

Mr. Bill Kellenberger
Department of Environmental Regulation
160 Governmental Center
Pensacola, Florida 32501-5794

Dear Mr. Kellenberger:

Enclosed for your review are the results of analysis for Appendix VIII pollutants in samples of the influent to the Navy's Industrial Wastewater Treatment Plant (IWWTP) and groundwater taken from groundwater monitoring well, Number 6, located at the IWWTP.

As arranged in our 16 May meeting, upon your review of these results, please advise me (at telephone number 452-4315) so that I can coordinate with the Navy's consultant in initiating discussions with you to determine what pollutants should be monitored at the IWWTP.

Sincerely,

E. A. PIKE
Environmental Engineer
By direction of the
Commanding Officer

Enclosure

Copy to: (w/o encl)
CO, SOUTHNAVFACENGCOM (1142)

Carrollwood Village Executive Center
13902 North Dale Mabry Highway
Suite 150

Post Office Box 271173
TAMPA, FLORIDA 33688
Telephone: (813) 981-1921

Geraghty & Miller, Inc.

GROUND-WATER CONSULTANTS

September 6, 1984

Mr. Sonny Chestnut
Southern Division
Naval Facilities Engineering
Command
2144 Melbourne Street
Post Office Box 10068
Charleston, SC 29411

Dear Sonny :

Enclosed are results of the Appendix VIII chemical analyses of ground water and wastewater from the wastewater-treatment plant at NAS Pensacola. When Bill Kellenberger has had time to look at these, we can arrange a meeting to negotiate a list of selected parameters for sampling the ponds and monitor wells.

Sincerely,

GERAGHTY & MILLER, INC.



Edwin W. Morse
Staff Scientist

Enclosure



IT CORPORATION

IT ANALYTICAL SERVICES

STEWART LABORATORIES DIVISION

August 20, 1984

Mr. Ed Morse
Geraghty & Miller
P. O. Box 271173
13902 North Dale
Tampa, FL 33688

Dear Ed:

Enclosed please find revised reports for one groundwater and one wastewater sample reported under our project code **GMI 18017**.

Table I is a list of Appendix VIII constituents to which Method 624 may be applied. Information for compilation of Table I is taken from Method 101 as stated in Sampling and Analysis Methods for Hazardous Waste Combustion, EPA-600/8-84-002, February, 1984. Both samples included in this project were examined for the presence of compounds listed in Table I. Results are as follows:

Wastewater 5-16-84

No constituents other than those reported herein were detected at a concentration greater than 20 ppm (parts per million).

Groundwater

No constituents other than those already reported were detected at a concentration greater than 1.0 ppb (parts per billion).

Table II is a list of Appendix VIII constituents to which Method 625 may be applied. Information for compilation of Table II is taken from Method 121, as stated in Sampling and Analysis Methods for Hazardous Waste Combustion, EPA-600/8-84-002, February, 1984. Both samples included in this project were examined for the presence of compounds listed in Table II. Results are as follows:

Wastewater 5-16-84

Alkylated Benzenes - 24,000 ppb (parts per billion)
Alkylated Naphthalene - 6500 ppb (parts per billion)

No additional constituents other than those reported on enclosed certificates were detected at a concentration greater than 200 ppb.

Subsidiary of IT Corporation

IT Analytical Services • 5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401

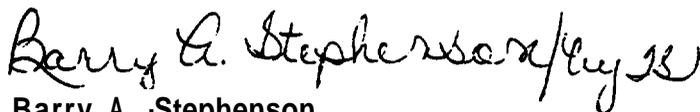
Page 2.
Mr. Ed Morse
August 20, 1984

Groundwater

Alkylated Benzenes - 280 ppb (parts per billion)
Substituted Phenols - 640 ppb (parts per billion).

No other constituents other than those reported on enclosed certificates
were detected at a concentration greater than 10. ppb (parts per billion).

Sincerely,
IT ANALYTICAL SERVICES



Barry A. Stephenson
General Manager

encls.

BAS/ts

Table ■

Constituents From Appendix VIII to Which Method 624 May be Applied

Acentonitrile
Acrylamide
Bromoacetone
Carbon Disulfide
Carbon Oxyfluoride
Chlorinated Benzenes, NOS
Chlorinated Ethane, NOS
Chlorinated Fluorocarbons, NOS
Chloroalkyl Ethers, NOS
Chloromethyl Methyl Ether
1,2-Dibromo-3-Chloropropane
1,Z-Dibromoethane
Dibromomethane
1,4-Dichloro-2-Butene
Dichloropropane, N.O.S. ■
Dichloropropene, N.O.S. ■
1,4-Dioxane
Halomethane, N.O.S. ■
Hydrazine
Iodomethane
Methyl Ethyl Ketone
Methyl Hydrazine
1,1,1,2-Tetrachloroethane
Trichloropropane, NOS
1,2,3-Trichloropropane

NOS = Not Otherwise Specified

Table II

Constituents From Appendix VIII to Which Method 625 May be Applied

Acetophenone
 2-Acetylaminofluorene
 4-Aminobiphenyl
5-(Aminomethyl)-3-Isoxazolol
 Amitrole
 Aniline
 Benz(c)Acridine
 Benzene, Dichloromethyl
 Benzenethiol
 P-Benzoquinone
 Benzotrichloride
 Benzyl Chloride
 Bis(Chloromethyl)Ether
2-Sec-Butyl-4,6-Dinitrophenol (DNBP)
 Chlorinated Benzenes, NOS
 Chlorinated Naphthalene, N.O.S.
 Chlorinated Phenol, NOS
 P-Chloroaniline
 Chlorobenzilate
 3-Chloropropionitrile
 Coal Tars
 Cresote
 Cresols
2-Cyclohexyl-4,6-Dinitrophenol
 Dibenz(a,h)Acridine
 Dibenz(a,j)Acridine
 Dibenzo(a,e)Pyrene
 Dibenzo(a,h)Pyrene
 Dibenzo(a,l)Pyrene
 2,6-Dichlorophenol
 Dichloropropanol, NOS
 1,2,3,4-Diepoxybutane
0,0-Diethylphosphoric Acid, O-P-Nitrophenyl Ester
 Dihydrosafrole
 Dimethoate
 3,3'-Dimethoxybenzidine
 P-Dimethylaminoazobenzene
 7,12-Dimethylbenz(a)Anthracene
 1,1-Dimethylhydrazine
 1,2-Dimethylhydrazine
 Alpha, Alpha-Dimethylphenethylamine
 Dimethyl Sulfate
 Dinitrobenzene, NOS
 Disulfoton

Table II (Cont'd)

Ethyleneimine
 Ethyl Methacrylate
 Ethyl Methanesulfonate
 Hexachlorocyclohexane (All Isomers)
 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexahydro-1,4:5,8-Endo, Endo-Dimethanonaphthalene
 Hexachlorophene
 Isosafrole
 Kepone
 Maleic Anhydride
 Maleic Hydrazide
 Malononitrile
 Methacrylonitrile
 Methapyriene
 Methoxychlor
 2-Methylaziridine
 3-Methylcholanthrene
 4,4'-Methylenebis(2-Chloroaniline)
 Methyl Hydrazine
 2-Methylactonitrile
 Methyl Methacrylate
 N-Methyl-N'-Nitro-N-Nitrosoguanidine
 Methyl Parathion
 1,4-Naphthoquinone
 1-Naphthylamine
 2-Naphthylamine
 Nicotine (and Salts)
 P-Nitroaniline
 Nitroglycerine
 Nitrosamine, NOS
 N-Nitrosodi-N-Butylamine
 N-Nitrosodethylamine
 N-Nitroso-N-Ethylurea
 N-Nitrosomethylethylamine
 N-Nitroso-N-Methylurea
 N-Nitroso-N-Methylurethane
 N-Nitrosomethylvinylamine
 N-Nitrosomorpholine
 N-Nitrosopiperidine
 N-Nitrosopyrrolidine
 N-Nitrososarcosine
 Parathion
 Pentachlorobenzene
 Pentachloroethane
 Pentachloronitrobenzene (PCNB)
 Phosphorodithioc Acid, 0,0-Diethyl S-((Ethylthio)Methyl)Ester [Phorate]
 Phosphorothioic Acid, 0,0-Dimethyl O-(p((Dimethyl-Amino)Sulfonyl)Phenyl) -
 Ester [Famphur]

Table II (Cont'd)

Phthalic Acid Esters, **N.O.S.**
Phthalic Anhydride
2-Picoline
Pronamide
N-Propylamine
Propylthiouracil
Pyridine
Saccharin (and Salts)
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
Tetraethyldithiopyrophosphate
Toluenediamine
Toluene Diisocyanate
2,4,5-Trichlorophenol
Tris(2,3-Dibromopropyl)Phosphate

NOS = Not Otherwise Specified

4/20/01



ITT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
 ATTN: Mr. Ed Morse
 13902 N Dale, P. O. Box 271173
 Tampa, FL 33688

DATE REPORTED: August 20, 1984
 PROJECT CODE: GMI 18017 Revised Report
 ORDER NUMBER:

Sample Description: Two (2) water samples received May 22, 1984

Concentration units are mg/l iter (ppm)

	<u>Wastewater</u>	<u>Groundwater</u>
Aluminum	0.17	21
Antimony	<0.05	<0.05
Arsenic	<0.2	<0.2
Barium	0.042	0.073
Beryllium	<0.001	<0.001
Boron	0.27	0.13
Cadmium	0.065	<0.002
Calcium	72	100
Chromium	51	0.04
Cobalt	<0.01	<0.01
Copper	0.05	<0.01
Iron	1.0	1.8
Lead	<0.05	0.26
Lithium	<0.03	(0.03
Magnesium	7.1	11
Manganese	0.04	0.17
Molybdenum	<0.02	<0.02
Nickel	1.5	0.03
Selenium	<0.2	<0.2
Silicon	2.2	8.0
Silver	<0.01	<0.01
Sodium	97	150
Strontium	0.67	0.27
Thallium	<0.3	<0.3
Tin	<0.2	<0.2
Titanium	<0.003	(0.003
Vanadium	<0.01	<0.01
Zinc	0.32	0.04

Sworn to and subscribed before me this 20th
 day of August, 1984
 My commission expires January 16, 1988

James E. Albright
 Notary Public

Alfred S. Moore
 Approved by _____
 Laboratory Manager
 Title



Accredited by the American Association for Laboratory Accreditation in the chemical field of testing as listed in the current AALA Directory of Accredited Laboratories



IT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: CM 18017 Revised Report
ORDER NUMBER

VOLATILE ORGANIC PRIORITY POLLUTANT ANALYSIS

Sample Description: Wastewater, 5/16/84

<u>Compound</u>	<u>Concentration</u> ppm	<u>Compound</u>	<u>Concentration</u> ppm
acrolein	ND	trans-1,3-dichloropropylene	ND
acrylonitrile	ND	ethyl benzene	ND
benzene	ND	methyl bromide	ND
bromoform	ND	methyl chloride	ND
carbon tetrachloride	ND	methylene chloride	59.
chlorobenzene	ND	1,1,2,2-tetrachloroethane.	ND
chlorodibromomethane	ND	tetrachloroethylene	<2.
chloroethane	ND	toluene	20.
2-Chloroethyl vinyl ether	ND	trans-1,2-dichloroethylene	ND
chloroform	ND	1,1,1-trichloroethane	<2.
dichlorobromomethane	ND	1,1,2-trichloroethane	ND
dichlorodifluoromethane	ND	trichloroethylene	ND
1,1-dichloroethane	ND	trichlorofluoromethane	ND
1,2-dichloroethane	ND	vinyl chloride	ND
1,1-dichloroethylene	ND		
1,2-dichloropropane	ND		
cis-1,3-dichloropropylene	ND		

Remarks: ND = Not detected
<2.0 = Detected but at a level less than 2.0 ppm (parts per million).

Sworn to and subscribed before me this 20th
day of August, 1984
My commission expires January 16, 1988

Notary Public

Approved by _____
Laboratory Manager
Title



Accredited by the American Association for Laboratory Accreditation in the chemical field of testing, as listed in the current AALA Directory of Accredited Laboratories



IT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER:

VOLATILE ORGANIC PRIORITY POLLUTANT ANALYSIS

Sample Description: Travel Blank for Wastewater Samples

<u>Compound</u>	<u>Concentration</u> ppb	<u>Compound</u>	<u>Concentration</u> ppb
acrolein	ND	trans-1,3-dichloropropylene	ND
acrylonitrile	ND	ethyl benzene	ND
benzene	ND	methyl bromide	ND
bromoform	ND	methyl chloride	ND
carbon tetrachloride	ND	methylene chloride	<10
chlorobenzene	ND	1,1,2,2-tetrachloroethane	ND
chlorodibromomethane	ND	tetrachloroethylene	ND
chloroethane	ND	toluene	ND
2-chloroethyl vinyl ether	ND	trans-1,2-dichloroethylene	ND
chloroform	<10	1,1,1-trichloroethane	ND
dichlorobromomethane	ND	1,1,2-trichloroethane	ND
dichlorodifluoromethane	ND	trichloroethylene	ND
1,1-dichloroethane	ND	trichlorofluoromethane	ND
1,2-dichloroethane	ND	vinyl chloride	ND
1,1-dichloroethylene	ND		
1,2-dichloropropane	ND		
cis-1,3-dichloropropylene	ND		

Remarks: ND = Not detected
<10. ppb = Detected but at a level less than 10. ppb (parts per billion).

Sworn to and subscribed before me this 20th
day of August, 1984
my commission expires January 16, 1988

Notary Public

Approved by
Laboratory Manager
Title



Accredited by the American Association for Laboratory Accreditation in the chemical field of testing as listed in the current AALA Directory of Accredited Laboratories



IT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER

Sample Description: Wastewater, 5/16/84

ACID EXTRACTABLE ORGANICS - PRIORITY POLLUTANT ANALYSIS

<u>Compound</u>	<u>Concentration</u> ppb	<u>Compound</u>	<u>Concentration</u> ppb
2-chlorophenol	ND	4-nitrophenol	ND
2,4-dichlorophenol	ND	p-chloro-m-cresol	ND
2,4-dimethylphenol (m-xyleneol)	ND	pentachlorophenol	ND
4,6-dinitro-0-cresol	ND	phenol	17,000.
2,4-dinitrophenol	ND	2,4,6-trichlorophenol	ND
2-nitrophenol	ND		

Remarks: ND = Not detected
<100. ppb = Detected but at a level less than 100 ppb (parts per billion).

Sworn to and subscribed before me this 20th
day of August, 1984
my commission expires January 16, 1988

Notary Public

Ed Morse
Approved by
Laboratory Manager
Title



Accredited by the American Association for Laboratory Accreditation in the chemical field of testing as listed in the current AALA Directory of Accredited Laboratories



IT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER:

Sample Description: Wastewater, 5/16/84

BASE-NEUTRAL EXTRACTABLE ORGANICS - PRIORITY POLLUTANT ANALYSIS

<u>Compound</u>	<u>Concentration</u> <u>ppb</u>	<u>Compound</u>	<u>Concentration</u> <u>ppb</u>
acenaphthene	ND	dimethylphthalate	ND
acenaphthylene	ND	di-n-butylphthalate	ND
anthracene	ND	2,4-dinitrotoluene	ND
benzidine	ND	2,6-dinitrotoluene	ND
benzo(a)anthracene	ND	di-n-octylphthalate	ND
benzo(a)pyrene	ND	1,2-diphenylhydrazine ¹	ND
3,4-benzofluoranthene, and/or		fluoranthene	ND
benzo(k)fluoranthene ³	ND	fluorene	<100.
benzo(ghi)perylene	ND	hexachlorobentene	ND
bis(2-chloroethoxy)methane	ND	hexachlorobutadiene	ND
bis(2-chloroethyl)ether	ND	hexachlorocyclopentadiene	ND
bis(2-chloroisopropyl)ether	ND	hexachloroethane	ND
bis(2-ethylhexyl)phthalate	<100.	ideno(1,2,3-cd)pyrene	ND
4-bromophenyl phenyl ether	ND	isophorone	ND
butyl benzyphthalate	<100.	naphthalene	5800.
2-chloronaphthalene	ND	nitrobenzene	ND
4-chloro-phenyl phenyl ether	ND	N-nitrosodimethylamine	ND
chrysene	ND	N-nitrosodi-n-propylamine	ND
dibenzo(a,h)anthracene	ND	N-nitrosodiphenylamine ²	ND
1,2-dichlorobenzene	300.	phenanthrene	150.
1,3-dichlorobenzene	<100.	pyrene	<100.
1,4-dichlorobenzene	<100.	1,2,4-trichlorobenzene	ND
3,3'-dichlorobenzidine	ND	2,3,7,8-tetrachlorodibenzo-p-dioxin	ND
diethylphthalate	ND		

Remarks: ND = Not detected

¹ Detected as azobenzene ² Detected as diphenylamine ³ Isomeric Pairs
<100. ppb = Detected but at a level less than 100 ppb (parts per billion).

Sworn to and subscribed before me this 20th
day of August, 1984

My commission expires January 16, 1988

Notary Public

Approved by
Laboratory Manager

Title



ITT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER

Sample Description: Wastewater, 5/16/84

PESTICIDES AND PCB's - PRIORITY POLLUTANT ANALYSIS

<u>Compound</u>	<u>Concentration</u> ppb	<u>Compound</u>	<u>Concentration</u> ppb
α-BHC	ND	endrin aldehyde	ND
β-BHC	ND	heptachlor	ND
γ-BHC (lindane)	ND	heptachlor epoxide	ND
δ-BHC	ND	PCB-(Aroclor)-1242	1.1
chlordane	ND	PCB-(Aroclor)-1254	ND
44'-DDT	ND	PCB-(Aroclor)-1221	ND
44'-DDE	ND	PCB-(Aroclor)-1232	ND
44'-DDD	ND	PCB-(Aroclor)-1248	ND
dieldrin	ND	PCB-(Aroclor)-1260	ND
α-endosulfan	ND	PCB-(Aroclor)-1016	ND
β-endosulfan	ND	toxaphene	ND
endosulfan sulfate	ND		
endrin	ND		

Remarks: ND = Not detected
<10. ppb = Detected but at a level less than 10 ppb (parts per billion).

Sworn to and subscribed before me this 20th
day of August, 1984

My commission expires January 16, 1988

Notary Public

Approved by

Laboratory Manager

Title



Accredited by the American Association for Laboratory Accreditation in the chemical field of testing as listed in the current AALA Directory of Accredited Laboratories



IT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER:

Sample Description: Wastewater

ADDITIONAL ORGANIC POLLUTANTS

<u>Parameter</u>	<u>Concentration µg/liter (ppb)</u>
undecane	6300.
dodecane	5800.
tridecane	4400.
methyl propyl benzene	4400.
dimethyl ethyl benzene	4200.
hexadecane	3300.
butoxy ethanol	2900.
dimethyl ethyl benzene	2200.
eicosane	2100.
hexatriacontane	1900.

ND = Not detected

<10. ppb = Detected but at a level less than 10 ppb (parts per billion).

Sworn to and subscribed before me this 20th
day of August, 1984

My commission expires January 16, 1988

Notary Public

Approved by Ed Morse
Laboratory Manager

Title



Accredited by the American Association for Laboratory Accreditation in the chemical field of testing as listed in the current AALA Directory of Accredited Laboratories



IT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER:

Sample Description: Wastewater, 5/16/84

ADDITIONAL ORGANIC POLLUTANTS

<u>Parameter</u>	<u>Concentration ppm</u>
2-propanol	<2
1,1,2-trichloro-1,2,2-trifluoroethane	6.8

ND = Not detected

<2. ppm = Detected but at a level less than 2 ppm (parts per million).

Sworn to and subscribed before me this 20th
day of August, 1984
My commission expires January 16, 1988

[Signature]
Notary Public

[Signature]
Approved by Laboratory Manager
Title



Accredited by the American Association for Laboratory Accreditation in the chemical field of testing as listed in the current AALA Directory of Accredited Laboratories



IT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATEREPORTED August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER:

VOLATILE ORGANIC PRIORITY POLLUTANT ANALYSIS

Sample Description: Groundwater

<u>Compound</u>	<u>Concentration</u> ppb	<u>Compound</u>	<u>Concentration</u> ppb
acrolein	ND	trans-1,3-dichloropropylene	ND
acrylonitrile	ND	ethyl benzene	<10
benzene	<10	methyl bromide	ND
bromoform	ND	methyl chloride	ND
carbon tetrachloride	ND	methylene chloride	13
chlorobenzene	ND	1,1,2,2-tetrachloroethane	ND
chlorodibromomethane	ND	tetrachloroethylene	<10
chloroethane	79	toluene	140
2-chloroethyl vinyl ether	ND	trans-1,2-dichloroethylene	14
chloroform	<10	1,1,1-trichloroethane	79
dichlorobromomethane	ND	1,1,2-trichloroethane	ND
dichlorodifluoromethane	ND	trichloroethylene	21
1,1-dichloroethane	520	trichlorofluoromethane	ND
1,2-dichloroethane	ND	vinyl chloride	ND
1,1-dichloroethylene	<10		
1,2-dichloropropane	ND		
cis-1,3-dichloropropylene	ND		

Remarks: ND = Not detected
<10. ppb = Detected but at a level less than 10. ppb (parts per billion).

Sworn to and subscribed before me this 20th
day of August, 1984

My commission expires January 16, 1988

[Signature]
Notary Public

[Signature]
Approved by: _____
Laboratory Manager
Title



ITT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER

VOLATILE ORGANIC PRIORITY POLLUTANT ANALYSIS

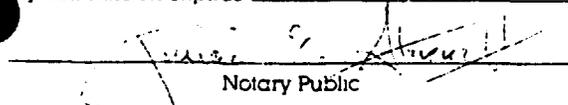
Sample Description: Travel Blank for Groundwater

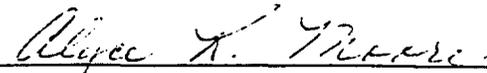
<u>Compound</u>	<u>Concentration</u> ppb	<u>Compound</u>	<u>Concentration</u> ppb
acrolein	ND	trans-1, 3-dichloropropylene	ND
acrylonitrile	ND	ethyl benzene	ND
benzene	ND	methyl bromide	ND
bromoform	ND	methyl chloride	ND
carbon tetrachloride	ND	methylene chloride	<10.
chlorobenzene	ND	1,1,2,2-tetrachloroethane	ND
chlorodibromomethane	ND	tetrachloroethylene	ND
chloroethane	ND	toluene	ND
E-chloroethyl vinyl ether	ND	trans-1,2-dichloroethylene	ND
chloroform	<10.	1,1,1-trichloroethane	ND
dichlorobromomethane	ND	1,1,2-trichloroethane	ND
dichlorodifluoromethane	ND	trichloroethylene	ND
1,1-dichloroethane	ND	trichlorofluoromethane	ND
1,2-dichloroethane	ND	vinyl chloride	ND
1,1-dichloroethylene	ND		
1,2-dichloropropane	ND		
cis-1,3-dichloropropylene	ND		

Remarks: ND = Not detected
<10. ppb = Detected but at a level less than 10. ppb (parts per billion).

Sworn to and subscribed before me this 20th
day of August, 1984

My commission expires January 16, 1988


Notary Public


Approved by

Laboratory Manager

Title



Accredited by the American Association for Laboratory Accreditation in the chemical field of testing as listed in the current AALA Directory of Accredited Laboratories



ITT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER:

Sample Description: Groundwater

ACID EXTRACTABLE ORGANICS - PRIORITY POLLUTANT ANALYSIS

<u>Compound</u>	<u>Concentration ppb</u>	<u>Compound</u>	<u>Concentration ppb</u>
2-chlorophenol	33.	4-nitrophenol	ND
2,4-dichlorophenol	<10 ,	p-chloro-m-cresol	ND
2,4-dimethylphenol (m-xyleneol)	730 .	pentachlorophenol	<10 ,
4,6-dinitro-0-cresol	ND	phenol	1000 .
2,4-dinitrophenol	ND	2,4,6-trichlorophenol	ND
2-nitrophenol	ND		

Remarks: ND = Not detected
<10. ppb = Detected but at a level less than 10 ppb (parts per billion),

Sworn to and subscribed before me this _____
day of August, 1984

My commission expires January 16, 1988

[Signature]
Notary Public

[Signature: Ed Morse]
Approved by _____
Laboratory Manager
Title



Accredited by the American Association for Laboratory Accreditation in the chemical field of testing as listed in the current AALA Directory of Accredited Laboratories



ITT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER:

Sample Description: Groundwater

BASE-NEUTRAL EXTRACTABLE ORGANICS - PRIORITY POLLUTANT ANALYSIS

<u>Compound</u>	<u>Concentration</u> ppb	<u>Compound</u>	<u>Concentration</u> ppb
acenaphthene	ND	dimethylphthalate	ND
acenaphthylene	ND	di-n-butylphthalate	ND
anthracene	ND	2,4-dinitrotoluene	ND
benzidine	ND	2,6-dinitrotoluene	ND
benzo(a)anthracene	ND	di-n-octylphthalate	ND
benzo(a)pyrene	ND	1,2-diphenylhydrazine ¹	ND
3,4-benzofluoranthene and/or		fluoranthene	ND
benzo(k)fluoranthene ³	ND	fluorene	<10.
benzo(ghi)perylene	ND	hexachlorobenzene	ND
bis(2-chloroethoxy)methane	ND	hexachlorobutadiene	ND
bis(2-chloroethyl)ether	ND	hexachlorocyclopentadiene	ND
bis(2-chloroisopropyl)ether	ND	hexachloroethane	ND
bis(2-ethylhexyl)phthalate	ND	indeno(1,2,3-cd)pyrene	ND
4-bromophenyl phenyl ether	ND	isophorone	ND
butyl benzylphthalate	ND	naphthalene	380.
2-chloronaphthalene	ND	nitrobenzene	ND
4-chloro-phenyl phenyl ether	ND	N-nitrosodimethylamine	ND
chrysene	ND	N-nitrosodi-n-propylamine	ND
dibenzo(a, h)anthracene	ND	N-nitrosodiphenylamine ²	ND
1,2-dichlorobenzene	470.	phenanthrene	<10.
1,3-dichlorobenzene	41.	pyrene	ND
1,4-dichlorobenzene	77.	1,2,4-trichlorobenzene	ND
3,3'-dichlorobenzidine	ND	2,3,7,8-tetrachlorodibenzo-p-dioxin	ND
diethylphthalate	ND		

Remarks: ND = Not detected

¹ Detected as azobenzene ² Detected as diphenylamine ³ Isomeric Pairs
<10. ppb = Detected but at a level less than 10 ppb (parts per billion).

Sworn to and subscribed before me this 20th
day of August, 1984
My commission expires January 16, 1988

Notary Public

Ed Morse
Approved by
Laboratory Manager
Title



Accredited by the American Association for Laboratory Accreditation in the chemical field of testing as listed in the current AALA Directory of Accredited Laboratories



ITT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER

Sample Description: Groundwater

PESTICIDES AND PCB's - PRIORITY POLLUTANT ANALYSIS

<u>Compound</u>	<u>Concentration</u> ppb	<u>Compound</u>	<u>Concentration</u> ppb
α-BHC	ND	endrin aldehyde	ND
β-BHC	ND	heptachlor	ND
γ-BHC (γ-lindane)	ND	heptachlor epoxide	ND
δ-BHC	ND	PCB-(Aroclor)-1242	ND
chlordane	ND	PCB-(Aroclor)-1254	ND
4,4'-DDT	ND	PCB-(Aroclor)-1221	ND
4,4'-DDE	ND	PCB-(Aroclor)-1232	ND
4,4'-DDD	ND	PCB-(Aroclor)-1248	ND
dieldrin	ND	PCB-(Aroclor)-1260	ND
α-endosulfan	ND	PCB-(Aroclor)-1016	ND
β-endosulfan	ND	toxaphene	ND
endosulfan sulfate	ND		
endrin	ND		

Remarks: ND = Not detected
<10. ppb = Detected but at a level less than 10 ppb (parts per billion).

Sworn to and subscribed before me this 20th
day of August, 1984

My commission expires January 16, 1988

Notary Public

Approved by: _____
Laboratory Manager
Title



IT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GMI 18017 Revised Report
ORDER NUMBER:

Sample Description: Groundwater

ADDITIONAL ORGANIC POLLUTANTS

<u>Parameter</u>	<u>Concentration</u> <u>µg/liter (ppb)</u>
o-methyl phenol	390 ■
trimethyl benzene	390 ■
benzyl alcohol	210.
methyl dihydroindene	150 ■
tetramethyl benzene	71 ■
methyl ethyl phenol	40.
methyl naphthalene	29 ■
tetramethyl butyl phenol	28 ■
hydroxy methyl pentanone	27 ■
dimethyl ethyl phenol	24 ■

ND = Not detected

<10. ppb = Detected but at a level less than 10 ppb (parts per billion).

Sworn to and subscribed before me this 20th
day of August, 1984

My commission expires January 16, 1988

Notary Public

Alfred H. Morse
Approved by" _____
Laboratory Manager

Title



Accredited by the American Association for Laboratory Accreditation in the chemical field of testing as listed in the current AALA Directory of Accredited Laboratories



ITT ANALYTICAL SERVICES

5815 Middlebrook Pike • Knoxville, Tennessee 37921 • 615-588-6401



CERTIFICATE OF ANALYSIS

TO: Geraghty & Miller
ATTN: Ed Morse
13902 North Dale, P. O. Box 271173
Tampa, FL 33688

DATE REPORTED: August 20, 1984
PROJECT CODE: GM 18017 Revised Report
ORDER NUMBER

Sample Description: Groundwater

ADDITIONAL ORGANIC POLLUTANTS

<u>Parameter</u>	<u>Concentration</u> <u>µg/liter (ppb)</u>
methyl mercaptan	15.
acetone	250 ■
unknown	44 ■
methyl ethyl ketone	640 ■
4-methyl-2-pentanone	84 ■

ND = Not detected
<10. ppb = Detected but at a level less than 10 ppb (parts per, billion).

Sworn in and subscribed before me this 20th
day of August, 1984

My commission expires January 16, 1988

[Signature]
Notary Public

[Signature]
Approved by
Laboratory Manager
Title