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

RAB Meeting: August 12, 2010

ATTENDEES:	Bob Lowder/MCB CamLej	Cynthia Rester/RAB Member
	Charity Rychak/MCB CamLej	Thomas Mattison/ RAB Member
	Dave Cleland/NAVFAC Mid-Atlantic	Karen Sota/RAB Member
	Gena Townsend/EPA Region 4	Steven Thompson/RAB Member
	Randy McElveen/NCDENR	Tom Roth/CH2M HILL
	Laura Bader/RAB Co-Chair	Matt Louth/CH2M HILL
	Chris Holman/RAB Member	Kim Henderson/CH2M HILL
	Leonard McAdams/RAB Member	Genevieve Moore/CH2M HILL
FROM:	Genevieve Moore/CH2M HILL	
DATE:	August 26, 2010	

LOCATION

Coastal Carolina Community College, Business Technology Building, Room 102 in Jacksonville, North Carolina

MINUTES

I. Welcome and Introductions

Mr. Lowder began the meeting.

II. Site 69 and UXO-02 Update

Objective: The purpose of this agenda item was to provide the RAB with a review of the Site 69 and UXO-02 background information, outline recent field investigation activities, and review the project schedule. This discussion was led by Mr. Louth.

Overview: Mr. Louth explained the objective of the Site 69 and UXO-02 investigation including background information for each of the sites. Site 69 is the Former Rifle Range Chemical Dump, located on a 14-acre wooded site, 800 feet west of the New River. Active disposal of solvents, pesticides, polychlorinated biphenyls (PCBs), and waste occurred from 1950 through 1976 and there was reported disposal of mustard or nerve agent in 1953. Site 69 is located within Military Munitions Response Program (MMRP) Site UXO-02. Site UXO-02 is the Unnamed Explosives Contaminated Range that covers a 127-acre wooded area. The types of munitions used are unknown and the area has been used for troop training activities.

In 2000, an Interim Record of Decision (ROD) was signed for land use controls (LUCs) and monitored natural attenuation (MNA) for volatile organic compounds (VOCs) in groundwater at Site 69. At Site 69, a supplemental investigation was conducted including Digital Geophysical Mapping (DGM) and environmental sampling to confirm the extent of contamination.

At UXO-02, a preliminary assessment/site inspection (PA/SI) was conducted including DGM and environmental sampling to evaluate whether a release of munitions constituents or other hazardous substances occurred and to assess the presence of subsurface munitions and explosives of concern (MEC).

In 1982, two areas of waste disposal were identified at Site 69. Unmarked, 55-gallon drums of supposed mustard or nerve gas were located approximately five feet below ground surface. To complete delineation of the site, DGM was conducted and surface water, sediment, surface soil, and subsurface soil, and groundwater samples were collected for VOCs, SVOCs, pesticides/PCBs, metals, and NAIPs. DGM was also conducted at UXO-02 and surface water, sediment, surface soil, subsurface soil, and groundwater samples were collected and analyzed for explosives, PETN, nitroglycerin, perchlorate, and total and dissolved metals.

A geophysical survey was conducted over 10% or 11 acres of UXO-02. Two wetland areas are located within UXO-02 and these areas were not surveyed. Mr. Louth explained that the wetlands will be surveyed if the initial DGM indicates that there may be impacts. 1,457 anomalies were identified and 308 were deemed suspected cultural debris or noise. Mr. Louth explained that typical DGM results are about600 anomalies per acre, and the number of anomalies found at UXO-02 was not unusual.

A geophysical survey was conducted over 100% or 14 acres of Site 69, and revealed buried waste confirming the locations of burial trenches. Two areas of concern were identified within the fence line, corresponding with the results of the previous survey.

Soil samples were collected across UXO-02 and Site 69. Because of the suspected mustard or nerve gas burial, all samples were pre-screened by an onsite laboratory, Edgewood Chemical Biological Center (ECBC), prior to release to offsite analytical laboratories. No chemical agents or degradation products were detected in any samples. Several metals were detected above screening levels at both sites, but their widespread distribution indicates that they may be naturally occurring. Mr. Louth explained that a Base background study is currently being conducted and the results will assist in determining whether or not the metals are naturally occurring. Sediment and surface water analytical results at both sites also revealed similar metals concentrations, and pesticides were identified above screening criteria in sediment samples at Site 69.

At Site 69, three chlorinated VOCs (CVOCs) exceeded screening criteria within the surficial and Upper Castle Hayne aquifer where Cis-1,2-Dichloroethene was at the highest concentration and the vinyl chloride (VC) plume covered the greatest area and the associated figures depicting the extent were reviewed. Vinyl chloride also exceeded screening criteria at two locations within the Middle Castle Hayne aquifer. In conclusion Mr. Louth reviewed the findings at Sites 69 and UXO-02 and indicated that risk assessment results are still pending. The Supplemental Investigation Report at Site 69 and the

Preliminary Assessment/Site Inspection (PA/SI) at UXO-02 will be completed in November 2010.

Mr. McElveen questioned whether a report will be submitted documenting the initial investigation as well as the intrusive investigation. Mr. Louth stated that a PA/SI report will be prepared to document the environmental sampling and DGM results. The intrusive investigation at UXO-02 will be conducted and reported as part of an Expanded SI. Mr. Lowder indicated that the phased approach is based on funding.

III. Site 86 Supplemental Remedial Investigation Update

Objective: The purpose of this agenda item was to present the conclusions of the Expanded Supplemental Remedial Investigation (SRI) at Site 86. This discussion was led by Mr. Louth.

Overview: Mr. Louth began by giving a brief review of Site 86 background. Site 86 is located within OU 20 and covers approximately 130 acres at the Air Station. Trichloroethylene (TCE) and degradation products were initially detected east of the flight line and the Expanded SRI was conducted to identify new source areas and evaluate the nature and extent of contamination. In 2010, the Site 86 boundary was expanded to encompass the newly constructed hangar and surrounding areas.

Surface and subsurface soil samples were collected during the Expanded SRI. PAHs and metals were detected above screening criteria in surface soil samples. The human health risk assessment (HHRA) indicated a potential risk to hypothetical future residents due to exposure to chromium in surface soil on the current flight line. Although metals and one pesticide were detected above screening levels in subsurface soil, no unacceptable risks were identified. SVOCs, pesticides, and metals exceeded screening levels for sediment and surface water in the flight line drainage ditch, and surface water exceedances were also detected in the western storm water pond. However, no unacceptable human health or ecological risks were identified.

Mr. Louth reviewed figures depicting the flow of groundwater and the TCE and VC plumes in the surficial and upper Castle Hayne aquifers. From the figures he indicated that currently the surficial and upper Castle Hayne aquifer VOC plume has been delineated and that there is a potential human health risk for the hypothetical future resident and construction worker due to tetrachloroethene (PCE), TCE, VC, Cis-1,2-dichloroethene, and chromium exceedances. The site was also included in the base-wide vapor intrusion study and there were no unacceptable risks identified.

There were limited exceedances of the NC2Ls in the Middle Castle Hayne aquifer and the HHRA indicated a potential risk to the hypothetical future resident due to chromium, benzo(a)pyrene, benzo(b)fluoranthene, dibenza(a,h)anthracene, and indeno(1,2,3-cd)pyrene concentrations. Ecological risks were not identified based on potential groundwater discharge to surface water.

In summarizing the findings from the Castle Hayne aquifers, Mr. McElveen asked if all of the detections/exceedances were from the same well. Mr. Louth indicated that there were exceedances in several wells across the site.

Fate and transport modeling was conducted to refine the understanding of transport mechanisms. Future VOC plumes were simulated using MODFLOW-2000 and MT3D. The figures shown indicated that the TCE plume will reach its peak in roughly 10 years and begin to degrade; therefore, the 40 year plume indicated a much smaller TCE plume, but a larger plume of daughter products/degraded VOCs.

The draft Expanded SRI is currently under review and the final will be completed in the first quarter of FY 2011.

IV. Camp Devil Dog (MMRP Site UXO-19) Brief

Objective: The purpose of this agenda item was to provide the RAB with an update of the Camp Devil Dog PA/SI findings and path forward. This discussion was led by Mr. Louth.

Overview: Mr. Louth explained that Camp Devil Dog is currently the center of the Marine Combat Training at the School of Infantry where facilities include billeting, training classrooms, and messing. The PA/SI was initiated at the site to facilitate MILCON activities. Within the proposed construction areas, seven former ranges were identified. Four of the seven Ranges were identified within UXO-19 and the other three are outside of UXO-19 and within the boundaries of Camp Devil Dog.

PA/SI field activities included DGM, and surface and subsurface soil and groundwater sampling for select metals, explosives, and perchlorate. No unacceptable risks to human health or the environment have been identified from analytical results. DGM was conducted over 10% of the former range area, and 100% over the MILCON footprint. A total of 4,645 anomalies were identified, and 4,417 were investigated. 42 MEC items were discovered. All 42 items were demilitarized on site and 2,385 lbs of Material Documented as Safe (MDAS) was smelted at Bedford Recycling Center in Indiana.

The Draft PA/SI report for Camp Devil Dog was submitted in July 2010, and additional phased intrusive investigation activities are planned for late FY 2010.

V. MMRP Site UXO-06 Borrow Pit Investigation Brief

Objective: The purpose of this agenda item was to provide an update on the Borrow Investigation activities at UXO-06 and review the path forward for the site. The discussion was led by Mr. Louth.

Overview: The Focused SI at UXO-06 is being conducted in a phased approach so that areas may be cleared for borrow pit expansion. 100% DGM and MEC intrusive investigations and environmental sampling are planned (or have already been performed) for each phase. The Phase 1 area is approximately three acres where nine surface soils and three subsurface soils were collected and analyzed for select metals, explosives, and perchlorate. Although arsenic, aluminum, and chromium were detected in the soils above screening levels no unacceptable human health or ecological risks were identified.

DGM results for each phase are listed below:

- **Phase 1**
    - 435 target anomalies

    - 6 polygon anomalies
- **Phase** 1A
    - 2,946 target anomalies
    - 14 polygon anomalies
- **Phase 2**
    - 5,118 target anomalies
    - 11 polygon anomalies

The MEC intrusive investigation revealed 21 MEC items including HEAT rockets, illumination mortar, illumination grenade, rifle grenade, and practice rockets. 1,530 MPPEH items were also identified and included practice rockets and smoke grenades. The MEC items were blown-in-place (BIP) followed by environmental sampling for explosives. During investigation activities, swamp matting was discovered along with suspected debris piles of construction materials, truck parts, and other accumulated scrap.

Future activities at UXO-06 include investigation of the expanded area of the Borrow Pit boundary and ponds within the site, soil removal from BIP locations where explosives were detected, and disposal of MDAS and small arms. The Phase 1 Area is complete and approved for release as borrow material. The MEC investigation in Phases 1A and 2 is ongoing through September 2010. Reporting schedules are as follows:

- Phase 1A: December 2010
- Phase 2: January 2011
- Site wide PA/SI report – 2011-2012

VI. RAB Business

Mr. Lowder proposed the next RAB date for **Thursday, November 18, 2010** and requested topics for the next meeting. The Site 69 risk assessments will be completed and the results will be a topic for review. Other topic suggestions may be presented to Mr. Lowder via email.