New Jersey Drinking Water Quality Institute

Maximum Contaminant Level Recommendation Document

on

Radon-222

Prepared by

Radon Subcommittee of the Drinking Water Quality Institute

February 2009

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State of New Jersey

Jon S. Corzine
Governor

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Mark Mauriello
Acting Commissioner

MEMORANDUM

To: Mark Mauriello
Acting Commissioner, NJDEP

From: Mark Gregory Robson, PhD, MPH
Chair, Drinking Water Quality Institute

Subject: Recommendation for the Regulation of Radon in Drinking Water

Date: February 9, 2009

The members of the New Jersey Drinking Water Quality Institute (Institute) are pleased to submit to you their recommendation for a Maximum Contaminant Level for radon in drinking water.

Radon is a carcinogen known to occur in New Jersey drinking water supplies at often high levels, with resulting high health risks. The Institute reviewed health effects, analytical methods and New Jersey certified laboratory testing capabilities, and treatment capabilities and costs for radon in drinking water. As radon is unique among drinking water contaminants in that 89% of the risk from radon in drinking water comes from breathing radon in air that volatilizes out of water, a special Radon Subcommittee was charged with this review, including assessment of how to deal with these air exposures.

The statutory health-based goal for establishing a drinking water standard for carcinogens in New Jersey is a one in one million excess cancer risk over a lifetime exposure. The Institute determined that meeting this target was not appropriate, but implementation of a MCL of 800 pCi/L (lifetime risk of 5 in 10,000) for community and nontransient noncommunity water systems will protect the public from unacceptably high concentrations of radon in drinking water. The Institute also recommends NJDEP work with the Legislature to enact mandatory radon testing in indoor air for schools and for homes during real estate transactions, and to consider other mandatory policies to further reduce public health risks posed by radon in indoor air.

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Table of Contents

Figures

Tables

Radon-222
New Jersey Drinking Water Quality Institute Report

Executive Summary

In May, 2006, Commissioner Lisa P. Jackson of the New Jersey Department of Environmental Protection (NJDEP) charged the Drinking Water Quality Institute (DWQI) with assessing the prevalence and effects of Radon-222 (radon) in drinking water, and, if appropriate, recommending a Maximum Contaminant Level (MCL). Because exposure to radon in indoor air poses the greatest risk to public health from radon within the home, and because managing the risks associated with radon in drinking water may need to be considered within the context of air exposure, the Commissioner also asked the DWQI to provide recommendations regarding any additional measures that should be taken to reduce public exposure to radon in indoor air.

Under the 1984 amendments to the New Jersey Safe Drinking Water Act (P.L. 1983, c. 443), the DWQI was created in part to make recommendations to NJDEP regarding MCLs for drinking water contaminants. Its first recommendations were made in 1987, with periodic revisions or recommendations on MCLs for new contaminants. To evaluate the factors which must be considered in developing a MCL for a contaminant in drinking water, three subcommittees were established: the Health Effects Subcommittee, the Testing Subcommittee, and the Treatment Subcommittee. A description of each of these subcommittees can be found in Section II of the report. Since radon is a unique contaminant (found in soil, air, and water), a specific Radon Subcommittee (Subcommittee) was formed consisting of DWQI members, as well as representatives of NJDEP and the United States Geological Survey, to evaluate these factors for radon.

Radon is a naturally occurring, short-lived (half-life of about 4 days) radioactive decay product of uranium. It is unstable and releases energy (or decays) by emitting alpha particles. The primary source of exposure to radon is from soil beneath homes, where it enters through cracks or openings in structures and concentrates in indoor air. Radon is also soluble in water and is often found in the ground water of New Jersey. When radon decays, it forms decay products which emit alpha particles, beta particles, and gamma rays. The energy released from these decay products results in damage to biological tissues which may lead to cancer. The health consequences of radon are well documented. The primary health effect of radon is lung cancer, resulting from inhalation of radon in indoor air originating from soil underneath the house or, to a much lesser extent, the escape of radon gas into indoor air during household use of water (e.g., showering, cooking, and washing). When radon in water is ingested, it can also cause stomach cancer.

According to the New Jersey Safe Drinking Water Act, the goal for carcinogenic contaminants is to establish a standard which would not, within the limits of medical, scientific and technological feasibility, permit cancer in more than one-in-one million persons ingesting the contaminant over a lifetime (70 years). **The statute does not refer specifically to**

radionuclide contaminants such as radon (see Section XIII). In addition, in September 1994 the DWQI recommended N.J.S.A. 58:12A-13(b) be amended to include language that allows the goal for standards for naturally occurring carcinogenic contaminants, such as the radionuclide radon, to be a cancer risk level other than one-in-one million, as is required for the carcinogenic chemicals listed in the 1984 amendments. The DWQI made this recommendation because it recognized that exposure to certain naturally occurring contaminants from other media (e.g. air, soil) can be more significant than drinking water exposure.

In November 1999, the United States Environmental Protection Agency (USEPA) issued a proposed rule for radon in water, introducing the concept of the multi-media mitigation program or MMMP. Because the source of the highest risk from radon is indoor air, the MMMP would have allowed community water systems the option of complying with a higher, alternate maximum contaminant level (AMCL) for radon in water, if they contributed in some way to lowering radon in indoor air. A MCL of 300 picocuries per liter (pCi/L) was proposed, while the AMCL was proposed at 4000 pCi/L. The USEPA believed that this approach would result in the greatest risk reduction for the most reasonable cost. Debates over the feasibility of implementing the multimedia approach have so far prevented adoption of a federal MCL.

New Jersey has a well established program that is effective relative to other states in helping to reduce the risk from radon exposure in indoor air, but so far about a third of New Jersey homeowners have tested. The testing of indoor radon levels and installation of mitigation measures to reduce radon levels occurs on a voluntary basis for homeowners and primarily at the time of real estate transfers. Indoor air exposures could be more effectively addressed if the contribution to indoor air from volatilization of radon from drinking water was also controlled. The State's safe drinking water program provides a regulatory mechanism to reduce radon levels in water delivered by public water systems to their customers. Thus, the NJDEP requested the DWQI provide recommendations regarding the appropriate regulation of radon in drinking water and provide recommendations regarding additional regulatory measures that could be taken to reduce indoor air exposure.

The Radon Subcommittee reviewed data regarding radon occurrence in public water systems in the State. They considered health effects, analytical capabilities, and treatment options for regulating radon in drinking water at potential MCLs of 300, 500, 800, 1000, and 4000 pCi/L; these levels were the same as those considered by USEPA in the development of the proposed federal rule.

Based upon this initial review, the Subcommittee decided to further investigate possible MCLs of 800 or 1000 pCi/L, with costs of treatment per life saved as one critical issue to be considered. The estimated cost per life saved is about the same for 800 pCi/L and for 1000 pCi/L, but over 50 more lives over 70 years are anticipated to be saved at the lower MCL than at the higher MCL. For this and other reasons discussed later in this report, the Subcommittee recommended a MCL of 800 pCi/L for radon.

The Subcommittee will address the question of radon in private wells in a separate document in the future, because private wells generally have higher concentrations of radon than public water system wells, and treatment capabilities and costs are a major constraint for private wells. Further time is needed to fully develop appropriate and feasible recommendations on private wells.

Based on these considerations, the DWQI makes the following recommendations to the NJDEP Commissioner:

- NJDEP should initiate rulemaking to establish a MCL of 800 pCi/L of radon in water for community and nontransient noncommunity water systems. Implementation of this recommendation will protect the public from unacceptably high concentrations of radon in drinking water, and constitutes a lifetime (70 year) risk of approximately 5 in 10,000.
- Each public water system should be allowed to determine the best treatment technique, from several available options, to reach a MCL of 800 pCi/L.
- The NJDEP should work with the Legislature to enact mandatory radon testing in indoor air for schools and for homes during real estate transactions, and to consider other mandatory actions to further reduce the public health risks posed by radon in indoor air.
- The Subcommittee will address the application of this MCL to private wells in a separate report in the future.

I. Introduction

In May, 2006, NJDEP Commissioner Lisa P. Jackson charged the DWQI with assessing the prevalence and effects of radon in drinking water, and, if appropriate, making recommendations to develop a maximum contaminant level (MCL) for radon. Because radon exposure in indoor air poses the greatest risk to public health from radon within the home, and because managing the risks associated with radon in drinking water may need to be considered within the context of air exposure, the Commissioner also asked the DWQI to provide recommendations regarding any additional measures that should be taken to reduce public exposure to radon in indoor air. In response to this charge, a Radon Subcommittee (Subcommittee) was created, consisting of DWQI members, and NJDEP and USGS staff.

II. Drinking Water Quality Institute

The DWQI, established by the 1984 amendments to the New Jersey Safe Drinking Water Act (N.J.S.A. 58:12A1 et seq., P.L. 1983, c. 443), is responsible for developing MCLs or standards for hazardous contaminants in drinking water and recommending these standards to the Commissioner of the NJDEP. The standard setting process was established within the 1984 amendments to the New Jersey Safe Drinking Water Act. In 1987, the DWQI recommended MCLs for 16 of the 22 hazardous contaminants listed in the 1984 amendments, which were adopted by NJDEP in 1989.

In 1994, the DWQI recommended MCLs for six (6) additional contaminants based on their potential health effects and their occurrence in New Jersey waters; these MCLs were adopted by the NJDEP in 1996. In addition, in September 1994 the DWQI recommended N.J.S.A. 58:12A-13(b) be amended to include language that allows that the goal for standards for naturally occurring carcinogenic contaminants, such as the radionuclide radon, be a cancer risk level other than one-in-one million as is required for the carcinogenic chemicals listed in the 1984 amendments. The DWQI made this recommendation because it recognized that exposure to certain naturally occurring contaminants from other media (e.g. air, soil) can be more significant than drinking water exposure.

In 2002, the DWQI was charged by the NJDEP to research recommending a separate MCL for Radium 224. The DWQI concluded that the existing USEPA's MCL for Radium 226 and Radium 228 provided public health protection from Radium 224 with the stipulation that certain analytical requirements were met (a rapid analysis gross alpha test). The DWQI also recommended MCLs for arsenic in 2003 (adopted in 2004) and perchlorate in 2005 (the rule to adopt this MCL is under development).

There are fifteen members of the DWQI. Six (6) members serve ex officio and nine (9) members are appointed, three (3) each by the Governor, the President of the Senate, and the Speaker of the Assembly. The appointed members are from academia, environmental/public

health and the public or the regulated public water supply systems. The Governor designates the Chairman of the DWQI. Appendix I contains a list of the DWQI members.

The DWQI is responsible for making recommendations to the Commissioner of the NJDEP for the implementation of the NJDEP's drinking water quality program. As stated in the 1984 amendments, these recommendations shall include development of a list of contaminants for which testing will be required, development of MCLs, development of appropriate testing techniques to measure the MCL, development of testing frequencies, and review of all activities undertaken pursuant to the SDWA (N.J.S.A. 58:12A-20d). Three subcommittees were established to address the main areas of concern outlined in the legislation.

The Health Effects Subcommittee is responsible for recommending health based levels for the contaminants listed in the legislation and for additional contaminants selected based on potential health effects and occurrence in New Jersey drinking waters. For carcinogenic contaminants, the statutory goal is to establish a standard which would not, within the limits of medical, scientific and technological feasibility, permit cancer in more than one-in-one million persons ingesting the contaminant over a lifetime (70 years). The statute does not refer specifically to radionuclide contaminants such as radon (see Section XIII). For noncarcinogens, the statutory goal is to establish a standard, which would not result in any adverse physiological effects following ingestion for a lifetime, within the limits of practicability and feasibility.

The Testing Subcommittee is responsible for assessing appropriate analytical methods to measure concentrations in drinking water as close to the health based levels as possible and for developing appropriate monitoring frequencies.

The Treatment Subcommittee is responsible for evaluating the best available treatment technologies for removal of the regulated contaminants from drinking water, as well as for overall program review.

III. Radon Rule Proposal History

The United States Environmental Protection Agency (USEPA) issued a proposed rule on November 2, 1999 for radon in water, which has not been adopted. The proposed federal rule introduced the concept of the multi-media mitigation program or MMMP. Because the source of the highest risk from radon is indoor air, the MMMP was intended to address this risk by allowing community water systems the option of complying with a higher, alternate maximum contaminant level (AMCL) for radon in water, if they contributed in some way to lowering radon in indoor air. A MCL of 300 pCi/L was proposed, while the AMCL was proposed at 4000 pCi/L. If the radon level in a system's drinking water was over 4,000 pCi/L, treatment of the water would be required. If the radon level in a system's drinking water was at 300 pCi/L or below, it would be deemed in compliance and no action would be necessary. Systems with radon levels between 300 pCi/L and 4,000 pCi/L would be given the option of participating in the MMMP instead of treating the drinking water that they supply. This would have the effect of lowering radon in homes with high levels in indoor air, but not necessarily lowering the

exposures for all persons who drink water with radon levels between 300 and 4000 pCi/L. The USEPA believed that this approach would result in the greatest risk reduction for the most reasonable cost.

When the radon rule was proposed by USEPA, the DWQI members familiarized themselves with the proposal in preparation for responding to it. In addition, the DWQI began collecting data to determine the occurrence of radon in water in New Jersey. Since the USEPA was moving forward with a radon in drinking water program in 1999, the DWQI decided not to move forward with a review of radon for standard setting. Currently, the USEPA's website (http://www.epa.gov/safewater/radon/proposal.html) lists the status of the radon rule as "proposed."

Radon is not currently regulated in drinking water in New Jersey, or in any other state. As indicated in Section VI, Health Effects, radon is classified by USEPA as a human carcinogen; ***the most significant public health risk is due to inhalation.*** Inhaled radon increases the risk of lung cancer. Although New Jersey's radon in air program is one of the most effective in the nation,[1] the testing rate for homes in New Jersey due to the voluntary approach authorized by current legislation is just 33 percent, and just 51 percent of schools have tested for radon. Currently testing is mandatory only for child care centers (e.g., day care centers and pre-schools).

Radon in some of New Jersey's groundwater poses a health risk greater than most currently regulated chemical contaminants in drinking water; therefore, the NJDEP asked the DWQI to investigate the possibility of a MCL or AMCL/MCL for radon in water. Adoption of a radon MCL is expected to decrease the number of cancer-related deaths caused by inhalation and ingestion of radon from water in New Jersey.

As radon's inhalation route for exposure is both unique among drinking water contaminants addressed so far and responsible for 89% of the risk, the DWQI did not use the three established Subcommittees to review the contaminant and develop a MCL recommendation. Instead, a separate Subcommittee was formed consisting of DWQI members, NJDEP staff (from the Divisions of Science, Research and Technology, Water Supply, and Radiation Protection), and the U.S. Geological Survey. The Subcommittee reviewed health effects and risk levels (from ingestion only, and ingestion plus inhalation), analytical capabilities, treatment feasibility, and costs of a proposed regulation. This review is discussed in further detail later in this document.

One of the first issues the Subcommittee faced was whether to consider adopting the Alternative Maximum Contaminant Level (AMCL) of 4,000 pCi/L and multimedia mitigation program (MMMP) for radon in drinking water proposed by USEPA, rather than a more conventional MCL approach. One concern was the inequity inherent in the MMMP program, which was based on the premise that some of the money water utilities saved by complying with the AMCL rather than a stricter MCL would be placed in a fund to reduce radon in indoor air.

[1] The New Jersey Department of Environmental Protection was one of four recipients in the nation of the USEPA September 10, 2007 *Radon Leaders Saving Lives* award for outstanding leadership and innovation in reducing the risk from radon in indoor air.

Many of the communities with drinking water radon levels between 300 pCi/L and 4,000 pCi/L are small, therefore, a State-wide radon in air reduction fund was judged by the Subcommittee to be more appropriate than a municipality based fund, since it would be more feasible to administer and would be able to provide radon reduction funding to the communities with the highest radon levels in indoor air. Because elevated radon levels in indoor air do not always coincide with high radon levels in delivered water, it follows that the funding would not be available for communities with radon in water levels between the MCL and AMCL that also had lower levels of radon in indoor air. The State radon in air reduction fund would be used for communities with the highest radon in indoor air concentrations, even though it is possible that utilities serving these same communities were required to treat for radon in water (because their levels were over the AMCL). Thus, individuals in communities with drinking water radon levels below the AMCL but above the MCL (proposed by USEPA at 300 pCi/L) might not receive the benefits of the radon in air reduction program. The Subcommittee decided that this inherent inequity might be challenged as inappropriate.

Another concern with the USEPA proposal was that participation in the MMMP would be voluntary. There was the possibility that community water systems with radon in water levels between the MCL and AMCL would choose to treat to the MCL, which would address the local drinking water problem but not the larger statewide radon in air problem. By contrast, if the NJDEP requested legislation to require testing of radon in indoor air in real estate transactions and for all schools, to reduce current testing gaps described earlier, the DWQI believes this legislation would be more effective in reducing the risk from radon in air than pursuing a MMMP.

As a result of these considerations, the Subcommittee decided the risk from radon in drinking water should be addressed by a single MCL for community and nontransient noncommunity water systems. The Subcommittee decided to address and evaluate radon in private wells in the future in a separate document due to treatment and cost constraints.

IV. Physical Properties

The USEPA (1999a) noted:

> Radon is a naturally occurring gas formed from the radioactive decay specifically of radium-226, a decay product of uranium-238. Low concentrations of uranium and its decay products, occur widely in the earth's crust, and thus radon is continually being generated. Radon is colorless, odorless, tasteless, chemically inert, and radioactive. A portion of the radon released through radioactive decay moves through air or water-filled pores in the soil to the soil surface and enters the air, while some remains below the surface and dissolves in groundwater.
>
> Because radon is a gas, when water that contains radon is exposed to the air, the radon tends to be released into the air. Therefore, radon is usually present in low concentrations in rivers and lakes. If groundwater is supplied to a house, radon in the

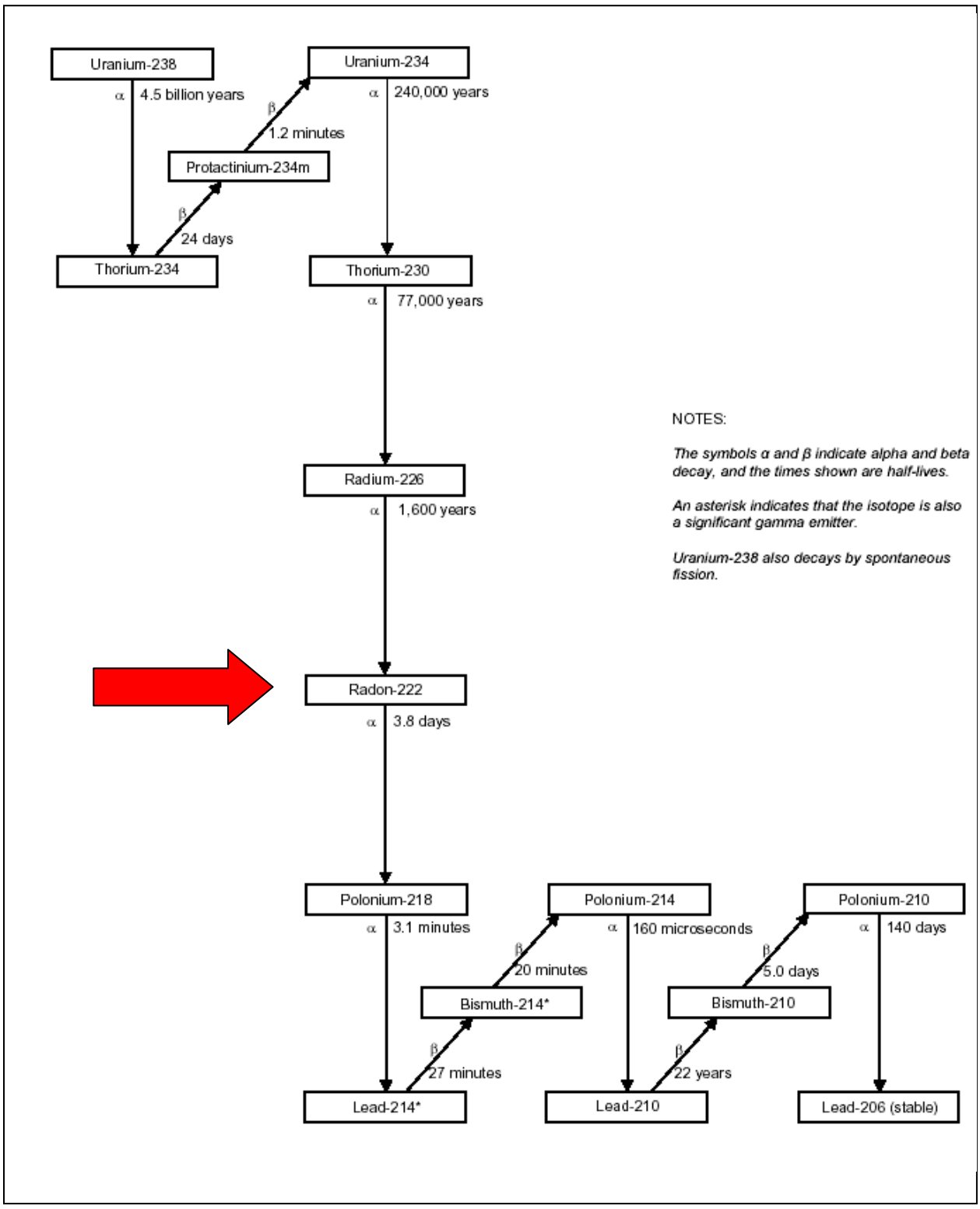
water will tend to be released into the air of the house via various water uses such as showering, cooking, washing, and flushing toilets. Thus, exposure to radon in drinking water supplies results from both drinking the water (ingestion), and breathing air containing both radon and radon decay products released from water (inhalation).

A number of studies have indicated that 10,000 pCi/L of radon in the drinking water supplied to a typical home results in a median concentration of about 1 pCi/L in the indoor air of the home (NRC, 1999b). USEPA and New Jersey have adopted a guideline of 4 pCi/L of radon in indoor air for residences.

As noted by USEPA (1999a),

> Radon itself also decays, emitting ionizing radiation in the form of alpha particles, and transforms into decay products, or "progeny". It has a half-life of about four (4) days and decays into short-lived progeny that are not gases, but are charged particles that can easily attach to and be transported by dust and other particles in the air. The decay of progeny continues until stable, non-radioactive progeny of lead are formed. (See Figure 1) At each step in the process, radiation is released. When health effects are estimated, they account for radiation released by radon plus all of its progeny.

Figure 1: Uranium Decay Series
(Argonne National Laboratory, EVS, Human Health Fact Sheet August, 2005)

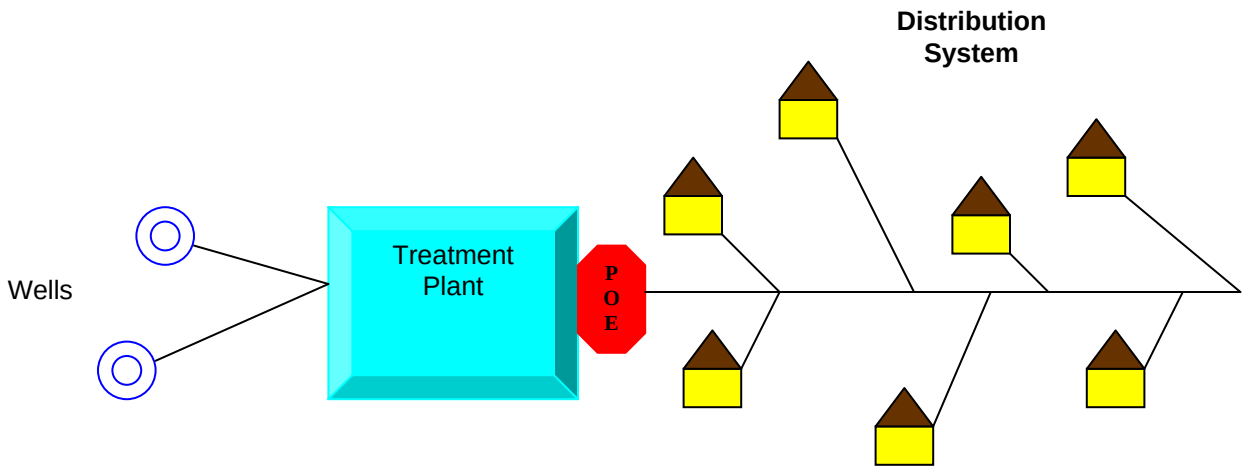


V. Occurrence

The NJDEP Bureau of Safe Drinking Water Technical Assistance (BSDWTA) has been conducting sampling of drinking water for radon since the late 1980s. Distribution system sampling has been conducted for every community water system, with point of entry (POE) sampling performed on a lesser number of systems. The BSDWTA has also recently conducted its complete profile sampling of community water systems, which includes radon sampling in the distribution system and some POE samples.

Distribution system samples are samples that are collected directly from taps at homes, government offices, commercial buildings, or other locations supplied by the water system. The water will have traveled some distance from the POE into the system. POE sampling is done immediately following treatment before the water enters the distribution system. Figure 2 below illustrates the difference between a POE and the distribution system for a water system.

Figure 2: POE and Distribution System of a Community Water System



Normally, radon levels would be expected to be lower in distribution system samples than in POE samples because any radon in the water will have had time to decay and dissipate into the air before distribution samples are taken (typical transit times range from hours to days depending on a system's size, storage capacity, length/size of mains, and demand). However, in some cases, radon levels can be higher in distribution system samples than in POE samples for the same system. For example, in Iowa, elevated levels of radium-226 in water were found to deposit on the distribution system piping, thereby continually producing radon-222 from decay of the radium-226 (see Figure 1) and adding more radon-222 to the incoming concentration (Field, et. al, 1995).

Occurrence data for radon in public drinking water supplies appear in Appendix II, and for private drinking water wells in Appendix III. These data include samples collected by the NJDEP and analyzed by the NJ Department of Health and Senior Services. The concentration of radon ranged from nondetectable levels to 41,000 pCi/L with an average concentration of 921 pCi/L in public water supplies, and from 50 pCi/L to 170,000 pCi/L with an average concentration of 5,040 pCi/L in private wells. Private well data were obtained from the Statewide Scientific Study of Radon (NJDEP, 1989), NJDEP cluster studies, USGS, and certified radon measurement businesses who voluntarily reported radon in water concentrations. Although some of the data were analyzed over fifteen years ago, the analytical methods have not changed and the data are representative of the expected statewide distribution. A preliminary study by USGS in New Jersey showed no statistically significant difference in radon concentrations in water from wells sampled more than once (Szabo and DePaul 2000).

VI. Health Effects

Inhaled radon increases the risk of lung cancer via alpha radiation from radon and its short-lived decay products coming into direct contact with lung tissue. The weight of evidence for the role of inhaled radon in causation of lung cancer is very strong. Radon is classified by USEPA as a known human carcinogen (Group A). There is also evidence from epidemiology and modeling studies that ingestion of radon can cause stomach cancer (USEPA 1999c).

The risk from residential exposure to radon is primarily estimated by extrapolating from lung cancer and other types of cancer observed at high doses in follow-up studies of many groups of underground miners exposed occupationally to radon (Lubin and others 1995: 1994: UNSCEAR 1993; National Research Council 1988, 1999; NCRP 1984).

In recent years, pooling of numerous studies based on radon exposure in residential populations has yielded data in agreement with the lung cancer risk estimates based on extrapolations from the underground miner studies. New Jersey populations have been included in these pooled residential studies. Further, there is evidence that the greatest risk from radon is for small cell lung cancer, the most rapidly fatal lung cancer subtype (Krewski et al. 2006, Darby et al. 2006).

In addition, numerous animal studies and physiologic and modeling data of radon dose and effects are consistent with the extensive observations on the human populations.

The environments of mines and of homes have been compared to determine if adjustments were needed to the residential risks that were estimated from underground miner studies. This required evaluation of not only the physical environment, but also the biological risk models, comparing shorter-term exposures of miners (2 to 20 years) to whole life exposures. The BEIR VI report (National Research Council, 1999) concluded that there are factors that compensate for differences in exposure conditions between mines and homes, such as the fraction of unattached radon decay products and relative breathing rates during mining versus

residential activities. Therefore, the miner risk estimates can be used directly to estimate the risk from radon and its decay product exposure in domestic environments.

Estimated population risks from radon in drinking water via the inhalation and ingestion routes, separately and combined, were determined by the National Research Council (NRC, 1999b). The NRC evaluated intake rates, physical properties of radon such as solubility in blood and tissue, cumulative energy of radiation emitted in the decay of radon and progeny, the behavior of radon in the body (biokinetic model), and the fate of radon decay products in the body to determine a dose conversion factor (a way to translate the amount of radon ingested into a radiation dose). This dose was then translated into risk estimates, based on population, animal, and physiologic studies. The risks from both ingestion and inhalation are presented in Table 1 below and are taken directly from the National Research Council (1999b). As noted above and in Table 1, the risks from inhalation of radon and its decay products, which volatilize from water, contribute the major portion of the risk from residential drinking water exposure (89%). Ingestion of water contributes 11% of the total risk from radon in drinking water in the home.

Table 1: Estimate of Lifetime Risk Posed by Exposure to Radon in Drinking Water at 1 pCi L^{-1}

Smoking Status	Inhalation Risk (89%)	Ingestion Risk (11%)	Total Risk
Ever Smokers*	9.6×10^{-7}	7.4×10^{-8}	1.0×10^{-6}
Never Smokers	1.8×10^{-7}	7.4×10^{-8}	2.6×10^{-7}
All	5.9×10^{-7}	7.4×10^{-8}	6.7×10^{-7}

* Ever Smoker is someone who has smoked at least 100 or more cigarettes

In estimating the carcinogenic effects from radon and other radionuclides in drinking water, the NJDEP, USEPA, Nuclear Regulatory Commission (USNRC), and other regulatory agencies use the linear, non-threshold model. This model assumes that any exposure to ionizing radiation has a potential to increase cancer risk, and that the magnitude of increased cancer risk is directly proportional to the exposure levels (USEPA, 2000). Estimates of cancer risk are derived by extrapolating effects observed at higher doses and dose rates to the lower doses and dose rates likely to be encountered from residential and other environmental exposures. However, regulatory agencies recognize the inherent uncertainties at the lower levels of exposure and exposure rates present in drinking water and other environmental media. At these levels, the actual health impacts from radionuclides are difficult to distinguish from disease incidences due to other causes, even using very large epidemiological studies employing sophisticated statistical analyses.

VII. Risk Calculations

The estimated lifetime risks of exposure to radon in drinking water, as illustrated in Table 1 above, were used to predict the cancer risks for various concentrations of radon in drinking water from ingestion only (Table 2) and from ingestion and inhalation (Table 3).

Table 2: Estimated Lifetime Cancer Risks from Radon in Drinking Water (Ingestion Only)

Radon in Water Concentration (pCi/L)	70 yr Lifetime Risk
100	7 in 1,000,000
300	2 in 100,000
500	4 in 100,000
800	6 in 100,000
1000	7 in 100,000
2000	1 in 10,000
3000	2 in 10,000
4000	3 in 10,000

Table 3: Estimated Lifetime Cancer Risks from Radon in Drinking Water (Ingestion + Inhalation)

Radon in Water Concentration (pCi/L)	70 yr Lifetime Risk **Ever Smokers**	70 yr Lifetime Risk **Never Smokers**	70 yr Lifetime Risk **All**
100	1 in 10,000	3 in 100,000	7 in 100,000
300	3 in 10,000	8 in 100,000	2 in 10,000
500	5 in 10,000	1 in 10,000	3 in 10,000
800	8 in 10,000	2 in 10,000	5 in 10,000
1000	1 in 1000	3 in 10,000	7 in 10,000
2000	2 in 1000	5 in 10,000	1 in 1000
3000	3 in 1000	8 in 10,000	2 in 1000
4000	4 in 1000	1 in 1000	3 in 1000

In order to put cancer risk levels from radon in water into perspective, the following estimated population risks from other sources can be considered. Cigarette smoking is the leading cause of lung cancer. The lifetime risk of lung cancer from smoking one pack of cigarettes per day is 25 in 1000. The risk of lung cancer from the average indoor radon in air concentration, 2.4 pCi/L, in the area of the home at the lowest elevation considered to be habitable (e.g. basement or first floor) in New Jersey is estimated to be 14 in 1000 or approximately 1 in 100. The risk of lung cancer from radon in outdoor air (average of 0.4 pCi/L) is approximately 2 in 1000, close to the total lifetime inhalation plus ingestion risk from exposure to 4,000 pCi/L of radon in drinking water (3 in 1000). The risk from radon in outdoor air cannot be reduced; however, the risk from radon in indoor air and drinking water can be reduced. The risk of lung cancer from breathing indoor air containing 4 pCi/L of radon, the

recommended Action Level, is approximately 24 in 1000 (or about 2 in 100). Inhalation of radon, which volatilizes from water is the major route of residential exposure for risk from waterborne radon. While the risk from typical levels of waterborne radon is much lower than the risk from breathing indoor air containing 4 pCi/L, the risk is nevertheless substantial compared to other waterborne contaminants, which (with a few exceptions such as arsenic and radium) generally are regulated at cancer risk levels of 1 in 100,000 or less.

VIII. Estimated Population Risk

Using the occurrence data in Appendix II and the population served by each water system, population-weighted averages were used to estimate population risks and lives lost at various concentrations of radon in water. "The population-weighted concentration is the form of expression of occurrence information used to estimate the population's risk from exposure to radionuclides. The population-weighted average (C_{pwa}) is calculated by summing the product of concentration (C_i) and population (P_i) over all sites and dividing by the sum of the population over all sites.

The equation is

$$C_{pwa} = \left(\sum_{i=1}^{N} C_i X P_i\right) / \left(\sum_{i=1}^{N} P_i\right)$$

with i representing the i^{th} site and N the total number of sites" (Longtin, 1988).

Estimated lives lost in the population served by New Jersey public drinking water supplies over 70 years from exposure to radon in drinking water are presented in Table 4. For example, based on available distribution system data, the total population receiving public drinking water at or above 300 pCi/L is above 1.1 million. Using the risks from Table 1, the estimated total number of lives lost for each category is calculated using the population-weighted average (in parenthesis in the first column), the associated estimated risk from Table 1 and the population served in column 2. Note that it was assumed that 50% of the population are Ever Smokers and 50% are Never Smokers (NRC 1999b).

Table 4: Estimated Population Risk from Radon in New Jersey Public Drinking Water Supplies

Concentration (pCi/L) (Population weighted average)	Total Population Served (Estimate)	Lives Lost over 70 years			Lives Saved over 70 years if MCL established[2]
		Inhalation	Ingestion	Total[1]	
≥ 300 (632)	1,140,420	427	53	483	368
≥ 500 (991)	486,369	285	36	323	274
≥ 800 (1527)	211,694	191	24	216	195
≥ 1000 (2419)	93,235	134	17	151	142
≥ 2000 (5556)	25,518	84	11	95	92
≥ 3000 (8866)	12,971	68	9	77	76
≥4000 (11,363)	8,891	60	7	68	67

[1] Inhalation + Ingestion may not equal Total due to rounding
[2] Takes into account the lives lost at a post-remediation level of 150 pCi/L

IX. Rationale for Action

The health risks from radon in New Jersey's groundwater are greater than the health risks from most chemical contaminants regulated in drinking water, based on the significant levels of radon in the state's groundwater relative to many other U.S. states, the health risk those radon levels pose, and the portion of New Jersey's population that is affected. New Jersey's radon in air program is well established and relatively effective in reducing the risk from indoor air which results from radon seeping into homes from soil, but would be even more effective if the contribution to indoor air from volatilization of radon from drinking water was controlled. Typical radon in air mitigation systems are effective in reducing radon from soil beneath the house, but are ineffective against radon which originates from water within the home. For more information on New Jersey's existing radon in air program, visit http://www.njradon.org.

These considerations at a national level compelled the USEPA to consider promulgating a radon MCL in the early 1990s. Controversy over this issue led the U.S. Congress to authorize USEPA to issue a proposed rule for radon in drinking water on November 2, 1999, involving the concept of a multi-media mitigation program or MMMP. Because the highest source of risk from radon is indoor air, the MMMP was intended to maximize risk reduction by allowing community water systems the option of complying with a higher, alternate maximum contaminant level (AMCL) for radon in water, if they contributed in some way to reducing radon in indoor air. A MCL of 300 pCi/L was proposed, while the AMCL was proposed at 4000 pCi/L. If a system's drinking water was over 4,000 pCi/L, treatment would be required. If a system's drinking water was at 300 pCi/L or below, it would be deemed to be in compliance. Systems with radon levels between 300 pCi/L and 4,000 pCi/L would be given the option of participating in the MMMP. The MMMP would have the effect of lowering radon in indoor air, depending upon how it was implemented by the water utility or state, but not necessarily lowering the exposures for the persons whose drinking water had radon levels between 300 and

4000 pCi/L. The USEPA believed that this approach would result in the greatest risk reduction for a reasonable cost. However, the proposed rule was never adopted, and currently there is no national MCL for radon in drinking water.

Because of the level of risk from exposure to radon in drinking water by a considerable portion of New Jersey's population, and the absence of federal regulation of radon in drinking water, the NJDEP asked the DWQI to consider recommending a MCL or an AMCL/MCL for radon in water.

X. Testing for Radon

Two analytical methods to test for radon in water were identified by the USEPA in its proposed rule: Liquid Scintillation Counting (LSC) and the de-emanation method. The LSC method is defined as Standard Method 7500-Rn, SM 1995; the de-emanation method is described in the report, ''Two Test Procedures for Radon in Drinking Water, Interlaboratory Study'' (EPA/600/2-87/082). Both the NJDEP and USEPA believe that these methods are technically sound, economical, and generally available for radon in water monitoring. The reliability of these methods has been demonstrated by a history of many years of use by state, federal, and private laboratories. Both methods have undergone interlaboratory collaborative studies (multi-laboratory testing), demonstrating acceptable accuracy and precision.

These currently available analytical methods measure radon in drinking water with acceptable accuracy, bias, and precision. The minimum detectable concentration is from 18 to 50 pCi/L depending primarily on count time. The cost is reasonable ($25-$120 per sample) and there are currently 11 New Jersey laboratories certified for these methods. The sample collection methods require some training and must be completed with care and in the prescribed manner. Regardless of analytical technique chosen, using laboratory certified specialized bottles to avoid escape of the radon gas from the sample before arrival at the laboratory is required. Improper sample collection and handling reduces the ability of these specialized and sensitive analytical methods to ascertain contaminant levels with sufficient precision and accuracy to produce meaningful results. Sample collection should always be completed by a trained professional assigned by and/or trained by the State-certified analytical laboratory. Further discussion of testing methods is presented in Appendix IV.

EPA usually defines the method detection limit (MDL) as the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the true value is greater than zero. The term MDL is used interchangeably with minimum detectable activity (MDA) in radionuclide analysis, which is defined as that amount of activity which, in the same counting time, gives a count which differs from the background count by three (3) times the standard deviation of the background count.

The existing definition of the detection limit takes into account the influence of the various factors (efficiency, volume, recovery yield, background, counting time) that typically vary from sample to sample. Thus, the detection limit applies to the circumstances specific to the analysis of an individual sample and not to an idealized set of measurement parameters. The

detection limit of 18 pCi/L is based on the detection limit described in SM 7500-Rn (50 minute counting time, 6 counts per minute (cpm) background, 2.7 cpm/disintegrations per minute efficiency, and under the energy window optimization procedure as described in the method). This detection limit is applicable to both approved methods. While this is the detection limit under those specified conditions, most laboratories' MDA is 50 pCi/L due to a shorter counting time. This MDA is sufficient to achieve the proposed MCL.

The feasibility of implementing a MCL at a particular level is in part determined by the ability of analytical methods to ascertain contaminant levels with sufficient precision and accuracy at or near the MCL. The proposed methods demonstrate good reproducibility and accuracy at radon concentrations in the range of 150–300 pCi/L (less than half of the proposed MCL).

As with any other regulated contaminant, testing for radon must be done by a New Jersey certified laboratory and samples must be collected according to the method requirements.

XI. Treatment Methods

Many factors may affect a water system's decision as to the most appropriate treatment process for removal of radon. These include the concentration of radon in the source water, existing water quality issues, location of wells and points of entry, design issues, size of the system, and cost of treatment. To evaluate the limits of treatment technology for the removal of radon from drinking water, the NJDEP reviewed USEPA's Federal Register "Radon in Drinking Water Health Risk Reduction and Cost Analysis" dated February 1999 and the proposed radon rule dated November 2, 1999. According to USEPA, the most efficient and cost effective treatment technologies available for removing radon from drinking water are high performance aeration and granular activated carbon (GAC).

Aeration is a treatment process that forces water to come in contact with air. The radon gas removed from the water is released into outdoor air. Aeration removes up to 99 percent of radon from water and is one of the least expensive drinking water treatment processes, making it affordable for large, medium, and small water systems. Aeration also removes volatile organic compounds and oxidizes dissolved arsenic to a less soluble form that is more easily removed from water.

Installing aeration may also require water systems to add other treatment processes. Depending on source water quality, installing aeration treatment may cause an increase in pH, an increase in corrosivity due to increased dissolved oxygen, an increase in bacterial concentration, or conversion of iron and manganese from the dissolved to suspended state resulting in red water and other aesthetic issues. Untreated iron and manganese will increase staining, and iron bacteria, if present, will increase sharply within the aerator. The recommended upper limit (RUL) for iron is 0.3 mg/L and for manganese it is 0.05 mg/L. New Jersey allows the use of sequestration at up to twice the RUL or 0.6 mg/L and 0.10 mg/L respectively.

There are several types of high performance aeration including Packed Tower Aeration, Multi Stage Bubble Aeration, and Shallow Tray Aeration. Even though Packed Tower Aeration (PTA) is the most effective aeration technology, it is not ideal for water systems with extremely high radon levels in their source water. The cost of PTA depends on the amount of radon removal required for the water system to meet the MCL. Up to 99.9 percent of radon can be removed from water, depending on the packing height. Treatment strategies can be combined or adjusted depending upon the initial radon concentrations and the amount of removal needed.

Diffused bubble aeration may use existing treatment basins for the aeration process, which will lower the cost of construction. This treatment process does require additional contact time, but can remove up to 90 percent of radon. Spray aeration has advantages similar to diffused aeration, except that it requires a significant sized operating area and problems may arise when temperatures are below freezing. However, most water systems do not have existing basins. In these systems, diffuse aeration would require the construction of new basins or the installation of a package system. In either of these cases, the cost will be substantially higher than for a packed tower.

GAC, commonly used for removal of organic contaminants, removes radon by attracting and accumulating radon onto carbon filters. Greater contact time and carbon surface area is essential to remove radon from water than for organic compound removal. As a result, GAC treatment costs for radon removal may be increased, making this treatment only suitable for some small water systems.

The disadvantage of using GAC is that radon which is adsorbed onto the GAC will decay, producing gamma-emitting progeny. These progeny also decay, and a steady state will be reached at which the amount of progeny adsorbing onto the GAC equals the amount that is decaying. The gamma exposure from the GAC can be a safety issue for workers at the treatment plant. Once the GAC tank is disconnected from the system, the short-lived radon progeny will decay in about 30 days, and the GAC can be safely disposed of or reprocessed. GAC treatment is generally not recommended for radon in water levels above 4000 pCi/L because of the gamma exposure issue. At lower radon levels, GAC can remove up to 99 percent of radon from water. The carbon filters must be replaced routinely as they eventually no longer remove radon, due to accumulation of waste and bacteria on filter media. The advantages of GAC are that it requires minimal maintenance, does not require a break in pressure, and does not produce radon gas emissions.

Besides aeration and GAC, other treatment options may be preferable for some systems with specific characteristics. Ventilated storage may be used to treat for radon for those sources of water with lower radon levels. Radon concentrations in water will decrease through decay and volatilization when water is stored in contact with air. The half-life of radon is 3.8 days; therefore, USEPA states that storage for about 4 days may be sufficient to reduce radon levels in drinking water with lower radon levels. Kinner et al. (1989) evaluated a system in the laboratory using a 30 gallon plastic tank filled with 27 gallons of water containing radon. Radon removals of 80 to 90 % were observed after 5 to 6 days of storage. However, over more typical

detention times of 6 to 24 hours, the loss of radon was considerably lower (20 to 40 %). Drago (1998) considers this method feasible if the radon concentration is just slightly greater than the MCL. The few community water systems in New Jersey selecting this form of treatment may already have storage facilities available.

A system may also elect to increase pumping from sources with low levels of radon and decrease use of a source with high radon level. Locating another source of water either by drilling a new well or purchasing water from another purveyor may be another option for reducing radon in drinking water.

XII. Treatment Costs

USEPA conducted a cost analysis of several possible radon treatment technologies reported in "Radon in Drinking Water Health Risk Reduction and Cost Analysis" dated February 1999. The cost of treatment for radon for nontransient noncommunity water systems is not fully identified at this time.

NJDEP, with assistance from the Subcommittee, conducted its own radon treatment cost analysis, including estimates for capital and operation and maintenance (O&M), for community water systems in New Jersey. The NJDEP reviewed radon sampling data and calculated a projected cost of treatment based on POE pumping capacity (size). NJDEP estimated it would cost about $480,320 to treat a small POE with a pumping capacity up to 0.5 million gallons per day (MGD) for radon. A medium sized POE with a pumping capacity of 0.6 to 1.5 MGD, will cost about $918,000 to treat. Treating a large POE, with pumping capacity more than 1.5 MGD, will cost about $1,371,400. Larger POEs have higher treatment costs but larger populations, so the cost per household will decrease as the size of a water system increases.

NJDEP used existing radon results from distribution system sampling and determined which POEs would need to treat under a MCL of 300, 500, 800, or 1000 pCi/L. Only community water systems with at least one POE or distribution system with results above 300 pCi/L were included in this cost analysis. NJDEP lacks radon data for all community water systems and excluded noncommunity water systems. Besides initial installation and permit costs, water systems will incur operation and maintenance costs for radon removal; Tables 5 through 7 thus include both capital and O&M costs over 20 years, discounted to their present worth, in their figures. The amount of treatment needed at a water system may vary and various treatments or combined treatments may have different capital and O&M costs. Some water systems may only need to treat for radon at a few sources rather than the whole system. The total number of large, medium, and small POEs in each radon MCL category was multiplied by the projected cost of treatment to determine total cost. The cost of treatment analysis in Table 5 should not be used to predict the number of systems that will have to treat, as this can only be determined after POE sampling.[2]

[2] These figures also exclude any reduction in costs due to economies of scale or technological innovation that might be prompted by increased demand for radon treatment technology due to the proposed MCL. Whether these consequences would occur or reduce costs was too uncertain to make their inclusion in these estimates appropriate.

Table 5: Estimated Radon Treatment Costs using Distribution Data

If Radon MCL Set at (pCi/L)	Point of Entry (POE) Size	Estimated Number of POEs Requiring Treatment	Present Worth ($M) *	Total Cost ($M)
300	Small	332	$159.5	$288.7
	Medium	84	$ 77.1	
	Large	38	$ 52.1	
500	Small	220	$105.7	$156.6
	Medium	39	$ 35.8	
	Large	11	$ 15.1	
800	Small	126	$ 60.5	$78.8
	Medium	11	$ 10.1	
	Large	6	$ 8.2	
1000	Small	104	$ 50.0	$56.4
	Medium	4	$ 3.7	
	Large	2	$ 2.7	

*** Capital Costs + O&M = Present Worth (5%, 20 years)**
Small Point of Entry by Present Worth Cost per Point of Entry of $480,320
Medium Points of Entry by Present Worth Costs per Point of Entry of $918,000
Large Points of Entry by Present Worth Costs per Point of Entry of $1,317,400

Using the cost estimate data, NJDEP calculated and compared lives lost, lives saved, treatment cost, cost per life saved, and the difference in total cost per life saved over 70 years across potential MCLs. To determine these values, NJDEP analyzed the number of POEs, pumping capacity of the POE, distribution system radon results, population served, and estimated treatment costs based on the size of the POE. This analysis is presented in Table 6 for inhalation plus ingestion, and Table 7 for ingestion only (the latter figures are so much larger than in Table 6 because the risks and lives saved are so much smaller, and thus a given level of treatment incurs much greater costs per life saved).

Table 6: Estimated Cost Per Life Saved from Inhalation + Ingestion Risk at Potential Radon MCLs

Proposed MCL	Lives **saved** over 70 years: Mitigation at and above proposed MCL	Total cost of mitigation at proposed MCL ($M)	Cost per life saved at proposed MCL (total cost/lives saved over 70 yrs)	Difference in cost per life saved between potential MCL and next lowest potential MCL
300	368	$288.7	$784,511	Not applicable
500	274	$156.6	$571,533	$212,978
800	195	$78.8	$404,103	$167,430
1000	142	$56.4	$397,183	$ 6,920

Table 7: Estimated Cost Per Life Saved from Ingestion Only Risk at Potential Radon MCLs

Proposed MCL	Lives **saved** over 70 years: Mitigation at and above proposed MCL	Total cost of mitigation at proposed MCL ($M)	Cost per life saved at proposed MCL (total cost/ lives saved over 70 yrs)	Difference in cost per life saved between potential MCL and next lowest potential MCL
300	37	$288.7	$7.8M	Not applicable
500	27	$156.6	$5.8M	$2.0M
800	20	$78.8	$3.9M	$1.9M
1000	14	$56.4	$4.0M	$100,000

In order to determine the cost per life saved, it was necessary to estimate the number and size of community water systems that would be required to treat at a given potential MCL. Because compliance will be determined at the POE, ideally the cost per life calculations should use POE results. However, as previously mentioned, most community water system data were collected from the distribution system, and presently, the NJDEP has limited POE data. The NJDEP analyzed the limited data available from systems with both POE and distribution system data to determine if an obvious relationship exists between the two, and to examine whether using distribution data for determining the cost per life saved would provide a reasonable approximation of the cost based on POEs. The effect on cost per life saved of using distribution system data instead of POE data depend on the relationship between the two. If POE data were higher than distribution system data for a given system, the number of lives saved would be higher, and the corresponding cost per life saved would be lower than the cost per life saved based on distribution system data. If the POE data were lower than the distribution system data for a given system, the number of lives saved would be lower and the corresponding cost per life saved would be higher than if based on distribution system data. The analysis of the data showed that there is not a strong bias towards POE results either being greater or less than the results for the distribution system. As there is not a strong bias in either direction, the Subcommittee determined that distribution system data may be used to determine a good approximation for the cost per life saved.

As Tables 6 and 7 illustrate, the difference in cost per life saved between the lower potential MCLs is substantial, but the difference in cost per life saved between possible MCLs of 800 and 1,000 pCi/L is negligible ($6,920) based on the estimates of costs and affected systems. Consequently, a MCL of 800 pCi/L is recommended based on the greater number of estimated lives saved for roughly similar cost, and the feasibility of implementing the proposed MCL.

XIII. DWQI Recommendations to the NJDEP Commissioner

The health-based goal for establishing drinking water standards for carcinogenic

substances in New Jersey, as stated in the 1984 amendments to the New Jersey Safe Drinking Water Act, is a one-in-one million excess cancer risk over a lifetime exposure period within the limits of medical, scientific and technological feasibility. Although this statute provides some context for the Subcommittee's deliberations on a radon MCL recommendation, it **specifically addresses chemical contaminants, and does not directly address standards development for radon or other radionuclides**. In 1994, the DWQI recommended that N.J.S.A. 58:12A-13(b) be amended to include language that allows for standards for naturally occurring carcinogenic contaminants, such as the radionuclide radon, to be based on a risk level other than one-in-one million. The DWQI included this statement because it was recognized that exposure to certain naturally occurring contaminants in non-water media, such as indoor air, is more significant than drinking water exposure, and this is particularly true for radon. The Radon Subcommittee concurred with this previous DWQI recommendation.

The Subcommittee determined that the drinking water concentration resulting in a one-in-one million excess cancer risk over a lifetime exposure for radon in water is 1.5 pCi/L, considering exposure from both inhalation and ingestion. Although inhalation risk was not specifically considered in the development of past DWQI MCL recommendations for chemical contaminants, it was considered in development of the radon MCL since the inhalation route represents a significant portion of the risk from radon in drinking water.

The Subcommittee determined that 50 pCi/L is the practical minimum detectable activity (similar to the practical quantitation level for chemicals) that can be achieved consistently by New Jersey certified drinking water laboratories using appropriate federally approved methods. Lower minimum detectable activities are possible with longer counting times at greater expense.

The Subcommittee also determined that radon can be removed at an efficiency of 90 to 99% based on treatment technologies currently available. Further reductions are possible at further expense. However, the health-based goal is not achievable within the limits of scientific and technological feasibility.

Based on this information, and reported levels of radon in New Jersey public water supplies, the Subcommittee considered potential MCLs at radon levels of 300, 500, 800, 1,000, and 4,000 pCi/L. This is the range of radon MCLs considered by USEPA in its 1999 proposal for regulating radon in drinking water.

One factor in the Subcommittee's deliberations was the relation to potential radon MCLs of the historical record of decisions about risk levels that are tolerable for health as well as feasible. For example, concentrations of radon in drinking water from the middle of that range result in estimated lifetime risks from ingestion and inhalation of 3×10^{-4} for 500 pCi/L, 5×10^{-4} for 800 pCi/L, and 7×10^{-4} for 1000 pCi/L. Limitations in the toxicological and epidemiological data used to develop risk models mean that population risk estimates have inherent uncertainty up to two or three times larger or smaller than any one estimate (NRC, 2006). Thus the comparisons below to regulations of radionuclides and chemicals should be considered in the

context of that uncertainty; prior regulations imply permissible risks both higher and lower than those implied by the estimates for potential radon MCLs.

For example, the Subcommittee examined USEPA approaches for radionuclides in drinking water, site cleanups, and air:

- USEPA established a range of 1×10^{-4} to 1×10^{-6} as a permissible cancer incidence risk for radionuclides in drinking water (Fed. Reg. 65, 21576; April 21, 2000) and hazardous waste sites (Fed. Reg. 55, 8716; March 8, 1990).
- However, the USEPA has used a risk level slightly higher than $1x10^{-4}$ (e.g. 3×10^{-4}) as a permissible risk for radioactive contamination at Comprehensive Environmental Response, Compensation, and Liability Act (Superfund) sites and radionuclides regulated under the Clean Air Act programs.
- When dealing with elemental phosphorus plants, EPA explicitly rejected a risk level of $5.7x10^{-4}$ as not being equivalent to the target level of $1x10^{-4}$ (USEPA December 15, 1989. Fed, Reg. 54, 51670).
- The NJDEP's promulgated state Soil Standards for Radioactive Materials (N.J.A.C. 7:28-12), sets 15 millirem[3] per year (mrem/y) as the dose criterion, the same level established by the USEPA (OSWER No. 9200.4-18). This dose translates to a risk of 3×10^{-4}.

Other examples of historically permissible risk apply to chemicals in drinking water. Under the A-280 amendments to the New Jersey Safe Drinking Water Act to date, the DWQI has recommended to the NJDEP 17 MCLs based on calculated health effects alone, and nine MCLs based on a combination of health effects and feasibility. Arsenic is an example of a MCL for a carcinogen that could not be set at the one-in-one million risk level due to treatment feasibility issues. The MCL of 5 ug/L for arsenic adopted by NJDEP entails an additional cancer risk of approximately 2 in 1000 (2×10^{-3}). This is the highest risk level yet associated with a MCL developed in New Jersey. The federal MCL for arsenic is 10 ug/L, with a risk level of approximately 4×10^{-3}.

Radon is a naturally occurring contaminant with widespread occurrence in New Jersey. In addition to the health risk data and the contribution of radon from additional sources, the large number of public drinking water systems that would be affected in New Jersey led the Subcommittee also to consider the costs per life saved in establishing the MCL. As noted earlier, the differences in costs per life saved between potential MCLs of 100, 300, 500 and 800 pCi/L were substantial, requiring a decision as to how to best balance the health goal and feasibility. However, because of the larger number of individuals whose water would be treated at radon levels of 800 pCi/L than at 1000 pCi/L, the estimated cost per life saved for 800 pCi/L ($404,103) is statistically indistinguishable from the estimated cost per life saved for 1000 pCi/L ($397,183) (Table 6), based on the approach used to determine these costs. Thus, there is no advantage in regard to cost per life saved in choosing 1000 pCi/L instead of 800 pCi/L.

[3] A millirem is a measure of radiation dose which takes into account the amount of energy absorbed by the body from the radionuclide and its effectiveness in causing detrimental biological effects.

Based on consideration of factors discussed above, including statutory language in the NJ Safe Drinking Water Act, risks at which radionuclides are regulated in other situations, and cost per life saved at the recommended MCL, the Subcommittee and DWQI recommend a New Jersey MCL of 800 pCi/L for radon.

Additional considerations can be used to provide further support for 800 pCi/L as the MCL for radon, and to put the recommendation of this concentration in context. The risk of radon in drinking water at 800 pCi/L may be compared to the risk at the Action Level of 4 pCi/L of radon in indoor air recommended by USEPA and NJDEP. This Action Level is based on the available technology to reduce radon levels in indoor air of homes, and is not a health-based Action Level. The lifetime cancer risk at the recommended Action Level of 4 pCi/L is about 2 in 100, much higher than the risk of 5×10^{-4} from ingestion and inhalation of radon in water at 800 pCi/L.

It is also useful to consider the contribution of inhalation of radon from drinking water at 800 pCi/L compared to the unavoidable exposure from the background level of radon in air in the home. The background indoor air level is generally considered to be the same as the outdoor air level, approximately 0.4 pCi/L of air, if there are no additional indoor sources, such as natural soil gas. Natural soil gas with highly variable radon concentrations seeping into the home is the predominant additional indoor air radon source, making the testing of indoor air in each home necessary. The variability in outdoor radon levels due to measurement errors ranges from 8 - 20%, based on a statistical analysis of several studies, including seven (7) years of hourly measurements of radon in air at a suburban northern New Jersey site and a national USEPA survey, both cited by the National Research Council (NRC) Committee on Risk Assessment of Exposure to Radon in Drinking Water (NRC, 1999b). The contribution to indoor radon in air from drinking water with 800 pCi/L (the proposed MCL) would not cause an increase in radon released to indoor air above the measurement errors associated with the background level of 0.4 pCi/L. In other words, the Subcommittee deems it reasonable to allow an increase in inhaled radon from drinking water to be 20% of the outdoor air level, or approximately 0.08 pCi/L of air. Since the relationship between radon in water and radon volatilized into residential indoor air is approximately an additional 1 pCi/L of indoor air per 10,000 pCi/L in water in an "average" home, the recommended MCL of 800 pCi/L in water would result in an increase of about 0.08 pCi/L in indoor air. The analytical method for radon in water readily allows for accurate and precise (< 10% error) determination of levels of 800 pCi/L.

Thus, considering all the factors discussed above, the DWQI makes the following recommendations to the NJDEP Commissioner:

- Rulemaking should be initiated that would establish 800 pCi/L of radon in water as the MCL for community and nontransient noncommunity water systems. Implementation of this recommendation will protect the public from unacceptably high concentrations of radon in drinking water, and constitutes a lifetime (70 year) risk of 5 in 10,000.

- A recommendation for a specific treatment technique is not made. The best treatment technique, from several available options, to reach a MCL of 800 pCi/L will need to be decided on a case-by-case basis by each public water system.
- The subcommittee also recommends that the NJDEP Commissioner work with the Legislature to enact mandatory radon testing in indoor air for schools and for homes during real estate transactions, and to consider other mandatory actions, to further reduce the public health risks posed by radon in indoor air.

XIV. Further Action

The Subcommittee requested that a radon MCL recommendation for community and nontransient noncommunity water systems be developed immediately due to its public health benefits, rather than delaying for further evaluation of its applicability to radon in private wells. Applying a MCL of 800 pCi/L intended for public water supplies to private wells may not be feasible, since available data indicate that private wells generally have higher concentrations of radon than public water system wells and because treatment and maintenance costs may present greater constraints for private wells than for public water supplies. Since radon is a naturally occurring contaminant, the cost of treatment in private wells will not be covered under the Hazardous Discharge Site Remediation Fund (N.J.S.A. 58:10B-4). Therefore, considering ways to mitigate radon in the air within homes with levels of radon in those homes' well water above the proposed MCL may be more appropriate for individual homes than applying a fixed MCL for radon in water. Through this approach, the disadvantage due to the inherent inequity (discussed in Section III) would be eliminated. On the other hand, individual homes where waterborne radon is the predominant source of radon in indoor air may be of special concern. In these cases, it is possible that standard indoor air abatement procedures will not achieve the anticipated reduction of radon exposure and risk, while treatment of water would provide significant exposure and risk reduction. The Subcommittee will consider the possible options for regulation or guidance for radon in private wells and will provide a final recommendation to the DWQI in a future report.

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Appendix I: Drinking Water Quality Institute Members

9 Appointed Members

Type	Governor Appointments	Senate Appointments	Assembly Appointments
Water Purveyor	Jean Matteo* United Water New Jersey	Carol Storms* Aqua New Jersey	Laura Cummings Passaic Valley Water Commission
Academic	Mark Robson Rutgers—New Jersey Agricultural Experiment Station	Russell Ford* Stevens Institute of Technology CH2M Hill	Judith Klotz* UMDNJ
Environmental/ Public Health	Vacant	Paul LaPierre Land Dimensions	Dave Pringle New Jersey Environmental Federation

6 Members Specified in Law

Barker Hamill for NJDEP Commissioner*
Steve Jenniss for NJDHSS Commissioner
Eugene Golub (Alternate: Ella Filippone) – Chair, Water Supply Advisory Council
Leslie McGeorge for Director of Division of Water Resources in NJDEP*
Gloria Post for Director of Science, Research and Technology in NJDEP*
Perry Cohn for Director of Office of Occupational and Environmental Health in NJDHSS*

* Indicates Radon Subcommittee Member

The work of the Radon Subcommittee was supported by Zoltan Szabo of the U.S. Geological Survey and Perry Cohn of the New Jersey Department of Health and Human Services, and by the following staff of the New Jersey Department of Environmental Protection: Sandra Krietzman, Kristin Hansen, and Branden Johnson of the Bureau of Safe Drinking Water Technical Assistance; Judy Louis of the Division of Science, Research and Technology; Jenny Goodman and Patricia Gardner of the Bureau of Environmental Radiation; and Vas Komandori of the Office of Quality Assurance.

Appendix II: Community Water System Radon Data

Sample Types: DS= distribution system; EP= entry point; RW= raw water (before treatment)

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
A AND J MOBILE HOME PARK	DS	5/5/2006	82
ABERDEEN - CLIFFWOOD/CLIFFWOOD BEACH	DS	11/8/2001	110
ABERDEEN - FRENEAU	DS	11/1/2005	29
ABERDEEN- HIGH SCHOOL/OAKSHADE AREA	DS	11/1/2005	53
ALBERT C WAGNER YOUTH CO	DS	7/1/2002	120
ALBERT C WAGNER YOUTH CO	DS	10/9/1997	96
ALLAMUCHY WATER DISTRICT #1	DS	10/29/1997	3600
ALLENDALE WATER DEPT	DS	3/14/2003	260
ALLENDALE WATER DEPT	DS	4/14/1998	930
ALLENTOWN WATER DEPT	DS	6/11/2003	3
ALLENTOWN WATER DEPT	DS	4/7/1998	100
ALLENTOWN WATER DEPT	DS	11/17/1992	60
ALLENWOOD MOBILE ESTATES	DS	3/20/2003	470
ALLENWOOD MOBILE ESTATES	DS	4/13/1998	560
ALLENWOOD MOBILE ESTATES	DS	1/27/1992	580
ALPHA MUNICIPAL WATER WO	EP	5/5/2005	380
ALPINE VILLAGE MOBILE H P	DS	7/27/1994	370
ALPINE VILLAGE MOBILE H P	DS	5/7/1992	320
ANCORA PSYCHIATRIC HOSPITAL	DS	1/6/2003	870
ANCORA PSYCHIATRIC HOSPITAL	DS	1/21/1998	330
ANCORA PSYCHIATRIC HOSPITAL	DS	10/29/1992	420
ANDOVER BORO WATER DEPT	DS	2/18/1998	128
ANDOVER INTERMEDIATE CARE CNTR	EP	5/19/2005	490
ANDOVER NURSING HOME	EP	5/19/2005	560
ANDOVER WATER CORP	DS	9/5/2001	350
ANGLE INN MOTOR COURT	DS	2/25/2003	67
ANGLE INN MOTOR COURT	DS	4/23/1998	180
AQUA NEW JERSEY - WOOLWICH	DS	7/17/2000	120
AQUA NEW JERSEY - WOOLWICH	EP	1/19/1999	120
AQUA NEW JERSEY - WOOLWICH	EP	12/8/1998	130
AQUA NEW JERSEY INC. - FOX HILL	DS	2/1/2000	1510
AQUA NJ - HAMILTON SQUARE	RW	6/14/2002	220
AQUA NJ - HAMILTON SQUARE	RW	4/14/1992	270
AQUA NJ CALIFORNIA VILLAGE 2	DS	5/3/1999	550
AQUA NJ CALIFORNIA VILLAGE I	DS	4/12/1999	550
AQUA NJ CALIFORNIA VILLAGE I	DS	1/12/1999	1410
AQUA NJ INC CALIFON	DS	3/2/2000	420
AQUA NJ INC CALIFON	RW	6/23/1994	720
AQUA NJ INC RIEGEL RIDGE	DS	4/2/1998	1510
AQUA NJ INC RIEGELSVILLE	DS	2/1/2000	370
AQUA NJ INC WARREN GLEN	DS	10/5/1994	750

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
AQUA NJ INC. - BLACKWOOD	DS	3/27/2003	260
AQUA NJ INC. - BLACKWOOD	RW	4/9/2002	500
AQUA NJ INC. - BLACKWOOD	DS	8/17/1998	170
AQUA NJ INC. - BLACKWOOD	RW	12/3/1997	360
AQUA NJ INC. - BLACKWOOD	RW	4/21/1994	450
AQUA NJ INC. - BLACKWOOD	RW	4/21/1994	200
AQUA NJ INC. - BLACKWOOD	RW	4/14/1994	640
AQUA NJ INC. - BLACKWOOD	RW	4/14/1994	310
AQUA NJ, INC - BRAINARDS	DS	12/9/1997	200
AQUA NJ, INC-BUNNVALE	DS	1/26/2002	420
AQUA NJ, INC-BUNNVALE	DS	3/2/1998	640
AQUA SOURCE UTIL NJ-BEAR BROOK	EP	2/9/1999	220
AQUA SOURCE UTIL NJ-BEAR BROOK	EP	2/9/1999	140
ARTHUR BRISBANE CHILD TR	DS	9/26/2001	150
ARTHUR RD WELL ASSOC	DS	7/28/1999	2280
ASCOT PARK APTS	DS	9/5/2001	750
ASCOT PARK APTS	RW	6/7/1994	460
ATLANTIC CITY MUA	DS	3/16/2000	75
ATLANTIC CITY MUA	EP	9/17/1997	130
ATLANTIC HIGHLANDS WATER	DS	4/27/2006	32
AUBURN VILLAGE WATER SUP	DS	5/2/2000	110
AUBURN VILLAGE WATER SUP	EP	7/22/1997	110
AVALON WATER AND SEWERAGE UTILITIES	DS	10/5/2004	83
AVALON WATER AND SEWERAGE UTILITIES	DS	6/16/1999	240
AVON BY THE SEA WATER DE	DS	3/1/2000	42
AWM COUNTRY OAKS	DS	2/28/2000	180
AWM FOUR SEASONS AT CHESTER	EP	9/27/1999	3340
AWM FOUR SEASONS AT CHESTER	EP	9/27/1999	680
BARNEGAT LIGHT WATER DEP	DS	9/2/2004	82
BARNEGAT LIGHT WATER DEP	DS	9/9/1999	150
BARNEGAT TWP WATER SEWER	DS	9/11/2003	200
BARNEGAT TWP WATER SEWER	RW	3/7/2000	150
BARNEGAT TWP WATER SEWER	DS	11/16/1998	270
BAYONNE MUA	DS	11/28/2006	35
BAYSHORE MOBILE HOME PARK	DS	3/21/2000	320
BAYSHORE MOBILE HOME PARK	DS	10/25/1990	380
BAYVIEW WATER CO	DS	9/25/2002	120
BAYVIEW WATER CO	DS	8/18/1997	120
BAYVIEW WATER CO	DS	7/15/1992	82
BEACH HAVEN WATER DEPT	EP	5/8/2000	87
BEACH HAVEN WATER DEPT	DS	11/10/1999	0.01
BEACHWOOD WATER DEPT	RW	7/28/2004	270
BEACHWOOD WATER DEPT	DS	4/30/2002	220
BEACHWOOD WATER DEPT	DS	2/26/1998	200
BEACHWOOD WATER DEPT	DS	2/20/1992	220
BELLEVILLE WATER DEPT	DS	12/7/1999	37
BELLMAWR WATER DEPT	DS	11/19/2001	130

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
BELLMAWR WATER DEPT	DS	11/9/1993	290
BELMAR WATER DEPT	DS	7/26/2001	140
BERKELEY TWP MUA	DS	3/11/2005	85
BERKELEY TWP MUA	EP	4/18/2000	280
BERKELEY TWP MUA	DS	1/26/1998	230
BERKELEY WATER COMPANY	EP	6/7/2000	170
BERKELEY WATER COMPANY	DS	6/23/1999	210
BERKELEY WATER COMPANY	RW	2/26/1998	350
BERKELEY WATER COMPANY	RW	6/18/1997	170
BERLIN WATER DEPARTMENT	DS	6/5/2000	110
BERLIN WATER DEPARTMENT	DS	2/25/1992	150
BERRYMANS BRANCH MOBILE HM P	DS	8/16/2004	110
BERRYMANS BRANCH MOBILE HM P	DS	1/4/2000	120
BERRYMANS BRANCH MOBILE HM P	RW	7/27/1998	220
BERRYMANS BRANCH MOBILE HM P	RW	7/27/1998	20
BLACK HORSE MANOR	DS	3/16/2000	120
BLACK HORSE MANOR	DS	6/11/1990	140
BLAIRSTOWN WATER DEPARTM	DS	10/5/2006	241
BLOOMFIELD WATER DEPARTMENT	DS	4/20/1998	75
BLOOMFIELD WATER DEPARTMENT	DS	8/19/1997	70
BLOOMINGDALE WATER DEPT	DS	5/10/1999	90
BLOOMSBURY W DEPT	RW	11/30/1993	650
BNAI BRITH CHESILHURST HOUSE	EP	1/28/2003	440
BOGERTS RANCH ESTATES IN	DS	8/25/1990	1900
BOONTON TWP WATER DEPT	DS	2/15/2000	89
BOONTON WATER DEPT	DS	5/20/2002	260
BORDENTOWN WATER DEPARTM	DS	12/14/2006	41
BOROUGH OF SPRINGLAKE	DS	7/15/2003	nondetect
BOROUGH OF SPRINGLAKE	DS	10/22/1998	180
BOROUGH OF SPRINGLAKE HEIGHTS	DS	1/26/2000	52
BRANCHVILLE W DEPT	RW	11/17/1998	680
BRANCHVILLE W DEPT	DS	8/24/1994	140
BRICK TOWNSHIP MUA	RW	5/19/2004	55
BRICK TOWNSHIP MUA	DS	6/9/2003	810
BRICK TOWNSHIP MUA	DS	6/26/2002	54
BRICK TOWNSHIP MUA	DS	10/2/1997	71
BRIDGETON CITY WATER DEPT	RW	1/13/2004	190
BRIDGETON CITY WATER DEPT	RW	9/3/2002	310
BRIDGETON CITY WATER DEPT	DS	1/7/2002	390
BRIDGETON CITY WATER DEPT	RW	10/19/2001	450
BRIDGETON CITY WATER DEPT	RW	5/28/1998	310
BRIDGETON CITY WATER DEPT	RW	3/25/1998	1120
BRIDGETON CITY WATER DEPT	RW	3/25/1998	440
BRIELLE WATER DEPT	DS	12/23/2003	2
BRIELLE WATER DEPT	DS	3/17/1999	170
BRIGANTINE WATER DEPARTMENT	DS	5/24/1999	110
BROOKLAWN WATER DEPARTME	DS	11/19/2001	130

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
BROOKLAWN WATER DEPARTME	DS	9/28/1992	170
BROOKWOOD MUSCONETCONG RV	DS	5/20/1999	1240
BUENA BOROUGH MUA	RW	6/12/2002	270
BUENA BOROUGH MUA	DS	9/4/2001	210
BUENA BOROUGH MUA	DS	2/2/1993	1130
BUENA FAMILY MANOR MOBILE H P	DS	9/4/2001	240
BUENA FAMILY MANOR MOBILE H P	DS	7/20/1994	260
BURLINGTON CITY WATER DE	DS	9/16/2002	73
BURLINGTON CITY WATER DE	EP	9/14/1992	73
BURLINGTON COUNTY INSTIT	DS	11/3/2004	79
BURLINGTON COUNTY INSTIT	DS	11/16/1999	200
BURLINGTON TWP W DEPT	RW	5/3/1999	210
BURLINGTON TWP W DEPT	RW	6/17/1993	320
BUTLER WATER DEPT	DS	5/13/1998	120
BUTTONWOOD MOBILE HOME PARK	DS	1/9/2007	393
BYRAM HMWNRS ASSOC WATER	EP	5/19/2005	4900
BYRAM HMWNRS ASSOC WATER	DS	4/24/2000	3200
BYRAM HMWNRS ASSOC WATER	DS	8/30/1990	14500
CALDWELL WATER DEPT	DS	3/7/2005	65
CALDWELL WATER DEPT	DS	12/22/1999	150
CAMDEN CITY WATER DEPARTMENT	RW	10/28/2003	99
CAMDEN CITY WATER DEPARTMENT	DS	1/11/1999	150
CAMELOT AT SPRUCE RIDGE	DS	10/26/1998	570
CAPE MAY MOBILE ESTATES	DS	4/2/2003	75
CAPE MAY MOBILE ESTATES	DS	8/5/1998	180
CAPE MAY POINT BORO WATE	DS	1/30/2002	150
CAPE MAY WATER & SEWER U	DS	6/24/1999	200
CAPE MAY WATER & SEWER U	EP	3/1/1999	390
CAPE MAY WATER & SEWER U	EP	4/28/1998	370
CAROL LYNN TRAILER RESORT (WELL #2)	DS	8/3/2006	185
CAROL LYNN TRAILER RESORT (WELL #3)	DS	1/21/2005	150
CAROL LYNN TRAILER RESORT (WELL #4)	DS	8/3/2006	67
CARRIAGE MOBILE HOMES INC	DS	6/15/1998	390
CARRIAGE MOBILE HOMES INC	RW	3/31/1992	21
CEDAR GLEN HOMES INC	RW	9/10/2002	230
CEDAR GLEN HOMES INC	DS	4/30/2002	450
CEDAR GLEN LAKES WATER C	DS	6/26/2001	110
CEDAR GLEN WEST WATER CO	DS	2/23/2006	270
CEDAR GROVE APARTMENTS	DS	2/4/2003	410
CEDAR GROVE WATER DEPT	DS	1/3/2000	56
CEDAR RUN SENIOR CIT APT	DS	1/15/2004	43
CEDAR RUN SENIOR CIT APT	DS	8/30/1999	150
CEDARVILLE ESTATES	DS	10/24/1990	110
CHAPMAN MANUFACTURED HOUSING	DS	10/15/1992	220
CHATHAM WATER DEPT	DS	11/8/1993	560
CLAYTON WATER DEPARTMENT	DS	5/24/2000	530
CLAYTON WATER DEPARTMENT	RW	12/22/1998	180

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
CLAYTON WATER DEPARTMENT	DS	5/3/1993	430
CLAYTON WATER DEPARTMENT	RW	5/27/1992	590
CLEMENTON WATER DEPARTMENT	DS	6/4/2001	140
CLEMENTON WATER DEPARTMENT	DS	7/13/1992	78
CLIFFSIDE PARK ASSOC INC	EP	5/17/2005	3800
CLIFFSIDE PARK ASSOC INC	EP	8/5/1999	4830
CLIFFSIDE PARK ASSOC INC	EP	8/5/1999	3700
CLIFFSIDE PARK ASSOC INC	DS	4/15/1998	10800
CLINTON W DEPT	DS	10/16/2002	nondetect
CLINTON W DEPT	DS	4/2/1998	190
CLINTON W DEPT	DS	3/10/1994	300
COLBY WATER CO	DS	9/14/1998	310
COLLIER MILLS MOBILE EST	DS	3/18/2002	1950
COLLINGSWOOD WATER DEPARTMENT	DS	10/21/2002	630
COLLINGSWOOD WATER DEPARTMENT	DS	3/9/1998	150
COLLINGSWOOD WATER DEPARTMENT	DS	10/27/1992	250
COLONIAL ESTATES	DS	6/15/2000	440
COLONIAL ESTATES	DS	4/6/1993	440
COLTS NECK VILLAGE	DS	11/30/2006	79
CONSUMERS NJ WATER PHILLIPSBURG	DS	6/20/2001	300
CONSUMERS WATER RIEGEL RIDGE	DS	10/16/2002	570
CONSUMERS WATER/DEEP WELL TERR	DS	3/30/1999	950
COUNTRY CLUB ESTATES	DS	7/14/1999	590
COUNTRY CLUB ESTATES	DS	4/29/1998	550
COUNTRY MEADOWS TRLR PRK	DS	1/7/2002	220
COUNTRY VIEW VILLAGE, LLC	DS	4/25/2002	170
COUNTRY VIEW VILLAGE, LLC	DS	10/29/1997	160
CRESTWOOD VILLAGE W CO	DS	3/8/1993	1460
CROSSROADS AT OLDWICK	RW	5/17/2005	2330
CROSSROADS AT OLDWICK	RW	5/17/2005	2100
CROSSROADS AT OLDWICK	RW	5/17/2005	1970
CROSSROADS AT OLDWICK	EP	5/17/2005	6
CROSSROADS AT OLDWICK	RW	4/30/2003	2120
CROSSROADS AT OLDWICK	RW	4/30/2003	1880
CROSSROADS AT OLDWICK	RW	4/30/2003	1820
CRYSTAL LAKE HEALTH CARE	DS	11/14/2006	96
CULVER LAKE WATER COMPAN	DS	4/24/2001	1980
DELAWARE TOWNSHIP MUA	DS	6/1/2000	1740
DELILAH TERRACE MHP	DS	7/2/2003	37
DELILAH TERRACE MHP	DS	7/30/1998	140
DELILAH TERRACE MHP	DS	3/17/1992	150
DELSEA WOOD MOBILE H P	DS	4/2/2003	220
DELSEA WOOD MOBILE H P	DS	8/5/1998	230
DELSEA WOOD MOBILE H P	DS	4/19/1994	220
DENVILLE TWP WATER DEPT	DS	6/12/2001	400
DEPTFORD TWP MUA	DS	1/27/2003	50
DEPTFORD TWP MUA	RW	12/18/2001	190

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
DEPTFORD TWP MUA	DS	1/7/1998	830
DEPTFORD TWP MUA	RW	6/16/1992	75
DIAMOND HILL WATER	DS	5/22/2003	260
DOMIKE MOBILE HOME PARK	DS	11/26/2002	49
DOMIKE MOBILE HOME PARK	DS	3/18/1998	140
DOT FAA ATL BLD 33 & BLD 208	EP	7/17/2002	150
DOVE MILLS APARTMENTS	DS	7/14/2003	210
DOVE MILLS APARTMENTS	DS	1/6/1999	370
DOVER WATER COMMISSION	DS	2/21/2007	23
E BROOKWOOD PROP OWNERS	DS	12/3/2001	1240
EAGLEWOOD VILLAGE MHP	DS	11/7/2001	230
EAST BRUNSWICK WATER UTILITY	DS	1/5/2000	39
EAST GREENWICH TWP WATER DEPT	DS	4/27/2000	410
EAST GREENWICH TWP WATER DEPT	DS	12/22/1992	110
EAST HANOVER TWP WATER DEPT	DS	8/23/2004	8
EAST HANOVER TWP WATER DEPT	DS	9/2/1999	24
EAST NEWARK WATER DEPARTMENT	DS	6/3/1999	69
EAST ORANGE WATER DEPARTMENT	DS	5/11/1998	550
EAST ORANGE WATER DEPARTMENT	DS	7/13/1991	630
EAST WINDSOR MUA	DS	7/19/2001	100
EAST WINDSOR MUA	RW	8/13/1998	490
EAST WINDSOR MUA	EP	3/1/1995	260
EASTERN SHORE NURSING HO	EP	5/20/2005	210
EDGEWOOD VILLAGE M H PARK	DS	2/4/1993	510
EDISON WATER CO	DS	1/20/2000	58
EDNA MAHAN CORRECTIONAL	DS	2/1/2000	2160
EGG HARBOR CITY WATER DEPT	DS	2/28/2002	210
EGG HARBOR CITY WATER DEPT	DS	3/29/1995	110
EGG HARBOR RIVER RESORT	DS	6/2/2003	120
EGG HARBOR RIVER RESORT	DS	9/9/1998	200
ELMER BORO W DEPT	DS	8/15/2002	520
ELMER BORO W DEPT	DS	12/10/1997	430
ELMTOWNE VILLAGE ASSOC SYS 1	DS	1/6/2003	260
ELMTOWNE VILLAGE ASSOC SYS 1	RW	1/12/1998	390
ELMTOWNE VILLAGE ASSOC. SYS 2	DS	3/27/2003	150
ELMTOWNE VILLAGE ASSOC. SYS 2	RW	1/12/1998	0.59
ELMTOWNE VILLAGE ASSOC. SYS 2	DS	10/22/1992	360
ELMWOOD PARK WATER DEPT	DS	7/20/2004	nondetect
ELMWOOD PARK WATER DEPT	DS	8/24/1999	81
ENGLISH CREEK MANOR M H PARK	RW	6/25/2003	36
ENGLISH CREEK MANOR M H PARK	DS	12/3/2002	96
ENGLISH CREEK MANOR M H PARK	DS	9/9/1998	370
ENGLISH CREEK MANOR M H PARK	DS	1/17/1991	140
ENGLISHTOWN WATER DEPT	DS	2/25/2003	17
ENGLISHTOWN WATER DEPT	DS	2/19/1998	150
ENGLISHTOWN WATER DEPT	DS	3/1/1993	290
ESSEX COUNTY UTIL. AUTHORITY	DS	3/14/2000	680

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
ESSEX FELLS WATER DEPT	DS	7/17/2002	160
ESTAUGH CORP T/A MEDFORD LEAS	DS	1/3/2002	150
EVERGREEN WOODS CAMPGROUND	DS	3/8/2005	83
EVESHAM MUA	DS	7/16/2001	130
EVESHAM MUA	RW	3/12/1996	110
FAIR LAWN WATER DEPT	DS	7/6/1999	93
FAIRFIELD WATER DEPT	DS	6/3/2002	63
FAIRTON FEDERAL CORRECTIONAL	DS	1/13/2004	72
FAIRTON FEDERAL CORRECTIONAL	DS	4/19/1999	160
FAIRTON FEDERAL CORRECTIONAL	DS	7/15/1992	86
FAIRTON OAKS M H COMMUNITY	DS	3/28/2000	140
FAIRVIEW MANOR MHP	DS	2/20/2002	230
FAMILY PARK	DS	5/1/2003	310
FAMILY PARK	DS	3/15/2000	450
FAMILY PARK	DS	9/17/1990	610
FARMINGDALE WATER DEPT	DS	4/7/1998	130
FARMINGDALE WATER DEPT	DS	8/12/1992	130
FAWN LAKE VILLAGE	DS	4/13/1998	370
FAYSON LAKES WATER COMPANY INC	DS	1/17/2002	430
FAYSON LAKES WATER COMPANY INC	DS	5/25/1994	350
FENIMORE TRAILER PARK	DS	3/10/2005	400
FENIMORE TRAILER PARK	DS	1/27/2000	130
FENIMORE WOODS MHP	EP	5/18/2005	680
FIELDSBORO WATER DEPT	DS	3/10/2005	40
FIELDSBORO WATER DEPT	DS	12/21/1999	130
FLEMINGTON WD	DS	6/11/2002	810
FLORENCE TWP W DEPT	RW	5/12/1994	340
FLORHAM PARK WATER DEPT	DS	8/23/2004	180
FLORHAM PARK WATER DEPT	DS	9/2/1999	170
FOREST LAKES W CO	DS	6/8/2000	240
FORT MONMOUTH MAIN BASE	DS	3/1/2000	44
FOUNTAINHEAD PARKS INC	DS	6/26/2002	380
FOUNTAINHEAD PARKS INC	DS	5/29/1997	400
FRANKLIN BOARD OF PUBLIC	DS	7/11/2001	470
FRANKLIN BOARD OF PUBLIC	RW	9/30/1993	920
FRANKLIN BOARD OF PUBLIC	RW	9/30/1993	640
FRANKLIN TOWNSHIP DEPT OF PUBLIC WORKS	DS	1/31/2000	49
FREEHOLD BOROUGH WATER DEPARTMENT	DS	4/25/2000	110
FREEHOLD TWP WATER DEPT	RW	5/4/1998	120
FRENCHTOWN WATER DEPARTMENT	DS	9/12/1994	450
GARDEN STATE MHP	DS	3/20/2003	180
GARDEN STATE MHP	DS	4/23/1998	320
GARDEN STATE MHP	DS	1/8/1991	310
GARFIELD WATER DEPARTMENT	DS	6/23/2003	nondetect
GARFIELD WATER DEPARTMENT	DS	9/15/1998	110

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
GATEWAY NATIONAL REC ARE	DS	3/23/2004	36
GATEWAY NATIONAL REC ARE	DS	6/10/1998	160
GLASSBORO WATER DEPARTME	DS	5/24/2000	320
GLASSBORO WATER DEPARTME	RW	1/11/2000	240
GLASSBORO WATER DEPARTME	RW	1/11/2000	160
GLASSBORO WATER DEPARTME	RW	1/11/2000	2
GLEN GARDNER WATER DEPARTMENT	EP	5/5/2005	3000
GLEN GARDNER WATER DEPARTMENT	EP	5/5/2005	300
GLEN GARDNER WATER DEPARTMENT	DS	9/26/2002	2500
GLEN GARDNER WATER DEPARTMENT	DS	9/4/1997	3200
GLEN GARDNER WATER DEPARTMENT	RW	6/9/1993	5500
GLEN GARDNER WATER DEPARTMENT	RW	6/9/1993	3500
GLEN RIDGE WATER DEPT	DS	1/4/1999	150
GLOUCESTER CITY WATER DEPARTMENT	DS	10/21/2002	58
GLOUCESTER CITY WATER DEPARTMENT	RW	1/12/1998	2.1
GLOUCESTER CITY WATER DEPARTMENT	DS	2/22/1995	80
GORDONS CORNER WATER CO	DS	2/8/2007	19
GRANDE WOODS SOUTH MOBILE H P	DS	3/18/1998	220
GREAT ADVENTURE	EP	3/25/1999	190
GREAT GORGE TERRACE ASSO	EP	5/26/2005	11900
GREAT GORGE TERRACE ASSO	DS	4/26/2000	9400
GREEN ACRES MANOR	DS	9/18/2002	300
GREEN HILLS EST PROP OWN	DS	2/18/1998	510
GREENWICH TWP W DEPT	DS	4/27/2000	160
GREENWICH TWP W DEPT	RW	7/14/1993	77
GREENWICH TWP W DEPT	DS	12/22/1992	190
GREENWOOD CONDO	DS	11/19/2003	47
HACKETTSTOWN MUA	RW	5/3/1995	480
HACKETTSTOWN MUA	RW	10/10/1990	230
HADDON TWP WATER DEPARTMENT	EP	7/2/2001	130
HADDON TWP WATER DEPARTMENT	DS	2/14/2000	150
HADDONFIELD WATER DEPARTMENT	DS	6/23/1998	140
HAGEDORN CENTER F GERIAT	DS	1/14/2002	270
HALEDON WATER DEPT	DS	7/6/1999	90
HALEDON WATER DEPT	EP	8/9/1994	39
HAMBURG BOARD OF PUBLIC	DS	2/27/2002	630
HAMILTON TOWNSHIP MUA	RW	2/25/2004	180
HAMILTON TOWNSHIP MUA	DS	4/24/2002	105
HAMILTON TOWNSHIP MUA	DS	2/28/2002	250
HAMILTON TOWNSHIP MUA	RW	11/12/1997	140
HAMILTON TOWNSHIP MUA	DS	12/6/1993	80
HAMMONTON WATER DEPT	DS	9/25/1997	240
HAMMONTON WATER DEPT	DS	11/18/1992	120
HAMPTON BOROUGH WATER DEPART	DS	1/14/2002	240
HANDYS MOBILE PARK	DS	3/19/2003	51
HANDYS MOBILE PARK	DS	5/14/1998	180
HANDYS MOBILE PARK	RW	6/3/1992	14

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
HANOVER EAST APARTMENTS	DS	11/22/1999	500
HANOVER MOBILE VILLAGE	DS	5/6/1991	570
HARDING WOODS MHP	DS	3/12/2003	470
HARDING WOODS MHP	RW	1/9/2002	590
HARDING WOODS MHP	DS	1/22/1998	710
HARDING WOODS MHP	DS	7/14/1992	600
HARDYSTON TWP MUA CRYSTAL SPRINGS	DS	5/17/2000	500
HARDYSTON TWP MUA INDIAN FIELD	DS	12/22/2003	310
HARDYSTON TWP MUA INDIAN FIELD	DS	3/10/1999	530
HARKERS HOLLOW WATER AS	EP	5/5/2005	10900
HARKERS HOLLOW WATER AS	EP	5/5/2005	8500
HARKERS HOLLOW WATER AS	DS	2/9/1998	7900
HARKERS HOLLOW WATER AS	DS	12/19/1990	5400
HARRISON W DEPT	DS	9/2/2003	7
HARRISON W DEPT	DS	6/3/1999	79
HARRISONVILLE MOBILE HOME PARK	DS	4/11/2000	530
HARRISONVILLE MOBILE HOME PARK	DS	9/4/1990	460
HARVEY CEDARS WATER DEPT	DS	9/15/2003	10
HARVEY CEDARS WATER DEPT	DS	4/22/1999	85
HAWTHORNE WATER DEPARTMENT	DS	2/17/1998	75
HAWTHORNE WATER DEPARTMENT	DS	12/8/1992	44
HELMETTA WATER DEPARTMENT	DS	2/3/1993	920
HIDDEN VILLAGE CONO ASSOC	DS	12/22/2003	460
HIDDEN VILLAGE CONO ASSOC	DS	2/22/1999	620
HIGH BRIDGE W DEPT	DS	9/13/2006	1301
HIGHLAND PARK W DEPT	DS	1/5/2000	38
HIGHLANDS WATER DEPT	DS	5/5/1992	110
HIGHLANDS WATER DEPT	DS	5/23/1990	730
HIGHTSTOWN WATER DEPARTMENT	DS	6/17/2002	130
HILLSIDE ESTATES AT FRANKLIN	DS	7/11/2001	3650
HILLSIDE VILLAGE	EP	5/12/2005	37300
HILLSIDE VILLAGE	DS	6/14/2000	35400
HILLTOP MOBILE VILLAGE	DS	10/14/1992	350
HO HO KUS WATER DEPT	DS	6/23/2003	nondetect
HO HO KUS WATER DEPT	DS	4/14/1998	100
HOBOKEN WATER SERVICES	DS	11/28/2006	56
HOFFMAN HOMES	DS	4/4/1994	3430
HOLLAND CHRISTIAN HOME	DS	12/5/2005	230
HOLLY GREEN CAMPGROUND	DS	1/25/2006	420
HOLLY TREE ACRES MHP SYS 2	DS	11/17/2003	300
HOLLY TREE ACRES SYSTEM 1	DS	3/18/2003	290
HOLLY TREE ACRES SYSTEM 1	DS	1/19/1999	490
HOMESTEAD WATER COMPANY	DS	8/24/2000	140
HOPATCONG WATER DEPT	DS	3/11/1999	1610
HOPATCONG WATER DEPT-RAND ST	DS	10/15/1990	1100
HOPEWELL BORO W DEPT	DS	6/17/2002	1220
HOPEWELL BORO W DEPT	EP	7/20/1999	1410

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
HOPEWELL BORO W DEPT	EP	7/20/1999	1290
HOPEWELL BORO W DEPT	DS	11/30/1992	1520
HOPEWELL BORO W DEPT	DS	3/24/1992	2800
HOPEWELL PLACE SENIOR APTS	EP	3/28/2000	300
HOPEWELL TWP WATER&SEWER	RW	3/10/1994	1380
HOPEWELL TWP WATER&SEWER	DS	5/6/1992	1400
HUNTERDON CARE CENTER	EP	5/12/2005	1470
HUNTERDON CARE CENTER	EP	5/12/2005	1420
INDEPENDENCE MUA HIGHLND	DS	6/5/2006	1570
INDEPENDENCE MUA VALLEY VIEW	DS	6/5/2006	5200
INLAND ESTATES	DS	1/13/1994	110
IONA TRAILER PARK	DS	9/21/1998	190
IONA TRAILER PARK	RW	1/24/1996	180
IONA TRAILER PARK	RW	3/31/1993	140
ISLAND HEIGHTS WATER DEP	RW	6/29/2005	390
ISLAND HEIGHTS WATER DEP	EP	8/21/2001	410
ISLAND HEIGHTS WATER DEP	DS	8/12/1992	270
JACKSON COLONIAL ARMS AP	DS	3/3/1998	610
JACKSON COLONIAL ARMS AP	DS	8/8/1994	390
JACKSON ESTATES MOBILE HOME PK	DS	2/23/2006	86
JACKSON TWP MUA	RW	6/28/2005	83
JACKSON TWP MUA	DS	9/1/1999	120
JACKSON TWP MUA	DS	3/3/1998	1070
JACKSON TWP MUA	RW	3/22/1994	4
JACKSON TWP W DEPT(LEGLE	DS	10/13/1999	88
JEFFERSON TWP W U LK HOP	DS	1/28/1998	1170
JEFFERSON TWP W U MARY A	DS	3/2/1993	2260
JEFFERSON TWP W U MILTON SYS	DS	2/23/2000	780
JEFFERSON TWP W U MILTON SYS	RW	5/12/1995	1140
JEFFERSON TWP W VASSAR ROAD	DS	10/12/1999	1370
JEFFERSON TWP WATER UTILITY - PADEREWSKI	DS	5/15/1997	20
JEFFERSON TWP-PECAN LANE SYS.	DS	5/13/1994	610
JENSENS DEEP RUN ADULT VLG	DS	3/4/1992	300
JERSEY CITY WATER DEPARTMENT	DS	2/25/1998	100
KARL LE MOBILE MANOR SYSTE 1	DS	10/13/1992	230
KEANSBURG WATER & SEWER DEPT.	DS	9/18/2002	54
KEANSBURG WATER & SEWER DEPT.	DS	2/19/1998	100
KEANSBURG WATER & SEWER DEPT.	DS	10/6/1992	120
KEARNY W DEPT	DS	1/13/1999	86
KEYPORT WATER DEPARTMENT	DS	2/3/1992	170
KINNELON WATER DEPT	DS	1/27/1999	90
L & S RESTHOME	DS	3/12/2007	138
LACEY TWP MUA	DS	10/6/1993	150
LAKE LENAPE WATER CO	DS	6/20/2002	590
LAKE STOCKHOLM INC	DS	8/26/1998	370
LAKE STOCKHOLM INC	RW	5/12/1993	380

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
LAKE TAMARACK W CO	EP	6/3/2005	7500
LAKE TAMARACK W CO	EP	6/3/2005	2050
LAKE TAMARACK W CO	EP	6/3/2005	1860
LAKE TAMARACK W CO	DS	8/26/1998	7200
LAKEHURST WATER DEPT	DS	5/24/2002	150
LAKEHURST WATER DEPT	DS	1/31/2002	150
LAKEHURST WATER DEPT	EP	3/25/1999	670
LAKEHURST WATER DEPT	DS	3/8/1994	190
LAKESHORE WATER CO	DS	6/2/1998	2130
LAKEWOOD TWP MUA	DS	3/14/2002	450
LAKW ACRES MHP	DS	5/1/2003	240
LAND O PINES MOBILE HOME PARK	DS	11/16/2005	180
LAUX LAKEVIEW MOBILE H P INC	DS	4/7/2004	76
LAUX LAKEVIEW MOBILE H P INC	DS	10/6/1999	120
LAVALLETTE WATER DEPT	DS	12/23/2003	59
LAVALLETTE WATER DEPT	DS	3/31/1999	300
LAWRENCEVILLE SCHOOL	DS	8/14/2002	2500
LAWRENCEVILLE WATER COMPANY	DS	1/6/2000	91
LEISURE ARMS COMPLEX	DS	5/6/1999	490
LIBERTY WATER COMPANY	DS	3/14/2000	41
LINCOLN PARK JACKSONVILLE SYST	DS	10/18/1999	280
LINCOLN PARK WATER DEPT	DS	9/2/1999	25
LITTLE BROOK NURSING HOM	DS	1/18/2007	343
LITTLE EGG HARBOR TWP MUA	DS	10/29/2001	140
LITTLE EGG HARBOR TWP MUA	EP	4/12/1994	130
LITTLE SISTERS OF THE POOR	DS	12/5/2005	660
LIVINGSTON TWP DIVISION OF WATER	DS	12/10/2001	120
LONG BEACH TWP BRANT BEA	DS	2/6/2003	21
LONG BEACH TWP HIGH BAR HARBOR	DS	10/25/1999	150
LONG BEACH TWP LOVELADIESNORTH	DS	10/25/1999	130
LONG BEACH TWP LOVELADIESSOUTH	DS	8/12/2004	11
LONG BEACH TWP LOVELADIESSOUTH	DS	9/9/1999	38
LONG BEACH TWP NORTH BEACH	DS	8/12/2004	68
LONG BEACH TWP NORTH BEACH	DS	9/9/1999	30
LONG BEACH TWP WD HOLGAT	DS	11/10/1999	52
LONGPORT WATER DEPARTMENT	DS	3/11/1992	58
LOWER TWP MUA	DS	1/30/2002	140
LOWER TWP MUA	RW	11/19/1998	120
LOZIERS TRAILER PARK	DS	6/24/1998	2470
LUXURY MOBILE TERRACE	DS	1/31/2002	290
LUXURY MOBILE TERRACE	RW	4/17/2001	140
LUXURY MOBILE TERRACE	DS	8/24/1998	420
LUXURY MOBILE TERRACE	RW	8/25/1992	430
LYNDHURST WATER DEPARTMENT	DS	7/12/2004	nondetect
LYNDHURST WATER DEPARTMENT	DS	8/10/1999	97
MADISON WATER DEPT	DS	1/28/1993	320
MAHWAH WATER DEPARTMENT	RW	10/24/1995	440

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
MALAGA MOBILE HOME PARK	DS	7/1/2003	88
MALAGA MOBILE HOME PARK	DS	4/16/1998	300
MALAGA VILLA APARTMENTS	DS	7/1/2003	110
MALAGA VILLA APARTMENTS	DS	5/9/2000	180
MALAGA VILLA APARTMENTS	DS	4/16/1998	340
MANALAPAN TWP WATER DEPARTMENT KNOB HILL	DS	8/9/2004	nondetect
MANALAPAN TWP WATER DEPARTMENT MIL	DS	2/28/2000	20
MANALAPAN TWP WATER DEPT	DS	11/4/1999	29
MANALAPAN TWP WATER DEPT TRACY STATION	DS	8/9/2004	2
MANASQUAN WATER DEPARTME	DS	12/17/2003	130
MANASQUAN WATER DEPARTME	DS	3/15/1999	290
MANCHESTER TWP HILLTOP RD	DS	3/9/2005	170
MANCHESTER TWP WATER UTILITY	DS	3/16/2006	75
MANCHESTER VILLAGE	DS	5/26/1999	360
MANOR WATER ASSOCIATIONS	DS	4/11/2000	68
MANOR WATER ASSOCIATIONS	DS	12/18/1990	97
MANTUA TOWNSHIP MUA	RW	1/19/1994	1540
MANTUA TOWNSHIP MUA	RW	1/19/1994	680
MANVILLE W DEPT	DS	11/30/1992	77
MAPLE GLEN MOBILE HOME PARK	DS	5/11/2005	490
MAPLE GLEN MOBILE HOME PARK	EP	2/23/2000	610
MAPLE GLEN MOBILE HOME PARK	DS	3/12/1998	430
MAPLE GLEN MOBILE HOME PARK	DS	8/23/1994	160
MAPLE GLEN MOBILE HOME PARK	DS	2/20/1992	120
MAPLE SHADE WATER DEPARTMENT	DS	3/31/2006	24
MAPLEWOOD APARTMENTS	DS	12/6/1999	500
MARGATE CITY WATER DEPARTMENT	DS	5/24/1999	84
MARGATE CITY WATER DEPARTMENT	RW	6/15/1995	110
MARGATE CITY WATER DEPARTMENT	RW	6/23/1992	16
MARLBORO MUA	DS	11/4/1999	43
MARLBORO STATE HOSPITAL	DS	7/5/2000	100
MARLBORO STATE HOSPITAL	RW	9/5/1991	85
MATAWAN BOROUGH WATER DE	DS	3/1/2000	50
MCGUIRE AFB	DS	12/14/1999	130
MEADOWBROOK CO-OP INC	DS	9/11/2003	330
MEADOWBROOK CO-OP INC	DS	2/2/1999	470
MEDFORD TWP DEPT OF MUNI	RW	4/13/1999	450
MEDFORD TWP DEPT OF MUNI	DS	7/13/1998	220
MEDFORD TWP DEPT OF MUNI	RW	9/10/1996	3.9
MEDFORD TWP DEPT OF MUNI	RW	5/19/1992	400
MEDFORD TWP DEPT OF MUNI	RW	5/19/1992	370
MERCER COUNTY CORRECTIONAL CEN	DS	4/25/2000	1120
MERCHANTVILLE PENNSAUKEN	RW	3/27/1995	140
MERCHANTVILLE PENNSAUKEN	DS	11/3/1993	110
MERRY HEART OF BOONTON	EP	6/2/2005	980

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
MIDDLE TWP WATER DISTRICT	DS	6/2/1999	200
MIDDLE TWP WATER DISTRICT 1	DS	3/31/2004	10
MIDDLE TWP WATER DISTRICT 1	DS	6/2/1999	200
MIDDLESEX WATER COMPANY	DS	5/3/2002	66
MILFORD MANOR	DS	12/7/2005	1740
MILFORD W DEPT	EP	5/5/2005	8900
MILFORD W DEPT	EP	5/5/2005	1080
MILFORD W DEPT	DS	6/1/2000	7400
MILLSTREAM NO APTS	DS	4/7/2003	550
MILLSTREAM SOUTH APTS	DS	3/6/2002	690
MILLSTREAM SOUTH APTS	DS	10/9/1997	680
MILLTOWN W DEPT	DS	3/26/1998	150
MILLTOWN W DEPT	DS	12/7/1992	98
MILLVILLE WATER DEPARTMENT	DS	1/4/2000	110
MILLVILLE WATER DEPARTMENT	RW	5/28/1992	160
MILLVILLE WATER DEPARTMENT	RW	4/14/1992	240
MILLVILLE WATER DEPARTMENT	DS	5/31/1990	170
MINE HILL TWP WATER DEPT	DS	4/6/2000	140
MINE HILL TWP WATER DEPT	DS	12/16/1992	150
MOBILE ESTATES OF SOUTHA	DS	3/1/2006	83
MONROE TWP MUA	RW	10/21/2003	130
MONROE TWP MUA	DS	2/10/2003	9
MONROE TWP MUA	RW	2/14/2000	150
MONROE TWP MUA	RW	1/13/2000	260
MONROE TWP MUA	DS	12/22/1997	180
MONROE TWP MUA	DS	4/6/1993	200
MONROE TWP MUA	DS	2/18/1992	130
MONTAGUE WATER CO.	DS	1/10/2002	460
MONTCLAIR WATER BUREAU	DS	1/4/2007	10
MONTVILLE TWP MUA	DS	8/4/1997	390
MOORESTOWN WATER DEPT	DS	3/23/2000	130
MOORESTOWN WATER DEPT	DS	12/14/1992	150
MORRIS COUNTY MUA	DS	2/8/2000	15
MORRIS COUNTY MUA	RW	4/2/1992	380
MORRIS COUNTY MUA	RW	8/26/1991	280
MOUNT ARLINGTON BORO DPW MAIN	DS	10/2/2001	240
MOUNT ARLINGTON BORO DPW MAIN	DS	2/21/1995	530
MOUNT ARLINGTON DPW KADEL SYS	DS	6/7/1994	410
MOUNT EPHRAIM WATER DEPARTMENT	DS	3/13/2004	50
MOUNT OLIVE TWP W D MAIN	DS	4/17/2000	120
MOUNT OLIVE TWP W D MAIN	DS	10/21/1992	350
MOUNT OLIVE TWP W D SAND	DS	5/3/2000	1400
MOUNT OLIVE W.D. GOLDMINE	DS	3/22/2000	820
MOUNT OLIVE WATER DEPT L	DS	10/26/1999	3600
MOUNTAIN LAKES WATER DEPARTMENT	DS	12/8/2003	nondetect
MOUNTAIN LAKES WATER DEPARTMENT	DS	2/3/1999	570
MOUNTAIN SHORE WATER SUP	DS	5/20/2003	470

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
MOUNTAIN SHORE WATER SUP	DS	7/21/1998	590
MT LAUREL TWP MUA	EP	5/21/2003	100
MT LAUREL TWP MUA	DS	7/16/2001	65
MT OLIVE TWP TINC FARM	DS	11/18/1999	290
MT OLIVE TWP TINC FARM	RW	4/8/1998	1650
MT OLIVE TWP TINC FARM	RW	4/8/1998	1090
MT OLIVE TWP W D CARLTON	DS	10/26/1999	260
MT OLIVE TWP W D VILLAGE	DS	6/28/2001	2040
MT OLIVE TWP W D VILLAGE	RW	4/6/1995	1610
MT OLIVE TWP W D VILLAGE	DS	6/7/1994	420
MT OLIVE TWP WATER DEPARTMENT JUCKETT	DS	10/26/1999	2430
MT OLIVE TWP WD PINECREST	DS	4/17/2000	820
MT OLIVE TWP WD PINECREST	DS	2/8/1993	1350
MT OLIVE VILLAGES WATER	DS	2/5/1998	1700
MULLICA WOODS MOBILE HOME PARK	DS	11/13/2001	420
MULLICA WOODS MOBILE HOME PARK	DS	3/29/1995	350
N.J.D.W.S.C. - WANAQUE NORTH	DS	3/9/2000	30
NATIONAL PARK WATER DEPARTMENT	DS	10/1/2001	110
NATIONAL PARK WATER DEPARTMENT	DS	4/8/1992	56
NAVAL AIR ENG.STATION LAKEHRS	RW	12/4/2002	46
NAVAL AIR ENG.STATION LAKEHRS	DS	8/31/2001	390
NAVAL AIR ENG.STATION LAKEHRS	RW	3/7/2001	340
NAVAL AIR ENG.STATION LAKEHRS	DS	2/6/1997	2.1
NAVAL AIR ENG.STATION LAKEHRS	DS	2/6/1997	0.87
NETCONG WATER DEPT	DS	8/1/2000	580
NETCONG WATER DEPT	RW	2/5/1998	910
NEW BRUNSWICK W DEPT	DS	7/17/2001	23
NEW EGYPT WATER COMPANY	DS	12/18/2003	nondetect
NEW EGYPT WATER COMPANY	DS	4/14/1999	160
NEW JERSEY AMERICAN - ELIZABETHTOWN	DS	1/31/2000	37
NEW LISBON DEVELOPMENT CTR	DS	11/16/1999	100
NEWARK WATER DEPARTMENT	DS	12/10/2001	83
NEWFIELD WATER DEPARTMEN	DS	6/15/2000	380
NEWFIELD WATER DEPARTMEN	DS	1/25/1993	450
NEWTON WATER & SEWER UTILITY	DS	7/8/1999	85
NJ AMERICAN WATER COASTAL - NORTH SYSTE	DS	12/16/1999	23
NJ AMERICAN WATER COASTAL - NORTH SYSTE	RW	5/13/1993	55
NJ AMERICAN W CO BELVIDE	RW	8/9/1995	910
NJ AMERICAN W CO BELVIDE	RW	8/9/1995	770
NJ AMERICAN W CO HADDON	RW	3/24/1993	80
NJ AMERICAN W CO HADDON	RW	2/10/1993	120
NJ AMERICAN W CO HADDON	RW	1/19/1993	83
NJ AMERICAN W CO HADDON	RW	6/16/1992	180
NJ AMERICAN W CO LOGAN SYS	DS	1/19/2000	85
NJ AMERICAN W CO LOGAN SYS	RW	1/24/1996	180

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
NJ AMERICAN W CO OCEAN C	RW	6/2/1992	150
NJ AMERICAN W CO STRATHMERE	DS	6/8/1999	110
NJ AMERICAN W CO SUNBURY	DS	7/31/2000	340
NJ AMERICAN W CO WASHING	DS	1/24/2006	250
NJ AMERICAN W CO WEST JERSEY	EP	5/17/2005	3900
NJ AMERICAN W CO WEST JERSEY	DS	9/18/1997	20
NJ AMERICAN W CO WEST JERSEY	DS	9/4/1997	4200
NJ AMERICAN WATER COMPANY	DS	1/3/2000	360
NJ AMERICAN WATER COMPANY - ATLANTIC DIV	DS	12/2/1999	170
NJ AMERICAN WATER COMPANY - JAMESBURG	DS	12/22/1997	330
NJ AMERICAN WATER COMPANY - JAMESBURG	DS	1/13/1993	180
NJ AMERICAN WATER COMPANY - LITTLE FALLS	DS	5/22/2001	74
NJ AMERICAN WATER COMPANY - LITTLE FALLS	DS	12/15/1994	78
NJ AMERICAN WATER COMPANY - MOUNT HOLLY	DS	7/25/2000	130
NJ AMERICAN WATER COMPANY - MOUNT HOLLY	RW	10/26/1993	180
NJ AMERICAN WATER COMPANY - MOUNT HOLLY	DS	12/14/1992	94
NJ AMERICAN WATER COMPANY - NEPTUNE SYS	DS	10/5/2004	77
NJ AMERICAN WATER COMPANY - NEPTUNE SYS	DS	6/2/1999	140
NJ AMERICAN WATER COMPANY - UNION	DS	12/16/1999	31
NJ AMERICAN WATER COMPANY - WESTERN DIV	DS	2/25/1999	150
NJ AMERICAN WATER COMPANY OCEAN CTY SYS	DS	12/1/2003	20
NJ AMERICAN WATER COMPANY OCEAN CTY SYS	RW	4/24/2002	140
NJ AMERICAN WATER COMPANY OCEAN CTY SYS	DS	2/8/1999	100
NJ AMERICAN WATER COMPANY OCEAN CTY SYS	RW	10/13/1998	640
NJ AMERICAN WATER ITC SYSTEM	RW	5/3/2000	370
NJ AMERICAN WATER SWIMMING RIVER	RW	4/13/2005	340
NJ AMERICAN WATER SWIMMING RIVER	RW	4/13/2005	260
NJ AMERICAN WATER-TWIN LAKES	EP	5/3/2005	12600
NJ AMERICAN WATER-TWIN LAKES	EP	5/3/2005	9800
NJ AMERICAN WATER-TWIN LAKES	DS	7/11/1994	8600
NJ AMERICAN WC CHESTER BORO	DS	5/25/1996	23
NJ AMERICAN WC CHESTER BORO	RW	11/22/1994	590
NJ AMERICAN-MANSFIELD SYSTEM	DS	1/2/2002	270
NJ STATE PRISON BAYSIDE	DS	8/10/2004	57

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
NJ STATE PRISON BAYSIDE	DS	2/24/1999	140
NJ VASA HOME WATER SYS	DS	6/28/2001	630
NJ VASA HOME WATER SYS	DS	1/23/1995	370
NJ WATER SUPPLY AUTHORITY MANASQUAN	EP	2/15/2006	18
NORMS DALE MOBILE HOME PARK	DS	5/23/2000	120
NORMS DALE MOBILE HOME PARK	DS	8/11/1992	220
NORTH BRUNSWICK W DEPT	DS	2/10/2003	3
NORTH BRUNSWICK W DEPT	DS	3/19/1998	120
NORTH CALDWELL WATER DEP	DS	3/7/2005	29
NORTH CALDWELL WATER DEP	DS	12/22/1999	110
NORTH SHORE WATER ASSOCIATION	EP	5/19/2005	400
NORTH SHORE WATER ASSOCIATION	DS	9/14/1998	4300
NUTLEY WATER DEPT	DS	1/3/2000	57
OAK FOREST MOBILE HOME PARK	DS	1/14/2006	86
OAK GROVE MHP	DS	8/24/1998	510
OAK RIDGE MOBILE HOME PARK	DS	9/15/1997	2160
OAK RIDGE MOBILE HOME PARK	DS	5/15/1997	20
OAK RIDGE MOBILE HOME PARK	DS	5/18/1994	2350
OAK TREE MOBILE HOME PARK	DS	5/8/2000	800
OAK TREE MOBILE HOME PARK	DS	10/5/1993	250
OAKLAND WATER DEPT	RW	7/12/1993	430
OAKVIEW LEISURE VILLAGE	DS	5/21/1998	360
OCEAN GATE WATER DEPT	DS	9/17/2003	170
OCEAN GATE WATER DEPT	DS	1/20/1999	270
OCEAN HEIGHTS TRAILER CO	DS	7/2/2002	330
OCEAN HEIGHTS TRAILER CO	RW	9/17/1992	360
OCEAN TWP MUA PEBBLE BEACH	DS	8/19/2002	150
OCEAN TWP MUA PEBBLE BEACH	RW	1/24/1994	140
OCEAN VIEW CTR FOR REHAB.&CONTINUED CARE	EP	5/20/2005	100
OCEAN VIEW CTR FOR REHAB.&CONTINUED CARE	EP	5/20/2005	91
OCEAN VIEW SERVICE AREA	RW	11/9/1999	200
OGDENSBURG WATER DEPARTMENT	DS	10/4/2001	450
OLD BRIDGE MUA	DS	9/29/1998	110
OLDMAN CREEK CG	EP	5/13/2005	340
ORANGE WATER DEPT	DS	4/20/1998	320
OXFORD HERITAGE MANOR	DS	10/3/1996	1090
PARK RIDGE WATER DEPT	DS	6/23/1999	790
PARKWAY WATER COMPANY	RW	12/10/2003	160
PARKWAY WATER COMPANY	DS	2/16/2000	300
PARSIPPANY-TROY HILLS WATER DEPARTMENT	DS	12/12/2001	270
PARSIPPANY-TROY HILLS WATER DEPARTMENT	DS	12/15/1994	590
PARSIPPANY-TROY HILLS WATER DEPARTMENT	DS	12/15/1994	430

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
PARSIPPANY-TROY HILLS WATER DEPARTMENT	RW	9/8/1994	590
PARSIPPANY-TROY HILLS WATER DEPARTMENT	RW	1/31/1991	500
PARSIPPANY-TROY HILLS WATER DEPARTMENT	RW	1/30/1991	500
PASSAIC VALLEY WATER COMMISSION	DS	6/10/2004	12
PASSAIC VALLEY WATER COMPANY HIGH CREST	DS	3/31/2003	620
PASSAIC VALLEY WATER COMPANY HIGH CREST	DS	5/11/2000	36
PASSAIC VALLEY WATER COMPANY HIGH CREST	DS	1/19/1995	80
PASSAIC VALLEY WC LODI WD	DS	8/31/2004	10
PASSAIC VALLEY WC LODI WD	DS	8/24/1999	70
PAULSBORO WATER DEPARTMENT	DS	10/1/2001	160
PAULSBORO WATER DEPARTMENT	DS	10/5/1992	240
PEMBERTON BOROUGH WATER	DS	9/25/2001	360
PEMBERTON TOWNSHIP WATER - LAKE VALLEY	DS	7/25/2000	360
PEMBERTON TOWNSHIP WATER - LAKE VALLEY	DS	8/4/1992	340
PEMBERTON TWP DEPT MAIN	DS	4/13/1999	180
PEMBERTON TWP DEPT MAIN	RW	8/4/1992	95
PENNINGTON W DEPT	EP	7/20/1999	1060
PENNINGTON W DEPT	EP	7/20/1999	92
PENNS GROVE WAT SUP CO BRG DIV	DS	4/15/2002	450
PENNS GROVE WAT SUP CO BRG DIV	DS	3/16/1995	130
PENNSGROVE WATER SUPPLY COMP	DS	5/6/2002	240
PENNSGROVE WATER SUPPLY COMP	DS	3/18/1993	3500
PENNSVILLE TWSP. WATER DEPART.	DS	3/12/2003	13
PENNSVILLE TWSP. WATER DEPART.	RW	7/14/1999	300
PENNSVILLE TWSP. WATER DEPART.	RW	7/14/1999	160
PENNSVILLE TWSP. WATER DEPART.	DS	5/14/1998	180
PENNSVILLE TWSP. WATER DEPART.	DS	3/10/1993	43
PEQUANNOCK TWP WATER DEP	DS	5/10/1999	290
PEQUANNOCK TWP WATER DEP	RW	5/5/1994	430
PEQUANNOCK TWP WATER DEPT - CEDAR CREST	DS	9/1/2005	25
PERTH AMBOY WATER DEPARTMENT	RW	12/20/1993	100
PICATINNY ARSENAL	DS	4/6/2000	68
PICATINNY ARSENAL	RW	8/4/1998	650
PICATINNY ARSENAL	DS	5/16/1994	65
PICNIC GROVE MOBILE HOMES	DS	1/9/2002	310
PICNIC GROVE MOBILE HOMES	DS	7/14/1992	290
PINE BEACH WATER DEPT	DS	3/9/2005	170
PINE BEACH WATER DEPT	DS	6/18/1997	360
PINE BEACH WATER DEPT	RW	11/1/1994	250

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
PINE HILL BOROUGH MUA	DS	6/5/2000	160
PINE HILL BOROUGH MUA	RW	1/7/1998	71
PINE HILL BOROUGH MUA	RW	7/25/1996	710
PINE HILL BOROUGH MUA	RW	8/13/1992	150
PINE HILL BOROUGH MUA	RW	7/13/1992	460
PINE HILL MOBILE #1	DS	7/22/2003	210
PINE VALLEY GOLF CLUB	EP	5/18/2005	400
PINEFIELD APARTMENTS	DS	3/15/2000	250
PINELANDS WATER CO	DS	5/21/1998	450
PINEVIEW TERRACE INCORPORATED	DS	4/27/1993	450
PINEWOOD ESTATES-BRIGHTN	DS	9/30/1992	220
PITMAN WATER DEPARTMENT	DS	12/5/2001	160
PITMAN WATER DEPARTMENT	DS	5/27/1992	110
PLAUSHA PARK WATER CO	DS	8/4/1997	270
PLEASANT GARDENS APARTMENTS	DS	6/1/2006	120
POINT PLEASANT BEACH WATER DEPARTMENT	RW	2/27/1993	330
POINT PLEASANT WATER DEPARTMENT	DS	4/18/2000	130
POINT PLEASANT WATER DEPARTMENT	DS	2/23/1993	110
POMONA MOBILE HOME PARK	DS	4/5/2000	100
POMONA MOBILE HOME PARK	DS	1/11/1993	350
POMPTON LAKES WATER DEPARTMENT	DS	7/11/2000	370
PRESIDENTIAL COURTS MOBILE H P	DS	11/19/2003	58
PRESIDENTIAL COURTS MOBILE H P	DS	3/1/1999	160
PRESIDENTIAL COURTS MOBILE H P	RW	4/26/1994	130
PROSPECT VILLAGE ASSOCIA	DS	4/5/1990	1100
PVWC NORTH ARLINGTON	DS	7/12/2004	2
PVWC NORTH ARLINGTON	DS	8/10/1999	89
PVWC-POSTBROOK	DS	4/6/1998	1330
PVWC-POSTBROOK	DS	5/12/1997	1310
PVWC-POSTBROOK	RW	5/1/1997	0.62
RAHWAY WATER DEPARTMENT	DS	4/23/2002	67
RAHWAY WATER DEPARTMENT	DS	8/19/1997	61
RAHWAY WATER DEPARTMENT	DS	7/12/1993	190
RAINBOW NURSING HOME, INC.	EP	5/13/2005	61
RAMSEY WATER DEPARTMENT	DS	11/14/2001	98
RANDOLPH TWP PUBLIC WORKS DEPT	DS	12/1/1999	270
RAYMOR MOBILE COURT	DS	5/11/1992	330
RED BANK WATER DEPT	RW	7/15/2003	42
RED BANK WATER DEPT	DS	2/25/2002	130
REFLECTION LKS GARD APTS INC	DS	6/21/2000	230
REFLECTION LKS GARD APTS INC	DS	1/19/1995	260
REGENCY AT SUSSEX ASSOCIATES	DS	10/15/1998	650
RICHARDS MOBILE HOME COU	DS	3/15/2000	340
RICHARDS MOBILE HOME COU	DS	4/10/1990	330
RIDGEWOOD WATER DEPARTMENT	DS	9/8/2003	200
RIDGEWOOD WATER DEPARTMENT	DS	3/16/1999	540

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
RINGWOOD WATER DEPARTMENT	DS	10/27/1998	330
RIVERDALE BORO WATER DEP	DS	5/13/1998	360
RIVERSIDE MOBILE HOME PA	DS	6/22/1998	310
RIVERSIDE MOBILE HOME PA	RW	2/17/1994	330
ROCKAWAY BORO WATER DEPT	DS	6/15/1994	76
ROCKAWAY BORO WATER DEPT	DS	5/12/1992	120
ROCKAWAY TWP WATER DEPT	RW	5/20/2003	210
ROCKAWAY TWP WATER DEPT	RW	9/11/2001	2080
ROCKAWAY TWP WATER DEPT	RW	9/11/2001	1220
ROCKAWAY TWP WATER DEPT	RW	9/11/2001	1140
ROCKAWAY TWP WATER DEPT	DS	6/6/2000	300
ROCKAWAY TWP WATER DEPT	DS	8/26/1992	41
ROCKY HILL W DEPT	DS	10/30/1997	85
ROCKY HILL W DEPT	DS	6/2/1992	45
ROLLING HILLS CARE CENTER	EP	5/12/2005	2210
ROLLING HILLS CONDOMINIU	DS	2/7/2006	460
ROOSEVELT WATER DEPT	DS	8/14/2000	120
ROOSEVELT WATER DEPT	DS	5/5/1992	150
ROSELAND WATER DEPT	DS	4/15/1999	97
ROSEMONT WATER DEPARTMENT	DS	6/2/1998	1660
ROXBURY TWP W DEPT-EVERGREEN	DS	9/9/2004	390
ROXBURY TWP W DEPT-EVERGREEN	DS	9/7/1999	530
ROXBURY TWP W DEPT-SHORE	DS	9/7/1999	630
ROXBURY TWP W DEPT-SKY V	DS	8/1/2000	830
ROXBURY TWP W DEPT-SKY V	DS	5/16/1994	960
ROXBURY TWP W DEPT-SKY V	DS	5/16/1994	0.21
ROXBURY TWP WD LOOKOUT	DS	9/7/1999	980
ROXBURY WATER CO	DS	12/1/1999	530
ROXBURY WATER CO	RW	2/16/1994	360
S B WATER COMPANY	DS	5/12/1998	120
SADDLE BROOK WATER DEPT	DS	8/31/2004	5
SADDLE BROOK WATER DEPT	DS	8/24/1999	79
SADDLE RIVER WATER UTILITY	DS	9/6/2005	17
SALEM WATER DEPARTMENT	EP	5/13/2005	320
SALEM WATER DEPARTMENT	RW	2/26/2003	470
SALEM WATER DEPARTMENT	RW	5/6/2002	640
SALEM WATER DEPARTMENT	DS	5/2/2000	250
SALEM WATER DEPARTMENT	DS	2/16/1993	7100
SANDY POINT MOBILE HOME	DS	3/22/2000	850
SANDY POINT MOBILE HOME	DS	1/29/1991	1200
SAYREVILLE WATER DEPARTMENT	DS	9/29/1998	190
SAYREVILLE WATER DEPARTMENT	EP	12/8/1993	48
SEA GIRT WATER DEPARTMENT	DS	11/29/2001	86
SEA ISLE CITY WATER DEPARTMENT	DS	7/21/2004	26
SEA ISLE CITY WATER DEPARTMENT	DS	6/8/1999	160
SEA ISLE CITY WATER DEPARTMENT	RW	2/8/1999	120
SEA VILLAGE MARINA L L C	DS	12/15/1999	140

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
SEABROOK WATER CORPORATION	RW	6/4/2003	170
SEABROOK WATER CORPORATION	DS	3/17/2003	310
SEABROOK WATER CORPORATION	DS	5/28/1998	390
SEABROOK WATER CORPORATION	DS	10/25/1990	350
SEASIDE HEIGHTS WATER DE	DS	10/17/2002	6
SEASIDE HEIGHTS WATER DE	EP	12/16/1998	190
SEASIDE HEIGHTS WATER DE	DS	5/29/1997	65
SEASIDE PARK WATER DEPT	RW	7/25/2005	130
SEASIDE PARK WATER DEPT	RW	11/12/2003	190
SEASIDE PARK WATER DEPT	DS	10/17/2002	130
SEASIDE PARK WATER DEPT	DS	5/15/1997	20
SEASIDE PARK WATER DEPT	DS	4/30/1992	160
SEAVIEW WATER COMPANY	DS	11/13/2001	150
SHADY LAKE TRAILER PARK	DS	11/12/2003	1260
SHADY LAKE TRAILER PARK	DS	3/8/1999	1450
SHADY OAK TRAILER COURT	DS	11/16/2005	200
SHADY PINES CAMPING RESORT	DS	6/2/2003	200
SHADY PINES CAMPING RESORT	DS	4/22/1998	290
SHERWOOD VILLAGE	DS	6/17/1998	2240
SHIP BOTTOM WATER DEPART	DS	10/25/1999	87
SHORE ACRES MOBILE HOME	DS	6/16/1999	180
SHORE WATER COMPANY	DS	10/27/1999	250
SHORELANDS WATER COMPANY INC.	DS	3/23/2004	6
SHORELANDS WATER COMPANY INC.	RW	6/11/2003	15
SHORELANDS WATER COMPANY INC.	DS	6/10/1998	440
SIMMONS W CO	DS	10/15/1998	1290
SISTERS OF CHARITY OF SAINT EL	DS	6/19/1997	250
SISTERS OF CHARITY OF SE	DS	4/10/2002	270
SISTERS OF CHRISTIAN CHARITY	DS	2/8/2000	2770
SOUTH BELMAR WATER DEPT	DS	1/26/2000	49
SOUTH BRUNSWICK TWP W DI	DS	3/27/2000	96
SOUTH BRUNSWICK TWP W DI	DS	2/11/1992	630
SOUTH FORTESCUE WATER WO	RW	12/17/1990	130
SOUTH JERSEY WATER SUPPL	DS	5/27/2003	nondetect
SOUTH JERSEY WATER SUPPL	DS	5/27/2003	18
SOUTH JERSEY WATER SUPPL	DS	5/27/2003	3
SOUTH JERSEY WATER SUPPL	DS	7/17/2000	210
SOUTH JERSEY WATER SUPPL	RW	8/11/1999	120
SOUTH JERSEY WATER SUPPL	RW	4/14/1994	130
SOUTH JERSEY WATER SUPPL	DS	3/5/1992	120
SOUTH ORANGE WATER DEPARTMENT	DS	3/29/2000	470
SOUTH RIVER WATER DEPARTMENT	DS	1/5/2000	108
SOUTH WIND MOBILE HOME V	DS	12/2/1992	740
SOUTHEAST MORRIS COUNTY MUA	DS	1/17/2002	310
SOUTHS MOBILE HOME PARK	DS	4/27/1998	630
SPARTA TWP STONEBRIDGE	DS	8/18/2004	290
SPARTA TWP W DISTRICT #	RW	5/20/1992	41000

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
SPARTA TWP W DISTRICT #	RW	5/20/1992	23000
SPARTA TWP WATER SENECA LAKE	DS	4/6/2004	380
SPARTA TWP WATER SUMMIT	DS	3/15/2004	6000
SPARTA TWP WATER UTILITY -- HIGHLANDS	DS	5/17/2000	530
SPARTA TWP WATER UTILITY -- HIGHLANDS	RW	11/18/1998	1280
SPARTA TWP WATER UTILITY - LAKE MOHAWK	EP	6/10/2005	nondetect
SPARTA TWP WATER UTILITY - LAKE MOHAWK	EP	6/10/2005	nondetect
SPARTA TWP WATER UTILITY - LAKE MOHAWK	RW	6/10/2005	31200
SPARTA TWP WATER UTILITY - LAKE MOHAWK	RW	6/10/2005	17600
SPARTA TWP WATER UTILITY - LAKE MOHAWK	DS	12/8/2003	380
SPARTA TWP WATER UTILITY - LAKE MOHAWK	DS	6/21/1999	560
SPARTA TWP WATER UTILITY - LAKE MOHAWK	RW	1/25/1994	1510
SPARTA TWP WATER UTILITY - LAKE MOHAWK	RW	1/25/1994	950
SPARTA TWP WTR - SUNSET	DS	8/18/2004	110
SPARTA TWP WTR - SUNSET	DS	8/26/1999	210
SPARTAN VILLAGE MOBILE H	DS	6/11/1998	530
SPOTSWOOD W DEPT	DS	2/3/1993	2320
STAFFORD TWP MUA CEDAR B	DS	7/26/2004	43
STAFFORD TWP MUA CEDAR B	DS	8/30/1999	76
STAFFORD TWP MUA FAWN LA	DS	6/3/2003	120
STAFFORD TWP MUA FAWN LA	DS	9/10/1998	170
STAFFORD TWP MUA FAWN LA	DS	9/30/1992	210
STAFFORD TWP WATER - BEACH HAVEN WEST	DS	7/28/2004	61
STAFFORD TWP WATER - BEACH HAVEN WEST	DS	8/30/1999	94
STAFFORD TWP WATER - BEACH HAVEN WEST	RW	7/22/1993	330
STANHOPE W DEPT	DS	12/3/2001	2130
STILLWATER WATER DISTRIC	DS	6/8/2000	460
STILLWATER WATER DISTRIC	EP	8/3/1999	570
STILLWATER WATER DISTRIC	EP	8/3/1999	510
STOCKTON WATER DEPARTMENT	DS	6/1/2000	970
STONE HARBOR WATER DEPT	DS	7/22/2003	12
STONE HARBOR WATER DEPT	RW	3/26/2002	51
STONE HARBOR WATER DEPT	DS	10/5/1998	400
STONY FIELD MOBILE HOME PARK	DS	5/23/2000	250
STONY FIELD MOBILE HOME PARK	DS	6/17/1992	270
STRAWBERRY POINT PROP OW	DS	4/24/2000	920
STRAWBERRY POINT PROP OW	RW	9/21/1993	580
STRAWBERRY VILLAGE MOBILE HOME PARK	DS	1/14/1991	260

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
SUN VALLEY PARK	EP	10/18/1999	820
SUN VALLEY PARK	DS	7/21/1998	940
SURF CITY WATER DEPT	DS	2/6/2003	28
SUSSEX CNTY HLTH-THE HOMESTED	EP	6/10/2005	940
SUSSEX W DEPT	DS	3/11/1999	120
SWEDESBORO WATER DEPARTMENT	DS	10/22/2002	150
SWEDESBORO WATER DEPARTMENT	DS	2/3/1998	220
SWEDESBORO WATER DEPARTMENT	RW	11/18/1992	73
THE OAKS OF WEYMOUTH WATER CO.	DS	2/27/2006	120
THE VILLAGE OF LAKE GLENWOOD	RW	6/20/2000	1100
THE VILLAGE OF LAKE GLENWOOD	DS	5/22/2000	820
TILTON TERRACE MH	RW	4/27/2005	110
TILTON TERRACE MH	DS	7/2/2002	120
TINAS MOTEL & TRAILER C	DS	1/3/1991	1500
TIPS TRAILER PARK & SALE	DS	5/3/2003	360
TIPS TRAILER PARK & SALE	DS	10/14/1998	470
TOTOWA W DEPT	DS	2/17/1998	78
TOWER 1999 MOBILE HOME PARK	DS	6/19/2000	130
TOWER EAST MOBILE HOME PARK	DS	3/8/2005	68
TOWER EAST MOBILE HOME PARK	DS	11/3/1999	120
TOWER MOBILE HOMES	DS	3/8/2005	99
TOWER MOBILE HOMES	DS	11/3/1999	150
TOWN & COUNTRY MHP	DS	7/2/2003	84
TOWN & COUNTRY MHP	DS	6/18/1998	250
TOWN & COUNTRY MHP	DS	4/6/1992	160
TRANQUILITY SPRINGS WATER CO	EP	9/14/1999	700
TRANQUILITY SPRINGS WATER CO	EP	9/14/1999	480
TRANQUILITY SPRINGS WATER CO	EP	9/14/1999	290
TRENTON WATER WORKS	DS	9/25/2002	71
TRIPLE BROOK MOBILE HOME	DS	6/22/1998	2350
TUCKERTON WATER & SEWER DEPT	RW	10/28/1998	210
TUCKERTON WATER & SEWER DEPT	DS	6/10/1992	110
U S ARMY FORT DIX	DS	3/17/1998	110
U W V H ASPEN	DS	4/14/2004	230
U W V H BARRY LAKES	DS	3/29/2006	1430
U W V H CLIFFWOODS LAKES	DS	3/10/1999	1940
U W V H GRANDVIEW ESTATES	DS	7/7/2004	740
U W V H GRANDVIEW ESTATES	DS	7/29/1999	780
U W V H GRANDVIEW ESTATES	DS	4/9/1990	3100
U W V H HIGHLAND LAKES	DS	7/29/1999	970
U W V H LAKE CONWAY	EP	6/17/2005	9300
U W V H LAKE CONWAY	DS	5/25/1999	11500
U W V H PREDMORE ESTATES	DS	4/13/2000	1810
U W V H SAMMIS ROAD	DS	4/13/2000	3190
U W V H SUSSEX HILLS #1	EP	6/17/2005	6900
U W V H SUSSEX HILLS #1	DS	6/29/1999	6300
U W V H SUSSEX HILLS #2	EP	6/17/2005	5600

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
U W V H SUSSEX HILLS #2	DS	6/29/1999	6400
U W V H WOODRODGE ESTATES	DS	7/19/2000	1760
U W V H DC SYSTEM	EP	6/17/2005	17400
U W V H DC SYSTEM	EP	8/17/1999	18400
U W V H DC SYSTEM	DS	9/8/1997	21100
UNITED WATER LAMBERTVILLE	DS	3/2/1998	130
UNITED WATER ARLINGTON HILLS	DS	2/15/2000	320
UNITED WATER HAMPTON INC	DS	7/19/2000	210
UNITED WATER MATCHAPONIX	EP	2/12/2006	46
UNITED WATER MID-ATLANTIC/SUNSET RIDGE	DS	3/29/2006	2620
UNITED WATER NEW JERSEY	DS	1/29/2007	7
UNITED WATER NJ FRANKLIN LAKES	DS	6/28/1999	120
UNITED WATER NJ VERNON VALLEY	DS	4/26/2000	300
UNITED WATER NJ WEST MILFORD S	EP	5/27/2005	3300
UNITED WATER NJ WEST MILFORD S	DS	3/9/2000	250
UNITED WATER NJ WEST MILFORD S	EP	1/15/1998	8000
UNITED WATER NJ WEST MILFORD S	EP	1/15/1998	940
UNITED WATER NJ WEST MILFORD S	RW	4/29/1996	6400
UNITED WATER NJ WEST MILFORD S	RW	4/10/1996	4210
UNITED WATER NJ WEST MILFORD S	RW	4/10/1996	510
UNITED WATER OMEGA	DS	4/14/2004	25
UNITED WATER TOMS RIVER	DS	3/11/2005	150
UNITED WATER TOMS RIVER	DS	7/7/1999	130
UNITED WATER TOMS RIVER	RW	10/10/1996	200
UNITED WATER TOMS RIVER	RW	10/13/1993	64
UNITED WATER TOMS RIVER	RW	9/1/1993	450
UNITED WATER TOMS RIVER	RW	2/26/1991	670
UNITED WATER VERNON HILLS	DS	5/25/1999	620
UPPER DEERFIELD TWP WATER DEPT	DS	8/9/2006	98
UPPER DEERFIELD UTIL	DS	4/12/1993	360
US NAVAL WEAPONS STATION	DS	4/28/1999	150
VALLEY VIEW APARTMENTS	DS	3/16/1998	3600
VALLEY VIEW ESTATES	EP	5/17/2005	7300
VALLEY VIEW ESTATES	DS	5/22/2003	4180
VALLEY VIEW ESTATES	DS	1/29/2002	1030
VALLEY VIEW ESTATES	DS	1/29/2002	180
VALLEY VIEW ESTATES	DS	10/3/1996	1310
VALLEY VIEW MANOR	EP	5/12/2005	370
VENTNOR CITY WATER & SEWER UTILITY	DS	11/9/1999	49
VERNON W CO	EP	5/26/2005	8200
VERNON W CO	EP	5/26/2005	3200
VERNON W CO	EP	5/26/2005	1860
VERNON W CO	DS	7/7/2004	9100
VERNON W CO	DS	7/29/1999	12800
VERNON WATER CO OAK HIL	DS	6/29/1999	3900
VERONA WATER DEPARTMENT	DS	10/4/2004	52

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
VERONA WATER DEPARTMENT	DS	4/15/1999	76
VILLAGE I	EP	11/17/2003	170
VILLAGE I	EP	7/26/1999	310
VILLAGE I	EP	7/26/1999	200
VINCENTOWN WATER COMPANY	DS	5/10/2001	210
VINELAND WATER & SEWER UTILITY	DS	2/20/2002	160
VINELAND WATER & SEWER UTILITY	RW	5/12/1994	93
W MILFORD TWP BALD EAGLE	DS	11/26/2001	290
W.MILFORD TWP MUA PARKWY	DS	4/19/2004	1680
W.MILFORD TWP MUA PARKWY	DS	4/29/1999	1670
WAGON WHEEL ESTATES	DS	4/24/2003	450
WAGON WHEEL ESTATES	DS	5/26/1998	650
WALDWICK WATER DEPT	DS	8/2/1999	600
WALL TWP WATER DEPT	DS	3/24/2003	6
WALL TWP WATER DEPT	DS	5/12/1998	210
WALLINGTON WATER DEPT	DS	7/20/2004	9
WALLINGTON WATER DEPT	DS	8/10/1999	87
WALLKILL WATER CO C/O CA	DS	1/23/2007	366
WANAQUE W DEPT.	DS	8/9/2001	280
WANAQUE W DEPT.	DS	9/22/1994	370
WARREN HAVEN NURSING H	DS	2/9/1998	670
WASHINGTON TOWNSHIP MUA	RW	12/18/2001	150
WASHINGTON TOWNSHIP MUA	RW	11/9/1992	530
WASHINGTON TOWNSHIP MUA	RW	11/9/1992	470
WASHINGTON TWP MUA-HAGER	DS	8/15/2000	740
WASHINGTON TWP MUA-HAGER	RW	4/27/1999	1190
WASHINGTON TWP MUA-HAGER	RW	6/21/1995	1330
WASHINGTON TWP MUA-HAGER	RW	6/21/1995	650
WASHINGTON TWP MUA-SCHOO	DS	8/15/2000	320
WASHINGTON TWP MUA-SCHOO	RW	4/27/1999	760
WASHINGTON TWP MUA-SCHOO	DS	6/17/1998	2240
WASHINGTON TWP MUA-SCHOO	RW	6/17/1998	520
WATERFORD TOWNSHIP WATER DEPT.	RW	10/20/2003	200
WATERFORD TOWNSHIP WATER DEPT.	RW	10/20/2003	180
WATERFORD TOWNSHIP WATER DEPT.	DS	2/7/2000	390
WAYNE TOWNSHIP DIVISION OF WATER	DS	12/2/2003	4
WAYNE TOWNSHIP DIVISION OF WATER	DS	1/25/1999	52
WENONAH WATER DEPARTMENT	DS	12/5/2001	140
WEST BAY VILLAGE	DS	1/15/2004	31
WEST BAY VILLAGE	DS	6/17/1999	140
WEST CALDWELL WATER DEPARTMENT	DS	3/7/2005	nondetect
WEST CALDWELL WATER DEPARTMENT	DS	12/22/1999	80
WEST CAPE MAY WATER DEPT	DS	6/24/1999	170
WEST DEPTFORD TWP WATER DEPT	DS	10/22/2002	19
WEST MILFORD MUA - BIRCH HILL	DS	2/17/2000	1380
WEST MILFORD TWP MUA AWO	EP	5/27/2005	7800
WEST MILFORD TWP MUA AWO	EP	5/27/2005	7500

NAME	TYPE	COLLLECTION DATE	CONCENTRATION (pCi/L)
WEST MILFORD TWP MUA AWO	DS	2/17/2000	6970
WEST MILFORD TWP MUA CRE	DS	9/14/1994	3070
WEST MILFORD TWP MUA GREENBROO	DS	4/19/2004	150
WEST MILFORD TWP MUA GREENBROO	DS	12/15/1998	1710
WEST MILFORD TWP MUA OLD	DS	6/21/2000	2040
WEST MILFORD TWP MUA OLD	RW	5/11/1993	2280
WEST PATERSON W DEPT	DS	10/4/2004	17
WEST PATERSON W DEPT	DS	10/7/1999	24
WEST WILDWOOD W DEPT	DS	7/21/2004	46
WEST WILDWOOD W DEPT	DS	6/22/1999	130
WESTVILLE WATER DEPARTME	DS	7/8/2002	77
WEYMOUTH TWSP MUA	DS	11/3/1999	51
WHARTON WATER DEPT	DS	6/6/2000	140
WHARTON WATER DEPT	DS	12/16/1992	57
WILDWOOD CITY WATER DEPARTMENT	DS	4/17/1995	97
WILLINGBORO MUA	DS	9/16/2002	130
WILLINGBORO MUA	RW	5/26/1998	250
WILLINGBORO MUA	DS	9/10/1997	190
WILLOR MANOR WATER CO	DS	6/20/2002	5100
WINDING BROOK MHP SYS 1	DS	2/16/2000	140
WINDING BROOK MHP SYSTEM 2	DS	6/27/2002	210
WINDTRYST APTS	DS	4/25/2002	1650
WINDTRYST APTS	DS	12/9/1997	530
WINDTRYST APTS	DS	12/9/1997	530
WINDY ACRES MOBILE HOME	DS	5/18/1998	2620
WINFIELD MUTUAL HOUSING	DS	1/21/2003	nondetect
WINFIELD MUTUAL HOUSING	DS	1/29/1998	94
WINSLOW COURT HOMES INC	DS	7/19/2001	190
WINSLOW TWP MUA	DS	7/19/2001	240
WINSLOW TWP MUNICIPAL UTIL. SICKLERVILLE	DS	7/6/2000	270
WINSLOW TWP MUNICIPAL UTIL. SICKLERVILLE	DS	9/19/1994	160
WONDER LAKE PROPERTIES I	DS	3/31/2003	770
WONDER LAKE PROPERTIES I	DS	4/6/1998	1060
WOODBINE MUA	DS	5/2/2001	120
WOODBINE MUA	DS	4/19/1994	130
WOODBURY CITY W DEPT	DS	5/16/2000	100
WOODBURY CITY W DEPT	RW	9/10/1997	120
WOODBURY CITY W DEPT	DS	12/9/1992	110
WOODBURY HEIGHTS W UTILI	DS	9/30/1999	130
WOODSTOWN WATER DEPARTMENT	DS	8/15/2002	290
WOODSTOWN WATER DEPARTMENT	RW	4/29/1998	420
WOODSTOWN WATER DEPARTMENT	DS	12/10/1997	160
WOODSTOWN WATER DEPARTMENT	DS	3/5/1992	89
WRIGHTSTOWN MUA	DS	1/27/1992	200

Appendix III: Private Well Radon Data

*If the collection date column is blank, the sample date was not collected.

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
BUENA BORO	ATLANTIC	4/25/1988	690
BUENA VISTA TWP	ATLANTIC	4/26/1988	200
EGG HARBOR TWP	ATLANTIC	4/2/1986	140
HAMILTON TWP	ATLANTIC	8/6/1980	370
HAMILTON TWP	ATLANTIC	4/2/1986	190
MULLICA TWP	ATLANTIC	4/2/1986	220
MULLICA TWP	ATLANTIC	4/2/1986	180
CARLSTADT BORO	BERGEN	8/9/1990	1000
CLIFFSIDE PARK BORO	BERGEN	4/25/1988	240
ENGLEWOOD CITY	BERGEN	4/26/1988	130
FRANKLIN LAKES BORO	BERGEN	4/9/1987	870
FRANKLIN LAKES BORO	BERGEN	4/22/1988	480
HASBROUCK HEIGHTS BO	BERGEN	2/9/1990	4700
HASBROUCK HEIGHTS BO	BERGEN	2/9/1990	3300
HASBROUCK HEIGHTS BO	BERGEN	2/9/1990	2600
HASBROUCK HEIGHTS BO	BERGEN	2/9/1990	1600
LYNDHURST TWP	BERGEN	2/9/1990	1800
RIDGEFIELD BORO	BERGEN	2/9/1990	5200
RIDGEFIELD BORO	BERGEN	2/9/1990	4800
RIDGEFIELD BORO	BERGEN	2/9/1990	2350
UPPER SADDLE RIVER B	BERGEN	6/29/1987	1080
UPPER SADDLE RIVER B	BERGEN	4/27/1988	480
CHESTERFIELD TWP	BURLINGTON	6/22/1987	110
CHESTERFIELD TWP	BURLINGTON	6/8/1987	90
MANSFIELD TWP	BURLINGTON	5/21/1987	250
NEW HANOVER TWP	BURLINGTON	6/16/1987	120
TABERNACLE TWP	BURLINGTON	1/20/1988	410
CHERRY HILL TWP	CAMDEN	5/6/1988	440
WATERFORD TWP	CAMDEN	4/25/1988	260
DEERFIELD TWP	CUMBERLAND	1/30/1998	706
DEERFIELD TWP	CUMBERLAND	5/21/1997	400
DEERFIELD TWP	CUMBERLAND	5/21/1997	270
DEERFIELD TWP	CUMBERLAND	5/21/1997	230
DEERFIELD TWP	CUMBERLAND	5/21/1997	170
DEERFIELD TWP	CUMBERLAND	5/21/1997	150
DEERFIELD TWP	CUMBERLAND	5/21/1997	110
UPPER DEERFIELD TWP	CUMBERLAND	1/30/1998	723
UPPER DEERFIELD TWP	CUMBERLAND	1/30/1998	613
UPPER DEERFIELD TWP	CUMBERLAND	11/19/1997	576
UPPER DEERFIELD TWP	CUMBERLAND	9/23/1996	520
UPPER DEERFIELD TWP	CUMBERLAND	1/30/1998	505
UPPER DEERFIELD TWP	CUMBERLAND	1/30/1998	451
UPPER DEERFIELD TWP	CUMBERLAND	9/10/1990	380
UPPER DEERFIELD TWP	CUMBERLAND	5/21/1997	330

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
UPPER DEERFIELD TWP	CUMBERLAND	5/21/1997	310
UPPER DEERFIELD TWP	CUMBERLAND	11/19/1997	284
UPPER DEERFIELD TWP	CUMBERLAND	11/19/1997	278
UPPER DEERFIELD TWP	CUMBERLAND	9/23/1996	260
UPPER DEERFIELD TWP	CUMBERLAND	1/30/1998	181
VINELAND CITY	CUMBERLAND	4/27/1987	81
FAIRFIELD TWP	ESSEX	5/4/1988	460
FAIRFIELD TWP	ESSEX	4/25/1988	260
ELK TWP	GLOUCESTER	7/24/1987	500
ELK TWP	GLOUCESTER	10/19/1987	320
ELK TWP	GLOUCESTER	8/10/1980	130
FRANKLIN TWP	GLOUCESTER	8/12/1987	510
FRANKLIN TWP	GLOUCESTER	2/2/1988	390
FRANKLIN TWP	GLOUCESTER	7/15/1987	340
FRANKLIN TWP	GLOUCESTER	12/1/1988	230
FRANKLIN TWP	GLOUCESTER	10/19/1987	200
GLASSBORO BORO	GLOUCESTER	5/13/1987	640
HARRISON TWP	GLOUCESTER	4/21/1988	1290
HARRISON TWP	GLOUCESTER	2/2/1988	480
MONROE TWP	GLOUCESTER	1/5/1988	150
WASHINGTON TWP	GLOUCESTER	9/10/1990	500
WASHINGTON TWP	GLOUCESTER	12/10/1990	460
WASHINGTON TWP	GLOUCESTER	12/10/1990	430
WOOLWICH TWP	GLOUCESTER	5/28/1987	890
ALEXANDRIA TWP	HUNTERDON	3/19/1987	6520
ALEXANDRIA TWP	HUNTERDON	10/30/1985	5700
ALEXANDRIA TWP	HUNTERDON	5/23/1986	5390
ALEXANDRIA TWP	HUNTERDON	2/1/1988	4400
ALEXANDRIA TWP	HUNTERDON	4/8/1986	2380
ALEXANDRIA TWP	HUNTERDON	12/17/1985	1410
ALEXANDRIA TWP	HUNTERDON	3/9/1987	1390
ALEXANDRIA TWP	HUNTERDON	11/23/1987	1340
ALEXANDRIA TWP	HUNTERDON	4/18/1985	1290
ALEXANDRIA TWP	HUNTERDON	5/26/1987	1200
ALEXANDRIA TWP	HUNTERDON	2/12/1986	909
ALEXANDRIA TWP	HUNTERDON	5/5/1986	816
BETHLEHEM TWP	HUNTERDON	5/14/1987	22220
BETHLEHEM TWP	HUNTERDON	6/6/1986	21200
BETHLEHEM TWP	HUNTERDON	7/28/1986	20200
BETHLEHEM TWP	HUNTERDON	7/30/1987	18500
BETHLEHEM TWP	HUNTERDON		13850
BETHLEHEM TWP	HUNTERDON	9/18/1987	13300
BETHLEHEM TWP	HUNTERDON	4/23/1987	11800
BETHLEHEM TWP	HUNTERDON	4/10/1986	11500
BETHLEHEM TWP	HUNTERDON	6/30/1987	10700
BETHLEHEM TWP	HUNTERDON	1/29/1987	9360
BETHLEHEM TWP	HUNTERDON	4/16/1987	9230

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
BETHLEHEM TWP	HUNTERDON	12/30/1986	9200
BETHLEHEM TWP	HUNTERDON	11/13/1987	8300
BETHLEHEM TWP	HUNTERDON	3/13/1987	7600
BETHLEHEM TWP	HUNTERDON	5/14/1987	6300
BETHLEHEM TWP	HUNTERDON	6/4/1987	6170
BETHLEHEM TWP	HUNTERDON	9/29/1987	5000
BETHLEHEM TWP	HUNTERDON	2/28/1987	4800
BETHLEHEM TWP	HUNTERDON	4/4/1987	4100
BETHLEHEM TWP	HUNTERDON	12/4/1986	3520
BETHLEHEM TWP	HUNTERDON	6/4/1987	2080
BETHLEHEM TWP	HUNTERDON	11/15/1987	1830
BETHLEHEM TWP	HUNTERDON	6/30/1987	1740
BETHLEHEM TWP	HUNTERDON	6/9/1987	1420
BETHLEHEM TWP	HUNTERDON	4/2/1987	1370
BETHLEHEM TWP	HUNTERDON	11/7/1986	1060
BETHLEHEM TWP	HUNTERDON	11/19/1997	959
BETHLEHEM TWP	HUNTERDON	4/20/1987	610
BETHLEHEM TWP	HUNTERDON	10/16/1986	600
BETHLEHEM TWP	HUNTERDON	10/9/1987	530
BETHLEHEM TWP	HUNTERDON	5/26/1987	390
BETHLEHEM TWP	HUNTERDON	11/1/1987	360
CALIFON BORO	HUNTERDON	3/30/1987	1270
CALIFON BORO	HUNTERDON	3/6/1987	760
CALIFON BORO	HUNTERDON	6/3/1986	531
CLINTON TOWN	HUNTERDON	4/26/1986	10700
CLINTON TOWN	HUNTERDON	4/16/1986	9950
CLINTON TOWN	HUNTERDON	6/15/1987	220
CLINTON TWP	HUNTERDON	11/6/1985	32000
CLINTON TWP	HUNTERDON		24831
CLINTON TWP	HUNTERDON	6/19/1987	11500
CLINTON TWP	HUNTERDON	11/23/1987	9900
CLINTON TWP	HUNTERDON	4/30/1988	7060
CLINTON TWP	HUNTERDON	3/3/1987	7030
CLINTON TWP	HUNTERDON	10/27/1987	6970
CLINTON TWP	HUNTERDON	8/21/1986	6870
CLINTON TWP	HUNTERDON	3/20/1987	5840
CLINTON TWP	HUNTERDON	5/11/1987	4080
CLINTON TWP	HUNTERDON	3/26/1987	3180
CLINTON TWP	HUNTERDON	5/20/1986	2690
CLINTON TWP	HUNTERDON	6/4/1986	2060
CLINTON TWP	HUNTERDON	4/29/1986	1990
CLINTON TWP	HUNTERDON	5/9/1986	1870
CLINTON TWP	HUNTERDON	5/20/1986	1670
CLINTON TWP	HUNTERDON	12/10/1987	1520
CLINTON TWP	HUNTERDON	5/22/1986	1500
CLINTON TWP	HUNTERDON	5/30/1986	1250
CLINTON TWP	HUNTERDON		1190

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
CLINTON TWP	HUNTERDON	7/13/1987	1170
CLINTON TWP	HUNTERDON	5/20/1986	991
CLINTON TWP	HUNTERDON	5/1/1986	965
CLINTON TWP	HUNTERDON	6/5/1987	890
CLINTON TWP	HUNTERDON	12/1/1986	880
CLINTON TWP	HUNTERDON	4/14/1986	685
CLINTON TWP	HUNTERDON	11/19/1987	610
CLINTON TWP	HUNTERDON	11/28/1987	560
CLINTON TWP	HUNTERDON	4/13/1987	540
CLINTON TWP	HUNTERDON	7/6/1986	524
CLINTON TWP	HUNTERDON	1/26/1987	430
CLINTON TWP	HUNTERDON	2/9/1987	380
CLINTON TWP	HUNTERDON	7/14/1987	290
CLINTON TWP	HUNTERDON	5/26/1987	112
CLINTON TWP	HUNTERDON	6/26/1987	45
DELAWARE TWP	HUNTERDON	11/9/1987	2590
DELAWARE TWP	HUNTERDON	9/29/1987	2560
DELAWARE TWP	HUNTERDON	1/25/1988	2500
DELAWARE TWP	HUNTERDON	1/25/1988	2240
DELAWARE TWP	HUNTERDON	6/4/1987	2120
DELAWARE TWP	HUNTERDON	1/29/1987	2060
DELAWARE TWP	HUNTERDON	5/5/1987	1810
DELAWARE TWP	HUNTERDON	6/19/1987	1660
DELAWARE TWP	HUNTERDON	1/14/1988	1500
DELAWARE TWP	HUNTERDON	5/15/1987	1480
DELAWARE TWP	HUNTERDON	2/2/1988	1480
DELAWARE TWP	HUNTERDON	9/20/1986	1440
DELAWARE TWP	HUNTERDON	10/21/1987	1440
DELAWARE TWP	HUNTERDON	7/6/1987	1430
DELAWARE TWP	HUNTERDON	2/2/1988	1380
DELAWARE TWP	HUNTERDON	1/25/1988	1090
DELAWARE TWP	HUNTERDON	1/9/1988	450
EAST AMWELL TWP	HUNTERDON	9/15/1986	1860
EAST AMWELL TWP	HUNTERDON	10/29/1987	770
EAST AMWELL TWP	HUNTERDON	10/10/1986	200
FLEMINGTON BORO	HUNTERDON	2/20/1987	3700
FLEMINGTON BORO	HUNTERDON	2/2/1987	3670
FRANKLIN	HUNTERDON		6005
FRANKLIN TWP	HUNTERDON	5/11/1987	4150
FRANKLIN TWP	HUNTERDON	5/18/1987	3400
FRANKLIN TWP	HUNTERDON	8/5/1987	2270
FRANKLIN TWP	HUNTERDON	10/16/1987	2190
FRANKLIN TWP	HUNTERDON	11/24/1987	2170
FRANKLIN TWP	HUNTERDON	10/2/1987	2020
FRANKLIN TWP	HUNTERDON	5/22/1986	1740
FRANKLIN TWP	HUNTERDON	10/16/1986	1440
FRANKLIN TWP	HUNTERDON	11/21/1987	1430

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
FRANKLIN TWP	HUNTERDON	8/31/1987	1220
FRANKLIN TWP	HUNTERDON	3/26/1987	1020
FRANKLIN TWP	HUNTERDON	4/10/1986	991
FRANKLIN TWP	HUNTERDON	11/7/1987	960
FRANKLIN TWP	HUNTERDON	12/12/1986	880
FRANKLIN TWP	HUNTERDON	4/20/1987	730
FRANKLIN TWP	HUNTERDON	10/26/1987	380
FRANKLIN TWP	HUNTERDON	3/18/1987	189
FRANKLIN TWP	HUNTERDON	1/30/1987	45
FRENCHTOWN BORO	HUNTERDON	9/22/1986	2600
GLEN GARDNER BORO	HUNTERDON	5/26/1987	5940
GLEN GARDNER BORO	HUNTERDON	2/6/1986	1120
GLEN GARDNER BORO	HUNTERDON		640
HAMPTON BORO	HUNTERDON	5/5/1987	32000
HAMPTON BORO	HUNTERDON	1/8/1988	27000
HAMPTON BORO	HUNTERDON	4/7/1987	23800
HAMPTON BORO	HUNTERDON	9/29/1987	18500
HAMPTON BORO	HUNTERDON	8/4/1986	8870
HAMPTON BORO	HUNTERDON	8/13/1986	550
HAMPTON BORO	HUNTERDON	1/28/1988	45
HIGH BRIDGE BORO	HUNTERDON	1/27/1987	12700
HIGH BRIDGE BORO	HUNTERDON	4/8/1986	11000
HIGH BRIDGE BORO	HUNTERDON	12/9/1986	6820
HIGH BRIDGE BORO	HUNTERDON	11/7/1986	4470
HOLLAND TWP	HUNTERDON	6/25/1986	4730
HOLLAND TWP	HUNTERDON	10/23/1986	2870
HOLLAND TWP	HUNTERDON	4/18/1986	1800
HOLLAND TWP	HUNTERDON	10/12/1987	1490
HOLLAND TWP	HUNTERDON	1/6/1987	1460
HOLLAND TWP	HUNTERDON	11/13/1987	1400
HOLLAND TWP	HUNTERDON	11/13/1987	1360
HOLLAND TWP	HUNTERDON	9/18/1986	1350
HOLLAND TWP	HUNTERDON	6/2/1987	1320
HOLLAND TWP	HUNTERDON	10/7/1986	1100
HOLLAND TWP	HUNTERDON	5/18/1987	850
HOLLAND TWP	HUNTERDON	4/14/1986	685
HOLLAND TWP	HUNTERDON	10/29/1987	640
HOLLAND TWP	HUNTERDON	9/28/1987	505
KINGWOOD TWP	HUNTERDON	2/2/1987	1990
KINGWOOD TWP	HUNTERDON	6/30/1986	1150
KINGWOOD TWP	HUNTERDON	5/26/1987	1100
KINGWOOD TWP	HUNTERDON	11/17/1987	1055
LAMBERTVILLE CITY	HUNTERDON	6/25/1990	2500
LEBANON BORO	HUNTERDON	6/16/1986	767
LEBANON TWP	HUNTERDON	5/9/1986	42500
LEBANON TWP	HUNTERDON	2/13/1987	40000
LEBANON TWP	HUNTERDON	6/4/1986	19400

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
LEBANON TWP	HUNTERDON	6/27/1986	17000
LEBANON TWP	HUNTERDON	11/5/1987	12700
LEBANON TWP	HUNTERDON	7/22/1986	11700
LEBANON TWP	HUNTERDON	8/15/1986	10000
LEBANON TWP	HUNTERDON	10/5/1987	9800
LEBANON TWP	HUNTERDON	4/28/1986	6120
LEBANON TWP	HUNTERDON	11/9/1987	4920
LEBANON TWP	HUNTERDON	6/5/1986	4700
LEBANON TWP	HUNTERDON	11/6/1986	4320
LEBANON TWP	HUNTERDON	4/6/1987	3960
LEBANON TWP	HUNTERDON	8/13/1986	3400
LEBANON TWP	HUNTERDON	4/6/1987	3380
LEBANON TWP	HUNTERDON	5/8/1987	3320
LEBANON TWP	HUNTERDON	2/14/1986	2340
LEBANON TWP	HUNTERDON	3/7/1986	1530
LEBANON TWP	HUNTERDON	5/8/1987	1520
LEBANON TWP	HUNTERDON	1/26/1987	890
LEBANON TWP	HUNTERDON	4/7/1987	880
LEBANON TWP	HUNTERDON	5/5/1987	860
LEBANON TWP	HUNTERDON	8/21/1986	690
LEBANON TWP	HUNTERDON	4/10/1987	360
LEBANON TWP	HUNTERDON	5/24/1986	340
LEBANON TWP	HUNTERDON	10/6/1986	320
LEBANON TWP	HUNTERDON	7/3/1986	280
LEBANON TWP	HUNTERDON	12/30/1985	259
MILFORD BORO	HUNTERDON	1/27/1987	600
RARITAN TWP	HUNTERDON	4/9/1987	18950
RARITAN TWP	HUNTERDON	6/12/1986	18200
RARITAN TWP	HUNTERDON	2/2/1987	16700
RARITAN TWP	HUNTERDON	1/19/1987	15500
RARITAN TWP	HUNTERDON	7/17/1986	12100
RARITAN TWP	HUNTERDON	5/8/1987	6100
RARITAN TWP	HUNTERDON	10/3/1986	5800
RARITAN TWP	HUNTERDON	2/24/1987	4970
RARITAN TWP	HUNTERDON	4/27/1987	4730
RARITAN TWP	HUNTERDON	4/28/1987	4700
RARITAN TWP	HUNTERDON	6/25/1987	4700
RARITAN TWP	HUNTERDON	4/30/1987	4600
RARITAN TWP	HUNTERDON	5/8/1987	4560
RARITAN TWP	HUNTERDON	4/3/1986	3700
RARITAN TWP	HUNTERDON	10/15/1987	3680
RARITAN TWP	HUNTERDON	10/16/1987	3650
RARITAN TWP	HUNTERDON	8/5/1987	3600
RARITAN TWP	HUNTERDON	3/30/1987	3520
RARITAN TWP	HUNTERDON	7/21/1987	3330
RARITAN TWP	HUNTERDON	4/28/1987	3130
RARITAN TWP	HUNTERDON	4/23/1987	3100

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
RARITAN TWP	HUNTERDON	2/19/1987	2870
RARITAN TWP	HUNTERDON	4/8/1986	2850
RARITAN TWP	HUNTERDON	6/15/1987	2780
RARITAN TWP	HUNTERDON	7/28/1987	2780
RARITAN TWP	HUNTERDON	10/9/1987	2730
RARITAN TWP	HUNTERDON	6/30/1986	2700
RARITAN TWP	HUNTERDON	5/18/1987	2670
RARITAN TWP	HUNTERDON	8/12/1986	2620
RARITAN TWP	HUNTERDON	1/27/1987	2560
RARITAN TWP	HUNTERDON	1/9/1987	2490
RARITAN TWP	HUNTERDON	11/20/1987	2490
RARITAN TWP	HUNTERDON	5/11/1987	2480
RARITAN TWP	HUNTERDON	6/9/1986	2350
RARITAN TWP	HUNTERDON	8/4/1986	2300
RARITAN TWP	HUNTERDON	1/9/1987	2300
RARITAN TWP	HUNTERDON	3/13/1987	2230
RARITAN TWP	HUNTERDON	12/21/1987	2060
RARITAN TWP	HUNTERDON	4/23/1987	2040
RARITAN TWP	HUNTERDON	8/18/1986	1980
RARITAN TWP	HUNTERDON	4/13/1987	1910
RARITAN TWP	HUNTERDON	11/21/1987	1560
RARITAN TWP	HUNTERDON	4/9/1987	1500
RARITAN TWP	HUNTERDON	11/6/1986	1400
RARITAN TWP	HUNTERDON	6/16/1987	1310
RARITAN TWP	HUNTERDON	9/15/1987	1290
RARITAN TWP	HUNTERDON	1/27/1987	1240
RARITAN TWP	HUNTERDON	3/30/1987	1240
RARITAN TWP	HUNTERDON	5/20/1986	1220
RARITAN TWP	HUNTERDON	9/28/1987	1200
RARITAN TWP	HUNTERDON	12/16/1986	1190
RARITAN TWP	HUNTERDON	1/4/1988	1150
RARITAN TWP	HUNTERDON	5/9/1986	740
RARITAN TWP	HUNTERDON	6/19/1987	550
RARITAN TWP	HUNTERDON	11/17/1987	280
RARITAN TWP	HUNTERDON	12/5/1987	210
RARITAN TWP	HUNTERDON	5/14/1987	76
READINGTON TWP	HUNTERDON	4/6/1987	5990
READINGTON TWP	HUNTERDON	5/22/1987	2560
READINGTON TWP	HUNTERDON	10/10/1986	2190
READINGTON TWP	HUNTERDON	8/21/1987	2100
READINGTON TWP	HUNTERDON	1/8/1988	1800
READINGTON TWP	HUNTERDON	5/9/1986	1760
READINGTON TWP	HUNTERDON	5/19/1986	1710
READINGTON TWP	HUNTERDON	11/2/1987	1700
READINGTON TWP	HUNTERDON	5/19/1987	1680
READINGTON TWP	HUNTERDON	10/5/1987	1670
READINGTON TWP	HUNTERDON	3/5/1987	1600

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
READINGTON TWP	HUNTERDON	2/2/1988	1600
READINGTON TWP	HUNTERDON	6/30/1986	1590
READINGTON TWP	HUNTERDON	7/9/1987	1590
READINGTON TWP	HUNTERDON	10/27/1987	1590
READINGTON TWP	HUNTERDON	11/13/1987	1565
READINGTON TWP	HUNTERDON	6/18/1987	1520
READINGTON TWP	HUNTERDON	1/8/1988	1470
READINGTON TWP	HUNTERDON	6/9/1987	1450
READINGTON TWP	HUNTERDON	6/11/1987	1390
READINGTON TWP	HUNTERDON	9/10/1987	1380
READINGTON TWP	HUNTERDON	11/17/1987	1335
READINGTON TWP	HUNTERDON		1270
READINGTON TWP	HUNTERDON	12/4/1987	1240
READINGTON TWP	HUNTERDON	11/27/1987	1205
READINGTON TWP	HUNTERDON	5/21/1986	1150
READINGTON TWP	HUNTERDON	12/7/1987	1105
READINGTON TWP	HUNTERDON	1/15/1988	1100
READINGTON TWP	HUNTERDON	1/15/1988	1000
READINGTON TWP	HUNTERDON	1/29/1988	970
READINGTON TWP	HUNTERDON	11/23/1987	965
READINGTON TWP	HUNTERDON	10/20/1987	910
READINGTON TWP	HUNTERDON	11/18/1987	560
READINGTON TWP	HUNTERDON	12/7/1987	550
READINGTON TWP	HUNTERDON	5/14/1987	540
READINGTON TWP	HUNTERDON	12/12/1986	400
STOCKTON BORO	HUNTERDON	1/26/1987	860
TEWKSBURY	HUNTERDON		61742
TEWKSBURY	HUNTERDON		19475
TEWKSBURY	HUNTERDON		11484
TEWKSBURY TWP	HUNTERDON	9/26/1986	75800
TEWKSBURY TWP	HUNTERDON	4/8/1987	61100
TEWKSBURY TWP	HUNTERDON	11/6/1987	54900
TEWKSBURY TWP	HUNTERDON	4/18/1986	54200
TEWKSBURY TWP	HUNTERDON	4/1/1986	42600
TEWKSBURY TWP	HUNTERDON	7/31/1987	39200
TEWKSBURY TWP	HUNTERDON	4/21/1987	38700
TEWKSBURY TWP	HUNTERDON	4/30/1986	35900
TEWKSBURY TWP	HUNTERDON	10/27/1987	25000
TEWKSBURY TWP	HUNTERDON	6/26/1986	22800
TEWKSBURY TWP	HUNTERDON	5/13/1986	19800
TEWKSBURY TWP	HUNTERDON	6/26/1986	14600
TEWKSBURY TWP	HUNTERDON	4/24/1986	14100
TEWKSBURY TWP	HUNTERDON	8/4/1986	13600
TEWKSBURY TWP	HUNTERDON	5/23/1986	8790
TEWKSBURY TWP	HUNTERDON	3/17/1986	8700
TEWKSBURY TWP	HUNTERDON	5/19/1986	6390
TEWKSBURY TWP	HUNTERDON	2/26/1986	6260

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
TEWKSBURY TWP	HUNTERDON	2/5/1988	6000
TEWKSBURY TWP	HUNTERDON	10/6/1986	5400
TEWKSBURY TWP	HUNTERDON	10/17/1986	5400
TEWKSBURY TWP	HUNTERDON	2/21/1986	5330
TEWKSBURY TWP	HUNTERDON	6/16/1986	4300
TEWKSBURY TWP	HUNTERDON	6/13/1986	4290
TEWKSBURY TWP	HUNTERDON	11/23/1987	4250
TEWKSBURY TWP	HUNTERDON	3/10/1986	4220
TEWKSBURY TWP	HUNTERDON	1/22/1986	3830
TEWKSBURY TWP	HUNTERDON	11/21/1986	3480
TEWKSBURY TWP	HUNTERDON	5/19/1986	3080
TEWKSBURY TWP	HUNTERDON	3/10/1987	2830
TEWKSBURY TWP	HUNTERDON	12/4/1986	2500
TEWKSBURY TWP	HUNTERDON	7/10/1986	2400
TEWKSBURY TWP	HUNTERDON	3/26/1987	2360
TEWKSBURY TWP	HUNTERDON	5/1/1986	2270
TEWKSBURY TWP	HUNTERDON	6/11/1986	2010
TEWKSBURY TWP	HUNTERDON	10/10/1997	1975
TEWKSBURY TWP	HUNTERDON	2/23/1987	1900
TEWKSBURY TWP	HUNTERDON	5/19/1986	1610
TEWKSBURY TWP	HUNTERDON	6/11/1986	1530
TEWKSBURY TWP	HUNTERDON	7/13/1987	1530
TEWKSBURY TWP	HUNTERDON		1500
TEWKSBURY TWP	HUNTERDON	6/16/1986	1450
TEWKSBURY TWP	HUNTERDON	12/24/1987	1100
TEWKSBURY TWP	HUNTERDON		980
TEWKSBURY TWP	HUNTERDON	2/18/1986	778
TEWKSBURY TWP	HUNTERDON	11/20/1987	610
TEWKSBURY TWP	HUNTERDON	9/24/1987	490
TEWKSBURY TWP	HUNTERDON	10/8/1987	480
TEWKSBURY TWP	HUNTERDON	12/8/1987	480
TEWKSBURY TWP	HUNTERDON	11/19/1997	469
TEWKSBURY TWP	HUNTERDON	6/4/1986	462
TEWKSBURY TWP	HUNTERDON	6/25/1986	439
TEWKSBURY TWP	HUNTERDON	8/27/1986	430
TEWKSBURY TWP	HUNTERDON	6/16/1986	413
TEWKSBURY TWP	HUNTERDON	3/5/1988	400
TEWKSBURY TWP	HUNTERDON	7/25/1986	380
TEWKSBURY TWP	HUNTERDON	4/10/1986	285
TEWKSBURY TWP	HUNTERDON	6/4/1986	89
UNION TWP	HUNTERDON	6/2/1987	6100
UNION TWP	HUNTERDON	8/21/1986	2780
UNION TWP	HUNTERDON	10/8/1987	2390
UNION TWP	HUNTERDON	10/25/1987	2040
UNION TWP	HUNTERDON	2/26/1987	2010
UNION TWP	HUNTERDON	6/23/1986	1800
UNION TWP	HUNTERDON	2/3/1987	1700

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
UNION TWP	HUNTERDON	11/20/1986	1370
UNION TWP	HUNTERDON	6/23/1986	1010
UNION TWP	HUNTERDON	10/2/1986	960
UNION TWP	HUNTERDON	1/13/1988	730
UNION TWP	HUNTERDON	5/21/1986	587
UNION TWP	HUNTERDON	1/30/1987	580
UNION TWP	HUNTERDON	12/3/1987	410
UNION TWP	HUNTERDON	6/26/1987	55
WEST AMWELL TWP	HUNTERDON	3/27/1990	26000
WEST AMWELL TWP	HUNTERDON	3/27/1990	26000
WEST AMWELL TWP	HUNTERDON	5/10/1987	21500
WEST AMWELL TWP	HUNTERDON	5/10/1987	21000
WEST AMWELL TWP	HUNTERDON	6/25/1990	20700
WEST AMWELL TWP	HUNTERDON	6/25/1990	18700
WEST AMWELL TWP	HUNTERDON	6/25/1990	18000
WEST AMWELL TWP	HUNTERDON	8/9/1990	18000
WEST AMWELL TWP	HUNTERDON	5/10/1987	15900
WEST AMWELL TWP	HUNTERDON	6/25/1990	14400
WEST AMWELL TWP	HUNTERDON	6/25/1990	13600
WEST AMWELL TWP	HUNTERDON	5/10/1987	10900
WEST AMWELL TWP	HUNTERDON	8/9/1990	2690
WEST AMWELL TWP	HUNTERDON	6/25/1990	2000
WEST AMWELL TWP	HUNTERDON	5/10/1987	1960
WEST AMWELL TWP	HUNTERDON	6/25/1990	1810
WEST AMWELL TWP	HUNTERDON	6/25/1990	1510
WEST AMWELL TWP	HUNTERDON	6/30/1987	1370
WEST AMWELL TWP	HUNTERDON	8/9/1990	1230
WEST AMWELL TWP	HUNTERDON	6/25/1990	1200
WEST AMWELL TWP	HUNTERDON	3/6/1986	1140
WEST AMWELL TWP	HUNTERDON	6/25/1990	1020
WEST AMWELL TWP	HUNTERDON	8/9/1990	960
WEST AMWELL TWP	HUNTERDON	8/9/1990	860
WEST AMWELL TWP	HUNTERDON	9/6/1988	510
WEST AMWELL TWP	HUNTERDON	6/25/1990	440
WEST AMWELL TWP	HUNTERDON	6/25/1990	280
WEST AMWELL TWP	HUNTERDON	8/9/1990	220
WEST AMWELL TWP	HUNTERDON	8/9/1990	130
EAST WINDSOR TWP	MERCER	7/8/1988	270
EWING TWP	MERCER	5/15/1987	52100
EWING TWP	MERCER	4/30/1987	16100
EWING TWP	MERCER	4/10/1987	15200
EWING TWP	MERCER	5/18/1987	14400
EWING TWP	MERCER	4/24/1987	9800
EWING TWP	MERCER	3/4/1987	8140
EWING TWP	MERCER	3/20/1987	7100
EWING TWP	MERCER	2/26/1987	6100
EWING TWP	MERCER	4/29/1987	5580

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
EWING TWP	MERCER	4/20/1987	4370
EWING TWP	MERCER	10/28/1987	4350
EWING TWP	MERCER	3/10/1987	3060
EWING TWP	MERCER	8/21/1987	3010
EWING TWP	MERCER	5/4/1987	2970
EWING TWP	MERCER	8/6/1987	2570
EWING TWP	MERCER	3/9/1987	2300
EWING TWP	MERCER	5/7/1987	2090
EWING TWP	MERCER	3/20/1987	2000
EWING TWP	MERCER	12/14/1987	1800
EWING TWP	MERCER	2/24/1987	1770
EWING TWP	MERCER	3/20/1987	1680
EWING TWP	MERCER	2/9/1987	1540
EWING TWP	MERCER		1490
EWING TWP	MERCER	2/19/1987	1400
EWING TWP	MERCER	3/16/1987	1260
EWING TWP	MERCER	4/13/1987	1210
EWING TWP	MERCER	2/25/1987	900
EWING TWP	MERCER	1/27/1988	800
EWING TWP	MERCER	3/6/1987	730
EWING TWP	MERCER	3/27/1987	730
EWING TWP	MERCER	2/26/1987	700
EWING TWP	MERCER	5/2/1988	660
EWING TWP	MERCER	5/15/1987	650
EWING TWP	MERCER	2/18/1987	580
EWING TWP	MERCER	4/27/1987	556
EWING TWP	MERCER	1/26/1987	300
EWING TWP	MERCER	5/22/1987	230
EWING TWP	MERCER	4/30/1987	210
EWING TWP	MERCER	5/7/1986	27
HAMILTON TWP	MERCER	11/7/1987	1580
HOPEWELL BORO	MERCER	5/21/1987	1430
HOPEWELL TWP	MERCER	5/18/1987	6460
HOPEWELL TWP	MERCER	3/12/1987	3860
HOPEWELL TWP	MERCER		3500
HOPEWELL TWP	MERCER	6/25/1990	3500
HOPEWELL TWP	MERCER	10/29/1987	2680
HOPEWELL TWP	MERCER	5/19/1987	2630
HOPEWELL TWP	MERCER	4/24/1987	2540
HOPEWELL TWP	MERCER	4/28/1987	1910
HOPEWELL TWP	MERCER	5/4/1987	1770
HOPEWELL TWP	MERCER	4/6/1987	1560
HOPEWELL TWP	MERCER	4/24/1987	1490
HOPEWELL TWP	MERCER	1/7/1988	1300
HOPEWELL TWP	MERCER	10/8/1987	1280
HOPEWELL TWP	MERCER	10/23/1986	1135
HOPEWELL TWP	MERCER	11/1/1987	1020

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
HOPEWELL TWP	MERCER	5/4/1987	1010
HOPEWELL TWP	MERCER	4/23/1987	1000
HOPEWELL TWP	MERCER	10/25/1987	950
HOPEWELL TWP	MERCER	4/27/1987	880
HOPEWELL TWP	MERCER	5/8/1987	820
HOPEWELL TWP	MERCER	5/21/1987	810
HOPEWELL TWP	MERCER	4/2/1986	680
HOPEWELL TWP	MERCER	4/12/1987	300
HOPEWELL TWP	MERCER	3/27/1990	240
HOPEWELL TWP	MERCER		220
HOPEWELL TWP	MERCER	4/6/1987	180
HOPEWELL TWP	MERCER	4/6/1987	116
HOPEWELL TWP	MERCER	6/25/1990	90
HOPEWELL TWP	MERCER	6/23/1987	71
HOPEWELL TWP	MERCER	4/23/1987	34
HOPEWELL TWP	MERCER	5/19/1987	32
HOPEWELL TWP	MERCER	6/25/1990	22
LAWRENCE TWP	MERCER	10/23/1987	2030
LAWRENCE TWP	MERCER	10/1/1987	1800
LAWRENCE TWP	MERCER	11/17/1987	1460
LAWRENCE TWP	MERCER	5/15/1987	1160
LAWRENCE TWP	MERCER	3/1/1987	670
LAWRENCE TWP	MERCER	4/23/1987	540
LAWRENCE TWP	MERCER	10/26/1987	470
LAWRENCE TWP	MERCER	11/10/1987	380
LAWRENCE TWP	MERCER	3/22/1987	120
PRINCETON TWP	MERCER		15000
PRINCETON TWP	MERCER	8/9/1990	5300
PRINCETON TWP	MERCER	8/9/1990	810
PRINCETON TWP	MERCER	1/21/1988	540
PRINCETON TWP	MERCER	11/2/1987	190
WASHINGTON TWP	MERCER	4/14/1987	140
WEST WINDSOR TWP	MERCER	8/9/1990	12200
WEST WINDSOR TWP	MERCER	8/9/1990	4200
MONROE TWP	MIDDLESEX	4/27/1988	220
NORTH BRUNSWICK TWP	MIDDLESEX	3/30/1987	1260
PISCATAWAY TWP	MIDDLESEX	4/21/1988	2065
PLAINSBORO TWP	MIDDLESEX	8/9/1990	7300
PLAINSBORO TWP	MIDDLESEX	10/19/1987	230
SOUTH BRUNSWICK TWP	MIDDLESEX	6/1/1987	13300
SOUTH PLAINFIELD BOR	MIDDLESEX	4/25/1988	1210
COLTS NECK TWP	MONMOUTH	2/5/1988	190
FREEHOLD BORO	MONMOUTH	11/24/1987	820
FREEHOLD TWP	MONMOUTH	2/12/1988	990
FREEHOLD TWP	MONMOUTH		760
HOLMDEL TWP	MONMOUTH	2/16/1988	120
MANALAPAN TWP	MONMOUTH	1/19/1988	140

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
MARLBORO TWP	MONMOUTH	2/1/1988	240
MARLBORO TWP	MONMOUTH	2/1/1988	170
MILLSTONE TWP	MONMOUTH	4/25/1988	2500
MILLSTONE TWP	MONMOUTH	11/23/1987	940
MILLSTONE TWP	MONMOUTH	12/1/1987	640
MILLSTONE TWP	MONMOUTH	10/5/1987	610
MILLSTONE TWP	MONMOUTH	10/25/1987	330
MILLSTONE TWP	MONMOUTH	5/18/1987	310
MILLSTONE TWP	MONMOUTH	5/21/1987	280
MILLSTONE TWP	MONMOUTH	10/24/1987	230
MILLSTONE TWP	MONMOUTH	5/18/1987	130
UPPER FREEHOLD TWP	MONMOUTH	11/20/1987	2170
UPPER FREEHOLD TWP	MONMOUTH	5/21/1987	1010
UPPER FREEHOLD TWP	MONMOUTH	5/29/1987	190
BOONTON TWP	MORRIS	4/27/1987	2770
BOONTON TWP	MORRIS	1/30/1998	573
BOONTON TWP	MORRIS	8/15/1986	300
BOONTON TWP	MORRIS	11/19/1997	245
BOONTON TWP	MORRIS	9/15/1986	52
CHATHAM TWP	MORRIS	5/29/1986	46800
CHATHAM TWP	MORRIS	3/28/1988	11400
CHATHAM TWP	MORRIS	4/21/1986	6010
CHATHAM TWP	MORRIS	4/21/1986	1260
CHATHAM TWP	MORRIS	4/28/1986	1090
CHATHAM TWP	MORRIS	4/21/1986	261
CHESTER	MORRIS		44498
CHESTER BORO	MORRIS	12/16/1986	3260
CHESTER BORO	MORRIS		2200
CHESTER BORO	MORRIS		1920
CHESTER BORO	MORRIS	5/22/1987	1770
CHESTER BORO	MORRIS	10/29/1997	1544
CHESTER TWP	MORRIS	2/2/1987	84500
CHESTER TWP	MORRIS	3/16/1987	47000
CHESTER TWP	MORRIS	6/9/1986	44000
CHESTER TWP	MORRIS	5/15/1987	39500
CHESTER TWP	MORRIS	3/11/1987	38200
CHESTER TWP	MORRIS	9/17/1987	36900
CHESTER TWP	MORRIS	2/16/1988	33000
CHESTER TWP	MORRIS	3/23/1987	28500
CHESTER TWP	MORRIS	6/29/1987	22000
CHESTER TWP	MORRIS	11/14/1987	21000
CHESTER TWP	MORRIS	3/17/1987	19800
CHESTER TWP	MORRIS	11/3/1987	19790
CHESTER TWP	MORRIS	6/23/1987	15520
CHESTER TWP	MORRIS	4/23/1986	11100
CHESTER TWP	MORRIS	12/16/1987	11000
CHESTER TWP	MORRIS	6/23/1987	9600

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
CHESTER TWP	MORRIS	6/16/1987	6800
CHESTER TWP	MORRIS	5/1/1986	6670
CHESTER TWP	MORRIS	5/1/1986	6640
CHESTER TWP	MORRIS	12/29/1986	6600
CHESTER TWP	MORRIS	12/10/1987	5800
CHESTER TWP	MORRIS	3/12/1987	5730
CHESTER TWP	MORRIS	9/18/1987	5070
CHESTER TWP	MORRIS	10/20/1987	5020
CHESTER TWP	MORRIS	10/13/1987	4860
CHESTER TWP	MORRIS	3/30/1987	4520
CHESTER TWP	MORRIS	5/12/1986	4130
CHESTER TWP	MORRIS	1/22/1988	3400
CHESTER TWP	MORRIS	11/19/1997	3124
CHESTER TWP	MORRIS	6/13/1986	2860
CHESTER TWP	MORRIS	5/15/1987	2700
CHESTER TWP	MORRIS	11/25/1987	2380
CHESTER TWP	MORRIS	1/17/1988	2240
CHESTER TWP	MORRIS	2/25/1986	1750
CHESTER TWP	MORRIS	4/23/1986	1670
CHESTER TWP	MORRIS	10/13/1987	1270
CHESTER TWP	MORRIS	5/8/1987	1240
CHESTER TWP	MORRIS	1/22/1987	420
CHESTER TWP	MORRIS	1/20/1988	305
CHESTER TWP	MORRIS	7/1/1986	201
CHESTER TWP	MORRIS		150
DENVILLE TWP	MORRIS	5/4/1987	260
HARDING TWP	MORRIS	9/20/1987	3200
HARDING TWP	MORRIS	8/11/1986	3030
HARDING TWP	MORRIS	9/1/1987	2100
HARDING TWP	MORRIS	10/20/1986	1670
HARDING TWP	MORRIS	10/16/1987	1590
HARDING TWP	MORRIS	9/21/1986	1550
HARDING TWP	MORRIS	11/18/1987	1470
HARDING TWP	MORRIS	5/21/1987	1240
HARDING TWP	MORRIS	5/1/1987	1240
HARDING TWP	MORRIS	10/28/1987	1200
HARDING TWP	MORRIS	4/20/1987	1160
HARDING TWP	MORRIS	12/4/1985	1140
HARDING TWP	MORRIS	10/13/1987	1100
HARDING TWP	MORRIS	11/24/1987	910
HARDING TWP	MORRIS	3/7/1986	900
HARDING TWP	MORRIS	5/18/1987	900
HARDING TWP	MORRIS	9/21/1986	796
HARDING TWP	MORRIS	4/27/1988	750
HARDING TWP	MORRIS	6/28/1988	670
HARDING TWP	MORRIS	4/18/1986	635
HARDING TWP	MORRIS	9/11/1987	320

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
JEFFERSON TWP	MORRIS	10/29/1997	4070
JEFFERSON TWP	MORRIS	11/16/1987	2400
JEFFERSON TWP	MORRIS	10/4/1987	2060
JEFFERSON TWP	MORRIS	10/10/1997	1614
JEFFERSON TWP	MORRIS		1360
JEFFERSON TWP	MORRIS	4/2/1986	720
JEFFERSON TWP	MORRIS	6/12/1986	687
JEFFERSON TWP	MORRIS	11/18/1986	680
JEFFERSON TWP	MORRIS	12/9/1986	580
JEFFERSON TWP	MORRIS	5/15/1986	470
JEFFERSON TWP	MORRIS	1/13/1987	50
KINNELON BORO	MORRIS	11/19/1997	31820
KINNELON BORO	MORRIS	6/21/1987	8880
KINNELON BORO	MORRIS	2/9/1988	1400
KINNELON BORO	MORRIS	10/16/1986	1390
LINCOLN PARK BORO	MORRIS	4/26/1988	810
LINCOLN PARK BORO	MORRIS	4/26/1988	280
MENDHAM BORO	MORRIS		14551
MENDHAM BORO	MORRIS	4/27/1987	1960
MENDHAM BORO	MORRIS	9/16/1986	1230
MENDHAM TWP	MORRIS	6/1/1987	19600
MENDHAM TWP	MORRIS	4/10/1987	7100
MENDHAM TWP	MORRIS	5/7/1987	6500
MENDHAM TWP	MORRIS	5/8/1986	4500
MENDHAM TWP	MORRIS	5/7/1987	4500
MENDHAM TWP	MORRIS	4/11/1986	3430
MENDHAM TWP	MORRIS	6/17/1986	3270
MENDHAM TWP	MORRIS	5/29/1986	3020
MENDHAM TWP	MORRIS	10/27/1987	2400
MENDHAM TWP	MORRIS	10/10/1997	2357
MENDHAM TWP	MORRIS	11/23/1987	2350
MENDHAM TWP	MORRIS	11/19/1997	2304
MENDHAM TWP	MORRIS	5/20/1986	2263
MENDHAM TWP	MORRIS	5/20/1986	1450
MENDHAM TWP	MORRIS	11/24/1987	1430
MENDHAM TWP	MORRIS	12/2/1986	1340
MENDHAM TWP	MORRIS	11/8/1986	1300
MENDHAM TWP	MORRIS	5/19/1986	1220
MENDHAM TWP	MORRIS	7/7/1986	1060
MENDHAM TWP	MORRIS	11/6/1986	990
MINE HILL TWP	MORRIS	6/2/1986	332
MONTVILLE TWP	MORRIS	5/2/1985	5130
MONTVILLE TWP	MORRIS	6/2/1986	2260
MONTVILLE TWP	MORRIS	12/2/1986	2040
MONTVILLE TWP	MORRIS	10/23/1986	1600
MONTVILLE TWP	MORRIS	5/7/1986	790
MONTVILLE TWP	MORRIS	4/11/1986	712

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
MONTVILLE TWP	MORRIS	5/2/1986	520
MONTVILLE TWP	MORRIS	6/9/1987	310
MONTVILLE TWP	MORRIS	6/29/1988	230
MORRIS TWP	MORRIS	10/17/1985	41500
MORRIS TWP	MORRIS	1/9/1987	17800
MORRIS TWP	MORRIS	4/15/1986	12600
MORRIS TWP	MORRIS	3/12/1987	6100
MORRISTOWN TOWN	MORRIS	6/20/1986	1440
MOUNT OLIVE TWP	MORRIS	3/24/1986	11250
MOUNT OLIVE TWP	MORRIS	11/5/1987	6850
MOUNT OLIVE TWP	MORRIS	5/1/1987	6800
MOUNT OLIVE TWP	MORRIS	5/22/1987	5000
MOUNT OLIVE TWP	MORRIS	7/20/1987	4370
MOUNT OLIVE TWP	MORRIS	5/19/1987	4240
MOUNT OLIVE TWP	MORRIS	5/28/1986	2970
MOUNT OLIVE TWP	MORRIS	3/31/1987	2610
MOUNT OLIVE TWP	MORRIS		1860
MOUNT OLIVE TWP	MORRIS	2/1/1988	1800
MOUNT OLIVE TWP	MORRIS	5/12/1986	1420
MOUNT OLIVE TWP	MORRIS	4/21/1986	834
MOUNT OLIVE TWP	MORRIS	10/9/1987	820
MOUNT OLIVE TWP	MORRIS	10/9/1987	680
MOUNT OLIVE TWP	MORRIS	4/24/1987	490
MOUNT OLIVE TWP	MORRIS	5/12/1987	270
MOUNT OLIVE TWP	MORRIS	11/19/1997	261
MOUNT OLIVE TWP	MORRIS	7/4/1986	42
MT. OLIVE	MORRIS		10778
RANDOLPH TWP	MORRIS	8/18/1987	1970
RANDOLPH TWP	MORRIS	6/20/1986	1170
RANDOLPH TWP	MORRIS	11/19/1997	1131
RANDOLPH TWP	MORRIS	12/17/1987	580
RANDOLPH TWP	MORRIS		430
RANDOLPH TWP	MORRIS	11/13/1986	130
ROCKAWAY BORO	MORRIS	10/23/1986	4500
ROCKAWAY TWP	MORRIS	2/1/1988	6800
ROCKAWAY TWP	MORRIS	6/9/1986	2860
ROCKAWAY TWP	MORRIS	10/10/1997	1547
ROCKAWAY TWP	MORRIS	9/23/1986	1010
ROCKAWAY TWP	MORRIS	10/6/1986	800
ROCKAWAY TWP	MORRIS	10/10/1997	412
ROCKAWAY TWP	MORRIS	11/19/1997	218
ROXBURY TWP	MORRIS		850
ROXBURY TWP	MORRIS	10/10/1987	640
ROXBURY TWP	MORRIS	5/12/1986	590
ROXBURY TWP	MORRIS	10/28/1987	450
WASHINGTON TWP	MORRIS	2/2/1987	65000
WASHINGTON TWP	MORRIS	12/8/1986	55000

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
WASHINGTON TWP	MORRIS	7/16/1986	48800
WASHINGTON TWP	MORRIS	5/28/1987	42300
WASHINGTON TWP	MORRIS		15400
WASHINGTON TWP	MORRIS	5/22/1987	13500
WASHINGTON TWP	MORRIS	10/6/1987	12500
WASHINGTON TWP	MORRIS		11210
WASHINGTON TWP	MORRIS	10/23/1987	8140
WASHINGTON TWP	MORRIS	12/31/1985	8090
WASHINGTON TWP	MORRIS	2/7/1987	7600
WASHINGTON TWP	MORRIS	4/7/1987	6100
WASHINGTON TWP	MORRIS	11/6/1987	5800
WASHINGTON TWP	MORRIS	10/6/1987	4440
WASHINGTON TWP	MORRIS	4/27/1987	4120
WASHINGTON TWP	MORRIS		3900
WASHINGTON TWP	MORRIS	5/5/1986	3760
WASHINGTON TWP	MORRIS	6/13/1986	3260
WASHINGTON TWP	MORRIS	4/6/1987	2660
WASHINGTON TWP	MORRIS	10/27/1987	2610
WASHINGTON TWP	MORRIS		2000
WASHINGTON TWP	MORRIS	1/1/1988	1530
WASHINGTON TWP	MORRIS	7/1/1986	1500
WASHINGTON TWP	MORRIS	5/21/1986	1370
WASHINGTON TWP	MORRIS	10/10/1997	1350
WASHINGTON TWP	MORRIS	10/23/1987	1310
WASHINGTON TWP	MORRIS	11/17/1986	790
WASHINGTON TWP	MORRIS	5/23/1986	670
WASHINGTON TWP	MORRIS	11/24/1986	670
WASHINGTON TWP	MORRIS	3/16/1987	630
WASHINGTON TWP	MORRIS	10/16/1987	630
WASHINGTON TWP	MORRIS	4/20/1986	604
WASHINGTON TWP	MORRIS	1/11/1988	600
WASHINGTON TWP	MORRIS	6/15/1987	590
WASHINGTON TWP	MORRIS	3/14/1986	547
WASHINGTON TWP	MORRIS	4/23/1986	480
WASHINGTON TWP	MORRIS	6/6/1986	412
WASHINGTON TWP	MORRIS	12/15/1986	400
WASHINGTON TWP	MORRIS	10/6/1986	310
WASHINGTON TWP	MORRIS	11/20/1987	300
WASHINGTON TWP	MORRIS	4/29/1986	283
WASHINGTON TWP	MORRIS	6/6/1986	270
WASHINGTON TWP	MORRIS	6/5/1987	250
WASHINGTON TWP	MORRIS	11/19/1997	224
WASHINGTON TWP	MORRIS	11/17/1986	180
WASHINGTON TWP	MORRIS	6/17/1986	157
WASHINGTON TWP	MORRIS	1/13/1987	140
WASHINGTON TWP	MORRIS	4/3/1986	137
WASHINGTON TWP	MORRIS	9/5/1986	78

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
WASHINGTON TWP	MORRIS	10/22/1987	55
DOVER TWP	OCEAN	12/17/1998	477
DOVER TWP	OCEAN	12/17/1998	250
DOVER TWP	OCEAN	12/17/1998	218
DOVER TWP	OCEAN	12/17/1998	210
DOVER TWP	OCEAN	12/17/1998	194
DOVER TWP	OCEAN	12/17/1998	177
DOVER TWP	OCEAN	12/17/1998	164
DOVER TWP	OCEAN	12/17/1998	136
BLOOMINGDALE BORO	PASSAIC	10/8/1987	6600
BLOOMINGDALE BORO	PASSAIC	10/10/1997	4899
BLOOMINGDALE BORO	PASSAIC	6/5/1986	194
RINGWOOD BORO	PASSAIC	10/10/1987	5570
RINGWOOD BORO	PASSAIC	6/18/1987	1520
WANAQUE BORO	PASSAIC	10/10/1986	3300
WAYNE TWP	PASSAIC	5/14/1986	1470
WAYNE TWP	PASSAIC	4/25/1988	430
WAYNE TWP	PASSAIC	4/22/1988	320
WEST MILFORD TWP	PASSAIC	6/25/1986	35000
WEST MILFORD TWP	PASSAIC	12/14/1987	21700
WEST MILFORD TWP	PASSAIC	5/11/1987	11000
WEST MILFORD TWP	PASSAIC	1/30/1998	4738
WEST MILFORD TWP	PASSAIC	11/19/1997	4246
WEST MILFORD TWP	PASSAIC	10/10/1997	3712
WEST MILFORD TWP	PASSAIC	5/11/1987	3020
WEST MILFORD TWP	PASSAIC	10/10/1997	2144
WEST MILFORD TWP	PASSAIC	3/5/1986	1860
WEST MILFORD TWP	PASSAIC	6/5/1987	1600
WEST MILFORD TWP	PASSAIC	5/19/1986	1440
WEST MILFORD TWP	PASSAIC	3/20/1986	1260
WEST MILFORD TWP	PASSAIC	10/10/1997	1199
WEST MILFORD TWP	PASSAIC	7/6/1987	1140
WEST MILFORD TWP	PASSAIC	10/30/1987	1020
WEST MILFORD TWP	PASSAIC	3/20/1986	818
WEST MILFORD TWP	PASSAIC	7/7/1987	510
WEST MILFORD TWP	PASSAIC	5/7/1988	360
WEST MILFORD TWP	PASSAIC	10/13/1987	340
WEST MILFORD TWP	PASSAIC	2/27/1987	200
ALLOWAY TWP	SALEM	5/13/1987	770
ALLOWAY TWP	SALEM	12/10/1990	730
ALLOWAY TWP	SALEM	5/13/1987	680
ALLOWAY TWP	SALEM	3/19/1991	280
MANNINGTON TWP	SALEM	6/1/1987	5170
MANNINGTON TWP	SALEM	10/10/1987	520
MANNINGTON TWP	SALEM	7/16/1987	460
MANNINGTON TWP	SALEM	6/1/1987	220
PITTSGROVE TWP	SALEM	5/13/1987	1000

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
PITTSGROVE TWP	SALEM	5/13/1987	1000
PITTSGROVE TWP	SALEM	4/25/1988	950
PITTSGROVE TWP	SALEM	5/13/1987	580
PITTSGROVE TWP	SALEM	5/13/1987	470
PITTSGROVE TWP	SALEM	6/27/1991	230
PITTSGROVE TWP	SALEM	6/27/1991	170
PITTSGROVE TWP	SALEM	5/13/1987	40
UPPER PITTSGROVE TWP	SALEM	12/10/1990	1300
UPPER PITTSGROVE TWP	SALEM	12/10/1990	1300
UPPER PITTSGROVE TWP	SALEM	12/10/1990	1300
UPPER PITTSGROVE TWP	SALEM	12/10/1990	540
UPPER PITTSGROVE TWP	SALEM	12/10/1990	520
UPPER PITTSGROVE TWP	SALEM	12/10/1990	510
UPPER PITTSGROVE TWP	SALEM	12/10/1990	370
UPPER PITTSGROVE TWP	SALEM	10/11/1991	300
UPPER PITTSGROVE TWP	SALEM	10/11/1991	250
UPPER PITTSGROVE TWP	SALEM	12/10/1990	230
UPPER PITTSGROVE TWP	SALEM	10/11/1991	120
UPPER PITTSGROVE TWP	SALEM	12/10/1990	110
BEDMINSTER TWP	SOMERSET	5/11/1986	2380
BERNARDS TWP	SOMERSET	7/8/1988	520
BERNARDSVILLE	SOMERSET		114993
BERNARDSVILLE BORO	SOMERSET	4/11/1987	132000
BERNARDSVILLE BORO	SOMERSET	4/11/1987	121700
BERNARDSVILLE BORO	SOMERSET	4/11/1987	36730
BERNARDSVILLE BORO	SOMERSET	6/12/1987	34300
BERNARDSVILLE BORO	SOMERSET	4/11/1987	34100
BERNARDSVILLE BORO	SOMERSET	4/11/1987	33000
BERNARDSVILLE BORO	SOMERSET	2/17/1987	32600
BERNARDSVILLE BORO	SOMERSET	5/8/1986	22700
BERNARDSVILLE BORO	SOMERSET	5/5/1988	20945
BERNARDSVILLE BORO	SOMERSET	4/11/1987	20300
BERNARDSVILLE BORO	SOMERSET	5/9/1987	15200
BERNARDSVILLE BORO	SOMERSET	5/18/1987	14840
BERNARDSVILLE BORO	SOMERSET	5/26/1987	14800
BERNARDSVILLE BORO	SOMERSET	4/11/1987	14780
BERNARDSVILLE BORO	SOMERSET	5/9/1987	14100
BERNARDSVILLE BORO	SOMERSET	5/19/1987	12400
BERNARDSVILLE BORO	SOMERSET	4/11/1987	11730
BERNARDSVILLE BORO	SOMERSET	5/9/1987	11100
BERNARDSVILLE BORO	SOMERSET	4/11/1987	11090
BERNARDSVILLE BORO	SOMERSET	5/9/1987	10500
BERNARDSVILLE BORO	SOMERSET	5/19/1987	10200
BERNARDSVILLE BORO	SOMERSET	5/9/1987	9950
BERNARDSVILLE BORO	SOMERSET	5/9/1987	9950
BERNARDSVILLE BORO	SOMERSET	4/11/1987	9580
BERNARDSVILLE BORO	SOMERSET	11/24/1987	9000

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
BERNARDSVILLE BORO	SOMERSET	4/11/1987	8910
BERNARDSVILLE BORO	SOMERSET	5/9/1987	8900
BERNARDSVILLE BORO	SOMERSET	4/11/1987	8730
BERNARDSVILLE BORO	SOMERSET	4/11/1987	8100
BERNARDSVILLE BORO	SOMERSET	5/13/1987	8100
BERNARDSVILLE BORO	SOMERSET	10/14/1987	7750
BERNARDSVILLE BORO	SOMERSET	12/17/1987	6700
BERNARDSVILLE BORO	SOMERSET	4/11/1987	6410
BERNARDSVILLE BORO	SOMERSET	3/16/1987	6370
BERNARDSVILLE BORO	SOMERSET	4/11/1987	5100
BERNARDSVILLE BORO	SOMERSET	12/19/1986	4800
BERNARDSVILLE BORO	SOMERSET	4/11/1987	3900
BERNARDSVILLE BORO	SOMERSET	8/4/1986	3640
BERNARDSVILLE BORO	SOMERSET	3/14/1986	3520
BERNARDSVILLE BORO	SOMERSET		3440
BERNARDSVILLE BORO	SOMERSET	5/9/1987	3180
BERNARDSVILLE BORO	SOMERSET	10/7/1987	3020
BERNARDSVILLE BORO	SOMERSET	10/10/1997	3017
BERNARDSVILLE BORO	SOMERSET	4/11/1987	2520
BERNARDSVILLE BORO	SOMERSET	5/9/1987	2410
BERNARDSVILLE BORO	SOMERSET	4/11/1987	2270
BERNARDSVILLE BORO	SOMERSET	4/11/1987	2200
BERNARDSVILLE BORO	SOMERSET	4/11/1987	2080
BERNARDSVILLE BORO	SOMERSET	4/11/1987	2000
BERNARDSVILLE BORO	SOMERSET	11/20/1986	1640
BERNARDSVILLE BORO	SOMERSET	4/11/1987	1620
BERNARDSVILLE BORO	SOMERSET	11/5/1987	1100
BERNARDSVILLE BORO	SOMERSET	4/11/1987	1070
BERNARDSVILLE BORO	SOMERSET	9/14/1987	1000
BERNARDSVILLE BORO	SOMERSET	11/7/1985	950
BERNARDSVILLE BORO	SOMERSET	10/14/1986	890
BERNARDSVILLE BORO	SOMERSET	4/11/1987	730
BERNARDSVILLE BORO	SOMERSET	5/9/1987	480
BERNARDSVILLE BORO	SOMERSET	4/11/1987	450
BERNARDSVILLE BORO	SOMERSET	6/23/1986	192
BERNARDSVILLE BORO	SOMERSET	5/9/1987	46
BERNARDSVILLE BORO	SOMERSET	2/5/1987	19
BRANCHBURG TWP	SOMERSET	1/12/1988	2200
BRANCHBURG TWP	SOMERSET	12/1/1986	1740
BRANCHBURG TWP	SOMERSET	10/5/1987	1540
BRANCHBURG TWP	SOMERSET	10/13/1987	1430
BRANCHBURG TWP	SOMERSET	2/27/1987	1330
BRANCHBURG TWP	SOMERSET	6/12/1986	1250
BRANCHBURG TWP	SOMERSET	4/20/1987	1240
BRANCHBURG TWP	SOMERSET	6/29/1987	1220
BRANCHBURG TWP	SOMERSET	8/21/1987	1210
BRANCHBURG TWP	SOMERSET	5/7/1987	1170

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
BRANCHBURG TWP	SOMERSET	10/30/1987	1165
BRANCHBURG TWP	SOMERSET	11/2/1987	1100
BRANCHBURG TWP	SOMERSET	11/23/1987	1100
BRANCHBURG TWP	SOMERSET	1/26/1987	1030
BRANCHBURG TWP	SOMERSET	1/26/1987	1010
BRANCHBURG TWP	SOMERSET	6/29/1987	930
BRANCHBURG TWP	SOMERSET	1/27/1987	880
BRANCHBURG TWP	SOMERSET	5/8/1987	870
BRANCHBURG TWP	SOMERSET	1/30/1987	850
BRANCHBURG TWP	SOMERSET	8/25/1987	850
BRANCHBURG TWP	SOMERSET	1/22/1987	420
BRANCHBURG TWP	SOMERSET	12/17/1987	320
BRANCHBURG TWP	SOMERSET	11/3/1987	250
BRIDGEWATER TWP	SOMERSET	11/21/1986	2330
BRIDGEWATER TWP	SOMERSET	5/11/1987	2180
BRIDGEWATER TWP	SOMERSET	1/23/1987	2000
BRIDGEWATER TWP	SOMERSET	12/15/1986	1930
BRIDGEWATER TWP	SOMERSET	12/17/1987	1870
BRIDGEWATER TWP	SOMERSET	4/21/1987	1800
BRIDGEWATER TWP	SOMERSET	4/21/1988	1750
BRIDGEWATER TWP	SOMERSET	2/13/1987	1580
BRIDGEWATER TWP	SOMERSET	1/6/1986	1520
BRIDGEWATER TWP	SOMERSET	1/6/1987	1420
BRIDGEWATER TWP	SOMERSET	10/6/1987	1400
BRIDGEWATER TWP	SOMERSET	12/18/1986	1080
BRIDGEWATER TWP	SOMERSET	1/29/1988	1000
BRIDGEWATER TWP	SOMERSET	12/23/1986	670
BRIDGEWATER TWP	SOMERSET	10/22/1987	120
FAR HILLS BORO	SOMERSET	6/18/1986	1310
FRANKLIN TWP	SOMERSET	5/4/1988	2620
FRANKLIN TWP	SOMERSET	4/2/1987	2390
FRANKLIN TWP	SOMERSET		1710
FRANKLIN TWP	SOMERSET	5/5/1988	1320
GREEN BROOK TWP	SOMERSET	6/4/1987	250
HILLSBOROUGH TWP	SOMERSET	8/25/1987	2070
HILLSBOROUGH TWP	SOMERSET	10/20/1986	1690
HILLSBOROUGH TWP	SOMERSET	1/30/1987	1340
HILLSBOROUGH TWP	SOMERSET	10/26/1987	560
HILLSBOROUGH TWP	SOMERSET	5/9/1988	210
MONTGOMERY TWP	SOMERSET	4/7/1987	3620
MONTGOMERY TWP	SOMERSET	4/3/1987	3560
MONTGOMERY TWP	SOMERSET	3/2/1987	3450
MONTGOMERY TWP	SOMERSET	3/24/1987	3370
MONTGOMERY TWP	SOMERSET	3/2/1987	3330
MONTGOMERY TWP	SOMERSET	5/17/1987	3320
MONTGOMERY TWP	SOMERSET	1/5/1987	3050
MONTGOMERY TWP	SOMERSET	6/16/1987	2980

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
MONTGOMERY TWP	SOMERSET	2/26/1987	2750
MONTGOMERY TWP	SOMERSET	4/2/1987	2720
MONTGOMERY TWP	SOMERSET	8/9/1990	2700
MONTGOMERY TWP	SOMERSET	2/26/1987	2600
MONTGOMERY TWP	SOMERSET	5/7/1987	2470
MONTGOMERY TWP	SOMERSET	3/2/1987	2400
MONTGOMERY TWP	SOMERSET	3/30/1987	2350
MONTGOMERY TWP	SOMERSET	4/27/1987	2330
MONTGOMERY TWP	SOMERSET	3/13/1987	2250
MONTGOMERY TWP	SOMERSET	4/2/1987	2250
MONTGOMERY TWP	SOMERSET	3/10/1987	2200
MONTGOMERY TWP	SOMERSET	3/13/1987	2190
MONTGOMERY TWP	SOMERSET	5/26/1987	2180
MONTGOMERY TWP	SOMERSET	3/17/1987	2130
MONTGOMERY TWP	SOMERSET	3/16/1987	2130
MONTGOMERY TWP	SOMERSET	2/21/1987	2110
MONTGOMERY TWP	SOMERSET	1/16/1987	2040
MONTGOMERY TWP	SOMERSET	2/19/1987	2030
MONTGOMERY TWP	SOMERSET	3/3/1987	2000
MONTGOMERY TWP	SOMERSET	3/30/1987	2000
MONTGOMERY TWP	SOMERSET	4/3/1987	1990
MONTGOMERY TWP	SOMERSET	10/20/1986	1860
MONTGOMERY TWP	SOMERSET	10/24/1986	1840
MONTGOMERY TWP	SOMERSET	4/30/1987	1830
MONTGOMERY TWP	SOMERSET	3/2/1987	1790
MONTGOMERY TWP	SOMERSET	4/27/1987	1730
MONTGOMERY TWP	SOMERSET	4/24/1987	1720
MONTGOMERY TWP	SOMERSET	5/14/1987	1700
MONTGOMERY TWP	SOMERSET	4/20/1987	1600
MONTGOMERY TWP	SOMERSET	10/20/1986	1580
MONTGOMERY TWP	SOMERSET	4/9/1987	1570
MONTGOMERY TWP	SOMERSET	5/1/1987	1570
MONTGOMERY TWP	SOMERSET	4/20/1987	1560
MONTGOMERY TWP	SOMERSET	4/24/1987	1430
MONTGOMERY TWP	SOMERSET	4/9/1987	1380
MONTGOMERY TWP	SOMERSET	2/5/1988	1300
MONTGOMERY TWP	SOMERSET	3/17/1987	1260
MONTGOMERY TWP	SOMERSET	4/5/1987	1240
MONTGOMERY TWP	SOMERSET	5/19/1987	1240
MONTGOMERY TWP	SOMERSET	5/19/1987	1230
MONTGOMERY TWP	SOMERSET	9/23/1987	1160
MONTGOMERY TWP	SOMERSET	4/28/1987	1070
MONTGOMERY TWP	SOMERSET	9/17/1986	1060
MONTGOMERY TWP	SOMERSET	4/28/1987	980
MONTGOMERY TWP	SOMERSET	1/6/1987	910
MONTGOMERY TWP	SOMERSET	3/6/1987	900
MONTGOMERY TWP	SOMERSET	12/20/1986	760

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
MONTGOMERY TWP	SOMERSET	8/25/1987	560
MONTGOMERY TWP	SOMERSET	4/2/1987	390
MONTGOMERY TWP	SOMERSET	11/23/1987	370
MONTGOMERY TWP	SOMERSET	12/20/1987	350
MONTGOMERY TWP	SOMERSET	3/1/1986	330
MONTGOMERY TWP	SOMERSET	3/17/1987	250
MONTGOMERY TWP	SOMERSET	8/3/1987	203
MONTGOMERY TWP	SOMERSET	12/13/1986	160
MONTGOMERY TWP	SOMERSET	4/13/1987	70
MONTGOMERY TWP	SOMERSET	2/27/1987	48
MONTGOMERY TWP	SOMERSET	4/3/1987	46
PEAPACK & GLADSTONE	SOMERSET	11/13/1987	32700
PEAPACK & GLADSTONE	SOMERSET	12/18/1985	8110
PEAPACK & GLADSTONE	SOMERSET	5/6/1900	1190
PEAPACK & GLADSTONE	SOMERSET	7/20/1987	960
SOMERVILLE BORO	SOMERSET	11/21/1986	980
WARREN TWP	SOMERSET	10/9/1986	1670
ANDOVER TWP	SUSSEX	6/29/1987	18900
ANDOVER TWP	SUSSEX	11/3/1986	850
ANDOVER TWP	SUSSEX	10/9/1987	800
ANDOVER TWP	SUSSEX	12/18/1986	630
ANDOVER TWP	SUSSEX	2/3/1987	450
ANDOVER TWP	SUSSEX	2/19/1987	240
ANDOVER TWP	SUSSEX	2/24/1986	64
BYRAM	SUSSEX		17653
BYRAM TWP	SUSSEX	4/9/1987	10110
BYRAM TWP	SUSSEX	10/19/1987	9220
BYRAM TWP	SUSSEX	1/11/1988	8600
BYRAM TWP	SUSSEX	10/30/1987	7300
BYRAM TWP	SUSSEX	10/28/1987	2400
BYRAM TWP	SUSSEX	7/14/1986	1950
BYRAM TWP	SUSSEX	5/12/1986	31
FRANKFORD TWP	SUSSEX	5/12/1987	850
FRANKFORD TWP	SUSSEX	4/14/1986	565
FRANKFORD TWP	SUSSEX	6/19/1986	448
FRANKFORD TWP	SUSSEX	10/7/1987	420
FRANKLIN BORO	SUSSEX	5/2/1988	280
FREDON TWP	SUSSEX	6/4/1986	2590
FREDON TWP	SUSSEX	4/23/1987	2000
FREDON TWP	SUSSEX	12/9/1986	1940
FREDON TWP	SUSSEX	6/2/1987	1790
FREDON TWP	SUSSEX	1/22/1988	1300
FREDON TWP	SUSSEX	4/6/1987	1080
FREDON TWP	SUSSEX	7/8/1988	1080
FREDON TWP	SUSSEX	11/13/1987	370
FREDON TWP	SUSSEX		220
FREDON TWP	SUSSEX	5/16/1987	210

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
GREEN TWP	SUSSEX	4/6/1987	5300
GREEN TWP	SUSSEX	3/19/1986	2000
GREEN TWP	SUSSEX	2/20/1986	1390
GREEN TWP	SUSSEX	3/26/1987	940
GREEN TWP	SUSSEX	10/3/1987	860
GREEN TWP	SUSSEX	5/19/1987	710
GREEN TWP	SUSSEX	11/28/1987	660
GREEN TWP	SUSSEX	5/26/1987	470
GREEN TWP	SUSSEX	5/8/1986	389
GREEN TWP	SUSSEX	7/9/1987	200
HAMPTON TWP	SUSSEX	5/16/1986	2410
HAMPTON TWP	SUSSEX	5/18/1987	1100
HAMPTON TWP	SUSSEX	4/23/1987	1040
HAMPTON TWP	SUSSEX	11/6/1987	530
HAMPTON TWP	SUSSEX	6/28/1988	410
HAMPTON TWP	SUSSEX	3/3/1986	320
HAMPTON TWP	SUSSEX	8/20/1986	108
HARDYSTON TWP	SUSSEX	6/4/1986	798
HOPATCONG BORO	SUSSEX	5/7/1986	6580
HOPATCONG BORO	SUSSEX	9/15/1986	6200
HOPATCONG BORO	SUSSEX	5/28/1986	5020
HOPATCONG BORO	SUSSEX	9/25/1986	679
HOPATCONG BORO	SUSSEX	4/1/1986	290
LAFAYETTE TWP	SUSSEX	12/14/1987	2630
LAFAYETTE TWP	SUSSEX		1040
LAFAYETTE TWP	SUSSEX	12/11/1987	830
LAFAYETTE TWP	SUSSEX	2/4/1988	820
LAFAYETTE TWP	SUSSEX	11/16/1987	770
LAFAYETTE TWP	SUSSEX	12/14/1987	530
LAFAYETTE TWP	SUSSEX	12/14/1987	190
MONTAGUE TWP	SUSSEX	6/25/1987	4120
MONTAGUE TWP	SUSSEX	10/26/1987	2270
MONTAGUE TWP	SUSSEX	11/25/1987	980
MONTAGUE TWP	SUSSEX	10/12/1987	670
MONTAGUE TWP	SUSSEX	5/18/1987	430
NEWTON TOWN	SUSSEX	5/5/1987	700
SANDYSTON TWP	SUSSEX	12/14/1987	690
SANDYSTON TWP	SUSSEX	5/16/1986	44
SPARTA	SUSSEX		47884
SPARTA	SUSSEX		41103
SPARTA	SUSSEX		34000
SPARTA	SUSSEX		19174
SPARTA TWP	SUSSEX	6/16/1986	47000
SPARTA TWP	SUSSEX	4/24/1986	18600
SPARTA TWP	SUSSEX	4/24/1986	4480
SPARTA TWP	SUSSEX	5/20/1986	1780
SPARTA TWP	SUSSEX	10/24/1986	1600

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
SPARTA TWP	SUSSEX	1/29/1987	990
SPARTA TWP	SUSSEX	4/17/1986	905
STILLWATER TWP	SUSSEX	5/19/1987	2120
STILLWATER TWP	SUSSEX	5/15/1987	1070
STILLWATER TWP	SUSSEX	10/14/1987	1000
STILLWATER TWP	SUSSEX		730
STILLWATER TWP	SUSSEX	6/9/1987	327
VERNON TWP	SUSSEX	6/29/1987	25800
VERNON TWP	SUSSEX	7/8/1986	17200
VERNON TWP	SUSSEX	6/4/1986	15400
VERNON TWP	SUSSEX	1/11/1988	12400
VERNON TWP	SUSSEX	3/17/1987	12300
VERNON TWP	SUSSEX	12/16/1986	12060
VERNON TWP	SUSSEX	12/15/1987	12000
VERNON TWP	SUSSEX	5/28/1986	11000
VERNON TWP	SUSSEX		9914
VERNON TWP	SUSSEX	7/1/1986	6670
VERNON TWP	SUSSEX	11/7/1986	6400
VERNON TWP	SUSSEX	5/16/1986	5950
VERNON TWP	SUSSEX	9/22/1987	5200
VERNON TWP	SUSSEX	5/28/1986	4560
VERNON TWP	SUSSEX	9/10/1986	4330
VERNON TWP	SUSSEX	10/12/1987	3710
VERNON TWP	SUSSEX	5/28/1986	2090
VERNON TWP	SUSSEX	5/12/1987	1890
VERNON TWP	SUSSEX	9/21/1987	1850
VERNON TWP	SUSSEX	4/24/1986	1740
VERNON TWP	SUSSEX	4/13/1987	1730
VERNON TWP	SUSSEX	10/24/1986	1720
VERNON TWP	SUSSEX	6/25/1986	1570
VERNON TWP	SUSSEX	1/20/1987	1460
VERNON TWP	SUSSEX	6/19/1986	1420
VERNON TWP	SUSSEX	10/6/1987	1120
VERNON TWP	SUSSEX	3/13/1986	1080
VERNON TWP	SUSSEX	5/28/1986	583
VERNON TWP	SUSSEX	3/30/1987	520
VERNON TWP	SUSSEX	4/24/1986	434
WALPACK TWP	SUSSEX	10/29/1987	330
WANTAGE TWP	SUSSEX	6/5/1987	2000
WANTAGE TWP	SUSSEX	6/28/1988	1210
WANTAGE TWP	SUSSEX	4/20/1987	1090
WANTAGE TWP	SUSSEX		740
WANTAGE TWP	SUSSEX	10/2/1987	540
WANTAGE TWP	SUSSEX	8/5/1986	320
WANTAGE TWP	SUSSEX	9/18/1986	316
WANTAGE TWP	SUSSEX	4/17/1986	171
CRANFORD TWP	UNION	4/22/1988	220

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
ALLAMUCHY TWP	WARREN	12/8/1987	5200
ALLAMUCHY TWP	WARREN	6/22/1987	1060
BLAIRSTOWN TWP	WARREN	5/28/1987	4130
BLAIRSTOWN TWP	WARREN	7/9/1987	2160
BLAIRSTOWN TWP	WARREN	5/28/1987	2070
BLAIRSTOWN TWP	WARREN	6/2/1987	2010
BLAIRSTOWN TWP	WARREN	5/19/1987	1830
BLAIRSTOWN TWP	WARREN	10/28/1987	1790
BLAIRSTOWN TWP	WARREN	10/5/1987	1500
BLAIRSTOWN TWP	WARREN	10/26/1987	1270
BLAIRSTOWN TWP	WARREN	5/11/1987	1240
BLAIRSTOWN TWP	WARREN	9/15/1987	770
BLAIRSTOWN TWP	WARREN	2/4/1988	680
BLAIRSTOWN TWP	WARREN	10/26/1987	530
BLAIRSTOWN TWP	WARREN	5/14/1987	430
BLAIRSTOWN TWP	WARREN	4/27/1987	350
BLAIRSTOWN TWP	WARREN	11/13/1987	270
BLAIRSTOWN TWP	WARREN	10/22/1987	200
BLAIRSTOWN TWP	WARREN	5/19/1987	150
BLAIRSTOWN TWP	WARREN	6/2/1987	80
BLAIRSTOWN TWP	WARREN	5/28/1987	54
BLAIRSTOWN TWP	WARREN	6/22/1987	36
FRANKLIN TWP	WARREN	10/10/1987	4190
FRANKLIN TWP	WARREN	10/6/1986	3900
FRANKLIN TWP	WARREN	7/17/1987	3020
FRANKLIN TWP	WARREN		950
FRANKLIN TWP	WARREN	10/25/1987	510
FRANKLIN TWP	WARREN	11/9/1987	400
FRANKLIN TWP	WARREN	10/20/1987	360
FRANKLIN TWP	WARREN	11/24/1986	210
FRELINGHUYSEN TWP	WARREN	3/3/1988	1860
FRELINGHUYSEN TWP	WARREN	8/18/1987	1710
FRELINGHUYSEN TWP	WARREN	5/5/1987	1270
FRELINGHUYSEN TWP	WARREN	5/12/1986	737
FRELINGHUYSEN TWP	WARREN	10/11/1987	690
FRELINGHUYSEN TWP	WARREN	11/3/1987	640
FRELINGHUYSEN TWP	WARREN	3/6/1987	450
FRELINGHUYSEN TWP	WARREN		440
FRELINGHUYSEN TWP	WARREN	2/13/1987	420
FRELINGHUYSEN TWP	WARREN	10/15/1987	320
FRELINGHUYSEN TWP	WARREN	12/22/1986	220
FRELINGHUYSEN TWP	WARREN	6/16/1986	167
GREENWICH TWP	WARREN	6/6/1986	3250
GREENWICH TWP	WARREN	5/15/1986	1510
GREENWICH TWP	WARREN	5/15/1986	820
GREENWICH TWP	WARREN	5/21/1986	620
GREENWICH TWP	WARREN	5/15/1986	457

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
GREENWICH TWP	WARREN	1/13/1987	430
GREENWICH TWP	WARREN	10/21/1986	400
GREENWICH TWP	WARREN	10/21/1986	400
HACKETTSTOWN TOWN	WARREN	9/18/1986	2470
HACKETTSTOWN TOWN	WARREN	9/18/1986	1950
HACKETTSTOWN TOWN	WARREN	2/25/1986	1860
HACKETTSTOWN TOWN	WARREN	4/30/1986	806
HACKETTSTOWN TOWN	WARREN	2/9/1988	590
HARMONY TWP	WARREN	4/13/1987	8800
HARMONY TWP	WARREN	5/15/1987	5560
HARMONY TWP	WARREN	5/16/1987	5200
HARMONY TWP	WARREN	4/3/1987	4400
HARMONY TWP	WARREN	11/4/1986	3940
HARMONY TWP	WARREN	11/12/1987	3700
HARMONY TWP	WARREN	4/18/1986	3670
HARMONY TWP	WARREN	3/5/1988	2550
HARMONY TWP	WARREN	5/16/1986	2290
HARMONY TWP	WARREN	10/27/1986	1080
HARMONY TWP	WARREN	5/14/1987	640
HARMONY TWP	WARREN	11/9/1987	260
HOPE TWP	WARREN	2/9/1988	25000
HOPE TWP	WARREN	4/13/1987	1960
HOPE TWP	WARREN	12/2/1986	1730
HOPE TWP	WARREN	11/23/1987	1650
HOPE TWP	WARREN	12/5/1987	1420
HOPE TWP	WARREN	2/17/1988	1260
INDEPENDENCE TWP	WARREN	10/7/1987	21900
INDEPENDENCE TWP	WARREN	6/19/1987	10900
INDEPENDENCE TWP	WARREN	4/13/1987	9440
INDEPENDENCE TWP	WARREN	5/29/1987	6600
INDEPENDENCE TWP	WARREN	6/15/1987	730
INDEPENDENCE TWP	WARREN	4/4/1987	700
INDEPENDENCE TWP	WARREN	5/2/1986	432
INDEPENDENCE TWP	WARREN	5/12/1987	290
INDEPENDENCE TWP	WARREN	12/3/1987	240
KNOWLTON TWP	WARREN	6/2/1986	2080
KNOWLTON TWP	WARREN	10/21/1987	590
KNOWLTON TWP	WARREN	5/12/1987	580
KNOWLTON TWP	WARREN	11/30/1987	460
KNOWLTON TWP	WARREN	11/22/1987	440
LIBERTY TWP	WARREN	10/19/1987	54000
LIBERTY TWP	WARREN	4/1/1986	34600
LIBERTY TWP	WARREN	5/6/1987	5280
LIBERTY TWP	WARREN	9/26/1986	4940
LIBERTY TWP	WARREN	10/31/1987	4620
LIBERTY TWP	WARREN	6/4/1987	1750
LIBERTY TWP	WARREN	5/11/1987	1550

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
LIBERTY TWP	WARREN	11/3/1987	1500
LIBERTY TWP	WARREN	6/2/1986	1410
LIBERTY TWP	WARREN	10/29/1987	995
LOPATCONG TWP	WARREN	3/13/1986	29400
LOPATCONG TWP	WARREN	10/15/1987	20180
LOPATCONG TWP	WARREN	4/22/1987	13800
LOPATCONG TWP	WARREN	12/18/1986	920
LOPATCONG TWP	WARREN	11/7/1987	440
MANSFIELD TWP	WARREN	1/28/1987	170000
MANSFIELD TWP	WARREN	4/28/1987	84000
MANSFIELD TWP	WARREN		25400
MANSFIELD TWP	WARREN		24700
MANSFIELD TWP	WARREN	10/24/1987	18600
MANSFIELD TWP	WARREN		13700
MANSFIELD TWP	WARREN	5/15/1987	10600
MANSFIELD TWP	WARREN	5/2/1986	9290
MANSFIELD TWP	WARREN	10/10/1987	9000
MANSFIELD TWP	WARREN	10/10/1987	8040
MANSFIELD TWP	WARREN	10/10/1987	6800
MANSFIELD TWP	WARREN		5640
MANSFIELD TWP	WARREN	5/29/1987	3550
MANSFIELD TWP	WARREN	11/3/1987	3540
MANSFIELD TWP	WARREN	2/17/1987	3400
MANSFIELD TWP	WARREN	10/5/1987	3180
MANSFIELD TWP	WARREN	2/26/1987	3100
MANSFIELD TWP	WARREN	10/2/1987	2830
MANSFIELD TWP	WARREN	10/10/1987	2530
MANSFIELD TWP	WARREN	2/26/1988	2400
MANSFIELD TWP	WARREN	5/12/1986	1890
MANSFIELD TWP	WARREN	10/10/1987	1670
MANSFIELD TWP	WARREN		1350
MANSFIELD TWP	WARREN	4/3/1987	810
MANSFIELD TWP	WARREN	6/27/1986	648
MANSFIELD TWP	WARREN	4/23/1987	580
MANSFIELD TWP	WARREN	9/29/1987	360
OXFORD TWP	WARREN	5/21/1986	7430
OXFORD TWP	WARREN	11/4/1987	7160
PHILLIPSBURG TOWN	WARREN	5/29/1986	190
POHATCONG TWP	WARREN	10/20/1987	460
POHATCONG TWP	WARREN	10/25/1987	370
POHATCONG TWP	WARREN	10/20/1987	250
WASHINGTON TWP	WARREN	6/25/1986	8950
WASHINGTON TWP	WARREN	4/18/1986	5420
WASHINGTON TWP	WARREN		2100
WASHINGTON TWP	WARREN	12/11/1987	930
WASHINGTON TWP	WARREN	10/26/1987	830
WASHINGTON TWP	WARREN	7/27/1987	600

MUNICIPALITY	COUNTY	COLLECTION DATE	CONCENTRATION (pCi/L)
WASHINGTON TWP	WARREN	5/21/1986	440
WASHINGTON TWP	WARREN	1/8/1988	290
WASHINGTON TWP	WARREN	12/14/1987	280
WHITE TWP	WARREN	12/15/1987	43400
WHITE TWP	WARREN	1/29/1987	25200
WHITE TWP	WARREN	5/21/1986	21000
WHITE TWP	WARREN	11/10/1987	5730
WHITE TWP	WARREN	7/7/1987	5600
WHITE TWP	WARREN	2/16/1988	5400
WHITE TWP	WARREN	5/28/1987	5290
WHITE TWP	WARREN	5/11/1987	4400
WHITE TWP	WARREN	10/20/1987	3810
WHITE TWP	WARREN	10/25/1987	1070
WHITE TWP	WARREN	5/29/1987	830
WHITE TWP	WARREN	11/10/1987	730
WHITE TWP	WARREN	7/3/1987	500
WHITE TWP	WARREN	11/6/1987	150

Appendix IV: Discussion of Testing Methods

The following discussion was taken from the USEPA 1999a Rule Proposal for Radon in Water (November 2, 1999, Vol. 64, No.211):

Summary of Methods

Analysis of radon in drinking water by the LSC method involves preparation of the water sample (ca. 20 mL), which includes the selective partitioning of radon from the water sample into a water-immiscible mineral-oil scintillation cocktail and allowance for equilibration of radon with its progeny. The prepared sample is then analyzed with an alpha-particle counting system that is optimized for detecting radon alpha particles. Scintillation counting methods are discussed later. One of the advantages of transferring the radon from the water sample into the water-immiscible cocktail is that potential interferents (other alpha emitters) are left behind in the water phase. The de-emanation method involves bubbling radon-free helium or aged air (low background radon) through the water sample into an evacuated scintillation chamber. After equilibrium is reached (3 to 4 hours), this chamber is placed in a counter and the resulting scintillations are counted. This method generally allows measurement of lower level of radon than does low volume direct liquid scintillation. However, this method is more difficult to use, requiring specialized glassware and skilled technicians.

One of the distinct characteristics of alpha particles is that they exhibit an intense loss of energy as they pass through matter, due to strong interactions between the alpha particles and the surrounding atoms. This intense loss of energy is used in differentiating alpha radioactivity from other types. Some of the alpha particle's energy loss is due to its ionization of atoms with which it comes in contact. Alpha particle detection is based on this phenomenon: when alpha particles ionize the phosphor coating of a detector, the energized phosphor ''scintillates'' (or emits light). The resulting light (or scintillations) are then detected and quantified with an appropriate detector that is calibrated to determine the concentration of the alpha emitter of interest. In scintillation counting, the alpha particle transfers energy to a scintillator medium, e.g., a phosphor dissolved in a solvent ''cocktail'', which is enclosed within a ''light-tight'' container to reduce background light. The scintillation cocktail serves two roles: it contains the phosphor which is involved in quantifying the radon activity (concentration) and it selectively extracts the radon from the water sample, leaving behind other alpha emitters that may interfere with the analysis. The transfer of energy from the radon-derived alpha particles to the phosphor dissolved in the scintillator medium results in the production of light (scintillation) of energies characteristic of the phosphor and with an intensity proportional to the energy transmitted from the alpha particles, which are the ''signature'' of radon-222. A ''counter'' records the individual amplified pulses which are proportional to the number of alpha particles striking the scintillation detector, which is ultimately proportional to the radon activity in the original sample. The scintillation cell system used for the liquid scintillation method is as described previously. The system used for the de-emanation method is similar, with the exception that a scintillation flask (''Lucas Cell'', a 100–125 ml metal cup coated on the inside with a zinc sulfide phosphor and having a transparent window) replaces the liquid scintillation medium described. A counting system compatible with the scintillation flask is incorporated to quantify the radon concentration in the sample. Since radon has a short decay period (half-life of 3.8 days), correction methods are employed to account for the radon that decayed between the time of sample collection and the end of the analysis.

Appendix V: Glossary

Community Water System (CWS): a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least twenty-five year-round residents. Examples of a community water system are mobile home communities, municipalities, and subdivisions with their own water systems.

Distribution System: the area in a public water system where water flows after the point of entry to service its customers.

Ground Water Rule (GWR): a rule published by the United States Environmental Protection Agency that provides increased protection against microbial pathogens in public water systems that use ground water sources.

Maximum Contaminant Level (MCL): the maximum permissible level of a contaminant in water measured at the point of entry to the distribution system or at the free-flowing outlet of the ultimate user of a public water system or other water system to which State primary drinking water regulations apply. Any contaminant added to the water under circumstances controlled by the user, except a contaminant resulting from corrosion of piping and plumbing caused by water quality, is excluded from this definition.

Method Detection Limit: the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the true value is greater than zero.

Millirem: is a measure of radiation dose which takes into account the amount of energy absorbed by the body from the radionuclide and its effectiveness in causing detrimental biological effects.

Multi-Media Mitigation Program (MMMP): a joint regulatory approach to radon through several environmental media, such as air, water, and land.

Nontransient Noncommunity Water System (NTNCWS): is a public water system that serves at least 25 of the same persons over six months per year. Schools, factories, and office buildings that have their own water supply are examples of nontransient non-community water systems.

Picocuries per Liter pCi/L): A unit of measure for levels of radon gas; becquerels per cubic meter is metric equivalent.

Point of Entry (POE): a location in the public water system where water enters into the distribution system. For community water systems that treat their drinking water before it enters the distribution system, the POE refers to a location in the system after the treatment has occurred. Many small community and non-community water systems are not treated, so the POE refers to a location after the well. Required monitoring often takes place at the POE.

Radon: a naturally-occurring, radioactive gas that is colorless and odorless.