

(804) 444-9365

11300
1143CFB

8 JAN 1985

From: Commander, Atlantic Division, Naval Facilities Engineering Command
To: Commanding General, Marine Corps Base, Camp Lejeune

Subj: TESTING OF POTABLE WATER WELLS AND WATER TREATMENT PLANT

Ref: (a) LANTNAVFACENGCEN msg 071346Z Dec 1984

Encl: (1) Reports #4, #7, #8, #10, and #12; Laboratory Analysis on Naval Samples by JTC Environmental Consultants, Inc.

1. Reference (a) forwarded preliminary results from testing of potable water wells and recommended additional sampling of Hadnot Point water treatment plant for volatile organics. Enclosure (1), a formal report of the sampling effort to date, is forwarded for your use. Our evaluation and recommendations will follow under separate cover.

R. D. CROWSON P.E.
Director, Utilities, Energy and
and Environmental Division

Copy to:
Environmental Science and Engineering (ESE)
P. O. Box ESE
Gainesville, FL 32602
Attn: Russ Bowen

Blind Copy to:

114 ←

114S

Doc #2663A/CFB/dhs.

Barnett
Smith
12/28/84

ROUTINE REPLY, ENDORSEMENT, TRANSMITTAL OR INFORMATION SHEET

OPNAV 5216/158 (Rev. 7-78)
SN 0107-LF-052-1691

A WINDOW ENVELOPE MAY BE USED
Formerly NAVEXOS 3789

CLASSIFICATION (UNCLASSIFIED when detached from enclosures, unless otherwise indicated)

FROM (Show telephone number in addition to address)

PH (804) 444-4566

DATE

1/8/84

C. BARNETT, LANVNAVFACENGCOM 1143, NORFOLK, VA

SERIAL OR FILE NO.

GROUNDWATER ANALYSIS, WELL 602 (QC CHECK)

REFERENCE

TO:
CG MCB Camp LEJEUNE
ATTN: ASST CHIEF OF STAFF - FACILITIES
MR. BOB ALEXANDER
CAMP LEJEUNE, NC 28542

ENCLOSURE

J.R. REED LAB REPORT
(ANALYSIS BY GRANGER
ON WELL 602
SAMPLE OF 12/13/84)

VIA:

ENDORSEMENT ON

FORWARDED RETURNED FOLLOW-UP, OR TRACER REQUEST SUBMIT CERTIFY MAIL FILE

GENERAL ADMINISTRATION	CONTRACT ADMINISTRATION	PERSONNEL
FOR APPROPRIATE ACTION UNDER YOUR COGNIZANCE	NAME & LOCATION OF SUPPLIER OF SUBJECT ITEMS	REPORTED TO THIS COMMAND:
<input checked="" type="checkbox"/> INFORMATION	SUBCONTRACT NO. OF SUBJECT ITEM	
APPROVAL RECOMMENDED <input type="checkbox"/> YES <input type="checkbox"/> NO	APPROPRIATION SYMBOL, SUBHEAD, AND CHARGEABLE ACTIVITY	DETACHED FROM THIS COMMAND
<input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED	SHIPPING AT GOVERNMENT EXPENSE <input type="checkbox"/> YES <input type="checkbox"/> NO	OTHER
COMMENT AND/OR CONCURRENCE CONCUR	A CERTIFICATE, VICE BILL OF LADING	
LOANED, RETURN BY:	COPIES OF CHANGE ORDERS, AMENDMENT OR MODIFICATION	
SIGN RECEIPT & RETURN REPLY TO THE ABOVE BY:	CHANGE NOTICE TO SUPPLIER	
	STATUS OF MATERIAL ON PURCHASE DOCUMENT	

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SUBJECT DOCUMENT RETURNED FOR:
SUBJECT DOCUMENT HAS BEEN REQUESTED, AND WILL BE FORWARDED WHEN RECEIVED
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ENCLOSURE RETURNED FOR CORRECTION AS INDICATED
CORRECTED ENCLOSURE AS REQUESTED
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REDUCE DISTRIBUTION AMOUNT TO:

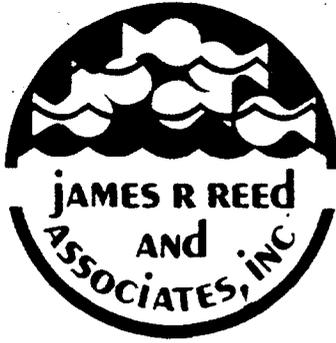
REMARKS (Continue on reverse)

BOB - NOTE THAT BENZENE DID NOT SHOW UP HERE, ALTHOUGH JTC FOUND 250 ppb IN THEIR SAMPLE. (RAKOWSKI SUGGESTED IT MAY HAVE VOLATILIZED OFF DUE TO DELAY IN ANALYSIS; HOWEVER, LAB TO RECHECK). OTHER PARAMETERS COMPARABLE TO RESULTS OBTAINED BY JTC ESE RESULTS NOT IN YET. LETTER TO FOLLOW SOON.

COPY TO:

(Cherry)

CLASSIFICATION (UNCLASSIFIED when detached from enclosures, unless otherwise indicated)



James R. Reed & Associates, Inc.

Environmental Testing & Consulting

813 forrest drive • newport news, virginia 23606 • (804) 599-6750

Laboratory Services Report

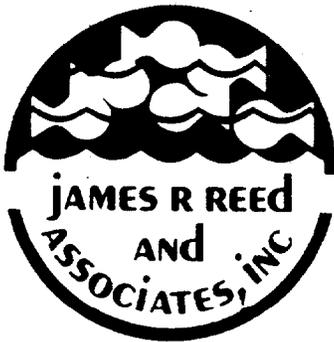
Commander
 Attn: Code 1142/Goodwin
 Atlantic Division
 Naval Facilities Engineering CMD
 Norfolk, Virginia 23511

January 4, 1985

<u>Sample Identification</u>	<u>Analyses</u>	<u>Results</u> ($\mu\text{g}/\text{l}$)
Sample received 12/14/84		
12/13/84		
HP 602		
1355 Betz		
MCB Camp Lejune	Purgeable Organics (cont.)	
	cis/trans-1,3-Dichloropropene	< 3.0
	1,3-Dichlorobenzene	< 1.0
	1,4-Dichlorobenzene	< 1.0
	2-Chloroethylvinyl Ether	9.8
	Vinyl Chloride	*
	Trichloroethylene	300

* Detection limits have not been established

Respectfully submitted,



James R. Reed & Associates, Inc.

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813 Forrest Drive • Newport News, Virginia 23606 • (804) 599-6750

Laboratory Services Report

Commander
 Attn: Code 1142/Goodwin
 Atlantic Division
 Naval Facilities Engineering CMD
 Norfolk, Virginia 23511

January 4, 1985

<u>Sample Identification</u>	<u>Analyses</u>	<u>Results</u> ($\mu\text{g/l}$)
Sample received 12/14/84		
12/13/84	Purgeable Organics	
HP 602	Bromodichloromethane	<1.0
1355 Betz	Carbon Tetrachloride	<1.0
MCB Camp Lejune	Bromoform	<2.0
	Dibromochloromethane	<1.0
	Chloroform	<1.0
	Toluene	<1.0
	Benzene	<1.0
	Acrolein	<50
	Acrylonitrile	<50
	Chlorobenzene	<2.0
	Chloroethane	*
	Ethylbenzene	<2.0
	Bromomethane	*
	Chloromethane	*
	Methylene Chloride	<1.0
	Tetrachloroethylene	3.2
	Trichlorofluoromethane	<1.0
	1,1-Dichloroethane	34
	1,1-Dichloroethylene	<1.0
	1,1,1-Trichloroethane	<1.0
	1,1,2-Trichloroethane	<1.0
	1,1,2,2-Tetrachloroethane	<1.0
	1,2-Dichloroethane	<1.0
	1,2-Dichlorobenzene	<1.0
	1,2-Dichloropropane	<1.0
	trans-1,2-Dichloroethylene	110

Respectfully submitted,

Charles W. Saunders
 CHEMIST
 Charles W. Saunders

DEPARTMENT OF THE NAVY

ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

TELEPHONE NO.

(804) 444-9561

IN REPLY REFER TO:

6280
1142DPG

4 JAN 1985

MEMORANDUM FOR FILE

Subj: RESPONSE TO MCB VOA PROBLEM (EXCLUDING LOGISTICS)

4 Dec 1984: MCB Sampled/Shipped Untreated/Treated/Wells (Except Well 602 Sampled 30 Nov 1984).

5 Dec 1984: JTC received Untreated/Treated/Wells and reported results on Untreated/Treated (confirm problem).

6 Dec 1984: JTC reported results on Wells (Delineate Problems).

7 Dec 1984: Review LANTNAVFACENCOM MSG (Preliminary Recommendations) and PAO Q/A.

10 Dec 1984: MCB inform NC.

MCB sampled Treated/Wells.

11 Dec 1984: MCB Shipped Treated/Wells

(Prepared attached VOA Scope (Mid-Term Recommendations)).

12 Dec 1984: JTC received Treated/Wells.

13 Dec 1984: MCB: Newspaper(s) and Sampled/Shipped QC/Untreated.

14 Dec 1984: MCB CG press conference, approve VOA Scope, begin daily sampling JTC reported results on Treated/Wells (confirm Problem/Recommendations) and received QC/Untreated Received/sent 2 QCs.

15 Dec 1984: MCB continued daily sampling.

16 Dec 1984: MCB continued daily sampling.

17 Dec 1984: MCB continued daily sampling and shipped 4 Untreated (14-17 Dec 1984 samples).

JTC reported results on QC/Untreated (confirm Recommendations).

18 Dec 1984: MCB continued daily sampling.

Review ESE Scope (Long-term Recommendations)
JTC received 4 untreated.



Subj: RESPONSE TO MCB VOA PROBLEM (EXCLUDING LOGISTICS)

19 Dec 1984: MCB completed daily sampling and collected distribution sample (confirm flushout).

20 Dec 1984: JTC reported on 4 Untreated (confirm Recommendations).

MCB shipped 2 Untreated 1 Distribution.

21 Dec 1984: JTC reported resulted on 2 untreated/1 distribution (confirm Recommendations).

Note: (1) 26 Samples, \$15,600.00 (Testing Only).
(2) Jan 1985: Implementing VOA Scope (\$40K+).

D. P. GOODWIN, P.E.
Code 1142
Utilities, Energy and Environmental
Division

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Doc #2687A/DPG/dhs.

ATTN: BOB ALEXANDAR, 3043

MCB CAMP LEJEUNE MONITORING

I. BACKGROUND: In response to ESE test results on Well 602:

A. Week of 3 Dec 1984: Tested the seven wells (in the area) and the Water Plant (untreated/treated)

B. Week of 10 Dec 1984: Resampled the seven wells and the Water Plant (treated), and started daily sampling of the Water Plant (untreated) for one week with the far end of the distribution (i.e., French Creek) also to be sampled (only) on the seventh day (to determine if distribution system clear). In addition, for Quality Control, a 3-way sample split will be performed on Well 602 between three laboratories; ESE, JTC and also Grangier (via the Reed Contract).

II. PROPOSED INTERIM MONITORING:

A. Sample the other seven Water Plants (treated, preferably after reservoirs) for VOA only (to determine if the problem is limited to Hadnot Point). Estimate: 1 day to collect.

B. Sample all of the about 100 wells (~~including~~^{including} the seven wells above) for VOA to determine if problem is limited to the three wells. Estimate: 10 wells per day, i.e., 10 normal workdays (2 weeks) to collect, starting with the remaining wells in Hadnot Point, then Holcomb Boulevard.

III. COSTS (LANTNAVFACENCOM FUNDING):

- A. Initial 9 samples: 8 X \$200 (routine) + \$600 (2 day) = \$2.2K
- B. Next 18 samples: 16 X \$600 (2 day) + 3 X Say \$300 (15 day) =
Say \$10.5K
Subtotal: Say \$12.7K
- C. First 7 proposed samples: 7 X \$600 (2 day) = \$4.2K
- D. Remaining 100 proposed samples: 100 X \$300 (15 day) = \$30K
Total: \$46.9K Say \$47K

IV. CONTINGENCY PLANS:

LANTNAVFACENCOM is evaluating alternatives to respond to the test results to insure a safe drinking water supply.

V. ADDITIONAL ESE WORK:

ESE to be tasked to define scope of problem/solution, in addition to sampling all the wells for all SDWA/priority pollutant parameters (to determine if there are addition problems. Costs (LANTNAVFACENCOM funding): \$20-30K.