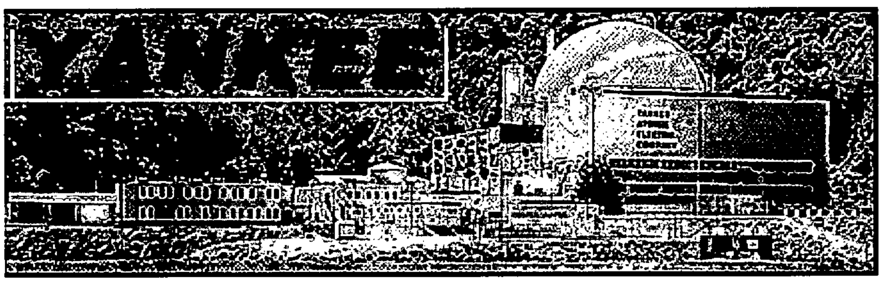
Yankee Nuclear Plant Station 2006 Interim Groundwater Report



Yankee Atomic Electric Company

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1.0 Executive Summary

An additional 17 monitoring wells were drilled in 2006 to further define the extent of groundwater impacts identified by previous drilling and sampling. This investigation focused on further characterization of groundwater quality in the location of and down-gradient of the former Ion Exchange Pit and Spent Fuel Pool which are the most significant sources of tritium in groundwater.

Each of these new wells has been included in the ongoing quarterly groundwater sampling program. The results of sampling these and all other wells on the site confirm that tritium is the only plant-related radionuclide detected in groundwater at YNPS. One of 52 existing monitoring wells contains tritium at a concentration that exceeds the Safe Drinking Water Act (SDWA) Maximum Contaminant Level (MCL) of 20,000 pCi/L.

As of September 2006, all structures, systems and components scheduled for removal as part of plant decommissioning have been removed (note: some subsurface concrete structural material remains on site); site soils have been surveyed for radiological contamination; impacted soils in the unsaturated zone have been excavated and removed; and imported fill has been placed to achieve the final site grade. Accordingly, all potential primary sources of groundwater contamination have been removed from the site

The soils penetrated by the wells drilled in 2006 are similar to those encountered in previous drilling campaigns and are comprised of shallow glaciofluvial sands and silts overlying a glacial till that includes sand lenses at a number of depths. Below the till is a glaciolacustrine sequence, also containing interbedded sand lenses. The glacial soils are deposited on the Hoosac Formation, a coarse-grained, feldspathic gneiss. Analysis of the soils for gamma emitters detected nothing above background levels of naturally-occurring radionuclides.

The site stratigraphy is a controlling factor in the transport of contaminants in groundwater, which suggests why the highest tritium concentrations are found within thin, discrete sand lenses that are interlayered within the relatively impermeable till. Vertical groundwater gradients measured in all monitoring wells indicate a downward flow potential from the surficial soils to the sand lenses. Horizontal gradients within all four hydrogeologic units indicate flow potentials generally to the north and northwest, toward the Deerfield River. This flow direction is consistent with the distribution of trititum observed in both the till and the more shallow glaciofluvial deposits.

A pumping test of the monitoring well completed in the sand within which the highest tritium concentrations have been found (MW-107C) confirms that the transmissivity of this sand lens is low and its length of continuity is only about 100 feet. The hydraulic connections among various other sand lenses near and downgradient from the SFP/IXP were also tested. Most of the connections were found to be in the area of the site near

MW-107. These results suggest that the sand lenses may not provide a mechanism for significant groundwater flow across broad areas of the site.

A temporary spike in tritium concentrations was noted in the shallow groundwater flow path late in 2005 and through the first two quarters of 2006. These concentrations were greater than had been detected previously and are currently decreasing to levels approaching those measured before 2005. This short-term spike in tritium is likey due to mobilization of tritium related to deep excavation, dewatering and remediation in the area of the SFP/IXP, which introduced some higher concentration tritium from sand lenses within the till to the glaciofluvial aquifer. It is expected that this volume of tritium-contaminated groundwater will flow through the shallow aquifer within the next few quarters as the tritium plume re-establishes an equilibrium distribution consistent with conditions prior to 2005.

Analyses for selected anions and cations were completed on all groundwater samples collected in Q2 2006. These analyses indicate a similar geochemistry for groundwater from the till, glaciolacustrine and bedrock aquifers, but a more distinct geochemical signature for groundwater from the glaciofluvial unit. These analyses tend to corroborate the conceptual model of the site, which presumes that groundwater flow in the glaciofluvial aquifer is largely isolated from flow in the deeper units.

Boron was analyzed in groundwater samples collected in Q2 2006 because it was used as a neutron moderator in primary cooling water during plant operation and is a conservative tracer that does not significantly react with or partition to aquifer materials. The distribution of boron found in site monitoring wells is similar to that of tritium. The similarity of the boron and tritium plumes indicates that the plume distribution at YNPS is well characterized.

Analyses for non-radiological constituents in groundwater have also been completed during several quarterly sampling rounds. Results indicate sporadic detections of oil or hazardous materials. These impacts are limited to isolated wells and are not laterally extensive or indicative of a site-wide plume.

Work is nearing completion on the development and calibration of a three-dimensional groundwater fate and transport model covering the YNPS site and surrounding area. A separate report discussing the construction, calibration, and results of the model will be completed in early 2007. Preliminary results of several model simulations are presented in Section 8.0 of this report and demonstrate, if a hypothetical "resident farmer" well had been pumped continuously from April 2006 in the location of MW-107C at the rate specified in the LTP, that concentrations of tritium in the well would, as of September 2006, already be on the order of 10,000 pCi/L, or half the MCL. In order to pump at the rate specified in the LTP, other adjacent soil layers would have to be intercepted by the well and the lower existing concentration of tritium in those layers would result in a dilution of the water in the low permeability zones that contain the residual high tritium.

Transducer records from site monitoring wells are being analyzed and will be presented in a later report. Several transducer records have been included in this report to illustrate vertical gradient patterns on the site.

In summary, the results of the 2006 hydrogeologic study have determined following key issues for the YNPS site:

- the groundwater sources have been identified and removed, along with surrounding impacted soil;
- the extent of groundwater impact has been defined and is limited to tritium;
- the tritium plume in the shallow, permeable aquifer is below the MCL and travels relatively rapidly to the west discharging to the Deerfield River;
- tritium at levels exceeding the MCL is limited to relatively isolated sand lenses within till, both characteristic of very low permeability and yield, limiting migration; and
- based on tritium transport modeling and quarterly sampling results, tritium impacts are expected to continue to dissipate due to dilution, dispersion and radioactive decay.

2.0 Introduction

The Yankee Nuclear Power Station (YNPS) ceased operation in 1992 and completed physical decommissioning work in the fall of 2006 under an approved Nuclear Regulatory Commission (NRC) license termination plan (LTP) (**Reference 2-1**). As of September 2006, all structures, systems and components planned for removal have been removed; site soils have been surveyed for radiological contamination; impacted soils in the unsaturated zone have been excavated and removed; and imported fill has been placed to achieve the final site grade. Accordingly, all potential primary sources of groundwater contamination have been removed from the site.

A groundwater monitoring program was initiated in support of decommissioning during the spring of 1993, with installation of ten monitoring wells. Seventy-one additional monitoring wells have been installed since 1993 as part of seven drilling campaigns, the most recent of which was completed summer 2006. The results of previous groundwater investigations are documented in **References 2-2, 2-3 and 2-4. Reference 2-5**, Groundwater Compliance Plan for License Termination for Yankee Nuclear Power Station, details the ongoing groundwater monitoring that will be completed to demonstrate compliance with the criteria for license termination.

The early monitoring programs in the late 1990s identified a plume of tritium in shallow groundwater, with maximum concentrations of about 5,000 picocuries per liter (pCi/L). A more rigorous investigation began in 2003 and identified a second plume within a deeper, semi-confined geologic formation, with tritium concentrations up to 48,000 pCi/L. Follow-up drilling campaigns were completed in 2004 and again in 2006, to further investigate and bound the groundwater impacts identified by earlier investigations. No plant-related radionuclides other than tritium have been identified in the groundwater. YNPS has completed dose assessments for the existing on-site groundwater in accordance with the LTP and found a dose contribution of less than one millirem per year associated with groundwater at the MCL concentration of 20,000 pCi/L (**Reference 2-1**).

Prior to 2003, groundwater samples had been collected from all site monitoring wells generally three or four times per year, although not on a routine schedule. These samples were analyzed for tritium and gamma-emitting radionuclides. Two sample rounds (November 1997 and February 1998) included analysis for strontium. Beginning in August 2003, groundwater samples were collected from available monitoring wells on a quarterly basis and analyzed for a wider range of radionuclides, including ten gamma emitters, tritium, gross alpha, gross beta, and eleven hard-to-detect nuclides (**Reference 2-3** and **2-4**). Decommissioning activities made safe access to several wells impossible and groundwater sampling was suspended for the second and third quarters of 2005. The quarterly schedule of sampling resumed in the final quarter of 2005 and will continue through early 2007.

3.0 Monitoring Well Drilling

In 2006, an additional 17 monitoring wells were installed to further define the extent of groundwater impacts identified by previous drilling and sampling. This investigation focused on further characterization of groundwater quality in, around, and down-gradient of the former Ion Exchange Pit (IXP) and Spent Fuel Pool (SFP) which are the most significant suspected sources of tritium in groundwater. **Figure 3-1** is a site map showing the locations of all monitoring wells at the site. The wells drilled in 2006 include:

- Nine wells in three well clusters to investigate the IXP (MW-110A, B, C, D), the SFP (MW-111A, B, C), and the Septic System Leachfield (MW-113A, C);
- Six shallow wells to bound the highest tritium groundwater concentration in the glaciofluvial aquifer (MW-101A, -102D, -104A, -105A, -107A, -109A);
- Two wells to investigate the highest tritium groundwater concentrations in sand lenses within the upper till (MW-107E, F).

At the MW-110 and MW-111 clusters, the "B" well was the first well drilled. This well penetrates the full thickness of sediments overlying bedrock, which was encountered at depths of 95.5 and 64 feet below grade in MWs 110B and 111B, respectively. The "A" wells were completed in the shallow glaciofluvial aquifer. The "C", "D", "E" and "F" wells were completed in thin water-bearing sand lenses interlayered within the lodgement till that underlies the glaciofluvial aquifer. These sand lenses were identified by examining the soil cores retrieved when the "B" well in each cluster was drilled. Geologist's logs and construction details for each of the monitoring wells are provided in **Appendix A**. **Table 3-1** summarizes the construction details for all existing monitoring wells.

As in the 2003 and 2004 drilling campaigns, wells were drilled in 2006 using the rotosonic method, in accordance with **Reference 3-1** and **Reference 3-2**. The rotosonic drill uses a combination of high-frequency vibration, rotation and down pressure on a string of drill rods to advance a core barrel attached to the bottom of the drill rod string. A continuous sample of soil from the formation is collected in the core barrel for examination, description and analysis. The core barrel is advanced ahead of a steel drill casing of slightly larger diameter than the core barrel. The drill casing is advanced to stabilize and maintain an open borehole as drilling proceeds, and is withdrawn when the target depth has been reached and construction of a monitoring well is complete.

The drill casing also isolates any water-bearing zones encountered in the borehole from overlying and underlying strata, to minimize commingling of groundwater from discrete zones or cross-contamination of aquifers as drilling proceeds. When a water-bearing zone was encountered drilling continued to the bottom of the zone, until an aquitard was reached. A slurry consisting of bentonite clay and water was then placed in the casing. The casing was pressurized to force the slurry out from the bottom and up along the outside, to seal the sidewall of the borehole. This process was repeated several times in each borehole in which multiple water-bearing sand lenses were encountered, as noted in the logs in **Appendix A. Reference 2-3** provides a detailed description of the rotosonic drilling procedure used to advance the boreholes, collect soil samples, screen the samples in the field and construct monitoring wells.

3.1 Groundwater Screening Samples

Groundwater from each water-bearing zone encountered was sampled before drilling deeper. These screening samples were collected by bailing from the cased borehole with a disposable 3-foot long by 1½-inch diameter polyethylene bailer. A new bailer was used for each sample to ensure that contaminated sampling equipment did not affect the results of sample analysis.

Each screening groundwater sample was analyzed for tritium by the on-site radiochemistry laboratory using liquid scintillation. This lab has a detection limit for tritium of 2,000 pCi/L. Tritium was detected by the on-site lab in several screening samples, with the highest concentration of 44,800 pCi/L detected in well MW-107F. The screening samples were also analyzed by the on-site lab for gamma-emitting radionuclides by gamma spectroscopy. No plant-related gamma-emitting radionuclides were detected in groundwater at a detection limit of 1.50E+1 pCi/L (1.80E+1 pCi/L for Cs-137). **Table 3-2** summarizes the groundwater screening sample analyses.

3.2 Soil Screening Samples

After removal from the core barrel, each soil sample was screened for radioactivity at the field location with an Eberline RM14 Frisker. Only background radiation levels were detected. A composite sample consisting of approximately two kilograms of soil was prepared from each approximately 5-foot section of core. This composite sample was analyzed for gamma-emitting radionuclides by the on-site radiochemistry laboratory. **Table 3-3** is a summary of the soil screening analytical data. **Table 3-3** shows that low levels of one or two gamma-emitting radionuclides were found above the detection limit of 1.50E-02 pCi/g (1.80E-02 pCi/g for Cs-137) in three of the soil borings.

3.3 Monitoring Well Survey

A Massachusetts Licensed Land Surveyor determined the horizontal and vertical coordinates of each monitoring well. The horizontal location of each well is referenced to the State Plane Coordinate System and its vertical elevation is referenced to the 1988 North American Vertical Datum (NAVD) in feet. A summary of the coordinates and elevations for all monitoring wells in July 2006 is provided in **Table 3-4.**

3.4 Monitoring Well Development

Each monitoring well was developed shortly after it was constructed to remove fine-grained material that may have entered the well and its surrounding sand pack during construction. Development helps to restore the natural hydraulic properties of the formation adjacent to the borehole that were altered during drilling and allows water to flow more freely to a monitoring well. This process improves the hydraulic connection between the screen zone of the well and the adjacent aquifer and allows collection of groundwater samples that are generally representative of the ambient water quality in the near-by formation.

Development was achieved by pumping and surging, using an inertial displacement pump. In a few cases, the well was pumped with an electric submersible pump. In either case, the objective was to remove a minimum of three well volumes and to continue development until groundwater relatively free of turbidity was produced. **Table 3-5** summarizes the approximate volumes pumped from each well, the duration of development and a subjective measure of the turbidity of the discharge at the conclusion of development. The duration of development of each well varied widely. The total development times listed in **Table 3-5** range from 1.25 to 25.5 hours.

3.5 Monitoring Well Abandonment

Many of the monitoring wells installed before 2003 were shallow wells located within the core of the Industrial Area (IA), where demolition of nearby systems and structures would have destroyed the wells or posed a risk of damaging them. These wells were also of less precise construction compared to the rotosonic drilling method, which has been used for well installation since 2003. For example, many of the older wells were completed with screens spanning the contact between the shallow aquifer and the underlying till. The rotosonic drilling method allows recovery of a continuous soil core and more accurate determination of the contact between stratigraphic units, which allows more definitive placement of well screens within the appropriate aquifer zones.

Twenty-five wells were abandoned between July 2004 and August 2005. One monitoring well (CW-2) was abandoned in May 2006. Each of these wells was abandoned in accordance with **Reference 3-3** and **Reference 3-4**. **Table 3-6** summarizes the details of how the wells were abandoned.

4.0 Site Stratigraphy and Conceptual Model

The stratigraphy and hydraulic relationships beneath YNPS comprises a complex, multi-unit groundwater flow system. A hydrogeologic conceptual site model (CSM) has been developed for YNPS based on both the regional geologic setting and on the hydrogeologic and chemical data collected at the site since the first monitoring wells were drilled in 1993 (**References 2-2, 2-3 and 2-4**). Four hydrogeologic units have been identified at the site:

1) a water table aquifer that occurs in stratified drift (glaciofluvial deposits),
2) a glacial till unit with multiple water-bearing sand lenses;
3) a glaciolacustrine unit with multiple water-bearing sand lenses; and
4) a bedrock aquifer.

In these four hydrogeologic units, groundwater occurs under unconfined, semi-confined, and confined conditions.

Figure 4-1 is a plan view of the site showing the locations of five geologic cross-sections. Geologic cross-section A-A' (**Figure 4-2**) illustrates the sequence of three hydrogeologic units overlying bedrock and is aligned generally in the direction of groundwater flow, from southeast to northwest. **Figures 4-3 through 4-6** are cross-sections with other orientations across the site. Four of these cross-sections first appeared in **Reference 2-3.** They have been revised and the fifth cross-section (E-E') was added in **Reference 2-4** as additional drilling in 2004 provided more information about the site stratigraphy. The five cross sections have been further revised to reflect the results of the drilling and testing completed in 2006.

Immediately below ground surface is a layer of stratified drift (glaciofluvial deposits) ranging in thickness from zero to about 25 feet, in which the water table aquifer exists. The glaciofluvial deposit is a relatively permeable unit comprised of sand, gravel and silt. Beneath the glaciofluvial deposit is a very dense lodgement till consisting of a heterogeneous, low-permeability mixture of clay to boulder-sized material. Interlayered within the till are lenses of water-bearing silty sand which are a few feet thick. The till ranges in thickness from zero to at least 210 feet.

During the Pleistocene Epoch, which spanned the period from about two million years to ten thousand years before present, continental glaciers extended from the Canadian Arctic into the northern United States during several periods of glaciation, and covered most of New England at times with more than one kilometer of ice (**Reference 4-1**). Short-term fluctuations in climate during the end of the Pleistocene caused warming that may have spanned a period of a few years to a few decades. This warming resulted in a temporary stagnation or retreat in movement of the ice sheet and a net increase in melt water.

Sand lenses within the till at YNPS may be related to changes in the position of the ice margin during late glacial stages. The melt water formed during warm periods deposited relatively clean, well-sorted sand into crevasses and ice channels within or on the margins of the glacier. As the climate reverted to colder temperatures, there occurred a net increase in snow accumulation and decrease in melt water. Under these conditions the ice front advanced, once again depositing lodgement till beneath its base and overriding the crevasse and ice-channel filling. Alternatively, portions of previously-deposited sand were incorporated into advancing ice and disseminated among more heterogeneous soil materials that were then laid down as till.

This sequence of fluctuating climate, repeated during several episodes, resulted in a series of thin, discrete sand lenses that are found interlayered within the lodgement till at YNPS. The process by which the sand lenses are believed to have been deposited suggests that they are somewhat discontinuous and of limited extent. This stratigraphy has important implications for the transport of contaminants in groundwater and suggests that the thin, discrete sand lenses do not provide a mechanism for significant groundwater flow across broad areas of the site. Testing to investigate the hydraulic connection of several of these sand lenses was completed in thirteen monitoring wells during the summer of 2006 and is discussed in **Section 5.0**.

The distribution of tritium found within the sand lenses supports the judgement that they do not provide a mechanism for contaminant transport across broad areas of the site Tritium in groundwater within these sand lenses has been detected at distances up to 350 feet downgradient of the SFP/IXP source area, and at depths up to 90 feet below the source area. In comparison, tritium in the shallow, glaciofluvial aquifer has been detected across the complete downgradient portion of the site (over 800 feet). Thus, the sand lenses are less significant in the horizontal transmission of contaminants across the site than the shallow, glaciofluvial soils.

A sequence of glacial lake deposits (glaciolacustrine sediments) underlies the till from the area north of the Radiologically Controlled Area (RCA) and extending north and west to the middle of the Deerfield River Valley (**Figure 4-2**). These lake deposits extend to the bedrock surface. This sequence is generally comprised of silt and clay, some of which are laminated. Sandy zones that are water-bearing are also found within the glaciolacustrine sediments. These sandy zones were likely formed during periods when stream flow into the lake was relatively high and coarser-grained sediment could be transported into the lake by the faster-flowing water.

The lake deposits are wedge-shaped in cross-section, being thickest toward the middle of the Deerfield River Valley, and thinning to the south where the lakeshore formerly existed (**Figure 4-2**). The sediments laid down in the lake were later buried by more than 100 feet of till and glaciofluvial deposits.

The local bedrock is a dark gray, medium- to coarse-grained albite gneiss that occurs beneath the glaciolacustrine deposits (**Figure 4-2**). In addition to abundant 2 to 5-millimeter megacrystals of albite, two other predominant minerals form this rock: quartz and biotite. This is a metamorphic rock type that has been mapped by the United States Geological Survey as the Lower Cambrian Hoosac Formation (**Reference 4-2**). The monitoring wells recently installed in the bedrock indicate that the top few tens of feet of the rock are moderately fractured. The fractured rock comprises an aquifer that yields up to a few gallons per minute of water in some monitoring wells. Locally-fractured zones, such as intercepted by the site water well (which yields 60 gpm), can yield much higher rates of flow.

Figure 4-7 is a contour map showing the total thickness (in feet) of glaciofluvial deposits across the site. This map indicates that the maximum thickness of these deposits is about 25 feet. It should be noted that the soils beneath much of the industrial area of the site were excavated and backfilled with structural fill to support construction of the plant foundations. Some of this backfill is derived from similar glaciofluvial soils mined both on and nearby the YNPS site. For this reason, the current distribution of glaciofluvial deposits in the developed portion of the site differs substantially from what was naturally deposited. **Figures 4-8, 4-9 and 4-10** show elevation contours (in feet) of the surface of the till, glaciolacustrine and bedrock units, respectively. Each of these surfaces generally dip to the northwest, although the bedrock surface is the most irregular of the three and contains several knobs and depressions.

4.1 Conceptual Groundwater Flow

The Deerfield River is the discharge boundary for both surface water and groundwater for its entire watershed, acting as the definitive endpoint for groundwater flow paths in the hydrogeologic CSM for the YNPS. In general, groundwater in all four hydrogeologic units flows towards and discharges to the Deerfield River. A detailed discussion of the horizontal and vertical groundwater flow potential in the four hydrogeologic units at the site is provided in **Section 6.0**.

4.2 Tritium Source Areas

Source areas at YNPS are described by two types: 1) primary release areas, where contaminants, consisting largely of dissolved radionuclides in primary coolant and other process solutions, were released to the ground under various circumstances; and 2) secondary source areas, consisting of surface and subsurface soil that was subsequently contaminated by the primary releases, either immediately on release, or due to downgradient migration of contaminants in groundwater. The Primary release areas are identified and described in the Historical Site Assessment (**Reference 4-3**) that was prepared for the site License Termination Plan (**Reference 2-1**).

Primary release and secondary source areas were remediated during decommissioning activities. **Figures 4-2, 4-4, 4-5 and 4-6** show that up to twenty feet of surficial soils were removed from the central industrial area to achieve clean-up goals. Excavation and removal of this large volume of soil eliminated a substantial portion of any remaining secondary contaminant sources. The primary release areas for significant releases of radioactive materials are shown in **Figure 4-11** and are summarized in **Table 4-1**.

A significant source of tritium in groundwater at the site is the former SFP/IXP complex. Most of the releases listed in **Table 4-1** consisted of small volumes that were promptly contained and removed; however, two exceptions are noted. The first, documented in Abnormal Operating Report (AOR) 64-13, describes overfilling of the IXP as a result of an operator failing to close the fill valve, after filling the IXP to its normal operating level. Water continued to flow into the pit (which was below grade) from the Primary Water Storage Tank by gravity feed and subsequently seeped up through the blacktop on the west side of the pit, at which time the operator noticed the water, diagnosed the cause, and closed the valve.

The second significant release is documented in a series of operating reports (Operating Report Nos. 44 through 53) that describe a leak at the construction joint at the common wall between the SFP and the IXP. This information indicates that the leak may have existed for more than eighteen months. Additionally, YAEC belives the SFP may have leaked periodically before a steel liner was installed in 1979, based upon cracks observed in the pool walls. However, the amount of leakage was small and not discernable based on water-level changes and make-up rates. **Figure 4-12** is a cross-section of the west wall of the SFP/IXP complex, looking east, and shows the relation between the foundation of the SFP/IXP and the shallow stratigraphy in its vicinity.

A release of water contaminated with tritium at the IXP would have likely entered the stratified drift and flowed through the foundation backfill and into the top of the till. Tritium-contaminated water likely flowed through the relatively permeable foundation backfill and was present in the fill surrounding the fuel transfer chute under the SFP, which was the lowest part of the structure. Microfractures or fossil ice wedges within the dense till likely allowed slow movement of the water downward and to the northwest, under the prevailing groundwater flow gradient. There it was within a few feet of the first sand lens within the till that was identified in MW-107C, where the highest tritium concentration to date is found at YNPS.

This release mechanism and flow path resulted in the distribution of tritium observed in the monitoring well network. **Figure 4-12** illustrates the vertical proximity of the impacted sand lens in which MW-107C is completed at the northwest corner of the SFP (approximately 27 feet below original plant grade) and the bottom of the fuel transfer chute under the northeast corner of the SFP (approximately 24.5 feet deep). The vertical separation between these two features is only about 2.5 feet, and the vertical flow potential in this area of the site is downward from the shallow aquifer and backfill into the deeper sand lenses.

According to AOR 66-7, the tritium concentration in water in the SFP (which was comparable to that in the IXP) was 5.4E+06 pCi/L. This concentration would have been similar to that present during the two events discussed previously. Therefore, the tritium levels in the shallow aquifer were historically substantially higher than they are today. The concentration of tritium measured in Sherman Spring in 1965, around the time that the leak at the IXP was repaired, was about 2,000,000 pCi/L (**Reference 2-2**) (**Figure 4-13**) and had decreased to less than 200 pCi/L by 1998. The tritium concentration trend in the deeper hydrogeologic units is less certain, as monitoring of the deeper monitoring wells has only been conducted since 2003; however, all but one of the deeper monitoring wells (MW-107C) have tritium concentrations less than 20,000 pCi/L.

The processes of natural attenuation, including dilution, dispersion and radioactive decay, have significantly reduced the tritium levels in groundwater at YNPS since the 1960s. The tritium levels are lower in the shallow aquifer because the higher hydraulic conductivity and more homogeneous flow domain in that unit have allowed more flushing and dilution compared to the deeper, discontinuous sand lenses where flow is more restricted because the sands are interlayered within a low permeability till.

While the two documented significant release events appear to have contributed to much of the tritium in site groundwater, other sources have most likely also contributed to the observed distribution of tritium.

Decommissioning activities at YNPS have been ongoing for several years and all structures in the RCA and Industrial Area have now been demolished and removed. Demolition activities have included excavation and removal of soil and concrete in the vicinity of the Vapor Container (VC) footprint, SFP/IXP, fuel transfer chute, primary auxiliary building, radioactive waste warehouse, and various other building slabs and foundations. These excavations resulted in significant soil remediation in the primary tritium source areas at YNPS.

Excavation of the SFP/IXP and fuel transfer chute area required dewatering as these structures were beneath the water table. The groundwater pumped from this excavation contained tritium. **Figure 4-14** shows that the concentration of tritium in this pumped groundwater peaked at 4.7E+04 pCi/L in early June 2005, shortly after dewatering activities were initiated. Dewatering of the SFP/IXP excavation continued throughout the summer and into November. By October 2005the concentration of tritium had decreased to less than the level detectable by the on-site lab (2.0E+03 pCi/L) (**Figure 4-14**).

Figure 4-15 shows the trend of tritium concentrations in Sherman Spring and two shallow monitoring wells located downgradient of the SFP/IXP excavation during the period prior to, during and following dewatering of the excavation. This figure shows that the tritium concentration in the three monitoring points was only a few hundred pCi/L in March 2005, prior to the start of dewatering in late May 2005. The level in Sherman Spring peaked at 6,370 pCi/L in November 2005, while that in wells CB-6 and MW-106A peaked at 14,730 and 13,100 pCi/L in January and February 2006, respectively. Tritium levels in all three monitoring points have continuously decreased since then. The observed tritium concentration variations in the downgradient monitoring wells suggests a direct response to demolition and dewatering activities related to remediation of the SFP/IXP. It also suggests that the spike in tritium levels measured at these downgradient locations was a short-term phenomenon whose recession shortly followed the decrease in tritium concentration in groundwater pumped from the SFP/IXP. This issue is discussed further in **Section 7.1**.

4.3 Contaminant Distribution in Groundwater

The distribution of groundwater contamination at the YNPS site has been monitored over the last several years by means of a quarterly sampling program. This monitoring program has shown that tritium is the only plant-related radionuclide present in site groundwater. Cs-137, Sr-90, and Co-60 have been identified sporadically in groundwater; however, these instances were investigated and found to be caused by one of three reasons:

1. Intrusion of surface water which had been in contact with contaminated concrete into damaged well heads or road boxes.
2. False positive detections that are expected statistically in five percent of the laboratory analyses, at the 95% confidence level.
3. Improper on-site laboratory practices that introduced contamination into the sample being analyzed (e.g., lab cross contamination events).

The absence of radionuclides other than tritium in groundwater samples is consistent with soil-water partition coefficients (K_ds) determined for these radionuclides (**Reference 4-4**). The partition coefficients control the distribution of radionuclides in groundwater, as compounds with low K_d values are strongly partitioned to groundwater relative to soil, concrete and geologic material, while compounds with higher K_d values are more readily partitioned to the solid phase. Tritium has an effective K_d value of approximately zero, and Sr-90, Cs-137, and Co-60 typically have increasingly larger K_d values (**Reference 4-4**). Thus, the presence of tritium and absence of other radionuclides in site groundwater is consistent with the K_d values for these radionuclides. Although use of a linear isotherm to represent partitioning is usually modeled as a reversible process, many radionuclides including Cs-137 and Co-60 are partitioned to soil as an irreversible process (**Reference 4-4**).

5.0 Monitoring Well Testing

Due to the significance of the sand layers and elevated tritium concentrations identified within the till, YNPS proposed a hydraulic testing approach for the sand layers within the till. The draft groundwater monitoring plan submitted to NRC (**Reference 2-5**) described two sets of tests to evaluate the hydraulic connections within and between the sand layers contained in the glacial till and glaciolacustrine deposits on the site. A 24-hour pumping test was conducted on MW-107C (which has had the highest residual concentration of tritium), with recording water-level transducers placed in surrounding wells and at multiple layers in the geologic strata. This test was preceded by a 4-hour step-drawdown test of the same well to determine an appropriate rate to pump during the 24-hour test.

In addition, shorter, 1- to 4-hour drawdown tests were conducted in numerous monitoring wells situated in sand lenses in other locations on the site, with corresponding recording water-level transducers in surrounding wells and at multiple layers in the geologic strata. Use of the recording water-level transducers was in accordance with **Reference 5-1**.

5.1 24-Hour Pumping Test of MW-107C

On June 19, 2006, a 1-1/2-inch diameter, variable speed electric submersible Grundfos Rediflow 2 pump was used to perform a 4-step drawdown test (one hour each step increase) of well MW-107C. The primary purpose of the step-drawdown test was to determine an appropriate rate to pump during a longer 24-hour constant rate test of MW-107C. The pumping history of the step-drawdown test is shown in **Figure 5-1**. **Reference 5-2** describes methods of interpreting step-drawdown tests. A table and figures showing the analysis of the step-drawdown test are shown in **Appendix B**.

At the time of performing the step-drawdown test, it was not known how extensive the sand layer intercepted by MW-107C is nor how much recharge could be supplied by the enclosing glacial till layers. Therefore, the first step of the test was completed with a conservatively low pumping rate of 160 milliliters per minute (ml/min), or 8.13 cubic feet per day. Three successively higher pumping rates of 200, 280 and 360 ml/min were then completed. Analysis of **Figure 5-1** revealed that after pumping MW-107C for 24 hours at a pumping rate of 200 ml/min, the water level in the well would have been very close to the pump, which was set near the bottom of the well at a depth of approximately 43 feet below the top of casing. Therefore, a pumping rate of 180 ml/min was chosen for the 24-hour test, to avoid dewatering the pump and forcing an early end to the test.

On June 20th the 24-hour constant rate pumping test was begun at about 10:18 AM EDT. There was a wide range in the magnitude of response to the pumping in the surrounding monitoring wells. Sorting out which groundwater fluctuations were due to the pumping of MW-107C was difficult, as there were numerous other influences occurring during and immediately following the test. By studying water-level trends in the hydrographs for several days before and after the test, these influences were evaluated and separated from the raw data curves. Because the pumping rate was so low and the permeability of the layers was also low, it was important to detect extremely small movement in water level of only a few hundreds of a foot. For this reason, typical effects on water levels such as response to earth tides and barometric fluctuations became quite important, even though the magnitude of those effects here is typically no more than one or two tenths of a foot. The uncorrected groundwater responses with time based on manual level measurements are shown in **Appendix B**. A composite graph that shows the response of wells that were monitored with transducers during the pumping test is shown in **Figure 5-2**.

The first corrections were made for "transducer drift" that occurred in five of the transducers. The amount of "drift" is calculated by comparing water levels measured manually over time with water levels measured by the transducers. If there is an increasing amount of discrepancy with time (usually the drift is linear), then the incremental rate with time is calculated and used to correct the transducer readings.

One of the more obvious ambient effects was that the groundwater was in recession over the period of the test, despite about a 0.3-inch rainfall between about 6 PM and 7 PM on June 19th. The only previous significant rainfall was on June 7th as shown on **Figure 5-3**, which shows the rainfall and barometric history at the site during June. Each well had a different recession rate, which was calculated over about five days and then added back to the data logger record to neutralize the recession effect.

Most of the monitoring wells in till, glaciolacustrine sediments and bedrock show obvious response to earth tides and barometric variations. There appear to be two separate earth tide components in the data logger records at the site. **Figure 5-4** shows a typical breakdown of the earth tide for MW-107B, as programmed with the theoretical parameters for components M2 and O1. Each component has its own repeating frequency and amplitude that changes with the moon phase. When added together, they produce a characteristic signature with an amplitude of about 0.15 feet. The amplitude and frequency of each earth tide component was estimated for each well through an evaluation of the record, then inverted and added back to the record to neutralize the effect.

Barometric variations also affect water levels and there was a steep rise of about 0.3 feet of water equivalent in the last two-thirds of the pumping test. When the barometer rises, water levels are depressed by a magnitude based on the barometric efficiency. Each monitoring well has a different efficiency, up to about 60%. For example, we estimate the barometric efficiency of MW-107B is about 50%. Each well record was corrected to neutralize barometric effects based on the estimated barometric efficiency of each well.

The rise and fall of Sherman Reservoir in the hydropower production cycle also has the potential to affect water levels on the site. **Figure 5-5** shows the fluctuation of the reservoir level during the period of June 18th through June 24th. Notice that the level rose about a foot from noon on June 20th to noon on June 21st. Our evaluation of the long-term transducer-recorded water level records suggests that the MW-108 wells are affected the most by daily reservoir change, with a lesser effect on MW-105 and negligible effect on the other site wells near MW-107.

There are two other potential influences for which we did not attempt any corrections. The pumping of the onsite water well has clearly been an influence on many wells in the past, such as MW-107B and MW-110B and even some of the wells in sand layers within the till and glaciolacustrine units. However, during the pumping test, there was no significant pumping from the plant water well that would have affected the test results.

There was a more substantial effect; however, during the recovery period of the pumping test from movement of storm water from the historical location near MW-109 to a temporary infiltration basin located between MW-100 and MW-105. The addition of water to this basin on the afternoon of June 21st caused water levels to rise substantially above levels they would have otherwise reached in a normal recovery from the pumping test (see **Figure 5-6**, for example, for MW-110B).

After applying all of the corrections described above, we calculated the drawdown in those wells monitored and segregated the drawdown responses into three groups showing no effect, small effect, and large responses to the pumping test. These three groups are shown in **Figures 5-7, 5-8 and 5-9**. For purposes of calculating hydraulic parameters, the drawdowns for those wells that responded were plotted as log-log plots and overlaid on various type curves from **References 5-3 through 5-6**. The log-log plots are provided in **Appendix B**.

In addition to measuring water-level changes, the recording transducers also measured temperature changes. Although most of the groundwater temperatures were not significantly affected by the MW-107C pumping, there were some effects worthy of note. Water temperatures were typically around 50 degrees F. It is not certain how accurate the absolute value of the reading is, but the sand lens in the middle of the till section tended to be slightly cooler than the deeper layers. The near-surface temperatures were slightly higher. Although the changes were very subtle, the temperatures in the bedrock and deep sand layers of MW-101, MW-110 and in MW-107F were trending slightly downward over the test period. All of the MW-102 till and bedrock wells were steady, as was MW-107D and MW-110C. MW-107E and both MW-111B and C were rising over the test period. The temperature in MW-107C rose during the test (probably due to the heat of the submersible pump) and then fell during recovery, but did not return to the original temperature. MW-107B rose during the first part of the test then decreased, although the water level did not seem to be affected by the test. MW-107C and the MW-111 wells seem to have been affected by infiltration of the storm water in the infiltration basin.

Our summary evaluation of the pumping test is given in **Table 5-1**. The transmissivity of the "formation" was calculated to range from 0.2 to 4 square feet per day. This is largely a horizontal hydraulic measure and it is difficult to interpret how much thickness of the till section this value applies to. The sand layer in which MW-107C is completed is only about 4 feet thick, so most of the permeability is probably in this layer, suggesting the sand layer hydraulic conductivity is about 1 foot per day.

Based on the response of wells separated by aquitard layers from the sand in which MW-107C is completed, we were able to estimate the vertical hydraulic conductivity of the aquitard layers. These values ranged over an order of magnitude from 0.0018 to 0.017 feet per day. Storativity is typical of confined to semi-confined conditions and ranged from 0.00005 to 0.04.

MW-107C and MW-107E showed classic slopes of one-half on the early part of the log-log plots, and is typically observed in horizontal fracture zones in fractured rock. This suggests that the sand seams intercepted by these two wells are behaving like horizontal fractures in bedrock, and are quite permeable horizontally compared with the permeability of the till above and below. **References 5-4, 5-5 and 5-6** each have methods for estimating the radius of these "horizontal fractures" (zones within which linear flow occurs) and the approximate permeability of the surrounding rock. As shown on **Table 5-1**, the till hydraulic conductivities calculated using the approaches in **References 5-4, 5-5 and 5-6** are estimated to be 0.0025 and 0.079 ft/day for MW-107C and MW-107E, respectively. The high value is about 4 times greater than the highest vertical hydraulic conductivity estimate, but it is still in the right order of magnitude. The radius of linear flow is estimated to be 25 feet for MW-107C and 184 feet for MW-107E, which is the right order of magnitude for the extent of the drawdown transmitted in these sand layers.

To illustrate the results of this pumping test graphically, we present a plan-view map that contours the maximum drawdown at each monitoring well cluster around MW-107 and several cross sections to illustrate the drawdown contours in the vertical plane. **Figure 5-10** shows the maximum drawdown contours in plan view. The long axis of the contours is northwest to southeast, with more drawdown to the southeast than to the northwest. There is less effect to the northeast and southwest. This gives some idea of the possible nature and extent of the sand lens and suggests a length of continuity of about 100 feet.

The cross sections shown in **Figures 5-11 through 5-14** show that the drawdown was not transmitted downward to the bedrock in MW-101, MW-102, MW-107, or MW-110, but did reach the bedrock at MW-111 where bedrock is relatively shallow. Generally, the drawdown effects were confined to the first and second sand lenses in the till layer and in the glaciofluvial aquifer (see hand-level measurement graphs in Appendix B) at the top of the sequence.

In summary, the MW-107C pumping test was successful in testing the general interconnectedness and extent of the sand layer in which MW-107C is completed. The test provided some horizontal permeability estimates of the sand layers and vertical permeability estimates of the glacial till. It also clearly showed that the till layers separating the sand layers are not "dry", but are saturated and somewhat permeable. The pumping test results will be incorporated into a three-dimensional groundwater flow model that is being developed for the YNPS site (see **Section 8.0**).

5.2 Pressure Transient Tests in Groundwater Monitoring Wells

In addition to the 24-hour constant rate test on MW-107C, we performed constant drawdown tests in a variety of other monitoring wells that lasted from one to 4 hours. Several of these tests were performed in the first week of June with a bladder pump, but that type of pump proved to be ineffective in creating and holding large drawdowns. The remainder of the tests in the second week of June and in mid-July were performed with a submersible pump.

Not all of the approximately 200 graphs that comprise that set of tests have been prepared in final report form. They will be presented in a later report. However, a summary table (**Table 5-2**) and several other graphics have been prepared to illustrate the types of responses to the pumping stresses we observed. We did not attempt to correct any of the transducer records for any barometric, earth tide, drift, or recession effects. Results were evaluated qualitatively without attempting to calculate hydraulic parameters. We defined interpreted responses as being either "none," "subtle or questionable," or "definitely measurable."

A typical strong response is seen in MW-109D (**Figure 5-15**) for July 14, 2006 in reaction to the pumping of MW-107D (**Figure 5-16**). Temperature variations sometimes occurred in response to pumping as seen in MW-107C and MW-107E on July 14 (**Figures 5-17 and 5-18**). When MW-107D was pumped, the temperature in MW-107C rose, while that in MW-107E decreased, then rose, then settled back to the original temperature. On July 21, when MW-105C was pumped, the temperature in MW-107E rose following the pumping, but in MW-107F it fell following the pumping.

During the July 17 pumping of MW-107F, there was some interference with the onsite water well which went on sometime before MW-107F was shut off and tended to prolong the drawdown as shown in **Figure 5-19** for MW-110D. The test of MW-109C on July 19 was somewhat difficult to interpret, as water was being pumped into the storm water infiltration basin during the period of the drawdown (see the rise in groundwater in MW-101B in **Figure 5-20**). The parallel effect of the MW-108B well and the Sherman Reservoir level are illustrated on **Figure 5-21** for July 20. On July 21 Sherman Reservoir rose quickly in the second half of the day and was reflected in water levels in MW-105 and MW-108 and the barometric pressure decreased, affecting MW-109C. On July 22, rainfall combined with a rapid barometric pressure drop began about 11 AM and caused water levels to rise in many wells such as in MW-102C.

MW-113C shows a very interesting response. The center of the monitoring well is located about 72 feet beneath River level, about 650 feet southwest of the centerline of Sherman Dam. As shown in **Figures 5-22A and 5-22B**, the well shows very strong correlation with flow releases and with the elevation of Sherman Reservoir. The River level rises several feet when flow releases increase from essentially zero to about 1000 cubic feet per second, and well levels rise about a half foot to a foot, then drop off quickly as flow releases stop. Smaller variations in the level of Sherman Reservoir are also represented in corresponding well water level changes of almost the same magnitude

(Figures 5-22A and 5-22B). Finally, there is a small-scale third influence that appears to be pumping of the onsite well.

To illustrate the connections discovered by this testing program, **Figure 5-23** is a plan view showing the connections and **Figures 5-24 through 5-29** show the hydraulic connections in cross section. Notice that most of the connections are in the area of the site near MW-107. Connections are less frequent and much weaker in areas of the site away from MW-107. Many of the bedrock monitoring wells respond to each other and one hypothesis is that some of the effects of pumping upper sand lenses that are recorded in bedrock wells occur by the pressure transient being transmitted south and east through the sand lenses to areas of shallow bedrock, then transmitted through the bedrock pathway. The alternative is for the pressure transient to go through multiple layers of relatively low permeability glacial till, which seems less likely.

6.0 Groundwater Levels and Flow Direction

Groundwater levels were measured in accessible monitoring wells in accordance with **Reference 6-1** during the first and fourth quarters of 2005 and the first two quarters of 2006. Using this procedure, a synoptic round of water-level measurements was collected during a one-day period to minimize the effects of groundwater fluctuations due to recharge or recession. The synoptic water-level measurements provide a gauge of the head distribution in the local groundwater system. During 2005, many monitoring wells were not accessible due to decommissioning activities, and groundwater levels were only measured in selected monitoring wells in March and November. **Table 6-1** is a summary of the quarterly synoptic groundwater levels measured in 2005 and the first two quarters of 2006.

The depth to water in each monitoring well was measured from the top of casing of the well with an electronic water-level meter. By subtracting the measured depth to water from the surveyed elevation of the top of casing, the elevation of the water level in each well was calculated. These elevations were then plotted at the surveyed location of each well on a map of the site. All water-level elevations measured in wells completed in the same aquifer were then contoured, using either kriging or triangulation with linear interpolation, to provide a map showing groundwater equipotential lines within the aquifer. Flow within the aquifer is from areas of relatively high potential (elevation) to areas of lower potential, in a direction normal to the elevation contours.

In addition to the quarterly, synoptic groundwater elevation measurements, YNPS has utilized a network of pressure transducers to collect continuous water levels and temperatures in selected monitoring wells. The pressure transducers were initially installed in selected monitoring wells in 2004 and have recorded groundwater levels and temperature during 2004, 2005 and 2006. The pressure transducer records for the YNPS site are summarized in **Table 6-2**, and selected hydrographs developed from the pressure transducers are included in **Appendix C**.

6.1 Ground Water Flow in the Glaciofluvial Aquifer

Figures 6-1 through 6-4 are a compilation of contour maps of the water level elevations in the shallow glaciofluvial aquifer for quarters one (Q1) and four (Q4) (March and November) 2005 and the first (Q1) and second (Q2) quarters 2006. The groundwater contour maps for Q1 and Q4 2005 do not characterize the complete site as only limited monitoring wells were accessible during 2005 (**Figures 6-1 and 6-2**). The groundwater contour maps for Q1 and Q2 2006 demonstrate a generally northwest flow direction in the glaciofluvial aquifer through the RCA, with a more westerly flow downgradient of the RCA, toward the Deerfield River (**Figures 6-3 and 6-4**). A second flow path to the northeast and turning to the northwest is shown in the small sub-basin through which the tributary to Wheeler Brook flows, in the area of the Southeast Construction Fill Area (SCFA). The groundwater flow maps for Q1 and Q2 2006 show generally the same flow pattern, with a few feet of vertical fluctuation seasonally. The limited number of groundwater levels measured in Q1 and Q4 2005 were generally very similar to those characterized in Q1 and Q2 2006.

6.2 Ground Water Flow in the Till and Glaciolacustrine Aquifers

Figures 6-5 through 6-8 are a compilation of contour maps of the water-level elevations in sand lenses within the upper till during Q1 and Q4 2005 and Q1 and Q2 2006. The sand lenses within the till are grouped into upper till (sand lenses up to 50 feet below original ground surface) and lower till and glaciolacustrine (sand lenses greater than 50 feet below original ground surface). The direction of groundwater flow in the upper till is very similar to flow in the glaciofluvial aquifer, with a generally northwest flow direction through the RCA and a more westerly flow downgradient of the RCA, toward the Deerfield River.

Within the upper till, there is a more westerly flow direction in the vicinity of the RCA, relative to the shallow, glaciofluvial aquifer. Similar to the glaciofluvial aquifer, the flow subsequently turns toward the northwest and follows a path similar to that in the shallow aquifer, toward the Deerfield River. Groundwater elevations in the sand lenses in the upper till are generally five to 10 feet lower than those measured in the shallow glaciofluvial aquifer. Groundwater elevations in the upper till are generally similar in Q1 and Q2 2006 and in the limited monitoring wells gauged in Q1 and Q4 2005.

The deeper sand lenses in the till and glaciolacustrine deposits are only present on the northwest end of the RCA and to the northwest, toward the Deerfield River. Groundwater flow in the lower till and glaciolacustrine units is shown in **Figures 6-9 through 6-12**. Groundwater flow in the deeper sand lenses is similar to that defined for the upper till, with a generally westerly flow direction toward the Deerfield River. Groundwater elevations in the sand lenses in the lower till are generally 20 to 25 feet lower than those measured in the glaciofluvial aquifer, and groundwater elevations in both the upper and lower till units typically fluctuate only a foot or two at most monitoring wells during both 2005 and 2006.

6.3 Ground Water Flow in the Bedrock Aquifer

Groundwater flow in the bedrock aquifer has been charcatrized on the northwest end of the RCA and to the west, toward the Deefield River. **Figures 6-13 through 6-16** illustrate groundwater flow in the bedrock aquifer for Q1 and Q4 2005 and Q1 and Q2 2006. Few bedrock monitoring wells were accessible in 2005 and only limited groundwater flow is determined for 2005 (**Figures 6-13 and 6-14**). A total of 12 bedrock monitoring wells were gauged in Q1 and Q2 2006, and a generally westerly flow direction was determined in each quarter (**Figures 6-15 and 6-16**). The limited groundwater flow in Q1 2005 also indicates a westerly flow direction toward the Deerfield River, consistent with the flow direction determined for Q1 and Q2 2006.

6.4 Vertical Groundwater Gradients

The 100-series monitoring wells are screened in the glaciofluvial, till, glaciolacustrine, and bedrock aquifers, and allow an evaluation of vertical groundwater gradients among those aquifers. Cross-section diagrams have been developed that illustrate the vertical groundwater gradients measured across the YNPS site (**Figures 6-17 through 6-36**). **Appendix C** contains stacked hydrographs of water levels in wells completed at various depths in selected well clusters. These stacked hydrographs also illustrate the vertical groundwater gradients in each well cluster.

In all cases, downward gradients are established between the glaciofluvial aquifer and the till, and from the upper sand lenses in the till to the lower sand lenses in the till and glaciolacustrine aquifers. The downward groundwater gradient is consistent with the observed distribution of tritium in sand lenses beneath the VC area.

In most cases downward gradients are also measured between sand lenses in the lower till and glaciolacustrine units and the bedrock aquifer. However, upward gradients from the bedrock to the lower till or glaciolacustrine sand lenses are observed in the northern portion of the RCA near the SFP/IXP and at well clusters MW-106 and MW-109 (**Figures 6-19 and 6-20; Figures 6-27 and 6-28; Figures 6-31 and 6-32; and Figures 6-35 and 6-36**). The upward gradient from the bedrock to sand lenses in the glaciolacustrine deposits at MW-106 was seasonal, as a downward gradient was measured in Q1 2006 (**Figure 6-19**).

7.0 Groundwater Quality

Prior to 2003, groundwater samples were collected from site monitoring wells generally three or four times per year, although not on a routine schedule. These samples were analyzed for tritium and gamma-emitting radionuclides. Two sample rounds (November '97 and February '98) were also analyzed for strontium.

Beginning in August 2003 groundwater samples were collected from available monitoring wells on a quarterly basis and analyzed for a wider range of radionuclides, including ten gamma emitters, tritium, gross alpha, gross beta, and eleven hard-to-detect nuclides. This sampling was conducted in accordance with the substantially revised AP-8601, Rev 4: Ground and Well Water Monitoring Program for the Yankee Nuclear Power Station Site, October 2003 (**Reference 7-1**). Seven consecutive quarterly rounds of samples were collected, beginning in the third quarter of 2003. Decommissioning activities made access to several wells impossible during the second and third quarters of 2005 and groundwater sampling was suspended.

The quarterly schedule of sampling resumed in the final quarter of 2005 and will continue into early 2007. The data indicates that tritium is the only plant-related radionuclide detected in ground water at the YNPS site. Previous groundwater analytical data for YNPS are summarized in **References 2-2, 2-3 and 2-4. References 7-2, 7-3 and 7-4** are interim reports that were issued to quickly disseminate analytical results for one or two quarters of sampling. All of the analytical data produced since 2003 have been validated in accordance with **Reference 7-5. References 7-6 through 7-19** are data assessment reports that detail the validation of the analytical data from 2003 to the present.

The laboratory results for tritium from 2005 through second quarter 2006 are summarized in **Table 7-1**. In 2005 monitoring wells were sampled in the first and fourth quarters. A total of 21 monitoring wells were sampled and analyzed for tritium in Q1 2005 and 14 monitoring wells were sampled and analyzed for tritium in Q4 2005. Sherman Spring was also sampled during both the March and November 2005 sampling efforts.

More comprehensive rounds of quarterly groundwater samples comprised of virtually all wells on site were collected in the first and second (April and June) quarters 2006. A total of 48 monitoring wells and Sherman Spring were sampled and analyzed for tritium in the first quarter 2006, while 50 monitoring wells and Sherman Spring were sampled and analyzed for tritium in the second quarter 2006. Most of these wells were also analyzed for gross alpha, gross beta, ten gamma emitters and eleven hard-to-detect radionuclides. In January, February, and May 2006, selected downgradient monitoring wells were also sampled to monitor elevated tritium in those wells (**Table 7-1**).

7.1 Tritium in the Shallow Glaciofluvial Aquifer

The limited sampling conducted in Q1 2005 detected tritium concentrations ranging from less than the detection limit of about 300 pCi/L to 4,780 pCi/L. The highest tritium concentrations were associated with MW-105C (4,780 pCi/L) and MW-105B (4,640 pCi/L). The 105B/C well location is downgradient of the SFP/IXP source area and the wells monitor a sand lens in the till and bedrock, respectively.

While the tritium distribution across the site in the glaciofluvial aquifer was not completely characterized during Q1 2005 due to decommissioning activities, the tritium concentrations in the wells sampled in this quarter were very similar to the tritium concentrations detected in the same monitoring wells within the glaciofluvial aquifer during Q4 2004 (**Figure 7-1**). Since all monitoring wells sampled in Q1 2005 had values similar to the Q4 2004 results, the plume in the glaciofluvial aquifer mapped for Q4 2004 is interpreted to be very similar to the tritium distribution that existed in Q1 2005. The plume characterized in Q4 2004 had elevated tritium values (3,440 pCi/L) in the SFP/IXP source area, with decreasing concentrations in downgradient monitoring wells (**Figure 7-1**). The plume for Q4 2004 was mapped from the SFP/IXP source area, through CB-2 (1030 pCi/L), to MW-106A (620 pCi/L) (**Reference 2-4**) and is consistent with the groundwater flow direction mapped in the shallow glaciofluvial aquifer (**Figures 6-1 through 6-4**). This tritium distribution was also consistent with tritium concentrations measured in the first three quarters of 2004 and for the third and fourth quarters of 2003, indicating that the plume had established equilibrium with the source area at the site (**References 2-3 and 2-4**).

With a groundwater plume in equilibrium, a source area will release a contaminant to the aquifer at a relatively constant rate, and the dissolved contamination will attenuate in the downgradient aquifer as a function of processes including dilution, dispersion and radioactive decay. Continuation of these processes will slowly decrease the size of the plume as the contaminant mass in the source area decreases. Important characteristics of a plume in equilibrium are: 1) consistent plume shape over time, 2) relatively constant or slowly decreasing contaminant concentrations in groundwater, and 3) no increases in downgradient distance of contaminant migration.

As noted earlier, groundwater samples were not collected during the second or third quarters of 2005 because of extensive decommissioning activities that were ongoing. Quarterly sampling resumed in the fourth quarter of 2005. The results of that sampling round identified an increase in tritium concentrations in groundwater from a number of monitoring wells downgradient of the SFP/IXP source area in the glaciofluvial aquifer. The most significant increases in tritium concentrations were observed in MW-106A and CB-6, where tritium values increased from 430 to 7,000 pCi/L and from 590 to 9,740 pCi/L, respectively. The tritium distribution in the glaciofluvial aquifer for Q4 2005 is illustrated in **Figure 7-2** and shows a slug of tritium-contaminated groundwater centered on the downgradient monitoring wells. This slug of tritium-contaminated groundwater is downgradient of the SFP/IXP source area (**Figures 6-1 through 6-4**).

The downgradient slug of elevated tritium identified in Q4 2005 is present in Q1 2006, and is part of a large plume of elevated tritium whose source is the former SFP/IXP area (**Figure 7-3**). Tritium concentrations up to 16,900 pCi/L (MW-101A) are present in the shallow glaviofluvial aquifer in the vicinity of the former SFP/IXP, with decreasing concentrations observed in the downgradient monitoring wells (**Figure 7-3**). The downgradient slug of elevated tritium (up to 10,000 pCi/L) has somewhat higher tritium values relative to the more intermediate downgradient monitoring wells (i.e., MW-104A, at 4,580 pCi/L), and the distribution of tritium is consistent with the groundwater flow direction identified in the glaciofluvial aquifer (**Figures 6-1 through 6-4**).

The tritium results for Q2 2006 in the glaciofluvial aquifer are shown in **Figure 7-4**. Similar to the tritium plume in Q1 2006, elevated tritium concentrations are still present in the former SFP/IXP area, and an elevated slug of tritium-contaminated groundwater occurs in the downgradient portion of the site. Tritium concentrations in the downgradient monitoring wells (i.e., MW-106A, CB-6 and Sherman Spring) have decreased relative to values observed in Q1 2006, and the slug of tritium-contaminated groundwater appears to be migrating toward the Deerfield River.

A much lower tritium value is also evident in MW-104A (844 pCi/L), an intermediate downgradient monitoring well. This trend suggests that the slug of elevated tritium is separating from the upgradient portion of the plume. Tritium concentrations are also somewhat lower in the former SFP/IXP area in Q2 relative to Q1 2006, and suggest that the plume is beginning to re-establish an equilibrium distribution consistent with the pre-2005 distribution. Re-establishment of an equilibrium distribution during the second half of 2006 would not be unexpected, since remediation of the SFP/IXP complex and backfill of the large excavation there was completed in December 2005.

We believe the slug of elevated tritium that has migrated across the YNPS site in the glaciofluvial aquifer during 2005 and 2006 is a result of the substantial soil excavation and dewatering activity that occurred in the SFP/IXP source area during 2005. The soil excavation and dewatering occurred from May through November 2005. The excavation was approximately 125 by 150 feet in plan view, over 30 feet deep at the northern end and removed approximately 20,000 yards of soil. Dewatering of the excavation resulted in pumping appproximately 241,000 gallons of water from the shallow glaciaofluvial aquifer and sand lenses within the upper till. The water removed from the excavation contained up to 46,800 pCi/L of tritium (**Figure 4-14**).

This remedial activity mobilized tritium from the deeper portions of the SFP/IXP source area within the till below the glaciofluvial soils, and released a slug of elevated tritium to the shallow glaciofluvial aquifer. The slug has rapidly migrated across the downgradient portion of the site as shown in the 2005 and 2006 plume maps for the glaciofluvial aquifer (**Figures 7-2, 7-3 and 7-4**). The migration of the slug of tritium-contaminated groundwater across the downgradient portion of the site is shown in **Figure 4-15** where tritium concentrations in MW-106A, CB-6, MW-104A and Sherman Spring (SP-1) are plotted versus time.

Prior to February 2005 groundwater in MW-106A, CB-6 and Sherman Spring had tritium concentrations less than 800 pCi/L and were consistent with an equilibrium plume. Tritium concentrations in the downgradient monitoring wells increased to peak values of 14,730 pCi/L in CB-6 (January 2006) and 13,100 pCi/L in MW-106A (February 2006) (**Figure 4-15**). In the following months tritium concentrations have decreased significantly, consistent with migration of the slug of elevated tritium through this downgradient portion of the site.

All tritium concentrations detected in the glaciofluvial aquifer during 2005 and Q1 and Q2 2006 are below the MCL established for tritium of 20,000 pCi/L. While the excavation and dewatering associated with remediation of the SFP/IXP source area resulted in the release of a significant slug of tritium to the glaciofluvial aquifer, the most recent data collected in Q2 2006 suggest that the plume is beginning to re-establish an equilibrium distribution, consistent with the tritium plumes mapped in 2003 and 2004 (**References 2-3 and 2-4**). We believe that the spike in tritium values measured in the shallow aquifer in late 2005 and early 2006 is a short-term remnant effect of decommissioning activities. Quarterly sampling rounds are planned for Q3 and Q4 2006, with a final confirmatory sampling round in Q1 '07. This additional sampling will further evaluate the evolution of the tritium plume.

7.2 Tritium in Till, Glaciolacustrine, and Bedrock Aquifers

In addition to the broad tritium distribution within the shallow glaciofluvial aquifer, tritium is also detected more locally in the till, glaciolacustrine, and bedrock aquifers. While tritium in the bedrock and glaciolacustrine aquifers is limited to one location in each aquifer (MW-105B and MW-113C, respectively), sand lenses within the till contain a local tritium distribution downgradient of the SFP/IXP source area. This deeper zone of impact is smaller than the shallow plume but more concentrated in the vicinity of MW-107C because of the restricted groundwater flow within the discontinuous, low-yielding sand lenses within the till.

Figure 7-5 shows the detected tritium concentrations within sand lenses in the upper portion of the till for Q2 2006 in plan view. Tritium concentrations observed in Q1 2006 within the till are generally very similar to those detected in Q2 2006 (**Table 7-1**). The tritium plume in the upper sand lenses within the till is focused in the area immediately downgradient of the SFP/IXP source area and extends to MW-105C (1,030 pCi/L) and potentially as far downgradient as the MW-104 well cluster. This limited distribution is generally consistent with groundwater contours and flow direction interpreted for the upper sand lenses within the till (**Figures 6-5 through 6-8**).

Figures 6-17 through 6-20 are Hydrogeologic Cross-Section A-A' showing tritium concentrations and ground water levels during the first and last quarters of 2005 and the first two quarters of 2006, respectively. Similarly, **Figures 6-21 through 6-36** show tritium concentrations and groundwater levels during the first and last quarters of 2005 and the first two quarters of 2006 on cross-sections B-B', C-C', D-D' and E-E', respectively. **Figure 4-1** shows the trace of each cross-section at ground surface on the YNPS site.

Hydrogeologic Cross-Section A-A' is aligned generally in the direction of groundwater flow, toward the Deerfield River. Similar to **Figure 7-5**, which shows the horizontal tritium distribution, **Figure 6-19** illustrates the vertical distribution of tritium impacts on cross-section A-A' during April 2006. This figure also shows that impacts within the deeper sand lenses appear to originate adjacent to the SFP/IXP complex and extend downgradient in the direction of ground water flow inferred in **Figures 6-3, 6-7, 6-11 and 6-15** to a point somewhere between the MW-102 and MW-104 well clusters.

Tritium concentrations in the upper portions of the till for Q2 2006 range from 1,030 pCi/L in the downgradient portion of the plume (MW-105C) to 36,000 pCi/L in MW-107C, located adjacent to the SFP/IXP source area. As shown in **Figures 6-19 and 7-5**, the tritium distribution in the till is limited to the area directly downgradient of SFP/IXP, and in contrast to the tritium distribution in the shallow glaciofluvial aquifer, does not have a significant downgradient component. The 20,000 pCi/L MCL for tritium is exceeded in MW-107C, but at all other monitorng wells screened in the till, glaciolacustrine, and bedrock aquifers where tritium is detected, it has consistently been found at concentrations well below the MCL.

Note that in **Figure 6-19** a plume of tritium with concentrations greater than 5,000 pCi/L extends from the vicinity of the SFP/IXP downgradient to MW-106A in the glaciofluvial aquifer. These levels in the area between CB-2 and MW-106A in the shallow aquifer are greater than had been measured previously in these wells. The June 2006 cross-section (**Figure 6-20**) shows that the area of elevated tritium in the shallow aquifer has greatly reduced in size compared to April, with only the vicinity of MW-106A containing tritium greater than 5,000 pCi/L. The reason for this significant change is discussed in **Section 7.1**, and is related to the redistribution of tritium in the shallow aquifer due to demolition and dewatering activities associated with remediation of the SFP/IXP complex.

The limited distribution of tritium observed in the upper sand lenses of the till is further illustrated in cross-sections B-B', C-C', D-D' and E-E' (**Figures 21 through 36**). The absence of a wide-spread plume within this unit is generally consistent with the results from the pumping test of MW-107C and the multiple pressure transient tests conducted during summer 2006 (**Section 5.0**). The pumping test and the pressure transient tests demonstrated that the connectivity of the sand lenses in the till is highest in the area of the former SFP/IXP source area, with limited connectivity at distances greater than 100 feet. MW-105C was shown to have hydraulic connection with sand lenses in the till located in the SFP/IXP source area, consistent with the ongoing detection of tritium in MW-105C. The combination of the tritium analytical results, pumping test, and pressure transient data suggest that the tritium plume in the till sand lenses extends no further downgradient than the MW-104 and MW-105 well clusters and has established equilibrium with the source area (**Figures 6-19, 6-20 and 7-5**).

7.3 Other Radionuclides in Groundwater

With the exception of CB-8, CW-10, CFW-1, CFW-5, CFW-6 and a few of the wells drilled in 2006, groundwater samples from each of the existing monitoring wells have now been analyzed during at least two quarterly rounds for the full suite of 10 gamma-emitting radionuclides, tritium, gross alpha, gross beta and 11 hard-to-detect radionuclides. **Table 7-2** summarizes the results of these analyses, and shows that no gamma-emitting or hard-to-detect radionuclides have been detected consistently in any well. Low levels of a few radionuclides have been reported sporadically at concentrations near the critical level (1.645 times the standard deviation of the total counts), but these values fall within the statistically expected five percent of false positive values at the 95% confidence level. The wells in which these values above the critical values are observed are evenly distributed among the wells and radionuclides. That is, there is no common plant-related radionuclide consistently identified in a single well (except for tritium).

Gross alpha is sometimes detected in samples from some wells and gross beta is consistently detected in all wells. These results reflect the existence of naturally occurring radionuclides in groundwater at the site, and are not plant related. **Reference 7-20 and Reference 7-21** provide more discussion of this topic.

7.4 Evaluation of Filtered and Non-Filtered Groundwater Samples

Prior to Q2 2006 groundwater samples at YNPS were typically filtered before analysis. The groundwater sampling procedure (**Reference 7-1**) required that all groundwater samples with turbidity greater than five (5) NTU be filtered. The five NTU criteria typically was exceeded, and filtering was conducted at the analytical laboratory following preservation in the field.

Beginning with Q2 2006, **Reference 7-1** was revised to provide a non-filtered groundwater sampling protocol. Using a non-filtered approach minimizes any potential bias associated with filtering. For comparison to the filtered Q1 2006 samples and previous groundwater samples that were filtered, a subset of the analyses conducted in Q2 2006 was analyzed using both filtered and unfiltered aliquots of samples. Filtered and unfiltered aliquots were analyzed for gamma-emitting radionuclides (Cs-134, Cs-137, Co-60, Nb-94, Sb-125, Eu-152, Eu-154, Eu-155, and Ag-108), tritium, and Sr-90.

No gamma-emitting radionuclides or Sr-90 were detected in either filtered or unfiltered groundwater samples, as all values were below the MDC (**Table 7.2**). Accordingly, the filtered and unfiltered results demonstrate no statistically significant differences for these radionuclides.

The results for filtered and unfiltered tritium samples are included in **Table 7.1**. To assess the results of the filtered and unfiltered tritium data, the samples were compared using the MARLAP process for duplicate assessment. The MARLAP process demonstrated that the filtered and unfiltered results are in agreement (**Reference 7-19**). To further illustrate the agreement for filtered and unfiltered samples, the reported tritium concentrations of the two aliquots of each sample are plotted in **Figure 7-6**. As shown in this figure, the filtered and unfiltered results plot in a strongly linear trend. The results of the MARLAP duplicate assessment and the one-to-one relationship demonstrated by the filtered and unfiltered tritium results indicates that no statistically significant differences are associated with the filtered and unfiltered analyses.

Based on the analytical results for filtered and unfiltered aliquots of the Q2 2006 samples, all future groundwater samples will be unfiltered and comparison to previous results will be valid.

7.5 Non-Radioactive Constituents in Groundwater

Analyses for non-radiological constituents in groundwater have also been completed during several quarterly sampling rounds. Results of these analyses are summarized in the January 2005 Phase II-Comprehensive Site Assessment Report (**Reference 7-22**), which was prepared in accordance with the Massachusetts Contingency Plan. Results indicate sporadic detections of oil or hazardous materials above Reportable Concentrations for Groundwater Category GW-1 (RCGW-1) Standards that were generally not repeatable, not associated with a potential site release condition, or were found to be associated with well integrity issues. For example, polychlorinated biphenyls (PCBs) were found in groundwater within damaged wells where paint chips containing PCBs infiltrated with storm water, and volatile organic compounds (VOCs) were found in wells where glue containing the same VOCs had been used to attach casing extensions during site filling and re-grading. These impacts are limited to isolated wells, are not laterally extensive or indicative of a plume.

Reference 7-23, Groundwater Monitoring Plan to Support Closure Under the Massachusetts Contingency Plan, discusses the ongoing sampling that will be completed to further investigate non-radioactive constituents in groundwater at YNPS.

7.5.1 General Geochemistry Anion-Cation Analyses

As part of the general groundwater characterization at Yankee Rowe, all monitoring wells listed in the NRC Groundwater Compliance Plan (**Reference 2-5**) were sampled and analyzed for anions and cations during the Q2 2006 groundwater sampling round. Anions included in the laboratory analysis were sulfate, chloride and bicarbonate/carbonate. The cation analysis included magnesium, calcium, potassium, and sodium. The laboratory results for both anions and cations are summarized in **Table 7-3**.

Calcium and magnesium concentrations ranged from 2.32 to 223 milligrams per liter (mg/L) and 0.085 to 68.4 mg/L, respectively, while sodium and potassium concentrations varied from 1.85 to 184 mg/L and 1.31 to 25.2 mg/L, respectively. Sulfate concentrations (0.63 to 102 mg/L) were the lowest of the anions, with generally greater values for chloride (0.46 to 780 mg/L), bicarbonate (3.1 to 320 mg/L), and carbonate (non-detect to 234 mg/L). Carbonate was typically much lower relative to bicarbonate, as bicarbonate is the dominant carbonate species when pH is below 9.0 (**Reference 7-24**).

The two monitoring wells with pH values in excess of 11 (MW-107A and MW-110A) contained elevated carbonate concentrations (66 and 234 mg/L, respectively), and groundwater there is probably impacted by concrete in the nearby subsurface.

The anion-cation data for all samples are presented in a Piper diagram (**Figure 7-7**). The Piper diagram allows both the anion and cation compositions to be represented on a single graph. In the Piper diagram the ion concentrations are plotted as percentages, with each point representing a chemical analysis. As shown in **Figure 7-7**, the YNPS groundwater samples have low magnesium and sulfate, with a wide range of bicarbonate+carbonate to chloride and calcium to sodium+potassium ratios. For all of the YNPS groundwater samples there is no cluster of data or specific chemical signature.

When the groundwater samples are separated into their specific hydrogeologic units: glaciofluvial, till, glaciolacustrine and bedrock, some specific geochemical signatures are apparent as shown in **Figures 7-8 through 7-11**. The anion-cation data for the groundwater samples from the glaciofluvial aquifer indicate that the geochemistry of this unit is generally distinct from that of the till, glaciolacustrine, and bedrock units, all three of which are very similar. The glaciofluvial groundwater has a more chloride-dominated anion component relative to the till, glaciolacustrine and bedrock, which are more bicarbonate/carbonate dominant. All hydrogeologic units have low sulfate.

The cation distribution is also fairly distinct for the glaciofluvial aquifer relative to the till, glaciolacustrine and bedrock. The glaciofluvial unit is dominated by sodium+potassium, while the till, glaciolacustrine and bedrock are more calcium-rich. All units have relatively low magnesium (**Figures 7-8 through 7-11**). There is some indication of mixing as the cation distribution for the glaciofluvial samples has a distinct linear trend toward the general cation distribution of the till, glaciolacustrine and bedrock samples (**Figure 7-8**).

The similarity of the till, glaciolacustrine and bedrock groundwater chemistry is the result of glacial erosion of the bedrock and the subsequent glacial deposition of the derived material into glaciolacustrine and till soils. The glaciofluvial unit is also a result of glacial deposition, but the active agent in this process was melt water rather than ice and the resulting difference in grain-size distribution may affect its geochemical signature. Alternatively, the use of deicing salt on the roadways throughout the YNPS may be evident in the geochemical signature of the shallow aquifer.

The glaciofluvial aquifer is closest to ground surface and most permeable of the four units, allowing relatively more mixing with meteoric water. Although not tested for this study, meteoric (atmospheric) water likely has a different geochemical signature from groundwater derived from any of the stratigraphic units at YNPS and mixing with this water would likely result in a more distinct groundwater type. Regardless of the cause of the relative uniqueness of the geochemistry of groundwater from the glaciofluvial aquifer, the results of the anion-cation analyses tend to corroborate the conceptual model of the site, which presumes that groundwater flow in the glaciofluvial aquifer is largely isolated from flow in the deeper units.

7.5.2 Boron

Boron was used as a neutron moderator in the primary cooling water during plant operation, and when detected above background levels in environmental samples at YNPS is a potential indication of plant-related contamination. Boron, like tritium, is conservative and does not partition significantly to soil or bedrock and may also be an effective tracer of potentially contaminated groundwater.

Boron was analyzed in all groundwater samples collected during Q2 2006. The boron results are summarized in **Table 7-3**. Boron concentrations ranged from not detectable at 4 micrograms per liter (μg/L) to 258 μg/L. The highest boron concentrations are generally associated with monitoring wells located in the former SFP/IXP source area that are screened within the upper sand lenses in the till (i.e., MW-107C, 214 μg/L, and MW-107D, 168 μg/L) and glaciofluvial aquifers (i.e., MW-102D, 134 μg/L, and MW-107A, 116 μg/L), similar to the location of the highest tritium concentrations. Lower boron concentrations are observed in the glaciofluvial, till, glaciolacustrine, and bedrock aquifers downgradient of the SFP/IXP source area.

The distribution of boron in the glaciofluvial aquifer is shown in **Figure 7-12**. The boron plume in the glaciofluvial aquifer is very similar to the tritium plumes mapped there for Q1 and Q2 2006 (**Figures 7-3 and 7-4**). The highest boron concentrations are located in the former SFP/IXP source area, with decreasing concentrations observed in the downgradient monitoring wells. Similar to the tritium plume, the boron distribution is also consistent with groundwater contours and flow directions mapped for the glaciofluvial aquifer (**Figures 6-1 through 6-4**). The elevated boron concentrations and the similarity of the tritium and boron plumes indicate a plant-related source for the boron. Since the fate and transport properties for boron and tritium are relatively similar as both contaminants are minimally retarded in the aquifer, the similarity of the boron and tritium plumes further indicates that the plume distribution at YNPS is well characterized.

There are no state or EPA standards for boron. All boron concentrations currently and historically identified at the site are well below 1 mg/L. Boron in groundwater was evaluated at the site in 2003 and 2004 and detected concentrations ranged up to 490 μg/L. The laboratory detection limits were higher then (100 μg/L), and many groundwater samples had boron concentrations in excess of 100 μg/L (**Reference 7-25**). The historic results indicate that the tritium plume is slowly decreasing due to natural attenuation.

8.0 Numerical Fate and Transport Model

Work is nearing completion to construct and calibrate a 3-dimensional groundwater fate and transport model covering the YNPS site and surrounding area. A separate report discussing the construction and calibration of the model and the results of various simulations using the model will be provided with the February 2007 report. The Model objectives are: 1) to create a tool to confirm or refute the conceptual site model (e.g., testing various degrees of continuity of sand layers between wells with known intermediate-depth tritium contamination); 2) to predict how the tritium plume will migrate with time and change in concentration with time so that land areas where tritium concentrations exceed the MCL can be at least temporarily prevented from using groundwater; 3) to determine where the deep tritium plume will exit into the River and at what concentration; 4) to confirm that monitoring wells are appropriately placed to be able to bound and track the plume with time; 5) to predict the concentration of tritium entering the "resident farmer" well; and 6) to evaluate the feasibility of groundwater extraction.

Figure 8-1 shows the boundary of the modeled area in plan view. The model has 80 columns, 57 rows and 15 layers and a variable grid size that varies from 25-foot square finite-difference cells in the former plant area to 400-foot square cells at the model boundaries. Sherman Reservoir and the Deerfield River are treated as constant head boundaries and upland streams and wetlands are treated as "drains" or 3rd-type boundaries. Although the uplands are generally thin soils and exposed bedrock, the valley has very thick soils on the order of 300 feet thick in places. The conceptual layering, from top to bottom, provides for the following stratigraphy: Layer 1—sandy glaciofluvial and riverine deposits; Layer 2—silty glacial till; Layer 3—sand lens #1; Layer 4—silty glacial till; Layer 5—sand lens #2; Layer 6—silty glacial till; Layer 7—sand lens #3; Layer 8—silty glacial till; Layer 9—glaciolacustrine deposits; Layer 10—sand lens #4; Layer 11—glaciolacustrine deposits; Layer 12—sand lens #5; Layer 13—glaciolacustrine deposits; Layer 14—50-foot thick upper weathered bedrock; Layer 15—450-foot thick unweathered bedrock.

Long-term monitoring (about 10 years of data in some wells) has been used to determine average annual groundwater elevations and vertical gradients at various locations on the site for purposes of general calibration. A transient simulation of the MW-107C pumping test was completed as a further calibration procedure. The model will be used to simulate the response of various monitoring wells to pumping of the site water well, the change in Sherman Reservoir elevation, and the change in River elevation below Sherman Dam to guide development of the hydraulic conductivity distribution.

Although further refinements will be made on the model prior to final report submission, the model is currently calibrated to typical standards of accuracy. The MW-107C pumping test was simulated fairly accurately. The time of travel from the MW-107C location to Sherman Spring has been reproduced very accurately. A simulation of the first 20 years of tritium distribution in Sherman Spring accurately reproduced the concentrations resulting from the 1963-65 release from the IXP area, which was near the current MW-107 residual high tritium concentrations.

A 3-dimensional distribution of tritium in groundwater on the site as of April 2006 was generated and input into the model as an initial concentration distribution. The model simulated one year of time following April 2006 with a hypothetical "resident farmer" well located at the MW-107C location and pumping continuously at 0.67 gallons per minute as defined in the LTP. MW-107C intercepts layer 3 of the model and, based on the pumping test simulation, we believe that there is a relatively low permeability till lying above and below the MW-107C well and for the purposes of this simulation further assume that the tritium concentration in those layers is the same as measured in MW-107C in April 2006 of 41,300 pCi/L. **Figure 8-2** shows the results of the simulation, which was done conservatively in that model has not been modified yet to add additional recharge since the removal of the impervious area in the industrial area of the site.

Initial attempts to simulate the well in just model layer 3 or in layers 2, 3, and 4 were unsuccessful. Those layers went "dry" because the pumping rate exceeded the ability of the model to deliver water to a well pumping at 0.67 gallons per minute in those layers. When model layer 5 was added (MW-107E and -107F are located in layer 5), the well was successful. The concentration plots of tritium in layers 2 and 4 of the model (the low permeability till units) lie almost on top of each other. The model predicts about a 10,000 pCi/L decrease in concentration in those layers within one year. In model layer 3, which simulates the sand lens in which MW-107C lies, there would be an initial faster decline in tritium, then leveling out to about the same rate of decline as in the till layers. There is more dilution and a lower initial concentration in model layer 5, so the rate of decline is slower there. Using the model flux from each layer into the well times the concentration of tritium as predicted in September 2006, divided by the total pumping rate, yields a weighted average concentration of tritium in the well on the order of 10,000 pCi/L, which is half the MCL of 20,000 pCi/L.

In summary, the model predicts that if a resident farmer activated his well in April 2006, the maximum concentration in the hypothetical resident farmer's well would likely be half the MCL in September 2006 and concentrations in the low permeability till layers above and below MW-107C would likely decline to MCL concentrations by the spring of 2008. We will provide more refinement to these simulations in the February 2007 report.

9.0 Summary and Conclusions

An additional 17 monitoring wells were drilled in 2006 to further define the extent of groundwater impacts identified by previous drilling and sampling. This investigation focused on further characterization of groundwater quality in and around the adjacent IXP and SFP as the most significant suspected source of tritium in groundwater, as well as the extent of impact down-gradient from these structures.

Each of these new wells has been included in the ongoing quarterly groundwater sampling program. The results of sampling these and all other wells on the site confirm that tritium is the only plant-related radionuclide detected in groundwater at YNPS. One of 52 existing monitoring wells contains tritium at a concentration greater than the EPA MCL. Gross alpha is sometimes detected in samples from some monitoring wells and gross beta is consistently detected in all groundwater samples. These results reflect the existence of naturally occurring radionuclides in groundwater at the site, and are not plant-related.

As of October 2006, all structures, systems and components planned for removal have been removed; site soils have been surveyed for radiological contamination; impacted soils in the unsaturated zone have been excavated and removed; and imported fill has been placed to achieve the final site grade. Accordingly, all potential primary sources of groundwater contamination have been removed from the site unsaturated zone.

The soils penetrated by the wells drilled in 2006 are similar to those encountered in previous drilling campaigns. Analysis of the soils for gamma emitters detected nothing above background levels of naturally-occurring radionuclides. Examination of the soil samples collected in 2006 confirms our earlier interpretation of the stratigraphy at YNPS. This stratigraphy is a controlling factor in the distribution of tritium in groundwater. The site is underlain by four hydrogeologic units.

Immediately below ground surface is a layer of glaciofluvial deposits ranging in thickness from zero to about 25 feet, in which the water table aquifer exists. The glaciofluvial deposit is a relatively permeable unit comprised of sand, gravel and silt. Beneath the glaciofluvial deposit is a very dense lodgement till consisting of a heterogeneous, low-permeability mixture of clay to boulder-sized material. Interlayered within the till are lenses of water-bearing silty sand which are a few feet thick. The till ranges in thickness from zero to at least 210 feet.

A sequence of glacial lake deposits underlies the till from the area north of the RCA and extending north and west to the middle of the Deerfield River Valley. These lake deposits extend to the bedrock surface. This sequence is generally comprised of silt and clay, some of which is laminated. Sandy zones that are water-bearing are also found within the glaciolacustrine sediments.

The local bedrock is a dark gray, medium- to coarse-grained albite gneiss and occurs beneath the glaciolacustrine deposits. This is a metamorphic rock type that has been mapped by the United States Geological Survey as the Lower Cambrian Hoosac Formation. The monitoring wells recently installed in the bedrock indicate that the top few tens of feet of the rock are moderately fractured. The fractured rock comprises an aquifer that yields up to a few gallons per minute of water in some monitoring wells and 60 gallons per minute to the site water well.

This stratigraphy has important implications for the transport of contaminants in groundwater and suggests why the highest tritium concentrations are found within the thin, discrete sand lenses that are interlayered within the relatively low permeability till. Vertical groundwater gradients measured in all monitoring wells indicate a downward flow potential from the surficial soils to the sand lenses. Horizontal gradients within all four hydrogeologic units indicate flow potentials generally to the north and northwest, toward the Deerfield River. This flow direction is consistent with the distribution of trititum observed in both the till and the glaciofluvial deposits.

A Pumping test of the monitoring well completed in the sand within which the highest tritium concentrations have been found (MW-107C) confirms that the transmissivity of this sand lens is low and its length of continuity is only about 100 feet. The hydraulic connection between various other sand lenses near and downgradient from the SFP/IXP was also tested. Most of the connections were found to be in the area of the site near MW-107. Connections are less frequent and much weaker in areas of the site away from this well. The long axis of the area with greatest connections is northwest to southeast, with more drawdown to the southeast than to the northwest. There is less effect to the northeast and southwest. These results suggest that the sand lenses may not provide a mechanism for significant groundwater flow across broad areas of the site. This is in contrast to the shallow glaciofluvial aquifer, which is a more homogeneous and permeable unit, and where tritium has been detected farther downgradient, but generally at much lower concentrations.

A temporary spike in tritium concentrations was noted in the shallow groundwater flow path late in 2005. These concentrations were greater than had been detected previously, but are decreasing to levels approaching those measured before 2005. This short-term spike in tritium is likey due to mobilization of tritium related to deep excavation, dewatering and remediation in the area of the SFP/IXP, which introduced a slug of higher concentration tritium from sand lenses within the till to the glaciofluvial aquifer. We expect this slug to flow through the shallow aqufer within the next few quarters as the tritium plume re-establishes an equilibrium distribution consistent with conditions prior to 2005. In general, the processes of natural attenuation, including dilution, dispersion and radioactive decay, have significantly reduced the tritium levels in groundwater at YNPS since the 1960s, and will continue to decrease these levels into the future.

Both filtered and unfiltered aliquots of groundwater samples from a subset of monitoring wells were analyzed in Q2 2006. No gamma-emitting radionuclides or Sr-90 were detected in either filtered or unfiltered samples, and no statistically significant difference in tritium values was measured in the two aliquots. For this reason, all future groundwater samples from YNPS will be unfiltered, to eliminate any potential bias associated with filtering.

Analyses for selected anions and cations were completed on all groundwater samples collected in Q2 2006. These analyses indicate a similar geochemistry for groundwater from the till, glaciolacustrine and bedrock aquifers, but a more distinct geochemical signature for groundwater from the glaciofluvial unit. These analyses tend to corroborate the conceptual model of the site, which presumes that groundwater flow in the glaciofluvial aquifer is largely isolated from flow in the deeper units.

Boron was analyzed in groundwater samples collected in Q2 2006 because it was used as a neutron moderator in primary cooling water during plant operation and it is a conservative tracer that does not significantly react with or partition to aquifer materials. The distribution of boron found in site monitoring wells is similar to that of tritium. The highest boron concentrations are located in sand lenses within the till in the former SFP/IXP source area, with decreasing concentrations observed in the downgradient monitoring wells. Similar to the tritium plume, the boron distribution is also consistent with mapped groundwater contours and flow directions. The similarity of the boron and tritium plumes indicates that the boron is plant-related and further indicates that the plume distribution at YNPS is well characterized.

Analyses for non-radiological constituents in groundwater have also been completed during several quarterly sampling rounds. Results indicate sporadic detections of oil or hazardous materials above Reportable Concentrations for Groundwater Category GW-1 Standards that were generally not repeatable, not associated with a potential site release condition, or were found to be associated with well integrity issues. These impacts are limited to isolated wells, are not laterally extensive or indicative of a plume.

Work is nearing completion on the development and calibration of a three-dimensional groundwater fate and transport model covering the YNPS site and surrounding area. A separate report discussing the construction, calibration, and results of the model will be completed in early 2007. Preliminary results of several model simulations demonstrate that a hypothetical "resident farmer" well pumping at the LTP rate, if placed in the location of the MW-107C monitoring well location, would have tritium concentrations in the well discharge that would already be only half the MCL, due to the mixing and dilution of the well recharge with other groundwater of lower concentration than the current "hot spot" in the low permeability soils, which are themselves not capable of supplying the well demand.

In conclusion, the results of the 2006 hydrogeologic study have determined following key issues for the YNPS site:

- the groundwater sources were identified and removed, along with surrounding impacted soil;
- the extent of groundwater impact has been defined and is limited to tritium;
- the tritium plume in the shallow, permeable aquifer is below the MCL and travels relatively rapidly to the west discharging to the Deerfield River;
- tritium at levels exceeding the MCL is limited to relatively isolated sand lenses within till, both characteristic of very low permeability and yield, limiting migration; and
- based on tritium transport modeling and quarterly sampling results, tritium impacts are expected to continue to dissipate due to dilution, dispersion and radioactive decay.

10.0 Actions

1) Continue to monitor groundwater in accordance with Reference 2-5 (Groundwater Compliance Plan for License Termination for Yankee Nuclear Power Station, August 2006).

2) Continue to monitor groundwater as described in **Reference 7-23** (Groundwater Monitoring Plan to Support Closure Under the Massachusetts Contingency Plan, Yankee Nuclear Power Station, August 2006).

11.0 References

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Reference 7-3: YA-REPT-00-013-04, Interim Groundwater Monitoring Report for Yankee Nuclear Power Station, September, 2004.
Reference 7-4: YA-REPT-00-004-06, Summary Groundwater Report for the Yankee Nuclear Power Station – 2005.
Reference 7-5: DP-8603, Radiochemical Data Quality Assessment.
Reference 7-6: YA-REPT-00-005-04, Data Assessment Report for Groundwater Sampling at YNPS, 3rd Quarter 2003.
Reference 7-7: YA-REPT-00-008-04, Data Assessment Report for Groundwater Sampling at YNPS, 4th Quarter 2003.
Reference 7-8: YA-REPT-00-009-04, 1st Quarter 2004 Groundwater Data Assessment Report.
Reference 7-9: YA-REPT-00-012-04, Data Assessment Report for Groundwater Sampling at YNPS, 2nd Quarter 2004.
Reference 7-10: YA-REPT-00-005-05, 3rd Quarter 2004 Groundwater Report.
Reference 7-11: YA-REPT-00-012-05, 4th Quarter 2004 Groundwater Data Assessment Report.
Reference 7-12: YA-REPT-00-015-05, Data Assessment Report for Groundwater Sampling at Yankee Nuclear Power Station – 1st Quarter 2005.

Reference 7-13: YA-REPT-00-001-06, Data Assessment Report for Groundwater Sampling at YNPS, 4th Quarter 2005.
Reference 7-14: YA-REPT-00-008-06, Data Assessment Report for Groundwater Sampling at YNPS, 4th Quarter 2005, Addendum.
Reference 7-15: YA-REPT-00-007-06, Data Assessment Report for Groundwater Sampling at YNPS January/February 2006.
Reference 7-16: YA-REPT-00-013-06, First Quarter 2006 Groundwater Report.
Reference 7-17: YA-REPT-00-014-06, Special Tritium Sampling Event, May 2006.
Reference 7-18: YA-REPT-00-017-06, Re-Analysis of 1st Quarter 2006 Samples for Tritium, Nickel-63 and Carbon-14.
Reference 7-19: YA-REPT-00-019-06, 2nd Quarter 2006 Groundwater Report.
Reference 7-20: YA-REPT-00-014-04, Data Assessment Report on NORM in YNPS Groundwater.
Reference 7-21: YA-REPT-00-014-05, Gross Alpha and Gross Beta in Groundwater at Yankee Nuclear Power Station.
Reference 7-22: Phase II Comprehensive Site Assessment Report, January 2005.
Reference 7-23: Groundwater Monitoring Plan to Support Closure Under the Massachusetts Contingency Plan, Yankee Nuclear Power Station, August 23, 2006.
Reference 7-24: Hem, J.D., 1985, Study and Interpretation of the Chemical Characteristics of Natural Water, USGS Water Supply Paper No. 2254.
Reference 7-25: YA-REPT-00-016-04, Assessment of Boron Concentration in Groundwater at YNPS.

Tables

Table 3-1
Summary of Monitoring Well Completion Details
Yankee Nuclear Power Station, Rowe, Massachusetts

Well ID	Date Completed	Total Depth Drilled (feet)	Well Screen Length (feet)	Well Screen Interval (ft bg)	Geologic Unit at Screen Interval	Screen Sand Pack Interval (ft bg)	Diameter of Sand Pack (inches)	Bentonite Seal Interval (ft bg)	Cement Grout Seal Interval (ft bg)	Well Inside Dia. (in.)	Well Wall (PVC)	Well Screen Slot Size (in.)	8-Inch Steel Casing Interval (ft bg)
CB-3	29-Apr-93	15	10	3 to 10	Stratified Drift	3 to 15	5.000	2 to 3	0 to 2	2.25	Schd 40	I/U	N/A
CB-4	5-May-93	19	10	9 to 19	Stratified Drift	8 to 20	5.000	7 to 8	0 to 7	2.25	Schd 40	I/U	N/A
CB-6	13-Sep-94	25	10	15 to 25	Stratified Drift	14 to 26	5.000	12 to 14	0 to 12	2.25	Schd 40	I/U	N/A
CB-8	20-Sep-94	19	5	14 to 19	Till	13 to 19	5.000	11.5 to 13	0 to 11.5	2.25	Schd 40	I/U	N/A
CW-10	8-Jun-98	30	15	15 to 30	Bedrock	14 to 30.5	4.000	13 to 14	0 to 13	2.00	Schd 40	0.010	N/A
CFW-1	13-Dec-99	8	5	3 to 8	Stratified Drift	2 to 8	4	1 to 2	0 to 1	2.00	Schd 40	0.010	N/A
CFW-5	14-Dec-99	5	5	1 to 5	Stratified Drift	0.5 to 5	5	0 to 0.5	1 to 0	2.00	Schd 40	0.010	N/A
CFW-6	14-Dec-99	6	5	1 to 6	Stratified Drift	0.5 to 6	5	0 to 0.5	0.5 to 0	2.00	Schd 40	0.010	N/A
MW-100A	5-Aug-03	20	10	10 to 20	Stratified Drift	8.3 to 20	5.5	6.0 to 8.3	0 to 6.0	2.0	Schd 40	0.010	N/A
MW-100B	4-Aug-03	43	10	32.9 to 42.9	Bedrock	31.0 to 43	4.625	28.0 to 31.0	0 to 28.0	2.0	Schd 40	0.010	N/A
MW-101A	11-Apr-06	23.5	5	18 to 23	Fill	16 to 23.5	5.5	13 to 16	0 to 13	2.0	Schd 40	0.010	0 to 10*
MW-101B	13-Aug-03	156	10	142 to 152	Bedrock	140.2 to 156	4.625	138.5 to 140.2	0 to 138.5	2.25	Schd 80	0.010	0 to 11.25
MW-101C	15-Aug-03	99	5	94 to 99	Sand and Silt	92.1 to 99	5.5	90.0 to 92.1	0 to 90.0	2.0	Schd 40	0.010	0 to 15.3
MW-102A	31-Jul-03	39	5	33 to 38	Sand and Silt	31.0 to 39	5.5	29.0 to 31.0	0 to 29.0	2.0	Schd 40	0.010	N/A
MW-102B	24-Jul-03	131.5	10	120.2 to 130.2	Bedrock	117.9 to 131.5	4.625	116.0 to 117.9	0 to 116.0	2.0	Schd 40	0.010	0 to 15
MW-102C	29-Jul-03	99	5	94 to 99	Sand & Gravel	92.4 to 99	5.5	90.8 to 92.4	0 to 90.8	2.0	Schd 40	0.010	0 to 14.5
MW-102D	10-Feb-06	22	10	11 to 21	Sand & Gravel	9 to 22	5.5	7 to 9	0 to 7	2.0	Schd 40	0.010	0 to 8
MW-103A	17-Jul-03	26	10	15 to 25	Stratified Drift	13 to 26	5.5	11 to 13	0 to 11	2.0	Schd 40	0.010	N/A
MW-103B	10-Jul-03	295	10	284.5 to 294.5	Bedrock	282 to 295	4.625	279 to 282	0 to 279	2.25	Schd 80	0.010	0 to 30
MW-103C	16-Jul-03	125	10	115 to 125	Laminated Clay & Sand	112.3 to 125	5.5	110.5 to 112.3	0 to 110.5	2.0	Schd 40	0.010	N/A
MW-104A	6-Feb-06	27	10	10 to 20	Sand & Gravel	8 to 20	5.5	6 to 8	0 to 6	2.0	Schd 40	0.010	0 to 10
MW-104B	3-Sep-03	194.5	10	184 to 194	Bedrock	182 to 194.5	5.5: 182' to 187' 4.625: 187' to 194.5'	180 to 182	0 to 180	2.25	Schd 80	0.010	0 to 25
MW-104C	11-Sep-03	99	10	87 to 97	Laminated Silt & Sand	84.8 to 99	7.625	82.8 to 84.8	0 to 82.8	2.25	Schd 80	0.010	N/A
MW-105A	8-Feb-06	25	10	10 to 20	Sand & Gravel	8 to 20	5.5	6 to 8	0 to 6	2.0	Schd 40	0.010	0 to 8
MW-105B	20-Aug-03	75	10	64 to 74	Bedrock	61.8 to 75	4.625	59.6 to 61.8	0 to 59.6	2.0	Schd 40	0.010	0 to 25
MW-105C	21-Aug-03	45	10	27 to 37	Silt and Sand	25.1 to 37	5.5	23.1 to 25.1	0 to 23.1	2.0	Schd 40	0.010	N/A
MW-106A	30-Aug-04	22	10	12 to 22	Sand & Gravel	9.5 to 22	7.625	7.5 to 9.5	0 to 7.5	2.0	Schd 40	0.010	N/A

Table 3-1
Summary of Monitoring Well Completion Details
Yankee Nuclear Power Station, Rowe, Massachusetts

Well ID	Date Completed	Total Depth Drilled (feet)	Well Screen Length (feet)	Well Screen Interval (ft bg)	Geologic Unit at Screen Interval	Screen Sand Pack Interval (ft bg)	Diameter of Sand Pack (inches)	Bentonite Seal Interval (ft bg)	Cement Grout Seal Interval (ft bg)	Well Inside Dia. (in.)	Well Wall (PVC)	Well Screen Slot Size (in.)	8-Inch Steel Casing Interval (ft bg)
MW-106B	27-Aug-04	265	10	251 to 261	Bedrock	249 to 265	4.625	230 to 249	0 to 230	2.25	Schd 80	0.010	N/A
MW-106C	8-Sep-04	95	5	90 to 95	Sand and Silt	86.5 to 95	5.5	80 to 86.5	0 to 80	2.0	Schd 40	0.010	0 to 25
MW-106D	14-Sep-04	155	10	144 to 154	Sand and Silt	142 to 154	5.5	132 to 142	0 to 132	2.25	Schd 80	0.010	0 to 25
MW-107A	5-Apr-06	30	5	21 to 26	Sand & Gravel	19 to 26	5.5	16 to 19	0 to 16	2.00	Schd 40	0.010	0 to 9
MW-107B	17-Sep-03	110	10	99.7 to 109.7	Bedrock	97.8 to 109.7	4.625	96.0 to 97.8	0 to 96.0	2.25	Schd 80	0.010	0 to 12.5
MW-107C	19-Sep-03	32	5	27 to 32	Sand and Silt	25 to 32	5.5	23 to 25	0 to 23	2.0	Schd 40	0.010	N/A
MW-107D	24-Sep-03	81.2	5	75 to 80	Sand and Silt	73 to 81.2	5.5	71.1 to 73	0 to 71.1	2.0	Schd 40	0.010	N/A
MW-107E	15-May-06	70	5	52 to 57	Sand Lens in Till	50 to 59	5.5	46-50	0 to 46	2.0	Schd 40	0.010	0 to 32
MW-107F	23-May-06	57	5	49 to 54	Sand Lens in Till	47 to 55	5.5	40.5 to 47	0 to 40.5	2.0	Schd 40	0.010	0 to 25
MW-108A	17-Jul-04	25	10	14.7 to 24.7	Sand and Silt	10 to 25	5.5	6.1 to 10	0 to 6.1	2.0	Schd 40	0.010	N/A
MW-108B	16-Jul-04	215	10	205 to 215	Bedrock	202.5 to 215	5.5	197.5 to 202.5	0 to 197.5	2.25	Schd 80	0.010	0 to 26
MW-108C	8-Jul-04	170	5	60 to 65	Silty fine Sand	57 to 67	7.625	51-57&67-170	0 to 51	2.0	Schd 40	0.010	0 to 26
MW-109A	3-Feb-06	20	10	10 to 20	Sand & Gravel	8 to 20	5.5	4 to 8	0 to 4	2.0	Schd 40	0.010	0 to 8
MW-109B	2-Aug-04	190	10	180 to 190	Bedrock	177.5 to 190	4.625	175.5 to 177.5	0 to 175.5	2.25	Schd 80	0.010	0 to 20
MW-109C	9-Aug-04	55	5	49 to 54	Sand with Silt	46.8 to 55	5.5	42.5 to 46.8	0 to 42.5	2.0	Schd 40	0.010	N/A
MW-109D	6-Aug-04	113	5	88.7 to 93.7	Sand & Gravel	86 to 95	5.5	83-86&95-113	0 to 83	2.0	Schd 40	0.010	0 to 21
MW-110A	16-Feb-06	31	5	25 to 30	Sand & Gravel	22 to 31	5.5	17 to 22	0 to 17	2.0	Schd 40	0.010	0 to 10
MW-110B	6-Mar-06	110	10	100 to 110	Bedrock	98 to 110	4.625	93 to 98	0 to 93	2.0	Schd 40	0.010	0 to 38
MW-110C	20-Mar-06	51	5	46 to 51	Sand Lens in Till	44 to 51	5.5	38 to 44	0 to 38	2.0	Schd 40	0.010	0 to 38
MW-110D	17-Mar-06	88	5	83 to 88	Sand Lens in Till	81 to 88	5.5	75 to 81	0 to 75	2.0	Schd 40	0.010	0 to 33
MW-111A	30-Mar-06	23	5	18 to 23	Sand & Gravel	15.5 to 23	7.625	12 to 15.5	0 to 12	2.0	Schd 40	0.010	0 to 8
MW-111B	28-Mar-06	80	10	70 to 80	Bedrock	67 to 80	4.625	62 to 67	0 to 62	2.0	Schd 40	0.010	0 to 30
MW-111C	31-Mar-06	41	5	32 to 37	Sand Lens in Till	30 to 37	5.5	26 to 30	0 to 26	2.0	Schd 40	0.010	0 to 29
MW-113A	27-Apr-06	25	10	15 to 25	Sand & Gravel	13 to 25	5.5	7.5 to13	0 to 7.5	2.0	Schd 40	0.010	0 to 8
MW-113C	26-Apr-06	140	10	127 to 137	Sand and Silt	125 to 137	5.5	120 to 125	0 to 120	2.0	Schd 40	0.01	0 to 30

Notes: ft bg=feet below grade; N/A=not applicable; Schd=schedule; all wells completed with # 0 (medium) sand pack

* = 6-inch diameter steel casing

Table 3-2
Summary of Groundwater Screening Samples Collected During Monitoring Well Drilling
Yankee Nuclear Power Station
Rowe, MA

Monitoring Well	Sample ID	Depth (feet)	Elevation (feet, NAVD '88)	Sample Date	Tritium (pCi/L)	Gamma Emitters
MW-100B	GW-1	15 to 16	1111 to 1110	1-Aug-03	<2,000	Note 1
	GW-2	33 to 43	1093 to 1083	5-Aug-03	<2,000	Note 1
MW-101B	GW-1	3.5 to 6	1122.5 to 1120	6-Aug-03	<2,000	Note 1
	GW-2	36.5 to 38.5	1089.5 to 1087.5	8-Aug-03	<2,000	Note 1
	GW-3	45 to 49	1081 to 1077	8-Aug-03	<2,000	Note 1
	GW-4	77.5 to 81.5	1048.5 to 1044.5	11-Aug-03	<2,000	Note 1
	GW-5	85 to 95	1041 to 1031	12-Aug-03	<2,000	Note 1
	GW-6	109 to 117	1017 to 1009	12-Aug-03	<2,000	Note 1
	GW-7	122 to 129	1004 to 997	13-Aug-03	<2,000	Note 1
	GW-8	142 to 152	984 to 974	13-Aug-03	<2,000	Note 1
MW-101C		94 to 99	1032 to 1027	15-Aug-03	<2,000	Note 1
MW-102B	GW-1	8 to 10	1118 to 1116	18-Jul-03	4,600	Note 1
	GW-2	30 to 33	1096 to 1093	21-Jul-03	8,700	Note 1
	GW-3	38 to 45	1088 to 1081	22-Jul-03	<2,000	Note 1
	GW-4	95 to 98	1031 to 1028	23-Jul-03	14,800	Note 1
	GW-5	120 to 130	1006 to 996	24-Jul-03	<2,000	Note 1
MW-102C		41 to 41.5	1085 to 1084.5	29-Jul-03	6,450	Note 1
MW-102D		11 to 21	1123 to 1113	13-Feb-06	5,560	Note 1
MW-103B	GW-1	19 to 23	1092 to 1088	10-Jun-03	<2,000	Note 1
	GW-2	59 to 65	1052 to 1046	11-Jun-03	<2,000	Note 1
	GW-3	105 to 125	1006 to 986	20-Jun-03	1,900	Note 1
	GW-4	145 to 155	966 to 956	23-Jun-03	<2,000	Note 1
	GW-5	165 to 170	946 to 941	24-Jun-03	<2,000	Note 1
	GW-6	170 to 185	941 to 926	27-Jun-03	<2,000	Note 1
	GW-7	270 to 275	841 to 836	8-Jul-03	<2,000	Note 1
	GW-8	285 to 295	826 to 816	9-Jul-03	<2,000	Note 1
MW-104A		10 to 20	1108.5 to 1098.5	7-Feb-06	8,070	Note 1
MW-104B	GW-1	12 to 17.5	1106.5 to 1101	18-Jun-03	<2,000	Note 1
	GW-2	38 to 44	1080.5 to 1074.5	25-Aug-03	6,300	Note 1
	GW-3	95 to 97	1023.5 to 1021.5	25-Aug-03	7,290	Note 1
	GW-4	115 to 118	1003.5 to 1000.5	26-Aug-03	6,170	Note 1
	GW-5	135 to 139	983.5 to 979.5	27-Aug-03	4,810	Note 1
	GW-6	163.5 to 175	955 to 943.5	28-Aug-03	8,770	Note 1
	GW-7	184 to 194	934.5 to 924.5	4-Sep-03	<2,000	Note 1
MW-105A		10 to 20	1117 to 1107	9-Feb-06	<2,000	Note 1
MW-105B	GW-1	17.5 to 18.5	1109 to 1108	19-Jun-03	<2,000	Note 1
	GW-2	39 to 44	1087.5 to 1082.5	19-Aug-03	7,720	Note 1
	GW-3	64 to 74	1062.5 to 1052.5	20-Aug-03	6,030	Note 1
MW-106B	GW-1	10 to 15	1079 to 1074	12-Aug-04	650	Note 1
	GW-2	86 to 93	1003 to 996	16-Aug-04	<300	Note 1
	GW-3	115 to 128	974 to 961	17-Aug-04	<300	Note 1
	GW-4	130 to 135	959 to 954	18-Aug-04	<300	Note 1
	GW-5	141 to 153	948 to 936	18-Aug-04	<300	Note 1
	GW-6	165 to 175	924 to 914	19-Aug-04	<300	Note 1
	GW-7	251 to 261	838 to 828	26-Aug-04	<300	Note 1

Table 3-2
Summary of Groundwater Screening Samples Collected During Monitoring Well Drilling
Yankee Nuclear Power Station
Rowe, MA

Monitoring Well	Sample ID	Depth (feet)	Elevation (feet, NAVD '88)	Sample Date	Tritium (pCi/L)	Gamma Emitters
MW-107A		21 to 26	1114 to 1109	5-Apr-06	7,460	Note 1
MW-107B	GW-1	27 to 29	1098 to 1096	13-Sep-03	44,100	Note 1
	GW-2	41 to 45	1084 to 1080	14-Sep-03	35,300	Note 1
	GW-3	77.5 to 81.5	1047.5 to 1043.5	15-Sep-03	9,150	Note 1
	GW-4	90 to 91	1035 to 1034	17-Sep-03	<2,000	Note 1
	GW-5	100 to 110	1025 to 1015	17-Sep-03	<2,000	Note 1
MW-107C	GW-1	5 to 7	1120 to 1118	18-Sep-03	<2,000	Note 1
	GW-2	27 to 32	1098 to 1093	29-Sep-03	48,000	Note 1
MW-107E	GW-1	40 to 45	1094 to 1089	11-May-06	15,200	Note 1
	GW-2	50 to 55	1084 to 1079	11-May-06	4,600	Note 1
MW-107F	GW-1	36.5 to 38	1097.5 to 1096	19-May-06	44,800	Note 1
	GW-2	50 to 52	1084 to 1082	22-May-06	8,790	Note 1
MW-108C	GW-1	7 to 24	1111.5 to 1094.5	23-Jun-04	<300	Note 1
	GW-2	61 to 63	1057.5 to 1055.5	25-Jun-04	<300	Note 1
	GW-3	95 to 105	1023.5 to 1013.5	29-Jun-04	<300	Note 1
	GW-4	149 to 155	969.5 to 963.5	1-Jul-04	<300	Note 1
MW-108B	GW-4A	142 to 146	976.5 to 972.5	13-Jul-04	<300	Note 1
	GW-4B	146 to 165	972.5 to 953.5	14-Jul-04	<300	Note 1
	GW-5	166 to 175	952.5 to 943.5	14-Jul-04	<300	Note 1
	GW-6	205 to 215	913.5 to 903.5	17-Jul-04	<300	Note 1
MW-109A		10 to 15	1114 to 1109	6-Feb-06	<2,000	Note 1
MW-109B	GW-1	12 to 15	1112 to 1109	21-Jul-04	<300	Note 1
	GW-2	51 to 52	1073 to 1072	27-Jul-04	<300	Note 1
	GW-3	90 to 99	1034 to 1025	28-Jul-04	<300	Note 1
	GW-4	125 to 130	999 to 994	29-Jul-04	460	Note 1
	GW-5	156 to 159	968 to 965	30-Jul-04	880	Note 1
	GW-6	180 to 190	944 to 934	2-Aug-04	<300	Note 1
MW-110A		25 to 29.5	1113 to 1108.5	16-Feb-06	8,040	Note 1
MW-110B	GW-1	48 to 50	1090 to 1088	24-Feb-06	<2,000	Note 1
	GW-2	53 to 55	1085 to 1083	27-Feb-06	<2,000	Note 1
	GW-3	81 to 83	1057 to 1055	1-Mar-06	<2,000	Note 1
	GW-4	88 to 94	1050 to 1044	2-Mar-06	<2,000	Note 1
	GW-5	100 to 110	1038 to 1028	6-Mar-06	<2,000	Note 1
MW-110D		55 to 56	1083 to 1082	15-Mar-06	<2,000	Note 1
MW-111A		15 to 23	1120 to 1112	30-Mar-06	5,480	Note 1
MW-111B	GW-1	35 to 37	1100 to 1098	23-Mar-06	2,360	Note 1
	GW-2	40 to 41	1095 to 1094	24-Mar-06	<2,000	Note 1
	GW-3	63 to 64	1072 to 1071	27-Mar-06	<2,000	Note 1
	GW-4	70 to 80	1065 to 1055	30-Mar-06	<2,000	Note 1
MW-113C	GW-1	20 to 27	1063 to 1056	12-Apr-06	<2,000	Note 1
	GW-2	45 to 50	1038 to 1033	20-Apr-06	<2,000	Note 1
	GW-3	100 to 105	983 to 978	25-Apr-06	<2,000	Note 1
	GW-4	128 to 135	955 to 948	26-Apr-06	<2,000	Note 1

Note 1: All man-made gamma-emitting radionuclides not detected at a minimum detectable concentration of 1.50E+01 pCi/L (1.80E+01 pCi/L for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
MW-100B	8/1/2003 9:50	0-2.5	<1.50E-02	<1.80E-02	Note 1
	8/1/2003 11:10	2.5-5			
	8/1/2003 11:20	5-10.5	<1.50E-02	<1.80E-02	Note 1
	8/1/2003 11:50	10.5-12.5	<1.50E-02	<1.80E-02	Note 1
	8/1/2003 12:00	12.5-16	<1.50E-02	<1.80E-02	Note 1
	8/1/2003 14:05	16-21			
	8/4/2003 7:20	21-23	<1.50E-02	<1.80E-02	Note 1
	8/4/2003 8:40	23-25	<1.50E-02	<1.80E-02	Note 1
	8/4/2003 9:25	25-27	<1.50E-02	<1.80E-02	Note 1
	8/4/2003 14:10	27-29	<1.50E-02	<1.80E-02	Note 1
	8/4/2003 15:15	29-43	<1.50E-02	<1.80E-02	Note 1
MW-101B	8/6/2003 7:07	1-5	<1.50E-02	<1.80E-02	Note 1
	8/6/2003 7:15	5-8	<1.50E-02	<1.80E-02	Note 1
	8/6/2003 7:25	8-11.5	<1.50E-02	<1.80E-02	Note 1
	8/6/2003 8:00	11.5-15	<1.50E-02	<1.80E-02	Note 1
	8/8/2003 7:40	15-20	<1.50E-02	<1.80E-02	Note 1
	8/8/2003 7:52	20-24	<1.50E-02	<1.80E-02	Note 1
	8/8/2003 8:00	24-28	<1.50E-02	<1.80E-02	Note 1
	8/8/2003 8:15	28-35	<1.50E-02	<1.80E-02	Note 1
	8/8/2003 8:40	35-45	<1.50E-02	<1.80E-02	Note 1
	8/8/2003 14:40	45-52	<1.50E-02	<1.80E-02	Note 1
	8/8/2003 14:50	52-57	<1.50E-02	<1.80E-02	Note 1
	8/8/2003 15:05	57-61	<1.50E-02	<1.80E-02	Note 1
	8/8/2003 15:15	61-65	<1.50E-02	<1.80E-02	Note 1
	8/11/2003 7:55	65-70	<1.50E-02	<1.80E-02	Note 1
	8/11/2003 8:10	70-73	<1.50E-02	<1.80E-02	Note 1
	8/11/2003 8:24	73-77.5	<1.50E-02	<1.80E-02	Note 1
	8/11/2003 8:40	77.5-84	<1.50E-02	<1.80E-02	Note 1
	8/11/2003 15:55	85-92	<1.50E-02	<1.80E-02	Note 1
	8/12/2003 7:05	92-95	<1.50E-02	<1.80E-02	Note 1
	8/12/2003 7:43	95-103	<1.50E-02	<1.80E-02	Note 1
	8/12/2003 8:13	103-107	<1.50E-02	<1.80E-02	Note 1
	8/12/2003 8:13	107-115	<1.50E-02	<1.80E-02	Note 1
	8/12/2003 9:30	115-121	<1.50E-02	<1.80E-02	Note 1
	8/12/2003 16:15	121-128.5	<1.50E-02	<1.80E-02	Note 1
	8/12/2003 16:45	128.5-130			
	8/13/2003 8:00	130-145	<1.50E-02	<1.80E-02	Note 1
	8/13/2003 9:15	145-156	<1.50E-02	<1.80E-02	Note 1

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
MW-102B	7/18/2003 7:54	0-5	<1.50E-02	<1.80E-02	Note 1
	7/18/2003 8:05	5-10	<1.50E-02	<1.80E-02	Note 1
	7/18/2003 8:15	10-15	<1.50E-02	<1.80E-02	Note 1
	7/21/2003 10:40	15-20	<1.50E-02	<1.80E-02	Note 1
	7/21/2003 10:55	20-25	<1.50E-02	<1.80E-02	Note 1
	7/21/2003 11:35	25-30	<1.50E-02	<1.80E-02	Note 1
	7/21/2003 11:45	30-35	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 8:25	35-38	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 8:35	38-40	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 8:35	40-42	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 8:50	42-45	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 8:50	45-48	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 13:40	48-53	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 13:50	53-56	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 14:05	56-59	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 14:15	59-61	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 14:30	61-62	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 15:00	62-65	<1.50E-02	<1.80E-02	Note 1
	7/22/2003 15:15	65-69	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 7:10	69-70	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 7:35	70-72.5	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 7:45	72.5-75	<1.50E-02	<1.80E-02	Note 1
	7/31/2003 8:10	75-80	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 8:35	80-85	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 9:00	85-86	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 9:15	86-88	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 9:45	88-90	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 10:15	90-95	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 13:15	95-98	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 13:15	98-100	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 14:05	100-105	<1.50E-02	<1.80E-02	Note 1
	7/23/2003 15:00	105-107			
	7/24/2003 7:45	107-113	<1.50E-02	<1.80E-02	Note 1
	7/24/2003 8:10	113-115.5	<1.50E-02	<1.80E-02	Note 1
	7/24/2003 10:30	115.5-131.5	<1.50E-02	<1.80E-02	Note 1
MW-102D	2/10/2006 10:15	0-5	<1.50E-02	1.08E-01	
	2/10/2006 10:18	5-10	4.91E-02	1.19E-01	
	2/10/2006 10:24	10-16	<1.50E-02	1.19E-01	

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
	2/10/2006 10:27	15-22	<1.50E-02	<1.80E-02	Note 1
MW-103B	6/10/2003 14:07	0-5	<1.50E-02	<1.80E-02	Note 1
	6/10/2003 14:15	5-15	<1.50E-02	<1.80E-02	Note 1
	6/10/2003 14:22	15-25	<1.50E-02	<1.80E-02	Note 1
	6/10/2003 15:10	25-29	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 7:40	29-32			
	6/11/2003 7:55	32-35	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 8:15	35-39	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 8:30	39-41	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 8:40	41-45	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 9:20	45-49	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 9:40	49-51	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 9:52	51-55	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 10:30	55-58	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 10:45	58-65	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 13:30	65-68	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 13:55	68-71	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 14:20	71-75	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 14:50	75-78	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 15:10	78-81	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 15:30	81-83	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 15:45	83-85	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 16:10	85-88	<1.50E-02	<1.80E-02	Note 1
	6/11/2003 16:25	88-92	<1.50E-02	<1.80E-02	Note 1
	6/12/2003 7:00	92-95	<1.50E-02	<1.80E-02	Note 1
	6/12/2003 7:50	95-100	<1.50E-02	<1.80E-02	Note 1
	6/20/2003 11:00	100-105	<1.50E-02	<1.80E-02	Note 1
	6/20/2003 11:20	105-110	<1.50E-02	<1.80E-02	Note 1
	6/20/2003 11:45	110-115	<1.50E-02	<1.80E-02	Note 1
	6/20/2003 13:30	115-125	<1.50E-02	<1.80E-02	Note 1
	6/23/2003 9:15	125-135	<1.50E-02	<1.80E-02	Note 1
	6/23/2003 10:00	135-145	<1.50E-02	<1.80E-02	Note 1
	6/23/2003 10:25	145-149	<1.50E-02	<1.80E-02	Note 1
	6/23/2003 11:40	149-155	<1.50E-02	<1.80E-02	Note 1
	6/23/2003 15:15	155-160	<1.50E-02	<1.80E-02	Note 1
	6/23/2003 15:40	160-165	<1.50E-02	<1.80E-02	Note 1
	6/23/2003 16:00	165-170	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 10:10	170-185	<1.50E-02	<1.80E-02	Note 1

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
	6/27/2003 13:20	185-194	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 14:00	194-195	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 15:10	195-215	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 15:40	215-221	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 15:40	221-225	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 15:40	225-228	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 15:40	228-230	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 15:40	226-230	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 17:00	230-238	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 17:00	238-239	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 17:00	239-240	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 17:00	240-241	<1.50E-02	<1.80E-02	Note 1
	6/27/2003 17:00	241-245	<1.50E-02	<1.80E-02	Note 1
	6/30/2003 8:08	245-252	<1.50E-02	<1.80E-02	Note 1
	6/30/2003 8:08	252-255	<1.50E-02	<1.80E-02	Note 1
	6/30/2003 8:08	255-258	<1.50E-02	<1.80E-02	Note 1
	6/30/2003 8:08	258-263	<1.50E-02	<1.80E-02	Note 1
	6/30/2003 8:08	263-265	<1.50E-02	<1.80E-02	Note 1
	6/30/2003 9:58	265-266	<1.50E-02	<1.80E-02	Note 1
	6/30/2003 9:58	266-266.6	<1.50E-02	<1.80E-02	Note 1
	6/30/2003 9:58	266.6-267			
	6/30/2003 11:38	267-269	<1.50E-02	<1.80E-02	Note 1
	6/30/2003 11:38	269-271	<1.50E-02	<1.80E-02	Note 1
	7/1/2003 8:45	271-273	<1.50E-02	<1.80E-02	Note 1
	7/1/2003 8:45	273-274	<1.50E-02	<1.80E-02	Note 1
	7/1/2003 8:45	274-274.5	<1.50E-02	<1.80E-02	Note 1
	7/8/2003 14:00	275-277	<1.50E-02	<1.80E-02	Note 1
	7/8/2003 15:00	277-279	<1.50E-02	<1.80E-02	Note 1
	7/8/2003 15:30	279-280	<1.50E-02	<1.80E-02	Note 1
	7/8/2003 16:15	280-295	<1.50E-02	<1.80E-02	Note 1
MW-104A	2/6/2006 10:15	0-5	<1.50E-02	<1.80E-02	Note 1
	2/6/2006 10:18	5-7.5	<1.50E-02	<1.80E-02	Note 1
	2/6/2006 10:18	7.5-10	<1.50E-02	<1.80E-02	Note 1
	2/6/2006 12:26	10-15	<1.50E-02	<1.80E-02	Note 1
	2/6/2006 12:35	15-22	<1.50E-02	<1.80E-02	Note 1
	2/6/2006 12:50	22-27	<1.50E-02	<1.80E-02	Note 1
MW-104B	6/17/2003 14:55	0-2	<1.50E-02	<1.80E-02	Note 1
	6/17/2003 15:00	2-5	<1.50E-02	<1.80E-02	Note 1

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
	6/17/2003 15:05	5-10	<1.50E-02	<1.80E-02	Note 1
	6/17/2003 15:10	10-15	<1.50E-02	<1.80E-02	Note 1
	6/17/2003 15:30	15-20	<1.50E-02	<1.80E-02	Note 1
	6/17/2003 15:45	20-22.5	<1.50E-02	<1.80E-02	Note 1
	6/17/2003 15:45	22.5-25	<1.50E-02	<1.80E-02	Note 1
	8/22/2003 12:00	25-29	<1.50E-02	<1.80E-02	Note 1
	8/22/2003 13:30	29-32	<1.50E-02	<1.80E-02	Note 1
	8/22/2003 14:00	32-34	<1.50E-02	<1.80E-02	Note 1
	8/22/2003 14:30	34-43	<1.50E-02	<1.80E-02	Note 1
	8/22/2003 14:30	43-50	<1.50E-02	<1.80E-02	Note 1
	8/25/2003 12:30	50-55	<1.50E-02	<1.80E-02	Note 1
	8/25/2003 13:00	55-59	<1.50E-02	<1.80E-02	Note 1
	8/25/2003 13:15	59-65	<1.50E-02	<1.80E-02	Note 1
	8/25/2003 13:45	65-69	<1.50E-02	<1.80E-02	Note 1
	8/25/2003 14:00	69-75	<1.50E-02	<1.80E-02	Note 1
	8/25/2003 14:15	75-80	<1.50E-02	<1.80E-02	Note 1
	8/25/2003 15:00	80-85	<1.50E-02	<1.80E-02	Note 1
	8/25/2003 15:15	85-90	<1.50E-02	<1.80E-02	Note 1
	8/25/2003 16:00	90-95	<1.50E-02	<1.80E-02	Note 1
	8/25/2003 16:15	95-104	<1.50E-02	<1.80E-02	Note 1
	8/26/2003 13:30	104-115	<1.50E-02	<1.80E-02	Note 1
	8/26/2003 14:00	115-119	<1.50E-02	<1.80E-02	Note 1
	8/26/2003 14:00	119-123	<1.50E-02	<1.80E-02	Note 1
	8/27/2003 8:12	123-126	<1.50E-02	<1.80E-02	Note 1
	8/27/2003 8:34	126-131	<1.50E-02	<1.80E-02	Note 1
	8/27/2003 8:50	131-135	<1.50E-02	<1.80E-02	Note 1
	8/27/2003 10:10	135-141	<1.50E-02	<1.80E-02	Note 1
	8/27/2003 16:00	141-145	<1.50E-02	<1.80E-02	Note 1
	8/28/2003 8:20	145-152.5	<1.50E-02	<1.80E-02	Note 1
	8/28/2003 8:50	152.5-156.5	<1.50E-02	<1.80E-02	Note 1
	8/28/2003 9:45	156.5-163.5	<1.50E-02	<1.80E-02	Note 1
	8/28/2003 10:15	163.5-175	<1.50E-02	<1.80E-02	Note 1
	8/28/2003 11:30	175-176.5	<1.50E-02	<1.80E-02	Note 1
	8/28/2003 11:55	176.5-179	<1.50E-02	<1.80E-02	Note 1
	9/3/2003 14:10	179-194.5	<1.50E-02	<1.80E-02	Note 1
MW-105A	2/8/2006 8:41	0-5	<1.50E-02	<1.80E-02	Note 1
	2/8/2006 8:47	5-10	<1.50E-02	<1.80E-02	Note 1
	2/8/2006 10:30	10-16	<1.50E-02	<1.80E-02	Note 1

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
	2/8/2006 14:37	16-25	<1.50E-02	<1.80E-02	Note 1
MW-105B	6/18/2003 16:05	0-1.5	<1.50E-02	<1.80E-02	Note 1
	6/18/2003 16:10	1.5-5	<1.50E-02	<1.80E-02	Note 1
	6/19/2003 8:00	0-5	<1.50E-02	<1.80E-02	Note 1
	6/19/2003 8:05	5-12	<1.50E-02	<1.80E-02	Note 1
	6/19/2003 8:10	12-15	<1.50E-02	<1.80E-02	Note 1
	6/19/2003 8:15	15-18.5	<1.50E-02	<1.80E-02	Note 1
	6/19/2003 8:15	18.5-20	<1.50E-02	<1.80E-02	Note 1
	6/19/2003 8:20	20-25	<1.50E-02	<1.80E-02	Note 1
	8/19/2003 8:15	25-30	<1.50E-02	<1.80E-02	Note 1
	8/19/2003 8:30	30-33	<1.50E-02	<1.80E-02	Note 1
	8/19/2003 8:30	33-34	<1.50E-02	<1.80E-02	Note 1
	8/19/2003 8:30	34-35	<1.50E-02	<1.80E-02	Note 1
	8/19/2003 9:05	35-39	<1.50E-02	<1.80E-02	Note 1
	8/19/2003 9:30	39-44			
	8/19/2003 10:00	44-49	<1.50E-02	<1.80E-02	Note 1
	8/19/2003 16:00	49-50	<1.50E-02	<1.80E-02	Note 1
	8/19/2003 16:15	50-55	<1.50E-02	<1.80E-02	Note 1
	8/19/2003 16:30	55-58			
	8/19/2003 16:50	58-61	<1.50E-02	<1.80E-02	Note 1
	8/20/2003 8:00	61-75	<1.50E-02	<1.80E-02	Note 1
MW-106B	8/12/2004 8:15	0-2	<1.50E-02	<1.80E-02	Note 1
	8/12/2004 8:15	2-2.5	<1.50E-02	<1.80E-02	Note 1
	8/12/2004 8:15	2.5-5	<1.50E-02	<1.80E-02	Note 1
	8/12/2004 8:25	6-6.9	<1.50E-02	<1.80E-02	Note 1
	8/12/2004 8:25	6.9-11	<1.50E-02	<1.80E-02	Note 1
	8/12/2004 8:25	11-11.9	<1.50E-02	<1.80E-02	Note 1
	8/12/2004 8:25	11.9-13	<1.50E-02	<1.80E-02	Note 1
	8/12/2004 8:25	13-15	<1.50E-02	<1.80E-02	Note 1
	8/12/2004 8:40	15-17	<1.50E-02	<1.80E-02	Note 1
	8/12/2004 8:40	17-20	<1.50E-02	<1.80E-02	Note 1
	8/12/2004 8:40	20-22	<1.50E-02	<1.80E-02	Note 1
	8/12/2004 8:40	22-25	<1.50E-02	<1.80E-02	Note 1
	8/13/2004 7:40	25-30	<1.50E-02	<1.80E-02	Note 1
	8/13/2004 8:10	30-40	<1.50E-02	<1.80E-02	
	8/13/2004 8:30	40-43	<1.50E-02	<1.80E-02	Note 1
	8/13/2004 8:40	43-45	<1.50E-02	<1.80E-02	Note 1
	8/13/2004 14:31	45-49	<1.50E-02	<1.80E-02	Note 1

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
	8/13/2004 14:48	49-51	<1.50E-02	<1.80E-02	Note 1
	8/13/2004 15:00	51-55	<1.50E-02	<1.80E-02	Note 1
	8/13/2004 15:16	55-59	<1.50E-02	<1.80E-02	Note 1
	8/13/2004 15:41	59-62	<1.50E-02	<1.80E-02	Note 1
	8/13/2004 15:59	62-65	<1.50E-02	<1.80E-02	Note 1
	8/13/2004 16:18	65-67	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 7:16	67-72	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 7:36	72-75	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 7:53	75-77	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 7:53	77-80	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 8:21	80-83	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 8:43	83-83.5	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 9:04	83.5-85	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 9:45	85-86	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 10:25	86-86.5	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 10:39	86.5-89	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 10:39	89-90	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 11:11	90-91.5	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 11:11	91.5-92.5	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 11:11	92.5-93	<1.50E-02	<1.80E-02	Note 1
	8/16/2004 11:39	93-95	<1.50E-02	<1.80E-02	Note 1
	8/17/2004 8:45	95-103	<1.50E-02	<1.80E-02	Note 1
	8/17/2004 9:07	103-110	<1.50E-02	<1.80E-02	Note 1
	8/17/2004 10:04	110-115	<1.50E-02	<1.80E-02	Note 1
	8/17/2004 10:56	115-123	<1.50E-02	<1.80E-02	Note 1
	8/17/2004 13:46	123-128	<1.50E-02	<1.80E-02	Note 1
	8/18/2004 8:09	125-130	<1.50E-02	<1.80E-02	Note 1
	8/18/2004 8:09	130-131	<1.50E-02	<1.80E-02	Note 1
	8/18/2004 8:09	131-132	<1.50E-02	<1.80E-02	Note 1
	8/18/2004 8:09	132-135	<1.50E-02	<1.80E-02	Note 1
	8/18/2004 10:00	137-139	<1.50E-02	<1.80E-02	Note 1
	8/18/2004 10:30	139-141	<1.50E-02	<1.80E-02	Note 1
	8/18/2004 10:54	141-155	<1.50E-02	<1.80E-02	Note 1
	8/18/2004 14:07	155-158.5	<1.50E-02	<1.80E-02	Note 1
	8/18/2004 14:07	158.5-163.5	<1.50E-02	<1.80E-02	Note 1
	8/18/2004 14:07	163.5-165	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 8:46	165-172	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 8:46	172-173	<1.50E-02	<1.80E-02	Note 1

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
	8/19/2004 8:46	173-175	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 10:10	175-185	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 12:40	185-195	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 13:15	195-199	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 13:15	199-203	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 13:15	203-205	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 14:07	205-211	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 14:07	211-215	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 14:07	215-225	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 15:35	225-230	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 15:35	230-232	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 15:35	232-233	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 16:16	233-242	<1.50E-02	<1.80E-02	Note 1
	8/19/2004 16:16	242-245	<1.50E-02	<1.80E-02	Note 1
MW-107B	9/12/2003 14:37	0-5	<1.50E-02	<1.80E-02	Note 1
	9/12/2003 14:45	5-10	<1.50E-02	<1.80E-02	Note 1
	9/13/2003 15:15	12.5-15	<1.50E-02	<1.80E-02	Note 1
	9/13/2003 17:30	15-18	<1.50E-02	<1.80E-02	Note 1
	9/13/2003 17:40	18-20.5	<1.50E-02	<1.80E-02	Note 1
	9/13/2003 17:50	20.5-23	<1.50E-02	<1.80E-02	Note 1
	9/13/2003 18:00	23-27	<1.50E-02	<1.80E-02	Note 1
	9/13/2003 18:15	27-32	<1.50E-02	<1.80E-02	Note 1
	9/14/2003 7:04	32-36	<1.50E-02	<1.80E-02	Note 1
	9/14/2003 7:20	36-38	<1.50E-02	<1.80E-02	Note 1
	9/14/2003 7:32	38-45	<1.50E-02	<1.80E-02	Note 1
	9/14/2003 8:36	45-49	<1.50E-02	<1.80E-02	Note 1
	9/14/2003 9:28	49-50	<1.50E-02	<1.80E-02	Note 1
	9/15/2003 7:40	50-55	<1.50E-02	<1.80E-02	Note 1
	9/15/2003 8:00	55-59.5	<1.50E-02	<1.80E-02	Note 1
	9/15/2003 8:10	59.5-61	<1.50E-02	<1.80E-02	Note 1
	9/15/2003 10:30	61-62	<1.50E-02	<1.80E-02	Note 1
	9/15/2003 10:55	62-65	<1.50E-02	<1.80E-02	Note 1
	9/15/2003 11:45	65-66.5	<1.50E-02	<1.80E-02	Note 1
	9/15/2003 13:35	66.5-70	<1.50E-02	<1.80E-02	Note 1
	9/15/2003 14:10	70-75			
	9/15/2003 14:50	75-81	<1.50E-02	<1.80E-02	Note 1
	9/15/2003 15:55	81-83	<1.50E-02	<1.80E-02	Note 1
	9/16/2003 19:11	83-85	<1.50E-02	<1.80E-02	Note 1

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
	9/16/2003 19:50	85-86.5	<1.50E-02	<1.80E-02	Note 1
	9/17/2003 1:30	86.5-90	<1.50E-02	<1.80E-02	Note 1
	9/17/2003 1:50	90-91	<1.50E-02	<1.80E-02	Note 1
	9/17/2003 2:30	91-93	<1.50E-02	<1.80E-02	Note 1
	9/17/2003 3:30	93-94	<1.50E-02	<1.80E-02	Note 1
	9/17/2003 18:55	94-95	<1.50E-02	<1.80E-02	Note 1
	9/17/2003 19:20	95-97	<1.50E-02	<1.80E-02	Note 1
	9/17/2003 19:45	97-102	<1.50E-02	<1.80E-02	Note 1
	9/17/2003 20:10	102-110	<1.50E-02	<1.80E-02	Note 1
MW-107E	5/9/2006 10:58	32-35	<1.50E-02	<1.80E-02	Note 1
	5/9/2006 11:11	35-40	<1.50E-02	<1.80E-02	Note 1
	5/11/2006 14:21	45-50	<1.50E-02	<1.80E-02	Note 1
	5/11/2006 14:35	50-55	<1.50E-02	<1.80E-02	Note 1
	5/11/2006 14:50	55-60	<1.50E-02	<1.80E-02	Note 1
	5/15/2006 7:37	60-65	<1.50E-02	<1.80E-02	Note 1
	5/15/2006 7:58	65-70	<1.50E-02	<1.80E-02	Note 1
MW-107F	5/19/2006 9:41	25-30	<1.50E-02	<1.80E-02	Note 1
	5/19/2006 10:01	30-34	<1.50E-02	<1.80E-02	Note 1
	5/19/2006 10:21	34-38	<1.50E-02	<1.80E-02	Note 1
	5/22/2006 10:09	40-45	<1.50E-02	<1.80E-02	Note 1
	5/22/2006 10:25	45-50	<1.50E-02	<1.80E-02	Note 1
	5/22/2006 10:42	50-55	<1.50E-02	<1.80E-02	Note 1
	5/22/2006 11:55	55-57	<1.50E-02	<1.80E-02	Note 1
MW 108B	6/23/2004 10:00	0-5	<1.50E-02	<1.80E-02	Note 1
	6/23/2004 10:05	5-10	<1.50E-02	<1.80E-02	Note 1
	6/23/2004 10:15	10-15	<1.50E-02	<1.80E-02	Note 1
	6/23/2004 10:20	15-20	<1.50E-02	<1.80E-02	Note 1
	6/23/2004 10:30	20-25	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 8:35	25-29	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 8:55	29-32	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 9:05	32-38	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 9:30	38-41	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 9:50	41-45	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 10:40	45-49	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 11:20	49-53	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 11:47	53-55	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 13:54	55-58	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 14:11	58-60	<1.50E-02	<1.80E-02	Note 1

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
	6/25/2004 14:31	60-63	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 15:00	63-65	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 15:15	65-75	<1.50E-02	<1.80E-02	Note 1
	6/25/2004 8:30	75-80	<1.50E-02	<1.80E-02	Note 1
	6/29/2004 8:00	80-85	<1.50E-02	<1.80E-02	Note 1
	6/29/2004 8:19	85-90	<1.50E-02	<1.80E-02	Note 1
	6/29/2004 8:50	90-95	<1.50E-02	<1.80E-02	Note 1
	6/29/2004 9:10	95-100	<1.50E-02	<1.80E-02	Note 1
	6/29/2004 9:44	100-105	<1.50E-02	<1.80E-02	Note 1
	6/29/2004 16:25	105-110	<1.50E-02	<1.80E-02	Note 1
	6/30/2004 7:17	110-115	<1.50E-02	<1.80E-02	Note 1
	6/30/2004 7:40	115-125	<1.50E-02	<1.80E-02	Note 1
	6/30/2004 8:35	125-130	<1.50E-02	<1.80E-02	Note 1
	6/30/2004 9:07	130-135	<1.50E-02	<1.80E-02	Note 1
	6/30/2004 9:35	135-138	<1.50E-02	<1.80E-02	Note 1
	6/30/2004 10:08	138-145	<1.50E-02	<1.80E-02	Note 1
	6/30/2004 11:30	145-149	<1.50E-02	<1.80E-02	Note 1
	6/30/2004 14:13	149-155	<1.50E-02	<1.80E-02	Note 1
	6/30/2004 14:35	155-157	<1.50E-02	<1.80E-02	Note 1
	6/30/2004 16:37	157-165	<1.50E-02	<1.80E-02	Note 1
	7/1/2004 9:05	165-170	<1.50E-02	<1.80E-02	Note 1
	7/14/2004 16:40	170-178	<1.50E-02	<1.80E-02	Note 1
	7/15/2004 10:30	178-185	<1.50E-02	<1.80E-02	Note 1
	7/15/2004 11:10	185-189	<1.50E-02	<1.80E-02	Note 1
	7/15/2004 11:40	189-195	<1.50E-02	<1.80E-02	Note 1
	7/15/2004 13:35	195-205	<1.50E-02	<1.80E-02	Note 1
	7/15/2004 14:20	205-215	<1.50E-02	<1.80E-02	Note 1
MW-109A	2/3/2006 8:04	0-5	<1.50E-02	<1.80E-02	Note 1
	2/3/2006 8:08	5-10	<1.50E-02	<1.80E-02	Note 1
	2/3/2006 10:20	10-15	<1.50E-02	<1.80E-02	Note 1
	2/3/2006 10:34	15-20	<1.50E-02	<1.80E-02	Note 1
MW-109B	7/20/2004 12:22	0-5	<1.50E-02	<1.80E-02	Note 1
	7/20/2004 12:48	5-11	<1.50E-02	<1.80E-02	Note 1
	7/20/2004 13:10	11-12	<1.50E-02	<1.80E-02	Note 1
	7/20/2004 15:17	12-15	<1.50E-02	<1.80E-02	Note 1
	7/20/2004 16:10	15-20	<1.50E-02	<1.80E-02	Note 1
	7/27/2004 9:20	20-25	<1.50E-02	<1.80E-02	Note 1
	7/27/2004 9:30	25-29	<1.50E-02	<1.80E-02	Note 1

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
	7/27/2004 9:40	30-35	<1.50E-02	<1.80E-02	Note 1
	7/27/2004 10:20	35-40	<1.50E-02	<1.80E-02	Note 1
	7/27/2004 10:30	40-45	<1.50E-02	<1.80E-02	Note 1
	7/27/2004 11:10	45-53	<1.50E-02	<1.80E-02	Note 1
	7/27/2004 12:05	53-57	<1.50E-02	<1.80E-02	Note 1
	7/27/2004 12:25	57-60	<1.50E-02	<1.80E-02	Note 1
	7/28/2004 8:10	60-65	<1.50E-02	<1.80E-02	Note 1
	7/28/2004 8:37	65-67	<1.50E-02	<1.80E-02	Note 1
	7/28/2004 8:45	67-70	<1.50E-02	<1.80E-02	Note 1
	7/28/2004 9:00	70-79	<1.50E-02	<1.80E-02	Note 1
	7/28/2004 9:45	79-80	<1.50E-02	<1.80E-02	Note 1
	7/28/2004 10:00	80-85	<1.50E-02	<1.80E-02	Note 1
	7/28/2004 10:25	85-90	<1.50E-02	<1.80E-02	Note 1
	7/282004 10:40	90-100	<1.50E-02	<1.80E-02	Note 1
	7/28/2004 13:15	100-105	<1.50E-02	<1.80E-02	Note 1
	7/29/2004 7:50	105-110	<1.50E-02	<1.80E-02	Note 1
	7/29/2004 7:55	110-120	<1.50E-02	<1.80E-02	Note 1
	7/29/2004 8:25	120-125	<1.50E-02	<1.80E-02	Note 1
	7/292004 9:51	125-130	<1.50E-02	<1.80E-02	Note 1
	7/29/2004 11:50	130-145	<1.50E-02	<1.80E-02	Note 1
	7/30/2004 7:49	145-155	<1.50E-02	<1.80E-02	Note 1
	7/30/2004 8:14	155-165	<1.50E-02	<1.80E-02	Note 1
	7/30/2004 9:47	165-171	<1.50E-02	<1.80E-02	Note 1
	7/30/2004 9:47	171-175	<1.50E-02	<1.80E-02	Note 1
	7/30/2004 11:50	175-185	<1.50E-02	<1.80E-02	Note 1
MW-110B	2/15/2006 13:24	0-15	1.03E-01	1.38E-01	
	2/15/2006 13:40	15-25	8.1E-02	1.60E-01	
	2/15/2006 13:47	25-33	<1.50E-02	7.7E-02	
	2/20/2006 10:28	25-35	<1.50E-02	<1.80E-02	Note 1
	2/22/2006 14:11	35-38	<1.50E-02	<1.80E-02	Note 1
	2/24/2006 12:12	38-40	<1.50E-02	<1.80E-02	Note 1
	2/24/2006 12:38	40-45	<1.50E-02	<1.80E-02	Note 1
	2/24/2006 12:56	45-50	<1.50E-02	<1.80E-02	Note 1
	2/24/2006 13:25	50-52	<1.50E-02	<1.80E-02	Note 1
	2/27/2006 10:40	52-60	<1.50E-02	<1.80E-02	Note 1
	2/28/2006 10:04	64-70	<1.50E-02	<1.80E-02	Note 1
	3/1/2006 10:06	71-78	<1.50E-02	<1.80E-02	Note 1
	3/1/2006 10:32	78-84	<1.50E-02	<1.80E-02	Note 1

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-3
Summary of Soil Sample Gamma Activity
Yankee Nuclear Power Station
Rowe, MA

Sample Location	Sample Date/Time	Depth (ft)	Co-60 (pCi/g)	Cs-137 (pCi/g)	Notes
	3/2/2006 8:12	84-94	<1.50E-02	<1.80E-02	Note 1
	3/6/2006 8:51	95-100	<1.50E-02	<1.80E-02	Note 1
	3/6/2006 10:05	100-110	<1.50E-02	<1.80E-02	Note 1
MW-111B	3/21/2006 12:49	15-40	<1.50E-02	<1.80E-02	Note 1
	3/24/2006 9:14	40-65	<1.50E-02	<1.80E-02	Note 1
	3/27/2006 7:48	60-64	<1.50E-02	<1.80E-02	Note 1
	3/28/2006 8:15	65-80	<1.50E-02	<1.80E-02	Note 1
MW-113C	4/11/2006 13:16	0-5	<1.50E-02	4.39E-02	
	4/11/2006 13:17	5-10	<1.50E-02	5.32E-02	
	4/11/2006 13:18	10-15	<1.50E-02	<1.80E-02	Note 1
	4/11/2006 14:07	15-20	<1.50E-02	<1.80E-02	Note 1
	4/12/2006 8:30	20-25	<1.50E-02	<1.80E-02	Note 1
	4/12/2006 9:00	25-30	<1.50E-02	<1.80E-02	Note 1
	4/20/2006 10:24	30-40	<1.50E-02	<1.80E-02	Note 1
	4/20/2006 10:39	40-45	<1.50E-02	<1.80E-02	Note 1
	4/20/2006 11:12	45-55	<1.50E-02	<1.80E-02	Note 1
	4/24/2006 9:31	55-70	<1.50E-02	<1.80E-02	Note 1
	4/24/2006 13:14	70-85	<1.50E-02	<1.80E-02	Note 1
	4/24/2006 15:11	85-100	<1.50E-02	<1.80E-02	Note 1
	4/25/2006 8:11	100-115	<1.50E-02	<1.80E-02	Note 1
	4/25/2006 15:26	115-135	<1.50E-02	<1.80E-02	Note 1
	4/26/2006 8:12	135-140	<1.50E-02	<1.80E-02	Note 1

Note 1: The activity of all other plant-related radionuclides is less than the minimum detectable activity of 1.50E-02 pCi/gm (1.80E-02 pCi/g for Cs-137).

Table 3-4
Updated Monitoring Well Elevations and Location Coordinates (feet, msl) July 7, 2006
Yankee Nuclear Power Station
Rowe, MA

Well Number	Elevation Top PVC	Elevation Top Casing	Elevation Ground	Northing	Easting
CB-3	1138.62	1138.76	1138.8	3093282.03	272493.16
CB-4	1085.61	1085.86	1084.1	3093627.45	271469.90
CB-6	1112.06	1112.36	1110.1	3093781.64	272014.04
CB-8	1139.14	1139.67	1139.6	3093424.39	272609.39
CW-10	1128.71	1128.85	1124.4	3093880.33	272659.75
CFW-1	1168.69	1169.59	1167.2	3093089.35	272941.07
CFW-5	1143.93	1144.57	1140.9	3093499.54	273242.27
CFW-6	1140.07	1140.40	1137.0	3093653.22	273170.03
MW-100A	1139.94	1140.84	1131.4	3093668.70	272490.23
MW-100B	1139.33	1140.40	1131.4	3093666.67	272486.30
MW-101A*	1146.13	1146.23	1138.0	3093489.73	272378.09
MW-101B	1145.52	1146.07	1137.3	3093486.75	272384.57
MW-101C	1145.78	1146.37	1137.3	3093484.74	272378.25
MW-102A	1139.28	1139.75	1133.8	3093570.92	272329.95
MW-102B	1139.12	1140.41	1133.8	3093575.98	272336.91
MW-102C	1139.82	1139.49	1133.8	3093573.61	272333.84
MW-102D*	1141.91	1142.07	1133.8	3093580.02	272341.79
MW-103A	1110.65	1110.91	1110.9	3093581.71	271903.99
MW-103B	1110.92	1111.10	1111.1	3093584.34	271907.73
MW-103C	1110.59	1110.71	1110.7	3093579.00	271899.45
MW-104A*	1118.17	1118.37	1118.5	3093724.57	272155.55
MW-104B	1117.75	1118.36	1118.4	3093729.75	272165.65
MW-104C	1118.17	1118.47	1118.5	3093726.18	272161.38
MW-105A*	1136.80	1137.21	1126.9**	3093751.23	272380.38
MW-105B	1135.74	1136.07	1126.5	3093767.63	272373.00
MW-105C	1136.86	1137.17	1126.5	3093768.62	272368.08
MW-106A	1088.49	1088.91	1089.2	3093817.60	271790.77
MW-106B	1088.14	1088.92	1088.9	3093826.45	271815.71
MW-106C	1088.30	1088.72	1089.0	3093824.14	271808.43
MW-106D	1088.66	1088.89	1089.1	3093820.82	271799.26
MW-107A*	1140.07	1140.72	1135.1	3093568.57	272395.83
MW-107B	1140.00	1140.39	1135.1	3093573.79	272399.66
MW-107C	1139.75	1139.98	1134.3	3093577.05	272397.93
MW-107D	1139.18	1139.65	1135.1	3093573.72	272392.21
MW-107E*	1139.34	1139.72	1134.1	3093569.44	272402.36
MW-107F*	1138.08	1138.63	1134.2	3093581.57	272394.08
MW-108A	1118.00	1118.40	1118.4	3093961.35	272329.51
MW-108B	1118.18	1118.52	1118.5	3093955.34	272329.93
MW-108C	1118.26	1118.68	1118.7	3093947.82	272330.90
MW-109A*	1127.99	1128.23	1124.1	3093549.56	272185.04
MW-109B	1128.19	1128.51	1124.1	3093545.33	272197.15
MW-109C	1127.68	1128.35	1124.1	3093559.87	272187.55
MW-109D	1127.71	1127.93	1124.1	3093552.60	272191.96

Table 3-4
Updated Monitoring Well Elevations and Location Coordinates (feet, msl) July 7, 2006
Yankee Nuclear Power Station
Rowe, MA

Well Number	Elevation Top PVC	Elevation Top Casing	Elevation Ground	Northing	Easting
MW-110A*	1143.38	1144.36	1138.4	3093527.68	272446.20
MW-110B*	1143.40	1143.90	1138.2	3093529.81	272449.39
MW-110C*	1143.36	1144.17	1138.0	3093534.19	272447.06
MW-110D*	1143.38	1143.90	1137.7	3093531.59	272442.14
MW-111A*	1141.02	1141.51	1134.8	3093618.36	272430.18
MW-111B*	1141.75	1142.19	1135.8	3093610.31	272443.91
MW-111C*	1140.59	1140.95	1134.8	3093621.60	272437.36
MW-113A*	1084.74	1085.00	1083.2	3093679.89	271448.91
MW-113C*	1084.83	1085.11	1083.2	3093678.29	271446.62
Sherman Spring			1091.0	3093796.22	271934.92
Plant Supply Well		1178.32	1175.60	3092867.76	272528.20
Furlon House Well			1183.1	3091285.14	270022.69

* New Well

** Ground Elevation was shot when slab was still in place, need to re-shoot ground elevation without slab

Coordinates are referenced to NAD 83 Massachusetts State Planes, Mainland Zone, U.S. Foot

Elevations are referenced to NAVD 1988

MSL datum is 105.66 feet above plant datum (NEP)

Table 3-5
Summary Details of Monitoring Well Development
Yankee Nuclear Power Station
Rowe, MA

Well No.	Last Date of Development	Total Hours Pumped	Total Gallons Pumped	Ending Average Pumping Rate (gpm)	Ending Turbidity[1]
MW-100A	9/25/2003		100		3
MW-100B	9/25/2003		85		2
MW-101A	4/18/2006	8.5	1	0.002	5
MW-101B	9/26/2003		400		1
MW-101C	8/18/2003	2.25	45	0.333	5
MW-102A	9/29/2003		100		4
MW-102B	9/29/2003		700		2
MW-102C	9/30/2003		350		4
MW-102D	2/22/2006	25.5	66.5	0.042	2
MW-103A	9/30/2003				
MW-103B	8/19/2003	7	370	0.880	2
MW-103C	8/19/2003	5		0.053	2
MW-104A	2/8/2006	3.5	275	1.31	1
MW-104B	9/4/2003	4	60	0.250	2
MW-104C	10/2/2003		45	0.158	3
MW-105A	2/10/2006	9.5	160	0.281	0.5
MW-105B	8/25/2003		90	0.317	2
MW-105C	8/21/2003		100	0.383	2
MW-106A	9/23/2004	4.67	70	0.500	1
MW-106B	9/23/2004	13	655	0.833	1
MW-106C	9/2/2003	10.5	50	0.079	3
MW-106D	9/13/2003	21.75	1050	0.800	1
MW-107A	4/10/2006	8.5	55	0.083	0.5
MW-107B	9/18/2003	1.25	50	0.700	2
MW-107B	3/14/2006	8.5	265	0.667	1.5
MW-107C	9/19/2003				
MW-107C	3/2/2006	4	32	0.133	1
MW-107D	9/24/2003		100	0.396	2
MW-107E	5/22/2006	13	165	0.250	1
MW-107F	5/25/2006	9.25	185	0.417	2
MW-108A	8/11/2004	6	24	0.067	3
MW-108B	8/11/2004	8	265	0.771	1
MW-108C	8/11/2004	4	40	0.167	3
MW-109A	2/16/2006	10.75	65	0.130	0.5
MW-109B	8/12/2004	9	290	0.537	2
MW-109C	8/12/2004	2	110	1.000	1
MW-109D	8/16/2004	7	125	0.750	3
MW-110A	3/23/2006	4	185	0.611	3
MW-110B	3/17/2006	13.5	272	0.500	1.5

Table 3-5
Summary Details of Monitoring Well Development
Yankee Nuclear Power Station
Rowe, MA

Well No.	Last Date of Development	Total Hours Pumped	Total Gallons Pumped	Ending Average Pumping Rate (gpm)	Ending Turbidity[1]
MW-110C	3/28/2006	6.5	65	0.155	1.5
MW-110D	3/23/2006	4.75	220	0.772	1
MW-111A	4/6/2006	7.5	70	0.157	1
MW-111B	3/30/2006	13.75	220	0.222	1.5
MW-111C	4/5/2006	6.75	35	0.086	1
MW-113A	5/3/2006	5.5	300	0.926	3
MW-113C	5/1/2006	13.5	275	0.444	3.5

Note 1: Relative turbidity scale where 1 corresponds to clear water and 5 corresponds to very silty, opaque water.

Table 3-6
Summary of Abandoned Monitoring Wells
Yankee Nuclear Power Station
Rowe, MA

Well No.	Total Depth Below Grade (ft)	Screen Length (ft)	Well Diameter (in)	Casing Volume (gal)	One-Half Filter Pack Volume (gal)	Total Grout Volume (gal)	Time of Grout Injection	Notes
Thursday, 7-22-04								
CW-11	9.0	7	2	1.5	2.2	4.7	15:00	A
CB-11A	19.0	10	2	3.1	2.9	6.0	15:10	A
MW-1	21.1	10	2	3.4	2.9	6.3	15:15	A
B-1	50.7	10	4	33.1	4.9	38.0	15:20	A
CB-10	11.5	5	2	1.9	1.7	3.6	15:40	A
Friday, 7-23-04								
CW-8	18.9	10	2.5	4.8	2.9	7.7	8:57	A
Monday, 11-8-04								
CB-5	59.0	30	2.5	15.0	11.5	26.5	Not Available	B
CFW-2	20.0	10	2	3.3	4.3	7.5	Not Available	B
CFW-3	34.0	10	2	5.5	4.3	9.8	Not Available	B
CFW-4	53.0	10	2	8.6	4.3	12.9	Not Available	B
CFW-7	30.0	10	2	4.9	4.3	9.2	Not Available	B
OSR-1	13.0	10	2.5	3.3	3.8	7.1	Not Available	B
Tuesday, 11-16-04								
CB-1	21.9	10	2.5	5.6	3.8	9.4	12:45	C
CB-9	23.0	10	2.5	5.9	3.8	9.7	13:00	C
MW-5	19.1	10	2	3.1	4.3	7.4	13:15	C
Wednesday, 11-17-04								
CB-7	16.4	10	2.5	4.2	3.8	8.0	13:34	C
CB-12	6.6	5	2	1.1	2.1	3.2	14:00	C
CW-3	23.2	15	2.5	5.9	5.7	11.6	14:25	C
CW-4	15.9	10	2.5	4.1	3.8	7.9	14:50	C
CW-5	16.5	10	2.5	4.2	3.8	8.0	16:10	C
MW-2	18.0	10	2	2.9	4.3	7.2	12:15	C
MW-6	15.7	10	2	2.6	4.3	6.8	13:19	C
Thursday, 8-11-05								
CB-2	23.1	10	2.5	5.9	3.8	9.7	15:10	C
CW-6	18.8	10	2.5	4.8	3.8	8.6	15:30	C

Table 3-6
Summary of Abandoned Monitoring Wells
Yankee Nuclear Power Station
Rowe, MA

Well No.	Total Depth Below Grade (ft)	Screen Length (ft)	Well Diameter (in)	Casing Volume (gal)	One-Half Filter Pack Volume (gal)	Total Grout Volume (gal)	Time of Grout Injection	Notes
CW-7	30.4	10	2.5	7.7	3.8	11.6	15:00	C
Thursday, 5-4-06								
CW-2	20.9	11	2.5	5.3	4.2	9.5	9:11	D

Notes: Grout injected in each well consisted of a mixture of 94 pounds Portland cement, 8 gallons water and approximately 2 pounds bentonite powder.
Grout was injected through a tremie pipe placed within one foot of the bottom of the well, with a positive displacement pump.
All wells were checked a minimum of 30 minutes after filling with grout and topped off with additional grout if any settlement occurred.
All wells accepted the approximate volume of grout calculated above.
The casing of CW-2 was removed completely, and that of CW-8 was removed to 5.6 feet below grade. All other wells were left with the top of casing at grade because the final grading of the decommissioned site will cover the wells with soil by several feet.

A Wells were abandoned under the direction of Roy Buckenberger, a Massachusetts Licensed Driller with Boart Longyear Drilling Company, and under the supervision of Dave Scott, the Project Hydrogeologist.

B Wells were abandoned by Kevin Regan of D.L. Maher Company, a Division of Boart Longyear Drilling Company, under the supervision of Cianbro Construction Company.

C Wells were abandoned by Kevin Regan of D.L. Maher Company, a Division of Boart Longyear Drilling Company, under the supervision of Dave Scott, the Project Hydrogeologist.

D Wells were abandoned by Mike Hansen, a Massachusetts Licensed Driller with Boart Longyear Drilling Company, and under the supervision of Dave Scott, the Project Hydrogeologist.

Table 4-1
Summary of Unplanned Releases of Radioactive Material at YNPS

Yankee Nuclear Power Station
Rowe, Massachusetts

The following is a chronological summary of events that have occurred in the yard area inside the Radiologically Controlled Area (RCA), based on a review of Abnormal Occurrence Reports (AORs) and Plant Incident Reports (PIR). The location of each event is shown in Figure 26.

AOR 61-15: Radioactive Spill – On September 20, 1961 a container of main coolant was dropped on the asphalt in the Potentially Contaminated Area between the Primary Auxiliary Building and the Waste Disposal Building while being carried to the Radiochemistry Lab. The half liter sample contained ~35 μCi . The spill was absorbed using absorbent paper and the spill area decontaminated by mopping. Fixed contamination remaining was ~0.05 mr/hr at 1" from the pavement.
Impacted Areas **NOL-02/ NOL-05**

AOR 63-12: Shield Tank Cavity Fill Water Spill – On September 18, 1963 while filling the shield tank cavity, a ½" sampling valve located over the ion exchange pit was inadvertently left open. A spill of approximately 10 gallons of water from the safety injection tank resulted. Part of this water ran off the deck of the pit and onto a section of the blacktop surface on the west side of the pit. The radiation level at the immediate spill area was 70-100 mr/hr measured at 1 inch. Contamination levels were 10^6 to 10^7 dpm for areas of several square inches. Run off water caused contamination levels of 20-60,000 dpm/ft^2. The area was decontaminated the following day.
Impacted Areas **NOL-01/NOL-02**
Impacted Structures **NSY-02**

AOR 63-17: De-watering Pump Packing Leakage – October 8, 1963. The leakage from the fuel chute de-watering pump is piped via a garden hose to a 30 gallon drum placed in a storm catch basin (ECB-005) located between the railroad tracks and the NE corner of the spent fuel pit. The bottom rim of the barrel was very corroded and water was dripping from two or three rust hole locations. At the time there was 6"-8" of water in the barrel with activity of 6×10^{-5} μCi/ml. It was believed only minimal water was leaked to the storm system.
Impacted Areas **OOL-01**
Impacted Sub-surface Areas/Structures - **East Storm Drain System**

AOR 64-08: Seal Water Tank Spill – On September 3, 1964 after filling the seal water tank, leaking shutdown cooling pump seals back-flowed into the tank causing it to overflow out the vent connection into the common relief valve discharge line and onto the Primary Auxiliary Building roof. An estimated 35 gallons of water containing a total of 270 μCi was spilled. A sample from the seal tank had gross activity of 2×10^{-3} μCi/ml. The puddle on the roof had 1×10^{-3} μCi/ml. The next day decontamination of the roof was

begun. The roof drain system drains into the storm drain system via a sub-surface piping connection. A sample of the storm drain (WCB-009) showed 1 x 10^{-6} μCi/ml. The predominant isotopes were Co^{58}, Co^{60} and Mn^{54}. Service Water was diverted to the storm drain to dilute and flush the system.
Impacted Areas - **AUX-01 Roof and Roof Drain System**
Impacted Sub-surface Areas/Structures - **West Storm Drain System**

AOR 64-13: Leakage from Ion Exchange Pit – On October 3, 1964 after filling the ion exchange pit to its normal level, the operator forgot to close the fill valve. Water continued to flow into the pit from the Primary Water Storage Tank by gravity feed. Four hours later the operator noticed water seeping up through the blacktop on the west side of the pit, knew why and went to close the valve. Two days later the water on the blacktop was sampled. The liquid had a specific activity of 8 x 10^{-8} μCi/ml. It contained Ag^{110m} at 5 x 10^{-7} μCi/ml and Co^{60} at 1 x 10^{-6} μCi/ml, both below MPC. The blacktop was rinsed down with service water to the storm drain (ECB-005).
NOTE:
There were indications of an accelerating IX-pit leakage problem necessitating additions of make-up water to the pit as early as September of 1963. A 2.5 gpm leak was repaired in May 1965 (Primary/Auxiliary Operators logbook entries - Survey Area NSY-02 ref. #1 and #1 and #7).
Impacted Areas **NSY-02/NOL-01**
Impacted Sub-surface Areas/Structures - **East Storm Drain System internal and external to piping (backfill) / AUX-01 North external perimeter (backfill) / SFP-01 West external perimeter (backfill) / BRT-01 Eastern external perimeter**

AOR 66-7: Spent Fuel Pit Water Spill – On September 27, 1966 while doing shipping cask operations in the spent fuel pool, a 2" priming valve for the cooling and purification pump was left open. Later, when running the L.P.S.T makeup pump, water flowed through the left open priming valve and started filling the SFP. After a period of time the level in the pool approached the overflow point. By the time the Shift Supervisor realized the reason for the high level and closed the priming valve the water had just started overflowing. It was estimated that a total of 33 gallons of water ran out over the spent fuel pit exterior wall, over a small section of asphalt paving and into an immediately adjacent storm drain (. A few gallons of this also leaked into the new fuel vault. A sample of spent fuel pool water taken immediately after the incident a gross activity of 3.2 x 10^{-5} μCi/ml. A sample taken four days previous to the occurrence indicated the gross activity to be 5.4 x 10^{-5} μCi/ml and tritium concentration of 5.4 x 10^{-3} μCi/ml. A continuous service water and intermittent fire-water flush of the east side culvert system (ECB-005) was initiated and continued for a 24 hour period. Sufficient dilution water (75,000 gallons) was added to the culvert to reduce the gross and tritium activity to 1.4 x 10^{-8} μCi/ml and 2.4 x 10^{-6} μCi/ml, respectively, when averaged over 24 hours. Samples of drainage water leaving the east side culvert were taken 24 and 42 hours afterwards and

indicated gross levels of 2.0×10^{-9} µCi/ml (by outside lab) and <5×10^{-9} µCi/ml (by in-house) and tritium (after 24 hours) of 3.4×10^{-5} µCi/ml. This occurrence resulted in a total release of 4 µCi gross β-γ and 670 µCi of tritium activity.
Impacted Areas **SFP-01 North external wall /NOL-01**
Impacted Sub-surface Areas/Structures **East Storm Drain System internal and external to piping (backfill between SFP-01 and ECB-005)**

AOR 66-8: Abnormal Activity in Storm Drain – On September 27, 1966 after the Spent Fuel Pit water spill, a water sample was taken from both east and west storm drain culverts, even though the spill was collected by the east side only. An average of two samples from the west side showed gross activity of 6.7×10^{-7} µCi/ml. Investigation showed the activity was due to a leaky relief valve on the safety injection heating system being discharged into the PAB floor drain. The PAB floor drain was arranged to discharge through the PAB wall into WCB-009, an outside storm drain. It was estimated that no more than 8 gallons could have leaked from the relief valve during the previous 24 hour period. The relief valve was thought not to have been leaking on the previous day. Analysis of safety injection tank water showed gross activity of 3×10^{-5} µCi/ml and tritium activity of 1.1×10^{-1} µCi/ml. A sample collected 24 hours later and analyzed by an outside lab showed gross activity of 1.2×10^{-8} µCi/ml and tritium activity of 5.1×10^{-5} µCi/ml. This occurrence resulted in a total estimated release of 0.8 µCi gross β-γ and 3.32 mCi tritium.
Impacted Area - **OOL-05/OOL-06**
Impacted Sub-surface Areas/Structures - **West Storm Drain system**

Summary of Unplanned Releases of Radioactive Material at YNPS

AOR 66-9: Plastic Garden Hose Failure – On November 1, 1966 during a routine drainage on the fuel chute pump discharge line, a plastic garden hose used for the draining burst and flowed into a storm drain served by the east culvert (ECB-005). The burst was caused by heat tracing which softened the line enough so that static pressure inside the line was sufficient to cause the hose to separate at the hose coupling. Approximately 10 gallons of 3.0×10^{-3} activity water (for a total of 113 µCi) was released. The spill area was hosed down with service water. The service water and a fire hose were left running all night at ~250 gpm for dilution of the culvert. The east culvert was sampled after the spill with results as follows:

	Activity (µCi/ml) – YAEC	Activity (µCi/ml) – ConRad
11/1/66 @ 1930	4.4×10^{-6}	2×10^{-5}
@ 2145	1.99×10^{-7}	9.1×10^{-7}
@ 2300	3.18×10^{-7}	9.0×10^{-7}
11/2/66 @ 0800	6.3×10^{-8}	2.3×10^{-7}
11/4/66 @ 2200	1.4×10^{-8}	2.4×10^{-8}

Since the effects of dilution showed the spill was under control no further action was taken.
Impacted Areas - NOL-01/OOL-01
Impacted Sub-surface Areas/Structures - **East Storm Drain system**

AOR 68-1: Waste Holdup Tank Moat Spill – On January 16, 1968 approximately 200 gallons of water spilled from the activity dilution decay tank from a valve bonnet failure event caused by freezing. The spilled water had an activity of 6.87×10^{-4} µCi/ml β-γ and 9.24×10^{-1} µCi/ml tritium. A total of 520 µCi β-γ and 698 mCi tritium was spilled into the moat. Since the moat was kept isolated no release of activity to the storm drains occurred.
Impacted Areas -
Impacted Sub-surface Areas/Structures - NSY-07

PIR 75-7: Yard Area Contamination – On July 16, 1975 a contaminated area of ground was found near the ion exchange pit reading ~500,000 dpm. Over the next few days the entire site within the restricted area fence was surveyed. Fourteen areas, ten of which were in the clean area, were found to be contaminated >1000 dpm/100 cm^2. Most of this was cleaned up and the remaining was sealed in place using asphalt sealer and covered with clean soil. For more detail see 'Summary of Yard Decontamination Effort in 1975'.
Impacted Areas - **NOL-01 through NOL-06**

PIR 77-16: Service Building Radioactive Sump Transfer Line Puncture – On December 21, 1977 while conducting core borings inside the controlled area the boring bit inadvertently punctured the 2 ½" stainless steel line leading from the service building sump tanks to the primary auxiliary building. The sump line ran at a depth of 15 feet underground where the damage occurred and the boring depth was 61 ½ feet. The damage was not detected until the next day when the sump pump started and water issued from the borehole. The sump pump ran through two cycles resulting in 20 gallons of water discharged from the rupture. The water contained the following:

Radionuclide	Total Activity, µCi	Concentration, µCi/ml	Fraction of MPC
I^{131}	16.50	2.18×10^{-4}	3.63
I^{133}	2.76	3.65×10^{-5}	0.18
Cs^{134}	0.34	4.46×10^{-6}	0.01
Cs^{137}	0.50	6.67×10^{-6}	0.02
Co^{60}	0.58	7.69×10^{-6}	0.01

It was determined that no measurable levels of activity were released offsite or to the storm drain. The line was repaired and a sand and concrete casing poured around it. No mention was made of the leaked upon soil.
Impacted Areas - NOL-02
Impacted Sub-surface Areas/Structures - **Soils surrounding perforation and transfer line backfill**

PIR 80-9: **Resin Spill** – On August 6, 1980 while pumping resin to a cask a hose developed a pinhole leak. Pumping was stopped immediately. The failure of the hose allowed the release of several gallons of water and about one quart of resin. A 15 by 20 square foot area was contaminated. Radiation readings on the resin were up to 1 mrad/hr and the spilled liquid readings were up to several hundred thousand dpm/100 cm^2. Extensive decontamination was required including removal of some of the blacktop to ensure no release to the environment.
Impacted Areas - NOL-02/NSY-02
Impacted Sub-surface Areas/Structures - **South and East exterior walls of NSY-02. Also sub-slab area of NSY-02 (IX-pit) due to transfer by surface (decon/rain) water into cracks between asphalt and IX-pit walls.**

PIR 81-9: **Contamination of Yard Area During Reactor Head Removal** – On May 15, 1981 while removing the reactor head to the railroad car outside the VC the head made contact with the shield wall. No damage occurred and lowering to the car continued. Later when finished contaminated people and areas were found. Smearable levels on the railroad car plywood 15 feet east of the head read up to 200 mrad/hr beta. This was sealed by painting and covered in herculite. General levels on the blacktop were from 1000 to 500,000 dpm/100 cm^2 and covered an area of roughly 30 feet by 50 feet. The total activity released to the ground was ~250 µCi with ~10 µCi discharged to Sherman Pond. This was below 10 CFR 20 reporting requirements. The area was cleaned up but due to rainfall trace activity levels were detected in the east storm drains. The storm drain sumps were pumped out and cleaned to eliminate further contamination.
Impacted Areas - NOL-01/NOL-06/OOL-12/OOL-13
Impacted Sub-surface Areas/Structures - **BRT-01/in cracks and crevasses under VC Equipment Hatch and along rails/ties in OOL-12 and OOL-13**

PIR 84-16: **Drain Pipe Failure** – On September 10, 1984 work was commenced to remove the drain line between the Waste Storage Building and the PCA storage building. The line was 3 ½ feet below grade at the PCA storage building end. The joints in this pipe were degraded resulting in leakage into the soils surrounding the joints. Samples of the soil under the pipe showed the presence of Co^{60} and Cs^{137}. In the most contaminated area showed 50,000 dpm with a single hot spot of 29,300 pCi/gm Co^{60}. Average contamination at 2 feet below this joint was ~2100 pCi/gm. Average Cs^{137} levels were about 17 times less than the average Co^{60} levels. Since this area of the yard was paved there was little likelihood of water transport from the surface. The entire pipe and ~420

ft^3 of dirt and rock were removed as radwaste. The depth of the soil removed was typically from 5 to 9 feet below grade. The soil left at the bottom of the excavation contained Co-60 at a concentration of approximately 30 pCi/gm. Clean fill was brought in and all areas above the excavation were sealed under a concrete cap (New Radwaste Warehouse floor). For groundwater movement data see PIR **84-16**.
Impacted Areas – WST-01/WST-02
Impacted Sub-surface Areas/Structures – **WST-02 at a depth of in excess of 9 feet below grade, activity remains in excess of DCGL. Partial remediation under 50.75g.**

PIR 94-03 and PIR 94-09: Leakage from Frozen Fuel Chute Dewatering Line and NST Tell-tales – On February 17 & 18, 1994 a fuel chute dewatering line and a neutron shield tank telltale drain line ruptured due to freezing. Freezing was due to inadequate heat tracing and insulation. A 3.5 liter sample from the fuel chute line indicated 1000 ncpm. From the NST telltale line a sample indicated Co^{60} and Cs^{137}. The ground below showed no contamination. The area by the rail tracks and pumpback house also showed no contamination. The snow pile along the south side of the rails by the new fuel vault showed Co^{60}, Cs^{137} and Mn^{54}. All positive areas were sent to the rad drains and the areas de-posted.
Impacted Area – NOL-01

Table 5-1
Summary Evaluation of the 24-Hour Pumping Test of MW-107C June 20-21, 2006
Yankee Nuclear Power Station
Rowe, MA

Observation Well	Maximum DD, (ft)	radius, ft.	Elev. Of mid-point of screen, ft NAVD88	Lohman Curve	s, (ft), match point	t, (day), match point	U	T, ft2/day	S	Estimated Till vertical K', ft/day	Other	Till thickness for K' estimate, b (ft)
MW-100A**	0.1	129.9602962	1111		N/A	N/A	N/A	N/A	N/A			16
MW-100B**	0.05	125.0352379	1087.1		N/A	N/A	N/A	N/A	N/A			16
MW-101A**	0.25	89.54556382	1117.5		N/A	N/A	N/A	N/A	N/A			29
MW-101B*	0.01	91.27820968	978.9		No response	No response	No response	No response	No response			27
MW-101C*	0.01	94.38943913	1029.2		No response	No response	No response	No response	No response			58
MW-102A	0.3	68.25228438	1090.3	Plate 3	0.34	0.11	0.5	2.1	0.00020	0.0092		20
MW-102B*	0.01	61.02938063	1000.7		No response	No response	No response	No response	No response			27
MW-102C	0.04	64.18225378	1029.4	Plate 3	0.21	0.75	1.6	3.5	0.0025	0.23?		27
MW-102D**	0.01	56.2216241	1117.8		No response	No response	No response	No response	No response			20
MW-105A**	0.01	175.0602074	1111.9		No response	No response	No response	No response	No response			19
MW-107A**	0.15	8.736154761	1111.6		N/A		N/A	N/A	N/A			13
MW-107B*	0.01	3.686163649	1030.4		No response	No response	No response	No response	No response			27
MW-107C	12	0	1105.6	Plate 3	3	0.002	N/A	0.2	N/A	N/A		**13**
MW-107C	12	0	1105.6	Gringarten	1.5	0.03	N/A	N/A	N/A	N/A	Gringarten, Till K = 0.0025 ft/day, radius of linear flow	**13**
MW-107D	0.07	6.615052728	1057.6	Plate 3	1	0.66	1.5	0.7	0.044	too close		24
MW-107E	0.38	8.805509639	1079.6	Plate 8, late	0.25	0.125	N/A	2.9	0.019	N/A	r/B = 4	13
MW-107E	0.38	8.805509639	1079.6	Gringarten	0.25	0.125	N/A	N/A	N/A	N/A	Karasaki & Gringarten, Till K = 0.079 ft/day, radius of linear flow = 184 feet	13
MW-107F	0.35	5.937415263	1082.7	Plate 3	1.05	0.3	0.8	0.7	0.024	too close		13
MW-110A**	0.1	69.04628737	1110.9		No response	No response	No response	No response	No response			27
MW-110B*	0.01	69.85520167	1033.2		No response	No response	No response	No response	No response			45
MW-110C	1.02	65.1976725	1089.5	Plate 3	0.98	0.07	0.6	0.7	0.000049	0.0050		20
MW-110D	0.09	63.41242544	1052.2	Plate 3	0.33	0.58	0.6	2.2	0.0013	0.0079		10
MW-111A**	0.3	52.40781049	1114.3		N/A	N/A	N/A	N/A	N/A			10
MW-111B	0.12	56.74846253	1060.8	Plate 3	0.91	0.68	0.8	0.8	0.00068	0.017		27
MW-111C	0.27	59.49308699	1100.3	Plate 3	0.18	0.09	0.2	4.0	0.00041	0.0018		10

Pumping Rate 9.1545 ft3/day

Notes: "N/A" means no analysis possible; "No response" means no discernible response attributable to 107C drawdown
* indicates corrected drawdown of datalogger record showed no discernible response attributable to 107C drawdown
** indicates drawdown measurements were made by hand and magnitude of total drawdown is estimated taking into account estimated recession values
? Indicates that corrected drawdown record has significant variability making curve matching somewhat speculative

References: Gringarten, A.C., 1982, Flow-Test Evaluation of Fractured Reservoirs, Geological Society of America Special Paper, 1982, pp. 237-263
Karasaki, K, 1987, Well Test Analysis in Fractured Media, Lawrence Berkeley Laboratory, Univ. of California, Berkeley, 239 p.
Lohman, S.W., 1972, Ground-Water Hydraulics, Geological Survey Professional Paper 708, 90 p. and 9 Plates

Table 5-2
Summary of Transmission of Pressure Transient Effects
YNPS Rowe

Well Subjected to Rapid Drawdown and Recovery	Date of Test	Mon. well	Mon. well	Mon. well	Mon. well	Mon. well	Mon. well	Mon. well	Mon. well	Mon. well	Mon. well	Mon. well	Mon. well	Mon. well	Mon. well	Mon. well
MW-103C	6/6	MW-103B No effect	MW-104B No data	MW-104C No data	MW-109B No Effect	MW-109C No effect	MW-109D No Effect	MW-113C No effect								
MW-104B	7/22	MW-102A No effect	MW-102B No effect	MW-102C No effect	MW-104C No effect	MW-105B No effect	MW-105C No effect	MW-107F No effect	MW-108B No effect	MW-108C No effect	MW-109B No Effect	MW-109C No effect	MW-109D No effect			
MW-104C	7/23	MW-102A No effect	MW-102B No effect	MW-102C No effect	MW-104B No effect	MW-105B No effect	MW-105C No effect	MW-107F No effect	MW-108B No effect	MW-108C No effect	MW-109B No effect	MW-109C No effect	MW-109D No effect			
MW-105B	7/20	MW-100B Measurable effect	MW-102A No effect	MW-102B No effect	MW-102C Questionable effect	MW-105C Questionable effect	MW-107B Measurable effect	MW-107E Measurable effect	MW-107F Measurable effect	MW-108B No effect	MW-108C No effect	MW-109C No effect	MW-109D No effect	MW-111B No data	MW-111C No data	
MW-105C	7/21	MW-100B Measurable effect	MW-102A No effect	MW-102B Questionable effect	MW-102C Questionable effect	MW-105B Measurable effect	MW-107B Questionable effect	MW-107E Questionable effect	MW-107F Measurable effect	MW-108B No effect	MW-108C No effect	MW-109C No effect	MW-109D No effect	MW-111B No data	MW-111C No data	
MW-106B	(6/6), 6/16	MW-103B Measurable effect	MW-103C No data during test	MW-104B No effect	MW-104C No effect	MW-106C No effect	MW-106D	MW-109C No effect	MW-113C No effect							
MW-106C	(6/7), 6/14	MW-103B No effect	MW-103C No data	MW-104B No effect	MW-104C No effect	MW-106B No effect	MW-106D No effect	MW-109C No effect	MW-113C No effect							
MW-106D	6/15	MW-103B Questionable effect	MW-103C	MW-104B No effect	MW-104C No effect	MW-106B Measurable effect	MW-106C No effect	MW-109C Questionable effect	MW-113C No effect							
MW-107D	7/14	MW-101B Measurable effect	MW-101C Measurable effect	MW-102A No data	MW-102B Measurable effect	MW-102C Measurable effect	MW-107B Measurable effect	MW-107C No effect	MW-107E Measurable effect	MW-107F Questionable effect	MW-109D Measurable effect	MW-110B Measurable effect	MW-110C No effect	MW-110D No effect	MW-111B Measurable effect	MW-111C No effect
MW-107F	7/17	MW-101B Questionable effect	MW-101C No effect	MW-102A No data	MW-102B Questionable effect	MW-102C Questionable effect	MW-107B Measurable effect	MW-107C Questionable effect	MW-107D Questionable effect	MW-107E Measurable effect	MW-109D No Effect	MW-110B Questionable effect	MW-110C Questionable effect	MW-110D Questionable effect	MW-111B Questionable effect	MW-111C Questionable Effect
MW-109C	7/19	MW-101B No effect	MW-101C No effect	MW-102A Questionable effect	MW-102B No effect	MW-102C No effect	MW-107B No effect	MW-107C No data	MW-107D No data	MW-107E Measurable effect	MW-107F Measurable effect	MW-109B No effect	MW-109D No effect	MW-111B Questionable effect	MW-111C No effect	
MW-109D	7/18	MW-101B No effect	MW-101C No effect	MW-102A No data	MW-102B No effect	MW-102C No effect	MW-107B Questionable effect	MW-107C Questionable effect	MW-107D No effect	MW-107E Questionable effect	MW-107F Questionable effect	MW-109B No data	MW-109C No data			

(red)	no transducer in hole or transducer failed
(green)	Definite measurable Effect
(orange)	Subtle or Questionable Effect
MW-109C	indicates well for which data exists, although not required by NRC plan

Data Completeness 86% = percentage of wells planned for data collection in which data were actually collected

Table 6-1
Summary of Quarterly Synoptic Ground Water Elevations 2005 through 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well ID	Top of Casing Elevation	Depth to Water 3/13/05	Water-Level Elevation 3/13/05	Depth to Water 11/7/05	Water-Level Elevation 11/7/05	New Top of Casing Elevation	Depth to Water 4/18/06	Water-Level Elevation 4/18/06	Depth to Water 6/26/06	Water-Level Elevation 6/26/06
CB-2	1118.07	14.18	1103.89							
CB-3	1138.62					1138.62	6.34	1132.28	3.62	1135
CB-4	1085.61			8.6	1077.01	1085.61	8.77	1076.84	8.71	1076.9
CB-6	1112.06	15.11	1096.95	13.7	1098.36	1112.06	13.58	1098.48	12.88	1099.18
CB-8	1139.14					1139.14	3.9	1135.24	3.45	1135.69
CFW-1	1168.69	3.2	1165.49			1168.69	3.01	1165.68	3.01	1165.68
CFW-5	1143.93	4.55	1139.38			1143.93	4.61	1139.32	4.59	1139.34
CFW-6	1140.07	5.96	1134.11			1140.07	5.6	1134.47	5.31	1134.76
CW-6	1122.25	12.32	1109.93							
CW-7	1126.16	19.32	1106.84							
CW-10	1124.53	20.05	1104.48			1128.71	23.57	1105.14	22.51	1106.2
MW-100A	1125.10					1139.94	22.19	1117.75	20.16	1119.78
MW-100B	1125.06					1139.33	22.97	1116.36	20.99	1118.34
MW-101A						1146.13			23.25	1122.88
MW-101B	1125.68					1145.52	40.75	1104.77	39.2	1106.32
MW-101C	1125.43					1145.78	51.85	1093.93	49.46	1096.32
MW-102A	1125.62					1139.28	25.65	1113.63	24.41	1114.87
MW-102B	1125.67					1139.12	35.96	1103.16	35.05	1104.07
MW-102C	1125.55					1139.82	47.2	1092.62	46.36	1093.46
MW-102D						1141.91	23.45	1118.46	24.14	1117.77
MW-103A	1110.65	18.69	1091.96	7.9	1102.75	1110.65	18.04	1092.61	17.78	1092.87
MW-103B	1110.92	57.05	1053.87	55.9	1055.02	1110.92	56.86	1054.06	58.07	1052.85
MW-103C	1110.59	34.38	1076.21	34.85	1075.74	1110.59	34.56	1076.03	34.72	1075.87
MW-104A						1118.17	8.5	1109.67	6.83	1111.34
MW-104B	1117.75	60.87	1056.88	68	1049.75	1117.75	61.12	1056.63	60.86	1056.89
MW-104C	1118.17	40	1078.17	38.8	1079.37	1118.17	39.7	1078.47	39.36	1078.81
MW-105A						1136.8	25.95	1110.85	23.04	1113.76
MW-105B	1126.29	20.58	1105.71			1135.74	28.86	1106.88	26.82	1108.92
MW-105C	1126.22	19.48	1106.74			1136.86	27.31	1109.55	23.45	1113.41
MW-106A	1088.49	6.03	1082.46	7.9	1080.59	1088.49	6.12	1082.37	5.49	1083
MW-106B	1088.14	35.98	1052.16	35.45	1052.69	1088.14	38.16	1049.98	34.72	1053.42
MW-106C	1088.30	27.02	1061.28	28.40	1059.90	1088.30	27.30	1061.00	26.34	1061.96
MW-106D	1088.66	39.21	1049.45	32.5	1056.16	1088.66	37.9	1050.76	37.12	1051.54
MW-107A						1140.07			17.27	1122.8
MW-107B	1124.58					1140	36.39	1103.61	37.5	1102.5
MW-107C	1124.65					1139.75	24.94	1114.81	23.47	1116.28
MW-107D	1124.68					1139.18	43.03	1096.15	42.12	1097.06
MW-107E						1139.34			26.34	1113
MW-107F						1138.08			25.1	1112.98
MW-108A	1118.00			11.68	1106.32	1118.00	12.75	1105.25	11.28	1106.72
MW-108B	1118.18			50.2	1067.98	1118.18	50.98	1067.2	49.97	1068.21
MW-108C	1118.26			14.1	1104.16	1118.26	14.03	1104.23	12.29	1105.97
MW-109A						1127.99	12.41	1115.58	13.04	1114.95
MW-109B	1123.70	26.48	1097.22			1128.19	43.45	1084.74	30.79	1097.40
MW-109C	1123.40	15.89	1107.51			1127.68	19.93	1107.75	15.50	1112.18
MW-109D	1123.38	37.73	1085.65			1127.71	45.65	1082.06	40	1087.71
MW-110A						1143.38	19.56	1123.82	19.18	1124.2
MW-110B						1143.4	39.42	1103.98	38.36	1105.04
MW-110C						1143.36	27.51	1115.85	25.99	1117.37
MW-110D						1143.38	49.36	1094.02	47.37	1096.01
MW-111A						1141.02	20.28	1120.74	18.8	1122.22
MW-111B						1141.75	35.25	1106.5	34	1107.75
MW-111C						1140.59	21.85	1118.74	20.51	1120.08
MW-113A						1084.74			20.5	1064.24
MW-113C						1084.83			53.6	1031.23
Sherman Spring	1091	0	1091	0	1091	1091	0	1091	0	1091

Notes:
1) Elevations are referenced to NAVD 1988, in feet
2) Water levels measured in feet from top of PVC casing

Table 6-2

Inventory of Pressure Transducer Records for YPNS Monitoring Wells

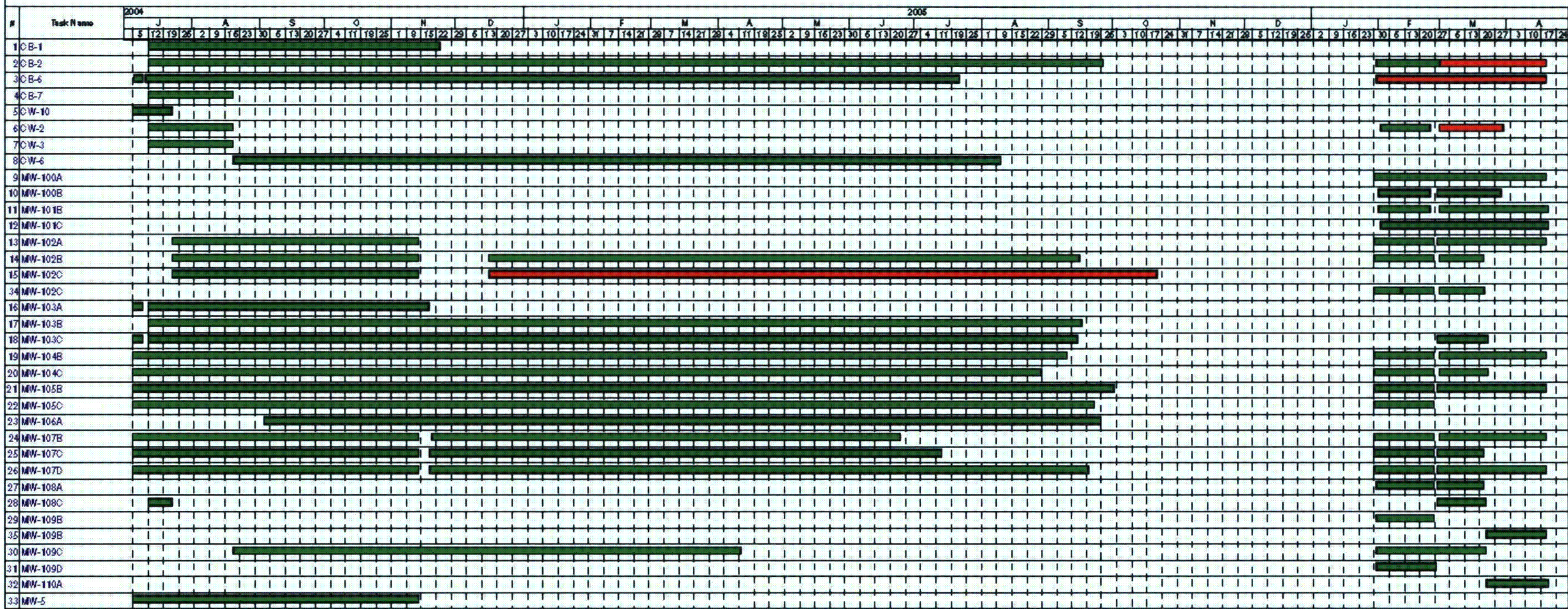

Table 7-1

Summary of Tritium Analytical Results
Yankee Nuclear Power Station
Rowe, MA

Monitoring Well	Q1 2005	Q4 2005	Jan-06	Feb-06	Q1 2006	May-06	Non-Filtered Q2 2006	Filtered Q2 2006
CB-2	1,020	NS	NS	NS	NS	NS	NS	NA
CB-3	NS	NS	NS	NS	U	NS	U	NA
CB-4	NS	3,340	U	U	U	U	U	NA
CB-6	590	9,740	14,730	12,100	7,680	4,300	1,910	2,090
CB-8	NS	NS	NS	NS	U	NS	U	NA
CFW-1	U	NS	NS	NS	332	NS	U	NA
CWF-5	U	NS	NS	NS	U	NS	NS	NA
CWF-6	U	NS	NS	NS	300	NS	1,180	NA
CWF-7	1,340	NS	NS	NS		NS	NS	NA
CW-2	NS	NS	NS	NS	U	NS	NS	NA
CW-10	NS	NS	NS	NS	U	NS	U	NA
MW-100A	NS	NS	NS	NS	U	NS	U	NA
MW-100B	NS	NS	NS	NS	U	NS	U	NA
MW-101A	NS	NS	NS	NS	16,900	NS	8,520	NA
MW-101B	NS	NS	NS	NS	U	U	U	NA
MW-101C	NS	NS	NS	NS	NS	NS	NS	NA
MW-102A	NS	NS	NS	NS	4,490	4,630	4,260	4,640
MW-102B	NS	NS	NS	NS	U	NS	U	NA
MW-102C	NS	NS	NS	NS	4,610	3,920	4,980	4,590
MW-102D	NS	5,560	NS	NS	16,100	6,890	11,100	8,810
MW-103A	U	U	NS	NS	U	NS	416	NA
MW-103B	U	U	NS	NS	U	NS	U	NA
MW-103C	U		NS	NS	U	NS	U	NA
MW-104A	NS	NS	NS	3,320	4,580	2,960	844	798
MW-104B	U	U	NS	NS	U	NS	U	NA
MW-104C	NS	U	NS	NS	U	NS	U	NA
MW-105A	NS	NS	NS	NS	U	NS	U	U
MW-105B	4,640	NS	NS	NS	3,970	4,780	3,860	NA
MW-105C	4,780	NS	NS	NS	1,990	NS	1,030	NA
MW-106A	430	7,000	11,260	13,100	10,300	9,810	7,170	7,620
MW-106B	U	U	NS	NS	U	NS	U	NA
MW-106C	U	U	NS	NS	U		U	NA
MW-106D	U	U	NS	NS	U		U	NA
MW-107A	NS	NS	NS	NS	4,910	5,050	5,910	6,130
MW-107B	NS	NS	NS	NS	U	U	U	NA
MW-107C	NS	NS	NS	NS	41,300	37,200	36,000	36,600
MW-107D	NS	NS	NS	NS	11,900	12,000	11,800	13,300
MW-107E	NS	NS	NS	NS	NS	8,130	7,900	7,840
MW-170F	NS	NS	NS	NS	NS	NS	10,900	10,900
MW-108A	U	U	NS	NS	U	NS	U	NA
MW-108B	U	U	NS	NS	U	NS	U	NA

Notes:
1) All tritium concentrations pCi/L
2) NS - Not Sampled
3) NA - Not Analyzed

Table 7-1

Summary of Tritium Analytical Results
Yankee Nuclear Power Station
Rowe, MA

Monitoring Well	Q1 2005	Q4 2005	Jan-06	Feb-06	Q1 2006	May-06	Non-Filtered Q2 2006	Filtered Q2 2006
MW-108C	188	U	NS	NS	U	NS	U	NA
MW-109A	NS	NS	NS	NS	U	NS	U	NA
MW-109B	U	NS	NS	NS	U	NS	U	NA
MW-109C	NS	NS	NS	NS	U	NS	U	NA
MW-109D	U	NS	NS	NS	U	NS	U	NA
MW-110A	NS	NS	7,720	NS	2,930	2,770	2,990	2,810
MW-110B	NS	NS	NS	NS	U	NS	U	NA
MW-110C	NS	NS	NS	NS	1,160	NS	1,980	NA
MW-110D	NS	NS	NS	NS	U	NS	U	NA
MW-111A	NS	NS	NS	NS	4,440	3,940	3,050	3,640
MW-111B	NS	NS	NS	NS	U	NS	U	NA
MW-111C	NS	NS	NS	NS	U	NS	5,160	NA
MW-113A	NS	NS	NS	NS	NS	U	U	U
MW-113C	NS	NS	NS	NS	NS	NS	601	826
SP001	200	6,370	4,340	4,610	4,670	2,650	1,420	NA

Notes:
1) All tritium concentrations pCi/L
2) NS - Not Sampled
3) NA - Not Analyzed

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Mn-54	1-Sigma	Lc	MDC	Co-60	1-Sigma	Lc	MDC
CB-2								
March-05	-1.50E+00	1.70E+00	2.81E+00		3.40E+00	2.10E+00	3.47E+00	
CB-3								
April-06	-2.06E+00	9.40E-01	2.19E+00		4.98E-01	9.20E-01	2.14E+00	3.55E+00
June-06 Unfiltered	3.42E-01	9.20E-01	2.14E+00	3.54E+00	1.11E+00	8.90E-01	2.07E+00	3.70E+00
CB-4								
November-05	3.80E+00		3.62E+00		-1.50E+00		3.29E+00	
April-06	-1.14E-01	8.55E-01	1.99E+00		6.73E-01	1.04E+00	2.41E+00	3.95E+00
June-06 Unfiltered	1.11E+00	9.20E-01	2.14E+00	3.57E+00	8.72E-01	8.65E-01	2.02E+00	3.58E+00
CB-6								
March-05	-2.00E-01		1.97E+00		-1.60E+00		2.63E+00	
November-05	0.00E+00		2.63E+00		-9.00E-01		3.95E+00	
April-06	-1.21E+00	7.85E-01	1.83E+00		8.16E-01	8.80E-01	2.05E+00	3.58E+00
June-06 Unfiltered	-5.14E-01	8.40E-01	1.96E+00	2.90E+00	-1.13E-01	9.20E-01	2.14E+00	3.42E+00
June-06 Filtered	6.52E-02	1.20E+00	2.80E+00	4.41E+00	-7.87E-01	1.51E+00	3.52E+00	4.52E+00
CB-8								
April-06	-6.48E-01	1.07E+00	2.49E+00		1.39E+00	1.10E+00	2.55E+00	4.41E+00
June-06 Unfiltered	-2.37E+00	1.08E+00	2.50E+00	3.33E+00	6.02E-01	1.14E+00	2.64E+00	3.94E+00
CFW-1								
March-05								
April-06	7.10E-03	1.09E+00	2.54E+00		-4.69E-01	1.15E+00	2.67E+00	4.12E+00
June-06 Unfiltered	9.75E-01	1.19E+00	2.76E+00	4.46E+00	1.30E+00	1.27E+00	2.96E+00	4.83E+00
CFW-5								
March-05								
April-06								
June-06 Unfiltered	0.00E+00	1.99E+00	4.63E+00	3.90E+00	1.20E-01	1.35E+00	3.15E+00	4.85E+00
CFW-6								
March-05								
April-06								
June-06 Unfiltered	5.69E-01	1.03E+00	2.39E+00	3.56E+00	-4.13E-01	1.07E+00	2.48E+00	3.25E+00
CW-2								
April-06	-2.18E-01	1.05E+00	2.45E+00		-9.83E-01	1.08E+00	2.52E+00	3.90E+00
CW-6								
March-05	-3.00E-01	1.80E+00	2.98E+00		-8.00E-01	1.60E+00	2.65E+00	
CW-7								
March-05	2.00E-01	1.10E+00	1.82E+00		-2.40E+00	1.30E+00	2.15E+00	
CW-10								
April-06								
June-06 Unfiltered	1.11E-01	1.52E+00	3.53E+00	5.40E+00	2.28E+00	1.36E+00	3.16E+00	5.53E+00
MW-100A								
April-06	1.41E+00	1.04E+00	2.42E+00		1.22E+00	1.42E+00	3.30E+00	4.01E+00
June-06 Unfiltered	1.13E-01	1.74E+00	4.05E+00	4.46E+00	3.83E+00	2.46E+00	5.73E+00	5.17E+00
MW-100B								
April-06	9.57E-01	9.10E-01	2.12E+00		3.89E-01	8.50E-01	1.98E+00	3.61E+00
June-06 Unfiltered	1.41E+00	7.45E-01	1.74E+00	2.90E+00	1.15E+00	1.12E+00	2.61E+00	3.10E+00

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Nb-94	1-Sigma	Lc	MDC	Ag-108m	1-Sigma	Lc	MDC
CB-2								
March-05	2.50E+00	1.80E+00	2.98E+00		1.60E+00	1.50E+00	2.48E+00	
CB-3								
April-06	9.47E-01	9.00E-01	2.10E+00	3.43E+00	1.42E+00	9.80E-01	2.28E+00	3.60E+00
June-06 Unfiltered	2.91E-01	8.90E-01	2.07E+00	3.24E+00	-5.76E-01	9.40E-01	2.19E+00	3.33E+00
CB-4								
November-05	1.00E-01		3.45E+00		1.50E+00		2.96E+00	
April-06	2.78E-01	8.55E-01	1.99E+00	3.17E+00	-8.70E-01	1.04E+00	2.42E+00	3.49E+00
June-06 Unfiltered	-1.63E+00	8.75E-01	2.04E+00	2.34E+00	1.24E+00	8.80E-01	2.05E+00	3.39E+00
CB-6								
March-05	-3.00E-01		1.81E+00		3.00E-01		1.65E+00	
November-05	4.00E+00		2.96E+00		-4.00E-01		2.30E+00	
April-06	1.19E+00	7.15E-01	1.67E+00	2.84E+00	8.21E-01	8.45E-01	1.97E+00	3.22E+00
June-06 Unfiltered	2.74E-01	7.65E-01	1.78E+00	2.80E+00	-7.88E-01	8.75E-01	2.04E+00	2.69E+00
June-06 Filtered	6.94E-01	1.15E+00	2.67E+00	4.07E+00	-1.08E+00	1.19E+00	2.77E+00	4.11E+00
CB-8								
April-06	-1.29E+00	9.40E-01	2.19E+00	3.15E+00	2.05E-01	8.35E-01	1.95E+00	3.14E+00
June-06 Unfiltered	2.10E+00	8.55E-01	1.99E+00	3.48E+00	3.98E-01	8.85E-01	2.06E+00	3.33E+00
CFW-1								
March-05								
April-06	1.38E+00	8.75E-01	2.04E+00	3.41E+00	3.09E-01	8.35E-01	1.95E+00	3.15E+00
June-06 Unfiltered	7.00E-02	1.09E+00	2.54E+00	3.81E+00	-1.11E+00	1.06E+00	2.46E+00	3.65E+00
CFW-5								
March-05								
April-06								
June-06 Unfiltered	-6.75E-01	1.15E+00	2.68E+00	4.03E+00	-1.92E+00	1.23E+00	2.85E+00	3.98E+00
CFW-6								
March-05								
April-06								
June-06 Unfiltered	-1.04E+00	8.95E-01	2.09E+00	2.90E+00	8.04E-01	8.75E-01	2.04E+00	3.04E+00
CW-2								
April-06	-1.52E+00	9.60E-01	2.24E+00	3.24E+00	-2.52E+00	1.09E+00	2.54E+00	3.37E+00
CW-6								
March-05	1.70E+00	1.60E+00	2.65E+00		4.00E-01	1.50E+00	2.48E+00	
CW-7								
March-05	-5.00E-01	1.00E+00	1.65E+00		-9.20E-01	8.90E-01	1.47E+00	
CW-10								
April-06								
June-06 Unfiltered	6.73E-01	1.33E+00	3.10E+00	4.84E+00	3.07E+00	1.43E+00	3.32E+00	5.15E+00
MW-100A								
April-06	8.11E-01	8.35E-01	1.95E+00	3.20E+00	9.00E-01	9.05E-01	2.11E+00	3.48E+00
June-06 Unfiltered	-2.09E-01	1.10E+00	2.56E+00	3.87E+00	-5.81E-01	1.11E+00	2.59E+00	3.96E+00
MW-100B								
April-06	7.64E-02	8.25E-01	1.92E+00	3.02E+00	-4.55E-01	7.95E-01	1.85E+00	2.88E+00
June-06 Unfiltered	-4.88E-02	8.40E-01	1.96E+00	2.76E+00	7.91E-02	9.05E-01	2.11E+00	3.07E+00

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Sb-125	1-Sigma	Lc	MDC	Cs-134	1-Sigma	Lc	MDC
CB-2								
March-05	5.70E+00	5.30E+00	8.77E+00		5.00E-01	1.60E+00	2.65E+00	
CB-3								
April-06	1.21E+00	2.87E+00	6.68E+00	1.01E+01	4.13E+00	1.38E+00	3.20E+00	4.16E+00
June-06 Unfiltered	4.61E-01	2.78E+00	6.48E+00	1.01E+01	7.99E-01	1.00E+00	2.33E+00	3.94E+00
CB-4								
November-05	3.90E+00		9.38E+00		-2.30E+00		3.62E+00	
April-06	2.29E+00	2.83E+00	6.58E+00	1.01E+01	-3.03E-01	1.23E+00	2.87E+00	3.83E+00
June-06 Unfiltered	-2.27E+00	2.28E+00	5.30E+00	8.03E+00	-3.17E+00	9.10E-01	2.12E+00	2.46E+00
CB-6								
March-05	1.70E+00		5.26E+00		2.00E+00		2.14E+00	
November-05	-1.80E+00		7.73E+00		4.50E+00		3.13E+00	
April-06	-1.38E+00	2.12E+00	4.93E+00	7.65E+00	-1.04E+00	8.85E-01	2.06E+00	3.02E+00
June-06 Unfiltered	1.05E+00	2.16E+00	5.02E+00	8.08E+00	2.51E-01	8.40E-01	1.96E+00	3.11E+00
June-06 Filtered	-4.03E+00	3.33E+00	7.75E+00	1.14E+01	3.17E+00	1.36E+00	3.17E+00	4.95E+00
CB-8								
April-06	4.44E-01	2.51E+00	5.85E+00	9.34E+00	-1.08E+00	1.07E+00	2.49E+00	3.63E+00
June-06 Unfiltered	-9.34E-01	2.37E+00	5.52E+00	8.67E+00	-8.07E-01	9.80E-01	2.28E+00	3.37E+00
CFW-1								
March-05								
April-06	1.54E+00	2.50E+00	5.81E+00	9.43E+00	9.21E-01	1.10E+00	2.56E+00	3.76E+00
June-06 Unfiltered	-5.09E+00	3.13E+00	7.28E+00	1.06E+01	1.97E+00	1.31E+00	3.05E+00	4.84E+00
CFW-5								
March-05								
April-06								
June-06 Unfiltered	-1.08E+00	3.43E+00	7.99E+00	1.16E+01	2.57E+00	1.37E+00	3.18E+00	5.22E+00
CFW-6								
March-05								
April-06								
June-06 Unfiltered	4.73E+00	2.47E+00	5.76E+00	8.89E+00	1.29E+00	1.15E+00	2.68E+00	3.66E+00
CW-2								
April-06	-3.94E+00	3.28E+00	7.64E+00	1.08E+01	6.55E-01	1.17E+00	2.73E+00	4.42E+00
CW-6								
March-05	-9.90E+00	3.80E+00	6.29E+00		2.70E+00	1.70E+00	2.81E+00	
CW-7								
March-05	5.00E-01	3.30E+00	5.46E+00		-1.50E+00	1.30E+00	2.15E+00	
CW-10								
April-06								
June-06 Unfiltered	4.29E+00	3.81E+00	8.88E+00	1.34E+01	8.24E-01	1.65E+00	3.84E+00	5.99E+00
MW-100A								
April-06	2.14E+00	2.60E+00	6.05E+00	9.90E+00	-1.15E+00	1.24E+00	2.89E+00	4.22E+00
June-06 Unfiltered	2.11E+00	3.22E+00	7.50E+00	1.19E+01	5.96E-01	1.35E+00	3.13E+00	4.86E+00
MW-100B								
April-06	2.93E+00	2.52E+00	5.86E+00	9.69E+00	-1.49E+00	9.45E-01	2.20E+00	3.08E+00
June-06 Unfiltered	1.50E+00	2.39E+00	5.57E+00	8.27E+00	-3.37E-01	1.06E+00	2.46E+00	3.39E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Cs-137	1-Sigma	Lc	MDC	Eu-152	1-Sigma	Lc	MDC
CB-2								
March-05	1.00E+00	2.10E+00	3.47E+00		-8.00E-01	4.10E+00	6.78E+00	
CB-3								
April-06	-1.08E+00	9.30E-01	2.17E+00	3.23E+00	-5.26E+00	2.99E+00	6.97E+00	9.76E+00
June-06 Unfiltered	0.00E+00	2.04E+00	4.75E+00	3.27E+00	-9.34E-01	2.78E+00	6.47E+00	1.00E+01
CB-4								
November-05	-1.10E+00		4.28E+00		-2.40E+00		7.24E+00	
April-06	2.04E+00	9.55E-01	2.23E+00	3.82E+00	-3.83E+00	3.08E+00	7.18E+00	1.03E+01
June-06 Unfiltered	1.67E+00	8.80E-01	2.05E+00	3.53E+00	-4.85E+00	2.38E+00	5.55E+00	8.13E+00
CB-6								
March-05	2.10E+00		2.30E+00		-2.50E+00		5.43E+00	
November-05	3.30E+00		2.96E+00		2.60E+00		4.44E+00	
April-06	-1.80E-01	7.90E-01	1.84E+00	2.89E+00	3.20E+00	2.43E+00	5.65E+00	8.82E+00
June-06 Unfiltered	-4.85E-01	7.95E-01	1.85E+00	2.80E+00	1.62E-01	2.79E+00	6.50E+00	9.56E+00
June-06 Filtered	1.34E+00	1.29E+00	2.99E+00	4.65E+00	-1.21E-01	3.24E+00	7.54E+00	1.16E+01
CB-8								
April-06	-1.30E+00	1.04E+00	2.42E+00	3.53E+00	-4.31E+00	2.67E+00	6.21E+00	8.69E+00
June-06 Unfiltered	9.35E-01	1.10E+00	2.55E+00	4.10E+00	-5.62E-01	2.82E+00	6.57E+00	9.71E+00
CFW-1								
March-05								
April-06	9.36E-02	1.06E+00	2.46E+00	3.83E+00	3.67E+00	2.75E+00	6.41E+00	1.00E+01
June-06 Unfiltered	2.27E-01	1.15E+00	2.67E+00	4.06E+00	3.43E+00	3.11E+00	7.25E+00	1.14E+01
CFW-5								
March-05								
April-06								
June-06 Unfiltered	1.45E+00	1.39E+00	3.23E+00	5.09E+00	-4.26E+00	3.76E+00	8.76E+00	1.25E+01
CFW-6								
March-05								
April-06								
June-06 Unfiltered	-2.26E+00	1.09E+00	2.53E+00	3.16E+00	5.00E+00	2.97E+00	6.92E+00	1.05E+01
CW-2								
April-06	-1.39E+00	1.12E+00	2.60E+00	3.85E+00	-5.00E+00	3.34E+00	7.77E+00	1.10E+01
CW-6								
March-05	1.60E+00	1.10E+00	1.82E+00		9.00E-01	3.60E+00	5.95E+00	
CW-7								
March-05	-3.00E-01	1.20E+00	1.98E+00		7.90E+00	3.30E+00	5.46E+00	1.00E+01
CW-10								
April-06								
June-06 Unfiltered	-2.02E-01	1.45E+00	3.37E+00	5.17E+00	-6.37E-01	4.23E+00	9.86E+00	1.44E+01
MW-100A								
April-06	-4.16E-01	9.20E-01	2.14E+00	3.29E+00	2.35E+00	2.76E+00	6.42E+00	9.91E+00
June-06 Unfiltered	9.23E-02	1.27E+00	2.95E+00	4.52E+00	-5.60E-01	3.81E+00	8.87E+00	1.28E+01
MW-100B								
April-06	-1.23E+00	8.95E-01	2.09E+00	3.01E+00	2.29E+00	2.63E+00	6.13E+00	9.46E+00
June-06 Unfiltered	3.58E-01	9.05E-01	2.11E+00	3.06E+00	1.38E+00	2.68E+00	6.24E+00	9.26E+00

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Eu-154	1-Sigma	Lc	MDC	Eu-155	1-Sigma	Lc	MDC
CB-2								
March-05	1.80E+00	5.60E+00	9.26E+00		-2.60E+00	5.90E+00	9.76E+00	
CB-3								
April-06	1.84E+00	2.80E+00	6.51E+00	9.62E+00	2.64E+00	3.77E+00	8.77E+00	1.35E+01
June-06 Unfiltered	3.62E+00	3.29E+00	7.65E+00	1.11E+01	-7.08E-02	3.50E+00	8.14E+00	1.24E+01
CB-4								
November-05	1.11E+01		9.87E+00		-9.10E+00		1.04E+01	
April-06	-1.27E+00	3.00E+00	6.99E+00	9.15E+00	-8.09E+00	3.78E+00	8.81E+00	1.28E+01
June-06 Unfiltered	1.18E+00	2.77E+00	6.44E+00	1.08E+01	2.79E+00	3.16E+00	7.36E+00	1.15E+01
CB-6								
March-05	-4.20E+00		4.61E+00		5.10E+00		8.55E+00	
November-05	1.50E+00		8.72E+00		1.20E+00		6.09E+00	
April-06	1.17E+00	2.23E+00	5.18E+00	8.94E+00	-3.52E+00	2.87E+00	6.68E+00	9.90E+00
June-06 Unfiltered	-1.13E+00	2.16E+00	5.03E+00	7.91E+00	-4.48E+00	3.24E+00	7.54E+00	1.12E+01
June-06 Filtered	2.68E+00	3.60E+00	8.39E+00	1.36E+01	-2.91E-03	3.82E+00	8.89E+00	1.34E+01
CB-8								
April-06	0.00E+00	3.98E+00	9.26E+00	1.07E+01	-1.16E-01	2.83E+00	6.58E+00	9.43E+00
June-06 Unfiltered	-2.84E+00	3.43E+00	7.98E+00	1.01E+01	4.33E+00	2.76E+00	6.43E+00	9.66E+00
CFW-1								
March-05								
April-06	3.09E+00	2.90E+00	6.75E+00	1.16E+01	1.33E+00	2.70E+00	6.29E+00	9.19E+00
June-06 Unfiltered	3.25E+00	3.25E+00	7.57E+00	1.25E+01	1.19E+01	4.87E+00	1.13E+01	1.30E+01
CFW-5								
March-05								
April-06								
June-06 Unfiltered	-3.68E+00	3.93E+00	9.15E+00	1.33E+01	-1.79E+00	4.16E+00	9.68E+00	1.44E+01
CFW-6								
March-05								
April-06								
June-06 Unfiltered	3.68E+00	2.71E+00	6.31E+00	9.13E+00	3.93E+00	3.46E+00	8.06E+00	1.17E+01
CW-2								
April-06	5.58E+00	2.61E+00	6.07E+00	1.17E+01	5.62E+00	3.97E+00	9.24E+00	1.48E+01
CW-6								
March-05	1.40E+00	4.10E+00	6.78E+00		5.80E+00	4.70E+00	7.77E+00	
CW-7								
March-05	-2.30E+00	3.20E+00	5.29E+00		-3.50E+00	4.90E+00	8.10E+00	
CW-10								
April-06								
June-06 Unfiltered	-2.45E+00	4.01E+00	9.33E+00	1.45E+01	5.21E+00	4.37E+00	1.02E+01	1.60E+01
MW-100A								
April-06	-1.28E-01	2.89E+00	6.72E+00	1.09E+01	-2.91E+00	3.53E+00	8.22E+00	1.25E+01
June-06 Unfiltered	2.79E+00	3.68E+00	8.56E+00	1.41E+01	3.21E+00	4.07E+00	9.48E+00	1.47E+01
MW-100B								
April-06	3.23E+00	2.62E+00	6.09E+00	1.08E+01	1.29E+00	3.21E+00	7.47E+00	1.17E+01
June-06 Unfiltered	-1.26E+00	2.68E+00	6.23E+00	8.66E+00	-2.29E+00	3.42E+00	7.96E+00	1.12E+01

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater

2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station

Rowe, MA

Well No. and Sample Date	Suite B							
	Tritium	1-Sigma	Lc	MDC	Gross Alpha	1-Sigma	Lc	MDC
CB-2								
March-05	1.02E+03	1.10E+02	1.82E+02	3.20E+02	7.40E-01	8.80E-01	1.46E+00	
CB-3								
April-06	1.41E+02	1.34E+02	3.12E+02	4.56E+02	-1.20E-02	7.70E-01	1.79E+00	3.26E+00
June-06 Unfiltered	7.42E+01	1.16E+02	2.69E+02	3.95E+02	-2.95E-01	4.99E-01	1.16E+00	2.37E+00
CB-4								
November-05	3.34E+03		1.55E+02		4.00E-01		1.65E+00	
April-06	-6.03E+01	9.40E+01	2.19E+02	3.29E+02	-1.10E+00	4.04E-01	9.41E-01	2.61E+00
June-06 Unfiltered	2.03E+02	1.19E+02	2.76E+02	3.98E+02	-7.42E-02	5.95E-01	1.39E+00	2.77E+00
CB-6								
March-05	5.90E+02	1.10E+02	1.82E+02	3.20E+02	2.00E-02	5.60E-01	9.26E-01	
November-05	9.74E+03		2.30E+02		3.10E-01		1.48E+00	
April-06	7.68E+03	1.94E+02	4.52E+02	3.32E+02	3.74E-01	4.22E-01	9.83E-01	1.79E+00
June-06 Unfiltered	1.91E+03	1.49E+02	3.47E+02	4.03E+02	7.32E-01	4.80E-01	1.12E+00	1.76E+00
June-06 Filtered	2.09E+03	9.60E+01	2.24E+02	2.19E+02	1.50E+00	7.45E-01	1.74E+00	2.67E+00
CB-8								
April-06	2.77E+02	1.26E+02	2.94E+02	4.17E+02	1.53E+00	1.22E+00	2.84E+00	4.16E+00
June-06 Unfiltered	-6.44E+00	1.15E+02	2.68E+02	4.00E+02	1.28E+01	1.41E+00	3.29E+00	3.04E+00
CFW-1								
March-05	-1.50E+02	1.00E+02	1.65E+02		5.10E-01	4.00E-01	6.62E-01	
April-06	3.32E+02	1.35E+02	3.13E+02	4.42E+02	3.11E+00	8.50E-01	1.98E+00	2.29E+00
June-06 Unfiltered	0.00E+00	6.30E+01	1.47E+02	2.19E+02	6.32E+00	7.70E-01	1.79E+00	2.11E+00
CFW-5								
March-05	-1.60E+02	1.00E+02	1.65E+02		1.51E+00	8.40E-01	1.39E+00	2.50E+00
April-06	8.72E+01	9.60E+01	2.24E+02	3.27E+02	8.58E-01	5.95E-01	1.39E+00	2.43E+00
June-06 Unfiltered	1.92E+02	6.65E+01	1.55E+02	2.18E+02	2.00E+00	3.81E-01	8.88E-01	9.52E-01
CFW-6								
March-05	0.00E+00	9.90E+01	1.64E+02		-8.00E-02	4.20E-01	6.95E-01	
April-06	3.00E+02	1.02E+02	2.38E+02	3.35E+02	1.13E+00	5.35E-01	1.25E+00	1.70E+00
June-06 Unfiltered	1.18E+03	1.49E+02	3.47E+02	4.05E+02	1.28E+00	5.10E-01	1.19E+00	1.68E+00
CW-2								
April-06	1.21E+01	9.55E+01	2.23E+02	3.30E+02	2.20E+00	1.11E+00	2.57E+00	4.21E+00
CW-6								
March-05	8.00E+01	1.00E+02	1.65E+02		-2.00E-02	5.40E-01	8.93E-01	
CW-7								
March-05	1.34E+03	1.10E+02	1.82E+02	3.20E+02	3.10E-01	7.60E-01	1.26E+00	
CW-10								
April-06	-1.71E+02	9.10E+01	2.12E+02	3.27E+02	3.27E+00	8.65E-01	2.02E+00	2.50E+00
June-06 Unfiltered	2.24E+02	1.25E+02	2.91E+02	4.17E+02	7.14E-01	4.91E-01	1.14E+00	1.77E+00
MW-100A								
April-06	-1.20E+01	9.40E+01	2.19E+02	3.27E+02	2.18E+01	1.89E+00	4.39E+00	1.93E+00
June-06 Unfiltered	2.20E+02	9.40E+01	2.19E+02	3.11E+02	1.27E+00	6.65E-01	1.55E+00	2.23E+00
MW-100B								
April-06	5.33E+01	9.55E+01	2.23E+02	3.28E+02	1.33E+00	8.00E-01	1.86E+00	3.24E+00
June-06 Unfiltered	-5.44E+00	8.80E+01	2.05E+02	3.07E+02	4.39E-01	4.59E-01	1.07E+00	1.90E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite B				Suite C			
	Gross Beta	1-Sigma	Lc	MDC	C-14	1-Sigma	Lc	MDC
CB-2								
March-05	6.30E+00	1.40E+00	2.32E+00	3.70E+00	7.00E+00	1.70E+01	2.81E+01	
CB-3								
April-06	5.27E+00	1.33E+00	3.09E+00	5.06E+00	-1.88E+01	2.46E+01	5.72E+01	8.68E+01
June-06 Unfiltered	3.52E+00	1.11E+00	2.57E+00	4.23E+00				
CB-4								
November-05	6.00E+00		1.81E+00		-5.00E+00		3.78E+01	
April-06	-2.96E+00	1.11E+00	2.59E+00	5.19E+00	4.63E+00	1.53E+01	3.55E+01	6.10E+01
June-06 Unfiltered	3.73E+00	1.12E+00	2.61E+00	4.27E+00				
CB-6								
March-05	6.50E+00	1.20E+00	1.98E+00	3.30E+00	1.10E+01	2.20E+01	3.64E+01	
November-05	7.60E+00		1.81E+00		1.00E+01		3.95E+01	
April-06	5.19E+00	1.07E+00	2.49E+00	3.88E+00	2.32E+01	1.29E+01	3.01E+01	4.33E+01
June-06 Unfiltered	2.05E+00	1.00E+00	2.33E+00	3.92E+00	5.01E+01	2.16E+01	5.03E+01	7.14E+01
June-06 Filtered	2.79E+00	5.50E-01	1.28E+00	1.81E+00	-1.30E+00	2.83E+01	6.59E+01	9.85E+01
CB-8								
April-06	1.37E+01	1.62E+00	3.76E+00	5.03E+00	-2.36E+01	2.76E+01	6.43E+01	9.76E+01
June-06 Unfiltered	8.00E+00	1.58E+00	3.68E+00	5.02E+00				
CFW-1								
March-05	1.84E+00	9.00E-01	1.49E+00	2.80E+00				
April-06	4.46E+00	1.19E+00	2.77E+00	4.54E+00	3.23E+00	1.93E+01	4.49E+01	6.67E+01
June-06 Unfiltered	6.50E+00	8.70E-01	2.03E+00	2.68E+00				
CFW-5								
March-05	6.10E+00	1.20E+00	1.98E+00	3.10E+00				
April-06	7.27E+00	1.35E+00	3.13E+00	4.82E+00				
June-06 Unfiltered	8.11E+00	7.90E-01	1.84E+00	2.29E+00				
CFW-6								
March-05	4.10E+00	1.10E+00	1.82E+00	3.10E+00				
April-06	4.26E+00	1.34E+00	3.11E+00	5.28E+00				
June-06 Unfiltered	2.50E+00	5.25E-01	1.22E+00	1.75E+00				
CW-2								
April-06	2.63E+01	1.99E+00	4.63E+00	5.25E+00	-2.85E+00	1.25E+01	2.90E+01	4.33E+01
CW-6								
March-05	5.00E+00	1.20E+00	1.98E+00	3.10E+00	2.10E+01	2.20E+01	3.64E+01	
CW-7								
March-05	8.90E+00	1.40E+00	2.32E+00	3.60E+00				
CW-10								
April-06	7.62E+00	1.28E+00	2.97E+00	4.49E+00				
June-06 Unfiltered	4.26E+00	9.10E-01	2.12E+00	3.13E+00				
MW-100A								
April-06	3.78E+01	2.13E+00	4.95E+00	4.57E+00	2.45E+01	1.31E+01	3.05E+01	4.38E+01
June-06 Unfiltered	2.10E+00	1.10E+00	2.56E+00	4.55E+00				
MW-100B								
April-06	4.74E+00	1.28E+00	2.98E+00	4.96E+00	-5.62E+00	1.23E+01	2.85E+01	4.27E+01
June-06 Unfiltered	3.38E+00	9.60E-01	2.24E+00	3.58E+00				

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite C							
	Fe-55	1-Sigma	Lc	MDC	Ni-63	1-Sigma	Lc	MDC
CB-2								
March-05	3.50E+00	3.50E+00	5.79E+00		1.80E+00	3.20E+00	5.29E+00	
CB-3								
April-06	8.19E+00	4.12E+00	9.59E+00	1.22E+01	-9.44E-01	1.84E+00	4.29E+00	7.63E+00
June-06 Unfiltered								
CB-4								
November-05	-7.50E+00		5.10E+00		-1.80E+00		6.91E+00	
April-06	1.20E+01	6.60E+00	1.54E+01	1.98E+01	1.60E+00	2.00E+00	4.66E+00	6.77E+00
June-06 Unfiltered								
CB-6								
March-05	1.90E+00	3.20E+00	5.29E+00		9.00E-01	2.80E+00	4.63E+00	
November-05	-7.00E-01		7.24E+00		-1.90E+00		6.25E+00	
April-06	5.56E+00	6.30E+00	1.47E+01	1.90E+01	-2.78E+00	3.76E+00	8.75E+00	1.33E+01
June-06 Unfiltered	-2.04E+00	2.20E+00	5.13E+00	7.21E+00	-2.17E+00	2.82E+00	6.57E+00	1.01E+01
June-06 Filtered	-4.62E+00	2.75E+00	6.41E+00	9.09E+00	6.45E+00	2.69E+00	6.27E+00	8.94E+00
CB-8								
April-06	4.14E+00	5.70E+00	1.33E+01	1.75E+01	-7.07E-01	1.92E+00	4.46E+00	7.90E+00
June-06 Unfiltered								
CFW-1								
March-05								
April-06	-1.14E+00	4.36E+00	1.02E+01	1.38E+01	-7.16E-01	1.59E+00	3.70E+00	5.57E+00
June-06 Unfiltered								
CFW-5								
March-05								
April-06								
June-06 Unfiltered								
CFW-6								
March-05								
April-06								
June-06 Unfiltered								
CW-2								
April-06	2.17E+00	5.65E+00	1.32E+01	1.73E+01	-4.81E+00	3.35E+00	7.81E+00	1.20E+01
CW-6								
March-05	5.00E-01	3.20E+00	5.29E+00		7.00E-01	2.70E+00	4.47E+00	
CW-7								
March-05								
CW-10								
April-06								
June-06 Unfiltered								
MW-100A								
April-06	8.31E+00	6.35E+00	1.48E+01	1.89E+01	5.47E+01	2.54E+00	5.92E+00	6.90E+00
June-06 Unfiltered								
MW-100B								
April-06	-2.24E+00	5.80E+00	1.35E+01	1.79E+01	3.31E+00	4.23E+00	9.86E+00	1.45E+01
June-06 Unfiltered								

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite C							
	Sr-90	1-Sigma	Lc	MDC	Tc-99	1-Sigma	Lc	MDC
CB-2								
March-05	-2.20E+00	1.10E+00	1.82E+00		2.00E-01	2.80E+00	4.63E+00	
CB-3								
April-06	2.29E-01	1.28E-01	2.97E-01	5.05E-01	-2.96E+00	2.56E+00	5.95E+00	9.02E+00
June-06 Unfiltered								
CB-4								
November-05	3.50E-01	2.50E-01	4.14E-01	8.30E-01	-2.00E+00		2.80E+00	
April-06	-3.80E-01	9.20E-02	2.14E-01	5.54E-01	3.56E+00	2.34E+00	5.45E+00	7.87E+00
June-06 Unfiltered								
CB-6								
March-05	-1.10E+00	1.10E+00	1.82E+00		1.30E+00	3.80E+00	6.29E+00	
November-05	-5.00E-01	2.20E-01	3.64E-01	7.30E-01	2.10E+00		2.80E+00	
April-06	9.51E-02	1.46E-01	3.40E-01	6.14E-01	-1.86E+00	2.56E+00	5.95E+00	9.00E+00
June-06 Unfiltered	-1.16E-01	1.66E-01	3.86E-01	8.91E-01	2.71E-01	2.56E+00	5.96E+00	8.83E+00
June-06 Filtered	-2.86E-02	1.31E-01	3.04E-01	6.65E-01	-1.01E+00	2.55E+00	5.94E+00	8.87E+00
CB-8								
April-06	-1.37E-01	1.01E-01	2.34E-01	4.72E-01	-9.70E-01	2.39E+00	5.57E+00	8.35E+00
June-06 Unfiltered								
CFW-1								
March-05								
April-06	-1.05E-01	1.20E-01	2.80E-01	5.47E-01	-4.54E+00	2.59E+00	6.02E+00	9.23E+00
June-06 Unfiltered								
CFW-5								
March-05								
April-06								
June-06 Unfiltered								
CFW-6								
March-05								
April-06								
June-06 Unfiltered								
CW-2								
April-06	1.98E-01	1.53E-01	3.55E-01	6.22E-01	-2.92E-01	2.29E+00	5.34E+00	7.97E+00
CW-6								
March-05	-1.90E+00	1.10E+00	1.82E+00		1.50E+00	3.80E+00	6.29E+00	
CW-7								
March-05								
CW-10								
April-06								
June-06 Unfiltered								
MW-100A								
April-06	3.49E-02	1.39E-01	3.23E-01	5.97E-01	8.77E-01	2.32E+00	5.39E+00	7.98E+00
June-06 Unfiltered								
MW-100B								
April-06	-2.01E-01	1.25E-01	2.91E-01	5.99E-01	-8.40E-01	2.19E+00	5.09E+00	7.65E+00
June-06 Unfiltered								

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite D							
	Pu-238	1-Sigma	Lc	MDC	Pu-239/240	1-Sigma	Lc	MDC
CB-2								
March-05	0.00E+00	1.10E-03	1.82E-03		-9.60E-03	6.80E-03	1.12E-02	
CB-3								
April-06	0.00E+00	1.87E-02	4.36E-02	5.18E-02	-2.75E-02	2.17E-02	5.06E-02	1.58E-01
June-06 Unfiltered								
CB-4								
November-05	2.00E-02		3.29E-02		-7.80E-04		1.28E-03	
April-06	0.00E+00	1.85E-02	4.31E-02	5.12E-02	0.00E+00	1.85E-02	4.31E-02	5.12E-02
June-06 Unfiltered								
CB-6								
March-05	-4.70E-03	4.70E-03	7.77E-03		-9.30E-03	6.60E-03	1.09E-02	
November-05	3.40E-02		3.95E-02		-2.80E-03		2.63E-03	
April-06	-7.50E-03	1.94E-02	4.52E-02	3.88E-01	-3.61E-02	2.21E-02	5.14E-02	4.41E-02
June-06 Unfiltered	-4.13E-03	1.74E-02	4.04E-02	8.59E-02	-3.44E-03	1.92E-02	4.46E-02	1.34E-01
June-06 Filtered	3.72E-02	3.70E-02	8.61E-02	1.63E-01	-4.71E-02	2.24E-02	5.21E-02	1.83E-01
CB-8								
April-06	1.25E-02	1.67E-02	3.88E-02	8.23E-02	4.62E-03	1.75E-02	4.08E-02	1.10E-01
June-06 Unfiltered								
CFW-1								
March-05								
April-06	4.40E-02	4.34E-02	1.01E-01	1.91E-01	-1.56E-02	3.62E-02	8.42E-02	2.20E-01
June-06 Unfiltered								
CFW-5								
March-05								
April-06								
June-06 Unfiltered								
CFW-6								
March-05								
April-06								
June-06 Unfiltered								
CW-2								
April-06	-2.90E-02	3.74E-02	8.71E-02	2.28E-01	-5.26E-03	3.62E-02	8.42E-02	2.03E-01
CW-6								
March-05	0.00E+00	1.30E-03	2.15E-03		0.00E+00	1.30E-03	2.15E-03	
CW-7								
March-05								
CW-10								
April-06								
June-06 Unfiltered								
MW-100A								
April-06	-7.02E-03	1.82E-02	4.23E-02	1.32E-01	1.27E-03	2.45E-02	5.71E-02	1.46E-01
June-06 Unfiltered								
MW-100B								
April-06	-2.26E-02	9.90E-03	2.31E-02	1.47E-01	-3.92E-02	3.19E-02	7.42E-02	2.28E-01
June-06 Unfiltered								

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite D							
	Pu-241	1-Sigma	Lc	MDC	Am-241	1-Sigma	Lc	MDC
CB-2								
March-05	2.70E+00	2.60E+00	4.30E+00		-1.35E-01	5.60E-02	9.26E-02	
CB-3								
April-06	-7.15E+00	2.89E+00	6.72E+00	1.26E+01	3.48E-02	2.53E-02	5.89E-02	8.36E-02
June-06 Unfiltered								
CB-4								
November-05	5.70E+00		4.44E+00		-2.00E-02		2.15E-02	
April-06	-5.07E-01	2.91E+00	6.78E+00	1.00E+01	-1.15E-02	1.45E-02	3.37E-02	4.00E-02
June-06 Unfiltered								
CB-6								
March-05	5.00E-01	2.20E+00	3.64E+00		-9.60E-02	6.40E-02	1.06E-01	
November-05	-3.00E-01		4.94E+00		-8.00E-03		2.47E-02	
April-06	3.66E+00	1.88E+00	4.37E+00	6.27E+00	3.36E-03	1.31E-02	3.05E-02	2.62E-02
June-06 Unfiltered	-5.09E-01	2.06E+00	4.80E+00	7.11E+00	-5.56E-03	9.35E-03	2.18E-02	1.06E-01
June-06 Filtered	-6.46E-01	2.24E+00	5.21E+00	7.76E+00	1.62E-02	4.20E-02	9.77E-02	2.09E-01
CB-8								
April-06	-3.98E+00	3.31E+00	7.71E+00	1.17E+01	-1.59E-02	1.86E-02	4.32E-02	9.19E-02
June-06 Unfiltered								
CFW-1								
March-05								
April-06	-2.94E+00	2.52E+00	5.87E+00	8.91E+00	-1.92E-02	1.67E-02	3.88E-02	9.54E-02
June-06 Unfiltered								
CFW-5								
March-05								
April-06								
June-06 Unfiltered								
CFW-6								
March-05								
April-06								
June-06 Unfiltered								
CW-2								
April-06	1.42E+00	2.19E+00	5.09E+00	7.46E+00	-6.39E-03	2.02E-02	4.71E-02	1.39E-01
CW-6								
March-05	1.30E+00	2.60E+00	4.30E+00		-1.42E-01	5.80E-02	9.59E-02	
CW-7								
March-05								
CW-10								
April-06								
June-06 Unfiltered								
MW-100A								
April-06	3.34E+00	1.93E+00	4.50E+00	6.47E+00	-1.84E-02	1.49E-02	3.46E-02	8.50E-02
June-06 Unfiltered								
MW-100B								
April-06	3.76E+00	1.90E+00	4.43E+00	6.35E+00	-1.15E-02	1.70E-02	3.96E-02	4.70E-02
June-06 Unfiltered								

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite D							
	Cm-242	1-Sigma	Lc	MDC	Cm-243/244	1-Sigma	Lc	MDC
CB-2								
March-05	0.00E+00	4.10E-04	6.78E-04		0.00E+00	3.60E-04	5.95E-04	
CB-3								
April-06	0.00E+00	1.84E-02	4.29E-02	5.08E-02	-4.03E-03	3.95E-03	9.20E-03	8.38E-02
June-06 Unfiltered								
CB-4								
November-05	0.00E+00		2.63E-04		0.00E+00		2.15E-04	
April-06	0.00E+00	1.65E-02	3.84E-02	4.57E-02	-1.06E-02	1.57E-02	3.66E-02	9.84E-02
June-06 Unfiltered								
CB-6								
March-05	-5.20E-03	5.20E-03	8.60E-03		0.00E+00	3.50E-04	5.79E-04	
November-05	-8.50E-04		1.40E-03		0.00E+00		1.81E-04	
April-06	2.22E-02	2.18E-02	5.07E-02	6.01E-02	-4.70E-03	4.61E-03	1.07E-02	9.76E-02
June-06 Unfiltered	9.72E-02	4.26E-02	9.93E-02	5.27E-02	1.36E-02	1.81E-02	4.21E-02	8.93E-02
June-06 Filtered	-8.82E-03	1.90E-02	4.43E-02	1.09E-01	8.91E-03	4.88E-02	1.14E-01	2.45E-01
CB-8								
April-06	2.06E-02	2.03E-02	4.72E-02	5.60E-02	-1.33E-02	7.50E-03	1.75E-02	1.23E-01
June-06 Unfiltered								
CFW-1								
March-05								
April-06	-4.34E-03	4.25E-03	9.90E-03	9.01E-02	0.00E+00	1.58E-02	3.68E-02	4.37E-02
June-06 Unfiltered								
CFW-5								
March-05								
April-06								
June-06 Unfiltered								
CFW-6								
March-05								
April-06								
June-06 Unfiltered								
CW-2								
April-06	3.18E-02	2.54E-02	5.92E-02	9.01E-02	-3.83E-03	3.75E-03	8.74E-03	7.95E-02
CW-6								
March-05	0.00E+00	4.30E-04	7.11E-04		0.00E+00	3.70E-04	6.12E-04	
CW-7								
March-05								
CW-10								
April-06								
June-06 Unfiltered								
MW-100A								
April-06	1.62E-02	1.59E-02	3.70E-02	4.40E-02	-6.90E-03	1.49E-02	3.46E-02	8.52E-02
June-06 Unfiltered								
MW-100B								
April-06	0.00E+00	1.92E-02	4.46E-02	5.30E-02	0.00E+00	1.71E-02	3.97E-02	4.71E-02
June-06 Unfiltered								

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station

Rowe, MA

Well No. and Sample Date	Suite A							
	Mn-54	1-Sigma	Lc	MDC	Co-60	1-Sigma	Lc	MDC
MW-101A								
April-06								
June-06 Unfiltered	6.66E-02	6.75E-01	1.57E+00	2.56E+00	-1.14E-01	7.75E-01	1.81E+00	2.86E+00
MW-101B								
April-06	1.13E+00	9.15E-01	2.13E+00		1.41E+00	8.50E-01	1.98E+00	3.58E+00
June-06 Unfiltered	-1.32E+00	1.03E+00	2.39E+00	3.47E+00	9.06E-01	9.90E-01	2.31E+00	3.96E+00
MW-101C								
April-06	No Sample							
June-06 Unfiltered	No Sample							
MW-102A								
April-06	-1.57E+00	9.85E-01	2.30E+00		2.04E+00	1.57E+00	3.66E+00	4.08E+00
June-06 Unfiltered	-1.85E+00	1.44E+00	3.36E+00	3.95E+00	-2.45E-01	1.32E+00	3.06E+00	4.35E+00
June-06 Filtered	0.00E+00	2.88E+00	6.71E+00	2.62E+00	5.96E-01	9.10E-01	2.12E+00	3.45E+00
MW-102B								
April-06	-7.45E-01	9.10E-01	2.12E+00		-4.20E-01	9.80E-01	2.28E+00	3.61E+00
June-06 Unfiltered	2.50E-01	1.26E+00	2.92E+00	4.44E+00	6.86E-01	1.20E+00	2.80E+00	4.56E+00
MW-102C								
April-06	3.41E-01	8.45E-01	1.97E+00		-3.05E-01	9.05E-01	2.11E+00	3.47E+00
June-06 Unfiltered	1.61E-01	1.37E+00	3.18E+00	4.87E+00	5.04E-02	1.39E+00	3.24E+00	5.09E+00
June-06 Filtered	3.46E-01	8.45E-01	1.97E+00	3.04E+00	-8.00E-01	8.65E-01	2.02E+00	3.01E+00
MW-102D								
April-06	1.04E+00	1.05E+00	2.45E+00		9.14E-01	1.14E+00	2.66E+00	4.44E+00
June-06 Unfiltered	4.44E-01	9.60E-01	2.24E+00	3.67E+00	-5.40E-01	8.40E-01	1.96E+00	3.09E+00
June-06 Filtered	-3.88E-01	9.05E-01	2.11E+00	3.25E+00	-5.03E-01	9.75E-01	2.27E+00	3.65E+00
MW-103A								
March-05	-6.00E-01		1.81E+00		-2.60E-01		1.63E+00	
November-05	1.00E+00		3.29E+00		2.00E-01		3.62E+00	
April-06	7.81E-01	9.20E-01	2.14E+00		-7.20E-02	8.55E-01	1.99E+00	3.28E+00
June-06 Unfiltered	2.03E+00	1.51E+00	3.52E+00	4.11E+00	2.19E+00	1.21E+00	2.81E+00	4.78E+00
MW-103B								
March-05	2.10E+00		3.13E+00		-9.00E-01		2.14E+00	
November-05	-1.90E+00		3.29E+00		-5.00E-01		4.28E+00	
April-06	2.35E-01	9.40E-01	2.19E+00		1.22E+00	1.04E+00	2.42E+00	4.32E+00
June-06 Unfiltered	1.26E+00	1.62E+01	3.77E+01	5.78E+00	-3.03E+00	1.78E+00	4.14E+00	5.91E+00
MW-103C								
March-05	-5.00E-01		2.63E+00		1.00E-01		3.45E+00	
November-05	-5.00E-01		3.45E+00		2.00E-01		3.45E+00	
April-06	7.86E-01	9.90E-01	2.31E+00		1.73E-01	9.95E-01	2.32E+00	3.39E+00
June-06 Unfiltered	9.77E-01	8.40E-01	1.96E+00	3.40E+00	-1.43E-01	8.75E-01	2.04E+00	3.28E+00
MW-104A								
April-06	-3.53E-01	1.43E+00	3.33E+00		1.05E+00	1.29E+00	3.01E+00	5.15E+00
June-06 Unfiltered	-1.24E+00	1.39E+00	3.24E+00	4.71E+00	-6.97E-01	1.17E+00	2.71E+00	4.24E+00
June-06 Filtered	-1.13E+00	1.20E+00	2.80E+00	3.92E+00	-3.15E+00	1.38E+00	3.22E+00	3.94E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Nb-94	1-Sigma	Lc	MDC	Ag-108m	1-Sigma	Lc	MDC
MW-101A								
April-06								
June-06 Unfiltered	6.75E-01	7.75E-01	1.81E+00	2.84E+00	-5.69E-01	7.60E-01	1.77E+00	2.67E+00
MW-101B								
April-06	-9.89E-01	8.20E-01	1.91E+00	2.82E+00	-7.24E-01	8.25E-01	1.92E+00	2.96E+00
June-06 Unfiltered	1.26E+00	8.95E-01	2.09E+00	3.46E+00	1.18E+00	8.70E-01	2.03E+00	3.25E+00
MW-101C								
April-06								
June-06 Unfiltered								
MW-102A								
April-06	4.67E-01	8.20E-01	1.91E+00	2.78E+00	2.67E-01	8.50E-01	1.98E+00	2.90E+00
June-06 Unfiltered	-3.34E+00	2.44E+00	5.69E+00	4.03E+00	-1.12E+00	1.34E+00	3.12E+00	3.56E+00
June-06 Filtered	1.89E+00	8.00E-01	1.86E+00	2.92E+00	4.33E-01	8.20E-01	1.91E+00	2.91E+00
MW-102B								
April-06	4.84E-01	9.00E-01	2.10E+00	3.37E+00	-1.61E+00	9.95E-01	2.32E+00	3.27E+00
June-06 Unfiltered	3.79E+00	1.29E+00	3.01E+00	4.93E+00	5.45E-01	1.11E+00	2.59E+00	4.06E+00
MW-102C								
April-06	-3.19E-01	8.95E-01	2.09E+00	6.10E+00	-5.10E-01	8.75E-01	2.04E+00	3.18E+00
June-06 Unfiltered	2.75E+00	1.96E+00	4.57E+00	4.19E+00	1.64E+00	1.27E+00	2.95E+00	4.07E+00
June-06 Filtered	-9.51E-01	6.90E-01	1.61E+00	2.30E+00	4.72E-01	7.55E-01	1.76E+00	2.80E+00
MW-102D								
April-06	-2.79E-02	9.20E-01	2.14E+00	3.31E+00	1.07E+00	8.90E-01	2.07E+00	3.42E+00
June-06 Unfiltered	7.21E-01	8.30E-01	1.93E+00	3.17E+00	1.12E+00	9.20E-01	2.14E+00	3.55E+00
June-06 Filtered	-7.15E-01	8.85E-01	2.06E+00	3.12E+00	4.77E-01	8.60E-01	2.00E+00	3.29E+00
MW-103A								
March-05	-2.40E+00		1.81E+00		4.00E-01		1.97E+00	
November-05	-1.90E+00		3.13E+00		-2.70E+00		2.47E+00	
April-06	6.47E-01	7.85E-01	1.83E+00	2.99E+00	-1.43E-01	9.35E-01	2.18E+00	3.21E+00
June-06 Unfiltered	7.85E-01	1.21E+00	2.81E+00	4.38E+00	4.86E-01	1.27E+00	2.96E+00	3.87E+01
MW-103B								
March-05	1.20E+00		3.13E+00		-1.30E+00		2.63E+00	
November-05	-5.00E-01		2.96E+00		5.00E-01		2.63E+00	
April-06	6.58E-01	8.00E-01	1.86E+00	2.83E+00	-3.06E-01	9.60E-01	2.24E+00	3.52E+00
June-06 Unfiltered	7.30E-01	1.41E+00	3.27E+00	4.99E+00	-6.94E-01	1.22E+00	2.83E+00	4.27E+01
MW-103C								
March-05	2.60E+00		2.63E+00		-5.00E-01		1.97E+00	
November-05	1.20E+00		3.13E+00		-2.00E+00		3.29E+00	
April-06	1.85E-01	8.75E-01	2.04E+00	3.25E+00	-3.03E-01	9.35E-01	2.18E+00	3.27E+00
June-06 Unfiltered	-7.03E-01	8.85E-01	2.06E+00	3.03E+00	5.47E-01	9.20E-01	2.14E+00	3.42E+00
MW-104A								
April-06	-7.84E-01	1.18E+00	2.75E+00	4.10E+00	-4.48E-02	1.18E+00	2.74E+00	4.26E+00
June-06 Unfiltered	-6.43E-02	1.16E+00	2.69E+00	4.12E+00	1.37E+00	1.03E+00	2.40E+00	3.94E+00
June-06 Filtered	1.15E+00	1.14E+00	2.64E+00	4.01E+00	5.78E-01	1.18E+00	2.75E+00	3.99E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Sb-125	1-Sigma	Lc	MDC	Cs-134	1-Sigma	Lc	MDC
MW-101A								
April-06								
June-06 Unfiltered	-3.09E-01	2.03E+00	4.73E+00	7.30E+00	1.25E+00	7.15E-01	1.67E+00	3.43E+00
MW-101B								
April-06	-3.44E+00	2.34E+00	5.45E+00	8.20E+00	1.06E+00	9.50E-01	2.21E+00	3.79E+00
June-06 Unfiltered	2.60E+00	2.55E+00	5.93E+00	9.37E+00	1.22E+00	1.07E+00	2.48E+00	4.10E+00
MW-101C								
April-06								
June-06 Unfiltered								
MW-102A								
April-06	5.43E-01	2.57E+00	5.98E+00	8.71E+00	3.00E-01	1.00E+00	2.33E+00	3.33E+00
June-06 Unfiltered	-5.58E-01	3.10E+00	7.22E+00	1.04E+01	1.23E+00	1.30E+00	3.03E+00	4.21E+00
June-06 Filtered	2.27E+00	2.17E+00	5.04E+00	7.82E+00	2.03E+00	8.20E-01	1.91E+00	3.28E+00
MW-102B								
April-06	9.23E-01	2.77E+00	6.45E+00	9.90E+00	5.52E-01	1.01E+00	2.34E+00	3.80E+00
June-06 Unfiltered	-2.34E+00	3.17E+00	7.39E+00	1.12E+01	4.29E-01	1.40E+00	3.25E+00	4.97E+00
MW-102C								
April-06	4.29E-01	2.42E+00	5.63E+00	9.10E+00	2.29E+00	1.00E+00	2.33E+00	4.20E+00
June-06 Unfiltered	2.22E+00	3.96E+00	9.23E+00	1.23E+01	3.46E-01	1.36E+00	3.16E+00	4.89E+00
June-06 Filtered	1.35E+00	2.05E+00	4.78E+00	7.65E+00	3.62E-01	7.95E-01	1.85E+00	2.91E+00
MW-102D								
April-06	-2.87E+00	2.44E+00	5.67E+00	8.62E+00	-9.66E-01	1.17E+00	2.71E+00	3.98E+00
June-06 Unfiltered	-1.84E-01	2.37E+00	5.51E+00	8.77E+00	6.70E-01	8.85E-01	2.06E+00	3.45E+00
June-06 Filtered	2.70E+00	2.46E+00	5.73E+00	9.58E+00	-5.13E-01	1.00E+00	2.33E+00	3.60E+00
MW-103A								
March-05	-1.70E+00		5.43E+00		1.30E+00		1.97E+00	
November-05	-4.10E+00		7.40E+00		2.30E+00		3.78E+00	
April-06	-2.89E+00	2.70E+00	6.29E+00	8.90E+00	7.99E-01	1.07E+00	2.49E+00	4.01E+00
June-06 Unfiltered	3.77E+00	3.97E+00	9.25E+00	1.23E+01	-1.08E-01	1.22E+00	2.83E+00	4.38E+00
MW-103B								
March-05	-6.10E+00		7.40E+00		-1.30E+00		2.30E+00	
November-05	1.19E+01		8.88E+00		-2.50E+00		4.28E+00	
April-06	-3.68E+00	2.52E+00	5.87E+00	8.82E+00	-4.42E-01	9.25E-01	2.16E+00	3.35E+00
June-06 Unfiltered	-2.50E+00	3.65E+00	8.50E+00	1.28E+01	-2.42E-01	2.04E+00	4.74E+00	6.12E+00
MW-103C								
March-05	-7.00E-01		6.09E+00		-9.00E-01		2.80E+00	
November-05	-6.50E+00		9.21E+00		1.60E+00		3.29E+00	
April-06	3.45E+00	2.54E+00	5.91E+00	9.57E+00	1.82E+00	9.15E-01	2.13E+00	3.84E+00
June-06 Unfiltered	-3.94E+00	2.52E+00	5.86E+00	8.55E+00	2.45E-02	1.01E+00	2.35E+00	3.81E+00
MW-104A								
April-06	-1.32E+00	3.15E+00	7.34E+00	1.13E+01	5.50E-01	1.44E+00	3.34E+00	5.25E+00
June-06 Unfiltered	1.27E+00	3.05E+00	7.09E+00	1.13E+01	-3.87E-01	1.37E+00	3.18E+00	4.82E+00
June-06 Filtered	-9.71E-01	3.46E+00	8.05E+00	1.14E+01	-2.76E+00	1.45E+00	3.37E+00	4.16E+00

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Cs-137	1-Sigma	Lc	MDC	Eu-152	1-Sigma	Lc	MDC
MW-101A								
April-06								
June-06 Unfiltered	-3.95E-01	8.50E-01	1.98E+00	2.96E+00	2.65E+00	2.30E+00	5.36E+00	8.61E+00
MW-101B								
April-06	1.35E-01	9.85E-01	2.30E+00	3.66E+00	9.57E-01	2.66E+00	6.19E+00	9.41E+00
June-06 Unfiltered	6.31E-01	9.30E-01	2.17E+00	3.52E+00	2.66E+00	3.00E+00	6.99E+00	9.80E+00
MW-101C								
April-06								
June-06 Unfiltered								
MW-102A								
April-06	3.77E-01	8.75E-01	2.04E+00	2.96E+00	2.27E+00	2.66E+00	6.20E+00	9.30E+00
June-06 Unfiltered	-1.13E+00	1.23E+00	2.87E+00	3.93E+00	-5.20E-01	3.95E+00	9.20E+00	1.16E+01
June-06 Filtered	-6.57E-01	7.90E-01	1.84E+00	2.77E+00	1.78E+00	2.56E+00	5.96E+00	9.14E+00
MW-102B								
April-06	-4.08E-01	9.40E-01	2.19E+00	3.40E+00	-3.50E+00	2.89E+00	6.72E+00	9.82E+00
June-06 Unfiltered	-8.87E-01	1.24E+00	2.89E+00	4.29E+00	-1.58E-02	3.45E+00	8.04E+00	1.17E+01
MW-102C								
April-06	1.10E-01	8.55E-01	1.99E+00	3.23E+00	-8.68E-01	2.65E+00	6.17E+00	9.11E+00
June-06 Unfiltered	1.10E+00	1.29E+00	3.01E+00	4.77E+00	-1.74E-01	3.34E+00	7.77E+00	1.17E+01
June-06 Filtered	-1.66E+00	8.95E-01	2.09E+00	2.94E+00	5.41E-03	2.45E+00	5.70E+00	8.33E+00
MW-102D								
April-06	1.48E+00	1.01E+00	2.35E+00	3.91E+00	-1.95E+00	2.47E+00	5.76E+00	8.35E+00
June-06 Unfiltered	-7.35E-01	1.04E+00	2.42E+00	3.64E+00	3.39E+00	2.67E+00	6.22E+00	9.81E+00
June-06 Filtered	-9.25E-01	8.95E-01	2.09E+00	3.13E+00	-4.06E+00	2.76E+00	6.42E+00	8.96E+00
MW-103A								
March-05	-2.60E+00		1.97E+00		-3.10E+00		5.26E+00	
November-05	-3.60E+00		3.29E+00		6.20E+00		5.43E+00	
April-06	-4.81E-02	9.50E-01	2.21E+00	3.47E+00	7.98E-01	3.03E+00	7.05E+00	1.06E+01
June-06 Unfiltered	2.51E+00	1.41E+00	3.29E+00	5.29E+00	7.21E-01	3.71E+00	8.63E+00	1.28E+01
MW-103B								
March-05	0.00E+00		3.13E+00		9.00E-01		7.40E+00	
November-05	-1.80E+00		3.45E+00		2.40E+00		6.25E+00	
April-06	1.68E+00	1.02E+00	2.38E+00	3.75E+00	-2.07E+00	2.57E+00	5.99E+00	8.65E+00
June-06 Unfiltered	2.74E+00	1.57E+00	3.65E+00	5.77E+00	6.50E+00	5.80E+00	1.35E+01	1.29E+01
MW-103C								
March-05	-1.10E+00		2.63E+00		4.40E+00		5.26E+00	
November-05	-4.70E+00		2.96E+00		1.80E+00		7.90E+00	
April-06	-8.94E-01	8.90E-01	2.07E+00	3.13E+00	1.30E-01	2.55E+00	5.93E+00	9.15E+00
June-06 Unfiltered	1.75E+00	9.50E-01	2.21E+00	3.74E+00	2.91E+00	2.66E+00	6.19E+00	1.01E+01
MW-104A								
April-06	1.48E+00	2.18E+00	5.08E+00	4.78E+00	1.56E-01	2.99E+00	6.97E+00	1.10E+01
June-06 Unfiltered	3.64E+00	2.09E+00	4.87E+00	4.36E+00	3.91E+00	2.90E+00	6.75E+00	1.11E+01
June-06 Filtered	-2.03E+00	1.30E+00	3.03E+00	3.99E+00	4.38E-01	4.02E+00	9.37E+00	1.18E+01

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Eu-154	1-Sigma	Lc	MDC	Eu-155	1-Sigma	Lc	MDC
MW-101A								
April-06								
June-06 Unfiltered	-1.50E+00	2.14E+00	4.99E+00	7.61E+00	-1.59E-01	3.02E+00	7.04E+00	1.06E+01
MW-101B								
April-06	-6.34E+00	2.55E+00	5.94E+00	7.96E+00	-1.22E-01	3.29E+00	7.67E+00	1.18E+01
June-06 Unfiltered	-4.70E+00	2.79E+00	6.50E+00	9.33E+00	-1.92E+00	3.52E+00	8.20E+00	1.20E+01
MW-101C								
April-06								
June-06 Unfiltered								
MW-102A								
April-06	-9.99E-01	2.65E+00	6.16E+00	8.61E+00	-4.40E+00	3.31E+00	7.71E+00	1.06E+01
June-06 Unfiltered	-1.12E+00	6.40E+00	1.49E+01	1.23E+01	-2.11E+00	4.05E+00	9.42E+00	1.16E+01
June-06 Filtered	5.75E+00	2.13E+00	4.95E+00	9.07E+00	-1.49E+00	3.11E+00	7.23E+00	1.06E+01
MW-102B								
April-06	3.69E-01	2.67E+00	6.22E+00	1.03E+01	5.28E+00	3.47E+00	8.07E+00	1.25E+01
June-06 Unfiltered	1.84E+00	3.88E+00	9.04E+00	1.44E+01	1.40E+00	2.75E+00	6.41E+00	1.01E+01
MW-102C								
April-06	2.21E-01	2.61E+00	6.07E+00	1.03E+01	4.48E+00	3.47E+00	8.09E+00	1.28E+01
June-06 Unfiltered	6.58E+00	3.75E+00	8.73E+00	1.36E+01	-1.19E+00	4.11E+00	9.58E+00	1.40E+01
June-06 Filtered	3.48E+00	2.50E+00	5.81E+00	9.04E+00	-1.95E+00	3.16E+00	7.36E+00	1.11E+01
MW-102D								
April-06	-2.78E+00	3.23E+00	7.51E+00	1.13E+01	-5.62E+00	2.85E+00	6.63E+00	8.98E+00
June-06 Unfiltered	-1.91E+00	2.97E+00	6.92E+00	1.07E+01	-5.00E-01	3.50E+00	8.16E+00	1.26E+01
June-06 Filtered	7.30E-01	2.79E+00	6.50E+00	1.10E+01	1.02E-01	3.21E+00	7.47E+00	1.15E+01
MW-103A								
March-05	-7.00E-01		5.92E+00		-1.00E+00		8.06E+00	
November-05	-2.90E+00		9.87E+00		-1.70E+00		7.73E+00	
April-06	1.98E+00	2.41E+00	5.62E+00	9.76E+00	4.07E+00	3.66E+00	8.53E+00	1.35E+01
June-06 Unfiltered	2.05E+00	3.48E+00	8.10E+00	1.29E+01	-3.25E+00	4.08E+00	9.51E+00	1.41E+01
MW-103B								
March-05	2.90E+00		1.05E+01		1.42E+01		1.12E+01	
November-05	-1.10E+00		8.72E+00		1.00E+00		7.90E+00	
April-06	7.13E-02	2.09E+00	4.86E+00	8.44E+00	1.02E+01	4.41E+00	1.03E+01	1.22E+01
June-06 Unfiltered	-4.40E+00	4.71E+00	1.10E+01	1.63E+01	1.43E+00	3.17E+00	7.39E+00	1.11E+01
MW-103C								
March-05	4.00E-01		9.38E+00		-9.60E+00		7.24E+00	
November-05	-5.90E+00		9.87E+00		-6.00E-01		1.17E+01	
April-06	-3.19E-01	2.88E+00	6.71E+00	1.09E+01	-2.74E+00	3.51E+00	8.18E+00	1.20E+01
June-06 Unfiltered	-3.62E-01	2.89E+00	6.72E+00	1.07E+01	-3.42E+00	3.33E+00	7.75E+00	1.15E+01
MW-104A								
April-06	2.56E+00	3.53E+00	8.22E+00	1.40E+01	-1.00E+00	2.97E+00	6.92E+00	1.04E+01
June-06 Unfiltered	5.18E+00	3.59E+00	8.36E+00	1.47E+01	5.50E-02	3.87E+00	9.02E+00	1.35E+01
June-06 Filtered	3.81E+00	3.58E+00	8.33E+00	1.25E+01	3.02E+00	3.78E+00	8.80E+00	1.26E+01

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite B							
	Tritium	1-Sigma	Lc	MDC	Gross Alpha	1-Sigma	Lc	MDC
MW-101A								
April-06	1.69E+04	3.40E+02	7.92E+02	4.23E+02				
June-06 Unfiltered	8.52E+03	2.29E+02	5.34E+02	4.01E+02	2.59E+00	8.30E-01	1.93E+00	2.62E+00
MW-101B								
April-06	-1.83E+02	1.26E+02	2.94E+02	4.55E+02	1.41E+00	5.85E-01	1.36E+00	2.03E+00
June-06 Unfiltered	8.89E+00	1.20E+02	2.78E+02	4.14E+02	2.14E+00	7.15E-01	1.67E+00	2.32E+00
MW-101C								
April-06	No Sample							
June-06 Unfiltered	No Sample							
MW-102A								
April-06	4.49E+03	1.58E+02	3.68E+02	3.24E+02	-8.72E-02	3.61E-01	8.40E-01	1.97E+00
June-06 Unfiltered	4.26E+03	2.18E+02	5.08E+02	4.16E+02	-1.88E-02	4.59E-01	1.07E+00	1.73E+00
June-06 Filtered	4.64E+03	2.14E+02	4.97E+02	3.84E+02	1.54E+00	5.05E-01	1.18E+00	1.60E+00
MW-102B								
April-06	-2.16E+02	1.23E+02	2.85E+02	4.46E+02	2.10E+00	8.00E-01	1.86E+00	2.92E+00
June-06 Unfiltered	4.53E+01	6.40E+01	1.49E+02	2.19E+02	3.37E+00	4.42E-01	1.03E+00	9.73E-01
MW-102C								
April-06	4.61E+03	2.04E+02	4.75E+02	4.29E+02	1.51E+00	7.55E-01	1.76E+00	
June-06 Unfiltered	4.98E+03	2.27E+02	5.28E+02	4.04E+02	1.44E+00	5.00E-01	1.17E+00	1.44E+00
June-06 Filtered	4.59E+03	2.22E+02	5.17E+02	4.10E+02	5.64E-02	4.50E-01	1.05E+00	1.83E+00
MW-102D								
April-06	1.61E+04	3.39E+02	7.90E+02	4.54E+02	2.78E+00	1.43E+00	3.33E+00	4.54E+00
June-06 Unfiltered	1.11E+04	3.14E+02	7.30E+02	4.04E+02	2.13E+00	5.60E-01	1.30E+00	1.66E+00
June-06 Filtered	8.81E+03	4.20E+02	9.77E+02	8.26E+02	2.79E-01	8.10E-01	1.89E+00	3.11E+00
MW-103A								
March-05	-1.10E+02	1.00E+02	1.65E+02		5.60E-01	6.00E-01	9.92E-01	
November-05	-1.41E+02		1.48E+02		1.90E+00		1.40E+00	
April-06	-7.70E+01	1.21E+02	2.82E+02	4.28E+02	6.04E-01	4.00E-01	9.31E-01	1.38E+00
June-06 Unfiltered	4.16E+02	1.29E+02	3.01E+02	4.11E+02	-7.05E-01	5.30E-01	1.23E+00	2.21E+00
MW-103B								
March-05	9.30E+01	9.90E+01	1.64E+02		1.56E+00	7.30E-01	1.21E+00	1.90E+00
November-05	-5.60E+01		1.50E+02		2.53E+00		8.40E-01	
April-06	9.46E+01	1.25E+02	2.90E+02	4.28E+02	2.57E+00	8.50E-01	1.98E+00	2.51E+00
June-06 Unfiltered	2.49E+01	1.19E+02	2.77E+02	4.18E+02	3.68E+00	5.45E-01	1.27E+00	1.32E+00
MW-103C								
March-05	1.60E+02	1.00E+02	1.65E+02		3.80E-01	7.90E-01	1.31E+00	
November-05	-8.40E+01		1.48E+02		8.00E-01		1.65E+00	
April-06	-1.71E+02	1.22E+02	2.83E+02	4.39E+02	1.27E+00	1.20E+00	2.80E+00	4.98E+00
June-06 Unfiltered	7.18E+01	1.16E+02	2.69E+02	4.02E+02	7.40E-01	6.20E-01	1.44E+00	2.29E+00
MW-104A								
April-06	4.58E+03	1.61E+02	3.75E+02	3.29E+02	-9.13E-02	3.70E-01	8.62E-01	1.71E+00
June-06 Unfiltered	8.44E+02	1.21E+02	2.82E+02	3.65E+02	-4.12E-01	4.14E-01	9.63E-01	2.19E+00
June-06 Filtered	7.98E+02	7.60E+01	1.77E+02	2.14E+02	-1.58E-01	3.57E-01	8.32E-01	1.60E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite B				Suite C			
	Gross Beta	1-Sigma	Lc	MDC	C-14	1-Sigma	Lc	MDC
MW-101A								
April-06								
June-06 Unfiltered	1.16E+01	1.38E+00	3.20E+00	4.42E+00	-5.34E+00	2.03E+01	4.73E+01	7.10E+01
MW-101B								
April-06	2.57E+01	1.57E+00	3.65E+00	4.16E+00	-8.30E+00	1.90E+01	4.42E+01	6.65E+01
June-06 Unfiltered	4.75E+00	1.24E+00	2.89E+00	4.72E+00				
MW-101C								
April-06					No Sample			
June-06 Unfiltered					No Sample			
MW-102A								
April-06	3.27E+00	1.13E+00	2.63E+00	4.50E+00	-2.38E+00	1.23E+01	2.87E+01	4.26E+01
June-06 Unfiltered	4.12E+00	8.55E-01	1.99E+00	2.97E+00	2.62E+01	2.21E+01	5.15E+01	7.49E+01
June-06 Filtered	1.63E+00	5.40E-01	1.26E+00	1.92E+00	-3.48E+01	2.12E+01	4.93E+01	7.57E+01
MW-102B								
April-06	5.69E+00	1.19E+00	2.76E+00	4.38E+00	1.48E+01	1.94E+01	4.51E+01	6.62E+01
June-06 Unfiltered	7.29E-01	6.75E-01	1.57E+00	2.28E+00				
MW-102C								
April-06	4.62E+00	1.06E+00	2.47E+00	3.92E+00	-1.57E+01	1.88E+01	4.37E+01	6.62E+01
June-06 Unfiltered	5.84E+00	9.20E-01	2.14E+00	3.09E+00	1.48E+00	2.19E+01	5.10E+01	7.60E+01
June-06 Filtered	6.11E-01	4.83E-01	1.13E+00	1.81E+00	-3.83E+01	2.11E+01	4.90E+01	7.56E+01
MW-102D								
April-06	8.76E+00	1.95E+00	4.54E+00	7.13E+00	-2.66E+01	1.87E+01	4.35E+01	6.67E+01
June-06 Unfiltered	2.73E+00	5.15E-01	1.20E+00	1.67E+00	2.05E+01	2.22E+01	5.16E+01	7.55E+01
June-06 Filtered	6.36E+00	6.25E-01	1.46E+00	1.70E+00	2.73E+01	1.94E+01	4.52E+01	6.55E+01
MW-103A								
March-05	5.70E+00	1.10E+00	1.82E+00	2.90E+00	-8.00E+00	2.00E+01	3.31E+01	
November-05	4.10E+00		1.81E+00		1.20E+01		3.78E+01	
April-06	4.86E+00	1.15E+00	2.68E+00	4.31E+00	-3.31E+01	1.85E+01	4.30E+01	6.66E+01
June-06 Unfiltered	1.54E-01	9.25E-01	2.16E+00	3.44E+00				
MW-103B								
March-05	9.40E+00	1.40E+00	2.32E+00	3.30E+00	9.00E+00	1.90E+01	3.14E+01	
November-05	2.00E+01		2.30E+00		1.00E+00		5.10E+01	
April-06	5.31E+00	1.13E+00	2.63E+00	4.12E+00	-3.17E+01	2.60E+01	6.06E+01	9.27E+01
June-06 Unfiltered	7.55E+00	8.80E-01	2.05E+00	2.76E+00				
MW-103C								
March-05	1.07E+01	1.30E+00	2.15E+00	3.00E+00	1.00E+01	1.50E+01	2.48E+01	
November-05	7.60E+00		1.65E+00		-5.10E+01		3.78E+01	
April-06	7.45E+00	1.40E+00	3.25E+00	5.08E+00	-3.21E+01	1.84E+01	4.29E+01	6.63E+01
June-06 Unfiltered	1.65E+00	5.05E-01	1.18E+00	1.76E+00				
MW-104A								
April-06	2.51E+00	9.00E-01	2.10E+00	3.35E+00	8.54E-01	1.54E+01	3.58E+01	6.20E+01
June-06 Unfiltered	2.30E+00	9.80E-01	2.28E+00	3.85E+00	1.68E+01	2.08E+01	4.83E+01	7.08E+01
June-06 Filtered	1.43E+00	4.79E-01	1.11E+00	1.69E+00	0.00E+00	4.12E+01	7.16E+01	

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite C							
	Fe-55	1-Sigma	Lc	MDC	Ni-63	1-Sigma	Lc	MDC
MW-101A								
April-06								
June-06 Unfiltered	-4.81E+00	2.13E+00	4.96E+00	7.06E+00	2.37E+00	3.01E+00	7.00E+00	1.03E+01
MW-101B								
April-06	1.74E+01	7.10E+00	1.65E+01	2.11E+01	-1.17E+00	2.25E+00	5.24E+00	7.83E+00
June-06 Unfiltered								
MW-101C								
April-06								
June-06 Unfiltered								
MW-102A								
April-06	2.34E-01	5.80E+00	1.35E+01	1.78E+01	-4.79E+00	2.17E+00	5.04E+00	7.59E+00
June-06 Unfiltered	1.93E+00	4.67E+00	1.09E+01	1.55E+01	-4.98E+00	1.85E+00	4.30E+00	6.96E+00
June-06 Filtered	2.46E+00	1.65E+00	3.84E+00	5.19E+00	-1.21E+00	1.00E+00	2.33E+00	3.46E+00
MW-102B								
April-06	1.66E+01	6.15E+00	1.43E+01	1.84E+01	-1.50E+00	2.73E+00	6.36E+00	9.57E+00
June-06 Unfiltered								
MW-102C								
April-06	6.22E+00	5.80E+00	1.35E+01	1.77E+01	-3.65E+00	3.91E+00	9.10E+00	1.38E+01
June-06 Unfiltered	-7.20E+00	5.00E+00	1.17E+01	1.76E+01	-2.33E+00	1.90E+00	4.42E+00	7.03E+00
June-06 Filtered	5.01E+00	4.94E+00	1.15E+01	1.63E+01	-1.77E-01	2.13E+00	4.96E+00	7.32E+00
MW-102D								
April-06	-1.18E+01	5.85E+00	1.36E+01	1.87E+01	-7.42E-01	2.49E+00	5.80E+00	8.62E+00
June-06 Unfiltered	-8.87E-01	6.15E+00	1.43E+01	2.10E+01	8.70E-01	1.99E+00	4.64E+00	7.23E+00
June-06 Filtered	-7.59E-01	4.16E+00	9.69E+00	1.29E+01	2.42E+00	2.75E+00	6.40E+00	9.34E+00
MW-103A								
March-05	9.00E-01	3.10E+00	5.13E+00		1.40E+00	2.80E+00	4.63E+00	
November-05	-5.40E+00		4.77E+00		2.50E+00		6.25E+00	
April-06	1.34E+01	6.10E+00	1.42E+01	1.84E+01	-2.05E+00	2.48E+00	5.77E+00	8.65E+00
June-06 Unfiltered								
MW-103B								
March-05	4.00E+00	3.20E+00	5.29E+00		-2.00E+00	3.00E+00	4.96E+00	
November-05	-2.40E+00		4.11E+00		9.00E-01		5.76E-01	
April-06	7.60E+00	4.47E+00	1.04E+01	1.33E+01	2.04E+00	1.86E+00	4.33E+00	7.30E+00
June-06 Unfiltered								
MW-103C								
March-05	5.59E+00	3.33E+00	5.51E+00	1.10E+01	-5.80E+00	3.00E+00	4.96E+00	
November-05	-9.40E+00		5.10E+00		5.50E+00		7.24E+00	
April-06	-5.46E+00	5.65E+00	1.32E+01	1.78E+01	8.54E-01	2.18E+00	5.07E+00	7.46E+00
June-06 Unfiltered								
MW-104A								
April-06	2.12E+00	5.60E+00	1.30E+01	1.73E+01	1.92E+00	2.05E+00	4.78E+00	6.94E+00
June-06 Unfiltered	-2.48E+00	2.19E+00	5.10E+00	7.13E+00	-1.18E+00	2.86E+00	6.65E+00	1.01E+01
June-06 Filtered	-3.49E+00	2.83E+00	6.59E+00	9.36E+00	8.98E+00	2.46E+00	5.72E+00	8.00E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station

Rowe, MA

Well No. and Sample Date	Suite C							
	Sr-90	1-Sigma	Lc	MDC	Tc-99	1-Sigma	Lc	MDC
MW-101A								
April-06								
June-06 Unfiltered	-1.85E-01	1.45E-01	3.37E-01	8.07E-01	3.21E+00	2.66E+00	6.20E+00	8.99E+00
MW-101B								
April-06	-1.83E-02	1.34E-01	3.12E-01	5.82E-01	6.03E-01	2.67E+00	6.22E+00	9.20E+00
June-06 Unfiltered								
MW-101C								
April-06								
June-06 Unfiltered								
MW-102A								
April-06	1.61E-01	1.38E-01	3.22E-01	5.68E-01	-1.35E+00	2.26E+00	5.25E+00	7.93E+00
June-06 Unfiltered	2.92E-01	2.20E-01	5.13E-01	9.51E-01	2.71E+00	2.76E+00	6.43E+00	9.37E+00
June-06 Filtered	9.64E-02	1.34E-01	3.12E-01	6.34E-01	2.96E+00	2.64E+00	6.14E+00	8.92E+00
MW-102B								
April-06	-2.15E-01	1.05E-01	2.45E-01	5.48E-01	1.56E+00	2.78E+00	6.47E+00	9.50E+00
June-06 Unfiltered								
MW-102C								
April-06	1.68E-01	1.25E-01	2.91E-01	5.30E-01	-1.21E+00	2.65E+00	6.17E+00	9.24E+00
June-06 Unfiltered	5.86E-02	9.30E-02	2.17E-01	4.44E-01	4.01E+00	2.80E+00	6.52E+00	9.44E+00
June-06 Filtered	-1.97E-01	1.74E-01	4.04E-01	9.80E-01	-1.84E+00	2.60E+00	6.06E+00	9.08E+00
MW-102D								
April-06	1.25E-01	1.92E-01	4.47E-01	8.07E-01	4.30E+00	2.35E+00	5.48E+00	7.86E+00
June-06 Unfiltered	-7.66E-04	8.80E-02	2.05E-01	4.52E-01	3.51E+00	2.72E+00	6.33E+00	9.18E+00
June-06 Filtered	-1.43E-01	1.73E-01	4.03E-01	8.91E-01	-3.50E+00	2.55E+00	5.94E+00	9.02E+00
MW-103A								
March-05	8.00E-01	1.20E+00	1.98E+00		-2.40E+00	3.50E+00	5.79E+00	
November-05	-1.40E-01	2.50E-01	4.14E-01	8.20E-01	-1.20E+00		2.96E+00	
April-06	1.46E-01	1.28E-01	2.97E-01	5.24E-01	2.51E+00	2.25E+00	5.23E+00	7.62E+00
June-06 Unfiltered								
MW-103B								
March-05	3.20E+00	1.20E+00	1.98E+00	3.80E+00	2.00E-01	2.80E+00	4.63E+00	
November-05	0.00E+00	2.40E-01	3.97E-01	8.00E-01	1.10E+00		2.80E+00	
April-06	-5.26E-02	9.15E-02	2.13E-01	4.12E-01	-2.74E+00	2.27E+00	5.29E+00	8.05E+00
June-06 Unfiltered								
MW-103C								
March-05	4.00E-01	1.00E+00	1.65E+00		6.10E+00	3.90E+00	6.45E+00	
November-05	-1.10E-01	2.30E-01	3.80E-01	7.80E-01	-1.90E+00		2.96E+00	
April-06	-1.53E-01	1.11E-01	2.57E-01	5.18E-01	-9.94E-01	2.64E+00	6.15E+00	9.19E+00
June-06 Unfiltered								
MW-104A								
April-06	-1.55E-01	1.14E-01	2.66E-01	5.78E-01	1.45E+00	2.31E+00	5.38E+00	7.92E+00
June-06 Unfiltered	2.22E-01	1.67E-01	3.89E-01	7.23E-01	-1.36E+00	2.65E+00	6.17E+00	9.22E+00
June-06 Filtered	-2.25E-01	1.16E-01	2.69E-01	6.91E-01	1.25E+00	2.57E+00	5.98E+00	8.79E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite D							
	Pu-238	1-Sigma	Lc	MDC	Pu-239/240	1-Sigma	Lc	MDC
MW-101A								
April-06								
June-06 Unfiltered	0.00E+00	1.43E-02	3.33E-02	3.95E-02	4.78E-02	2.92E-02	6.80E-02	9.71E-02
MW-101B								
April-06	-2.32E-02	9.30E-03	2.17E-02	1.34E-01	-1.93E-02	8.45E-03	1.97E-02	1.26E-01
June-06 Unfiltered								
MW-101C								
April-06	No Sample							
June-06 Unfiltered	No Sample							
MW-102A								
April-06	-4.92E-02	1.29E-02	3.01E-02	1.65E-01	-4.16E-02	1.99E-02	4.64E-02	1.73E-01
June-06 Unfiltered	1.12E-02	1.49E-02	3.46E-02	7.35E-02	-7.07E-03	1.53E-02	3.55E-02	8.74E-02
June-06 Filtered	-9.02E-03	1.95E-02	4.53E-02	1.11E-01	-4.51E-03	1.90E-02	4.42E-02	9.37E-02
MW-102B								
April-06	-4.68E-03	1.97E-02	4.58E-02	9.73E-02	0.00E+00	1.91E-02	4.45E-02	5.28E-02
June-06 Unfiltered								
MW-102C								
April-06	-3.69E-03	1.55E-02	3.61E-02	7.66E-02	0.00E+00	1.51E-02	3.51E-02	4.16E-02
June-06 Unfiltered	-1.14E-02	4.78E-02	1.11E-01	2.36E-01	-4.55E-02	5.15E-02	1.20E-01	3.44E-01
June-06 Filtered	5.55E-03	2.10E-02	4.89E-02	1.32E-01	-9.50E-03	2.05E-02	4.78E-02	1.17E-01
MW-102D								
April-06	1.98E-02	1.95E-02	4.53E-02	5.37E-02	-1.82E-02	2.35E-02	5.46E-02	1.81E-01
June-06 Unfiltered	1.69E-02	3.14E-02	7.30E-02	1.65E-01	0.00E+00	2.07E-02	4.82E-02	5.72E-02
June-06 Filtered	-9.06E-03	1.96E-02	4.56E-02	1.12E-01	-1.36E-02	2.01E-02	4.67E-02	1.26E-01
MW-103A								
March-05	-5.00E-03	5.00E-03	8.27E-03		6.30E-02	7.40E-02	1.22E-01	
November-05	-4.40E-03		3.62E-02		3.90E-02		4.61E-02	
April-06	-5.77E-02	2.30E-02	5.36E-02	2.05E-01	-4.66E-02	1.32E-02	3.08E-02	1.72E-01
June-06 Unfiltered								
MW-103B								
March-05	-1.40E-03	1.40E-03	2.32E-03		-2.80E-03	2.00E-03	3.31E-03	
November-05	1.40E-02		2.96E-02		1.60E-02		2.96E-02	
April-06	-5.23E-03	2.20E-02	5.11E-02	1.09E-01	6.10E-03	2.31E-02	5.38E-02	1.45E-01
June-06 Unfiltered								
MW-103C								
March-05	4.60E-02	3.40E-02	5.62E-02		-1.20E-03	1.20E-03	1.98E-03	
November-05	7.60E-02		9.21E-02		-1.50E-03		1.81E-03	
April-06	1.14E-02	4.03E-02	9.38E-02	2.07E-01	4.01E-02	4.29E-02	1.00E-01	1.93E-01
June-06 Unfiltered								
MW-104A								
April-06	1.42E-02	1.40E-02	3.25E-02	3.86E-02	-3.41E-03	1.44E-02	3.34E-02	7.10E-02
June-06 Unfiltered	1.89E-02	2.51E-02	5.85E-02	1.24E-01	3.78E-02	3.55E-02	8.27E-02	1.48E-01
June-06 Filtered	0.00E+00	1.04E-02	2.41E-02	2.86E-02	-9.72E-03	1.25E-02	2.91E-02	9.67E-02

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater

2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station

Rowe, MA

Well No. and Sample Date	Suite D							
	Pu-241	1-Sigma	Lc	MDC	Am-241	1-Sigma	Lc	MDC
MW-101A								
April-06								
June-06 Unfiltered	-1.79E+00	2.01E+00	4.68E+00	7.01E+00	-2.35E-02	1.88E-02	4.37E-02	1.07E-01
MW-101B								
April-06	-1.29E+00	2.82E+00	6.56E+00	9.81E+00	-1.15E-02	1.64E-02	3.82E-02	4.54E-02
June-06 Unfiltered								
MW-101C								
April-06								
June-06 Unfiltered								
MW-102A								
April-06	2.91E+00	2.08E+00	4.85E+00	7.01E+00	-1.69E-03	5.15E-03	1.20E-02	6.43E-02
June-06 Unfiltered	1.83E+00	1.90E+00	4.42E+00	6.45E+00	3.49E-03	3.61E-02	8.40E-02	2.08E-01
June-06 Filtered	-7.54E-01	2.05E+00	4.78E+00	7.13E+00	-2.57E-02	1.07E-02	2.48E-02	1.39E-01
MW-102B								
April-06	-2.53E+00	2.40E+00	5.58E+00	9.78E+00	-1.46E-02	1.30E-02	3.03E-02	6.43E-02
June-06 Unfiltered								
MW-102C								
April-06	-7.91E-01	2.35E+00	5.46E+00	9.42E+00	-4.98E-04	7.25E-03	1.69E-02	7.21E-02
June-06 Unfiltered	4.19E+00	3.57E+00	8.32E+00	1.21E+01	-1.49E-02	1.76E-02	4.09E-02	4.85E-02
June-06 Filtered	1.07E+00	2.85E+00	6.64E+00	9.79E+00	-7.63E-03	3.67E-02	8.55E-02	2.08E-01
MW-102D								
April-06	7.80E+00	2.53E+00	5.89E+00	8.30E+00	1.17E-02	4.53E-02	1.06E-01	2.36E-01
June-06 Unfiltered	-1.18E+00	3.09E+00	7.20E+00	1.08E+01	4.72E-04	2.64E-03	6.14E-03	4.15E-02
June-06 Filtered	9.25E-01	2.05E+00	4.76E+00	7.73E+00	3.10E-03	5.00E-02	1.17E-01	2.59E-01
MW-103A								
March-05	4.90E+00	3.10E+00	5.13E+00		-1.13E-01	6.40E-02	1.06E-01	
November-05	7.00E+00		6.58E+00		-1.90E-02		1.97E-02	
April-06	-4.48E-01	1.70E+00	3.96E+00	5.88E+00	-2.59E-02	1.32E-02	3.06E-02	1.44E-01
June-06 Unfiltered								
MW-103B								
March-05	-7.50E+00	3.30E+00	5.46E+00		-2.90E-02	1.70E-02	2.81E-02	
November-05	4.80E+00		4.77E+00		-9.30E-03		1.45E-02	
April-06	-8.02E-01	3.17E+00	7.37E+00	1.29E+01	-1.91E-02	1.64E-02	3.81E-02	9.36E-02
June-06 Unfiltered								
MW-103C								
March-05	8.50E+00	3.10E+00	5.13E+00	9.40E+00	-3.70E-02	1.60E-02	2.65E-02	
November-05	7.10E+00		4.28E+00		-4.00E-02		2.80E-02	
April-06	-3.72E+00	2.44E+00	5.67E+00	8.67E+00	2.26E-03	1.15E-02	2.68E-02	9.02E-02
June-06 Unfiltered								
MW-104A								
April-06	-4.86E+00	1.93E+00	4.49E+00	8.09E+00	-1.15E-02	1.56E-02	3.63E-02	4.31E-02
June-06 Unfiltered	-3.91E+00	2.09E+00	4.87E+00	7.38E+00	1.93E-03	5.60E-03	1.30E-02	4.55E-02
June-06 Filtered	9.24E-01	1.73E+00	4.02E+00	5.88E+00	2.63E-02	1.75E-02	4.08E-02	3.27E-02

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite D							
	Cm-242	1-Sigma	Lc	MDC	Cm-243/244	1-Sigma	Lc	MDC
MW-101A								
April-06								
June-06 Unfiltered	0.00E+00	1.93E-02	4.49E-02	5.33E-02	2.75E-02	2.59E-02	6.02E-02	1.07E-01
MW-101B								
April-06	0.00E+00	1.86E-02	4.32E-02	5.13E-02	-8.06E-03	5.60E-03	1.30E-02	9.96E-02
June-06 Unfiltered								
MW-101C								
April-06								
June-06 Unfiltered								
MW-102A								
April-06	0.00E+00	1.43E-02	3.32E-02	3.94E-02	3.62E-03	1.37E-02	3.19E-02	8.60E-02
June-06 Unfiltered	3.13E-02	3.53E-02	8.22E-02	1.63E-01	-6.83E-02	2.84E-02	6.61E-02	2.39E-01
June-06 Filtered	-1.28E-02	7.25E-03	1.69E-02	1.18E-01	1.40E-02	3.40E-02	7.91E-02	1.74E-01
MW-102B								
April-06	-3.55E-03	1.49E-02	3.47E-02	7.38E-02	-1.24E-02	1.41E-02	3.27E-02	9.40E-02
June-06 Unfiltered								
MW-102C								
April-06	0.00E+00	1.76E-02	4.10E-02	4.50E-02	-1.04E-02	1.54E-02	3.59E-02	9.64E-02
June-06 Unfiltered	0.00E+00	1.97E-02	4.58E-02	5.43E-02	0.00E+00	1.76E-02	4.10E-02	4.86E-02
June-06 Filtered	7.36E-04	2.00E-02	4.66E-02	1.34E-01	4.61E-03	4.74E-02	1.10E-01	2.43E-01
MW-102D								
April-06	-2.12E-02	1.04E-02	2.42E-02	1.60E-01	1.60E-03	6.15E-02	1.43E-01	3.16E-01
June-06 Unfiltered	0.00E+00	1.65E-02	3.84E-02	4.56E-02	-3.68E-03	1.55E-02	3.60E-02	7.66E-02
June-06 Filtered	4.48E-02	3.43E-02	7.99E-02	1.31E-01	-5.54E-03	3.81E-02	8.87E-02	2.14E-01
MW-103A								
March-05	2.30E-02	3.00E-02	4.96E-02		2.50E-02	2.50E-02	4.14E-02	
November-05	-8.00E-04		1.32E-03		0.00E+00		1.81E-04	
April-06	0.00E+00	1.71E-02	3.98E-02	4.73E-02	-5.29E-02	1.39E-02	3.23E-02	1.77E-01
June-06 Unfiltered								
MW-103B								
March-05	7.90E-03	8.00E-03	1.32E-02		0.00E+00	1.00E-04	1.65E-04	
November-05	0.00E+00		2.96E-04		0.00E+00		2.63E-04	
April-06	-4.24E-03	1.78E-02	4.15E-02	8.82E-02	0.00E+00	1.55E-02	3.61E-02	4.29E-02
June-06 Unfiltered								
MW-103C								
March-05	1.70E-02	1.20E-02	1.98E-02		0.00E+00	1.10E-04	1.82E-04	
November-05	0.00E+00		1.97E-04		0.00E+00		1.81E-04	
April-06	0.00E+00	2.00E-02	4.66E-02	5.53E-02	-1.74E-02	8.50E-03	1.98E-02	1.32E-01
June-06 Unfiltered								
MW-104A								
April-06	-8.68E-03	1.88E-02	4.37E-02	1.07E-01	-2.68E-02	9.90E-03	2.31E-02	1.39E-01
June-06 Unfiltered	5.50E-02	3.11E-02	7.25E-02	4.97E-02	0.00E+00	1.65E-02	3.84E-02	4.56E-02
June-06 Filtered	-3.15E-03	3.09E-03	7.19E-03	6.54E-02	-2.90E-03	2.85E-03	6.63E-03	6.03E-02

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station

Rowe, MA

Well No. and Sample Date	Suite A							
	Mn-54	1-Sigma	Lc	MDC	Co-60	1-Sigma	Lc	MDC
MW-104B								
March-05	3.40E+00			3.45E+00	-3.10E+00			4.11E+00
November-05	-1.50E+00			2.80E+00	-8.00E-01			2.96E+00
April-06	-2.46E-01	1.02E+00	2.38E+00		3.40E-01	9.35E-01	2.18E+00	3.70E+00
June-06 Unfiltered	5.12E-01	8.90E-01	2.07E+00	3.27E+00	2.30E+00	8.45E-01	1.97E+00	3.73E+00
MW-104C								
March-05	-4.00E-01		3.45E+00		6.00E-01		4.44E+00	
November-05	-2.30E+00		3.95E+00		3.10E+00		4.77E+00	
April-06	-5.34E-01	1.16E+00	2.70E+00		8.22E-01	9.80E-01	2.28E+00	3.97E+00
June-06 Unfiltered	-2.07E+00	8.80E-01	2.05E+00	2.80E+00	-5.93E-01	8.75E-01	2.04E+00	3.14E+00
MW-105A								
April-06	1.05E+00	8.90E-01	2.07E+00		-3.09E-01	9.50E-01	2.21E+00	3.51E+00
June-06 Unfiltered	4.29E-01	1.39E+00	3.24E+00	5.03E+00	2.78E+00	1.43E+00	3.33E+00	5.84E+00
June-06 Filtered	6.48E-01	7.05E-01	1.64E+00	2.66E+00	0.00E+00	2.51E+00	5.85E+00	3.01E+00
MW-105B								
March-05	-9.00E-01			2.80E+00	1.00E+00			2.63E+00
November-05	-2.10E+00			2.30E+00	-1.40E+00			2.96E+00
April-06	-3.03E-01	9.70E-01	2.26E+00		1.01E-01	9.45E-01	2.20E+00	3.52E+00
June-06 Unfiltered	-2.12E-01	1.41E+00	3.29E+00	5.02E+00	7.78E-01	1.55E+00	3.60E+00	5.89E+00
MW-105C								
March-05	-7.00E-01		2.14E+00		-2.60E+00		3.13E+00	
April-06	8.26E-02	1.16E+00	2.70E+00		2.56E-01	1.02E+00	2.36E+00	3.97E+00
June-06 Unfiltered	-7.80E-01	1.34E+00	3.12E+00	4.70E+00	1.61E+00	1.19E+00	2.76E+00	4.12E+00
MW-106A								
March-05	-4.00E-01		3.13E+00		2.70E+00		3.13E+00	
November-05	-3.00E-01		2.96E+00		4.00E-01		3.62E+00	
April-06	4.32E-01	1.37E+00	3.19E+00		7.50E-01	1.23E+00	2.87E+00	4.88E+00
June-06 Unfiltered	3.46E-01	8.15E-01	1.90E+00	3.14E+00	1.29E+00	8.60E-01	2.00E+00	3.61E+00
June-06 Filtered	-7.24E-02	1.26E+00	2.92E+00	4.40E+00	1.75E+00	1.40E+00	3.26E+00	5.47E+00
MW-106B								
March-05	-5.20E+00		5.10E+00		5.00E-01		3.45E+00	
November-05	2.60E+00		3.45E+00		3.50E+00		4.11E+00	
April-06	-2.40E-01	8.35E-01	1.95E+00		7.98E-01	1.18E+00	2.75E+00	4.67E+00
June-06 Unfiltered	2.65E-01	1.06E+00	2.47E+00	3.93E+00	2.80E-01	1.13E+00	2.62E+00	4.38E+00
MW-106C								
March-05	1.75E+00		1.48E+00		4.00E-01		1.65E+00	
November-05	3.00E-01		2.96E+00		2.30E+00		3.29E+00	
April-06	-1.11E+00	1.14E+00	2.66E+00		-5.26E-01	1.01E+00	2.34E+00	3.76E+00
June-06 Unfiltered	1.46E-01	9.00E-01	2.10E+00	3.30E+00	8.95E-01	8.45E-01	1.97E+00	3.54E+00
MW-106D								
March-05	-2.20E+00		2.47E+00		0.00E+00		1.65E+00	
November-05	-3.80E+00		3.62E+00		2.80E+00		3.78E+00	
April-06	3.09E-01	1.05E+00	2.43E+00		-5.14E-01	8.85E-01	2.06E+00	3.23E+00
June-06 Unfiltered	-1.42E+00	1.02E+00	2.38E+00	3.43E+00	-6.05E-01	1.07E+00	2.48E+00	3.93E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Nb-94	1-Sigma	Lc	MDC	Ag-108m	1-Sigma	Lc	MDC
MW-104B								
March-05	-2.20E+00			3.29E+00	-1.50E+00			2.80E+00
November-05	-3.00E+00			2.47E+00	-4.00E+00			2.47E+00
April-06	-9.38E-02	1.01E+00	2.35E+00	3.20E+00	5.93E-01	9.40E-01	2.19E+00	3.42E+00
June-06 Unfiltered	2.28E+00	1.08E+00	2.50E+00	2.79E+00	-4.08E-01	7.40E+00	1.72E+01	2.65E+00
MW-104C								
March-05	6.00E-01		2.47E+00		1.60E+00		3.62E+00	
November-05	2.40E+00		3.13E+00		-2.00E-01		3.13E+00	
April-06	-8.20E-01	9.75E-01	2.27E+00	2.90E+00	-2.95E-01	9.70E-01	2.26E+00	3.39E+00
June-06 Unfiltered	-4.46E-01	7.65E-01	1.78E+00	2.71E+00	-2.95E-01	8.20E-01	1.91E+00	2.85E+00
MW-105A								
April-06	-2.71E-01	8.35E-01	1.95E+00	2.94E+00	1.33E+00	7.35E-01	1.71E+00	3.49E+00
June-06 Unfiltered	-6.20E-01	1.37E+00	3.18E+00	4.81E+00	-3.05E-01	1.44E+00	3.34E+00	4.84E+00
June-06 Filtered	2.47E-01	7.50E-01	1.75E+00	2.73E+00	-7.56E-01	8.25E-01	1.92E+00	2.74E+00
MW-105B								
March-05	-1.60E+00			2.30E+00	8.00E-01			2.15E+00
November-05	9.00E-01			2.80E+00	-4.00E-01			2.47E+00
April-06	1.35E+00	7.80E-01	1.82E+00	3.10E+00	-1.28E+00	1.07E+00	2.48E+00	3.00E+00
June-06 Unfiltered	-3.05E-01	1.38E+00	3.22E+00	4.90E+00	-1.02E+00	1.40E+00	3.26E+00	4.66E+00
MW-105C								
March-05	1.40E+00		1.97E+00		2.10E+00		2.14E+00	
April-06	-1.24E+00	8.95E-01	2.09E+00	2.99E+00	1.03E+00	1.01E+00	2.34E+00	3.77E+00
June-06 Unfiltered	4.77E-01	1.06E+00	2.46E+00	3.86E+00	1.69E+00	1.64E+00	3.81E+00	4.08E+00
MW-106A								
March-05	-2.80E+00		2.47E+00		-5.00E-01		2.63E+00	
November-05	2.00E-01		2.96E+00		-1.90E+00		2.80E+00	
April-06	1.43E+00	1.21E+00	2.82E+00	4.57E+00	-1.03E+00	1.22E+00	2.83E+00	4.26E+00
June-06 Unfiltered	1.69E-01	7.95E-01	1.85E+00	2.88E+00	-2.18E-01	8.30E-01	1.93E+00	2.99E+00
June-06 Filtered	-2.01E+00	1.27E+00	2.96E+00	4.20E+00	1.43E+00	1.11E+00	2.59E+00	4.17E+00
MW-106B								
March-05	8.00E-01		3.29E+00		0.00E+00		2.63E+00	
November-05	-3.30E+00		3.45E+00		-2.00E-01		2.63E+00	
April-06	7.66E-01	8.85E-01	2.06E+00	3.40E+00	1.81E+00	8.65E-01	2.02E+00	3.55E+00
June-06 Unfiltered	1.49E+00	9.35E-01	2.18E+00	3.69E+00	1.17E+00	1.52E+00	3.54E+00	3.82E+00
MW-106C								
March-05	-2.60E+00		1.56E+00		-6.60E-01		1.40E+00	
November-05	9.00E-01		2.96E+00		-1.10E+00		2.47E+00	
April-06	9.69E-01	8.70E-01	2.03E+00	3.40E+00	-9.77E-02	1.07E+00	2.49E+00	3.69E+00
June-06 Unfiltered	-6.37E-01	8.05E-01	1.88E+00	2.80E+00	3.08E+00	9.10E-01	2.12E+00	3.77E+00
MW-106D								
March-05	-1.70E+00		1.97E+00		2.00E-01		1.97E+00	
November-05	-1.70E+00		2.63E+00		-1.90E+00		2.80E+00	
April-06	1.25E+00	8.90E-01	2.07E+00	3.44E+00	1.87E-01	9.15E-01	2.13E+00	3.40E+00
June-06 Unfiltered	-4.36E-01	8.80E-01	2.05E+00	3.16E+00	-1.24E+00	1.07E+00	2.48E+00	3.51E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater

2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station

Rowe, MA

Well No. and Sample Date	Suite A							
	Sb-125	1-Sigma	Lc	MDC	Cs-134	1-Sigma	Lc	MDC
MW-104B								
March-05	2.30E+00			9.87E+00	5.00E-01			3.62E+00
November-05	-1.20E+00			8.23E+00	7.00E-01			3.13E+00
April-06	-1.83E+00	2.64E+00	6.15E+00	9.08E+00	-6.50E-01	1.09E+00	2.54E+00	3.86E+00
June-06 Unfiltered	3.02E-01	2.06E+00	4.79E+00	7.59E+00	3.53E-01	9.45E-01	2.20E+00	3.46E+00
MW-104C								
March-05	1.38E+01		1.07E+01		3.40E+00		3.78E+00	
November-05	6.00E+00		1.05E+01		3.90E+00		4.11E+00	
April-06	1.09E+00	2.83E+00	6.58E+00	1.01E+01	7.63E-03	9.95E-01	2.32E+00	3.70E+00
June-06 Unfiltered	-3.23E-01	2.40E+00	5.58E+00	8.37E+00	2.53E-01	1.01E+00	2.35E+00	3.69E+00
MW-105A								
April-06	-2.74E+00	2.66E+00	6.20E+00	9.20E+00	7.19E-02	1.03E+00	2.39E+00	3.68E+00
June-06 Unfiltered	4.48E+00	4.36E+00	1.02E+01	1.37E+01	1.23E-01	1.44E+00	3.34E+00	5.19E+00
June-06 Filtered	6.88E-01	2.41E+00	5.60E+00	8.30E+00	2.75E-01	8.55E-01	1.99E+00	3.12E+00
MW-105B								
March-05	1.30E+00			7.90E+00	3.00E+00			3.13E+00
November-05	-1.50E+00			8.23E+00	1.10E+00			2.30E+00
April-06	1.99E+00	3.04E+00	7.07E+00	9.55E+00	2.14E+00	9.80E-01	2.28E+00	4.00E+00
June-06 Unfiltered	1.92E+00	4.39E+00	1.02E+01	1.51E+01	1.10E-01	1.54E+00	3.58E+00	5.53E+00
MW-105C								
March-05	0.00E+00		7.07E+00		-8.00E-01		2.47E+00	
April-06	-3.51E+00	3.06E+00	7.12E+00	1.05E+01	-1.76E+00	1.22E+00	2.84E+00	4.02E+00
June-06 Unfiltered	3.63E+00	3.05E+00	7.09E+00	1.09E+01	-2.34E+00	1.27E+00	2.95E+00	4.26E+00
MW-106A								
March-05	-2.10E+00		7.24E+00		1.00E+00		1.97E+00	
November-05	1.00E+00		8.72E+00		-5.00E-01		3.29E+00	
April-06	-3.65E+00	2.96E+00	6.90E+00	1.03E+01	-1.06E+00	1.44E+00	3.36E+00	4.96E+00
June-06 Unfiltered	-3.71E-01	2.36E+00	5.50E+00	8.50E+00	2.24E+00	1.31E+00	3.04E+00	3.43E+00
June-06 Filtered	1.79E+00	3.14E+00	7.32E+00	1.16E+01	-2.87E+00	1.36E+00	3.16E+00	4.29E+00
MW-106B								
March-05	7.10E+00		8.39E+00		1.70E+00		4.11E+00	
November-05	-3.80E+00		7.90E+00		-3.00E+00		4.11E+00	
April-06	6.51E-01	2.38E+00	5.53E+00	8.99E+00	3.02E-01	8.55E-01	1.99E+00	3.30E+00
June-06 Unfiltered	-4.97E+00	3.25E+00	7.56E+00	1.05E+01	1.73E+00	1.25E+00	2.91E+00	4.87E+00
MW-106C								
March-05	-3.00E-01		4.44E+00		1.50E-01		1.55E+00	
November-05	-3.50E+00		6.58E+00		2.10E+00		3.13E+00	
April-06	4.22E+00	3.00E+00	6.98E+00	1.10E+01	9.33E-01	1.16E+00	2.70E+00	4.44E+00
June-06 Unfiltered	3.10E+00	2.29E+00	5.32E+00	8.97E+00	7.09E-01	1.02E+00	2.36E+00	3.84E+00
MW-106D								
March-05	7.00E-01		7.57E+00		2.50E+00		3.13E+00	
November-05	-2.80E+00		7.90E+00		-4.90E+00		3.62E+00	
April-06	-1.44E+00	2.46E+00	5.72E+00	8.87E+00	3.77E-01	9.85E-01	2.30E+00	3.66E+00
June-06 Unfiltered	1.96E+00	2.84E+00	6.62E+00	1.02E+01	1.41E+00	1.07E+00	2.48E+00	4.21E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Cs-137	1-Sigma	Lc	MDC	Eu-152	1-Sigma	Lc	MDC
MW-104B								
March-05	6.00E+00			3.95E+00	5.00E-01			7.24E+00
November-05	-4.00E-01			2.96E+00	9.00E-01			6.58E+00
April-06	8.89E-01	1.09E+00	2.54E+00	3.72E+00	-3.13E+00	2.94E+00	6.85E+00	1.01E+01
June-06 Unfiltered	3.62E-01	1.22E+00	2.84E+00	2.93E+00	-2.48E+00	2.40E+00	5.58E+00	8.48E+00
MW-104C								
March-05	-3.10E+00		2.63E+00		3.30E+00		8.55E+00	
November-05	2.40E+00		3.78E+00		-3.60E+00		7.40E+00	
April-06	3.52E-01	9.65E-01	2.25E+00	3.64E+00	9.73E-03	3.29E+00	7.67E+00	1.03E+01
June-06 Unfiltered	6.06E-01	9.40E-01	2.19E+00	3.49E+00	1.75E+00	2.60E+00	6.06E+00	9.38E+00
MW-105A								
April-06	-1.15E-01	9.35E-01	2.18E+00	3.35E+00	-3.55E+00	2.79E+00	6.49E+00	9.61E+00
June-06 Unfiltered	-1.83E+00	1.41E+00	3.27E+00	4.83E+00	2.00E+00	4.20E+00	9.79E+00	1.46E+01
June-06 Filtered	1.08E+00	9.25E-01	2.16E+00	3.08E+00	-8.42E-01	2.60E+00	6.06E+00	8.85E+00
MW-105B								
March-05	7.00E-01			3.13E+00	-3.60E+00			7.07E+00
November-05	3.70E+00			2.30E+00	-2.60E+00			7.40E+00
April-06	-1.29E+00	9.25E-01	2.16E+00	3.19E+00	3.67E+00	3.06E+00	7.13E+00	1.10E+01
June-06 Unfiltered	-1.58E-02	1.39E+00	3.23E+00	5.00E+00	-7.78E+00	4.36E+00	1.02E+01	1.42E+01
MW-105C								
March-05	7.00E-01		2.47E+00		1.40E+00		5.10E+00	
April-06	1.23E+00	1.03E+00	2.40E+00	3.96E+00	-1.65E+00	3.08E+00	7.18E+00	1.10E+01
June-06 Unfiltered	-1.31E+00	1.11E+00	2.57E+00	3.88E+00	2.95E+00	3.06E+00	7.13E+00	1.09E+01
MW-106A								
March-05	-1.30E+00		2.63E+00		2.80E+00		6.74E+00	
November-05	0.00E+00		3.29E+00		0.00E+00		4.82E+02	
April-06	2.16E+00	1.35E+00	3.15E+00	5.19E+00	3.43E-01	2.92E+00	6.79E+00	1.08E+01
June-06 Unfiltered	1.26E-02	1.84E+00	4.28E+00	3.22E+00	-2.64E+00	2.49E+00	5.79E+00	8.74E+00
June-06 Filtered	1.53E+00	1.32E+00	3.08E+00	4.88E+00	-3.00E-01	3.50E+00	8.14E+00	1.18E+01
MW-106B								
March-05	1.00E+00		3.29E+00		-3.10E+00		6.25E+00	
November-05	-9.00E-01		3.45E+00		3.60E+00		6.09E+00	
April-06	1.47E+00	1.04E+00	2.41E+00	3.74E+00	2.24E+00	2.59E+00	6.02E+00	9.39E+00
June-06 Unfiltered	1.73E+00	1.26E+00	2.94E+00	4.84E+00	6.68E+00	3.62E+00	8.42E+00	1.24E+01
MW-106C								
March-05	-1.40E+00		1.61E+00		3.90E+00		4.61E+00	
November-05	-1.20E+00		3.13E+00		-2.30E+00		5.43E+00	
April-06	-1.82E+00	1.03E+00	2.40E+00	3.47E+00	-3.10E-01	3.23E+00	7.53E+00	1.12E+01
June-06 Unfiltered	-1.88E+00	9.35E-01	2.18E+00	3.02E+00	-5.10E+00	2.65E+00	6.16E+00	8.34E+00
MW-106D								
March-05	-8.00E-01		2.15E+00		-1.00E-01		6.42E+00	
November-05	-3.30E+00		2.96E+00		3.00E+00		5.43E+00	
April-06	-1.07E-01	9.35E-01	2.18E+00	4.51E+00	-2.23E+00	2.91E+00	6.77E+00	9.69E+00
June-06 Unfiltered	-4.89E-01	1.04E+00	2.41E+00	3.73E+00	4.39E+00	3.39E+00	7.90E+00	1.23E+01

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Eu-154	1-Sigma	Lc	MDC	Eu-155	1-Sigma	Lc	MDC
MW-104B								
March-05	6.40E+00			1.05E+01	-7.60E+00			1.02E+01
November-05	-2.70E+00			7.90E+00	3.10E+00			1.00E+01
April-06	-3.08E-01	2.57E+00	5.99E+00	9.80E+00	1.01E+00	3.49E+00	8.12E+00	1.22E+01
June-06 Unfiltered	2.61E-01	2.20E+00	5.11E+00	8.43E+00	8.20E+00	4.70E+00	1.10E+01	1.08E+01
MW-104C								
March-05	1.29E+01		1.27E+01		-8.00E+00		9.38E+00	
November-05	1.30E+00		1.02E+01		-2.10E+00		8.55E+00	
April-06	3.12E+00	2.71E+00	6.30E+00	1.12E+01	-3.17E+00	3.70E+00	8.61E+00	1.26E+01
June-06 Unfiltered	-9.92E-01	2.39E+00	5.56E+00	8.75E+00	4.85E+00	3.24E+00	7.54E+00	1.15E+01
MW-105A								
April-06	-1.23E+00	2.52E+00	5.87E+00	9.23E+00	2.56E+00	3.58E+00	8.33E+00	1.25E+01
June-06 Unfiltered	-1.66E+00	4.00E+00	9.31E+00	1.27E+01	4.68E+00	4.47E+00	1.04E+01	1.63E+01
June-06 Filtered	-2.12E+00	2.11E+00	4.90E+00	7.15E+00	-3.80E+00	3.12E+00	7.27E+00	1.07E+01
MW-105B								
March-05	1.80E+00			6.42E+00	-6.00E+00			1.10E+01
November-05	1.30E+00			8.06E+00	8.20E+00			1.07E+01
April-06	-4.02E-01	2.63E+00	6.12E+00	9.60E+00	-6.42E+00	3.83E+00	8.92E+00	1.31E+01
June-06 Unfiltered	9.28E+00	4.58E+00	1.07E+01	1.84E+01	-2.41E+00	4.41E+00	1.03E+01	1.57E+01
MW-105C								
March-05	6.00E+00		1.10E+01		-3.70E+00		7.57E+00	
April-06	2.12E+00	3.52E+00	8.19E+00	1.21E+01	-4.49E+00	3.95E+00	9.20E+00	1.33E+01
June-06 Unfiltered	2.60E+00	2.88E+00	6.70E+00	1.09E+01	-2.72E-01	3.38E+00	7.88E+00	1.12E+01
MW-106A								
March-05	-1.50E+00		9.87E+00		5.20E+00		9.71E+00	
November-05	-2.20E+00		7.07E+00		-3.20E+00		1.07E+01	
April-06	5.46E+00	4.21E+00	9.80E+00	1.68E+01	7.58E-01	3.04E+00	7.07E+00	1.08E+01
June-06 Unfiltered	7.29E-01	2.64E+00	6.14E+00	9.98E+00	2.50E+00	3.35E+00	7.79E+00	1.20E+01
June-06 Filtered	-7.88E+00	3.73E+00	8.68E+00	1.20E+01	1.79E+00	3.92E+00	9.13E+00	1.41E+01
MW-106B								
March-05	1.50E+00		7.90E+00		6.90E+00		9.54E+00	
November-05	4.00E-01		1.02E+01		-1.40E+00		8.88E+00	
April-06	-1.61E+00	2.44E+00	5.67E+00	9.11E+00	-3.12E+00	3.36E+00	7.83E+00	1.17E+01
June-06 Unfiltered	5.73E+00	2.77E+00	6.45E+00	1.22E+01	-4.98E+00	4.06E+00	9.45E+00	1.43E+01
MW-106C								
March-05	-5.00E-01		4.61E+00		-2.00E-01		6.42E+00	
November-05	2.10E+00		9.21E+00		-3.80E+00		7.40E+00	
April-06	6.79E+00	6.15E+00	1.43E+01	1.22E+01	-1.32E+00	4.05E+00	9.42E+00	1.46E+01
June-06 Unfiltered	-3.20E+00	2.43E+00	5.66E+00	8.31E+00	-2.22E+00	3.61E+00	8.40E+00	1.28E+01
MW-106D								
March-05	-1.40E+00		6.74E+00		3.10E+00		9.71E+00	
November-05	-5.10E+00		9.38E+00		-6.90E+00		6.91E+00	
April-06	-7.26E+00	2.42E+00	5.63E+00	6.68E+00	-2.37E+00	3.41E+00	7.93E+00	1.21E+01
June-06 Unfiltered	-6.43E-01	2.79E+00	6.50E+00	1.06E+01	4.67E+00	3.72E+00	8.67E+00	1.38E+01

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite B							
	Tritium	1-Sigma	Lc	MDC	Gross Alpha	1-Sigma	Lc	MDC
MW-104B								
March-05	-6.80E+01	9.80E+01	1.62E+02		2.43E+00	8.50E-01	1.41E+00	2.00E+00
November-05	0.00E+00			1.51E+02	5.00E+00			1.81E+00
April-06	-8.55E+01	1.18E+02	2.75E+02	4.20E+02	1.81E+00	8.05E-01	1.88E+00	2.54E+00
June-06 Unfiltered	4.32E+01	1.17E+02	2.73E+02	4.02E+02	9.24E+00	1.40E+00	3.25E+00	3.81E+00
MW-104C								
March-05	2.40E+02	1.00E+02	1.65E+02	3.10E+02	2.80E-01	5.50E-01	9.10E-01	
November-05	-2.80E+01		1.50E+02		6.20E-01		1.25E+00	
April-06	-7.56E+01	1.28E+02	2.98E+02	4.52E+02	8.72E+00	1.00E+00	2.33E+00	2.04E+00
June-06 Unfiltered	6.69E+01	1.17E+02	2.73E+02	4.02E+02	6.57E+00	1.01E+00	2.35E+00	2.68E+00
MW-105A								
April-06	-5.34E+01	9.40E+01	2.19E+02	3.29E+02	8.14E-01	3.57E-01	8.31E-01	1.15E+00
June-06 Unfiltered	2.68E+02	1.24E+02	2.89E+02	4.09E+02	9.53E-01	5.15E-01	1.20E+00	1.89E+00
June-06 Filtered	7.26E+01	1.22E+02	2.83E+02	4.07E+02	9.35E-01	5.15E-01	1.20E+00	1.83E+00
MW-105B								
March-05	4.64E+03	1.30E+02	2.15E+02	3.10E+02	2.40E+00	1.00E+00	1.65E+00	2.50E+00
November-05	4.52E+03			2.15E+02	5.40E+00			2.30E+00
April-06	3.97E+03	1.54E+02	3.58E+02	3.28E+02	6.31E+00	1.14E+00	2.64E+00	2.53E+00
June-06 Unfiltered	3.86E+03	1.18E+02	2.74E+02	2.20E+02	1.18E+01	8.60E-01	2.00E+00	1.13E+00
MW-105C								
March-05	4.78E+03	1.30E+02	2.15E+02	3.10E+02	-5.50E-01	3.30E-01	5.46E-01	
April-06	1.99E+03	1.85E+02	4.31E+02	5.31E+02	1.10E+00	5.30E-01	1.23E+00	1.69E+00
June-06 Unfiltered	1.03E+03	8.15E+01	1.90E+02	2.20E+02	8.86E-01	5.95E-01	1.39E+00	2.16E+00
MW-106A								
March-05	4.30E+02	1.00E+02	1.65E+02	3.20E+02	7.90E-01	7.00E-01	1.16E+00	
November-05	7.00E+03		2.14E+02		8.00E-01		1.56E+00	
April-06	2.85E+02	1.42E+02	3.30E+02	4.70E+02	-6.26E-01	5.55E-01	1.29E+00	3.06E+00
June-06 Unfiltered	7.17E+03	2.02E+02	4.71E+02	3.63E+02	3.95E-01	4.91E-01	1.14E+00	2.12E+00
June-06 Filtered	7.62E+03	1.53E+02	3.55E+02	2.19E+02	5.77E-01	4.39E-01	1.02E+00	1.61E+00
MW-106B								
March-05	1.00E+01	1.00E+02	1.65E+02		1.35E+00	6.80E-01	1.12E+00	1.80E+00
November-05	8.40E+01		1.50E+02		1.32E+00		1.61E+00	
April-06	7.38E+01	1.31E+02	3.04E+02	4.51E+02	1.41E+00	7.45E-01	1.74E+00	2.75E+00
June-06 Unfiltered	-7.34E+01	8.80E+01	2.05E+02	3.11E+02	2.38E+00	6.90E-01	1.61E+00	1.93E+00
MW-106C								
March-05	-8.00E+01	1.00E+02	1.65E+02		8.10E-01	5.90E-01	9.76E-01	
November-05	-1.14E+02		1.50E+02		5.90E-01		1.33E+00	
April-06	2.08E+02	1.31E+02	3.05E+02	4.40E+02	5.04E-01	5.05E-01	1.18E+00	2.07E+00
June-06 Unfiltered	-2.60E-01	1.16E+02	2.70E+02	4.04E+02	1.34E+00	6.30E-01	1.47E+00	2.28E+00
MW-106D								
March-05	0.00E+00	1.00E+02	1.65E+02		2.80E+00	1.10E+00	1.82E+00	2.50E+00
November-05	5.70E+01		1.51E+02		2.06E+00		1.43E+00	
April-06	7.48E+00	1.21E+02	2.82E+02	4.23E+02	9.68E-01	4.65E-01	1.08E+00	1.63E+00
June-06 Unfiltered	3.21E+01	1.16E+02	2.69E+02	3.99E+02	5.20E-01	6.55E-01	1.53E+00	2.81E+00

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite B				Suite C			
	Gross Beta	1-Sigma	Lc	MDC	C-14	1-Sigma	Lc	MDC
MW-104B								
March-05	1.38E+01	1.40E+00	2.32E+00	3.10E+00	1.90E+01	1.80E+01	2.98E+01	
November-05	1.17E+01			1.81E+00	1.00E+00			4.94E+01
April-06	1.26E+01	1.40E+00	3.25E+00	4.43E+00	-1.17E+01	2.00E+01	4.66E+01	7.04E+01
June-06 Unfiltered	2.31E+01	1.65E+00	3.84E+00	4.47E+00				
MW-104C								
March-05	7.60E+00	1.20E+00	1.98E+00	3.00E+00	1.40E+01	1.70E+01	2.81E+01	
November-05	5.90E+00		1.81E+00		-1.30E+01		3.78E+01	
April-06	1.43E+01	1.14E+00	2.66E+00	3.27E+00	1.54E+01	2.23E+01	5.20E+01	7.63E+01
June-06 Unfiltered	1.17E+01	1.41E+00	3.29E+00	4.84E+00				
MW-105A								
April-06	3.18E+00	9.55E-01	2.23E+00	3.62E+00	8.27E+00	1.51E+01	3.52E+01	6.00E+01
June-06 Unfiltered	2.59E+00	1.11E+00	2.59E+00	4.37E+00	-2.92E+00	2.16E+01	5.02E+01	7.51E+01
June-06 Filtered	2.29E+00	5.80E-01	1.35E+00	2.01E+00	-2.22E+01	2.14E+01	4.97E+01	7.56E+01
MW-105B								
March-05	1.88E+01	1.40E+00	2.32E+00	2.70E+00	9.00E+00	1.90E+01	3.14E+01	
November-05	1.72E+01			2.30E+00	5.00E+00			2.47E+01
April-06	1.21E+01	1.51E+00	3.52E+00	4.94E+00	9.31E+00	1.26E+01	2.92E+01	4.29E+01
June-06 Unfiltered	1.62E+01	9.50E-01	2.21E+00	2.40E+00				
MW-105C								
March-05	5.30E+00	1.20E+00	1.98E+00	3.10E+00	1.90E+01	1.60E+01	2.65E+01	
April-06	7.69E+00	1.48E+00	3.44E+00	5.43E+00	4.94E+00	1.22E+01	2.83E+01	4.17E+01
June-06 Unfiltered	5.88E+00	8.45E-01	1.97E+00	2.76E+00				
MW-106A								
March-05	6.90E+00	1.00E+00	1.65E+00	2.60E+00	3.70E+01	2.60E+01	4.30E+01	
November-05	8.00E+00		1.81E+00		-2.00E+00		3.95E+01	
April-06	7.30E+00	1.32E+00	3.06E+00	4.67E+00	-1.07E+01	1.88E+01	4.37E+01	6.59E+01
June-06 Unfiltered	5.56E+00	1.12E+00	2.61E+00	4.05E+00	3.23E+01	2.13E+01	4.96E+01	7.16E+01
June-06 Filtered	2.20E+00	4.99E-01	1.16E+00	1.67E+00	-1.69E+01	2.39E+01	5.56E+01	8.41E+01
MW-106B								
March-05	6.30E+00	1.20E+00	1.98E+00	3.00E+00	1.90E+01	1.70E+01	2.81E+01	
November-05	8.50E+00		2.15E+00		-2.70E+01		3.13E+01	
April-06	1.29E+01	1.52E+00	3.53E+00	4.88E+00	-1.52E+01	1.82E+01	4.23E+01	6.41E+01
June-06 Unfiltered	5.13E+00	1.17E+00	2.71E+00	4.32E+00				
MW-106C								
March-05	3.39E+01	2.00E+00	3.31E+00	2.90E+00	2.30E+01	1.90E+01	3.14E+01	
November-05	3.90E+01		3.78E+00		-1.00E+01		3.29E+01	
April-06	1.83E+01	1.52E+00	3.54E+00	4.35E+00	-3.70E+01	2.54E+01	5.91E+01	9.09E+01
June-06 Unfiltered	3.58E+00	1.17E+00	2.71E+00	4.54E+00				
MW-106D								
March-05	8.20E+00	1.30E+00	2.15E+00	3.20E+00	1.50E+01	1.70E+01	2.81E+01	
November-05	8.10E+00		1.56E+00		2.60E+01		5.10E+01	
April-06	5.66E+00	1.13E+00	2.63E+00	4.07E+00	-3.96E+01	2.64E+01	6.15E+01	9.47E+01
June-06 Unfiltered	4.78E+00	1.27E+00	2.95E+00	4.82E+00				

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite C							
	Fe-55	1-Sigma	Lc	MDC	Ni-63	1-Sigma	Lc	MDC
MW-104B								
March-05	3.20E+00	3.20E+00	5.29E+00		-4.80E+00	3.60E+00	5.95E+00	
November-05	-4.00E+00			4.94E+00	-3.10E+00			5.59E+00
April-06	2.62E+00	4.87E+00	1.13E+01	1.52E+01	2.58E-01	1.86E+00	4.33E+00	7.54E+00
June-06 Unfiltered								
MW-104C								
March-05	2.70E+00	2.90E+00	4.80E+00		-2.10E+00	3.00E+00	4.96E+00	
November-05	-2.60E+00		5.43E+00		-4.00E-01		5.10E+00	
April-06	-1.15E+01	5.55E+00	1.29E+01	1.80E+01	-5.57E+00	2.26E+00	5.25E+00	8.09E+00
June-06 Unfiltered								
MW-105A								
April-06	8.85E+00	6.60E+00	1.54E+01	1.97E+01	-8.29E+00	3.99E+00	9.30E+00	1.45E+01
June-06 Unfiltered	-6.17E-01	5.40E+00	1.26E+01	1.84E+01	-1.18E+00	2.05E+00	4.76E+00	7.53E+00
June-06 Filtered	-6.25E+00	4.78E+00	1.11E+01	1.67E+01	2.52E-01	2.17E+00	5.04E+00	7.43E+00
MW-105B								
March-05	6.40E+00	3.20E+00	5.29E+00	1.00E+01	-7.60E+00	2.70E+00	4.47E+00	
November-05					-1.20E+00			5.26E+00
April-06	3.36E+00	5.55E+00	1.29E+01	1.68E+01	-4.71E+00	1.89E+00	4.40E+00	6.64E+00
June-06 Unfiltered								
MW-105C								
March-05	7.00E-01	3.00E+00	4.96E+00		-3.80E+00	3.20E+00	5.29E+00	
April-06	1.01E+01	5.80E+00	1.35E+01	1.71E+01	-5.20E+00	2.09E+00	4.87E+00	7.33E+00
June-06 Unfiltered								
MW-106A								
March-05	-4.00E-01	3.10E+00	5.13E+00		4.00E-01	2.90E+00	4.80E+00	
November-05	-2.00E-01		4.61E+00		1.80E+00		4.44E+00	
April-06	-2.77E+00	4.59E+00	1.07E+01	1.46E+01	1.52E+00	1.56E+00	3.62E+00	5.30E+00
June-06 Unfiltered	-3.59E+00	2.13E+00	4.96E+00	7.02E+00	-1.21E+00	2.93E+00	6.83E+00	1.04E+01
June-06 Filtered	1.96E+00	2.49E+00	5.79E+00	8.02E+00	7.59E+00	2.41E+00	5.60E+00	7.90E+00
MW-106B								
March-05	1.50E+00	3.30E+00	5.46E+00		-2.00E+00	2.80E+00	4.63E+00	
November-05	-2.40E+00		5.26E+00		5.90E+00		6.25E+00	
April-06	4.29E+00	4.85E+00	1.13E+01	1.47E+01	-8.24E-02	1.57E+00	3.66E+00	5.46E+00
June-06 Unfiltered								
MW-106C								
March-05	2.30E+00	3.30E+00	5.46E+00		3.90E+00	3.10E+00	5.13E+00	
November-05	-4.90E+00		5.26E+00		-1.20E+00		4.77E+00	
April-06	1.22E+01	5.95E+00	1.39E+01	1.76E+01	2.16E+00	1.69E+00	3.94E+00	5.71E+00
June-06 Unfiltered								
MW-106D								
March-05	-2.30E+00	3.20E+00	5.29E+00		4.90E+00	4.30E+00	7.11E+00	
November-05	-4.90E+00		4.77E+00		1.05E+01		7.07E+00	
April-06	-4.63E-01	4.64E+00	1.08E+01	1.45E+01	1.40E-01	2.19E+00	5.09E+00	8.88E+00
June-06 Unfiltered								

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite C							
	Sr-90	1-Sigma	Lc	MDC	Tc-99	1-Sigma	Lc	MDC
MW-104B								
March-05	-1.30E+00	1.30E+00	2.15E+00		-2.00E-01	2.80E+00	4.63E+00	
November-05	8.00E-02	2.80E-01	4.63E-01	9.20E-01	-1.10E+00			2.80E+00
April-06	-1.51E-01	1.27E-01	2.95E-01	5.83E-01	-1.14E+00	2.32E+00	5.39E+00	8.11E+00
June-06 Unfiltered								
MW-104C								
March-05	1.50E+00	1.00E+00	1.65E+00		-7.40E+00	3.90E+00	6.45E+00	
November-05	-2.90E-01	2.50E-01	4.14E-01	8.50E-01	1.00E+00		2.63E+00	
April-06	1.48E-01	1.28E-01	2.98E-01	5.49E-01	-3.13E+00	2.70E+00	6.29E+00	9.55E+00
June-06 Unfiltered								
MW-105A								
April-06	-3.07E-01	1.10E-01	2.56E-01	5.56E-01	1.69E+00	2.36E+00	5.50E+00	8.08E+00
June-06 Unfiltered	-1.06E-02	9.50E-02	2.21E-01	4.89E-01	3.16E+00	2.66E+00	6.20E+00	9.00E+00
June-06 Filtered	1.19E-02	1.22E-01	2.83E-01	6.10E-01	-5.63E-01	2.61E+00	6.08E+00	9.05E+00
MW-105B								
March-05	-2.50E+00	1.30E+00	2.15E+00		-6.00E-01	2.90E+00	4.80E+00	
November-05	-2.00E-01			2.30E+00	1.00E+00			6.09E+00
April-06	-5.53E-02	1.25E-01	2.91E-01	5.60E-01	-1.87E+00	2.73E+00	6.36E+00	9.61E+00
June-06 Unfiltered								
MW-105C								
March-05	1.00E-01	1.10E+00	1.82E+00		-2.80E+00	3.60E+00	5.95E+00	
April-06	5.10E-01	1.62E-01	3.77E-01	6.06E-01	-2.06E+00	2.27E+00	5.29E+00	8.02E+00
June-06 Unfiltered								
MW-106A								
March-05	-1.50E+00	1.10E+00	1.82E+00		1.90E+00	2.80E+00	4.63E+00	
November-05	-2.50E-01	2.40E-01	3.97E-01	8.10E-01	-1.10E+00		2.63E+00	
April-06	-2.25E-02	1.02E-01	2.38E-01	4.50E-01	-2.07E+00	2.72E+00	6.33E+00	9.52E+00
June-06 Unfiltered	-1.91E-01	1.66E-01	3.87E-01	9.34E-01	-2.09E+00	2.66E+00	6.19E+00	9.27E+00
June-06 Filtered	-3.79E-02	1.62E-01	3.76E-01	8.31E-01	2.81E+00	2.63E+00	6.12E+00	8.90E+00
MW-106B								
March-05	-9.00E-01	1.10E+00	1.82E+00		2.00E-01	3.70E+00	6.12E+00	
November-05	-2.40E-01	2.30E-01	3.80E-01	7.90E-01	6.00E-01		3.29E+00	
April-06	-1.15E-01	1.19E-01	2.76E-01	5.38E-01	-3.23E+00	2.62E+00	6.09E+00	9.25E+00
June-06 Unfiltered								
MW-106C								
March-05	0.00E+00	1.00E+00	1.65E+00		-3.20E+00	3.70E+00	6.12E+00	
November-05	-4.70E-01	2.10E-01	3.47E-01	7.10E-01	-1.30E+00		2.80E+00	
April-06	1.72E-01	9.75E-02	2.27E-01	3.89E-01	-2.10E+00	2.61E+00	6.07E+00	9.15E+00
June-06 Unfiltered								
MW-106D								
March-05	-8.00E-01	1.00E+00	1.65E+00		-3.80E+00	3.70E+00	6.12E+00	
November-05	-4.10E-01	2.40E-01	3.97E-01	8.20E-01	-2.60E+00		3.13E+00	
April-06	2.26E-02	1.21E-01	2.81E-01	5.15E-01	-2.84E+00	2.64E+00	6.15E+00	9.32E+00
June-06 Unfiltered								

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite D							
	Pu-238	1-Sigma	Lc	MDC	Pu-239/240	1-Sigma	Lc	MDC
MW-104B								
March-05	0.00E+00	4.20E-04	6.95E-04		-6.40E-03	2.80E-03	4.63E-03	
November-05	2.00E-02			3.29E-02	-4.40E-03			3.29E-03
April-06	4.47E-02	3.10E-02	7.22E-02	6.06E-02	-1.61E-02	2.37E-02	5.52E-02	1.49E-01
June-06 Unfiltered								
MW-104C								
March-05	1.40E-02	3.90E-02	6.45E-02		-1.40E-03	1.40E-03	2.32E-03	
November-05	5.50E-02		5.26E-02		0.00E+00		5.10E-04	
April-06	-5.52E-03	2.32E-02	5.41E-02	1.15E-01	2.30E-02	2.26E-02	5.25E-02	6.23E-02
June-06 Unfiltered								
MW-105A								
April-06	-3.18E-03	5.05E-02	1.18E-01	2.89E-01	-5.72E-02	1.87E-02	4.36E-02	2.53E-01
June-06 Unfiltered	6.35E-02	4.36E-02	1.02E-01	1.67E-01	3.90E-02	3.37E-02	7.85E-02	1.39E-01
June-06 Filtered	1.50E-02	1.48E-02	3.44E-02	4.07E-02	1.50E-02	1.47E-02	3.43E-02	4.07E-02
MW-105B								
March-05	0.00E+00	4.90E-04	8.10E-04		-1.50E-03	1.50E-03	2.48E-03	
November-05	-1.30E-03			2.14E-03	-3.80E-03			3.62E-03
April-06	1.34E-02	4.13E-02	9.62E-02	2.21E-01	-5.34E-02	1.66E-02	3.86E-02	2.21E-01
June-06 Unfiltered								
MW-105C								
March-05	2.00E-02	2.40E-02	3.97E-02		-2.30E-03	1.70E-03	2.81E-03	
April-06	6.28E-02	5.50E-02	1.28E-01	2.35E-01	-2.86E-02	1.15E-01	2.67E-01	1.65E-01
June-06 Unfiltered								
MW-106A								
March-05	-9.20E-03	6.50E-03	1.08E-02		1.34E-01	9.50E-02	1.57E-01	
November-05	2.00E-02		3.29E-02		1.70E-02		3.29E-02	
April-06	-1.99E-02	2.08E-02	4.83E-02	1.64E-01	-1.99E-02	2.08E-02	4.83E-02	1.64E-01
June-06 Unfiltered	-8.48E-03	1.83E-02	4.26E-02	1.05E-01	6.01E-02	4.86E-02	1.13E-01	2.04E-01
June-06 Filtered	-3.44E-03	1.45E-02	3.37E-02	7.14E-02	-3.43E-03	1.44E-02	3.36E-02	7.14E-02
MW-106B								
March-05	5.10E-03	7.90E-02	1.31E-01		0.00E+00	1.20E-03	1.98E-03	
November-05	0.00E+00		4.11E-04		-2.40E-03		2.30E-03	
April-06	-9.32E-03	3.67E-02	8.54E-02	2.31E-01	-2.70E-02	2.81E-02	6.55E-02	2.22E-01
June-06 Unfiltered								
MW-106C								
March-05	-2.50E-02	1.10E-02	1.82E-02		5.90E-02	7.40E-02	1.22E-01	
November-05	1.80E-02		3.13E-02		1.80E-02		3.13E-02	
April-06	-1.59E-02	2.72E-02	6.33E-02	2.04E-01	-5.61E-02	1.74E-02	4.05E-02	2.32E-01
June-06 Unfiltered								
MW-106D								
March-05	0.00E+00	1.10E-03	1.82E-03		1.06E-01	9.50E-02	1.57E-01	
November-05	3.60E-02		4.61E-02		1.80E-02		3.29E-02	
April-06	-4.62E-02	2.83E-02	6.58E-02	2.38E-01	-3.13E-02	2.48E-02	5.77E-02	1.80E-01
June-06 Unfiltered								

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite D							
	Pu-241	1-Sigma	Lc	MDC	Am-241	1-Sigma	Lc	MDC
MW-104B								
March-05	2.50E+00	3.30E+00	5.46E+00		-2.20E-02	1.80E-02	2.98E-02	
November-05	5.50E+00			4.11E+00	-2.20E-02			1.81E-02
April-06	-5.39E+00	3.18E+00	7.41E+00	1.35E+01	6.73E-03	1.79E-02	4.16E-02	1.20E-01
June-06 Unfiltered								
MW-104C								
March-05	1.06E+01	4.30E+00	7.11E+00		-1.40E-02	2.30E-02	3.80E-02	
November-05	8.70E+00		5.10E+00		-2.20E-02		1.97E-02	
April-06	-1.74E+00	2.02E+00	4.69E+00	8.18E+00	2.01E-02	1.82E-02	4.24E-02	7.43E-02
June-06 Unfiltered								
MW-105A								
April-06	-2.04E-01	2.33E+00	5.42E+00	8.02E+00	-1.93E-02	1.45E-02	3.38E-02	1.47E-01
June-06 Unfiltered	1.10E+00	2.28E+00	5.30E+00	7.80E+00	1.07E-02	1.45E-02	3.38E-02	7.26E-02
June-06 Filtered	5.08E+00	2.58E+00	6.01E+00	8.62E+00	-1.29E-02	2.65E-02	6.16E-02	1.72E-01
MW-105B								
March-05	-7.00E-01	3.20E+00	5.29E+00		-2.80E-02	1.70E-02	2.81E-02	
November-05	-6.50E+00			4.94E+00	-1.80E-02			2.80E-02
April-06	2.50E+00	2.89E+00	6.73E+00	9.82E+00	1.92E-02	2.03E-02	4.72E-02	8.70E-02
June-06 Unfiltered								
MW-105C								
March-05	-4.80E+00	3.90E+00	6.45E+00		-1.00E-02	1.90E-02	3.14E-02	
April-06	2.83E+00	2.28E+00	5.30E+00	7.68E+00	-5.05E-02	4.82E-02	1.12E-01	2.98E-01
June-06 Unfiltered								
MW-106A								
March-05	2.10E+00	2.90E+00	4.80E+00		-1.21E-01	5.60E-02	9.26E-02	
November-05	-1.20E+00		3.62E+00		-2.00E-02		1.97E-02	
April-06	-5.64E-01	2.46E+00	5.73E+00	8.55E+00	-1.43E-04	7.85E-03	1.83E-02	7.44E-02
June-06 Unfiltered	-1.21E+00	2.08E+00	4.85E+00	7.22E+00	-4.62E-03	1.16E-02	2.70E-02	1.17E-01
June-06 Filtered	-2.03E+00	3.02E+00	7.04E+00	1.06E+01	3.66E-02	3.89E-02	9.06E-02	1.75E-01
MW-106B								
March-05	-3.00E-01	2.70E+00	4.47E+00		-1.41E-01	6.10E-02	1.01E-01	
November-05	-8.00E-01		5.43E+00		-2.00E-02		1.97E-02	
April-06	0.00E+00	2.47E+00	5.76E+00	8.54E+00	2.31E-03	1.16E-02	2.70E-02	9.05E-02
June-06 Unfiltered								
MW-106C								
March-05	1.80E+00	2.50E+00	4.14E+00		-1.41E-01	6.00E-02	9.92E-02	
November-05	1.03E+01		5.76E+00		-7.80E-03		1.45E-02	
April-06	7.60E-01	2.91E+00	6.78E+00	1.00E+01	-6.10E-02	3.52E-02	8.20E-02	1.13E-01
June-06 Unfiltered								
MW-106D								
March-05	2.30E+00	4.00E+00	6.62E+00		-1.37E-01	6.30E-02	1.04E-01	
November-05	1.60E+00		4.77E+00		1.20E-02		2.96E-02	
April-06	-1.30E+00	2.63E+00	6.13E+00	9.18E+00	-1.63E-02	2.01E-02	4.67E-02	9.92E-02
June-06 Unfiltered								

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite D							
	Cm-242	1-Sigma	Lc	MDC	Cm-243/244	1-Sigma	Lc	MDC
MW-104B								
March-05	0.00E+00	1.20E-04	1.98E-04		2.60E-03	6.90E-03	1.14E-02	
November-05	-1.60E-03			1.81E-03	-6.60E-04			1.09E-03
April-06	-1.29E-02	2.78E-02	6.48E-02	1.59E-01	-1.15E-02	2.49E-02	5.79E-02	1.42E-01
June-06 Unfiltered								
MW-104C								
March-05	0.00E+00	1.50E-04	2.48E-04		0.00E+00	1.30E-03	2.15E-03	
November-05	0.00E+00		2.14E-04		-7.40E-04		1.22E-03	
April-06	0.00E+00	1.40E-02	3.25E-02	3.68E-02	-5.52E-03	1.43E-02	3.32E-02	1.04E-01
June-06 Unfiltered								
MW-105A								
April-06	-1.93E-02	9.45E-03	2.20E-02	1.46E-01	-4.26E-03	4.77E-02	1.11E-01	2.54E-01
June-06 Unfiltered	-7.81E-03	1.69E-02	3.93E-02	9.66E-02	2.92E-02	2.02E-02	4.71E-02	3.95E-02
June-06 Filtered	7.26E-04	1.97E-02	4.59E-02	1.32E-01	1.10E-02	3.91E-02	9.11E-02	2.01E-01
MW-105B								
March-05	1.60E-02	1.10E-02	1.82E-02		-1.40E-03	1.40E-03	2.32E-03	
November-05	-6.00E-03			9.87E-03	0.00E+00			1.46E-04
April-06	0.00E+00	2.67E-02	6.21E-02	5.33E-02	9.09E-03	5.20E-02	1.21E-01	1.04E-01
June-06 Unfiltered								
MW-105C								
March-05	0.00E+00	1.10E-04	1.82E-04		-1.20E-03	1.20E-03	1.98E-03	
April-06	-2.05E-02	3.74E-02	8.70E-02	2.46E-01	-8.23E-02	5.25E-02	1.22E-01	3.34E-01
June-06 Unfiltered								
MW-106A								
March-05	0.00E+00	3.70E-04	6.12E-04		-4.00E-03	4.00E-03	6.62E-03	
November-05	0.00E+00		2.30E-04		8.00E-03		1.32E-02	
April-06	-8.04E-03	5.55E-03	1.29E-02	9.94E-02	2.27E-02	2.13E-02	4.96E-02	8.87E-02
June-06 Unfiltered	4.30E-02	2.98E-02	6.93E-02	5.82E-02	-1.42E-02	2.09E-02	4.87E-02	1.31E-01
June-06 Filtered	7.67E-04	2.09E-02	4.86E-02	1.39E-01	-4.17E-02	3.37E-02	7.85E-02	2.26E-01
MW-106B								
March-05	2.60E-02	2.60E-02	4.30E-02		0.00E+00	3.50E-04	5.79E-04	
November-05	-1.70E-03		1.97E-02		0.00E+00		1.81E-04	
April-06	0.00E+00	2.00E-02	4.66E-02	5.52E-02	-4.37E-03	4.28E-03	9.97E-03	9.07E-02
June-06 Unfiltered								
MW-106C								
March-05	-5.10E-03	5.10E-03	8.44E-03		-4.40E-03	4.40E-03	7.28E-03	
November-05	0.00E+00		2.80E-04		0.00E+00		2.47E-04	
April-06	-4.57E-03	4.48E-03	1.04E-02	9.49E-02	-1.63E-02	8.00E-03	1.86E-02	1.23E-01
June-06 Unfiltered								
MW-106D								
March-05	0.00E+00	5.10E-04	8.44E-04		0.00E+00	4.40E-04	7.28E-04	
November-05	-1.30E-03		2.15E-03		-1.10E-03		1.81E-03	
April-06	0.00E+00	2.19E-02	5.10E-02	6.06E-02	0.00E+00	1.96E-02	4.56E-02	5.40E-02
June-06 Unfiltered								

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Mn-54	1-Sigma	Lc	MDC	Co-60	1-Sigma	Lc	MDC
MW-107A								
April-06	-1.46E-01	7.40E-01	1.72E+00		1.69E+00	7.55E-01	1.76E+00	3.11E+00
June-06 Unfiltered	1.06E-02	1.18E+00	2.74E+00	4.31E+00	-8.69E-01	1.27E+00	2.95E+00	4.42E+00
June-06 Filtered	-6.93E-01	6.70E-01	1.56E+00	2.31E+00	-5.04E-01	7.95E-01	1.85E+00	2.49E+00
MW-107B								
April-06	-1.28E+00	8.30E-01	1.93E+00		1.19E+00	8.95E-01	2.09E+00	3.57E+00
June-06 Unfiltered	-3.24E-01	1.31E+00	3.05E+00	4.65E+00	3.07E+00	1.27E+00	2.95E+00	4.63E+00
MW-107C								
April-06	7.94E-01	1.11E+00	2.59E+00		1.17E+00	6.15E-01	1.43E+00	4.42E+00
June-06 Unfiltered	-9.69E-01	1.61E+00	3.75E+00	4.73E+00	-4.62E-01	1.39E+00	3.24E+00	4.96E+00
June-06 Filtered	-3.57E-01	8.45E-01	1.97E+00	3.12E+00	6.05E-01	1.05E+00	2.43E+00	4.04E+00
MW-107D								
April-06	-3.34E-02	1.01E+00	2.35E+00		3.17E-01	1.01E+00	2.35E+00	3.90E+00
June-06 Unfiltered	8.25E-01	1.06E+00	2.47E+00	4.02E+00	1.32E+00	1.13E+00	2.63E+00	4.56E+00
June-06 Filtered	1.21E+00	9.75E-01	2.27E+00	3.78E+00	1.39E-01	1.03E+00	2.40E+00	3.95E+00
MW-107E								
June-06 Unfiltered	-9.44E-01	8.95E-01	2.09E+00	3.10E+00	-2.67E-01	9.40E-01	2.19E+00	3.41E+00
June-06 Filtered	4.44E-01	1.10E+00	2.56E+00	4.08E+00	5.25E-01	9.85E-01	2.30E+00	3.90E+00
MW-107F								
June-06 Unfiltered	-1.51E+00	1.24E+00	2.89E+00	4.19E+00	4.88E-01	1.27E+00	2.95E+00	4.88E+00
June-06 Filtered	4.85E-01	1.08E+00	2.50E+00	3.98E+00	-7.44E-01	9.00E-01	2.10E+00	3.23E+00
MW-108A								
March-05	-3.00E-01		2.14E+00		-3.20E+00		2.14E+00	
November-05	-3.80E+00		3.13E+00		-4.10E+00		3.13E+00	
April-06	8.55E-01	9.70E-01	2.26E+00		-8.14E-01	1.10E+00	2.55E+00	3.86E+00
June-06 Unfiltered	8.98E-01	1.32E+00	3.06E+00	4.58E+00	-1.94E+00	1.37E+00	3.18E+00	4.13E+00
MW-108B								
March-05	7.00E-01		3.45E+00		-2.90E+00		3.29E+00	
November-05	-4.00E-01		3.95E+00		3.40E+00		3.95E+00	
April-06	-1.04E+00	1.02E+00	2.36E+00		-6.06E-01	9.35E-01	2.18E+00	3.38E+00
June-06 Unfiltered	3.99E+00	1.40E+00	3.25E+00	4.71E+00	4.79E-01	1.44E+00	3.34E+00	4.88E+00
MW-108C								
March-05	-6.00E-01		2.63E+00		2.30E+00		2.96E+00	
November-05	8.00E-01		3.45E+00		0.00E+00		4.11E+00	
April-06	8.88E-01	8.55E-01	1.99E+00		7.31E-01	1.08E+00	2.50E+00	4.33E+00
June-06 Unfiltered	2.63E+00	1.21E+00	2.82E+00	4.71E+00	-1.02E-01	1.30E+00	3.02E+00	4.76E+00
MW-109A								
April-06	7.19E-01	7.65E-01	1.78E+00		1.26E+00	8.80E-01	2.05E+00	2.97E+00
June-06 Unfiltered	3.60E-01	1.25E+00	2.91E+00	4.53E+00	-2.65E+00	1.74E+00	4.04E+00	4.77E+00
MW-109B								
March-05	5.00E-01	1.50E+00	2.48E+00		-3.00E-01	1.70E+00	2.81E+00	
April-06	-5.73E-01	9.95E-01	2.32E+00		7.18E-01	8.10E-01	1.89E+00	3.37E+00
June-06 Unfiltered	-3.00E+00	1.03E+00	2.40E+00	3.20E+00	3.06E+00	1.44E+00	3.36E+00	3.78E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater

2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station

Rowe, MA

Well No. and Sample Date	Suite A							
	Nb-94	1-Sigma	Lc	MDC	Ag-108m	1-Sigma	Lc	MDC
MW-107A								
April-06	5.10E-01	7.15E-01	1.67E+00	2.61E+00	5.24E-01	7.10E-01	1.65E+00	2.48E+00
June-06 Unfiltered	1.24E+00	1.05E+00	2.45E+00	3.82E+00	3.63E-01	1.08E+00	2.50E+00	3.85E+00
June-06 Filtered	-2.28E-02	6.15E-01	1.43E+00	2.25E+00	-1.07E+00	7.30E-01	1.70E+00	2.54E+00
MW-107B								
April-06	-4.71E-01	7.15E-01	1.67E+00	2.46E+00	-5.22E-01	8.80E-01	2.05E+00	3.09E+00
June-06 Unfiltered	1.74E+00	1.03E+00	2.39E+00	3.89E+00	2.56E+00	1.84E+00	4.29E+00	4.28E+00
MW-107C								
April-06	-2.82E-01	1.15E+00	2.67E+00	4.03E+00	4.01E-01	1.02E+00	2.38E+00	3.74E+00
June-06 Unfiltered	2.47E+00	1.18E+00	2.74E+00	4.44E+00	-1.24E-01	1.12E+00	2.60E+00	4.01E+00
June-06 Filtered	9.61E-01	9.05E-01	2.11E+00	3.39E+00	8.71E-01	9.50E-01	2.21E+00	3.56E+01
MW-107D								
April-06	-5.72E-01	8.65E-01	2.02E+00	3.08E+00	-6.60E-02	9.70E-01	2.26E+00	3.41E+00
June-06 Unfiltered	-1.04E+00	1.03E+00	2.40E+00	3.02E+00	-4.75E-01	9.55E-01	2.23E+00	3.30E+00
June-06 Filtered	-1.67E-01	8.55E-01	1.99E+00	3.08E+00	9.09E-01	8.70E-01	2.03E+00	3.36E+00
MW-107E								
June-06 Unfiltered	9.64E-01	7.85E-01	1.83E+00	3.06E+00	-1.72E+00	9.30E-01	2.17E+00	2.98E+00
June-06 Filtered	1.84E+00	1.29E+00	3.01E+00	3.82E+00	6.05E-01	9.85E-01	2.30E+00	3.57E+00
MW-107F								
June-06 Unfiltered	2.61E+00	1.25E+00	2.90E+00	4.37E+00	1.30E+00	1.14E+00	2.64E+00	4.27E+00
June-06 Filtered	-3.44E-01	9.05E-01	2.11E+00	3.25E+00	-9.30E-02	8.85E-01	2.06E+00	3.13E+00
MW-108A								
March-05	1.50E+00		2.14E+00		9.00E-01		1.97E+00	
November-05	-8.00E-01		2.96E+00		-3.00E-01		2.30E+00	
April-06	4.97E-01	9.15E-01	2.13E+00	3.39E+00	-7.61E-01	8.95E-01	2.09E+00	3.20E+00
June-06 Unfiltered	-2.28E+00	1.65E+00	3.84E+00	4.06E+00	-9.88E-01	1.26E+00	2.92E+00	4.09E+00
MW-108B								
March-05	-1.50E+00		2.96E+00		-7.00E-01		3.29E+00	
November-05	-1.40E+00		3.29E+00		-1.90E+00		2.80E+00	
April-06	-1.28E+00	9.15E-01	2.13E+00	3.05E+00	3.85E-02	8.10E-01	1.89E+00	3.02E+00
June-06 Unfiltered	-1.08E+00	1.14E+00	2.64E+00	3.61E+00	-1.04E+00	1.42E+00	3.31E+00	3.91E+00
MW-108C								
March-05	-3.20E+00		2.14E+00		-2.20E+00		2.14E+00	
November-05	3.00E+00		3.29E+00		3.00E-01		2.63E+00	
April-06	5.87E-01	8.15E-01	1.90E+00	3.14E+00	-1.12E+00	9.10E-01	2.12E+00	3.22E+00
June-06 Unfiltered	-1.12E+00	1.04E+00	2.42E+00	3.52E+00	2.78E-01	9.80E-01	2.28E+00	3.58E+00
MW-109A								
April-06	6.32E-02	7.80E-01	1.82E+00	2.58E+00	-3.65E-01	7.70E-01	1.79E+00	2.56E+00
June-06 Unfiltered	-3.07E-01	1.23E+00	2.87E+00	4.35E+00	1.19E+00	1.18E+00	2.75E+00	4.23E+00
MW-109B								
March-05	1.70E+00	1.20E+00	1.98E+00		5.00E-01	1.50E+00	2.48E+00	
April-06	9.90E-01	8.75E-01	2.04E+00	3.35E+00	1.73E+00	8.35E-01	1.95E+00	3.35E+00
June-06 Unfiltered	-2.93E-01	9.00E-01	2.10E+00	3.23E+00	4.04E-01	9.65E-01	2.25E+00	3.40E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater

2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station

Rowe, MA

Well No. and Sample Date	Suite A							
	Sb-125	1-Sigma	Lc	MDC	Cs-134	1-Sigma	Lc	MDC
MW-107A								
April-06	-2.62E+00	2.24E+00	5.22E+00	7.34E+00	5.69E-01	7.75E-01	1.81E+00	2.86E+00
June-06 Unfiltered	-2.54E+00	2.98E+00	6.94E+00	1.04E+01	2.34E+00	1.32E+00	3.06E+00	4.90E+00
June-06 Filtered	-1.02E+00	2.03E+00	4.73E+00	7.33E+00	1.10E-01	8.20E-01	1.91E+00	2.99E+00
MW-107B								
April-06	-2.53E+00	2.44E+00	5.69E+00	8.47E+00	4.34E-01	9.10E-01	2.12E+00	3.47E+00
June-06 Unfiltered	-3.51E+00	2.92E+00	6.80E+00	9.73E+00	-3.14E+00	1.32E+00	3.08E+00	4.35E+00
MW-107C								
April-06	-1.95E+00	2.92E+00	6.79E+00	1.03E+01	-9.95E-01	1.14E+00	2.64E+00	3.90E+00
June-06 Unfiltered	-8.20E-01	3.03E+00	7.05E+00	1.09E+01	2.26E-01	1.41E+00	3.29E+00	4.98E+00
June-06 Filtered	-2.28E+00	2.60E+00	6.05E+00	9.10E+00	2.64E+00	1.08E+00	2.50E+00	4.45E+00
MW-107D								
April-06	6.70E-02	2.69E+00	6.26E+00	9.50E+00	1.69E+00	1.03E+00	2.39E+00	4.07E+00
June-06 Unfiltered	-4.77E+00	2.81E+00	6.55E+00	9.19E+00	2.31E+00	1.10E+00	2.56E+00	4.48E+00
June-06 Filtered	-4.22E-01	2.35E+00	5.46E+00	8.65E+00	1.34E+00	9.95E-01	2.32E+00	3.93E+00
MW-107E								
June-06 Unfiltered	7.74E-01	2.64E+00	6.15E+00	9.31E+00	1.34E+00	1.02E+00	2.38E+00	3.98E+00
June-06 Filtered	-3.00E+00	2.78E+00	6.48E+00	9.36E+00	-7.16E-01	1.09E+00	2.53E+00	3.83E+00
MW-107F								
June-06 Unfiltered	-2.67E+00	3.01E+00	7.00E+00	1.07E+01	1.63E+00	1.34E+00	3.12E+00	5.07E+00
June-06 Filtered	2.18E+00	2.79E+00	6.50E+00	9.09E+00	-2.28E-01	9.65E-01	2.25E+00	3.52E+00
MW-108A								
March-05	7.50E+00		6.91E+00		-1.30E+00		2.63E+00	
November-05	-2.00E+00		7.73E+00		1.80E+00		2.96E+00	
April-06	3.12E-01	2.53E+00	5.89E+00	9.39E+00	-5.23E-01	1.09E+00	2.54E+00	3.82E+00
June-06 Unfiltered	2.53E-01	3.36E+00	7.82E+00	1.12E+01	1.80E+00	1.43E+00	3.33E+00	5.00E+00
MW-108B								
March-05	-2.20E+00		8.88E+00		5.00E-01		4.44E+00	
November-05	-1.06E+01		9.21E+00		2.70E+00		3.78E+00	
April-06	3.15E+00	2.40E+00	5.59E+00	9.34E+00	4.35E-01	1.06E+00	2.47E+00	3.92E+00
June-06 Unfiltered	-6.29E+00	3.21E+00	7.48E+00	1.02E+01	5.16E-01	1.49E+00	3.46E+00	4.29E+00
MW-108C								
March-05	-3.00E+00		6.09E+00		-3.00E-01		1.97E+00	
November-05	-4.70E+00		6.74E+00		-1.20E+00		3.62E+00	
April-06	-5.04E+00	2.70E+00	6.29E+00	7.87E+00	1.90E+00	1.18E+00	2.75E+00	3.68E+00
June-06 Unfiltered	-1.63E+00	2.72E+00	6.34E+00	9.65E+00	6.38E-01	1.31E+00	3.04E+00	4.74E+00
MW-109A								
April-06	8.33E-01	2.29E+00	5.32E+00	7.80E+00	-6.50E-01	9.30E-01	2.17E+00	2.94E+00
June-06 Unfiltered	-1.60E+00	3.40E+00	7.92E+00	1.16E+01	8.39E-01	1.40E+00	3.25E+00	5.11E+00
MW-109B								
March-05	-1.50E+00	4.00E+00	6.62E+00		3.10E+00	2.70E+00	4.47E+00	
April-06	4.07E+00	2.44E+00	5.69E+00	9.60E+00	3.99E-01	1.11E+00	2.59E+00	4.06E+00
June-06 Unfiltered	3.53E-02	2.76E+00	6.42E+00	9.57E+00	1.33E+00	8.90E-01	2.07E+00	3.96E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Cs-137	1-Sigma	Lc	MDC	Eu-152	1-Sigma	Lc	MDC
MW-107A								
April-06	-3.05E-01	7.00E-01	1.63E+00	2.49E+00	5.84E-01	2.52E+00	5.87E+00	8.66E+00
June-06 Unfiltered	7.94E-01	1.16E+00	2.70E+00	4.18E+00	1.76E-01	3.00E+00	6.99E+00	1.08E+01
June-06 Filtered	1.25E+00	7.80E-01	1.82E+00	3.04E+00	4.40E-01	2.30E+00	5.36E+00	7.95E+00
MW-107B								
April-06	1.09E+00	9.10E-01	2.12E+00	3.40E+00	1.81E+00	2.75E+00	6.40E+00	9.04E+00
June-06 Unfiltered	-7.48E-01	1.16E+00	2.70E+00	4.14E+00	-3.67E+00	3.12E+00	7.26E+00	1.06E+01
MW-107C								
April-06	-2.85E-01	1.25E+00	2.90E+00	3.82E+00	-2.32E+00	3.21E+00	7.48E+00	1.13E+01
June-06 Unfiltered	-2.30E-01	1.32E+00	3.06E+00	4.62E+00	-5.55E+00	3.34E+00	7.78E+00	1.08E+01
June-06 Filtered	-1.55E+00	1.73E+00	4.02E+00	3.39E+00	2.90E-01	2.82E+00	6.56E+00	1.03E+01
MW-107D								
April-06	-1.37E+00	9.85E-01	2.30E+00	3.38E+00	1.72E+00	2.82E+00	6.57E+00	1.03E+01
June-06 Unfiltered	3.17E-01	1.01E+00	2.35E+00	3.79E+00	2.96E+00	2.69E+00	6.26E+00	8.86E+00
June-06 Filtered	-6.85E-01	9.60E-01	2.24E+00	3.37E+00	-8.75E-01	3.05E+00	7.11E+00	1.04E+01
MW-107E								
June-06 Unfiltered	1.43E+00	1.02E+00	2.36E+00	3.92E+00	-2.53E+00	2.71E+00	6.31E+00	9.15E+00
June-06 Filtered	9.03E-01	1.34E+00	3.11E+00	3.14E+00	3.89E+00	2.98E+00	6.93E+00	1.11E+01
MW-107F								
June-06 Unfiltered	-2.32E-01	1.16E+00	2.70E+00	4.17E+00	-2.26E+00	3.42E+00	7.96E+00	1.14E+01
June-06 Filtered	3.73E-01	9.85E-01	2.30E+00	3.67E+00	-2.20E+00	2.85E+00	6.64E+00	9.87E+00
MW-108A								
March-05	1.20E+00		2.63E+00		5.20E+00		6.74E+00	
November-05	-3.10E+00		3.45E+00		3.00E-01		5.92E+00	
April-06	-9.49E-01	9.75E-01	2.27E+00	3.37E+00	-2.68E+00	2.81E+00	6.55E+00	9.41E+00
June-06 Unfiltered	1.45E+00	1.27E+00	2.96E+00	4.35E+00	1.67E+00	3.69E+00	8.59E+00	1.19E+01
MW-108B								
March-05	2.70E+00		3.45E+00		-3.70E+00		6.09E+00	
November-05	-4.00E-01		3.78E+00		4.00E+00		8.06E+00	
April-06	7.35E-01	9.15E-01	2.13E+00	3.49E+00	-2.69E+00	2.68E+00	6.23E+00	8.85E+00
June-06 Unfiltered	-1.05E+00	1.27E+00	2.96E+00	3.79E+00	4.69E+00	3.62E+00	8.43E+00	1.12E+01
MW-108C								
March-05	-6.00E-01		2.63E+00		-1.70E+00		5.76E+00	
November-05	-1.10E+00		3.62E+00		-5.00E+00		6.25E+00	
April-06	8.14E-01	9.15E-01	2.13E+00	3.57E+00	4.63E-02	2.83E+00	6.59E+00	9.85E+00
June-06 Unfiltered	1.43E+00	1.17E+00	2.73E+00	4.39E+00	2.93E+00	2.81E+00	6.54E+00	1.05E+01
MW-109A								
April-06	-9.74E-02	7.90E-01	1.84E+00	2.59E+00	2.03E+00	2.78E+00	6.47E+00	8.45E+00
June-06 Unfiltered	3.51E+00	1.35E+00	3.13E+00	5.25E+00	8.83E+00	4.78E+00	1.11E+01	1.35E+01
MW-109B								
March-05	0.00E+00	1.80E+00	2.98E+00		4.00E+00	3.90E+00	6.45E+00	
April-06	-1.08E+00	8.60E-01	2.00E+00	2.93E+00	-1.97E+00	2.75E+00	6.40E+00	9.20E+00
June-06 Unfiltered	1.22E+00	9.50E-01	2.21E+00	3.69E+00	2.70E+00	3.20E+00	7.46E+00	1.14E+01

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite A							
	Eu-154	1-Sigma	Lc	MDC	Eu-155	1-Sigma	Lc	MDC
MW-107A								
April-06	2.69E+00	2.12E+00	4.94E+00	8.35E+00	1.21E+00	2.84E+00	6.61E+00	1.02E+01
June-06 Unfiltered	-2.43E+00	3.06E+00	7.13E+00	1.07E+01	6.38E+00	4.36E+00	1.01E+01	1.26E+01
June-06 Filtered	-1.10E+00	1.96E+00	4.56E+00	7.25E+00	1.13E+00	4.02E+00	9.37E+00	9.57E+00
MW-107B								
April-06	2.62E-02	2.44E+00	5.69E+00	9.04E+00	3.70E+00	3.33E+00	7.75E+00	1.20E+01
June-06 Unfiltered	2.13E+00	2.75E+00	6.40E+00	1.04E+01	7.82E-01	3.28E+00	7.64E+00	1.09E+01
MW-107C								
April-06	6.31E+00	3.11E+00	7.25E+00	1.32E+01	-2.20E+00	4.12E+00	9.60E+00	1.41E+01
June-06 Unfiltered	2.39E+00	3.96E+00	9.22E+00	1.48E+01	2.01E-01	2.80E+00	6.51E+00	1.01E+01
June-06 Filtered	1.83E+00	3.41E+00	7.93E+00	1.29E+01	3.95E+00	3.50E+00	8.16E+00	1.28E+01
MW-107D								
April-06	-2.93E+00	2.75E+00	6.40E+00	9.64E+00	6.91E+00	3.63E+00	8.46E+00	1.31E+01
June-06 Unfiltered	-3.20E-01	2.81E+00	6.54E+00	1.06E+01	1.51E+00	3.61E+00	8.40E+00	1.27E+01
June-06 Filtered	-1.97E+00	2.48E+00	5.77E+00	8.92E+00	1.64E+00	3.44E+00	8.00E+00	1.26E+01
MW-107E								
June-06 Unfiltered	-2.03E+00	2.50E+00	5.83E+00	8.71E+00	-6.42E+00	3.66E+00	8.52E+00	1.24E+01
June-06 Filtered	-4.71E-01	2.87E+00	6.68E+00	1.08E+01	9.78E+00	3.36E+00	7.82E+00	1.26E+01
MW-107F								
June-06 Unfiltered	-1.36E+00	3.69E+00	8.60E+00	1.36E+01	1.73E+00	3.62E+00	8.42E+00	1.29E+01
June-06 Filtered	-5.02E-01	3.26E+00	7.58E+00	1.20E+01	-4.39E+00	3.54E+00	8.24E+00	1.19E+01
MW-108A								
March-05	3.30E+00		6.58E+00		2.20E+00		1.02E+01	
November-05	-1.01E+01		8.55E+00		4.40E+00		8.88E+00	
April-06	-2.60E+00	4.18E+00	9.73E+00	1.25E+01	1.57E+00	2.75E+00	6.40E+00	9.35E+00
June-06 Unfiltered	-6.34E+00	3.80E+00	8.85E+00	1.13E+01	5.15E+00	3.86E+00	8.99E+00	1.30E+01
MW-108B								
March-05	1.30E+01		1.04E+01		-3.00E-01		9.38E+00	
November-05	1.87E+01		1.05E+01		1.30E+01		1.22E+01	
April-06	1.77E+00	2.33E+00	5.42E+00	9.51E+00	-1.38E-01	3.26E+00	7.60E+00	1.18E+01
June-06 Unfiltered	-6.78E+00	4.45E+00	1.04E+01	1.32E+01	1.72E+00	3.63E+00	8.45E+00	1.22E+01
MW-108C								
March-05	-2.00E+00		6.74E+00		2.50E+00		8.72E+00	
November-05	-9.00E-01		1.04E+01		3.40E+00		9.21E+00	
April-06	-3.75E+00	2.14E+00	4.97E+00	7.17E+00	-4.50E+00	3.16E+00	7.35E+00	1.09E+01
June-06 Unfiltered	1.02E+00	2.88E+00	6.71E+00	1.12E+01	-5.39E+00	4.05E+00	9.44E+00	1.38E+01
MW-109A								
April-06	1.93E+00	2.54E+00	5.91E+00	8.86E+00	-1.91E+00	2.96E+00	6.89E+00	9.69E+00
June-06 Unfiltered	4.89E+00	4.16E+00	9.68E+00	1.44E+01	-6.42E-01	3.63E+00	8.46E+00	1.25E+01
MW-109B								
March-05	7.80E+00	6.10E+00	1.01E+01		-3.40E+00	5.10E+00	8.44E+00	
April-06	-3.64E+00	2.57E+00	5.99E+00	8.69E+00	3.12E+00	3.14E+00	7.30E+00	1.17E+01
June-06 Unfiltered	0.00E+00	5.35E+00	1.25E+01	9.65E+00	7.11E-01	3.79E+00	8.82E+00	1.34E+01

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite B							
	Tritium	1-Sigma	Lc	MDC	Gross Alpha	1-Sigma	Lc	MDC
MW-107A								
April-06	4.91E+03	2.23E+02	5.20E+02	4.75E+02	2.15E+00	1.12E+00	2.60E+00	4.39E+00
June-06 Unfiltered	5.91E+03	2.41E+02	5.60E+02	4.00E+02	-4.15E-02	6.85E-01	1.60E+00	2.50E+00
June-06 Filtered	6.13E+03	2.49E+02	5.79E+02	4.13E+02	4.18E-01	4.93E-01	1.15E+00	1.91E+00
MW-107B								
April-06	1.91E+01	9.60E+01	2.24E+02	3.32E+02	2.39E+00	5.75E-01	1.34E+00	1.48E+00
June-06 Unfiltered	2.51E+02	1.27E+02	2.96E+02	4.22E+02	-2.62E-02	6.20E-01	1.44E+00	2.41E+00
MW-107C								
April-06	4.13E+04	5.15E+02	1.20E+03	4.47E+02	2.71E+00	8.00E-01	1.86E+00	2.75E+00
June-06 Unfiltered	3.60E+04	5.40E+02	1.26E+03	4.02E+02	2.56E+00	6.05E-01	1.41E+00	1.50E+00
June-06 Filtered	3.66E+04	5.50E+02	1.28E+03	4.16E+02	1.46E-01	9.20E-01	2.14E+00	3.66E+00
MW-107D								
April-06	1.19E+04	3.01E+02	7.01E+02	4.60E+02	3.11E-01	5.95E-01	1.39E+00	2.31E+00
June-06 Unfiltered	1.18E+04	3.22E+02	7.49E+02	4.03E+02	1.17E+00	6.70E-01	1.56E+00	2.29E+00
June-06 Filtered	1.33E+04	2.96E+02	6.90E+02	3.52E+02	4.56E-01	4.72E-01	1.10E+00	1.60E+00
MW-107E								
June-06 Unfiltered	7.90E+03	1.97E+02	4.59E+02	3.10E+02	1.31E+00	4.90E-01	1.14E+00	1.64E+00
June-06 Filtered	7.84E+03	2.38E+02	5.55E+02	3.56E+02	-8.17E-01	5.20E-01	1.21E+00	1.95E+00
MW-107F								
June-06 Unfiltered	1.09E+04	2.24E+02	5.21E+02	3.08E+02	4.35E-01	7.45E-01	1.74E+00	3.37E+00
June-06 Filtered	1.09E+04	2.10E+02	4.89E+02	3.38E+02	5.60E-01	5.15E-01	1.20E+00	2.21E+00
MW-108A								
March-05	-3.00E+01	1.00E+02	1.65E+02		-2.40E-01	8.30E-01	1.37E+00	
November-05	8.50E+01		1.51E+02		2.10E-01		1.53E+00	
April-06	-5.27E+01	9.25E+01	2.16E+02	3.25E+02	2.74E+00	1.26E+00	2.94E+00	4.69E+00
June-06 Unfiltered	4.33E+01	6.40E+01	1.49E+02	2.19E+02	2.59E+00	6.10E-01	1.42E+00	1.74E+00
MW-108B								
March-05	-1.20E+02	1.00E+02	1.65E+02		1.49E+00	5.90E-01	9.76E-01	1.40E+00
November-05	1.41E+02		1.51E+02		8.80E-01		1.23E+00	
April-06	2.69E+02	1.28E+02	2.97E+02	4.23E+02	1.59E+00	6.20E-01	1.44E+00	2.05E+00
June-06 Unfiltered	-8.39E+01	5.95E+01	1.39E+02	2.12E+02	2.06E+00	3.72E-01	8.66E-01	8.68E-01
MW-108C								
March-05	1.88E+02	9.30E+01	1.54E+02	2.90E+02	7.50E-01	8.10E-01	1.34E+00	
November-05	5.80E+01		1.50E+02		2.30E+00		1.97E+00	
April-06	-1.35E+02	1.24E+02	2.88E+02	4.43E+02	2.77E+00	8.00E-01	1.86E+00	2.60E+00
June-06 Unfiltered	8.48E+01	1.06E+02	2.46E+02	3.59E+02	2.92E+00	7.70E-01	1.79E+00	2.28E+00
MW-109A								
April-06	2.01E+02	9.95E+01	2.32E+02	3.31E+02	1.34E+00	6.15E-01	1.43E+00	1.94E+00
June-06 Unfiltered	1.30E+02	9.20E+01	2.14E+02	3.11E+02	2.96E-01	6.30E-01	1.47E+00	2.51E+00
MW-109B								
March-05	5.00E+01	1.00E+02	1.65E+02		1.80E+00	6.80E-01	1.12E+00	1.70E+00
April-06	-5.64E+01	1.20E+02	2.80E+02	4.25E+02	3.16E-01	5.35E-01	1.25E+00	2.09E+00
June-06 Unfiltered	-2.60E+01	1.24E+02	2.89E+02	4.42E+02	1.27E+00	5.70E-01	1.33E+00	1.95E+00

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite B				Suite C			
	Gross Beta	1-Sigma	Lc	MDC	C-14	1-Sigma	Lc	MDC
MW-107A								
April-06	1.32E+01	1.43E+00	3.33E+00	4.51E+00	8.02E-01	2.16E+01	5.02E+01	7.47E+01
June-06 Unfiltered	1.10E+01	1.09E+00	2.54E+00	3.35E+00	-2.98E+00	2.20E+01	5.11E+01	7.67E+01
June-06 Filtered	2.07E+00	5.05E-01	1.18E+00	1.71E+00	0.00E+00	2.21E+01	5.15E+01	7.66E+01
MW-107B								
April-06	6.66E+00	1.23E+00	2.87E+00	4.45E+00	4.62E+00	1.53E+01	3.55E+01	6.10E+01
June-06 Unfiltered	4.44E+00	8.55E-01	1.99E+00	2.89E+00				
MW-107C								
April-06	3.58E+00	1.05E+00	2.45E+00	4.01E+00	-9.98E+00	2.16E+01	5.02E+01	7.54E+01
June-06 Unfiltered	4.98E+00	9.10E-01	2.12E+00	3.14E+00	0.00E+00	2.21E+01	5.14E+01	7.67E+01
June-06 Filtered	5.74E+00	6.10E-01	1.42E+00	1.70E+00	-4.51E+00	2.22E+01	5.17E+01	7.72E+01
MW-107D								
April-06	8.24E+00	1.38E+00	3.22E+00	4.85E+00	2.00E+01	1.97E+01	4.59E+01	6.70E+01
June-06 Unfiltered	6.81E+00	6.90E-01	1.61E+00	1.98E+00	-2.52E+01	2.14E+01	4.99E+01	7.64E+01
June-06 Filtered	3.01E+00	4.07E-01	9.48E-01	1.16E+00	2.19E+01	1.93E+01	4.49E+01	6.53E+01
MW-107E								
June-06 Unfiltered	1.47E+00	9.35E-01	2.18E+00	3.70E+00	1.05E+01	2.25E+01	5.23E+01	7.73E+01
June-06 Filtered	7.20E-01	3.84E-01	8.94E-01	1.28E+00	1.24E+01	1.91E+01	4.45E+01	6.56E+01
MW-107F								
June-06 Unfiltered	3.01E+00	1.17E+00	2.71E+00	4.70E+00	-9.06E+00	2.22E+01	5.16E+01	7.77E+01
June-06 Filtered	1.74E-01	1.02E+00	2.38E+00	4.56E+00	9.96E+00	1.95E+01	4.53E+01	6.69E+01
MW-108A								
March-05	2.04E+01	1.50E+00	2.48E+00	2.90E+00	2.20E+01	1.80E+01	2.98E+01	
November-05	1.92E+01		1.48E+00		-9.00E+00		5.26E+01	
April-06	1.66E+01	1.96E+00	4.57E+00	6.76E+00	2.35E+01	1.31E+01	3.05E+01	4.38E+01
June-06 Unfiltered	1.24E+01	9.80E-01	2.28E+00	2.82E+00				
MW-108B								
March-05	3.76E+00	9.50E-01	1.57E+00	2.60E+00	1.00E+00	1.40E+01	2.32E+01	
November-05	7.90E+00		1.97E+00		-9.00E+00		5.76E+01	
April-06	3.21E+00	1.23E+00	2.87E+00	4.91E+00	-6.68E+00	1.90E+01	4.43E+01	6.65E+01
June-06 Unfiltered	3.73E+00	7.75E-01	1.81E+00	2.64E+00				
MW-108C								
March-05	8.50E+00	1.30E+00	2.15E+00	3.20E+00	2.00E+01	2.10E+01	3.47E+01	
November-05	7.50E+00		1.81E+00		-1.01E+02		3.95E+01	
April-06	8.09E+00	1.42E+00	3.30E+00	5.18E+00	-6.68E+00	1.90E+01	4.43E+01	6.65E+01
June-06 Unfiltered	8.40E+00	1.28E+00	2.97E+00	4.40E+00				
MW-109A								
April-06	1.40E+00	1.27E+00	2.95E+00	5.42E+00	4.90E+01	1.31E+01	3.04E+01	4.22E+01
June-06 Unfiltered	3.75E+00	1.19E+00	2.77E+00	4.67E+00				
MW-109B								
March-05	7.60E+00	1.10E+00	1.82E+00	2.70E+00	3.30E+01	2.10E+01	3.47E+01	
April-06	3.47E+00	1.06E+00	2.46E+00	4.06E+00	6.13E+00	2.03E+01	4.73E+01	7.01E+01
June-06 Unfiltered	3.55E+00	1.20E+00	2.78E+00	4.73E+00				

Table 7-2
Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater
2005 and 1st and 2nd Quarter 2006
Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite C							
	Fe-55	1-Sigma	Lc	MDC	Ni-63	1-Sigma	Lc	MDC
MW-107A								
April-06	3.67E+00	5.75E+00	1.34E+01	1.76E+01	-2.91E+00	2.29E+00	5.34E+00	8.05E+00
June-06 Unfiltered	-1.52E+00	4.90E+00	1.14E+01	1.66E+01	5.99E-01	2.11E+00	4.90E+00	7.67E+00
June-06 Filtered	-4.17E+00	5.70E+00	1.33E+01	1.97E+01	-7.70E-01	2.01E+00	4.67E+00	6.92E+00
MW-107B								
April-06	9.93E+00	5.75E+00	1.34E+01	1.71E+01	-3.68E+00	3.39E+00	7.90E+00	1.21E+01
June-06 Unfiltered								
MW-107C								
April-06	-6.22E-01	5.40E+00	1.26E+01	1.68E+01	4.41E+00	2.55E+00	5.93E+00	8.54E+00
June-06 Unfiltered	-1.34E+00	5.55E+00	1.29E+01	1.91E+01	-2.50E+00	1.94E+00	4.51E+00	7.17E+00
June-06 Filtered	2.21E+01	5.55E+00	1.29E+01	1.69E+01	-7.18E-01	2.15E+00	5.01E+00	7.42E+00
MW-107D								
April-06	-8.44E+00	5.80E+00	1.35E+01	1.84E+01	-3.38E+00	2.35E+00	5.46E+00	8.27E+00
June-06 Unfiltered	-3.95E+00	4.71E+00	1.10E+01	1.62E+01	3.67E-01	3.10E+00	7.21E+00	1.06E+01
June-06 Filtered	-9.68E-01	4.18E+00	9.73E+00	1.30E+01	-3.60E-01	2.37E+00	5.52E+00	8.23E+00
MW-107E								
June-06 Unfiltered	-5.19E-01	4.57E+00	1.06E+01	1.54E+01	3.61E-01	2.06E+00	4.80E+00	7.52E+00
June-06 Filtered	-2.59E+00	3.70E+00	8.62E+00	1.15E+01	1.22E+00	2.64E+00	6.14E+00	9.05E+00
MW-107F								
June-06 Unfiltered	-9.08E-01	5.85E+00	1.36E+01	2.01E+01	0.00E+00	2.01E+00	4.67E+00	7.34E+00
June-06 Filtered	-5.78E+00	3.68E+00	8.56E+00	1.16E+01	-5.19E-01	2.78E+00	6.47E+00	9.65E+00
MW-108A								
March-05	5.50E+00	9.10E+00	1.51E+01		-1.00E+00	3.00E+00	4.96E+00	
November-05	-3.80E+00		1.22E+01		-8.00E-01		5.92E+00	
April-06	-2.12E+00	6.10E+00	1.42E+01	1.86E+01	-9.09E+00	4.09E+00	9.53E+00	1.49E+01
June-06 Unfiltered								
MW-108B								
March-05	2.30E+00	3.50E+00	5.79E+00		1.70E+00	2.90E+00	4.80E+00	
November-05	-2.20E+00		4.94E+00		1.20E+00		5.10E+00	
April-06	-4.65E+00	6.50E+00	1.51E+01	2.04E+01	-1.66E+00	2.20E+00	5.13E+00	7.68E+00
June-06 Unfiltered								
MW-108C								
March-05	-1.80E+00	3.30E+00	5.46E+00		-3.90E+00	3.00E+00	4.96E+00	
November-05	-1.00E-01		4.94E+00		8.00E-01		5.10E+00	
April-06	-1.83E+00	5.60E+00	1.30E+01	1.75E+01	-4.61E+00	2.23E+00	5.18E+00	7.93E+00
June-06 Unfiltered								
MW-109A								
April-06	3.31E+00	5.90E+00	1.37E+01	1.80E+01	1.90E+01	1.90E+00	4.42E+00	5.81E+00
June-06 Unfiltered								
MW-109B								
March-05	1.10E+00	3.10E+00	5.13E+00		-2.90E+00	2.60E+00	4.30E+00	
April-06	1.29E+00	4.92E+00	1.15E+01	1.51E+01	8.07E-01	1.91E+00	4.45E+00	7.67E+00
June-06 Unfiltered								

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite C							
	Sr-90	1-Sigma	Lc	MDC	Tc-99	1-Sigma	Lc	MDC
MW-107A								
April-06	6.27E-02	1.24E-01	2.89E-01	5.54E-01	-7.32E-01	2.80E+00	6.51E+00	9.72E+00
June-06 Unfiltered	7.63E-02	9.80E-02	2.28E-01	4.59E-01	-6.91E-01	2.73E+00	6.35E+00	9.46E+00
June-06 Filtered	7.59E-02	1.68E-01	3.90E-01	8.04E-01	4.45E+00	2.72E+00	6.34E+00	9.14E+00
MW-107B								
April-06	-2.07E-02	1.24E-01	2.89E-01	5.46E-01	1.65E+00	2.32E+00	5.39E+00	7.92E+00
June-06 Unfiltered								
MW-107C								
April-06	-1.69E-01	2.99E-01	6.96E-01	1.34E+00	-6.07E-01	2.67E+00	6.22E+00	9.27E+00
June-06 Unfiltered	-6.00E-02	9.40E-02	2.19E-01	4.99E-01	1.23E+00	2.69E+00	6.27E+00	9.22E+00
June-06 Filtered	1.48E-01	1.39E-01	3.23E-01	6.29E-01	3.78E-01	2.72E+00	6.33E+00	9.36E+00
MW-107D								
April-06	6.52E-03	1.24E-01	2.89E-01	5.38E-01	3.01E+00	2.34E+00	5.44E+00	7.90E+00
June-06 Unfiltered	-1.48E-02	1.02E-01	2.38E-01	5.12E-01	6.44E+00	2.72E+00	6.33E+00	9.01E+00
June-06 Filtered	-1.05E-01	1.28E-01	2.97E-01	6.64E-01	2.69E-01	2.56E+00	5.95E+00	8.81E+00
MW-107E								
June-06 Unfiltered	-6.56E-03	7.10E-02	1.65E-01	3.31E-01	-6.56E-01	2.59E+00	6.03E+00	8.98E+00
June-06 Filtered	-1.28E-01	1.57E-01	3.65E-01	8.05E-01	-4.15E+00	2.50E+00	5.81E+00	8.85E+00
MW-107F								
June-06 Unfiltered	6.35E-02	8.05E-02	1.88E-01	3.55E-01	4.67E-01	2.65E+00	6.16E+00	9.10E+00
June-06 Filtered	4.20E-02	1.35E-01	3.13E-01	6.35E-01	0.00E+00	2.56E+00	5.96E+00	8.84E+00
MW-108A								
March-05	-4.00E-01	1.30E+00	2.15E+00		-4.20E+00	2.70E+00	4.47E+00	
November-05	9.00E-02	2.40E-01	3.97E-01	7.80E-01	-3.00E-01		3.13E+00	
April-06	4.17E-01	1.82E-01	4.23E-01	7.09E-01	1.97E+00	2.94E+00	6.85E+00	1.01E+01
June-06 Unfiltered								
MW-108B								
March-05	7.00E-01	1.20E+00	1.98E+00		-2.40E+00	3.70E+00	6.12E+00	
November-05	-7.90E-01	2.80E-01	4.63E-01	9.60E-01	1.70E+00		2.96E+00	
April-06	1.46E-03	1.35E-01	3.13E-01	5.78E-01	-1.20E+00	2.64E+00	6.14E+00	9.19E+00
June-06 Unfiltered								
MW-108C								
March-05	-1.98E+00	9.50E-01	1.57E+00		2.60E+00	2.70E+00	4.47E+00	
November-05	2.90E-01	2.20E-01	3.64E-01	7.30E-01	-7.00E-01		3.13E+00	
April-06	2.24E-01	1.29E-01	2.99E-01	5.13E-01	3.52E+00	2.29E+00	5.34E+00	7.71E+00
June-06 Unfiltered								
MW-109A								
April-06	-1.07E-01	1.20E-01	2.80E-01	5.45E-01	1.25E+00	2.48E+00	5.78E+00	8.52E+00
June-06 Unfiltered								
MW-109B								
March-05	-2.00E-01	1.10E+00	1.82E+00		4.00E+00	3.80E+00	6.29E+00	
April-06	-2.62E-01	9.05E-02	2.11E-01	4.47E-01	-2.18E+00	2.29E+00	5.34E+00	8.10E+00
June-06 Unfiltered								

Table 7-2

Summary of Quarterly Sample Concentrations of Gamma-Emitting, Tritium, Gross Alpha, Gross Beta and Hard-to-Detect Radionuclides in Groundwater 2005 and 1st and 2nd Quarter 2006

Yankee Nuclear Power Station
Rowe, MA

Well No. and Sample Date	Suite D							
	Pu-238	1-Sigma	Lc	MDC	Pu-239/240	1-Sigma	Lc	MDC
MW-107A								
April-06	1.17E-02	1.56E-02	3.62E-02	7.70E-02	1.54E-02	1.51E-02	3.52E-02	4.18E-02
June-06 Unfiltered	-3.53E-03	1.48E-02	3.45E-02	7.33E-02	4.05E-02	2.52E-02	5.86E-02	7.32E-02
June-06 Filtered	0.00E+00	1.71E-02	3.98E-02	4.73E-02	1.74E-02	1.71E-02	3.98E-02	4.72E-02
MW-107B								
April-06	3.24E-02	2.88E-02	6.70E-02	1.22E-01	-8.38E-03	2.69E-02	6.27E-02	1.61E-01
June-06 Unfiltered								
MW-107C								
April-06	-3.43E-03	1.44E-02	3.36E-02	7.13E-02	0.00E+00	1.40E-02	3.26E-02	3.87E-02
June-06 Unfiltered	-7.80E-02	3.22E-02	7.49E-02	2.53E-01	4.04E-02	3.58E-02	8.34E-02	1.52E-01
June-06 Filtered	0.00E+00	1.58E-02	3.67E-02	4.36E-02	1.61E-02	1.58E-02	3.67E-02	4.36E-02
MW-107D								
April-06	0.00E+00	1.84E-02	4.28E-02	5.07E-02	-8.23E-03	2.13E-02	4.96E-02	1.55E-01
June-06 Unfiltered	-1.84E-02	8.05E-03	1.88E-02	1.20E-01	-3.68E-03	1.55E-02	3.60E-02	7.64E-02
June-06 Filtered	0.00E+00	1.83E-02	4.26E-02	5.05E-02	3.73E-02	2.59E-02	6.02E-02	5.05E-02
MW-107E								
June-06 Unfiltered	-3.78E-03	1.59E-02	3.69E-02	7.85E-02	0.00E+00	1.54E-02	3.59E-02	4.26E-02
June-06 Filtered	-3.84E-03	1.61E-02	3.75E-02	7.98E-02	1.28E-02	2.37E-02	5.52E-02	1.25E-01
MW-107F								
June-06 Unfiltered	-7.65E-03	1.65E-02	3.84E-02	9.45E-02	3.25E-02	2.81E-02	6.54E-02	1.16E-01
June-06 Filtered	1.81E-02	1.78E-02	4.15E-02	4.92E-02	-4.35E-03	1.83E-02	4.25E-02	9.04E-02
MW-108A								
March-05	0.00E+00	1.30E-03	2.15E-03		1.60E-01	1.10E-01	1.82E-01	
November-05	5.40E-02		5.26E-02		-4.60E-03		3.29E-03	
April-06	-2.90E-02	3.32E-02	7.72E-02	2.05E-01	5.51E-02	2.09E-02	4.86E-02	1.87E-01
June-06 Unfiltered								
MW-108B								
March-05	-1.47E-02	8.50E-03	1.41E-02		0.00E+00	1.00E-03	1.65E-03	
November-05	1.60E-02		3.29E-02		-2.40E-03		2.30E-03	
April-06	-2.20E-02	2.29E-02	5.34E-02	1.81E-01	-3.94E-02	3.21E-02	7.47E-02	2.29E-01
June-06 Unfiltered								
MW-108C								
March-05	0.00E+00	1.00E-03	1.65E-03		1.15E-01	9.20E-02	1.52E-01	
November-05	1.30E-02		2.80E-02		-2.80E-03		1.97E-03	
April-06	4.29E-02	4.15E-02	9.67E-02	1.82E-01	9.09E-03	2.44E-02	5.67E-02	1.35E-01
June-06 Unfiltered								
MW-109A								
April-06	2.62E-02	3.01E-02	7.01E-02	1.39E-01	-1.95E-02	2.03E-02	4.72E-02	1.60E-01
June-06 Unfiltered								
MW-109B								
March-05	0.00E+00	9.60E-04	1.59E-03		-9.00E-03	6.40E-03	1.06E-02	
April-06	-8.28E-03	1.79E-02	4.16E-02	1.02E-01	1.31E-02	1.74E-02	4.05E-02	8.60E-02
June-06 Unfiltered								