

Marine Corps Installations East-Marine Corps Base Camp Lejeune (MCIEAST-MCB CAMLEJ) Restoration Advisory Board (RAB) Meeting Minutes

MEETING DATE: February 26, 2014

LOCATION: Coastal Carolina Community College, Business Technology Building, Room 105 in Jacksonville, North Carolina

ATTENDEES:

Charity Delaney/MCIEAST-MCB CAMLEJ	Marvin Powers/RAB Member
Patti Vanture/MCIEAST-MCB CAMLEJ	Karen Sota/RAB Member
Bryan Beck/NAVFAC Mid-Atlantic	Steven Thompson/RAB Member
Dave Cleland/NAVFAC Mid-Atlantic	Dale Weston/RAB Member
Gena Townsend/EPA	Brian Wheat/RAB Member
Randy McElveen/NCDENR	Chris Bozzini/CH2M HILL
Michael Curtis/RAB Co-Chair	Monica Fulkerson/CH2M HILL
Laura Bader/RAB Member	Kim Henderson/CH2M HILL
Thomas Mattison/RAB Member	Matt Louth/CH2M HILL
Leonard McAdams/RAB Member	Xavier Blount/Court Reporter
Richard Mullins/RAB Member	

FROM: Kim Henderson/CH2M HILL

DATE: February 28, 2014

I. Welcome and Introductions

Ms. Delaney began the meeting and reviewed the agenda.

II. Public Meeting

A public meeting was held for Installation Restoration Program (IRP) Site 86 Proposed Remedial Action Plan (PRAP). The presentation was presented by Mr. Bozzini. A North Carolina court reporter recorded minutes on the public meeting that will be available in the Administrative Record upon completion. A handout of the PRAP was made available with information on the public comment period. The RAB members had general questions for clarification on the long-term effectiveness, degradation, timeframe for reduction, hydrological flow in relation to the nearest drinking water wells, and the potential for recontamination based on ongoing flightline activities.

II. Site 78 Treatability Study Update

Objective: The purpose of this agenda item was to review site background and provide a summary of treatability study results.

Overview: A presentation was reviewed by Mr. Bozzini. Operable Unit (OU) 1, Site 78 is the Hadnot Point Industrial Area that was developed in the late 1930s and includes maintenance, warehouses, painting, printing, auto body shops, and small industrial facilities. Previous investigations identified three areas of impacted groundwater including Site 78 North and South where petroleum and chlorinated volatile organic compounds (CVOs) groundwater plumes have been identified, and the Hadnot Point Fuel Farm that is a petroleum-related groundwater plume.

The Final Record of Decision (ROD) for OU 1 was signed in 1994 and a groundwater extraction and treatment system, land use controls (LUCs), and long-term monitoring (LTM) programs are in-place. The 2010 Five-Year Review indicated that groundwater trends leveled over time, the groundwater extraction and treatment system is

less effective, and recommended re-evaluation of extent of contamination, updates to the LUCs and LTM network, and alternative treatment technologies. A Supplemental Groundwater Investigation was completed in 2013 to evaluate the current extent of contamination in support of updating LUCs and the LTM network. Additionally, a Treatability Study was initiated in the Site 78 South area to support the evaluation of alternative treatment technologies for long-term protectiveness and to accelerate cleanup. The Treatability Study locations are at Building 1601 where the surficial aquifer (20 to 40 feet below ground surface [ft bgs]) has a co-mingled CVOC and petroleum hydrocarbon plume (>1,000 micrograms per liter [$\mu\text{g/L}$]) and the Building 1603 area where the Upper Castle Hayne aquifer (50-60 ft bgs) has the highest concentrations of CVOCs (>10,000 $\mu\text{g/L}$). First, a bench scale study was conducted to evaluate the effectiveness of select amendments in reducing concentrations in groundwater prior to full-scale field implementation. 90% destruction desirable for field implementation

At Building 1601, the amendments tested included persulfate (base-activated and iron-activated) and sulfate (without and with bioaugmentation). No meaningful reduction in trichloroethene (TCE) or benzene was identified from the persulfate tests. In the sulfate tests, no meaningful reduction in TCE or toluene was observed.

At Building 1603, the amendments tested included EHC-L (without and with bioaugmentation) and bioaugmentation only. The EHC-L without bioaugmentation exhibited no significant reduction in CVOCs. The bioaugmentation only indicated a 99.7% reduction in total CVOCs and the EHC-L with bioaugmentation indicated 100% reduction in total CVOCs.

Based on the results, the treatability study was focused on the Building 1603 area using EHC-L with bioaugmentation and two injection wells and three monitoring wells were installed at 50 to 60 ft bgs. The radius of influence is estimated at 15 ft. One pore volume was injected in December 2013 and six months of monitoring will be conducted. The baseline groundwater monitoring and soil gas screening was completed in May 2012 and October 2013, respectively. The groundwater results were reviewed and the radius of influence of at least 18 ft was achieved and degradation is occurring. No apparent impacts to soil gas were observed through 6 weeks. The next rounds of monitoring are planned in March and June 2014. The Treatability Study Report is planned for completion in December 2014.

Additionally, updates to the LTM well network will be initiated in March 2014 and the LUCs will be updated in May 2014. The next Five-Year Review is due in 2015 and will evaluate remedy performance and determine if it remains protective of human health and the environment, and identify any issues that may be preventing the remedy from functioning as designed.

A RAB member asked whether bioaugmentation has been conducted at other sites and what happens to the bugs after treatment. Bioaugmentation has been conducted at several VOC groundwater plume sites and the bugs will eat the VOCs and when it is gone, they die off as organic matter.

III. UXO-27 Preliminary Assessment/Site Inspection (PA/SI)

Objective: The purpose of this agenda item was to provide background, present the investigation approach, and review the schedule.

Overview: A presentation was reviewed by Mr. Louth. The site is an 18-acre former gun position that consists of UXO-27 covering 14 acres closed to range activities, active training covering four acres, and off-Base covering 0.3 acres owned by NC Coastal Land Trust. Military construction (MILCON) is pending within UXO-27 for Everett Creek Road improvements and new buildings south of Everett Creek Road.

Based on historical records review, Tactical Landing Zone (TLZ) Owl, located across Everett Creek Road from UXO-27, may have trained soldiers with covering fire (usually small arms) and used as a firing position associated with TLZ Owl that may have been used for artillery into K-2 Impact Area. Munitions may be similar to adjacent Site UXO-02.

The objectives for the PA/SI are to evaluate the potential presence and nature of impacts from former training activities, evaluate potential risks to human health and the environment, and reduce the potential for encountering munitions during future MILCON activities.

The PA/SI approach includes site preparation activities (survey, utility locating, and vegetation clearance) followed by digital geophysical mapping (DGM), intrusive investigation, and environmental sampling. The field activities were conducted December 2013 - January 2014. DGM included 10% of the site in transects and 100% in a 1-acre MILCON area. 705 anomalies were identified and 412 anomalies were investigated, within the transects and the MILCON area (except for the roadway itself). No munitions and explosives of concern (MEC) were found and 49 material potential presenting an explosive hazard (MPPEH) items were found. The MPPEH items were all expended training type items including flares, practice grenades, fuzes, and 40-millimeter (mm) cartridges.

Twelve surface soil, six subsurface soil samples, and three groundwater samples were collected for laboratory analysis for explosives residues and metals and results are pending. The data will be screened to evaluate potential risks to human health and the environment. A PA/SI Report and After Action Report are planned for completion in June 2014.

A RAB member asked whether any anomalies were investigated under the road. The anomalies under the road were not investigated because there was reportedly metallic debris disposed under the road during construction and it is assumed that any MPPEH items under the road would be similar to the items found adjacent to the road.

V. MILCON Support at UXO-29

Objective: The purpose of this agenda item was to provide background, present the investigation approach, discuss initial findings, and review the schedule.

Overview: A presentation was reviewed by Mr. Louth. A MILCON at MCAS New River is ongoing for hangar, roadways, recreation facilities, and RV/boat storage. In May 2013, MILCON activities were suspended in a 9.2 acre area based on discovery of three 2.36-inch practice bazooka rockets that Base EOD responded to. There are adjacent/overlapping former ranges to the MILCON area and 182 acres were identified for closure under the MMRP as UXO-29.

UXO-29 includes the Infantry Weapons Demonstration Course, B-17 that was active from 1946 to 1947, Artillery Training Area used from 1941 to 1943, and Hand Grenade (practice) Demonstrator, M-113 that was active from 1970 to 1977. A wide variety of ordnance was used including small arms, cartridges, rockets, projectiles, and hand grenades.

The investigation approach includes vegetation reduction, site survey, utility locating, DGM, and intrusive investigation in 100% of the 6.8-acre MILCON area. Additionally, the stockpiled soil, encompassing 200 cubic yards over three acres were investigated via mag-and-dig.

The DGM activities were completed in October 2013 and 1,537 anomalies were identified representing potential subsurface munitions. Intrusive investigation activities were completed in November 2013. Eight MEC items, including high-explosive white phosphorous items, and over 300 MPPEH items were found. The items were detonated on-site and pre- and post-detonation soil sampling was conducted in the inner and outer crater. The samples were analyzed for explosives residues and metals and there were no exceedances of soil screening levels.

The report is planned for completion by May 2014 and an After Action Report will be completed within six months of completion of MILCON activities.

A RAB member expressed concern with the presence of white phosphorous based on the purpose of the items. Charity discussed the Base process for reviewing construction projects and in this case, work was added in adjacent areas after the review.

VI. RAB Business

Ms. Delaney proposed the next RAB meeting on Wednesday, May 28, 2014. A RAB member requested an update on the vapor intrusion at Building 1101. Charity indicated a vapor intrusion mitigation system has been installed and is effective and the report will be available in the Administrative Record. Suggestions for other meeting topics were requested.