

FINAL MEETING SUMMARY

Marine Corps Base Camp Lejeune Restoration Advisory Board Meeting Minutes:

RAB Meeting: June 16, 2005

ATTENDEES:	Robert Lowder/MCB Camp Lejeune	Laura Bader/RAB Co-Chair
	Ken Cobb/MCB Camp Lejeune	James Brewster/RAB Member
	Daniel Hood/NAVFAC Atlantic	Fannie Coleman/RAB Member
	Gena Townsend/USEPA Region IV	Katherine Davis/RAB Member
	Randy McElveen/NC DENR	J. M. Ensminger/RAB Member
	Matt Louth/CH2M HILL	Ray Humphries/RAB Member
	Chris Bozzini/CH2M HILL	Thomas Matlison/RAB Member
	Donna Laudermilch/CH2M HILL	Marvin Powers/RAB Member
	Ron Kenyon/Shaw	Norman Bryson/Onslow Co. Emergency
	Rich Bonelli/Baker Environmental	Services

From: Donna Laudermilch/CH2M HILL
DATE: July 18, 2005

LOCATION

Coastal Community College, Building CE, Room 202 in Jacksonville, North Carolina

MINUTES

6:00

PM

I. Welcone and Intruductions

II. Environmental Restoration Program Overviews

Objective: The purpose of this discussion was to provide the RAB with an informative overview of the Installation Restoration (IR) Program, Solid Waste Management Unit (SWMU) Program, the Underground Storage Tank (UST)/Aboveground Storage Tank (AST) Program, and the Military Ranges. Mr. Bob Lowder presented this information.

Overview:

IR Program: The IR program was placed on the National Priorities List (NPL) in 1989, and the Federal Facilities Agreement (FFA) between the Navy, the EPA, and the State of North Carolina was signed in 1991. IR sites are

those identified before 17 October 1986, and are addressed under CERCLA legislation. There are 85 IR sites on Base:

- 16 active remediation sites – 13 active remediation sites – 3 active remediation sites with land use controls (LUCs) and long-term monitoring (LTM)
- 69 “No Further Action” (NFA) sites – 14 NFA sites with LUCs in place

SWMU Program: SWMU sites are those identified after 17 October 1986, and are addressed under RCRA legislation. There are 147 SWMU sites on Base:

- 55 active sites – 26 active SWMU sites – 29 sites awaiting NFA
- 92 NFA sites

UST and AST Program: Sites in the UST/AST program include sites contaminated with petroleum, oil, or lubricants (POLs) due to UST/AST leaks. These sites are also addressed under RCRA legislation. There are 193 UST/AST sites on Base:

- 41 active sites – 22 sites in the site assessment phase – 19 sites with active systems in place (i.e., air sparge, SVE, etc.)
- 152 NFA sites

Military Ranges: Sites in this program include Closed, Transferred, and Transferring (CTT) range remediation sites and active and inactive ranges. A range environmental vulnerability assessment (REVA) was performed, and bullet traps were installed for lead control (8 trap systems for a total of 161 traps). There are 242 military ranges on Base:

- 218 operational ranges – 77 active ranges – 141 inactive
- 23 ranges recommended for closure
- 1 transferred range

Note: to date no ranges have been “closed” in terms of cleaning up the unexploded ordnances. The RAB members would like to be provided with a list of identified ranges for the next RAB meeting.

Ranges near the New River include D29 (which has 32 bullet traps in place) and D30 (which has no bullet trap, but the range is scheduled to be moved and a bullet trap installed). Two years ago the Base cleaned up the excess bullets that had entered New River at D30 due to erosion. Ranges A1 and I1 are also adjacent to the New River, but bullet traps are in place at these ranges.

A RAB member raised the question regarding known contamination at GSRA. According to Mr. Lowder, there was no known contamination at GSRA when the property was purchased. An environmental study was performed before the property was acquired and the Base did not purchase any property that was known to be contaminated. One SWMU has been identified in the last few months, which contained asbestos; however this will be cleaned up.

Action: Bob will provide the RAB with a list of Base ranges at the next RAB meeting.

III. Site 88 Pilot Study Update

Objective: The purpose of this discussion was to provide an update on the status of the shallow soil mixing with zero valent iron (ZVI) injections at Site 88. Mr. Chris Bozzini from CH2M HILL presented this information.

Overview: This presentation focused on activities completed since the previous RAB meeting. The site background and prior activities were summarized and photos of field activities were presented. The soil mixing was completed in March 2005 and the treatment area was stabilized with cement. Currently, new steam lines are being installed and the site is being prepared for conversion into a new parking lot. The parking lot design was presented - the site will be brought to grade and approximately 50 parking spaces will be created. The projected schedule of remaining events is as follows:

- Pave parking lot – July 2005
- Install monitoring wells – July 2005
- Conduct post-treatment multimedia sampling – July/August 2005

Approximately 8-16 soil samples were collected immediately after the soil mixing and then 60 days after mixing was complete. Initial post-treatment results showed an initial average tetrachloroethene (PCE) concentration of 1,096,632 parts per billion (ppb). Concentrations indicated that the shallow soil mixing resulted in homogenization of the site. Samples collected 60 days after soil mixing showed a PCE concentration of approximately 467,650 ppb, indicating a 57% reduction in PCE and an estimated half-life of about 50 days, which is what was projected at the start of the project. Based on the initial concentrations, roughly 11 tons of solvent were initially present in treatment area.

IV. Site 35 Pilot Study Update

Objective: The purpose of this discussion was to present an update on site activities associated with soil fracturing and permanganate injections. Mr. Chris Bozzini from CH2M HILL led this discussion.

Overview: This presentation focused on activities completed since the previous RAB meeting. The site background and previous injections were summarized and the timeline of remaining events was presented. As of June 2005, the pilot study is nearing its end; the final sampling event will be in July 2005 and the Pilot Study report will be issued in October 2005.

The analytical results from the first round of monitoring following the permanganate injection show a 72% to 89% reduction in total volatile organic compounds (VOCs) in the monitoring wells within the target area (MW-72B, MW-73B, and MW-74B) and an 80% to 99% reduction in TCE concentrations within the target area. In addition, some vinyl chloride (VC) is being generated likely due to some degradation occurring.

The schedule of remaining events is as follows:

- Collect final round of groundwater samples in July 2005.
- Submit Pilot Study Report around October 2005.

Initial conclusions are that contaminant mass is being reduced as evidenced by the large reduction in VOC concentrations within the treatment area. Pilot study results also indicate that natural attenuation is occurring at the site at wells outside the treatment area.

V. Site 86 Horizontal Well Pilot Study Update

Objective: The purpose of this discussion was to provide RAB members with an update on the horizontal well ozone injection. This information was presented by Mr. Chris Bozzini from CH2M HILL.

Overview: This presentation focused on activities completed since the previous RAB meeting. The site background and prior pilot study activities were summarized the timeline of remaining events was presented, and photographs of the site equipment were displayed. As a review, trichloroethene (TCE) is the primary contaminant of concern at the site, with the highest contaminant concentrations 45 feet below ground surface.

The groundwater monitoring system consists of four monitoring well clusters that each monitors three groundwater zones (30-35 feet below ground surface [bgs], 40-45 feet bgs, and 45-50 feet bgs). The three rounds of analytical data collected to date (baseline and two rounds of post-sparging data) show significant decreases in VOC concentrations using air sparging only within the treatment area in all three groundwater zones. Analytical data further indicates the air sparging is having an influence in monitoring wells outside the treatment area.

The remaining schedule of events is to start up the ozone equipment in June 2005, followed by groundwater monitoring conducted on a quarterly basis in May, August, and November 2005.

VI. Preliminary Assessment (PA) Site Overview

Objective: The purpose of this agenda item was to provide an overview of the 20 PA sites as requested by the RAB at the previous meeting. This discussion was led by Mr. Matt Louth from CH2M HILL.

Overview: Under the IR Program, sites identified based on their listed operations must be investigated. At Camp Lejeune, 20 sites were initially identified based on their operations. The preliminary assessment of these sites consists of: a literature review, field reconnaissance, field sampling for sites with insufficient information, and preparation of the Final PA report.

Based on the literature review of the 20 sites initially investigated, eight sites were identified for further investigation (3 at Hadnot Point, 3 at New River Air Station, and 2 at Montford Point). Maps of the sites (and sampling locations) were provided, and photographs of these sites were presented.

In June 2004 soil and groundwater samples were collected using direct-push technology (DPT). Samples were collected from 4 locations surrounding each building and analyzed for VOCs, semi-volatile organic compounds (SVOCs), target analyte list (TAL) metals, and pesticides/polychlorinated biphenyls (PCBs).

Based on analytical results, three of the eight sites were proposed for further investigation:

- Building AS116 (groundwater)
- Building AS119 (groundwater and soil)
- Building M315 (soil).

VII. Intrusive Activity Training for Base Employee Overview

Objective: The purpose of this agenda item was to provide an overview of how the Base handles any intrusive activities on sites within the IR program. This discussion was led by Mr. Ken Cobb.

Overview: Land Use Controls (LUCs) are sometimes used as part of a remedy at a site on Base. LUCs include any restriction or control to protect human health and the environment that limits the use and/or exposure to contaminants. Once LUCs are in place at a site, the Commanding General, NCDENR and EPA sign a Land Use Control Assurance Plan (LUCAP).

In order to prevent intrusive activities on sites with LUCs in place, it is necessary that information regarding these LUCs be made available. At the Base, information regarding LUCs is disseminated through:

- Project NEPA reviews;
- A GIS database is maintained by the Base with data layers showing all LUCs in place at any site on Base. This GIS database is accessible by anyone.
- Annual 'Intrusive Activity' Training is sponsored by the Environmental Quality Branch on an annual basis. The training began in 2001.

VIII. Next RAB Meeting

The Next RAB Meeting will be **September 15, 2005** at **6:00 PM**. Bob Lowder will secure a location for the meeting and send the information to the RAB members. The RAB members would like the following items to be included in the agenda for September:

- Provide a list of military ranges
- Information about the Dry Cleaners in the TT Area
- Time-table for REVA and what has been done thus far

Mr. Bob Lowder will develop some additional agenda topics for inclusion at the September meeting.