

# JENNINGS LABORATORIES, INC.

ANALYTICAL AND CONSULTING CHEMISTS

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

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

Official Reference 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 382

## CERTIFICATE OF ANALYSIS

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

DATE: May 29, 1981

SAMPLE OF FINISHED WATER #1  
MARKED MCB CAMP LEJEUNE - Rifle Range Water Treatment Plant taken 5/20/81 Grab  
Sample picked up 5/21/81 by JENNINGS LABORATORIES, INC. Total Cl 1.3 ppm  
OFFICIAL SAMPLE BY: P. A. Rakowski

PRIORITY POLLUTANTS	PURGEABLE ORGANICS	DETECTION LIMITS	µg/l
Acrolein	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	3.40 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	
4-Chloroethyl vinyl ether	None Detected	.08	

CLW

000003745

Respectfully submitted,

JENNINGS LABORATORIES, INC.

Laboratory  
Analysis No. 243  
3400100

CHEMIST

ENCLOSURE #1

PRIORITY POLLUTANTS	PURGEABLE ORGANICS (continued)	DETECTION LIMITS	µg/l
Chloroform	94.40 ppb	.010	
1,2-Dichloropropane	None Detected	.004	
1,3-Dichloropropane	None Detected	.006	
Methylene Chloride	4 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	

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

1,2-Dichlorobenzene	.04
1,3-Dichlorobenzene	.04
1,4-Dichlorobenzene	.04
Hexachloroethane	.001
Hexachlorobutadiene	.001
Hexachlorobenzene	.002
1,2,4-Trichlorobenzene	.006
Bis(2-Chloroethoxy)methane	.40
Naphthalene	.04
2-Chloronaphthalene	.04
Isophorone	5.0
Nitrobenzene	5.0
2,4-Dinitrotoluene	.06
2,6-Dinitrotoluene	.06

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LABORATORY  
ANALYSIS NO. 243

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BY [Signature]  
Chemist

ENCLOSURE (1)

ANALYTICAL AND CONSULTING CHEMISTS

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VA (EPA) CERTIFIED LABORATORY for  
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FOR MEAT ANALYSIS

ASBESTOS ANALYSIS - NIOSH 582

NATIONAL SOYBEAN  
PROCESSORS ASSOCIATION

CERTIFICATE OF ANALYSIS

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

DATE May 29, 1981

SAMPLE OF RAW WATER SAMPLE  
MARKED MCB CAMP LEJEUNE-Rifle Range Water Treatment Plant taken 5/20/81 Gr  
Sample picked up 5/21/81 by JENNINGS LABORATORIES, INC.

OFFICIAL SAMPLE BY: P. A. Rakowski

PRIORITY POLLUTANTS	PURGEABLE ORGANICS	DETECTION LIMITS $\mu$
Acrolein	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	5.40 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
2-Chloroethyl vinyl ether	None Detected	.08

JENNINGS LABORATORIES, INC.

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Laboratory  
Analysis No

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\$400.00

*[Signature]*  
CHEMIST / ANALYST

PRIORITY POLLUTANTS	MEASURABLE ORGANICS (continued)	DETECTION LIMITS	µg/l
Chloroform	14.60 ppb		.010
1,2-Dichloropropane	None Detected		.004
1,3-Dichloropropane	None Detected		.006
Methylene Chloride	14.60 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

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

1,2-Dichlorobenzene		.04
1,3-Dichlorobenzene		.04
1,4-Dichlorobenzene		.04
Hexachloroethane		.001
Hexachlorobutadiene		.001
Hexachlorobenzene		.002
1,2,4-Trichlorobenzene		.006
Bis(2-Chloroethoxy)methane		.40
Naphthalene		.04
2-Chloronaphthalene		.04
Isophorone		5.0
Nitrobenzene		5.0
2,4-Dinitrotoluene		.06
2,6-Dinitrotoluene		.06

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LABORATORY # 244  
ANALYSIS #

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BY *[Signature]*  
CHEMIST

ENCLOSURE *[initials]*

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1100 WYBESS AVENUE • P.O. BOX 301 • VIRGINIA BEACH, VA 23451 • PHONE (804) 425-1498

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FOR MEAT ANALYSIS

ASBESTOS ANALYSIS - NIOSH 582

CERTIFICATE OF ANALYSIS

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

DATE May 29, 1981

SAMPLE OF WELL #15

MARKED MCB CAMP LEJEUNE marked #3 taken 5/20/81

Sample picked up 5/21/81 by JENNINGS LABORATORIES, INC.

OFFICIAL SAMPLE BY: P. A. Rakowski

PRIORITY POLLUTANTS	PURGEABLE ORGANICS	DETECTION LIMITS	µg/l
Acrolein	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	
4-Chloroethyl vinyl ether	None Detected	.05	

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Respectfully submitted,

JENNINGS LABORATORIES, INC.

Laboratory  
Analysis No.             
\$400.00

*[Signature]*  
CHEMIST

ENCLOSURE (1)

HEAVY POLLUTANTS	PURIFIABLE ORGANICS (continued)	DETECTION LIMITS	µg/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	
bis(chloromethyl) ether	None Detected	.003	

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

1,2-Dichlorobenzene	.04
1,3-Dichlorobenzene	.04
1,4-Dichlorobenzene	.04
Hexachloroethane	.001
Hexachlorobutadiene	.001
Hexachlorobenzene	.002
1,2,4-Trichlorobenzene	.006
Bis(2-Chloroethoxy)methane	.40
Naphthalene	.04
2-Chloronaphthalene	.04
Isophorone	5.0
Nitrobenzene	5.0
2,4-Dinitrotoluene	.06
2,6-Dinitrotoluene	.06

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LABORATORY ANALYSIS NO. 447

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BY *[Signature]*  
Chemist

ENCLOSURE (1)

# JENNINGS LABORATORIES, INC.

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FOR MEAT ANALYSIS

ASBESTOS ANALYSIS - NIOSH 582

## CERTIFICATE OF ANALYSIS

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

DATE: May 29, 1981

SAMPLE OF WELL #TW-16

MARKED MCB CAMP LEJEUNE marked #4 taken 5/20/81 Grab

Sample picked up 5/21/81 by JENNINGS LABORATORIES, INC.

OFFICIAL SAMPLE BY: P.A. Rakowski

PRIORITY POLLUTANTS	PURGEABLE ORGANICS	DETECTION LIMITS	µg/
Acrolein	None Detected	2.0	
Acrylonitrile	None Detected	2.0	
Benzene	77.80 ppb	10.0	
Toluene	316 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	33.20 ppb	.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	1.80 ppb	.006	
Chloroethane	None Detected	.01	
2-Chloroethyl vinyl ether	None Detected	.03	


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*Respectfully submitted,*

JENNINGS LABORATORIES, INC.

Laboratory,  
Analysis No. 240  
\$400.00

  
CHEMIST

PRIORITY POLLUTANTS	PURGEABLE ORGANICS (continued)	DETECTION LIMITS ug/
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	15.60 ppb	.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	.04
1,3-Dichlorobenzene	.04
1,4-Dichlorobenzene	.04
Hexachloroethane	.001
Hexachlorobutadiene	.001
Hexachlorobenzene	.002
1,2,4-Trichlorobenzene	.006
Bis(2-Chloroethoxy)methane	.40
Naphthalene	.04
2-Chloronaphthalene	.04
Isophorone	5.0
Nitrobenzene	5.0
2,4-Dinitrotoluene	.06
2,6-Dinitrotoluene	.06

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LABORATORY  
ANALYSIS NO. 246

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BY

Chemist

ENCLOSURE



# JENNINGS LABORATORIES, INC.

ANALYTICAL AND CONSULTING CHEMISTS

1122 CYPRESS AVENUE • P.O. BOX 371 • VIRGINIA BEACH, VA 23511 • PHONE (804) 427-1498

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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: May 29, 1981

SAMPLE OF RADIATION POOL

MARKED MOB CAMP LEJEUNE marked #5 taken 5/20/81 Grab

Sample picked up 5/21/81 by JENNINGS LABORATORIES, INC.

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

PRIORITY POLLUTANTS	PURGEABLE ORGANICS	DETECTION LIMITS	µg
Acrolein	None Detected	2.0	
Acrylonitrile	None Detected	2.0	
Benzene	None Detected	10.0	
Toluene	53.00 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	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	CLW Detected	.03	

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JENNINGS LABORATORIES, INC.

PRIORITY POLLUTANTS	PURGEABLE ORGANICS (continued)	DETECTION LIMITS	µg
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	
bis(chloromethyl) ether	None Detected	.003	

## BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

1,2-Dichlorobenzene	.04
1,3-Dichlorobenzene	.04
1,4-Dichlorobenzene	.04
Hexachloroethane	.001
Hexachlorobutadiene	.001
Hexachlorobenzene	.002
1,2,4-Trichlorobenzene	.006
Bis(2-Chloroethoxy)methane	.40
Naphthalene	.04
2-Chloronaphthalene	.04
Isophorone	5.0
Nitrobenzene	5.0
2,4-Dinitrotoluene	.06
2,6-Dinitrotoluene	.06

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LABORATORY  
ANALYSIS NO. 247

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BY *[Signature]*  
Chemist

ENCLOSURE

20 MAY

MCB CAMP LEJEUNE  
SAMPLE DATE 20 MAY 1981  
ALL RESULTS IN PARTS PER BILLION (ppb)

	TEST WELL NO. 15	TEST WELL NO. 16	RAD POOL	RR-85 WTP RAW WATER	RR-85 WTP FINISHED WATER
B. BENE		78			
T. BENE		316	54		
C. ON TETRACHLORIDE					
I. 1,1-DICHLOROETHANE					
I. 1,1,1-TRICHLOROETHANE		33			
I. 1,1,2-TRICHLOROETHANE					
I. 1,1,2,2-TETRACHLOROETHANE					
I. 1,1,2,2-TETRACHLOROETHANE					
I. 1,1,2,2-TETRACHLOROETHANE					
CHLOROFORM				933	94
METHYLENE CHLORIDE				15	4
T. 1,1,2,2-TETRACHLOROETHANE					
TRICHLOROETHYLENE		16			
1,1,2,2-TETRACHLOROETHANE		2			
TOTAL		645	54	53	101

PPB  
3

PPB  
3

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30 MARCH

MCB CAMP LEJEUNE  
SAMPLE DATE 30 MARCH 1981  
ALL RESULTS IN PARTS PER BILLION (ppb)

	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	1,189
1, 2, - DICHLOROETHANE	44		155		
1, 1, 1 - TRICHLOROETHANE					
1, 1 - DICHLOROETHANE	69	65	122	38	38
1, 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

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