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DEPARTMENT OF THE NAVY  
ATLANTIC DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
NORFOLK, VIRGINIA 23511

TELEPHONE NO.  
AUTOVON 690-4972  
IN REPLY REFER TO:

114:JGW  
6280

8 MAY 1981

From: Commander, Atlantic Division, Naval Facilities Engineering Command  
To: Commanding General, Marine Corps Base, Camp Lejeune (Attn: Assistant Chief of Staff for Facilities)

Subj: Suspected Chemical Dump, Rifle Range Area; analyses of groundwater and surface water at

Ref: (a) LANTNAVFACENGCOM ltr 114:JGW 6280 of 25 Mar 1981  
(b) Environmental Protection Agency National Interim Primary Drinking Water Regulations, 40 CFR 141.12, of 27 Aug 1980  
(c) Quality Criteria for Water, Environmental Protection Agency, PB 263943, Jul 1976

Encl: (1) Summary of tabulated results of water sampling on 30 Mar 1981, MCB CAMP LEJEUNE  
(2) Summary of tabulated results of water sampling on 10 Apr 1981, MCB CAMP LEJEUNE  
(3) Detailed Laboratory results of all samples

1. Reference (a) is a letter transmitting analytical results of a water sample collected from a pit near the suspect waste dump site in the Rifle Range Area. Due to the nature of the chemical preservation technique used, analyses for organic parameters could not be undertaken.

2. A more detailed follow-up sampling, on 30 March 1981, indicated a high level of some chlorinated organic materials. Enclosure (1) is a summary presentation of the analytical results. The composite sample consisted of equal aliquots from the four samples. After determination of organic contaminants in the composite sample, the same parameters were analyzed in the individual samples. (Significant cost savings were realized by this procedure.)

3. While at MCB CAMP LEJEUNE assisting in a Naval Energy and Environmental Support Activity (NAVENENVSA) investigation of a reported radiological contamination, the results of the 30 March 1981 sampling and analysis (enclosure (1)) were obtained. (Mr. Kip Rimm, Health Physicist, Radiological Affairs Support Officer (RASO), will forward a separate report of the radiological investigation.)

4. Based on the results of the above analyses, additional samples from the same points, plus eight other points, were collected on 10 April 1981. Analyses indicated greatly reduced levels of organic contaminants as summarized in enclosure (2). Detailed laboratory results for all samples are provided for your files as enclosure (3).

5. At the present time, the cause for the disparity between the two sets of analytical results is indeterminate. However, sampling technique and sample bottle contamination are considered to be possible candidates.

6. Because of the above divergence of results, it is recommended that at least the initial four sampling points along with RR-85 (Water Treatment Plant Finished Water Tap) be resampled. LANTNAVFACENGCOM personnel will be at Camp Lejeune for meetings related to the EPA Hazardous Waste Management Program requirements during the latter part of May 1981 and will collect samples at that time.

7. A detailed interpretation of the significance of contamination indicated in enclosures (1) and (2) will not be presented until the third set of analytical results can be included. In abbreviated form, however, the methylene chloride, chloroform, and trichloroethylene contamination in the Rifle Range Area wells and finished water warrant the following considerations:

a. Chloroform is one of four compounds which comprise the trihalomethanes. Reference (b) sets a total trihalomethane limit of 0.10 mg/l, which equates to 100 ppb. The measured level of 17 ppb at RR-85, as noted in enclosure (2), is well within the 100 ppb standard.

b. Methylene chloride is an organic solvent commonly used in paint stripping and degreasing compounds. At the present time there are no standards set by either reference (b) or (c) for this compound.

c. Trichloroethylene is a common organic solvent used in degreasing, solvent extraction and drycleaning. At the present time there are no standards set by either reference (b) or (c) for this compound.

8. Based on the low level of contaminants found relative to the total trihalomethane standard and the chemical (not necessarily toxicological) similarity of the contaminants, it is not believed that there is an imminent threat to human health presented by consumption of water from the Rifle Range WTP and distribution system.

9. By copy of this letter consideration should be given by NAVENENVSA to advanced prioritization of MCB CAMP LEJEUNE in the Navy Assessment and Control of Installation Pollutants Program.

10. If there are any questions, please contact Mr. Jerry Wallmeyer (telephone 444-4972) of this Command.

J. R. BAILEY  
By direction

Copy to:  
CMC (Code LFF 2)  
COMNAVFACENGCOM (Code 112)  
NAVENENVSA (Code 20, RASO)  
NAVREGMEDCEN MCB CAMP LEJEUNE (Occupational and Preventative Medicine)  
MCB CAMP LEJEUNE (Natural Resources and Environmental Affairs) ←

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NCB CAMP LEJEUNE  
 SAMPLE DATE 30 MARCH 1961  
 ALL RESULTS IN PARTS PER BILLION (ppb)

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	COMPOSITE	TEST WELL NO. 15	TEST WELL NO. 16	POOL OF WATER BELOW WELL NO. 16	RAD POOL
BENZENE					
TOLUENE	62		242		
CARBON TETRACHLORIDE	2,583	3,560	2,920	1,840	1,139
1, 2, - DICHLOROETHANE	44		155		
1, 1, 1 - TRICHLOROETHANE					
1, 1 - DICHLOROETHANE	69	65	122	38	38
1, 1, - DICHLOROETHYLENE	124		424		
1, 1, 2 - TRICHLOROETHANE					
CHLOROFORM	11,267	15,520	13,260	880	7,380
METHYLENE CHLORIDE	24,859	4,154	20,460	9,640	7,693
TETRACHLOROETHYLENE					
TRICHLOROETHYLENE					
TOTAL	39,008	23,299	37,583	12,398	16,300