for demolition. The new building being built will include a VIMS or vapor barrier.

VIMS prevent vapor entry into a building from subsurface sources through active subslab depressurization, passive subslab ventilation, sewer ventilation, and vapor barrier. Based on the results of VI evaluations conducted to date and as a preventive measure, 27 VIMS were installed at 3 IRP sites, 4 UST sites, and 4 Due Diligence sites. IRP VIMS include Sites 78 and 88 (installed in 2012), consisting of Buildings 3B (Site 88) based on results of Basewide VI Evaluation and Building 902 (Site 78) and Buildings 3, 37, and 43 (Site 88) as precautionary measures. Additional VI evaluations conducted at Building HP57 (Site 88) identified potential risks associated with a wastewater sewer line preferential pathway and a VIMS was installed in 2016 to mitigate the VI potential. VIMS were installed as precautionary measure during new construction of 3 buildings outside of IR Site 10 boundary in 2013-2016. VIMS was installed as precautionary measure during new construction of building outside of IR Site 89 VI land use control boundary.

VIMS are monitored regularly during operation. Design operating parameters are used to indicate that VIMS are effectively disconnecting VI pathway, as indicated by subslab differential pressures achieving the design operating parameter (< -0.01" water column). System operating parameters are used to indicate that the system is generally operating as designed, as indicated by vacuum and flow rates meeting system operating parameters (specific to each node). Water levels are measured water in nearby wells to determine depth to water, building surveys are conducted to evaluate changes is general building use, and routine operations and maintenance are conducted to verify operational status.

The path forward for VIMS is to conduct Basewide evaluations as needed, continue VIMS operation and monitoring with the next quarterly VIMS event scheduled for June 2022, indoor air sampling to be conducted in 2023 as part of the long-term monitoring 5-year event, and VIMS modification at Building 902 planned for May 2022 to enhance system efficiency, and to provide reports for activities conducted associated with VI investigations and VIMS operation and maintenance.

No questions, comments, or concerns were noted by the RAB.

### **IV. RAB Business**

The next RAB meeting will be scheduled for August 2022 and an email with the projected date will be sent to the RAB members. No topics were suggested for the next meeting. Mr. Richard indicated the Base is continuing to evaluate the need to ask members who no longer meet the RAB criteria to resign.