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

MEETING DATE: August 6, 2014

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

ATTENDEES:

Charity Delaney/MCIEAST-MCB CAMLEJ	Thomas Mattison/RAB Member
Patti Vanture/MCIEAST-MCB CAMLEJ	Richard Mullins/RAB Member
Bryan Beck/NAVFAC Mid-Atlantic	Karen Sota/RAB Member
Dave Cleland/NAVFAC Mid-Atlantic	Nicole Triplett/Guest
Gena Townsend/EPA	Dale Weston/RAB Member
Randy McElveen/NCDENR	Brian Wheat/RAB Member
Michael Curtis/RAB Co-Chair	Kim Henderson/CH2M HILL
Laura Bader/RAB Member	Matt Louth/CH2M HILL

FROM: Kim Henderson/CH2M HILL

DATE: August 11, 2014

I. Welcome and Introductions

Ms. Delaney began the meeting and reviewed the agenda. The Deputy Assistant Secretary of the Navy will be on-Base this Friday to present the Fiscal Year 2013 Secretary of Defense and Secretary of Navy Environmental Award to the Team and Laura Bader and Michael Curtis will be attending to represent the RAB.

III. Interim Remedial Action Completion Reports

Objective: The purpose of this agenda item was to review the purpose of Interim Remedial Action Completion Reports (IRACRs) and provide an update and schedule for sites planned for Remedy-In-Place (RIP) status in Fiscal Year 2014.

Overview: A presentation was reviewed by Mr. Louth. IRACRs are completed after the remedy selected in the Record of Decision (ROD) is designed and implemented for remedies where it is anticipated that remedial action objectives will be achieved over a long period. The purpose is to document that the remedy has been constructed and is functioning as designed and signifies the RIP milestone in the CERCLA process. Once the cleanup levels have been achieved and the remedy is complete, a Remedial Action Completion Report (RACR) is prepared and the response is considered Response Complete (RC).

There are 68 Installation Restoration Program (IRP) sites and 35 have been closed with no further action, 26 have achieved RIP, 4 are planned for RIP in Fiscal Year 2014 (Sites 49, 69, 86, and 89), and 3 are under investigation.

At Site 49, the Marine Corps Air Station (MCAS) Suspected Minor Dump, the ROD was signed in April 2014 with a selected remedy of monitored natural attenuation (MNA) of volatile organic compounds (VOCs) in groundwater and land use controls (LUCs) to prevent aquifer use and potential vapor intrusion. The Remedial Design was finalized in January 2014. MNA was initiated in May 2014 and the IRACR and LUC survey plat were submitted in August 2014.

At Site 69, the Rifle Range Chemical Dump, the ROD was signed in June 2013 with a selected remedy of capping and LUCs to prevent exposure to waste and MNA and LUCs for groundwater. The Remedial Design was finalized in February 2013. The cap installation is ongoing through August/September 2014. The MNA downgradient well

installation is planned in September 2014 followed by the IRACR and LUC survey plat. A RAB member asked how large the cap is, how much it costs, what the finished site will look like, and how much dirt was brought in. It is approximately four acres, costs $5.1MM, it will be maintained grass when completed, and the dirt brought in was up to 8 feet of cover in some areas. Once the cap is completed, a presentation can be prepared for the RAB, including a time-lapse movie of the installation.

At Site 86, Tank Area AS419-AS421, the ROD was prepared for signature in July 2014 with a selected remedy of MNA of VOCs in groundwater and LUCs to prevent aquifer use and potential vapor intrusion. The Remedial Design was submitted in April 2014 and is pending regulatory review. The MNA downgradient well installation, IRACR and LUC survey plat are planned for completion in September 2014.

At Site 89, the former DRMO, the ROD was signed in December 2012 with a selected remedy of air sparging to treat VOCs in groundwater in source area, a permeable reactive barrier to treat VOCs in downgradient groundwater, MNA to monitor plume stability and migration, and LUCs to prevent aquifer use and potential vapor intrusion. The Remedial Design was finalized in November 2012 and the selected remedy was implemented from March 2013-January 2014. The IRACR and LUC survey plat are planned for completion in September 2014.

III. Pilot Studies at Long-Term Monitoring Sites

Objective: The purpose of this agenda item was to review background information, present recent long-term monitoring (LTM) trends, present a pilot study approach, and review the schedule for three LTM sites where the studies are planned to reduce the duration of LTM

Overview: A presentation was reviewed by Mr. Louth.

At Site 3, the Old Creosote Plant, semivolatile organic compounds (SVOCs) were identified in soil and groundwater and VOCs were identified in groundwater. The selected remedy in the 1997 ROD was to conduct a soil removal, groundwater LTM, and LUCs. The current status is biennial LTM for SVOCs since VOCs were removed from LTM after four rounds were below cleanup levels. The last sampling event was conducted in December 2012 and only benzo(a)anthracene exceeded the cleanup level. The soil removal was conducted in 2000 and afterwards groundwater concentrations declined but are now stable and anaerobic conditions exist exhibited by the low dissolved oxygen (DO) readings of <0.5 milligrams per liter (mg/L) (optimal is >1-3 mg/L). Benzo(a)anthracene degrades under aerobic conditions so the plan is to conduct passive treatment to stimulate aerobic degradation of SVOCs through injection of Oxygen Release Compound (ORC). The study will include the installation of injection wells to target 25 feet below ground surface (ft bgs) and 90 ft bgs and monitor for four quarters utilizing two existing monitoring wells for select SVOCs, Natural Attenuation Indicator Parameters (NAIPs), and microbial. A RAB member asked what benzo(a)anthracene is. It is a SVOC that is typical in asphalt and creosote.

At Site 36, the Camp Geiger Dump Area, metals were identified in soil and VOCs were identified in groundwater. The selected remedy in the 2005 ROD was groundwater and surface water LTM and LUCs. The current status is biennial LTM for VOCs. The last sampling event was conducted in December 2013 and trichloroethene (TCE) and degradation products were detected above cleanup levels in groundwater and there were no detections in surface water. The VOC concentrations are relatively stable and the conditions are generally favorable for natural attenuation with a low DO and negative oxidation reduction potential (ORP); however, the total organic carbon (TOC) is <5 mg/L which is lower than optimal (20 mg/L). The plan for the pilot study is to conduct focused in-situ treatment to facilitate enhanced reductive dechlorination (ERD) through injection of an ERD substrate. The study will include the installation of injection wells and monitoring for four quarters for select VOCs, NAIPs, volatile fatty acids, and microbial.

At Site 93, Building TC-942 a former waste oil underground storage tank (UST), the selected remedy in the 2006 ROD was in-situ chemical oxidation (ISCO) to treat VOCs in groundwater, groundwater LTM, and LUCs. The current status is annual LTM for VOCs. The last sampling event was conducted in December 2013 and tetrachloroethylene (PCE) and degradation products were detected above cleanup levels in groundwater from the surficial aquifer and are stable or slightly increasing. Complete biodegradation is not occurring so a microbial sample was collected to evaluate presence and potential biodegradation and only low populations of microbes

were present. Conditions are a mixture of favorable and unfavorable for reductive dechlorination based on a pH that is lower than optimal range (6-8) and a low TOC of <5 mg/L. This may be a result of previous ISCO injections. The plan for the pilot study is to conduct focused in-situ treatment to accelerate the rate of degradation to increase pH to optimal ranges, add a carbon donor, and bioaugmentation to increase microbial populations through addition of an ERD substrate. The study will include the installation of monitoring wells and sampling for four quarters for select VOCs, NAIPs, volatile fatty acids, and microbial.

The Final Pilot Study Work Plan is planned for completion in December 2014 followed by well installation and baseline groundwater sampling in January 2015, pilot study implementation in February 2015, monitoring through October 2015, and a Pilot Study Report in January 2016.

A RAB member asked where the funding is coming from. The funding is from the Navy's Environmental Restoration Program. A RAB member commended the Team on the due diligence and tracking of site cleanups and asked whether the financial climate jeopardizes the future for funding projects like these. The funding for projects like this have been procured due to funds that were allocated but not spent at other facilities. Camp Lejeune is prepared and ready to implement projects like these for when funding comes available. National Geographic is currently preparing an article on CERCLA and Superfund and Camp Lejeune will represent the Department of Defense in the article. Since 1986, the Navy has spent over $201MM on Camp Lejeune, including some of the UST sites and the cost to complete is currently projected at over $90MM.

IV. North Carolina Department of Environment and Natural Resources

Objective: The purpose of this agenda item was to review the role of North Carolina Department of Environment and Natural Resources (NCDENR) Superfund Section in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process and request feedback.

Overview: A presentation was reviewed by Mr. McElveen. Regulatory authority is under CERCLA, Superfund Amendments and Reauthorization Act (SARA), Resource Conservation and Recovery Act (RCRA) and the National Contingency Plan (NCP). The State's responsibilities are to be involved on deciding whether to conduct a preliminary assessment/site inspection (PA/SI), allocation of responsibility for hazard ranking system (HRS) scoring for listing national priority list (NPL) sites, concurrence for site deletion, participation in long-term planning, and review and comment on CERCLA and RCRA documents.

Because NPL sites are exempt from Federal, State, and Local permits, the State representative coordinates compliance with the requirements of the substantive permits with other State entities. A RAB member asked how much is saved by not having to obtain permits. It is only a couple hundred dollars but savings are realized through expediting the schedule.

NCDENR also provides oversight of work to assure safe work to human health, the environment, and workers; assures work is completed as designed; and can mitigate short cuts that contractors may take to save money.

Mr. McElveen provided his contact information (919-707-8341) to ask questions or provide input on how NCDENR can better serve the RAB members.

A RAB member asked about areas outside the Base and how they are being addressed, for example the former dipping vat sites. A separate NCDENR entity coordinates with EPA to investigate other private sites and the UST section addresses old USTs.

VI. RAB Business

Ms. Delaney indicated that the next RAB meeting is tentatively planned for November 12, 2014 and notification will be provided prior to the meeting. The Community Involvement Plan is currently being updated and was identified as a potential topic for the next meeting. CDs of the annual Site Management Plan update should also be available at the next meetings. Suggestions for other meeting topics were requested.