09.01-11/12/92-00831

UNITED STATES MARINE CORPS
PUBLIC AFFAIRS OFFICE
P.O. BOX 8438
CAMP LEJEUNE, NORTH CAROLINA 28542-5000
919-451-5655/1607/FAX - 5882

IN REPLY REFER TO

November 12, 1992

Dr. Charlotte C. Levine, M.D.
Stump Sound Environmental Advocates
Route 2, Box 431
Sneads Ferry, NC 28460

Dear Dr. Levine,

Enclosed are the answers to the questions on hazardous waste cleanup efforts aboard Camp Lejeune you requested updates on. As you can see by our responses, we are very concerned with the environmental aspects of what we do aboard the base. As well, our efforts are in full compliance with all State and Federal regulations.

Your concern and attention to environmental issues is appreciated, and helps us gauge the effectiveness of our efforts to keep the public informed of our programs. If you have any further questions or concerns, please do not hesitate to contact me.

Sincerely,

J. C. Farrar

J. C. FARRAR
Major, U.S. Marine Corps
Director, Public Affairs

Enclosure (1)

STUMP SOUND ENVIRONMENTAL ADVOCATES QUESTIONNAIRE REGARDING MCB CAMP LEJEUNE NATIONAL PRIORITIES LIST SITES
RESPONSES UPDATED 20 OCT 92

1. Who is funding Toxic Waste Site (TWS) cleanups on CLNC? (EPA? USMC? other?)

The Defense Environmental Restoration Program (DERP) was established in 1984 to promote and coordinate efforts for the investigation and remediation of contamination from former hazardous waste disposal sites at Department of Defense (DOD) installations. The annual Defense Appropriations Act from Congress provides funding to the Defense Environmental Restoration Account (DERA). DERA funding is then divided among the services for site investigation needs. The Base receives its portion of the DERA account from the Department of the Navy. As tasked by Congress, the Navy/Marine Corps serves as the lead agency on investigation and remediation of our sites. EPA Region IV and the State of North Carolina Superfund Section provide no funding but do provide oversight and assistance to the Marine Corps.

1.a What has been the level of funding since 1980?

Funding from 1980 to 1989 was approximately $2,000,000. In 1990, funding was approximately $1,000,000. In 1991, funding was approximately $800,000. 1992 funding was $3,316,000.

1.b. What is the direction of funding in the future?

Due to having signed a Record of Decision (ROD) to begin cleaning up the Hadnot Point Shallow Aquifer and having expedited all our investigation and remediation schedules with EPA and State of NC, our funding for 1993 will exceed $6,000,000. In the 1993 - 1995 timeframe, more RODs are scheduled for signature resulting in design and construction of multiple cleanup systems. Thus in 1994 and 1995 we have requested in excess of $28,000,000 to implement these multiple cleanups.

1.c. Year by year, do you think MCB has spent too much, too little, or just right?

Prior to National Priorities Listing in 1989, the Base probably did not receive its proportional share of DERA funds. However, the NPL, Federal Facilities Agreement (FFA) negotiation and signature, and our volunteering for the Congressional program entitled "DOD Expedited Environmental Cleanup Program" has resulted in receiving adequate funds to comply and exceed the FFA schedules and has already resulted in signature of our first ROD. As detailed in our response to 1.b., we feel this trend will continue.

2. What authority has oversight responsibility for TWS cleanups at CLNC? (EPA? DOD? other?)

Please see the response to Question 1.

2.a. Does that authority approve of the site cleanup remedy?

The Navy/Marine Corps make initial approval. Final oversight and approval rests with EPA Region IV and State of NC.

2.b. Does that authority certify the cleanup?

If you refer to certification that the cleanup is complete, that certification would be concurrence from Navy/Marine Corps, EPA, and the State.

2.c. Are the CLNC sites on the National Priorities List?

Yes.

2.d. Does MCB, CLNC give the public opportunity to comment on the preferred cleanup alternative?

Yes, we comply with all regulatory requirements, EPA guidance, and Navy/Marine Corps policies involving public participation. An Administrative Record consisting of all documentation related to site investigations is maintained in the reserve section at the Onslow County Library in Jacksonville, NC and at the Base library. The Administrative Record is updated on a quarterly basis and is available for public review at any time. Additionally, public meetings, 30 day public comment periods, and periodic fact sheet mailings provide further opportunities for public participation. Prior to finalization and signature of the ROD discussed in Question 1.b., we held a public meeting, established a 30 day public comment period, and mailed fact sheets to interested parties identified in our Community Relations Plan. The public meeting and the public comment period were advertised in the Jacksonville Daily News and the Base newspaper, the "Globe." Our records indicate that we sent Ms. Carol Robinson of your organization a letter and a fact sheet regarding our proposed plan for the Hadnot Point Shallow Aquifer remediation dated June 2, 1992. We are also available to discuss our progress regarding site investigation and remediation with your organization at your request.

3. What is the MCB level of effort directed toward TWS cleanups? (i.e. What is the organizational structure directly responsible for this matter?)
3.a. Environmental scientists? Technicians? Equipment? Other?
3.b. Experience level of those involved?

The Base established the position of Installation Restoration (IR) Program Manager in August 1989. The IR Program Manager is a Chemical Engineer with nine years of experience implementing environmental programs in both the private sector and with the Marine Corps. Prior to coming to Camp Lejeune, the IR Program Manager ran the investigation and remediation of IR Program sites at Marine Corps Air Station Cherry Point, NC for four years.

Additionally, our environmental engineering contract services are handled in concert with the Atlantic Division, Naval Facilities Engineering Command (LANTDIV), Norfolk, Virginia. Our point of contact for these services is an environmental engineer. We have recognized the need for professional personnel to successfully address all site concerns and have recently hired a chemist and a geologist to complement our abilities to expedite site investigation and remediation ahead of enforceable schedules. Through our environmental engineering contract with Baker Environmental, Inc., we have access to a broad spectrum of scientific expertise including professional engineers, professional geologists, chemists, industrial hygienists, human health risk assessment specialists, ecological risk assessment specialists, and safety experts.

4. Does MCB rely on civilian contractors in these matters?
4.a. Site discovery and evaluation?
4.b. Evaluation of cleanup alternatives?
4.c. Implementation of remedial action?
4.d. Long term monitoring?

In all of the aforementioned areas, we have established a team approach under the Federal Facilities Agreement toward addressing the investigation and remediation of sites. This team is comprised of Marine Corps, Navy, contractor, State of NC, and EPA Region IV personnel. Site activities originate with a Scope of Work prepared by the IR Program Manager and the LANTDIV Remedial Project Manager. The Scope of Work is the result of Federal Facilities Agreement tasking; EPA, State, and Navy/Marine Corps guidance; and consultation with EPA and the State of NC. The Scope is then converted to a contract specification to our contractors. These contractors then prepare appropriate Remedial Investigation Workplans or Reports meeting all guidance and regulations. All written workplans and reports are submitted in draft format to EPA and State of NC for comment and approval prior to becoming final.

5. What methods has, and does, MCB use in site discovery? (Historical Aerial Photo analysis? Field trips by environmental staff personnel? other?)

We have utilized all of the methods you mention and additionally have used information from retired or long term employees that worked or had knowledge of site activities. Through cooperative efforts, we utilize the Environmental Photographic Interpretation Center (EPIC), a research group within EPA, to research and interpret photographs from various sources covering the years 1938 to present. EPIC reports have greatly enhanced our knowledge of former site activities and have allowed us to tailor our investigative field work based on this knowledge.

5.a. Has MCB done chemical testing of shellfish in waters near TWS to determine if mercury, lead, or other metals or organochlorides are, in fact, entering the aquatic food chain?

We have done ecological sampling of our four major sites to include fish tissue, sediment, benthic, surface water, and shellfish. This work was established after consultation with the U.S. Fish & Wildlife Service, the National Oceanographic and Atmospheric Administration, EPA's Ecological Technical Assistance Group, and the State of NC. The field work at these four sites was recently completed and results are not yet available. Ecological sampling is scheduled for our other sites that are in proximity to surface water.

5.b. Are TWS marked on the ground? How?

Those sites that have been identified as having potential risk from contact with near surface soils are fenced and posted with appropriate warning signs. Other sites with potential for subsurface contamination or groundwater contamination are not fenced and marked due to being located in industrial areas and/or not posing risk from contact with near surface soils. All sites are protected from disturbance, troop training exercises, and construction activities by a review process established through the Environmental Impact Working Group (EIWG). The EIWG reviews all proposed projects for potential impacts to the environment prior to implementation. The IR Program Manager serves on this committee to review any proposed projects for impacts to identified sites. The IR Program Manager also maintains close liaison with our Public Works and Base Maintenance offices to avoid impacts to these sites prior to their complete investigation and remediation.

6. What procedures and systems are used for site evaluations?
6.a. Which sites require cleanup?
6.b. How much cleanup is necessary?
6.c. What cleanup technology can do the job?

The initial stage, Preliminary Assessment (PA), was completed several years ago for all sites and determined if sites may pose hazards to human health and the environment based on interpretation of available information on the source, nature, and extent of actual and potential hazardous substance releases. The next stage consists of a Site Inspection (SI) wherein limited sampling and analysis is completed as a screening mechanism to confirm the existence of actual site contamination. Uncontaminated sites are then eliminated from further investigation after obtaining EPA and State of NC concurrence.

Upon confirmation of contamination, sites are fully investigated in the Remedial Investigation/Feasibility Study (RI/FS) phase. The RI includes site investigative, sampling, and analytical activities to determine the nature, full extent, and significance of contamination. Part of the RI also involves a human health based and an ecological based risk assessment to completely address the significance of identified contamination. Concurrent with the RI work, the FS is conducted to evaluate potential remedial actions for the site.

All work accomplished in these various phases must meet all EPA, State of NC regulations and guidance and is approved by both these agencies at each step prior to moving to the next phase of investigation or remediation.

Cleanup levels to include heavy metals are determined by comparison between contaminant levels and regulatory mandated maximum contaminant concentrations for soil, groundwater, sediments, and surface water. The results of risk assessments also determine cleanup action levels.

After EPA and State of NC approval is obtained and public comments are obtained and addressed as to how the site will be cleaned up, Remedial Design/Remedial Action (RD/RA) work begins. During this phase, detailed design plans for the cleanup are prepared and implemented. If any heavy metal contamination existed and was of sufficient quantity and chemical form, reclamation of these heavy metals would be considered in the FS phase.

The exception to this sequence involves Removal Actions. These actions may be conducted at any time during the IR Program process to protect human health and the environment. Such measures may include providing alternative water supplies, removing concentrated sources, or construction to prevent the spread of contamination.

6.d. Does MCB have groundwater monitoring wells around the MCB Sanitary Landfill?

Yes, these wells are situated around the landfill and are monitored periodically in accordance with NC Solid Waste Regulations and the State issued landfill permit.

7. Generally, do cleanups address current risk, or speculative future risk?

EPA guidance and State regulations require we address both. For example, the risk assessment scenario for groundwater requires we calculate the potential risk of drinking up to two liters of contaminated surficial groundwater per day even though in this area the surficial groundwater classification as determined by the State is that this water is not suitable for potable supply. We are also required to assess the potential future use of all sites in addition to their present usages.

8. Has MCB accomplished any TWS cleanups to date?

Yes, we have been operating a system for approximately one year that removes free floating fuel from the water table and recovers and treats surficial groundwater to below detectable limits at the former Hadnot Point fuel farm. This system to date has removed in excess of 10,000 gallons of free floating fuel and treated 1,000,000 gallons of contaminated groundwater. Two other systems similar to this one to remove fuel and treat groundwater are presently under construction.

Additionally, 18 drums of DDT contaminated soil were removed from one of our sites in May 1992.

As discussed in Question 1.b., we have signed a ROD to begin cleaning up the Hadnot Point Shallow Aquifer. The system to accomplish this cleanup is presently under design.

8.a. In each case, do you estimate the cleanups to be successful over the long run?

Yes, each cleanup proposal must be reviewed by the public and approved by the State, EPA, the Navy, and the Marine Corps prior to implementation. Once all regulatory cleanup standards have been met, we are still required to review and potentially resample each site every five years until such time as the EPA and the State concur with the appropriateness of delisting the site from further consideration. EPA requires that we choose cleanup methodologies that address the overall protection of human health and the environment; comply with all regulatory requirements; meet requirements for long-term effectiveness and permanence; reduce contaminant toxicity, mobility, or volume through treatment; meet short-term effectiveness requirements; are technically and administratively feasible; are cost effective; and are acceptable to the State and the community.

8.b. Is long term monitoring a part of the cleanups accomplished?

Please see response to Question 8.a.

8.c. If cleanups have involved retrieving chemicals or land removal, what has been done with the offensive material?

The DDT contaminated soil was disposed of through an EPA Resource Conservation Recovery Act (RCRA) permitted facility by incineration. Free floating fuel is sold as a recyclable product. Disposal of all contaminated media is accomplished in compliance with any applicable regulations.

9. For each toxic element the Marine Corps has used in the past, and still uses, what programs for toxic waste control doe MCB have in effect? (e.g. motor oil, etc.)

We have implemented a comprehensive hazardous waste minimization / chemical substitution program that has resulted in recycling 70,000 gallons of solvent since 1989 and 1,500,000 lbs of wet cell batteries since 1989. Additionally, we have implemented a waste oil/fuel recycling program wherein approximately 400,000 gallons of waste oil have been sold for recycling since 1989. Basewide, numerous chemical substitutions have been implemented resulting in use of biodegradable compounds instead of chlorinated solvents or other hazardous substances.

9.a. Does MCB have directives covering all aspects of the toxic waste program? Can copies be reviewed by the public?

We hold a RCRA permit under which we manage our hazardous waste aboard the Base. The RCRA permit requirements are comprehensive and establish a cradle-to-grave tracking program for the management of hazardous waste. This RCRA permit may be reviewed by the public. Internal regulations and Base Orders have also been implemented that enhance our compliance with the RCRA permit. Under RCRA, we are subject to frequent inspections by EPA and State regulatory officials. Noncompliance with the RCRA regulations and our permit can result in issuance of Notices of Violation by the State and EPA.

10. What remedial actions does the MCB use? (Land disposal? Containment? Incineration? Reclamation? other?)

Under our RCRA permit, our capability aboard the Base is merely storage pending final disposal at a RCRA permitted off-Base treatment, storage, or disposal facility. We have utilized all of the aforementioned types of disposal or treatment at off-Base RCRA permitted facilities.

10.a. Does MCB have an approved Toxic Waste Landfill site on CLNC?

No. Hazardous waste is disposed of through the Defense Logistics Agency, which in turn contracts with RCRA permitted waste disposers or treaters.

11. Is, or was, Agent Orange (dioxin) stored on CLNC? Where?

We have found no evidence of Agent Orange (dioxin) having been stored or disposed of aboard the Base. Sampling events to date have not documented any dioxin contamination.