

01.08-8/19/82-00373

(804) 444-9566

114:JGW:mbe  
6280

1 9 AUG 1982

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

Subj: MCB CAMP LEJEUNE Water Analyses

Ref: (a) FONECON NAVENENVSA (Mr. J. Anderson)/LANTNAVFACENGCOM  
(Mr. J. Wallmeyer) of 18 June 1982  
(b) LANTNAVFACENGCOM ltr 31 Jul 1981 (NOTAL)

Encl: (1) Jennings Laboratories, Inc., Analyses Nos. 1182-1184, 1189  
(2) Jennings Laboratories, Inc., Analyses Nos. 1364-1367  
(3) Jennings Laboratories, Inc., Analyses Nos. 1421-1424  
(4) Jennings Laboratories, Inc., Analyses Nos. 1186-1188  
(5) Data Tabulation, 18 March 1982 sampling

1. Enclosures (1) through (3) are forwarded as a record of LANTNAVFACENGCOM contractor's analyses of Rifle Range Area well water and finished water. These repetitive analyses were performed because of enclosure (1), analysis No. 1189, determination that there was 1.0 ppm Polychlorinated Biphenyls (PCB) (= 1000 ppb PCB) in the finished water at Bldg. RR-85.

2. Enclosure (2) results indicate no PCB contamination while enclosure (3) results indicate 0.11 ppm PCB at well RR-45.

3. For enclosure (3) samples, the samples were split for analysis by both NAVENENVSA and Jennings Laboratories, Inc. The NAVENENVSA analyses indicated no PCB in the groundwater or finished water as communicated by reference (a).

4. Based on LANTNAVFACENGCOM's investigation of contractor's quality assurance/quality control, LANTNAVFACENGCOM believes the NAVENENVSA results and contractor's results in enclosure (2) to be valid and representative for the finished drinking water and supply system wells. In accordance with reference (b) findings, no significant contamination of the potable water was detected. LANTNAVFACENGCOM believes PCB reported in finished water to be in error. For other organic contaminants detected, LANTNAVFACENGCOM continues to recommend preferential utilization of wells No. 45 and No. 47 over well No. 97.

5. Enclosure (1), analysis No. 1182, provides a summary of total trihalomethane (THM) analyses. The sampling points are indicated in enclosure (1), Figure 1. The THM results are not in accordance with previous Army Laboratory analyses and subsequent Grainger Laboratory analyses. The Army and Grainger analyses are believed to be representative.

WALLMEYER  
Eppes  
8/10/82  
nrs

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6280


6. Enclosure (4) is the results of sampling and analysis at the Rifle Range Dump Area test wells. For ease of data review, results of the 18 March 1982 analyses are tabulated in enclosure (5).

7. LANTNAVFACENGCOM recommends continued annual analysis of Rifle Range water system by MCB CAMP LEJEUNE. The Navy Assessment and Control of Installation Pollutants (NACIP) Program is in progress and will continue the Rifle Range Dump Area investigation.

8. LANTNAVFACENGCOM point of contact is Mr. Jerry Wallmeyer at (804) 444-9566 or A/V 690-9566.

J. R. BAILEY, P.E.  
By direction

Copy to:  
CMC (Code LFF-2)  
MCB CAMP LEJEUNE (Natural Resources and  
Environmental Affairs)  
NAVENENVSA  
COMNAVFACENGCOM

Blind Copy to:  
114   
1142  
114S  
09BS (w/o encl)  
Doc. #0004U

# JENNINGS LABORATORIES, INC.

ANALYTICAL AND CONSULTING CHEMISTS

4118 CYPRESS AVENUE • P. O. BOX 851 • VIRGINIA BEACH, VA. 23451 • PHONE (804) 425-1498

(PA) CERTIFIED LABORATORY for  
Drinking Water Analysis - Microbiological,  
Inorganic and Organic

ASBESTOS ANALYSIS - NIOSH 582

Official Referee Chemists for:  
AMERICAN OIL CHEMISTS SOCIETY

NATIONAL SOYBEAN  
PROCESSORS ASSOCIATION

Laboratory Certified by VA. STATE WATER  
CONTROL BOARD for Analysis of  
Effluents for NPDES PERMITS

CERTIFIED OFFICIAL U.S.D.A. LABORATORY  
FOR MEAT ANALYSIS

## CERTIFICATE OF ANALYSIS

Mr. Dave Goodwin  
Building N-23 Atlantic Division  
Naval Facilities Engineering Command  
Norfolk, Virginia 23511

DATE: March 30, 1982

WATER SAMPLE

RR-97 collected 3/18/82 MCB CAMP LEJEUNE

Sample delivered to laboratory 3/20/82 by Mr. Wallmeyer

OFFICIAL SAMPLE BY: \_\_\_\_\_

PRIMARY POLLUTANTS	PURGEABLE ORGANICS	DETECTION LIMITS µg/l
protein	None Detected	2.0
acrylonitrile	None Detected	2.0
benzene	None Detected	10.0
toluene	10.0 ppb	10.0
ethylbenzene	None Detected	10.0
carbon tetrachloride	None Detected	.007
chlorobenzene	None Detected	.03
1,2-Dichloroethane	None Detected	.006
1,1,1-Trichloroethane	None Detected	.005
1,1-Dichloroethane	20.0 ppb	.004
1,1-Dichloroethylene	None Detected	.006
1,1,2-Trichloroethane	None Detected	.006
1,1,2,2-Tetrachloroethane	None Detected	.006
chloroethane	None Detected	.01
1-chloroethyl vinyl ether	None Detected	.08

Respectfully submitted,  
JENNINGS LABORATORIES, INC.

Laboratory 1183  
Analysis No. \_\_\_\_\_  
\$650.00

  
CHEMIST

Enclosure (1)

JENNINGS LABORATORIES, INC.

PRIORITY POLLUTANTS	PURGEABLE ORGANICS (continued)	DETECTION LIMITS $\mu\text{g/l}$
loroform	None Detected	.010
1,2-Dichloropropane	None Detected	.004
1,3-Dichloropropane	None Detected	.006
Methylene Chloride	4.64 ppb	.010
Methyl Chloride	None Detected	.009
Methyl Bromide	None Detected	.03
Bromoform	None Detected	.02
Dichlorobromomethane	None Detected	.006
Trichlorofluoromethane	None Detected	.03
Dichlorodifluoromethane	None Detected	.01
Chlorodibromomethane	None Detected	.01
Tetrachloroethylene	None Detected	.007
Trichloroethylene	None Detected	.005
Vinyl Chloride	None Detected	.01
1,2-trans-Dichloroethylene	None Detected	.006
bis(chloromethyl) ether	None Detected	.003

LABORATORY ANALYSIS NO. 1183

PAGE -2-

BY

*W. H. Jennings, Jr.*  
Chemist

PRIORITY POLLUTANTS

## PESTICIDES/PCB'S

α-Endosulfan	None Detected	.005
β-Endosulfan	None Detected	.01
Endosulfan Sulfate	None Detected	.03
α-BHC	None Detected	.002
β-BHC	None Detected	.004
δ-BHC	None Detected	.004
γ-BHC	None Detected	.002
Aldrin	None Detected	.003
Dieldrin	None Detected	.006
4,4'-DDE	None Detected	.006
4,4'-DDD	None Detected	.012
4,4'-DDT	None Detected	.016
Endrin	None Detected	.009
Endrin Aldehyde	None Detected	.023
Heptachlor	None Detected	.002
Heptachlor Epoxide	None Detected	.004
γ-Dieldrin	None Detected	.04
Toxaphene	None detected	.40
Aroclor 1016	None Detected	.04
Aroclor 1221	None Detected	.10
Aroclor 1232	None Detected	.10
Aroclor 1242	None Detected	.06
Aroclor 1248	None Detected	.08
Aroclor 1254	None Detected	.08
Aroclor 1260	None Detected	.15
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	None Detected	.003

LABORATORY  
ANALYSIS NO. 1183

PAGE -3-

BY

*W.H. Jennings, Jr.*  
CHEMIST

# JENNINGS LABORATORIES, INC.

ANALYTICAL AND CONSULTING CHEMISTS

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EPA CERTIFIED LABORATORY for  
Water Analysis - Microbiological,  
Inorganic and Organic

ASBESTOS ANALYSIS - NIOSH 582

Official Referee Chemists for:  
AMERICAN OIL CHEMISTS SOCIETY  
NATIONAL SOYBEAN  
PROCESSORS ASSOCIATION

Laboratory Certified by VA. STATE WATER  
CONTROL BOARD for Analysis of  
Effluents for NPDES PERMITS  
CERTIFIED OFFICIAL U.S.D.A. LABORATORY  
FOR MEAT ANALYSIS

## CERTIFICATE OF ANALYSIS

TO: Mr. Dave Goodwin  
Building N-23 Atlantic Division  
Naval Facilities Engineering Command  
Norfolk, Virginia 23511

DATE: March 29, 1982

SAMPLE OF WATER SAMPLE

MARKED Collected 3/18/82 RR-45 MCB CAMP LEJEUNE

Sample delivered to laboratory by Mr. Wallmeyer 3/20/82

OFFICIAL SAMPLE BY: \_\_\_\_\_

PRIORITY POLLUTANTS	PURGEABLE ORGANICS	DETECTION LIMITS $\mu\text{g/l}$
Acetone	None Detected	2.0
Acrylonitrile	None Detected	2.0
Benzene	None Detected	10.0
Toluene	None Detected	10.0
Ethylbenzene	None Detected	10.0
Carbon Tetrachloride	None Detected	.007
Chlorobenzene	None Detected	.03
1,2-Dichloroethane	None Detected	.006
1,1,1-Trichloroethane	None Detected	.005
1,1-Dichloroethane	None Detected	.004
1,1-Dichloroethylene	None Detected	.006
1,1,2-Trichloroethane	None Detected	.006
1,1,2,2-Tetrachloroethane	None Detected	.006
Chloroethane	None Detected	.01
2-Chloroethyl vinyl ether	None Detected	.08

Respectfully submitted,  
JENNINGS LABORATORIES, INC.

Laboratory  
Analysis No. 1184

  
CHEMIST

JENNINGS LABORATORIES, INC.

<u>PRIORITY POLLUTANTS</u>	<u>PURGEABLE ORGANICS (continued)</u>	<u>DETECTION LIMITS</u>	<u>µg/l</u>
Chloroform	None Detected	.010	
1,2-Dichloropropane	None Detected	.004	
1,3-Dichloropropane	None Detected	.006	
Methylene Chloride	.14 ppb	.010	
Methyl Chloride	None Detected	.009	
Methyl Bromide	None Detected	.03	
Bromoform	None Detected	.02	
Dichlorobromomethane	None Detected	.006	
Trichlorofluoromethane	None Detected	.03	
Dichlorodifluoromethane	None Detected	.01	
Chlorodibromomethane	None Detected	.01	
Tetrachloroethylene	None Detected	.007	
Trichloroethylene	None Detected	.005	
Vinyl Chloride	None Detected	.01	
1,2-trans-Dichloroethylene	None Detected	.006	
b. (chloromethyl) ether	None Detected	.003	

LABORATORY  
ANALYSIS NO. 1184  
\$400.00

PAGE -2-

BY W.H. Jennings, Jr.  
Chemist





JENNINGS LABORATORIES, INC.

P	ITY POLLUTANTS	PURGEABLE ORGANICS (continued)	DETECTION LIMITS $\mu\text{g/l}$
	Chloroform	None Detected	.010
	1,2-Dichloropropane	None Detected	.004
	1,3-Dichloropropane	None Detected	.006
	Methylene Chloride	None Detected	.010
	Methyl Chloride	None Detected	.009
	Methyl Bromide	None Detected	.03
	Bromoform	None Detected	.02
	Dichlorobromomethane	None Detected	.006
	Trichlorofluoromethane	None Detected	.03
	Dichlorodifluoromethane	None Detected	.01
	Chlorodibromomethane	None Detected	.01
	Tetrachloroethylene	None Detected	.007
	Trichloroethylene	None Detected	.005
	Vinyl Chloride	None Detected	.01
	1,2-trans-Dichloroethylene	None Detected	.006
	b <sup>1</sup> (chloromethyl) ether	None Detected	.003

LABORATORY  
ANALYSIS NO. 1185  
\$400.00

PAGE -2-

BY W. H. Jennings  
Chemist

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CERTIFIED OFFICIAL U.S.D.A. LABORATORY  
FOR MEAT ANALYSIS

ASBESTOS ANALYSIS - NIOSH 582

CERTIFICATE OF ANALYSIS

Mr. Dave Goodwin  
Building N-23 Atlantic Division  
Naval Facilities Engineering Command  
Norfolk, Virginia 23511

DATE: March 30, 1982

SAMPLE OF WATER SAMPLE

MARKED RR-85 #6 collected 3/18/82 MCB CAMP LEJEUNE

Sample delivered to laboratory 3/20/82 by Mr. Wallmeyer

ANALYZED BY: \_\_\_\_\_

PRIORITY POLLUTANTS	PURGEABLE ORGANICS	DETECTION LIMITS µg/l
Acetone	None Detected	2.0
Acrylonitrile	None Detected	2.0
Benzene	None Detected	10.0
Chloroform	None Detected	10.0
1,2-Dichloroethane	None Detected	10.0
Carbon Tetrachloride	None Detected	.007
1,4-Dioxane	None Detected	.03
1,1-Dichloroethane	None Detected	.006
1,1,1-Trichloroethane	None Detected	.005
1,2-Dichloroethane	None Detected	.004
1,4-Dichlorobenzene	None Detected	.006
1,2-Trichloroethane	None Detected	.006
1,2,2-Tetrachloroethane	None Detected	.006
1,1,1,2-Tetrachloroethane	None Detected	.01
Chloroethyl vinyl ether	None Detected	.08

Respectfully submitted,  
JENNINGS LABORATORIES, INC.

Laboratory  
Analysis No. 1189  
\$2,000.00

  
CHEMIST

JENNINGS LABORATORIES, INC.

PRIORITY POLLUTANTS	PURGEABLE ORGANICS (continued)	DETECTION LIMITS $\mu\text{g/l}$
Chloroform	None Detected	.010
1,1-Dichloropropane	None Detected	.004
1,3-Dichloropropane	None Detected	.006
Methylene Chloride	None Detected	.010
Methyl Chloride	None Detected	.009
Methyl Bromide	None Detected	.03
Bromoform	None Detected	.02
Dichlorobromomethane	None Detected	.006
Trichlorofluoromethane	None Detected	.03
Dichlorodifluoromethane	None Detected	.01
Chlorodibromomethane	None Detected	.01
Tetrachloroethylene	None Detected	.007
Trichloroethylene	None Detected	.005
Vinyl Chloride	None Detected	.01
1,2-trans-Dichloroethylene	None Detected	.006
Bis(chloromethyl) ether	None Detected	.003

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

1,2-Dichlorobenzene	None Detected	.04
1,3-Dichlorobenzene	None Detected	.04
1,4-Dichlorobenzene	None Detected	.04
Hexachloroethane	None Detected	.001
Hexachlorobutadiene	None Detected	.001
Hexachlorobenzene	None Detected	.002
1,2,4-Trichlorobenzene	None Detected	.006
Bis(2-Chloroethoxy)methane	None Detected	.40
Naphthalene	None Detected	.04
1-Chloronaphthalene	None Detected	.04
Asphorone	None Detected	5.0
Nitrobenzene	None Detected	5.0
2,4-Dinitrotoluene	None Detected	.06
2,6-Dinitrotoluene	None Detected	.06

BASE NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS	DETECTION LIMITS	µg/l
4,4'-Diphenyl phenyl ether	None Detected	1.1
Bis(2-Ethylhexyl) phthalate	None Detected	.02
Di-n-octyl phthalate	None Detected	.11
Dimethyl phthalate	None Detected	.11
Diethyl phthalate	None Detected	.13
Di-n-butyl phthalate	None Detected	.02
Fluorene	None Detected	.04
Fluoranthene	None Detected	.04
Fluorene	None Detected	.04
Pyrene	None Detected	.04
Phenanthrene	None Detected	.04
Anthracene	None Detected	.04
Benzo(a)anthracene	None Detected	.04
Benzo(b)fluoranthene	None Detected	.04
Benzo(k)fluoranthene	None Detected	.04
Benzo(a)pyrene	None detected	.04
Indeno(1,2,3-c,d)pyrene	None Detected	.10
Benzo(a,h)anthracene	None Detected	.10
Benzo(g,h,i)perylene	None Detected	.10
1,1'-Dichlorophenyl phenyl ether	None Detected	2.2
3,3-Dichlorobenzidine	None Detected	.04
Benzidine	None Detected	.04
Bis(2-Chloroethyl) ether	None Detected	.04
1,2-Diphenylhydrazine	None Detected	.04
Hexachlorocyclopentadiene	None Detected	.04
N-Nitrosodiphenylamine	None Detected	1.0
Acenaphthylene	None Detected	.04
Acenaphthene	None Detected	.04
Butyl benzyl phthalate	None Detected	.04
N-Nitrosodimethylamine	None Detected	.2
N-Nitrosodi-n-propylamine	None Detected	.5
Bis(2-Chl. isopropyl) ether	None Detected	.9

PRIORITY POLLUTANTS

ACID EXTRACTABLE ORGANIC COMPOUNDS

DETECTION LIMIT µg/l

None	None Detected	1.4
2-Nitrophenol	None Detected	2.5
4-Nitrophenol	None Detected	2.5
2,4-Dinitrophenol	None Detected	7.0
2,6-Dinitro-o-cresol	None Detected	2.0
2,4,6-Trichlorophenol	None Detected	10.0
2-Chloro-m-cresol	None Detected	.01
2-Chlorophenol	None Detected	2.0
2,4-Dichlorophenol	None Detected	2.1
2,4,6-Trichlorophenol	None Detected	5.0
2,4-Dimethylphenol	None Detected	1.7

PESTICIDES/PCB'S

Endosulfan	None Detected	.005
2-Endosulfan	None Detected	.01
Endosulfan Sulfate	None Detected	.03
γ-BHC	None Detected	.002
α-BHC	None Detected	.004
β-BHC	None Detected	.004
γ-Dieldrin	None Detected	.003
α-Dieldrin	None Detected	.006
γ,γ'-DDE	None Detected	.006
γ,γ'-DDD	None Detected	.012
γ,γ'-DDT	None Detected	.016
γ-Dieldrin	None detected	.009
γ-Dieldrin Aldehyde	None Detected	.023
γ-Dieldrin	None Detected	.002
γ-Dieldrin Epoxide	None Detected	.004
γ-Dieldrin	None Detected	.04
γ-Dieldrin	None Detected	.40
γ-Dieldrin 1016	None Detected	.04
γ-Dieldrin 1221	None Detected	.10
γ-Dieldrin 1232	None Detected	.10

(continued)

PRIORITY POLLUTANTS

	PESTICIDES/PCB'S (Continued)	DETECTION LIMIT µg/l
Color 1242	None Detected	.06
Color 1248	None Detected	.08
Color 1254	None detected	.08
Color 1260	1.0 ppm	.15
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)	None Detected	.003

	METALS	DETECTION LIMIT mg/l
Arsenic	<0.2	0.2
Boron	<0.002	0.002
Cadmium	<0.005	0.005
Chromium	<0.005	0.005
Cobalt	<0.01	0.01
Copper	<0.005	0.005
Lead	<0.005	0.005
Mercury	<0.002	0.002
Nickel	<0.005	0.005
Selenium	<0.002	0.002
Silver	<0.005	0.005
Zinc	<0.10	0.1
Iron	<0.005	0.005
	7.65	

	MISCELLANEOUS	DETECTION LIMITS mg/l
Total Cyanides	<0.005	0.01
Asbestos (fibrous)	None	
Total Phenols	<0.005	0.005

LABORATORY ANALYSIS NO. 1189

PAGE -5-

BY

*W. H. [Signature]*  
CHEMIST

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ANALYTICAL AND CONSULTING CHEMISTS

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Official Referee Chemists for:  
AMERICAN OIL CHEMISTS SOCIETY  
NATIONAL SOYBEAN  
PROCESSORS ASSOCIATION

Laboratory Approved by VA. STATE WATER  
CONTROL BOARD for Analysis of  
Effluents for NPDES PERMITS  
CERTIFIED OFFICIAL U.S.D.A. LABORATORY  
FOR MEAT ANALYSIS

## CERTIFICATE OF ANALYSIS

TO: Mr. Dave Goodwin  
Building N-23 Atlantic Division  
Naval Facilities Engineering Command  
Norfolk, Virginia 23511

DATE: March 29, 1982

SAMPLE OF WATER SAMPLES

MARKED Duplicates from MCB Camp Lejeune Collected 3/18/82

Delivered to laboratory by Mr. Wallmeyer 3/20/82 PM

OFFICIAL SAMPLE BY: \_\_\_\_\_

### SAMPLE AS MARKED

RR-85 1-a  
1-b

RR-85 2-a  
2-b

RR-85 3-a  
3-b

RR-85 4-a  
4-b

RR-85 5-a  
5-b

RR 6-a  
6-b

RR 10-a  
10-b

RR 92-a  
92-b

### TRIHALOMETHANES

Chloroform 0.1 ppb  
None Detected (<0.1 ppb)

None Detected (<0.1 ppb)  
None Detected (<0.1 ppb)

None Detected (<0.1 ppb)  
None Detected (<0.1 ppb)

None Detected (<0.1 ppb)  
None Detected (<0.1 ppb)

None Detected (<0.1 ppb)  
None Detected (<0.1 ppb)

None Detected (<0.1 ppb)  
None Detected (<0.1 ppb)

None Detected (<0.1 ppb)  
None Detected (<0.1 ppb)

None Detected (<0.1 ppb)  
None Detected (<0.1 ppb)

Respectfully submitted,

JENNINGS LABORATORIES, INC.

Laboratory  
Analysis No. 1182  
8 @ \$60 each \$480.00


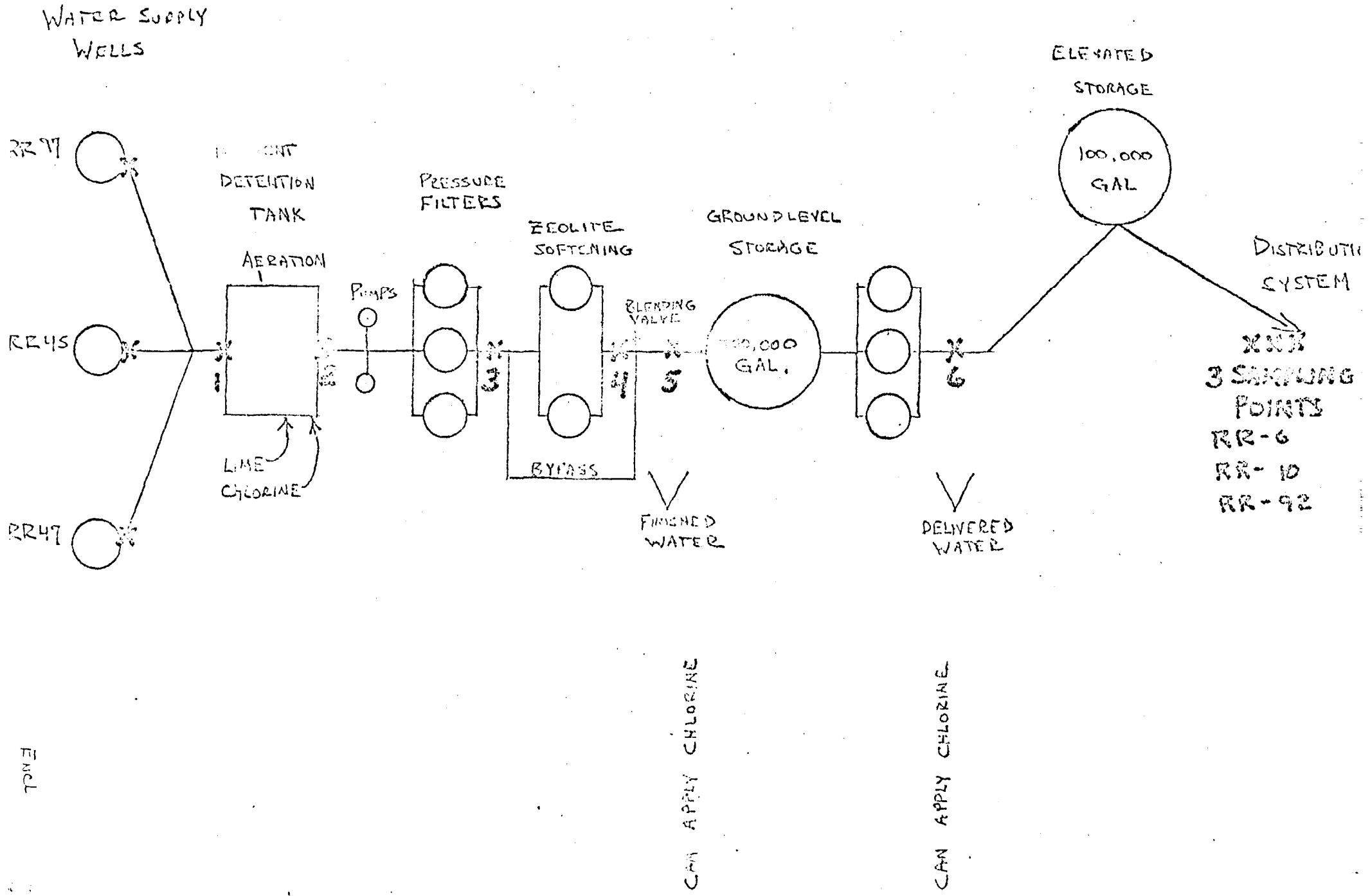
  
CHEMIST

FIGURE 1  
RR-85 WTP MCB .MP LEJEUNE

Q ≈ 200,000 GPD



ENCL



LABORATORY MULTIPLE PARAMETER WATER QUALITY ANALYSIS RECORD

NAT'L ENVIRONMENTAL PROTECTION SUPPORT SERVICE  
 EMD-ORO-3100-2 (REV. 10-74)  
 EMD-LL-MS-1011

UIC

SAMPLE IDENTIFICATION				
SAMPLE COLLECTION DATE		SAMPLE COLLECTION TIME		SAMPLE STATION NUMBER
MONTH	DAY	YEAR	0.240	
4/05/82				

WATER MCBCL-RR=85 1016

JENNINGS LABORATORIES, INC.

	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	
SOLIDS	TOTAL SUSPENDED SOLIDS (NON-FILTERABLE RESIDUE)	MG/L	00530		ALUMINUM, TOTAL	MG/L	01105		HEAVY METALS
	TOTAL SOLIDS (TOTAL RESIDUE @ 103-105°)	MG/L	00500		ARSENIC, TOTAL	MG/L	01002		
	SETTLABLE SOLIDS (SETTLABLE RESIDUE)	ML/LHR	00545		CADMIUM, TOTAL	MG/L	01027		
	TOTAL DISSOLVED SOLIDS (FILTERABLE RESIDUE)	MG/L	70300		CHROMIUM, TOTAL	MG/L	01034		
NITRATES	N-NITROGEN (AS N)	MG/L	00610		COPPER, TOTAL	MG/L	01042		
	N-NITRATE TOTAL (AS N)	MG/L	00620		IRON, TOTAL	MG/L	01045		
	N-NITRITE TOTAL (AS N)	MG/L	00615		LEAD, TOTAL	MG/L	01051		
	TOTAL N-NITROGEN	MG/L	00625		MAGNESIUM, TOTAL	MG/L	00927		
	ORTHOPHOSPHATE (AS P)	MG/L	00660		MANGANESE, TOTAL	MG/L	01055		
	TOTAL PHOSPHORUS (AS P)	MG/L	00678		MERCURY, TOTAL	MG/L	71900		
	SULFATE	MG/L	00945		POTASSIUM, TOTAL	MG/L	00937		
NON-HALOGENATED PARAMETER	AMMONIUM		00403		SILVER, TOTAL	MG/L	01077		
	CHLORIDE	MG/L	00940		ZINC, TOTAL	MG/L	01092		
	TURBIDITY LAB	FTU	00072		TOTAL COLIFORM	MFC/100ML	31503		
	BOD	MG/L	00810		FECAL COLIFORM	MFC/100ML	31616		
	DOC	MG/L	00340		TOTAL COLIFORM	MFC/100ML	31504		
	DOC	MG/L	00660		FECAL COLIFORM	MFC/100ML	31620		
	CHL AND TRACE	MG/L	70350		PCB	X ppm	None Detected (<0.01 ppm)		
	CHROMIUM	MG/L	32730						
	MANG	MG/L	38260						
	COBALT	MG/L	00720						

April 16, 1982

#1364 4/09/82

LABORATORY MULTIPLE PARAMETER WATER QUALITY ANALYSIS RECORD

NATL. ENVIRONMENTAL PROTECTION SUPPORT SERVICE  
 1110-C80-8810-2 (REV. 10-74)  
 011-11-100-1000

UIC

SAMPLE IDENTIFICATION					
SAMPLE COLLECTION DATE			SAMPLE COLLECTION TIME	SAMPLE STATION NUMBER	
MONTH	DAY	YEAR			
			0-2400		
4/05/82					

WATER MCBCL RR-47 1023

JENNINGS LABORATORIES, INC.

	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	
SOLIDS	TOTAL SUSPENDED SOLIDS (NON-FILTERABLE RESIDUE)	MG/L	00530		ALUMINUM, TOTAL	MG/L	01105		HEAVY METALS
	TOTAL SOLIDS (TOTAL RESIDUE 100-105°)	MG/L	00500		ARSENIC, TOTAL	MG/L	01002		
	SETTLABLE SOLIDS (SETTLABLE RESIDUE)	ML/L/HR	00545		BARIUM, TOTAL	MG/L	01027		
	TOTAL DISSOLVED SOLIDS (FILTERABLE RESIDUE)	MG/L	70300		CHROMIUM, TOTAL	MG/L	01034		
ANION	NITROGEN (AS N)	MG/L	00510		COPPER, TOTAL	MG/L	01042		
	NITRATE TOTAL (AS N)	MG/L	00520		CADMIUM, TOTAL	MG/L	01045		
	NITRITE TOTAL (AS N)	MG/L	00615		LEAD, TOTAL	MG/L	01051		
	TOTAL NITROGEN	MG/L	00625		MAGNESIUM, TOTAL	MG/L	00927		
	ORTHOPHOSPHATE (AS P)	MG/L	00660		MANGANESE, TOTAL	MG/L	01055		
	TOTAL PHOSPHORUS (AS P)	MG/L	00678		MERCURY, TOTAL	MG/L	71800		
	SULFATE	MG/L	00945		POTASSIUM, TOTAL	MG/L	00937		
CATION	CALCIUM	MG/L	00403		SILVER, TOTAL	MG/L	01077		
	CHLORIDE	MG/L	00940		ZINC, TOTAL	MG/L	01092		
	TURBIDITY (NTU)	ITU/FTU	W0072		TOTAL COLIFORM	MFC/100ML	31503		
	BOD	MG/L	00310		FECAL COLIFORM	MFC/100ML	31518		
ADDITIONAL PARAMETERS	COD	MG/L	00340		TOTAL COLIFORM	MFC/100ML	31506		
	TOD	MG/L	00680		FECAL COLIFORM	MFC/100ML	31520		
	PHENOL	MG/L	70350	**	PCB	X ppm	None Detected (<0.01 ppm)		
	HEAVY METALS	MG/L	32730						
	RESIDUE	MG/L	38230						
RESIDUE	MG/L	00720							

\*\* Sample was very dirty, required additional clean-up with Florisil.

April 16, 1982

LABORATORY MULTIPLE PARAMETER WATER QUALITY ANALYSIS RECORD

NAVY ENVIRONMENTAL PROTECTION SUPPORT SERVICE  
 1440-020-38000.2 (REV. 10-75)  
 1440-020-38000.2

UIC \_\_\_\_\_

SAMPLE IDENTIFICATION

SAMPLE COLLECTION DATE			SAMPLE COLLECTION TIME	SAMPLE STATION NUMBER
MONTH	DAY	YEAR	0-2400	
4/05/82				

WATER MCBCL RR-45 1027  
 JENNINGS LABORATORIES, INC.

PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE
SOLIDS	TOTAL SUSPENDED SOLIDS (NON-FILTERABLE RESIDUE)	MG/L	00530	ALUMINUM, TOTAL	MG/L	01105	
	TOTAL SOLIDS (TOTAL RESIDUE 103-105?)	MG/L	00500	ARSENIC, TOTAL	MG/L	01002	
	SETTLABLE SOLIDS (SETTLABLE RESIDUE)	ML/L	00515	CADMIUM, TOTAL	MG/L	01027	
	TOTAL DISSOLVED SOLIDS (FILTERABLE RESIDUE)	MG/L	70300	CHROMIUM, TOTAL	MG/L	01034	
NUTRIENTS	N-NITROGEN (AS N)	MG/L	00510	COPPER, TOTAL	MG/L	01042	
	N-NITRATE TOTAL (AS N)	MG/L	00620	COBALT, TOTAL	MG/L	01045	
	N-NITRITE TOTAL (AS N)	MG/L	00615	LEAD, TOTAL	MG/L	01051	
	TOTAL NITROGEN	MG/L	00625	MANGANESE, TOTAL	MG/L	00927	
	ORTHOPHOSPHATE (AS P)	MG/L	00660	MERCURY, TOTAL	MG/L	71900	
	TOTAL PHOSPHATE (AS P)	MG/L	00678	POTASSIUM, TOTAL	MG/L	00937	
	SULFATE	MG/L	00945	SILVER, TOTAL	MG/L	01077	
NON-CATEGORIZED PARAMETERS	PH LABORATORY		00403	ZINC, TOTAL	MG/L	01092	
	CHLORIDE	MG/L	00940	TOTAL COLIFORM	MPN/100ML	31503	
	FURFURYL FURF	MG/L	W0072	FECAL COLIFORM	MPN/100ML	31616	
	BOD	MG/L	00310	TOTAL COLIFORM	MPN/100ML	31506	
	COD	MG/L	00340	FECAL COLIFORM	MPN/100ML	31620	
	TOT	MG/L	00680				
	OIL AND GREASE	MG/L	70350	** PCB	X ppm	None Detected (<0.01 ppm)	
	PHENOLS	MG/L	32730				
	MPAS	MG/L	38260				
	OSNAPLE	MG/L	00720				

HEAVY METALS

COLIFORM

ADDITIONAL PARAMETERS

None Detected (<0.01 ppm)

\*\* Sample was very dirty, required additional clean-up with florasil.

April 16, 1982

#1366

4/09/82

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LABORATORY MULTIPLE PARAMETER WATER QUALITY ANALYSIS RECORD

NAT. ENVIRONMENTAL PROTECTION SUPPORT SERVICE  
 11ND-CRC-3900/2 (REV. 10-74)  
 C107-11-120-1002

UIC

SAMPLE IDENTIFICATION		
SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	SAMPLE STATION NUMBER
4/05/82	0.2400	

WATER MCBCL RR-97 1030  
 JENNINGS LABORATORIES, INC.

PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE
SOLIDS	TOTAL SUSPENDED SOLIDS (NON-FILTERABLE RESIDUE)	MG/L	00530	ALUMINUM, TOTAL	MG/L	01105	
	TOTAL SOLIDS (TOTAL RESIDUE 103-105°)	MG/L	00500	ARSENIC, TOTAL	MG/L	01002	
	SETTLABLE SOLIDS (SETTLABLE RESIDUE)	ML/L/HR	00545	CADMIUM, TOTAL	MG/L	01027	
	TOTAL DISSOLVED SOLIDS (FILTERABLE RESIDUE)	MG/L	70300	CHROMIUM, TOTAL	MG/L	01034	
TRIENTS	NITROGEN (AS N)	MG/L	00610	COPPER, TOTAL	MG/L	01042	
	NITRATE TOTAL (AS N)	MG/L	00620	IRON, TOTAL	MG/L	01045	
	NITRITE TOTAL (AS N)	MG/L	00615	LEAD, TOTAL	MG/L	01051	
	TOTAL NITROGEN (AS N)	MG/L	00625	MAGNESIUM, TOTAL	MG/L	00927	
	ORTHOPHOSPHATE (AS P <sub>O4</sub> )	MG/L	00660	MANGANESE, TOTAL	MG/L	01055	
	TOTAL PHOSPHORUS (AS P)	MG/L	00678	MERCURY, TOTAL	MG/L	71800	
	SULFATE	MG/L	00945	POTASSIUM, TOTAL	MG/L	00937	
NON-CATEGORIZ. PARAMETER	PERCHLORATE		00403	SILVER, TOTAL	MG/L	01009	
	CHLORIDE	MG/L	00940	ZINC, TOTAL	MG/L	01092	
	TURBIDITY LAB	JTU/FTU	W0072	TOTAL COLIFORM	MPN/100ML	31503	
	BOD	MG/L	00310	FECAL COLIFORM	MPN/100ML	31516	
	COD	MG/L	00340	TOTAL COLIFORM	MPN/100ML	31504	
	TSS	MG/L	00580	FECAL COLIFORM	MPN/100ML	31520	
	OIL AND GREASE	MG/L	70350	PCB	X ppm	None Detected (<0.01 ppm)	
	PHENOLS	MG/L	3273				
	WATER	MG/L	38260				
	CHLORINE	MG/L	00700				

#1367 4/09/82 *[Signature]* April 16, 1982

LABORATORY MULTIPLE PARAMETER WATER QUALITY ANALYSIS RECORD

NAVY ENVIRONMENTAL PROTECTION SUPPORT SERVICE

FORM D-UBC-3900/2 (REV. 10-74)

LL-M90-0022

UIC

SAMPLE IDENTIFICATION		
SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	SAMPLE STATION NUMBER
4/19/82	1035	

ACTIVITY NAME  
**MCB CAMP LEJEUNE RIFLE RANGE WTP RR-85 Finished Water**

LABORATORY NAME  
**JENNINGS LABORATORIES, INC.**

	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	
SOLIDS	TOTAL SUSPENDED SOLIDS (NON FILTERABLE RESIDUE)	MG/L	00530		ALUMINUM, TOTAL	MG/L	01105		HEAVY METALS
	TOTAL SOLIDS (TOTAL RESIDUE 103-105°)	MG/L	00500		ARSENIC, TOTAL	MG/L	01002		
	SETTLABLE SOLIDS (SETTLABLE RESIDUE)	ML/L/HR	00545		CADMIUM, TOTAL	MG/L	01027		
	TOTAL DISSOLVED SOLIDS (FILTERABLE RESIDUE)	MG/L	70300		CHROMIUM, TOTAL	MG/L	01034		
IONIC	N-AMMONIA (AS N)	MG/L	00610		COPPER, TOTAL	MG/L	01042		
	N-NITRATE TOTAL (AS N)	MG/L	00620		IRON, TOTAL	MG/L	01045		
	N-NITRITE TOTAL (AS N)	MG/L	00615		LEAD, TOTAL	MG/L	01051		
	TOTAL N (KJELDAHL)	MG/L	00625		MAGNESIUM, TOTAL	MG/L	00927		
	ORTHOPHOSPHATE (AS PO <sub>4</sub> )	MG/L	00660		MANGANESE, TOTAL	MG/L	01055		
	TOTAL PHOSPHORUS (AS P)	MG/L	00678		MERCURY, TOTAL	MG/L	71900		
	SULFATE	MG/L	00945		POTASSIUM, TOTAL	MG/L	00937		
NON-CATEGORIZED PARAMETER	PH LABORATORY		00403		SILVER, TOTAL	MG/L	01077		
	CHLORIDE	MG/L	00940		ZINC, TOTAL	MG/L	01092		
	TURBIDITY LAB	JTU/FTU	w0072		TOTAL COLIFORM	MFC/100ML	31503		
	BOD	MG/L	00310		FECAL COLIFORM	MFC/100ML	31616		
	COD	MG/L	00340		TOTAL COLIFORM	MPN/100ML	31506		
	TOC	MG/L	00680		FECAL COLIFORM	MPN/100ML	31620		
	OIL AND GREASE	MG/L	70350		PCB	X ppm	None Detected (<0.01)		
	PHENOLS	MG/L	32730						
MBAS	MG/L	38260							
CYANIDE	MG/L	00720							

SIGNATURE: *W.H. Jennings Jr.* DATE: **May 27, 1982**

#1421

5/13/82

\$60.00

70. Enclosure (3)

NEPSS WATER QUALITY DATA ELEMENT INDEX (BACK)

W7797	AIRCRAFT CLEANING COMPOUND	00927	MAGNESIUM
39330	ALDRIN IN WHOLE WATER SAMPLE	01055	MANGANESE
00410	ALKALINITY, TOTAL (MG/L AS $\text{CaCO}_3$ )	71900	MERCURY
01105	ALUMINUM	38260	METHYLENE BLUE ACTIVE SUBSTANCES
W0079	AMMONIUM PICRATE	W7790	MINERAL FRACTION IN GREASE
01097	ANTIMONY, TOTAL	01062	MOLYBDENUM
01002	ARSENIC	01067	NICKEL
01007	BARIUM	00610	NITROGEN-AMMONIA
W7796	BENZENE	00620	NITROGEN-NITRATE
01012	BERYLLIUM	00615	NITROGEN-NITRITE
00440	BICARBONATE ION (MG/L AS $\text{HCO}_3$ )	W7781	NITROGEN/PHOSPHORUS RATIO
W7777	BIOASSAY, PERCENT SURVIVAL	00600	NITROGEN, TOTAL (MG/L AS N)
W8888	BIOASSAY, TLM <sub>50</sub>	00625	NITROGEN, TOTAL KJELDAHL
00310	BIOCHEMICAL OXYGEN DEMAND	00605	NITROGEN, TOTAL ORGANIC
01022	BORON	00085	ODOR TEST READING
W0070	BOTTOM INDICATOR	70350	OIL AND GREASE
W7798	C <sub>1</sub> -C <sub>4</sub> SHORT CHAIN HYDROCARBONS	00660	ORTHOPHOSPHATE (MG/L AS $\text{PO}_4$ )
W7799	C <sub>5</sub> -C <sub>9</sub> SHORT CHAIN HYDROCARBONS	00090	OXIDATION REDUCTION POTENTIAL
W7800	C <sub>10</sub> -C <sub>12</sub> SHORT CHAIN HYDROCARBONS	00400	PH FIELD
W7801	C <sub>13</sub> -C <sub>20</sub> SHORT CHAIN HYDROCARBONS	00403	PH LABORATORY
01027	CADMIUM	32730	PHENOLS
00916	CALCIUM	00650	PHOSPHATE, TOTAL
28401	CAESIUM-137	00678	PHOSPHORUS, TOTAL
00340	CHEMICAL OXYGEN DEMAND	W0055	POLYCHLORINATEDBIPHENYLS
00940	CHLORIDE	00655	POLYPHOSPHATE (MG/L AS $\text{PO}_4$ )
74052	CHLORINATED HYDROCARBON, GENERAL (PERMIT)	00937	POTASSIUM
00365	CHLORINE DEMAND, 15 MINUTE	W0093	PROPYLENE GLYCOL DINITRATE
00369	CHLORINE DEMAND, 30 MINUTE	W0050	RDX
00370	CHLORINE DEMAND, 1 HOUR	W9001	REMARKS, LABORATORY'S
00375	CHLORINE DEMAND, 2 HOUR	00096	SALINITY
00380	CHLORINE DEMAND, 24 HOUR	00077	SECCHI DISC METER READING
50064	CHLORINE, FREE AVAILABLE	01147	SELENIUM
50060	CHLORINE RESIDUAL	00956	SILICA, TOTAL (MG/L AS $\text{SiO}_2$ )
01034	CHROMIUM	01077	SILVER
01032	CHROMIUM, HEXAVALENT	W7780	SLUDGE VOLUME INDEX
01037	COBALT	00929	SODIUM
29601	COBALT-60	W7803	SODIUM CHLORIDE
31616	COLIFORM, FECAL (MFC)	00932	SODIUM, PERCENT
31620	COLIFORM, FECAL (MPN)	00545	SOLIDS, SETTLEABLE
31503	COLIFORM, TOTAL (MFC)	00546	SOLIDS, SETTLEABLE BY WEIGHT
31506	COLIFORM, TOTAL (MPN)	00500	SOLIDS, TOTAL
00081	COLOR	70300	SOLIDS, TOTAL DISSOLVED
W9000	COMMENTS, FIELD COLLECTOR'S	00510	SOLIDS, TOTAL RESIDUAL
00095	CONDUCTIVITY	00530	SOLIDS, TOTAL SUSPENDED
01042	COPPER	00505	SOLIDS, TOTAL VOLATILE
00720	CYANIDE	W7794	STODDARD SOLVENT
39365	DDE	15501	STRONTIUM-90
39370	DDT	00945	SULFATES
W0064	DEPTH	00745	SULFIDES
00300	DISSOLVED OXYGEN	W0077	SULFITES
W0074	DURATION	00010	TEMPERATURE
W7791	FILTERABLE CHEMICAL OXYGEN DEMAND	01059	THALLIUM, TOTAL (AS TL)
W7778	FLOATING SOLIDS	01102	TIN
00056	FLOWRATE	01152	TITANIUM
00951	FLUORIDE	00680	TOTAL ORGANIC CARBON
00910	HARDNESS, CALCIUM (MG/L AS $\text{CaCO}_3$ )	W7783	TOXICITY CONCENTRATION
00920	HARDNESS, MAGNESIUM (MG/L AS $\text{CaCO}_3$ )	W0067	TRANSMISSIBILITY, PERCENT
00900	HARDNESS, TOTAL (MG/L AS $\text{CaCO}_3$ )	W0043	TRI-NITRO TOLUENE
W0051	HMX	00075	TURBIDITY, FIELD
28301	IODINE-131	W0072	TURBIDITY, LABORATORY
01045	IRON	W0073	TYPE SAMPLE
W7782	IRON PLUS MANGANESE	01087	VANADIUM, TOTAL (AS V)
W7795	JP-5	W7779	VISIBLE FOAM
01051	LEAD	01092	ZINC

LABORATORY MULTIPLE PARAMETER WATER QUALITY ANALYSIS RECORD

NAT'L ENVIRONMENTAL PROTECTION SUPPORT SERVICE  
 DND-CBC-3900/2 (REV. 10-74)  
 -LL-M90-0022

UIC

SAMPLE IDENTIFICATION			
SAMPLE COLLECTION DATE		SAMPLE COLLECTION TIME	SAMPLE STATION NUMBER
MONTH	DAY	YEAR	
	4	19	82
			1046

ACT MCB CAMP LEJEUNE RIFLE RANGE WELL RR 45  
**Water Sample**  
 LABORATORY NAME  
**JENNINGS LABORATORIES, INC.**

PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE
SOLIDS	TOTAL SUSPENDED SOLIDS (NON FILTERABLE RESIDUE)	MG/L	00530	ALUMINUM, TOTAL	MG/L	01105	
	TOTAL SOLIDS (TOTAL RESIDUE 103-105°)	MG/L	00500	ARSENIC, TOTAL	MG/L	01002	
	SETTLABLE SOLIDS (SETTLABLE RESIDUE)	ML/L/HR	00545	CADMIUM, TOTAL	MG/L	01027	
	TOTAL DISSOLVED SOLIDS (FILTERABLE RESIDUE)	MG/L	70300	CHROMIUM, TOTAL	MG/L	01034	
NUTRIENTS	N-AMMONIA (AS N)	MG/L	00610	COPPER, TOTAL	MG/L	01042	
	N-NITRATE TOTAL (AS N)	MG/L	00620	IRON, TOTAL	MG/L	01045	
	N-NITRITE TOTAL (AS N)	MG/L	00615	LEAD, TOTAL	MG/L	01051	
	TOTAL N (KJELDAHL)	MG/L	00625	MAGNESIUM, TOTAL	MG/L	00927	
	ORTHOPHOSPHATE (AS PO <sub>4</sub> )	MG/L	00660	MANGANESE, TOTAL	MG/L	01055	
	TOTAL PHOSPHORUS (AS P)	MG/L	00678	MERCURY, TOTAL	MG/L	71900	
	SULFATE	MG/L	00945	POTASSIUM, TOTAL	MG/L	00937	
NON-CATEGORIZED PARAMETER	PH LABORATORY		00403	SILVER, TOTAL	MG/L	01077	
	CHLORIDE	MG/L	00940	ZINC, TOTAL	MG/L	01092	
	TURBIDITY LAB	JTU/FTU	W0072	TOTAL COLIFORM	MFC/100ML	31503	
	BOD	MG/L	00310	FECAL COLIFORM	MFC/100ML	31616	
	COD	MG/L	00340	TOTAL COLIFORM	MPN/100ML	31506	
	TOC	MG/L	00680	FECAL COLIFORM	MPN/100ML	31620	
	OIL AND GREASE	MG/L	70350	PCB	X ppm	.11	
	PHENOLS	MG/L	32730				
	MBAS	MG/L	38260				
	CYANIDE	MG/L	00720				

PKS

SIGNATURE *W. H. Jennings, Jr.* DATE **May 27, 1982**

#1423 5/13/82 ~~568.00~~ 70.00

NEPSS WATER QUALITY DATA ELEMENT INDEX (BACK)

W7797	AIRCRAFT CLEANING COMPOUND	00927	MAGNESIUM
39330	ALDRIN IN WHOLE WATER SAMPLE	01055	MANGANESE
00410	ALKALINITY, TOTAL (MG/L AS $\text{CaCO}_3$ )	71900	MERCURY
01105	ALUMINUM	38260	METHYLENE BLUE ACTIVE SUBSTANCES
W0079	AMMONIUM PICRATE	W7790	MINERAL FRACTION IN GREASE
01097	ANTIMONY, TOTAL	01062	MOLYBDENUM
01002	ARSENIC	01067	NICKEL
01007	BARIUM	00610	NITROGEN-AMMONIA
W7796	BENZENE	00620	NITROGEN-NITRATE
01012	BERYLLIUM	00615	NITROGEN-NITRITE
00440	BICARBONATE ION (MG/L AS $\text{HCO}_3$ )	W7781	NITROGEN/PHOSPHORUS RATIO
W7777	BIOASSAY, PERCENT SURVIVAL	00600	NITROGEN, TOTAL (MG/L AS N)
W8888	BIOASSAY, TLM <sub>50</sub>	00625	NITROGEN, TOTAL KJELDAHL
00310	BIOCHEMICAL OXYGEN DEMAND	00605	NITROGEN, TOTAL ORGANIC
01022	BORON	00085	ODOR TEST READING
W0070	BOTTOM INDICATOR	70350	OIL AND GREASE
W7798	C <sub>1</sub> -C <sub>4</sub> SHORT CHAIN HYDROCARBONS	00660	ORTHOPHOSPHATE (MG/L AS $\text{PO}_4$ )
W7799	C <sub>5</sub> -C <sub>9</sub> SHORT CHAIN HYDROCARBONS	00090	OXIDATION REDUCTION POTENTIAL
W7800	C <sub>10</sub> -C <sub>12</sub> SHORT CHAIN HYDROCARBONS	00400	PH FIELD
W7801	C <sub>13</sub> -C <sub>20</sub> SHORT CHAIN HYDROCARBONS	00403	PH LABORATORY
01027	CADMIUM	32730	PHENOLS
00916	CALCIUM	00650	PHOSPHATE, TOTAL
28401	CESIUM-137	00678	PHOSPHORUS, TOTAL
00340	CHEMICAL OXYGEN DEMAND	W0055	POLYCHLORINATEDBIPHENYLS
00940	CHLORIDE	00655	POLYPHOSPHATE (MG/L AS $\text{PO}_4$ )
74052	CHLORINATED HYDROCARBON, GENERAL (PERMIT)	00937	POTASSIUM
00365	CHLORINE DEMAND, 15 MINUTE	W0093	PROPYLENE GLYCOL DINITRATE
00369	CHLORINE DEMAND, 30 MINUTE	W0050	RDX
00370	CHLORINE DEMAND, 1 HOUR	W9001	REMARKS, LABORATORY'S
00375	CHLORINE DEMAND, 2 HOUR	00096	SALINITY
00380	CHLORINE DEMAND, 24 HOUR	00077	SECCHI DISC METER READING
50064	CHLORINE, FREE AVAILABLE	01147	SELENIUM
50060	CHLORINE RESIDUAL	00956	SILICA, TOTAL (MG/L AS $\text{SiO}_2$ )
01034	CHROMIUM	01077	SILVER
01032	CHROMIUM, HEXAVALENT	W7780	SLUDGE VOLUME INDEX
01037	COBALT	00929	SODIUM
29601	COBALT-60	W7803	SODIUM CHLORIDE
31616	COLIFORM, FECAL (MFC)	00932	SODIUM, PERCENT
31620	COLIFORM, FECAL (MPN)	00545	SOLIDS, SETTLEABLE
31503	COLIFORM, TOTAL (MFC)	00546	SOLIDS, SETTLEABLE BY WEIGHT
31506	COLIFORM, TOTAL (MPN)	00500	SOLIDS, TOTAL
00081	COLOR	70300	SOLIDS, TOTAL DISSOLVED
W9000	COMMENTS, FIELD COLLECTOR'S	00510	SOLIDS, TOTAL RESIDUAL
00095	CONDUCTIVITY	00530	SOLIDS, TOTAL SUSPENDED
01042	COPPER	00505	SOLIDS, TOTAL VOLATILE
00720	CYANIDE	W7794	STODDARD SOLVENT
39365	DDE	15501	STRONTIUM-90
39370	DDT	00945	SULFATES
W0064	DEPTH	00745	SULFIDES
00300	DISSOLVED OXYGEN	W0077	SULFITES
W0074	DURATION	00010	TEMPERATURE
W7791	FILTERABLE CHEMICAL OXYGEN DEMAND	01059	THALLIUM, TOTAL (AS TL)
W7778	FLOATING SOLIDS	01102	TIN
00056	FLOWRATE	01152	TITANIUM
00951	FLUORIDE	00680	TOTAL ORGANIC CARBON
00910	HARDNESS, CALCIUM (MG/L AS $\text{CaCO}_3$ )	W7783	TOXICITY CONCENTRATION
00920	HARDNESS, MAGNESIUM (MG/L AS $\text{CaCO}_3$ )	W0067	TRANSMISSIBILITY, PERCENT
00900	HARDNESS, TOTAL (MG/L AS $\text{CaCO}_3$ )	W0043	TRI-NITRO TOLUENE
W0051	HMX	00075	TURBIDITY, FIELD
28301	IODINE-131	W0072	TURBIDITY, LABORATORY
01045	IRON	W0073	TYPE SAMPLE
W7782	IRON PLUS MANGANESE	01087	VANADIUM, TOTAL (AS V)
W7795	JP-5	W7779	VISIBLE FOAM
01051	LEAD	01092	ZINC



LABORATORY MULTIPLE PARAMETER WATER QUALITY ANALYSIS RECORD

NAVY ENVIRONMENTAL PROTECTION SUPPORT SERVICE

FORM 160-33C-3900/2 (REV. 10-74)

LL-M90-0022

UIC

SAMPLE IDENTIFICATION					
SAMPLE COLLECTION DATE			SAMPLE COLLECTION TIME	SAMPLE STATION NUMBER	
MONTH	DAY	YEAR			
			0-2400		
4/19/82			1040		

ACTIVITY NAME  
**MCB CAMP LEJEUNE RIFLE RANGE WELL RR-47**

LABORATORY NAME  
**JENNINGS LABORATORIES, INC.**

	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	
SOLIDS	TOTAL SUSPENDED SOLIDS (NON FILTERABLE RESIDUE)	MG/L	00530		ALUMINUM, TOTAL	MG/L	01105		HEAVY METALS
	TOTAL SOLIDS (TOTAL RESIDUE 103-105°)	MG/L	00500		ARSENIC, TOTAL	MG/L	01002		
	SETTLABLE SOLIDS (SETTLABLE RESIDUE)	ML/L/HR	00545		CADMIUM, TOTAL	MG/L	01027		
	TOTAL DISSOLVED SOLIDS (FILTERABLE RESIDUE)	MG/L	70300		CHROMIUM, TOTAL	MG/L	01034		
NUTRIENTS	N-AMMONIA (AS N)	MG/L	00610		COPPER, TOTAL	MG/L	01042		
	N-NITRATE TOTAL (AS N)	MG/L	00620		IRON, TOTAL	MG/L	01045		
	N-NITRITE TOTAL (AS N)	MG/L	00615		LEAD, TOTAL	MG/L	01051		
	TOTAL N (KJELDAHL)	MG/L	00625		MAGNESIUM, TOTAL	MG/L	00927		
	ORTHOPHOSPHATE (AS PO <sub>4</sub> )	MG/L	00660		MANGANESE, TOTAL	MG/L	01055		
	TOTAL PHOSPHORUS (AS P)	MG/L	00678		MERCURY, TOTAL	MG	71900		
	SULFATE	MG/L	00945		POTASSIUM, TOTAL	MG/L	00937		
NON-CATEGORIZED PARAMETER	PH LABORATORY		00403		SILVER, TOTAL	MG/L	01077		
	CHLORIDE	MG/L	00940		ZINC, TOTAL	MG/L	01092		
	TURBIDITY LAB	JTU/FTU	W0072		TOTAL COLIFORM	MFC/100ML	31503		
	BOD	MG/L	00310		FECAL COLIFORM	MFC/100ML	31616		
	COD	MG/L	00340		TOTAL COLIFORM	MPN/100ML	31506		
	TOC	MG/L	00680		FECAL COLIFORM	MPN/100ML	31620		
	OIL AND GREASE	MG/L	70350		PCB	X ppm	None Detected (<0.01)		
	PHENOLS	MG/L	32730						
	MBAS	MG/L	38260						
	CYANIDE	MG/L	00720						

HEAVY METALS

COLIFORM

ADDITIONAL PARAMETERS

SIGNATURE: *W. H. Jennings, Jr.* DATE: May 27, 1982

#1422 5/13/82

\$60.00  
70-

NEPSS WATER QUALITY DATA ELEMENT INDEX (BACK)

W7797	AIRCRAFT CLEANING COMPOUND	00927	MAGNESIUM
39330	ALDRIN IN WHOLE WATER SAMPLE	01055	MANGANESE
00410	ALKALINITY, TOTAL (MG/L AS $\text{CaCO}_3$ )	71900	MERCURY
01105	ALUMINUM	38260	METHYLENE BLUE ACTIVE SUBSTANCES
W0079	AMMONIUM PICRATE	W7790	MINERAL FRACTION IN GREASE
01097	ANTIMONY, TOTAL	01062	MOLYBDENUM
01002	ARSENIC	01067	NICKEL
01007	BARIUM	00610	NITROGEN-AMMONIA
W7796	BENZENE	00620	NITROGEN-NITRATE
01012	BERYLLIUM	00615	NITROGEN-NITRITE
00440	BICARBONATE ION (MG/L AS $\text{HCO}_3$ )	W7781	NITROGEN/PHOSPHORUS RATIO
W7777	BIOASSAY, PERCENT SURVIVAL	00600	NITROGEN, TOTAL (MG/L AS N)
W8888	BIOASSAY, TLM <sub>50</sub>	00625	NITROGEN, TOTAL KJELDAHL
00310	BIOCHEMICAL OXYGEN DEMAND	00605	NITROGEN, TOTAL ORGANIC
01022	BORON	00085	ODOR TEST READING
W0070	BOTTOM INDICATOR	70350	OIL AND GREASE
W7798	C <sub>1</sub> -C <sub>4</sub> SHORT CHAIN HYDROCARBONS	00660	ORTHOPHOSPHATE (MG/L AS $\text{PO}_4$ )
W7799	C <sub>5</sub> -C <sub>9</sub> SHORT CHAIN HYDROCARBONS	00090	OXIDATION REDUCTION POTENTIAL
W7800	C <sub>10</sub> -C <sub>12</sub> SHORT CHAIN HYDROCARBONS	00400	PH FIELD
W7801	C <sub>13</sub> -C <sub>20</sub> SHORT CHAIN HYDROCARBONS	00403	PH LABORATORY
01027	CADMIUM	32730	PHENOLS
00916	CALCIUM	00650	PHOSPHATE, TOTAL
28401	CAESIUM-137	00678	PHOSPHORUS, TOTAL
00340	CHEMICAL OXYGEN DEMAND	W0055	POLYCHLORINATEDBIPHENYLS
00940	CHLORIDE	00655	POLYPHOSPHATE (MG/L AS $\text{PO}_4$ )
74052	CHLORINATED HYDROCARBON, GENERAL (PERMIT)	00937	POTASSIUM
00365	CHLORINE DEMAND, 15 MINUTE	W0093	PROPYLENE GLYCOL DINITRATE
00369	CHLORINE DEMAND, 30 MINUTE	W0050	RDX
00370	CHLORINE DEMAND, 1 HOUR	W9001	REMARKS, LABORATORY'S
00375	CHLORINE DEMAND, 2 HOUR	00096	SALINITY
00380	CHLORINE DEMAND, 24 HOUR	00077	SECCHI DISC METER READING
50064	CHLORINE, FREE AVAILABLE	01147	SELENIUM
50060	CHLORINE RESIDUAL	00956	SILICA, TOTAL (MG/L AS $\text{SiO}_2$ )
01034	CHROMIUM	01077	SILVER
01032	CHROMIUM, HEXAVALENT	W7780	SLUDGE VOLUME INDEX
01037	COBALT	00929	SODIUM
29601	COBALT-60	W7803	SODIUM CHLORIDE
31616	COLIFORM, FECAL (MFC)	00932	SODIUM, PERCENT
31620	COLIFORM, FECAL (MPN)	00545	SOLIDS, SETTLEABLE
31503	COLIFORM, TOTAL (MFC)	00546	SOLIDS, SETTLEABLE BY WEIGHT
31506	COLIFORM, TOTAL (MPN)	00500	SOLIDS, TOTAL
00081	COLOR	70300	SOLIDS, TOTAL DISSOLVED
W9000	COMMENTS, FIELD COLLECTOR'S	00510	SOLIDS, TOTAL RESIDUAL
00095	CONDUCTIVITY	00530	SOLIDS, TOTAL SUSPENDED
01042	COPPER	00505	SOLIDS, TOTAL VOLATILE
00720	CYANIDE	W7794	STODDARD SOLVENT
39365	DDE	15501	STRONTIUM-90
39370	DDT	00945	SULFATES
W0064	DEPTH	00745	SULFIDES
00300	DISSOLVED OXYGEN	W0077	SULFITES
W0074	DURATION	00010	TEMPERATURE
W7791	FILTERABLE CHEMICAL OXYGEN DEMAND	01059	THALLIUM, TOTAL (AS TL)
W7778	FLOATING SOLIDS	01102	TIN
00056	FLOWRATE	01152	TITANIUM
00951	FLUORIDE	00680	TOTAL ORGANIC CARBON
00910	HARDNESS, CALCIUM (MG/L AS $\text{CaCO}_3$ )	W7783	TOXICITY CONCENTRATION
00920	HARDNESS, MAGNESIUM (MG/L AS $\text{CaCO}_3$ )	W0067	TRANSMISSIBILITY, PERCENT
00900	HARDNESS, TOTAL (MG/L AS $\text{CaCO}_3$ )	W0043	TRI-NITRO TOLUENE
W0051	HMX	00075	TURBIDITY, FIELD
28301	IODINE-131	W0072	TURBIDITY, LABORATORY
01045	IRON	W0073	TYPE SAMPLE
W7782	IRON PLUS MANGANESE	01087	VANADIUM, TOTAL (AS V)
W7795	JP-5	W7779	VISIBLE FOAM
01051	LEAD	01092	ZINC

LABORATORY MULTIPLE PARAMETER WATER QUALITY ANALYSIS RECORD

NAVY ENVIRONMENTAL PROTECTION SUPPORT SERVICE  
 OPD-CBC-3900/2 (REV. 10-74)  
 LL-M90-0022

UIC

SAMPLE IDENTIFICATION			
SAMPLE COLLECTION DATE		SAMPLE COLLECTION TIME	SAMPLE STATION NUMBER
MONTH	DAY	YEAR	
		0.2400	
4/19/82		1050	

ACTIVITY NAME  
**MCB CAMP LEJEUNE RIFLE RANGE WELL RR97**

LABORATORY NAME  
**JENNINGS LABORATORIES, INC.**

PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE	PARAMETER DESCRIPTION	UNITS	DATA ELEMENT NUMBER	VALUE
SOLIDS	TOTAL SUSPENDED SOLIDS (NON FILTERABLE RESIDUE)	MG/L	00530	ALUMINUM, TOTAL	MG/L	01105	
	TOTAL SOLIDS (TOTAL RESIDUE 103-105°)	MG/L	00500	ARSENIC, TOTAL	MG/L	01002	
	SETTLABLE SOLIDS (SETTLABLE RESIDUE)	ML/L/HR	00545	CADMIUM, TOTAL	MG/L	01027	
	TOTAL DISSOLVED SOLIDS (FILTERABLE RESIDUE)	MG/L	70300	CHROMIUM, TOTAL	MG/L	01034	
IONENTS	N-AMMONIA (AS N)	MG/L	00610	COPPER, TOTAL	MG/L	01042	
	N-NITRATE TOTAL (AS N)	MG/L	00620	IRON, TOTAL	MG/L	01045	
	N-NITRITE TOTAL (AS N)	MG/L	00615	LEAD, TOTAL	MG/L	01051	
	TOTAL N (KJELDAHL)	MG/L	00625	MAGNESIUM, TOTAL	MG/L	00927	
	ORTHOPHOSPHATE (AS PO <sub>4</sub> )	MG/L	00660	MANGANESE, TOTAL	MG/L	01055	
	TOTAL PHOSPHORUS (AS P)	MG/L	00678	MERCURY, TOTAL	MG/L	71900	
	SULFATE	MG/L	00945	POTASSIUM, TOTAL	MG/L	00937	
NON-CATEGORIZED PARAMETER	PH LABORATORY		00403	SILVER, TOTAL	MG/L	01077	
	CHLORIDE	MG/L	00940	ZINC, TOTAL	MG/L	01092	
	TURBIDITY LAB	JTU/FTU	W0072	TOTAL COLIFORM	MFC/100ML	31503	
	BOD	MG/L	00310	FECAL COLIFORM	MFC/100ML	31616	
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	OIL AND GREASE	MG/L	70350	PCB	X	ppm	None Detected (<0.01)
	PHENOLS	MG/L	32730				
	MBAS	MG/L	38260				
	CYANIDE	MG/L	00720				

HEAVY METALS

COLIFORM

ADDITIONAL PARAMETERS

SIGNATURE *W.A. Jennings* DATE **May 27, 1982**

#1424 5/13/82

\$60.00  
70-

NEPSS WATER QUALITY DATA ELEMENT INDEX (BACK)

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01097	ANTIMONY, TOTAL	01062	MOLYBDENUM
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W7796	BENZENE	00620	NITROGEN-NITRATE
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00440	BICARBONATE ION (MG/L AS $\text{HCO}_3$ )	W7781	NITROGEN/PHOSPHORUS RATIO
W7777	BIOASSAY, PERCENT SURVIVAL	00600	NITROGEN, TOTAL (MG/L AS N)
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00310	BIOCHEMICAL OXYGEN DEMAND	00605	NITROGEN, TOTAL ORGANIC
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W0070	BOTTOM INDICATOR	70350	OIL AND GREASE
W7798	C <sub>1</sub> -C <sub>4</sub> SHORT CHAIN HYDROCARBONS	00660	ORTHOPHOSPHATE (MG/L AS $\text{PO}_4$ )
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W7801	C <sub>13</sub> -C <sub>20</sub> SHORT CHAIN HYDROCARBONS	00403	PH LABORATORY
01027	CADMIUM	32730	PHENOLS
00916	CALCIUM	00650	PHOSPHATE, TOTAL
28401	CAESIUM-137	00678	PHOSPHORUS, TOTAL
00340	CHEMICAL OXYGEN DEMAND	W0055	POLYCHLORINATEDBIPHENYLS
00940	CHLORIDE	00655	POLYPHOSPHATE (MG/L AS $\text{PO}_4$ )
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00365	CHLORINE DEMAND, 15 MINUTE	W0093	PROPYLENE GLYCOL DINITRATE
00369	CHLORINE DEMAND, 30 MINUTE	W0050	RDX
00370	CHLORINE DEMAND, 1 HOUR	W9001	REMARKS, LABORATORY'S
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W0064	DEPTH	00745	SULFIDES
00300	DISSOLVED OXYGEN	W0077	SULFITES
W0074	DURATION	00010	TEMPERATURE
W7791	FILTERABLE CHEMICAL OXYGEN DEMAND	01059	THALLIUM, TOTAL (AS TL)
W7778	FLOATING SOLIDS	01102	TIN
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W0051	HMX	00075	TURBIDITY, FIELD
28301	IODINE-131	W0072	TURBIDITY, LABORATORY
01045	IRON	W0073	TYPE SAMPLE
W7782	IRON PLUS MANGANESE	01087	VANADIUM, TOTAL (AS V)
W7795	JP-5	W7779	VISIBLE FOAM
01051	LEAD	01092	ZINC

# JENNINGS LABORATORIES, INC.

ANALYTICAL AND CONSULTING CHEMISTS

1118 CYPRESS AVENUE • P. O. BOX 851 • VIRGINIA BEACH, VA. 23451 • PHONE (804) 425-1498

EPA) CERTIFIED LABORATORY for  
 Drinking Water Analysis - Microbiological,  
 Inorganic and Organic

Official Referee Chemists for:  
 AMERICAN OIL CHEMISTS SOCIETY  
 NATIONAL SOYBEAN  
 PROCESSORS ASSOCIATION

Laboratory Certified by VA. STATE WATER  
 CONTROL BOARD for Analysis of  
 Effluents for NPDES PERMITS  
 CERTIFIED OFFICIAL U.S.D.A. LABORATORY  
 FOR MEAT ANALYSIS

ASBESTOS ANALYSIS - NIOSH 582

## CERTIFICATE OF ANALYSIS

Mr. Dave Goodwin  
 Building N-23 Atlantic Division  
 Naval Facilities Engineering Command  
 Norfolk, Virginia 23511

DATE: March 30, 1982

SAMPLE OF WATER SAMPLE

IDENTIFIED TW-15 collected 3/18/82 MCB CAMP LEJEUNE

Sample delivered to laboratory 3/20/82 by Mr. Wallmeyer

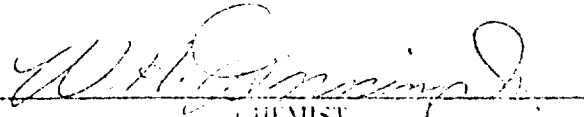
OFFICIAL SAMPLE BY:

PRIORITY POLLUTANTS	PURGEABLE ORGANICS	DETECTION LIMITS $\mu\text{g/l}$
Ammonia	None Detected	2.0
Acrylonitrile	None Detected	2.0
Benzene	None Detected	10.0
Chloroform	None Detected	10.0
Toluene	None Detected	10.0
Carbon Tetrachloride	None Detected	.007
o-Dichlorobenzene	None Detected	.03
m,p-Dichlorobenzene	None Detected	.006
1,1,1-Trichloroethane	None Detected	.005
1,1-Dichloroethane	None Detected	.004
1,1-Dichloroethylene	None Detected	.006
1,1,2-Trichloroethane	None Detected	.006
1,1,2,2-Tetrachloroethane	None Detected	.006
1,2-Dichloroethane	None Detected	.01
1,2-Dichloroethyl vinyl ether	None Detected	.08

Respectfully submitted,

JENNINGS LABORATORIES, INC.

Laboratory Analysis No. 1186  
 \$662.50

  
 CHEMIST

TOXICITY POLLUTANTS	PURGEABLE ORGANICS (continued)	DETECTION LIMITS $\mu\text{g/l}$
Bromoform	None Detected	.010
1,1-Dichloropropane	None Detected	.004
1,2-Dichloropropane	None Detected	.006
1,1-Dichloroethylene Chloride	1.07 ppb	.010
Methyl Chloride	None Detected	.009
Methyl Bromide	None detected	.03
Bromoform	None Detected	.02
Dichlorobromomethane	None detected	.008
Dichlorofluoromethane	None detected	.03
Trichlorodifluoromethane	None Detected	.01
Chlorodibromomethane	None Detected	.01
Tetrachloroethylene	None Detected	.007
Trichloroethylene	None Detected	.005
Vinyl Chloride	None Detected	.01
1,2-trans-Dichloroethylene	None Detected	.006
bis(chloromethyl) ether	None Detected	.003

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MISCELLANEOUS

	6.48
Chlorides	6.93 mg/l
Specific Conductance	58 $\mu\text{mhos}$

LABORATORY  
ANALYSIS NO. 1186

PAGE -2-

BY *W.H. Jennings, Jr.*  
CHEMIST

PRIORITY POLLUTANTS

PESTICIDES/PCB'S

α-Endosulfan	None Detected	.005
β-Endosulfan	None Detected	.01
Endosulfan Sulfate	None Detected	.03
α-BHC	None Detected	.002
β-BHC	None Detected	.004
δ-BHC	None Detected	.004
γ-BHC	None Detected	.002
Aldrin	None Detected	.003
Dieldrin	None Detected	.006
4,4'-DDE	None Detected	.006
4,4'-DDD	None Detected	.012
4,4'-DDT	None Detected	.016
Endrin	None Detected	.009
Endrin Aldehyde	None Detected	.023
Heptachlor	None Detected	.002
Heptachlor Epoxide	None Detected	.004
Chlordane	None Detected	.04
Toxaphene	None Detected	.40
Aroclor 1016	None Detected	.04
Aroclor 1221	None Detected	.10
Aroclor 1232	None Detected	.10
Aroclor 1242	None Detected	.06
Aroclor 1248	None Detected	.08
Aroclor 1254	None Detected	.08
Aroclor 1260	1.2 ppm	.15
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	None Detected	.003

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ASBESTOS ANALYSIS -- NIOSH 582

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CONTROL BOARD for Analysis of  
Effluents for NPDES PERMITS  
CERTIFIED OFFICIAL U.S.D.A. LABORATORY  
FOR MEAT ANALYSIS

## CERTIFICATE OF ANALYSIS

TO: Mr. Dave Goodwin  
Building N-23 Atlantic Division  
Naval Facilities Engineering Command  
Norfolk, Virginia 23511

DATE: March 30, 1982

SAMPLE OF WATER SAMPLE

MARKED TW-16 collected 3/18/82 MCB CAMP LEJEUNE

Sample delivered to laboratory 3/20/82 by Mr. Wallmeyer

OFFICIAL SAMPLE BY: \_\_\_\_\_

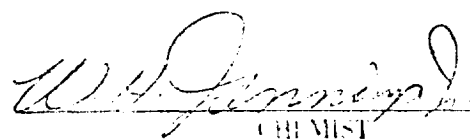
PRIORITY POLLUTANTS	PURGEABLE ORGANICS	DETECTION LIMITS $\mu\text{g}/\text{l}$
Acetone	None Detected	2.0
Acrylonitrile	None Detected	2.0
Benzene	None Detected	10.0
Toluene	3.86 ppb	10.0
Ethylbenzene	None Detected	10.0
Carbon Tetrachloride	None Detected	.007
Chlorobenzene	None Detected	.03
1,2-Dichloroethane	10.14 ppb	.006
1,1,1-Trichloroethane	8.34 ppb	.005
1,1-Dichloroethane	9.0 ppb	.004
1,1-Dichloroethylene	15.3 ppb	.006
1,1,2-Trichloroethane	None Detected	.006
1,1,2,2-Tetrachloroethane	None Detected	.006
Chloroethane	None Detected	.01
2-Chloroethyl vinyl ether	None Detected	.08

Respectfully submitted,

JENNINGS LABORATORIES, INC.

Laboratory  
Analysis No. 1187

\$662.50

  
CHEMIST



JENNINGS LABORATORIES, INC.

PRIORITY POLLUTANTS	PURGEABLE ORGANICS (continued)	DETECTION LIMITS $\mu\text{g/l}$
Chloroform	None Detected	.010
1,1-Dichloropropane	None Detected	.004
1,3-Dichloropropane	None Detected	.006
Methylene Chloride	None Detected	.010
Methyl Chloride	None Detected	.009
Methyl Bromide	None Detected	.03
Bromoform	None detected	.02
Dichlorobromomethane	None Detected	.006
Trichlorofluoromethane	None Detected	.03
Dichlorodifluoromethane	None Detected	.01
Chlorodibromomethane	None Detected	.01
Tetrachloroethylene	None Detected	.007
Trichloroethylene	2.04 ppb	.005
Vinyl Chloride	None Detected	.01
1,2-trans-Dichloroethylene	None Detected	.006
bis(chloromethyl) ether	None detected	.003

MISCELLANEOUS

pH	6.22
Chlorides	43.55 mg/l
Specific Conductance	156 $\mu\text{mhos}$

LABORATORY  
ANALYSIS NO. 1187

PAGE -2-

BY W.H. Jennings, Jr.  
CHEMIST

PRIORITY POLLUTANTS

PESTICIDES/PCB'S

Endosulfan	None Detected	.005
γ-Endosulfan	None Detected	.01
Endosulfan Sulfate	None Detected	.03
α-BHC	None Detected	.002
β-BHC	None Detected	.004
δ-BHC	None Detected	.004
γ-BHC	None Detected	.002
Aldrin	None Detected	.003
Dieldrin	None Detected	.006
4,4'-DDE	None Detected	.006
4,4'-DDD	None Detected	.012
4,4'-DDT	None Detected	.016
Endrin	None Detected	.006
Endrin Aldehyde	None Detected	.023
Heptachlor	None Detected	.002
Heptachlor Epoxide	None Detected	.004
Chlordane	None Detected	.04
Heptachlor Epoxide	None Detected	.40
Prochlor 1016	None Detected	.04
Prochlor 1221	None Detected	.10
Prochlor 1232	None Detected	.10
Prochlor 1242	None Detected	.06
Prochlor 1248	None Detected	.08
Prochlor 1254	None Detected	.08
Prochlor 1260	3.0 ppm	.15
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	None Detected	.003

LABORATORY ANALYSIS NO. 1187

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BY W.H. Manning, Jr.  
CHEMIST

## ANALYTICAL AND CONSULTING CHEMISTS

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VA (EPA) CERTIFIED LABORATORY for  
Drinking Water Analysis - Microbiological,  
Inorganic and OrganicOfficial Referee Chemists for:  
AMERICAN OIL CHEMISTS SOCIETY  
NATIONAL SOYBEAN  
PROCESSORS ASSOCIATIONLaboratory Certified by VA. STATE WATER  
CONTROL BOARD for Analysis of  
Effluents for NPDES PERMITS  
CERTIFIED OFFICIAL U.S.D.A. LABORATORY  
FOR MEAT ANALYSIS

ASBESTOS ANALYSIS - NIOSH 582

## CERTIFICATE OF ANALYSIS

Mr. Dave Goodwin  
Building N-23 Atlantic Division  
Naval Facilities Engineering Command  
Norfolk, Virginia 23511

DATE: March 30, 1982

NAME OF WATER SAMPLE

TW-17 collected 3/18/82 MCB CAMP LEJEUNE

Sample delivered to laboratory by Mr. Wallmeyer 3/20/82

ANALYZED BY:

MAJOR POLLUTANTS	PURGEABLE ORGANICS	DETECTION LIMITS	µg/l
Acetone	None Detected	2.0	
Acrylonitrile	None Detected	2.0	
Benzene	None Detected	10.0	
Bromoethane	1.68 ppb	10.0	
Bromobenzene	None Detected	10.0	
Carbon Tetrachloride	None Detected	.007	
Chlorobenzene	None Detected	.03	
1,2-Dichloroethane	114.0 ppb	.006	
1,1,1-Trichloroethane	52.0 ppb	.005	
1,1-Dichloroethane	89.58 ppb	.004	
1,1-Dichloroethylene	182.52 ppb	.006	
1,1,2-Trichloroethane	None Detected	.006	
1,1,2,2-Tetrachloroethane	None Detected	.006	
1,1,1,2-Tetrachloroethane	None Detected	.01	
1,2-Dichloroethyl vinyl ether	None Detected	.08	

Respectfully submitted,

JENNINGS LABORATORIES, INC.

Laboratory  
Analysis No. 1188  
\$662.50

  
CHEMIST

JENNINGS LABORATORIES, INC.

PRIORITY POLLUTANTS	PURGEABLE ORGANICS (continued)	DETECTION LIMITS	µg/l
Chloroform	None Detected		.010
Dichloropropane	None Detected		.004
1,3-Dichloropropane	None Detected		.006
Methylene Chloride	8.29 ppb		.010
Methyl Chloride	None Detected		.009
Methyl Bromide	None Detected		.03
Bromoform	None Detected		.02
Dichlorobromomethane	None Detected		.006
Trichlorofluoromethane	1.42 ppb		.03
Dichlorodifluoromethane	None Detected		.01
Chlorodibromomethane	None Detected		.01
Tetrachloroethylene	None Detected		.007
Trichloroethylene	None Detected		.005
Vinyl Chloride	None Detected		.01
1,2-trans-Dichloroethylene	None Detected		.006
bis(chloromethyl) ether	None Detected		.003

MISCELLANEOUS

pH	6.45
Chlorides	37.22 mg/l
Specific Conductance	250 µmhos

LABORATORY  
ANALYSIS NO. 1188

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BY *W. H. Jennings*  
CHEMIST

## JENNINGS LABORATORIES, INC.

## PRIORITY POLLUTANTS


## PESTICIDES/PCB'S

$\alpha$ -Endosulfan	None Detected	.005
$\beta$ -Endosulfan	None Detected	.01
Endosulfan Sulfate	None Detected	.03
$\alpha$ -BHC	None Detected	.002
$\beta$ -BHC	None Detected	.004
$\delta$ -BHC	None Detected	.004
$\gamma$ -BHC	None Detected	.002
Aldrin	None Detected	.003
Dieldrin	None Detected	.006
4,4'-DE	None Detected	.005
4,4'-DDD	None Detected	.012
4,4'-DDT	None Detected	.016
Endrin	None Detected	.009
Endrin Aldehyde	None Detected	.023
Heptachlor	None Detected	.002
Heptachlor Epoxide	None Detected	.004
rdane	None Detected	.04
Toxaphene	None Detected	.40
Aroclor 1016	None Detected	.04
Aroclor 1221	None Detected	.10
Aroclor 1232	None Detected	.10
Aroclor 1242	None Detected	.06
Aroclor 1248	None Detected	.08
Aroclor 1254	None Detected	.02
Aroclor 1260	None Detected	.15
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)	None Detected	.003

LABORATORY  
ANALYSIS NO. 1188

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BY

  
CHEMIST

- MCB CAMP LEJEUNE  
 SAMPLE DATE 18 MARCH 1982  
 ALL RESULTS IN PARTS PER BILLION (ppb)

	RIFLE RANGE DUMP AREA TEST WELLS			RIFLE RANGE WATER SYSTEM			
	#15	#16	#17	WELL #45	WELL #47	WELL #97	RR-85 #6 FINISHED WATER
Toluene	*	3.86	1.68	*	*	10.0	*
Methylene Chloride	1.07	*	8.29	0.14	*	4.64	*
1, 1-Dichloroethane	*	9.0	89.58	*	*	20.0	*
1, 2-Dichloroethane	*	10.14	114.0	*	*	*	*
1, 1-Dichloroethylene	*	15.3	182.52	*	*	*	*
1,1, 1-Trichloroethane	*	8.34	52.0	*	*	*	*
Trichloroethylene	*	2.04	*	*	*	*	*
Trichlorofluoromethane	*	*	1.42	*	*	*	*
PCB (Aroclor 1260)	1200	3000	*	*	*	*	1000

\*Not detectable; see laboratory sheet for detection limits.