NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS
Marine Corps Base
Camp Lejeune, North Carolina 28542

3 Sept 87
Date

From: Director To Betz
To: Dan DDS
Subj:

See attached Lab info

Do we need to do anything on this?

John

NAVFAC

ASSISTANT CHIEF OF STAFF, FACILITIES
HEADQUARTERS, MARINE CORPS BASE

DATE 9-1-87

TO:

BASE MAINT O	DIR, FAMILY HOUSING
PUBLIC WORKS O	DIR, BACHELOR HOUSING
COMM-ELECT O	BASE FIRE CHIEF
DIR., NAT. RESOURCES & ENV. AFFAIRS	

ATTN: Mr Wooten

1. Attached is forwarded for info/action.

2. Please initial, or comment, and return all papers to this office.

3. Your file copy.

B Webster
By dir

"LET'S THINK OF A FEW REASONS
WHY IT CAN BE DONE"

MCBCL 5216/21 (REV. 04-85)

PERFORMANCE EVALUATION REPORT DATE: 07/15/87

DMR-QA STUDY NUMBER 007

PERMITTEE: NC0063029 HADNOT POINT STP FX NC0062995

ANALYTES	V P	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
MISCELLANEOUS ANALYTES:						
PH-UNITS		8.24	8.50	8.04- 8.89	8.15- 8.79	ACCEPTABLE
TOTAL SUSPENDED SOLIDS (IN MG/L)		25.4	25.1	16.4- 28.0	17.8- 26.6	ACCEPTABLE
OIL AND GREASE (IN MG/L)		22.3	25.0	13.6- 31.6	15.8- 29.4	ACCEPTABLE
NUTRIENTS IN MILLIGRAMS PER LITER:						
AMMONIA-NITROGEN		4.1	5.10	4.09- 6.01	4.32- 5.78	CHECK FOR ERROR
TOTAL PHOSPHORUS		0.875	0.844	.655- 1.06	.704- 1.01	ACCEPTABLE
DEMANDS IN MILLIGRAMS PER LITER:						
5-DAY BOD		107.	96.6	62.2- 131.	70.7- 122.	ACCEPTABLE
ADDITIONAL MISCELLANEOUS ANALYTES:						
TOTAL RESIDUAL CHLORINE (IN MG/L)		0.4	0.261	.0624- .492	.124- .430	ACCEPTABLE

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PLEASE PRINT OR TYPE

Form Approved O.M.B. 2080-0016
Exp. 4/30/89

QUALITY CONTROL SAMPLE REQUEST

Name _____ Telephone _____
Company _____
Laboratory _____
Street Address _____
City _____ State _____ Zip Code _____
Approval of Laboratory Director _____
Check Programs for which samples are requested: ☐ Ambient Monitoring ☐ Superfund (CERCLA)
☐ Drinking Water ☐ Wastewater ☐ Toxics (TSCA) ☐ Solid Waste/Hazardous Wastes (RCRA)

WATER QUALITY/WATER POLLUTION SAMPLES

_____ Demand
EPA/API Reference Oils
_____ Arabian Light Crude
_____ Prudhoe Bay Crude
_____ South Louisiana Crude
_____ No. 2 Fuel (high arom.)
_____ No. 6 Fuel (high visc.)
Bunker C
_____ LAS
_____ Mercury
_____ Mineral
_____ Mun. Digested Sludge
_____ Nonionic Surfactant Std.
_____ Nutrients
_____ Oil & Grease
_____ Pesticides in Fish
_____ Phenols (4AAP Method)
_____ Suspended Solids
_____ Other _____

PCBs in Oils
_____ Aro. 1016 in Capac.
_____ Aro. 1016 in Hydraul.
_____ Aro. 1016 in Trans.
_____ Aro. 1242 in Capac.
_____ Aro. 1242 in Hydraul.
_____ Aro. 1242 in Trans.
_____ Aro. 1254 in Capac.
_____ Aro. 1254 in Hydraul.
_____ Aro. 1254 in Trans.
_____ Aro. 1260 in Capac.
_____ Aro. 1260 in Hydraul.
_____ Aro. 1260 in Trans.
_____ Trace Metals WP - I
_____ Trace Metals WP - II
_____ Trace Metals WP - III
_____ Trace Metals in Fish
_____ Volatile Organics
_____ Other _____

WATER SUPPLY SAMPLES

_____ WS Corrosivity/Sodium
_____ WS Herbicides
_____ WS Nitrate/Fluoride
_____ WS Chl. Hyd. Pest. I
_____ WS Chl. Hyd. Pest. II
_____ WS Res. Free Chlorine
_____ WS Temik
_____ WS Trace Metals
_____ WS Trihalomethanes
_____ WS Turbidity
_____ WS Vol. Org. Cont. - I
_____ WS Vol. Org. Cont. - II
_____ WS Vol. Org. Cont. - III
_____ WS Vol. Org. Cont. - IV
_____ WS Vol. Org. Cont. - V
_____ WS Vol. Org. Cont. - VI
_____ WS Vol. Org. Cont. - VII
_____ Other _____
_____ Other _____

PRIORITY POLLUTANTS/HAZARDOUS WASTES/TOXIC CHEMICALS

_____ n-Alkanes
_____ Chlorinated Hydrocarbons
_____ Chl. Hyd. Pest. WP - I
_____ Chl. Hyd. Pest. WP - II
_____ Chl. Hyd. Pest. WP - III
_____ Cyanide
_____ Dichlorobenzenes
_____ EP Pest. & Herb.
_____ EP Metals
_____ GC/MS Acids
_____ GC/MS Base Neutrals - I
_____ GC/MS Base Neutrals - II
_____ GC/MS Base Neutrals - III
_____ GC/MS Pesticides - I
_____ GC/MS Pesticides - II
_____ Haloethers
_____ Other _____

_____ ICAP - 19
_____ ICAP - 7
_____ Nitroaro. & Isophorone
PCBs (specific Aroclors)
_____ Aroclor 1016
_____ Aroclor 1221
_____ Aroclor 1232
_____ Aroclor 1242
_____ Aroclor 1248
_____ Aroclor 1254
_____ Aroclor 1260
_____ Aroclor 1262
_____ Phenols (GC)
_____ Phthalate Esters
_____ Polynuclear Aromatics I
_____ Polynuclear Aromatics II
_____ Other _____

BIOLOGICAL SAMPLES

_____ Algae for Ident. #1
_____ Algae for Ident. #2
_____ ATP
Bacteria Indicator Strains
_____ Enter. aerogenes
_____ E. coli
_____ Klebsiella pneumoniae
_____ Pseudomonas aeruginosa
_____ Streptococcus faecalis
_____ Sterile Lyophil. Blank
_____ Chlorophyll Fluoro.
_____ Chlorophyll Spectro.
Reference Toxicants
_____ Sod. Lauryl Sulfate
_____ Cadmium Chloride
_____ Simulated Plankton
_____ Other _____

DATE REQUESTED: _____ DATE SHIPPED: _____

- Fold Here -

Place
Stamp
Here

Quality Assurance Branch
Environmental Monitoring and Support Laboratory
U.S. Environmental Protection Agency
Cincinnati, OH 45268

- Fold Here -

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 21 1987

OFFICE OF
WATER

Dear NPDES Permit Holder:

Thank you for participating in the 1987 National Discharge Monitoring Report (DMR) Quality Assurance (QA) Program, for all major permittees in the National Pollutant Discharge Elimination System (NPDES). Environmental Protection Agency's (EPA's) evaluation of the results submitted by your laboratory is enclosed. If this letter has not been directed to your laboratory, please provide a copy of the enclosed statistical evaluation to the laboratory which performed the analyses for you.

You will note that each value reported has been placed in one of four categories (acceptable, check for error, not acceptable, or unusable data). If one or more of your reported values is not acceptable, you should check for sources of errors. The purpose of this notice is to provide you with results, and if the data are not acceptable, to allow you to take voluntary remedial actions. You will also note that, "true"/calculated values are provided only for the constituents you reported. If you desire a complete list of "true"/calculated values, please contact your State or Regional Coordinator.

A list of steps for identifying data handling and analytical problems is enclosed. Please submit your corrective actions in writing to your State or Regional Coordinator within 45 days. Your response will be considered by EPA/State in determining need for further follow-up. Where sources of errors are not readily apparent, your laboratory should make a systematic examination of all related portions of its analytical method(s). Quality Control (QC) check samples may be requested for self-evaluation purposes by mailing the enclosed form to the Environmental Monitoring and Support Laboratory.

To ensure that your results and actions can be considered by the proper office, documentation of all corrective actions and use of QC check samples should be sent to your State or Regional Coordinator (as specified in the following page). Please refer to your NPDES permit number in all correspondence. On behalf of EPA and the involved State Agencies, thank you and your laboratory for your cooperation and participation in this QA Program.

Sincerely yours,

James R. Elder

James R. Elder, Director
Office of Water Enforcement and Permits

Enclosures

DMR QA State Coordinators

Region I

Connecticut

Earle Thompson (Industrial)
Chief, Laboratory Standards
State Division of Laboratories
Dept of Health; PO Box 1689
10 Clinton Street
Hartford, CT 06101
(203) 566-3896

Dr G Gustav Schlessinger (Mncpl)
Senior Environmental Chemist
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2409

Charles Fredette
QA Coordinator
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2588

Maine

James Tibbets
Bureau of Water Quality Control
Dept of Environmental Protection
State House
Augusta, ME 04333
(207) 289-3355

Massachusetts

Judy Perry
Div of Water Pollution Control
Dept of Env Quality Engineering
1 Winter Street
Boston, MA 02108
(617) 292-5500

New Hampshire

Lynn Woodard (Industrial)
NH Water Supply & Plltn Cont
PO Box 95 - Hazen Drive
Concord, NH 03301
(603) 271-3325

George C Neill (Municipal)
NH Water Supply & Plltn Cont
PO Box 95 - Hazen Drive
Concord, NH 03301
(603) 271-3325

William Rice
NH Water Supply & Plltn Cont
PO Box 95 - Hazen Drive
Concord, NH 03301
(603) 271-3426

Rhode Island

Ray Aldrich
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Christopher Campbell
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Vermont

Kathryn Enright
State Water Resources Division
Agency of Envir Conservation
State Office Building
Montpelier, VT 05602
(802) 828-2761

Region II*

New Jersey - New York Puerto Rico - Virgin Islands

Paul Brown (Reg Coord)
US EPA/ESD - MM
Edison, NJ 08837
(201) 321-6766

Region III

Delaware

Joe Kilby
Dept of Nat Rscs & Env Control
PO Box 1401
89 Kings Highway
Dover, DE 19903
(302) 736-5730

District of Columbia

William Ruby
Environmental Control Division
Dept of Consumer & Reg Affairs
5010 Overlook Avenue
Washington, DC 20032
(202) 767-7370

Maryland

Melvin Knott
Office of Environmental Programs
Division of Industrial Waste
O'Connor Building 2-A-2
201 West Preston Street
Baltimore, MD 21201
(301) 225-5691

Jeff Rein, Chief
Office of Environmental Programs
Division of Municipal Compliance
201 West Preston Street
Baltimore, MD 21201
(301) 225-6383

Marlene Patello
Office of Environmental Programs
Division of Municipal Compliance
201 West Preston Street
Baltimore, MD 21201
(301) 225-6374

Pennsylvania

Kenneth A Walizer
Division of Permits & Compliance
Dept of Env Resources
Fulton Bank Bldg, 12th Fl
3rd & Locust Sts
Harrisburg, PA 17120
(717) 787-8184

Virginia

Alfred L. Willett
Office of Water Res Mgmt
Technical Services
VA State Water Control Board
PO Box 11143
Richmond, VA 23230
(804) 257-6356
(FTS) 937-6011

West Virginia

Don Caldwell
QA Officer
Dept of Natural Resources
1201 Greenbrier St
Charleston, WV 25305
(304) 348-2837

Region IV

Alabama

E John Williford
AL Dept of Environmental Mgmt
1751 Federal Drive
Montgomery, AL 36130
(205) 271-7933

Florida

Carlos Boueres
FL Dept of Env Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301
(904) 487-0505

Peter T McGarry
US EPA
Florida Compliance
345 Courtland St
Atlanta, GA 30365
(404) 347-7428

Georgia

Allan Hallum
Environmental Protection Div
GA Dept of Natural Resources
Floyd Towers East
205 Butler Street, SE
Atlanta, GA 30334
(404) 656-4713

Kentucky

John Hornback
KY Bureau of Env Protection
18 Reilly Rd, Ft Boone Plaza
Frankfort, KY 40601
(502) 564-3410

Mississippi

Phillip Bass
MS Bureau of Pollution Control
121 Turn Powe Plaza
Pearl, MS 39208
(601) 354-6053

North Carolina

Bob DeWeese
NC Div of Env Management
PO Box 27687
Raleigh, NC 27611
(919) 733-5083

South Carolina

Wayne Davis
SC Dept of Health & Env Control
PO Box 72
State Park, SC 29147
(803) 737-7025

Tennessee

Bill Duffel
TN Division of Water Quality
150 Ninth Avenue, North
Nashville, TN 37203
(615) 741-7883

Region V

Illinois

Kenneth Rogers
Div of Water Pollution Control
Illinois EPA
2200 Churchill Road
Springfield, IL 62706
(217) 782-9720

Indiana*

Kaushal Khanna (Reg Coord)
US EPA
230 South Dearborn
Chicago, IL 60604
(312) 886-6713

Michigan

Frank Baldwin
MI Dept of Natural Resources
PO Box 30028
Lansing, MI 48909
(517) 373-4624

*No State Coordinator, Only Regional

DMR QA State Coordinators

Minnesota

John M Davenport
MN Pollution Control Agency
520 Lafayette Rd
St Paul, MN 55155
(612) 296-7225

Ohio

Tutu Rosanwo
Ohio EPA
1030 King Avenue
Columbus, OH 43212
(614) 294-5841

Wisconsin

Ron Arneson
WI Dept of Natural Resources
PO Box 7921
Madison, WI 53707
(608) 267-7633

Tom Mugan
WI Dept of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711
(608) 275-3282

Paul Strom
WI Dept of Natural Resources
Box 12436
Milwaukee, WI 53212
(414) 562-9676

Linda Vogen
WI Dept of Natural Resources
Box 10448
Green Bay, WI 54307
(414) 497-6035

Jon Kling
WI Dept of Natural Resources
Box 4001
Eau Claire, WI 54702
(715) 839-3728

Tom Blake
WI Dept of Natural Resources
Box 818
Rhinelander, WI 54501
(715) 362-7616

Janet Hopke
WI Dept of Natural Resources
Box 309
Spooner, WI 54801
(715) 635-4067

Region VI

Arkansas

Dick Cassat
Technical Services
AR Dept of Poll Cont & Ecology
8001 National Drive
Little Rock, AR 72209
(501) 562-7444

Louisiana

Tom Bradley
LA Dept of Env Quality
Water Pollution Control Div
3945 N. I-10 Service Road
Metairie, LA 70002
(504) 838-5365

New Mexico

Alex Puglisi
Environmental Improvement Div
Surface Water Quality Bureau
Surface Water Section
PO Box 968
Santa Fe, NM 87504-0968
(505) 827-2800

Oklahoma

Laura Cook (Industrial)
OK Water Resources Board
PO Box 53585
Oklahoma City, OK 73152
(405) 271-2541

Joe Brown (Municipal)
OK State Dept of Health
PO Box 53551
Oklahoma City, OK 73152
(405) 271-5240

Texas

Ernest Heyer
Texas Water Commission
Field Operation Division
PO Box 13087
Capitol Station
Austin, TX 78711
(512) 463-7756

Region VII

Iowa

Charles Furry
Dept of Environmental Quality
Henry A Wallace Bldg
900 E Grand
Des Moines, IA 50319
(515) 281-8911

Kansas

Robert E Nichols
Kansas Dept of Health & Env
Laboratory Services & Research
Forbes Building #740
Topeka, KS 66620
(913) 862-9360

Missouri

Scott Tackatt
Div of Environmental Quality
Dept of Natural Resources
2010 Missouri Blvd
Jefferson City, MO 65101
(314) 751-3241

Nebraska

Jay Ringenberg
Dept of Env Water Pollution Con
State House Station
Lincoln, NE 68509
(402) 471-2186

Region VIII

Colorado

Ron Schuyler
Permits & Enforcement
Water Quality Control Div
Colorado Dept of Health
4210 East 11th Avenue
Denver, CO 80220
(303) 320-8333

Montana

Mike Pasichnyk
MT Dept of Health & Env Science
Water Quality Bureau
Cogswell Bldg Room 8206
Helena, MT 59620
(406) 444-2406

North Dakota

Randy Thorson
Environmental Engineer
Water Supply & Poll Cntrl Div
North Dakota Dept of Health
Missouri Office Building
1200 Missouri Avenue
Bismarck, ND 58505
(701) 224-4606

South Dakota, Utah*

Dr. J. J. Hillman (Technical)
Regional Coordinator
US EPA 8-ES
Box 25366
Denver Federal Center
Denver, CO 80225
(303) 236-5065
(FTS) 776-5065

Carol Campbell (Permits)
Regional Coordinator
US EPA 8WM-C
1 Denver Place, 4P-404
Denver, CO 80202
(303) 293-1627
(FTS) 564-1627

Wyoming

John F Wagner
Tech Support Supervisor
Water Quality Division
Wyoming Dept of Env Quality
Herschler Bldg - 4th Floor
Cheyenne, WY 82002
(307) 777-7781

Region IX

Arizona

Grace Mossman
Bureau of Laboratory Services
1520 West Adams Street
Phoenix, AZ 85007
(602) 255-1188

California

Phillip Zentner
State Water Resources Control Bd
PO Box 100
Sacramento, CA 95801
(916) 324-1255

Guam

Kenneth Morphew
Guam EPA
PO Box 2999
Agana, Guam 96910
646-8863

Hawaii

Laura Fok
Laboratories Branch
Department of Health
PO Box 3378
Honolulu, HI 96801
(808) 548-7400

Nevada

Harry Van Drielen
Div of Environmental Protection
Department of Health
201 South Fall Street
Carson City, NV 89701
(702) 885-4670

Region X

Alaska, Idaho*

Florence Carroll (Reg Coord)
US EPA
1200 Sixth Street
Seattle, WA 98101
(206) 442-1760

Oregon

Kent Ashbaker
Dept of Env Quality
PO Box 1760
Portland, OR 97207
(503) 229-5395

Washington

Merley McCall
Dept of Ecology
Southwest Reg Office
7272 Clearwater Lane
Olympia, WA 98504
(206) 753-2353 or 2824

*No State Coordinator, Only Regional

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Quality Assurance Follow Up Checks*

CHECK YOUR METHODS

A. EPA HAS APPROVED ONLY CERTAIN METHODS FOR EFFLUENT MONITORING. NOT ALL METHODS IN "STANDARD METHODS" ARE ACCURATE AND/OR RELIABLE ENOUGH FOR NPDES MONITORING. THE LIST OF APPROVED METHODS IS CONTAINED IN THE DECEMBER 1, 1976, FEDERAL REGISTER OR 40 CFR PART 136.

B. IF YOU ARE USING AN APPROVED METHOD, CHECK TO BE SURE YOU ARE PERFORMING THE METHOD PROPERLY.

CHECK YOUR CALCULATIONS

BE SURE YOUR CALCULATIONS WERE PROPERLY DONE AND THAT YOU REPORTED THE RESULTS IN THE PROPER UNITS (I.E., MILLIGRAMS/LITER VERSUS MICROGRAMS/LITER).

CHECK YOUR STANDARD TITRATING REAGENTS

YOU SHOULD CHECK THE NORMALITY OF ALL THE TITRATING REAGENTS (PAO, THIOSULFATE, FERROUS AMMONIUM SULFATE, $K_2CR_2O_7$, H_2SO_4, ETC.) WHICH YOU USED IN PERFORMING THE ANALYSES.

CHECK YOUR INSTRUMENTS

ALL MECHANICAL AND ELECTRONIC DEVICES MALFUNCTION OR GET OUT OF PROPER ADJUSTMENT THROUGH USE OR MISUSE. BELOW IS A LIST OF POSSIBLE PROBLEMS WITH INSTRUMENTATION.

1. CHECK BALANCE FOR ACCURACY
2. CHECK THE SPECTROPHOTOMETER FOR LINEARITY AND WAVE LENGTH
3. CHECK pH ELECTRODES
4. CHECK AA LAMPS FOR ADEQUATE LIGHT OUTPUT
5. CHECK THE D.O. METER FOR PROBLEMS

CONSULT THE OPERATING MANUALS FOR YOUR INSTRUMENTS FOR ADDITIONAL ADVICE CONCERNING INSTRUMENT CHECKS.

CHECK YOUR STANDARDS

THE SOLUTIONS WHICH ARE USED FOR CALIBRATION OF INSTRUMENTS DEGRADE FROM LIGHT, IMPROPER STORAGE, ACCIDENTAL CONTAMINATION, OR AGE. NEW STANDARDS SHOULD BE PREPARED OR PURCHASED ROUTINELY. (FOR MOST CHEMICALS, THE STANDARDS SHOULD BE PREPARED OR REPLACED AT LEAST EVERY 6 MONTHS).

CHECK FOR DATA TRANSCRIPTION ERRORS

CHECK YOUR LABORATORY PURE WATER

LABORATORY PURE WATER CAN BE CONTAMINATED FROM IMPROPER MAINTENANCE OF THE STILL OR DEIONIZER. THE MOST COMMON CONTAMINANTS ARE ZINC, CHLORINE, AMMONIA, AND BACTERIA.

IF YOU HAVE NEW PERSONNEL, CHECK TO DETERMINE THAT THEY ARE PROPERLY TRAINED TO PERFORM THESE ANALYSES .

***SOURCE: EPA — REGION VIII.**

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
CINCINNATI, OHIO 45268

AN EQUAL OPPORTUNITY EMPLOYER

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

NC0063029 4
AC/S FAC - Hadnot Point STP
Cammanding General
Marine Corps Base
Camp Lejeune, NC 28542

Nc

PERFORMANCE EVALUATION REPORT DATE: 07/15/87

DMR-QA STUDY NUMBER 007

PERMITTEE: NC0063011 CAMP JOHNSON STP FX NC0062995

ANALYTES	V P	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
MISCELLANEOUS ANALYTES:						
PH-UNITS		8.24	8.50	8.04- 8.89	8.15- 8.79	ACCEPTABLE
TOTAL SUSPENDED SOLIDS (IN MG/L)		25.4	25.1	16.4- 28.0	17.6- 26.6	ACCEPTABLE
OIL AND GREASE (IN MG/L)		22.3	25.0	13.6- 31.6	15.8- 29.4	ACCEPTABLE
NUTRIENTS IN MILLIGRAMS PER LITER:						
AMMONIA-NITROGEN		4.1	5.10	4.09- 6.01	4.32- 5.78	CHECK FOR ERROR
TOTAL PHOSPHORUS		0.875	0.844	.655- 1.06	.704- 1.01	ACCEPTABLE
DEMANDS IN MILLIGRAMS PER LITER:						
5-DAY BOD		107.	96.6	62.2- 131.	70.7- 122.	ACCEPTABLE
ADDITIONAL MISCELLANEOUS ANALYTES:						
TOTAL RESIDUAL CHLORINE (IN MG/L)		0.4	0.261	.0624- .492	.124- .430	ACCEPTABLE

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 21 1987

OFFICE OF
WATER

Dear NPDES Permit Holder:

Thank you for participating in the 1987 National Discharge Monitoring Report (DMR) Quality Assurance (QA) Program, for all major permittees in the National Pollutant Discharge Elimination System (NPDES). Environmental Protection Agency's (EPA's) evaluation of the results submitted by your laboratory is enclosed. If this letter has not been directed to your laboratory, please provide a copy of the enclosed statistical evaluation to the laboratory which performed the analyses for you.

You will note that each value reported has been placed in one of four categories (acceptable, check for error, not acceptable, or unusable data). If one or more of your reported values is not acceptable, you should check for sources of errors. The purpose of this notice is to provide you with results, and if the data are not acceptable, to allow you to take voluntary remedial actions. You will also note that, "true"/calculated values are provided only for the constituents you reported. If you desire a complete list of "true"/calculated values, please contact your State or Regional Coordinator.

A list of steps for identifying data handling and analytical problems is enclosed. Please submit your corrective actions in writing to your State or Regional Coordinator within 45 days. Your response will be considered by EPA/State in determining need for further follow-up. Where sources of errors are not readily apparent, your laboratory should make a systematic examination of all related portions of its analytical method(s). Quality Control (QC) check samples may be requested for self-evaluation purposes by mailing the enclosed form to the Environmental Monitoring and Support Laboratory.

To ensure that your results and actions can be considered by the proper office, documentation of all corrective actions and use of QC check samples should be sent to your State or Regional Coordinator (as specified in the following page). Please refer to your NPDES permit number in all correspondence. On behalf of EPA and the involved State Agencies, thank you and your laboratory for your cooperation and participation in this QA Program.

Sincerely yours,

James R. Elder

James R. Elder, Director
Office of Water Enforcement and Permits

Enclosures

DMR QA State Coordinators

Region I

Connecticut

Earle Thompson (Industrial)
Chief, Laboratory Standards
State Division of Laboratories
Dept of Health; PO Box 1689
10 Clinton Street
Hartford, CT 06101
(203) 566-3896

Dr G Gustav Schlessinger (Mncpl)
Senior Environmental Chemist
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2409

Charles Fredette
QA Coordinator
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2588

Maine

James Tibbets
Bureau of Water Quality Control
Dept of Environmental Protection
State House
Augusta, ME 04333
(207) 289-3355

Massachusetts

Judy Perry
Div of Water Pollution Control
Dept of Env Quality Engineering
1 Winter Street
Boston, MA 02108
(617) 292-5500

New Hampshire

Lynn Woodard (Industrial)
NH Water Supply & Plltn Cont
PO Box 95 - Hazen Drive
Concord, NH 03301
(603) 271-3325

George C Neill (Municipal)
NH Water Supply & Plltn Cont
PO Box 95 - Hazen Drive
Concord, NH 03301
(603) 271-3325

William Rice
NH Water Supply & Plltn Cont
PO Box 95 - Hazen Drive
Concord, NH 03301
(603) 271-3426

Rhode Island

Ray Aldrich
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Christopher Campbell
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Vermont

Kathryn Enright
State Water Resources Division
Agency of Envir Conservation
State Office Building
Montpelier, VT 05602
(802) 828-2761

Region II*

New Jersey - New York Puerto Rico - Virgin Islands

Paul Brown (Reg Coord)
US EPA/ESD - MM
Edison, NJ 08837
(201) 321-6766

Region III

Delaware

Joe Kilby
Dept of Nat Rscs & Env Control
PO Box 1401
89 Kings Highway
Dover, DE 19903
(302) 736-5730

District of Columbia

William Ruby
Environmental Control Division
Dept of Consumer & Reg Affairs
5010 Overlook Avenue
Washington, DC 20032
(202) 767-7370

Maryland

Melvin Knott
Office of Environmental Programs
Division of Industrial Waste
O'Connor Building 2-A-2
201 West Preston Street
Baltimore, MD 21201
(301) 225-5691

Jeff Rein, Chief
Office of Environmental Programs
Division of Municipal Compliance
201 West Preston Street
Baltimore, MD 21201
(301) 225-6383

Marlene Patello
Office of Environmental Programs
Division of Municipal Compliance
201 West Preston Street
Baltimore, MD 21201
(301) 225-6374

Pennsylvania

Kenneth A Walizer
Division of Permits & Compliance
Dept of Env Resources
Fulton Bank Bldg, 12th Fl
3rd & Locust Sts
Harrisburg, PA 17120
(717) 787-8184

Virginia

Alfred L. Willett
Office of Water Res Mgmt
Technical Services
VA State Water Control Board
PO Box 11143
Richmond, VA 23230
(804) 257-6356
(FTS) 937-6011

West Virginia

Don Caldwell
QA Officer
Dept of Natural Resources
1201 Greenbrier St
Charleston, WV 25305
(304) 348-2837

Region IV

Alabama

E John Williford
AL Dept of Environmental Mgmt
1751 Federal Drive
Montgomery, AL 36130
(205) 271-7933

Florida

Carlos Boueres
FL Dept of Env Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301
(904) 487-0505

Peter T McGarry
US EPA
Florida Compliance
345 Courtland St
Atlanta, GA 30365
(404) 347-7428

Georgia

Allan Hallum
Environmental Protection Div
GA Dept of Natural Resources
Floyd Towers East
205 Butler Street, SE
Atlanta, GA 30334
(404) 656-4713

Kentucky

John Hornback
KY Bureau of Env Protection
18 Reilly Rd, Ft Boone Plaza
Frankfort, KY 40601
(502) 564-3410

Mississippi

Phillip Bass
MS Bureau of Pollution Control
121 Turn Powe Plaza
Pearl, MS 39208
(601) 354-6053

North Carolina

Bob DeWeese
NC Div of Env Management
PO Box 27687
Raleigh, NC 27611
(919) 733-5083

South Carolina

Wayne Davis
SC Dept of Health & Env Control
PO Box 72
State Park, SC 29147
(803) 737-7025

Tennessee

Bill Duffel
TN Division of Water Quality
150 Ninth Avenue, North
Nashville, TN 37203
(615) 741-7883

Region V

Illinois

Kenneth Rogers
Div of Water Pollution Control
Illinois EPA
2200 Churchill Road
Springfield, IL 62706
(217) 782-9720

Indiana*

Kaushal Khanna (Reg Coord)
US EPA
230 South Dearborn
Chicago, IL 60604
(312) 886-6713

Michigan

Frank Baldwin
MI Dept of Natural Resources
PO Box 30028
Lansing, MI 48909
(517) 373-4624

*No State Coordinator, Only Regional

DMR QA State Coordinators

Minnesota

John M Davenport
MN Pollution Control Agency
520 Lafayette Rd
St Paul, MN 55155
(612) 296-7225

Ohio

Tutu Rosanwo
Ohio EPA
1030 King Avenue
Columbus, OH 43212
(614) 294-5841

Wisconsin

Ron Arneson
WI Dept of Natural Resources
PO Box 7921
Madison, WI 53707
(608) 267-7633

Tom Mugan
WI Dept of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711
(608) 275-3282

Paul Strom
WI Dept of Natural Resources
Box 12436
Milwaukee, WI 53212
(414) 562-9676

Linda Vogen
WI Dept of Natural Resources
Box 10448
Green Bay, WI 54307
(414) 497-6035

Jon Kling
WI Dept of Natural Resources
Box 4001
Eau Claire, WI 54702
(715) 839-3728

Tom Blake
WI Dept of Natural Resources
Box 818
Rhinelander, WI 54501
(715) 362-7616

Janet Hopke
WI Dept of Natural Resources
Box 309
Spooner, WI 54801
(715) 635-4067

Region VI

Arkansas

Dick Cassat
Technical Services
AR Dept of Poll Cont & Ecology
8001 National Drive
Little Rock, AR 72209
(501) 562-7444

Louisiana

Tom Bradley
LA Dept of Env Quality
Water Pollution Control Div
3945 N. I-10 Service Road
Metairie, LA 70002
(504) 838-5365

New Mexico

Alex Puglisi
Environmental Improvement Div
Surface Water Quality Bureau
Surface Water Section
PO Box 968
Santa Fe, NM 87504-0968
(505) 827-2800

Oklahoma

Laura Cook (Industrial)
OK Water Resources Board
PO Box 53585
Oklahoma City, OK 73152
(405) 271-2541

Joe Brown (Municipal)
OK State Dept of Health
PO Box 53551
Oklahoma City, OK 73152
(405) 271-5240

Texas

Ernest Heyer
Texas Water Commission
Field Operation Division
PO Box 13087
Capitol Station
Austin, TX 78711
(512) 463-7756

Region VII

Iowa

Charles Furry
Dept of Environmental Quality
Henry A Wallace Bldg
900 E Grand
Des Moines, IA 50319
(515) 281-8911

Kansas

Robert E Nichols
Kansas Dept of Health & Env
Laboratory Services & Research
Forbes Building #740
Topeka, KS 66620
(913) 862-9360

Missouri

Scott Tackatt
Div of Environmental Quality
Dept of Natural Resources
2010 Missouri Blvd
Jefferson City, MO 65101
(314) 751-3241

Nebraska

Jay Ringenberg
Dept of Env Water Pollution Con
State House Station
Lincoln, NE 68509
(402) 471-2186

Region VIII

Colorado

Ron Schuyler
Permits & Enforcement
Water Quality Control Div
Colorado Dept of Health
4210 East 11th Avenue
Denver, CO 80220
(303) 320-8333

Montana

Mike Pasichnyk
MT Dept of Health & Env Science
Water Quality Bureau
Cogswell Bldg Room 8206
Helena, MT 59620
(406) 444-2406

North Dakota

Randy Thorson
Environmental Engineer
Water Supply & Poll Cntrl Div
North Dakota Dept of Health
Missouri Office Building
1200 Missouri Avenue
Bismarck, ND 58505
(701) 224-4606

South Dakota, Utah*

Dr. J. J. Hillman (Technical)
Regional Coordinator
US EPA 8-ES
Box 25366
Denver Federal Center
Denver, CO 80225
(303) 236-5065
(FTS) 776-5065

Carol Campbell (Permits)
Regional Coordinator
US EPA 8WM-C
1 Denver Place, 4P-404
Denver, CO 80202
(303) 293-1627
(FTS) 564-1627

Wyoming

John F Wagner
Tech Support Supervisor
Water Quality Division
Wyoming Dept of Env Quality
Herschler Bldg - 4th Floor
Cheyenne, WY 82002
(307) 777-7781

Region IX

Arizona

Grace Mossman
Bureau of Laboratory Services
1520 West Adams Street
Phoenix, AZ 85007
(602) 255-1188

California

Phillip Zentner
State Water Resources Control Bd
PO Box 100
Sacramento, CA 95801
(916) 324-1255

Guam

Kenneth Morphew
Guam EPA
PO Box 2999
Agana, Guam 96910
646-8863

Hawaii

Laura Fok
Laboratories Branch
Department of Health
PO Box 3378
Honolulu, HI 96801
(808) 548-7400

Nevada

Harry Van Drielen
Div of Environmental Protection
Department of Health
201 South Fall Street
Carson City, NV 89701
(702) 885-4670

Region X

Alaska, Idaho*

Florence Carroll (Reg Coord)
US EPA
1200 Sixth Street
Seattle, WA 98101
(206) 442-1760

Oregon

Kent Ashbaker
Dept of Env Quality
PO Box 1760
Portland, OR 97207
(503) 229-5395

Washington

Merley McCall
Dept of Ecology
Southwest Reg Office
7272 Clearwater Lane
Olympia, WA 98504
(206) 753-2353 or 2824

*No State Coordinator, Only Regional

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Quality Assurance Follow Up Checks*

CHECK YOUR METHODS

A. EPA HAS APPROVED ONLY CERTAIN METHODS FOR EFFLUENT MONITORING. NOT ALL METHODS IN "STANDARD METHODS" ARE ACCURATE AND/OR RELIABLE ENOUGH FOR NPDES MONITORING. THE LIST OF APPROVED METHODS IS CONTAINED IN THE DECEMBER 1, 1976, FEDERAL REGISTER OR 40 CFR PART 136.

B. IF YOU ARE USING AN APPROVED METHOD, CHECK TO BE SURE YOU ARE PERFORMING THE METHOD PROPERLY.

CHECK YOUR CALCULATIONS

BE SURE YOUR CALCULATIONS WERE PROPERLY DONE AND THAT YOU REPORTED THE RESULTS IN THE PROPER UNITS (I.E., MILLIGRAMS/LITER VERSUS MICROGRAMS/LITER).

CHECK YOUR STANDARD TITRATING REAGENTS

YOU SHOULD CHECK THE NORMALITY OF ALL THE TITRATING REAGENTS (PAO, THIOSULFATE, FERROUS AMMONIUM SULFATE, $K_2CR_2O_7$, H_2SO_4, ETC.) WHICH YOU USED IN PERFORMING THE ANALYSES.

CHECK YOUR INSTRUMENTS

ALL MECHANICAL AND ELECTRONIC DEVICES MALFUNCTION OR GET OUT OF PROPER ADJUSTMENT THROUGH USE OR MISUSE. BELOW IS A LIST OF POSSIBLE PROBLEMS WITH INSTRUMENTATION.

1. CHECK BALANCE FOR ACCURACY
2. CHECK THE SPECTROPHOTOMETER FOR LINEARITY AND WAVE LENGTH
3. CHECK pH ELECTRODES
4. CHECK AA LAMPS FOR ADEQUATE LIGHT OUTPUT
5. CHECK THE D.O. METER FOR PROBLEMS

CONSULT THE OPERATING MANUALS FOR YOUR INSTRUMENTS FOR ADDITIONAL ADVICE CONCERNING INSTRUMENT CHECKS.

CHECK YOUR STANDARDS

THE SOLUTIONS WHICH ARE USED FOR CALIBRATION OF INSTRUMENTS DEGRADE FROM LIGHT, IMPROPER STORAGE, ACCIDENTAL CONTAMINATION, OR AGE. NEW STANDARDS SHOULD BE PREPARED OR PURCHASED ROUTINELY. (FOR MOST CHEMICALS, THE STANDARDS SHOULD BE PREPARED OR REPLACED AT LEAST EVERY 6 MONTHS).

CHECK FOR DATA TRANSCRIPTION ERRORS

CHECK YOUR LABORATORY PURE WATER

LABORATORY PURE WATER CAN BE CONTAMINATED FROM IMPROPER MAINTENANCE OF THE STILL OR DEIONIZER. THE MOST COMMON CONTAMINANTS ARE ZINC, CHLORINE, AMMONIA, AND BACTERIA.

IF YOU HAVE NEW PERSONNEL, CHECK TO DETERMINE THAT THEY ARE PROPERLY TRAINED TO PERFORM THESE ANALYSES .

***SOURCE: EPA — REGION VIII.**

PLEASE PRINT OR TYPE

Form Approved O.M.B. 2080-0016
Exp. 4/30/89

QUALITY CONTROL SAMPLE REQUEST

Name _____ Telephone _____
Company _____
Laboratory _____
Street Address _____
City _____ State _____ Zip Code _____
Approval of Laboratory Director _____
Check Programs for which samples are requested: ☐ Ambient Monitoring ☐ Superfund (CERCLA)
☐ Drinking Water ☐ Wastewater ☐ Toxics (TSCA) ☐ Solid Waste/Hazardous Wastes (RCRA)

WATER QUALITY/WATER POLLUTION SAMPLES

_____ Demand
EPA/API Reference Oils
_____ Arabian Light Crude
_____ Prudhoe Bay Crude
_____ South Louisiana Crude
_____ No. 2 Fuel (high arom.)
_____ No. 6 Fuel (high visc.)
Bunker C
_____ LAS
_____ Mercury
_____ Mineral
_____ Mun. Digested Sludge
_____ Nonionic Surfactant Std.
_____ Nutrients
_____ Oil & Grease
_____ Pesticides in Fish
_____ Phenols (4AAP Method)
_____ Suspended Solids
_____ Other _____

PCBs in Oils
_____ Aro. 1016 in Capac.
_____ Aro. 1016 in Hydraul.
_____ Aro. 1016 in Trans.
_____ Aro. 1242 in Capac.
_____ Aro. 1242 in Hydraul.
_____ Aro. 1242 in Trans.
_____ Aro. 1254 in Capac.
_____ Aro. 1254 in Hydraul.
_____ Aro. 1254 in Trans.
_____ Aro. 1260 in Capac.
_____ Aro. 1260 in Hydraul.
_____ Aro. 1260 in Trans.
_____ Trace Metals WP - I
_____ Trace Metals WP - II
_____ Trace Metals WP - III
_____ Trace Metals in Fish
_____ Volatile Organics
_____ Other _____

WATER SUPPLY SAMPLES

_____ WS Corrosivity/Sodium
_____ WS Herbicides
_____ WS Nitrate/Fluoride
_____ WS Chl. Hyd. Pest. I
_____ WS Chl. Hyd. Pest. II
_____ WS Res. Free Chlorine
_____ WS Temik
_____ WS Trace Metals
_____ WS Trihalomethanes
_____ WS Turbidity
_____ WS Vol. Org. Cont. - I
_____ WS Vol. Org. Cont. - II
_____ WS Vol. Org. Cont. - III
_____ WS Vol. Org. Cont. - IV
_____ WS Vol. Org. Cont. - V
_____ WS Vol. Org. Cont. - VI
_____ WS Vol. Org. Cont. - VII
_____ Other _____
_____ Other _____

PRIORITY POLLUTANTS/HAZARDOUS WASTES/TOXIC CHEMICALS

_____ n-Alkanes
_____ Chlorinated Hydrocarbons
_____ Chl. Hyd. Pest. WP - I
_____ Chl. Hyd. Pest. WP - II
_____ Chl. Hyd. Pest. WP - III
_____ Cyanide
_____ Dichlorobenzenes
_____ EP Pest. & Herb.
_____ EP Metals
_____ GC/MS Acids
_____ GC/MS Base Neutrals - I
_____ GC/MS Base Neutrals - II
_____ GC/MS Base Neutrals - III
_____ GC/MS Pesticides - I
_____ GC/MS Pesticides - II
_____ Haloethers
_____ Other _____

_____ ICAP - 19
_____ ICAP - 7
_____ Nitroaro. & Isophorone
PCBs (specific Aroclors)
_____ Aroclor 1016
_____ Aroclor 1221
_____ Aroclor 1232
_____ Aroclor 1242
_____ Aroclor 1248
_____ Aroclor 1254
_____ Aroclor 1260
_____ Aroclor 1262
_____ Phenols (GC)
_____ Phthalate Esters
_____ Polynuclear Aromatics I
_____ Polynuclear Aromatics II
_____ Other _____

BIOLOGICAL SAMPLES

_____ Algae for Ident. #1
_____ Algae for Ident. #2
_____ ATP
Bacteria Indicator Strains
_____ Enter. aerogenes
_____ E. coli
_____ Klebsiella pneumoniae
_____ Pseudomonas aeruginosa
_____ Streptococcus faecalis
_____ Sterile Lyophil. Blank
_____ Chlorophyll Fluoro.
_____ Chlorophyll Spectro.
Reference Toxicants
_____ Sod. Lauryl Sulfate
_____ Cadmium Chloride
_____ Simulated Plankton
_____ Other _____

DATE REQUESTED: _____ DATE SHIPPED: _____

EPA-360 (Cin) (Rev. 6/86, Pt. 1)

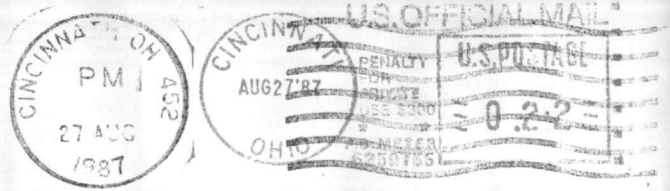
- Fold Here -

Place
Stamp
Here

Quality Assurance Branch
Environmental Monitoring and Support Laboratory
U.S. Environmental Protection Agency
Cincinnati, OH 45268

- Fold Here -

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
CINCINNATI, OHIO 45268



AN EQUAL OPPORTUNITY EMPLOYER

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

NC0063011 4
AC/S FAC-Camp Johnson STP
Commanding General
Marine Corps Base
Camp Lejeune, NC 28542

44

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 21 1987

OFFICE OF
WATER

Dear NPDES Permit Holder:

Thank you for participating in the 1987 National Discharge Monitoring Report (DMR) Quality Assurance (QA) Program, for all major permittees in the National Pollutant Discharge Elimination System (NPDES). Environmental Protection Agency's (EPA's) evaluation of the results submitted by your laboratory is enclosed. If this letter has not been directed to your laboratory, please provide a copy of the enclosed statistical evaluation to the laboratory which performed the analyses for you.

You will note that each value reported has been placed in one of four categories (acceptable, check for error, not acceptable, or unusable data). If one or more of your reported values is not acceptable, you should check for sources of errors. The purpose of this notice is to provide you with results, and if the data are not acceptable, to allow you to take voluntary remedial actions. You will also note that, "true"/calculated values are provided only for the constituents you reported. If you desire a complete list of "true"/calculated values, please contact your State or Regional Coordinator.

A list of steps for identifying data handling and analytical problems is enclosed. Please submit your corrective actions in writing to your State or Regional Coordinator within 45 days. Your response will be considered by EPA/State in determining need for further follow-up. Where sources of errors are not readily apparent, your laboratory should make a systematic examination of all related portions of its analytical method(s). Quality Control (QC) check samples may be requested for self-evaluation purposes by mailing the enclosed form to the Environmental Monitoring and Support Laboratory.

To ensure that your results and actions can be considered by the proper office, documentation of all corrective actions and use of QC check samples should be sent to your State or Regional Coordinator (as specified in the following page). Please refer to your NPDES permit number in all correspondence. On behalf of EPA and the involved State Agencies, thank you and your laboratory for your cooperation and participation in this QA Program.

Sincerely yours,

James R. Elder

James R. Elder, Director
Office of Water Enforcement and Permits

Enclosures

DMR QA State Coordinators

Region I

Connecticut

Earle Thompson (Industrial)
Chief, Laboratory Standards
State Division of Laboratories
Dept of Health; PO Box 1689
10 Clinton Street
Hartford, CT 06101
(203) 566-3896

Dr G Gustav Schlessinger (Mncpl)
Senior Environmental Chemist
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2409

Charles Fredette
QA Coordinator
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2588

Maine

James Tibbets
Bureau of Water Quality Control
Dept of Environmental Protection
State House
Augusta, ME 04333
(207) 289-3355

Massachusetts

Judy Perry
Div of Water Pollution Control
Dept of Env Quality Engineering
1 Winter Street
Boston, MA 02108
(617) 292-5500

New Hampshire

Lynn Woodard (Industrial)
NH Water Supply & Plltn Cont
PO Box 95 - Hazen Drive
Concord, NH 03301
(603) 271-3325

George C Neill (Municipal)
NH Water Supply & Plltn Cont
PO Box 95 - Hazen Drive
Concord, NH 03301
(603) 271-3325

William Rice
NH Water Supply & Plltn Cont
PO Box 95 - Hazen Drive
Concord, NH 03301
(603) 271-3426

Rhode Island

Ray Aldrich
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Christopher Campbell
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Vermont

Kathryn Enright
State Water Resources Division
Agency of Envir Conservation
State Office Building
Montpelier, VT 05602
(802) 828-2761

Region II*

New Jersey - New York Puerto Rico - Virgin Islands

Paul Brown (Reg Coord)
US EPA/ESD - MM
Edison, NJ 08837
(201) 321-6766

Region III

Delaware

Joe Kilby
Dept of Nat Rscs & Env Control
PO Box 1401
89 Kings Highway
Dover, DE 19903
(302) 736-5730

District of Columbia

William Ruby
Environmental Control Division
Dept of Consumer & Reg Affairs
5010 Overlook Avenue
Washington, DC 20032
(202) 767-7370

Maryland

Melvin Knott
Office of Environmental Programs
Division of Industrial Waste
O'Connor Building 2-A-2
201 West Preston Street
Baltimore, MD 21201
(301) 225-5691

Jeff Rein, Chief
Office of Environmental Programs
Division of Municipal Compliance
201 West Preston Street
Baltimore, MD 21201
(301) 225-6383

Marlene Patello
Office of Environmental Programs
Division of Municipal Compliance
201 West Preston Street
Baltimore, MD 21201
(301) 225-6374

Pennsylvania

Kenneth A Walizer
Division of Permits & Compliance
Dept of Env Resources
Fulton Bank Bldg, 12th Fl
3rd & Locust Sts
Harrisburg, PA 17120
(717) 787-8184

Virginia

Alfred L. Willett
Office of Water Res Mgmt
Technical Services
VA State Water Control Board
PO Box 11143
Richmond, VA 23230
(804) 257-6356
(FTS) 937-6011

West Virginia

Don Caldwell
QA Officer
Dept of Natural Resources
1201 Greenbrier St
Charleston, WV 25305
(304) 348-2837

Region IV

Alabama

E John Williford
AL Dept of Environmental Mgmt
1751 Federal Drive
Montgomery, AL 36130
(205) 271-7933

Florida

Carlos Boueres
FL Dept of Env Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301
(904) 487-0505

Peter T McGarry
US EPA
Florida Compliance
345 Courtland St
Atlanta, GA 30365
(404) 347-7428

Georgia

Allan Hallum
Environmental Protection Div
GA Dept of Natural Resources
Floyd Towers East
205 Butler Street, SE
Atlanta, GA 30334
(404) 656-4713

Kentucky

John Hornback
KY Bureau of Env Protection
18 Reilly Rd, Ft Boone Plaza
Frankfort, KY 40601
(502) 564-3410

Mississippi

Phillip Bass
MS Bureau of Pollution Control
121 Turn Powe Plaza
Pearl, MS 39208
(601) 354-6053

North Carolina

Bob DeWeese
NC Div of Env Management
PO Box 27687
Raleigh, NC 27611
(919) 733-5083

South Carolina

Wayne Davis
SC Dept of Health & Env Control
PO Box 72
State Park, SC 29147
(803) 737-7025

Tennessee

Bill Duffel
TN Division of Water Quality
150 Ninth Avenue, North
Nashville, TN 37203
(615) 741-7883

Region V

Illinois

Kenneth Rogers
Div of Water Pollution Control
Illinois EPA
2200 Churchill Road
Springfield, IL 62706
(217) 782-9720

Indiana*

Kaushal Khanna (Reg Coord)
US EPA
230 South Dearborn
Chicago, IL 60604
(312) 886-6713

Michigan

Frank Baldwin
MI Dept of Natural Resources
PO Box 30028
Lansing, MI 48909
(517) 373-4624

*No State Coordinator, Only Regional

DMR QA State Coordinators

Minnesota

John M Davenport
MN Pollution Control Agency
520 Lafayette Rd
St Paul, MN 55155
(612) 296-7225

Ohio

Tutu Rosanwo
Ohio EPA
1030 King Avenue
Columbus, OH 43212
(614) 294-5841

Wisconsin

Ron Arneson
WI Dept of Natural Resources
PO Box 7921
Madison, WI 53707
(608) 267-7633

Tom Mugan
WI Dept of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711
(608) 275-3282

Paul Strom
WI Dept of Natural Resources
Box 12436
Milwaukee, WI 53212
(414) 562-9676

Linda Vogen
WI Dept of Natural Resources
Box 10448
Green Bay, WI 54307
(414) 497-6035

Jon Kling
WI Dept of Natural Resources
Box 4001
Eau Claire, WI 54702
(715) 839-3728

Tom Blake
WI Dept of Natural Resources
Box 818
Rhinelander, WI 54501
(715) 362-7616

Janet Hopke
WI Dept of Natural Resources
Box 309
Spooner, WI 54801
(715) 635-4067

Region VI

Arkansas

Dick Cassat
Technical Services
AR Dept of Poll Cont & Ecology
8001 National Drive
Little Rock, AR 72209
(501) 562-7444

Louisiana

Tom Bradley
LA Dept of Env Quality
Water Pollution Control Div
3945 N. I-10 Service Road
Metairie, LA 70002
(504) 838-5365

New Mexico

Alex Puglisi
Environmental Improvement Div
Surface Water Quality Bureau
Surface Water Section
PO Box 968
Santa Fe, NM 87504-0968
(505) 827-2800

Oklahoma

Laura Cook (Industrial)
OK Water Resources Board
PO Box 53585
Oklahoma City, OK 73152
(405) 271-2541

Joe Brown (Municipal)
OK State Dept of Health
PO Box 53551
Oklahoma City, OK 73152
(405) 271-5240

Texas

Ernest Heyer
Texas Water Commission
Field Operation Division
PO Box 13087
Capitol Station
Austin, TX 78711
(512) 463-7756

Region VII

Iowa

Charles Furry
Dept of Environmental Quality
Henry A Wallace Bldg
900 E Grand
Des Moines, IA 50319
(515) 281-8911

Kansas

Robert E Nichols
Kansas Dept of Health & Env
Laboratory Services & Research
Forbes Building #740
Topeka, KS 66620
(913) 862-9360

Missouri

Scott Tackatt
Div of Environmental Quality
Dept of Natural Resources
2010 Missouri Blvd
Jefferson City, MO 65101
(314) 751-3241

Nebraska

Jay Ringenberg
Dept of Env Water Pollution Con
State House Station
Lincoln, NE 68509
(402) 471-2186

Region VIII

Colorado

Ron Schuyler
Permits & Enforcement
Water Quality Control Div
Colorado Dept of Health
4210 East 11th Avenue
Denver, CO 80220
(303) 320-8333

Montana

Mike Pasichnyk
MT Dept of Health & Env Science
Water Quality Bureau
Cogswell Bldg Room 8206
Helena, MT 59620
(406) 444-2406

North Dakota

Randy Thorson
Environmental Engineer
Water Supply & Poll Cntrl Div
North Dakota Dept of Health
Missouri Office Building
1200 Missouri Avenue
Bismarck, ND 58505
(701) 224-4606

South Dakota, Utah*

Dr. J. J. Hillman (Technical)
Regional Coordinator
US EPA 8-ES
Box 25366
Denver Federal Center
Denver, CO 80225
(303) 236-5065
(FTS) 776-5065

Carol Campbell (Permits)
Regional Coordinator
US EPA 8WM-C
1 Denver Place, 4P-404
Denver, CO 80202
(303) 293-1627
(FTS) 564-1627

Wyoming

John F Wagner
Tech Support Supervisor
Water Quality Division
Wyoming Dept of Env Quality
Herschler Bldg - 4th Floor
Cheyenne, WY 82002
(307) 777-7781

Region IX

Arizona

Grace Mossman
Bureau of Laboratory Services
1520 West Adams Street
Phoenix, AZ 85007
(602) 255-1188

California

Phillip Zentner
State Water Resources Control Bd
PO Box 100
Sacramento, CA 95801
(916) 324-1255

Guam

Kenneth Morphew
Guam EPA
PO Box 2999
Agana, Guam 96910
646-8863

Hawaii

Laura Fok
Laboratories Branch
Department of Health
PO Box 3378
Honolulu, HI 96801
(808) 548-7400

Nevada

Harry Van Drielen
Div of Environmental Protection
Department of Health
201 South Fall Street
Carson City, NV 89701
(702) 885-4670

Region X

Alaska, Idaho*

Florence Carroll (Reg Coord)
US EPA
1200 Sixth Street
Seattle, WA 98101
(206) 442-1760

Oregon

Kent Ashbaker
Dept of Env Quality
PO Box 1760
Portland, OR 97207
(503) 229-5395

Washington

Merley McCall
Dept of Ecology
Southwest Reg Office
7272 Clearwater Lane
Olympia, WA 98504
(206) 753-2353 or 2824

*No State Coordinator, Only Regional

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Quality Assurance Follow Up Checks*

CHECK YOUR METHODS

A. EPA HAS APPROVED ONLY CERTAIN METHODS FOR EFFLUENT MONITORING. NOT ALL METHODS IN "STANDARD METHODS" ARE ACCURATE AND/OR RELIABLE ENOUGH FOR NPDES MONITORING. THE LIST OF APPROVED METHODS IS CONTAINED IN THE DECEMBER 1, 1976, FEDERAL REGISTER OR 40 CFR PART 136.

B. IF YOU ARE USING AN APPROVED METHOD, CHECK TO BE SURE YOU ARE PERFORMING THE METHOD PROPERLY.

CHECK YOUR CALCULATIONS

BE SURE YOUR CALCULATIONS WERE PROPERLY DONE AND THAT YOU REPORTED THE RESULTS IN THE PROPER UNITS (I.E., MILLIGRAMS/LITER VERSUS MICROGRAMS/LITER).

CHECK YOUR STANDARD TITRATING REAGENTS

YOU SHOULD CHECK THE NORMALITY OF ALL THE TITRATING REAGENTS (PAO, THIOSULFATE, FERROUS AMMONIUM SULFATE, $K_2CR_2O_7$, H_2SO_4, ETC.) WHICH YOU USED IN PERFORMING THE ANALYSES.

CHECK YOUR INSTRUMENTS

ALL MECHANICAL AND ELECTRONIC DEVICES MALFUNCTION OR GET OUT OF PROPER ADJUSTMENT THROUGH USE OR MISUSE. BELOW IS A LIST OF POSSIBLE PROBLEMS WITH INSTRUMENTATION.

1. CHECK BALANCE FOR ACCURACY
2. CHECK THE SPECTROPHOTOMETER FOR LINEARITY AND WAVE LENGTH
3. CHECK pH ELECTRODES
4. CHECK AA LAMPS FOR ADEQUATE LIGHT OUTPUT
5. CHECK THE D.O. METER FOR PROBLEMS

CONSULT THE OPERATING MANUALS FOR YOUR INSTRUMENTS FOR ADDITIONAL ADVICE CONCERNING INSTRUMENT CHECKS.

CHECK YOUR STANDARDS

THE SOLUTIONS WHICH ARE USED FOR CALIBRATION OF INSTRUMENTS DEGRADE FROM LIGHT, IMPROPER STORAGE, ACCIDENTAL CONTAMINATION, OR AGE. NEW STANDARDS SHOULD BE PREPARED OR PURCHASED ROUTINELY. (FOR MOST CHEMICALS, THE STANDARDS SHOULD BE PREPARED OR REPLACED AT LEAST EVERY 6 MONTHS).

CHECK FOR DATA TRANSCRIPTION ERRORS

CHECK YOUR LABORATORY PURE WATER

LABORATORY PURE WATER CAN BE CONTAMINATED FROM IMPROPER MAINTENANCE OF THE STILL OR DEIONIZER. THE MOST COMMON CONTAMINANTS ARE ZINC, CHLORINE, AMMONIA, AND BACTERIA.

IF YOU HAVE NEW PERSONNEL, CHECK TO DETERMINE THAT THEY ARE PROPERLY TRAINED TO PERFORM THESE ANALYSES .

***SOURCE: EPA — REGION VIII.**

PERFORMANCE EVALUATION REPORT DATE: 07/15/87

DMR-QA STUDY NUMBER 007

PERMITTEE: NC0062995 CAMP GEIGER STP FX

ANALYTES	V P	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
MISCELLANEOUS ANALYTES:						
PH-UNITS		8.24	8.50	8.04- 8.89	8.15- 8.79	ACCEPTABLE
TOTAL SUSPENDED SOLIDS (IN MG/L)		25.4	25.1	16.4- 28.0	17.8- 26.6	ACCEPTABLE
OIL AND GREASE (IN MG/L)		22.3	25.0	13.6- 31.6	15.8- 29.4	ACCEPTABLE
NUTRIENTS IN MILLIGRAMS PER LITER:						
AMMONIA-NITROGEN		4.1	5.10	4.09- 6.01	4.32- 5.78	CHECK FOR ERROR
TOTAL PHOSPHORUS		0.875	0.844	.655- 1.06	.704- 1.01	ACCEPTABLE
DEMANDS IN MILLIGRAMS PER LITER:						
5-DAY BOD		107.	96.6	62.2- 131.	70.7- 122.	ACCEPTABLE
ADDITIONAL MISCELLANEOUS ANALYTES:						
TOTAL RESIDUAL CHLORINE (IN MG/L)		0.4	0.261	.0624- .492	.124- .430	ACCEPTABLE

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PLEASE PRINT OR TYPE

Form Approved O.M.B. 2080-0016
Exp. 4/30/89

QUALITY CONTROL SAMPLE REQUEST

Name _____ Telephone _____
Company _____
Laboratory _____
Street Address _____
City _____ State _____ Zip Code _____
Approval of Laboratory Director _____
Check Programs for which samples are requested: ☐ Ambient Monitoring ☐ Superfund (CERCLA)
☐ Drinking Water ☐ Wastewater ☐ Toxics (TSCA) ☐ Solid Waste/Hazardous Wastes (RCRA)

WATER QUALITY/WATER POLLUTION SAMPLES

_____ Demand
EPA/API Reference Oils
_____ Arabian Light Crude
_____ Prudhoe Bay Crude
_____ South Louisiana Crude
_____ No. 2 Fuel (high arom.)
_____ No. 6 Fuel (high visc.)
Bunker C
_____ LAS
_____ Mercury
_____ Mineral
_____ Mun. Digested Sludge
_____ Nonionic Surfactant Std.
_____ Nutrients
_____ Oil & Grease
_____ Pesticides in Fish
_____ Phenols (4AAP Method)
_____ Suspended Solids
_____ Other _____

PCBs in Oils
_____ Aro. 1016 in Capac.
_____ Aro. 1016 in Hydraul.
_____ Aro. 1016 in Trans.
_____ Aro. 1242 in Capac.
_____ Aro. 1242 in Hydraul.
_____ Aro. 1242 in Trans.
_____ Aro. 1254 in Capac.
_____ Aro. 1254 in Hydraul.
_____ Aro. 1254 in Trans.
_____ Aro. 1260 in Capac.
_____ Aro. 1260 in Hydraul.
_____ Aro. 1260 in Trans.
_____ Trace Metals WP - I
_____ Trace Metals WP - II
_____ Trace Metals WP - III
_____ Trace Metals in Fish
_____ Volatile Organics
_____ Other _____

WATER SUPPLY SAMPLES

_____ WS Corrosivity/Sodium
_____ WS Herbicides
_____ WS Nitrate/Fluoride
_____ WS Chl. Hyd. Pest. I
_____ WS Chl. Hyd. Pest. II
_____ WS Res. Free Chlorine
_____ WS Temik
_____ WS Trace Metals
_____ WS Trihalomethanes
_____ WS Turbidity
_____ WS Vol. Org. Cont. - I
_____ WS Vol. Org. Cont. - II
_____ WS Vol. Org. Cont. - III
_____ WS Vol. Org. Cont. - IV
_____ WS Vol. Org. Cont. - V
_____ WS Vol. Org. Cont. - VI
_____ WS Vol. Org. Cont. - VII
_____ Other _____
_____ Other _____

PRIORITY POLLUTANTS/HAZARDOUS WASTES/TOXIC CHEMICALS

_____ n-Alkanes
_____ Chlorinated Hydrocarbons
_____ Chl. Hyd. Pest. WP - I
_____ Chl. Hyd. Pest. WP - II
_____ Chl. Hyd. Pest. WP - III
_____ Cyanide
_____ Dichlorobenzenes
_____ EP Pest. & Herb.
_____ EP Metals
_____ GC/MS Acids
_____ GC/MS Base Neutrals - I
_____ GC/MS Base Neutrals - II
_____ GC/MS Base Neutrals - III
_____ GC/MS Pesticides - I
_____ GC/MS Pesticides - II
_____ Haloethers
_____ Other _____

_____ ICAP - 19
_____ ICAP - 7
_____ Nitroaro. & Isophorone
PCBs (specific Aroclors)
_____ Aroclor 1016
_____ Aroclor 1221
_____ Aroclor 1232
_____ Aroclor 1242
_____ Aroclor 1248
_____ Aroclor 1254
_____ Aroclor 1260
_____ Aroclor 1262
_____ Phenols (GC)
_____ Phthalate Esters
_____ Polynuclear Aromatics I
_____ Polynuclear Aromatics II
_____ Other _____

BIOLOGICAL SAMPLES

_____ Algae for Ident. #1
_____ Algae for Ident. #2
_____ ATP
Bacteria Indicator Strains
_____ Enter. aerogenes
_____ E. coli
_____ Klebsiella pneumoniae
_____ Pseudomonas aeruginosa
_____ Streptococcus faecalis
_____ Sterile Lyophil. Blank
_____ Chlorophyll Fluoro.
_____ Chlorophyll Spectro.
Reference Toxicants
_____ Sod. Lauryl Sulfate
_____ Cadmium Chloride
_____ Simulated Plankton
_____ Other _____

DATE REQUESTED: _____ DATE SHIPPED: _____

EPA-360 (Cin) (Rev. 6/86, Pt. 1)

- Fold Here -

Place
Stamp
Here

Quality Assurance Branch
Environmental Monitoring and Support Laboratory
U.S. Environmental Protection Agency
Cincinnati, OH 45268

- Fold Here -

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
CINCINNATI, OHIO 45268

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

AN EQUAL OPPORTUNITY EMPLOYER

NC0062995 4
United States Marine Corps Base
Commanding General
6280/4 FAC
Camp Lejeune, NC 28542

T-5221/4

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

6740/3
NREAD(L)
29 Apr 87

Chester D. Scheibel
The Bionetics Corporation
16 Triangle Park Drive
Cincinnati, Ohio 45246

Dear Sir:

In accordance with the United States Environmental Protection Agency letter of 6 February 1987, the NPDES (DMR QA) Laboratory Performance Evaluation is submitted. Questions regarding this report should be forwarded to Ms. Elizabeth Betz, Supervisory Chemist, Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Facilities at (919) 451-5977.

Sincerely,

J. I. WOOTEN
Director, Natural Resources Division
By direction of the Commanding General

Encl: (1) NPDES (DMR QA) Laboratory Performance Evaluation (2 copies)

Copy to:
EMCL, NREAD (2)

T-5554

Form Approved. OMB No. 2040-0089. Approval Expires 7-31-88

U.S. Environmental Protection Agency
Washington, DC 20460

EPA

NPDES (DMR QA)
Laboratory Performance Evaluation

(These data are collected under the authority of the Federal Water Pollution Control Act.)

Study No.	Permit Number										Card No.			
N	0	7	N	C	0	0	6	3	0	1	1				1
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Current Permittee Address Label

4

NC0063011
Commanding General
AC/S FAC-Camp Johnson STP
Marine Corps Base
Camp LeJeune, NC 28542

Enter Permittee Name as Desired for Report Heading: C a m p J o h n s o n S T P (columns 20–55)

Laboratory 1

Name	Address	Analytes	Multiple Permit Option Exercised:
Environmental Chemistry and Microbiology Section	Natural resources and Environmental Affairs Div. MCB, Camp Lejeune, NC	All	[X] Yes [ ] No

Mark 'X' for Type of Laboratory

[X] Federal [ ] State [ ] Local Govt. [ ] Industrial [ ] Commercial [ ] Other

Laboratory 2 *(if any)*

Name	Address	Analytes	Multiple Permit Option Exercised:
			[ ] Yes [ ] No

Mark 'X' for Type of Laboratory

[ ] Federal [ ] State [ ] Local Govt. [ ] Industrial [ ] Commercial [ ] Other

The **Multiple Permit Option** was used and the following data resulted from analyzing the samples mailed to Another Permit Number *(specify)*: N C 0 0 6 2 9 9 5 (columns 61–69)

Certification

(By permit holder or authorized representative as per 40 CFR Part 122.22. See instructions.)

For Study Number Six, conducted in February thru June 1986, the permittee listed below:

	Yes	No		Yes	No		Yes	No
Received Samples		X	Submitted Data		X	Received a Report in Response		X
	71	72		74	75		77	78

Permittee Name and Address *(street no., city, State, & ZIP Code, if different from label above.)*
Commanding General
Marine Corps Base
Camp Lejeune, NC 28542 Attn: AC/S Facilities

Telephone Number: 451-5977

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title of Certifying Official *(type or print)*	Signature	Date Signed
ELIZABETH A. BETZ Supvy Chemist	Elizabeth A Betz	4/29/87

CONTINUED FROM PAGE 1

Study No.	Permit Number
N07	NC0063011

TRACE METALS *(recovery in micrograms/l)*

Study and Permit Number	Card Number	Aluminum	Arsenic	Beryllium
DUPLICATE	2	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity
1 - 14	16	20 21 22 23 24 - 28	30 31 32 33 34 - 38	40 41 42 43 44 - 48
		Cadmium	**Chromium**	**Cobalt**
		VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity
		50 51 52 53 54 - 58	60 61 62 63 64 - 68	70 71 72 73 74 - 78

Study and Permit Number	Card Number	Copper	Iron	Lead
DUPLICATE	3	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity
1 - 14	16	20 21 22 23 24 - 28	30 31 32 33 34 - 38	40 41 42 43 44 48
		Manganese	**Mercury**	**Nickel**
		VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity
		50 51 52 53 54 - 58	60 61 62 63 64 - 68	70 71 72 73 74 - 78

Study and Permit Number	Card Number	Selenium	Vanadium	Zinc
DUPLICATE	4	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity
1 - 14	16	20 21 22 23 24 - 28	30 31 32 33 34 - 38	40 41 42 43 44 - 48

MISCELLANEOUS ANALYSES

	pH Analysis *(standard units)*	Total Suspended Solids *(recovery in mg/l)*	Oil and Grease *(recovery in mg/l)*
	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity
	12 8.24	12 254.	22 22.3
	50 51 52 53 54 - 58	60 61 62 63 64 - 68	70 71 72 73 74 - 78

NUTRIENTS *(recovery in mg/l)*

Study and Permit Number	Card Number	Ammonia as N	Nitrate as N	Kjeldahl Nitrogen
DUPLICATE	5	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity
1 - 14	16	15 4.1		
		20 21 22 23 24 - 28	30 31 32 33 34 - 38	40 41 42 43 44 - 48
		Total Phosphorus as P	**Orthophosphate as P**	
		VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity	
		13 0.875		
		50 51 52 53 54 - 58	60 61 62 63 64 - 68	

DEMANDS *(recovery in mg/l)*

Study and Permit Number	Card Number	COD	TOC	5-Day BOD
DUPLICATE	6	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity
1 - 14	16			11 107.
		20 21 22 23 24 - 28	30 31 32 33 34 - 38	40 41 42 43 44 - 48

ADDITIONAL MISCELLANEOUS ANALYSES *(recovery in mg/l)*

	Total Cyanide	Total Phenolics	Total Residual Chlorine
	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity	VA / MC / ∠ / > / Quantity
			15 0.4
	50 51 52 53 54 - 58	60 61 62 63 64 - 68	70 71 72 73 74 - 78

Form Approved. OMB No. 2040-0089. Approval Expires 7-31-88

U.S. Environmental Protection Agency
Washington, DC 20460

EPA NPDES (DMR QA) Laboratory Performance Evaluation

(These data are collected under the authority of the Federal Water Pollution Control Act.)

Study No.	Permit Number	Card No.
N07	NC0063002	1
1 2 3	4 5 6 7 8 9 10 11 12	13 14 15 16

Current Permittee Address Label

NC0063002 4
Commanding General
AC/S FAC-Tarawa Terr. STP
Marine Corps Base
Camp LeJeune, NC 28542

Enter Permittee Name as Desired for Report Heading: Tarawa Terrace STP (20–55)

Laboratory 1

56

Name	Address	Analytes	Multiple Permit Option Exercised:
Environmental Chemistry and Microbiology Section	Natural Resources and Environmental Affairs Div. MCB. Camp Lejeune. NC	All	[X] Yes [ ] No

Mark 'X' for Type of Laboratory

[X] Federal [ ] State [ ] Local Govt. [ ] Industrial [ ] Commercial [ ] Other — 58

Laboratory 2 *(if any)*

Name	Address	Analytes	Multiple Permit Option Exercised:
			[ ] Yes [ ] No

Mark 'X' for Type of Laboratory

[ ] Federal [ ] State [ ] Local Govt. [ ] Industrial [ ] Commercial [ ] Other — 59

The **Multiple Permit Option** was used and the following data resulted from analyzing the samples mailed to Another Permit Number *(specify)*: NC0062995 (61–69)

Certification

(By permit holder or authorized representative as per 40 CFR Part 122.22. See instructions.)

For Study Number Six, conducted in February thru June 1986, the permittee listed below:

	Yes	No		Yes	No		Yes	No
Received Samples		X	Submitted Data		X	Received a Report in Response		X
	71	72		74	75		77	78

Permittee Name and Address *(street no., city, State, & ZIP Code, if different from label above.)*
Commanding General
Marine Corps Base
Camp Lejeune. NC 28542 Attn: AC/S Facilities

Telephone Number: 451-5977

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title of Certifying Official *(type or print)*	Signature	Date Signed
Elizabeth A. Betz Supvy Chemist	Elizabeth A Betz	4/29/87

CONTINUED FROM PAGE 1

Study No.	Permit Number
N 0 7	N C 0 0 6 3 0 0 2

1 - 3 | 4 - 14

TRACE METALS *(recovery in micrograms/l)*

Study and Permit Number	Card Number	Aluminum				Arsenic				Beryllium			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
DUPLICATE	2												
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48

		Cadmium				Chromium				Cobalt			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
		50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78

Study and Permit Number	Card Number	Copper				Iron				Lead			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
DUPLICATE	3												
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48

		Manganese				Mercury				Nickel			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
		50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78

Study and Permit Number	Card Number	Selenium				Vanadium				Zinc			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
DUPLICATE	4												
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48

MISCELLANEOUS ANALYSES

	pH Analysis *(standard units)*				Total Suspended Solids *(recovery in mg/l)*				Oil and Grease *(recovery in mg/l)*			
	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
		1 2		8 . 2 4		1 2		2 5 . 4		2 2		2 2 . 3
	50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78

NUTRIENTS *(recovery in mg/l)*

Study and Permit Number	Card Number	Ammonia as N				Nitrate as N				Kjeldahl Nitrogen			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
DUPLICATE	5		1 5		4 . 1								
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48

	Total Phosphorus as P				Orthophosphate as P			
	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
		1 3		0 . 8 7 5				
	50	51 52	53	54 - 58	60	61 62	63	64 - 68

DEMANDS *(recovery in mg/l)*

Study and Permit Number	Card Number	COD				TOC				5-Day BOD			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
DUPLICATE	6										1 1		1 0 7 .
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48

ADDITIONAL MISCELLANEOUS ANALYSES *(recovery in mg/l)*

	Total Cyanide				Total Phenolics				Total Residual Chlorine			
	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
										1 5		0 . 4
	50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78

Form Approved. OMB No. 2040-0089. Approval Expires 7-31-88

U.S. Environmental Protection Agency
Washington, DC 20460

EPA

NPDES (DMR QA)
Laboratory Performance Evaluation

(These data are collected under the authority of the Federal Water Pollution Control Act.)

Study No.	Permit Number	Card No.
N07	NC0062995	1
1 2 3	4 5 6 7 8 9 10 11 12	13 14 15 16

Current Permittee Address Label

NC0062995 4
United States Marine Corps Base
Brigadier General USMC
6280/4 FAC
Camp Lejeune, NC 28542

Enter Permittee Name as Desired for Report Heading: Camp Geiger STP (20–55)

Laboratory 1 (56)

Name	Address	Analytes	Multiple Permit Option Exercised:
Environmental Chemistry and Microbiology Section	Natural Resources and Environmental Affairs Div. MCB. Camp Lejeune. NC	All	☐ Yes ☒ No

Mark 'X' for Type of Laboratory (58)

☒ Federal ☐ State ☐ Local Govt. ☐ Industrial ☐ Commercial ☐ Other

Laboratory 2 *(if any)*

Name	Address	Analytes	Multiple Permit Option Exercised:
			☐ Yes ☐ No

Mark 'X' for Type of Laboratory (59)

☐ Federal ☐ State ☐ Local Govt. ☐ Industrial ☐ Commercial ☐ Other

The **Multiple Permit Option** was used and the following data resulted from analyzing the samples mailed to Another Permit Number *(specify)* (61–69)

Certification

(By permit holder or authorized representative as per 40 CFR Part 122.22. See instructions.)

For Study Number Six, conducted in February thru June 1986, the permittee listed below:

	Yes	No		Yes	No		Yes	No
Received Samples		X	Submitted Data		X	Received a Report in Response		X
	71	72		74	75		77	78

Permittee Name and Address *(street no., city, State, & ZIP Code, if different from label above.)*
Commanding General
Marine Corps Base
Camp Lejeune. NC 28542 Attn: AC/S Facilities

Telephone Number: 451-5977

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title of Certifying Official *(type or print)*	Signature	Date Signed
ELIZABETH A. BETZ Supvy Chemist	Elizabeth A. Betz	4/29/87

CONTINUED FROM PAGE 1

Study No.	Permit Number
NO7	NC0062995

1 - 3 | 4 - 14

TRACE METALS *(recovery in micrograms/l)*

Study and Permit Number	Card Number	Aluminum				Arsenic				Beryllium			
		VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity
DUPLICATE	2												
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48
		Cadmium				**Chromium**				**Cobalt**			
		VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity
		50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78
Study and Permit Number	Card Number	**Copper**				**Iron**				**Lead**			
		VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity
DUPLICATE	3												
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48
		Manganese				**Mercury**				**Nickel**			
		VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity
		50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78
Study and Permit Number	Card Number	**Selenium**				**Vanadium**				**Zinc**			
		VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity
DUPLICATE	4												
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48

MISCELLANEOUS ANALYSES

	pH Analysis *(standard units)*				**Total Suspended Solids** *(recovery in mg/l)*				**Oil and Grease** *(recovery in mg/l)*			
	VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity
		12		8.24		12		25.4		22		22.3
	50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78

NUTRIENTS *(recovery in mg/l)*

Study and Permit Number	Card Number	**Ammonia as N**				**Nitrate as N**				**Kjeldahl Nitrogen**			
		VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity
DUPLICATE	5		15		4.1								
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48
		Total Phosphorus as P				**Orthophosphate as P**							
		VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity				
			13		0.875								
		50	51 52	53	54 - 58	60	61 62	63	64 - 68				

DEMANDS *(recovery in mg/l)*

Study and Permit Number	Card Number	**COD**				**TOC**				**5-Day BOD**			
		VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity
DUPLICATE	6										11		107.
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48

ADDITIONAL MISCELLANEOUS ANALYSES *(recovery in mg/l)*

	Total Cyanide				**Total Phenolics**				**Total Residual Chlorine**			
	VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity	VA	MC	∠/>	Quantity
										15		0.4
	50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78

Form Approved. OMB No. 2040-0089. Approval Expires 7-31-88

U.S. Environmental Protection Agency
Washington, DC 20460

EPA

NPDES (DMR QA) Laboratory Performance Evaluation

(These data are collected under the authority of the Federal Water Pollution Control Act.)

Study No.	Permit Number	Card No.
NO7	NC0063029	1
1 2 3	4 5 6 7 8 9 10 11 12	13 14 15 16

Current Permittee Address Label

NC0063029 4
Camp Lejeune - Hadnot Point STP
Brigadier General USMC
6280/4 FAC
Camp Lejeune, NC 28542

Enter Permittee Name as Desired for Report Heading: Hadnot Point STP (20–55)

Laboratory 1 (56)

Name	Address	Analytes	Multiple Permit Option Exercised:
Environmental Chemistry and Microbiology Section	Natural Resources and Environmental Affairs Div. MCB, Camp Lejeune, NC	All	[X] Yes [ ] No

Mark 'X' for Type of Laboratory (58)

[X] Federal [ ] State [ ] Local Govt. [ ] Industrial [ ] Commercial [ ] Other

Laboratory 2 *(if any)*

Name	Address	Analytes	Multiple Permit Option Exercised:
			[ ] Yes [ ] No

Mark 'X' for Type of Laboratory (59)

[ ] Federal [ ] State [ ] Local Govt. [ ] Industrial [ ] Commercial [ ] Other

The **Multiple Permit Option** was used and the following data resulted from analyzing the samples mailed to Another Permit Number *(specify)*: NC0062995 (61–69)

Certification

(By permit holder or authorized representative as per 40 CFR Part 122.22. See instructions.)

For Study Number Six, conducted in February thru June 1986, the permittee listed below:

	Yes	No
Received Samples (71, 72)		X
Submitted Data (74, 75)		X
Received a Report in Response (77, 78)		X

Permittee Name and Address *(street no., city, State, & ZIP Code, if different from label above.)*

Commanding General
Marine Corps Base
Camp Lejeune, NC 28542 Attn: AC/S Facilities

Telephone Number: 451-5977

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title of Certifying Official *(type or print)*	Signature	Date Signed
ELIZABETH A. BETZ Supvy Chemist	Elizabeth A Betz	4/29/87

CONTINUED FROM PAGE 1

Study No.	Permit Number
N 0 7	N C 0 0 6 3 0 2 9
1 - 3	4 - 14

TRACE METALS *(recovery in micrograms/l)*

Study and Permit Number	Card Number	Aluminum				Arsenic				Beryllium			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
DUPLICATE	2												
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48
		Cadmium				Chromium				Cobalt			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
		50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78
Study and Permit Number	Card Number	Copper				Iron				Lead			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
DUPLICATE	3												
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48
		Manganese				Mercury				Nickel			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
		50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78
Study and Permit Number	Card Number	Selenium				Vanadium				Zinc			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
DUPLICATE	4												
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48

MISCELLANEOUS ANALYSES

		pH Analysis *(standard units)*				Total Suspended Solids *(recovery in mg/l)*				Oil and Grease *(recovery in mg/l)*			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
			1 2		8 . 2 4		1 2		2 5 . 4		2 2		2 2 . 3
		50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78

NUTRIENTS *(recovery in mg/l)*

Study and Permit Number	Card Number	Ammonia as N				Nitrate as N				Kjeldahl Nitrogen			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
DUPLICATE	5		1 5		4 . 1								
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48
		Total Phosphorus as P				Orthophosphate as P							
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity				
			1 3		0 . 8 7 5								
		50	51 52	53	54 - 58	60	61 62	63	64 - 68				

DEMANDS *(recovery in mg/l)*

Study and Permit Number	Card Number	COD				TOC				5-Day BOD			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
DUPLICATE	6										1 1		1 0 7 .
1 - 14	15 - 16	20	21 22	23	24 - 28	30	31 32	33	34 - 38	40	41 42	43	44 - 48

ADDITIONAL MISCELLANEOUS ANALYSES *(recovery in mg/l)*

		Total Cyanide				Total Phenolics				Total Residual Chlorine			
		VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity	VA	MC	∠ / ≥	Quantity
											1 5		0 . 4
		50	51 52	53	54 - 58	60	61 62	63	64 - 68	70	71 72	73	74 - 78

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FEB 6 1987

OFFICE OF
WATER

Dear NPDES Permit Holder:

As indicated in my January 16, 1987 letter, the U.S. Environmental Protection Agency (EPA) and State Agencies with approved NPDES programs are continuing a quality assurance program initiated during 1980 for all major permittees under the National Pollutant Discharge Elimination System (NPDES). Each major permittee will receive performance samples containing constituents normally found in industrial and municipal wastewaters. The samples you are receiving should be analyzed using laboratory personnel and methods normally employed for the development of NPDES self-monitoring data. The results of these analyses will be evaluated by EPA in order to measure the analytical ability of permittees.

Thanks again to those permittees and laboratories who participated in our very successful programs in the past years. I trust that you will find participation in this program beneficial.

Requested Action

Participation in this program is mandatory based on the authority of Section 308(a) of the Clean Water Act. The Agency's legal opinion, dated August 11, 1977, reaffirms this authority. The enclosed performance samples are to be analyzed as you routinely analyze samples required by your permit. General instructions on sample preparation and reporting procedures are enclosed. Once data processing is complete, an evaluation of the results of your analyses will be returned to you, along with the "true"/calculated values. A copy of the evaluation will also be sent to the appropriate EPA Regional office and State agency. Since the statistical data base for some of the parameters must be developed after you submit your analyses, it may take several months before you receive the data analysis results.

Initial Instructions

The performance samples you are receiving may contain a number of constituents which you are not required to monitor under the terms and conditions of your NPDES permit. The enclosed package of instructions contains directions for sample preparation and reporting of all the performance sample constituents. However, for the purpose of this program you are only required to analyze and report on those pollutants specified in your NPDES permit, including parameters that you have to monitor infrequently, such as once a year. For example, the demand performance sample can be analyzed for: COD, TOC, and BOD. Of these parameters, your NPDES permit may contain a requirement for the monitoring of BOD. In such a case, you are only required to analyze and report on BOD in the demand performance sample. You may report parameters not specified in your NPDES permit. These should be keyed as voluntary parameters on the reporting sheets, as only the analyses required by your permit will be used in assessing the validity of your NPDES self-monitoring data.

If all or part of your NPDES self-monitoring analyses are performed on a contract basis by an outside laboratory, please forward the appropriate samples to the laboratory and inform them that performance samples are to be analyzed in accordance with the instruction packages. If both your in-house laboratory and a contract laboratory are required to perform analyses on the same sample, your in-house laboratory is to prepare the sample according to the directions, and then split the sample between laboratories. (Please note that the suspended solids (residue) sample is not suitable for sample splitting. If more than one laboratory must analyze the residue sample, request another sample from the Bionetics Corporation and explain your need.) Example:

> The demand sample is to be analyzed for BOD by the permittees' in-house laboratory, and TOC by a contract laboratory. The in-house laboratory will prepare the sample, and take an aliquot for the BOD determination. The remainder of the sample will be properly preserved and sent to the contract laboratory in the same manner (adhering to holding time requirements, etc.) as all other NPDES samples.

If this type of sample splitting is required, or if more than one laboratory is involved for any other reason, all data are to be submitted to the permittee for posting on the standard reporting form. However, do not submit more than one value for each parameter as only one value can be officially evaluated.

In some instances, your contract laboratory may receive additional performance samples of the same type from other NPDES clients using their services. If multiple sample sets are received by your contract laboratory and they bring it to your attention, you may refer them to the "Multiple Permit Option" for the appropriate procedures. In those cases where a contract laboratory exercises the Multiple Permit Option, each permittee involved may be eligible for a cost reduction based on the total number of permittees submitting samples. The procedures for a central municipal/industrial laboratory are contained in the same paragraph.

Reporting

The analyses are to be performed and the data reported within 30 calendar days after your receipt of the samples, but no later than the date printed at the bottom of "Instructions to the Permittee," page three. All permittees should be familiar with 40 CFR §122.22 relating to accuracy and completeness of information, and should carefully read the Certification Statement prior to signing the form and mailing it and the data to EPA's contractor as specified below. The permittee is to follow the "General Instructions for Reporting Results", sign the certification statement, and return the original and one copy of the report form. Retain a second copy of the form for your records. Please be sure to fill in all the information boxes on the report forms, giving special attention to NDPES PERMIT NUMBER, the METHOD CODE (MC), and the PERMITTEE NAME as desired for the reporting heading. Note that the PERMIT NUMBER is repeated on each page.

Your results, certified on the required form, are to be received no later than the date printed at the bottom of "Instructions to the Permittee," page three by:

Chester D. Scheibel
The Bionetics Corporation
16 Triangle Park Drive
Cincinnati, Ohio 45246

If you have any questions, please contact your State Discharge Monitoring Report Quality Assurance (DMR QA) Coordinator whose name, address, and telephone number are found on the enclosed list. (Please reference your NPDES permit number in all correspondence.) The Region and/or State will play an important role in reviewing your results on the performance evaluation samples and in providing any appropriate follow-up action or guidance.

Thank you for your cooperation and participation in this national program to improve the quality of NPDES self-monitoring data.

Sincerely yours,

James R. Elder

James R. Elder, Director
Office of Water Enforcement and Permits

Enclosure

DMR QA STATE COORDINATORS

REGION I

Connecticut

Earle Thompson (Industrial)
Chief, Laboratory Standards
State Division of Laboratories
Dept of Health; PO Box 1689
10 Clinton Street
Hartford, CT 06101
(203) 566-3896

Dr G Gustav Schlessinger (Municipal)
Senior Environmental Chemist
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2409

Charles Fredette
QA Coordinator
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2588

Maine

James Tibbets
Bureau of Water Quality Control
Dept of Environmental Protection
State House
Augusta, ME 04333
(207) 289-3355

Massachusetts

Judy Perry
Div of Water Pollution Control
Dept of Environmental Quality Engineering
1 Winter Street
Boston, MA 02108
(617) 292-5500

New Hampshire

Lynn Woodard (Industrial)
NH Water Supply & Plltn Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3325

George C Neill (Municipal)
NH Water Supply & Plltn Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3325

William Rice
NH Water Supply & Plltn Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3426

Rhode Island

Ray Aldrich
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Christopher Campbell
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Vermont

Kathryn Enright
State Water Resources Division
Agency of Envir Conservation
State Office Building
6 Baldwin Street
Montpelier, VT 05602
(802) 828-2761

REGION II*

New Jersey — New York

Puerto Rico — Virgin Islands

Louis Bevilacqua (Reg Coord)
US EPA/ESD — MM
Edison, NJ 08837
(201) 321-6730

REGION III

Delaware

Joe Kilby
Dept of Natural Resources & Environmental Control
PO Box 1401
89 Kings Highway
Dover, DE 19903
(302) 736-5730

Maryland

Melvin Knott
Office of Environmental Programs
Division of Industrial Waste
O'Connor Building 2-A-2
201 West Preston Street
Baltimore, MD 21201
(301) 383-5670

Jeff Rein
Division of Sewerage
Office of Environmental Programs
201 West Preston Street
Baltimore, MD 21201
(301) 383-6696

Pennsylvania

Kenneth A. Walizer
Compliance & Monitoring Section
Division of Permits & Compliance
Dept of Env Resources
Fulton Bank Bldg, 12th Fl
3rd & Locust Sts
Harrisburg, PA 17120
(717) 787-8184

Virginia

Charles Banks
Office of Water Res Mgmt ,
Technical Services
VA State Water Control Board
PO Box 11143
Richmond, VA 23230
(804) 257-1021

West Virginia

Don Caldwell
QA Officer
Dept of Natural Resources
1201 Greenbriar St
Charleston, WV 25305
(304) 348-2837

District of Columbia

William Ruby
Environmental Control Division
Dept of Consumer & Reg Affairs
5010 Overlook Avenue
Washington, DC 20032
(202) 767-7370

REGION IV

Alabama

E John Williford
AL Dept of Environmental Mgmt
1751 Federal Drive
Montgomery, AL 36130
(205) 271-7933

Florida

Carlos Boueres
FL Dept of Env Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301
(904) 487-0505

Peter T McGarry
US EPA
Florida Compliance
345 Courtland St
Atlanta, GA 30365
(404) 881-7428

Georgia

Jack C Dozier
GA Env Protection Div
270 Washington Street, SW
Atlanta, GA 30334
(404) 656-6593

Kentucky

Allen Robison
KY Bureau of Env Protection
18 Reilly Rd, Ft Boone Plaza
Frankfort, KY 40601
(502) 564-2150

Mississippi

Phillip Bass
MS Bureau of Pollution Control
121 Turn Powe Plaza
Pearl, MS 39208
(601) 354-6053

North Carolina

Bob DeWeese
NC Div of Env Management
PO Box 27687
Raleigh, NC 27611
(919) 733-5083

South Carolina

Jerry Watson
SC Dept of Health & Env Control
2600 Bull Street, SIMS Building
Columbia, SC 29201
(803) 758-4963

Tennessee

Bill Duffel
TN Division of Water Quality
150 Ninth Avenue, North
Nashville, TN 37203
(615) 741-7883

REGION V

Illinois

Roger Cruse
Div of Water Pollution Control
Illinois EPA
2200 Churchill Road
Springfield, IL 62706
(217) 782-9720

Indiana*

Kaushal Khanna (Reg Coord)
US EPA
230 South Dearborn
Chicago, IL 60604
(312) 886-6713

Michigan

Frank Baldwin
MI Dept of Natural Resources
PO Box 30028
Lansing, MI 48909
(517) 373-4624

Minnesota

John M Davenport
MN Pollution Control Agency
520 Lafayette Rd
St Paul, MN 55155
(612) 296-7225

Ohio

Tutu Rosanwo
Ohio EPA
1030 King Avenue
Columbus, OH 43212
(614) 294-5841

Wisconsin

Ron Arneson
WI Dept of Natural Resources
PO Box 7921
Madison, WI 53707
(608) 267-7633

Tom Mugan
WI Dept of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711
(608) 275-3282

Paul Strom
WI Dept of Natural Resources
Box 12436
Milwaukee, WI 53212
(414) 562-9676

*No State Coordinator, Only Regional

DMR QA STATE COORDINATORS

Linda Vogen
WI Dept of Natural Resources
Box 10448
Green Bay, WI 54307
(414) 497-6035

Vaness Eigenbrodt
WI Dept of Natural Resources
Box 4001
Eau Claire, WI 54702
(715) 839-3738

Tom Blake
WI Dept of Natural Resources
Box 818
Rhinelander, WI 54501
(715) 362-7616

Dale Hanson
WI Dept of Natural Resources
Box 397
Cumberland, WI 54829
(715) 822-3590

REGION VI

Arkansas

Dick Cassat
Technical Services
AR Dept of Poll Cont & Ecology
8001 National Drive
Little Rock, AR 72209
(501) 562-7444

Louisiana

Tom Bradley
LA Dept of Env Qlty
Water Pollution Control Div
3945 N. I-10 Service Road
Metairie, LA 70002
(504) 838-5365

New Mexico

Alex Buelisi
Environmental Improvement Div
Surface Water Quality Bureau
Surface Water Section
PO Box 968
Santa Fe, NM 87504-0968
(505) 827-2800

Oklahoma

Laura Cook (Industrial)
OK Water Resources Board
PO Box 53585
Oklahoma City, OK 73152
(405) 271-2541

Joe Brown (Municipal)
OK State Dept of Health
PO Box 53551
Oklahoma City, OK 73152
(405) 271-5240

Texas

Ernest Heyer
Texas Water Commission
Field Operation Division
PO Box 13087
Capitol Station
Austin, TX 78711
(512) 463-7756

REGION VII

Iowa

Charles Furry
Dept of Environmental Quality
Henry A Wallace Bldg
900 E Grand
Des Moines, IA 50319
(515) 281-8911

Kansas

Robert E. Nichols
Kansas Dept of Health & Env
Laboratory Services & Research
Forbes Building # 740
Topeka, KS 66620
(913) 862-9360

Missouri

Scott Tackatt
Div of Environmental Quality
Dept of Natural Resources
2010 Missouri Blvd
Jefferson City, MO 65101
(314) 751-3241

Nebraska

Jay Ringenberg
Dept of Env Water Pollution Con
State House Station
Lincoln, NE 68509
(402) 471-2186

REGION VIII

Colorado

Ron Schuyler
Permits & Enforcement
Water Quality Control Div
Colorado Dept of Health
4210 East 11th Avenue
Denver, CO 80220
(303) 320-8333

Montana

Mike Pasichnyk
MT Dept of Health & Env Science
Water Quality Bureau
Cogswell Bldg Room 8206
Helena, MT 59620
(406) 444-2406

North Dakota

Randy Thorson
Environmental Engineer
Water Supply & Poll Cntrl Div
North Dakota Dept of Health
Missouri Office Building
1200 Missouri Avenue
Bismarck, ND 58505
(701) 224-4606

South Dakota, Utah*

Dr. J. J. Hillman (Technical)
Regional Coordinator
US EPA 8-ES
Box 25366
Denver Federal Center
Denver, CO 80225
(303) 236-5065
FTS 776-5065

Carol Campbell (Permits)
Regional Coordinator
US EPA 8WM-C
1 Denver Place, Suite 1300
Denver, CO 80202
(303) 293-1627
FTS 564-1627

Wyoming

John F Wagner
Tech Support Supervisor
Water Quality Division
Wyoming Dept of Env Quality
Herschler Bldg - 4th Floor
Cheyenne, WY 82002
(307) 777-7781

REGION IX

Arizona

Grace Mossman
Bureau of Laboratory Services
1520 West Adams Street
Phoenix, AZ 85007
(602) 255-1188

California

Phillip Zentner
State Water Resources Control Bd
PO Box 100
Sacramento, CA 95801
(916) 324-1255

Guam

Kenneth Morphew
Guam EPA
PO Box 2999
Agana, Guam 96910
646-8863

Hawaii

Laura Fok
Laboratories Branch
Department of Health
PO Box 3378
Honolulu, HI 96801
(808) 548-7400

Nevada

Harry Van Drielen
Div of Environmental Protection
Department of Health
201 South Fall Street
Carson City, NV 89701
(702) 885-4670

REGION X

Alaska, Idaho*

Florence Carroll (Reg Coord)
US EPA
1200 Sixth Street
Seattle, WA 98101
(206) 442-2723

Oregon

Kent Ashbaker
Dept of Env Quality
PO Box 1760
Portland, OR 97207
(503) 229-5395

Washington

Merley McCall
Dept of Ecology
Southwest Reg Office
7272 Clearwater Lane
Olympia, WA 98504
(206) 753-2353 or 2824

*No State Coordinator, Only Regional

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

INSTRUCTIONS TO THE PERMITTEE

Enclosed is a set of ten (10) DMR-QA Laboratory Performance Evaluation (P.E.) Samples.

Please read and follow the instructions below, since some have been modified:

- Locate the report form attached at the back of these instructions.
- Add your NPDES permit number where requested in the blocks provided at the top of both pages of the report form. If you have more than one NPDES permit, be very careful to report the permit number shown on the mailing label attached to the first page of the report form. If you have received multiple packages, be sure each permit number is always associated with the proper set of samples and analytical results.

EXAMPLE:

PERMIT NUMBER								
T	X	0	0	2	3	6	5	8

- Enter the permittee facility name in blocks (20-55) on page 1, directly below address label, as desired for a heading on the computer evaluation report we will be returning to you at the conclusion of the study.
- Review the analytes listed on the report form. YOUR LABORATORY MUST ANALYZE FOR ANY OF THESE ANALYTES WHICH ARE LISTED IN YOUR PERMIT. If you choose to have your laboratory do additional analytes, please put an "X" in the "VA" box immediately preceding each voluntary analytes. We will provide you with an evaluation of the laboratory's performance on all reported values, but performance on voluntary analytes will not routinely be used by EPA during any subsequent follow-up, unless there are specific circumstances (i.e., data reflects poor QC overall) which indicate unreliable data.
- Transmit the necessary portions of this package to your laboratory with instructions regarding the analyses you wish conducted.
- After the laboratory has returned their results to you, make sure the report form is properly completed. DO NOT submit more than one value for each analyte. When entering analytical data, each block utilized must contain a number or a decimal. DO NOT use letter and unit designations such as "ND" or "mg/L".

EXAMPLE:

5-Day BOD								
VA	MC		</>	QUANTITY				
	2	1			1	6	.	8

INSTRUCTIONS TO THE PERMITTEE
(Continued)

- If more than one laboratory is routinely involved, please consolidate the data from all laboratories onto one form. Report forms will be evaluated exactly as received and no report forms will be produced, or data transferred, by EPA contractor personnel.

- Review the address label on the Data Report Form. Packages may be delivered by a carrier, other than the U.S. Postal Service, who does not deliver to PO Box numbers. Therefore, if your address label is incorrect or contains a PO Box only, please provide a correct or street address on the Data Report Form, page 1, Current Address Label section. DO NOT delete active PO Boxes from your address since other material during NPDES studies will be sent by regular mail. The PO Box and street address will often have the same zip code, but whenever there is a difference, please report both zip codes on the Data Report Form and indicate which relates to the PO Box.

- MULTIPLE PERMIT OPTION:

The objective of this study is to evaluate the performance of every laboratory analyzing samples for a major-discharger permit. This objective may be achieved by evaluating one result for each of the required analytes analyzed by that laboratory. If more than one laboratory is routinely involved, please consolidate the data from all laboratories onto one report form. DO NOT submit more than one value for each analyte as only one value can be officially evaluated. If a laboratory performs analyses for more than one major-discharger permit and receives multiple sets of samples, only one set of samples need be analyzed for each analyte required in any of the permits. However, a fully completed report form, including all data, must be submitted for each permit number to which we shipped a set of samples. Report forms will be evaluated exactly as received and no report forms will be produced by the EPA contractor personnel.

If the laboratory servicing your permit has exercised the MULTIPLE PERMIT OPTION, some or all of the data on page 2 may relate to a different set of samples than the set shipped with your permit number on the package label. It is critical that the permit number associated with the samples that were actually analyzed be reported in the space provided just before the Permittee Certification Section. It is also critical that any analyte(s) not analyzed under the MULTIPLE PERMIT OPTION be listed separately in the Laboratory Section only. All sample sets are not the same, so if this information is not correctly provided, the data on page 2 may be compared with inappropriate "true"/calculated values, resulting in a very poor performance evaluation for your permit. Please note that in those cases where a contract laboratory exercises the MULTIPLE PERMIT OPTION, each permittee involved may be eligible for a cost reduction based on the total number of permittees submitting samples.

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

INSTRUCTIONS TO THE PERMITTEE
(Continued)

EXAMPLE:

The MULTIPLE PERMIT OPTION was used and the following data resulted from analyzing the samples mailed to ANOTHER NPDES PERMIT NUMBER (specify).

T	X	0	0	2	3	6	5	9
61	62	63	64	65	66	67	68	69

- In particular, be sure to complete the Certification Statement at the bottom of the first page of the report form.
- Make two (2) photo copies of the completed report form.
- Retain one (1) copy for your files and mail the other copy and the original to:

Chester D. Scheibel
THE BIONETICS CORPORATION
16 Triangle Park Drive
Cincinnati, OH 45246

- ALL DATA MUST BE RECEIVED BY BIONETICS ON OR BEFORE APR 27 1987

This Page Left Intentionally Blank

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

INSTRUCTIONS TO THE LABORATORY

The DMR-QA Performance Evaluation Samples must be prepared according to the instructions given for each sample type. Read the appropriate instructions carefully before opening any ampul.

Analyze samples appropriate for the analytes specified by the permittee and use the same methods used for the permittee's routine samples. Please note that the concentrations to be reported (except for pH, which is undiluted) are those for the samples produced after following the dilution instructions. Do not back calculate and report the concentration of the ampul contents.

If you received several sets, be sure each NPDES permit number is always associated with the proper set of samples and analytical results. Different sample sets may contain different concentrations, and the NPDES permit number associated with each set is needed to correlate data with the appropriate "true"/calculated values.

MULTIPLE PERMIT OPTION:

The objective of this study is to evaluate the performance of every laboratory analyzing samples for a major-discharger permit. This objective may be achieved by evaluating one result for each of the required analytes analyzed by that laboratory. If more than one laboratory is routinely involved, please consolidate the data from all laboratories onto one report form. DO NOT submit more than one value for each analyte as only one value can be officially evaluated. If a laboratory performs analyses for more than one major-discharger permit and receives multiple sets of samples, only one set of samples need be analyzed for each analyte required in any of the permits. However, a fully completed report form, including all data, must be submitted for each permit number to which we shipped a set of samples. Report forms will be evaluated exactly as received and no report forms will be produced by the EPA contractor personnel.

If you received a reporting form with the samples, enter the method code and result for each analysis as specified in the General Instructions for Reporting Results, before returning the form to the permittee. When the MULTIPLE PERMIT OPTION is exercised, the NPDES permit number related to the samples actually analyzed must be entered on the first page of the report form for each of the other permits. NOTE: It is critical that any analyte(s) not analyzed under the MULTIPLE PERMIT OPTION be listed separately in the Laboratory Section only.

If you did not receive a report form, return to the permittee results for each analyte, references for your analytical methods and, if the MULTIPLE PERMIT OPTION was exercised, the NPDES permit number related to the sample set actually analyzed.

Unused sample sets can be retained by the laboratory for internal quality control. The samples are stable for at least one year, and a complete list of "true"/calculated values can be obtained from your Regional/State Coordinator after the results of the study have been distributed.

This Page Left Intentionally Blank

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

Instructions for TRACE METALS Analyses

CAUTION: Read Instructions Carefully Before Opening Ampul.

The Trace Metals concentrate is to be prepared for analyses by diluting a measured amount of the concentrate to volume with laboratory-pure water (equivalent to Type II Reagent Water as specified in ANSI/ASTM Standard D 1193-77). Single analyses may now be conducted on the diluted sample for the following analytes: aluminum, arsenic, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, selenium, vanadium, and zinc.

The concentrate was prepared from exact amounts of spectrographically-pure metals or metal compounds and has been preserved by the addition of redistilled nitric acid. The analyst may find that the concentrations of metals in the sample are below the limit of his/her detection in aqueous solution. To determine low levels, a concentration procedure must be employed before analysis. If this sample will be analyzed by atomic absorption, multiple aspirations are acceptable to achieve a single answer, as might be done with routine samples.

Since all constituents are present in soluble form, do not filter this sample.

SAMPLE PREPARATION

To begin, open the ampul by snapping off the top at the narrow part of the neck. Add approximately 900 mL of laboratory-pure water to a 1000 mL volumetric flask. Pipet 1.0 mL of reagent grade nitric acid and 10.0 mL of the concentrate into the flask, make up to volume with laboratory-pure water (distilled/deionized) and mix well. The sample is now ready for analysis.

A blank with laboratory-pure water should be analyzed concurrently for background correction. Standards and the water blank should contain 0.15% reagent grade nitric acid (1.5 mL to 1 liter).

REPORTING RESULTS

Enter the result of each determination and the code for your method of analysis on the attached report form as directed in the General Instructions for Reporting Results. All results must be reported as micrograms per liter (ug/L).

If there are any questions or problems please contact:

Chester D. Scheibel
THE BIONETICS CORPORATION
Phone (513) 771-0453

This Page Left Intentionally Blank

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

Instructions for pH Analysis

CAUTION: Read Instructions Carefully Before Opening Ampul.

The concentrate was prepared by dissolving exact amounts of analytical reagent-grade chemicals in laboratory-pure water and was preserved by autoclaving the sealed ampul. Repeated analyses over a period of weeks have verified that the concentration is correct and that the ampul is stable. However, the sample must be analyzed soon after opening to avoid change in the pH value.

SAMPLE PREPARATION

When you are ready to begin the analysis, open the ampul by snapping the top off at the narrow part of the neck. Transfer ampul contents to a 50 mL or smaller beaker; no dilution is necessary. The sample is now ready for pH analysis.

REPORTING RESULTS

Enter the result of the determination and the code for your method of analysis on the attached report form as directed in the General Instructions for Reporting Results.

If there are any questions or problems please contact:

Chester D. Scheibel
THE BIONETICS CORPORATION
Phone (513) 771-0453

8.24

This Page Left Intentionally Blank

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

Instructions for NON-FILTERABLE RESIDUE (TOTAL SUSPENDED SOLIDS) Analysis

CAUTION: Read Instructions Carefully Before Opening Vial.

Repeated analyses over time have verified that the weights of solids are correct and that the sample is stable. However, the solids must be analyzed immediately after preparation to avoid a possible change in solids-capture-efficiency during subsampling. This sample is not to be split for analysis. If both your in-house and a contract laboratory are to perform residue analysis, you should request another sample.

SAMPLE PREPARATION

The following procedure shall be used for preparation of the sample for Non-Filterable Residue analysis:

1. Measure out 900 mL of laboratory-pure water (equivalent to Type II Reagent Water as specified in ANSI/ASTM Standard D 1193-77) (solids-free) in a 1000 mL graduated cylinder.

2. Remove the rubber seal from the vial containing the solids, being careful not to lose particles clinging to the rubber seal.

3. Pour the contents of the vial into a one-liter volumetric flask through a glass funnel. Use the laboratory-pure water from the graduated cylinder to flush the vial and rubber seal, washing solids thoroughly through the glass funnel and into the flask. Rinse the glass funnel with the remainder of the laboratory-pure water in the graduated cylinder. Remove the glass funnel, dilute to volume, and invert flask ten (10) times. Let stand ten (10) minutes and invert flask again ten (10) times. This represents the sample ready for analysis.

4. Immediately and rapidly measure a 500 mL subsample volume into a graduated cylinder and filter.

REPORTING RESULTS

Enter the results and the code for your method of analysis on the attached report form as directed in the General Instructions for Reporting Results. All results should be reported as milligrams per liter (mg/L) based on the original one-liter volume.

0.0127

If there are any questions or problems please contact:

Chester D. Scheibel
THE BIONETICS CORPORATION
Phone (513) 771-0453

This Page Left Intentionally Blank

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

Instructions for OIL AND GREASE Analysis

CAUTION: Read Instructions Carefully Before Opening Ampul.

The concentration and stability of the Oil and Grease ampul has been thoroughly checked and verified by analyses over a period of months. However, the sample must be analyzed soon after the ampul is opened to avoid change in concentration.

An interferrent was introduced to necessitate the extraction step. Do Not Skip The Extraction Procedure! Analyze by EPA gravimetric method only.

SAMPLE PREPARATION

To begin, shake the ampul thoroughly and open by snapping the top off at the narrow part of the neck. Pipet exactly 1.0 mL of the concentrate into a two-liter separatory funnel containing 994 mL of laboratory-pure water (distilled/deionized) (equivalent to Type II Reagent Water as specified in ANSI/ASTM Standard D 1193-77), and 5.0 mL of 1:1 hydrochloric acid and mix well. The sample is now ready for analysis.

REPORTING RESULTS

Enter the result and the code for your method of analysis on the attached report form as directed in the General Instructions for Reporting Results. All results should be reported as milligrams per liter (mg/L).

If there are any questions or problems please contact:

Chester D. Scheibel
THE BIONETICS CORPORATION
Phone (513) 771-0453

OIL & GREASE UNKNOWN RUN 4-2-87

X = 22.3 mg/l SHORES

This Page Left Intentionally Blank

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

Instructions for NUTRIENT Analyses

CAUTION: Read Instructions Carefully Before Opening Ampuls.

Concentrations for two separate samples are enclosed. Each sample is prepared by diluting a measured amount of the concentrate to volume with laboratory-pure water (equivalent to Type II Reagent Water as specified in ANSI/ASTM standard D 1193-77). Nutrient #1 contains inorganic nitrogen and phosphorus and may be analyzed for ammonia as N(2.0-15.0 mg/L), nitrate as N(0.5-10.0 mg/L), and orthophosphate as P(0.1-5.0 mg/L). Nutrient #2 contains organically-bound forms and may be analyzed for total Kjeldahl nitrogen as N (5-25 mg/L) and total phosphorus as P(0.8-10.0 mg/L).

The concentrates were prepared by dissolving known amounts of analytical reagent-grade chemicals in laboratory-pure water and were preserved by autoclaving the sealed ampul. Repeated analyses over a period of weeks have verified that the concentrations are correct and that the ampul is stable. However, the preservative treatment is not effective after the ampuls have been opened. Therefore, the samples must be analyzed as soon as possible after opening and diluting.

Since all constituents are present in soluble form, do not filter these samples.

SAMPLE PREPARATION

To begin, open the Nutrient #1 ampul by snapping the top off at the narrow part of the neck. Dilute a 10.0 mL aliquot of Nutrient #1 Concentrate to volume in a 1000 mL volumetric flask with ammonia-free laboratory-pure water (distilled/deionized) and mix well. Sample 1 is now ready to be analyzed for ammonia, nitrate and orthophosphate. Prepare sample 2 by diluting 10.0 mL of Nutrient #2 Concentrate to volume in a 1000 mL volumetric flask with ammonia-free laboratory-pure water (distilled/deionized) and mix well. Sample 2 is now ready to be analyzed for total Kjeldahl nitrogen and total phosphorus. 0.875

A blank with laboratory-pure water should be analyzed concurrently for background correction.

REPORTING RESULTS

Enter the results of each determination and the code for your method of analysis on the attached report form as directed in the General Instructions for Reporting Results. All results must be reported as milligrams per liter (mg/L) of "N" or "P".

If there are any questions or problems please contact:

Chester D. Scheibel
THE BIONETICS CORPORATION
Phone (513) 771-0453

"N" = 4.1 mg/L - analyzed 4-1-87 C.S.

This Page Left Intentionally Blank

IN
3-31-87

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

Instructions for DEMAND SAMPLE Analyses

CAUTION: Read Instructions Carefully Before Opening Ampul.

The sample is prepared by diluting a measured amount of the concentrate to volume with organic-free, laboratory-pure water (equivalent to Type II Reagent Water as specified in ANSI/ASTM Standard D 1193-77). Analyses may be conducted on the diluted sample for any of the following: biochemical oxygen demand (BOD), chemical oxygen demand (COD), and total organic carbon (TOC) in the sample. When diluted according to instructions, the concentrations of these demand analytes will be less than 150 milligrams per liter.

The concentrate was prepared by dissolving exact amounts of analytical reagent-grade chemicals in laboratory-pure water and was preserved by autoclaving the sealed ampul. Repeated analyses over a period of weeks have verified that the concentrations are correct and that the ampul is stable. However, the concentrate must be diluted and analyzed soon after the ampul is opened to avoid degradation of compounds.

Since all constituents are present in soluble form, do not filter this sample.

SAMPLE PREPARATION

To begin, open the ampul by snapping the top off at the narrow part of the neck and diluting the concentrate as follows:

Biochemical Oxygen Demand - Use a volumetric pipet to transfer 10.0 mL of the Demand Concentrate to a 500 mL volumetric flask and bring up to volume with laboratory-pure water (distilled/deionized) and mix well. This constitutes the sample now ready for analysis. CAUTION: For proper oxygen depletion, the sample should be tested in a dilution series such as 2.5, 7.5, and 15%. Take care to avoid entrainment of air. Use a natural surface water or domestic sewage with a good biological population as seed.
Be sure to determine the oxygen depletion of a dilution series of the seeding material so that the proper seed correction can be made (See STANDARD METHODS, 14th edition, Page 547, Seed Correction and Dilution Water Control).

Chemical Oxygen Demand and Total Organic Carbon - Use a volumetric pipet to transfer 10.0 mL of the Demand Concentrate to a 500 mL volumetric flask and bring up to volume with laboratory-pure water (distilled/deionized). This constitutes the sample now ready for analyses.

REPORTING RESULTS

Enter the results of each determination and the code for your method of analysis on the attached report form as directed in the General Instructions for Reporting Results. Report all values as milligrams per liter(mg/L).

If there are any questions or problems please contact:

Chester D. Scheibel
THE BIONETICS CORPORATION
Phone (513) 771-0453

BOD =
107

4/5/87 C.S. 17

This Page Left Intentionally Blank

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

Instructions for TOTAL CYANIDE Analyses

CAUTION: Read Instructions Carefully Before Opening Ampul.

The Cyanide sample is to be prepared by diluting a measured amount of concentrate to volume with laboratory-pure water (equivalent to Type II Reagent Water as specified in ANSI/ASTM Standard D 1193-77). When diluted according to instructions, the Cyanide concentration will be less the 1.0 milligram per liter (mg/L).

The concentrate was prepared by dissolving known amounts of analytical reagent-grade chemicals in laboratory-pure water. Repeated analyses over a period of weeks have verified that the concentration is correct and that the ampul is stable. However, the sample should be analyzed as soon as possible after opening and diluting. Precautions should be taken to prevent long exposure to light.

Since all constituents are present in soluble form, do not filter this sample.

SAMPLE PREPARATION

To begin the analyses, add approximately 900 mL of laboratory-pure water and 2.0 mL of 10N NaOH to a 1000 mL volumetric flask. Carefully open the ampul by snapping the top off at the narrow part of the neck. Using a volumetric pipet, transfer 10.0 mL of the Cyanide concentrate into the flask, make up to volume with laboratory -pure water (distilled/deionized) and mix well. This constitutes the sample now ready for analysis.

A blank with laboratory-pure water should be analyzed concurrently for background correction.

REPORTING RESULTS

Enter the result and the code for your method of analysis on the attached report form as directed in the General Instructions for Reporting Results. All results are to be reported as milligrams per liter (mg/L).

If there are any questions or problems please contact:

Chester D. Scheibel
THE BIONETICS CORPORATION
Phone (513) 771-0453

This Page Left Intentionally Blank

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

Instructions for TOTAL PHENOLICS (Phenols) Analyses
(4AAP Method)

CAUTION: Read Instructions Carefully Before Opening Ampul.

The sample is to be prepared by diluting a measured amount of the concentrate to volume with laboratory-pure water (equivalent to type II Reagent Water as specified in ANSI/ASTM Standard D 1193-77). When diluted according to instructions, the concentration of Total Phenolics (Phenols) will be less than 1.0 milligram per liter (mg/L).

The concentrate was prepared by dissolving known amounts of analytical reagent-grade chemicals in laboratory-pure water and was preserved by autoclaving the sealed ampul. Repeated analyses over a period of weeks have verified that the concentration is correct and that the ampul is stable. However, the preservative treatment is not effective after the ampul has been opened. Therefore, the sample must be analyzed as soon as possible after opening and diluting.

Since all constituents are present in soluble form, do not filter this sample.

SAMPLE PREPARATION

To begin the analyses, open the ampul by snapping the top off at the narrow part of the neck. Pipet a 10.0 mL aliquot into a 1000 mL volumetric flask, make up to volume with laboratory-pure water (distilled/deionized) and mix well. This constitutes the sample now ready for analysis using the 4AAP method.

A blank with laboratory-pure water should be analyzed concurrently for background correction.

REPORTING RESULTS

Enter the results and the code for your method of analysis on the attached report form as directed in the General Instructions for Reporting Results. All results must be reported as milligrams per liter (mg/L).

If there are any questions or problems please contact:

Chester D. Scheibel
THE BIONETICS CORPORATION
Phone (513) 771-0453

This Page Left Intentionally Blank

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

Instructions for TOTAL RESIDUAL CHLORINE Analyses

CAUTION: Read Instructions Carefully Before Opening Ampul

The sample is to be prepared by diluting a measured amount of the concentrate to volume with laboratory-pure water (equivalent to Type II Reagent Water as specified in ANSI/ASTM Standard D 1193-77). When diluted according to instructions, the concentration of Total Residual Chlorine will be less than 5 milligrams per liter. 0.4

The concentration and stability of the Total Residual Chlorine ampul has been thoroughly checked and verified by analyses over a period of months. However, the sample must be analyzed immediately after opening and diluting to volume. CAUTION: DO NOT EXPOSE AMPUL AND SAMPLE TO LIGHT.

SAMPLE PREPARATION

Cool ampul to 20°C. Add 900 mL of laboratory-pure water (distilled/deionized) to a 1000 mL volumetric flask. Open the ampul by snapping the top off at the narrow part of the neck. Pipet 5.0 mL of the concentrate into the flask, make up to volume with laboratory-pure water and mix well. This constitutes the sample now ready for analysis.

A blank with laboratory-pure water should be analyzed concurrently for background correction.

REPORTING RESULTS

Enter the results and the code for your method of analysis on the attached report form as directed in the General Instructions for Reporting Results. All results should be reported as milligrams per liter (mg/L).

If there are any questions or problems please contact:

Chester D. Scheibel
THE BIONETICS CORPORATION
Phone (513) 771-0453

This Page Left Intentionally Blank

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

GENERAL INSTRUCTIONS FOR REPORTING RESULTS

Report Form Page 1

1. Provide the requested information.

Report Form Page 2

1. Put an "X" in the box marked "VA" for each voluntary analyte. A voluntary analyte is one which is not listed in your permit, but for which you have reported data. EPA will provide an unofficial evaluation for such data.

2. Report the two-digit method code (MC) associated with your analytical method on the attached list. PLEASE NOTE, THIS IS NOT AN OFFICIAL LIST OF THE EPA APPROVED METHODS; it is merely intended as an aid for conveniently reporting the analytical method that was actually used.

3. When entering data in the remaining blocks:

   (a) Type or print clearly.

   (b) Use specified units.

   (c) Do not report less than (<) or greater than (>) values unless absolutely necessary. When unavoidable, enter the appropriate symbol in the designated block.

   (d) Since it is our policy to calculate all performance evaluation limits to three significant figures, we recommend reporting all analytical results to three (3) significant figures as well.

   (e) For any value that is not whole units, use one of the five blocks to report the decimal point in its proper position.

   (f) Enter your data into the RIGHT MOST of the five blocks available.

   (g) DO NOT enter letters such as "ND" in place of a value. If you did not detect an analyte, report your detection limit in the five data blocks and put a less than symbol (<) in the preceding block designated for such symbols.

EXAMPLE:

pH Analysis								
VA	MC		</>	QUANTITY				
	2	1			7	.	4	0

Additional Pages

Please make any desired notes or comments on a separate sheet attached to the Report Forms. For example, whenever a "99" method code is used, describe the method in detail on this sheet.

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

GENERAL INSTRUCTIONS FOR REPORTING RESULTS

Analyte	Method Code	Ref.- Method	Description
Trace Metals:			
Aluminum	13	R19 - 200.7	Inductively coupled plasma (ICP)
	14	R24 - 202.1	Atomic Absorption (AA); Direct aspiration unless otherwise noted.
	15	R24 - 202.2	AA; Furnace
	23	R53 - 303C	AA
	24	R53 - 304	AA; Furnace
	25	R53 - 306B	Eriochrome Cyanine R
	42	R52 - I-3051-84	AA
	99	Other	
Arsenic	14	R19 - 200.7	ICP
	15	R24 - 206.2	AA; Furnace
	16	R24 - 206.3	AA; Gaseous hydride
	17	R24 - 206.4	Silver Diethyldithiocarbamate
	26	R53 - 303E	AA; Gaseous hydride
	27	R53 - 304	AA; Furnace
	28	R53 - 307B	Silver Diethyldithiocarbamate
	31	R25 - D2972-84A	Silver Diethyldithiocarbamate
	32	R25 - D2972-84B	AA; Gaseous hydride
	43	R52 - I-3062-84	AA; Gaseous hydride
	44	R52 - I-3060-84	AA; Silver Diethyldithiocarbamate
	99	Other	
Beryllium	13	R19 - 200.7	ICP
	14	R24 - 210.1	AA
	15	R24 - 210.2	AA; Furnace
	23	R53 - 303C	AA
	24	R53 - 304	AA; Furnace
	25	R53 - 309B	Aluminon
	31	R25 - D3645-84A	AA
	42	R52 - I-3095-84	AA
	99	Other	

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

GENERAL INSTRUCTIONS FOR REPORTING RESULTS
(Continued)

Analyte	Method Code	Ref.- Method	Description
Cadmium	13	R19 - 200.7	ICP
	14	R24 - 213.1	AA
	15	R24 - 213.2	AA; Furnace
	26	R53 - 303A	AA
	27	R53 - 303B	AA; Chelation-extraction
	28	R53 - 304	AA; Furnace
	29	R53 - 310B	Dithizone
	32	R25 - D3557-84A	AA
	33	R25 - D3557-84B	AA; Chelation-extraction
	34	R25 - D3557-84C	Voltametry
	42	R52 - I-3135-84	AA
	43	R52 - I-3136-84	AA
	52	R8 - p. 37	AA; Direct or Furnace
	53	R34 - 33.089	AA
	99	Other	
Chromium	13	R19 - 200.7	ICP
	14	R24 - 218.1	AA
	15	R24 - 218.2	AA; Furnace
	16	R24 - 218.3	AA; Chelation-extraction
	27	R53 - 303A	AA
	28	R53 - 303B	AA; Chelation-extraction
	29	R53 - 304	AA; Furnace
	70	R53 - 312B	Diphenylcarbazide
	33	R25 - D1687-84D	AA
	34	R25 - D1687-84A	Diphenylcarbazide
	43	R52 - I-3236-84	AA
	52	R34 - 33.089	AA
	99	Other	
Cobalt	13	R19 - 200.7	ICP
	14	R24 - 219.1	AA
	15	R24 - 219.2	AA; Furnace
	22	R53 - 303A	AA
	23	R53 - 303B	AA; Chelation-extraction
	24	R53 - 304	AA; Furnace
	32	R25 - D3558-84A	AA
	33	R25 - D3558-84B	AA; Chelation-extraction
	42	R52 - I-3240-84	AA
	43	R52 - I-3239-84	AA
	51	R8 - p. 37	AA
	99	Other	

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

GENERAL INSTRUCTIONS FOR REPORTING RESULTS
(Continued)

Analyte	Method Code	Ref.- Method	Description
Copper	13	R19 - 200.7	ICP
	14	R24 - 220.1	AA
	15	R24 - 220.2	AA; Furnace
	23	R53 - 303A	AA
	24	R53 - 303B	AA; Chelation-extraction
	25	R53 - 304	AA; Furnace
	26	R53 - 313B	Neocuproine
	33	R25 - D1688-84D	AA
	34	R25 - D1688-84E	AA; Chelation-extraction
	35	R25 - D1688-84A	Neocuproine
	42	R52 - I-3271-84	AA
	43	R52 - I-3270-84	AA
	52	R8 - p. 37	AA
	53	R34 - 33.089	AA
	54	R41 - 8506	Bicinchoninate
	99	Other	
Iron	13	R19 - 200.7	ICP
	14	R24 - 236.1	AA
	15	R24 - 236.2	AA; Furnace
	23	R53 - 303A	AA
	24	R53 - 303B	AA; Chelation-extraction
	25	R53 - 304	AA; Furnace
	26	R53 - 315B	Phenanthroline
	33	R25 - D1068-84C	AA
	34	R25 - D1068-84D	AA; Chelation-extraction
	35	R25 - D1068-84A	Phenanthroline
	42	R52 - I-3381-84	AA
	52	R34 - 33.089	AA
	53	R44 - 8008	Phenanthroline
	99	Other	
Lead	13	R19 - 200.7	ICP
	14	R24 - 239.1	AA
	15	R24 - 239.2	AA; Furnace
	26	R53 - 303A	AA
	27	R53 - 303B	AA; Chelation-extraction
	28	R53 - 304	AA; Furnace
	29	R53 - 316B	Dithizone
	32	R25 - D3559-85A	AA
	33	R25 - D3559-85B	AA; Chelation-extraction
	34	R25 - D3559-85C	Voltametry
	42	R52 - I-3399-84	AA
	52	R34 - 33.089	AA
	99	Other	

GENERAL INSTRUCTIONS FOR REPORTING RESULTS
(Continued)

Analyte	Method Code	Ref.- Method	Description
Manganese	13	R19 - 200.7	ICP
	14	R24 - 243.1	AA
	15	R24 - 243.2	AA; Furnace
	24	R53 - 303A	AA
	25	R53 - 303B	AA; Chelation-extraction
	26	R53 - 304	AA; Furnace
	27	R53 - 319B	Persulfate
	32	R25 - D858-84B	AA
	33	R25 - D858-84C	AA; Chelation-extraction
	34	R25 - D858-84A	Persulfate
	42	R52 - I-3454-84	AA
	52	R34 - 33.089	AA
	53	R34 - 33.126	Persulfate
	54	R41 - 8034	Periodate (pp. 2-113 and 2-117)
	99	Other	
Mercury	13	R24 - 245.1	Manual Cold Vapor
	14	R24 - 245.2	Automated Cold Vapor
	22	R53 - 303F	Manual Cold Vapor
	32	R25 - D3223-80	Manual Cold Vapor
	42	R52 - I-3462-84	Manual Cold Vapor
	51	R34 - 33.095	Manual Cold Vapor
	99	Other	
Nickel	13	R19 - 200.7	ICP
	14	R24 - 249.1	AA
	15	R24 - 249.2	AA; Furnace
	23	R53 - 303A	AA
	24	R53 - 303B	AA; Chelation-extraction
	25	R53 - 304	AA; Furnace
	26	R53 - 321B	Heptoxime
	32	R25 - D1886-84C	AA
	33	R25 - D1886-84D	AA; Chelation-extraction
	42	R52 - I-3499-84	AA
	99	Other	
Selenium	12	R19 - 200.7	ICP
	13	R24 - 270.2	AA; Furnace
	14	R24 - 270.3	AA; Gaseous hydride
	23	R53 - 304	AA; Furnace
	24	R53 - 303E	AA; Gaseous hydride
	31	R25 - D3859-84A	AA; Gaseous hydride
	42	R52 - I-3667-84	AA; Gaseous hydride
	99	Other	

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

GENERAL INSTRUCTIONS FOR REPORTING RESULTS
(Continued)

Analyte	Method Code	Ref.- Method	Description
Vanadium	13	R19 - 200.7	ICP
	14	R24 - 286.1	AA
	15	R24 - 286.2	AA; Furnace
	23	R53 - 303C	AA
	24	R53 - 304	AA; Furnace
	25	R53 - 327B	Gallic Acid
	32	R25 - D3373-84A	Gallic Acid
	99	Other	
Zinc	13	R19 - 200.7	ICP
	14	R24 - 289.1	AA
	15	R24 - 289.2	AA; Furnace
	23	R53 - 303A	AA
	24	R53 - 303B	AA; Chelation-extraction
	25	R53 - 304	AA; Furnace
	26	R53 - 328C	Dithizone
	32	R25 - D1691-84D	AA; Chelation-extraction
	33	R25 - D1691-84C	AA
	42	R52 - I-3900-84	AA
	52	R8 - p. 37	AA
	53	R34 - 33.089	AA
	54	R41 - 8009	Zincon (pp. 2-231 and 2-333)
	99	Other	
pH	12	R24 - 150.1	Electrode
	22	R53 - 423	Electrode
	32	R25 - D1293-84A	Electrode
	33	R25 - D1293-84B	Electrode
	42	R52 - I-1586-84	Electrode
	52	R43 - p. 1	Automated Electrode
	53	R34 - 33.006	Electrode
	99	Other	

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

GENERAL INSTRUCTIONS FOR REPORTING RESULTS
(Continued)

Analyte	Method Code	Ref.- Method	Description
Ammonia, as Nitrogen	14	R24 - 350.2	Titration
	15	R24 - 350.3	Electrode
	16	R24 - 350.1	Automated Phenate
	17	R24 - 350.2	Nesslerization
	24	R53 - 417B	Nesslerization
	25	R53 - 417D	Titration
	26	R53 - 417G	Automated Phenate
	27	R53 - 417E	Electrode
	28	R53 - 417F	Electrode
	32	R25 - D1426-79A	Nesslerization
	33	R25 - D1426-79D	Electrode
	34	R25 - D1426-79C	Automated Phenate
	42	R52 - I-3520-84	Nesslerization
	43	R52 - I-4523-84	Automated Phenate
	52	R34 - 33.057	Nesslerization
	53	R40 - 379-75WE	Automated Electrode
	99	Other	
Nitrate, as Nitrogen	15	R24 - 352.1	Brucine Sulfate
	16	R24 - 353.1	Automated Hydrazine Reduction
	17	R24 - 353.2	Automated Cadmium Reduction
	18	R24 - 353.3	Cadmium Reduction
	27	R3 - 419D	Brucine Sulfate
	29	R53 - 418C	Cadmium Reduction
	70	R53 - 418F	Automated Cadmium Reduction
	32	R25 - D992-71	Brucine Sulfate
	33	R25 - D3867-85A	Automated Cadmium Reduction
	34	R25 - D3867-85B	Cadmium Reduction
	42	R52 - I-4545-84	Automated Cadmium Reduction
	52	R8 - p. 28	Brucine Sulfate
	53	R34 - 33.063	Brucine Sulfate
	99	Other	
Orthophosphate, as P	13	R24 - 365.1	Automated Ascorbic Acid Reduction
	14	R24 - 365.2	Manual Ascorbic Acid Redution
	15	R24 - 365.3	Manual Two Reagent
	23	R53 - 424G	Automated Ascorbic Acid Reduction
	24	R53 - 424F	Manual Ascorbic Acid Reduction
	32	R25 - D515-82A	Manual Ascorbic Acid Reduction
	42	R52 - I-4601-84	Automated Ascorbic Acid Reduction
	52	R34 - 33.116	Automated Ascorbic Acid Reduction
	53	R34 - 33.111	Manual Ascorbic Acid Reduction
	99	Other	

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

GENERAL INSTRUCTIONS FOR REPORTING RESULTS
(Continued)

Analyte	Method Code	Ref.- Method	Description
Kjeldahl Nitrogen	14	R24 - 351.3	Nesslerization
	15	R24 - 351.4	Potentiometric
	16	R24 - 351.2	Semi-automated Block Digestion
	17	R24 - 351.3	Titration
	18	R24 - 351.3	Electrode
	19	R24 - 351.1	Automated Phenate
	23	R53 - 420A + 417D	Titration
	24	R53 - 420A + 417B	Nesslerization
	25	R53 - 420A + 417E	Electrode
	26	R53 - 420B + 417D	Titration
	27	R53 - 420B + 417B	Nesslerization
	28	R53 - 420B + 417E	Electrode
	29	R53 - 420A + 417F	Electrode
	70	R53 - 420B + 417F	Electrode
	31	R25 - D3590- 84A	Titration
	32	R25 - D3590-84A	Nesslerization
	33	R25 - D3590-84A	Potentiometric
	42	R26 - I-4551-78	Automated Phenate
	43	R52 - I-4552-84	Semi-Automated Block Digestion
	52	R34 - 33.051	Titration
	99	Other	
Total Phosphorus, as P	13	R24 - 365.2	Manual Ascorbic Acid Reduction
	14	R24 - 365.3	Man. Ascorbic Acid Red. (2 reagents)
	15	R24 - 365.1	Automated Ascorbic Acid Reduction
	16	R24 - 365.4	Semi-automated Block Digestion
	24	R53 - 424F	Manual Ascorbic Acid Reduction
	25	R53 - 424G	Automated Ascorbic Acid Reduction
	32	R25 - D515-82A	Manual Ascorbic Acid Reduction
	42	R52 - I-4600-84	Automated Ascorbic Acid Reduction
	52	R34 - 33.116	Manual or Auto Ascorbic Acid Red.
	53	R34 - 33.111	Manual Ascorbic Acid Reduction
	99	Other	

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

GENERAL INSTRUCTIONS FOR REPORTING RESULTS
(Continued)

Analyte	Method Code	Ref.- Method	Description
Demands:			
Chemical Oxygen Demand (COD)	12	R24 - 410.1	Dichromate Reflux
	13	R24 - 410.2	Dichromate Reflux
	14	R24 - 410.3	Dichromate Reflux
	15	R24 - 410.4	Spectrophotometric
	22	R53 - 508A	Dichromate Reflux
	32	R25 - D1252-83	Dichromate Reflux
	42	R52 - I-3560-84	Dichromate Reflux
	43	R52 - I-3562-84	Dichromate Reflux
	44	R52 - I-3561-84	Spectrophotometric
	52	R8 - p. 17	Dichromate Reflux
	53	R34 - 33.034	Dichromate Reflux
	54	R41 - 8000	Spectrophotometric
	55	R42 - p. 1	Spectrophotometric
	99	Other	
Total Organic Carbon (TOC)	12	R24 - 415.1	Combustion or oxidation
	22	R53 - 505	Combustion or oxidation
	32	R25 - D2579-85A	Combustion or oxidation
	33	R25 - D2579-85B	Combustion or oxidation
	41	R9 - p. 4	Combustion/Infrared
	51	R34 - 33.044	Combustion or oxidation
	99	Other	
Biochemical Oxygen Demand (5 day BOD)	11	R24 - 405.1	Winkler (Azide Modification)
	22	R53 - 507	Winkler (Azide Modification)
	42	R26 - I-1578-78	Winkler (Azide Modification)
	51	R8 - p. 17	Winkler (Azide Modification)
	52	R34 - 33.019	Electrode
	99	Other	
Non-filterable Residue (Total Suspended Solids)	12	R24 - 160.2	Glass fiber 103° to 105°C
	23	R53 - 209C	Glass fiber 103° to 105°C
	41	R52 - I-3765-84	Glass fiber 103° to 105°C
	99	Other	
Oil and Grease	12	R24 - 413.1	Trichlorotrifluoroethane Gravimetric
	22	R53 - 503A	Trichlorotrifluoroethane Gravimetric
	99	Other	

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

GENERAL INSTRUCTIONS FOR REPORTING RESULTS
(Continued)

Analyte	Method Code	Ref.- Method	Description
Total Cyanide	13	R24 - 335.2	Manual Spectrophotometric
	14	R24 - 335.3	Automated Spectrophotometric
	23	R53 - 412C	Titrimetric
	24	R53 - 412D	Manual Spectrophotometric
	32	R25 - D2036-82A	Manual Spectrophotometric
	33	R25 - D2036-82A	Automated Spectrophotometric
	42	R52 - I-3300-84	Manual Spectrophotometric
	51	R8 - p. 22	Titration or Colorimetric
	99	Other	
Total Phenolics	11	R24 - 420.1	Manual 4-AAP with distillation
	12	R24 - 420.2	Automated 4-AAP with distillation
	21	R3 - 510A + 510B	Manual 4-AAP with distillation and chloroform extraction
	22	R3 - 510A + 510C	Manual 4-AAP with distillation
	31	R25 - D1783-80A	Manual 4-AAP with distillation and chloroform extraction
	32	R25 - D1783-80B	Manual 4-AAP with distillation
	99	Other	
Total Residual Chlorine	11	R24 - 330.1	Titrimetric - amperometric
	12	R24 - 330.2	Starch end point
	13	R24 - 330.3	Iodometric
	14	R24 - 330.4	DPD-FAS
	15	R24 - 330.5	Spectrophotometric, DPD
	21	R53 - 408A	Iodometric
	22	R53 - 408B	Starch end point
	23	R53 - 408C	Titrimetric - amperometric
	24	R53 - 408D	DPD - FAS
	25	R53 - 408E	Spectrophotometric, DPD
	31	R25 - D1253-76A	Titrimetric - amperometric
	32	R25 - D1253-76B	Iodometric
	51	R49 - p. 1	Electrode
	99	Other	

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

METHOD REFERENCES

R3. "Standard Methods for the Examination of Water and Wastewater." 14th ed., 1976. Available from the American Public Health Association, 1015 18th Street, N.W., Washington, DC 20036.

R8. American National Standards on Photographic Processing Effluents, April 2, 1975. Available from ANSI, 1430 Broadway, New York, NY 10018.

R9. Goerlitz, D. and E. Brown, "Methods for Analysis of Organic Substances in Water," U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Ch. A3, 1972.

R19. "The Inductively Coupled Plasma-Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes." Environmental Protection Agency, EMSL, 26 W. St. Clair Street, Cincinnati, OH 45268. December, 1980.

R24. "Methods of Chemical Analysis of Water and Wastes." EPA Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, March, 1979 (EPA-600/4-79-020). Available from ORD Publications, CERI, EPA, Cincinnati, OH 45268.

R25. Annual Book of ASTM Standards, Volumes 11.01 and 11.02 for Water, American Society for Testing and Materials, 1916 Race Street, Philadelphia PA 19103.

R26. Techniques of Water-Resources Investigation of the U.S. Geological Survey, Chapter A-1, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments," Book 5, 1979, Stock #024-001-03177-9. Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

R34. "Official Methods of Analysis of the Association of Official Analytical Chemists" Methods Manual, 14th ed., 1985.

R40. Ammonia, Automated Electrode Method, Industrial Method Number 379-75WE, dated February 19, 1976, Technicon Auto Analyzer II, Technicon Industrial Systems, Tarrytown, NY 10591.

R41. Hach Handbook of Water Analysis, 1979, Hach Chemical Company, P. O. Box 389, Loveland, CO 80537.

R42. COD Method, Oceanography International Corporation, 512 West Loop, P. O. Box 2980, College Station, TX 77840.

U.S. ENVIRONMENTAL PROTECTION AGENCY

DMR-QA Laboratory Performance Evaluation Study 7

METHOD REFERENCES
(continued)

R43. Hydrogen Ion (pH) Automated Electrode Method, Industrial Method Number 378-75WA, October, 1976, Technicon Auto Analyzer II, Technicon Industrial Systems, Tarrytown, NY 10591.

R44. Iron, 1,10-Phenanthroline Method, Method 8008, 1980, Hach Chemical Company, P. O. Box 389, Loveland, CO 80537

R49. ORION Research Instruction Manual, Residual Chlorine Electrode Model 97-70, 1977, ORION Research, Inc., 840 Memorial Drive, Cambridge, MA 02138.

R52. "Methods for Analysis of Inorganic Substances in Water and Fluvial Sediments," U.S. Department of the Interior, U.S. Geological Survey, Open-File Report 85-495, 1986.

R53. Standard Methods for Examination of Water and Wastewater, 16th ed., 1985. Available from American Public Health Association, 1015 18th Street, N.W., Washington, D.C. 20036.

ASSISTANT CHIEF OF STAFF, FACILITIES
HEADQUARTERS, MARINE CORPS BASE

DATE 4/29/87

Dan
See attached
EPA Ltr.

Assurance Samples.

2. ~~Please initial, or comment, and return all papers to this office.~~

V/R
AGL

3. Your file copy.

"LET'S THINK OF A FEW REASONS
WHY IT CAN BE DONE"

DATE 1/24/85

TO:

BASE MAINT O
PUBLIC WORKS O
COMM-ELECT O
DIR., NAT. RESOURCES & ENV. AFFAIRS

DIR., FAMILY HOUSING
DIR., BACHELOR HOUSING
BASE FIRE CHIEF

ATTN: Tulsa Navy

1. Attached is forwarded for action.

Re: NPDES Quality
Assurance Samples.

N/R

ASSISTANT CHIEF OF STAFF, FACILITIES
HEADQUARTERS, MARINE CORPS BASE

DATE 1/22/87

TO:

BASE MAINT O	DIR, FAMILY HOUSING
PUBLIC WORKS O	DIR, BACHELOR HOUSING
COMM-ELECT O	BASE FIRE CHIEF
DIR., NAT. RESOURCES & ENV. AFFAIRS	

ATTN: Julian / Danny

1. Attached is forwarded for ~~info~~/action.

Re: NPDES Quality Assurance samples.

2. ~~Please initial, or comment, and return all papers to this office.~~

V/R

3. Your file copy.

"LET'S THINK OF A FEW REASONS
WHY IT CAN BE DONE"

MCBCL 5216/21 (REV. 04-85)

1/29/87

Sullivan/Bonney

Re: NPDES Quality Assurance Samples.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 16 1987

OFFICE OF
WATER

Dear NPDES Permit Holder:

The U.S. Environmental Protection Agency (EPA) and States are continuing a quality assurance program on National Pollutant Discharge Elimination System (NPDES) permittees during 1987. I wish to thank those permittees which participated in our program in the past years. The purpose is to evaluate the analytical ability of the laboratories which conduct analyses for NPDES permittees and to help produce reliable, accurate and verifiable self-monitoring data. Your participation in this program is required based on the authority of Section 308(a) of the Clean Water Act.

Approximately thirty to sixty days after receipt of this letter, our contractor will send you a set of performance evaluation samples that contain constituents normally analyzed as required by your NPDES permit. The sample packet also contains specific instructions and data reporting forms. The samples are to be analyzed by the same laboratory personnel using the same analytical methods as you customarily use for your NPDES self-monitoring analyses. The results of your analyses are to be submitted to an EPA contractor where they can be evaluated and returned to you along with the "true"/calculated values. The name and address of the contractor will be provided with the instructions. If the address to which this announcement letter has been sent is incorrect, please provide the correct NPDES permittee address and permit number immediately to the following address:

Chester D. Scheibel
The Bionetics Corporation
16 Triangle Park Drive
Cincinnati, Ohio 45246

If your current address contains only a P.O. Box Number, please also provide Bionetics Corporation with a street address to allow delivery by the United Parcel Service.

EPA and the State will make every effort to keep you informed concerning progress of the 1987 quality assurance program. However, should you have any questions, please contact your State/Regional Quality Assurance Coordinator whose name, address, and telephone number are found on the enclosed list. (Please reference your NPDES permit number in all correspondence.) Your participation in this program is very important, and your cooperation is greatly appreciated.

Sincerely yours,

James R. Elder

James R. Elder, Director
Office of Water Enforcement and Permits

Enclosure

DMR QA STATE COORDINATORS

REGION I

Connecticut

Earle Thompson (Industrial)
Chief, Laboratory Standards
State Division of Laboratories
Dept of Health; PO Box 1689
10 Clinton Street
Hartford, CT 06101
(203) 566-3896

Dr G Gustav Schlessinger
(Municipal)
Senior Environmental Chemist
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2409

Charles Fredette
QA Coordinator
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2588

Maine

James Tibbets
Bureau of Water Quality Control
Dept of Environmental Protection
State House
Augusta, ME 04333
(207) 289-3355

Massachusetts

Judy Perry
Div of Water Pollution Control
Dept of Environmental Quality
Engineering
1 Winter Street
Boston, MA 02108
(617) 292-5500

New Hampshire

Lynn Woodard (Industrial)
NH Water Supply & Plltn Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3325

George C Neill (Municipal)
NH Water Supply & Plltn Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3325

William Rice
NH Water Supply & Plltn Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3426

Rhode Island

Ray Aldrich
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Christopher Campbell
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Vermont

Kathryn Enright
State Water Resources Division
Agency of Envir Conservation
State Office Building
6 Baldwin Street
Montpelier, VT 05602
(802) 828-2761

REGION II*

New Jersey — New York

Puerto Rico — Virgin Islands

Louis Bevilacqua (Reg Coord)
US EPA/ESD — MM
Edison, NJ 08837
(201) 321-6730

REGION III

Delaware

Joe Kilby
Dept of Natural Resources &
Environmental Control
PO Box 1401
89 Kings Highway
Dover, DE 19903
(302) 736-5730

Maryland

Georgina Havlik
Office of Environmental Programs
Division of Industrial Waste
201 West Preston Street
Baltimore, MD 21201
(301) 383-5670

Jeff Rein
Division of Sewerage
Office of Environmental Programs
201 West Preston Street
Baltimore, MD 21201
(301) 383-6696

Pennsylvania

Kenneth A. Walizer
Compliance & Monitoring Section
Division of Permits & Compliance
Dept of Env Resources
Fulton Bank Bldg, 12th Fl
3rd & Locust Sts
Harrisburg, PA 17120
(717) 787-8184

Virginia

Charley Banks
Office of Water Res Mgmt
Technical Assistance
VA State Water Control Board
PO Box 11143
Richmond, VA 23230
(804) 257-6114

West Virginia

Roger Pauls
QA Officer
Dept of Natural Resources
1201 Greenbriar St
Charleston, WV 25305
(304) 348-2837

District of Columbia

Bill Ruby
Bureau of Air & Water Quality
5010 Overlook Avenue
Washington, DC 20032
(202) 767-7370

REGION IV

Alabama

E John Williford
AL Dept of Environmental Mgmt
1751 Federal Drive
Montgomery, AL 36130
(205) 271-7933

Florida

Carlos Boueres
FL Dept of Env Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301
(904) 487-0505

Peter T McGarry
US EPA
Florida Compliance
345 Courtland St
Atlanta, GA 30365
(404) 881-7428

Georgia

Jack C Dozier
GA Env Protection Div
270 Washington Street, SW
Atlanta, GA 30334
(404) 656-6593

Kentucky

Allen Robison
KY Bureau of Env Protection
18 Reilly Rd, Ft Boone Plaza
Frankfort, KY 40601
(502) 564-2150

Mississippi

Phillip Bass
MS Bureau of Pollution Control
121 Turn Powe Plaza
Pearl, MS 39208
(601) 354-6053

North Carolina

Bob DeWeese
NC Div of Env Management
PO Box 27687
Raleigh, NC 27611
(919) 733-5083

South Carolina

Jerry Watson
SC Dept of Health & Env Control
2600 Bull Street, SIMS Building
Columbia, SC 29201
(803) 758-4963

Tennessee

Bill Duffel
TN Division of Water Quality
150 Ninth Avenue, North
Nashville, TN 37203
(615) 741-7883

REGION V

Illinois

Roger Cruse
Div of Water Pollution Control
Illinois EPA
2200 Churchill Road
Springfield, IL 62706
(217) 782-9720

Indiana*

Kaushal Khanna (Reg Coord)
US EPA
230 South Dearborn
Chicago, IL 60604
(312) 886-6713

Michigan

Frank Baldwin
MI Dept of Natural Resources
PO Box 30028
Lansing, MI 48909
(517) 373-4624

Minnesota

John M Davenport
MN Pollution Control Agency
520 Lafayette Rd
St Paul, MN 55155
(612) 296-7225

Ohio

Tutu Rosanwo
Ohio EPA
1030 King Avenue
Columbus, OH 43212
(614) 294-5841

Wisconsin

Ron Arneson
WI Dept of Natural Resources
PO Box 7921
Madison, WI 53707
(608) 267-7633

Tom Mugan
WI Dept of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711
(608) 275-3282

Paul Strom
WI Dept of Natural Resources
Box 12436
Milwaukee, WI 53212
(414) 562-9676

*No State Coordinator, Only Regional

DMR QA STATE COORDINATORS

Linda Vogen
WI Dept of Natural Resources
Box 3600
Green Bay, WI 54303
(414) 497-6035

Vaness Eigenbrodt
WI Dept of Natural Resources
Box 4001
Eau Claire, WI 54702
(715) 839-3738

Tom Blake
WI Dept of Natural Resources
Box 818
Rhinelander, WI 54501
(715) 362-7616

Dale Hanson
WI Dept of Natural Resources
Box 397
Cumberland, WI 54829
(715) 822-3590

REGION VI

Arkansas

Dick Cassat
Technical Services
AR Dept of Poll Cont & Ecology
8001 National Drive
Little Rock, AR 72209
(501) 562-7444

Louisiana

Tom Bradley
LA Dept of Env Qlty
Water Pollution Control Div
3945 N. I-10 Service Road
Metairie, LA 70002
(504) 838-5365

New Mexico

Alex Buelisi
Environmental Improvement Div
Surface Water Quality Bureau
Surface Water Section
PO Box 968
Santa Fe, NM 87504-0968
(505) 827-2800

Oklahoma

Laura Cook (Industrial)
OK Water Resources Board
PO Box 53585
Oklahoma City, OK 73152
(405) 271-2541

Joe Brown (Municipal)
OK State Dept of Health
PO Box 53551
Oklahoma City, OK 73152
(405) 271-5240

Texas

Ernest Heyer
Texas Water Commission
Field Operation Division
PO Box 13087
Capitol Station
Austin, TX 78711
(512) 463-7756

REGION VII

Iowa

Charles Furry
Dept of Environmental Quality
Henry A Wallace Bldg
900 E Grand
Des Moines, IA 50319
(515) 281-8911

Kansas

Robert E. Nichols
Kansas Dept of Health & Env
Laboratory Services & Research
Forbes Building # 740
Topeka, KS 66620
(913) 862-9360

Missouri

Scott Tackatt
Div of Environmental Quality
Dept of Natural Resources
2010 Missouri Blvd
Jefferson City, MO 65101
(314) 751-3241

Nebraska

Jay Ringenberg
Dept of Env Water Pollution Con
State House Station
Lincoln, NE 68509
(402) 471-2186

REGION VIII

Colorado

Ron Schuyler
Permits & Enforcement
Water Quality Control Div
Colorado Dept of Health
4210 East 11th Avenue
Denver, CO 80220
(303) 320-8333

Montana

Mike Pasichnyk
MT Dept of Health & Env Science
Water Quality Bureau
Cogswell Bldg Room 8206
Helena, MT 59620
(406) 444-2406

North Dakota

Randy Thorson
Environmental Engineer
Water Supply & Poll Cntrl Div
North Dakota Dept of Health
Missouri Office Building
1200 Missouri Avenue
Bismarck, ND 58505
(701) 224-4606

South Dakota, Utah*

Dr. J. J. Hillman (Technical)
Regional Coordinator
US EPA 8-ES
Box 25366
Denver Federal Center
Denver, CO 80225
(303) 236-5065
FTS 776-5065

Carol Campbell (Permits)
Regional Coordinator
US EPA 8WM-C
1 Denver Place, Suite 1300
Denver, CO 80202
(303) 293-1627
FTS 564-1627

Wyoming

John F Wagner
Tech Support Supervisor
Water Quality Division
Wyoming Dept of Env Quality
Herschler Bldg - 4th Floor
Cheyenne, WY 82002
(307) 777-7781

REGION IX

Arizona

Grace Mossman
Bureau of Laboratory Services
1520 West Adams Street
Phoenix, AZ 85007
(602) 255-1188

California

Phillip Zentner
State Water Resources Control Bd
PO Box 100
Sacramento, CA 95801
(916) 324-1255

Guam

Kenneth Morphew
Guam EPA
PO Box 2999
Agana, Guam 96910
646-8863

Hawaii

Laura Fok
Laboratories Branch
Department of Health
PO Box 3378
Honolulu, HI 96801
(808) 548-7400

Nevada

Harry Van Drielen
Div of Environmental Protection
Department of Health
201 South Fall Street
Carson City, NV 89701
(702) 885-4670

REGION X

Alaska, Idaho*

Florence Carroll (Reg Coord)
US EPA
1200 Sixth Street
Seattle, WA 98101
(206) 442-2723

Oregon

Kent Ashbaker
Dept of Env Quality
PO Box 1760
Portland, OR 97207
(503) 229-5395

Washington

Merley McCall
Dept of Ecology
Southwest Reg Office
7272 Clearwater Lane
Olympia, WA 98504
(206) 753-2353 or 2824

*No State Coordinator, Only Regional

United States
Environmental Protection
Agency
Environmental Monitoring and
Support Laboratory
Cincinnati, OH 45268

First Class Mail
Postage and Fees Paid
EPA
Permit No. G-35

EMSL - CI, ROOM 525

Official Business
Penalty for Private Use
$300

NC0063002 4
Camp Lejeune Tarawa Terr. STP
Brigadier General USMC
6280/4 FAC
Camp Lejeune, NC 28542

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 16 1987

OFFICE OF
WATER

Dear NPDES Permit Holder:

The U.S. Environmental Protection Agency (EPA) and States are continuing a quality assurance program on National Pollutant Discharge Elimination System (NPDES) permittees during 1987. I wish to thank those permittees which participated in our program in the past years. The purpose is to evaluate the analytical ability of the laboratories which conduct analyses for NPDES permittees and to help produce reliable, accurate and verifiable self-monitoring data. Your participation in this program is required based on the authority of Section 308(a) of the Clean Water Act.

Approximately thirty to sixty days after receipt of this letter, our contractor will send you a set of performance evaluation samples that contain constituents normally analyzed as required by your NPDES permit. The sample packet also contains specific instructions and data reporting forms. The samples are to be analyzed by the same laboratory personnel using the same analytical methods as you customarily use for your NPDES self-monitoring analyses. The results of your analyses are to be submitted to an EPA contractor where they can be evaluated and returned to you along with the "true"/calculated values. The name and address of the contractor will be provided with the instructions. If the address to which this announcement letter has been sent is incorrect, please provide the correct NPDES permittee address and permit number immediately to the following address:

Chester D. Scheibel
The Bionetics Corporation
16 Triangle Park Drive
Cincinnati, Ohio 45246

If your current address contains only a P.O. Box Number, please also provide Bionetics Corporation with a street address to allow delivery by the United Parcel Service.

EPA and the State will make every effort to keep you informed concerning progress of the 1987 quality assurance program. However, should you have any questions, please contact your State/Regional Quality Assurance Coordinator whose name, address, and telephone number are found on the enclosed list. (Please reference your NPDES permit number in all correspondence.) Your participation in this program is very important, and your cooperation is greatly appreciated.

Sincerely yours,

James R. Elder

James R. Elder, Director
Office of Water Enforcement and Permits

Enclosure

DMR QA STATE COORDINATORS

REGION I

Connecticut

Earle Thompson (Industrial)
Chief, Laboratory Standards
State Division of Laboratories
Dept of Health; PO Box 1689
10 Clinton Street
Hartford, CT 06101
(203) 566-3896

Dr G Gustav Schlessinger (Municipal)
Senior Environmental Chemist
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2409

Charles Fredette
QA Coordinator
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2588

Maine

James Tibbets
Bureau of Water Quality Control
Dept of Environmental Protection
State House
Augusta, ME 04333
(207) 289-3355

Massachusetts

Judy Perry
Div of Water Pollution Control
Dept of Environmental Quality Engineering
1 Winter Street
Boston, MA 02108
(617) 292-5500

New Hampshire

Lynn Woodard (Industrial)
NH Water Supply & Plltn Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3325

George C Neill (Municipal)
NH Water Supply & Plltn Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3325

William Rice
NH Water Supply & Plltn Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3426

Rhode Island

Ray Aldrich
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Christopher Campbell
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Vermont

Kathryn Enright
State Water Resources Division
Agency of Envir Conservation
State Office Building
6 Baldwin Street
Montpelier, VT 05602
(802) 828-2761

REGION II*

New Jersey — New York

Puerto Rico — Virgin Islands

Louis Bevilacqua (Reg Coord)
US EPA/ESD — MM
Edison, NJ 08837
(201) 321-6730

REGION III

Delaware

Joe Kilby
Dept of Natural Resources & Environmental Control
PO Box 1401
89 Kings Highway
Dover, DE 19903
(302) 736-5730

Maryland

Georgina Havlik
Office of Environmental Programs
Division of Industrial Waste
201 West Preston Street
Baltimore, MD 21201
(301) 383-5670

Jeff Rein
Division of Sewerage
Office of Environmental Programs
201 West Preston Street
Baltimore, MD 21201
(301) 383-6696

Pennsylvania

Kenneth A. Walizer
Compliance & Monitoring Section
Division of Permits & Compliance
Dept of Env Resources
Fulton Bank Bldg, 12th Fl
3rd & Locust Sts
Harrisburg, PA 17120
(717) 787-8184

Virginia

Charley Banks
Office of Water Res Mgmt
Technical Assistance
VA State Water Control Board
PO Box 11143
Richmond, VA 23230
(804) 257-6114

West Virginia

Roger Pauls
QA Officer
Dept of Natural Resources
1201 Greenbriar St
Charleston, WV 25305
(304) 348-2837

District of Columbia

Bill Ruby
Bureau of Air & Water Quality
5010 Overlook Avenue
Washington, DC 20032
(202) 767-7370

REGION IV

Alabama

E John Williford
AL Dept of Environmental Mgmt
1751 Federal Drive
Montgomery, AL 36130
(205) 271-7933

Florida

Carlos Boueres
FL Dept of Env Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301
(904) 487-0505

Peter T McGarry
US EPA
Florida Compliance
345 Courtland St
Atlanta, GA 30365
(404) 881-7428

Georgia

Jack C Dozier
GA Env Protection Div
270 Washington Street, SW
Atlanta, GA 30334
(404) 656-6593

Kentucky

Allen Robison
KY Bureau of Env Protection
18 Reilly Rd, Ft Boone Plaza
Frankfort, KY 40601
(502) 564-2150

Mississippi

Phillip Bass
MS Bureau of Pollution Control
121 Turn Powe Plaza
Pearl, MS 39208
(601) 354-6053

North Carolina

Bob DeWeese
NC Div of Env Management
PO Box 27687
Raleigh, NC 27611
(919) 733-5083

South Carolina

Jerry Watson
SC Dept of Health & Env Control
2600 Bull Street, SIMS Building
Columbia, SC 29201
(803) 758-4963

Tennessee

Bill Duffel
TN Division of Water Quality
150 Ninth Avenue, North
Nashville, TN 37203
(615) 741-7883

REGION V

Illinois

Roger Cruse
Div of Water Pollution Control
Illinois EPA
2200 Churchill Road
Springfield, IL 62706
(217) 782-9720

Indiana*

Kaushal Khanna (Reg Coord)
US EPA
230 South Dearborn
Chicago, IL 60604
(312) 886-6713

Michigan

Frank Baldwin
MI Dept of Natural Resources
PO Box 30028
Lansing, MI 48909
(517) 373-4624

Minnesota

John M Davenport
MN Pollution Control Agency
520 Lafayette Rd
St Paul, MN 55155
(612) 296-7225

Ohio

Tutu Rosanwo
Ohio EPA
1030 King Avenue
Columbus, OH 43212
(614) 294-5841

Wisconsin

Ron Arneson
WI Dept of Natural Resources
PO Box 7921
Madison, WI 53707
(608) 267-7633

Tom Mugan
WI Dept of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711
(608) 275-3282

Paul Strom
WI Dept of Natural Resources
Box 12436
Milwaukee, WI 53212
(414) 562-9676

*No State Coordinator, Only Regional

DMR QA STATE COORDINATORS

Linda Vogen
WI Dept of Natural Resources
Box 3600
Green Bay, WI 54303
(414) 497-6035

Vaness Eigenbrodt
WI Dept of Natural Resources
Box 4001
Eau Claire, WI 54702
(715) 839-3738

Tom Blake
WI Dept of Natural Resources
Box 818
Rhinelander, WI 54501
(715) 362-7616

Dale Hanson
WI Dept of Natural Resources
Box 397
Cumberland, WI 54829
(715) 822-3590

REGION VI

Arkansas

Dick Cassat
Technical Services
AR Dept of Poll Cont & Ecology
8001 National Drive
Little Rock, AR 72209
(501) 562-7444

Louisiana

Tom Bradley
LA Dept of Env Qlty
Water Pollution Control Div
3945 N. I-10 Service Road
Metairie, LA 70002
(504) 838-5365

New Mexico

Alex Buelisi
Environmental Improvement Div
Surface Water Quality Bureau
Surface Water Section
PO Box 968
Santa Fe, NM 87504-0968
(505) 827-2800

Oklahoma

Laura Cook (Industrial)
OK Water Resources Board
PO Box 53585
Oklahoma City, OK 73152
(405) 271-2541

Joe Brown (Municipal)
OK State Dept of Health
PO Box 53551
Oklahoma City, OK 73152
(405) 271-5240

Texas

Ernest Heyer
Texas Water Commission
Field Operation Division
PO Box 13087
Capitol Station
Austin, TX 78711
(512) 463-7756

REGION VII

Iowa

Charles Furry
Dept of Environmental Quality
Henry A Wallace Bldg
900 E Grand
Des Moines, IA 50319
(515) 281-8911

Kansas

Robert E. Nichols
Kansas Dept of Health & Env
Laboratory Services & Research
Forbes Building # 740
Topeka, KS 66620
(913) 862-9360

Missouri

Scott Tackatt
Div of Environmental Quality
Dept of Natural Resources
2010 Missouri Blvd
Jefferson City, MO 65101
(314) 751-3241

Nebraska

Jay Ringenberg
Dept of Env Water Pollution Con
State House Station
Lincoln, NE 68509
(402) 471-2186

REGION VIII

Colorado

Ron Schuyler
Permits & Enforcement
Water Quality Control Div
Colorado Dept of Health
4210 East 11th Avenue
Denver, CO 80220
(303) 320-8333

Montana

Mike Pasichnyk
MT Dept of Health & Env Science
Water Quality Bureau
Cogswell Bldg Room 8206
Helena, MT 59620
(406) 444-2406

North Dakota

Randy Thorson
Environmental Engineer
Water Supply & Poll Cntrl Div
North Dakota Dept of Health
Missouri Office Building
1200 Missouri Avenue
Bismarck, ND 58505
(701) 224-4606

South Dakota, Utah*

Dr. J. J. Hillman (Technical)
Regional Coordinator
US EPA 8-ES
Box 25366
Denver Federal Center
Denver, CO 80225
(303) 236-5065
FTS 776-5065

Carol Campbell (Permits)
Regional Coordinator
US EPA 8WM-C
1 Denver Place, Suite 1300
Denver, CO 80202
(303) 293-1627
FTS 564-1627

Wyoming

John F Wagner
Tech Support Supervisor
Water Quality Division
Wyoming Dept of Env Quality
Herschler Bldg - 4th Floor
Cheyenne, WY 82002
(307) 777-7781

REGION IX

Arizona

Grace Mossman
Bureau of Laboratory Services
1520 West Adams Street
Phoenix, AZ 85007
(602) 255-1188

California

Phillip Zentner
State Water Resources Control Bd
PO Box 100
Sacramento, CA 95801
(916) 324-1255

Guam

Kenneth Morphew
Guam EPA
PO Box 2999
Agana, Guam 96910
646-8863

Hawaii

Laura Fok
Laboratories Branch
Department of Health
PO Box 3378
Honolulu, HI 96801
(808) 548-7400

Nevada

Harry Van Drielen
Div of Environmental Protection
Department of Health
201 South Fall Street
Carson City, NV 89701
(702) 885-4670

REGION X

Alaska, Idaho*

Florence Carroll (Reg Coord)
US EPA
1200 Sixth Street
Seattle, WA 98101
(206) 442-2723

Oregon

Kent Ashbaker
Dept of Env Quality
PO Box 1760
Portland, OR 97207
(503) 229-5395

Washington

Merley McCall
Dept of Ecology
Southwest Reg Office
7272 Clearwater Lane
Olympia, WA 98504
(206) 753-2353 or 2824

*No State Coordinator, Only Regional

United States
Environmental Protection
Agency
Environmental Monitoring and
Support Laboratory
Cincinnati, OH 45268

First Class Mail
Postage and Fees Paid
EPA
Permit No. G-35

EMSL - CI, ROOM 525

Official Business
Penalty for Private Use
$300

NC0062995 4
United States Marine Corps Base
Brigadier General USMC
6280/4 FAC
Camp Lejeune, NC 28542

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 16 1987

OFFICE OF
WATER

Dear NPDES Permit Holder:

The U.S. Environmental Protection Agency (EPA) and States are continuing a quality assurance program on National Pollutant Discharge Elimination System (NPDES) permittees during 1987. I wish to thank those permittees which participated in our program in the past years. The purpose is to evaluate the analytical ability of the laboratories which conduct analyses for NPDES permittees and to help produce reliable, accurate and verifiable self-monitoring data. Your participation in this program is required based on the authority of Section 308(a) of the Clean Water Act.

Approximately thirty to sixty days after receipt of this letter, our contractor will send you a set of performance evaluation samples that contain constituents normally analyzed as required by your NPDES permit. The sample packet also contains specific instructions and data reporting forms. The samples are to be analyzed by the same laboratory personnel using the same analytical methods as you customarily use for your NPDES self-monitoring analyses. The results of your analyses are to be submitted to an EPA contractor where they can be evaluated and returned to you along with the "true"/calculated values. The name and address of the contractor will be provided with the instructions. If the address to which this announcement letter has been sent is incorrect, please provide the correct NPDES permittee address and permit number immediately to the following address:

Chester D. Scheibel
The Bionetics Corporation
16 Triangle Park Drive
Cincinnati, Ohio 45246

If your current address contains only a P.O. Box Number, please also provide Bionetics Corporation with a street address to allow delivery by the United Parcel Service.

EPA and the State will make every effort to keep you informed concerning progress of the 1987 quality assurance program. However, should you have any questions, please contact your State/Regional Quality Assurance Coordinator whose name, address, and telephone number are found on the enclosed list. (Please reference your NPDES permit number in all correspondence.) Your participation in this program is very important, and your cooperation is greatly appreciated.

Sincerely yours,

James R. Elder

James R. Elder, Director
Office of Water Enforcement and Permits

Enclosure

DMR QA STATE COORDINATORS

REGION I

Connecticut

Earle Thompson (Industrial)
Chief, Laboratory Standards
State Division of Laboratories
Dept of Health; PO Box 1689
10 Clinton Street
Hartford, CT 06101
(203) 566-3896

Dr G Gustav Schlessinger
(Municipal)
Senior Environmental Chemist
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2409

Charles Fredette
QA Coordinator
Dept of Environmental Protection
122 Washington Street
Hartford, CT 06115
(203) 566-2588

Maine

James Tibbets
Bureau of Water Quality Control
Dept of Environmental Protection
State House
Augusta, ME 04333
(207) 289-3355

Massachusetts

Judy Perry
Div of Water Pollution Control
Dept of Environmental Quality
Engineering
1 Winter Street
Boston, MA 02108
(617) 292-5500

New Hampshire

Lynn Woodard (Industrial)
NH Water Supply & Pllt n Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3325

George C Neill (Municipal)
NH Water Supply & Pllt n Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3325

William Rice
NH Water Supply & Pllt n Cont
PO Box 95 — Hazen Drive
Concord, NH 03301
(603) 271-3426

Rhode Island

Ray Aldrich
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Christopher Campbell
Dept of Environmental Mgmt
Division of Water Resources
83 Park Street
Providence, RI 02903
(401) 277-2234

Vermont

Kathryn Enright
State Water Resources Division
Agency of Envir Conservation
State Office Building
6 Baldwin Street
Montpelier, VT 05602
(802) 828-2761

REGION II*

New Jersey — New York

Puerto Rico — Virgin Islands

Louis Bevilacqua (Reg Coord)
US EPA/ESD — MM
Edison, NJ 08837
(201) 321-6730

REGION III

Delaware

Joe Kilby
Dept of Natural Resources &
Environmental Control
PO Box 1401
89 Kings Highway
Dover, DE 19903
(302) 736-5730

Maryland

Georgina Havlik
Office of Environmental Programs
Division of Industrial Waste
201 West Preston Street
Baltimore, MD 21201
(301) 383-5670

Jeff Rein
Division of Sewerage
Office of Environmental Programs
201 West Preston Street
Baltimore, MD 21201
(301) 383-6696

Pennsylvania

Kenneth A. Walizer
Compliance & Monitoring Section
Division of Permits & Compliance
Dept of Env Resources
Fulton Bank Bldg, 12th Fl
3rd & Locust Sts
Harrisburg, PA 17120
(717) 787-8184

Virginia

Charley Banks
Office of Water Res Mgmt
Technical Assistance
VA State Water Control Board
PO Box 11143
Richmond, VA 23230
(804) 257-6114

West Virginia

Roger Pauls
QA Officer
Dept of Natural Resources
1201 Greenbriar St
Charleston, WV 25305
(304) 348-2837

District of Columbia

Bill Ruby
Bureau of Air & Water Quality
5010 Overlook Avenue
Washington, DC 20032
(202) 767-7370

REGION IV

Alabama

E John Williford
AL Dept of Environmental Mgmt
1751 Federal Drive
Montgomery, AL 36130
(205) 271-7933

Florida

Carlos Boueres
FL Dept of Env Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301
(904) 487-0505

Peter T McGarry
US EPA
Florida Compliance
345 Courtland St
Atlanta, GA 30365
(404) 881-7428

Georgia

Jack C Dozier
GA Env Protection Div
270 Washington Street, SW
Atlanta, GA 30334
(404) 656-6593

Kentucky

Allen Robison
KY Bureau of Env Protection
18 Reilly Rd, Ft Boone Plaza
Frankfort, KY 40601
(502) 564-2150

Mississippi

Phillip Bass
MS Bureau of Pollution Control
121 Turn Powe Plaza
Pearl, MS 39208
(601) 354-6053

North Carolina

Bob DeWeese
NC Div of Env Management
PO Box 27687
Raleigh, NC 27611
(919) 733-5083

South Carolina

Jerry Watson
SC Dept of Health & Env Control
2600 Bull Street, SIMS Building
Columbia, SC 29201
(803) 758-4963

Tennessee

Bill Duffel
TN Division of Water Quality
150 Ninth Avenue, North
Nashville, TN 37203
(615) 741-7883

REGION V

Illinois

Roger Cruse
Div of Water Pollution Control
Illinois EPA
2200 Churchill Road
Springfield, IL 62706
(217) 782-9720

Indiana*

Kaushal Khanna (Reg Coord)
US EPA
230 South Dearborn
Chicago, IL 60604
(312) 886-6713

Michigan

Frank Baldwin
MI Dept of Natural Resources
PO Box 30028
Lansing, MI 48909
(517) 373-4624

Minnesota

John M Davenport
MN Pollution Control Agency
520 Lafayette Rd
St Paul, MN 55155
(612) 296-7225

Ohio

Tutu Rosanwo
Ohio EPA
1030 King Avenue
Columbus, OH 43212
(614) 294-5841

Wisconsin

Ron Arneson
WI Dept of Natural Resources
PO Box 7921
Madison, WI 53707
(608) 267-7633

Tom Mugan
WI Dept of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711
(608) 275-3282

Paul Strom
WI Dept of Natural Resources
Box 12436
Milwaukee, WI 53212
(414) 562-9676

*No State Coordinator, Only Regional

DMR QA STATE COORDINATORS

Linda Vogen
WI Dept of Natural Resources
Box 3600
Green Bay, WI 54303
(414) 497-6035

Vaness Eigenbrodt
WI Dept of Natural Resources
Box 4001
Eau Claire, WI 54702
(715) 839-3738

Tom Blake
WI Dept of Natural Resources
Box 818
Rhinelander, WI 54501
(715) 362-7616

Dale Hanson
WI Dept of Natural Resources
Box 397
Cumberland, WI 54829
(715) 822-3590

REGION VI

Arkansas

Dick Cassat
Technical Services
AR Dept of Poll Cont & Ecology
8001 National Drive
Little Rock, AR 72209
(501) 562-7444

Louisiana

Tom Bradley
LA Dept of Env Qlty
Water Pollution Control Div
3945 N. I-10 Service Road
Metairie, LA 70002
(504) 838-5365

New Mexico

Alex Buelisi
Environmental Improvement Div
Surface Water Quality Bureau
Surface Water Section
PO Box 968
Santa Fe, NM 87504-0968
(505) 827-2800

Oklahoma

Laura Cook (Industrial)
OK Water Resources Board
PO Box 53585
Oklahoma City, OK 73152
(405) 271-2541

Joe Brown (Municipal)
OK State Dept of Health
PO Box 53551
Oklahoma City, OK 73152
(405) 271-5240

Texas

Ernest Heyer
Texas Water Commission
Field Operation Division
PO Box 13087
Capitol Station
Austin, TX 78711
(512) 463-7756

REGION VII

Iowa

Charles Furry
Dept of Environmental Quality
Henry A Wallace Bldg
900 E Grand
Des Moines, IA 50319
(515) 281-8911

Kansas

Robert E. Nichols
Kansas Dept of Health & Env
Laboratory Services & Research
Forbes Building # 740
Topeka, KS 66620
(913) 862-9360

Missouri

Scott Tackatt
Div of Environmental Quality
Dept of Natural Resources
2010 Missouri Blvd
Jefferson City, MO 65101
(314) 751-3241

Nebraska

Jay Ringenberg
Dept of Env Water Pollution Con
State House Station
Lincoln, NE 68509
(402) 471-2186

REGION VIII

Colorado

Ron Schuyler
Permits & Enforcement
Water Quality Control Div
Colorado Dept of Health
4210 East 11th Avenue
Denver, CO 80220
(303) 320-8333

Montana

Mike Pasichnyk
MT Dept of Health & Env Science
Water Quality Bureau
Cogswell Bldg Room 8206
Helena, MT 59620
(406) 444-2406

North Dakota

Randy Thorson
Environmental Engineer
Water Supply & Poll Cntrl Div
North Dakota Dept of Health
Missouri Office Building
1200 Missouri Avenue
Bismarck, ND 58505
(701) 224-4606

South Dakota, Utah*

Dr. J. J. Hillman (Technical)
Regional Coordinator
US EPA 8-ES
Box 25366
Denver Federal Center
Denver, CO 80225
(303) 236-5065
FTS 776-5065

Carol Campbell (Permits)
Regional Coordinator
US EPA 8WM-C
1 Denver Place, Suite 1300
Denver, CO 80202
(303) 293-1627
FTS 564-1627

Wyoming

John F Wagner
Tech Support Supervisor
Water Quality Division
Wyoming Dept of Env Quality
Herschler Bldg - 4th Floor
Cheyenne, WY 82002
(307) 777-7781

REGION IX

Arizona

Grace Mossman
Bureau of Laboratory Services
1520 West Adams Street
Phoenix, AZ 85007
(602) 255-1188

California

Phillip Zentner
State Water Resources Control Bd
PO Box 100
Sacramento, CA 95801
(916) 324-1255

Guam

Kenneth Morphew
Guam EPA
PO Box 2999
Agana, Guam 96910
646-8863

Hawaii

Laura Fok
Laboratories Branch
Department of Health
PO Box 3378
Honolulu, HI 96801
(808) 548-7400

Nevada

Harry Van Drielen
Div of Environmental Protection
Department of Health
201 South Fall Street
Carson City, NV 89701
(702) 885-4670

REGION X

Alaska, Idaho*

Florence Carroll (Reg Coord)
US EPA
1200 Sixth Street
Seattle, WA 98101
(206) 442-2723

Oregon

Kent Ashbaker
Dept of Env Quality
PO Box 1760
Portland, OR 97207
(503) 229-5395

Washington

Merley McCall
Dept of Ecology
Southwest Reg Office
7272 Clearwater Lane
Olympia, WA 98504
(206) 753-2353 or 2824

*No State Coordinator, Only Regional

United States
Environmental Protection
Agency
Environmental Monitoring and
Support Laboratory
Cincinnati, OH 45268

EMSL - CI, ROOM 525

Official Business
Penalty for Private Use
$300

First Class Mail
Postage and Fees Paid
EPA
Permit No. G-35

NC0063011 4
Camp Lejeune - Camp Johnson STP
Brigadier General USMC
6280/4 FAC
Camp Lejeune, NC 28542