New York City
Department of Environmental Protection

Division of Drinking Water Quality Control Program Document

December 2003

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Deputy Commissioner
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1. Introduction to the Division of Drinking Water Quality Control

The Division of Drinking Water Quality Control (DWQC) is part of the Department of Environmental Protection's Bureau of Water Supply (BWS). The primary mission of DWQC is to ensure the quality of New York City's drinking water supply and compliance with all federal and State drinking water regulations. In order to accomplish its mission, DWQC performs extensive water quality monitoring and research both in the water supply watershed and the distribution system. The Division also plays a crucial role in responding to and resolving water quality problems, addressing the long term protection of the watershed, preservation and enhancement of drinking water quality, proposing new corrective strategies for the Department, and policy development regarding water supply and public health.

DWQC has a technical and professional staff of chemists, microbiologists, engineers, sample collectors, scientists, researchers, and instrumentation specialists employed to support the water quality monitoring programs. There are approximately 260 staff within DWQC, located at 8 different facilities working throughout the water supply watershed and in the City distribution system.

The Division is managed by Mr. Steven C. Schindler, BWS Deputy Director and Chief of DWQC. Reporting directly to Mr. Schindler are Dr. David Lipsky, First Deputy Chief and Director of DWQC Distribution and Water Quality Assessments, Dr. Lorraine Janus, Deputy Chief and Director of Watershed Operations, Sharon Neuman, Section Chief of Project Management and Budget, and Jennifer Malta, Executive Assistant.

DWQC is divided into upstate Watershed Operations, in-City Distribution System Operations and Water Quality Assessments. Watershed Operations includes the Field Operations section, the Laboratory Operations section, the Information Management and Reporting section, and the Process Control and Remote Monitoring section. Watershed Operations has its headquarters at Sutton Park in Valhalla. Distribution and Water Quality Assessments, which includes Distribution Operations (Laboratory and Field Operations), is located in Flushing, Queens (Lefrak) along with Water Quality Assessments and Project Management and Budget. Water Quality Assessments is comprised of Drinking Water Quality Planning, Compliance and Reporting, and Treatment, Analysis Research and Planning.

Collectively, DWQC staff performs approximately one million analyses per year on 65,000 samples collected at 1400 locations throughout the watershed and distribution system to support Divisional, Bureau, and Agency water quality monitoring programs.

1.1 Distribution and Water Quality Assessments

First Deputy Chief and Director of DWQC Distribution: Dr. David Lipsky (718-595-5340)

The primary mission of Distribution Operations and the Water Quality Assessments Branch is to ensure the quality of drinking water in the City's distribution system and in-City reservoirs, and to conduct research and monitoring programs to increase DEP's understanding of distribution water quality and the factors by which it is impacted. The group also conducts research regarding emerging water quality, water supply, and engineering policy issues and proposes new corrective strategies and policies for the Department.

1.2 Watershed Operations

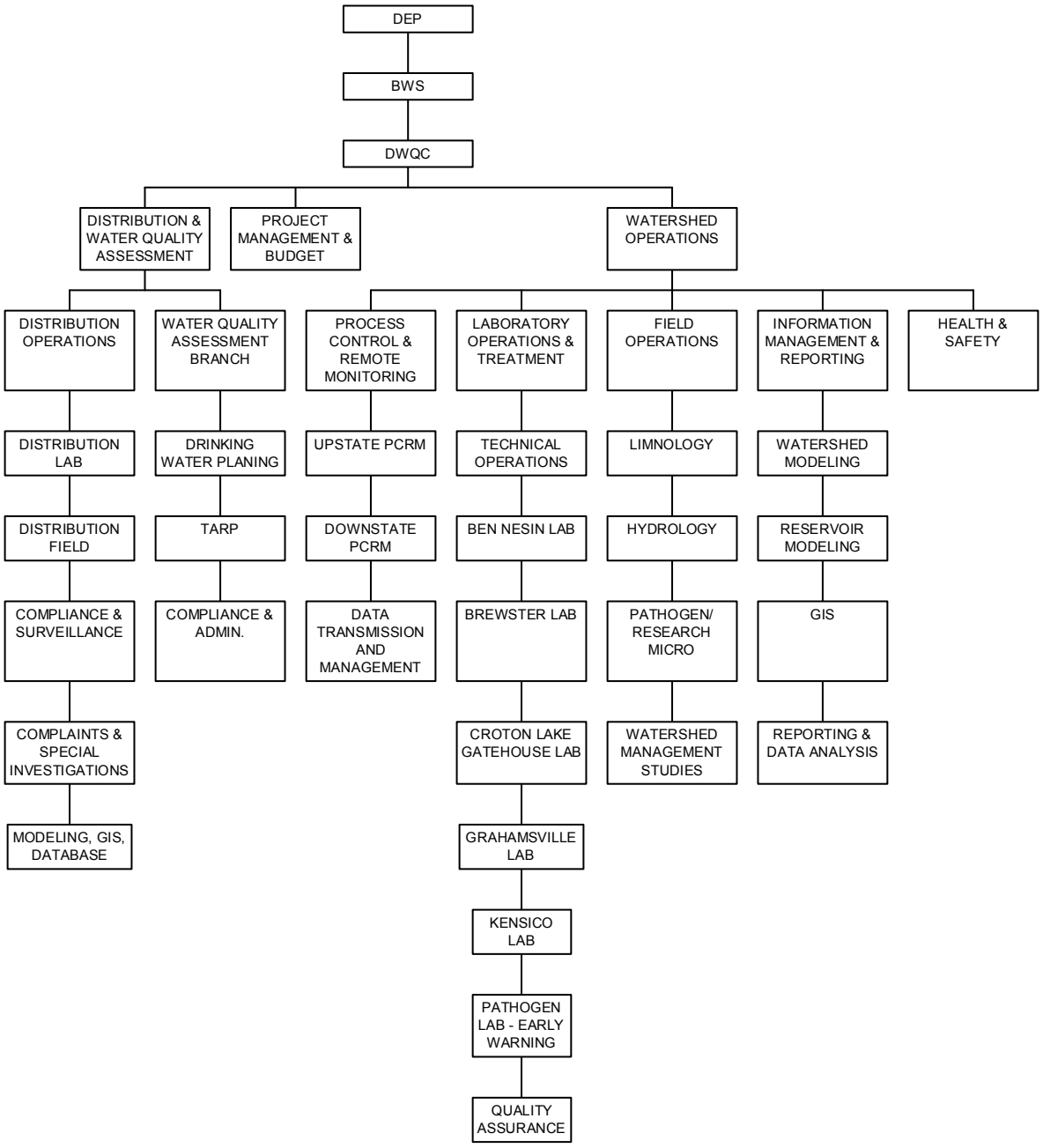
Deputy Chief and Director: Dr. Lorraine Janus (914)742-2082

The mission of Watershed Operations is surveillance and planning to maintain high water quality of the supply derived from the City's (1,972 square mile) watershed. Watershed Operations provides information to guide both short-term, operational and long-term, watershed management or policy decisions. Operational decisions require high frequency monitoring of water quality in the aqueducts, reservoirs and streams of the City's extensive watershed. Watershed management and policy decisions require careful analysis of the long-term water quality and geographic data record, and comparison of modeling scenarios to diagnose and predict the effects of watershed management programs. To achieve this mission, a highly skilled technical staff of approximately 170 members is organized into five Sections including: Process Control and Remote Monitoring, Laboratory Operations, Field Operations, Data Analysis and Reporting, and Environmental Health and Safety.

1.3 Project Management and Budget

Section Chief: Sharon Neuman (718) 595-5356

The Project Management and Budget section (PM&B) consists of eight staff who are responsible for coordinating all administrative/personnel, contract management and budget issues for the entire Division of Drinking Water Quality Control. The coverage areas of this unit include: contract oversight, capital budget management, expense budget management, office management, travel, and computer system purchasing.



Drinking Water Quality Control Functional Organizational Structure

2. DWQC's Distribution and Water Quality Assessment

First Deputy Chief, DWQC: Dr. David Lipsky (718-595-5340)

DWQC's Distribution and Water Quality Assessment Branch consists of two major sections—a Distribution Operations Section and a Water System Evaluation and Assessment Section. The responsibilities for each of these two sections are provided below:

2.1 DWQC's Distribution Operations

Deputy Chief, DWQC: Salome Freud (718-595-5367)

The primary function of Distribution Operations is to ensure the quality of drinking water in the City's distribution system and in-City reservoirs, in accordance with the requirements of the Safe Drinking Water Act and State Sanitary Code. Additionally, this section conducts research and monitoring programs to increase DEP's understanding of distribution water quality and the factors by which it is impacted. These functions are carried out by two sections, a Distribution Field Operations Section whose primary function is to collect water samples from a large network of sampling sites located throughout the City, and a Distribution Laboratory Operations Section whose primary function is to operate and maintain a NELAP approved potable water laboratory at DEP's headquarters (Lefrak) building in Flushing, Queens. The results of the sampling and analysis program are summarized each year and incorporated into the Department's Annual Water Quality Report. By monitoring water quality and working closely with BWSO personnel, this Section also assists in optimizing the water supply's treatment and disinfection requirements.

DWQC's Distribution Laboratory Operations Section
Section Chief, Director Distribution Laboratory, DWQC: Dr. Ian Hurley (718-595-6362)

The Distribution Laboratory is a 15,000 square foot space located at DEP's headquarter building at Lefrak City (6^{th} floor of the Low Rise building). Dr. Ian Hurley, Laboratory Director, oversees its operations. The laboratory operates 7 days a week and processes approximately 45,000 water samples a year which are analyzed for a wide variety of constituents regulated under the State Sanitary Code. It is structured with four major units: microbiological, wet chemistry, trace metals and organic chemistry. The Distribution Laboratory is accredited by the New York State Department of Health pursuant to its Environmental Laboratory Accreditation Program.

DWQC's Distribution Field Operations Section
Section Chief, Director Field Operations: Dr. Lin Lu, P.E. (718-595-6361)

Distribution Field Operations is responsible for collecting water samples from over 300 representative sampling points throughout New York City, and like the Laboratory, operates on a 7-day schedule. Lin Lu, Ph.D., P.E, oversees the Distribution Field Operations Section. In addition to collecting water samples, this Section is also responsible for following up on complaints and responding to emergencies. Additionally, the Section is responsible for maintaining a distribution water quality database and LIMS, and for developing and utilizing distribution water quality models. Field Operations assists BWSO staff in ensuring and optimizing treatment and

disinfection requirements. This Section is also responsible for limnological monitoring of in-City reservoirs. The Distribution Field Operations Section is divided into three programmatic sections or units.

Compliance and Surveillance Monitoring
Field Supervisors: Virginia Murray (718-595-6315) and Joseph Ribando (718-595-6374)

The State Sanitary Code of New York State's Department of Health mandates routine testing of drinking water from the distribution system. Each day Distribution Operations collects 35 to 100 samples from over 300 representative sampling points throughout New York City on a 7-day schedule. DWQC personnel collect the samples, conduct field monitoring and perform the laboratory analyses.

Distribution sampling includes compliance monitoring for regulatory mandates such as coliform bacteria, turbidity and disinfection by-products, as well as surveillance monitoring to optimize water quality, treatment dosing and reservoir and distribution operations. Distribution Operations water quality monitoring programs include Compliance and Surveillance monitoring, Organic compounds monitoring, New Main monitoring, and Distribution Reservoirs Limnology. Organic compounds monitoring tracks the formation and/or occurrence of disinfection by-products (DBP), pesticides, herbicides and other organics. The New Main samples are collected daily by Department of Design and Construction personnel from all newly completed mains and Distribution Laboratory staff conduct the analyses. Distribution Reservoirs (Hillview and Jerome Park) are surveyed biweekly in order to monitor water quality and treatment operations, comparing sample results with federal and State standards, while identifying trends, changes, and anomalies and underlying causes.

Complaints and Special Investigations
Supervisor: Dr. Arthur Tringali (718-595-6366)

Under this program, Distribution Operations conducts site specific intensive monitoring and responds to consumer complaints. Special investigations are conducted as problems arise related to landfills, leaks or industrial water quality problems. In addition, Distribution Operations responds to more than 1400 consumer water quality complaints per year. Complaints in this category are usually aesthetic or visual concerns reported as "dirty water", odor or color problems.

Distribution Modeling, GIS and Database Unit
Program Supervisor: Position Vacant

This Unit is responsible for conducting a number of specialized activities for Distribution Operations. DWQC has developed a distribution model for hydraulic and water quality evaluations. The model has been used to select water quality sampling sites; provide better guidance with remedial operations; estimate future hydraulic and water quality variations in distribution; and estimate the effect of a pipe break, a construction project, a flushing operation, and flow

changes on water quality. This Unit is also responsible for operating and maintaining a Distribution Water Quality Database and LIMs and for developing and maintaining a GIS system containing appropriate Distribution infrastructure and related water quality information.

2.2 Water System Evaluation and Assessment Section

First Deputy Chief: Dr. David Lipsky (718-595-5340)

Water System Evaluation and Assessment's (WSEA) responsibilities include planning for the long-term protection, preservation and enhancement of New York City's drinking water quality and conducting research regarding emerging water quality issues of relevance to New York City. As appropriate, WSEA proposes new corrective strategies and policies for the Department. WSEA is also responsible for coordinating the issuance of compliance reports for the Surface Water Treatment Rule, Filtration Avoidance, and Stipulation Agreements to New York State's Department of Health, and the USEPA. WSEA consists of three Units: a Drinking Water Quality Planning (DWQP) Unit, a Compliance and Administration Unit, and a Treatment, Analysis, Research and Planning (TARP) Unit.

Drinking Water Quality Planning (DWQP) Unit
Section Chief: Anne Seeley (718-595-5346)

DWQP currently has four basic areas of responsibility: (1) public health issues -- most notably the waterborne disease risk assessment program (WDRAP), (2) policy analysis & regulatory/legislative tracking, (3) examination of emerging issues, and (4) AWWARF coordination. WDRAP is an interagency program, involving DEP/DWQP and the NYC Dept. of Health and Mental Hygiene. Activities within WDRAP include: active disease surveillance for giardiasis and cryptosporidiosis; syndromic surveillance (i.e., tracking of gastrointestinal illness by various systems) for rapid capture of any waterborne outbreak; and special projects (including any epidemiologic investigations). DWQP also addresses other drinking water and health issues as they arise. In terms of policy and regulatory function, for regulations and legislation of interest/concern to DWQC, DWQP tracks developments, and serves in conducting and/or coordinating review of proposed rules and development of comments. DWQP works with other BWS units and other DEP units (including DEP's Office of Intergovernmental Affairs), and links with AWWA, AMWA, EPA, etc., as appropriate. DWQP is involved with "emerging issues," and has played a role in such projects as the development of NYC's Watershed Protection Program (including revision of the watershed rules and regulations), and has been involved in early phases of projects such as acidic precipitation investigations, GIS development, wetlands protection, and others. Regarding AWWARF duties, DWQP serves as coordinator within DEP and as liaison between DEP and AWWARF.

Treatment, Analysis, Research and Planning (TARP) Unit
Section Chief: Carla Glaser (718-595-6359)

TARP is responsible for assessing the impacts of various federal or State rules or regulations pertaining to drinking water, and more specifically, assisting the Bureau in coordinating the Rules' implementation. Working with other units such as DWQP, TARP also assists the Bureau with evaluating federal regulations to ensure that the special circumstances and concerns of the unfiltered systems are recognized and considered in new legislation. The Unit is responsible for assessing water quality impacts of construction activities in distribution and for supervising and coordinating emergency water quality operations. This Unit prepares water quality reports on special concerns for distribution to the public, e.g., the Department's Annual Water Quality Report.

TARP is also responsible for coordinating treatment and system configuration in NYC Aqueducts and Distribution Reservoirs for DWQC. The responsibilities include serving as a liaison between DWQC, BWSO-Reservoir Operations, BWS-Watershed System Operations and Distribution System Operations. Finally, TARP also represents DWQC and provides water quality input on major engineering and construction projects that potentially affect water quality. Representative projects include the Hillview Reservoir Improvements, Croton Filtration Plant Design, Catskill/Delaware Filtration Plant Design, and the Catskill/Delaware UV facility.

Compliance and Reporting Unit
Section Chief: Ed Kunsch (718-595-5348)

This Unit is responsible for coordinating the issuance of compliance reports for the Surface Water Treatment Rule, Filtration Avoidance, and Stipulation Agreements to New York State's Department of Health, and the USEPA. Additionally, the Unit is responsible for managing DWQC's initiatives regarding lead in drinking water. These include: preparing and managing the contracts for sample collection and analyses; recording all requests for lead water samples; recording and analyzing the results of the laboratory tests; maintaining the Lead Control database; insuring that sites are retested when necessary; transmitting test results to the Agency's Correspondence Unit, and answering all inquiries from the public on lead in drinking water. The Unit runs two distinct lead in drinking water programs: EPA Lead Compliance Monitoring and Free Residential Lead Testing.

3. Watershed Operations

Deputy Chief and Director: Dr. Lorraine Janus (914)742-2082

Watershed Operations consists of five Sections including: Process Control and Remote Monitoring, Laboratory Operations, Field Operations, Data Analysis and Reporting, and Environmental Health and Safety.

3.1 Process Control and Remote Monitoring

Section Chief: Wayne Geriak (914) 773-4428

The current Process Control-Remote Monitoring (PCRM) Operations Program is based upon the deployment of various water quality monitoring sensors (for pH, turbidity, conductivity temperature, chlorine, dissolved oxygen, ORP) at strategic monitoring locations in the NYC reservoir system to collect and store data on a "real-time" basis. In addition, to guiding operation of the water supply, this data addresses a variety of other water quality needs such as meeting Safe Drinking Water Act (SDWA) regulations, compliance monitoring and providing support to DEP's Sources Division by monitoring treatment applications and dosages.

The data generated by the PC-RM Program is used for the following objectives:

(1) Compliance Monitoring (SWTR)
(2) Monitoring Water Quality Trends (PH, temperature, conductivity)
(3) Optimization of Treatment (ch1orination/fluoridation)
(4) Improve Responsiveness to Water Quality Disturbances (spills, storm events)
(5) Data Transmission and Data Management

To ensure the correct operation and calibration of the continuous water quality monitoring instrumentation, a specific protocol has been established. This involves a coordinated effort between Laboratory and Process Control Instrumentation personnel which provide a series of equipment checks to assure that accurate and reliable data are being collected. To help eliminate any data loss that may be due to malfunctions of the PC-RM Telemetry Network, a strategy is implemented whereby a "hard copy" (i.e., chart recorders) is stored at the actual monitoring site before any data transmission takes place. This network provides a "real-time" display of water quality data at various key locations within three functional units: (1) Upstate, (2) Downstate and (3) Data Management.

Upstate Process Control – Remote Sensing Unit

The Upstate PC-RM Unit is responsible for the installation, operation, maintenance and repair of all water quality monitoring instrumentation in both West of Hudson Districts and East of Hudson above Hillview and Jerome Park Reservoirs. This network is comprised of shafts, aqueducts, and gatehouses totally approximately 28 locations.

Downstate Process Control- Remote Sensing Unit

The Downstate PC-RM Unit is responsible for the installation, operation, maintenance and repair of all water quality monitoring instrumentation at Hillview and Jerome Park Reservoirs and approximately 25 distribution locations.

Data Transmission and Management Unit

The Data Transmission and Management Unit is responsible for insuring communication between remote locations and that the central data repository remains uninterrupted. In addition this unit is responsible for maintaining a central database for all remote water quality monitoring data.

3.2 Watershed Laboratory Operations and Treatment

Section Chief: Lori Emery (845) 340-7531 and (914) 773- 4436

Watershed Laboratory Operations is comprised of five Water Quality Laboratories, a Research Microbiology Laboratory and a Pathogen Laboratory that provide monitoring support for the three watershed Districts. Staff from the Technical Operations and Quality Assurance units are also part of this section. The five Water Quality Laboratories are certified through the New York State Department of Health Environmental Laboratory Approval Program, and the Pathogen Laboratory is accredited by the United States Environmental Protection Agency for *Giardia* and *Cryptosporidium* analyses. The laboratories are certified for 65 analytes in the non-potable and potable water categories. In 2002, Watershed Laboratory Operations staff performed over 266,000 analyses on approximately 25,000 samples from 500 different sampling locations. In addition to performing analyses, Laboratory Operations staff collect approximately 11,000 keypoint, wastewater and potable water samples each year. The section currently has a headcount of 79 that includes laboratory management staff, chemists, microbiologists, sample collection personnel, scientists, technical specialists and administrative support staff that are located at seven watershed locations. These staff work collectively to perform the extensive sampling, laboratory analysis, data processing and reporting required to help ensure delivery of excellent quality water from the watersheds to the distribution system. The section is overseen by Lori Emery, Section Chief of Watershed Laboratory Operations and Treatment.

Technical Operations
Technical Operations Assistant: Jim Morris (914) 773 - 4494

The Section Chief and Technical Operations Assistant work together to review and track water quality data on an ongoing basis to assist the Bureau in making operational decisions for drafting and diverting water from City's Reservoir System. The Technical Operations Assistant is currently working to develop and draft protocols and SOPs for operations and treatment activities including CT tracking, blending operations, aqueduct shutdown and start up, options for system operations and outlining various operational triggers. In additional, Watershed Laboratory Opera-

tions provides support to the Bureau by assisting with data interpretation, by making recommendations with regards to water quality monitoring and by assisting with the preparation technical reports that relate to operations and treatment.

Ben Nesin Laboratory
Director: Karen Hacker (845) 657-7617

The Ben Nesin Laboratory, located in Shokan, NY, is responsible for sample analysis and keypoint monitoring within the Catskill District. The laboratory analyzes keypoint, stream, reservoir, potable water and wastewater treatment plant samples collected in the Catskill watershed. The laboratory is comprised of Chemists, Microbiologists, and Administrative staff who work closely with Catskill District Operations to ensure that the best quality water is being diverted from the Ashokan Reservoir into the Catskill Aqueduct. In addition to system operations, the laboratory supports mandated monitoring efforts related to the Safe Drinking Water Act, the Filtration Avoidance Determination and the State Pollution Discharge Elimination System. Monitoring support is also provided for storm events, modeling and reservoir status and trends. The Ben Nesin Laboratory is certified by the New York State Department of Health Environmental Laboratory Approval Program for 45 analytes in the Potable and Non-potable Water categories. In 2002, the laboratory performed over 56,000 analyses and laboratory staff collected over 1,800 samples.

Brewster Laboratory
Director: Brian Cotter (845) 279-1307 and 279- 5814

The Brewster Laboratory, located in Brewster, NY, is responsible for the wastewater treatment plant monitoring for the East of Hudson District. The laboratory analyzes wastewater samples that are collected from City and Non City-owned wastewater treatment plants throughout the entire East of Hudson District. The laboratory is comprised of Chemists and Microbiologists who collect samples and perform analyses to determine if plants are in compliance with State Pollution Discharge Elimination System requirements. The Brewster Laboratory is certified by the New York State Department of Health Environmental Laboratory Approval Program for 13 analytes in the Non-potable Water category. In 2002, the laboratory performed approximately 13,500 analyses and laboratory staff collected over 1,550 samples.

Croton Lake Gatehouse Laboratory
Director: Vincent LoMonaco (914) 243-4731 and 962-1244

The Croton Lake Gatehouse Laboratory, located in Yorktown, NY, is responsible for sample analysis and keypoint monitoring of water samples collected within the Croton watershed. The laboratory is operated by Chemists and Microbiologists who work closely with East of Hudson Engineering Operations at the Croton Lake Gatehouse to ensure that the best quality water is being diverted from the New Croton Reservoir into the Croton Aqueduct. In addition to system operations, the laboratory supports mandated monitoring efforts related to the Safe Drinking Water Act, the Filtration Avoidance Determination and the Croton Consent Decree. Monitoring support is also provided for modeling and reservoir status and trends. The Croton Laboratory is

certified by the New York State Department of Health Environmental Laboratory Approval Program for six analytes in the Potable and Non-potable Water categories. In 2002, the laboratory performed 8,382 analyses and laboratory staff collected over 1,600 samples.

Grahamsville Laboratory
Director: Kirsten Lewis (845) 985 - 7531

The Grahamsville Laboratory, located in Grahamsville, NY, is responsible for the water quality monitoring within the Delaware District. The laboratory analyzes keypoint, stream, reservoir, potable water and wastewater treatment plant samples collected from within the watershed. The laboratory is operated by Chemists, Microbiologists, and Administrative staff who work closely with Delaware District Operations to ensure that the best quality water is being diverted from the Rondout Reservoir into the Delaware Aqueduct. In addition to system operations, the laboratory supports mandated monitoring efforts related to the Safe Drinking Water Act, the Filtration Avoidance Determination and the State Pollution Discharge Elimination System. Monitoring support is also provided for storm events, modeling and reservoir status and trends. The Grahamsville Laboratory is certified by the New York State Department of Health Environmental Laboratory Approval Program for 48 analytes in the Potable and Non-potable Water categories. In 2002, the laboratory performed 67,157 analyses and laboratory staff collected over 2500 samples.

Kensico Laboratory
Acting Director: Dave Robinson (914) 287 – 7147

The Kensico Laboratory, located in Valhalla, NY, is responsible for water quality monitoring within the East of Hudson District. The laboratory analyzes keypoint, stream, reservoir and potable water samples collected from within the watershed. The laboratory is operated by Chemists, Microbiologists, and Administrative staff who work closely with East of Hudson District Operations to ensure that the best quality water is being diverted from the Kensico Reservoir into the Catskill and Delaware aqueducts. In addition to system operations, the laboratory supports mandated monitoring and reporting efforts related to the Safe Drinking Water Act, the Filtration Avoidance Determination, the Croton Consent Decree and the EPA Administrative Order on Consent. Monitoring support is also provided for storm events, modeling and reservoir status and trends. The Kensico Laboratory is certified by the New York State Department of Health Environmental Laboratory Approval Program for 65 analytes in the Potable and Non-potable Water categories. In 2002, the laboratory performed 118,418 analyses and laboratory staff collected approximately 4,000 samples.

Pathogen and Research/Early Warning Microbiology Laboratories
Director: Kerri Alderisio (914) 773 – 4423

Pathogen Laboratory

The Pathogen Laboratory, located in Shokan, NY, is responsible for the *Giardia* and *Cryptosporidium* monitoring within Catskill, Delaware and East Of Hudson Districts. The laboratory analyzes keypoint, stream, reservoir and wastewater treatment plant samples collected from

within the watersheds. The Microbiologists at the laboratory employ methods that are designed for rapid turn around time and optimal recovery to providing information regarding the presence of *Giardia* cysts and *Cryptosporidium* oocysts within the New York City Water Supply. The Pathogen Laboratory conducts ongoing in-house method development and studies, and works with outside agencies to stay on the cutting edge of technology in the pathogens field. The Pathogens Laboratory is accredited by the USEPA. In 2002, the laboratory performed 1,779 analyses.

Research/Microbiology

The Research/Microbiology Laboratory, located at the Kensico Laboratory in Valhalla, NY, is responsible for providing follow-up testing and guidance for non-routine biological occurrences in the water supply and surrounding environment. The Microbiologists at the laboratory assist with Divisional microbiological activities and provide access to advanced technology through in-house and contract laboratory connections. Follow up testing may involve, but is not limited to: determining serotype or toxin production potential; confirming identification of organisms; performing laboratory analysis or data analysis to assist in the identification of sources of micro/macrobiological agents; and, investigating and adopting new and improved technologies with quick turn around time for protecting public health as a result of either accidental or intentional contamination of the water supply. In 2002, the laboratory performed work on 1,174 isolates.

Quality Assurance
Director: Jim Broderick (845) 340 – 7603

The primary objective of the Quality Assurance (QA) Program is to work with Divisional personnel to achieve compliance with the Laboratory Accreditation Program administered by the New York State Department of Health and National Environmental Laboratory Accreditation Programs (ELAP and NELAP) in order to maintain state certification. The QA Program plans for and develops procedures needed to adhere to current and developing standards. These systems generally include approval of all new or modified analytical methods, approval of all analyst training documents, approval and tracking of all laboratory SOPs, performance of annual internal audits, performance of the annual Management System Review, and approval of all Quality Assurance Project Plans. A secondary objective of the QA Program is to ensure that a Quality System is implemented for all Bureau Programs in a manner that generally meets the requirements of NELAP and Customers. This includes providing input on QA issues, approving and tracking SOPs and QAPPs, performing audits of Field Operations, providing Quality Manual and Ethics training, and supporting Management objectives such as data review, conducting and coordinating audits and contract/bid review.

3.3 Health and Safety

Officer: Jacque Schiffer (845) 340 - 7574

The mission of the Environmental Health and Safety Section is to work with Division personnel achieve compliance with applicable rules and regulations regarding upstate DWQC employee's health and safety and the environment. Major areas of responsibility include providing annual chemical hygiene/hazard communication training, removing regulated hazardous and medical wastes, updating chemical hygiene plans, assisting in compliance audits and correction of deficiencies, procuring safety equipment and services necessary for operation of laboratory and field operations, working with BWS DRCFR personnel to ensure DWQC laboratory and field operation's implementation and compliance with applicable DEP E, H & S Policies,

3.4 Watershed Field Operations

Section Chief: Andrew P. Bader (845) 657-7658 and (914) 742-2081

DWQC's Field Operations is NYC's source for providing scientifically defensible information on reservoir and stream water quality (and quantity), on our watershed's natural resources (flora and fauna), and on water quality impacts from anthropogenic and non-anthropogenic sources. Field personnel collect samples, conduct field measurements, and compile and analyze laboratory and field data into reports. The evaluation and interpretation of this information is determined so that the appropriate short-term & long-term management of the water supply is obtained. Watershed Field Operations is comprised of four research units: Limnology, Hydrology, Pathogens/Early Warning, and Watershed Management Studies.

Limnology
Director: Gerard Marzec (845) 657-6875)

DWQC Limnology provides pertinent information and recommendations through monitoring and applied research that enables DEP to make decisions which provide optimal water quality from our reservoirs. Limnology's main program is the implementation of the five main objectives of the Integrated Monitoring Program: Operations Support, Trend Detection for Reservoirs, Reservoir Status, Reservoir Modeling Support, and Policy and Management Based Surveillance Monitoring. Additional efforts include the current evaluation of field fluorometers for collection of chlorophyll data and a proposal to NYSDEC for the evaluation of haloacetic acid (HAA) precursor seasonality and distribution in the Croton System. In either 2004 or 2005, the Catskill District will be trained in the maintenance and operation of the remote underwater sensing system (RUSS) that has been established by the Upstate Freshwater Institute in Schoharie Reservoir. After training, DEP will resume responsibility for operation and maintenance of the system. All chemical, physical, and biological aspects of the reservoirs are investigated by the Limnology Unit.

Hydrology
Director: Jim Mayfield (845) 657-5779

The Hydrology Program is responsible for monitoring and maintenance of a stream water quality and hydrometric monitoring network which provides scientifically defensible information for the understanding, protection, and management of the water supply. The program's main objectives include: trend detection for stream water quality, support for the multi-tiered water quality modeling program, support for the biological monitoring program, assessment of waste water treatment plant effects on streams, assessments of the effectiveness of best management practices (BMPs) to control pollutants in the watershed, landscape-scale water quality monitoring (via United States Geological Survey (USGS) contract), and surveillance monitoring to support policy and management goals. Through these objectives the program provides critical input to Filtration Avoidance Programs including the: Watershed Agricultural Program, Watershed Forestry Program, Stream Management Program, Wetlands Protection Program, East of Hudson Non-Point Source Pollution Control Program, Catskill Turbidity Control, and the Multi-Tiered Water Quality Modeling Program, including the Total Maximum Daily Load (TMDL) program. The objectives are met through a network that currently includes 155 stream sampling sites and 25 meteorological stations. The program is also responsible for oversight of a contract (˜$1.2M/year) with the USGS to measure stream flow and water quality at selected stations. When necessary, special investigations and supplemental data collection are also undertaken by the Hydrology Program to assist in meeting the Department's informational needs.

Pathogen Program
Director: Dr. Yves B. Mikol (914-773-4426)

The Pathogen Field Operations Program is responsible for the sampling of *Cryptosporidium*, *Giardia* and human enteric viruses within the New York City Water Supply System. The monitoring program includes compliance objectives under Filtration Avoidance Determination and Croton Consent Decree, and research objectives to identify occurrence, transport and distribution of these pathogens in the watershed. Samples are collected at reservoir effluents and influents, streams, wastewater treatment plants and other sites of interest throughout the watershed. Results from source water monitoring are posted on DEP's website every week to enhance communication with EPA and DOH.

Early Warning Surveillance
Director: Dr. Yves B. Mikol (914-773-4426)

The Early Warning Surveillance Program is responsible for (a) planning and deployment of a network of real-time on-line early warning surveillance instrumentation to identify sudden changes in water quality, (b) collecting samples contemporary to these water quality changes for event confirmation, and (c) providing the necessary data for informed decision making. Research activities include the identification of emerging technologies and the evaluation of systems ready for commercialization on raw and chlorinated water. Routine activities include 24 hours a day, seven days a week, surveillance of source water and data analysis.

Wildlife Studies and the Waterfowl Management Program
Program Supervisor: Chris Nadareski (914-773-4472)

The Wildlife Studies Program is responsible for the development and implementation of a comprehensive program to identify and mitigate potential health risks from a variety of wildlife species located within the watersheds. Wildlife Studies manages an annual contract for bird control at Kensico Reservoir that began in 1995 and expanded to include five additional reservoirs in 2002. Bird surveys conducted at Jerome and Hillview Reservoirs are used to provide recommendations for control measures. Under State permit, Wildlife Studies also traps and collects wildlife specimens to help monitor *Giardia* spp and *Cryptosporidium* spp. The Wildlife Studies Section is responsible for reviews and fieldwork on wildlife-related issues including City Environmental Impact Statements and Environmental Assessments. Additional programs include: Endangered Species Management/Restoration of the Peregrine Falcon (regional program manager to urban nest sites and reviews proposals and submits yearly reports to USFWS and NYSDEC); JFKIA Bird Hazard Task Force Committee (technical committee member for program review and wildlife monitoring representing the City of New York); Nuisance Wildlife Control (beaver management on WOH reservoirs).

Watershed Management Studies
Director: Dr. Kimberlee Kane (914) 773-4473

The Watershed Management Studies (WMS) group essentially consists of three units: Watershed Management, Water Quality Impact Assessment, and Natural Resources with programs extending over all three districts of the NYC watershed. WMS collects and interprets a wide variety of environmental data to provide guidance for overall watershed management and to support the Division's primary goal of assessing and protecting water quality. The group conducts research in the areas of wetlands, forestry, fisheries, stream biomonitoring, groundwater and stormwater. The information collected or inferred from the data is used to assess anthropogenic impacts to water quality, support operational and other management decisions, enforcement actions, and policy development.

Water Quality Impact Assessment
Program Supervisor: Charles Cutietta-Olson (914) 773-4475

The Water Quality Impact Assessment unit interprets of environmental data in legal, enforcement, and project review contexts. Staff review water quality data and issue reports on exceedances of relevant water quality standards or SPDES permits. WQIA regularly samples water, sediment, and biota for pesticides and toxic compounds, and samples and assesses stream invertebrates and groundwater. Most of WQIA's fieldwork involves response to sporadic threats to water quality such as spills and limited-duration special studies, such as the monitoring of tributaries before, during, and after land use changes. The unit also issues Special Investigation (SI) Reports on such incidents.

Natural Resources

Acting Supervisor: Dr. Kimberlee Kane (914) 773-4473

The mission of the Natural Resources Group is to understand the function of natural systems in the watershed, and to protect and enhance the ability of natural systems to protect water quality. The three main research areas are forestry, fisheries and wetlands. In addition to numerous research projects, the staff also serves as in-house expertise for other Groups, Divisions, and Bureaus to review projects (e.g. development projects, Dam Rehabilitations), review permit applications (e.g. OWSL), and provide analysis for operational support (e.g. diversion changes) and fish kills.

3.5 Watershed Information Management and Reporting

Section Chief: Dr. David Smith (914) 773-4437

This section, which was formed in June 2003, consists of four Programs: Watershed Modeling; Reservoir Modeling; Geographic Information Systems; and Data Analysis and Reporting.

The mission of the Data Analysis and Reporting Unit is to create information from DWQC's data in a more efficient and effective manner. This involves: the creation and use of Watershed and Reservoir models to aid management decisions and the operation of the reservoirs; better and more appropriate data analysis; the generation of highly credible scientific reports; effective database management; development of a Laboratory Information Management System (LIMS); development of a Water Quality Information System (WQIS).

Watershed Modeling

Director: Dr. Elliot Schneiderman (845-340-7571)

The Watershed Modeling Program is responsible for the development and application of watershed models for simulating hydrology and the generation and transport of pollutants in the NYC Watersheds. Watershed models are applied in tandem with reservoir models to assess potential impacts of land use management and climatic variability on reservoir water quality, in coordination with the Reservoir Modeling Program.This involves model development, calibration, testing, and applications; spatial (GIS) and temporal (time-series) model input data development and analysis; remotely-sensed data acquisition and analysis; landscape process research for estimating model parameters; and computer systems support for watershed modeling and mapping activities.

Reservoir Modeling

Director: Dr. Donald Pierson (845-340-7604)

The Reservoir Modeling Program is responsible for developing, testing and applying simulation models of reservoir hydrodynamics and water quality. Simulations are used: 1) to assess water quality and define the range in water quality variations under present conditions; and 2) to make predictions of changes in water quality resulting from changes in land use, climate and man-

agement; and 3) to guide potential structural changes such as intake levels and locations. Simulations are coordinated with the Watershed Modeling Program, since simulated watershed-derived nutrient transfers are key inputs to the reservoir models.

Geographic Information Systems (GIS)
Acting Supervisor: Dr. David Smith (914-773-4437)

The Division's GIS staff play a support role to many programs within the Division and to other Divisions including Engineering and the Police by providing automated mapping, geographic analyses, spatial data acquisition and development, visualization and analysis of remotely sensed imagery, and GPS data collection. Additionally, the Program staff collaborate with the development of GIS software, hardware, and network infrastructure improvements; data dissemination to stakeholders; training of staff; and technical assistance to users.

Reporting and Data Analysis
Acting Supervisor: Dr. David Smith (914-773-4437)

This Program was created in June 2003 and includes several features: data analysis, report production, DWQC database management, and the development of an upstate Laboratory Information Management System (LIMS). The data analysis includes targeted analysis of the master database to answer specific questions that arise, and provides advice to staff of other programs on their data analysis and experimental design. Report production includes the Division's Annual Report, the contribution to the Annual Kensico Report, FAD submissions and other reports for the Division. The intent is to produce highly credible, very readable, attractive reports for a variety of audiences ranging from scientists and engineers to the general public. Database management refers to the Division's SAS database and all aspects of its compilation, updating, modernizing, and data distribution. The LIMS is currently under development at Kensico Laboratory and it is anticipated that all upstate labs will eventually have such a system.

4. DWQC Emergency Telephone Numbers

NAME	LOCATION	WORK	FAX	CELL	PAGER
Aggarwal, Rupa	Lefrak	718-595-6357	718-595-6399		
Ametaj, Patricia	SP	914-773-4468	914-773-0365		
Ahmad, Syed	Lefrak	718-595-6374	718-595-6399		
Alair, Jim	SP	914-773-4484	914-773-0365		
Alderisio, Kerri	SP	914-773-4423	914-773-0365		
Allees, Emily	Grahamsville	845-985-7531	845-985-0036		
Antal, Bernard	BNL	845-6577620	845-657-6067		
Bader, Andrew	BNL	845-657-7658	845-657-5776	347-538-0017	914-445-3921
Ballou, Kevin	SP-Hydro	914-773-4466	914-773-0365		
Baudanza, Thomas	BNL	845-657-5744	845-657-6074		
Bellacicco, Robert	BNL	845-657-9517	845-657-6067	914-321-4423	
Benavides, Mario	Lefrak	718-595-6357	718-595-6399		
Bennett, Allison	BNL	845-657-6183	845-657-6067		
Bennett, Barbara	Kensico	914-997-2241	914-997-2216		
Berlin, Lyudmila	Lefrak	718-595-6429	718-595-6399		
Blancero, Lisa	BNL	845-657-2361	845-657-6067		
Bolton, Joseph	Lefrak	718-595-6374	718-595-6399		
Borchert, Dale	SP-Hydro	914-773-4557	914-773-0365	347-538-0027	
Brady, Sheila	BNL	845-657-7616	845-657-6067		
Branson, Dawnette	Kensico	914-287-7158	914-997-2216		
Bristoll, Amy	Kensico	914-287-7141	914-997-2216		
Broderick, Jim	Kingston	845-340-7603	845-340-7501		
Brown, Paul	Grahamsville	845-985-7531	845-985-0036		
Brown, Sherika	Kensico	914-997-2241	914-997-2216		
Brown, Susan	Lefrak	718-595-6374	718-595-6399		
Canning, John	SP-Hydro	914-773-4474	914-773-0365		
Capetanakis, Aspasia	SP-Limno	914-773-4438	914-773-0365		
Cardineau, Scott	SP-Limno	914-773-4554	914-742-2027		
Chear, Kuntearose	Lefrak	718-595-6358	718-595-6399		
Chin, Keith	SP-Limno	914-773-4555	914-742-2027		
Chisholm, Patricia	SP-Limno	914-773-4552	914-742-2027		
Clark, Robert	Brewster	845-279-5814	845-279-7287		
Coddington, Erik	Grahamsville	845-985-7531	845-985-0036		
Corradi, Rich	SP	914-773-83	914-773-0365		
Cotter, Brian	Brewster	845-279-1307	845-279-7287		
Craft, Daniel	Kensico	914-287-7158	914-997-2216		
Culjak, Donald	BNL	845-657-2361	845-657-6067		
Curcio, Richard	Kensico	845-657-7620	914-997-2216		
DeLillo, Joseph	Kensico	914-287-7153	914-997-2216		

NAME	LOCATION	WORK	FAX	CELL	PAGER
DeLuca, Neil	Kensico	914-287-7177	914-997-2216		
Denman, Eric	Grahamsville	845-985-7531	845-985-0036		
Dessources, Fleury	Lefrak	718-595-6374	718-595-6399		
Dibeler, Barbara	Kingston	845-340-7521	845-340-7504		
Ding, Zhou	Lefrak	718-595-6352	718-595-6399		
Echelman, Todd	SP	914-773-4434	845-340-7504		
Egan, Tara	Kensico	914-287-7153	914-997-2216		
Ellis, Zhihong (Jenny)	Lefrak	718-595-6355	718-595-6399		
Emery, Lori	Grahamsville	845-985-7531	845-985-0036	347-865-1238	914-445-0132
Esche, William	Kensico	914-287-7152	914-997-2216		
Evans, Wilbert	Lefrak	718-595-6358	718-595-6399		
Everett, Daniel	Grahamsville	845-985-7531	845-985-0036		
Falk, Christine	Kingston	845-340-2017	845-340-7501		
Fenwick, Michael	Brewster	845-279-5814	845-279-7287		
Freud, Salome	Lefrak	718-595-5367	718-595-6399	917-513-4845	
Froehlich, Lori	Grahamsville	845-985-7531	845-985-0036		
Gabel, Kurt	SP-Hydro	914-773-4496	914-773-0365		
Geriak, Wayne	SP	914-773-4428	914-773-0365		
Ghali, Rafik	Lefrak	718-595-6355	718-595-6399		
Girard, Judy	BNL	845-657-7618	845-657-6067		
Girard, Pat	SP	914-773-4480	914-773-0365		
Giuliano, Dean	BNL	845-657-7675	845-657-5776		
Glaser, Carla	Lefrak	718-595-6359	718-595-5355		
Ghali, Abdelrafik	Lefrak	718-595-6355	718-595-6399		
Goel, Saroj	Lefrak	718-595-6348	718-595-6399		
Gope, Bishnu	Lefrak	718-595-6354	718-595-6399		
Greene, Linda	Lefrak	718-595-5388	718-595-5355		
Grehl, Mary	BNL	845-657-7620	845-657-6067		
Gronager, Douglas	SP	914-773-4498	914-773-0365		
Guarino, Christine	Grahamsville	845-985-7531	845-985-0036		
Guerriero, Fran	Lefrak	718-595-5350	718-595-5355		
Guo, Baiying	Lefrak	718-595-6390	718-595-6399		
Hacker, Karen	BNL	845-657-7617	845-657-6067		
Hamilton, Jona	Grahamsville	845-985-7531	845-985-0036		
Haug, George	BNL	845-657-7621	845-657-6067		
He, Zhiping	Lefrak	718-595-6430	718-595-6399		
Hertle, Michael	Grahamsville	845-985-7531	845-985-0036		
Higgins, Mary Jane	Grahamsville	845-985-7531	845-985-0036		
Homolac, Radan	SP	914-773-4493	914-773-0365		
Horton, Glenn	Grahamsville	845-985-7531	845-985-0036		

NAME	LOCATION	WORK	FAX	CELL	PAGER
Howe, Robert W.	Grahamsville	845-985-7531	845-985-0036		
Hoyt, Hugh	Lefrak	718-595-6374	718-595-6399		
Huang, John	Lefrak	718-595-6398	718-595-6399		
Huang, Zuopeng	Lefrak	718-595-6349	718-595-6399		
Huber, Francis	BNL	845-657-7661	845-657-5776		
Hunt, David	Kensico	914-997-7142	914-997-2216		
Hurley, Ian	Lefrak	718-595-6362	718-595-6399	646-256-8969	917-424-3159
Jairam, Kraig D.	Lefrak	718-595-5279	718-595-5355		
Janus, Lorraine	SP	914-742-2082	914-741-0431	914-952-1798	
Joasil, Navdet	Lefrak	718-595-6369	718-595-6399	917-864-3289	
Kagzi, Mohammedsiddik	Lefrak	718-595-6374	718-595-6399		
Kane, Kim	SP	914-773-4473	914-438-1576		
Kelly, Allen	BNL	845-657-9517	845-675-6067		
Kelly, Patrick	Grahamsville	845-985-7531	845-985-0036		
Kelly, Randall	Margaretville	845-586-4960	845-586-1727		
Kelly, Theresa	BNL	845-657-6822	845-657-6067		
Kowalczyk, Richard	SP-Limno	914-742-2056	914-742-2027		
Krause, Deborah	Kensico	914-287-7153	914-997-2216	917-723-3528	
Kuhne, William	BNL	845-657-2361	845-657-6067		
Kunsch, Edward	Lefrak	718-595-5348	718-595-5355		
LaFiandra, Paul	BNL	845-657-5771	845-657-6067		914-445-1258
LaGorga, Patricia	BNL	845-657-2306	845-657-6067		
Lane, Christopher	Grahamsville	845-985-7531	845-985-0036	845-532-5689	
Lawrence, Tracy	Kingston	845-340-7522	845-340-7504		
Layton, Deborah	SP	914-773-4471	914-773-0365		
Lennon, Terence	SP	914-773-4446	914-773-0365		
Leung, Chung-Ming	Lefrak	718-595-6348	718-595-6399		
Lewis, Kirsten	Grahamsville	845-985-7531	845-985-0036		845-292-2020 X2982
Lipsky, David	Lefrak	718-595-5340	718-595-5355	646-522-7561	914-445-1101
Liu, Ying	Lefrak	718-595-6349	718-595-6399		
LoMonaco, Vincent	Croton	914-243-4731	914-243-4729		
Loos, Lyndsay	Grahamsville	845-985-7531	845-985-0036		
Lounsbury, David	Kingston	845-340-7570	845-340-7501		
Love, Dolores C.	Lefrak	718-595-6369	718-595-6399		
Lu, Lin	Lefrak	718-595-6361	718-595-6399	917-769-0861	917-706-1454
Lundy, Charles	BNL	845-657-2361	845-657-6067		
Lyons, Stephen	Brewster	845-279-5814	845-279-7287		
Machung, Laurie	SP	914-773-4422	914-773-0365		
Maestri, Alessandro	BNL	845-657-2361	845-657-6067		
Malta, Jennifer	SP	914-742-2080	914-741-0431		

NAME	LOCATION	WORK	FAX	CELL	PAGER
Marinova, Nadia	Croton	914-243-4731	914-243-4729		
Martin, Sarah	BNL	845-657-6068	845-657-6067		
Martins, Thomas	Kensico	914-773-4554-	914-997-2216		
Marzec, Gerard	BNL	845-657-6875-	845-657-6067		
Mayfield, James	BNL	845-657-5779	845-657-5776	914-388-3306	914-445-3955
McCann, Bryce	SP	914-773-4479	914-773-0365		
McCarthy, Catherine	BNL	845-657-5781	845-657-6067		
McCarthy, Kathleen	Grahamsville	845-985-7531	845-985-0036		
Medaglia, Victoria	Lefrak	718-595-5516	718-595-5355		
Meldrum, Christopher	CLGH	914-962-3062	914-243-4729		
Mendez, Olga	Kensico	914-287-7142	914-997-2216		
Mendoza, Guillermo		718-548-8435	718-548-8437		
Mikol, Yves	SP	914-773-4426	913-773-0365	914-466-2686	
Mills, Thomas	SP-Hydro	914-773-4487	914-773-0365		
Mohan, Dharmesh	Lefrak	718-595-6371	718-595-6399		
Molman, Aida	Lefrak	718-595-6358	718-595-6399		
Morgans, Christopher	Grahamsville	845-985-7531	845-985-0036		
Morris, James	Kensico	914-287-7157	914-997-2216		914-952-1745
Murphy, June	BNL	845-657-7622	845-657-6067	845-532-8856	
Murray, Virginia	Lefrak	718-595-6315	718-595-6399		917-649-2241
Nace, Dean	Kingston	845-340-7506	845-340-7501		
Nadareski, Chris	SP	914-773-7742	914-773-0365		914-445-1572
Nakhla, Nagy	Lefrak	718-595-6374	718-595-6399		917-641-3711
Napolitano, Giovanni	Jerome	718-548-8434	718-548-8437		
Neuman, Sharon	Lefrak	718-595-5356	718-595-5355	917-543-3139	
Newman, Mark	Grahamsville	845-985-7531	845-985-0036	845-532-1222	
Nezelek, Kim	Grahamsville	845-985-7531	845-985-0036		
Ng, Zhi Mei (Amy)	Lefrak	718-595-6380	718-595-6399		
Ngo, Hoang (John)	Lefrak	718-595-6436	718-595-6399	917-292-8203	
Noonan, Michael	Kensico	914-287-7165	914-997-2216		
O'Brien, Pat	SP	914-773-4431	914-773-0365		
O'Dell, Mary	BNL	845-657-7622	845-657-6067		
Odomirok, Steve	Lefrak	718-595-5373	718-595-6399		
Olson, Charlie	SP	914-773-4475	914-773-0365		
Osorio, Maria	Lefrak	718-595-5351	718-595-5355		
Ouyang, Kai	Lefrak	718-595-6435	718-595-6399		
Oza, Pallavi	Lefrak	718-595-6358	718-595-6399		
Pace, Chris	SP	914-773-4585	914-773-0365		
Patel, Ashwinkumar	Lefrak	718-595-6434	718-595-6399		
Patel, Hasmukh B.	Lefrak	718-595-6374	718-595-6399		

NAME	LOCATION	WORK	FAX	CELL	PAGER
Patel, Lalit	Lefrak	718-595-6348	718-595-6399		
Patel, Mayuri	Lefrak	718-595-6358	718-595-6399		
Peck, Donna	Grahamsville	845-985-7531	845-985-0036		
Perri, Paul	BNL	845-657-6804	845-657-5776		
Phelan, Frank	BNL	845-657-7619	845-657-6067		
Phongsuriya, Ratsamee	Lefrak	718-595-6358	718-595-6399		
Pickering, Cedvic (Abdullah)	Lefrak	718-595-6375	718-595-6399		
Pierson, Donald	Kingston	845-340-3294	845-340-7501		
Pirritano, Ralph	Kensico	914-2887-7157	914-997-2216		
Porter, James H.	Grahamsville	845-985-7531	845-985-0036		
Powers, Roy	SP-Hydro	914-773-4558	914-773-0365		
Pratt, Gerald	SP	914-773-4431	914-773-0365		
Pratt, Stephanie	Kensico	914-287-7141	914-997-2216		
Quentin, Dave	SP	914-773-4490	014-773-0365		
Radomski, Sharon	SP	914-773-4430	914-774-0365		
Ramirez, Gilberto	Jerome	718-548-8434	718-548-8437		
Reich, Evelyn	Kensico	914-997-2249	914-997-2216		
Ribando, Joseph	Lefrak	718-595-6374	718-595-6399	917-769-0871	917-769-1452
Richardson, Bill	SP	914-773-4421	914-773-0365	873-222-2297	
Richburg, James C.	Grahamsville	845-985-7531	845-985-0036		
Rider, Andrew	BNL	845-657-7620	845-657-6067		
Reid, Michael	Kingston	845-340-3002	845-340-7501		
Robinson, David	Kensico	914-287-7147	914-997-2216		
Rosenberg, Mike	SP	914-742-2030	914-773-0365		
Rosenfeld, Butch	SP	914-773-4486	914-773-0365		
Rossell, Robert	BNL	845-657-7620	845-657-6067		
Rotter Charles	Lefrak	718-595-6365	718-595-6399		
Samuels, Lorent	Kensico	914-997-2742	914-997-2216		
Sanchirico, Joe	Lefrak	718-595-5344	718-595-5355		
Santos, Yelitza	SP	914-773-4412	914-773-0365		
Satterly, Sharon	SP	8445-561-9401	914-774-0365		
Schindler, Steve	Kingston	845-340-7558	845-340-7504	917-513-6818	914-445-3931
Schiffer, Jacqueline	Kingston	845-340-7574	845-340-7501		
Schndierman, Elliot	Kingston	845-340-7571	845-340-7501		
Schwarz, Deborah	BNL	845-657-2361	845-657-6067		
Scott, Diana	SP-Limno	914-742-2037	914-773-0365		
Seelbach, Kelly	Kingston	845-340-7532	845-340-7501		
Seeley, Anne	Lefrak	718-595-5346	718-595-5355	917-733-1955	
Sell, Kristina	Grahamsville	845-985-7531	845-985-0036		
Sepe, Thomas	Jerome	718-548-8434	718-548-8437		

NAME	LOCATION	WORK	FAX	CELL	PAGER
Shimer, Tracey	BNL	845-657-6155	845-657-6067		
Silvestri III, Victor	Kensico	914-287-7161	914-997-2216		
Simpson, Sean	Kensico	914-287-7153	914-997-2216		
Singh, Indera	Lefrak	718-595-5415	718-595-5355		
Smith, Albert T.	Lefrak	718-595-6348	718-595-6399		
Smith, Dave	SP	914-773-4437	347-538-0015		
Sorbellini, Stephanie	BNL	845-657-7662	845-657-6067		
Speranza, Anthony	Lefrak	718-595-6374	718-595-6399		
Srybnaya, Larisa	Lefrak	718-595-6349	718-595-6399		
Stratton, Richard	BNL	845-657-6165	845-657-6067		
Steyer, Alissa	BNL	845-657-7676	845-657-5776		
Sutton, Derrick	Kensico	914-287-7178	914-997-2216		
Taintor, Richard	Kensico	914-287-7163	914-997-2216		
Tarnarider, Raisa	Lefrak	718-595-6355	718-595-6399		
Taylor, Lawrence	Kensico	914-287-7152	914-997-2216		
Then, Kooifah (Danny)	Lefrak	718-595-6433	718-595-6399		
Thomas, John	Kensico	914-287-7152	914-997-2216		
Thongs, Dominique	Kingston	845-34-7551	845-340-7501		
Tiglao, Virgilio (Gil)	Lefrak	718-595-6374	718-595-6399		
Tokuz, Yucel	BNL	845-657-6908	845-657-5776		
Tringali, Arthur	Lefrak	718-595-6366	718-595-6399		917-649-7760
Tsaldaris, Lori	Croton	914-962-1244	914-243-4729		
Tsui, Chin	Lefrak	718-595-6378	718-595-6399		
Tsvitman, Leonid	SP-Limno	914-773-4481	914-742-2027		
Tupper, Maria	SP	914-773-4477	914-773-0365		
Usai, Mike	SP	914-773-4465	914-773-0365		
VanBuren, Ryan	SP	718-609-9226	914-773-0365		
VanDreason, Richard	BNL	845-657-5778	845-657-6067		
VanValkenburg	Kingston	845-340-7587	845-340-7504		
Varghese, Jessy	Lefrak	718-595-6377	718-595-6399		
Varki, Benjamin	Lefrak	718-595-6374	718-595-6399		
Vassilev, Vantzeti	Lefrak	718-595-6374	718-595-6399		
Vijayakumar, Devaraj	Lefrak	718-595-6360	718-595-6399		
Vollmer, Debra	Grahamsville	845-985-7531	845-985-0036		
Wagner, Lori	Kensico	914-287-7178	914-997-2216	914-456-6400	
Wang, XiaoPing	Lefrak	718-595-6363	718-595-6399		
Wells, Kim	Lefrak	718-595-5352	718-595-5355		
Wrench, Gregory	Lefrak	718-595-6369	718-595-6399		
Xu, Xian-Fang (Vicky)	Lefrak	718-595-6337	718-595-6399		
Yacoub, Makram	Lefrak	718-595-7263	718-595-6399		917-424-3161
Zanetti, Pamela	Grahamsville	845-985-7531	845-985-0036		
Zhang, Jiye	Lefrak	718-595-6313	718-595-6399		

NAME	LOCATION	WORK	FAX	CELL	PAGER
Zhang, Yonghe	Lefrak	718-595-6428	718-595-6399	917-593-6447	
Zherebchevekaya	Veronika	718-595-	718-595-6399		
Zhou, Yun	Lefrak	718-595-6428	718-595-6399		
Zion, Mark	Kingston	835-340-7505	845-340-7501		