

01.02-10/31/80-00248  
**JENNINGS LABORATORIES, INC.**

ANALYTICAL AND CONSULTING CHEMISTS

1118 CYPRESS AVENUE • P. O. BOX 851 • VIRGINIA BEACH, VA. 23451 • PHONE (804) 425-1198

VA (EPA) 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**

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

DATE: October 31, 1980

SAMPLE OF WATER SAMPLES (8) FOR COMPOSITE FOR PRIORITY POLLUTANT SCAN

MARKED Listed below

Samples picked up October 1, 1980

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

EIGHT (8) SAMPLES OF WATER TO BE COMPOSITED AS PER INSTRUCTIONS:

<u>SAMPLE MARKED</u>	<u>QUARTS</u>	<u>LOCATION</u>	<u>QUANTITY</u>
#1	2	Hadnot Point Bldg 20	1552 ml
#2	1	Hadnot Point Bldg 670	708 ml
#3	1	Tarawa Terrace TT-38	452 ml
#4	1	Monford Point M-178	220 ml
#5	1	MCAS(H) Bldg 110	664 ml
#6	1	Courthouse Bay BB-190	132 ml
#7	1	Rifle Range RR-85	220 ml
#8	1	Onslow Beach BA-138	52 ml
			<u>4000 ml</u>

Respectfully submitted,  
JENNINGS LABORATORIES, INC.

Laboratory  
Analysis No. 2518

E. R. Paulson  
CHEMIST

# JENNINGS LABORATORIES, INC.

ANALYTICAL AND CONSULTING CHEMISTS

1111 CYPRESS AVENUE • P. O. BOX 851 • VIRGINIA BEACH, VA 23451 • PHONE (804) 425-1198

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

ASBESTOS ANALYSIS - NIOSH 582

Official Reference Chemist 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 October 31, 1980

SAMPLE OF WATER SAMPLES (8) - Blank made on each analysis. Bromochloromethane,

MARKED 2-bromo-1-chloropropane, 1-4 dichlorobutane used as internal standard.

GC/MS calibrated with perfluorotributylamine, SIM MODE. All test run according to  
EPA TEST PROCEDURES.

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

### PURGEABLE ORGANICS

DETECTION LIMITS  $\mu\text{g/l}$

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	.005 $\mu\text{g/l}$	.005
1,1-Dichloroethane	.004 $\mu\text{g/l}$	.004
1,1-Dichloroethylene	.006 $\mu\text{g/l}$	.006
1,1,2-Trichloroethane	.006 $\mu\text{g/l}$	.006
1,1,2,2-Tetrachloroethane	.006 $\mu\text{g/l}$	.006
Chloroethane	.01 $\mu\text{g/l}$	.01
2-Chloroethyl vinyl ether	.08 $\mu\text{g/l}$	.08

Respectfully submitted,

JENNINGS LABORATORIES, INC.

Laboratory  
Analysis No. 2518

*E. R. Douglas*  
CHEMIST

## JENNINGS LABORATORIES, INC.

PURGEABLE ORGANICS (continued)DETECTION LIMITS  $\mu\text{g}/\text{l}$ 

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	.005 $\mu\text{g}/\text{l}$	.005
Vinyl Chloride	.01 $\mu\text{g}/\text{l}$	.01
1,2-trans-Dichloroethylene	.006 $\mu\text{g}/\text{l}$	.006
bis(chloromethyl) ether	.003 $\mu\text{g}/\text{l}$	.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
2-Chloronaphthalene	None Detected	.04
Isophorone	None Detected	5.0
Nitrobenzene	None Detected	5.0
2,4-Dinitrotoluene	None Detected	.06
2,6-Dinitrotoluene	None Detected	.06

LAB # 2518

BY



CHEMIST

JENNINGS LABORATORIES, INC.

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS (continued)

		DETECTION LIMIT
		I.I <span style="float: right;">µg/l</span>
4-Bromophenyl phenyl ether	None Detected	
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
Chrysene	None Detected	.04
Pyrene	None Detected	.04
Phenathrene	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
Ideno (1,2,3-c,d) pyrene	None Detected	.10
Dibenzo (a,h) anthracene	None Detected	.10
Benzo (g,h,i) perylene	None Detected	.10
4-Chlorophenyl 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-Chloroisopropyl) ether	None Detected	.9

LAB # 2518

BY E. R. Douglas  
Chemist

JENNINGS LABORATORIES, INC.

ACID EXTRACTABLE ORGANIC COMPOUNDS

DETECTION LIMITS  $\mu\text{g}/\text{l}$

Phenol	NONE DETECTED	1.4
2-Nitrophenol	None Detected	2.5
4-Nitrophenol	None Detected	2.5
2,4-Dinitrophenol	None Detected	7.0
4,6-Dinitro-o-cresol	None Detected	2.0
Pentachlorophenol	None Detected	10.0
p-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	3.0
2,4-Dimethylphenol	None Detected	1.7

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'-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

LAB # 2518

BY

*E. R. Ponder*

CHEMIST

# JENNINGS LABORATORIES, INC.

ANALYTICAL AND CONSULTING CHEMISTS

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

A (EPA) 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

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

DATE: October 31, 1980

SAMPLE OF WATER SAMPLES (8) FOR COMPOSITE FOR PRIORITY POLLUTANT SCAN

MARKED Listed below

Samples picked up October 1, 1980

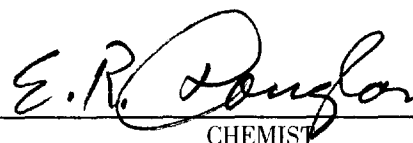
OFFICIAL SAMPLE BY: \_\_\_\_\_

EIGHT (8) SAMPLES OF WATER TO BE COMPOSITED AS PER INSTRUCTIONS:

<u>SAMPLE MARKED</u>	<u>QUARTS</u>	<u>LOCATION</u>	<u>QUANTITY</u>
#1	2	Hadnot Point Bldg 20	1552 ml
#2	1	Hadnot Point Bldg 670	708 ml
#3	1	Tarawa Terrace TT-38	452 ml
#4	1	Monford Point M-178	220 ml
#5	1	MCAS(H) Bldg 110	664 ml
#6	1	Courthouse Bay BB-190	132 ml
#7	1	Rifle Range RR-85	220 ml
#8	1	Onslow Beach BA-138	52 ml
			<u>4000 ml</u>

Respectfully submitted,  
JENNINGS LABORATORIES, INC.

Laboratory  
Analysis No. 2518

  
CHEMIST

JENNINGS LABORATORIES, INC.

PESTICIDES/PCB's (Continued)      DETECTION LIMITS µg/l

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

	<u>METALS</u>	<u>DETECTION LIMITS mg/l</u>
Antimony	0.2 mg/l	0.2
Arsenic	<0.002 mg/l	0.002
Beryllium	<0.005 mg/l	0.005
Cadmium	0.006 mg/l	0.002
Chromium	<0.02 mg/l	0.02
Copper	<0.01 mg/l	0.01
Lead	<0.005 mg/l	0.005
Mercury	<0.002 mg/l	0.002
Nickel	<0.02 mg/l	0.02
Selenium	0.008 mg/l	0.002
Silver	<0.01 mg/l	0.01
Thallium	<0.1 mg/l	0.1
Zinc	0.005 mg/l	0.005

	<u>MISCELLANEOUS</u>	
Total Cyanides	None Detected	0.01
Asbestos (fibrous)	None Detected	
Total Phenols	None Detected	0.005

LAB# 2518

BY \_\_\_\_\_

CHEMIST

# 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

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: October 31, 1980

SAMPLE OF WATER SAMPLES (8) - Blank made on each analysis. Bromochloromethane,  
MARKED 2-bromo-1-chloropropane, 1-4 dichlorobutane used as internal standard.

GC/MS calibrated with perfluorotributylamine, SIM MODE. All test run according to  
EPA TEST PROCEDURES.

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

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

*Respectfully submitted,*  
JENNINGS LABORATORIES, INC.

Laboratory  
Analysis No. 2518

E. R. Douglas  
CHEMIST



JENNINGS LABORATORIES, INC.

PURGEABLE ORGANICS (continued)

DETECTION LIMITS  $\mu\text{g}/\text{l}$

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	.005 $\mu\text{g}/\text{l}$	.005
Vinyl Chloride	.01 $\mu\text{g}/\text{l}$	.01
1,2-trans-Dichloroethylene	.006 $\mu\text{g}/\text{l}$	.006
bis(chloromethyl) ether	.003 $\mu\text{g}/\text{l}$	.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
2-Chloronaphthalene	None Detected	.04
Isophorone	None Detected	5.0
Nitrobenzene	None Detected	5.0
2,4-Dinitrotoluene	None Detected	.06
2,6-Dinitrotoluene	None Detected	.06

LAB # 2518

BY

E. R. Douglas  
CHEMIST

JENNINGS LABORATORIES, INC.

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS (continued)

		DETECTION	LIMIT
		1.1	<u>ug/l</u>
4-Bromophenyl phenyl ether	None Detected		
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	
Chrysene	None Detected	.04	
Pyrene	None Detected	.04	
Phenathrene	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	
Ideno (1,2,3-c,d) pyrene	None Detected	.10	
Dibenzo (a,h) anthracene	None Detected	.10	
Benzo (g,h,i) perylene	None Detected	.10	
4-Chlorophenyl 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-Chloroisopropyl) ether	None Detected	.9	

LAB # 2518

BY E. R. Douglas  
Chemist

JENNINGS LABORATORIES, INC.

ACID EXTRACTABLE ORGANIC COMPOUNDS

DETECTION LIMITS µg/l

Phenol	NONE DETECTED	1.4
2-Nitrophenol	None Detected	2.5
4-Nitrophenol	None Detected	2.5
2,4-Dinitrophenol	None Detected	7.0
4,6-Dinitro-o-cresol	None Detected	2.0
Pentachlorophenol	None Detected	10.0
p-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	3.0
2,4-Dimethylphenol	None Detected	1.7

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

LAB # 2518

BY

*E. P. Douglas*

CHEMIST

JENNINGS LABORATORIES, INC.

PESTICIDES/PCB's (Continued)      DETECTION LIMITS µg/l

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

	<u>METALS</u>	<u>DETECTION LIMITS mg/l</u>
Antimony	0.2 mg/l	0.2
Arsenic	<0.002 mg/l	0.002
Beryllium	<0.005 mg/l	0.005
Cadmium	0.006 mg/l	0.002
Chromium	<0.02 mg/l	0.02
Copper	<0.01 mg/l	0.01
Lead	<0.005 mg/l	0.005
Mercury	<0.002 mg/l	0.002
Nickel	<0.02 mg/l	0.02
Selenium	0.008 mg/l	0.002
Silver	<0.01 mg/l	0.01
Thallium	<0.1 mg/l	0.1
Zinc	0.005 mg/l	0.005

	<u>MISCELLANEOUS</u>	
Total Cyanides	None Detected	0.01
Asbestos (fibrous)	None Detected	
Total Phenols	None Detected	0.005

LAB# 2518

BY E. P. Conlon  
CHEMIST