

01.01-04/08/83-00268



UNITED STATES MARINE CORPS  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA 28542

FAC/REA/ed  
6280  
8 APR 1983

From: Commanding General  
To: Commanding Officer, Naval Energy and Environmental Support Activity,  
Port Hueneme, California 93043 (Attn: Mr. Wallace Eskes)  
Subj: Final Draft Initial Assessment Study (IAS), Camp Lejeune, North  
Carolina  
Ref: (a) Water and Air Research, Inc. ltr of 9 Mar 83  
(b) CG MCB Camp Lejeune NC 081901Z Dec 82  
Encl: (1) CG MCB CLNC ltr FAC/REA/hf 6280 of 30 Mar 83

1. The subject report has been reviewed as requested by reference (a). The additional information on potential disposal sites and compounds has been included in the report as requested in reference (b).
2. Following the site visit by NEESA and WAR staff in early February, this command obtained additional data on site two, former Nursery/Day Care Center (Building 712). The detailed soils analyses for pesticides are forwarded in the enclosure. The narrative site description and Table 2-1 on pages 2-7 and 2-8, respectively, should be updated accordingly. These data will alleviate concerns for contamination of the site for compounds other than DDT and chlordane. Further, these data will direct the further study at site two to the washing and mixing area.
3. This command requests that you forward the completed report to LANTNAV-FACENGGCOM (Code 114) at the earliest possible date in order to provide pollution abatement funding to initiate confirmation study in FY-83. For further information on this matter, contact Mr. Bob Alexander, office of the Assistant Chief of Staff, Facilities, (Av) 434-3034 or at the above address.

J. T. MARSHALL  
By direction

Copy to:  
CMC (LFF-2/Mr. Hubbell)  
LANTDIV (Code 114)



Handwritten notes and initials on the right side of the page, including "F-83" and "114".

Handwritten notes at the bottom right, including "2 Feb 83" and "ALE".

FAC/REA/hf  
6280  
30 Mar 1983

Ronald H. Levine, M.D., M.P.H.  
State Health Director  
N.C. Division of Health Services  
P. O. Box 2091  
Raleigh, NC 27602-2901

Re: Camp Lejeune Sitter Service (Inactive)

Dear Sir:

As promised in our letter of December 7, 1982, we are forwarding additional data on the pesticide contamination at the inactive Camp Lejeune Sitter Service, Building 712. Detailed data on soil contaminants have been obtained using composite sampling techniques with analyses by Grainger Laboratories of Raleigh. All the data collected to date are shown on enclosure (1). A sketch of the site is shown on enclosure (2).

The detailed data indicates dioxin compounds are not present in the soil profile in detectable concentrations. In addition, many other compounds previously mentioned were found not to be present in detectable concentrations. The presence of detectable levels of chlordane and DDT was confirmed at the mix pad and wash pad as we had anticipated. However, concentrations within the fenced playground area are shown to approach the limits of detection.

We have obtained an appropriate assessment of Building 712 and its occupants. Air samples were collected from the interior of Building 712 on June 2 & 3, 1982, for analysis by the Navy Environmental Health Center using gas chromatography. These air samples "revealed no detectable DDT, malathion, or chlordane (approximately less than  $0.0003 \text{ mg/m}^3$ )", as shown on enclosure (3). Therefore, based on these detailed soil and air analyses we believe the exposure by the occupants to levels of pesticides, in general, and to dioxin, in particular, would be difficult, at best, to detect.

Alternative future use and management of the facilities at Building 712 have been considered. As indicated in the letter of December 7, 1982, the child care operation has been discontinued and relocated to a more desired location. Use of Building 712 for administrative purposes; i.e., offices, could be initiated following the capping of the contaminated areas with pavement. Areas I-VI as shown on the sketch in enclosure (2) can be capped with minor disturbance of the soils. This technique would provide a barrier to migration of the pesticides into the ground water table or off-site into the surface water drainage system. Long-term control of the site will be secured by the Marine Corps Base to preclude exposure during any site modifications.

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We hope the additional data alleviates your concern for potential exposure of children to these contaminants. Your review of these data, the need for further assessments, and approval of the above approach to management of this site is requested.

Sincerely,

J. T. MARSHALL  
Colonel, U.S. Marine Corps  
Assistant Chief of Staff, Facilities  
By direction of the Commanding General

Encl: (1) Pesticide Data  
(2) Sketch

Copy to:  
NEESA (Code 112N)  
COMNAVFACENGCOM (Code 114)  
CO, NRMCMC (Lt Winter)

Blind Copy to:  
SJA  
NREA  
AC/S, PerSvcs

PESTICIDE CONCENTRATIONS IN SOILS  
(in parts-per-million (PPM))  
AT INACTIVE SITTER SERVICE  
CAMP LEJEUNE, NORTH CAROLINA

SAMPLING LOCATION	SAMPLE DEPTH	SAMPLE TYPE	DATES OF COLLECTION (1982)	DDT	DDD	DDE	CHLORDANE	DALAPON	MIREX
I	6"-8"	Grab	May 10	6.3	0.24	0.022	0.17	N/A	N/A
	0"-2"	Composite	June 18	0.07	0.031	0.048	0.389	N/A	N/A
	0"-2"	Composite	Dec 28	0.05	-	0.01	-	-	-
	6"-8"	Composite	Dec 28	0.07	0.02	0.04	0.16	-	-
II	-	-	May 10	No samples collected					
	0"-2"	Composite	June 18	0.201	0.018	0.118	<0.1	N/A	N/A
	0"-2"	Composite	Dec 28	0.04	0.03	0.04	0.1	-	-
	6"-8"	Composite	Dec 28	0.05	0.03	0.06	-	-	-
III	-	-	May 10	No samples collected					
	-	-	June 18	No samples collected					
	0"-2"	Composite	Dec 28	0.03	0.01	0.08	-	-	-
	6"-8"	Composite	Dec 28	0.03	0.01	0.08	-	-	-
IV	-	-	May 10	No samples collected					
	-	-	June 18	No samples collected					
	0"-2"	Composite	Dec 27	2.95	0.90	6.08	-	-	-
	6"-8"	Composite	Dec 27	2.05	0.29	1.39	-	-	-
V	6"-8"	Grab	May 10	518.70	83.10	27.36	36.42	N/A	N/A
	0"-2"	-	June 18	No samples collected					
	0"-2"	Composite	Dec 27	161.0	7.11	12.3	8.2	-	-
	6"-8"	Compcsite	Dec 27	442.0	33.1	20.3	8.8	-	-
VI	0"-2"	Grab	May 10	7.5	0.644	0.0687	0.046	N/A	N/A
	-	-	June 18	No samples collected					
	0"-2"	Composite	Dec 28	111.0	27.1	14.1	-	-	-
	6"-8"	Composite	Dec 28	22.5	2.4	2.13	-	0.1	0.7
	0"-2"	Grab	May 10	0.061	0.10	0.021	0.060	N/A	N/A
	-	-	June 18	No samples collected					
-	-	Dec 27,28	No samples collected						

<u>SAMPLING LOCATION</u>	<u>SAMPLE DEPTH</u>	<u>SAMPLE TYPE</u>	<u>DATES OF COLLECTION (1982)</u>	<u>DDT</u>	<u>DDD</u>	<u>DDE</u>	<u>CHLORDANE</u>	<u>DA</u>	<u>MIREX</u>
Detection Limits (PPM)				0.02	0.01	0.01	0.01	0.05	0.02

Additional notes to the pesticide concentrations in soils:

- a. Analyses for Malathion from samples at sites I, V, VI and VII revealed no detectable concentrations.
- b. Dash (-) indicates that analyses for the following compounds at sites I-VI during December 27/28, 1982, revealed no detectable concentrations within the following limits of detection, except as shown (PPM):

2,4,5 - TP (Silvex)	<0.1
2,4,5 - T	<0.1
2,4 - D	<0.3
Lindane	<0.1
Chlordane	<0.1
Dieldrin	<0.01
Dursban	<0.5
Diazinon	<0.25
Malathion	<0.5
Dalapon	<0.05



HOLCOMB  
BLVD

BREWSTER  
BLVD

HOLCOMB  
BLVD

B. 712  
INACTIVE  
SITTER SERVICE

B. 712

WASH  
PAD

MIX  
PAD

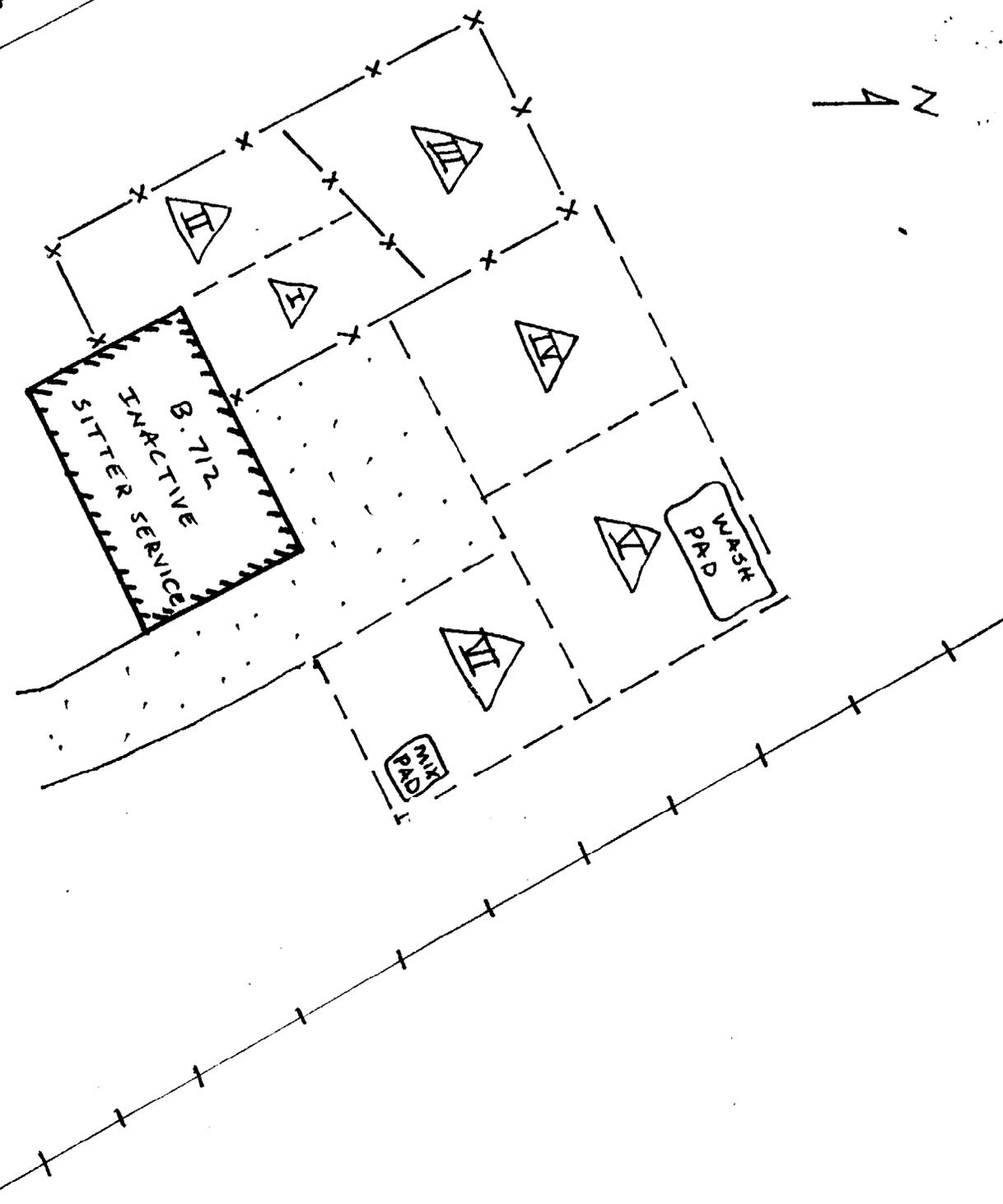
B. 672

B. 671

STORAGE  
AREA

MIX  
PAD

WASH  
PAD





- 6/14/82

Results (Bldgs 712, 2624, 2625)

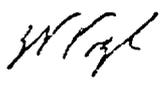
1. The samples were analyzed using a Hewlett Packard 5880 Gas Chromatograph. The following GC conditions were used:

6ft glass column packed with 10% SP2100 on 100/120 Supelcoport  
Ni 63 Electron Capture Detector  
Oven Temp: 225 C  
Detector Temp: 300 C  
Injector Temp: 250 C  
Nitrogen Flow Rate: 57 ml/min  
Eluent: 1 ml Toluene

2. The above GC conditions are those used by this laboratory to perform pesticide analyses.
3. All samples taken inside the buildings exhibit the same chromatogram (except for minor shifts in the relative amounts of the peaks).
4. All samples taken outside have a different series of peaks than those taken inside.
5. Positive identification of the various peaks in the samples could not be made using our GC/Mass Spectrometer since the concentration of the peaks is well below the sensitivity of the Mass Spectrometer.
6. Based only on retention time there is No Detectable DDT, Malathion or Chlordane (Approximately less than  $0.0005 \text{ mg/m}^3$ ).
7. Standards made from the various cleaning agents used indicates that Lysol gives some peaks which could be present in the air samples. Note: sample 344 (Nursery Head) had one of the largest concentrations.

Conclusion

Since the air samples from the three buildings (remember only one was a malaria control activity) gave the same chromatograms, the peaks are probably some combination of cleaning agents used in the facilities.

  
Walter F. Vogl  
CDR MSC USN  
Navy Environmental Health Center