Marine Corps Base Camp Lejeune
Restoration Advisory Board Meeting Minutes

RAB Meeting: April 29, 2008

ATTENDEES:

Robert Lowder/Camp Lejeune	Kim Henderson/CH2M HILL
Andrew Smith/Camp Lejeune	Joe Colella/Shaw
Bryan Beck/NAVFAC Mid-Atlantic	Marcy Gallick/RHEA
Gary Tysor/NAVFAC Mid-Atlantic	Laura Bader/RAB Co-Chair
Gena Townsend/USEPA Region 4	Thomas Mattison/RAB Member
Randy McElveen/NCDENR	Leonard McAdams/RAB Member
Matt Louth/CH2M HILL	Richard Mullins/RAB Member
Christopher Bozzini/CH2M HILL	Marvin Powers/RAB Member

FROM: Kim Henderson/CH2M HILL

DATE: July 11, 2008

LOCATION

Coastal Carolina Community College, Business Technology Building, Room 103 in Jacksonville, North Carolina

MINUTES

6:00 PM

I. Welcome and Introductions

II. Public Meeting - Proposed Remedial Action Plan, Site 84, Operable Unit 19

Objective: The purpose of the public meeting was to present the preferred alternative for remedial action at Site 84. This discussion was led by RHEA representative, Ms. Marcy Gallick.

Overview: A court recorder generated meeting minutes for this topic and are provided separately. Copies of the Proposed Remedial Action Plan were available on CD for public review and comment.

III. Military Munitions Response Program (MMRP) Sites Update

Objective: The purpose of this agenda item was to provide an update on the status of the MMRP sites on the Base. This discussion was led by CH2M HILL representative, Mr. Matt Louth.

Overview: Mr. Louth reviewed the history of the MMRP. The MMRP was established under the Defense Environmental Restoration Program to address munitions and explosives of concern (MEC) and munitions constituents (MC) at other than operational ranges. The MMRP currently follows the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process and Department of Defense (DoD) is establishing policy and guidance for munitions and response actions**.**

There are 14 MMRP Sites that have been identified at MCB Camp Lejeune. Thirteen of the sites are currently in the Preliminary Assessment/Site Inspection (PA/SI) phase of the CERCLA process:

- Site UXO-01 Former Live Hand Grenade Course
- Site UXO-02 Former Unnamed Explosives Range
- Site UXO-03 Former Practice Hand Grenade Course
- Site UXO-04 Former Knox Trailer Park
- Site UXO-05 Former Miniature Anti-Tank Range and Former B-3 Gas Chamber
- Site UXO-06 Former Fortified Beach Assault Area
- Site UXO-07 Former Practice Hand Grenade Course
- Site UXO-08 Former Bazooka Range and Gas Chambers
- Site UXO-09 Former Triangulation Range
- Site UXO-10 Former Flame Tank and Flame Thrower Range
- Site UXO-11 Former Practice Hand Grenade Course
- Site UXO-12 Former New River 1,000-Inch Range
- Site UXO-14 Former Indoor Pistol Range and Gas Chamber

One site, Site UXO-13 Former Naval Regional Medical Center, was administratively closed due to no known historic live-fire activities and requires no further action.

Additionally, the Base is in the planning phase for four military construction (MILCON) projects in the vicinity of MMRP sites, including:

- Residential Housing at UXO-04 – Knox Trailer Park
- 9th Marine Complex at UXO-03 – Northern Boundary of Practice Hand Grenade Course (ASR 2.78)
- Armory Area and Borrow Pit Expansion at UXO-06 – Fortified Beach Assault Area
- Hadnot Point Construction and Fitness Center at UXO-08 - Former Bazooka Range and Gas Chambers

Focused PA/SIs are currently being conducted in the MILCON areas to ensure worker safety during construction and future use.

Mr. Louth reviewed the objectives of the PA/SI which are to research archival records and interview current and previous installation personnel to identify historical activities that may have resulted in environmental contamination with MEC or MC; conduct digital geophysical mapping (DGM) to identify any subsurface anomalies that may represent MEC; collect surface soil, subsurface soil, and groundwater samples and where present, surface

water and sediment to evaluate the presence and nature of MC contamination; and conduct ecological and human health risk screenings using analytical data.

Mr. Louth reviewed each of the PA/SIs currently being conducted at the MMRP sites:

PA/SI at Sites UXO-01, 03, 05, 06, 08, and 09

The RAB reviewed a map of the locations of Sites UXO-01, 03, 05, 06, 08, and 09 where PA/SIs are currently being conducted. For each of the sites, the RAB reviewed the dates of operation, the approximate size, suspected munitions, DGM and sampling plan, and map.

Environmental samples are being collected in decision units which are used to maximize data collection for decision-making. The sites are gridded and several samples are composited from each grid to comprise a decision unit for evaluation.

Currently, the work plans are being finalized and are due for submittal in May 2008. Field activities are planned in June 2008 and the results will be summarized in a draft PA/SI report in August 2008.

MILCON Plan for Residential Housing at Site UXO-04

For the MILCON project for residential housing at Site UXO-04, the RAB reviewed a map showing the site location, the site background, the field investigation activities and map of sample locations, and path forward as described below.

Dynamite was used and diesel oil was sprayed on the ground surface of the site as a larvicide in 1941. A dog-training school to simulate battle conditions using overhead rifles and machine gun fire, explosion of charges of dynamite and TNT was conducted on-site from 1942 to 1946. The site was used as residential housing from 1950s through 2006. During this time in the 1970s, a Base Explosives Ordnance Detachment (EOD) technician responded to the discovery of unexploded ordnance (UXO) (live high-explosive hand grenade) during excavation activities. In 2002, EOD conducted a visual site inspection and no UXO was discovered.

In 2006, a Public-Private Venture (PPV) development was planned on 38 acres of the site. Therefore, a PA/SI and Expanded SI was conducted from 2006 through 2007 to evaluate potential site contamination. Field activities included 100% DGM and 10% intrusive investigation of anomalies representing potential subsurface MEC. Environmental sampling included 268 surface soil samples in decision units, 34 grab subsurface soil samples, 30 groundwater samples, and 18 surface water/sediment samples. The samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), metals, explosives, perchlorate, total petroleum hydrocarbons (TPH), total organic carbon (TOC), and/or total organic halides (TOX).

Based on the investigation results, the path forward for Site UXO-04 is residential planning and development based on risk evaluation and risk management where no human health risks and negligible ecological risks were identified. Because only one discarded military munition (identified as "Signal, Illumination, Ground: Red Star Parachute M131") in its original shipping container was found, it has also been recommended that the site be removed from MMRP as there was no indication of use as a former range. Additionally, no

source or evidence of environmental contamination was identified and historical land use was residential.

The Draft Expanded SI report for Site UXO-04 is planned for submittal in May 2008.

MILCON Plan for 9th Marine Complex at Site UXO-03

For the MILCON project for the 9th marine complex at Site UXO-03, the RAB reviewed the site background, the field investigation activities, and a map showing the sample locations as described below.

Site UXO-03 was used as a hand grenade training area from 1953 to 1959. A focused PA/SI of the 5-acre MILCON area was conducted in 2007 and included 11% DGM and environmental sampling including collection of four surface soil, four subsurface soil, and two groundwater samples for explosives, perchlorate, and metals analysis. Based on the DGM activities, 185 geophysical anomalies that represent potential subsurface MEC were identified and further investigation of the anomalies was recommended. There were no exceedances of industrial preliminary remediation goals (PRGs) in surface and subsurface soils and no exceedances of North Carolina groundwater standards in the groundwater. The path forward for the site is to conduct 100% DGM in the MILCON area.

MILCON Plan for Armory Area and Borrow Pit Expansion at Site UXO-06

For the MILCON project for the Armory Area and Borrow Pit Expansion at Site UXO-06, the RAB reviewed a map of the MILCON plan, site background, the field investigation activities, and a map showing the site location as described below.

The site was used for blank small arms, demolitions, 3.5-inch practice rockets, practice rifle grenades, smoke hand grenades from 1953 to 1957. A focused PA/SI of the 4.4-acre MILCON area conducted in 2006 through 2007. The PA/SI included 100% DGM resulting in the identification of 1,368 geophysical anomalies that represented potential subsurface MEC. Of the 1,368 geophysical anomalies, 851 were located within the MILCON boundary and 221 were located outside the boundary. A 100% intrusive investigation was conducted and three recovered items were turned over to EOD for disposal and included:

- 3.5-inch practice rocket
- M18 colored smoke hand grenade with M201A1 fuse with spoon and pin in place
- MK13 MOD-0 Marine hand signal flare

The RAB reviewed a photo of each item found and disposed of.

To reduce any potential risks during construction, the following construction support activities are being conducted:

- Providing "3R" (Recognize, Retreat, Report) training to all workers who will be onsite
- Providing on-call support from MCB EOD or a qualified UXO Technician for inspection, verification, and disposal of suspected items that may be unearthed
- Coordinating with MCB EOD for disposal
- Coordinating with Marine Corps Systems Command (MARCORSYSCOM) to ensure Naval Ordnance Safety and Security Activity (NOSSA) requirements are met and addressed

The remaining PA/SIs at Sites UXO-02, 07, 10, 11, 12, 14 are planned for fiscal year 2008.

Mr. McElveen asked for explanation of different types of DGM used at the sites. Mr. Louth explained that EM-61 is used in vegetated areas and a towed array is used in cleared areas. He also explained the quality assurance process of planting seed items to ensure like suspected items would be identified. The seed items are flagged and GPS coordinates collected before DGM is conducted to ensure the seed items are located.

Mr. Lowder indicated that MILCON projects are being planned in other existing range areas and there may be more sites evaluated in the near future. Ms. Townsend indicated that these MMRP and range sites are being addressed in addition to the CERCLA sites. Mr. Lowder indicated that the MMRP is moving rapidly based on the MILCON projects and the goal to close these sites out at the PA/SI phase.

IV. Next RAB Meeting

Mr. Lowder requested agenda topics for the July RAB meeting, no topics were identified. Mr. Lowder identified potential topics to include updates on the actions conducted at Sites 35, 73, and 89. The RAB asked whether there needs to be a meeting. The RAB voted to hold the July meeting on **Tuesday, July 29, 2008 6:00 PM – 8:00 PM**. Mr. Lowder will secure a location for the meeting and send the information to the RAB members.