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MCB CAMP LEJUENE
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LETTER REGARDING TECHNICAL REVIEW COMMITTEE SITE VISIT OUTCOMES MCB
CAMP LEJEUNE NC
7/14/1993
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY



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Memorandum

Date July 14, 1993

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From Environmental Engineer, Environmental Health Scientist, DFAS, FPB, DHAC

Subject Technical Review Committee (TRC) Meeting/Site Visit, Marine Corps Base Camp Lejeune (MCBCL), Jacksonville, Onslow County, North Carolina - June 21, 1993

To Robert C. Williams, P.E., DEE
Director, DHAC

Through: Branch Chief, FPB, DHAC
Chief, DFAS, FPB, DHAC
Unit Chief, DFAS

PURPOSE

The purpose of the trip was to attend the Technical Review Committee (TRC) meeting, to collect additional information necessary for the development of a public health assessment, to determine if precise and up-to-date information is being used to write the public health assessment, and to orient Federal Programs Branch (FPB) health assessors who were assigned to the site after personnel changes.

ACCOMPANIED BY

Regional Representative was contacted, but could not attend.

CONTACTS

MCBCL: Environmental Management Division - Neal Paul, Installation Restoration (IR) Manager; Tom Morris, IR Technician.

Dr. Tom Hager, Acting Superintendent of Schools, MCBCL

Naval Facilities Engineering Command (NAVFAC), Atlantic Division (LANTDIV):

Linda Berry

Baker Environmental: Ray Wattras

(see attached attendance list)

BACKGROUND

Marine Corps Base Camp Lejeune (MCBCL) is a National Priorities List (NPL) site. Marine Corps Air Station (MCAS), a separate facility on MCBCL, is being investigated as part of the MCBCL NPL site. The site is on the east coast of North Carolina, and is bisected by the New River. Parts of the New River are designated for recreational use including fishing. The initial site scoping visit took place in January 1991. Data validation of the working draft public health assessment (PHA) took place in May 1992. The site was visited again in October 1992, to orient new FPB health assessors who were assigned to the site after personnel changes.

TRC Meeting Summary

The June 21, 1993 TRC meeting focused on the planned public meeting that evening for Site 48, MCAS Mercury Dump, and progress of Remedial Investigation/Feasibility Study (RI/FS) activities at other sites including Site 69, Rifle Range Chemical Dump. The Navy analyzed soil, sediment, groundwater, and biota samples from Site 48. The fish and crabs samples were not contaminated with mercury, and other media did not contain mercury levels that would confirm contamination from reported past disposal practices.

According to MCBCL records, ordnance, pesticides, polychlorinated biphenyls (PCBs) and chemical agent test kits may be buried at Site 69. RI activities at the Site 69 are delayed because the U.S. Army Chemical Material Destruction Agency (USACMDA) is tasked to do the removal activities and is not available. Site 69 is next to the New River and could contribute contamination to marine biota. The nature and extent of contamination at Site 69 is not known, and the site is fenced. The Navy sampled marine biota in 1992, but the data are not available. The site investigation, to determine the nature and extent of contamination at Site 69, is scheduled for December 1993 or January 1994. The Navy informed ATSDR at a previous meeting that site safety precautions, including emergency response to an accidental release at Site 69 during site investigations, were the responsibility of USACMDA. An elementary school and on-base residences are within 1 mile of Site 69.

ATSDR showed Mr. Paul, MCBCL EMD, ATSDR's proposed completed exposure pathways developed based on the limited data and information that we received (latest document September 1990). Ms. Hossom explained the public health assessment process and how ATSDR developed the completed pathways.

Both MCBCL EMD and Atlantic Division, Naval Facilities Engineering Command (LANTDIV) said that ATSDR is now on the mailing list for documents. A list of questions concerning data and information needed for the public health assessment was left with Ms. Berry and Mr. Paul.

PUBLIC HEALTH ISSUES

Groundwater

All potable water used by the base comes from groundwater sources. The base operates seven water treatment systems to handle all water used on base.

Tarawa Terrace - Hadnot Point Drinking Water

From the limited data available, ATSDR determined that a past completed pathway exists. On-base residents, school children, and on-base workers who drank water from the Tarawa Terrace and Hadnot Point water treatment systems were exposed to volatile organic compounds (VOCs) in groundwater. The sources of the contamination are from an off-base dry cleaning facility and from on-base sources in the Hadnot Point Industrial Area. MCBCL stopped using several drinking water wells in 1984 and closed the Tarawa Terrace water treatment system because of the VOC contamination. MCBCL provided water supplies from other on-base water treatment systems sources. ATSDR is working with the Camp Lejeune Environmental Management Division staff to get information on the approximate contaminant concentrations and the exposed populations.

ATSDR obtained school enrollment information and construction dates for each of the eight MCBCL schools that obtained drinking water from the Tarawa Terrace water treatment system in 1984 and 1985. ATSDR also obtained on-base housing information to determine the demographic characteristics of the on-base residents at Tarawa Terrace. ATSDR will use this information to determine specific populations that were exposed to contaminated groundwater in the past.

ATSDR's Division of Health Studies (DHS) has expressed an interest in the potential health effects of the identified completed groundwater exposure pathway. DHS has assigned an epidemiologist to work with DHAC staff.

Current Drinking Water

Contamination has migrated to the deep aquifer in Operable Unit (OU) 1, Hadnot Point Industrial Area (HPIA), and OU2 Site 6; the Navy said trichloroethylene and 1,2-dichloroethylene were detected at "high levels". The deep aquifer, Castle Hayne aquifer, is the source of potable water for MCBCL. A future groundwater exposure pathway potentially exists for base residents and workers. However, base residents and workers are not currently drinking contaminated water. If contamination is detected, people would have a short exposure duration since MCBCL currently monitors water from the seven water treatment plants quarterly.

The MCBCL Environmental Planning Division sampled all MCBCL potable wells in December 1992. In 1993, the MCBCL Facilities Division sampled tap water for lead and copper, and the lead was detected above the Environmental Protection Agency's (EPA) action level. ATSDR requested the copies of the data from those sampling events.

Soil and Sediment

Site 2 - Former Day Care Center

ATSDR visited Site 2, Former Day Care Center, which was previously used for pesticide formulation. The site is currently used as a civilian personnel office. Access to the areas where contamination has been detected is not restricted. The parking lot for the building is gravel covered and is at the edge of the mixing pad area where DDT, DDD, and DDE (0.90-6.08 mg/kg) were detected in surface soils. Sampling information for the parking lot were not yet available. Dust is generated by vehicle movement on the parking lot. A picnic table is on the side of the building opposite the area of the known contamination; the picnic table location was grass covered.

According to the base Environmental Management Division, no previous soil removal or other remediation has occurred. The Navy stated they will remove the contaminated soil (maximum 2500 mg/kg DDT, DDE, DDD from past sampling data) at Site 2, but did not state the date of removal.

Children attending the day care, day care workers, and visitors were exposed to pesticides in surface soil. When contamination was detected in 1982, the day care center was relocated. The day care was in operation since 1966. Presently, personnel who work in and visit the building may be exposed to contaminated surface soil from the unpaved parking area. The data from soil sampling conducted during the 1993 Remedial Investigation (RI) were not yet available. ATSDR has requested that information when it is available.

Site 69 - Rifle Range Chemical Dump

Past exposures to contaminated soil and sediment potentially occurred at Site 69 when soldiers who trained in the area and hunters and other recreational users entered the area before it was fenced. Currently, base personnel, remedial workers, and trespassers who enter Site 69 could potentially be exposed to contaminated soil and sediment. MCBCL sampled marine biota, soil, and sediment at Site 69, but the data were not yet available. ATSDR has requested that information when it becomes available.

Food Chain

Sites 6,9, and 82 - Storage Lots

Sites 6,9, and 82 are open-air plots of land used to store equipment, PCB transformers, and other equipment. The lots slope down to Wallace Creek, a large creek used for recreational, commercial, and possible subsistence fishing. Fish tissue samples taken from Wallace Creek are contaminated with trichloroethylene, pesticides, and PCBs; total VOCs were detected at 15-20 ppb. The sampled fish were 2 inches in length. ATSDR is requesting (in a letter to the Commanding General) that future fish tissue sampling be representative of edible species and edible size fish that are caught at Wallace Creek. Additional sampling will be done by the Navy at Wallace Creek to determine the extent and source of contamination. The information provided by the Navy indicates a past, present, and future potential food chain pathway from ingestion of fish contaminated

with VOCs, pesticides, and PCBs. People who eat contaminated fish would be exposed. A portion of Wallace Creek currently has "No fishing" signs posted because a fisherman discovered a live grenade in the creek. This fishing restriction would only eliminate some exposures because fish found in Wallace Creek may migrate to other areas of Wallace Creek off base or to the New River which are not covered by the "No fishing" signs.

Site 28 - Former Hadnot Point Burn Area

At Site 28, former Hadnot Point Burn Area, the Navy stated that part of the former burn area was in the existing fish pond at the site. Site 28 is currently the Orde Recreational Area which contains a fishing pond, swing sets, a playground, and picnic areas. In reviewing the Navy's 1990 Site Summary Report, ATSDR staff learned that the Navy sampled the fish from the pond in 1984 and detected PCBs (8-11 ppm) and pesticides in fish (unknown size) tissue samples. People who eat fish from the pond could be exposed. Fishing is permitted at the pond; however, signs are posted warning that alligators live in the pond, which may discourage fishing enthusiasts. Additional sampling of fish, surface water, and sediment from the pond and the recreational area are planned. ATSDR is recommending (in a letter to the Commanding General) the pond be posted "Catch and Release" until additional sampling results are evaluated.

CONCLUSIONS

1. A past completed groundwater pathway exists at the Tarawa Terrace Housing Area and Hadnot Point Industrial Area. There is extensive VOC contamination of groundwater at MCBCL from on- and off-base sources. Groundwater treatment is planned to remove or reduce levels of VOCs in the groundwater. Additional characterization of groundwater contamination will continue in FY 93 and FY 94. ATSDR requested additional information to determine when and to whom past exposure to contaminated drinking water occurred. DHS plans to study the past completed groundwater pathways in Tarawa Terrace Housing Area and HPIA. DHAC personnel provided the requested information to DHS and will stay in contact with them.
2. Children, visitors, and workers were exposed to contaminated soil at Site 2, Former Day Care Center. Presently, workers and visitors could be exposed. ATSDR will determine if current and future exposures are occurring at levels that would be of public health concern.
3. Limited fish sampling from 1984 indicated that fish in the pond at Site 28 are contaminated with PCBs and pesticides. Wallace Creek fish are contaminated with VOCs, pesticides, and PCBs. ATSDR will determine if exposures are at levels that would be of public health concern.

RECOMMENDATIONS/ACTIVITIES

1. ATSDR will follow up in writing and request the additional information needed to determine the duration of exposure that occurred before MCBCL stopped pumping drinking water from VOC contaminated wells.
2. ATSDR will draft a letter to the Commanding General recommending that the pond at Site 28 be posted "Catch and Release" and additional fish tissue sampling from pond at Site 28 and from Wallace Creek.
3. ATSDR will request additional environmental data on the other sites to verify identified exposure pathways before resuming work on the PHA.
4. ATSDR will determine if past, present, and future exposure pathways are of public health concern when data are available from site investigations of Sites 48 and 69.
5. ATSDR asked the Naval Environmental Health Center (NEHC) to find out if USACMDA had contingency or emergency plans for potential hazardous substance releases during the Site 69 investigation.
6. ATSDR will set a date in late July or early August as the data cutoff date and inform MCBCL and NEHC of that effective date.

Carol D. Hossom for
Stephen S. Aoyama, P.E.

Carol D. Hossom
Carole D. Hossom

Attachment

cc:

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TRC 21 June 3

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OPTIONAL FORM 93 (7-90)

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