GZA GeoEnvironmental, Inc.

FINAL
IPEC QUARTERLY LONG-TERM GROUNDWATER MONITORING REPORT
QUARTER TWO 2009
(REPORT NO. 6)
INDIAN POINT ENERGY CENTER
BUCHANAN, NEW YORK

PREPARED FOR:

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INDIAN POINT ENERGY CENTER
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THE POWER OF PEOPLE™

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September 22, 2010
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Mr. Patrick Donahue
Indian Point Energy Center
295 Broadway, Suite 3
P.O. Box 308
Buchanan, NY 10511-0308

Re: **FINAL IPEC Quarterly Groundwater Monitoring Report**
Quarter Two 2009 (Report No. 6)
Indian Point Energy Center
450 Broadway
Buchanan, New York 11501

Dear Mr. Donahue:

GZA GeoEnvironmental of New York (GZA) is pleased to provide this Quarterly Groundwater Monitoring Report for Indian Point Energy Center located at 450 Broadway, Buchanan, NY.

We trust that this information satisfies your present needs. Should you need any additional information, please do not hesitate to call us at (781) 278-3805.

Very truly yours,

GZA GEOENVIRONMENTAL OF NEW YORK

Josh Simpson
Engineer I

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Consultant/Reviewer

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Senior Project Manager

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Attachments: 3 Copies

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1.0 EXECUTIVE SUMMARY

On behalf of Entergy Nuclear Northeast, Inc., GZA GeoEnvironmental of New York (GZA) has completed the Q2 2009 quarterly groundwater monitoring for the Indian Point Energy Center (IPEC), culminating in this report. Interpretations of the monitoring data have been made in the context of the current Conceptual Site Model. Development of this model began at the outset of the site investigations and has been iteratively enhanced as subsequent data has become available, in part through quarterly monitoring. The report has been written with a focus on the most recent quarterly data; relationships to prior data and more in-depth technical explanations have typically been relegated to footnotes. This report format was chosen to allow efficient assimilation by those already familiar with the project. The footnotes do contain much important information and should be carefully read by all, but particularly by those less familiar with the technologies involved and the project history.

Based on the quarterly groundwater sampling data for Q2 2009, GZA concludes that, as predicted, groundwater contaminants continue to migrate toward the Hudson River to the West, and are not migrating towards the Site boundaries to the North, East or South.

Radionuclide concentrations measured during Q2 2009 were combined with previous quarterly data to compute rolling average concentrations reflective of groundwater contaminant levels over the past twelve months. These data were multiplied by the associated individual Zone-specific groundwater flux values, derived from the recalibrated Precipitation Mass Balance Model[1], to compute yearly average radionuclide release rates to the Discharge Canal and Hudson River. The Conceptual Site Model (CSM), upon which these computations are based, continues to be validated through: (1) Precipitation Mass Balance Model calibration analyses, as based on groundwater elevation data collected in 2007, 2008, and 2009[2]; (2) the behavior of both the Unit 1 Strontium plume and the Unit 2 Tritium plume as evaluated each quarter; and (3) additional tracer data collected in 2008/2009. These data, in our opinion, continue to support the use of the current CSM as a basis for Long Term Monitoring Program design.

From both qualitative and quantitative perspectives, the most recent quarterly data further support the conclusion that the overall Tritium activity in the Unit 2 plume is decreasing. These reductions have become particularly evident this quarter, as shown on **Figures 6** and **6A** where the shaded plume[3] no longer extends to the river as it has previously. It is further visually evident from **Figure 6A** that the core of the plume has also shown a marked decrease in concentration and extent over time. Within the overall decreasing trends in Tritium activity, three localized exceptions of note were identified this quarter:

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[1] The recalibration of the Precipitation Mass Balance Model is discussed in **Appendix H**. Precipitation and groundwater elevation data were collected onsite between 2007 and 2009 and used to compute groundwater fluxes across the site. The precipitation data from 2007-2009 sufficiently encompassed the historical variability of precipitation. Therefore, maximum onsite fluxes were calculated from the groundwater elevation data, and used to conservatively recalibrate the Precipitation Mass Balance Model.

[2] The formulation and basis for the Precipitation Mass Balance model, as well as the overall CSM, is presented in the Hydrogeologic Site Investigation Report, January 7, 2008, prepared by GZA GeoEnvironmental, Inc, on behalf of Enercon Services, Inc., for Entergy Nuclear Northeast, Indian Point Energy Center, 450 Broadway, Buchanan, NY 10511.

[3] The plume shading on **Figure 6** demarks the estimated boundary that separates Tritium levels greater than 5,000 pCi/L from those below this value. This plume delineation boundary value equates to one-quarter of the drinking water standard for Tritium. Although GZA emphasizes that drinking water standards (USEPA MCLs) do not apply to the IPEC property given that there are no drinking water sources on or proximate to the site, the MCLs do provide a useful benchmark for comparisons of relative human risk. Where yearly rolling average radionuclide activity data were available for multiple depths at a given location, GZA used the highest value to develop plume delineations. This is a typical approach to represent three-dimensional contaminant data sets on two-dimensional maps.

- Noticeable increases in Tritium activity were detected in MW-31 and MW-32; these data are consistent with episodic releases of Tritium historically stored in the subsurface via natural and anthropogenic Retention Mechanisms[4]. This conclusion is further supported by the tracer data and other analyses discussed in **Section 3.6** of the Q1 2009 Long Term Monitoring Report.
- A recent increase in Tritium level at U1-CSS is likely attributed to an observed transient leak in the waste distillation tank valving within the Unit 1 FSB. This leakage episode was rapidly identified and immediately repaired, as further discussed herein and in the Q1 2009 Report.
- An apparent surficial release to Manhole A2, located proximate to the Unit 3 FSB, was also detected. It is believed that this potentially seasonal release is associated with vapor deposition from the Unit 3 FSB, and, as such, is otherwise accounted for. However, further investigations are ongoing in this regard.

The overall Sr-90 activity within the Unit 1 plume had generally been stable or decreasing in response to the West Pool demineralization activities conducted by Entergy beginning in 2006. However, the final defueling of the Unit 1 SFPs has resulted in a noticeable increase in Strontium levels proximate to the SFPs, as well as initial indications of increases in Strontium plume activity downgradient (see **Figure 7** and **7A**). This is as was predicted given the requirement to temporarily raise the pool levels for fuel rod removal, thus increasing leakage rate from the SFPs[5]. With time, it is expected that the levels proximate to the pool will decrease and levels downgradient of the pool will increase as this additional strontium contaminated water flushes through the groundwater flow system. It is expected that this flushing mechanism will be protracted given the impact of partitioning on Strontium levels in the groundwater. However, over time it is expected that downgradient Strontium plume levels will also resume an overall downward trend once this transient perturbation has passed through the system.

Based on the data and analyses provided herein, our conclusion is that the Tritium and Strontium plumes are both undergoing overall long-term reductions in activity. Given this conclusion, and the recognition that Entergy has terminated all identified leaks in the Unit 2 SFP[6] and has decommissioned the Unit 1 SFPs, these plumes satisfy the requirements for Monitored Natural Attenuation (MNA), the remedial technology selected for the IPEC Site. However, it is also concluded that, while a portion of the above cited localized leakage events traveled directly to the saturated groundwater regime and resulted in the observed transient "peaks" in radionuclide levels, additional portions of these releases likely remain above the water table as recharge to the various Retention Mechanisms. This additional unsaturated zone source recharge will likely be manifested in the future as additional non-specific peaks in radionuclide levels due to episodic releases to the groundwater flow regime from these

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[4] These Retentions Mechanisms are discussed along with the CSM in the previously cited Hydrogeologic Site Investigation Report.

[5] As of late 2008, all the fuel rods have been removed from the Unit 1 SFPs and the pool water has been drained. As such, the Unit 1 SFPs is no longer an active source of radionuclides to the subsurface.

[6] Further justification for this conclusion can be found in Section 3.6 of the Q1 2009 Quarterly Monitoring Report as well as the Hydrogeologc Site Investigation Report. The Q1 2009 Report summarizes additional, more quantitative analyses have been completed to further investigate the integrity of the Unit 2 SFP. These analyses provide further support for the original conclusion that the Unit 2 SFP is no longer leaking. However, these analyses cannot definitively rule out the possibility of a remaining small leak which could then also be supplying Tritium to the groundwater flow regime in addition to the Retention Mechanism(s). While it is not possible to quantify the size the minimum detectable leak with any degree of certainty, we believe that the maximum leak rate from the Unit 2 SFP that could potentially remain undetected by the groundwater monitoring system is less than 10 to 30 gpd (0.007 to 0.021 gallons per minute). It is also likely that if a small leak exists in the Unit 2 SFP liner, it should not get worse with time. This opinion is based on liner evaluations previously conducted by Entergy. It is further emphasized that while a leak of less than 0.02 gallons per minute should be large enough to be readily detectable with the existing Long Term Monitoring Program, this amount of Tritium release to the river is still small compared to permitted levels of Tritium discharge to the river through the Discharge Canal.

mechanisms (e.g., from intense/prolonged precipitation events). These localized release events also interfere with the goal of resetting Site Investigation Levels (I.L.s); updating of Strontium I.L.s must therefore await return to the original Strontium baseline levels existing prior to Unit 1 defueling, and additional seasonal data is required to better assess Tritium response to precipitation-driven retention mechanism release variability. Therefore, the ultimate confirmation of the above conclusions will require monitoring over a number of years so as to allow ranges in seasonal variation to be adequately reflected in the monitoring data and thus demonstrate continued depletion of Tritium and Strontium from the retention mechanisms.

In summary, based on the data collected to date, the apparent strength of the CSM to evaluate that data, and the completion of source interdictions by Entergy, we believe all Program Objectives (see **Section 3.0**) are being met. These objectives are consistent with and fully encompass the guidance provided in the NEI Groundwater Protection Initiative (GPI).

2.0 SCOPE OF WORK

During Q2 2009, GZA performed groundwater monitoring activities at IPEC in Buchanan, New York (Site) as part of IPEC's overall Long Term Groundwater Monitoring Program (LTMP)[7]. The overall foundation for the development and execution of this LTMP is based on the CSM, a description of which is contained within GZA's Hydrogeologic Site Investigation Report[8]. The scope of work completed for this quarter's monitoring is described in the Sections below. Refer to **Figures 1 and 2** for a Site Location Plan and Site Plan. **Figure 3** provides a Lower Hudson Valley Geologic Map and **Figure 4** summarizes Current and Potential Future SSC Source Locations. Report Limitations are provided in **Appendix A**.

2.1 Groundwater Elevation Measurement

GZA currently maintains an extensive network of transducers and dataloggers as part of the monitoring instrumentation located across the Site. Transducer installation logs are presented in **Appendix B**.

These instruments record groundwater elevation and temperature measurements at regular time intervals[9] and have provided critical data inputs for the development of the CSM. Most recently, the primary function of these instruments has been to continue monitoring the variability of groundwater elevations over time, and thus generate data needed to calibrate the Precipitation Mass Balance Model; this model computes groundwater fluxes across the Site which are used to assess radiological dose to the Hudson River. As discussed further in **Section 3.1.2** below, sufficient data has been collected over the past nine quarters to capture groundwater elevation response to seasonal and yearly precipitation variability. Therefore, subsequent to this quarterly monitoring report (Q2 2009), the transducer monitoring program will be refocused on a select set of locations that will continue to be routinely monitored. These locations have been selected[10] to provide the data required to document that groundwater elevations remain within bounds consistent with the CSM, thus demonstrating the veracity of the subsequent dose computations[11].

During the quarterly sampling, GZA downloaded groundwater elevation data collected by the pressure transducers over the duration of the quarter. Using these data, GZA developed Site groundwater elevation contours at low river tide conditions for the upper and lower portions of the groundwater flow regime. These data are presented on **Table 2** and **Figure 5** for the May 22, 2009 low river tide.

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[7] Refer to the "Final Quarterly Long-Term Groundwater Monitoring Report Q2–Q4 2007 (Report No. 1)," dated May 2008 for Site background information and a description of the environmental setting.

[8] Hydrogeologic Site Investigation Report, January 7, 2008, prepared by GZA GeoEnvironmental, Inc, on behalf of Enercon Services, Inc., for Entergy Nuclear Northeast, Indian Point Energy Center, 450 Broadway, Buchanan, NY 10511.

[9] Currently, transducers record groundwater elevation and temperature readings on a 20 minute time interval so as to allow capture of tidal variability

[10] The rational for the specific locations and depths included in the LTMP transducer redeployment are provided in **Appendix K** of the Q1 2009 Quarterly Monitoring Report (Report No.5), dated July 2, 2010.

[11] With regard to these ongoing long term monitoring locations, it is noted that the transducers do not have an unlimited life. While some of the transducers can be replaced, and have been replaced in the past, others are permanently installed in the subsurface and are no longer accessible for replacement. However, with time, the base of data upon which model validity is assessed becomes increasingly more robust. Therefore, if some of these transducers fail over time, it is not likely that replacement will be imperative. This is because the likelihood of encountering a precipitation event substantially outside the already captured range becomes increasingly more remote with time as more data is collected. In addition, it is again emphasized that considerable conservatism has been incorporated within the model development and the dose rates computed are still far below those permitted by regulation.

2.2 Groundwater Sampling

During Q2 2009, GZA collected groundwater samples for radionuclide analysis from scheduled sampling intervals within select monitoring installations ("wells") as shown in **Table 3**. In addition, GZA split groundwater samples from select locations between Entergy, the Nuclear Regulatory Commission (NRC), and the New York State Department of Environmental Conservation (NYSDEC). Chains of Custody for samples collected by GZA are presented in **Appendix C**.

GZA used a number of different types of pumping equipment depending upon the sampling method and the characteristics of the individual monitoring installation[12]. **Table 1** lists the monitoring installations sampled, the sampling depths and elevations within sampling installations, and the sampling method and equipment used.

In general, GZA implemented two basic methods of sampling to collect representative groundwater samples: the Low Flow method and a modified well volume purge method. The Low Flow method allows collection of representative groundwater samples from discrete sampling zones within a monitoring installation, while limiting the accumulation of wastewater[13]. As agreed by Entergy Nuclear Northeast, the NRC, NYSDEC, and GZA, the modified traditional purge method[14] allows for the collection of a representative groundwater sample from a monitoring installation after purging 1.5 volumes of water[15]. We implemented this method in wells where low flow sampling was not practical. Sampling Data Sheets summarizing water quality data and sampling information are presented in **Appendix D**.

With all of the above sampling methods, GZA used dedicated sampling equipment, including polyethylene and/or nylon tubing and submersible electric pumps to the extent practical. The use of dedicated sampling equipment limits the possibility of cross-contamination between monitoring installations and/or individual multi-level samples within a single installation. Refer to **Table 1** for a summary of the sampling methods, equipment, frequency, and depths employed during this quarter's groundwater monitoring round.

2.3 Vapor Containment Building Foundation Drain Sampling

GZA collected water samples from three manholes (B-1, B-6, and MH-5) on-Site to characterize discharge from foundation drains around and below the Unit 2 and 3 Vapor Containment Structures (the drains include both the foundation drains around the building periphery ("curtain drains") as well as those around the sumps near the middle of the structures). These drains are being used as an integral part of the early leak detection monitoring network. Entergy recently modified the covers of these three manholes to allow access to these sampling locations without compromising plant security. As such, samples were collected from these locations during the Mid-Q2-2009 sampling round. The covers of these manholes were previously welded shut, and GZA was thus unable to collect samples during the previous quarter (Q1 2009)[16].

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[12] Refer to Section 4.3 of the Final 2007 Quarterly Long-Term Groundwater Monitoring Report No. 1, dated May 2008, for sampling method and equipment selection rationale.

[13] As described in: Low-Flow Sample Collection, GZA, 7/18/2007

[14] As described in: Modified Traditional Groundwater Sample Collection, GZA, 7/18/2007

[15] When external factors (such as well-surface-flooding from storm water runoff or overland flow of plant component leaks) might have infiltrated the top of the well and impacted ambient groundwater conditions at a specific sampling location, GZA typically purged three to five volumes of water (using the modified traditional purge method) prior to collection of a sample to attempt to obtain a representative groundwater sample.

[16] Prior to Q3 08, GZA was able to sample the east drain line in manhole MH-5 to capture drainage from the Unit 2 Vapor Containment Foundation Drains. GZA also previously sampled the east drain line in manhole B-1 to capture drainage from the Unit 3 Vapor Containment South Curtain Drain. In addition, GZA sampled the manhole B-6 during earlier sampling quarters to capture drainage from the Unit 3 Vapor Containment North Curtain Drain and Reactor Sump Foundation Drain. During early attempts to

2.4 Proactive Mid-Quarter and Confirmatory Sample Collection

During the Q2 2009 monitoring period, there were no activities that required increased sampling. However, Q2 mid-quarter samples (between Q1 and Q2 2009) were still collected to better define the residual impacts of the Unit 1 fuel removal procedure[17].

In addition, investigation level exceedances for Tritium were reported for the Q2-2009 sampling results at monitoring locations MW-31-49, MW-31-85, and MW-32-59. All three results represented historical maximum levels within each sampling location. Following the Q2 09 sampling event, additional mid-quarter groundwater samples were collected from all sampling intervals in these two wells, as well as MW-30, to evaluate these detections of Tritium.

The results of the confirmatory and mid-quarter samples are presented in **Section 3.4** along with the quarterly data. Sampling Data Sheets summarizing water quality data and sampling information for these samples are presented in **Appendix E**.

2.5 Preventative Maintenance

GZA performed general wellhead maintenance tasks, such as housekeeping of well vaults and roadboxes, and replacement of dedicated sampling equipment, tubing and transducers.

In addition, LaFarge well LAF-002 (also initially referred to as MW-2), located at the LaFarge Gypsum Property to the south of Indian IPEC, was refurbished between November 24th and 25th, 2008[18]. This well has been incorporated as a boundary well within the Long Term Monitoring Program.

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collect a discrete sample specifically representative of the east drain line in B-6, this catch basin was used as a clean water discharge point for some unidentified plant work. As a result, the height of the water within the manhole was above the drain lines, which only permitted collection of a composite sample. By mid-year 2008, these discharge operations had ceased, and during the Q2 2008 attempt to collect a sample from this location, GZA observed no flow of water through this drain. It is possible that flow within this drain is being restricted by sediment further upgradient in the drain.

[17] As part of the process for final fuel removal from Unit 1, IPEC began increasing the water level in the pools to Elevation 55' starting on April 23, 2008, with completion on the 25th. As anticipated based on previous work, increased leakage at high water was observed, particularly from the transfer canal. IPEC believes that the leakage is through the concrete into the Chemical Systems Bldg 33' area given increased Sphere Valve Gallery sump pump activation on the 14' level. During fuel removal, IPEC continued to add water to maintain the pool level at 55' until October when all the fuel was removed and the pools were drained. Given the anticipated increased leakage, GZA collected Unit 1 "Mid-Quarter" groundwater samples from monitoring wells U1-CSS, MW-42-49, MW-50-66, and MW-53-120 on May 12 & 13, 2008, September 5 & 8, 2008, and November 17 & 19 2008 to evaluate the associated subsurface impact of fuel removal activities. These wells were again sampled as part of the Q1-2009 sampling round, with additional Mid-Quarter samples subsequently taken between March 16 and March 18, 2009.

[18] A description of the refurbishment activities is provided in **Appendix I** of the Q1 2009 Quarterly Monitoring Report (Report No.5), dated July 2, 2010.

3.0 DATA EVALUATION

The Long Term Monitoring Program was designed to provide data to address four main objectives:

- Monitor radionuclide concentrations and evaluate groundwater flow rate to both detect and characterize current and potential future off-Site groundwater contaminant migration to the Hudson River, both via direct groundwater discharge to the river and through infiltration into the Discharge Canal, from abnormal radionuclide releases of liquid effluents, so as to allow computation of potential radiation dose to the public from these releases;
- Monitor groundwater proximate to Systems, Structures and Components (SSCs) which exhibit a credible probability of resulting in a visually undetected release of radionuclides to the subsurface carrying an activity level of significance;
- Monitor groundwater along the property boundary to confirm that contaminated groundwater is not migrating off of the property to locations other than the river; and
- Monitor the groundwater plumes identified on-Site to demonstrate overall reductions in total activity over time as is consistent with the requirements of Monitored Natural Attenuation (MNA)[19], the selected remediation for the IPEC Site.

These objectives are consistent with and fully encompass the guidance provided in the NEI Groundwater Protection Initiative (GPI). The following sections provide data analyses to address these four objectives.

3.1 Groundwater Mass Flux

The following sections describe the computation of groundwater flow (mass flux) through the Site using the Precipitation Mass Balance Model and the recalibration of this model based on the previous nine quarters of groundwater elevation monitoring data.

3.1.1 Groundwater Mass Flux Computation

As presented in the Hydrogeologic Site Investigation Report, the groundwater flow in both the upper and lower flow zones is toward the power block area from the North, East and South, with subsequent discharge to the Hudson River to the West. A corollary to this conclusion is that there is no groundwater flow, and thus no off-Site radionuclide migration from the power block area to the North, East or South. Groundwater flow associated with infiltration from the watershed may be as deep as 350 feet, but still ultimately discharges to the river.

To estimate groundwater flow (i.e., groundwater mass flux) beneath the Site, a groundwater flow model was constructed based on a Precipitation Mass Balance analysis. This analysis is based on the precept that, on a long term average, the groundwater flowing through and discharging from the aquifer is equal to the watershed infiltration recharge; this conclusion was reached because the only substantial source of recharge to the aquifer is areal recharge derived from precipitation. The previous fourteen year average for precipitation measured at the Site is approximately 36 inches per year. Based on a USGS infiltration study[20] as well as the model

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[19] The selection of MNA as the remedial strategy for the Site is discussed further in the Hydrogeologic Site Investigation Report.

[20] USGS. Water Use, Ground-Water Recharge and Availability, and Quality of Water in the Greenwich Area, Fairfield County, Connecticut and Westchester County, New York, 2000-2002.

calibration discussed below, approximately 25 percent of the precipitation falling on pervious surfaces over the Site watershed area results in infiltration recharge to the groundwater.

The Precipitation Mass Balance Model (PMBM) was initially calibrated to groundwater fluxes based on a Darcy's Law Model with gradients derived from Q2 2007 (June 1, 2007) groundwater elevation contours[21] (initial reference data set). This calibration not only verified the reasonableness of the overall groundwater flow rates predicted by the PMBM, but also allowed further discretization of the groundwater flow into upper and lower flow zones as well as flow volumes upgradient and downgradient of the Discharge Canal. As discussed below in **Section 3.1.2,** the PMBM was recalibrated during this quarter (Q2 2009) and the groundwater flow rates, and dose to the river, computed this quarter reflect this model recalibration. It is noted that groundwater contours reflecting low river tide were used throughout the PMBM calibrations, thus providing a conservative bias (higher than tidal-average groundwater flow and thus dose to the river) to the subsequent dose computations. In addition, the final model recalibration was performed using the quarterly round which yielded the highest quarterly dose. This conservative bias is then amplified when computing yearly dose, and then carried forward through all future dose computations.

Since precipitation represents the driving variable for groundwater flux in the PMBM, the yearly precipitation prior to Q2 2009 (approximately 32.3 inches) was calculated and input into the recalibrated model to compute the flows used in the estimation of Q2 2009 dose values. Based on the USGS study cited above, the aquifer recharge rate is therefore approximately 9.5 inches for the year prior to the Q2 2009 monitoring event. Applying this information to the pervious surfaces within the six individual groundwater flow zones shown on **Figure 4**, it is estimated that approximately 3.8 gpm of groundwater flowed into the Discharge Canal from the upper and lower zones in the previous year. In addition, approximately 7.3 and 7.7 gpm of groundwater flowed into the Hudson River from the upper and lower zones, respectively. Storm water discharging into the Discharge Canal and directly into the Hudson River was estimated to be 36.5 and 3.8 gpm, respectively. These flows can be further subdivided into flow zones as shown in the table included in the subsequent section as well as with further detail as provided in the table in **Appendix F**.

3.1.2 Quarterly Groundwater Mass Flux Initial Calibration and Recalibration

As indicated above, the PMBM was calibrated to groundwater fluxes computed based on a Darcy's Law Model. The calibration compared the total groundwater flow values for each of the six flow zones computed independently[22] using the PMBM and the Darcy's Law Model. The initial calibration was performed using gradients derived from contours of groundwater elevation measured on June, 1 2007 (Q2 2007 initial reference data set), as described in the Hydrogeologic Site Investigation Report.

Over the course of the Long Term Monitoring Program to date (through Q2 2009), the initial calibration was evaluated quarterly to verify that seasonal changes in groundwater elevations did not materially impact the validity of the dose computation as based on the initial model calibration. As part of the quarterly calibration verification, quarterly groundwater elevations

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[21] Refer to the Hydrogeologic Site Investigation Report prepared by GZA and dated January 7, 2008.

[22] The two models use different sets of input parameters which are not dependent or related to each other. The groundwater flow computed using the Precipitation Mass Balance Model is based on yearly precipitation amounts and the proportion of this precipitation that results in infiltration recharge to the groundwater. The Darcy's Law Model, on the other hand, is based on the measured groundwater flow gradients (as computed from groundwater elevation contours) and estimates of the formation hydraulic conductivity.

(measured with pressure transducers at representative low river tides[23]) have been used to construct groundwater elevation contours for the upper groundwater flow zone (water table contours) and the lower flow zone (potentiometric head contours), as shown in **Figure 5** for Q2 2009. This figure also shows that the deep zone groundwater contours continue to be a subdued reflection of the upper zone groundwater contours, and thus demonstrate that the anthropogenic effects at the Site are generally shallow. These contours were then used to compute groundwater fluxes through the individual Zones across the IPEC site. These Zone-specific "Darcy fluxes" are summarized on the table included below for the 2nd, 3rd, and 4th quarters of 2007, the 1st, 2nd, 3rd, and 4th quarters of 2008, and 1st and 2nd (most recent) quarter of 2009[24, 25].

	PRECIPITATION MASS BALANCE MODEL (GPM)		DARCY LAW MODEL (GPM)								
	INITIAL CALIBRATION (Q2 2007)	RECALIBRATION (Q4 2008)	Q2 2007	Q3 2007	Q4 2007	Q1 2008	Q2 2008	Q3 2008	Q4 2008	Q1 2009	Q2 2009
Totals	**18.8**	**24.4**	**18.8**	18.4	18.2	20.6	25.7	23.7	**23.5**	23.1	22.8
Northern Clean Zone	**1.4**	**1.2**	**0.7**	0.7	0.5	0.9	0.4	0.4	**0.4**	0.7	0.7
Unit 2 North Zone	**0.6**	**0.6**	**0.8**	0.9	0.8	1.3	0.5	0.6	**0.6**	0.6	0.6
Unit 1/2 Zone	**2.8**	**3.2**	**2.3**	1.7	2.1	3.2	2.5	1.9	**3.2**	2.3	2.2
Unit 3 North Zone	3.2	**4.5**	**4.5**	4.4	4.1	5.5	6.6	5.1	**4.6**	5.2	5.0
Unit 3 South Zone	**3.5**	**4.5**	**2.6**	2.8	2.7	2.2	5.4	5.8	**4.5**	4.5	4.8
Southern Clean Zone	**7.4**	**10.4**	**7.9**	7.9	8.1	7.6	10.3	9.9	**10.2**	9.9	9.5

As evident from the table, the data for Q2 2009 continued to show that the overall groundwater flow through the Site during 2009, as well as 2008, is greater than previously computed for 2007 by approximately thirty percent. While the 2008 yearly rainfall was higher than that for 2007, it was only about five percent higher. However, it must also be noted that the computed quarterly flows are based on groundwater elevations measured at one time during the quarter. As such, the frequency/intensity of the rainfall just prior to this snapshot measurement has an impact on the flow computation beyond just its contribution to the total yearly or quarterly rainfall; i.e.,

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[23] Previous evaluations (provided in the Hydrogeologic Site Investigation Report) have shown that the shape of the groundwater contours is relatively unchanged at different times of the tidal cycle. However, the use of low tide contours provides the greatest transient gradients (larger than the average gradient) and therefore result in a computed groundwater flux from the Site that is biased high. Computation of radionuclide release rates to the river based on these data will therefore also have a high bias (i.e., they will be conservative).

[24] See Quarterly Reports prepared by GZA including: Final 2007 Quarterly Report dated May 1, 2008; Quarter 1 2008 Quarterly Report dated May 15, 2008; Quarter 2 and 3 2008 Quarterly Report dated February 6, 2009, Quarter 4 2008 Quarterly Report dated September 1, 2009 and Quarter 1 2009 Quarterly Report dated July 1, 2009.

[25] There was no formal 1st quarter monitoring event in 2007 given that the Long Term Monitoring Program had not yet been initiated.

heavy rain before a measurement round will tend to result in a high bias in the elevation measurements[26], and thus higher computed flow values. To attempt to quantify this transient impact, the rainfall was totaled for one week, two weeks and one month prior to each groundwater elevation measurement round, and then each amount was converted to an equivalent monthly rainfall rate. The maximum of these three values for each quarter was then compared to the average monthly rainfall amount, which was based on averaging monthly rainfall totals over the last fourteen years. For the three 2007 quarters, the maximum equivalent monthly rate was between 0.2 and 1.8 inches/month below the average. For the four 2008 and the 1st and 2nd 2009 quarters, the maximum monthly rate was between 0.5 and 1.8 inches/month above the average. These data may therefore explain the 30% higher computed quarterly flow rates for 2008 and 2009 when the total rainfall in 2008 was only 5% greater than in 2007. In addition, the process of drawing groundwater elevation contours from the individual data points evolved over time after 2007 as new information pursuant to the influence of plant structures on the groundwater flow field became available. This evolving process resulted in some changes to the general shapes of the contours, which also impacted computed gradients and thus the flow rates. As also shown in the table, the increased flow is manifested in a zone-specific manner, with the more southerly zones primarily showing the greatest increases. This is also as would be expected given that the Unit 1 and Unit 2 foundation drains capture a large portion of the more northerly flow prior to it reaching the river. As such, these drains limit the increase in groundwater elevation due to rainfall events.

While the increased flow in 2008 and 2009 (as compared to the reference flow of Q2 2007) may initially appear substantial, if used for the dose computation[27], it would actually have a more limited impact on the dose magnitude. This muted impact primary results from the highest activities being found in the Unit ½ Zone where the computed flows have not shown as great an increase as in the more southerly, cleaner areas (less than 15% increase over the quarters measured to date). Given the overall small variability of flow over the seasons monitored before Q2 2009, as well as the overall recognition that the computed doses to the river are a small fraction of the permitted amounts, GZA did not previously recalibrate the PMBM because sufficient collection of seasonal data (precipitation and groundwater elevation) had not yet occurred.

After reviewing the groundwater elevation and precipitation data from the Indian Point meteorological station over the time period from Q2 2007 to Q2 2009, it was concluded that sufficient seasonal data had been collected to encompass the majority of the precipitation variability observed over the last fourteen years (fifty-six quarters); see analysis in **Appendix H**. As such, the PMBM was recalibrated this quarter[28]. To be conservative, the model was recalibrated to the quarterly data set that yielded the largest total and/or Unit ½ Zone[29] groundwater flows from the Darcy's Law Model. Based on these analyses, the PMBM was recalibrated to the groundwater fluxes from Q4 2008. While this quarter did not yield the highest total flow through the entire site, it did provide a high total flow and the highest flow through the Unit ½ Zone, and thus the highest computed dose. The recalibration of the model to the Q4 2008 data yielded Unit ½ Zone and total groundwater fluxes approximately 40% and 25%

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[26] While heavy rainfall will elevate transient groundwater levels in all types of geologic deposits, its impact on fractured bedrock regimes such as exists at IPEC is particularly rapid and large due to the low storativity.

[27] The dose computations had all previously been performed with the flows computed for the Q2 2007 data set, as described further in previous quarterly reports.

[28] Groundwater fluxes and dose computations prior to this quarter (Q2 2009) were all based on the initial Q2 2007 calibration.

[29] In order to approach the recalibration conservatively, GZA not only reviewed the groundwater flux across the entire site but also the flux in the Unit ½ Zone because the majority of the radionuclide dose is located within this Zone.

greater, respectively, than the original reference (Q2 2007) data set. Therefore, the PMBM was recalibrated to the groundwater fluxes from Q4 2008 using the annual precipitation (37 inches) prior to this quarter. The results of the recalibration to Q4 2008 data, as compared to those for the initial Q2 2007 calibration can be seen on the table included above. Further detail pursuant to the data review and recalibrated model are presented in **Appendix H**.

Since the final full transducer data set has been obtained and the model is recalibrated, the scope of groundwater elevation data collection will be reduced. Groundwater contours will no longer be drawn in future quarterly reports and the dose computations will be based on the recalibrated PMBM and the yearly precipitation prior to each quarterly sampling event. To continue to validate the applicability and appropriateness of the PMBM, a subset of the existing set of transducers will be maintained and monitored quarterly as part of the Long Term Monitoring Program. The primary objective of maintaining these transducers is to provide ongoing confirmatory data that demonstrate substantial changes to the on-site groundwater flow field have not taken place and thus verify that the basic assumptions inherent in the Model continue to remain valid. The transducer locations selected for this monitoring are provided on **Figure 5A** of this quarterly report, and the rational for the selection of these specific individual transducer locations is provided in **Appendix J**.

With regard to these ongoing long term monitoring locations, it is noted that the transducers do not have an unlimited life. While some of the transducers can be replaced, and have been replaced in the past, others are permanently installed in the subsurface and are no longer accessible for replacement. However, with time, the base of data upon which model validity is assessed becomes increasingly more robust. Therefore, if some of these transducers fail over time, it is not likely that replacement will be imperative. This is because the likelihood of encountering a precipitation event substantially outside the already captured range becomes increasingly more remote with time as more data is collected. In addition, it is again emphasized that considerable conservatism has been incorporated within the model development and the dose rates computed are still far below those permitted by regulation.

3.2 Groundwater Sampling Results

Groundwater samples collected on behalf of Entergy during Q2 2009 were analyzed at GEL Laboratories for Tritium, Sr-90, Cs-137, Co-60, and Ni-63[30]. **Table 3** presents the Q2 2009 analytical results for these radionuclides. The rolling yearly averages, which are calculated using all the valid data from the previous year [Q3 08 through Q2 09] including mid-quarter and confirmatory samples, are also presented in **Table 3**. **Table 4** presents minimum detection concentrations (MDC), standard deviation, and I.L.s assigned to each well for the Q2-2009 analytical results. **Table 5** presents historic Site groundwater analytical data. Isopleth maps of rolling averages for Tritium and Strontium are presented in **Figures 6 and 7**, respectively. **Figure 8** presents a data map of rolling averages for Cs-137, Co-60, and Ni-63[31].

An overall evaluation of the sample handling, shipment and analytical procedures, indicate that the quality assurance quality control protocols have been met for Q2 2009, and the analytical results should be useable. This conclusion is further supported by a review of the Q2 2009 analytical data, as compared to previous historical trends. Refer to **Section 5.2.2** of the Final

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[30] It should be noted that samples were analyzed for gamma emitters via gamma spectroscopy. Although only Co-60 and Cs-137 are reported, gamma spectroscopy could detect and identify other gamma emitters if they became present in groundwater.

[31] Isopleths were not drawn for Cs-137, Co-60, and Ni-63 because the few positive detections observed did not indicate the existence of a groundwater plume containing these radionuclides. This is likely a result of the high surface affinity (highly adsorptive nature) of these radionuclides for solid geological materials. They therefore tend to rapidly partition out of the groundwater.

2007 Quarterly Long-Term Groundwater Monitoring Report No. 1 for further details pursuant to quality assurance quality control protocols.

3.3 Radionuclide Release Rates

The recalibrated Precipitation Mass Balance Model-derived groundwater flows within each of the six flow zones are multiplied by yearly rolling average radionuclide levels within each zone to compute groundwater radionuclide release rates to the Discharge Canal and Hudson River. These groundwater radionuclide release rates are computed separately for upper and lower flow zones as well as upgradient and downgradient of the Discharge Canal. The selection of specific monitoring locations for each of the six zones is described in the January 25, 2008 Memorandum – Synopsis of Long Term Monitoring Plan Bases.

Storm drain flows[32] computed based on yearly precipitation rates are multiplied by radionuclide concentrations measured in the storm drains to compute the associated storm drain radionuclide release rates[33] to the Discharge Canal and Hudson River.

The radionuclide release rates from the groundwater and storm drains to the Discharge Canal and Hudson River for Q2 2009 are shown in the table below.

	GROUNDWATER AND SURFACE WATER TO RIVER (CI/YR)	GROUNDWATER AND SURFACE WATER TO CANAL (CI/YR)
Northern Clean Zone*	3.16E-04	0.00E+00**
Unit 2 North Zone	0.00E+00***	3.18E-02
Unit ½ Zone	3.87E-03	2.70E-03
Unit 3 North Zone	3.20E-03	4.43E-04
Unit 3 South Zone	1.42E-03	4.14E-03
Southern Clean Zone*	4.20E-03	0.00E+00****

* Activity in the Northern Clean Zone is attributable to an assumed Tritium background concentration of 150 pCi/L in the groundwater. The remaining radionuclides were assumed to not be present in this streamtube. Radionuclide release rate in the Southern Clean Zone is calculated from activity measured in monitoring wells MW-40 and MW-51.

** The radionuclide release rate to the Discharge Canal from the Northern Clean Zone is zero because the Discharge canal does not extend far enough to the north to be downgradient of the Northern Clean Zone.

*** The zero contribution to radionuclide dose to the river through the Unit 2 North Zone groundwater is due to a model-computed groundwater flow of zero through this zone. This simplified estimate results in an overall high bias to the dose computations, and is therefore conservative as explained further in **Appendix F**.

**** The radionuclide release rate to the Discharge Canal from the Southern Clean Zone has been computed to be zero because groundwater in this zone appears to flow under the Discharge Canal and directly to the river. This conclusion has been reached given that the surface water level in the Discharge Canal is, on average tidally, equal to the proximate groundwater elevation, both of which are above the water level elevation in the Hudson River. This approximation results in a conservatively high dose estimation.

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[32] The storm drain flows also include groundwater discharges from the foundation drains for Unit 2 and Unit 3 VC Buildings, but not from the Unit 1 NCD and SFDS, which are otherwise accounted for.

[33] It is noted that storm drain samples are not typically taken at times coincident with peak, or even average storm drain flow rates. By its very nature, the vast majority of the surface water flow through the storm drain system tends to be episodic and of short duration due to storm events; sampling rounds are generally scheduled to avoid such events. Radionuclide concentrations are primarily due to groundwater infiltration into the drains and thus tend to be highest during periods of little rain when this infiltration is not diluted by the storm water flow. This incongruence therefore yields a conservatively high bias to the dose computation because the elevated concentrations associated with low flow rates are multiplied by the much higher flow rates based on total yearly rainfall.

Release rates are then used by Entergy to calculate the radiological dose to the environment via the Discharge Canal and the Hudson River using the procedure outlined in the Liquid Radioactive Effluents (0-CY-2740) document, prepared by Entergy and dated January 12, 2007.

3.4 SSCs and Property Boundary Monitoring

In addition to providing the data for dose computations as discussed above, the Long Term Monitoring Program has been designed to also provide rapid detection of potential leaks from SSCs. This monitoring is specifically focused on those SSCs which exhibit a credible probability of resulting in a visually undetected release of radionuclides to the subsurface[34]. The monitored SSCs are shown on **Figure 4** and a description of the specific monitoring installations associated with each SSC are provided in the January 25, 2008 Memorandum – Synopsis of Long Term Monitoring Plan Bases. In addition to monitoring the SSCs, on-Site and off-Site wells are used to monitor the property boundaries for unanticipated radionuclide migration across these boundaries. Again, the rationale underpinning the selection of wells designated for this purpose is provided in the above cited Memorandum. These monitoring protocols are consistent with the NEI Groundwater Protection Initiative (GPI).

Entergy has also initiated a program of increased sampling frequency (in addition to the quarterly samples) at select wells prior/during/following activities that could potentially result in the increased likelihood of an undetected release to the subsurface. In addition, a cross section was developed for the Unit 3 area to further demonstrate the relationship of site groundwater flow patterns and monitoring well placement relative to the individual Unit 3 SSCs. This Unit 3 cross section C-C' is included in the Q1 2009 Quarterly Monitoring report as **Figure 4A**. Entergy has also started the planning process to add an additional multi-level monitoring installation located near the south west corner of the Unit 3 Transformer Yard, downgradient of MW-46. The current sampling of U1-NCD and U1-SFDS will also be continued as part of the Long Term Monitoring Program.

I.L.s were established for the associated monitoring wells to set quantitative radionuclide concentrations above which further action would be undertaken. As part of the ongoing groundwater monitoring program, the reported analytical concentrations are compared against I.L.s established based on the criteria in the table below. I.L.s are currently computed each year based on yearly averages of all the valid groundwater sampling analytical results of the previous year including aliquot, confirmatory, and mid-quarter sample results[35]. The monitoring well-specific I.L.s are presented in **Table 4**, and are established for comparison with 2009 analytical results based on the quarterly samples collected and analyzed in 2008.

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[34] As discussed further in the following sections, reporting of visually identified spills/leaks within structures is included within Condition Reports under Entergy's Corrective Action Program. Additional emphasis has been placed on routine review of these reports as they potentially relate to GPI objectives.

[35] The calculation of ILs and yearly rolling averages prior to the Q1 2009 Report were based on the analytical results from the quarterly sampling rounds only, and therefore excluded aliquot, confirmatory and mid-quarter sample results. For the Q1 2009 Report and thereafter, if an aliquot analytical result confirms that the original quarterly analytical result was false, then only the aliquot result is utilized in the yearly IL calculation. If the aliquot result confirms the original quarterly result is valid, then both the original and the aliquot results are averaged together and then averaged into the yearly IL calculation as a single value. Confirmatory analytical results have the potential to impact the use of the original quarterly sample in the same manner as aliquots; however, unlike aliquots, these "independent samples" are averaged directly into the yearly rolling average without "pre-averaging" with the associated quarterly sample. Similar to confirmatory samples, mid-quarter samples are also averaged directly into the yearly rolling average calculation. However, mid-quarter sample results do not have any impact on the use of the initial quarterly samples as can either aliquot or confirmatory samples, as described above. In the case of both confirmatory and mid-quarter sample results, direct averaging into the yearly average of these additional results can somewhat bias the yearly average toward a particular quarter/season. However, given that confirmatory and mid-quarter samples are typically taken to confirm and/or prepare for uncharacteristically high radionuclide concentrations, this direct averaging provides a high bias to the subsequent yearly dose computations, and is thus conservative. In cases such as this where some bias inevitably will be created, establishing a conservative bias in the dose computations is considered more important than maintaining a seasonal non-bias.

WELL ID	INVESTIGATION LEVELS (I.L.S)		
	TRITIUM PCI/L	SR-90 PCI/L	OTHER PLANT-RELATED RADIONUCLIDES
Off-Site Boundary Wells (LAF-002)	any detection*	any detection*	any detection*
On-Site Boundary Wells (MW-40, MW-51, MW-52, and MW-107)	1,000**	2**	any detection*
Riverfront Boundary Wells (MW-60, MW-62, MW-63)	2,000**	2**	any detection*
All Other Wells	>2x average***	>2x average***	>2x average***

* A radionuclide is positively detected when the result is greater than or equal to the MDC and 3 times the 1 sigma uncertainty.

** The values of 1000 and 2000 pCi/L for H-3 and 2 pCi/L for Sr-90 have been chosen to be low enough to result in timely detection of a new release or change to an existing release and still be outside the normal expected range of sample results at these locations, to the extent possible with the currently available data over time.

*** Any positively detected radionuclide that has a result greater than 2 times the average from the previous year. However, the IL is not reached until an H-3 result is also greater than 1000 pCi/L or a Sr-90 result is also greater than 2 pCi/L.

In the event that the analytical results of a groundwater sample exceed the designated I.L., the following series of actions will be considered:

- Contact the laboratory to verify that all quality control checks were satisfactory, sufficient sample volume was used; required MDC's were met, etc.;
- Re-analyze aliquots of the original sample;
- Re-sample the location (confirmatory sample) to verify the result;
- Increase the frequency of sampling for this location;
- Initiate an investigation utilizing Entergy's corrective action program and related resources as appropriate (e.g. site engineering / radiation protection); and
- Initiation of source/ground water remediation techniques commensurate with the potential dose impact analyses and good environmental stewardship.

3.4.1 Proactive Mid-Quarter samples

During the Q2 2009 monitoring period, there were no activities that required increased sampling. However, Q2 mid-quarter samples (between Q1 and Q2 2009) were still collected to better define the residual impacts of the Unit 1 fuel removal procedure[36]. In addition, during the Q2-2009 sampling event, investigation level exceedances for Tritium were reported within MW-31-49, MW-31-85, and MW-32-59. All three results represented historical maximum levels within each sampling location. Following the Q2 09 sampling event, additional mid-quarter groundwater samples were collected from all sampling intervals in these two wells, as well as MW-30, to further evaluate these elevated Tritium activities. The results of these samples are reported and discussed below along with the quarterly samples.

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[36] As part of the process for final fuel removal from Unit 1, IPEC began increasing the water level in the pools to Elevation 55' starting on April 23, 2008, with completion on the 25th. As anticipated based on previous work, increased leakage at high water was observed, particularly from the transfer canal. IPEC believes that the leakage is through the concrete into the Chemical Systems Bldg 33' area given increased Sphere Valve Gallery sump pump activation on the 14' level. During fuel removal, IPEC continued to add water to maintain the pool level at 55' until October when all the fuel was removed and the pools were drained. Given the anticipated increased leakage, GZA collected Unit 1 "Mid-Quarter" groundwater samples from monitoring wells U1-CSS, MW-42-49, MW-50-66, and MW-53-120 on May 12 & 13, 2008, September 5 & 8, 2008, and November 17 & 19 2008 to evaluate the associated subsurface impact of fuel removal activities. These wells were again sampled as part of the Q1-2009 sampling round, with additional Mid-Quarter samples subsequently taken between March 16 and March 18, 2009.

3.4.2 Previous Q1-2009 Investigation Level Exceedances

As indicated in the previous Q1 2009 Quarterly LTM Report, a comparison of the Q1 2009 analytical results to their respective I.L.[37] values shows that the I.L.s were initially exceeded in eight samples. Two of these samples (MW-62-21 and MW-67-173) were reanalyzed, and the results were found to no longer meet the I.L.s[38]. Conversely, two of the sampling locations (MW-32-59 and MW-42-49) still indicate radionuclide concentrations exceed their I.L.s in Post Q1 2009 and Q2 2009 samples; these results are therefore discussed in **Section 3.4.4** below. The remaining four I.L. exceedances (MW-30-84, MW-37-40, MW-53-82, and MW-62-138) were resolved during the Post Q1 2009 Mid Quarter sampling and are discussed individually below.

MW-30-84. The Q1 2009 results at this location indicated Cesium was detected for the first time at this location since the LTMP was initiated (fall 2007). Similar to the historical samples collected at MW-30-84, the Q2 2009 analytical results indicate that the Cesium levels were below detection limit concentrations. These Q2 2009 analytical results agree with the initial conclusion in the Q1 2009 Quarterly LTM Report that the Q1 2009 Cesium detection was likely related to a false laboratory detection[39].

MW-37-40. The Q1 2009 results at this location indicated Strontium was detected slightly above the I.L. This was followed by the Q2 2009 result which did not exceed the I.L. Inspection of the historic data shows that the rolling average for 2008, upon which the current I.L. is based, was particularly low as compared to previous data (the low Strontium activities in the 2008 data set are likely reflective of the demineralization of the Unit 1 SFPs conducted by Entergy in preparation for defueling activities – see **Figure 7A**). Given the magnitude and degree of variability in the data prior to 2008, it is likely that this slight exceedance of the Strontium I.L. at this location is just due to local variations in flow paths and/or other in-situ processes.

However, the increase could also be directly attributable to the Unit 1 SFPs defueling activities during 2008. Similar Strontium peaks have been detected at other monitoring wells at similar downgradient distances due to defueling of the Unit 1 SFPs (see discussion for MW-49-42 in **Section 3.4.4** as well as **Section 3.5.2**). While the Strontium concentrations did return to below the I.L. in Q2 2009, it is noted that the wells closer to the source term (e.g., MW-42 and U1-NCD) have exhibited a small initial Strontium peak followed by a much more noticeable peak(s) in response to the defueling. Therefore, if the small Q1 2009 perturbation in Strontium levels at this location is due to defueling, we expect that much more noticeable increases in Strontium activity could be detected in future quarterly sampling rounds. Such increases would therefore be anticipated because of the documented additional Unit 1 leakage that is believed to be migrating downgradient through the hydrologic system.

MW-53-82. The Q1 2009 results at this location indicated Tritium was detected greater than two times the I.L. and Strontium was detected slightly above its I.L., with Q2 2009 results returning to more typical levels below I.L.s. The historic Tritium and Strontium trends for this monitoring

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[37] The I.L.s included in the Q4-2008 monitoring report were based on the yearly averages from 2007. The I.L.s for the Q1-2009 and Q2 2009 sampling event were adjusted based on the yearly averages from 2008.

[38] The initial positive Cs-137 results for samples MW-66-21 and MW-67-173 were unexpected recognizing the previous results for these locations yielded non-detectable levels. The re-analysis of these samples yielded below detection limit concentrations of Cesium-137. This is consistent with historically reported concentrations at these locations. As such, these false positives appear to be related to laboratory interferences.

[39] The absence of Cesium in the MW-30-84 sample analyzed during Q2 2009, as well as past quarterly sampling events; the absence of Cesium in the upper zone (MW-30-69) at this location during the Q1 2009 sampling event; and the absence of Cesium in all the zones of the proximate locations MW-31 and MW-32 during the Q1 2009 sampling event suggest that the this Cesium detection in MW-30-84 was likely a false positive from the laboratory. In addition, the MDC values were analyzed for these samples to verify that the positive Cesium result wasn't due to a lower detection limit than typical. This was not the case, further supporting the conclusion of a false positive.

location nearly mirror each other and are similar to the Strontium data described above for MW-37-40 (relatively low activities for 2008 thus resulting in low I.L.s - see **Figure 7A**). Therefore, these I.L. exceedances may be nothing more than local variations in flow paths and/or other in-situ processes (natural variation). However, this trend may also foreshadow higher Strontium levels in the future due to the Unit 1 defueling, as described above for MW-37-40.

MW-62-138. The Q1 2009 results at this location indicate Strontium was detected slightly above the I.L., while the Q2 2009 results show a decrease in Strontium activity to below the I.L. Because four of the six other sampling intervals at this location also indicated Strontium increases in Q1 2009, and because this location is downgradient of the Unit 1 SFPs, the exceedance was attributed to a possible response to Unit 1 defueling activities. However, the total magnitude of these Strontium detections are also low, and could be due to natural hydrologic variations. The Strontium behavior seen in this monitoring location is discussed further in **Section 3.5.2**.

3.4.3 Q2-2009 Boundary Investigation Levels

A comparison of the Q2 2009 analytical results for the On-Site and Off-Site Boundary Wells to their respective I.L. values shows that the I.L.s were not met for any of the monitoring locations. Therefore, there is no requirement to further investigate radionuclide activity in these wells. However, monitoring installations MW-40 and MW-51 are being further evaluated on a routine basis, as discussed below.

MW-40 and MW-51. While there have been no historic exceedances at these two southern boundary locations, and the data from this quarter (Q2 2009) generally falls within previous ranges, these monitoring locations continue to be closely scrutinized on a routine basis given the sensitivity associated with the southern power block boundary. Even though it is recognized that the peak Tritium levels detected are low (less that 350 pCi/L) and near the lower limit of detection, there appears to be a general correlation in Tritium peaks at multiple depth intervals in both of these monitoring installations (see **Figure I-1** in **Appendix I**). The most appropriate metric to evaluate if these peaks could be due to groundwater migration of Tritium from the power block area is the relative groundwater elevations between these boundary locations and the power block areas where Tritium contamination exists. As discussed at length in the CSM sections of the Site Investigation Report, southern boundary groundwater elevations are well above those in the power block area. As such, groundwater, and thus Tritium in the groundwater, cannot migrate from the power block to the south; in fact, groundwater is migrating in the opposite direction. This conclusion has continued to be validated each quarter though analyses of groundwater elevation contours (see **Figure 5** in the various quarterly reports). In addition, the Q1 2009 and Q2 2009 quarterly reports include an additional figure (**Figure 5A**) which is being generated to specifically compare high importance transducer readings to historic maximum and minimum readings. The objective of this analysis is to demonstrate that substantial changes to the on-site groundwater flow field have not taken place and that the CSM remains valid. The MW-40 and MW-51 monitoring installations are included in this analysis. In addition, given the importance of the southern boundary, 3 additional transducers have been added to the long term transducer monitoring program; 2 at MW-43 and one at MW-46, as shown on **Figure 5A** (see **Section.3.1.2** for further context). Based on these analyses, as well as the substantial body of data developed over the last 5 years of investigation which underpin our CSM, we can state with a high degree of confidence that the low level peaks in the Tritium activities observed in these two monitoring installations are not due to groundwater migration from the power block area. This conclusion has continued to be validated each quarter. However, we do not yet have a definitive explanation for the observed peaks. Further investigation into other potential mechanisms, such as atmospheric Tritium washout and seasonal laboratory biases are ongoing.

3.4.4 Q2-2009 SSC Investigation Levels

For the SSC monitoring wells, a comparison of the Q2 2009 and Post-Q2 Mid-Quarter analytical results to their respective I.L. values shows that the I.L.s were exceeded at ten locations. The following table summarizes the cases where the I.L.s were met, and the exceedances are individually discussed below.

WELL ID	RADIONUCLIDE	RESULT (PCI/L)	INVESTIGATION LEVEL (PCI/L)
MW-31-49	H3	48,400	15,470
MW-31-85 (Q2 09)	H3	18,800	
MW-31-85 (Post Q2 09)	H3	8,850	8,733
MW-32-59	H3	64,300	10,031
MW-39-102	Sr-90	2.4	2.1
MW-42-49	Sr-90 / Cs-137 / Ni-63	258 / 86,300 / 916	196 / 37,933 / 842
MW-43-62	Cs-137	11.8	Any Detection***
MW-45-42	H3	5,990	4,015
MW-53-82	Cs-137	7.76	Any Detection***
MW-67-173	Ni-63	84	Any Detection***
U1-CSS	H3 / Sr-90	3,280 / 35.6	3,088 / 14.8

* NA indicates that the sample was not reanalyzed.

** ND indicates that the radionuclide was not detected greater than or equal to the MDC and 3 times the 1 sigma uncertainty.

*** A radionuclide is positively detected when the result is greater than or equal to the MDC and 3 times the 1 sigma uncertainty.

MW-31-49. The Q2 2009 results at this location indicate Tritium was detected at the highest concentration since the initiation of the LTMP (fall 2007), exceeding the I.L. by a factor slightly over three. The other sampling zones at this location (31-63 and 31-85) also indicated increases of Tritium levels during the Q2 2009 sampling event. However, the Post Q2 2009 Mid-Quarter sample indicated that Tritium levels decreased below the I.L. at this location. While the exact cause of this elevated Tritium detection at this location is currently unclear, it is likely related to the mobilization of stored Tritium within the shallow bedrock fractures near the Unit 2 SFP. This storage/Retention Mechanism was confirmed by the tracer test and initially described in the Hydrogeologic Site Investigation Report. Most recently, it has been further supported by additional, newer data and analyses as discussed in **Section 3.6.2** of the Q1 2009 Long Term Monitoring Report. However, it is also recognized that this Tritium increase may be related to the Unit 2 ISFSI work (see **Section 3.6.4** of the Q1 2009 Monitoring Report). This location will therefore be subject to added scrutiny during the upcoming quarterly monitoring rounds to evaluate the observed variability in Tritium levels.

MW-31-85. Similar to MW-31-49 above, the Q2 2009 result at this location indicates Tritium was detected at the highest concentration since the initiation of the LTMP (fall 2007), exceeding the I.L. by a factor slightly above two. The Tritium levels then decreased by a factor of two in the Post Q2 2009 Mid-Quarter sample (again similar to MW-31-49); however, the levels were still slightly above the I.L. While the exact cause of the elevated Tritium activity at this location is currently unclear, it is likely related to the mobilization of stored Tritium within the shallow bedrock fractures near the Unit 2 SFP. This storage/Retention Mechanism was confirmed by the tracer test and initially described in the Hydrogeologic Site Investigation Report. Most recently, it has been further supported by additional, new data and analyses as discussed in **Section 3.6.2** of the Q1 2009 Long Term Monitoring Report. However, it is also recognized that this Tritium increase may be related to the Unit 2 ISFSI work (see **Section 3.6.4** of the Q1 2009 Monitoring Report). This location will therefore be subject to added scrutiny during the upcoming quarterly monitoring rounds to evaluate the observed variability in Tritium levels.

MW-32-59. The Q2 2009 results at this location indicate a continued increase in Tritium levels. Tritium was detected at the highest concentration since the initiation of the LTMP (fall 2007), exceeding the I.L. by a factor of over six. However, a Post Q2 2009 Mid-Quarter sample shows the Tritium decreased significantly at this location to levels below the I.L. and similar to pre-Q1 2009 Tritium levels. The remaining four deeper zones at this location (32-85, 32-149, 32-173, and 32-190) did not indicate an increase of Tritium levels during either the Q2 or post-Q2 2009 sampling events and have generally indicated decreasing Tritium trends. While the exact cause of this elevated Tritium detection at this location is currently unclear, it is likely related to the mobilization of stored Tritium within the shallow bedrock fractures near the Unit 2 SFP as indicated by the significant variability in data. This storage/Retention Mechanism was confirmed by the tracer test and initially described in the Hydrogeologic Site Investigation Report. Most recently, it has been further supported by additional, new data and analyses as discussed in **Section 3.6.2** of the Q1 2009 Long Term Monitoring Report. However, it is also recognized that this Tritium increase may be related to the Unit 2 ISFSI work (see **Section 3.6.4** of the Q1 2009 Monitoring Report). This location will therefore be subject to added scrutiny during the upcoming quarterly monitoring rounds to evaluate potential increasing trends in Tritium levels.

MW-39-102: The Q2 2009 results at this location indicate Strontium was detected slightly above the I.L. The remaining five zones at this location (39-67, 39-84, 39-124, 39-183, and 39-195) did not meet their I.Ls; furthermore, the other wells in the vicinity (MW-41, MW-44, and MW-45) have shown no Strontium increases during Q1 and Q2 2009. In addition, Strontium activity in the upper interval of this monitoring installation is higher than the I.L. for the 102' interval, and there is a downward vertical gradient. Finally, it is noted that this monitoring installation is not located downgradient of the Unit 1 defueling activities. As such, It is anticipated that this Strontium I.L. exceedance is due to natural geohydrologic variability. This location will be subject to added scrutiny during the upcoming quarterly monitoring round.

MW-42-49. Water levels in the Unit 1 SFPs were increased during late April 2008 as part of the process for final fuel removal for ISFSI storage. As anticipated based on previous work, increased leakage at high water levels was observed, particularly from the transfer canal. As such, it was expected that radionuclide levels would increase downgradient of Unit 1. Therefore, Mid Quarter samples were taken during the approximate halfway point following the Q2, Q3, Q4 2008 and Q1 2009 sampling quarters. It was anticipated that increased radionuclide levels[40] would be observed shortly after raising of pool levels (i.e., in the post-Q2 08 Mid Quarter samples). However, the expected increase was not observed until the post-Q3 08 Mid Quarter samples.

These samples yielded an abrupt Strontium level increase to three times the I.L. for MW-42-49[41]. The Q4 08 sample results indicated a similarly abrupt decrease in Strontium levels to just below the I.L. at this location, but the post-Q4 08 sample yielded a small increase in Strontium

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[40] It was anticipated that Tritium levels would increase somewhat, but it was unclear if increased Strontium levels should be expected given Entergy's demineralization of the pools prior to raising the water levels. In fact, the previously enhanced demineralization, begun in April 2006, was resulting in a consistent decrease in Strontium levels in MW-42-49.

[41] As indicated, Strontium levels increased even though the SFPs were being aggressively demineralized. This result is not unexpected given that the increase in leakage rate, even at reduced Strontium levels, could result in increased groundwater Strontium levels due to additional partitioning from the solid subsurface materials back into the groundwater as well as the additional leakage rate as compared to the groundwater flow rate.

levels that resulted in an approximately five percent exceedance of the I.L. The Q1 09 sample results then indicated another increase in Strontium to levels greater than three times the I.L. with a corresponding increase in Cesium levels to greater than two times the I.L. and Nickel levels to just above the I.L. The post Q1 09 samples results also indicated increases in Cesium and Nickel levels but the Strontium levels decreased slightly compared to the Q1 09 results. The Strontium, Cesium, and Nickel levels all decreased from post Q1 09 to the Q2 09 results; however, all three radionuclide levels are still greater than the I.L.s calculated for this sampling port. It is anticipated that these increases in Cesium, Nickel and Strontium levels will decrease given that the remaining fuel has been removed and the water drained from the Unit 1 SFPs.

The Q2 2009 sample results showed a large reduction in Tritium levels from the abrupt spike exhibited in the post Q1 09 results at this location (Tritium levels reached almost nine times the I.L.). As described in more detail in the Q1 2009 report, this short-lived increase in Tritium activity was likely associated with a March 7, 2009 leak in the valves associated with the waste distillation tanks located to the east of the Unit 1 Fuel Storage Building (FSB), rather than the Unit 1 defueling activities[42]. These valves are located within the FSB, and once the leak was visually detected, it was then immediately repaired. While the Tritium peak associated with this temporary release has dissipated, it is emphasized that the input of Tritium to the vadose zone will likely serve to recharge the Retention Mechanism(s) in the area. As such, additional peaks could occur do to subsequent releases of this Tritium from storage and into the groundwater flow regime.

Quarterly sampling will continued to be performed at this location to monitor the levels of these two radionuclides and the anticipated downward trend with time. To this end, and as discussed in **Section 3.5** - Plume Monitored Natural Attenuation, the behavior specific to the Strontium increases due to defueling of Unit 1 are being monitored on a quarterly basis, as summarized on **Figure 7A**.

MW-43-62. The Q2 2009 results at this location indicate Cesium was detected for the first time since the initiation of the LTM (fall 2007) program. Given: (1) the absence of Cesium in the samples analyzed during the past quarterly sampling events at this location; (2) the absence of Cesium in the upper sampling zone (MW-43-28) during Q2 2009: (3) the stable levels of the other radionuclides within MW-43-62 during Q2 2009; and (4) the absents of a plausible source, this Cesium detection is likely related to a false laboratory detection. Notwithstanding the veracity of this conclusion, Cesium levels at this location will be subject to added scrutiny during the upcoming quarterly monitoring round to further confirm this probable false positive Cesium detection.

MW-45-42. The Q2 2009 result at this location indicates Tritium was detected at slightly greater than the I.L., and at a level somewhat above that of any previous historic data. An increase in Tritium activity was also concurrently observed in Manhole A2 during routine 80-10 Effluents Program sampling (3/25/09 sample date). This manhole is located proximate to the Unit 3 FSB. While the specific root source of the elevated Tritium is currently unclear, additional samples collected from Manhole A2 indicate a rapid decrease in Tritium activity within the storm drain system, indicating that this was a one-time transient event. The lower sampling interval at this location (MW-45-61) indicated stable Tritium levels in Q2 2009; therefore, a surficial release to the storm drain system, with subsequent exfiltration to the groundwater, appears the most plausible explanation. Entergy is currently planning additional investigations to search for the root cause of this transient Tritium increase. These investigations are focused on a suspected

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[42] The Tritium increase at this location came after the Strontium increase. If the Tritium increase was associated with the defueling of Unit 1, as is the Strontium increase, then it should have preceded the Strontium increase. Given the above, Entergy undertook additional investigations to search for another SSC leak.

SFP seasonal vapor depositional source. Given the reduction in Tritium activity in the manhole, it is anticipated that groundwater Tritium levels will also quickly return to stable levels in MW-45-42. This location will be subject to added scrutiny during the upcoming quarterly monitoring round.

MW-53-82. The Q2 2009 results at this location indicate Cesium was detected for the first time since the initiation of the LTM Program (fall 2007). Given that this monitoring installation is located downgradient of the Unit 1 SFPs, as well as MW-42-49 which also exhibited a large Cesium peak in Q2 2009, the cause of this Cesium detection is likely associated with response to Unit 1 defueling activities[43]. It is anticipated that the Cesium levels at MW-53-82 will decrease because the remaining fuel has been removed and the water drained from the Unit 1 SFPs. Cesium levels at this location will be subject to added scrutiny during the upcoming quarterly monitoring round.

MW-67-173. The Q2 2009 results at this location indicate Nickel was detected for the first time since the initiation of the LTM Program (fall 2007). Given: (1) the absence of Nickel in the samples analyzed during the past quarterly sampling events at this location; (2) the absence of Nickel in all six of the other sampling intervals (67-39, 67-105, 67-219, 67-276, 67-323, and 67-340) during Q2 2009; (3) the stable levels of the other radionuclides within MW-67-173 during Q2 2009; and (4) the absents of a plausible source for Nickel this far downgradient on the Site, this Nickel detection is likely related to a false laboratory detection. In further support of this hypothesis, it is noted that the laboratory analysis of the Q1 2009 sample from MW-67-173 resulted in a false positive Cesium detection (confirmed with a non-detect result upon reanalysis of an aliquot sample). Notwithstanding the veracity of this conclusion, Nickel levels at this location will be subject to added scrutiny during the upcoming quarterly monitoring round to further confirm this probable laboratory false positive.

U1-CSS. The Q2 2009 results at this location indicate Strontium was detected at greater than two times the I.L. and Tritium was detected slightly above the I.L. The Unit 1 Containment Spray Sump (CSS) is located downgradient of the Unit 1 SFPs, with the associated piping trench backfill forming a preferential flow path leading back to the U1-NCD (see **Section 8** of the Hydrogeologic Site Investigation Report for further discussion). The Strontium increase in monitoring installation U1-CSS is therefore likely in response to the Unit 1 SFPs defueling and associated temporary increase in leakage. Similar to the other Unit 1 monitoring locations, it is anticipated that the Strontium levels at this location will eventually decrease given that the remaining fuel has been removed and the water drained from the Unit 1 SFPs.

The Tritium increase in U1-CSS is likely related to the valve leak associated with the waste distillation tanks, as observed in the Unit 1 FSB. Given that these valves were immediately repaired, it is anticipated that the Tritium levels will quickly decrease to stable levels at U1-CSS. In this regard, it is noted that the valve leak was first detected in the groundwater at location MW-24-49 during Q1 2009 (see above discussion), and that larger Tritium peak quickly attenuated to typical levels. This location will be subject to added scrutiny during the upcoming quarterly monitoring round.

U1-NCD AND U1-SFDS. Sampling of the Unit 1 North Curtain Drain (U1-NCD) and the Unit 1 Sphere Foundation Drain Sump (U1-SFDS) have now been formally included as part of the Long Term Monitoring Program. These drains have been documented to capture a large

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[43] Strontium and Tritium levels in MW-53-82 were also detected above I.L.s in Q1 2009. The Strontium increase is likely associated to the Unit 1 SFP activity, while the Tritium increase is more likely associated with the observed waste distillation tank valve leak (also see discussion for MW-42-49 above).

proportion of the Strontium leakage from the Unit 1 SFPs, and continue to collect Strontium and Cesium laden groundwater and direct it to treatment. These drains have also historically been assumed to collect some groundwater contaminated with Tritium from the Unit 2 SFP. This conclusion was validated by the tracer test conducted as part of the hydrogeologic site investigation (see the Hydrogeologic Site Investigation Report). The amount of quarterly sampling data is currently insufficient to set I.L.s for these drains. However, visual inspection of the existing data was performed and no noteworthy increases in Tritium levels were observed. Strontium levels have been monitored and summarized on **Figure 7A**.

3.4.5 Conclusions - Boundary and SSC Leak Detection Monitoring

Recognizing that measured activities in the Off-Site and On-Site Boundary Wells have remained below I.L. levels, this overall data set continues to demonstrate that radionuclides are migrating toward the Hudson River to the West, and are not migrating off of the property to the North, East or South, as expected given groundwater flow directions from the property periphery toward the power block area.

Given the analyses discussed above, there is also no compelling reason to believe that any new unidentified leaks have developed in the SSCs monitored relative to Unit 2 or 3. With the exception of MW-31 (49 & 85) and MW-32-59, Tritium levels within the Unit 2 plume[44] have remained below their I.L.s and the plume is continuing to exhibit overall long-term reductions in Tritium activity. While abrupt increases in Tritium levels have been recently observed in MW-31 and MW-32, these data are consistent with episodic releases of Tritium historically stored in the subsurface via natural and anthropogenic Retention Mechanisms[45]. This conclusion is further supported by the tracer data and other analyses[46] discussed in **Section 3.6** of the Q1 2009 Long Term Monitoring Report. The recent increase in Tritium level at U1-CSS is likely attributed to an observed transient leak in the waste distillation tank valving within the Unit 1 FSB, rather than increased leakage from the SSCs associated with Unit 2 and 3. This leakage episode was rapidly identified and immediately repaired. An apparent surficial release to Manhole A2, located proximate to the Unit 3 FSB, was also detected by monitoring installations within the LTMP. It is believed that this potentially seasonal release is associated with vapor deposition from the Unit 3 FSB, and, as such, is otherwise accounted for. However, further investigations are ongoing.

Relative to the Unit 1 data, increased leakage was anticipated during final fuel removal from Unit 1 SFPs. This leakage was readily detected as increased Strontium in the groundwater by the Long Term Monitoring Program. These initial Strontium increases are being routinely monitored as summarized on **Figure 7A**, and are expected to continue to show further decreases with time.

Overall, GZA believes that continued monitoring will further demonstrate decreasing long term trends in groundwater contaminant activities over time for both the Unit 1 and Unit 2 plumes given the source interdictions completed by Entergy. However, ultimate confirmation of the these conclusions will require monitoring over a number of years to demonstrate continued depletion of Tritium and Strontium from the Retention Mechanisms originally sourced by: (1) historic Unit 2 SFP Tritium leakage; and (2) the historic and more recent Strontium leakage due

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[44] It is noted that there is no Tritium plume associated with Unit 3.

[45] These retentions mechanisms are discussed along with the CSM in the previously cited Hydrogeologic Site Investigation Report.

[46] These data and analyses further support a conclusion that the Unit 2 SFP had ceased leaking after the transfer canal "pin hole leak" was repaired in late 2007. However, given the more recent behavior observed in the Unit 2 collection box data (see **Section 3.6** of the Q1 2009 Long Term Monitoring Report), additional investigations/data evaluations are underway to further rule out potential Unit 2 SFP leak mechanisms.

to Unit 1 defueling. It is further noted that quantification of these overall radionuclide reductions will require that ranges in seasonal variation to be adequately reflected in the monitoring data and any further additions of radionuclides to the Retention Mechanisms, such as through the transient releases discussed above, be dissipated from the geohydrologic flow regime.

Given the above cited constraints, we have not yet been successful in recalibrating the I.L.s that were originally established at the beginning of the LTMP in 2007. Since inception of this Program, it has been observed that I.L.s have been routinely exceeded in a number of cases where subsequent data have demonstrated that no new leaks have occurred. The majority of these cases occur where the radionuclide levels are generally low and/or near their detection limits. It appears that data variability, likely due to seasonal precipitation influences and local variations in flow paths and/or other in-situ processes, is the primary cause of these false positives, particularly pursuant to Tritium. Therefore, the basis upon which the I.L.s are computed needs to be re-evaluated in light of the natural transient variability of the groundwater system in response to precipitation events, etc. Therefore, while re-evaluation/re-setting of I.L.s is a clear goal, it is still premature given the lack of sufficient data. This is particularly true given the recent behavior in Strontium levels due to the Unit 1 defueling (see **Figure 7A**) and the two transient Tritium releases discussed above. As such, the current I.Ls will remain in effect while a sufficient data base is acquired to allow better quantification of the natural (non-leak related) variability in the data.

Three critical conclusions can be drawn from the above summarized data and analyses: (1) the current CSM for the IPEC site provides a good basis for the design of the Long Term Monitoring Program; (2) the procedures and rational used for selecting monitoring locations for leak detection have been further validated given the clear detection of the confirmed Unit 1 SFPs increased leakage during fuel removal, the detection of transient Tritium leakage from the waste distillation tank valves within the Unit 1 FSB and the surficial release of Tritium to Manhole A2; and (3) increases in Strontium levels following a documented leak take longer to materialize in the groundwater[47] than might otherwise be expected.

3.5 Plume Natural Attenuation Monitoring

The fourth and final objective of the Long Term Monitoring Program is to evaluate if the groundwater plumes identified on-Site demonstrate overall reductions in total activity over time, as is consistent with the requirements of Monitored Natural Attenuation (MNA), the selected remediation for the IPEC Site[48].

Given the likely ages of the leaks identified and characterized during the hydrogeologic investigation, it is probable that the Unit 2 (Tritium) and Unit 1 (Strontium) plumes had reached steady state conditions prior to the beginning of the quarterly monitoring. Given that: (1) the identified leaks in the Unit 2 SFP have all been previously repaired (the last leak repaired in 2007) and; (2) the water in the Unit 1 West Pool underwent intensified demineralization (beginning in April 2006 with a reduction in Strontium levels of over 95 percent), one might expect that the plumes should have started to markedly attenuate with time. Both plumes have in fact generally shown significant levels of attenuation, when they are viewed in their entirety and past release events and expected seasonal variability in the sampling data are accounted for. However, the attenuation has not been rapid during time frames immediately subsequent to the source interdictions implemented by Entergy, as was previously predicted.

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[47] Given the proximity of monitoring installations to documented release events, the delay in release arrival is likely due primarily to Strontium partitioning and the time required for leakage to traverse anthropogenic features.

[48] The selection of MNA as the remediation for the Site is more fully discussed in the Hydrogeologic Site Investigation Report.

In the case of the Unit 2 Tritium plume, levels have dropped markedly from the highest levels measured during the two-year hydrogeologic investigation. However, the rate of Tritium decrease with time has decreased. This is as predicted due to natural geologic and anthropogenic Retention Mechanisms which have trapped and stored Tritium released during historic Unit 2 SFP leaks, and are now slowly releasing this Tritium to the groundwater flow regime after the physical leaks have been repaired. This conclusion is consistent with the original CSM presented in the Hydrogeologic Site Investigation Report, as further supported by the tracer test data in that report as well as subsequent tracer data, as described in **Section 3.6** of the Q1 2009 Quarterly Monitoring Report, dated July 2, 2010. Further discussion of this quarter's data pursuant to evaluation of the Unit 2 Tritium plume MNA is provided in **Section 3.51** below.

Relative to the Unit 1 Strontium plume, Strontium levels should drop much more slowly than Tritium levels. This is because, in addition to the Retention Mechanisms discussed above for Tritium (which also apply to Strontium), Strontium also undergoes partitioning whereby this radionuclide is adsorbed from the groundwater onto solid surfaces (both geologic and anthropogenic). When the input of Strontium to the groundwater is reduced (such as via fuel pool demineralization) the solid surfaces desorb Strontium back into the groundwater, thus maintaining Strontium levels. Strontium partitioning is therefore expected to substantially slow plume attenuation. Despite partitioning effects, some plume attenuation was observed in response to pool demineralization prior to defueling, particularly proximate to the pool. However, defueling of Unit 1 resulted in a temporarily increase in the leakage rate of West Pool water into the formation. This was expected based on previous work on the Unit 1 SFPs, but was unavoidable given the requirement to raise the pool level for fuel rod removal[49]. The increased leakage rate has resulted in a noticeable increase in Strontium levels in the immediate vicinity of the fuel pool as discussed further in **Section 3.52** below.

3.5.1 Unit 2 Tritium Plume Attenuation

Qualitative Evaluation

From a qualitative perspective, a reduction in overall Tritium activity in the Unit 2 plume can be seen through a comparison of Q2 2009 **Figure 6** to those in Q1 2009 and prior reports. Not only have Tritium levels within the plume generally shown an overall, long-term decreasing trend[50], but the reductions have become particularly evident on this quarter's figure. As is clear this quarter, the shaded plume[51] no longer extends to the river as it did last quarter. In fact, the shaded boundary now terminates over two hundred feet from the river. This trend over time has been summarized on **Figure 6 A**, which is a compilation of the quarterly Tritium plume maps as well as that from the Investigation Report.

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[49] As of late 2008, all the fuel rods have been removed from the Unit 1 SFPs and the pool water has been drained. As such, the Unit 1 SFPs is no longer an active source of radionuclides to the subsurface.

[50] It is further visually evident from Figure 6A that the core of the plume (with quarterly activities greater than 100,000 pCi/L and 2007 bounding core activities greater than 250,000 pCi/L) has also shown a marked decrease in concentration and extent.

[51] The plume shading on **Figure 6** demarks the estimated boundary that separates Tritium levels greater than 5,000 pCi/L from those below this value. This plume delineation boundary value equates to one-quarter of the drinking water standard for Tritium. Although GZA emphasizes that drinking water standards (USEPA MCLs) do not apply to the IPEC property given that there are no drinking water sources on or proximate to the site, the MCLs do provide a useful benchmark for comparisons of relative human risk. Where yearly rolling average radionuclide activity data were available for multiple depths at a given location, GZA used the highest value to develop plume delineations. This is a typical approach to represent three-dimensional contaminant data sets on two-dimensional maps.

Mann-Kendall Quantitative Analysis

To more quantitatively evaluate MNA progress, a Mann-Kendall analysis, as referenced in USEPA Guidance for Data Quality Assessment – Practical Methods for Data Analysis,[52] was performed on the Tritium levels measured during Q2 2009 at monitoring locations associated with the IP2-SFP and downgradient Unit 2 Tritium plume. This statistical technique was chosen because it is particularly well suited for data sets with a limited number of points. Each of the vertical monitoring intervals at each monitoring installation location was analyzed separately. In general, only data collected after final completion of the multi-level installation[53] was used. However, there were a number of exceptions to this generalization where open borehole and/or borehole packer testing data were also used. These data were incorporated where possible given the importance of early time data (proximate to when documented leaks were still active). Additional, more detailed discussion relative to the basis for these analyses is provided in **Section 3.6** of the Q1 2009 Quarterly Monitoring Report.

Graphs showing the variation in Tritium concentration over time in the immediate vicinity of the Unit 2 SFP are presented as **Figures G-1**, **G-2** and **G-3** in **Appendix G**, for MW-30, 31 and 32, respectively. Additional graphs are also presented in the appendix for the other monitoring locations downgradient of the Unit 2 SFP (see **Figures G-4** through **G-14** for MW-33 through 37, 42[54], 49, 50, 53[55] 55 and 111)[56].

The Mann–Kendall analyses for the individual monitoring points are summarized on **Table G-1** in **Appendix G**. The table includes the results of the analysis for each depth interval ("well") at each of the multi-level monitoring locations enumerated above. The table is color coded, with green shading designating wells showing a decreasing trend, yellow for no trend, and red for an increasing trend.

Comparison of **Table G-1** for Q2 2009 to that from Q1 2009 demonstrates that there have been no major changes. Of the 33 intervals included on the table for Q2 2009, two-thirds (23) show a decreasing trend, as compared to 22 intervals last quarter. It is important to note that this group of "decreasing wells" includes all those located within the core of the plume with the highest Tritium concentrations (MW-30-69, MW-33 and MW-111, with current yearly average Tritium

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[52] USEPA Guidance for Data Quality Assessment – Practical Methods for Data Analysis, EPA QA/G9, QA00 UDATE; EPA/600/R-96/084, July, 2000

[53] Each borehole was completed as a multi-level installation. These multi-level completions were designed to segregate the borehole length into individual sampling zones with depth. The sampling zones were generally established to coincide with the more productive zones of the fractured bedrock and overburden (both natural soils and backfill). These sampling zones were then isolated from each other with various types of seals placed in the open borehole. The objective of the seals is to prevent vertical flow through the borehole and thus establish the same conditions in the formation which existed prior to the drilling of the borehole. As such, the Tritium data is considered depth-discrete. It is noted that the multi-level installations at some monitoring locations were removed and replaced with upgraded systems, such as for the monitoring installation at MW-32.

[54] MW-42 and MW-53 are located downgradient of the Unit 1 SFPs, rather than the Unit 2 SFP. However, these two wells were included in the analyses, as requested by NRC, due to the apparent contribution of Unit 2 SFP Tritium to the Unit 1 groundwater flow regime via vadose zone transport (see **Figure 6**). It is noted that any decreasing Tritium trend in this area due to the termination of leaks from the Unit 2 SFP could be masked by increased leakage of Tritiated water from the Unit 1 SFPs up through the completion of defueling in November 2008.

[55] MW-42 and MW-53 are located downgradient of the Unit 1 SFPs, rather than the Unit 2 SFP. However, these two wells were included in the analyses, as requested by NRC, due to the apparent contribution of Unit 2 SFP Tritium to the Unit 1 groundwater flow regime via vadose zone transport (see **Figure 6**). It is noted that any decreasing Tritium trend in this area due to the termination of leaks from the Unit 2 SFP could be masked by increased leakage of Tritiated water from the Unit 1 SFPs up through the completion of defueling in November 2008.

[56] Monitoring locations MW-66 and MW-67, also located downgradient of the Unit 2 SFP, could not be included in the analyses because the data sets for these two wells do not yet include the required minimum number of data points (ten) for the Mann–Kendall analysis method.

concentrations > 50,000 pCi/L). These high-concentration wells better represent overall plume behavior because they encompass a great percentage of the Tritium activity in the plume.

Of the 9 wells shaded in yellow (exhibiting no trend), only 5 provide valid representations (as shaded) of Unit 2 plume behavior. The shading designation for the others cannot be used to infer conclusions relative to plume trends for Unit 2 based on this analysis, as follows:

- Two (MW-42-49 and MW-53-82) are located downgradient of the Unit 1 SFPs, rather than the Unit 2 SFP, and are therefore are not yet expected to show a decreasing trend due to Unit 1 defueling[57] and the previously discussed U1 FSB valve leak.
- Inspection of the graph for MW-36-24 **(Figure G-7**) shows a rapid and large decrease in Tritium concentrations at early times in this overburden (discharge canal backfill) well (from > 30,000 pCi/L to <3,000 pCi/L). This large decrease is followed by a number of small perturbations around a relatively flat trend. While it is visually clear that this well has shown a major decrease in Tritium levels since containment of the 2005 shrinkage crack leak, the Mann–Kendall analysis only evaluates number of increases relative to decreases and does not weight the analysis relative to the magnitude of the change. As such, visual inspection demonstrates that this location actually exhibits an overall decreasing trend, even though the analysis results in a no trend designation (yellow shading on table).
- Inspection of the graph for MW-34 (**Figure G-5**) shows a distinctly increasing trend at early times, followed by a distinctly decreasing trend thereafter. Given the time frames and the downgradient location of this bedrock well, it is likely that the increasing trend delineates arrival of the leading edge of the plume generated by the 2005 shrinkage crack leak. The decreasing trend would then reflect dissipation of this plume after containment of this leak (this hypothesis is supported by similar trends in MW-33 and MW-35). In fact, a Mann Kendall analysis of the data after peak arrival clearly shows a decreasing trend. As such, the MW-34 location actually exhibits a decreasing trend relative to plume behavior after containment of the 2005 shrinkage crack leak. Given that this monitoring location is currently no longer sampled given the proximity of MW-33 and 35 (therefore it is in standby mode), it will hereafter be removed from **Table G-1** (the original plot, **Figure G-5**, will be maintained in the appendix going forward for reference).

It is noted that the five remaining “no trend” wells are all associated with the shallow sampling ports of two monitoring locations, MW-31 and MW-32. These two locations are actually not located downgradient of the Unit 2 SFP from a saturated groundwater flow standpoint. Rather, they are generally located up- and cross-gradient[58]. The final well, MW-31-85, is also part of this group. This is the only well for which the Mann-Kendall analysis indicates an increasing trend. In addition, the upper-most interval in both MW-31 and MW-32 have shown an additional abrupt increase in Tritium over the last two quarters (Q1 and Q2 2009). The current and historic

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[57] MW-42 and MW-53 are located downgradient of the Unit 1 SFPs, rather than the Unit 2 SFP. However, these two wells were included in the analyses due to the historic hypothesis that the Unit 2 SFP contributes Tritium to the Unit 1 groundwater flow regime via vadose zone transport (see the graphic representation in **Figure 6** herein and the discussion in the Hydrogeologic Site Investigation Report). It is noted that any decreasing Tritium trend in this area due to the termination of leaks from the Unit 2 SFP could be masked by increased leakage of Tritiated water from the Unit 1 SFPs up through the completion of defueling in November 2008 and then thereafter via the Retention Mechanism(s).

[58] While not downgradient of the SFP from a groundwater flow perspective, Tritium leakage from the SFP can still migrate to these locations via vadose zone transport above the water table along dipping bedrock fractures. During the site investigation work, a tracer test was performed which clearly demonstrated that water released proximate to the SFP foundations (adjacent to MW-30) does migrate to the east and south past MW-31 and MW-32 prior to entering the water table, and then flows with the groundwater through these wells and then to the river to the west. This vadose zone migration mechanism is discussed more fully in the Hydrogeologic Site Investigation Report.

variability in these data can be explained by either: (1) an ongoing small episodic (< 10L/day) leak in the Unit 2 SFP; (2) a "Retention Mechanism" in the saturated and unsaturated zones under the SFP that can retain substantial volumes of highly Tritiated water (e.g., historic SFP leakage) for substantial amounts of time[59]; and/or (3) a combination of the above[60]. While Tritium concentrations in the groundwater plume could be impacted by both an ongoing leak and the Retention Mechanisms cited above, tracer concentrations in the groundwater cannot be replenished by SFP leakage. As discussed in further detail in **Section 3.6** of the Q1 2009 Quarterly Monitoring Report, the original and updated tracer data strongly support a Retention Mechanism explanation. In addition, it would be expected that Tritium release from the Retention Mechanisms would be episodic, for example as associated with periods of increased infiltration from precipitation. Such episodic releases would be expected to result in the peaks in Tritium concentrations observed.

Based on the evaluation summarized above, the Mann-Kendall analyses of the individual depth intervals within the groundwater monitoring installations located proximate to and downgradient of the Unit 2 SFP overwhelmingly support a conclusion that the Tritium plume has exhibited an overall decreasing trend with time since monitoring began. However, it is noted that as the rapidly decreasing trends in Tritium activity give way to much more slowly decreasing trends as an asymptote is approached, the variability of the Tritium sampling results due to hydrogeologic and laboratory variability are likely to result in more "no trend" findings from this analysis method. Therefore, identification of a new, more sophisticated method will be investigated, particularly as the total LTMP data set becomes more robust with time.

Tritium Plume Total Activity Analysis

As discussed above, the individual well trend data, when viewed collectively, support a conclusion that the Tritium plume concentrations have been decreasing with time since monitoring began. Another method to analyze plume behavior is to compute the total Tritium activity in the plume at multiple snapshots over time. This procedure[61] was implemented for each quarterly Long Term Monitoring sampling round from Q2 2007 to Q2 2009. In addition, the bounding Tritium concentrations from **Figure 8.1** of the Hydrogeologc Site Investigation Report[62] have also been included as a starting point for the graph. These data are summarized as a histogram on **Figure G-15** in **Appendix G**.

As can be seen from the figure, the total Tritium activity in the plume downgradient of the Unit 2 SFP has shown a distinctly decreasing trend over time. The total Tritium activity in the plume has decreased 45 percent since Q2 2007, and has decreased by 89 percent when compared to the bounding level Tritium concentrations. In addition, it is also important to note that, as compared to the data up until Q1 2009 where the graph was starting to appear to have reached a horizontal asymptote[63], the Q2 2009 data is again showing a more rapidly decreasing trend.

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[59] This hypothesized "Retention Mechanism" is supported by our understanding of the construction methods used for the IP2-SFP and adjacent structures, evaluations of contaminant concentration variability trends over short timeframes and precipitation events, as well as the original tracer test results, as further described in **Sections 7.0** and **8.0** of the Hydrologic Site Investigation Report.

[60] It is also recognized that the potential exists for a fourth potential source of Tritium; that is any other leak or spill above the upgradient portions of the Unit 2 Tritium plume (such as the distillate tank valve leak discussed in **Section 3.4** above).

[61] The individual sampling point Tritium concentrations were multiplied by the groundwater volumes in representative zones (discretized over area and depth), as computed using soil and bedrock effective porosities developed from the pumping and tracer tests (see the Hydrogeologic Site Investigation Report for further information).

[62] Hydrogeologic Site Investigation Report, January 7, 2008, prepared by GZA GeoEnvironmental, Inc, on behalf of Enercon Services, Inc., for Entergy Nuclear Northeast, Indian Point Energy Center, 450 Broadway, Buchanan, NY 10511.

[63] A horizontal asymptote could indicate that a persistent, unidentified leak still remains in the Unit 2 SFP. With Tritium at approximately 30,000,000 pCi/L in the SFP, a leak rate directly from the pool of only approximately 10 L/day would be sufficient to

This general "first order" plume decay is what would be expected for a plume undergoing Monitored Natural Attenuation after source termination.

Conclusion- Unit 2 Tritium Plume MNA

Based on the data and analyses provided above, our conclusion is that the Tritium plume is undergoing overall, long-term reductions in activity which are consistent with Monitored Natural Attenuation (MNA), the remedial technology selected for the IPEC Site. Given this conclusion and the recognition that Entergy has terminated all identified leaks in the Unit 2 SFP, the Unit 2 Tritium plume satisfies the requirements for Monitored Natural Attenuation.

Further justification for this conclusion can be found in **Section 3.6** of the Q1 2009 Quarterly Monitoring Report as well as the Hydrogeologc Site Investigation Report.

3.5.2 Unit 1 Strontium Plume Attenuation

Despite the effects of partitioning, as discussed above, the overall Strontium activity within the Unit 1 plume had generally shown some attenuation in response to the West Pool demineralization activities conducted by Entergy in preparation for defueling. This work began in 2006 and resulted in an approximately 98% reduction in Strontium in the West Pool (see **Figure 7A**, U1-NCD, U1-SFDS, MW-42, U1-CSS). However, the final defueling of the Unit 1 SFPs has resulted in a noticeable increase in Strontium levels proximate to the SFPs (U1-NCD, U1-SFDS, MW-42, U1-CSS), as well as initial indications of increases in the Strontium plume levels downgradient (MW-53, MW-55 MW-54, MW-57, MW-50, MW-37). This is as was predicted given the requirement to temporarily raise the pool levels for fuel rod removal, thus increasing the leakage rate from the SFPs[64].

The data for Q2 2009 indicate that the Strontium is generally beginning to exhibit a general decrease towards pre-defueling levels in the immediate vicinity of the pool (U1-NCD, MW-42 and potentially MW-53[65]). These monitoring locations would be expected to be the first to reflect the complete decommissioning of the SFPs given their location/function. The U1-SFDS, which is located further from the West Pool, is still showing an increasing trend. It is anticipated that this trend will reverse and follow a decreasing trend similar to the U1-NCD.

Farther downgradient, the Q2 2009 data appear to be showing an increasing trend in Strontium activity as the previous increase in U1-SFPs leakage works its way towards the river. This behavior is most evident at monitoring locations U1-CSS, MW-55 and MW-57. MW-54 and MW-50, however, appear to already be exhibiting a decreasing trend, even though they are progressively farther downgradient than the wells cited above. This behavior serves to again

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provide the required Tritium input to the groundwater. However, the available data do not appear to support a conclusion of such a leak. The rational underlying this conclusion is discussed more fully in **Section 3.6** of the Q1 2009 Quarterly Monitoring Report. In addition, the resumption of a more rapid decrease in total Tritium levels during Q2 2009 also provides strong support for this conclusion.

[64] As of late 2008, all the fuel rods have been removed from the Unit 1 SFPs and the pool water has been drained. As such, the Unit 1 SFPs is no longer an active source of radionuclides to the subsurface.

[65] It is noted that the behavior of MW-53 is likely to be somewhat unique on this Site. This is because it is located proximate to the U1-NCD where the elevation of the water in the drain is controlled to elev. 33, yet the groundwater elevation in the monitoring well is typically around elev.10. In addition, the degree of connection between this drain and the surrounding bedrock is not well understood. Therefore, the input of contaminants to this well, and thus its Strontium activity level, is likely to be at least partially dependent on the flow in the U1-NCD and thus the intensity and frequency of precipitation events (see the Site Hydrologic Investigation Report for further CSM-focused discussion of this issue).

emphasize that the IPEC Site is located in a bedrock fracture controlled hydrologic regime[66]. As such, this type of localized “distance-based inconsistency” is to be expected and likely indicates that these wells are closer to (or within) the more pervious preferential flow pathway that is hypothesized to be responsible for the convergence and narrowing of the Tritium and Strontium plumes as they move toward the river from sources centered at widely spaced locations upgradient[67].

Further downgradient in the vicinity of the river, there are no peaks in Strontium activity that can be clearly attributed to the Unit 1 defueling, perhaps with the exception of a mid-depth monitoring interval in MW-62 (MW-62-138). This depth interval in particular (along with, but to a lesser extent the shallower intervals in overburden) appears to be showing a distinctly increasing trend. However, it is believed that this location is less likely to be responding to Unit 1 defueling given that it does not appear to be proximate to (or within) the preferential flow path cite above.

From an overall, long-term perspective, it is expected that the levels proximate to the pool will continue to decrease and levels downgradient of the pool will increase as the additional Strontium contaminated water from the Unit 1 defueling flushes through the groundwater flow system. It is expected that this flushing mechanism will be protracted given the aforementioned impact of partitioning on Strontium levels in the groundwater. However, over time it is expected that downgradient Strontium plume levels will also resume an overall downward trend once this perturbation has passed through the system. Given this conclusion and the recognition that Entergy has terminated all identified leaks in the Unit 1 SFPs through decommissioning, the Unit 1 Strontium plume satisfies the requirements for Monitored Natural Attenuation.

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[66] While groundwater flow through the fractured bedrock at the IPEC Site is highly preferential at small areal scales, it is characterized by sufficiently interconnected small bedrock fractures to allow the hydrogeologic system to function and be modeled as a non-homogeneous, anisotropic, porous media at Site-wide scales.

[67] By way of contrast, in a porous media flow regime, the centerlines of plumes that start at widely spaced locations (spaced perpendicular to the groundwater flow path) will typically remain widely spaced (although the edges of the plumes will likely move closer as the plumes get wider through dispersion). In the case of fracture flow at IPEC however, not only do the Strontium and Tritium plume centerlines converge, but the plumes also get narrower as they move downgradient. In addition, MW-50 displays high relative Strontium concentrations and fault gouge was encountered during the drilling of this well. These behaviors/data are hallmark signatures of a more highly fractured zone preferentially controlling groundwater flow and thus the migration of the contaminants therein (see the Site Hydrologic Investigation Report for further CSM-focused discussion of this issue).

4.0 CONCLUSIONS AND PLANNED ACTIVITIES

In summary, based on the data collected to date, the apparent strength of the CSM to evaluate that data, and the completion of source interdictions by Entergy, we believe all Program Objectives (see **Section 3.0**) are being met. These objectives are consistent with and fully encompass the guidance provided in the NEI Groundwater Protection Initiative (GPI).

Based on the specific results and evaluation of the Q2 2009 groundwater monitoring within the context of the Long Term Monitoring Program, IPEC plans to continue routine groundwater sampling and related maintenance. This work will be conducted in accordance with the IPEC Radiological Groundwater Monitoring Program IP-SMM-CY-110, and will incorporate the enhancements described herein.

More specifically, evaluation of data collected during Q2 2009 has demonstrated the following:

- While I.L.s have been met at a number of locations, there is no definitive evidence of new leaks from the Systems, Structures, or Components monitored, with the exception of the anticipated additional leakage from the Unit 1 SFPs defueling, the recently identified and repaired leakage from the waste distillation tank valves within the Unit 1 FSB and the surficial Tritium release to Unit 3 Manhole A2.
    - Based on past work, additional leakage was expected during the raising of water levels in the Unit 1 SFPs for final fuel removal to ISFSI storage. Unit 1 SFPs leakage was terminated with the drainage and sealing of the pools. This previous, transient leakage was initially verified as pronounced increases in Strontium and Cesium in the monitoring locations closest to Unit 1, and continues to be monitored.
    - The recent leakage from the waste distillation tank valves was independently[68] identified based on an increase in Tritium levels in monitoring installation MW-42 proximate to the tanks. These valves were immediately repaired. Continued monitoring of the groundwater migration of this release continues this quarter with detections in monitoring well U1-CSS.
    - Elevated Tritium activity was detected in Unit 3 Manhole A2 during routine 80-10 Effluents Program sampling. This manhole is located proximate to the Unit 3 FSB. Subsequent re-sampling of this manhole shows rapidly decreasing Tritium activity, indicating that this was a one-time transient event. This elevated Tritium was also detected in a proximate groundwater monitoring installation (MW-45), likely due to exfiltration of Tritium from the manhole. While the specific root source of the elevated Tritium is still unclear at this time, Entergy has formulated a plan to investigate a suspected SFP seasonal vapor depositional source.

  As such, these data support the validity of the current CSM for use as a basis for Long Term Monitoring Program design. It is further noted that, while a portion of these three documented localized leakage events traveled directly to the saturated groundwater regime and resulted in the observed transient "peaks" in radionuclide levels, additional portions of

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[68] The valve leakage was initially identified during routine visual inspection rounds and immediately repaired. Given that the leak was within the Unit 1 FSB structure, it was documented in a Condition Report under Entergy's Corrective Action Program. This valve leak and repair subsequently came to light within the GPI program during investigations into the cause of the abrupt increase in Tritium levels in MW-42. Additional emphasis has therefore been placed on routine review of these reports as they potentially relate to GPI objectives.

these releases likely remain above the water table as recharge to the various Retention Mechanisms. This additional unsaturated zone source recharge will likely be manifested in the future as additional non-specific peaks in radionuclide levels due to episodic releases to the groundwater flow regime from these mechanisms (e.g., from intense/prolonged precipitation events).

- Based on the Q2 2009 data, as well as that collected during previous quarters, it currently appears that the Tritium I.L.s originally established are somewhat too sensitive relative to natural seasonal/precipitation-driven transient variations in radionuclide activities, as well as the variability inherent in the laboratory analyses. Relative to Strontium from the Unit 1 SFPs, the increases in activity in a number of monitoring points, due to the previous Unit 1 defueling activities, limit our ability to establish Strontium baseline levels for assessment of new I.L.s pursuant to the Monitored Natural Attenuation (MNA) of this plume. It is anticipated that this additional Strontium activity will take a number of quarters to flush through the groundwater flow system and attenuate to reasonably stable levels. As such, the originally established I.L.s will continue to be used until sufficient data is collected to allow re-evaluation of I.L. levels for the radionuclides of interest.
- The new data for Q2 2009 continue to show that the computed overall groundwater flow through the Site is greater than that previously computed for the 2007 reference data set. While the 2008 yearly rainfall was higher than that for 2007, it was only slightly higher. It appears that high frequency/intensity rainfall just prior to the 2008 and 2009 quarterly measurements may explain, at least in part, the higher computed flows. In addition, the process of drawing groundwater elevation contours evolved over time after 2007 as new information pursuant to the influence of plant structures on the groundwater flow field became available. This evolving process resulted in some changes to the general shapes of the contours, which impacted computed gradients and thus the computed flow rates. After review of the quarterly groundwater elevation and precipitation data collected over the nine monitoring rounds within the LTMP to date, GZA believes that sufficient seasonal/yearly data exits to allow recalibration of the Precipitation Mass Balance Model. This Model, as used to compute groundwater flux through the Site as part of the radionuclide dose computation, was therefore recalibrated during this quarter (Q2 2009). To be conservative, the model was recalibrated to the quarter yielding the highest, rather than average, computed dose (Q4 2008 Darcy calculations). This will result in a high, conservative bias to the dose computation for Q2 2009, as well as all subsequent quarters going forward.
- From both qualitative and quantitative perspectives, the most recent quarterly data (Q2 2009) provides further support to the conclusion that the overall Tritium activity in the Unit 2 plume is decreasing. These reductions have become particularly evident on this quarter's **Figures 6 and 6A** where the shaded plume[69] no longer extends to the river as it did previously. It is further visually evident from Figure 6A that the core of the plume (with quarterly rolling average activities greater than

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[69] The plume shading on **Figure 6** demarks the estimated boundary that separates Tritium levels greater than 5,000 pCi/L from those below this value. This plume delineation boundary value equates to one-quarter of the drinking water standard for Tritium. Although GZA emphasizes that drinking water standards (USEPA MCLs) do not apply to the IPEC property given that there are no drinking water sources on or proximate to the site, the MCLs do provide a useful benchmark for comparisons of relative human risk. Where yearly rolling average radionuclide activity data were available for multiple depths at a given location, GZA used the highest value to develop plume delineations. This is a typical approach to represent three-dimensional contaminant data sets on two-dimensional maps.

100,000 pCi/L and 2007 bounding core activities greater than 250,000 pCi/L) has also shown a marked decrease in concentration and extent. Based on the data and analyses provided above, our conclusion is that the Tritium plume is undergoing long-term, overall reductions in activity which are consistent with Monitored Natural Attenuation (MNA), the remedial technology selected for the IPEC Site. Given this conclusion, and the recognition that Entergy has terminated all identified leaks in the Unit 2 SFP70, the Unit 2 Tritium plume satisfies the requirements for Monitored Natural Attenuation.

- The overall Strontium activity within the Unit 1 plume had generally been stable or decreasing in response to the West Pool demineralization activities conducted by Entergy beginning in 2006. However, the final defueling of the Unit 1 SFPs has resulted in a noticeable increase in Strontium levels proximate to the SFPs, as well as initial indications of increases in the Strontium plume levels downgradient (see **Figure 7 and 7A**). This is as was predicted given the requirement to temporarily raise the pool levels for fuel rod removal, thus increasing leakage rate from the SFPs71. With time, it is expected that the levels proximate to the pool will decrease and levels downgradient of the pool will increase as this additional Strontium contaminated water flushes through the groundwater flow system. It is expected that this flushing mechanism will be protracted given the aforementioned impact of partitioning on Strontium levels in the groundwater. However, over time it is expected that downgradient Strontium plume levels will also resume an overall downward trend once this perturbation has passed through the system. Given this conclusion and the recognition that Entergy has terminated all identified leaks in the Unit 1 SFPs through decommissioning, the Unit 1 Strontium plume satisfies the requirements for Monitored Natural Attenuation. However, as indicated above, the establishment of updated I.L.s for the Unit 1 Strontium plume must await return to the original Strontium baseline levels existing prior to Unit 1 defueling.

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[70] Further justification for this conclusion can be found in **Section 3.6** of the Q1 2009 Quarterly Monitoring Report as well as the Hydrogeologc Site Investigation Report. The Q1 2009 Report summarizes additional, more quantitative analyses that have been completed to further investigate the integrity of the Unit 2 SFP. These analyses provide further support for the original conclusion that the Unit 2 SFP is no longer leaking. However, these analyses cannot definitively rule out the possibility of a remaining small leak which could then also be supplying Tritium to the groundwater flow regime in addition to the Retention Mechanism(s). While it is not possible to quantify the size the minimum detectable leak with any degree of certainty, we believe that the maximum leak rate from the Unit 2 SFP that could potentially remain undetected by the groundwater monitoring system is less than 10 to 30 gpd (0.007 to 0.021 gallons per minute). It is also likely that if a small leak exists in the Unit 2 SFP liner, it should not get worse with time, as based on liner evaluations previously conducted by Entergy. It is further emphasized that while a leak of less than 0.02 gallons per minute should be large enough to be readily detectable with the existing Long Term Monitoring Program, this amount of Tritium release to the river is still small compared to permitted levels of Tritium discharge to the river through the Discharge Canal.

[71] As of late 2008, all the fuel rods have been removed from the Unit 1 SFPs and the pool water has been drained. As such, the Unit 1 SFPs is no longer an active source of radionuclides to the subsurface.

TABLES

TABLE 1
GROUNDWATER SAMPLING METHODS, EQUIPMENT, FREQUENCY AND DEPTHS
INDIAN POINT ENGERGY CENTER
BUCHANAN, NY

Well ID[1]	Sampling Method	Sampling Equipment Used	Projected 2009 Sampling Frequency[2]	SAMPLING INTERVAL[3]				SAMPLING DEPTH[4]	
				Ft Below Top of Casing		Elevation in Feet msl			
				Top	Bottom	Top	Bottom	Feet Below TOC	Elevation in Feet msl
MW-30-69	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	67.3	71.3	8.4	4.4	69.3	6.4
MW-30-84	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	77.3	85.4	-1.6	-9.5	83.8	-8.1
MW-31-49	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	34.8	49.3	40.8	26.3	48.8	26.8
MW-31-63	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	55.3	63.8	20.3	11.8	63.3	12.3
MW-31-85	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	69.8	85.4	5.8	-9.6	84.8	-9.2
MW-32-59	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	28.3	61.3	48.8	15.8	58.8	18.3
MW-32-85	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	79.3	92.8	-2.2	-15.7	85.3	85.3
MW-32-131	Waterloo Low Flow	Waterloo Multilevel System	Inactive	125.8	138.3	-48.7	-61.2	130.8	-53.7
MW-32-149	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	125.8	156.8	-70.2	-79.7	149.3	-72.2
MW-32-173	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	165.8	174.3	-88.7	-97.2	172.8	-95.7
MW-32-190	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	180.3	193.9	-103.2	-116.8	190.3	-113.7
MW-33	Low Flow	Peristaltic Pump	Annually	8.0	30.0	10.6	-11.7	16	2.8
MW-34	Low Flow	Peristaltic Pump	Inactive	5.0	30.0	13.5	-11.5	16.5	2.0
MW-35	Low Flow	Peristaltic Pump	Annually	6.5	30.0	12.1	-11.4	15.0	3.6
MW-36-24[5]	Low Flow	Peristaltic Pump	Quarterly	11.0	24.0	0.8	-12.2	17.0	-5.2
MW-36-41	Low Flow	Peristaltic Pump	Inactive	36.0	41.0	-24.2	-29.2	37.0	-25.2
MW-36-52	Low Flow	Peristaltic Pump	Quarterly	48.0	53.0	-36.2	-41.2	50.0	-38.2
MW-37-22	Low Flow	Peristaltic Pump	Quarterly	12.0	22.0	3.0	-7.0	17.0	-2.0
MW-37-32	Low Flow	Peristaltic Pump	Quarterly	28.0	32.5	-13.0	-17.5	29.0	-14.0
MW-37-40	Low Flow	Peristaltic Pump	Quarterly	38.5	40.5	-23.5	-24.5	39.0	-24.0
MW-37-57	Low Flow	Peristaltic Pump	Quarterly	52.0	57.0	-37.0	-42.0	55.0	-40.0
MW-38	Low Flow	Peristaltic Pump	Inactive	5.0	40.0	9.3	-25.7	25.4	-11.1
MW-39-67	Waterloo Low Flow	Waterloo Multilevel System	Bi-Annually	65.0	70.5	15.0	9.5	67.0	13.0
MW-39-84	Waterloo Low Flow	Waterloo Multilevel System	Bi-Annually	76.5	85.0	3.5	-5.0	83.5	-3.5
MW-39-102	Waterloo Low Flow	Waterloo Multilevel System	Bi-Annually	93.0	103.0	-13.0	-23.0	101.5	-21.5
MW-39-124	Waterloo Low Flow	Waterloo Multilevel System	Bi-Annually	115.0	126.5	-35.0	-46.5	124.0	-44.0
MW-39-183	Waterloo Low Flow	Waterloo Multilevel System	Bi-Annually	169.5	186.0	-89.5	-106.0	182.5	-102.5
MW-39-195	Waterloo Low Flow	Waterloo Multilevel System	Bi-Annually	193.0	198.6	-113.0	-118.4	195.0	-115.0
MW-40-27	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	18.2	35.2	55.0	38.0	26.7	46.5
MW-40-46	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	44.2	53.7	29.0	19.5	46.2	27.0
MW-40-81	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	64.7	84.2	8.5	-11.0	80.7	-7.5
MW-40-100	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	93.2	106.7	-20.0	-33.5	100.2	-27.0
MW-40-127	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	125.2	136.7	-52.0	-63.5	127.2	-54.0
MW-40-162	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	158.7	190.3	-85.5	-116.9	161.7	-88.5
MW-41-40	Low Flow	Peristaltic Pump	Bi-Annually	22.0	42.0	32.9	12.9	36.0	18.9
MW-41-63	Modified Well Vol. Purge	Waterra Pump	Bi-Annually	59.0	64.0	-4.1	-9.1	61.0	-6.1
MW-42-49	Modified Well Vol. Purge	Submersible Pump	Quarterly	31.0	51.0	38.7	18.7	41.0	28.7
MW-42-78	Modified Well Vol. Purge	Waterra Pump	Quarterly	69.0	79.0	0.7	-9.3	74.0	-4.3
MW-43-28	Low Flow	Submersible Pump	Bi-Annually	8.0	28.0	40.8	20.7	23.0	25.8
MW-43-62	Low Flow	Submersible Pump	Bi-Annually	42.0	62.0	6.8	-13.2	54.0	-5.2
MW-44-66	Modified Well Vol. Purge	Submersible Pump	Quarterly	52.0	67.0	41.5	26.5	63.0	30.5
MW-44-102	Modified Well Vol. Purge	Waterra Pump	Quarterly	79.0	104.0	14.5	-10.5	80.0	13.5
MW-45-42	Modified Well Vol. Purge	Peristaltic Pump	Quarterly	27.5	42.5	26.2	11.2	37.0	16.6
MW-45-61	Modified Well Vol. Purge	Peristaltic Pump	Quarterly	51.5	61.5	2.2	-7.8	58.0	-4.4
MW-46	Modified Well Vol. Purge	Submersible Pump	Quarterly	6.0	30.0	12.1	-11.9	10.5	7.6
MW-47-56	Low Flow	Submersible Pump	Inactive	36.0	56.0	34.3	14.3	52.0	18.3
MW-47-80	Modified Well Vol. Purge	Waterra Pump	Inactive	70.0	80.0	0.3	-9.7	72.0	-1.7

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BUCHANAN, NY

Well ID[1]	Sampling Method	Sampling Equipment Used	Projected 2009 Sampling Frequency[2]	SAMPLING INTERVAL[3]				SAMPLING DEPTH[4]	
				Ft Below Top of Casing		Elevation in Feet msl			
				Top	Bottom	Top	Bottom	Feet Below TOC	Elevation in Feet msl
MW-48-23	Low Flow	Peristaltic Pump	Inactive	8.0	23.0	7.4	-7.6	15.8	-0.4
MW-48-37	Low Flow	Peristaltic Pump	Inactive	33.0	38.0	-17.6	22.6	35.8	-20.4
MW-49-26	Low Flow	Peristaltic Pump	Quarterly	15.0	25.0	-0.3	-10.4	20.0	-5.3
MW-49-42	Low Flow	Peristaltic Pump	Quarterly	32.0	42.0	-17.4	-27.4	37.0	-22.3
MW-49-65	Low Flow	Peristaltic Pump	Quarterly	60.0	65.0	-45.4	-50.4	61.0	-46.4
MW-50-42	Low Flow	Peristaltic Pump	Quarterly	22.0	42.0	-7.1	-27.1	27.0	-12.1
MW-50-66	Low Flow	Peristaltic Pump	Quarterly	62.0	67.0	-47.1	-52.1	60.0	-45.1
MW-51-40	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	29.7	44.2	38.0	23.5	39.7	28.0
MW-51-79	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	63.2	81.2	4.5	-13.5	78.7	-11.0
MW-51-104	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	101.2	111.2	-33.5	-43.5	103.7	-36.0
MW-51-135	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	130.2	143.7	-62.5	-76.0	135.2	-67.5
MW-51-163	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	154.7	166.2	-87.0	-98.5	162.7	-95.0
MW-51-189	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	184.2	197.8	-116.5	-129.9	189.2	-121.5
MW-52-11	Modified Well Vol. Purge	Peristaltic Pump	Annually	2.0	12.0	14.8	4.8	10.0	6.8
MW-52-18	Waterloo Low Flow	Waterloo Multilevel System	Annually	10.0	30.0	4.9	-15.1	17.5	-2.6
MW-52-48	Waterloo Low Flow	Waterloo Multilevel System	Annually	48.0	56.0	-33.1	-41.1	48.0	-33.1
MW-52-64	Waterloo Low Flow	Waterloo Multilevel System	Annually	59.0	71.5	-44.1	-56.6	64.0	-49.1
MW-52-122	Waterloo Low Flow	Waterloo Multilevel System	Annually	110.5	123.5	-95.6	-108.6	122.0	-107.1
MW-52-162	Waterloo Low Flow	Waterloo Multilevel System	Annually	154.5	164.0	-139.6	-149.1	161.5	-146.6
MW-52-181	Waterloo Low Flow	Waterloo Multilevel System	Annually	171.0	198.1	-156.1	-183.0	181.0	-166.1
MW-53-82	Low Flow	Submersible Pump	Quarterly	62.0	82.0	8.3	-11.7	75.0	-4.7
MW-53-120	Modified Well Vol. Purge	Waterra Pump	Quarterly	100.0	120.0	-29.7	-49.7	105.0	-34.7
MW-54-37	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	29.0	42.0	-15.9	-28.9	36.5	-23.4
MW-54-58	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	51.5	64.0	-38.4	-50.9	57.5	-44.4
MW-54-123	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	116.0	126.0	-102.9	-112.9	123.0	-109.9
MW-54-144	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	135.0	155.5	-121.9	-142.4	144.0	-130.9
MW-54-173	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	170.5	182.0	-157.4	-168.9	172.5	-159.4
MW-54-190	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	185.0	203.6	-171.9	-190.3	190.0	-176.9
MW-55-24	Low Flow	Peristaltic Pump	Quarterly	14.0	24.0	4.3	-5.8	16.0	2.3
MW-55-35	Low Flow	Peristaltic Pump	Quarterly	30.0	35.0	-11.8	-16.8	32.0	-13.8
MW-55-54	Low Flow	Peristaltic Pump	Quarterly	44.0	54.0	-25.8	-35.8	47.0	-28.8
MW-56-53	Modified Well Vol. Purge	Submersible Pump	Bi-Annually	49.2	54.2	21.0	16.0	52.0	18.3
MW-56-83	Modified Well Vol. Purge	Waterra Pump	Bi-Annually	69.9	84.9	0.4	-14.6	74.0	-3.7
MW-57-11	Modified Well Vol. Purge	Peristaltic Pump	Bi-Annually	6.0	11.0	9.0	4.0	10.0	5.0
MW-57-20	Modified Well Vol. Purge	Peristaltic Pump	Bi-Annually	15.5	20.5	-0.5	-5.5	19.0	-4.0
MW-57-45	Modified Well Vol. Purge	Peristaltic Pump	Bi-Annually	30.5	45.5	-15.5	-30.5	40.0	-25.0
MW-58-26	Low Flow	Peristaltic Pump	Bi-Annually	16.0	26.0	-1.4	-11.4	20.0	-5.4
MW-58-65	Low Flow	Peristaltic Pump	Quarterly	50.0	65.0	-35.4	-50.4	54.0	-39.4
MW-59-32	Low Flow	Peristaltic Pump	Inactive	21.0	31.0	-6.5	-16.5	27.0	-12.5
MW-59-45	Low Flow	Peristaltic Pump	Inactive	35.0	45.0	-20.5	-30.5	42.0	-27.5
MW-59-68	Low Flow	Peristaltic Pump	Inactive	53.0	68.0	-38.5	-53.5	58.0	-43.5
MW-60-35	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	24.9	39.4	-12.4	-26.9	34.9	-22.4
MW-60-53	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	45.4	59.4	-32.9	-46.9	53.4	-40.9
MW-60-72	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	66.4	78.9	-53.9	-66.4	72.4	-59.9
MW-60-135	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	124.9	141.4	-112.4	-128.9	134.9	-122.4
MW-60-154	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	147.4	164.9	-134.9	-152.4	154.4	-141.9
MW-60-176	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	170.9	200.4	-158.4	-187.8	175.9	-163.4

TABLE 1
GROUNDWATER SAMPLING METHODS, EQUIPMENT, FREQUENCY AND DEPTHS
INDIAN POINT ENGERGY CENTER
BUCHANAN, NY

Well ID[1]	Sampling Method	Sampling Equipment Used	Projected 2009 Sampling Frequency[2]	SAMPLING INTERVAL[3]				SAMPLING DEPTH[4]	
				Ft Below Top of Casing		Elevation in Feet msl			
				Top	Bottom	Top	Bottom	Feet Below TOC	Elevation in Feet msl
MW-62-18	Low Flow	Peristaltic Pump	Quarterly	4.7	14.7	10.0	0.0	13.5	1.2
MW-62-37	Low Flow	Peristaltic Pump	Quarterly	33.3	38.3	-18.6	-23.6	34.5	-19.8
MW-62-53	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	49.6	54.1	-36.8	-41.3	53.1	-40.3
MW-62-71	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	61.1	82.6	-48.3	-69.8	71.1	-58.3
MW-62-92	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	88.6	99.1	-75.8	-86.3	91.6	-78.8
MW-62-138	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	126.1	143.6	-113.3	-130.8	138.1	-125.3
MW-62-182	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	177.6	198.7	-164.8	-185.7	182.1	-169.3
MW-63-18	Low Flow	Peristaltic Pump	Quarterly	8.0	18.0	-3.8	-13.8	14.9	0.7
MW-63-34	Low Flow	Peristaltic Pump	Quarterly	30.0	35.0	-15.8	-20.8	31.5	-17.3
MW-63-50	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	41.5	58.0	-29.2	-45.7	49.5	-37.2
MW-63-93	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	81.5	100.5	-69.2	-88.2	93.0	-80.7
MW-63-112	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	106.5	112.0	-94.2	-99.7	111.5	-99.2
MW-63-121	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	118.0	127.5	-105.7	-115.2	121.0	-108.7
MW-63-163	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	150.5	165.0	-138.2	-152.7	162.5	-150.2
MW-63-174	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	168.0	191.1	-155.7	-178.6	174.0	-161.7
MW-66-21	Modified Well Vol. Purge	Peristaltic Pump	Quarterly	7.0	27.0	6.0	-7.0	14.1	0
MW-66-36	Modified Well Vol. Purge	Peristaltic Pump	Quarterly	31.0	36.0	-17.0	-22.0	33.6	-19.5
MW-67-39	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	28.8	54.3	-15.8	-41.3	38.3	-25.8
MW-67-105	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	90.3	110.8	-77.3	-97.8	104.8	-92.3
MW-67-173	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	164.8	188.3	-151.8	-175.3	172.3	-159.8
MW-67-219	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	209.3	229.8	-196.3	-216.8	218.8	-206.3
MW-67-276	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	250.8	281.3	-237.8	-268.3	275.3	-262.8
MW-67-323	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	317.8	328.3	-304.8	-315.3	322.3	-309.8
MW-67-340	Waterloo Low Flow	Waterloo Multilevel System	Quarterly	335.3	347.9	-322.3	-334.9	339.8	-327.3
MW-107	Low Flow	Submersible Pump	Annually	105.1	126.1	34.9	13.9	32.7	110.1
MW-111	Low Flow	Peristaltic Pump	Bi-Annually	11.6	17.4	7.0	1.5	16.5	2.4
U3-4D	Modified Well Vol. Purge	Peristaltic Pump	Quarterly	25.0	27.6	-10.2	-12.8	25.6	-10.8
U3-T1	Low Flow	Peristaltic Pump	Quarterly	0.2	1.2	3.1	2.1	5.7	2.8
U3-T2	Low Flow	Peristaltic Pump	Quarterly	0.6	1.6	2.7	1.7	5.7	2.6
U1-CSS	Low Flow	Peristaltic Pump	Bi-Annually	NA	10.2	NA	4.9	14.0	6.1
LAF-002	Low Flow	NA	Bi-Annually	NA	NA	NA	NA	NA	-22.3
U1-NCD	Grab	NA	Quarterly	NA	NA	NA	NA	NA	NA
U1-SFDS	Grab	NA	Quarterly	NA	NA	NA	NA	NA	NA
MH-5[6]	Grab	NA	Inactive	NA	NA	NA	NA	NA	NA
B-1[6]	Grab	NA	Inactive	NA	NA	NA	NA	NA	NA
B-6[6]	Grab	NA	Inactive	NA	NA	NA	NA	NA	NA

Notes:

1. For nested multi-level monitoring wells, suffix of well ID indicates depth (rounded to nearest foot) from reference point on casing to bottom of well screen. For Waterloo multi-level systems, suffix indicates depth (rounded to nearest foot) from reference point on casing to top of sampling port. Well IDs without a suffix are open bedrock wellbores.
2. Projected sampling frequencies presented for 2009 are subject to change.
3. For nested multi-level monitoring wells, interval includes well screen and sand pack. For Waterloo multi-level systems, interval includes open wellbore between bottom of 1st packer above and top of 1st packer below sampling port. For open bedrock wellbores, interval extends from bottom of casing to bottom of hole.
4. Sampling depths within sampling intervals (i.e. location of pump intake) have been located adjacent to a transmissive zone where possible.
5. Dot pattern denotes sampling interval is positioned within overburden. Open box indicates sampling interval is in bedrock.
6. These locations are storm drains.

TABLE 2
HISTORIC QUARTERLY LOW TIDE GROUNDWATER ELEVATIONS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID	LOW RIVER TIDE GROUNDWATER ELEVATIONS (Feet msl)								
	Quarter 2[1], 2007	Quarter 3[2], 2007	Quarter 4[3], 2007	Quarter 1[4], 2008	Quarter 2[5], 2008	Quarter 3[6], 2008	Quarter 4[7], 2008	Quarter 1[8], 2009	Quarter 2[9], 2009
HR-1	NA	-0.86	-1.57	-2.15	-1.13	-1.05	-1.69	-3.28	-1.52
I-2	50.23	48.62	51.87	53.73	52.11	52.90	50.75	NA	NA
MW-30-69	11.83	11.53	12.00	NA	12.28	11.77	11.71	12.33	11.84
MW-30-84	12.77	12.47	12.83	NA	13.06	12.68	12.36	13.13	12.82
MW-31-49	44.09	NA	45.40	47.50	46.14	45.39	44.13	46.44	45.40
MW-31-63	41.56	NA	42.71	45.52	43.96	42.17	41.21	44.12	43.20
MW-31-85	39.59	NA	40.81	43.19	41.89	40.58	39.64	42.10	40.64
MW-32-48	NA	42.12	46.73	48.81	47.77	46.98	45.79	48.08	47.31
MW-32-59	NA	41.44	45.99	47.99	46.75	45.72	44.48	46.83	45.62
MW-32-85 (MW-32-92)[10]	10.27	12.35	12.78	13.30	13.17	12.30	12.16	12.60	11.61
MW-32-131 (MW-32-140)[10]	13.11	11.96	13.21	25.01	15.67	11.34	11.53	11.86	11.06
MW-32-149 (MW-32-165)[10]	8.18	9.87	10.06	10.20	10.04	9.71	9.77	10.00	9.18
MW-32-173	NA	9.73	9.86	9.92	9.70	9.45	9.45	9.68	8.81
MW-32-190 (MW-32-196)[10]	6.74	8.05	7.88	7.88	7.52	7.16	7.05	7.24	6.26
MW-33	10.08	9.80	10.38	11.49	11.66	10.55	10.60	11.23	10.52
MW-34	9.87	9.82	10.44	11.63	12.03	10.54	10.54	11.25	6.71
MW-35	10.03	9.67	10.37	11.65	12.06	10.68	10.68	11.36	NA
MW-36-24	8.89	7.31	7.67	6.85	6.86	7.58	9.05	NA	7.25
MW-36-41	8.22	NA	NA	NA	NA	NA	NA	NA	NA
MW-36-52	7.43	6.43	6.45	6.42	6.29	6.99	7.45	8.12	6.62
MW-37-22	5.51	5.15	4.83	4.66	4.18	5.36	5.55	4.45	5.24
MW-37-32	5.51	5.07	4.82	4.63	4.05	5.36	5.64	4.55	5.32
MW-37-40	5.40	6.83	6.19	6.17	5.95	6.18	6.04	5.46	6.19
MW-37-57	7.07	6.23	6.39	6.28	6.07	6.64	7.20	6.50	6.56
MW-38	3.01	2.19	1.46	2.22	1.53	2.12	1.22	NA	2.24
MW-39-67	NA	NA	26.84	32.20	31.69	25.96	25.21	28.74	NA
MW-39-84	NA	NA	26.64	31.94	31.48	25.78	25.12	28.62	NA
MW-39-100	NA	NA	26.38	30.99	31.34	25.52	24.79	28.32	NA
MW-39-102	NA	NA	26.31	31.56	NA	NA	NA	NA	NA
MW-39-124	NA	NA	26.05	28.37	30.67	25.07	24.43	27.74	NA
MW-39-183	NA	NA	25.28	29.74	29.83	22.33	23.79	26.78	NA
MW-39-195	NA	NA	24.36	28.80	28.89	23.35	22.70	25.63	NA
MW-40-27	NA	NA	55.46	60.39	59.99	54.70	54.22	59.53	57.25
MW-40-46	NA	47.27	53.19	59.35	59.09	52.57	52.35	59.13	56.56
MW-40-81	NA	41.65	47.45	56.06	55.78	47.28	46.83	55.67	53.13
MW-40-100	NA	39.47	45.18	54.10	53.75	44.83	44.32	53.59	51.24
MW-40-127	NA	38.89	44.60	53.61	53.39	44.33	43.87	53.29	50.59
MW-40-162	NA	36.67	41.09	50.49	50.26	41.32	40.66	49.76	46.80
MW-41-40	29.87	NA	32.48	36.57	33.81	31.28	30.71	33.62	32.05
MW-41-63	25.94	NA	27.77	33.31	32.76	27.53	26.96	30.38	28.39
MW-42-49	NA	NA	34.55	34.96	34.81	34.52	34.43	34.78	34.47
MW-42-78	NA	NA	35.71	36.63	36.28	35.38	35.07	36.03	35.75
MW-43-28	32.75	31.08	31.98	33.47	33.95	32.51	32.15	33.43	32.54
MW-43-62	30.83	NA	NA	NA	32.16	30.48	31.76	34.13	30.88
MW-44-67	33.36	NA	34.36	37.99	35.47	35.29	34.00	34.96	34.50
MW-44-102	23.10	NA	24.84	NA	30.88	25.86	25.16	28.09	27.41
MW-45-42	NA	24.82	28.47	34.19	37.16	28.63	25.45	32.02	29.03
MW-45-61	NA	24.33	27.57	32.91	32.46	27.16	26.68	29.99	23.25
MW-46	12.80	11.95	12.57	15.05	14.97	12.62	12.81	14.29	12.47
MW-47-56	21.83	20.77	23.05	27.76	31.53	22.84	22.37	26.51	23.43
MW-47-80	22.29	21.41	21.82	26.53	28.35	21.52	21.08	26.37	24.18
MW-48-23	-0.08	-0.27	-0.39	-1.14	-0.23	-0.18	-0.48	-0.91	-0.19
MW-48-37	0.64	0.26	-0.06	-0.18	0.32	0.06	-0.15	-0.50	0.04
MW-49-26	1.04	NA	-0.37	-0.62	0.51	0.37	0.49	-0.25	0.54
MW-49-42	0.31	0.90	0.40	-0.44	0.92	1.02	0.68	-0.06	0.51
MW-49-65	0.89	1.01	0.34	0.07	0.70	0.68	0.47	-0.08	0.57
MW-50-42	7.24	NA	NA	NA	5.24	6.40	7.06	5.66	6.09
MW-50-66	3.71	NA	NA	1.97	2.24	2.83	2.34	1.95	2.82
MW-51-40	NA	48.69	50.07	51.95	52.35	49.44	49.24	49.32	45.15
MW-51-79	NA	39.92	41.07	42.91	44.17	40.71	40.36	42.75	42.15
MW-51-102	NA	35.98	38.07	38.46	39.04	36.56	36.17	38.18	37.78
MW-51-104	NA	NA	37.93	38.41	39.02	36.49	36.03	37.99	37.49
MW-51-135	NA	37.42	39.47	39.99	40.71	38.10	37.68	39.75	39.31
MW-51-163	NA	33.79	34.83	36.15	36.77	34.30	33.90	35.74	35.44
MW-51-189	NA	29.33	30.16	31.34	31.79	29.65	29.36	30.81	30.48
MW-52-11	6.04	5.61	8.12	8.47	8.85	8.65	8.44	8.19	9.20
MW-52-18	6.64	NA	8.63	6.04	6.07	5.89	6.02	5.78	5.87
MW-52-48	7.08	NA	6.55	6.53	5.95	6.20	6.14	6.05	5.75
MW-52-64	5.96	NA	5.90	5.25	5.03	5.21	5.16	5.20	4.89
MW-52-118	5.34	NA	4.41	4.44	4.32	4.36	4.68	4.23	4.23
MW-52-122	5.25	NA	4.26	4.32	4.18	4.21	4.55	4.11	4.20
MW-52-162	0.67	NA	-0.80	-1.31	-0.80	-0.98	-1.30	-2.07	-1.18
MW-52-181	0.41	NA	-1.08	-1.56	-1.00	-1.30	-1.64	-2.38	-1.54
MW-53-82	NA	9.59	10.03	11.99	12.60	10.35	NA	11.11	NA
MW-53-120	9.91	9.18	9.59	10.87	11.49	9.76	NA	10.55	9.78
MW-54-35	NA	NA	6.40	6.27	6.36	6.16	6.41	5.75	5.87
MW-54-37	7.52	NA	6.58	6.45	6.53	6.30	6.58	5.90	6.04
MW-54-58	6.86	NA	5.82	5.60	5.55	5.53	5.76	5.49	5.17
MW-54-123	5.69	NA	4.16	3.65	3.52	4.01	4.06	2.99	3.56
MW-54-144	8.85	NA	7.13	6.60	6.48	6.92	6.97	5.89	6.53
MW-54-173	5.17	NA	3.52	2.99	2.85	3.27	3.29	2.19	2.72
MW-54-190	5.08	NA	3.46	2.91	2.76	3.16	3.13	2.00	2.49
MW-55-24	8.56	7.82	7.97	8.17	8.16	8.18	9.02	8.35	8.06
MW-55-35	8.10	7.29	7.52	7.60	7.59	7.69	8.30	7.63	9.49
MW-55-54	8.47	7.65	7.75	8.08	8.32	8.22	8.82	NA	7.89
MW-56-53	21.04	20.16	NA	NA	29.93	NA	21.90	27.33	22.06
MW-56-83	21.10	20.10	22.18	26.41	29.16	NA	21.51	25.13	22.60
MW-57-11	9.57	8.83	9.36	10.99	NA	10.03	10.27	11.11	10.09
MW-57-20	9.38	NA	NA	NA	12.07	10.02	9.92	10.63	9.84
MW-57-45	9.08	NA	NA	NA	10.59	NA	NA	10.71	NA
MW-58-26	8.03	6.49	6.58	8.32	NA	7.29	7.19	7.56	7.40
MW-58-65	6.03	6.83	6.22	NA	7.36	7.13	6.46	6.68	6.70
MW-59-32	1.06	NA	0.67	0.42	0.77	0.81	0.47	0.31	1.37
MW-59-45	1.06	1.27	0.42	NA	9.23	NA	2.52	0.44	NA
MW-59-68	2.91	2.51	1.97	0.90	-0.11	NA	-1.79	-5.66	7.93
MW-60-35	2.19	1.28	1.32	1.58	1.63	0.82	2.04	1.99	3.07
MW-60-53	-0.63	-1.24	-1.67	-2.04	-1.37	-1.76	-2.03	-2.70	NA

TABLE 2
HISTORIC QUARTERLY LOW TIDE GROUNDWATER ELEVATIONS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID	LOW RIVER TIDE GROUNDWATER ELEVATIONS (Feet msl)								
	Quarter 2[1], 2007	**Quarter 3[2], 2007**	**Quarter 4[3], 2007**	**Quarter 1[4], 2008**	**Quarter 2[5], 2008**	**Quarter 3[6], 2008**	**Quarter 4[7], 2008**	**Quarter 1[8], 2009**	**Quarter 2[9], 2009**
MW-60-55	NA	-0.28	-0.73	-1.10	-0.47	-0.90	-1.21	-1.91	NA
MW-60-72	0.74	-0.09	-0.45	-0.68	-0.14	-0.64	NA	-1.43	0.28
MW-60-135	0.94	0.11	-0.44	-0.90	-0.27	-0.71	-1.02	-1.72	0.11
MW-60-154	0.08	-0.96	-1.61	-2.07	-1.49	-1.91	-2.25	-2.99	NA
MW-60-176	-0.48	-1.38	-2.03	-2.47	-1.82	-2.16	-2.59	-3.41	NA
MW-62-18	0.25	0.25	-0.37	-0.79	0.13	0.06	-0.12	-0.82	NA
MW-62-37	0.59	0.61	-0.03	-0.46	0.49	0.59	-0.15	-1.13	0.11
MW-62-52	NA	0.48	-0.30	-1.13	-0.19	-0.29	-0.93	-1.64	-0.42
MW-62-53	0.95	0.54	-0.25	-1.01	-0.10	-0.16	-0.84	-2.03	-0.44
MW-62-71	0.89	0.22	-0.56	-1.26	-0.55	-0.56	-1.24	-2.15	-1.03
MW-62-92	1.07	0.58	-0.09	-0.76	-0.11	-0.10	-0.85	-1.68	-0.70
MW-62-138	1.40	0.77	0.09	-0.49	0.13	0.26	-0.37	-1.33	-0.40
MW-62-181	1.33	0.38	-0.33	-0.99	-0.32	-0.36	-0.92	NA	-0.88
MW-62-182	NA	-0.33	-1.83	-0.78	-1.29	-1.25	-1.85	-2.66	-1.82
MW-63-18	0.14	0.09	-0.10	-0.37	0.09	0.32	-0.08	-0.64	0.02
MW-63-34	0.51	0.19	-0.09	-0.40	0.13	0.05	-0.13	-0.74	0.18
MW-63-50	0.86	0.29	-0.38	-1.03	-0.47	-0.55	-1.24	-2.08	-0.45
MW-63-91	1.16	0.48	-0.19	-0.87	-0.25	-0.16	-0.89	NA	-0.01
MW-63-93	NA	0.55	-0.20	-0.87	-0.30	-0.24	-0.98	-1.68	-0.13
MW-63-112	0.03	-0.82	-1.46	-2.05	-1.69	-1.60	-2.26	-3.14	-1.45
MW-63-121	1.41	0.60	-0.18	-0.78	-0.24	-0.05	-0.86	-1.49	0.11
MW-63-163	0.70	-0.09	-0.83	-1.48	-0.86	-0.90	-1.54	-2.46	-0.98
MW-63-174	0.88	0.05	-0.65	-1.29	-0.62	-0.61	-1.19	-1.97	-0.59
MW-65-48	NA	NA	NA	NA	38.60	43.22	NA	48.19	36.98
MW-65-80	NA	NA	NA	NA	34.97	32.95	32.72	33.71	33.30
MW-66-21	0.26	0.17	-0.22	-0.74	0.05	0.17	0.29	-0.33	0.50
MW-66-36	0.81	0.48	-0.04	-0.51	0.35	0.15	0.10	-0.86	0.51
MW-67-39	NA	1.02	0.34	-0.33	0.36	0.41	-0.02	-0.07	-0.56
MW-67-105	NA	1.39	0.61	-0.04	0.57	0.65	0.16	-0.67	-0.43
MW-67-173	NA	0.75	-0.14	-0.83	-0.28	-0.26	-0.82	-1.62	-1.55
MW-67-219	NA	0.74	-0.19	-0.91	-0.32	-0.32	-0.86	-1.87	-1.59
MW-67-276	NA	1.61	0.60	-0.13	0.44	0.41	-0.14	-1.03	-0.91
MW-67-323	NA	0.18	-0.96	-1.75	-1.13	-1.35	-1.93	-2.86	-2.73
MW-67-340	NA	0.63	-0.52	-1.31	-0.87	-0.96	-1.56	-2.42	-2.40
MW-107	116.85	113.87	117.48	121.79	118.94	115.00	115.76	120.28	117.52
MW-108	9.58	8.61	8.77	9.98	10.07	NA	9.02	9.65	9.26
MW-109	9.52	6.80	7.22	9.50	10.12	7.82	7.88	NA	4.95
MW-111	9.56	9.66	9.74	10.74	11.24	9.74	10.48	10.87	9.47
OUT-1	NA	1.31	1.16	0.76	0.81	NA	NA	NA	1.08
RW-1	NA	NA	30.15	NA	30.04	29.52	29.05	29.10	NA
U1-CSS	NA	8.98	NA	NA	19.11	15.39	NA	20.46	13.89
U3-1	4.20	NA	NA	NA	NA	NA	NA	NA	NA
U3-2	5.34	NA	NA	NA	NA	NA	NA	NA	NA
U3-3	7.53	6.52	6.63	8.67	9.25	8.25	8.94	9.13	7.29
U3-4D	4.25	NA	3.35	3.22	2.74	3.49	2.69	3.41	3.75
U3-4S	3.91	4.13	3.80	3.74	3.97	4.31	3.81	4.01	4.23
U3-C1	NA	1.64	3.58	3.36	0.99	2.36	0.81	0.64	1.92
U3-T1	4.51	4.12	3.67	3.99	3.86	4.33	3.69	3.83	4.12
U3-T2	4.33	4.02	3.79	4.20	3.94	4.28	3.76	4.05	4.20

Notes:

NA – Data Not Available

1. Quarter 2 groundwater elevations were measured on 6/1/07 at 6.20 am.
2. Quarter 3 groundwater elevations were measured on 9/25/07 at 4:32 am.
3. Quarter 4, 2007 groundwater elevations were measured on 12/9/07 at 4:15 am.
4. Quarter 1, 2008 groundwater elevations were measured on 1/3/08 at 1:14 a.m.
5. Quarter 2, 2008 groundwater elevations were measured on 4/4/08 at 5:14 pm.
6. Quarter 3, 2008 groundwater elevations were measured on 7/10/08 at 11:35 am.
7. Quarter 4. 2008 groundwater elevations were measured on 11/11/08 at 2:54 am.
8. Quarter 1, 2009 groundwater elevations were measured on 1/9/09 at 2:42 am.
9. Quarter 2, 2009 groundwater elevations were measured on 5/22/09 at 2:41 pm.
10. MW-32 groundwater elevations from 2nd quarter, 2007 were based on an initial Waterloo Multi-Level configuration, which was subsequently reconfigured; initial depth intervals approximately corresponding to current configuration are listed in parentheses. The current configuration intervals MW-32-48 and MW-32-173 have no representative equivalent within the old configuration.

TABLE 3
SECOND QUARTER 2009 GROUNDWATER ANALYTICAL RESULTS AND AVERAGES
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLING QUARTER[2]	SAMPLE ID	SAMPLE ZONE CENTER, Depth Ft Below Top of Casing[3]	SAMPLE ZONE CENTER, Elevation Ft msl[3]	SAMPLE COLLECTION		ANALYSIS RESULTS															YEARLY ROLLING AVERAGES[4]					Well ID
							TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			TRITIUM (pCi/L)	Sr-90 (pCi/L)	Cs-137 (pCi/L)	Co-60 (pCi/L)	Ni-63 (pCi/L)	
					Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Average	Average	Average	Average	Average	
MW-30-69	Q3_2008	020	69.3	6.4	8/5/2008	11:22	1.99E+05	3.92E+03	4.95E+02	2.09E-01	3.07E-01	5.34E-01	-1.57E-0	1.42E+00	2.38E+00	1.11E+00	1.28E+00	2.33E+00	NA	NA	NA	1.1[illegible]E+05	ND	ND	ND	NA	MW-30-69
MW-30-69	Q3-2008 Mid	021	69.3	6.4	9/3/2008	11:29	8.53E+04	2.03E+03	5.50E+02	-3.12E-0	5.12E-01	3.72E-01	-1.89E+00	2.22E+00	3.36E+00	NA	NA	NA	NA	NA	NA						
MW-30-69	Q4_2008	022	69.3	6.4	11/7/2008	10:27	9.55E+04	2.85E+03	3.06E+02	4.09E-01	5.53E-01	5.01E-01	7.83E-01	3.09E+00	3.66E+00	-1.07E-0	2.65E+00	2.85E+00	NA	NA	NA						
MW-30-69	Q1-2009	023	69.3	6.4	1/30/2009	11:00	1.07E+05	2.51E+03	1.98E+02	-8.74E-02	7.58E-01	3.71E-01	-1.13E+00	2.61E+00	2.66E+00	1.06E+00	2.70E+00	3.24E+00	NA	NA	NA						
MW-30-69	Q2-2009	024	69.3	6.4	4/27/2009	10:27	1.00E+05	3.65E+03	4.02E+02	1.54E-0	4.28E-01	5.01E-01	1.49E+00	7.11E+00	4.74E+00	2.78E-0	4.19E+00	4.60E+00	NA	NA	NA						
MW-30-69	Q2-2009 Mid	025	69.3	6.4	6/1/2009	12:02	8.20E+04	3.21E+03	3.77E+02	3.12E-01	5.63E-01	5.32E-01	2.16E+00	9.80E+00	6.53E+00	8.26E-01	6.47E+00	7.42E+00	NA	NA	NA						
MW-30-84	Q3_2008	020	83.8	-8.1	8/5/2008	14:40	4.31E+03	2.28E+02	1.94E+02	2.77E-01	2.86E-01	4.67E-01	-1.87E-0	1.44E+00	2.35E+00	-1.04E-0	2.12E+00	2.66E+00	NA	NA	NA	4.87E+03	ND	8.97E+00	ND	NA	MW-30-84
MW-30-84	Q3-2008 Mid	021	83.8	-8.1	9/3/2008	11:59	3.78E+03	5.13E+02	5.35E+02	-4.62E-02	4.61E-01	3.06E-01	-3.02E-0	1.73E+00	2.89E+02	NA	NA	NA	NA	NA	NA						
MW-30-84	Q4_2008	013	83.8	-8.1	11/7/2008	10:50	5.25E+03	3.23E+02	1.64E+02	1.07E-02	5.75E-01	7.61E-01	6.64E-01	4.63E+00	5.37E+00	2.13E+00	5.34E+00	6.53E+00	NA	NA	NA						
MW-30-84	Q1-2009	014	83.8	-8.1	1/30/2009	11:21	4.69E+03	5.48E+02	1.99E+02	9.38E-02	5.97E-01	7.19E-01	8.97E+00	4.34E+00	3.02E+00	-8.43E-02	3.39E+00	3.81E+00	NA	NA	NA						
MW-30-84	Q2-2009	015	83.8	-8.1	4/27/2009	14:30	5.34E+03	9.08E+03	4.11E+03	1.19E-0	4.70E-01	5.29E-01	1.13E+00	6.54E+00	4.36E+00	1.33E+00	3.72E+00	4.50E+00	NA	NA	NA						
MW-30-84	Q2-2009 Mid	016	83.8	-8.1	6/1/2009	13:25	5.83E+03	9.02E+02	3.76E+02	1.34E-01	7.19E-01	3.22E-01	3.90E-01	1.01E+01	6.75E+00	8.79E-02	6.06E+00	6.80E+00	NA	NA	NA						
MW-31-49	Q3_2008	010	48.8	26.8	8/7/2008	12:43	5.94E+02	1.33E+02	1.92E+02	2.39E-01	2.67E-01	4.43E-01	7.07E-01	1.30E+00	2.23E+00	7.08E-01	1.49E+00	2.56E+00	NA	NA	NA	1.2[illegible]E+04	ND	ND	ND	NA	MW-31-49
MW-31-49	Q3-2008 Mid	011	48.8	26.8	8/30/2008	11:55	1.36E+04	8.61E+02	5.53E+02	4.16E-01	4.80E-01	3.06E-01	1.27E+00	3.63E+00	3.09E+00	NA	NA	NA	NA	NA	NA						
MW-31-49	Q4_2008	012	48.8	26.8	10/30/2008	11:30	6.43E+02	2.25E+02	1.71E+02	7.64E-02	1.71E-01	1.92E-01	1.39E+00	6.27E+00	7.25E+00	-9.09E-0	6.40E+00	6.88E+00	NA	NA	NA						
MW-31-49	Confirmatory	013	48.8	26.8	11/18/2008	11:15	7.77E+02	1.79E+02	1.62E+02	4.11E-01	6.30E-01	5.97E-01	1.21E+00	4.18E+00	5.03E+00	9.78E-01	4.93E+00	5.84E+00	NA	NA	NA						
MW-31-49	Q1-2009	014	48.8	1	2/6/2009	11:05	1.11E+04	7.86E+02	1.99E+02	1.18E-01	3.00E-01	3.57E-01	1.67E-0	2.97E+00	3.35E+00	4.61E-0	2.85E+00	3.14E+00	NA	NA	NA						
MW-31-49	Q2-2009	015	48.8	26.8	4/14/2009	10:36	4.84E+04	1.42E+03	1.56E+02	4.85E-01	5.63E-01	5.97E-01	-5.81E-0	6.18E+00	4.12E+00	1.44E+00	3.90E+00	4.67E+00	NA	NA	NA						
MW-31-49	Q2-2009 Mid	016	48.8	26.8	5/29/2009	11:42	9.34E+03	1.12E+03	3.77E+02	5.72E-01	5.75E-01	5.24E-01	-7.86E-0	9.50E+00	6.33E+00	-1.48E+00	6.63E+00	7.11E+00	NA	NA	NA						
MW-31-63	Q3_2008	010	63.3	12.3	8/7/2008	11:22	1.76E+04	4.17E+02	1.94E+02	-2.12E-0	2.61E-01	5.89E-01	-1.86E-0	1.28E+00	2.16E+00	3.73E-01	1.43E+00	2.49E+00	NA	NA	NA	2.36E+04	ND	ND	ND	NA	MW-31-63
MW-31-63	Q3-2008 Mid	011	63.3	12.3	8/30/2008	12:34	2.21E+04	1.07E+03	5.49E+02	-6.34E-0	4.35E-01	3.79E-01	3.76E-01	2.35E+00	4.04E+00	NA	NA	NA	NA	NA	NA						
MW-31-63	Q4_2008	012	63.3	12.3	10/30/2008	12:14	2.30E+04	1.08E+03	1.73E+02	2.28E-01	2.33E-01	2.52E-01	2.21E+00	6.18E+00	7.37E+00	-1.47E+00	7.26E+00	7.77E+00	NA	NA	NA						
MW-31-63	Confirmatory	013	63.3	12.3	11/18/2008	11:58	2.55E+04	8.07E+02	1.84E+03	3.95E-01	7.40E-01	3.36E-01	1.02E-02	5.89E+00	6.01E+00	5.18E-0	6.54E+00	6.97E+00	NA	NA	NA						
MW-31-63	Q1-2009	014	63.3	12.3	2/6/2009	11:53	1.28E+04	8.39E+02	1.97E+02	6.43E-01	6.42E-01	5.82E-01	-1.32E+00	3.42E+00	3.63E+00	-7.48E-0	3.86E+00	4.17E+00	NA	NA	NA						
MW-31-63	Q2-2009	015	63.3	12.3	4/14/2009	12:07	3.24E+04	1.10E+03	1.48E+02	2.95E-01	6.81E-01	7.75E-01	1.76E+00	6.68E+00	4.45E+00	2.23E+00	3.87E+00	4.79E+00	NA	NA	NA						
MW-31-63	Q2-2009 Mid	016	63.3	12.3	5/29/2009	12:34	3.16E+04	9.51E+02	1.95E+02	5.59E-01	5.58E-01	5.07E-01	1.79E+00	1.07E+01	7.12E+00	7.44E-01	6.45E+00	7.35E+00	NA	NA	NA						
MW-31-85	Q3_2008	010	84.8	-9.2	8/7/2008	11:13	2.30E+03	1.83E+02	1.94E+02	1.07E-01	2.87E-01	5.30E-01	-6.47E-0	1.22E+00	1.94E+00	1.63E-02	1.31E+00	2.18E+00	NA	NA	NA	7.7[illegible]E+03	ND	ND	ND	NA	MW-31-85
MW-31-85	Q3-2008 Mid	011	84.8	-9.2	8/30/2008	12:08	8.34E+03	7.00E+02	5.52E+02	4.46E-01	4.87E-01	3.10E-01	-5.50E-0	1.86E+00	3.07E+00	NA	NA	NA	NA	NA	NA						
MW-31-85	Q4_2008	012	84.8	-9.2	10/30/2008	12:09	3.89E+03	4.52E+02	1.67E+02	4.08E-01	7.33E-01	3.25E-01	5.63E+00	6.17E+00	4.73E+00	4.82E+00	6.98E+00	6.56E+00	NA	NA	NA						
MW-31-85	Confirmatory	013	84.8	-9.2	11/18/2008	12:00	4.41E+03	2.97E+02	1.61E+02	-2.44E-0	5.27E-01	3.11E-01	2.13E+00	3.79E+00	4.76E+00	2.84E+00	3.82E+00	5.19E+00	NA	NA	NA						
MW-31-85	Q1-2009	014	84.8	-9.2	2/6/2009	11:22	7.37E+03	6.54E+02	2.02E+02	3.89E-01	5.58E-01	5.16E-01	1.22E+00	3.50E+00	4.06E+00	1.09E+00	3.57E+00	4.23E+00	NA	NA	NA						
MW-31-85	Q2-2009	015	84.8	-9.2	4/14/2009	11:41	1.88E+04	8.49E+02	1.50E+02	5.35E-01	7.01E-01	7.64E-01	-6.49E-0	5.24E+00	3.49E+00	1.11E+00	3.50E+00	4.14E+00	NA	NA	NA						
MW-31-85	Q2-2009 Mid	016	84.8	-9.2	5/29/2009	12:50	8.85E+03	1.09E+03	3.75E+02	1.84E-01	8.01E-01	3.30E-01	8.20E-01	1.04E+01	6.95E+00	6.97E-01	6.57E+00	7.51E+00	NA	NA	NA						
MW-32-59	Q3_2008	005	58.8	18.3	7/31/2008	13:23	1.54E+03	1.63E+02	1.94E+02	1.72E-01	3.81E-01	5.90E-01	4.66E-01	1.97E+00	3.33E+00	-1.08E+00	2.48E+00	3.26E+00	NA	NA	NA	1.55E+04	ND	ND	ND	NA	MW-32-59
MW-32-59	Q3-2008 Mid	006	58.8	18.3	9/2/2008	13:52	2.44E+03	4.59E+02	5.53E+02	2.19E-01	5.54E-01	3.94E-01	7.77E-01	1.85E+00	3.21E+00	NA	NA	NA	NA	NA	NA						
MW-32-59	Q4_2008	007	58.8	18.3	10/24/2008	13:59	4.13E+02	2.00E+02	1.73E+02	1.63E-01	6.06E-01	7.44E-01	-3.50E-0	7.51E+00	7.30E+00	-1.32E+00	6.29E+00	6.66E+00	NA	NA	NA						
MW-32-59	Q1-2009	008	58.8	18.3	2/4/2009	15:46	1.78E+04	1.03E+03	1.98E+02	-1.01E-0	5.73E-01	7.69E-01	1.01E-01	3.54E+00	3.41E+00	2.70E+00	3.41E+00	4.34E+00	NA	NA	NA						
MW-32-59	Q2-2009	009	58.8	18.3	4/27/2009	15:54	6.43E+04	3.00E+03	4.23E+02	4.22E-01	6.15E-01	5.76E-01	-3.21E+00	4.83E+00	3.22E+00	-5.75E-02	3.60E+00	4.11E+00	NA	NA	NA						
MW-32-59	Q2-2009 Mid	010	58.8	18.3	6/2/2009	13:59	6.69E+03	9.60E+02	3.77E+02	3.26E-01	4.73E-01	5.25E-01	-1.72E-0	9.62E+00	6.41E+00	-7.66E-0	5.63E+00	6.03E+00	NA	NA	NA						
MW-32-85	Q3_2008	008	85.3	85.3	7/31/2008	14:35	7.48E+03	2.83E+02	1.93E+02	1.16E-01	3.35E-01	5.24E-01	2.14E-01	2.06E+00	3.50E+00	1.07E+00	1.88E+00	3.43E+00	NA	NA	NA	7.94E+03	ND	ND	ND	NA	MW-32-85
MW-32-85	Q3-2008 Mid	009	85.3	85.3	9/2/2008	14:40	8.05E+03	6.90E+02	5.52E+02	1.42E-01	4.15E-01	7.65E-01	-1.37E+00	2.45E+00	3.52E+00	NA	NA	NA	NA	NA	NA						
MW-32-85	Q4_2008	010	85.3	85.3	10/24/2008	14:50	8.62E+03	6.66E+02	1.72E+02	1.13E-01	4.56E-01	5.68E-01	1.39E+00	5.78E+00	6.62E+00	3.08E+00	5.89E+00	7.32E+00	NA	NA	NA						
MW-32-85	Q1-2009	011	85.3	85.3	2/4/2009	15:49	6.54E+03	6.38E+02	1.98E+02	5.26E-01	7.76E-01	3.50E-01	4.88E-01	2.85E+00	3.31E+00	2.27E+00	3.20E+00	4.15E+00	NA	NA	NA						
MW-32-85	Q2-2009	012	85.3	85.3	4/27/2009	15:34	8.87E+03	1.17E+03	4.31E+02	1.21E-01	5.33E-01	5.47E-01	-2.07E+00	6.11E+00	4.07E+00	1.69E+00	4.08E+00	4.90E+00	NA	NA	NA						
MW-32-85	Q2-2009 Mid	013	85.3	85.3	6/2/2009	15:11	8.07E+03	1.04E+03	3.76E+02	-1.55E-0	6.47E-01	7.60E-01	-1.73E+00	1.30E+01	8.65E+00	8.98E-01	8.75E+00	9.91E+00	NA	NA	NA						
MW-32-149	Q3_2008	007	149.3	-72.2	7/31/2008	11:10	5.32E+02	1.31E+02	1.94E+02	1.38E-02	3.46E-01	5.80E-01	1.06E+00	1.65E+00	2.87E+00	1.42E+00	1.56E+00	2.81E+00	NA	NA	NA	3.69E+02	ND	ND	ND	NA	MW-32-149
MW-32-149	Q4_2008	008	149.3	-72.2	10/24/2008	10:28	5.03E+02	2.10E+03	1.72E+03	4.69E-01	6.52E-01	5.99E-01	1.80E+00	5.22E+00	6.07E+00	1.25E+00	4.96E+00	5.82E+00	NA	NA	NA						
MW-32-149	Q1-2009	009	149.3	-72.2	2/4/2009	13:50	2.65E+02	1.18E+02	1.17E+02	4.53E-01	6.75E-01	7.34E-01	5.44E-01	2.99E+00	3.38E+00	3.32E-01	2.91E+00	3.28E+00	NA	NA	NA						
MW-32-149	Q2-2009	010	149.3	-72.2	4/27/2009	13:31	3.21E+02	1.79E+02	1.87E+02	7.04E-01	8.48E-01	3.20E-01	1.35E+00	4.26E+00	2.84E+00	-4.83E-02	2.34E+00	2.57E+00	NA	NA	NA						
MW-32-149	Q2-2009 Mid	011	149.3	-72.2	6/2/2009	12:05	2.24E+02	1.53E+02	1.62E+02	-2.86E-0	6.60E-01	7.98E-01	-2.68E+00	1.02E+01	6.78E+00	2.12E+00	7.04E+00	8.40E+00	NA	NA	NA						
MW-32-173	Q3_2008	004	172.8	-95.7	7/31/2008	10:52	1.08E+03	1.48E+02	1.92E+02	6.80E-01	4.52E-01	7.11E-01	-1.17E+00	1.58E+00	2.47E+00	6.06E-01	1.65E+00	2.96E+00	NA	NA	NA	1.06E+03	ND	ND	ND	NA	MW-32-173
MW-32-173	Q3-2008 Mid	005	172.8	-95.7	9/2/2008	11:30	9.72E+02	3.72E+02	5.48E+02	1.85E-01	4.64E-01	3.41E-01	-1.02E+00	2.67E+00	3.88E+00	NA	NA	NA	NA	NA	NA						
MW-32-173	Q4_2008	006	172.8	-95.7	10/24/2008	10:25	1.03E+03	2.67E+02	1.74E+02	1.05E-01	3.60E-01	4.36E-01	8.63E-01	5.67E+00	6.61E+00	2.30E+00	6.36E+00	7.74E+00	NA	NA	NA						
MW-32-173	Q1-2009	007	172.8	-95.7	2/4/2009	13:40	7.56E+02	1.45E+02	1.17E+02	2.57E-01	4.26E-01	4.74E-01	1.79E+00	3.65E+00	4.41E+00	2.56E+00	3.47E+00	4.49E+00	NA	NA	NA						
MW-32-173	Q2-2009	008	172.8	-95.7	4/27/2009	13:32	7.86E+02	4.77E+02	4.31E+02	7.47E-02	4.43E-01	5.48E-01	-3.20E+00	6.12E+00	4.08E+00	1.19E+00	4.77E+00	5.59E+00	NA	NA	NA						
MW-32-173	Q2-2009 Mid	009	172.8	-95.7	6/2/2009	11:58	1.72E+03	2.19E+02	1.68E+02	1.05E-01	5.78E-01	5.69E-01	-1.33E+00	9.20E+00	6.13E+00	-1.40E+00	6.21E+00	6.55E+00	NA	NA	NA						
MW-32-190	Q3_2008	007	190.3	-113.7	7/31/2008	11:24	4.71E+03	2.35E+02	1.94E+02	3.21E-01	3.25E-01	5.31E-01	-8.54E-0	1.55E+00	2.53E+00	2.22E+00	1.77E+00	3.30E+00	NA	NA	NA	3.13E+03	ND	ND	ND	NA	MW-32-190
MW-32-190	Q3-2008 Mid	008	190.3	-113.7	9/2/2008	11:40	3.81E+03	5.20E+02	5.44E+02	5.92E-01	5.81E-01	5.51E-01	1.39E+00	2.82E+00	4.63E+00	NA	NA	NA	NA	NA	NA						
MW-32-190	Q4_2008	009	190.3	-113.7	10/24/2008	10:31	3.35E+03	4.31E+02	1.73E+02	3.30E-03	5.75E-01	7.41E-01	5.89E-01	5.33E+00	5.98E+00	3.85E+00	5.68E+00	7.16E+00	NA	NA	NA						
MW-32-190	Q1-2009	010	190.3	-113.7	2/4/2009	13:45	2.69E+03	4.26E+02	1.98E+02	2.44E-01	5.57E-01	5.47E-01	3.60E-02	2.67E+00	2.95E+00	4.71E-01	3.02E+00	3.44E+00	NA	NA	NA						
MW-32-190	Q2-2009	011	190.3	-113.7	4/27/2009	13:24	2.54E+03	6.68E+02	4.09E+02	-2.51E-02	5.58E-01	5.80E-01	-6.89E-0	4.01E+00	2.67E+00	5.11E-01	2.30E+00	2.68E+00	NA	NA	NA						
MW-32-190	Q2-2009 Mid	012	190.3	-113.7	6/2/2009	12:01	1.95E+03	5.76E+02	3.78E+02	8.61E-02	5.09E-01	5.90E-01	3.64E-01	1.02E+01	6.77E+00	1.26E+00	5.70E+00	6.67E+00	NA	NA	NA						
MW-33	Q3-2008 Mid	023	19.2	-0.4	9/4/2008	14:41	6.80E+04	1.82E+03	5.47E+02	1.33E-01	4.15E-01	7.53E-01	5.40E-01	1.61E+00	2.83E+00	NA	NA	NA	NA	NA	NA	5.12E+04	ND	ND	ND	NA	MW-33
MW-33	Q2-2009	024	19.2	-0.4	4/29/2009	15:12	3.44E+04	1.30E+03	1.72E+02	2.74E-01	5.29E-01	5.09E-01	-1.06E+00	8.93E+00	5.95E+00	1.83E+00	5.72E+00	6.77E+00	NA	NA	NA						
MW-35	Q2-2009	019	19	-0.4	4/30/2009	11:17	1.46E+03	3.03E+02	1.74E+02	-2.75E-0	5.13E-01	5.38E-01	-1.08E+01	9.27E+00	6.18E+00	-1.87E+00	5.79E+00	6.00E+00	NA	NA	NA	1.46E+03	ND	ND	ND	NA	MW-35
MW-36-24	Q3_2008	011	16.1	-4.3	7/24/2008	13:57	1.02E+03	1.22E+02	1.63E+02	3.38E-01	3.75E-01	5.24E-01	3.97E-01	2.09E+00	3.61E+00	-5.45E-0	2.37E+00	3.85E+00	NA	NA	NA	4.89E+02	ND	ND	ND	NA	MW-36-24
MW-36-24	Q4_2008	012	16.1	-4.3	11/10/2008	15:33	2.01E+02	1.50E+02	1.61E+02	5.52E-01	7.53E-01	3.04E-01	0.00E+00	6.81E+00	4.46E+00	2.72E+00	3.84E+00	5.41E+00	NA	NA	NA						
MW-36-24	Q1-2009	013	16.1	-4.3	1/22/2009	12:48	2.37E+02	1.16E+02	1.06E+02	-6.26E-0	7.27E-01	3.48E-01	5.41E-01	2.88E+00	3.34E+00	3.15E-01	3.35E+00	3.82E+00	NA	NA	NA						
MW-36-24	Q2-2009	014	16.1	-4.3	5/1/2009	13:55	4.98E+02	1.98E+02	1.62E+02	-1.28E-0	7.22E-01	5.58E-01	1.20E+00	7.73E+00	5.15E+00	-8.11E-0	4.19E+00	4.36E+00	NA	NA	NA						
MW-36-41	Q2-2009	008	37	-25.2	5/1/2009	14:40	1.13E+04	7.20E+02	1.64E+02	4.03E+00	1.14E+00	7.31E-01	-2.59E-0	6.14E+00	4.09E+00	1.04E-01	3.03E+00	3.26E+00	NA	NA	NA	1.13E+04	4.03E+00	ND	ND	NA	MW-36-41
MW-36-52	Q3_2008	010	49.7	-37.3	7/24/2008	16:00	1.26E+04	7.66E+02	3.74E+02	5.67E+00	7.42E-01	4.73E-01	-4.79E-0	2.24E+00	3.69E+00	2.77E-02	2.11E+00	3.53E+00	NA	NA	NA	8.1[illegible]E+03	4.93E+00	ND	ND	NA	MW-36-52
MW-36-52	Q4_2008	011	49.7	-37.3	11/10/2008	16:53	1.10E+04	4.40E+02	1.63E+02	8.27E+00	1.24E+00	3.89E-01	-3.85E-0	3.86E+00	4.21E+00	1.36E+00	4.67E+00	5.65E+00	NA	NA	NA						
MW-36-52	Q1-2009	012	49.7	-37.3	1/22/2009	12:59	6.79E+03	6.03E+02	2.06E+02	3.37E+00	8.99E-01	5.07E-01	-6.07E-0	2.96E+00	3.24E+00	1.65E+00	3.24E+00	4.05E+00	NA	NA	NA						
MW-36-52	Q2-2009	013	49.7	-37.3	5/1/2009	15:07	6.06E+03	5.33E+02	1.63E+02	2.40E+00	7.82E-01	5.20E-01	2.41E+00	7.13E+00	4.75E+00	1.70E+00	4.26E+00	5.17E+00	NA	NA	NA						
MW-37-22	Q3_2008	011	17	-2	7/24/2008	11:20	4.33E+03	2.28E+02	1.95E+02	1.22E+01	1.25E+00	7.14E-01	-4.32E-01	2.13E+00	3.66E+00	2.97E+00	2.57E+00	4.83E+00	NA	NA	NA	4.03E+03	[illegible].21E+01	ND	ND	NA	MW-37-22
MW-37-22	Q4_2008	012	17	-2	11/10/2008	12:20	2.68E+03	3.92E+02	1.74E+02	1.80E+01	1.88E+00	4.08E-01	2.81E+00	4.96E+00	5.96E+00	-2.85E-0	4.53E+00	4.88E+00	NA	NA	NA						
MW-37-22	Q1-2009	013	17	-2	1/21/2009	14:27	5.27E+03	5.36E+02	2.05E+02	8.81E+00	1.33E+00	5.79E-01	-3.12E-0	3.02E+00	3.27E+00	-2.03E+00	3.09E+00	2.82E+00	NA	NA	NA						
MW-37-22	Q2-2009	014	17	-2	5/1/2009	12:16	3.85E+03	7.92E+02	4.73E+02	9.37E+00	1.37E+00	4.81E-01	1.09E+00	7.64E+00	5.09E+00	-8.00E-0	5.43E+00	5.74E+00	NA	NA	NA						
MW-37-32	Q3_2008	011	29	-14	7/24/2008	12:28	5.16E+03	2.45E+02	1.95E+02	2.06E+01	1.51E+00	3.63E-01	-4.08E-0	1.58E+00	2.18E+00	-1.46E-0	2.04E+00	2.58E+00	NA	NA	NA	4.16E+03	[illegible].69E+01	ND	ND	NA	MW-37-32
MW-37-32	Q4_2008	012	29	-14	11/10/2008	12:20	2.89E+03	4.01E+02	1.71E+02	1.86E+01	1.95E+00	3.99E-01	1.71E+00	5.33E+00	6.24E+00	4.09E-01	5.37E+00	6.14E+00	NA	NA	NA						
MW-37-32	Q1-2009	013	29	-14	1/21/2009	14:30	3.76E+03	4.61E+02	2.04E+02	1.11E+01	1.49E+00	5.2[illegible]E-01	1.59E+00	2.84E+00	3.40E+00	-7.12E-0	3.32E+00	3.49E+00	NA	NA	NA						
MW-37-32	Q2-2009	014	29	-14	5/1/2009	12:13	4.83E+03	8.66E+02	4.72E+02	1.72E+01	1.80E+00	5.64E-01	-2.55E+00	7.43E+00	4.95E+00	1.24E-01	3.66E+00	4.12E+00	NA	NA	NA						
MW-37-40	Q3_2008	011	39.2	-24.2	7/24/2008	13:12	5.24E+03	2.43E+02	1.91E+02	1.31E+00	4.41E-01	5.07E-01	-1.10E+00	1.52E+00	2.48E+00	-1.35E+00	2.11E+00	2.70E+00	NA	NA	NA	5.0[illegible]E+03	[illegible].76E+00	ND	ND	NA	MW-37-40
MW-37-40	Q4_2008	012	39.2	-24.2	11/10/2008	16:17	5.49E+03	5.45E+02	1.76E+02	1.13E+00	5.31E-01	3.81E-01	3.61E-01	6.03E+00	6.83E+00	5.04E+00	7.42E+00	9.22E+00	NA	NA	NA						
MW-37-40	Q1-2009	013	39.2	-24.2	1/22/2009	13:05	4.91E+03	5.13E+02	2.00E+02	3.47E+00	8.85E-01	5.69E-01	-2.64E+00	3.78E+00	3.27E+00	2.67E+00	3.14E+00	4.08E+00	NA	NA	NA						
MW-37-40	Q2-2009	014	39.2	-24.2	5/1/2009	14:15	4.38E+03	8.33E+02	4.73E+02	1.11E+00	5.15E-01	3.77E-01	-2.89E-0	7.70E+00	5.13E+00	2.74E+00	5.21E+00	6.44E+00	NA	NA	NA						

TABLE 3
SECOND QUARTER 2009 GROUNDWATER ANALYTICAL RESULTS AND AVERAGES
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLING QUARTER[2]	SAMPLE ID	SAMPLE ZONE CENTER, Depth Ft Below Top of Casing[3]	SAMPLE ZONE CENTER, Elevation Ft msl[3]	SAMPLE COLLECTION		ANALYSIS RESULTS															YEARLY ROLLING AVERAGES[4]					Well ID
							TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			TRITIUM (pCi/L)	Sr-90 (pCi/L)	Cs-137 (pCi/L)	Co-60 (pCi/L)	Ni-63 (pCi/L)	
					Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Average	Average	Average	Average	Average	
MW-37-57	Q3 2008	011	53.2	-38.2	7/24/2008	13:20	5.33E+03	2.47E+02	1.94E+02	2.12E+01	1.46E+00	5.27E-01	-7.11E-01	1.88E+00	3.07E+00	-1.17E+00	2.10E+00	3.24E+00	NA	NA	NA	5.15E+03	2.25E+01	ND	ND	NA	MW-37-57
MW-37-57	Q4 2008	012	53.2	-38.2	11/10/2008	11:04	4.27E+03	4.77E+02	1.71E+02	2.40E+01	2.29E+00	5.30E-01	-1.57E-01	6.08E+00	6.80E+00	9.78E-01	7.18E+00	8.14E+00	NA	NA	NA						
MW-37-57	Q1-2009	013	53.2	-38.2	1/21/2009	14:22	5.04E+03	5.21E+02	2.02E+02	1.99E+01	1.97E+00	5.68E-01	3.77E-02	3.44E+00	3.80E+00	1.05E+00	3.71E+00	4.35E+00	NA	NA	NA						
MW-37-57	Q2-2009	014	53.2	-38.2	5/1/2009	12:39	5.94E+03	5.24E+02	1.61E+02	2.49E+01	2.15E+00	5.69E-01	-2.83E-02	7.56E+00	5.04E+00	5.79E-01	4.89E+00	5.60E+00	NA	NA	NA						
MW-38	Q2-2009	021	25.4	-11.1	4/22/2009	10:45	2.74E+02	1.67E+02	1.77E+02	3.53E-01	7.50E-01	3.45E-01	-2.57E-01	4.41E+00	2.94E+00	6.51E-01	2.55E+00	2.94E+00	NA	NA	NA	2.74E+02	ND	ND	ND	NA	MW-38
MW-39-67	Q4 2008	005	57	13	10/23/2008	12:53	4.15E+02	2.01E+02	1.99E+02	3.31E+00	1.12E+00	7.74E-01	-1.28E+00	5.46E+00	5.95E+00	-1.22E-01	5.38E+00	6.06E+00	NA	NA	NA	3.77E+02	3.33E+00	ND	ND	NA	MW-39-67
MW-39-67	Q2-2009	006	57	13	4/9/2009	14:55	3.38E+02	1.67E+02	1.50E+02	3.35E+00	9.68E-01	5.51E-01	-8.08E-01	5.12E+00	3.41E+00	9.19E-01	3.60E+00	4.21E+00	NA	NA	NA						
MW-39-84	Q4 2008	005	83.5	-3.5	10/23/2008	12:56	2.34E+02	1.88E+02	1.99E+02	1.04E+00	6.50E-01	5.86E-01	1.74E+00	5.88E+00	6.93E+00	1.12E+00	6.98E+00	8.05E+00	NA	NA	NA	2.10E+02	1.55E+00	ND	ND	NA	MW-39-84
MW-39-84	Q2-2009	006	83.5	-3.5	4/9/2009	15:25	1.85E+02	1.48E+02	1.50E+02	2.05E+00	7.71E-01	5.01E-01	-3.09E-01	4.19E+00	2.79E+00	1.63E+00	2.67E+00	3.42E+00	NA	NA	NA						
MW-39-102	Q4 2008	005	101.5	-21.5	10/22/2008	13:56	1.68E+02	1.83E+02	2.00E+02	1.23E+00	7.18E-01	5.92E-01	6.57E-01	6.18E+00	6.75E+00	-1.98E+00	5.47E+00	5.53E+00	NA	NA	NA	2.20E+02	1.82E+00	ND	ND	NA	MW-39-102
MW-39-102	Q2-2009	006	101.5	-21.5	4/9/2009	15:38	2.20E+02	1.53E+02	1.51E+02	2.40E+00	8.22E-01	5.31E-01	-8.17E-02	5.07E+00	3.38E+00	1.30E+00	3.12E+00	3.80E+00	NA	NA	NA						
MW-39-124	Q4 2008	005	124	-44	10/22/2008	14:00	2.31E+02	1.88E+02	2.00E+02	9.42E-01	6.47E-01	5.64E-01	1.03E+00	6.64E+00	7.61E+00	1.63E+00	6.98E+00	8.11E+00	NA	NA	NA	2.15E+02	9.29E-01	ND	ND	NA	MW-39-124
MW-39-124	Q2-2009	006	124	-44	4/9/2009	11:46	1.98E+02	1.50E+02	1.50E+02	9.16E-01	6.33E-01	5.09E-01	-9.45E-02	5.16E+00	3.44E+00	-1.55E-01	3.30E+00	3.67E+00	NA	NA	NA						
MW-39-183	Q4 2008	005	182.5	-102.5	10/22/2008	14:07	5.39E+02	1.73E+02	1.97E+02	3.45E-01	7.29E-01	3.35E-01	-4.16E+00	6.88E+00	7.09E+00	-3.08E+00	7.77E+00	7.39E+00	NA	NA	NA	ND	ND	ND	ND	NA	MW-39-183
MW-39-183	Q2-2009	006	182.5	-102.5	4/9/2009	11:45	2.60E+02	1.26E+02	1.50E+02	2.13E-01	6.65E-01	7.61E-01	3.94E-01	6.71E+00	4.47E+00	6.05E-01	3.77E+00	4.33E+00	NA	NA	NA						
MW-39-195	Q4 2008	005	195	-115	10/22/2008	14:26	1.72E+02	1.83E+02	2.00E+02	8.81E-01	7.23E-01	5.88E-01	4.14E+00	5.57E+00	6.96E+00	1.81E+00	6.76E+00	7.96E+00	NA	NA	NA	ND	3.81E-01	ND	ND	NA	MW-39-195
MW-39-195	Q2-2009	006	195	-115	4/9/2009	12:08	7.46E+01	1.32E+02	1.48E+02	6.89E-01	6.60E-01	7.11E-01	-2.41E-01	8.63E+00	5.75E+00	-1.04E+00	4.80E+00	5.07E+00	NA	NA	NA		3.81E-01				
MW-40-27	Q3 2008	004	26.7	46.5	8/11/2008	13:19	2.22E+02	1.06E+02	1.72E+02	3.66E-01	4.20E-01	7.05E-01	6.08E-01	2.28E+00	4.00E+00	-3.72E-01	2.56E+00	3.83E+00	-7.57E+00	1.15E+01	2.05E+01	2.10E+02	ND	ND	ND	ND	MW-40-27
MW-40-27	Q4 2008	005	26.7	46.5	10/28/2008	14:58	1.42E+02	1.80E+02	1.95E+02	4.78E-01	5.84E-01	5.10E-01	-1.55E+00	5.73E+00	6.22E+00	-1.46E+00	6.86E+00	7.41E+00	6.28E+00	1.64E+01	1.85E+01						
MW-40-27	Q1-2009	006	26.7	46.5	1/19/2009	14:29	1.20E+02	1.34E+02	1.48E+02	4.82E-01	6.36E-01	5.82E-01	6.25E-01	3.41E+00	3.86E+00	1.46E+00	2.90E+00	3.58E+00	-1.86E+00	1.80E+01	2.09E+01						
MW-40-27	Q2-2009	007	26.7	46.5	4/13/2009	14:17	1.98E+02	1.45E+02	1.36E+02	-5.35E-01	7.85E-01	3.65E-01	-1.14E-01	6.86E+00	4.57E+00	-6.04E-02	3.42E+00	3.81E+00	-2.30E+00	1.82E+01	2.12E+01						
MW-40-45	Q3 2008	005	46.2	27	8/11/2008	13:35	1.68E+02	1.04E+02	1.71E+02	-2.25E-01	3.77E-01	5.09E-01	1.25E-01	1.99E+00	3.31E+00	1.09E+00	2.05E+00	3.04E+00	4.04E+00	1.17E+01	2.01E+01	1.53E+02	ND	ND	ND	ND	MW-40-46
MW-40-45	Q4 2008	006	46.2	27	10/28/2008	15:30	8.80E+01	1.74E+02	1.98E+02	6.53E-01	7.02E-01	7.20E-01	2.82E-01	6.58E+00	7.49E+00	1.83E+00	6.30E+00	7.48E+00	9.34E-01	1.71E+01	1.96E+01						
MW-40-45	Q1-2009	007	46.2	27	1/19/2009	14:28	7.76E+01	1.33E+02	1.48E+02	2.69E-01	5.01E-01	5.67E-01	8.08E-01	2.88E+00	3.39E+00	-1.19E+00	2.78E+00	2.88E+00	-5.63E+00	1.89E+01	2.22E+01						
MW-40-45	Q2-2009	008	46.2	27	4/13/2009	14:40	1.52E+02	1.37E+02	1.36E+02	-1.51E-01	5.21E-01	7.12E-01	-1.13E+00	6.89E+00	4.59E+00	-2.72E-01	4.01E+00	4.40E+00	-5.37E+00	1.97E+01	2.32E+01						
MW-40-81	Q3 2008	005	80.7	-7.5	8/11/2008	9:43	2.42E+02	1.06E+02	1.71E+02	1.68E-01	3.65E-01	5.52E-01	-7.84E-02	1.69E+00	2.78E+00	2.60E-01	1.92E+00	3.25E+00	-2.96E+00	1.10E+01	1.92E+01	2.11E+02	ND	ND	ND	ND	MW-40-81
MW-40-81	Q4 2008	006	80.7	-7.5	10/28/2008	11:20	3.04E+01	1.61E+02	1.93E+02	-1.84E-01	4.17E-01	5.28E-01	2.04E+00	5.28E+00	6.24E+00	-8.66E-01	6.75E+00	7.32E+00	-2.38E+00	2.33E+01	2.69E+01						
MW-40-81	Q1-2009	007	80.7	-7.5	1/19/2009	10:38	1.61E+02	1.37E+02	1.48E+02	2.92E-01	5.76E-01	5.54E-01	-4.67E-01	3.62E+00	4.01E+00	-1.41E+00	3.77E+00	3.92E+00	-7.55E+00	1.77E+01	2.09E+01						
MW-40-81	Q2-2009	008	80.7	-7.5	4/13/2009	11:06	2.31E+02	1.50E+02	1.35E+02	-2.34E-02	6.47E-01	3.17E-01	-1.98E+00	7.17E+00	4.78E+00	3.78E+00	4.67E+00	6.06E+00	-1.26E+01	2.01E+01	2.42E+01						
MW-40-100	Q3 2008	007	100.2	-27	8/11/2008	10:10	1.93E+02	1.05E+02	1.71E+02	-3.44E-02	2.85E-01	5.81E-01	-1.18E-01	1.59E+00	2.68E+00	6.38E-01	1.52E+00	2.70E+00	0.00E+00	1.09E+01	1.89E+01	2.28E+02	ND	ND	ND	ND	MW-40-100
MW-40-100	Q4 2008	008	100.2	-27	10/28/2008	11:30	8.66E+01	1.73E+02	1.95E+02	1.13E-01	6.37E-01	7.81E-01	-1.25E+00	6.50E+00	7.11E+00	3.92E+00	7.02E+00	8.63E+00	-7.70E-01	1.79E+01	2.06E+01						
MW-40-100	Q1-2009	009	100.2	-27	1/19/2009	11:52	4.24E+01	1.30E+02	1.48E+02	1.06E-01	6.03E-01	7.25E-01	6.13E-01	5.97E+00	3.85E+00	1.26E-01	3.15E+00	3.61E+00	-9.80E+00	1.89E+01	2.24E+01						
MW-40-100	Q2-2009	010	100.2	-27	4/13/2009	11:07	2.62E+02	1.56E+02	1.35E+02	6.63E-02	5.52E-01	5.82E-01	-2.19E+00	6.60E+00	4.40E+00	-2.09E+00	4.40E+00	4.45E+00	-3.13E-01	1.86E+01	2.17E+01						
MW-40-127	Q3 2008	007	127.2	-54	8/11/2008	10:34	1.68E+02	1.04E+02	1.70E+02	1.65E-01	2.41E-01	4.19E-01	1.24E-01	1.65E+00	2.81E+00	7.30E-03	1.49E+00	2.51E+00	-8.77E+00	1.13E+01	2.01E+01	1.52E+02	ND	ND	ND	ND	MW-40-127
MW-40-127	Q4 2008	008	127.2	-54	10/28/2008	12:10	7.53E+01	1.70E+02	1.95E+02	4.36E-01	7.10E-01	7.87E-01	2.53E+00	6.46E+00	6.88E+00	4.33E+00	8.23E+00	7.68E+00	0.00E+00	1.66E+01	1.93E+01						
MW-40-127	Q1-2009	009	127.2	-54	1/19/2009	11:25	9.22E+01	1.33E+02	1.48E+02	-7.90E-02	7.19E-01	3.00E-01	-1.20E+00	3.75E+00	3.94E+00	1.68E+00	3.66E+00	4.45E+00	-3.34E+00	1.85E+01	2.16E+01						
MW-40-127	Q2-2009	010	127.2	-54	4/13/2009	11:24	1.52E+02	1.37E+02	1.36E+02	5.56E-02	6.11E-01	7.66E-01	-1.08E+00	7.16E+00	4.77E+00	-1.39E+00	4.58E+00	4.79E+00	-9.13E+00	1.86E+01	2.22E+01						
MW-40-162	Q3 2008	005	161.7	-88.5	8/11/2008	11:44	2.30E+02	1.08E+02	1.75E+02	7.70E-02	4.19E-01	7.81E-01	6.25E-01	2.43E+00	4.16E+00	3.15E+00	2.07E+00	4.11E+00	-5.27E+00	1.22E+01	2.16E+01	1.86E+02	ND	ND	ND	ND	MW-40-162
MW-40-162	Q4 2008	006	161.7	-88.5	10/28/2008	13:15	1.12E+02	1.77E+02	1.96E+02	2.80E-01	6.35E-01	7.35E-01	-2.00E+00	5.84E+00	6.26E+00	2.11E+00	6.08E+00	7.29E+00	3.75E+00	1.79E+01	2.04E+01						
MW-40-162	Q1-2009	007	161.7	-88.5	1/19/2009	11:47	1.07E+02	1.33E+02	1.48E+02	1.32E-01	5.16E-01	5.16E-01	-3.98E-01	3.32E+00	3.67E+00	4.22E-01	2.96E+00	3.41E+00	-9.17E+00	1.85E+01	2.20E+01						
MW-40-162	Q2-2009	008	161.7	-88.5	4/13/2009	12:25	1.42E+02	1.37E+02	1.38E+02	3.28E-01	4.54E-01	5.46E-01	2.83E+00	5.81E+00	3.89E+00	6.45E-01	3.81E+00	4.06E+00	2.90E+00	1.85E+01	2.17E+01						
MW-41-40	Q4 2008	011	34.4	20.5	10/22/2008	14:49	2.21E+03	7.26E+02	5.92E+02	5.91E+00	1.18E+00	4.21E-01	3.87E+00	6.33E+00	7.66E+00	-3.60E+00	8.64E+00	8.40E+00	NA	NA	NA	1.39E+03	5.65E+00	ND	ND	NA	MW-41-40
MW-41-40	Q2-2009	012	34.4	20.5	4/7/2009	15:56	5.71E+02	1.91E+02	1.50E+02	5.38E+00	1.14E+00	5.38E-01	4.26E+00	7.29E+00	4.86E+00	4.60E-01	3.27E+00	3.76E+00	NA	NA	NA						
MW-41-63	Q4 2008	010	59.5	-4.6	10/22/2008	12:34	6.91E+02	5.73E+02	5.92E+02	5.69E+00	1.13E+00	4.41E-01	2.60E+00	5.59E+00	6.71E+00	9.04E-01	6.08E+00	7.02E+00	NA	NA	NA	6.09E+02	4.89E+00	ND	ND	NA	MW-41-63
MW-41-63	Q2-2009	011	59.5	-4.6	4/23/2009	11:57	5.26E+02	1.85E+02	1.83E+02	4.08E+00	8.84E-01	3.37E-01	4.19E-01	6.80E+00	4.53E+00	1.22E+00	4.19E+00	4.93E+00	NA	NA	NA						
MW-42-49	Q3 2008	011	42.6	27.	8/4/2008	14:24	3.16E+03	2.65E+02	1.91E+02	3.56E+01	1.72E+00	5.59E-01	1.06E+04	6.13E+02	1.20E+01	-2.47E-03	2.69E+00	4.52E+00	3.13E+02	2.60E+01	2.61E+01	1.37E+04	2.93E+02	5.32E+04	5.23E+00	[illegible]	MW-42-49
MW-42-49	Q3 2008 Mid	012	42.6	27.	9/5/2008	12:52	1.32E+04	8.36E+02	5.08E+02	2.96E+02	4.98E+00	1.02E-01	2.21E+04	1.38E+03	1.58E+01	NA	NA	NA	4.62E+02	2.17E+01	2.03E+01						
MW-42-49	Q4 2008	013	42.6	27	10/31/2008	13:27	2.60E+03	3.77E+02	1.63E+02	9.61E+01	4.34E+00	4.16E-01	1.78E+04	1.58E+03	1.83E+01	5.88E-01	6.96E+00	7.78E+00	2.71E+02	2.73E+01	1.99E+01						
MW-42-49	Q3-2008 Mid	014	42.6	27.	11/17/2008	14:56	1.12E+03	2.01E+02	1.73E+02	1.02E+02	6.96E+00	1.28E+00	1.54E+04	1.16E+03	1.74E+01	3.26E+00	5.21E+00	6.76E+00	2.44E+02	3.00E+01	2.25E+01						
MW-42-49	Q1-2009	015	42.6	27.	1/26/2009	16:16	1.28E+03	3.03E+02	2.06E+02	6.77E+02	1.13E+01	7.44E-01	8.05E+04	8.01E+03	2.66E+01	0.00E+00	5.24E+00	5.56E+00	9.12E+02	4.50E+01	1.90E+01						
MW-42-49	Q1-2009 Mid	016	42.6	27.	3/16/2009	14:50	7.22E+04	1.03E+03	1.60E+02	5.88E+02	8.57E+00	7.24E-01	1.40E+05	3.00E+01	2.00E+01	5.23E+00	3.54E+00	2.17E+00	1.16E+02	4.95E+01	2.06E+01						
MW-42-49	Q2-2009	017	42.6	27.	4/17/2009	11:03	2.22E+03	3.29E+02	1.89E+02	2.56E+02	6.63E+00	5.69E-01	8.63E+04	4.86E+01	3.24E+01	2.68E+00	4.67E+00	5.75E+00	9.16E+02	4.11E+01	2.19E+01						
MW-42-73	Q3 2008	009	74	-4.3	8/4/2008	12:07	6.18E+02	1.50E+02	1.91E+02	3.91E-01	2.57E-01	3.76E-01	2.71E+00	2.02E+00	3.75E+00	6.41E-01	2.10E+00	3.29E+00	7.57E-01	1.52E+01	2.68E+01	4.55E+02	3.91E-01	ND	ND	ND	MW-42-73
MW-42-73	Q4 2008	010	74	-4.3	10/31/2008	13:34	5.62E+02	2.12E+02	1.65E+02	4.17E-02	3.01E-01	3.87E-01	3.31E-01	5.68E+00	6.34E+00	8.32E-01	6.72E+00	7.68E+00	3.69E+00	1.77E+01	2.02E+01						
MW-42-73	Q1-2009	011	74	-4.3	1/30/2009	11:22	3.65E+02	2.18E+02	2.00E+02	4.40E-01	6.45E-01	7.01E-01	6.70E-01	3.32E+00	3.88E+00	-1.89E-01	3.57E+00	3.99E+00	NA	NA	NA						
MW-42-73	Q2-2009	012	74	-4.3	4/17/2009	10:49	2.74E+02	1.88E+02	1.89E+02	4.67E-01	6.74E-01	7.47E-01	1.61E+00	5.85E+00	3.90E+00	5.31E-01	3.60E+00	4.14E+00	6.58E+00	1.91E+01	2.16E+01						
MW-43-28	Q4 2008	010	23.5	25.3	10/31/2008	14:17	2.65E+02	1.58E+02	1.66E+02	-1.08E-01	3.95E-01	5.66E-01	4.87E+00	5.19E+00	6.44E+00	-1.16E+00	6.21E+00	6.63E+00	NA	NA	NA	2.90E+02	ND	ND	ND	NA	MW-43-28
MW-43-28	Q2-2009	011	23.5	25.3	4/7/2009	12:14	3.14E+02	1.65E+02	1.51E+02	-1.43E-01	5.66E-01	7.05E-01	5.41E-01	5.93E+00	3.95E+00	-1.31E-01	3.45E+00	3.77E+00	NA	NA	NA						
MW-43-62	Q4 2008	010	51	2.3	10/31/2008	13:16	2.35E+02	1.56E+02	1.66E+02	1.97E-01	4.13E-01	1.74E-01	3.65E-03	6.15E+00	6.96E+00	2.59E+00	6.30E+00	7.60E+00	NA	NA	NA	2.35E+02	5.85E-01	1.18E+01	ND	NA	MW-43-62
MW-43-62	Q2-2009	011	51	-2.2	4/7/2009	13:59	1.34E+02	1.43E+02	1.52E+02	6.85E-01	5.88E-01	5.94E-01	1.18E+01	6.15E+00	4.10E+00	-4.55E-01	3.89E+00	4.22E+00	NA	NA	NA						
MW-44-65	Q3 2008	009	62.4	31.	7/25/2008	12:18	5.50E+02	2.55E+02	3.75E+02	3.07E-01	3.66E-01	5.17E-01	-2.33E+00	2.53E+00	3.03E+00	-2.09E-01	1.74E+00	2.85E+00	NA	NA	NA	3.46E+02	ND	ND	ND	NA	MW-44-66
MW-44-65	Q4 2008	010	62.4	31.	10/23/2008	13:17	3.18E+02	1.61E+02	1.66E+02	3.23E-01	3.83E-01	3.92E-01	-3.20E+00	5.21E+00	5.30E+00	-1.59E+00	5.73E+00	6.02E+00	NA	NA	NA						
MW-44-65	Q1-2009	011	62.4	31.	2/3/2009	9:40	2.06E+02	1.92E+02	1.97E+02	4.52E-01	7.98E-01	3.95E-01	1.96E+00	3.53E+00	4.18E+00	3.09E+00	3.06E+00	4.12E+00	NA	NA	NA						
MW-44-65	Q2-2009	012	62.4	31.	4/28/2009	13:32	3.10E+02	1.98E+02	2.06E+02	2.20E-01	4.85E-01	5.59E-01	-7.47E-01	6.38E+00	4.25E+00	-1.51E-01	4.49E+00	4.97E+00	NA	NA	NA						
MW-44-102	Q3 2008	010	30	13.5	7/25/2008	13:18	4.37E+02	3.46E+02	3.75E+02	-5.83E-02	1.83E-01	3.21E-01	4.07E-01	1.78E+00	2.88E+00	1.35E+00	1.87E+00	3.41E+00	NA	NA	NA	4.21E+02	ND	ND	ND	NA	MW-44-102
MW-44-102	Q4 2008	011	30	13.5	10/23/2008	13:48	4.75E+02	1.68E+02	1.65E+02	2.01E-01	4.65E-01	5.44E-01	1.72E+00	6.24E+00	7.28E+00	2.39E+00	8.12E+00	8.47E+00	NA	NA	NA						
MW-44-102	Q1-2009	012	30	13.5	2/2/2009	12:06	2.57E+02	1.94E+02	1.93E+02	4.66E-01	6.12E-01	5.71E-01	9.83E-01	3.39E+00	4.02E+00	-9.65E-01	3.53E+00	3.74E+00	NA	NA	NA						
MW-44-102	Q2-2009	013	30	13.5	4/28/2009	13:34	5.14E+02	1.82E+02	1.80E+02	3.70E-01	7.10E-01	3.01E-01	9.60E-01	8.27E+00	5.51E+00	-2.67E-01	5.18E+00	5.85E+00	NA	NA	NA						
MW-45-42	Q3 2008	013	37	16.6	7/25/2008	16:40	2.32E+03	3.77E+02	3.74E+02	3.02E-01	2.75E-01	4.42E-01	-1.77E+00	1.76E+00	2.53E+00	1.09E+00	1.76E+00	3.19E+00	NA	NA	NA	3.22E+03	ND	ND	ND	NA	MW-45-42
MW-45-42	Q4 2008	014	37	16.6	10/22/2008	14:55	3.14E+03	8.03E+02	5.91E+02	4.62E-01	5.15E-01	5.29E-01	-1.64E+00	5.07E+00	5.26E+00	-3.00E+00	4.93E+00	4.36E+00	NA	NA	NA						
MW-45-42	Q1-2009	015	37	16.6	2/2/2009	18:02	1.41E+03	3.27E+02	1.97E+02	1.78E-01	4.41E-01	5.64E-01	1.41E+00	2.57E+00	2.67E+00	1.27E+00	2.55E+00	2.57E+00	NA	NA	NA						
MW-45-42	Q2-2009	016	37	16.6	4/23/2009	15:20	5.99E+03	9.50E+02	4.08E+02	2.63E-01	5.33E-01	5.08E-01	-4.68E-01	4.41E+00	2.94E+00	-1.42E+00	2.49E+00	2.48E+00	NA	NA	NA						
MW-45-61	Q3 2008	013	58	-4.4	7/25/2008	13:51	1.80E+03	3.46E+02	3.76E+02	2.36E-01	2.45E-01	4.05E-01	-1.88E+00	1.91E+00	2.80E+00	7.83E-01	1.91E+00	3.40E+00	NA	NA	NA	1.47E+03	ND	ND	ND	NA	MW-45-61
MW-45-61	Q4 2008	014	58	-4.4	10/22/2008	9:33	1.27E+03	6.35E+02	5.90E+02	1.99E-01	5.82E-01	5.91E-01	-1.52E+00	5.07E+00	5.32E+00	1.04E+00	5.73E+00	6.58E+00	NA	NA	NA						
MW-45-61	Q1-2009	015	58	-4.4	2/2/2009	13:13	1.36E+03	3.24E+02	1.99E+02	-1.47E-01	7.61E-01	3.47E-01	9.93E-01	3.59E+00	4.20E+00	2.30E-01	3.23E+00	3.66E+00	NA	NA	NA						
MW-45-61	Q2-2009	016	58	-4.4	4/23/2009	10:20	1.46E+03	5.45E+02	4.05E+02	-1.37E-01	6.17E-01	3.06E-01	-4.72E-01	4.17E+00	2.78E+00	1.13E+00	2.54E+00	3.01E+00	NA	NA	NA						
MW-46	Q3 2008	013	10.5	7.6	7/24/2008	16:56	7.71E+02	2.75E+02	3.77E+02	2.74E-01	3.07E-01	5.10E-01	6.05E-01	1.96E+00	3.38E+00	-1.89E+00	2.10E+00	3.09E+00	NA	NA	NA	9.77E+02	3.33E-01	ND	ND	NA	MW-46
MW-46	Q4 2008	014	10.5	7.6	10/20/2008	15:27	1.38E+03	6.44E+02	5.89E+02	9.33E-01	5.85E-01	5.11E-01	-2.27E+00	5.88E+00	5.91E+00	-5.88E-01	5.63E+00	6.09E+00	NA	NA	NA						
MW-46	Q1-2009	015	10.5	7.6	2/5/2009	13:46	1.00E+03	2.88E+02	1.96E+02	-1.30E-01	6.23E-01	7.82E-01	-1.68E+00	2.78E+00	2.71E+00	7.02E-01	2.82E+00	3.28E+00	NA	NA	NA						
MW-46	Q2-2009	016	10.5	7.6	4/10/2009	12:31	7.56E+02	2.07E+02	1.48E+02	-7.29E-02	5.46E-01	5.61E-01	9.83E-04	5.58E+00	3.72E+00	1.54E+00	3.68E+00	4.40E+00	NA	NA	NA						

TABLE 3
SECOND QUARTER 2009 GROUNDWATER ANALYTICAL RESULTS AND AVERAGES
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID¹	SAMPLING QUARTER²	SAMPLE ID	SAMPLE ZONE CENTER, Depth Ft Below Top of Casing³	SAMPLE ZONE CENTER, Elevation Ft msl³	SAMPLE COLLECTION		ANALYSIS RESULTS																YEARLY ROLLING AVERAGES⁴					Well ID
							TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			TRITIUM (pCi/L)	Sr-90 (pCi/L)	Cs-137 (pCi/L)	Co-60 (pCi/L)	Ni-63 (pCi/L)	
					Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Average	Average	Average	Average	Average	
MW-49-25	Q3_2008	013	19.1	-4.4	7/30/2008	15:03	3.96E+03	1.73E+02	1.30E+02	1.62E+01	1.27E+00	3.36E-01	-9.75E-01	1.74E+00	2.74E+00	1.31E+00	2.17E+00	3.93E+00	-2.81E+01	1.64E+01	2.92E+01	3.43E+03	1.51E+01	ND	ND	ND	MW-49-25
MW-49-25	Q4_2008	014	19.1	-4.4	11/5/2008	15:54	3.47E+03	4.55E+02	1.91E+02	1.53E+01	2.06E+00	5.10E-01	-1.36E+01	5.03E+00	5.26E+00	-3.17E-01	4.65E+00	5.18E+00	2.96E+00	1.77E+01	2.02E+01						
MW-49-25	Q1-2009	015	19.1	-4.4	2/6/2009	13:03	3.10E+03	2.66E+02	1.69E+02	1.38E+01	1.91E+00	3.59E-01	1.77E+00	4.34E+00	4.54E+00	1.26E+00	3.56E+00	4.24E+00	2.31E+01	2.21E+01	2.42E+01						
MW-49-25	Q2-2009	016	19.1	-4.4	5/6/2009	10:46	3.20E+03	4.05E+02	1.80E+02	1.50E+01	1.85E+00	4.91E-01	2.93E+00	7.91E+00	5.27E+00	2.01E-01	3.78E+00	4.33E+00	7.21E-01	1.67E+01	1.91E+01						
MW-49-42	Q3_2008	013	38.1	-23.4	7/30/2008	15:06	2.52E+03	1.45E+02	1.30E+02	2.16E+01	1.41E+00	5.05E-01	4.49E-01	1.59E+00	2.79E+00	7.96E-01	1.70E+00	3.09E+00	-2.73E+01	1.59E+01	2.84E+01	2.45E+03	2.04E+01	ND	ND	ND	MW-49-42
MW-49-42	Q4_2008	014	38.1	-23.4	11/5/2008	14:31	2.54E+03	4.04E+02	1.97E+02	2.16E+01	2.50E+00	7.01E-01	-1.27E+01	6.33E+00	6.92E+00	-1.93E+01	8.10E+00	7.46E+00	4.70E+00	1.84E+01	2.09E+01						
MW-49-42	Q1-2009	015	38.1	-23.4	2/6/2009	9:57	2.25E+03	2.40E+02	1.70E+02	2.07E+01	2.37E+00	3.71E-01	1.38E+00	3.51E+00	4.09E+00	-2.43E+01	3.38E+00	3.11E+00	-2.15E+01	2.15E+01	2.48E+01						
MW-49-42	Q2-2009	016	38.1	-23.4	5/6/2009	14:27	2.50E+03	3.63E+02	1.79E+02	1.75E+01	2.04E+00	4.71E-01	1.31E+00	7.25E+00	4.83E+00	1.78E-01	4.17E+00	4.49E+00	-7.29E+01	1.67E+01	1.94E+01						
MW-49-65	Q3_2008	013	50	-45.4	7/30/2008	13:58	1.56E+03	1.23E+02	1.30E+02	1.78E+01	1.29E+00	5.51E-01	-4.77E-01	2.20E+00	3.63E+00	8.42E-02	2.02E+00	3.39E+00	-6.53E+01	1.67E+01	2.96E+01	1.40E+03	1.63E+01	ND	ND	ND	MW-49-65
MW-49-65	Q4_2008	014	50	-45.4	11/5/2008	14:43	1.26E+03	3.02E+02	1.92E+02	1.72E+01	2.23E+00	5.91E-01	-4.96E+01	6.60E+00	6.62E+00	2.51E+00	6.11E+00	7.41E+00	8.42E-01	1.80E+01	2.06E+01						
MW-49-65	Q1-2009	015	50	-45.4	2/6/2009	9:59	1.42E+03	2.10E+02	1.70E+02	1.73E+01	2.10E+00	3.15E-01	-5.15E-01	2.96E+00	3.20E+00	7.61E-01	2.64E+00	3.21E+00	2.70E+00	2.22E+01	2.54E+01						
MW-49-65	Q2-2009	016	50	-45.4	5/6/2009	15:18	1.34E+03	2.85E+02	1.80E+02	1.28E+01	1.79E+00	7.11E-01	1.40E-01	4.37E+00	2.91E+00	-3.07E-01	2.99E+00	3.02E+00	-1.93E+01	1.79E+01	2.05E+01						
MW-50-42	Q3_2008	014	42	-27.1	7/31/2008	15:43	3.73E+02	1.34E+02	1.91E+02	9.28E+00	8.66E-01	4.39E-01	-9.40E-01	1.99E+00	3.20E+00	9.53E-01	1.91E+00	3.44E+00	1.58E+01	1.76E+01	2.96E+01	3.27E+02	4.05E+00	ND	ND	ND	MW-50-42
MW-50-42	Q4_2008	015	42	-27.1	11/6/2008	10:44	1.29E+02	1.76E+02	1.92E+02	2.56E+00	9.87E-01	5.85E-01	1.65E+00	4.98E+00	5.77E+00	5.18E-01	5.36E+00	6.17E+00	0.00E+00	1.76E+01	2.03E+01						
MW-50-42	Q1-2009	016	42	-27.1	1/22/2009	15:23	2.15E+02	1.38E+02	1.48E+02	1.96E+00	8.06E-01	5.31E-01	-1.74E+01	2.48E+00	2.37E+00	-5.18E-01	2.31E+00	2.39E+00	-3.34E+01	1.74E+01	2.03E+01						
MW-50-42	Q2-2009	017	42	-27.1	5/5/2009	14:11	3.92E+02	1.95E+02	1.72E+02	2.38E+00	8.93E-01	5.90E-01	5.89E-01	9.20E+00	6.13E+00	-2.50E+01	5.75E+00	5.71E+00	-9.99E+01	2.07E+01	2.42E+01						
MW-50-65	Q3_2008	016	50	-45.1	7/31/2008	17:02	2.71E+03	2.48E+02	1.21E+02	3.30E+01	1.52E+00	4.02E-01	2.31E+00	1.82E+00	3.43E+00	6.64E-01	1.46E+00	2.68E+00	3.58E+00	1.40E+01	2.43E+01	2.69E+03	3.24E+01	ND	ND	ND	MW-50-65
MW-50-65	Q3-2008 Mid	017	50	-45.1	9/8/2008	6:21	2.08E+03	4.17E+02	5.04E+02	3.23E+01	1.66E+00	4.88E-01	-8.81E-01	2.69E+00	3.96E+00	NA	NA	NA	1.22E+01	1.23E+01	2.06E+01						
MW-50-65	Q4_2008	018	50	-45.1	11/6/2008	12:38	2.73E+03	4.17E+02	1.98E+02	3.20E+01	3.00E+00	7.41E-01	-8.66E-01	5.97E+00	6.56E+00	-2.52E+01	8.96E+00	8.45E+00	-1.63E+01	2.07E+01	2.39E+01						
MW-50-65	Q3-2008 Mid	019	50	-45.1	11/19/2003	16:29	2.43E+03	2.49E+02	1.73E+02	4.99E+01	3.75E+00	3.66E-01	2.50E+00	5.26E+00	2.61E+00	5.13E-01	2.70E+00	3.17E+00	-5.06E-01	1.98E+01	2.29E+01						
MW-50-65	Q1-2009	020	50	-45.1	1/22/2009	16:01	2.30E+03	2.16E+02	1.48E+02	2.75E+01	2.28E+00	4.07E-01	-1.68E+01	4.20E+00	3.99E+00	-1.97E-01	3.32E+00	3.66E+00	-9.33E+01	1.88E+01	2.23E+01						
MW-50-65	Q1-2009 Mid	021	50	-45.1	3/18/2009	15:16	3.13E+03	7.02E+02	5.88E+02	2.42E+01	2.58E+00	3.11E-01	1.95E-02	5.75E+00	5.83E+00	-9.37E-01	3.56E+00	5.65E+00	1.55E+00	1.70E+01	1.94E+01						
MW-50-65	Q2-2009	022	50	-45.1	5/5/2009	16:33	3.45E+03	4.35E+02	1.74E+02	2.82E+01	2.33E+00	5.11E-01	4.57E+01	8.96E+00	5.97E+00	6.21E-03	5.87E+00	6.54E+00	1.93E+01	1.85E+01	2.13E+01						
MW-51-40	Q3_2008	008	39.7	28	8/8/2008	14:40	3.29E+02	1.60E+02	2.03E+02	3.74E-01	4.12E-01	5.70E-01	1.59E+00	2.19E+00	3.98E+00	-1.99E-01	1.79E+00	2.99E+00	-8.33E+01	1.02E+01	1.83E+01	2.66E+02	ND	ND	ND	ND	MW-51-40
MW-51-40	Q4_2008	009	39.7	28	10/27/2003	13:11	1.68E+02	1.85E+02	1.95E+02	1.84E-02	4.26E-01	5.67E-01	4.51E-01	4.28E+00	4.88E+00	-1.93E+01	6.35E+00	6.59E+00	-5.03E+01	2.11E+01	2.46E+01						
MW-51-40	Q1-2009	010	39.7	28	1/20/2009	14:50	2.37E+01	1.68E+02	1.92E+02	1.92E-01	7.95E-01	3.70E-01	9.89E-01	2.81E+00	3.26E+00	1.05E+00	2.75E+00	3.30E+00	8.95E+00	1.67E+01	1.87E+01						
MW-51-40	Q2-2009	011	39.7	28	5/7/2009	14:27	2.03E+02	1.76E+02	1.81E+02	1.02E-01	6.81E-01	3.27E-01	1.18E+00	7.08E+00	4.72E+00	-1.14E+01	5.00E+00	5.08E+00	-1.06E+01	1.83E+01	2.11E+01						
MW-51-79	Q3_2008	008	78.7	-11	8/8/2008	12:55	1.61E+02	1.31E+02	2.01E+02	2.03E-01	2.59E-01	5.18E-01	9.63E-01	2.17E+00	3.82E+00	5.64E-01	2.30E+00	3.98E+00	-1.07E+01	1.07E+01	1.93E+01	ND	ND	ND	ND	ND	MW-51-79
MW-51-79	Q4_2008	009	78.7	-11	10/27/2003	13:30	1.14E+01	1.62E+02	1.99E+02	3.14E-03	6.14E-01	7.85E-01	8.42E-01	5.07E+00	5.75E+00	2.41E+00	5.21E+00	6.37E+00	3.72E+00	1.77E+01	2.02E+01						
MW-51-79	Q1-2009	010	78.7	-11	1/20/2009	15:21	1.01E+02	1.33E+02	1.48E+02	-1.71E-01	3.15E-01	5.02E-01	5.93E-01	5.57E+00	3.65E+00	-2.94E-01	3.21E+00	3.56E+00	1.58E+01	1.73E+01	1.90E+01						
MW-51-79	Q2-2009	011	78.7	-11	5/7/2009	15:10	6.19E+01	1.58E+02	1.81E+02	6.97E-01	7.58E-01	3.29E-01	5.17E-01	7.68E+00	5.12E+00	2.33E+00	5.79E+00	6.97E+00	-6.40E+01	1.73E+01	2.00E+01						
MW-51-104	Q3_2008	006	103.7	-36	8/8/2008	10:50	2.82E+02	1.55E+02	2.08E+02	-2.66E-02	4.00E-01	7.92E-01	1.56E+00	2.03E+00	3.60E+00	-1.21E-02	2.07E+00	3.38E+00	-4.19E+01	1.34E+01	2.36E+01	2.82E+02	ND	ND	ND	ND	MW-51-104
MW-51-104	Q4_2008	007	103.7	-36	10/27/2003	10:07	1.21E+02	1.39E+02	1.49E+02	1.19E-01	4.97E-01	5.11E-01	5.61E+00	6.81E+00	8.52E+00	-5.72E+01	8.93E+00	8.26E+00	-1.01E+01	1.84E+01	2.12E+01						
MW-51-104	Q1-2009	008	103.7	-36	1/20/2009	10:46	9.95E+01	1.33E+02	1.48E+02	9.07E-03	3.78E-01	5.04E-01	-1.33E+01	2.87E+00	3.03E+00	-1.01E+01	2.37E+00	2.42E+00	-2.06E+01	2.00E+01	2.33E+01						
MW-51-104	Q2-2009	009	103.7	-36	5/7/2009	11:48	1.11E+02	1.61E+02	1.78E+02	1.53E-01	6.36E-01	7.95E-01	8.75E-01	5.79E+00	3.86E+00	4.67E-01	3.51E+00	4.01E+00	1.35E+01	2.36E+01	2.71E+01						
MW-51-135	Q3_2008	006	135.2	-67.5	8/8/2008	11:50	2.09E+02	1.39E+02	1.99E+02	5.09E-02	2.40E-01	4.57E-01	-1.03E+01	2.08E+00	3.29E+00	1.01E-02	2.01E+00	3.34E+00	-6.78E+01	1.14E+01	2.02E+01	2.09E+02	ND	ND	ND	ND	MW-51-135
MW-51-135	Q4_2008	007	135.2	-67.5	10/27/2003	10:05	7.68E+01	1.73E+02	1.99E+02	2.72E-04	5.05E-01	5.61E-01	-1.74E+01	5.26E+00	5.63E+00	3.92E+00	6.09E+00	7.69E+00	-2.05E-01	1.74E+01	2.01E+01						
MW-51-135	Q1-2009	008	135.2	-67.5	1/20/2009	11:02	1.31E+02	1.35E+02	1.48E+02	-3.04E-01	3.41E-01	5.84E-01	-6.92E-01	3.89E+00	4.31E+00	9.34E-01	3.06E+00	3.66E+00	-1.08E+01	1.76E+01	2.10E+01						
MW-51-135	Q2-2009	009	135.2	-67.5	5/7/2009	11:53	2.44E+01	1.43E+02	1.71E+02	8.54E-02	4.71E-01	5.79E-01	3.06E+00	7.04E+00	4.69E+00	-7.33E-01	3.77E+00	4.00E+00	-2.11E+01	2.24E+01	2.60E+01						
MW-51-163	Q3_2008	006	162.7	-95	8/8/2008	11:16	6.92E+01	8.27E+01	1.40E+02	-1.22E-01	2.63E-01	5.44E-01	-1.54E+01	2.25E+00	3.56E+00	3.78E-01	1.97E+00	3.39E+00	4.33E+00	1.26E+01	2.15E+01	ND	ND	ND	ND	ND	MW-51-163
MW-51-163	Q4_2008	007	162.7	-95	10/27/2003	10:20	5.58E+01	1.67E+02	1.95E+02	2.55E-01	5.76E-01	5.67E-01	1.70E+01	6.18E+00	6.74E+00	5.42E-01	5.38E+00	6.25E+00	2.11E+00	1.88E+01	2.14E+01						
MW-51-163	Q1-2009	008	162.7	-95	1/20/2009	11:44	4.60E+01	1.30E+02	1.48E+02	-1.98E-01	4.97E-01	5.98E-01	-9.70E-01	3.14E+00	3.27E+00	-7.70E-02	3.24E+00	3.54E+00	-1.01E+01	1.80E+01	2.14E+01						
MW-51-163	Q2-2009	009	162.7	-95	5/7/2009	12:09	5.68E+01	1.56E+02	1.81E+02	-5.45E-02	4.61E-01	5.11E-01	-7.96E-01	5.09E+00	3.39E+00	1.08E+00	3.63E+00	3.83E+00	4.18E+00	1.89E+01	2.15E+01						
MW-51-189	Q3_2008	006	189.2	-121.5	8/8/2008	11:17	1.10E+02	8.97E+01	1.43E+02	-1.43E-02	3.38E-01	5.60E-01	-2.27E+01	2.13E+00	3.12E+00	-1.79E+01	2.70E+00	3.57E+00	-5.89E+01	1.15E+01	2.04E+01	ND	ND	ND	ND	ND	MW-51-189
MW-51-189	Q4_2008	007	189.2	-121.5	10/27/2003	10:11	7.69E+01	1.74E+02	1.99E+02	5.61E-01	7.16E-01	7.51E-01	6.11E-01	6.38E+00	7.30E+00	3.04E+00	6.13E+00	7.60E+00	-6.95E+01	1.84E+01	2.17E+01						
MW-51-189	Q1-2009	008	189.2	-121.5	1/20/2009	11:33	3.32E+01	1.30E+02	1.48E+02	-2.14E-01	3.45E-01	5.59E-01	-2.05E+01	3.48E+00	3.62E+00	1.91E+00	3.32E+00	4.20E+00	-8.33E+01	1.79E+01	2.11E+01						
MW-51-189	Q2-2009	009	189.2	-121.5	5/7/2009	11:55	2.06E+01	1.52E+02	1.81E+02	1.44E-01	5.33E-01	5.41E-01	1.70E+00	9.39E+00	6.26E+00	1.22E+01	5.79E+00	6.11E+00	3.36E+01	1.86E+01	2.14E+01						
MW-52-11	Q2-2009	004	10	6.8	4/30/2009	14:27	5.19E+02	4.61E+02	4.72E+02	4.52E-02	5.64E-01	7.17E-01	2.98E-01	7.52E+00	5.01E+00	1.41E+00	5.07E+00	6.04E+00	NA	NA	NA	5.19E+02	ND	ND	ND	NA	MW-52-11
MW-52-18	Q2-2009	004	17.5	-2.6	4/30/2009	16:15	2.29E+02	2.01E+02	2.17E+02	-6.52E-02	5.55E-01	7.37E-01	-1.47E-02	7.89E+00	5.26E+00	8.60E-01	4.49E+00	5.24E+00	NA	NA	NA	2.29E+02	ND	ND	ND	NA	MW-52-18
MW-52-48	Q2-2009	004	48	-33.1	5/1/2009	11:35	1.43E+02	9.84E+01	1.00E+02	4.55E-02	6.02E-01	7.02E-01	1.19E+00	7.61E+00	5.07E+00	-2.32E+01	4.41E+00	4.29E+00	NA	NA	NA	1.43E+02	ND	ND	ND	NA	MW-52-48
MW-52-64	Q2-2009	004	54	-49.1	5/1/2009	13:50	-1.02E+01	8.27E+01	1.00E+02	4.33E-01	7.01E-01	7.72E-01	1.82E+00	6.54E+00	4.36E+00	1.24E+00	4.25E+00	4.80E+00	NA	NA	NA	ND	ND	ND	ND	NA	MW-52-64
MW-52-116	Q2-2009	004			4/30/2009	12:03	1.15E+02	1.00E+02	1.06E+02	-2.34E-01	4.29E-01	5.69E-01	2.00E+00	6.58E+00	5.72E+00	1.27E+00	4.68E+00	5.65E+00	NA	NA	NA	1.15E+02	ND	ND	ND	NA	MW-52-116
MW-52-162	Q2-2009	004	161.5	-146.6	4/30/2009	12:06	4.92E+02	4.58E+02	4.73E+02	1.49E-02	5.60E-01	7.37E-01	5.13E-01	8.51E+00	5.69E+00	1.26E+01	5.06E+00	5.17E+00	NA	NA	NA	4.92E+02	ND	ND	ND	NA	MW-52-162
MW-52-181	Q2-2009	004	181	-166.1	4/30/2009	12:07	1.47E+02	9.95E+01	1.01E+02	-4.95E-02	5.76E-01	7.41E-01	-2.57E+01	5.82E+00	3.88E+00	-1.51E+01	4.17E+00	6.27E+00	NA	NA	NA	1.47E+02	ND	ND	ND	NA	MW-52-181
MW-53-82	Q3_2008	008	75	-4.7	8/4/2008	12:25	1.21E+03	1.84E+02	1.91E+02	6.95E-01	3.14E-01	3.94E-01	2.79E+00	2.26E+00	4.16E+00	2.55E-02	2.14E+00	3.58E+00	1.15E+01	1.24E+01	2.09E+01	2.00E+03	1.50E+00	7.76E+00	ND	ND	MW-53-82
MW-53-82	Q4_2008	009	75	-4.7	10/30/2003	15:52	7.94E+02	2.37E+02	1.65E+02	-4.79E-02	2.99E-01	4.19E-01	3.66E+00	6.21E+00	7.56E+00	-1.78E+01	6.33E+00	6.63E+00	-4.83E+01	1.65E+01	1.92E+01						
MW-53-82	Q1-2009	010	75	-4.7	1/26/2009	12:00	4.26E+03	3.06E+02	1.92E+02	2.30E+00	1.07E+00	3.76E-01	1.10E+00	3.96E+00	4.51E+00	-2.25E-01	3.59E+00	3.88E+00	8.04E+00	1.64E+01	1.84E+01						
MW-53-82	Q2-2009	011	75	-4.7	4/14/2009	14:58	1.75E+03	3.14E+02	1.36E+02	-3.03E-01	7.29E-01	3.97E-01	7.76E+00	6.60E+00	4.40E+00	1.28E-01	4.34E+00	4.84E+00	-1.09E+01	1.85E+01	2.16E+01						
MW-53-120	Q3_2008	009	109.8	-39.5	8/4/2008	10:15	5.80E+03	3.46E+02	1.91E+02	3.03E+01	1.52E+00	3.11E-01	9.71E-02	1.93E+00	3.03E+00	1.15E-02	2.33E+00	3.20E+00	2.65E+01	1.30E+01	2.11E+01	5.42E+03	2.98E+01	ND	ND	33.95	MW-53-120
MW-53-120	Q3-2008 Mid	010	109.8	-39.5	9/5/2008	10:55	5.76E+03	5.90E+02	5.07E+02	3.10E+01	1.59E+00	4.10E-01	-3.34E-01	2.41E+00	3.94E+00	NA	NA	NA	1.94E+01	1.19E+01	3.88E-01						
MW-53-120	Q4_2008	011	109.8	-39.5	10/30/2003	13:00	5.57E+03	5.39E+02	1.66E+02	2.53E+01	2.04E+00	3.80E-01	2.73E+00	4.75E+00	5.74E+00	0.00E+00	9.13E+00	9.26E+00	5.82E+00	1.69E+01	1.93E+01						
MW-53-120	Q3-2008 Mid	012	109.8	-39.5	11/17/2003	10:31	5.04E+03	3.23E+02	1.72E+02	4.25E+01	3.63E+00	5.74E-01	3.25E-01	4.72E+00	5.28E+00	-1.96E-02	4.09E+00	4.49E+00	2.12E+01	2.03E+01	2.21E+01						
MW-53-120	Q1-2009	013	109.8	-39.5	1/26/2009	12:43	5.06E+03	3.26E+02	1.92E+02	2.64E+01	2.37E+00	7.50E-01	-3.60E-01	4.53E+00	5.10E+00	2.32E+00	4.34E+00	5.39E+00	1.27E+01	2.22E+01	2.49E+01						
MW-53-120	Q1-2009 Mid	014	109.8	-39.5	3/16/2009	9:40	5.07E+03	8.51E+02	3.81E+02	2.37E+01	2.07E+00	7.32E-01	-9.24E-02	2.48E+00	1.65E+00	-7.85E-01	1.86E+00	1.58E+00	1.34E+01	1.73E+01	1.91E+01						
MW-53-120	Q2-2009	015	109.8	-39.5	4/14/2009	13:08	5.65E+03	5.40E+02	1.36E+02	2.96E+01	2.19E+00	5.66E-01	2.26E+01	6.15E+00	4.10E+00	6.33E-01	3.86E+00	4.10E+00	8.66E+00	1.83E+01	2.07E+01						
MW-54-37	Q3_2008	006	36.5	-23.4	7/22/2008	17:00	9.50E+02	1.08E+02	1.31E+02	6.20E+00	7.50E-01	4.63E-01	1.34E+00	2.22E+00	3.94E+00	-4.43E-02	2.09E+00	3.34E+00	1.42E+00	1.68E+01	2.95E+01	1.15E+03	6.45E+00	ND	ND	ND	MW-54-37
MW-54-37	Q4_2008	007	36.5	-23.4	11/11/2003	13:16	1.25E+03	2.07E+02	1.73E+02	7.33E+00	1.45E+00	5.76E-01	-2.50E+01	6.27E+00	6.87E+00	2.81E+00	5.14E+00	6.50E+00	2.49E+00	1.92E+01	2.21E+01						
MW-54-37	Q1-2009	008	36.5	-23.4	2/3/2009	15:34	1.16E+03	1.86E+02	1.64E+02	5.93E+00	1.16E+00	5.66E-01	1.70E+00	3.33E+00	3.92E+00	-1.15E+01	3.24E+00	3.14E+00	-3.14E+01	2.16E+01	2.50E+01						
MW-54-37	Q2-2009	009	36.5	-23.4	5/6/2009	11:51	1.24E+03	2.78E+02	1.81E+02	6.35E+00	1.20E+00	4.75E-01	-1.81E-02	4.22E+00	2.81E+00	-1.16E+01	2.75E+00	2.61E+00	4.33E+00	1.91E+01	2.16E+01						
MW-54-58	Q3_2008	006	57.5	-44.4	7/22/2008	17:05	5.78E+02	9.64E+01	1.31E+02	1.71E+00	5.24E-01	5.47E-01	3.78E-01	2.07E+00	3.59E+00	-1.41E-02	2.67E+00	4.23E+00	1.37E+01	1.69E+01	2.85E+01	6.54E+02	3.68E+00	ND	ND	ND	MW-54-58
MW-54-58	Q4_2008	007	57.5	-44.4	11/11/2003	13:02	6.98E+02	1.85E+02	1.74E+02	9.02E+00	1.65E+00	5.87E-01	7.43E-01	3.71E+00	3.89E+00	1.72E+01	3.50E+00	3.31E+00	3.01E+00	1.91E+01	2.18E+01						
MW-54-58	Q1-2009	008	57.5	-44.4	2/3/2009	14:53	6.82E+02	1.71E+02	1.66E+02	1.98E+00	8.52E-01	7.24E-01	9.58E-01	2.78E+00	3.29E+00	4.22E-01	2.94E+00	3.39E+00	-3.05E+01	1.95E+01	2.27E+01						
MW-54-58	Q2-2009	009	57.5	-44.4	5/6/2009	12:13	6.58E+02	2.24E+02	1.78E+02	2.00E+00	8.60E-01	5.94E-01	2.19E+00	6.09E+00	4.06E+00	-2.90E+01	3.63E+00	3.32E+00	-1.92E+01	2.15E+01	2.50E+01						
MW-54-123	Q3_2008	006	123	-109.9	7/22/2008	15:30	6.12E+02	9.77E+01	1.32E+02	6.52E+00	8.15E-01	5.56E-01	-3.82E-01	2.22E+00	3.72E+00	-2.93E+01	2.52E+00	3.55E+00	4.33E+00	1.57E+01	2.73E+01	6.04E+02	7.24E+00	ND	ND	ND	MW-54-123
MW-54-123	Q4_2008	007	123	-109.9	11/11/2003	11:03	5.80E+02	1.77E+02	1.71E+02	1.26E+01	2.10E+00	7.26E-01	-6.72E-01	5.14E+00	5.51E+00	2.63E+00	4.29E+00	5.62E+00	-4.68E+01	1.83E+01	2.15E+01						
MW-54-123	Q1-2009	008	123	-109.9	2/3/2009	11:55	5.31E+02	1.64E+02	1.64E+02	5.91E+00	1.15E+00	5.70E-01	9.03E-01	3.03E+00	3.59E+00	5.33E-02	3.09E+00	3.52E+00	9.09E-01	2.00E+01	2.30E+01						
MW-54-123	Q2-2009	009	123	-109.9	5/6/2009	12:40	6.94E+02	2.28E+02	1.78E+02	3.94E+00	1.00E+00	5.36E-01	-1.73E+01	5.94E+00	3.96E+00	2.06E+00	3.18E+00	3.94E+00	2.67E-01	1.86E+01	2.13E+01						
MW-54-144	Q3_2008	006	144	-130.9	7/22/2008	15:35	1.13E+03	1.13E+02	1.31E+02	1.69E+01	1.23E+00	5.01E-01	1.57E+00	1.91E+00	3.48E+00	-4.98E-02	2.43E+00	3.49E+00	1.11E+01	1.69E+01	2.87E+01	1.2[illegible]E+03	1.65E+01	ND	ND	ND	MW-54-144
MW-54-144	Q4_2008	007	144	-130.9	11/11/2003	11:06	1.14E+03	2.03E+02	1.72E+02	2.02E+01	2.27E+00	4.69E-01	-6.18E-01	3.90E+00	4.30E+00	5.67E-01	5.17E+00	5.96E+00	4.08E+00	2.09E+01	2.39E+01						
MW-54-144	Q1-2009	008	144	-130.9	2/3/2009	12:41	1.13E+03	2.03E+02	1.77E+02	1.44E+01	1.76E+00	5.51E-01	-5.38E-03	3.15E+00	3.46E+00	-2.00E-02	2.91E+00	3.20E+00	2.21E+00	2.37E+01	2.76E+01						
MW-54-144	Q2-2009	009	144	-130.9	5/6/2009	10:23	1.45E+03	2.91E+02	1.78E+02	1.46E+01	1.89E+00	5.95E-01	-1.95E+01	4.97E+00	3.31E+00	9.27E-01	3.35E+00	3.90E+00	-5.83E+01	1.91E+01	2.21E+01						
MW-54-173	Q3_2008	006	172.5	-159.4	7/22/2008	15:51	2.05E+03	1.35E+02	1.30E+02	1.29E+01	1.08E+00	5.25E-01	-6.92E-02	2.07E+00	3.52E+00	-1.62E+01	2.11E+00	3.15E+00	7.86E+00	1.59E+01	2.72E+01	1.83E+03	1.19E+01	ND	ND	ND	MW-54-173
MW-54-173	Q4_2008	007	172.5	-159.4	11/11/2003	11:07	1.66E+03	3.34E+02	1.75E+02	1.61E+01	2.13E+00	7.31E-01	1.51E-01	4.23E+00	4.77E+00	5.84E-01	3.93E+00	4.19E+00	3.04E+00	1.92E+01	2.20E+01						
MW-54-173	Q1-2009	008	172.5	-159.4	2/3/2009	12:19	1.98E+03	5.45E+02	3.85E+02	1.02E+01	1.45E+00	5.91E-01	-1.52E+01	3.03E+00	3.08E+00	-2.37E+01	3.20E+00	2.94E+00	4.01E+00	2.37E+01	2.76E+01						
MW-54-173	Q2-2009	009	172.5	-159.4	5/6/2009	10:24	1.57E+03	3.03E+02	1.80E+02	8.59E+00	1.46E+00	7.75E-01	3.40E-01	5.16E+00	3.44E+00	1.02E+00	2.63E+00	3.14E+00	-1.38E+01	1.92E+01	2.20E+01						

TABLE 3
SECOND QUARTER 2009 GROUNDWATER ANALYTICAL RESULTS AND AVERAGES
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLING QUARTER[2]	SAMPLE ID	SAMPLE ZONE CENTER, Depth Ft Below Top of Casing[3]	SAMPLE ZONE CENTER, Elevation Ft msl[3]	SAMPLE COLLECTION		ANALYSIS RESULTS															YEARLY ROLLING AVERAGES[4]					Well ID
							TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			TRITIUM (pCi/L)	Sr-90 (pCi/L)	Cs-137 (pCi/L)	Co-60 (pCi/L)	Ni-63 (pCi/L)	
					Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Average	Average	Average	Average	Average	
MW-54-190	Q3 2008	006	190	-176.9	7/22/2008	15:50	1.25E+03	1.15E+02	1.30E+02	2.13E+01	1.37E+00	5.60E-01	8.45E-01	1.98E+00	3.41E+00	-1.64E+00	2.06E+00	3.02E+00	-8.42E+00	1.61E+01	2.92E+01	1.43E+03	2.35E+01	ND	ND	ND	MW-54-190
MW-54-190	Q4 2008	007	190	-176.9	11/11/2008	11:09	1.44E+03	2.10E+02	1.69E+02	3.38E+01	3.12E+00	5.14E-01	-5.41E-01	5.00E+00	5.54E+00	-6.47E-01	3.54E+00	3.63E+00	4.86E-01	1.91E+01	2.20E+01						
MW-54-190	Q1-2009	008	190	-176.9	2/3/2009	12:35	1.43E+03	4.88E+02	3.80E+02	1.90E+01	1.85E+00	3.85E-01	-1.18E+00	3.48E+00	3.74E+00	7.39E-01	3.08E+00	3.70E+00	-5.10E+00	2.37E+01	2.84E+01						
MW-54-190	Q2-2009	009	190	-176.9	5/6/2009	10:27	1.60E+03	3.05E+02	1.80E+02	1.98E+01	2.07E+00	4.19E-01	2.31E+00	7.22E+00	4.81E+00	-8.94E-01	3.86E+00	4.04E+00	-2.80E+00	1.94E+01	2.23E+01						
MW-55-24	Q3 2008	007	16	2.3	8/1/2008	13:15	1.40E+03	1.93E+02	1.91E+02	2.22E+01	1.36E+00	5.73E-01	-7.37E-03	2.19E+00	3.69E+00	2.85E+00	2.34E+00	4.16E+00	6.11E+00	1.24E+01	2.11E+01	1.09E+03	1.64E+01	ND	ND	ND	MW-55-24
MW-55-24	Q4 2008	008	16	2.3	10/21/2008	13:19	7.82E+02	2.57E+02	1.93E+02	1.08E+01	1.80E+00	5.55E-01	1.30E+00	5.13E+00	5.92E+00	-3.49E+00	6.66E+00	6.59E+00	4.77E+00	1.79E+01	2.03E+01						
MW-55-24	Q1-2009	009	16	2.3	2/11/2009	12:55	1.04E+03	4.49E+02	3.84E+02	1.69E+01	1.74E+00	3.85E-01	1.90E+00	2.88E+00	3.50E+00	1.35E+00	3.14E+00	3.76E+00	-1.21E+01	2.45E+01	2.99E+01						
MW-55-24	Q2-2009	010	16	2.3	4/29/2009	11:28	1.14E+03	2.69E+02	1.80E+02	1.55E+01	1.88E+00	5.50E-01	-1.81E-01	1.02E+01	6.77E+00	-9.81E-01	4.91E+00	5.14E+00	4.88E+00	1.95E+01	2.22E+01						
MW-55-35	Q3 2008	007	32	-13.3	8/1/2008	10:47	1.73E+03	2.08E+02	1.91E+02	2.54E+01	1.42E+00	4.28E-01	3.51E-01	2.17E+00	3.74E+00	2.59E-01	2.33E+00	3.99E+00	1.26E+01	1.23E+01	2.05E+01	1.76E+03	2.59E+01	ND	ND	ND	MW-55-35
MW-55-35	Q1-2009	008	32	-13.3	2/4/2009	13:40	8.53E+02	4.28E+02	3.84E+02	1.71E+01	1.82E+00	4.39E-01	1.01E+00	3.14E+00	3.69E+00	1.58E-01	2.78E+00	3.15E+00	8.49E-01	2.30E+01	2.69E+01						
MW-55-35	Q2-2009	009	32	-13.3	4/29/2009	11:26	2.70E+03	3.77E+02	1.80E+02	3.51E+01	2.79E+00	5.05E-01	-4.06E+00	6.72E+00	4.48E+00	7.97E-01	4.28E+00	5.04E+00	7.31E+00	2.03E+01	2.28E+01						
MW-55-54	Q3 2008	007	47	-28.3	8/1/2008	10:38	6.31E+03	3.59E+02	1.91E+02	2.32E+01	1.30E+00	3.56E-01	6.53E-01	2.07E+00	3.52E+00	1.29E+00	1.79E+00	3.30E+00	1.82E+01	1.26E+01	2.08E+01	7.10E+03	2.41E+01	ND	ND	ND	MW-55-54
MW-55-54	Q4 2008	008	47	-28.3	10/21/2008	10:21	7.76E+03	6.65E+02	1.96E+02	1.94E+01	2.37E+00	5.25E-01	-3.17E+00	5.29E+00	5.27E+00	-1.63E+00	5.43E+00	5.54E+00	-9.99E+00	1.69E+01	2.01E+01						
MW-55-54	Q1-2009	009	47	-28.3	2/4/2009	12:42	7.33E+03	9.09E+02	3.82E+02	2.11E+01	2.01E+00	3.69E-01	-3.34E-01	3.11E+00	3.46E+00	-3.64E-01	3.35E+00	3.69E+00	5.24E+00	2.34E+01	2.70E+01						
MW-55-54	Q2-2009	010	47	-28.3	4/29/2009	10:55	7.00E+03	5.76E+02	1.80E+02	3.27E+01	2.55E+00	5.48E-01	3.95E-01	6.93E+00	4.62E+00	-1.58E+00	4.23E+00	4.33E+00	2.56E+00	1.79E+01	2.04E+01						
MW-56-53	Q4 2008	005	52	18.3	10/24/2008	12:21	3.99E+02	1.64E+02	1.65E+02	5.40E-01	5.47E-01	5.43E-01	-5.92E-02	5.88E+00	6.64E+00	-5.42E+00	7.44E+00	6.23E+00	NA	NA	NA	4.50E+02	ND	ND	ND	NA	MW-56-53
MW-56-53	Q2-2009	006	52	18.3	4/16/2009	11:43	5.00E+02	1.95E+02	1.96E+02	-8.46E-02	6.21E-01	7.51E-01	6.63E-01	6.14E+00	4.09E+00	2.86E+00	3.41E+00	4.34E+00	NA	NA	NA						
MW-56-83	Q4 2008	007	74	-3.7	10/24/2008	12:22	2.98E+03	7.91E+02	5.91E+02	2.13E+00	7.72E-01	4.94E-01	-1.15E+00	4.62E+00	4.98E+00	3.29E+00	5.58E+00	3.07E+00	NA	NA	NA	3.11E+03	2.42E+00	ND	ND	NA	MW-56-83
MW-56-83	Q2-2009	008	74	-3.7	4/16/2009	11:49	3.24E+03	7.61E+02	4.34E+02	2.71E+00	7.59E-01	4.21E-01	6.03E-03	5.39E+00	3.59E+00	1.38E+00	4.11E+00	4.92E+00	NA	NA	NA						
MW-57-11	Q4 2008	004	10	5	11/12/2008	10:55	3.28E+03	2.76E+02	1.73E+02	4.16E+01	3.39E+00	7.64E-01	3.34E+00	7.25E+00	4.76E+00	1.81E+00	3.78E+00	5.03E+00	-5.18E-01	2.03E+01	2.35E+01	3.75E+03	4.44E+01	ND	ND	ND	MW-57-11
MW-57-11	Q2-2009	005	10	5	4/21/2009	12:08	4.22E+03	4.29E+02	1.90E+02	4.72E+01	2.97E+00	5.57E-01	3.89E+00	6.71E+00	4.47E+00	1.11E+00	2.76E+00	3.35E+00	4.47E+00	1.98E+01	2.25E+01						
MW-57-20	Q4 2008	004	19	-4	11/12/2008	11:30	1.51E+03	2.16E+02	1.72E+02	3.06E+00	1.30E+00	1.14E+00	-1.91E+00	3.94E+00	3.82E+00	-4.35E-01	3.52E+00	3.07E+00	-5.08E-01	1.94E+01	2.25E+01	1.52E+03	2.92E+00	ND	ND	ND	MW-57-20
MW-57-20	Q2-2009	005	19	-4	4/21/2009	12:22	1.52E+03	2.87E+02	1.90E+02	2.77E+00	1.02E+00	3.57E-01	2.08E+00	5.76E+00	3.84E+00	2.32E+00	3.15E+00	4.06E+00	1.34E+01	2.16E+01	2.41E+01						
MW-57-45	Q4 2008	005	40	-25	11/12/2008	13:22	1.13E+03	2.01E+02	1.73E+02	1.20E+00	6.79E-01	5.97E-01	1.72E-01	3.63E+00	4.05E+00	9.15E-01	4.42E+00	5.17E+00	-2.81E+00	1.91E+01	2.22E+01	1.16E+03	1.73E+00	ND	ND	ND	MW-57-45
MW-57-45	Q2-2009	006	40	-25	4/21/2009	13:34	1.19E+03	2.64E+02	1.90E+02	2.25E+00	8.36E-01	5.44E-01	1.80E-01	5.64E+00	3.76E+00	-1.30E+00	3.95E+00	4.12E+00	8.26E+00	2.09E+01	2.35E+01						
MW-58-26	Q4 2008	006	20	-5.4	11/7/2008	13:39	2.38E+02	1.55E+02	1.63E+02	2.31E-01	6.00E-01	7.90E-01	-3.38E+00	6.24E+00	5.49E+00	-2.23E-02	4.58E+00	4.84E+00	NA	NA	NA	3.90E+02	ND	ND	ND	NA	MW-58-26
MW-58-26	Q1-2009	007	20	-5.4	2/3/2009	12:49	5.19E+02	2.36E+02	1.98E+02	-8.35E-03	5.27E-01	5.81E-01	1.40E+00	2.76E+00	3.29E+00	1.45E-01	3.09E+00	3.31E+00	NA	NA	NA						
MW-58-26	Q2-2009	008	20	-5.4	4/24/2009	12:21	4.13E+02	1.48E+02	1.47E+02	-5.74E-02	4.53E-01	5.97E-01	1.26E+00	4.28E+00	2.85E+00	1.02E-01	2.31E+00	2.57E+00	NA	NA	NA						
MW-58-65	Q4 2008	006	54	-39.4	11/7/2008	13:55	2.31E+02	1.55E+02	1.62E+02	8.19E-01	8.77E-01	3.82E-01	9.13E-02	3.38E+00	3.86E+00	-1.58E+00	3.21E+00	2.98E+00	NA	NA	NA	2.63E+02	ND	ND	ND	NA	MW-58-65
MW-58-65	Q1-2009	007	54	-39.4	2/3/2009	12:05	2.75E+02	2.03E+02	1.98E+02	6.60E-01	8.00E-01	3.56E-01	-8.45E-01	3.21E+00	3.41E+00	1.91E+00	3.09E+00	3.89E+00	NA	NA	NA						
MW-58-65	Q2-2009	008	54	-39.4	4/24/2009	11:52	2.33E+02	1.67E+02	1.78E+02	-2.36E-01	4.62E-01	5.58E-01	9.67E-02	3.86E+00	2.57E+00	-1.84E-01	2.46E+00	2.72E+00	NA	NA	NA						
MW-60-35	Q3 2008	006	34.9	-22.4	7/30/2008	16:10	1.95E+02	1.21E+02	1.91E+02	2.85E-01	3.50E-01	5.92E-01	1.81E+00	1.93E+00	3.50E+00	-1.19E+00	2.07E+00	3.20E+00	NA	NA	NA	1.93E+02	ND	ND	ND	ND	MW-60-35
MW-60-35	Q4 2008	007	34.9	-22.4	11/5/2008	15:03	1.42E+02	1.80E+02	1.99E+02	1.62E-01	5.01E-01	5.09E-01	-2.38E+00	5.87E+00	6.17E+00	-3.83E+00	8.52E+00	7.56E+00	NA	NA	NA						
MW-60-35	Q1-2009	008	34.9	-22.4	2/9/2009	16:12	2.00E+02	1.83E+02	1.98E+02	3.81E-01	8.27E-01	3.42E-01	-1.20E+00	3.09E+00	3.19E+00	-3.23E-01	3.00E+00	3.22E+00	-3.26E+00	2.39E+01	2.82E+01						
MW-60-35	Q2-2009	009	34.9	-22.4	5/5/2009	14:06	1.54E+02	1.64E+02	1.71E+02	2.06E-01	6.48E-01	7.50E-01	1.11E+00	8.76E+00	5.84E+00	7.57E-01	5.60E+00	6.58E+00	NA	NA	NA						
MW-60-53	Q3 2008	006	53.4	-40.3	7/30/2008	13:23	1.28E+02	9.80E+01	1.63E+02	6.53E-01	5.73E-01	3.59E-01	-1.68E-01	2.09E+00	3.43E+00	1.05E+00	2.04E+00	3.65E+00	NA	NA	NA	4.99E+02	ND	ND	ND	ND	MW-60-53
MW-60-53	Q4 2008	007	53.4	-40.3	11/5/2008	14:32	1.38E+02	1.80E+02	1.99E+02	-1.95E-01	5.82E-01	3.17E-01	8.77E-01	4.58E+00	5.22E+00	1.30E+00	5.78E+00	6.68E+00	NA	NA	NA						
MW-60-53	Q1-2009	008	53.4	-40.3	2/9/2009	11:28	1.31E+02	1.79E+02	1.98E+02	4.81E-01	8.09E-01	3.06E-01	-1.28E+00	3.80E+00	3.55E+00	5.34E-01	2.78E+00	3.22E+00	-1.24E+00	2.43E+01	2.85E+01						
MW-60-53	Q2-2009	009	53.4	-40.3	5/5/2009	10:08	4.99E+02	2.12E+02	1.75E+02	6.40E-02	6.75E-01	3.02E-01	7.73E-01	1.18E+01	7.89E+00	-3.04E+00	8.30E+00	7.85E+00	0.00E+00	2.39E+01	2.81E+01						
MW-60-72	Q3 2008	006	72.4	-59.3	7/30/2008	13:25	8.27E+01	9.69E+01	1.63E+02	1.73E-01	1.41E-01	2.31E-01	-8.79E-01	2.39E+00	3.91E+00	-1.11E+00	2.47E+00	3.96E+00	NA	NA	NA	1.94E+02	ND	ND	ND	ND	MW-60-72
MW-60-72	Q4 2008	007	72.4	-59.3	11/5/2008	14:58	1.94E+02	1.64E+02	1.78E+02	2.09E-01	6.54E-01	7.78E-01	5.53E-01	5.68E+00	6.09E+00	1.43E+00	5.36E+00	5.64E+00	NA	NA	NA						
MW-60-72	Q1-2009	008	72.4	-59.3	2/9/2009	11:25	1.67E+02	1.55E+02	1.69E+02	-4.16E-01	7.19E-01	3.60E-01	-6.54E-01	3.00E+00	3.30E+00	7.83E-01	3.09E+00	3.69E+00	-9.25E+00	2.24E+01	2.66E+01						
MW-60-72	Q2-2009	009	72.4	-59.3	5/5/2009	10:32	1.57E+02	1.67E+02	1.75E+02	6.32E-02	6.66E-01	7.71E-01	2.29E+00	1.10E+01	7.32E+00	1.75E+00	6.02E+00	7.24E+00	NA	NA	NA						
MW-60-135	Q3 2008	006	134.9	-122.4	7/30/2008	13:33	4.91E+02	1.42E+02	1.91E+02	1.70E-01	3.44E-01	5.18E-01	-4.68E-01	1.79E+00	2.88E+00	1.43E+00	2.00E+00	3.61E+00	NA	NA	NA	4.04E+02	ND	ND	ND	ND	MW-60-135
MW-60-135	Q4 2008	007	134.9	-122.4	11/6/2008	10:49	4.25E+02	2.01E+02	1.99E+02	-1.71E-01	5.01E-01	7.18E-01	-2.18E-02	5.71E+00	6.40E+00	-3.93E+00	6.25E+00	5.99E+00	NA	NA	NA						
MW-60-135	Q1-2009	008	134.9	-122.4	2/9/2009	12:04	3.83E+02	1.67E+02	1.69E+02	5.52E-01	5.96E-01	5.39E-01	1.42E+00	2.96E+00	3.48E+00	4.24E-01	3.05E+00	3.35E+00	3.74E+00	2.27E+01	2.58E+01						
MW-60-135	Q2-2009	009	134.9	-122.4	5/5/2009	10:54	3.17E+02	1.85E+02	1.71E+02	1.77E-01	6.12E-01	7.45E-01	3.22E+00	1.31E+01	8.76E+00	3.12E-01	6.81E+00	7.64E+00	NA	NA	NA						
MW-60-154	Q3 2008	006	154.4	-141.9	7/30/2008	13:35	5.16E+02	1.44E+02	1.91E+02	5.10E-01	2.50E-01	3.30E-01	-8.80E-01	2.67E+00	3.58E+00	4.30E-01	1.89E+00	3.25E+00	NA	NA	NA	5.14E+02	5.10E-01	ND	ND	ND	MW-60-154
MW-60-154	Q4 2008	007	154.4	-141.9	11/6/2008	11:19	6.87E+02	4.16E+02	3.86E+02	4.32E-01	6.57E-01	7.19E-01	2.47E+00	4.96E+00	5.91E+00	5.49E-01	5.87E+00	6.61E+00	NA	NA	NA						
MW-60-154	Q1-2009	008	154.4	-141.9	2/9/2009	12:23	4.15E+02	1.65E+02	1.67E+02	4.63E-01	7.98E-01	3.96E-01	7.14E-01	3.02E+00	3.45E+00	1.01E+00	3.54E+00	4.13E+00	-3.74E+00	2.09E+01	2.42E+01						
MW-60-154	Q2-2009	009	154.4	-141.9	5/5/2009	11:15	4.39E+02	2.01E+02	1.72E+02	7.36E-02	5.70E-01	5.88E-01	-2.52E-01	6.89E+00	4.59E+00	-1.47E+00	5.07E+00	5.42E+00	NA	NA	NA						
MW-60-176	Q3 2008	006	175.9	-163.4	7/30/2008	14:08	8.95E+02	1.67E+02	1.91E+02	-2.08E-02	2.56E-01	5.86E-01	-1.15E-01	2.12E+00	3.44E+00	-2.05E-03	2.03E+00	3.34E+00	NA	NA	NA	9.21E+02	ND	ND	ND	ND	MW-60-176
MW-60-176	Q4 2008	007	175.9	-163.4	11/6/2008	11:55	8.32E+02	4.35E+02	3.86E+02	2.17E-01	4.71E-01	5.45E-01	2.63E+00	5.09E+00	5.07E+00	1.06E-01	5.66E+00	6.33E+00	NA	NA	NA						
MW-60-176	Q1-2009	008	175.9	-163.4	2/9/2009	13:08	9.16E+02	1.91E+02	1.70E+02	4.25E-01	6.80E-01	7.58E-01	-2.42E-01	3.27E+00	3.56E+00	5.10E-01	3.29E+00	3.74E+00	-1.22E+01	2.06E+01	2.44E+01						
MW-60-176	Q2-2009	009	175.9	-163.4	5/5/2009	11:18	1.04E+03	2.64E+02	1.72E+02	2.40E-01	6.00E-01	5.90E-01	-4.10E+00	8.45E+00	5.63E+00	1.23E+00	5.69E+00	6.59E+00	NA	NA	NA						
MW-62-18	Q3 2008	006	13.5	1.2	8/6/2008	12:55	2.69E+02	1.41E+02	2.25E+02	5.31E-01	3.30E-01	4.89E-01	9.69E-02	1.67E+00	2.82E+00	-1.26E-03	1.99E+00	3.33E+00	NA	NA	NA	3.99E+02	3.11E-01	ND	ND	ND	MW-62-18
MW-62-18	Q4 2008	007	13.5	1.2	10/29/2008	13:20	4.08E+02	1.65E+02	1.66E+02	5.23E-01	6.03E-01	5.37E-01	-3.09E-02	5.10E+00	5.60E+00	-3.91E+00	5.25E+00	4.70E+00	NA	NA	NA						
MW-62-18	Q1-2009	008	13.5	1.2	1/23/2009	11:55	4.64E+02	1.39E+02	1.07E+02	1.09E+00	6.47E-01	5.00E-01	9.88E-01	2.55E+00	3.06E+00	-3.42E-01	2.48E+00	2.74E+00	NA	NA	NA						
MW-62-18	Q2-2009	009	13.5	1.2	4/15/2009	13:18	4.56E+02	1.85E+02	1.36E+02	1.76E-01	5.99E-01	7.17E-01	3.54E-01	5.81E+00	3.87E+00	1.91E+00	3.39E+00	4.20E+00	1.88E+00	1.86E+01	2.17E+01						
MW-62-37	Q3 2008	006	34.5	-19.3	8/6/2008	12:00	3.94E+02	1.19E+02	1.45E+02	2.23E-01	2.69E-01	4.54E-01	-2.55E+00	1.52E+00	2.06E+00	-1.08E+00	1.56E+00	2.38E+00	NA	NA	NA	4.64E+02	1.36E+00	ND	ND	ND	MW-62-37
MW-62-37	Q4 2008	007	34.5	-19.3	10/29/2008	13:57	5.35E+02	1.71E+02	1.66E+02	1.36E+00	6.57E-01	5.24E-01	4.20E-01	4.77E+00	5.33E+00	-2.20E+00	5.19E+00	5.20E+00	NA	NA	NA						
MW-62-37	Q1-2009	008	34.5	-19.3	1/23/2009	12:20	4.87E+02	1.42E+02	1.08E+02	1.28E-01	7.41E-01	3.02E-01	-7.69E-01	3.12E+00	3.43E+00	-6.49E-01	3.14E+00	3.36E+00	NA	NA	NA						
MW-62-37	Q2-2009	009	34.5	-19.3	4/15/2009	13:13	4.39E+02	1.82E+02	1.35E+02	-3.16E-01	6.68E-01	3.49E-01	-1.73E-01	5.94E+00	3.96E+00	-6.46E-01	4.44E+00	4.81E+00	-1.65E+01	1.74E+01	2.14E+01						
MW-62-53	Q3 2008	005	53.1	-40.3	8/6/2008	12:35	3.32E+02	1.54E+02	2.41E+02	9.52E-03	2.34E-01	4.97E-01	1.36E+00	2.24E+00	3.98E+00	3.02E-01	2.30E+00	3.67E+00	NA	NA	NA	3.67E+02	ND	ND	ND	ND	MW-62-53
MW-62-53	Q4 2008	006	53.1	-40.3	10/29/2008	13:51	4.08E+02	1.67E+02	1.67E+02	6.63E-02	3.87E-01	1.94E-01	3.99E-01	5.85E+00	6.51E+00	2.87E+00	8.09E+00	7.19E+00	NA	NA	NA						
MW-62-53	Q1-2009	007	53.1	-40.3	1/23/2009	12:44	3.56E+02	2.16E+02	2.08E+02	4.53E-01	7.68E-01	3.60E-01	2.27E-01	3.30E+00	3.77E+00	-1.27E+00	3.56E+00	3.71E+00	NA	NA	NA						
MW-62-53	Q2-2009	008	53.1	-40.3	4/15/2009	13:29	4.33E+02	1.82E+02	1.36E+02	-5.89E-01	6.65E-01	3.09E-01	-4.92E-01	5.30E+00	3.53E+00	2.83E-01	2.82E+00	3.31E+00	-6.14E+00	1.79E+01	2.12E+01						
MW-62-71	Q3 2008	006	71.1	-58.3	8/6/2008	11:42	4.64E+02	1.66E+02	2.53E+02	3.31E-01	2.60E-01	3.94E-01	5.85E-01	2.01E+00	3.53E+00	-4.96E-01	2.23E+00	3.66E+00	NA	NA	NA	4.38E+02	ND	ND	ND	ND	MW-62-71
MW-62-71	Q4 2008	007	71.1	-58.3	10/29/2008	12:00	5.12E+02	1.70E+02	1.66E+02	3.70E-01	4.81E-01	5.01E-01	-2.34E+00	5.97E+00	6.37E+00	-1.31E+00	6.46E+00	7.00E+00	NA	NA	NA						
MW-62-71	Q1-2009	008	71.1	-58.3	1/23/2009	12:12	2.99E+02	2.07E+02	2.04E+02	2.47E-01	7.35E-01	5.50E-01	1.92E+00	3.53E+00	4.25E+00	-4.84E-01	3.87E+00	4.22E+00	NA	NA	NA						
MW-62-71	Q2-2009	009	71.1	-58.3	4/15/2009	13:06	4.78E+02	1.89E+02	1.38E+02	2.78E-01	6.38E-01	7.30E-01	1.27E+00	6.32E+00	4.21E+00	1.31E+00	3.48E+00	4.20E+00	3.18E+00	1.88E+01	2.30E+01						
MW-62-92	Q3 2008	006	91.6	-78.3	8/6/2008	11:49	4.95E+02	1.59E+02	2.38E+02	2.43E-01	3.29E-01	5.64E-01	1.51E+00	2.29E+00	4.11E+00	5.16E+00	2.59E+00	5.35E+00	NA	NA	NA	5.23E+02	ND	ND	ND	ND	MW-62-92
MW-62-92	Q4 2008	007	91.6	-78.3	10/29/2008	12:10	4.82E+02	1.68E+02	1.66E+02	-4.52E-02	5.40E-01	7.12E-01	1.64E+00	6.57E+00	7.61E+00	2.71E+00	6.33E+00	7.68E+00	NA	NA	NA						
MW-62-92	Q1-2009	008	91.6	-78.3	1/23/2009	12:28	5.25E+02	2.33E+02	2.05E+02	-1.59E-01	6.86E-01	3.71E-01	2.90E-01	4.58E+00	4.83E+00	1.88E+00	3.83E+00	4.74E+00	NA	NA	NA						
MW-62-92	Q2-2009	009	91.6	-78.3	4/15/2009	12:15	6.08E+02	2.06E+02	1.38E+02	1.09E-01	5.42E-01	5.60E-01	3.15E-01	6.21E+00	4.14E+00	-9.11E-01	3.36E+00	3.56E+00	-1.28E+01	1.83E+01	2.22E+01						
MW-62-138	Q3 2008	006	138.1	-125.3	8/6/2008	11:41	5.35E+02	1.55E+02	2.28E+02	1.21E+00	4.18E-01	5.01E-01	8.24E-01	2.44E+00	4.27E+00	3.85E-01	2.41E+00	4.20E+00	NA	NA	NA	6.70E+02	1.67E+00	ND	ND	ND	MW-62-138
MW-62-138	Q4 2008	007	138.1	-125.3	10/29/2008	12:25	7.50E+02	1.82E+02	1.66E+02	1.24E+00	5.53E-01	3.58E-01	1.40E+00	6.06E+00	7.05E+00	2.04E+00	8.28E+00	8.60E+00	NA	NA	NA						
MW-62-138	Q1-2009	008	138.1	-125.3	1/23/2009	12:50	6.26E+02	2.43E+02	2.04E+02	2.46E+00	8.27E-01	5.21E-01	-4.23E-01	2.40E+00	2.67E+00	5.99E-01	2.24E+00	2.64E+00	NA	NA	NA						
MW-62-138	Q2-2009	009	138.1	-125.3	4/15/2009	12:38	7.72E+02	2.18E+02	1.32E+02	1.78E+00	8.70E-01	7.91E-01	-7.43E-01	6.18E+00	4.12E+00	4.95E-01	3.20E+00	3.73E+00	1.23E+00	1.83E+01	2.12E+01						
MW-62-182	Q3 2008	006	182.1	-169.3	8/6/2008	13:54	3.99E+02	1.52E+02	2.34E+02	5.30E-02	3.33E-01	5.16E-01	8.48E-01	2.19E+00	3.85E+00	-2.67E-03	2.40E+00	3.97E+00	NA	NA	NA	5.33E+02	ND	ND	ND	ND	MW-62-182
MW-62-182	Q4 2008	007	182.1	-169.3	10/29/2008	13:52	4.98E+02	1.70E+02	1.66E+02	4.40E-02	7.13E-01	3.16E-01	1.60E+00	6.21E+00	6.92E+00	2.99E-01	5.82E+00	6.54E+00	NA	NA	NA						
MW-62-182	Q1-2009	008	182.1	-169.3	1/23/2009	13:49	4.98E+02	2.28E+02	2.03E+02	-1.85E-01	4.56E-01	5.98E-01	-1.91E+00	2.55E+00	2.68E+00	-1.03E+00	2.43E+00	2.55E+00	NA	NA	NA						
MW-62-182	Q2-2009	009	182.1	-169.3	4/15/2009	14:53	7.36E+02	2.21E+02	1.37E+02	6.26E-01	7.43E-01	3.46E-01	2.06E-01	6.32E+00	4.21E+00	2.09E-01	4.55E+00	5.11E+00	6.59E+00	1.83E+01	2.17E+01						
MW-63-18	Q3 2008	006	14.9	0.7	7/30/2008	11:13	1.79E+02	1.20E+02	1.91E+02	3.29E+00	5.61E-01	4.68E-01	-1.71E-02	1.75E+00	2.97E+00	-1.16E+00	2.04E+00	3.49E+00	NA	NA	NA	2.59E+02	3.29E+00	ND	ND	NA	MW-63-18
MW-63-18	Q4 2008	007	14.9	0.7	11/5/2008	10:53	3.20E+02	1.59E+02	1.65E+02	3.25E-01	6.20E-01	7.01E-01	1.31E-01	5.91E+00	6.75E+00	-1.52E+00	5.73E+00	6.04E+00	NA	NA	NA						
MW-63-18	Q1-2009	008	14.9	0.7	1/29/2009	13:46	1.54E+02	1.85E+02	1.98E+02	-2.22E-01	6.74E-01	3.57E-01	9.78E-02	2.64E+00	3.01E+00	1.02E+00	3.20E+00	3.87E+00	NA	NA	NA						
MW-63-18	Q2-2009	009	14.9	0.7	5/4/2009	12:29	1.97E+02	1.62E+02	1.64E+02	1.26E-01	6.00E-01	5.91E-01	-2.37E+00	6.86E+00	4.57E+00	8.34E-01	4.26E+00	4.94E+00	NA	NA	NA						

TABLE 3
SECOND QUARTER 2009 GROUNDWATER ANALYTICAL RESULTS AND AVERAGES
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLING QUARTER[2]	SAMPLE ID	SAMPLE ZONE CENTER, Depth Ft Below Top of Casing[3]	SAMPLE ZONE CENTER, Elevation Ft msl[3]	SAMPLE COLLECTION		ANALYSIS RESULTS															YEARLY ROLLING AVERAGES[4]					Well ID
							TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			TRITIUM (pCi/L)	Sr-90 (pCi/L)	Cs-137 (pCi/L)	Co-60 (pCi/L)	Ni-63 (pCi/L)	
					Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Average	Average	Average	Average	Average	
MW-63-34	Q3 2008	006	31.5	-17.3	7/30/2008	11:12	4.41E+02	1.39E+02	1.91E+02	1.15E+00	4.60E-01	5.45E-01	-1.48E-02	2.26E+00	3.87E+00	-7.91E-01	2.52E+00	3.65E+00	NA	NA	NA	4.00E+02	1.15E+00	ND	ND	NA	MW-63-34
MW-63-34	Q4 2008	007	31.5	-17.3	11/5/2008	11:03	4.14E+02	3.77E+02	3.85E+02	3.15E-01	6.77E-01	7.78E-01	5.73E-01	5.43E+00	6.10E+00	-1.40E-01	5.17E+00	5.67E+00	NA	NA	NA						
MW-63-34	Q1-2009	008	31.5	-17.3	1/29/2009	12:22	4.20E+02	2.22E+02	1.96E+02	2.20E-01	6.87E-01	3.11E-01	1.41E+00	2.91E+00	3.45E+00	-2.64E-01	2.96E+00	3.23E+00	NA	NA	NA						
MW-63-34	Q2-2009	009	31.5	-17.3	5/4/2009	12:10	3.23E+02	1.76E+02	1.59E+02	2.16E-01	6.03E-01	5.89E-01	6.53E-01	7.29E+00	4.86E+00	1.92E+00	3.42E+00	4.32E+00	NA	NA	NA						
MW-63-50	Q3 2008	006	49.5	-37.2	7/30/2008	10:29	3.35E+02	1.32E+02	1.91E+02	6.10E-01	4.57E-01	3.02E-01	-1.77E+00	1.83E+00	2.66E+00	-1.22E+00	1.91E+00	2.80E+00	NA	NA	NA	3.20E+02	ND	ND	ND	NA	MW-63-50
MW-63-50	Q4 2008	007	49.5	-37.2	11/5/2008	13:39	3.17E+02	1.94E+02	1.99E+02	5.67E-01	6.58E-01	5.79E-01	1.26E+00	6.36E+00	7.04E+00	-7.21E-01	6.52E+00	7.08E+00	NA	NA	NA						
MW-63-50	Q1-2009	008	49.5	-37.2	1/29/2009	14:06	2.98E+02	2.04E+02	1.96E+02	5.67E-01	8.00E-01	3.76E-01	8.89E-02	3.09E+00	3.51E+00	1.37E+00	3.41E+00	4.19E+00	NA	NA	NA						
MW-63-50	Q2-2009	009	49.5	-37.2	5/4/2009	11:31	3.30E+02	1.80E+02	1.65E+02	1.58E-01	5.73E-01	5.59E-01	1.22E+00	6.27E+00	4.18E+00	-2.49E-01	3.98E+00	4.34E+00	NA	NA	NA						
MW-63-93	Q3 2008	007	93	-80.7	7/29/2008	14:17	2.38E+02	1.25E+02	1.92E+02	2.28E-03	2.21E-01	3.86E-01	-4.02E-01	2.01E+00	3.36E+00	-3.19E-01	1.96E+00	3.23E+00	NA	NA	NA	2.84E+02	ND	ND	ND	NA	MW-63-93
MW-63-93	Q4_2008	008	93	-80.7	11/5/2008	10:14	3.90E+02	3.75E+02	3.80E+02	-9.77E-02	1.34E-01	2.30E-01	1.53E+00	5.10E+00	5.92E+00	2.80E+00	6.24E+00	7.60E+00	NA	NA	NA						
MW-63-93	Q1-2009	009	93	-80.7	1/29/2009	14:20	3.40E+02	2.09E+02	1.93E+02	1.18E-01	6.23E-01	7.75E-01	-5.44E-01	3.17E+00	3.42E+00	-8.17E-01	3.63E+00	3.88E+00	NA	NA	NA						
MW-63-93	Q2-2009	010	93	-80.7	5/4/2009	12:00	1.66E+02	1.59E+02	1.64E+02	5.44E-01	5.13E-01	5.51E-01	2.00E+00	6.72E+00	4.48E+00	-1.69E+00	3.63E+00	3.63E+00	NA	NA	NA						
MW-63-112	Q3 2008	006	111.5	-99.2	7/29/2008	14:20	2.07E+02	1.01E+02	1.63E+02	7.08E-01	5.39E-01	3.66E-01	6.61E-01	2.23E+00	3.89E+00	1.07E+00	2.46E+00	4.41E+00	NA	NA	NA	3.40E+02	ND	ND	ND	NA	MW-63-112
MW-63-112	Q4 2008	007	111.5	-99.2	11/4/2008	12:41	2.75E+02	1.92E+02	2.01E+02	4.72E-01	5.88E-01	5.17E-01	1.89E-01	5.68E+00	6.43E+00	-2.75E+00	8.34E+00	7.58E+00	NA	NA	NA						
MW-63-112	Q1-2009	008	111.5	-99.2	1/30/2009	14:39	4.37E+02	2.21E+02	1.97E+02	2.43E-02	7.80E-01	3.24E-01	-1.10E+00	2.81E+00	2.86E+00	1.77E+00	3.41E+00	4.13E+00	NA	NA	NA						
MW-63-112	Q2-2009	009	111.5	-99.2	5/4/2009	14:30	4.42E+02	1.94E+02	1.64E+02	1.54E-01	5.99E-01	7.38E-01	-2.30E+00	6.18E+00	4.12E+00	1.38E+00	3.93E+00	4.71E+00	NA	NA	NA						
MW-63-121	Q3_2008	006	121	-108.7	7/29/2008	14:30	3.44E+02	1.04E+02	1.61E+02	7.60E-01	3.23E-01	5.71E-01	2.86E-01	2.08E+00	3.57E+00	1.23E+00	2.30E+00	4.11E+00	NA	NA	NA	5.00E+02	7.45E-01	ND	ND	NA	MW-63-121
MW-63-121	Q4_2008	007	121	-108.7	11/4/2008	12:43	4.95E+02	2.06E+02	1.98E+02	3.81E-01	7.52E-01	3.54E-01	-7.97E-01	5.42E+00	5.97E+00	1.20E+00	6.38E+00	7.41E+00	NA	NA	NA						
MW-63-121	Q1-2009	008	121	-108.7	1/30/2009	14:41	6.23E+02	2.42E+02	1.97E+02	7.30E-01	5.09E-01	4.47E-01	1.91E+00	3.18E+00	3.92E+00	9.14E-01	2.84E+00	3.45E+00	NA	NA	NA						
MW-63-121	Q2-2009	009	121	-108.7	5/4/2009	14:35	5.38E+02	2.04E+02	1.65E+02	7.71E-01	8.55E-01	3.21E-01	-6.65E-02	8.16E+00	5.44E+00	2.35E-01	4.29E+00	5.35E+00	NA	NA	NA						
MW-63-163	Q3 2008	006	162.5	-150.2	7/29/2008	14:56	4.48E+02	1.07E+02	1.63E+02	-8.79E-02	2.50E-01	4.37E-01	-2.09E+00	2.34E+00	3.61E+00	9.03E-01	2.59E+00	4.48E+00	NA	NA	NA	5.38E+02	ND	ND	ND	NA	MW-63-163
MW-63-163	Q4 2008	007	162.5	-150.2	11/4/2008	12:45	6.85E+02	1.86E+02	1.76E+02	-1.44E-01	5.53E-01	7.46E-01	1.77E-01	5.37E+00	6.12E+00	7.78E-01	6.21E+00	7.23E+00	NA	NA	NA						
MW-63-163	Q1 2009	008	162.5	-150.2	1/29/2009	11:57	5.81E+02	2.40E+02	1.95E+02	2.86E-01	5.64E-01	5.42E-01	5.82E+00	7.23E+00	3.42E+00	1.73E-01	2.81E+00	3.03E+00	NA	NA	NA						
MW-63-163	Q2-2009	009	162.5	-150.2	5/4/2009	14:39	4.36E+02	1.94E+02	1.66E+02	-1.10E-02	6.03E-01	7.41E-01	-2.88E-01	5.57E+00	3.71E+00	-4.47E+00	4.50E+00	3.64E+00	NA	NA	NA						
MW-63-174	Q3 2008	006	174	-161.7	7/29/2008	14:40	4.49E+02	1.40E+02	1.92E+02	6.56E-02	2.76E-01	4.80E-01	-3.76E-01	2.23E+00	3.71E+00	-1.72E+00	2.65E+00	3.79E+00	NA	NA	NA	4.69E+02	ND	ND	ND	NA	MW-63-174
MW-63-174	Q4 2008	007	174	-161.7	11/4/2008	12:44	4.77E+02	2.04E+02	1.99E+02	-2.76E-01	5.52E-01	7.81E-01	-2.68E+00	4.83E+00	4.74E+00	1.18E+00	5.45E+00	6.30E+00	NA	NA	NA						
MW-63-174	Q1-2009	008	174	-161.7	1/29/2009	11:55	4.92E+02	2.28E+02	1.97E+02	4.27E-01	5.96E-01	5.57E-01	-4.53E-01	3.81E+00	3.67E+00	-1.34E+00	3.29E+00	3.32E+00	NA	NA	NA						
MW-63-174	Q2-2009	009	174	-161.7	5/4/2009	14:28	4.57E+02	1.94E+02	1.63E+02	-2.15E-01	6.62E-01	7.87E-01	1.98E-01	4.58E+00	3.05E+00	-2.66E+00	3.11E+00	2.63E+00	NA	NA	NA						
MW-66-21	Q3 2008	005	14.1	0	7/29/2008	11:48	7.83E+02	1.02E+02	1.30E+02	9.07E-01	3.56E-01	4.39E-01	-1.01E+00	1.88E+00	2.92E+00	1.71E+00	2.17E+00	3.99E+00	-6.26E+00	1.66E+01	2.99E+01	5.52E+02	3.69E-01	8.99E+00	ND	ND	MW-66-21
MW-66-21	Q4_2008	006	14.1	0	11/4/2008	10:30	5.34E+02	2.07E+02	1.64E+02	1.03E+00	6.96E-01	5.69E-01	1.44E+00	4.67E+00	5.42E+00	2.98E+00	5.17E+00	6.47E+00	-5.68E+00	1.79E+01	2.09E+01						
MW-66-21	Q1-2009	007	14.1	0	1/27/2009	13:52	4.61E+02	1.74E+02	1.75E+02	2.91E-01	7.50E-01	3.72E-01	8.99E+00	5.45E+00	3.11E+00	-1.87E+00	2.90E+00	2.71E+00	1.29E+01	1.74E+01	1.93E+01						
MW-66-21	Q1-2009 Mid	008	14.1	0	3/17/2009	12:00	4.29E+02	3.80E+02	3.81E+02	3.49E-01	6.45E-01	7.29E-01	1.60E-01	6.36E+00	4.24E+00	1.72E+00	3.84E+00	4.65E+00	-4.98E+00	1.70E+01	1.99E+01						
MW-66-21	Q2-2009	009	14.1	0	4/20/2009	17:00	8.28E+02	1.65E+02	1.87E+02	1.93E-01	5.55E-01	5.50E-01	1.27E+00	7.23E+00	4.82E+00	9.73E-01	4.11E+00	4.84E+00	-1.86E+00	1.94E+01	2.22E+01						
MW-66-35	Q3_2008	005	33.6	-19.5	7/29/2008	12:05	5.01E+03	1.91E+02	1.30E+02	1.20E+01	1.06E+00	3.20E-01	2.07E-01	1.66E+00	2.82E+00	-1.05E+00	1.93E+00	3.00E+00	-1.00E+00	1.69E+01	2.98E+01	4.62E+03	1.22E+01	ND	ND	ND	MW-66-35
MW-66-35	Q4_2008	006	33.6	-19.5	11/4/2008	10:40	5.44E+03	5.34E+02	1.67E+02	1.38E+01	1.71E+00	5.21E-01	6.91E-01	4.32E+00	4.90E+00	1.78E+00	5.21E+00	6.23E+00	9.57E-01	1.61E+01	1.88E+01						
MW-66-35	Q1-2009	007	33.6	-19.5	1/27/2009	13:07	3.65E+03	7.62E+02	4.41E+02	1.22E+01	1.56E+00	5.15E-01	-1.04E+00	2.88E+00	3.06E+00	6.35E-02	3.27E+00	3.72E+00	1.45E+01	1.70E+01	1.87E+01						
MW-66-35	Q2-2009	008	33.6	-19.5	4/20/2009	15:26	4.39E+03	4.34E+02	1.87E+02	1.07E+01	1.42E+00	5.97E-01	5.54E-02	6.44E+00	4.29E+00	-1.13E+00	4.05E+00	4.20E+00	8.95E+00	1.97E+01	2.21E+01						
MW-67-39	Q3 2008	005	38.3	-25.8	7/28/2008	14:07	3.87E+03	1.72E+02	1.30E+02	1.37E+01	1.11E+00	3.97E-01	-1.03E+00	2.60E+00	3.42E+00	4.47E-01	2.15E+00	3.68E+00	6.34E+00	1.67E+01	2.88E+01	3.65E+03	1.39E+01	ND	ND	ND	MW-67-39
MW-67-39	Q4 2008	007	38.3	-25.8	12/18/2008	11:30	3.18E+03	2.66E+02	1.71E+02	1.62E+01	1.69E+00	1.00E+00	1.18E+00	4.61E+00	5.40E+00	7.33E-01	5.04E+00	5.81E+00	8.37E-01	1.68E+01	1.94E+01						
MW-67-39	Q1-2009	008	38.3	-25.8	1/27/2009	16:15	3.67E+03	2.91E+02	1.92E+02	1.42E+01	1.71E+00	7.62E-01	-8.03E-01	2.04E+00	2.15E+00	-1.11E-01	2.06E+00	2.25E+00	1.12E+01	1.68E+01	1.87E+01						
MW-67-39	Q2 2009	009	38.3	-25.8	4/20/2009	15:02	3.88E+03	4.14E+02	1.90E+02	1.13E+01	1.56E+00	5.45E-01	2.66E-01	7.17E+00	4.78E+00	1.31E-01	3.71E+00	4.21E+00	1.36E+01	2.06E+01	2.29E+01						
MW-67-105	Q3_2008	005	104.8	-92.3	7/28/2008	14:25	2.16E+03	1.40E+02	1.37E+02	9.63E-01	3.54E-01	4.16E-01	4.17E-01	1.59E+00	2.78E+00	7.65E-01	1.51E+00	2.78E+00	7.25E+00	1.65E+01	2.85E+01	2.26E+03	1.04E+00	ND	ND	ND	MW-67-105
MW-67-105	Q4 2008	006	104.8	-92.3	11/3/2008	14:21	2.93E+03	4.02E+02	1.66E+02	1.11E+00	5.60E-01	4.64E-01	-2.48E-01	6.36E+00	7.11E+00	7.75E-02	6.87E+00	7.59E+00	6.32E+00	1.68E+01	1.90E+01						
MW-67-105	Q1-2009	007	104.8	-92.3	1/27/2009	16:45	1.96E+03	2.42E+02	1.92E+02	4.08E-01	8.30E-01	3.49E-01	-1.13E+00	3.32E+00	2.71E+00	-3.40E-02	2.39E+00	2.66E+00	1.21E+01	1.64E+01	1.81E+01						
MW-67-105	Q2-2009	008	104.8	-92.3	4/20/2009	16:00	1.98E+03	3.15E+02	1.88E+02	6.38E-01	6.92E-01	7.12E-01	-1.78E+00	4.89E+00	3.26E+00	3.61E-01	3.35E+00	3.92E+00	1.01E+01	1.97E+01	2.20E+01						
MW-67-173	Q3 2008	005	172.3	-159.8	7/28/2008	14:42	9.12E+02	1.09E+02	1.36E+02	1.05E-01	2.66E-01	4.83E-01	-1.22E+00	2.06E+00	3.19E+00	-3.63E-01	2.14E+00	3.49E+00	5.88E+00	1.64E+01	2.84E+01	8.16E+02	ND	1.34E+00	ND	84.00	MW-67-173
MW-67-173	Q4_2008	006	172.3	-159.8	11/3/2008	14:37	9.93E+02	2.58E+02	1.66E+02	3.48E-02	2.59E-01	3.02E-01	1.41E+00	6.69E+00	6.32E+00	1.49E+00	6.66E+00	7.65E+00	1.40E+01	1.69E+01	1.97E+01						
MW-67-173	Q1-2009	007	172.3	-159.8	1/27/2009	16:33	7.57E+02	2.00E+02	1.92E+02	4.35E-01	5.94E-01	5.32E-01	1.34E+01	4.85E+00	2.53E+00	-1.24E+01	2.58E+00	2.73E+00	1.48E+01	1.79E+01	1.96E+01						
MW-67-173	Q1-2009 Mid	008	172.3	-159.8	3/17/2009	14:00	6.73E+02	4.19E+02	3.81E+02	-5.07E-01	5.72E-01	5.95E-01	-1.51E+00	5.85E+00	3.90E+00	8.14E-01	3.41E+00	4.00E+00	-3.42E+00	1.71E+01	2.00E+01						
MW-67-173	Q2-2009	009	172.3	-159.8	4/20/2009	15:50	7.47E+02	2.28E+02	1.87E+02	2.33E-01	6.84E-01	7.84E-01	-2.70E+00	7.05E+00	4.70E+00	9.39E-01	3.60E+00	4.24E+00	8.40E+01	2.45E+01	2.47E+01						
MW-67-219	Q3 2008	005	218.8	-206.3	7/28/2008	11:00	1.17E+03	1.16E+02	1.36E+02	-7.49E-02	2.34E-01	4.85E-01	-2.91E-01	1.98E+00	3.33E+00	-2.64E-01	1.92E+00	3.18E+00	5.99E+00	1.68E+01	2.90E+01	1.17E+03	ND	ND	ND	ND	MW-67-219
MW-67-219	Q4_2008	006	218.8	-206.3	11/3/2008	11:31	1.37E+03	2.93E+02	1.68E+02	8.78E-02	1.09E-01	1.91E-01	1.32E+00	4.93E+00	5.86E+00	4.00E+00	6.30E+00	6.05E+00	2.30E+00	1.65E+01	1.88E+01						
MW-67-219	Q1 2009	007	218.8	-206.3	1/27/2009	12:34	9.68E+02	2.81E+02	2.50E+02	7.56E-02	5.30E-01	7.12E-01	3.58E-01	1.89E+00	2.10E+00	7.86E-02	1.83E+00	2.09E+00	1.14E+01	2.16E+01	2.43E+01						
MW-67-219	Q2-2009	008	218.8	-206.3	4/20/2009	12:09	1.18E+03	2.63E+02	1.89E+02	3.27E-01	6.63E-01	7.50E-01	-2.03E+01	6.20E+00	4.13E+00	4.77E-01	4.26E+00	4.84E+00	9.52E+00	1.85E+01	2.08E+01						
MW-67-276	Q3_2008	005	275.3	-262.8	7/28/2008	11:09	1.16E+03	1.16E+02	1.36E+02	-5.05E-02	2.76E-01	5.47E-01	-8.94E-01	1.98E+00	3.18E+00	5.92E-01	1.97E+00	3.45E+00	7.55E+00	1.62E+01	2.77E+01	1.10E+03	ND	ND	ND	ND	MW-67-276
MW-67-276	Q4 2008	006	275.3	-262.8	11/3/2008	11:39	1.18E+03	2.75E+02	1.66E+02	-5.08E-02	1.81E-01	2.16E-01	3.75E-01	5.63E+00	6.29E+00	-7.43E-01	6.00E+00	6.50E+00	7.29E+00	1.73E+01	1.95E+01						
MW-67-276	Q1-2009	007	275.3	-262.8	1/27/2009	13:01	1.10E+03	5.12E+02	4.39E+02	3.32E-01	5.93E-01	5.66E-01	2.35E-01	3.24E+00	3.70E+00	-1.19E+00	3.74E+00	3.96E+00	1.15E+01	1.68E+01	1.87E+01						
MW-67-276	Q2-2009	008	275.3	-262.8	4/20/2009	12:15	9.46E+02	2.43E+02	1.86E+02	7.29E-03	5.33E-01	5.74E-01	1.18E+00	5.45E+00	3.63E+00	-2.84E-01	3.63E+00	4.04E+00	2.21E+01	2.07E+01	2.28E+01						
MW-67-323	Q3 2008	005	322.3	-309.8	7/28/2008	11:35	3.38E+02	9.08E+01	1.36E+02	3.38E-02	3.66E-01	7.29E-01	8.29E-01	2.30E+00	3.99E+00	2.24E-01	2.01E+00	3.46E+00	5.98E+00	1.59E+01	2.86E+01	4.46E+02	ND	ND	ND	ND	MW-67-323
MW-67-323	Q4_2008	006	322.3	-309.8	11/3/2008	11:44	6.84E+02	2.24E+02	1.64E+02	4.20E-02	3.40E-01	4.37E-01	-3.56E+00	5.21E+00	5.18E+00	4.29E-01	5.12E+00	5.87E+00	-7.38E+00	1.59E+01	1.87E+01						
MW-67-323	Q1-2009	007	322.3	-309.8	1/27/2009	13:50	3.65E+02	1.70E+02	1.76E+02	-1.15E-01	4.05E-01	5.85E-01	4.74E-01	3.86E+00	4.42E+00	3.47E-01	3.38E+00	3.86E+00	9.84E+00	1.32E+01	1.47E+01						
MW-67-323	Q2-2009	008	322.3	-309.8	4/20/2009	12:20	3.97E+02	1.98E+02	1.87E+02	2.21E-01	7.17E-01	3.21E-01	-5.22E-01	6.86E+00	4.57E+00	-2.70E+00	4.50E+00	4.33E+00	-5.56E+00	2.10E+01	2.43E+01						
MW-67-340	Q3 2008	005	339.8	-327.3	7/28/2008	11:18	5.11E+02	9.36E+01	1.30E+02	-3.39E-02	2.28E-01	5.49E-01	3.13E-01	2.21E+00	3.81E+00	9.03E-01	2.25E+00	3.68E+00	-6.94E+00	1.57E+01	2.78E+01	5.50E+02	ND	ND	ND	ND	MW-67-340
MW-67-340	Q4 2008	006	339.8	-327.3	11/3/2008	11:54	6.69E+02	2.22E+02	1.63E+02	8.06E-02	4.26E-01	5.41E-01	2.23E+00	6.25E+00	7.45E+00	3.65E+00	6.76E+00	8.47E+00	-8.34E+00	1.59E+01	1.88E+01						
MW-67-340	Q1 2009	007	339.8	-327.3	1/27/2009	12:44	5.23E+02	4.37E+02	4.39E+02	2.57E-01	5.48E-01	5.31E-01	4.72E-01	3.72E+00	4.19E+00	4.00E-01	3.41E+00	3.67E+00	7.78E+00	1.68E+01	1.90E+01						
MW-67-340	Q2-2009	008	339.8	-327.3	4/20/2009	12:25	4.96E+02	2.07E+02	1.88E+02	4.35E-01	5.64E-01	5.05E-01	3.18E+00	7.19E+00	4.79E+00	-1.37E-01	3.53E+00	3.83E+00	8.03E+00	2.03E+01	2.29E+01						
MW-107	Q2-2009	008	32.7	10.1	4/22/2009	12:30	1.96E+02	1.71E+02	1.86E+02	9.02E-03	4.34E-01	5.52E-01	-2.11E-01	3.86E+00	2.57E+00	1.54E+00	2.61E+00	3.19E+00	NA	NA	NA	1.96E+02	ND	ND	ND	NA	MW-107
MW-111	Q4_2008	027	16.5	2.4	9/4/2008	14:00	7.39E+04	1.89E+03	5.47E+02	1.02E+00	3.62E-01	4.21E-01	-8.16E-01	2.22E+00	3.61E+01	NA	NA	NA	NA	NA	NA	5.97E+04	1.60E+00	ND	ND	NA	MW-111
MW-111	Q3-2008 Mid	028	16.5	2.4	10/21/2008	14:20	6.64E+04	2.00E+03	2.60E+02	9.08E-01	9.32E-01	9.72E-01	-9.35E-01	3.60E+00	3.79E+00	5.10E-01	4.32E+00	5.03E+00	NA	NA	NA						
MW-111	Q2-2009	029	16.5	2.4	4/30/2009	12:36	3.89E+04	1.38E+03	1.71E+02	2.17E+00	8.97E-01	7.67E-01	1.51E+00	1.04E+01	6.92E+00	-3.30E+00	6.45E+00	6.44E+00	NA	NA	NA						

See Page 6 for Notes

TABLE 3
SECOND QUARTER 2009 GROUNDWATER ANALYTICAL RESULTS AND AVERAGES
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLING QUARTER[2]	SAMPLE ID	SAMPLE ZONE CENTER, Depth Ft Below Top of Casing[3]	SAMPLE ZONE CENTER, Elevation Ft msl[3]	SAMPLE COLLECTION		ANALYSIS RESULTS															YEARLY ROLLING AVERAGES[4]					Well ID
							TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			TRITIUM (pCi/L)	Sr-90 (pCi/L)	Cs-137 (pCi/L)	Co-60 (pCi/L)	Ni-63 (pCi/L)	
					Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Average	Average	Average	Average	Average	
U3-4D	Q3_2008	017	25.6	-10.3	7/28/2008	16:46	4.66E+02	2.50E+02	3.79E+02	-3.57E-0	4.96E-01	9.81E-01	2.89E-01	2.08E+00	3.62E+00	4.78E-01	2.36E+00	3.69E+00	NA	NA	NA	4.75E+02	ND	ND	ND	NA	U3-4D
U3-4D	Q4_2008	018	25.6	-10.3	10/20/2008	14:40	5.68E+02	1.71E+02	1.64E+02	-8.59E-02	8.61E-01	1.11E+00	3.53E-01	4.62E+00	5.17E+00	7.12E-01	4.13E+00	4.79E+00	NA	NA	NA						
U3-4D	Q3-2008 Mid	010	25.6	-10.3	11/4/2008	12:00	1.18E+02	4.23E+02	4.76E+02	NA	NA	NA	3.17E+00	9.51E+00	6.90E+00	3.34E+00	1.00E+01	7.54E+00	NA	NA	NA						
U3-4D	Confirmatory	011	25.6	-10.3	11/10/2008	12:00	3.16E+02	4.14E+02	4.61E+02	NA	NA	NA	4.10E+00	1.23E+01	8.95E+00	4.07E+00	1.22E+01	9.41E+00	NA	NA	NA						
U3-4D	Q1-2009	019	25.6	-10.3	2/10/2009	14:15	4.82E+02	2.31E+02	1.97E+02	1.00E-01	5.16E-01	5.41E-01	3.86E-01	2.66E+00	3.00E+00	7.53E-01	3.02E+00	3.39E+00	NA	NA	NA						
U3-4D	Q2-2009	020	25.6	-10.3	4/17/2009	15:57	3.82E+02	1.83E+02	1.89E+02	-1.17E-0	3.51E-01	5.11E-01	-9.67E-0	6.92E+00	4.61E+00	4.01E-01	3.32E+00	3.82E+00	NA	NA	NA						
U3-T1	Q3_2008	021	5.7	2.8	7/23/2008	11:16	5.56E+02	2.58E+02	3.79E+02	6.40E-01	5.19E-01	8.37E-01	2.41E+00	2.24E+00	4.18E+00	6.54E-01	2.44E+00	4.01E+00	NA	NA	NA	5.40E+02	3.71E-01	ND	ND	NA	U3-T1
U3-T1	Q4_2008	022	5.7	2.8	10/20/2008	10:19	5.99E+02	5.63E+02	5.91E+02	7.01E-01	5.47E-01	5.20E-01	2.51E+00	6.27E+00	7.46E+00	1.51E+00	6.24E+00	7.35E+00	NA	NA	NA						
U3-T1	Q1-2009	023	5.7	2.8	1/28/2009	12:00	6.75E+02	2.48E+02	2.04E+02	1.04E+00	7.47E-01	7.44E-01	-1.53E+00	3.59E+00	2.95E+00	-6.63E-0	2.30E+00	2.48E+00	NA	NA	NA						
U3-T1	Q2-2009	024	5.7	2.8	4/10/2009	15:22	3.28E+02	1.65E+02	1.49E+02	3.23E-01	6.69E-01	7.61E-01	1.68E-01	6.03E+00	4.02E+00	1.24E+00	3.39E+00	4.14E+00	NA	NA	NA						
U3-T2	Q3_2008	026	5.7	2.6	7/23/2008	13:40	9.97E+02	2.85E+02	3.64E+02	5.90E-01	5.19E-01	8.44E-01	3.57E-02	1.72E+00	2.93E+00	-1.02E+00	2.44E+00	3.39E+00	NA	NA	NA	1.02E+03	1.76E+00	ND	ND	NA	U3-T2
U3-T2	Q4_2008	027	5.7	2.6	10/20/2008	10:36	9.28E+02	5.97E+02	5.90E+02	4.73E-01	4.55E-01	4.84E-01	-4.68E-0	4.82E+00	5.31E+00	-5.02E+00	6.54E+00	6.06E+00	NA	NA	NA						
U3-T2	Q1-2009	028	5.7	2.6	1/28/2009	11:40	1.11E+03	2.87E+02	2.04E+02	6.04E-01	6.41E-01	5.75E-01	7.10E-01	2.42E+00	2.74E+00	4.09E-01	2.30E+00	2.61E+00	NA	NA	NA						
U3-T2	Q2-2009	029	5.7	2.6	4/24/2009	11:24	1.03E+03	4.97E+02	4.14E+02	1.76E+00	6.54E-01	4.11E-01	1.62E+00	6.65E+00	4.43E+00	3.29E-01	4.16E+00	4.69E+00	NA	NA	NA						
LAF-002	Q4_2008	010		-22.3	10/17/2008	10:32	8.19E+02	1.55E+02	1.74E+02	4.05E-01	7.50E-01	9.01E-01	2.36E-01	2.76E+00	3.16E+00	-3.08E-02	3.09E+00	3.46E+00	-4.61E+00	2.01E+01	2.35E+01	ND	ND	ND	ND	ND	LAF-002
LAF-002	Q2-2009	011		-22.3	4/21/2009	14:24	1.80E+02	1.77E+02	1.89E+02	1.77E-01	5.70E-01	5.58E-01	-1.74E+00	5.94E+00	5.96E+00	3.37E-01	3.99E+00	4.50E+00	2.34E+00	1.92E+01	2.19E+01						
MH-5	Q2-2009 Mid	005			6/3/2009	14:45	1.20E+03	1.95E+02	1.62E+02	-5.27E-02	6.72E-01	8.48E-01	3.34E+00	9.21E+00	6.14E+00	7.60E-01	4.83E+00	5.73E+00	NA	NA	NA	1.20E+03	ND	ND	ND	NA	MH-5
B-1	Q2-2009 Mid	006			6/3/2009	13:30	8.81E+02	1.83E+02	1.62E+02	7.01E-02	7.89E-01	9.15E-01	9.21E+00	1.11E+01	7.41E+00	-3.25E+00	6.23E+00	5.86E+00	NA	NA	NA	8.81E+02	ND	ND	ND	NA	B-1
B-5	Q2-2009 Mid	006			6/3/2009	9:40	1.08E+02	1.46E+02	1.63E+02	1.71E-01	7.08E-01	8.14E-01	1.50E-01	1.19E+01	7.94E+00	1.26E+00	5.79E+00	6.80E+00	NA	NA	NA	ND	ND	ND	ND	NA	B-5
U1-CSS	Q3-2008 Mid	008	14	6.1	9/8/2008	10:24	1.45E+03	3.77E+02	4.98E+02	9.38E+00	9.40E-01	5.41E-01	1.90E+00	2.07E+00	3.76E+00	NA	NA	NA	NA	NA	NA	2.23E+03	1.50E+01	ND	ND	ND	U1-CSS
U1-CSS	Q4_2008	009	14	6.1	11/6/2008	14:48	2.66E+03	3.86E+02	1.66E+02	6.74E+00	1.20E+00	5.31E-01	3.52E+00	6.01E+00	7.29E+00	-1.94E+00	6.45E+00	6.67E+00	1.02E+01	1.65E+01	1.85E+01						
U1-CSS	Q3-2008 Mid	010	14	6.1	11/19/2008	13:50	2.20E+03	2.33E+02	1.62E+02	9.08E+00	1.38E+00	5.80E-01	2.35E+00	4.04E+00	4.98E+00	8.56E-01	4.63E+00	5.37E+00	NA	NA	NA						
U1-CSS	Q1-2009 Mid	011	14	6.1	3/18/2009	13:05	1.57E+03	5.36E+02	3.81E+02	1.41E+01	2.04E+00	9.24E-01	2.00E+00	5.93E+00	3.95E+00	2.86E-01	3.03E+00	3.42E+00	6.46E-01	1.94E+01	2.22E+01						
U1-CSS	Q2-2009	012	14	6.1	4/21/2009	13:07	3.28E+03	3.87E+02	1.91E+02	3.56E+01	2.64E+00	7.19E-01	5.75E-01	5.28E+00	3.52E+00	1.36E+00	3.02E+00	3.74E+00	1.79E+01	1.92E+01	2.11E+01						
U1-NCD	Q4_2008	002			10/15/2008	12:35	6.19E+03	3.71E+02	1.61E+02	4.35E+02	5.89E+00	3.33E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.05E+03	3.38E+02	2.44E+04	ND	480.33	U1-NCD
U1-NCD	Q1-2009	003			1/12/2009	13:45	2.13E+03	2.48E+02	1.92E+02	4.64E+02	8.90E+00	5.61E-01	2.84E+04	2.63E+03	1.22E+01	7.66E-01	2.37E+00	2.80E+00	6.41E+02	4.11E+01	1.89E+01						
U1-NCD	Q2-2009	004			4/13/2009	12:15	5.21E+03	5.18E+02	1.35E+02	3.22E+02	7.74E+00	3.42E-01	2.70E+04	2.66E+01	1.77E+01	2.70E+00	4.46E+00	5.13E+00	5.09E+02	6.05E+01	4.30E+01						
U1-NCD	Q3-2009	005			7/13/2009	12:30	2.66E+03	3.86E+02	2.08E+02	1.30E+02	4.98E+00	5.04E-01	1.78E+04	1.36E+03	1.39E+01	7.71E-01	3.71E+00	4.30E+00	2.91E+02	2.72E+01	2.12E+01						
U1-SFDS	Q4_2008	003			10/15/2008	12:45	1.09E+03	1.79E+02	1.67E+02	1.85E+01	1.26E+00	4.56E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.74E+02	2.67E+01	7.24E+00	ND	ND	U1-SFDS
U1-SFDS	Q1-2009	004			1/14/2009	9:15	3.11E+02	1.82E+02	1.93E+02	1.22E+01	1.67E+00	3.14E-01	6.39E+00	3.47E+00	2.22E+00	1.03E+00	1.91E+00	2.27E+00	7.26E+00	1.62E+01	1.83E+01						
U1-SFDS	Q2-2009	005			4/13/2009	12:30	1.52E+03	2.96E+02	1.37E+02	4.93E+01	3.03E+00	5.15E-01	8.09E+00	5.87E+00	3.91E+00	2.45E+00	3.80E+00	4.79E+00	-9.47E+00	1.92E+01	2.30E+01						

Notes

1 For nested multi-level monitoring wells, suffix of well ID indicates depth (rounded to nearest foot) from reference point on casing to bottom of well screen. For Waterloo multi-level systems suffix indicates depth (rounded to nearest foot) from reference point on casing to top of sampling port. Well IDs without a suffix are open bedrock wellbores

2 All analytical results from the last 12 months from each location are provided. Monitoring locations are sampled quarterly, bi-annually, or annually, and as necessary during the year

3 Sampling depths within sampling intervals (i.e. location of pump intake) have been located adjacent to a transmissive zone where possible

4 Averages provided are analytical result averages of all valid samples (including mid-quarter and confirmatory samples) collected from each monitoring location from the third quarter of 2008 (Q3-2008) to the second quarter of 2009 (Q2-2009) including post Q2-2009 samples. Monitoring locations are sampled quarterly, bi-annually, or annually and additional samples are collected when necessary. Therefore, some results provided are the average of more than 4 samples. For quarters in which samples were reanalyzed due to potential false positives, both results were used to calculate averages if subsequent results confirmed the validity of the original sample/analysis. For cases in which reanalysis discredited the validity of the original sample result, the replacement results were used to calculate the average. If analytical results resulted in resampling and the resample result discredited the validity of the original sample result of a particular radionuclide, the original sample results were not used for any radionuclides and only the resample result was used. For cases in which an aliquot of the original sample was reanalyzed, if the result of the aliquot confirmed the original result, then the aliquot result and the original result were averaged and the average of the two was used to calculate the rolling average. If the aliquot result indicated the original result was false, then only the aliquot result was used to calculate the rolling average

5 NA indicates that the constituent was not analyzed

6 ND indicates that all of the analytical results used to calculate the average were less than MDC and/or 3 times the 1 sigma uncertainty

7 Dot pattern denotes sampling interval is positioned within overburden. Open box indicates sampling interval is in bedrock

8 Due to unexpectedly high levels of Co-60 detected in the original set of the 4th Quarter 2008 samples collected from MW-67-39, a second set of samples were collected and analyzed. Quality control review of the original analysis showed no evidence of error in laboratory analysis or field collection procedures and reanalysis of the original sample confirmed the Co-60 detections. However, historical data and data for the second set of samples showed results below MDC and below three times the 1 sigma uncertainty (not positive) for Co-60 at this interval, suggesting that the first set of results do not appropriately characterize activity at this interval. In addition, results from the NRC split sample of this interval were not positive. Thus, results for the first set of MW-67-39 samples during Quarter 4 were not used to calculate yearly averages

9 These locations are storm drains

10 Aliquots from the samples from MW-63-93, MW-63-163 and MW-63-174 were re-analyzed to investigate unexpectedly high Sr-90 results. The re-analyzed samples had results below MDC and below three times the 1 sigma uncertainty (not positive) for Sr-90 at these intervals suggesting that the first set of results do not appropriately characterize activity at these intervals. Thus, results from the original samples were not used to calculate yearly averages

11 The sample from MW-53-121 was reanalyzed due to unexpected Sr-90 results. The re-analyzed samples confirmed the original results, therefore the average of the original and reanalysis results was used to calculate the rolling averages

12 Confirmatory samples were collected and analyzed to evaluate the results of the preceding sample

13 Mid-quarter samples were collected and analyzed to evaluate the potential effect of certain operations on groundwater quality

14 Due to unexpectedly high levels of Cs-137 detected in the original set of the First Quarter 2009 samples collected from MW-56-21 and MW-67-173, a second set of confirmatory samples were collected and analyzed. The re-analyzed samples had results below MDC and below three times the 1 sigma uncertainty (not positive) for Cs-137 at these intervals, suggesting that the first set of results do not appropriately characterize activity at these intervals. Thus, cesium results from the original samples were not used to calculate yearly averages

TABLE 4
2009 2ND QUARTER
GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERTY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE COLLECTION		ANALYSIS RESULTS																				Well ID
				TRITIUM (µCi/L)				Sr-90 (µCi/L)				Cs-137 (µCi/L)				Co-60 (µCi/L)				Ni-63 (µCi/L)				
		Date	Time	Result	Std. Dev.	MDC	I.L.[3]	Result	Std. Dev.	MDC	I.L.	Result	Std. Dev.	MDC	I.L.	Result	Std. Dev.	MDC	I.L.	Result	Std. Dev.	MDC	I.L.	
MW-30-69	024	4/27/2009	10:27	1.00E+05	3.65E+03	4.02E+02	2.64E+05	-1.54E-01	4.28E-01	6.01E-01	2.00E+00	1.49E+00	7.11E+00	4.74E+00	positive	-2.78E-01	4.19E+00	4.60E+00	positive	NA	NA	NA	positive	MW-30-69
MW-30-69	025	6/1/2009	12:02	8.20E+04	3.21E+03	3.77E+02	2.64E+05	2.00E+00	5.63E-01	6.32E-01	2.00E+00	2.16E+00	9.30E+00	6.53E+00	positive	8.26E-01	6.17E+00	7.42E+00	positive	NA	NA	NA	positive	MW-30-69
MW-30-84	015	4/27/2009	14:30	5.34E+03	9.08E+02	4.11E+02	8.57E+03	-1.19E-01	4.70E-01	6.29E-01	2.00E+00	1.13E+00	6.54E+00	4.36E+00	positive	1.33E+00	3.72E+00	4.50E+00	positive	NA	NA	NA	positive	MW-30-84
MW-30-84	016	6/1/2009	13:25	5.83E+03	9.02E+02	3.76E+02	8.57E+03	1.34E-01	7.19E-01	8.22E-01	2.00E+00	3.90E-01	1.01E+01	6.75E+00	positive	8.79E-02	6.06E+00	6.80E+00	positive	NA	NA	NA	positive	MW-30-84
MW-31-49	015	4/14/2009	10:36	4.84E+04	1.42E+03	1.56E+02	1.55E+04	4.85E-01	5.63E-01	5.97E-01	2.00E+00	-5.31E-01	6.18E+00	4.12E+00	positive	1.44E+00	3.90E+00	4.67E+00	positive	NA	NA	NA	positive	MW-31-49
MW-31-49	016	5/29/2009	11:42	9.34E+03	1.12E+03	3.77E+02	1.55E+04	5.72E-01	5.75E-01	6.24E-01	2.00E+00	-7.36E-01	9.50E+00	6.33E+00	positive	-1.48E+00	6.53E+00	7.11E+00	positive	NA	NA	NA	positive	MW-31-49
MW-31-63	015	4/14/2009	12:07	3.24E+04	1.10E+03	1.48E+02	3.69E+04	2.95E-01	6.81E-01	7.75E-01	2.00E+00	1.76E+00	6.58E+00	4.45E+00	positive	2.23E+00	3.87E+00	4.79E+00	positive	NA	NA	NA	positive	MW-31-63
MW-31-63	016	5/29/2009	12:34	3.16E+04	9.51E+02	1.95E+02	3.69E+04	5.59E-01	5.58E-01	6.07E-01	2.00E+00	1.79E+00	1.07E+01	7.12E+00	positive	7.44E-01	6.45E+00	7.35E+00	positive	NA	NA	NA	positive	MW-31-63
MW-31-85	015	4/14/2009	11:41	1.88E+04	8.49E+02	1.50E+02	8.73E+03	5.35E-01	7.01E-01	7.64E-01	2.00E+00	6.49E-01	5.24E+00	3.49E+00	positive	1.11E+00	3.50E+00	4.14E+00	positive	NA	NA	NA	positive	MW-31-85
MW-31-85	016	5/29/2009	12:50	8.85E+03	1.09E+03	3.75E+02	8.73E+03	1.84E-01	8.01E-01	9.30E-01	2.00E+00	8.20E-01	1.04E+01	6.95E+00	positive	6.97E-01	6.57E+00	7.51E+00	positive	NA	NA	NA	positive	MW-31-85
MW-32-59	009	4/27/2009	15:54	6.43E+04	3.00E+03	4.23E+02	1.00E+04	4.22E-01	6.15E-01	6.76E-01	2.00E+00	-3.21E+00	4.83E+00	3.22E+00	positive	-5.75E-02	3.50E+00	4.11E+00	positive	NA	NA	NA	positive	MW-32-59
MW-32-59	010	6/2/2009	13:59	6.69E+03	9.60E+02	3.77E+02	1.00E+04	3.26E-01	4.73E-01	5.25E-01	2.00E+00	-1.72E-01	9.52E+00	6.41E+00	positive	-7.56E-01	5.53E+00	6.03E+00	positive	NA	NA	NA	positive	MW-32-59
MW-32-85	012	4/27/2009	15:34	8.87E+03	1.17E+03	4.31E+02	1.81E+04	1.21E-01	5.33E-01	6.47E-01	2.00E+00	-2.07E+00	6.11E+00	4.07E+00	positive	1.69E+00	4.08E+00	4.90E+00	positive	NA	NA	NA	positive	MW-32-85
MW-32-85	013	6/2/2009	15:11	8.07E+03	1.04E+03	3.76E+02	1.81E+04	-1.55E-01	6.47E-01	7.60E-01	2.00E+00	-1.73E+00	1.30E+01	8.65E+00	positive	8.98E-01	8.75E+00	9.91E+00	positive	NA	NA	NA	positive	MW-32-85
MW-32-149	010	4/27/2009	13:31	3.21E+02	1.79E+02	1.87E+02	1.53E+03	7.04E-01	8.48E-01	9.20E-01	2.00E+00	1.35E+00	4.26E+00	2.84E+00	positive	-4.33E-02	2.34E+00	2.57E+00	positive	NA	NA	NA	positive	MW-32-149
MW-32-149	011	6/2/2009	12:05	2.24E+02	1.53E+02	1.62E+02	1.53E+03	-2.36E-01	6.60E-01	7.98E-01	2.00E+00	-2.68E+00	1.02E+01	6.78E+00	positive	2.12E+00	7.04E+00	8.40E+00	positive	NA	NA	NA	positive	MW-32-149
MW-32-173	008	4/27/2009	13:32	7.86E+02	4.77E+02	4.31E+02	3.27E+03	7.47E-02	4.43E-01	5.48E-01	2.00E+00	-3.20E+00	6.12E+00	4.08E+00	positive	1.19E+00	4.77E+00	5.59E+00	positive	NA	NA	NA	positive	MW-32-173
MW-32-173	009	6/2/2009	11:58	1.72E+03	2.19E+02	1.68E+02	3.27E+03	1.05E-01	5.78E-01	6.69E-01	2.00E+00	-1.33E+00	9.20E+00	6.13E+00	positive	-1.40E+00	6.21E+00	6.55E+00	positive	NA	NA	NA	positive	MW-32-173
MW-32-190	011	4/27/2009	13:24	2.54E+03	6.68E+02	4.09E+02	1.10E+04	-2.51E-02	5.58E-01	6.80E-01	2.00E+00	-6.39E-01	4.01E+00	2.67E+00	positive	5.11E-01	2.30E+00	2.68E+00	positive	NA	NA	NA	positive	MW-32-190
MW-32-190	012	6/2/2009	12:01	1.95E+03	5.76E+02	3.78E+02	1.10E+04	8.61E-02	5.09E-01	5.90E-01	2.00E+00	3.64E-01	1.02E+01	6.77E+00	positive	1.26E+00	5.70E+00	6.67E+00	positive	NA	NA	NA	positive	MW-32-190
MW-33	024	4/29/2009	15:12	3.44E+04	1.30E+03	1.72E+02	1.27E+05	2.74E-01	5.39E-01	6.09E-01	2.00E+00	-1.06E+00	8.93E+00	5.95E+00	positive	1.83E+00	5.72E+00	6.77E+00	positive	NA	NA	NA	positive	MW-33
MW-35	019	4/30/2009	11:17	1.46E+03	3.03E+02	1.74E+02	2.08E+03	-2.75E-01	5.13E-01	6.38E-01	2.00E+00	-1.08E+00	9.27E+00	6.18E+00	positive	-1.87E+00	5.79E+00	6.00E+00	positive	NA	NA	NA	positive	MW-35
MW-36-24	014	5/1/2009	13:55	4.98E+02	1.98E+02	1.62E+02	2.25E+03	-1.28E-01	7.22E-01	8.58E-01	2.00E+00	1.20E+00	7.73E+00	5.15E+00	positive	-8.11E-01	4.19E+00	4.36E+00	positive	NA	NA	NA	positive	MW-36-24
MW-36-41[7]	008	5/1/2009	14:40	1.13E+04	7.20E+02	1.64E+02	1.22E+04	4.03E+00	1.14E+00	7.31E-01	4.36E+00	2.59E-01	6.14E+00	4.09E+00	positive	1.04E-01	3.03E+00	3.26E+00	positive	NA	NA	NA	positive	MW-36-41[7]
MW-36-52	013	5/1/2009	15:07	6.06E+03	5.33E+02	1.63E+02	2.33E+04	2.70E+00	7.82E-01	5.20E-01	1.25E+01	2.71E+00	7.13E+00	4.75E+00	positive	1.70E+00	4.26E+00	5.17E+00	positive	NA	NA	NA	positive	MW-36-52
MW-37-22	014	5/1/2009	12:16	3.85E+03	7.92E+02	4.73E+02	9.02E+03	9.37E+00	1.37E+00	4.81E-01	2.60E+01	1.09E+00	7.64E+00	5.09E+00	positive	-8.00E-01	5.43E+00	5.74E+00	positive	NA	NA	NA	positive	MW-37-22
MW-37-32	014	5/1/2009	12:13	4.83E+03	8.66E+02	4.72E+02	9.87E+03	1.72E+01	1.30E+00	6.64E-01	3.63E+01	-2.55E+00	7.43E+00	4.95E+00	positive	1.24E-01	3.66E+00	4.12E+00	positive	NA	NA	NA	positive	MW-37-32
MW-37-40	014	5/1/2009	14:15	4.38E+03	8.33E+02	4.73E+02	1.16E+04	1.11E+00	5.15E-01	3.77E-01	2.26E+00	-2.39E-01	7.70E+00	5.13E+00	positive	2.74E+00	5.21E+00	6.44E+00	positive	NA	NA	NA	positive	MW-37-40
MW-37-57	014	5/1/2009	12:39	5.94E+03	5.24E+02	1.61E+02	1.08E+04	2.49E+01	2.15E+00	5.69E-01	4.94E+01	-2.83E-02	7.56E+00	5.04E+00	positive	5.79E-01	4.89E+00	5.60E+00	positive	NA	NA	NA	positive	MW-37-57
MW-38	021	4/22/2009	10:45	2.74E+02	1.67E+02	1.77E+02	1.00E+03	3.53E-01	7.50E-01	8.49E-01	2.00E+00	-2.57E-01	4.41E+00	2.94E+00	positive	6.51E-01	2.55E+00	2.94E+00	positive	NA	NA	NA	positive	MW-38
MW-39-67	006	4/9/2009	14:55	3.38E+02	1.67E+02	1.50E+02	1.00E+03	3.35E+00	9.68E-01	6.51E-01	5.03E+00	-8.08E-01	5.12E+00	3.41E+00	positive	9.19E-01	3.60E+00	4.21E+00	positive	NA	NA	NA	positive	MW-39-67
MW-39-84	006	4/9/2009	15:25	1.85E+02	1.48E+02	1.50E+02	1.00E+03	2.05E+00	7.71E-01	6.01E-01	3.37E+00	3.09E-01	4.19E+00	2.79E+00	positive	1.63E+00	2.67E+00	3.42E+00	positive	NA	NA	NA	positive	MW-39-84
MW-39-102	006	4/9/2009	15:38	2.20E+02	1.53E+02	1.51E+02	1.01E+03	2.40E+00	8.22E-01	6.31E-01	2.07E+00	-8.17E-02	5.07E+00	3.38E+00	positive	1.30E+00	3.12E+00	3.80E+00	positive	NA	NA	NA	positive	MW-39-102
MW-39-124	006	4/9/2009	11:46	1.98E+02	1.50E+02	1.50E+02	1.00E+03	9.16E-01	6.33E-01	6.09E-01	2.81E+00	-9.45E-02	5.16E+00	3.44E+00	positive	-1.55E-01	3.30E+00	3.67E+00	positive	NA	NA	NA	positive	MW-39-124
MW-39-183	006	4/9/2009	11:45	2.60E+01	1.26E+02	1.50E+02	1.00E+03	2.13E-01	6.65E-01	7.61E-01	2.00E+00	3.94E-01	6.71E+00	4.47E+00	positive	6.05E-01	3.77E+00	4.33E+00	positive	NA	NA	NA	positive	MW-39-183
MW-39-195	006	4/9/2009	12:08	7.46E+01	1.32E+02	1.48E+02	1.00E+03	6.89E-01	6.60E-01	7.11E-01	2.00E+00	-2.41E-01	8.53E+00	5.75E+00	positive	-1.04E+00	4.80E+00	5.07E+00	positive	NA	NA	NA	positive	MW-39-195
MW-40-27	007	4/13/2009	14:17	1.98E+02	1.45E+02	1.36E+02	1.00E+03	-5.35E-01	7.85E-01	9.65E-01	2.00E+00	-1.14E-01	6.86E+00	4.57E+00	positive	-6.04E-02	3.42E+00	3.81E+00	positive	-2.30E+00	1.82E+01	2.12E+01	positive	MW-40-27
MW-40-46	008	4/13/2009	14:40	1.22E+02	1.37E+02	1.36E+02	1.00E+03	-1.51E-01	5.21E-01	7.12E-01	2.00E+00	-1.13E+00	6.39E+00	4.59E+00	positive	-2.72E-01	4.01E+00	4.40E+00	positive	-5.37E+00	1.97E+01	2.32E+01	positive	MW-40-46
MW-40-81	008	4/13/2009	11:06	2.31E+02	1.50E+02	1.35E+02	1.00E+03	3.34E-02	6.47E-01	8.17E-01	2.00E+00	1.98E+00	7.17E+00	4.78E+00	positive	3.78E+00	4.67E+00	6.06E+00	positive	1.26E+01	2.01E+01	2.42E+01	positive	MW-40-81
MW-40-100	010	4/13/2009	11:07	2.62E+02	1.56E+02	1.35E+02	1.00E+03	6.63E-02	5.52E-01	6.82E-01	2.00E+00	-2.19E+00	6.50E+00	4.40E+00	positive	-2.09E+00	4.40E+00	4.45E+00	positive	-3.13E-01	1.86E+01	2.17E+01	positive	MW-40-100
MW-40-127	010	4/13/2009	11:24	1.52E+02	1.37E+02	1.36E+02	1.00E+03	5.56E-02	6.11E-01	7.66E-01	2.00E+00	-1.08E+00	7.16E+00	4.77E+00	positive	-1.39E+00	4.58E+00	4.79E+00	positive	-9.13E+00	1.86E+01	2.22E+01	positive	MW-40-127
MW-40-162	008	4/13/2009	12:25	1.42E+02	1.37E+02	1.38E+02	1.00E+03	3.28E-01	4.94E-01	5.46E-01	2.00E+00	-2.83E+00	5.84E+00	3.89E+00	positive	-6.45E-01	3.81E+00	4.06E+00	positive	-2.90E+00	1.85E+01	2.17E+01	positive	MW-40-162
MW-41-40	012	4/7/2009	15:56	5.71E+02	1.91E+02	1.50E+02	2.43E+03	5.38E+00	1.14E+00	6.38E-01	3.96E+00	4.26E+00	7.29E+00	4.86E+00	positive	4.60E-01	3.27E+00	3.76E+00	positive	NA	NA	NA	positive	MW-41-40
MW-41-63	011	4/23/2009	11:57	5.26E+02	1.85E+02	1.83E+02	1.00E+03	4.08E+00	8.84E-01	3.37E-01	9.45E+00	4.19E-01	6.80E+00	4.53E+00	positive	1.22E+00	4.19E+00	4.93E+00	positive	NA	NA	NA	positive	MW-41-63
MW-42-49	16	3/16/2009	14:50	7.22E+04	1.03E+03	1.60E+02	8.21E+03	5.88E+02	8.57E+00	7.24E-01	1.96E+02	1.40E+05	3.00E+01	2.00E+01	3.79E+04	5.23E+00	3.54E+00	2.17E+00	3.38E+01	1.16E+03	4.95E+01	2.06E+01	8.42E+02	MW-42-49
MW-42-49	017	4/17/2009	11:03	2.22E+03	3.29E+02	1.89E+02	8.21E+03	2.58E+02	6.53E+00	5.69E-01	1.96E+02	8.63E+04	4.86E+01	3.24E+01	3.79E+04	2.68E+00	4.67E+00	5.75E+00	3.38E+01	9.16E+02	4.11E+01	2.19E+01	8.42E+02	MW-42-49
MW-42-78	012	4/17/2009	10:49	2.74E+02	1.88E+02	1.89E+02	1.02E+03	4.67E-01	6.74E-01	7.47E-01	2.00E+00	1.61E+00	5.85E+00	3.90E+00	2.16E+02	5.31E-01	3.50E+00	4.14E+00	positive	6.58E+00	1.91E+01	2.16E+01	positive	MW-42-78
MW-43-28	011	4/7/2009	12:14	3.14E+02	1.65E+02	1.51E+02	1.00E+03	-1.43E-01	5.66E-01	7.05E-01	2.00E+00	5.41E-01	5.93E+00	3.95E+00	positive	-1.31E-01	3.45E+00	3.77E+00	positive	NA	NA	NA	positive	MW-43-28
MW-43-62	011	4/7/2009	13:59	1.34E+02	1.43E+02	1.52E+02	1.00E+03	6.85E-01	5.88E-01	5.94E-01	2.00E+00	1.18E-01	6.15E+00	4.10E+00	positive	-4.55E-01	3.89E+00	4.22E+00	positive	NA	NA	NA	positive	MW-43-62
MW-44-66	012	4/28/2009	13:32	3.10E+02	1.98E+02	2.06E+02	1.00E+03	2.20E-01	4.85E-01	5.59E-01	2.00E+00	-7.47E-01	6.38E+00	4.25E+00	positive	-1.51E-01	4.49E+00	4.97E+00	positive	NA	NA	NA	positive	MW-44-66
MW-44-102	013	4/28/2009	13:34	5.14E+02	1.82E+02	1.80E+02	1.00E+03	3.70E-01	7.10E-01	8.03E-01	2.00E+00	9.60E-01	8.27E+00	5.51E+00	positive	-2.57E-01	5.18E+00	5.85E+00	positive	NA	NA	NA	positive	MW-44-102
MW-45-42	016	4/23/2009	15:20	5.99E+03	9.50E+02	4.08E+02	4.02E+03	2.63E-01	5.33E-01	6.08E-01	2.00E+00	-4.58E-01	4.41E+00	2.94E+00	positive	-1.42E+00	2.49E+00	2.48E+00	positive	NA	NA	NA	positive	MW-45-42
MW-45-61	016	4/23/2009	10:20	1.46E+03	5.45E+02	4.05E+02	3.97E+03	-1.37E-01	6.17E-01	8.06E-01	2.00E+00	-4.72E-01	4.17E+00	2.78E+00	positive	1.13E+00	2.54E+00	3.01E+00	positive	NA	NA	NA	positive	MW-45-61
MW-46	016	4/10/2009	12:31	7.56E+02	2.07E+02	1.48E+02	1.61E+03	-7.29E-02	5.46E-01	6.63E-01	2.00E+00	9.83E-04	5.58E+00	3.72E+00	positive	1.54E+00	3.68E+00	4.40E+00	positive	NA	NA	NA	positive	MW-46
MW-49-26	016	5/5/2009	10:46	3.20E+03	4.05E+02	1.80E+02	8.32E+03	1.50E+01	1.35E+00	4.90E-01	3.63E+01	2.93E+00	7.91E+00	5.27E+00	positive	2.01E-01	3.78E+00	4.33E+00	positive	7.21E-01	1.67E+01	1.91E+01	positive	MW-49-26
MW-49-42	016	5/5/2009	14:27	2.50E+03	3.63E+02	1.79E+02	5.54E+03	1.75E+01	2.04E+00	4.71E-01	4.80E+01	1.31E+00	7.25E+00	4.83E+00	positive	1.78E-01	4.17E+00	4.49E+00	positive	-7.29E+00	1.67E+01	1.94E+01	positive	MW-49-42
MW-49-65	016	5/5/2009	15:18	1.34E+03	2.85E+02	1.80E+02	3.30E+03	1.28E+01	1.79E+00	7.13E-01	4.07E+01	1.40E-01	4.37E+00	2.91E+00	positive	-3.07E-01	2.99E+00	3.02E+00	positive	-1.93E+00	1.79E+01	2.05E+01	positive	MW-49-65
MW-50-42	017	5/5/2009	14:11	3.92E+02	1.95E+02	1.72E+02	1.00E+03	2.38E+00	8.93E-01	6.96E-01	9.49E+00	5.89E-01	9.20E+00	6.13E+00	positive	-2.50E+00	5.75E+00	5.71E+00	positive	-9.99E+00	2.07E+01	2.42E+01	positive	MW-50-42
MW-50-66	21	3/18/2009	15:16	3.13E+03	7.02E+02	3.88E+02	5.50E+03	2.42E+01	2.58E+00	9.13E-01	7.23E+01	1.95E-02	5.75E+00	3.83E+00	positive	-9.37E-01	3.56E+00	3.65E+00	positive	1.55E+00	1.70E+01	1.94E+01	positive	MW-50-66
MW-50-66	022	5/5/2009	16:33	3.45E+03	4.35E+02	1.74E+02	5.50E+03	2.82E+01	2.33E+00	6.13E-01	7.23E+01	-4.57E+00	8.96E+00	5.97E+00	positive	-6.21E-03	5.87E+00	6.54E+00	positive	-1.93E+00	1.85E+01	2.13E+01	positive	MW-50-66
MW-51-40	011	5/7/2009	14:27	2.03E+02	1.76E+02	1.81E+02	1.00E+03	1.02E-01	6.81E-01	8.27E-01	2.00E+00	1.18E+00	7.08E+00	4.72E+00	positive	-1.14E+00	5.00E+00	5.08E+00	positive	-1.06E+00	1.83E+01	2.11E+01	positive	MW-51-40
MW-51-79	011	5/7/2009	15:10	6.19E+01	1.58E+02	1.81E+02	1.00E+03	6.97E-01	7.58E-01	8.29E-01	2.00E+00	5.17E-01	7.58E+00	5.12E+00	positive	2.33E+00	5.79E+00	6.97E+00	positive	-6.40E+00	1.73E+01	2.00E+01	positive	MW-51-79
MW-51-104	009	5/7/2009	11:48	1.11E+02	1.61E+02	1.78E+02	1.00E+03	-1.53E-01	6.36E-01	7.99E-01	2.00E+00	-8.75E-01	5.79E+00	3.86E+00	positive	4.67E-01	3.51E+00	4.01E+00	positive	-1.35E+01	2.36E+01	2.71E+01	positive	MW-51-104
MW-51-135	009	5/7/2009	11:53	2.44E+01	1.43E+02	1.71E+02	1.00E+03	8.54E-02	4.71E-01	5.79E-01	2.00E+00	3.06E+00	7.04E+00	4.69E+00	positive	-7.33E-01	3.77E+00	4.00E+00	positive	-2.11E+01	2.24E+01	2.60E+01	positive	MW-51-135
MW-51-163	009	5/7/2009	12:09	5.68E+01	1.56E+02	1.81E+02	1.00E+03	-5.45E-02	4.61E-01	6.13E-01	2.00E+00	-7.96E-01	5.09E+00	3.39E+00	positive	1.08E+00	3.63E+00	3.83E+00	positive	4.18E+00	1.89E+01	2.15E+01	positive	MW-51-163
MW-51-189	009	5/7/2009	11:55	2.06E+01	1.52E+02	1.81E+02	1.00E+03	1.44E-01	5.33E-01	6.41E-01	2.00E+00	1.70E+00	9.39E+00	6.26E+00	positive	-1.22E+00	5.79E+00	6.11E+00	positive	-3.36E+00	1.86E+01	2.14E+01	positive	MW-51-189
MW-52-11	004	4/30/2009	14:27	5.19E+02	4.61E+02	4.72E+02	1.00E+03	4.52E-02	5.64E-01	7.17E-01	2.00E+00	2.98E-01	7.52E+00	5.01E+00	positive	1.41E+00	5.07E+00	6.04E+00	positive	NA	NA	NA	positive	MW-52-11
MW-52-18	004	4/30/2009	16:15	2.39E+02	2.01E+02	2.17E+02	1.00E+03	6.52E-02	5.55E-01	7.37E-01	2.00E+00	1.47E-02	7.39E+00	5.26E+00	positive	8.60E-01	4.19E+00	5.24E+00	positive	NA	NA	NA	positive	MW-52-18
MW-52-48	004	5/1/2009	11:35	1.43E+02	9.84E+01	1.00E+02	1.00E+03	4.55E-02	6.02E-01	7.02E-01	2.00E+00	1.19E+00	7.61E+00	5.07E+00	positive	-2.32E+00	4.41E+00	4.29E+00	positive	NA	NA	NA	positive	MW-52-48
MW-52-64	004	5/1/2009	13:50	-1.02E+01	8.27E+01	1.00E+02	1.00E+03	4.33E-01	7.01E-01	7.72E-01	2.00E+00	1.82E+00	6.54E+00	4.36E+00	positive	1.24E+00	4.25E+00	4.80E+00	positive	NA	NA	NA	positive	MW-52-64
MW-52-118	004	4/30/2009	12:03	1.15E+02	1.00E+02	1.06E+02	1.00E+03	-3.34E-01	4.29E-01	6.89E-01	2.00E+00	2.00E+00	8.58E+00	5.72E+00	positive	1.27E+00	4.68E+00	5.65E+00	positive	NA	NA	NA	positive	MW-52-118
MW-52-162	004	4/30/2009	12:06	4.92E+02	4.58E+02	4.73E+02	1.00E+03	-1.49E-01	5.60E-01	7.37E-01	2.00E+00	-5.43E-01	8.54E+00	5.69E+00	positive	-1.26E+00	5.06E+00	5.17E+00	positive	NA	NA	NA	positive	MW-52-162
MW-52-181	004	4/30/2009	12:07	1.47E+02	9.95E+01	1.01E+02	1.00E+03	-4.95E-02	5.36E-01	7.43E-01	2.00E+00	-2.57E+00	5.82E+00	3.88E+00	positive	-1.51E+00	4.17E+00	4.27E+00	positive	NA	NA	NA	positive	MW-52-181
MW-53-82	011	4/14/2009	14:58	1.75E+03	3.14E+02	1.36E+02	1.96E+03	-3.03E-01	7.29E-01	8.97E-01	2.00E+00	7.76E+00	6.60E+00	4.40E+00	positive	1.28E-01	4.34E+00	4.84E+00	positive	-1.09E+00	1.85E+01	2.16E+01	positive	MW-53-82
MW-53-120	14	3/16/2009	9:40	5.07E+03	8.51E+02	3.81E+02	1.19E+04	2.37E+01	2.07E+00	7.32E-01	5.38E+01	9.24E-02	2.18E+00	1.65E+00	positive	7.35E-01	1.86E+00	1.58E+00	positive	1.34E-01	1.73E+01	1.91E+01	4.51E+01	MW-53-120
MW-53-120	015	4/14/2009	13:08	5.65E+03	5.40E+02	1.36E+02	1.19E+04	2.96E+01	2.19E+00	5.66E-01	5.38E+01	-2.26E+00	6.15E+00	4.10E+00	positive	-6.33E-01	3.86E+00	4.10E+00	positive	8.66E+00	1.83E+01	2.07E+01	4.54E+01	MW-53-120
MW-54-37	009	5/5/2009	11:51	1.24E+03	2.78E+02	1.81E+02	2.07E+03	6.35E+00	1.20E+00	4.75E-01	1.22E+01	-1.31E-02	4.22E+00	2.81E+00	positive	-1.16E+00	2.75E+00	2.61E+00	positive	4.33E+00	1.91E+01	2.16E+01	positive	MW-54-37
MW-54-58	009	5/5/2009	12:13	6.58E+02	2.24E+02	1.78E+02	1.33E+03	2.00E+00	8.60E-01	6.94E-01	7.37E+00	2.19E+00	6.09E+00	4.06E+00	positive	-2.90E+00	3.63E+00	3.32E+00	positive	-1.92E+01	2.15E+01	2.50E+01	positive	MW-54-58
MW-54-123	009	5/5/2009	12:40	6.94E+02	2.28E+02	1.78E+02	1.21E+03	3.94E+00	1.00E+00	5.36E-01	1.76E+01	-1.73E+00	5.94E+00	3.96E+00	positive	2.06E+00	3.18E+00	3.94E+00	positive	2.67E-01	1.86E+01	2.13E+01	positive	MW-54-123
MW-54-144	009	5/5/2009	10:23	1.45E+03	2.91E+02	1.78E+02	2.41E+03	1.46E+01	1.89E+00	5.95E-01	3.42E+01	-1.95E+00	4.97E+00	3.31E+00	positive	9.27E-01	3.35E+00	3.90E+00	positive	-5.83E+00	1.91E+01	2.21E+01	positive	MW-54-144
MW-54-173	009	5/5/2009	10:24	1.57E+03	3.03E+02	1.80E+02	3.83E+03	8.59E+00	1.46E+00	7.75E-01	2.77E+01	3.40E-01	5.16E+00	3.44E+00	positive	1.02E+00	2.63E+00	3.14E+00	positive	-1.38E+00	1.92E+01	2.20E+01	positive	MW-54-173
MW-54-190	009	5/5/2009	10:27	1.60E+03	3.05E+02	1.80E+02	3.39E+03	1.98E+01	2.07E+00	4.19E-01	4.70E+01	2.31E+00	7.22E+00	4.81E+00	positive	8.24E-01	3.86E+00	4.04E+00	positive	2.80E+00	1.94E+01	2.23E+01	positive	MW-54-190

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See Page 2 for Notes

TABLE 4
2009 2ND QUARTER
GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERTY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE COLLECTION		ANALYSIS RESULTS TRITIUM (µCi/L)				Sr-90 (µCi/L)				Cs-137 (µCi/L)				Co-60 (µCi/L)				Ni-63 (µCi/L)				Well ID
		Date	Time	Result	Std. Dev.	MDC	I.L.[3]	Result	Std. Dev.	MDC	I.L.	Result	Std. Dev.	MDC	I.L.	Result	Std. Dev.	MDC	I.L.	Result	Std. Dev.	MDC	I.L.	
MW-55-24	010	4/29/2009	11:28	1.14E+03	2.69E+02	1.80E+02	2.19E+03	1.55E+01	1.38E+00	6.50E-01	4.06E+01	-1.31E-01	1.02E+01	6.77E+00	positive	-9.31E-01	4.91E+00	5.14E+00	positive	4.88E+00	1.95E+01	2.22E+01	positive	MW-55-24
MW-55-35	009	4/29/2009	11:26	2.70E+03	3.77E+02	1.80E+02	3.77E+03	3.51E+01	2.79E+00	6.05E-01	5.75E+01	-4.06E+00	6.72E+00	4.48E+00	positive	7.97E-01	4.28E+00	5.04E+00	positive	7.31E+00	2.03E+01	2.28E+01	positive	MW-55-35
MW-55-54	010	4/29/2009	10:55	7.00E+03	5.76E+02	1.80E+02	1.38E+04	3.27E+01	2.55E+00	6.48E-01	4.61E+01	3.95E-01	6.93E+00	4.62E+00	positive	-1.58E+00	4.23E+00	4.33E+00	positive	2.56E+00	1.79E+01	2.04E+01	positive	MW-55-54
MW-55-53	006	4/16/2009	11:43	5.00E+02	1.95E+02	1.96E+02	1.00E+03	-8.46E-02	6.21E-01	7.53E-01	2.00E+00	6.63E-01	6.14E+00	4.09E+00	positive	2.86E+00	3.41E+00	4.34E+00	positive	NA	NA	NA	positive	MW-56-53
MW-55-83	008	4/16/2009	11:49	3.24E+03	7.61E+02	4.34E+02	4.92E+03	2.71E+00	7.59E-01	4.21E-01	5.69E+00	6.03E-03	5.39E+00	3.59E+00	positive	1.38E+00	4.11E+00	4.92E+00	positive	NA	NA	NA	positive	MW-56-83
MW-57-11	005	4/21/2009	12:08	4.22E+03	4.29E+02	1.90E+02	5.45E+03	4.72E+01	2.97E+00	5.57E-01	5.43E+01	3.89E+00	6.71E+00	4.47E+00	positive	1.11E+00	2.76E+00	3.35E+00	positive	4.47E+00	1.98E+01	2.25E+01	positive	MW-57-11
MW-57-20	005	4/21/2009	12:22	1.52E+03	2.87E+02	1.90E+02	2.24E+03	2.77E+00	1.02E+00	8.57E-01	4.29E+00	-2.08E+00	5.76E+00	3.84E+00	positive	2.32E+00	3.15E+00	4.06E+00	positive	1.34E-01	2.16E+01	2.41E+01	positive	MW-57-20
MW-57-45	006	4/21/2009	13:34	1.19E+03	2.64E+02	1.90E+02	1.70E+03	2.25E+00	8.36E-01	6.44E-01	3.46E+00	1.80E-01	5.54E+00	3.76E+00	positive	-1.30E+00	3.95E+00	4.12E+00	positive	8.26E+00	2.09E+01	2.35E+01	positive	MW-57-45
MW-58-26	008	4/24/2009	12:21	4.13E+02	1.48E+02	1.47E+02	1.00E+03	-5.74E-02	4.53E-01	5.97E-01	2.00E+00	1.26E+00	4.28E+00	2.85E+00	positive	1.02E-01	2.31E+00	2.57E+00	positive	NA	NA	NA	positive	MW-58-26
MW-58-65	008	4/24/2009	11:52	2.33E+02	1.67E+02	1.78E+02	1.00E+03	2.36E-01	4.62E-01	6.58E-01	2.00E+00	9.67E-02	3.36E+00	2.57E+00	positive	1.34E-01	2.16E+00	2.72E+00	positive	NA	NA	NA	positive	MW-58-65
MW-60-35	009	5/5/2009	14:06	1.54E+02	1.64E+02	1.71E+02	2.00E+03	2.06E-01	6.48E-01	7.50E-01	2.00E+00	1.11E+00	8.76E+00	5.84E+00	positive	7.57E-01	5.60E+00	6.58E+00	positive	NA	NA	NA	positive	MW-60-35
MW-60-53	009	5/5/2009	10:08	4.99E+02	2.12E+02	1.75E+02	2.00E+03	6.40E-02	6.75E-01	8.02E-01	2.00E+00	7.73E-01	1.18E+01	7.89E+00	positive	-3.04E+00	8.30E+00	7.85E+00	positive	0.00E+00	2.39E+01	2.81E+01	positive	MW-60-53
MW-60-72	009	5/5/2009	10:32	1.57E+02	1.67E+02	1.75E+02	2.00E+03	6.32E-02	6.66E-01	7.71E-01	2.00E+00	2.29E+00	1.10E+01	7.32E+00	positive	1.75E+00	6.02E+00	7.24E+00	positive	NA	NA	NA	positive	MW-60-72
MW-60-135	009	5/5/2009	10:54	3.17E+02	1.85E+02	1.71E+02	2.00E+03	-1.77E-01	6.12E-01	7.45E-01	2.00E+00	-3.22E+00	1.31E+01	8.76E+00	positive	3.12E-01	6.31E+00	7.64E+00	positive	NA	NA	NA	positive	MW-60-135
MW-60-154	009	5/5/2009	11:15	4.29E+02	2.01E+02	1.72E+02	2.00E+03	7.36E-02	5.70E-01	6.88E-01	2.00E+00	-2.52E-01	6.89E+00	4.59E+00	positive	-1.47E+00	5.07E+00	5.42E+00	positive	NA	NA	NA	positive	MW-60-154
MW-60-176	009	5/5/2009	11:18	1.04E+03	2.64E+02	1.72E+02	2.00E+03	2.40E-01	6.00E-01	6.90E-01	2.00E+00	-4.10E+00	8.45E+00	5.63E+00	positive	1.23E+00	5.69E+00	6.59E+00	positive	NA	NA	NA	positive	MW-60-176
MW-62-18	009	4/15/2009	13:18	4.56E+02	1.85E+02	1.36E+02	2.00E+03	1.76E-01	5.99E-01	7.14E-01	2.00E+00	3.54E-01	5.81E+00	3.87E+00	positive	1.91E+00	3.29E+00	4.20E+00	positive	1.88E+00	1.86E+01	2.17E+01	positive	MW-62-18
MW-62-37	009	4/15/2009	13:13	4.39E+02	1.82E+02	1.35E+02	2.00E+03	-3.16E-01	6.68E-01	8.49E-01	2.00E+00	-1.73E-01	5.94E+00	3.96E+00	positive	-6.46E-01	4.44E+00	4.81E+00	positive	-1.65E+01	1.74E+01	2.14E+01	positive	MW-62-37
MW-62-53	008	4/15/2009	13:29	4.33E+02	1.82E+02	1.36E+02	2.00E+03	-5.39E-01	6.65E-01	9.09E-01	2.00E+00	-4.92E-01	5.30E+00	3.53E+00	positive	2.83E-01	2.32E+00	3.31E+00	positive	-6.14E+00	1.79E+01	2.12E+01	positive	MW-62-53
MW-62-71	009	4/15/2009	12:06	4.78E+02	1.89E+02	1.38E+02	2.00E+03	2.78E-01	6.38E-01	7.30E-01	2.00E+00	1.27E+00	6.32E+00	4.21E+00	positive	1.21E+00	3.48E+00	4.20E+00	positive	-3.18E+00	1.88E+01	2.20E+01	positive	MW-62-71
MW-62-92	009	4/15/2009	12:15	6.08E+02	2.06E+02	1.38E+02	2.00E+03	1.09E-01	5.42E-01	6.60E-01	2.00E+00	3.15E-01	6.21E+00	4.14E+00	positive	-9.11E-01	3.36E+00	3.56E+00	positive	-1.28E+01	1.83E+01	2.22E+01	positive	MW-62-92
MW-62-138	009	4/15/2009	12:38	7.72E+02	2.18E+02	1.32E+02	2.00E+03	1.78E+00	8.70E-01	7.95E-01	2.00E+00	-7.43E-01	6.18E+00	4.12E+00	positive	4.95E-01	3.20E+00	3.73E+00	positive	1.23E+00	1.83E+01	2.12E+01	positive	MW-62-138
MW-62-182	009	4/15/2009	14:53	7.36E+02	2.21E+02	1.37E+02	2.00E+03	-6.26E-01	7.43E-01	9.40E-01	2.00E+00	2.06E-01	6.32E+00	4.21E+00	positive	2.09E-01	4.55E+00	5.11E+00	positive	-6.59E+00	1.83E+01	2.17E+01	positive	MW-62-182
MW-63-18	009	5/4/2009	12:29	1.97E+02	1.62E+02	1.64E+02	2.00E+03	1.26E-01	6.00E-01	6.93E-01	2.00E+00	2.37E+00	6.86E+00	4.57E+00	positive	8.34E-01	4.26E+00	4.94E+00	positive	NA	NA	NA	positive	MW-63-18
MW-63-34	009	5/4/2009	12:10	3.23E+02	1.76E+02	1.59E+02	2.00E+03	2.16E-01	6.03E-01	6.89E-01	2.00E+00	6.53E-01	7.29E+00	4.86E+00	positive	1.92E+00	3.42E+00	4.32E+00	positive	NA	NA	NA	positive	MW-63-34
MW-63-50	009	5/4/2009	11:31	3.30E+02	1.80E+02	1.65E+02	2.00E+03	1.58E-01	5.73E-01	6.59E-01	2.00E+00	1.22E+00	6.27E+00	4.18E+00	positive	-2.49E-01	3.98E+00	4.34E+00	positive	NA	NA	NA	positive	MW-63-50
MW-63-93	010	5/4/2009	12:00	1.66E+02	1.59E+02	1.64E+02	2.00E+03	5.44E-01	5.13E-01	5.53E-01	2.00E+00	2.00E+00	6.72E+00	4.48E+00	positive	-1.69E+00	3.63E+00	3.63E+00	positive	NA	NA	NA	positive	MW-63-93
MW-63-112	009	5/4/2009	14:30	4.42E+02	1.94E+02	1.64E+02	2.00E+03	1.54E-01	5.99E-01	7.38E-01	2.00E+00	-2.30E+00	6.18E+00	4.12E+00	positive	1.38E+00	3.93E+00	4.71E+00	positive	NA	NA	NA	positive	MW-63-112
MW-63-121	009	5/4/2009	14:35	5.28E+02	2.04E+02	1.65E+02	2.00E+03	7.71E-01	8.55E-01	9.23E-01	2.00E+00	-6.55E-02	8.16E+00	5.44E+00	positive	2.35E+00	4.29E+00	5.35E+00	positive	NA	NA	NA	positive	MW-63-121
MW-63-163	009	5/4/2009	14:39	4.36E+02	1.94E+02	1.66E+02	2.00E+03	-1.10E-02	6.03E-01	7.41E-01	2.00E+00	-2.38E-01	5.57E+00	3.71E+00	positive	-4.47E+00	4.50E+00	3.64E+00	positive	NA	NA	NA	positive	MW-63-163
MW-63-174	009	5/4/2009	14:28	4.57E+02	1.94E+02	1.63E+02	2.00E+03	2.15E-01	6.62E-01	7.87E-01	2.00E+00	1.98E-01	4.58E+00	3.05E+00	positive	2.66E+00	3.11E+00	2.63E+00	positive	NA	NA	NA	positive	MW-63-174
MW-66-21	8	3/17/2009	12:00	4.29E+02	3.80E+02	3.81E+02	1.54E+03	3.49E-01	6.45E-01	7.29E-01	2.02E+00	1.60E-01	6.36E+00	4.24E+00	positive	1.72E+00	3.84E+00	4.65E+00	positive	-4.98E+00	1.70E+01	1.99E+01	positive	MW-66-21
MW-66-21	009	4/20/2009	17:00	8.28E+01	1.65E+02	1.87E+02	1.54E+03	1.93E-01	5.55E-01	6.50E-01	2.02E+00	1.27E+00	7.23E+00	4.82E+00	positive	9.73E-01	4.11E+00	4.84E+00	positive	-1.86E+00	1.94E+01	2.22E+01	positive	MW-66-21
MW-66-36	008	4/20/2009	15:26	4.39E+03	4.34E+02	1.87E+02	1.19E+04	1.07E+01	1.42E+00	5.97E-01	2.71E+01	5.54E-02	6.44E+00	4.29E+00	positive	-1.13E+00	4.05E+00	4.20E+00	positive	8.95E+00	1.97E+01	2.21E+01	positive	MW-66-36
MW-67-39	009	4/20/2009	15:02	3.88E+03	4.14E+02	1.90E+02	7.48E+03	1.13E+01	1.56E+00	5.49E-01	3.36E+01	-2.56E-01	7.17E+00	4.78E+00	positive	1.31E-01	3.74E+00	4.21E+00	positive	1.36E-01	2.06E+01	2.29E+01	positive	MW-67-39
MW-67-105	008	4/20/2009	16:00	1.98E+03	3.15E+02	1.88E+02	4.95E+03	6.38E-01	6.92E-01	7.12E-01	2.14E+00	-1.78E+00	4.39E+00	3.26E+00	positive	3.61E-01	3.35E+00	3.92E+00	positive	1.01E-01	1.97E+01	2.20E+01	positive	MW-67-105
MW-67-173	8	3/17/2009	14:00	6.73E+02	4.19E+02	3.81E+02	1.90E+03	-5.07E-01	5.72E-01	6.95E-01	2.00E+00	-1.51E+00	5.85E+00	3.90E+00	positive	8.14E-01	3.41E+00	4.00E+00	positive	-3.42E+00	1.71E+01	2.00E+01	positive	MW-67-173
MW-67-173	009	4/20/2009	15:50	7.47E+02	2.28E+02	1.87E+02	1.90E+03	2.33E-01	6.84E-01	7.84E-01	2.00E+00	2.70E+00	7.05E+00	4.70E+00	positive	9.39E-01	3.60E+00	4.24E+00	positive	8.40E-01	2.45E+01	2.47E+01	positive	MW-67-173
MW-67-219	008	4/20/2009	12:09	1.18E+03	2.63E+02	1.89E+02	2.51E+03	3.27E-01	6.63E-01	7.50E-01	2.00E+00	-2.03E+00	6.20E+00	4.13E+00	positive	4.77E-01	4.26E+00	4.84E+00	positive	9.52E+00	1.85E+01	2.08E+01	positive	MW-67-219
MW-67-276	008	4/20/2009	12:15	9.46E+02	2.43E+02	1.86E+02	2.27E+03	7.29E-03	5.33E-01	6.74E-01	2.00E+00	1.18E+00	5.45E+00	3.63E+00	positive	-2.34E-01	3.63E+00	4.04E+00	positive	2.21E-01	2.07E+01	2.28E+01	positive	MW-67-276
MW-67-323	008	4/20/2009	12:20	3.97E+02	1.98E+02	1.87E+02	1.00E+03	2.21E-01	7.17E-01	8.23E-01	2.00E+00	-5.22E-01	6.36E+00	4.57E+00	positive	-2.70E+00	4.50E+00	4.33E+00	positive	-5.56E+00	2.10E+01	2.43E+01	positive	MW-67-323
MW-67-340	008	4/20/2009	12:25	4.96E+02	2.07E+02	1.88E+02	1.11E+03	4.35E-01	5.64E-01	6.05E-01	2.00E+00	3.18E+00	7.19E+00	4.79E+00	positive	-1.37E-01	3.53E+00	3.83E+00	positive	8.03E+00	2.03E+01	2.29E+01	positive	MW-67-340
MW-107	008	4/22/2009	12:30	1.96E+02	1.71E+02	1.86E+02	1.00E+03	9.02E-03	4.34E-01	5.52E-01	2.00E+00	-2.11E-01	3.86E+00	2.57E+00	positive	1.54E+00	2.61E+00	3.19E+00	positive	NA	NA	NA	positive	MW-107
MW-111	029	4/30/2009	12:36	3.89E+04	1.38E+03	1.71E+02	1.25E+05	2.17E+00	8.97E-01	7.67E-01	3.58E+00	1.51E+00	1.04E+01	6.92E+00	positive	-3.30E+00	6.45E+00	6.44E+00	positive	NA	NA	NA	positive	MW-111
U3-4D	020	4/17/2009	15:57	3.92E+02	1.83E+02	1.89E+02	1.00E+03	1.17E-01	3.51E-01	5.11E-01	2.00E+00	9.57E-01	6.92E+00	4.61E+00	positive	4.01E-01	3.32E+00	3.82E+00	positive	NA	NA	NA	positive	U3-4D
U3-T1	024	4/10/2009	15:22	3.28E+02	1.65E+02	1.49E+02	1.28E+03	3.23E-01	6.69E-01	7.61E-01	2.00E+00	1.68E-01	6.03E+00	4.02E+00	positive	1.24E+00	3.39E+00	4.14E+00	positive	NA	NA	NA	positive	U3-T1
U3-T2	029	4/24/2009	11:24	1.03E+03	4.97E+02	4.14E+02	2.14E+03	1.76E+00	6.54E-01	4.11E-01	2.00E+00	1.62E+00	6.55E+00	4.43E+00	positive	3.29E-01	4.16E+00	4.69E+00	positive	NA	NA	NA	positive	U3-T2
U1-CSS	11	3/18/2009	13:05	1.57E+03	5.36E+02	3.81E+02	3.09E+03	1.41E+01	2.04E+00	9.24E-01	1.48E+01	2.00E+00	5.93E+00	3.95E+00	positive	2.86E-01	3.03E+00	3.42E+00	positive	6.46E-01	1.94E+01	2.22E+01	positive	U1-CSS
U1-CSS	012	4/21/2009	13:07	3.28E+03	3.87E+02	1.91E+02	3.09E+03	3.56E+01	2.54E+00	7.19E-01	1.48E+01	5.75E-01	5.28E+00	3.52E+00	positive	1.36E+00	3.02E+00	3.74E+00	positive	1.79E-01	1.92E+01	2.11E+01	positive	U1-CSS
U1-NCD	004	4/13/2009	12:15	5.21E+03	5.18E+02	1.35E+02	1.00E+03	3.22E+02	7.74E+00	8.42E-01	2.00E+00	2.70E-04	2.66E+01	1.77E+01	positive	2.70E+00	4.46E+00	5.13E+00	positive	5.09E-02	6.05E+01	4.30E+01	positive	U1-NCD
U1-SFDS	005	4/13/2009	12:30	1.52E+03	2.96E+02	1.37E+02	1.00E+03	4.93E+01	3.03E+00	6.15E-01	2.00E+00	8.09E+00	5.87E+00	3.91E+00	positive	2.45E+00	3.80E+00	4.79E+00	positive	-9.47E+00	1.92E+01	2.30E+01	positive	U1-SFDS
LAF-002	011	4/21/2009	14:24	1.80E+02	1.77E+02	1.89E+02	positive	1.77E-01	5.70E-01	6.58E-01	positive	-1.74E+00	5.94E+00	3.96E+00	positive	3.37E-01	3.99E+00	4.50E+00	positive	2.34E+00	1.92E+01	2.19E+01	positive	LAF-002

Notes:

1 For nested multi-level monitoring wells, suffix of well ID indicates depth (rounded to nearest foot) from reference point on casing to bottom of well screen. For Waterloo multi-level systems, suffix indicates depth (rounded to nearest foot) from reference point on casing to top of sampling port. Well IDs without a suffix are open bedrock wellbores

2 Sampling depths within sampling intervals (location of pump intake) have been established at location of most transmissive zone to the extent possible

3 IL s (Investigation Levels) are predetermined detection limits assigned to each sampling location which, if reached or exceeded, require further investigation or action. IL s presented here are established for 2009 based on 2008 averages. Positive detections indicate that the the result is greater than MDC and greater than or equal to 3 times the 1 sigma uncertainty

4 NA indicates that the constituent was not analyzed

5 Dot pattern denotes sampling interval is positioned within overburden soils. Open box indicates sampling interval is in bedrock

6 Shading indicates that the sample result exceeds the Investigation Level

7 Sample interval MW-35-41 was not sampled in 2008. The tritium and strontium IL listed for this sampling interval is two times the average from 2007

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
MW-30-69	001	69.3	6.4	1/30/2006	15:40	2.37E+05	2.76E+04	6.26E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	MW-30-69
	003	69.3	6.4	6/23/2006	10:50	3.92E+05	3.35E+04	6.02E+03	3.34E-02	8.24E-01	1.09E+00	2.96E+01	1.40E-01	1.14E-01	4.23E+00	9.93E+00	1.14E+01	1.02E+01	1.27E+01	1.36E+01	
	004	69.3	6.4	8/18/2006	14:45	2.20E+05	4.20E+03	1.10E+03	8.14E-01	1.40E+00	1.52E+00	-7.33E+00	1.40E-01	1.41E-01	3.91E+00	1.51E-01	1.78E+01	NA	NA	NA	
	005	69.3	6.4	11/29/2006	10:45	1.06E+05	1.86E+03	5.30E+02	2.50E+00	8.40E-01	8.10E-01	3.13E+03	3.30E-01	5.00E+00	1.20E+00	2.28E+00	2.50E+00	1.15E+01	1.26E+01	1.40E+01	
	006	69.3	6.4	1/16/2007	14:05	8.17E+04	8.73E+03	6.34E+02	-1.60E-01	1.47E+00	1.60E+00	0.00E+00	2.10E+00	2.40E+00	-4.30E-01	2.07E+00	2.50E+00	7.07E+00	1.94E+01	2.20E+01	
	007	69.3	6.4	6/12/2007	10:20	2.97E+05	8.73E+03	6.34E+02	-2.63E-01	4.19E-01	6.45E-01	3.93E-01	3.75E+00	4.09E+00	6.88E-02	4.08E+00	3.94E+00	NA	NA	NA	
	008	69.3	6.4	7/18/2007	9:55	8.21E+04	2.46E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	010	69.3	6.4	8/1/2007	11:44	1.03E+05	3.09E+03	6.40E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	011	69.3	6.4	8/8/2007	10:00	9.96E+04	2.99E+03	6.32E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	012	69.3	6.4	8/15/2007	11:00	2.33E+05	6.99E+03	6.33E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	013	69.3	6.4	8/21/2007	9:45	1.07E+05	3.21E+03	7.05E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	014	69.3	6.4	8/30/2007	11:32	9.80E+04	2.94E+03	7.03E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	015	69.3	6.4	9/19/2007	11:00	9.20E+04	2.76E+03	7.02E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	016	69.3	6.4	10/23/2007	11:48	1.32E+05	3.90E+03	4.24E+02	2.52E-01	6.16E-01	7.12E-01	2.42E+00	5.76E+00	4.45E+00	-5.09E-01	3.66E+00	3.86E+00	NA	NA	NA	
	017	69.3	6.4	2/4/2008	13:00	1.87E+05	5.51E+03	3.95E+02	1.57E-01	6.98E-01	8.57E-01	1.26E+00	3.05E+00	3.56E+00	-6.00E-01	3.63E+00	3.28E+00	NA	NA	NA	
	018	69.3	6.4	5/6/2008	11:00	1.53E+05	3.01E+03	4.06E+02	3.34E-01	3.98E-01	6.71E-01	4.94E-01	1.83E+00	3.21E+00	-5.70E-01	1.71E+00	2.73E+00	NA	NA	NA	
	019	69.3	6.4	6/6/2008	11:01	7.36E+04	2.02E+03	5.06E+02	2.02E-01	3.20E-01	5.59E-01	-9.82E-01	2.10E+00	3.27E+00	4.91E-01	2.24E+00	3.85E+00	NA	NA	NA	
	020	69.3	6.4	8/5/2008	11:22	1.99E+05	3.92E+03	4.95E+02	2.09E-01	3.07E-01	5.34E-01	-1.57E-01	1.42E+00	2.38E+00	1.11E+00	1.28E+00	2.33E+00	NA	NA	NA	
	021	69.3	6.4	9/3/2008	11:29	8.53E+04	2.03E+03	5.50E+02	-3.12E-01	5.12E-01	9.72E-01	-1.89E+00	2.22E+00	3.36E+00	NA	NA	NA	NA	NA	NA	
	022	69.3	6.4	11/7/2008	10:27	9.55E+04	2.85E+03	3.06E+02	4.09E-01	5.53E-01	6.01E-01	7.83E-01	3.09E+00	3.66E+00	-1.07E-01	2.65E+00	2.85E+00	NA	NA	NA	
	023	69.3	6.4	1/30/2009	11:00	1.07E+05	2.51E+03	1.98E+02	-8.74E-02	7.58E-01	9.73E-01	-1.13E+00	2.61E+00	2.66E+00	1.06E+00	2.70E+00	3.24E+00	NA	NA	NA	
	024	69.3	6.4	4/27/2009	10:27	1.00E+05	3.65E+03	4.02E+02	-1.54E-01	4.28E-01	6.01E-01	1.49E+00	7.11E+00	4.74E+00	-2.78E-01	4.19E+00	4.60E+00	NA	NA	NA	
	025	69.3	6.4	6/1/2009	12:02	8.20E+04	3.21E+03	3.77E+02	3.12E-01	5.63E-01	6.32E-01	2.16E+00	9.80E+00	6.53E+00	8.26E-01	6.47E+00	7.42E+00	NA	NA	NA	
MW-30-84	001	83.8	-8.1	8/22/2006	13:15	1.25E+04	2.43E+03	1.61E+03	-1.60E-01	9.82E-01	1.13E+00	1.88E+00	1.09E-01	1.24E-01	-2.52E+00	1.00E-01	1.03E+01	NA	NA	NA	MW-30-84
	002	83.8	-8.1	11/29/2006	14:30	1.01E+04	1.59E+03	1.10E+03	-9.40E-01	7.80E-01	8.70E-01	2.94E+02	1.68E-01	5.00E+00	-3.00E-01	3.90E+00	4.80E+00	4.10E+00	1.17E+01	1.30E+01	
	003	83.8	-8.1	1/17/2007	9:15	7.33E+03	7.50E+02	5.30E+02	4.80E-01	1.50E+00	1.60E+00	1.18E+00	2.61E+00	2.90E+00	0.00E+00	2.91E+00	3.40E+00	NA	NA	NA	
	004	83.8	-8.1	6/12/2007	10:19	7.79E+03	9.47E+02	4.42E+02	-1.49E-01	4.44E-01	6.41E-01	-1.06E+00	2.29E+00	2.41E+00	-6.93E-01	2.38E+00	2.54E+00	-3.57E+00	1.74E+01	2.03E+01	
	005	83.8	-8.1	7/18/2007	10:25	4.80E+03	7.20E+02	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	006	83.8	-8.1	7/25/2007	13:00	5.02E+03	4.49E+02	2.43E+02	1.56E-01	3.09E-01	3.48E-01	2.83E+00	3.38E+00	2.84E+00	2.03E+00	2.91E+00	3.57E+00	NA	NA	NA	
	007	83.8	-8.1	10/23/2007	12:49	4.27E+03	7.38E+02	4.03E+02	5.95E-01	5.53E-01	5.59E-01	1.56E+00	2.81E+00	3.38E+00	-1.17E+00	3.72E+00	3.27E+00	NA	NA	NA	
	008	83.8	-8.1	2/4/2008	14:16	4.34E+03	2.61E+02	1.32E+02	-4.08E-01	4.55E-01	7.47E-01	-1.00E+00	2.55E+00	2.73E+00	-4.32E-01	2.97E+00	2.79E+00	NA	NA	NA	
	009	83.8	-8.1	5/6/2008	13:40	4.18E+03	2.83E+02	2.20E+02	3.26E-01	3.86E-01	6.51E-01	4.43E-01	2.37E+00	4.00E+00	-1.91E+00	2.53E+00	3.69E+00	NA	NA	NA	
	010	83.8	-8.1	6/6/2008	12:10	3.85E+03	5.33E+02	5.04E+02	1.54E-01	2.46E-01	4.34E-01	-8.97E-01	2.16E+00	3.57E+00	2.05E+00	2.31E+00	4.29E+00	NA	NA	NA	
	020	83.8	-8.1	8/5/2008	14:40	4.31E+03	2.28E+02	1.94E+02	2.77E-01	2.86E-01	4.67E-01	-1.87E-01	1.44E+00	2.35E+00	-1.04E-01	2.12E+00	2.66E+00	NA	NA	NA	
	021	83.8	-8.1	9/3/2008	11:59	3.78E+03	5.13E+02	5.35E+02	-4.62E-02	4.61E-01	9.06E-01	-3.02E-01	1.73E+00	2.89E-02	NA	NA	NA	NA	NA	NA	
	013	83.8	-8.1	11/7/2008	10:50	5.25E+03	3.23E+02	1.64E+02	1.07E-02	5.75E-01	7.61E-01	6.64E-01	4.63E+00	5.37E+00	2.13E+00	5.34E+00	6.53E+00	NA	NA	NA	
	014	83.8	-8.1	1/30/2009	11:21	4.69E+03	5.48E+02	1.99E+02	9.38E-02	5.97E-01	7.19E-01	8.97E+00	4.34E+00	3.02E+00	-8.43E-02	3.39E+00	3.81E+00	NA	NA	NA	
	015	83.8	-8.1	4/27/2009	14:30	5.34E+03	9.08E+02	4.11E+02	-1.19E-01	4.70E-01	6.29E-01	1.13E+00	6.54E+00	4.36E+00	1.33E+00	3.72E+00	4.50E+00	NA	NA	NA	
	016	83.8	-8.1	6/1/2009	13:25	5.83E+03	9.02E+02	3.76E+02	1.34E-01	7.19E-01	8.22E-01	3.90E-01	1.01E+01	6.75E+00	8.79E-02	6.06E+00	6.80E+00	NA	NA	NA	
MW-31-49	001	48.8	26.8	11/27/2006	11:45	2.98E+02	1.74E+02	1.70E+02	0.00E+00	1.29E+00	1.40E+00	NA	NA	NA	1.30E+00	3.60E+00	4.00E+00	1.42E+02	1.65E+02	1.80E+02	MW-31-49
	002	48.8	26.8	1/18/2007	9:13	1.20E+03	5.70E+02	5.30E+02	3.00E-01	1.62E+00	1.80E+00	NA	NA	NA	-2.10E+00	8.10E+00	9.50E+00	NA	NA	NA	
	003	48.8	26.8	6/12/2007	14:24	1.48E+03	5.24E+02	4.37E+02	-1.51E-01	5.49E-01	7.52E-01	1.83E-01	2.12E+00	2.35E+00	1.26E-01	2.01E+00	2.26E+00	0.00E+00	1.11E+01	1.29E+01	
	004	48.8	26.8	8/2/2007	10:23	1.19E+04	1.27E+03	5.43E+02	-5.17E-01	7.89E-01	9.55E-01	8.83E+01	1.35E-01	3.31E+00	1.80E-01	3.63E+00	4.11E+00	NA	NA	NA	
	005	48.8	26.8	9/11/2007	13:10	6.98E+03	3.27E+02	1.59E+02	-2.26E-01	4.23E-01	6.01E-01	-1.20E+00	3.04E+00	3.24E+00	0.00E+00	4.96E+00	4.75E+00	NA	NA	NA	
	006	48.8	26.8	10/24/2007	15:50	8.77E+03	9.99E+02	4.00E+02	5.14E-02	4.26E-01	5.36E-01	-6.76E-01	3.94E+00	3.57E+00	1.35E+00	3.21E+00	3.52E+00	NA	NA	NA	
	007	48.8	26.8	1/16/2008	10:31	3.97E+02	1.94E+02	1.77E+02	-9.14E-02	6.86E-01	8.97E-01	-1.17E+00	4.74E+00	5.07E+00	-9.76E-01	4.41E+00	4.65E+00	NA	NA	NA	
	009	48.8	26.8	6/6/2008	15:05	3.04E+04	1.34E+03	4.69E+02	2.83E-01	3.39E-01	5.72E-01	1.11E+00	1.93E+00	3.47E+00	1.72E+00	2.01E+00	3.82E+00	NA	NA	NA	
	010	48.8	26.8	8/7/2008	12:43	5.94E+02	1.33E+02	1.92E+02	2.39E-01	2.67E-01	4.43E-01	7.07E-01	1.30E+00	2.23E+00	7.08E-01	1.49E+00	2.56E+00	NA	NA	NA	
	011	48.8	26.8	8/30/2008	11:55	1.36E+04	8.61E+02	5.53E+02	4.16E-01	4.80E-01	8.06E-01	1.27E+00	3.63E+00	3.09E+00	NA	NA	NA	NA	NA	NA	
	012	48.8	26.8	10/30/2008	11:30	6.43E+02	2.25E+02	1.71E+02	7.64E-02	1.71E-01	1.93E-01	1.39E+00	6.27E+00	7.25E+00	-9.09E-01	6.40E+00	6.88E+00	NA	NA	NA	
	013	48.8	26.8	11/18/2008	11:15	7.77E+02	1.79E+02	1.62E+02	4.11E-01	6.30E-01	6.97E-01	1.21E+00	4.18E+00	5.03E+00	9.78E-01	4.93E+00	5.84E+00	NA	NA	NA	
	014	48.8	26.8	2/6/2009	11:05	1.11E+04	7.86E+02	1.99E+02	1.18E-01	3.00E-01	3.57E-01	-1.67E-01	2.97E+00	3.35E+00	-4.61E-01	2.85E+00	3.14E+00	NA	NA	NA	
	015	48.8	26.8	4/14/2009	10:36	4.84E+04	1.42E+03	1.56E+02	4.85E-01	5.63E-01	5.97E-01	-5.81E-01	6.18E+00	4.12E+00	1.44E+00	3.90E+00	4.67E+00	NA	NA	NA	
	016	48.8	26.8	5/29/2009	11:42	9.34E+03	1.12E+03	3.77E+02	5.72E-01	5.75E-01	6.24E-01	-7.86E-01	9.50E+00	6.33E+00	-1.48E+00	6.63E+00	7.11E+00	NA	NA	NA	
MW-31-63	001	63.3	12.3	11/27/2006	12:10	6.89E+03	1.44E+03	1.10E+03	5.30E-01	1.26E+00	1.40E+00	1.99E+02	9.60E+00	3.60E+00	6.80E-01	2.94E+00	3.40E+00	4.10E+01	1.17E+02	1.30E+02	MW-31-63
	002	63.3	12.3	1/18/2007	9:25	1.41E+04	9.00E+02	5.20E+02	-6.50E-01	1.50E+00	1.70E+00	-4.00E-01	3.00E+00	3.50E+00	-4.50E-01	2.91E+00	3.50E+00	NA	NA	NA	
	003	63.3	12.3	6/12/2007	14:20	5.00E+03	7.85E+02	4.38E+02	4.72E-01	6.36E-01	6.78E-01	-5.01E-01	1.92E+00	2.09E+00	-8.78E-02	1.97E+00	2.20E+00	3.37E+00	1.89E+01	2.17E+01	
	004	63.3	12.3	8/2/2007	11:15	4.06E+04	2.27E+03	5.53E+02	-1.41E-01	7.84E-01	9.53E-01	1.20E+00	3.56E+00	4.18E+00	-3.09E-02	4.41E+00	4.23E+00	NA	NA	NA	
	005	63.3	12.3	9/11/2007	13:25	3.77E+04	1.13E+03	2.20E+02	-1.37E-01	4.52E-01	6.15E-01	-4.39E-01	3.51E+00	3.80E+00	-8.64E-01	3.92E+00	3.44E+00	NA	NA	NA	
	006	63.3	12.3	10/24/2007	14:55	3.58E+04	1.94E+03	4.00E+02	-1.63E-01	4.58E-01	6.34E-01	1.07E+00	5.31E+00	4.01E+00	1.01E+00	3.40E+00	4.11E+00	NA	NA	NA	

J:\17,000-18,999\17869\17869-91.MG\2009 Quarter 2 Report\Tables\Draft tables\:
O2Table5.xlsx;
MakeTable5

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	007	63.3	12.3	1/16/2008	11:32	1.24E+04	7.35E+02	1.80E+02	-6.88E-02	5.34E-01	7.44E-01	-2.49E-01	4.04E+00	4.40E+00	-9.08E-01	4.19E+00	4.32E+00	NA	NA	NA	
	009	63.3	12.3	6/6/2008	16:16	1.02E+04	7.92E+02	5.04E+02	1.44E-01	3.40E-01	6.17E-01	-1.15E+00	2.11E+00	3.36E+00	2.47E+00	2.31E+00	4.45E+00	NA	NA	NA	
	010	63.3	12.3	8/7/2008	11:22	1.76E+04	4.17E+02	1.94E+02	-2.12E-01	2.61E-01	5.89E-01	-1.86E-01	1.28E+00	2.16E+00	3.73E-01	1.43E+00	2.49E+00	NA	NA	NA	
	011	63.3	12.3	8/30/2008	12:34	2.21E+04	1.07E+03	5.49E+02	-6.34E-01	4.35E-01	9.79E-01	3.76E-01	2.35E+00	4.04E+00	NA	NA	NA	NA	NA	NA	
	012	63.3	12.3	10/30/2008	12:14	2.30E+04	1.08E+03	1.73E+02	2.28E-01	2.33E-01	2.52E-01	2.21E+00	6.18E+00	7.37E+00	-1.47E+00	7.26E+00	7.77E+00	NA	NA	NA	
	013	63.3	12.3	11/18/2008	11:58	2.55E+04	8.07E+02	1.84E+02	3.95E-01	7.40E-01	8.36E-01	1.02E-02	5.89E+00	6.01E+00	-5.18E-01	6.54E+00	6.97E+00	NA	NA	NA	
	014	63.3	12.3	2/6/2009	11:53	1.28E+04	8.39E+02	1.97E+02	6.43E-01	6.42E-01	6.82E-01	-1.32E+00	3.42E+00	3.63E+00	-7.48E-01	3.86E+00	4.17E+00	NA	NA	NA	
	015	63.3	12.3	4/14/2009	12:07	3.24E+04	1.10E+03	1.48E+02	2.95E-01	6.81E-01	7.75E-01	1.76E+00	6.68E+00	4.45E+00	2.23E+00	3.87E+00	4.79E+00	NA	NA	NA	
	016	63.3	12.3	5/29/2009	12:34	3.16E+04	9.51E+02	1.95E+02	5.59E-01	5.58E-01	6.07E-01	1.79E+00	1.07E-01	7.12E+00	7.44E-01	6.45E+00	7.35E+00	NA	NA	NA	
MW-31-85	001	84.8	-9.2	11/27/2006	12:20	4.62E+02	1.74E+02	1.70E+02	1.50E-01	1.44E+00	1.60E+00	1.52E+02	8.40E+00	3.20E+00	2.10E-01	2.19E+00	2.50E+00	2.20E+01	9.30E+01	1.00E+02	MW-31-85
	002	84.8	-9.2	1/18/2007	9:16	2.66E+03	6.00E+02	5.20E+02	-5.90E-01	1.59E+00	1.80E+00	-4.90E+00	8.70E+00	1.00E-01	-6.00E-01	8.70E+00	1.00E+01	8.35E+00	2.11E+01	2.39E+01	
	003	84.8	-9.2	6/12/2007	14:05	3.17E+02	1.62E+02	1.69E+02	-3.83E-01	6.62E-01	9.31E-01	3.95E-01	2.76E+00	1.91E+00	-5.71E-01	1.69E+00	1.83E+00	NA	NA	NA	
	004	84.8	-9.2	8/2/2007	10:58	2.69E+03	7.11E+02	5.31E+02	-7.29E-01	6.31E-01	9.31E-01	-5.01E-02	3.29E+00	3.59E+00	-1.90E+00	3.35E+00	3.31E+00	NA	NA	NA	
	005	84.8	-9.2	9/11/2007	13:20	4.32E+03	3.32E+02	1.82E+02	6.86E-01	7.48E-01	7.93E-01	-7.04E-01	3.04E+00	3.26E+00	-3.07E+00	3.68E+00	3.24E+00	NA	NA	NA	
	006	84.8	-9.2	10/24/2007	14:40	5.51E+03	8.15E+02	3.98E+02	2.53E-01	4.08E-01	4.51E-01	5.68E-01	2.90E+00	3.38E+00	4.76E-01	2.75E+00	3.19E+00	NA	NA	NA	
	007	84.8	-9.2	1/16/2008	11:26	1.31E+03	2.81E+02	1.84E+02	6.97E-01	7.67E-01	7.79E-01	2.68E+00	4.05E+00	4.83E+00	1.90E+00	3.80E+00	4.62E+00	NA	NA	NA	
	009	84.8	-9.2	6/6/2008	15:26	5.95E+03	6.30E+02	5.05E+02	1.52E-01	3.17E-01	5.69E-01	-8.07E-01	2.20E+00	3.45E+00	1.91E+00	2.45E+00	4.58E+00	NA	NA	NA	
	010	84.8	-9.2	8/7/2008	11:13	2.30E+03	1.83E+02	1.94E+02	1.07E-01	2.87E-01	5.30E-01	-6.47E-01	1.22E+00	1.94E+00	1.63E-02	1.31E+00	2.18E+00	NA	NA	NA	
	011	84.8	-9.2	8/30/2008	12:08	8.34E+03	7.00E+02	5.52E+02	4.46E-01	4.87E-01	8.10E-01	-5.50E-01	1.86E+00	3.07E+00	NA	NA	NA	NA	NA	NA	
	012	81.8	-9.2	10/30/2008	12:09	3.89E+03	4.52E+02	1.67E+02	4.08E-01	7.33E-01	8.25E-01	-5.63E+00	6.17E+00	4.73E+00	-1.82E+00	6.98E+00	6.56E+00	NA	NA	NA	
	013	84.8	-9.2	11/18/2008	12:00	4.41E+03	2.97E+02	1.61E+02	-2.44E-01	5.37E-01	8.11E-01	2.13E+00	3.79E+00	4.76E+00	2.84E+00	3.82E+00	5.19E+00	NA	NA	NA	
	014	84.8	-9.2	2/6/2009	11:22	7.37E+03	6.54E+02	2.02E+02	3.89E-01	5.58E-01	6.16E-01	1.22E+00	3.50E+00	4.06E+00	1.09E+00	3.57E+00	4.23E+00	NA	NA	NA	
	015	84.8	-9.2	4/14/2009	11:41	1.88E+04	8.49E+02	1.50E+02	5.35E-01	7.01E-01	7.64E-01	-6.49E-01	5.24E+00	3.49E+00	1.11E+00	3.50E+00	4.14E+00	NA	NA	NA	
	016	84.8	-9.2	5/29/2009	12:50	8.85E+03	1.09E+03	3.75E+02	1.84E-01	8.01E-01	9.30E-01	8.20E-01	1.04E-01	6.95E+00	6.97E-01	6.57E+00	7.51E+00	NA	NA	NA	
MW-32-59	001	58.8	18.3	1/19/2007	9:30	7.67E+03	7.50E+02	5.20E+02	6.30E-01	1.47E+00	1.60E+00	-8.60E-01	1.98E+00	2.30E+00	4.90E-01	2.28E+00	2.60E+00	NA	NA	NA	MW-32-59
	002	58.8	18.3	6/28/2007	14:25	2.40E+04	7.37E+02	1.97E+02	-1.65E-01	5.90E-01	7.97E-01	-1.71E+00	3.51E+00	3.30E+00	-1.42E+00	3.87E+00	3.34E+00	NA	NA	NA	
	003	58.8	18.3	8/13/2007	13:07	1.42E+04	6.00E+02	1.99E+02	-2.71E-01	5.58E-01	7.58E-01	1.48E+00	2.10E+00	3.22E+00	-4.66E-01	3.30E+00	3.65E+00	NA	NA	NA	
	001	58.8	18.3	10/26/2007	12:07	1.11E+04	4.61E+02	1.84E+02	3.22E-01	6.43E-01	7.36E-01	-1.94E-01	3.82E+00	3.87E+00	2.45E+00	3.06E+00	4.08E+00	NA	NA	NA	
	002	58.8	18.3	1/18/2008	13:25	1.87E+04	9.11E+02	1.86E+02	4.67E-01	6.96E-01	7.57E-01	9.98E-01	4.25E+00	4.79E+00	1.99E+00	3.81E+00	4.65E+00	NA	NA	NA	
	003	58.8	18.3	5/5/2008	15:33	4.15E+03	2.01E+02	1.82E+02	7.61E-02	5.20E-01	9.70E-01	-7.05E-01	1.89E+00	3.05E+00	1.25E+00	2.01E+00	3.77E+00	NA	NA	NA	
	004	58.8	18.3	6/9/2008	12:10	2.85E+03	4.81E+02	5.06E+02	-3.39E-01	3.64E-01	7.61E-01	-1.22E+00	1.94E+00	2.98E+00	-7.10E-01	2.43E+00	3.91E+00	NA	NA	NA	
	005	58.8	18.3	7/31/2008	13:23	1.54E+03	1.63E+02	1.94E+02	1.72E-01	3.81E-01	6.90E-01	4.66E-01	1.97E+00	3.33E+00	-1.08E+00	2.48E+00	3.26E+00	NA	NA	NA	
	006	58.8	18.3	9/2/2008	13:52	2.44E+03	4.59E+02	5.53E+02	2.19E-01	5.54E-01	9.94E-01	7.77E-01	1.85E+00	3.21E+00	NA	NA	NA	NA	NA	NA	
	007	58.8	18.3	10/24/2008	13:59	4.13E+02	2.00E+02	1.73E+02	1.63E-01	6.06E-01	7.44E-01	-3.50E-01	7.51E+00	7.30E+00	-1.32E+00	6.29E+00	6.66E+00	NA	NA	NA	
	008	58.8	18.3	2/4/2009	15:46	1.78E+04	1.03E+03	1.98E+02	-1.01E-01	5.73E-01	7.69E-01	1.01E-01	3.54E+00	3.41E+00	2.70E+00	3.41E+00	4.34E+00	NA	NA	NA	
	009	58.8	18.3	4/27/2009	15:54	6.43E+04	3.00E+03	4.23E+02	4.22E-01	6.15E-01	6.76E-01	-3.21E+00	4.83E+00	3.22E+00	-5.75E-02	3.60E+00	4.11E+00	NA	NA	NA	
	010	58.8	18.3	6/2/2009	13:59	6.69E+03	9.60E+02	3.77E+02	3.26E-01	4.73E-01	5.25E-01	-1.72E-01	9.62E+00	6.41E+00	-7.66E-01	5.63E+00	6.03E+00	NA	NA	NA	
MW-32-85	001	85.3	85.3	1/19/2007	9:10	1.12E+04	8.40E+02	5.30E+02	3.20E-01	1.47E+00	1.60E+00	1.57E+00	2.82E+00	3.10E+00	9.00E-01	4.20E+00	4.80E+00	NA	NA	NA	MW-32-85
	002	85.3	85.3	6/28/2007	15:05	5.42E+03	3.77E+02	1.95E+02	-4.15E-01	5.10E-01	6.75E-01	-1.70E-01	2.77E+00	3.03E+00	-3.05E-01	3.19E+00	3.21E+00	NA	NA	NA	
	003	85.3	85.3	8/13/2007	10:48	5.70E+03	4.05E+02	2.01E+02	-2.45E-02	4.47E-01	5.75E-01	3.28E-01	2.81E+00	3.15E+00	9.90E-01	2.98E+00	3.53E+00	NA	NA	NA	
	004	85.3	85.3	10/26/2007	11:12	1.26E+04	4.79E+02	1.79E+02	-1.17E-01	4.27E-01	6.25E-01	8.85E-01	2.97E+00	3.45E+00	-1.85E-02	3.23E+00	3.63E+00	NA	NA	NA	
	005	85.3	85.3	1/18/2008	14:50	1.07E+04	6.90E+02	1.83E+02	-3.03E-01	4.38E-01	7.35E-01	3.57E-01	2.64E+00	2.67E+00	-5.37E-01	1.97E+00	2.13E+00	NA	NA	NA	
	006	85.3	85.3	5/5/2008	14:10	8.36E+03	2.64E+02	1.81E+02	-6.65E-02	3.89E-01	7.59E-01	1.95E+00	2.16E+00	3.96E+00	-3.64E-01	2.06E+00	3.27E+00	NA	NA	NA	
	007	85.3	85.3	6/9/2008	12:25	1.11E+04	8.21E+02	5.04E+02	-9.56E-02	3.57E-01	7.12E-01	1.39E+00	2.01E+00	3.68E+00	-5.47E-01	2.04E+00	3.34E+00	NA	NA	NA	
	008	85.3	85.3	7/31/2008	14:35	7.48E+03	2.83E+02	1.93E+02	1.16E-01	3.35E-01	6.24E-01	2.14E-01	2.06E+00	3.50E+00	1.07E+00	1.88E+00	3.43E+00	NA	NA	NA	
	009	85.3	85.3	9/2/2008	14:40	8.05E+03	6.90E+02	5.52E+02	1.42E-01	4.15E-01	7.65E-01	-1.37E+00	2.45E+00	3.52E+00	NA	NA	NA	NA	NA	NA	
	010	85.3	85.3	10/24/2008	14:50	8.62E+03	6.66E+02	1.72E+02	1.13E-01	4.56E-01	5.68E-01	1.39E+00	5.78E+00	6.62E+00	3.08E+00	5.89E+00	7.32E+00	NA	NA	NA	
	011	85.3	85.3	2/4/2009	15:49	6.54E+03	6.38E+02	1.98E+02	5.26E-01	7.76E-01	8.50E-01	4.88E-01	2.85E+00	3.31E+00	2.27E+00	3.20E+00	4.15E+00	NA	NA	NA	
	012	85.3	85.3	4/27/2009	15:34	8.87E+03	1.17E+03	4.31E+02	1.21E-01	5.33E-01	6.47E-01	-2.07E+00	6.11E+00	4.07E+00	1.69E+00	4.08E+00	4.90E+00	NA	NA	NA	
	013	85.3	85.3	6/2/2009	15:11	8.07E+03	1.04E+03	3.76E+02	-1.55E-01	6.47E-01	7.60E-01	-1.73E+00	1.30E-01	8.65E+00	8.98E-01	8.75E+00	9.91E+00	NA	NA	NA	
MW-32-131	001	130.8	-53.7	1/19/2007	9:45	1.13E+04	8.40E+02	5.30E+02	-1.03E+00	1.47E+00	1.70E+00	-6.00E-02	2.04E+00	2.30E+00	3.00E-02	2.07E+00	2.40E+00	NA	NA	NA	MW-32-131
	002	130.8	-53.7	6/28/2007	12:45	3.02E+02	1.88E+02	1.97E+02	-1.39E-01	5.13E-01	5.94E-01	-1.46E+00	5.09E+00	4.92E+00	9.88E-01	3.76E+00	4.38E+00	NA	NA	NA	
	003	130.8	-53.7	8/13/2007	11:15	1.29E+02	1.70E+02	1.87E+02	2.69E-01	7.33E-01	8.51E-01	-8.09E-01	4.86E+00	4.85E+00	-1.19E+00	3.29E+00	3.22E+00	NA	NA	NA	
	004	130.8	-53.7	10/26/2007	10:11	3.74E+02	2.39E+02	2.42E+02	2.47E-01	6.03E-01	7.06E-01	-1.81E-01	3.48E+00	3.82E+00	-2.55E-01	3.92E+00	3.99E+00	NA	NA	NA	
	005	130.8	-53.7	1/18/2008	11:23	5.04E+02	2.07E+02	1.79E+02	5.14E-01	7.79E-01	8.52E-01	8.47E-01	2.19E+00	2.21E+00	-8.40E-02	1.98E+00	2.18E+00	NA	NA	NA	
	006	130.8	-53.7	5/5/2008	12:35	1.03E+03	1.36E+02	1.83E+02	-2.89E-01	3.98E-01	7.75E-01	-1.21E+00	2.28E+00	3.55E+00	-3.26E-01	2.27E+00	3.66E+00	NA	NA	NA	
MW-32-149	004	149.3	-72.2	10/26/2007	10:10	2.92E+03	2.94E+02	1.90E+02	-2.45E-01	4.89E-01	7.22E-01	1.99E-01	3.10E+00	3.51E+00	1.65E-01	3.56E+00	3.99E+00	NA	NA	NA	MW-32-149
	005	149.3	-72.2	1/18/2008	11:18	1.15E+03	2.69E+02	1.85E+02	3.04E-01	8.25E-01	9.53E-01	2.94E+00	4.29E+00	3.08E+00	-8.74E-01	2.82E+00	2.93E+00	NA	NA	NA	
	006	149.3	-72.2	5/5/2008	10:54	8.83E+02	1.31E+02	1.82E+02	7.39E-01	5.05E-01	7.94E-01	-2.99E+00	2.67E+00	3.71E+00	2.04E+00	2.12E+00	4.12E+00	NA	NA	NA	
	007	149.3	-72.2	7/31/2008	11:10	5.32E+02	1.31E+02	1.94E+02	1.38E-02	3.46E-01	6.80E-01	1.06E+00	1.65E+00	2.87E+00	1.42E+00	1.56E+00	2.81E+00	NA	NA	NA	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS																Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)				
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC		
	008	149.3	-72.2	10/24/2008	10:28	5.03E+02	2.10E+02	1.72E+02	4.69E-01	6.52E-01	6.99E-01	1.80E+00	5.22E+00	6.07E+00	1.25E+00	4.96E+00	5.82E+00	NA	NA	NA		
	009	149.3	-72.2	2/4/2009	13:50	2.65E+02	1.18E+02	1.17E+02	4.53E-01	6.75E-01	7.34E-01	5.44E-01	2.99E+00	3.38E+00	3.32E-01	2.91E+00	3.28E+00	NA	NA	NA		
	010	149.3	-72.2	4/27/2009	13:31	3.21E+02	1.79E+02	1.87E+02	7.04E-01	8.48E-01	9.20E-01	1.35E+00	4.26E+00	2.84E+00	-4.83E-02	2.34E+00	2.57E+00	NA	NA	NA		
	011	149.3	-72.2	6/2/2009	12:05	2.24E+02	1.53E+02	1.62E+02	-2.86E-01	6.60E-01	7.98E-01	-2.68E+00	1.02E-01	6.78E+00	2.12E+00	7.04E+00	8.40E+00	NA	NA	NA		
MW-32-165	001	163	-85.9	1/19/2007	9:50	1.05E+04	8.70E+02	5.70E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		MW-32-165
	002	163	-85.9	6/28/2007	13:06	5.81E+02	2.03E+02	1.97E+02	-2.82E-01	7.33E-01	9.70E-01	8.54E-01	2.85E+00	2.94E+00	-8.16E-01	2.46E+00	2.60E+00	NA	NA	NA		
	003	163	-85.9	8/13/2007	11:35	4.93E+02	2.09E+02	2.08E+02	-6.38E-01	3.81E-01	6.52E-01	-1.42E+00	3.76E+00	3.37E+00	1.63E+00	1.69E+00	2.91E+00	NA	NA	NA		
MW-32-173	001	172.8	-95.7	10/26/2007	9:55	5.89E+03	3.87E+02	1.92E+02	1.86E-02	5.87E-01	7.54E-01	6.92E-01	3.00E+00	3.51E+00	-9.97E-01	2.91E+00	3.02E+00	NA	NA	NA		MW-32-173
	002	172.8	-95.7	1/18/2008	11:05	3.40E+03	4.07E+02	1.82E+02	1.13E-01	6.02E-01	7.63E-01	-3.84E-01	2.00E+00	2.18E+00	-6.14E-01	2.09E+00	2.25E+00	NA	NA	NA		
	003	172.8	-95.7	5/5/2008	10:33	1.69E+03	1.52E+02	1.82E+02	1.11E-02	3.53E-01	7.09E-01	1.95E-01	2.18E+00	3.64E+00	5.47E-01	2.24E+00	3.91E+00	NA	NA	NA		
	004	172.8	-95.7	7/31/2008	10:52	1.08E+03	1.48E+02	1.92E+02	6.80E-01	4.52E-01	7.11E-01	-1.17E+00	1.58E+00	2.47E+00	6.06E-01	1.65E+00	2.96E+00	NA	NA	NA		
	005	172.8	-95.7	9/2/2008	11:30	9.72E+02	3.72E+02	5.48E+02	1.85E-01	4.64E-01	8.41E-01	-1.02E+00	2.67E+00	3.88E+00	NA	NA	NA	NA	NA	NA		
	006	172.8	-95.7	10/24/2008	10:25	1.03E+03	2.67E+02	1.74E+02	1.05E-01	3.60E-01	4.36E-01	8.63E-01	5.67E+00	6.61E+00	2.30E+00	6.36E+00	7.74E+00	NA	NA	NA		
	007	172.8	-95.7	2/4/2009	13:40	7.56E+02	1.45E+02	1.17E+02	2.57E-01	4.26E-01	4.74E-01	1.79E+00	3.65E+00	4.41E+00	2.56E+00	3.47E+00	4.49E+00	NA	NA	NA		
	008	172.8	-95.7	4/27/2009	13:32	7.86E+02	4.77E+02	4.31E+02	7.47E-02	4.43E-01	5.48E-01	-3.20E+00	6.12E+00	4.08E+00	1.19E+00	4.77E+00	5.59E+00	NA	NA	NA		
	009	172.8	-95.7	6/2/2009	11:58	1.72E+03	2.19E+02	1.68E+02	1.05E-01	5.78E-01	6.69E-01	-1.33E+00	9.20E+00	6.13E+00	-1.40E+00	6.21E+00	6.55E+00	NA	NA	NA		
MW-32-190	001	190.3	-113.7	1/19/2007	9:55	1.13E+04	8.40E+02	5.20E+02	4.20E-01	1.50E+00	1.70E+00	2.60E-01	1.26E+00	1.40E+00	7.10E-01	1.50E+00	1.70E+00	NA	NA	NA		MW-32-190
	002	190.3	-113.7	6/28/2007	13:07	2.41E+03	2.72E+02	1.87E+02	-5.09E-02	6.12E-01	8.20E-01	1.52E+00	3.07E+00	3.64E+00	-1.29E+00	3.27E+00	3.37E+00	NA	NA	NA		
	003	190.3	-113.7	8/13/2007	11:25	1.72E+03	2.67E+02	2.03E+02	-3.65E-01	8.12E-01	1.04E+00	6.21E-01	2.49E+00	2.93E+00	-1.19E+00	2.38E+00	2.39E+00	NA	NA	NA		
	004	190.3	-113.7	10/26/2007	9:53	9.76E+03	4.80E+02	1.93E+02	-5.05E-01	7.75E-01	9.73E-01	-6.17E-01	3.07E+00	3.27E+00	-1.94E-01	3.18E+00	3.57E+00	NA	NA	NA		
	005	190.3	-113.7	1/18/2008	11:35	8.89E+03	6.32E+02	1.83E+02	4.28E-01	7.73E-01	8.69E-01	6.57E-01	1.71E+00	2.02E+00	5.18E-01	1.65E+00	1.96E+00	NA	NA	NA		
	006	190.3	-113.7	5/5/2008	10:57	6.73E+03	2.41E+02	1.82E+02	-1.68E-01	4.28E-01	8.16E-01	-1.18E+00	2.08E+00	3.24E+00	-2.62E+00	3.16E+00	2.97E+00	NA	NA	NA		
	007	190.3	-113.7	7/31/2008	11:24	4.71E+03	2.35E+02	1.94E+02	3.21E-01	3.35E-01	5.51E-01	-8.54E-01	1.55E+00	2.53E+00	2.22E+00	1.77E+00	3.30E+00	NA	NA	NA		
	008	190.3	-113.7	9/2/2008	11:40	3.81E+03	5.20E+02	5.44E+02	5.92E-01	5.81E-01	9.53E-01	1.39E+00	2.82E+00	4.63E+00	NA	NA	NA	NA	NA	NA		
	009	190.3	-113.7	10/24/2008	10:31	3.35E+03	4.31E+02	1.73E+02	3.30E-03	5.75E-01	7.41E-01	5.89E-01	5.33E+00	5.98E+00	3.85E+00	5.68E+00	7.16E+00	NA	NA	NA		
	010	190.3	-113.7	2/4/2009	13:45	2.69E+03	4.26E+02	1.98E+02	2.44E-01	5.57E-01	6.47E-01	3.60E-02	2.67E+00	2.95E+00	4.71E-01	3.02E+00	3.44E+00	NA	NA	NA		
	011	190.3	-113.7	4/27/2009	13:24	2.54E+03	6.68E+02	4.09E+02	-2.51E-02	5.58E-01	6.80E-01	-6.89E-01	4.01E+00	2.67E+00	5.11E-01	2.30E+00	2.68E+00	NA	NA	NA		
	012	190.3	-113.7	6/2/2009	12:01	1.95E+03	5.76E+02	3.78E+02	8.61E-02	5.09E-01	5.90E-01	3.64E-01	1.02E-01	6.77E+00	1.26E+00	5.70E+00	6.67E+00	NA	NA	NA		
MW-33	001	19.2	-0.4	12/15/2005	8:00	1.42E+05	4.26E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		MW-33
	002	19.2	-0.4	12/19/2005	11:38	1.99E+05	5.97E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	003	19.2	-0.4	12/29/2005	11:30	2.20E+05	6.60E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	004	19.2	-0.4	1/6/2006	12:30	1.89E+05	5.67E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	005	19.2	-0.4	1/13/2006	12:10	2.32E+05	6.96E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	006	19.2	-0.4	1/20/2006	10:40	2.26E+05	6.78E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	007	19.2	-0.4	1/27/2006	11:10	2.42E+05	7.26E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	008	19.2	-0.4	2/3/2006	12:15	2.50E+05	2.84E+04	6.33E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	009	19.2	-0.4	2/7/2006	16:00	2.14E+05	2.64E+04	6.37E+02	1.36E-01	5.06E-01	6.25E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	010	19.2	-0.4	2/16/2006	13:55	2.61E+05	2.91E+04	6.36E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	011	19.2	-0.4	3/3/2006	10:20	2.53E+05	7.59E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	012	19.2	-0.4	4/7/2006	10:25	2.21E+05	6.63E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	014	19.2	-0.4	5/17/2006	12:50	1.35E+05	2.01E+04	1.60E+03	7.79E-01	1.43E+00	1.47E+00	1.17E+01	1.19E-01	1.37E-01	4.62E+00	1.41E-01	1.28E+01	NA	NA	NA		
	015	19.2	-0.4	6/7/2006	10:15	1.41E+05	1.85E+04	1.32E+03	6.74E-01	5.63E-01	6.44E-01	6.95E-01	8.72E+00	9.58E+00	-6.11E+00	8.63E+00	8.02E+00	NA	NA	NA		
	017	19.2	-0.4	7/3/2006	9:50	2.64E+05	2.01E+04	3.85E+03	4.78E-01	1.37E+00	1.57E+00	-6.85E-01	1.17E-01	1.27E-01	-5.24E+00	1.28E-01	1.21E+01	NA	NA	NA		
	018	19.2	-0.4	8/4/2006	8:15	1.84E+05	2.54E+04	1.87E+03	NA	NA	NA	3.53E+00	6.31E+00	7.84E+00	-1.11E+00	7.35E+00	8.60E+00	NA	NA	NA		
	019	19.2	-0.4	8/30/2006	13:00	1.15E+05	1.77E+04	4.39E+03	NA	NA	NA	-6.99E-01	8.47E+00	8.90E+00	3.71E+00	7.21E+00	9.60E+00	NA	NA	NA		
	020	19.2	-0.4	6/15/2007	15:48	9.06E+04	3.26E+03	3.61E+02	-2.82E-01	2.86E-01	4.85E-01	-2.78E-01	3.82E+00	3.76E+00	-1.64E+00	3.44E+00	3.39E+00	-8.12E-01	1.16E+01	1.37E+01		
	021	19.2	-0.4	8/3/2007	10:20	2.30E+04	7.08E+02	2.04E+02	5.80E-01	8.49E-01	9.33E-01	8.18E-01	2.37E+00	2.83E+00	2.45E-01	2.13E+00	2.46E+00	NA	NA	NA		
	022	19.2	-0.4	4/28/2008	15:00	5.85E+04	1.16E+03	2.58E+02	1.69E-01	2.97E-01	5.22E-01	1.08E-01	1.87E+00	3.12E+00	-4.51E-02	2.12E+00	3.49E+00	NA	NA	NA		
	023	19.2	-0.4	9/4/2008	14:41	6.80E+04	1.82E+03	5.47E+02	1.33E-01	4.05E-01	7.55E-01	5.46E-01	1.61E+00	2.83E+00	NA	NA	NA	NA	NA	NA		
	024	19.2	-0.4	4/29/2009	15:12	3.44E+04	1.30E+03	1.72E+02	2.74E-01	5.39E-01	6.09E-01	-1.06E+00	8.93E+00	5.95E+00	1.83E+00	5.72E+00	6.77E+00	NA	NA	NA		
MW-34	001	18.9	-0.4	12/13/2005	13:53	6.39E+04	1.92E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		MW-34
	002	18.9	-0.4	12/19/2005	10:35	1.21E+05	3.63E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	003	18.9	-0.4	12/29/2005	10:50	1.47E+05	4.41E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	004	18.9	-0.4	1/6/2006	11:35	1.59E+05	4.77E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	005	18.9	-0.4	1/13/2006	11:40	1.31E+05	3.93E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	006	18.9	-0.4	1/20/2006	10:00	2.11E+05	6.33E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	007	18.9	-0.4	1/27/2006	10:50	2.12E+05	6.36E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	008	18.9	-0.4	2/3/2006	12:20	2.24E+05	2.69E+04	6.33E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	009	18.9	-0.4	2/7/2006	15:15	1.74E+05	2.38E+04	6.37E+02	9.22E-02	3.78E-01	4.67E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	010	18.9	-0.4	2/16/2006	13:55	1.99E+05	2.55E+04	6.36E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		

See Page 23 for Notes

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID^1	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing^2	SAMPLE ZONE CENTER, elevation ft msl^2	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID^1
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	011	18.9	-0.4	3/3/2006	9:35	2.30E+05	6.90E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	012	18.9	-0.4	4/7/2006	10:05	2.76E+05	8.28E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	013	18.9	-0.4	5/17/2006	13:15	3.64E+04	5.52E+03	8.35E+02	2.50E-02	6.63E-01	9.24E-01	7.84E+00	1.39E-01	1.55E-01	2.72E-00	1.31E-01	1.44E+01	NA	NA	NA	
	014	18.9	-0.4	6/26/2006	10:20	1.05E+04	8.52E+02	3.41E+02	3.71E-01	6.49E-01	7.79E-01	1.83E+00	7.85E-00	8.96E-00	5.84E-00	7.34E-00	9.37E+00	NA	NA	NA	
	015	18.9	-0.4	7/26/2006	10:20	4.07E+04	3.51E+03	1.57E+03	2.18E-01	8.97E-01	1.16E+00	-1.73E-01	4.87E-00	5.24E-00	-2.54E-01	5.64E-00	6.78E+00	NA	NA	NA	
	016	18.9	-0.4	8/24/2006	12:18	6.69E+04	1.05E+04	3.39E+03	NA	NA	NA	1.62E+00	5.81E-00	6.78E-00	-1.60E+00	5.89E-00	5.85E+00	NA	NA	NA	
	017	18.9	-0.4	9/21/2006	9:45	1.61E+04	2.78E+03	5.86E+02	0.00E+00	1.12E+00	1.31E+00	6.09E-02	1.69E-00	1.85E-00	-2.10E-01	1.65E-00	1.79E+00	NA	NA	NA	
	018	18.9	-0.4	8/3/2007	10:21	2.22E+04	7.44E+02	2.13E+02	3.94E-02	7.08E-01	9.04E-01	-1.55E+00	4.53E-00	4.44E-00	2.12E-00	3.40E-00	4.01E+00	NA	NA	NA	
MW-35	001	19	-0.4	12/13/2005	13:50	4.23E+04	3.18E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	MW-35
	002	19	-0.4	12/19/2005	10:17	7.60E+04	2.28E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003	19	-0.4	12/29/2005	10:00	8.05E+04	2.42E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	004	19	-0.4	1/6/2006	11:10	9.54E+04	2.86E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	005	19	-0.4	1/13/2006	10:50	9.78E+04	2.93E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	006	19	-0.4	1/20/2006	9:30	1.04E+05	3.12E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	007	19	-0.4	1/27/2006	11:00	3.87E+04	1.16E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	008	19	-0.4	2/3/2006	12:20	5.14E+04	1.29E+04	6.33E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	009	19	-0.4	2/7/2006	14:40	8.44E+04	1.66E+04	6.37E+02	1.62E-01	4.32E-01	5.28E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	010	19	-0.4	2/16/2006	13:30	9.04E+04	1.72E+04	6.36E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	011	19	-0.4	3/3/2006	9:05	1.19E+05	3.57E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	012	19	-0.4	4/7/2006	9:55	5.62E+04	1.69E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	013	19	-0.4	5/17/2006	13:37	4.07E+04	6.15E+03	8.72E+02	4.70E-01	7.53E-01	7.87E-01	6.46E+00	2.07E-01	1.64E-01	3.04E-00	1.37E-01	1.53E+01	NA	NA	NA	
	014	19	-0.4	6/26/2006	10:40	1.74E+04	1.37E+03	4.29E+02	-2.30E-01	6.66E-01	8.69E-01	-1.34E+00	1.01E-01	1.09E-01	-2.45E+00	8.92E-00	9.36E+00	NA	NA	NA	
	015	19	-0.4	9/21/2006	9:30	4.53E+04	7.19E+03	9.12E+02	6.26E-01	1.30E+00	1.41E+00	-3.15E-01	1.96E-00	1.82E-00	2.44E-01	1.49E-00	1.69E+00	NA	NA	NA	
	016	19	-0.4	6/15/2007	13:58	2.03E+03	5.87E+02	3.84E+02	2.26E-01	4.34E-01	4.91E-01	4.66E+01	8.82E-00	2.81E-00	-1.27E+00	2.58E-00	2.63E+00	6.18E+00	1.92E+01	2.20E+01	
	017	19	-0.4	8/3/2007	10:22	5.95E+03	5.58E+02	2.70E+02	9.45E-02	5.76E-01	6.98E-01	-9.20E-01	2.71E-00	2.82E-00	5.74E-01	2.88E-00	3.33E+00	NA	NA	NA	
	018	19	-0.4	4/28/2008	13:38	1.04E+03	1.77E+02	2.19E+02	2.34E-01	2.96E-01	5.03E-01	-2.93E-02	2.03E-00	3.34E-00	-5.77E-02	2.36E-00	3.87E+00	NA	NA	NA	
	019	19	-0.4	4/30/2009	11:17	1.46E+03	3.03E+02	1.74E+02	-2.75E-01	5.13E-01	6.38E-01	-1.08E+00	9.27E-00	6.18E-00	-1.87E+00	5.79E-00	6.00E+00	NA	NA	NA	
MW-36-24	001	16.1	-4.3	2/7/2006	17:00	NA	NA	NA	1.29E+00	5.48E-01	5.53E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	MW-36-24
	002	16.1	-4.3	2/27/2006	9:45	3.04E+04	9.95E+03	6.36E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003	16.1	-4.3	3/23/2006	16:00	3.42E+04	3.81E+03	1.86E+03	9.99E-01	6.42E-01	6.42E-01	-3.86E+00	1.01E-01	1.05E-01	5.02E-00	9.33E-00	1.22E+01	6.41E+01	1.59E+01	1.53E+01	
	004	16.1	-4.3	4/5/2006	10:30	NA	NA	NA	1.56E+00	4.86E-01	4.35E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	005	16.1	-4.3	6/5/2006	12:20	2.02E+02	1.59E+02	1.51E+02	3.70E-01	7.66E-01	9.31E-01	3.99E+00	1.03E-01	1.21E-01	6.90E-02	1.02E-01	1.12E+01	NA	NA	NA	
	006	16.1	-4.3	8/28/2006	10:30	2.45E+02	1.80E+02	1.71E+02	NA	NA	NA	-1.04E+00	3.27E 00	3.32E 00	1.66E 00	3.06E 00	4.19E+00	NA	NA	NA	
	007	16.1	-4.3	6/27/2007	10:40	1.54E+02	1.76E+02	1.93E+02	5.90E-01	7.92E-01	8.46E-01	3.31E-01	2.81E-00	3.17E-00	4.00E-01	3.03E-00	3.45E+00	NA	NA	NA	
	008	16.1	-4.3	8/8/2007	13:45	1.63E+02	1.85E+02	2.04E+02	-5.35E-01	6.81E-01	9.31E-01	1.53E-01	3.40E-00	3.77E-00	3.56E-00	3.40E-00	4.17E+00	-7.46E+00	2.10E+01	2.54E+01	
	009	16.1	-4.3	10/18/2007	10:06	2.86E+02	1.91E+02	2.01E+02	8.56E-02	7.60E-01	9.26E-01	7.20E-01	2.91E-00	3.37E-00	3.11E-01	3.01E-00	3.47E+00	NA	NA	NA	
	010	16.1	-4.3	1/23/2008	14:18	2.16E+03	2.36E+02	1.70E+02	1.03E-01	3.12E-01	3.76E-01	2.92E-02	2.39E-00	2.67E-00	-4.84E-01	2.37E-00	2.57E+00	NA	NA	NA	
	011	16.1	-4.3	7/24/2008	13:57	1.02E+03	1.22E+02	1.63E+02	3.38E-01	3.75E-01	6.24E-01	3.97E-01	2.09E-00	3.61E-00	-5.45E-01	2.37E-00	3.85E+00	NA	NA	NA	
	012	16.1	-4.3	11/10/2008	15:33	2.01E+02	1.50E+02	1.61E+02	5.52E-01	7.53E-01	8.04E-01	0.00E+00	6.81E 00	4.46E 00	2.72E 00	3.84E 00	5.41E+00	NA	NA	NA	
	013	16.1	-4.3	1/22/2009	12:48	2.37E+02	1.16E+02	1.06E+02	-6.26E-01	7.37E-01	9.48E-01	5.41E-01	2.88E-00	3.34E-00	3.15E-01	3.35E-00	3.82E+00	NA	NA	NA	
	014	16.1	-4.3	5/1/2009	13:55	4.98E+02	1.98E+02	1.62E+02	-1.28E-01	7.22E-01	8.58E-01	1.20E+00	7.73E-00	5.15E-00	-8.11E-01	4.19E-00	4.36E+00	NA	NA	NA	
MW-36-41	001	37	-25.2	2/10/2006	11:10	4.75E+04	1.24E+04	6.38E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	MW-36-41
	002	37	-25.2	2/27/2006	13:45	4.58E+04	1.22E+04	6.36E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003	37	-25.2	3/24/2006	12:45	5.52E+04	4.65E+03	1.86E+03	3.48E+00	5.46E-01	4.16E-01	-5.91E+00	1.39E-01	1.45E-01	2.97E-00	1.53E-01	1.74E+01	4.87E+01	1.65E+01	1.65E+01	
	004	37	-25.2	4/5/2006	12:55	NA	NA	NA	3.53E+00	6.24E-01	5.02E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	005	37	-25.2	6/5/2006	11:30	2.05E+04	3.17E+03	6.01E+02	2.30E+00	6.59E-01	6.10E-01	-3.37E+00	1.27E-01	1.33E-01	6.21E-02	1.03E-01	1.13E+01	NA	NA	NA	
	006	37	-25.2	8/28/2006	10:10	2.01E+04	3.09E+03	6.45E+02	NA	NA	NA	1.96E+00	4.15E-00	5.22E-00	-2.78E-01	3.56E-00	3.78E+00	NA	NA	NA	
	007	37	-25.2	6/27/2007	12:30	6.11E+03	3.50E+02	1.74E+02	2.18E+00	1.17E+00	9.85E-01	4.30E-01	4.61E-00	1.74E-00	1.36E-00	2.91E-00	3.67E+00	NA	NA	NA	
	008	37	-25.2	5/1/2009	14:40	1.13E+04	7.20E+02	1.64E+02	4.03E+00	1.14E+00	7.31E-01	-2.59E-01	6.14E-00	4.09E-00	1.04E-01	3.03E-00	3.26E+00	NA	NA	NA	
MW-36-52	001	49.7	-37.9	2/10/2006	10:30	2.24E+04	8.55E+03	6.38E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	MW-36-52
	002	49.7	-37.9	2/27/2006	12:05	2.57E+04	9.14E+03	6.36E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003	49.7	-37.9	3/24/2006	16:00	2.68E+04	3.47E+03	1.87E+03	4.11E+00	5.66E-01	5.14E-01	4.47E+00	9.06E-00	1.04E-01	-2.47E+00	9.69E-00	1.03E+01	1.18E+01	1.44E+01	1.54E+01	
	004	49.7	-37.9	4/5/2006	14:30	NA	NA	NA	5.01E+00	7.23E-01	6.26E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	005	49.7	-37.9	6/5/2006	11:30	2.40E+04	3.68E+03	6.40E+02	4.42E+00	8.33E-01	5.53E-01	3.49E+00	1.05E-01	1.21E-01	4.80E-01	1.04E-01	1.15E+01	NA	NA	NA	
	006	49.7	-37.9	8/28/2006	10:00	1.41E+04	2.19E+03	5.35E+02	NA	NA	NA	4.06E-01	6.52E-00	7.36E-00	-2.69E-01	5.23E-00	5.69E+00	NA	NA	NA	
	007	49.7	-37.9	6/27/2007	11:45	1.01E+04	4.89E+02	1.95E+02	2.62E+00	1.09E+00	3.28E-01	-3.82E-01	2.77E-00	2.99E-00	9.25E-01	2.61E-00	3.14E+00	NA	NA	NA	
	008	49.7	-37.9	8/8/2007	14:15	1.25E+04	1.24E+03	4.60E+02	2.26E+00	1.00E+00	2.82E-01	1.30E+00	2.97E 00	3.51E 00	-8.82E-01	3.31E 00	3.55E+00	4.27E+00	2.14E+01	2.47E+01	
	009	49.7	-37.9	1/23/2008	14:13	1.13E+04	4.47E+02	1.71E+02	4.85E+00	9.69E-01	4.24E-01	-2.89E-01	2.01E-00	2.25E-00	4.08E-01	1.86E-00	2.20E+00	NA	NA	NA	
	010	49.7	-37.9	7/24/2008	16:00	1.26E+04	7.66E+02	3.74E+02	5.67E+00	7.42E-01	4.73E-01	-4.79E-01	2.24E-00	3.69E-00	2.77E-02	2.11E-00	3.53E+00	NA	NA	NA	
	011	49.7	-37.9	11/10/2008	16:53	1.10E+04	4.40E+02	1.63E+02	8.27E+00	1.24E+00	3.89E-01	-3.85E-01	3.86E-00	4.21E-00	1.36E-00	4.67E-00	5.65E+00	NA	NA	NA	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID^1	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing^2	SAMPLE ZONE CENTER, elevation ft msl^2	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID^1
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	012	49.7	-37.9	1/22/2009	12:59	6.79E+03	6.03E+02	2.06E+02	3.37E+00	8.99E-01	6.07E-01	-6.07E-01	2.96E+00	3.24E+00	1.65E+00	3.24E+00	4.05E+00	NA	NA	NA	
	013	49.7	-37.9	5/1/2009	15:07	6.06E+03	5.33E+02	1.63E+02	2.40E+00	7.82E-01	5.20E-01	2.41E+00	7.13E+00	4.75E+00	1.70E+00	4.26E+00	5.17E+00	NA	NA	NA	
MW-37-22	001	17	-2	2/24/2006	9:50	1.07E+04	5.92E+03	6.39E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	MW-37-22
	002	17	-2	2/28/2006	10:20	1.28E+04	2.03E+03	1.31E+03	2.37E+00	8.91E-01	8.44E-01	2.41E+00	1.92E+01	1.95E+01	3.60E+00	1.58E+01	1.77E+01	4.24E+01	1.48E+01	1.47E+01	
	002	17	-2	2/28/2006	10:20	NA	NA	NA	2.40E+00	9.10E-01	9.16E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003	17	-2	3/10/2006	10:35	2.32E+04	2.57E+03	1.28E+03	4.70E+00	9.84E-01	7.87E-01	4.61E+00	1.46E+01	1.63E+01	5.65E+00	1.39E+01	1.57E+01	2.08E+01	1.27E+01	1.33E+01	
	004	17	-2	3/27/2006	10:35	3.49E+04	3.78E+03	1.81E+03	4.05E+00	8.76E-01	6.97E-01	9.75E-01	4.68E+00	5.21E+00	7.46E-01	4.48E+00	4.97E+00	5.43E+01	1.53E+01	1.52E+01	
	005	17	-2	6/27/2006	10:25	1.05E+04	8.55E+02	3.40E+02	9.57E+00	1.20E+00	7.87E-01	3.20E+00	6.92E+00	8.00E+00	-8.05E-01	6.94E+00	7.43E+00	NA	NA	NA	
	006	17	-2	9/29/2006	9:30	7.37E+03	1.22E+03	3.76E+02	1.42E+01	1.80E+00	9.01E-01	-3.84E-02	8.51E+00	9.49E+00	-1.03E+00	7.63E+00	7.69E+00	NA	NA	NA	
	007	17	-2	6/27/2007	10:50	4.05E+03	3.35E+02	1.94E+02	1.49E+01	2.13E+00	8.72E-01	-2.26E+00	4.88E+00	3.50E+00	-1.12E+00	3.24E+00	3.34E+00	NA	NA	NA	
	008	17	-2	8/7/2007	10:55	2.79E+03	2.69E+02	1.89E+02	1.83E+01	2.07E+00	8.57E-01	2.74E+00	3.93E+00	4.22E+00	4.23E-01	3.07E+00	3.54E+00	NA	NA	NA	
	009	17	-2	10/15/2007	14:30	2.26E+03	2.22E+02	1.69E+02	2.29E+01	2.28E+00	4.67E-01	1.33E+00	3.25E+00	3.78E+00	-1.42E+00	3.44E+00	3.44E+00	NA	NA	NA	
	010	17	-2	1/23/2008	10:42	6.52E+03	3.54E+02	1.71E+02	8.73E+00	1.27E+00	4.63E-01	-2.09E+00	2.96E+00	2.86E+00	2.34E-01	3.08E+00	3.49E+00	NA	NA	NA	
	011	17	-2	7/24/2008	11:20	4.33E+03	2.28E+02	1.95E+02	1.22E+01	1.25E+00	7.14E-01	4.32E-01	2.13E+00	3.66E+00	2.97E+00	2.57E+00	4.83E+00	NA	NA	NA	
	012	17	-2	11/10/2008	12:20	2.68E+03	3.92E+02	1.74E+02	1.80E+01	1.88E+00	4.08E-01	2.81E+00	4.96E+00	5.96E+00	-2.85E-01	4.53E+00	4.88E+00	NA	NA	NA	
	013	17	-2	1/21/2009	14:27	5.27E+03	5.36E+02	2.05E+02	8.81E+00	1.33E+00	6.79E-01	-3.12E-01	3.02E+00	3.27E+00	-2.03E+00	3.09E+00	2.82E+00	NA	NA	NA	
	014	17	-2	5/1/2009	12:16	3.85E+03	7.92E+02	4.73E+02	9.37E+00	1.37E+00	4.81E-01	1.09E+00	7.64E+00	5.09E+00	-8.00E-01	5.43E+00	5.74E+00	NA	NA	NA	
	002	29	-14	2/28/2006	12:00	2.86E+04	2.73E+03	1.32E+03	1.78E+01	1.49E+00	2.22E+00	1.27E+01	1.93E+01	2.17E+01	1.50E-01	1.90E+01	2.20E+01	3.41E+01	1.46E+01	1.48E+01	
	002	29	-14	2/28/2006	12:00	NA	NA	NA	1.82E+01	1.72E+00	2.28E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003	29	-14	3/10/2006	12:50	2.83E+04	2.79E+03	1.28E+03	1.52E+01	1.39E+00	1.90E+00	1.43E+01	1.59E+01	1.78E+01	1.51E+00	1.51E+01	1.65E+01	1.13E+01	1.26E+01	1.34E+01	
	004	29	-14	3/27/2006	11:10	1.39E+04	2.61E+03	1.72E+03	1.95E+01	1.59E+00	2.44E+00	1.10E+00	4.72E+00	5.25E+00	-8.50E-01	4.41E+00	4.80E+00	6.09E+00	1.40E+01	1.51E+01	
	005	29	-14	6/27/2006	9:15	7.92E+03	6.63E+02	2.99E+02	2.98E+01	2.64E+00	3.72E+00	-2.37E-01	5.24E+00	6.07E+00	-2.02E-01	4.75E+00	5.78E+00	NA	NA	NA	
	006	29	-14	9/29/2006	10:15	1.15E+04	1.88E+03	4.64E+02	1.53E+01	1.80E+00	1.91E+00	-3.21E+00	8.98E+00	8.67E+00	2.51E+00	8.73E+00	1.06E+01	NA	NA	NA	
	001	29	-14	2/24/2007	10:55	3.01E+04	9.93E+03	6.39E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	007	29	-14	6/27/2007	12:20	3.13E+03	3.05E+02	1.93E+02	1.85E+01	2.37E+00	2.31E+00	-1.49E+00	3.86E+00	3.38E+00	1.63E+00	3.38E+00	4.14E+00	NA	NA	NA	
	008	29	-14	8/7/2007	10:56	3.81E+03	2.97E+02	1.87E+02	1.89E+01	2.02E+00	2.36E+00	1.99E+00	3.18E+00	3.88E+00	1.88E+00	3.19E+00	4.01E+00	NA	NA	NA	
	009	29	-14	10/15/2007	14:36	2.49E+03	2.30E+02	1.69E+02	2.13E+01	2.19E+00	2.66E+00	8.79E-01	4.61E+00	4.81E+00	2.53E+00	3.75E+00	4.70E+00	NA	NA	NA	
	010	29	-14	1/23/2008	11:03	6.76E+03	3.57E+02	1.70E+02	1.52E+01	1.59E+00	3.65E-01	1.09E+00	2.70E+00	3.16E+00	-5.32E-02	2.72E+00	2.55E+00	NA	NA	NA	
	011	29	-14	7/24/2008	12:28	5.16E+03	2.45E+02	1.95E+02	2.06E+01	1.51E+00	8.63E-01	-4.08E-01	1.58E+00	2.18E+00	-1.46E-01	2.04E+00	2.58E+00	NA	NA	NA	
	012	29	-14	11/10/2008	12:20	2.89E+03	4.01E+02	1.71E+02	1.86E+01	1.95E+00	3.99E-01	1.71E+00	5.33E+00	6.24E+00	4.09E-01	5.37E+00	6.14E+00	NA	NA	NA	
	013	29	-14	1/21/2009	14:30	3.76E+03	4.61E+02	2.04E+02	1.11E+01	1.49E+00	6.27E-01	1.59E+00	2.84E+00	3.40E+00	-7.12E-01	3.32E+00	3.49E+00	NA	NA	NA	
	014	29	-14	5/1/2009	12:13	4.83E+03	8.66E+02	4.72E+02	1.72E+01	1.80E+00	6.61E-01	-2.55E+00	7.43E+00	4.95E+00	1.21E-01	3.66E+00	4.12E+00	NA	NA	NA	
MW-37-40	001	39.2	-24.2	2/24/2006	11:35	1.68E+04	7.41E+03	6.39E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	MW-37-40
	002	39.2	-24.2	2/28/2006	11:40	1.47E+04	2.13E+03	1.32E+03	3.86E+00	1.23E+00	1.19E+00	1.79E+01	1.71E+01	1.96E+01	1.53E+00	1.64E+01	1.81E+01	5.65E+01	1.65E+01	1.61E+01	
	002	39.2	-24.2	2/28/2006	11:40	NA	NA	NA	4.91E+00	1.23E+00	1.08E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003	39.2	-24.2	3/10/2006	10:25	1.70E+04	2.30E+03	1.29E+03	1.35E+01	1.32E+00	7.28E-01	5.51E+00	1.45E+01	1.62E+01	1.99E+00	1.47E+01	1.62E+01	1.24E+01	1.35E+01	1.44E+01	
	004	39.2	-24.2	3/27/2006	11:55	1.56E+04	2.82E+03	1.82E+03	1.11E+01	1.12E+00	5.90E-01	3.34E+00	6.14E+00	5.43E+00	4.03E+00	4.71E+00	5.39E+00	6.37E+00	1.35E+01	1.47E+01	
	006	39.2	-24.2	6/27/2006	10:15	1.42E+04	1.13E+03	3.89E+02	2.44E+01	1.71E+00	7.03E-01	8.68E+00	7.68E+00	9.25E+00	-1.36E+00	6.70E+00	6.60E+00	NA	NA	NA	
	007	39.2	-24.2	6/27/2007	11:00	6.35E+03	3.99E+02	1.93E+02	4.69E+00	1.14E+00	8.47E-01	5.92E-01	3.36E+00	3.91E+00	-1.07E+00	3.15E+00	3.22E+00	NA	NA	NA	
	008	39.2	-24.2	8/7/2007	13:45	5.85E+03	3.50E+02	1.88E+02	9.76E+00	1.51E+00	6.27E-01	1.10E+00	3.12E+00	3.71E+00	-2.48E-01	3.36E+00	3.70E+00	NA	NA	NA	
	009	39.2	-24.2	10/15/2007	15:00	5.69E+03	3.03E+02	1.69E+02	5.98E+00	1.28E+00	7.48E-01	7.63E-01	2.91E+00	3.38E+00	5.99E-01	2.82E+00	3.32E+00	NA	NA	NA	
	010	39.2	-24.2	2/1/2008	17:20	6.73E+03	3.17E+02	1.33E+02	9.48E-01	8.54E-01	8.45E-01	3.09E-01	2.63E+00	2.95E+00	-3.70E-01	2.75E+00	2.94E+00	-4.35E+00	1.46E+01	1.76E+01	
	011	39.2	-24.2	7/24/2008	13:12	5.24E+03	2.43E+02	1.91E+02	1.31E+00	4.41E-01	5.07E-01	-1.10E+00	1.52E+00	2.48E+00	-1.35E+00	2.11E+00	2.70E+00	NA	NA	NA	
	012	39.2	-24.2	11/10/2008	16:17	5.49E+03	5.45E+02	1.76E+02	1.13E+00	5.31E-01	3.83E-01	3.61E-01	6.03E+00	6.83E+00	5.04E+00	7.42E+00	9.22E+00	NA	NA	NA	
	013	39.2	-24.2	1/22/2009	13:05	4.91E+03	5.13E+02	2.00E+02	3.47E+00	8.85E-01	5.69E-01	-2.64E+00	3.78E+00	3.27E+00	2.67E+00	3.14E+00	4.08E+00	NA	NA	NA	
	014	39.2	-24.2	5/1/2009	14:15	4.38E+03	8.33E+02	4.73E+02	1.11E+00	5.15E-01	3.77E-01	-2.89E-01	7.70E+00	5.13E+00	2.74E+00	5.21E+00	6.44E+00	NA	NA	NA	
MW-37-57	001	53.2	-38.2	2/24/2006	10:30	1.60E+04	7.22E+03	6.39E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	MW-37-57
	002	53.2	-38.2	2/28/2006	13:35	NA	NA	NA	2.27E+01	2.00E+00	1.02E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	002	53.2	-38.2	2/28/2006	13:35	1.33E+04	2.06E+00	1.32E+03	2.22E+01	1.75E+00	1.05E+00	1.81E+00	2.14E+01	2.44E+01	5.22E+00	1.82E+01	2.14E+01	2.91E+01	1.50E+01	1.54E+01	
	003	53.2	-38.2	3/10/2006	11:45	1.91E+04	2.40E+03	1.29E+03	2.29E+01	1.74E+00	7.68E-01	1.46E+00	1.76E+01	1.77E+01	7.74E+00	1.53E+01	1.73E+01	1.01E+01	1.33E+01	1.43E+01	
	004	53.2	-38.2	3/27/2006	13:55	1.59E+04	2.84E+03	1.81E+03	1.65E+01	1.38E+00	6.60E-01	2.52E+00	5.25E+00	5.80E+00	3.94E+00	4.86E+00	5.53E+00	3.71E+00	1.37E+01	1.49E+01	
	005	53.2	-38.2	6/27/2006	9:35	4.48E+04	3.42E+03	6.83E+02	2.73E+01	1.89E+00	8.18E-01	NA	NA	NA	2.04E+00	5.77E+00	6.52E+00	NA	NA	NA	
	006	53.2	-38.2	9/29/2006	10:40	1.05E+04	1.74E+03	4.52E+02	1.81E+01	1.88E+00	7.87E-01	-3.39E+00	8.04E+00	7.81E+00	2.60E+00	8.86E+00	1.07E+01	NA	NA	NA	
	007	53.2	-38.2	6/27/2007	12:20	5.89E+03	3.89E+02	1.95E+02	2.42E+01	3.03E+00	8.84E-01	2.45E+00	3.51E+00	4.32E+00	-9.58E-02	4.67E+00	4.84E+00	NA	NA	NA	
	008	53.2	-38.2	8/7/2007	12:55	6.68E+03	3.68E+02	1.88E+02	2.33E+01	2.15E+00	5.01E-01	-1.35E+00	3.27E+00	3.42E+00	-3.64E-02	3.86E+00	4.33E+00	NA	NA	NA	
	009	53.2	-38.2	10/15/2007	15:00	4.88E+03	2.85E+02	1.68E+02	2.78E+01	2.49E+00	5.53E-01	3.62E-01	2.67E+00	2.72E+00	1.20E-01	2.40E+00	2.77E+00	NA	NA	NA	
	010	53.2	-38.2	2/1/2008	16:31	6.63E+03	3.14E+02	1.33E+02	2.89E+01	3.20E+00	9.62E-01	-9.11E-01	3.72E+00	3.68E+00	-2.93E-01	3.12E+00	3.45E+00	8.47E-01	1.46E+01	1.71E+01	
	011	53.2	-38.2	7/24/2008	13:20	5.33E+03	2.47E+02	1.94E+02	2.12E+01	1.46E+00	5.27E-01	-7.11E-01	1.88E+00	3.07E+00	-1.17E+00	2.10E+00	3.24E+00	NA	NA	NA	
	012	53.2	-38.2	11/10/2008	11:04	4.27E+03	4.77E+02	1.71E+02	2.40E+01	2.29E+00	6.36E-01	-1.57E-01	6.08E+00	6.80E+00	9.78E-01	7.18E+00	8.14E+00	NA	NA	NA	
	013	53.2	-38.2	1/21/2009	14:22	5.04E+03	5.21E+02	2.02E+02	1.99E+01	1.97E+00	6.68E-01	3.77E-02	3.44E+00	3.80E+00	1.05E+00	3.71E+00	4.35E+00	NA	NA	NA	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	014	53.2	-38.2	5/1/2009	12:39	5.94E+03	5.24E+02	1.61E+02	2.49E+01	2.15E+00	5.69E-01	-2.83E-02	7.56E+00	5.04E+00	5.79E-01	4.89E+00	5.60E+00	NA	NA	NA	
MW-38	002	25.4	-11.1	12/8/2005	10:30	9.85E+02	4.38E+02	4.54E+02	-4.38E+00	9.29E+00	1.25E+01	2.93E+00	8.80E+00	6.57E+00	2.99E+00	8.98E+00	7.06E+00	NA	NA	NA	MW-38
	003	25.4	-11.1	12/30/2005	11:50	2.50E+02	4.29E+02	4.71E+02	NA	NA	NA	2.84E+00	8.51E+00	6.39E+00	2.81E+00	8.43E+00	6.71E+00	NA	NA	NA	
	004	25.4	-11.1	1/10/2006	13:50	1.01E+03	4.50E+02	4.66E+02	NA	NA	NA	3.71E+00	1.11E+01	8.02E+00	3.55E+00	1.06E+01	8.02E+00	NA	NA	NA	
	005	25.4	-11.1	1/19/2006	13:15	7.58E+02	4.29E+02	4.61E+02	NA	NA	NA	3.13E+00	9.38E+00	7.14E+00	3.71E+00	1.11E+01	8.77E+00	NA	NA	NA	
	006	25.4	-11.1	1/25/2006	12:15	1.44E+03	4.59E+02	4.61E+02	NA	NA	NA	3.67E+00	1.10E+01	8.21E+00	4.18E+00	1.25E+01	9.71E+00	NA	NA	NA	
	007	25.4	-11.1	2/1/2006	13:30	3.39E+02	4.23E+02	4.60E+02	NA	NA	NA	3.06E+00	9.19E+00	6.91E+00	3.03E+00	9.09E+00	7.30E+00	NA	NA	NA	
	008	25.4	-11.1	2/8/2006	11:15	1.88E+02	3.30E+02	3.46E+02	1.35E-01	4.34E-01	5.15E-01	5.29E+00	1.16E+01	1.31E+01	2.41E+00	1.17E+01	1.31E+01	NA	NA	NA	
	009	25.4	-11.1	2/16/2006	10:05	1.47E+02	4.11E+02	4.54E+02	NA	NA	NA	2.91E+00	8.74E+00	6.54E+00	2.48E+00	7.44E+00	6.05E+00	NA	NA	NA	
	010	25.4	-11.1	2/23/2006	13:25	2.63E+03	4.98E+02	4.61E+02	NA	NA	NA	1.97E+00	5.90E+00	4.22E+00	1.88E+00	5.63E+00	4.19E+00	NA	NA	NA	
	011	25.4	-11.1	3/3/2006	8:50	3.70E+02	4.71E+02	4.66E+02	NA	NA	NA	2.65E+00	7.94E+00	6.38E+00	4.53E+00	1.36E+01	1.08E+01	NA	NA	NA	
	013	25.4	-11.1	5/22/2006	9:20	7.59E+02	4.11E+02	4.46E+02	1.52E-01	2.88E-01	3.20E-01	3.42E+00	1.03E+01	7.57E+00	3.40E+00	1.02E+01	7.93E+00	NA	NA	NA	
	014	25.4	-11.1	6/21/2006	9:48	9.16E+02	4.38E+02	4.60E+02	-2.66E+00	2.16E+00	2.40E+00	2.52E+00	7.56E+00	5.45E+00	2.50E+00	7.49E+00	5.59E+00	1.10E+00	5.70E+00	6.40E+00	
	014	25.4	-11.1	6/21/2006	9:48	7.62E+02	1.77E+02	1.70E+02	NA	NA	NA	5.90E-01	2.10E+00	2.40E+00	1.20E+00	2.07E+00	2.20E+00	NA	NA	NA	
	015	25.4	-11.1	7/6/2006	12:00	5.93E+02	4.20E+02	4.52E+02	-3.70E-01	4.50E-01	5.20E-01	3.40E+00	1.02E+01	7.70E+00	2.98E+00	8.95E+00	7.41E+00	NA	NA	NA	
	016	25.4	-11.1	8/7/2006	13:23	2.15E+02	1.80E+02	1.74E+02	5.00E-02	6.30E-01	7.10E-01	2.29E+00	6.47E+00	9.51E+00	-7.22E-01	6.90E+00	9.33E+00	2.75E+01	2.94E+01	3.13E+01	
	017	25.4	-11.1	9/5/2006	11:30	3.53E+02	1.86E+02	1.67E+02	-5.30E-01	7.80E-01	8.70E-01	3.81E-01	7.68E+00	8.63E+00	-4.48E-01	6.20E+00	6.42E+00	NA	NA	NA	
	018	25.4	-11.1	11/22/2006	10:38	1.78E+02	4.08E+02	4.50E+02	-7.00E-02	6.60E-01	7.30E-01	3.13E+00	9.38E+00	7.14E+00	3.08E+00	9.25E+00	7.53E+00	NA	NA	NA	
	019	25.4	-11.1	2/12/2007	9:58	2.24E+03	6.00E+02	5.30E+02	-5.10E-01	1.32E+00	1.50E+00	2.73E+00	1.92E+00	2.00E+00	-1.03E+00	1.41E+00	1.80E+00	NA	NA	NA	
	020	25.4	-11.1	8/16/2007	11:30	6.04E+02	1.53E+02	1.44E+02	-9.21E-02	6.92E-01	8.85E-01	1.21E+00	3.07E+00	3.65E+00	2.48E+00	3.01E+00	3.98E+00	NA	NA	NA	
	021	25.4	-11.1	4/22/2009	10:45	2.74E+02	1.67E+02	1.77E+02	3.53E-01	7.50E-01	8.49E-01	-2.57E-01	4.41E+00	2.94E+00	6.51E-01	2.55E+00	2.94E+00	NA	NA	NA	
MW-39-67	001	67	13	5/22/2007	9:53	4.73E+02	1.77E+02	1.31E+02	2.76E+00	8.57E-01	5.71E-01	1.23E-01	1.67E+00	1.85E+00	1.84E+00	1.88E+00	2.08E+00	-3.11E+00	1.06E+01	1.23E+01	MW-39-67
	002	67	13	8/7/2007	16:30	3.25E+02	1.86E+02	1.95E+02	4.78E+00	1.13E+00	6.32E-01	2.59E+00	4.62E+00	3.57E+00	2.62E-01	2.55E+00	2.96E+00	NA	NA	NA	
	003	67	13	1/17/2008	14:35	3.57E+02	1.95E+02	1.83E+02	3.52E+00	1.29E+00	8.53E-01	-1.28E-01	3.17E+00	3.57E+00	1.76E+00	3.63E+00	4.25E+00	NA	NA	NA	
	004	67	13	5/1/2008	13:48	3.18E+02	1.24E+02	1.96E+02	2.21E+00	6.17E-01	6.78E-01	-3.01E-01	1.58E+00	2.53E+00	3.64E-01	1.80E+00	3.11E+00	NA	NA	NA	
	005	67	13	10/23/2008	12:53	4.15E+02	2.01E+02	1.99E+02	3.31E+00	1.12E+00	7.74E-01	-1.28E+00	5.46E+00	5.95E+00	-1.22E-01	5.38E+00	6.06E+00	NA	NA	NA	
	006	67	13	4/9/2009	14:55	3.38E+02	1.67E+02	1.50E+02	3.35E+00	9.68E-01	6.51E-01	-8.08E-01	5.12E+00	3.41E+00	9.19E-01	3.60E+00	4.21E+00	NA	NA	NA	
MW-39-84	001	83.5	-3.5	5/22/2007	10:38	5.91E+02	1.89E+02	1.29E+02	1.72E+00	7.22E-01	5.57E-01	-9.07E-02	1.53E+00	1.69E+00	5.61E-01	1.58E+00	1.81E+00	-1.68E+00	9.99E+00	1.15E+01	MW-39-84
	002	83.5	-3.5	8/7/2007	15:30	2.52E+02	1.77E+02	1.91E+02	7.97E-01	7.18E-01	7.30E-01	3.55E-01	3.07E+00	3.44E+00	-1.11E+00	3.59E+00	3.76E+00	NA	NA	NA	
	003	83.5	-3.5	1/17/2008	13:25	1.43E+02	1.70E+02	1.84E+02	1.78E+00	9.47E-01	7.24E-01	-2.74E+00	2.99E+00	2.86E+00	8.36E-01	2.94E+00	3.50E+00	NA	NA	NA	
	004	83.5	-3.5	5/1/2008	14:10	1.50E+02	1.18E+02	1.96E+02	2.23E+00	7.07E-01	8.93E-01	-2.12E-01	2.24E+00	3.67E+00	-2.12E-01	2.24E+00	3.67E+00	NA	NA	NA	
	005	83.5	-3.5	10/23/2008	12:56	2.34E+02	1.88E+02	1.99E+02	1.04E+00	6.90E-01	5.86E-01	1.74E+00	5.88E+00	6.93E+00	1.12E+00	6.98E+00	8.05E+00	NA	NA	NA	
	006	83.5	-3.5	4/9/2009	15:25	1.85E+02	1.48E+02	1.50E+02	2.05E+00	7.71E-01	6.01E-01	-3.09E-01	4.19E+00	2.79E+00	1.63E+00	2.67E+00	3.42E+00	NA	NA	NA	
MW-39-102	001	101.5	-21.5	5/22/2007	10:40	8.05E+02	2.13E+02	1.29E+02	1.32E+00	7.17E-01	6.21E-01	-3.99E-02	1.81E+00	1.99E+00	6.54E-01	1.78E+00	2.11E+00	6.39E-02	1.15E+01	1.32E+01	MW-39-102
	002	101.5	-21.5	8/7/2007	14:25	3.21E+02	1.79E+02	1.88E+02	4.71E-01	5.61E-01	5.95E-01	-7.63E-01	3.35E+00	3.60E+00	-2.47E+00	4.70E+00	4.22E+00	NA	NA	NA	
	003	101.5	-21.5	1/17/2008	13:32	1.54E+02	1.67E+02	1.79E+02	9.88E-01	8.36E-01	7.97E-01	7.42E-01	2.37E+00	2.83E+00	7.91E-01	3.45E+00	2.98E+00	NA	NA	NA	
	004	101.5	-21.5	4/30/2008	14:56	5.03E+02	1.69E+02	2.44E+02	8.83E-01	5.43E-01	7.95E-01	-1.02E+00	2.63E+00	4.00E+00	4.88E-01	1.90E+00	3.34E+00	-1.07E+01	1.40E+01	2.48E+01	
	005	101.5	-21.5	10/22/2008	13:56	1.68E+02	1.83E+02	2.00E+02	1.23E+00	7.18E-01	5.92E-01	6.57E-01	6.18E+00	6.75E+00	-1.90E+00	5.47E+00	5.53E+00	NA	NA	NA	
	006	101.5	-21.5	4/9/2009	15:38	2.20E+02	1.53E+02	1.51E+02	2.40E+00	8.22E-01	6.31E-01	-8.17E-02	5.07E+00	3.38E+00	1.30E+00	3.12E+00	3.80E+00	NA	NA	NA	
MW-39-124	001	124	-44	5/22/2007	9:50	2.61E+02	1.49E+02	1.31E+02	9.26E-01	9.70E-01	1.00E+00	-1.15E-01	1.64E+00	1.80E+00	-5.31E-01	1.54E+00	1.63E+00	3.55E+00	1.17E+01	1.33E+01	MW-39-124
	002	124	-44	8/7/2007	13:40	1.92E+02	1.73E+02	1.88E+02	5.90E-01	8.57E-01	9.43E-01	-1.14E+00	2.94E+00	3.06E+00	4.97E-01	3.17E+00	3.61E+00	NA	NA	NA	
	003	124	-44	1/17/2008	15:40	1.67E+02	1.64E+02	1.73E+02	1.48E+00	9.71E-01	8.60E-01	6.55E-01	2.61E+00	3.00E+00	9.85E-01	2.03E+00	2.55E+00	NA	NA	NA	
	004	124	-44	4/30/2008	15:24	2.15E+02	9.50E+01	1.53E+02	1.79E+00	6.60E-01	8.91E-01	-1.23E+00	2.13E+00	3.40E+00	5.87E-01	2.19E+00	3.89E+00	-1.13E+01	1.42E+01	2.52E+01	
	005	124	-44	10/22/2008	14:00	2.31E+02	1.88E+02	2.00E+02	9.42E-01	6.47E-01	5.64E-01	1.03E+00	6.64E+00	7.61E+00	1.63E+00	6.98E+00	8.11E+00	NA	NA	NA	
	006	124	-44	4/9/2009	11:46	1.98E+02	1.50E+02	1.50E+02	9.16E-01	6.33E-01	6.09E-01	-9.45E-02	5.16E+00	3.44E+00	-1.55E-01	3.30E+00	3.67E+00	NA	NA	NA	
MW-39-183	001	182.5	-102.5	5/22/2007	10:08	2.47E+02	1.45E+02	1.29E+02	6.51E-01	8.82E-01	9.53E-01	6.42E-01	1.88E+00	1.89E+00	3.09E-02	1.58E+00	1.79E+00	0.00E+00	1.09E+01	1.25E+01	MW-39-183
	002	182.5	-102.5	8/7/2007	12:40	1.88E+02	1.73E+02	1.89E+02	7.11E-01	8.02E-01	8.32E-01	1.38E+00	5.12E+00	5.12E+00	2.34E+00	4.56E+00	5.46E+00	NA	NA	NA	
	003	182.5	-102.5	1/17/2008	11:55	4.65E+01	1.56E+02	1.82E+02	8.29E-01	6.17E-01	5.82E-01	-3.72E-01	3.51E+00	3.92E+00	0.00E+00	2.03E+00	2.20E+00	NA	NA	NA	
	004	182.5	-102.5	4/30/2008	15:03	1.12E+02	1.06E+02	1.77E+02	1.12E+00	5.66E-01	7.83E-01	1.45E-01	2.45E+00	4.14E+00	7.95E-01	2.60E+00	4.48E+00	1.83E+00	1.46E+01	2.50E+01	
	005	182.5	-102.5	10/22/2008	14:07	5.39E+01	1.73E+02	1.97E+02	3.45E-01	7.29E-01	8.35E-01	-4.16E+00	6.88E+00	7.09E+00	-3.08E+00	7.77E+00	7.39E+00	NA	NA	NA	
	006	182.5	-102.5	4/9/2009	11:45	2.60E+01	1.26E+02	1.50E+02	2.13E-01	6.65E-01	7.61E-01	3.94E-01	6.71E+00	4.47E+00	6.05E-01	3.77E+00	4.33E+00	NA	NA	NA	
MW-39-195	001	195	-115	5/22/2007	12:45	2.55E+02	1.50E+02	1.33E+02	1.30E+00	6.90E-01	5.69E-01	0.00E+00	7.67E+00	4.34E+00	3.54E-01	4.16E+00	4.82E+00	-2.52E+00	9.95E+00	1.15E+01	MW-39-195
	002	195	-115	8/7/2007	12:00	2.00E+02	1.70E+02	1.85E+02	5.92E-01	6.23E-01	6.55E-01	-4.08E-02	4.14E+00	4.06E+00	-2.76E-01	4.56E+00	4.30E+00	NA	NA	NA	
	003	195	-115	1/17/2008	17:28	9.63E+01	1.64E+02	1.84E+02	8.97E-01	8.51E-01	8.38E-01	7.57E-01	4.08E+00	4.05E+00	8.15E-01	3.42E+00	4.01E+00	NA	NA	NA	
	004	195	-115	4/30/2008	16:10	2.74E+02	1.50E+02	2.36E+02	1.21E+00	5.52E-01	8.29E-01	-1.17E+00	2.28E+00	3.71E+00	2.23E-02	2.48E+00	4.21E+00	-2.59E+00	1.45E+01	2.51E+01	
	005	195	-115	10/22/2008	14:26	1.72E+02	1.83E+02	2.00E+02	8.81E-01	7.23E-01	6.88E-01	4.14E+00	5.57E+00	6.90E+00	1.81E+00	6.76E+00	7.96E+00	NA	NA	NA	
	006	195	-115	4/9/2009	12:08	7.46E+01	1.32E+02	1.48E+02	6.89E-01	6.60E-01	7.11E-01	-2.41E-01	8.63E+00	5.75E+00	-1.04E+00	4.80E+00	5.07E+00	NA	NA	NA	
MW-40-27	001	26.7	46.5	6/5/2007	11:00	1.56E+02	1.58E+02	1.63E+02	-7.82E-04	6.48E-01	8.50E-01	2.70E-02	3.04E+00	3.39E+00	1.48E+00	2.90E+00	3.17E+00	NA	NA	NA	MW-40-27
	002	26.7	46.5	7/23/2007	12:35	1.62E+02	1.59E+02	1.69E+02	3.32E-01	5.90E-01	6.62E-01	2.52E+00	3.39E+00	3.88E+00	-5.97E-02	3.45E+00	3.83E+00	NA	NA	NA	
	003	26.7	46.5	1/7/2008	16:28	1.44E+02	1.70E+02	1.82E+02	-4.39E-01	4.49E-01	7.84E-01	-4.17E-01	1.74E+00	1.87E+00	6.09E-01	1.70E+00	1.99E+00	NA	NA	NA	

See Page 23 for Notes

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID^1	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing^2	SAMPLE ZONE CENTER, elevation ft msl^2	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID^1
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	004	26.7	46.5	8/11/2008	13:19	2.22E+02	1.06E+02	1.72E+02	3.66E-01	4.20E-01	7.05E-01	6.08E-01	2.28E+00	4.00E+00	-3.72E-01	2.56E+00	3.83E+00	-7.57E+00	1.15E+01	2.05E+01	
	005	26.7	46.5	10/28/2008	14:58	1.42E+02	1.80E+02	1.95E+02	4.78E-01	5.84E-01	6.10E-01	-1.55E+00	5.73E+00	6.22E+00	-1.46E+00	6.86E+00	7.41E+00	6.28E+00	1.64E+01	1.85E+01	
	006	26.7	46.5	1/19/2009	14:29	1.20E+02	1.34E+02	1.48E+02	4.82E-01	6.36E-01	6.82E-01	6.25E-01	3.41E+00	3.86E+00	1.46E+00	2.90E+00	3.58E+00	-1.86E+00	1.80E+01	2.09E+01	
	007	26.7	46.5	4/13/2009	14:17	1.98E+02	1.45E+02	1.36E+02	-5.35E-01	7.85E-01	9.65E-01	-1.14E-01	6.86E+00	4.57E+00	-6.04E-02	3.42E+00	3.81E+00	-2.30E+00	1.82E+01	2.12E+01	
MW-40-46	001	46.2	27	6/5/2007	11:50	1.42E+02	1.58E+02	1.66E+02	-3.17E-01	5.82E-01	8.88E-01	7.90E-01	3.59E+00	3.39E+00	-2.35E+00	2.70E+00	2.27E+00	NA	NA	NA	MW-40-46
	002	46.2	27	7/23/2007	12:15	9.48E+01	1.53E+02	1.71E+02	3.50E-01	5.61E-01	6.28E-01	-9.08E-01	3.79E+00	4.09E+00	-1.72E+00	3.07E+00	2.90E+00	NA	NA	NA	
	003	46.2	27	10/12/2007	14:45	-1.59E+01	1.52E+02	1.74E+02	-2.14E-02	5.10E-01	6.85E-01	-3.80E-01	3.72E+00	3.59E+00	4.94E-01	3.72E+00	4.26E+00	NA	NA	NA	
	004	46.2	27	1/7/2008	14:42	-1.96E+01	1.45E+02	1.80E+02	8.04E-01	8.55E-01	8.75E-01	-1.21E+00	2.84E+00	3.00E+00	1.16E+00	2.58E+00	2.82E+00	NA	NA	NA	
	005	46.2	27	8/11/2008	13:35	1.68E+02	1.04E+02	1.71E+02	-3.25E-01	3.77E-01	8.09E-01	1.25E-01	1.99E+00	3.31E+00	1.09E+00	2.05E+00	3.64E+00	4.04E+00	1.17E+01	2.01E+01	
	006	46.2	27	10/28/2008	15:30	8.80E+01	1.74E+02	1.98E+02	6.53E-01	7.02E-01	7.20E-01	2.82E-01	6.58E+00	7.49E+00	1.83E+00	6.30E+00	7.48E+00	9.34E-01	1.71E+01	1.96E+01	
	007	46.2	27	1/19/2009	14:28	7.76E+01	1.33E+02	1.48E+02	2.69E-01	5.01E-01	5.67E-01	8.08E-01	2.88E+00	3.39E+00	-1.19E+00	2.78E+00	2.88E+00	-5.63E+00	1.89E+01	2.22E+01	
	008	46.2	27	4/13/2009	14:40	1.52E+02	1.37E+02	1.36E+02	-1.51E-01	5.21E-01	7.12E-01	-1.13E+00	6.89E+00	4.59E+00	-2.72E-01	4.01E+00	4.40E+00	-5.37E+00	1.97E+01	2.32E+01	
MW-40-81	001	80.7	-7.5	6/5/2007	12:37	1.63E+02	1.59E+02	1.63E+02	-2.93E-02	6.98E-01	9.11E-01	-1.00E+00	3.09E+00	3.22E+00	-4.70E-03	3.79E+00	3.62E+00	NA	NA	NA	MW-40-81
	002	80.7	-7.5	7/23/2007	13:00	6.95E+01	1.52E+02	1.72E+02	2.45E-01	6.00E-01	6.94E-01	-7.08E-01	4.95E+00	5.20E+00	2.31E+00	3.81E+00	4.95E+00	NA	NA	NA	
	003	80.7	-7.5	10/12/2007	10:52	6.99E+01	1.53E+02	1.73E+02	-9.65E-02	5.05E-01	7.10E-01	5.47E-01	4.00E+00	4.48E+00	7.73E-01	4.02E+00	4.64E+00	NA	NA	NA	
	004	80.7	-7.5	1/7/2008	14:35	1.09E+02	1.64E+02	1.81E+02	2.87E-01	7.05E-01	8.26E-01	-7.49E-01	2.51E+00	2.38E+00	-2.66E-01	1.77E+00	1.95E+00	NA	NA	NA	
	005	80.7	-7.5	8/11/2008	9:43	2.42E+02	1.06E+02	1.71E+02	1.68E-01	3.65E-01	6.52E-01	-7.84E-02	1.69E+00	2.78E+00	2.60E-01	1.92E+00	3.25E+00	-2.96E+00	1.10E+01	1.92E+01	
	006	80.7	-7.5	10/28/2008	11:20	3.04E+01	1.61E+02	1.93E+02	-1.84E-01	4.17E-01	6.28E-01	2.04E+00	5.28E+00	6.24E+00	-8.66E-01	6.75E+00	7.32E+00	-2.38E+00	2.33E+01	2.69E+01	
	007	80.7	-7.5	1/19/2009	10:38	1.61E+02	1.37E+02	1.48E+02	2.92E-01	5.76E-01	6.54E-01	-4.67E-01	3.62E+00	4.01E+00	-1.41E+00	3.77E+00	3.92E+00	-7.55E+00	1.77E+01	2.09E+01	
	008	80.7	-7.5	4/13/2009	11:06	2.31E+02	1.50E+02	1.35E+02	-3.31E-02	6.47E-01	8.17E-01	-1.98E+00	7.17E+00	4.78E+00	3.78E+00	4.67E+00	6.06E+00	-1.26E+01	2.01E+01	2.42E+01	
MW-40-100	001	100.2	-27	6/5/2007	11:15	1.76E+02	1.61E+02	1.64E+02	3.40E-01	6.16E-01	6.94E-01	-1.92E+00	3.06E+00	3.04E+00	-1.98E+00	3.87E+00	3.59E+00	NA	NA	NA	MW-40-100
	002	100.2	-27	7/23/2007	13:20	8.12E+01	1.55E+02	1.75E+02	2.91E-01	6.18E-01	6.96E-01	-4.67E-01	1.91E+00	2.10E+00	1.78E-01	1.94E+00	2.20E+00	NA	NA	NA	
	003	100.2	-27	10/12/2007	11:03	5.95E+01	1.53E+02	1.73E+02	-7.39E-02	5.75E-01	7.69E-01	1.93E+00	3.57E+00	3.87E+00	8.90E-01	3.30E+00	3.61E+00	NA	NA	NA	
	004	100.2	-27	1/7/2008	11:55	1.98E+01	1.52E+02	1.81E+02	-7.69E-02	5.85E-01	8.00E-01	3.13E-01	2.27E+00	2.60E+00	8.84E-02	2.75E+00	2.86E+00	NA	NA	NA	
	006	100.2	-27	5/30/2008	12:45	1.16E+02	9.84E+01	1.60E+02	1.16E-01	5.60E-01	9.81E-01	-7.43E-01	2.12E+00	3.48E+00	-8.73E-01	2.00E+00	3.15E+00	NA	NA	NA	
	007	100.2	-27	8/11/2008	10:10	1.93E+02	1.05E+02	1.71E+02	-3.41E-02	2.85E-01	5.83E-01	-1.18E-01	1.59E+00	2.68E+00	6.38E-01	1.52E+00	2.70E+00	0.00E+00	1.09E+01	1.89E+01	
	008	100.2	-27	10/28/2008	11:30	8.66E+01	1.73E+02	1.95E+02	1.13E-01	6.37E-01	7.83E-01	-1.25E+00	6.50E+00	7.11E+00	3.92E+00	7.02E+00	8.63E+00	-7.70E-01	1.79E+01	2.06E+01	
	009	100.2	-27	1/19/2009	11:52	4.24E+01	1.30E+02	1.48E+02	1.06E-01	6.03E-01	7.25E-01	6.13E-01	5.97E+00	3.85E+00	1.26E-01	3.15E+00	3.61E+00	-9.80E+00	1.89E+01	2.24E+01	
	010	100.2	-27	4/13/2009	11:07	2.62E+02	1.56E+02	1.35E+02	6.63E-02	5.52E-01	6.82E-01	-2.19E+00	6.60E+00	4.40E+00	-2.09E+00	4.40E+00	4.45E+00	-3.13E-01	1.86E+01	2.17E+01	0
MW-40-127	001	127.2	-54	6/5/2007	12:55	1.87E+02	1.62E+02	1.63E+02	2.60E-01	5.05E-01	5.71E-01	7.57E-01	2.98E+00	3.41E+00	-5.59E-03	2.94E+00	3.26E+00	NA	NA	NA	MW-40-127
	002	127.2	-54	7/23/2007	15:15	4.26E+01	1.44E+02	1.68E+02	3.83E-01	5.15E-01	5.73E-01	-1.17E+00	1.67E+00	1.76E+00	2.04E-01	1.59E+00	1.77E+00	NA	NA	NA	
	003	127.2	-54	10/12/2007	11:30	2.83E+01	1.44E+02	1.64E+02	1.01E-01	4.97E-01	6.24E-01	-2.32E+00	3.90E+00	4.06E+00	-1.51E+00	3.72E+00	3.79E+00	NA	NA	NA	
	004	127.2	-54	1/7/2008	12:30	9.75E+00	1.48E+02	1.79E+02	5.17E-01	6.83E-01	7.23E-01	6.45E-01	2.42E+00	2.77E+00	3.24E-01	2.28E+00	2.59E+00	NA	NA	NA	
	006	127.2	-54	5/30/2008	13:00	3.27E+01	9.16E+01	1.63E+02	-4.84E-01	5.30E-01	9.68E-01	6.92E-01	2.23E+00	3.43E+00	1.36E+00	2.00E+00	3.62E+00	NA	NA	NA	
	007	127.2	-54	8/11/2008	10:34	1.68E+02	1.04E+02	1.70E+02	1.65E-01	2.41E-01	4.19E-01	1.24E-01	1.65E+00	2.81E+00	7.30E-03	1.49E+00	2.51E+00	-8.77E+00	1.13E+01	2.01E+01	
	008	127.2	-54	10/28/2008	12:10	7.53E+01	1.70E+02	1.95E+02	4.36E-01	7.10E-01	7.87E-01	-2.53E+00	6.46E+00	6.88E+00	-4.33E+00	8.23E+00	7.68E+00	0.00E+00	1.66E+01	1.93E+01	
	009	127.2	-54	1/19/2009	11:25	9.22E+01	1.33E+02	1.48E+02	-7.90E-02	7.19E-01	9.00E-01	-1.20E+00	3.75E+00	3.94E+00	1.68E+00	3.66E+00	4.45E+00	-3.34E+00	1.85E+01	2.16E+01	
	010	127.2	-54	4/13/2009	11:24	1.52E+02	1.37E+02	1.36E+02	5.56E-02	6.11E-01	7.66E-01	-1.08E+00	7.16E+00	4.77E+00	-1.39E+00	4.58E+00	4.79E+00	-9.13E+00	1.86E+01	2.22E+01	
MW-40-162	001	161.7	-88.5	6/5/2007	14:45	1.40E+02	1.56E+02	1.64E+02	2.94E-01	4.53E-01	5.04E-01	-1.67E+00	5.33E+00	4.95E+00	3.85E-01	4.68E+00	4.53E+00	NA	NA	NA	MW-40-162
	002	161.7	-88.5	7/23/2007	17:40	2.59E+01	1.46E+02	1.73E+02	1.19E-01	4.45E-01	5.07E-01	-2.51E-01	2.81E+00	1.75E+00	7.27E-01	1.45E+00	1.69E+00	NA	NA	NA	
	003	161.7	-88.5	10/12/2007	12:54	4.45E+01	1.49E+02	1.69E+02	-5.48E-02	6.20E-01	8.19E-01	-1.11E+00	4.47E+00	4.05E+00	-1.01E+00	3.31E+00	3.47E+00	NA	NA	NA	
	004	161.7	-88.5	1/7/2008	13:10	4.96E+01	1.56E+02	1.82E+02	7.93E-02	3.63E-01	4.48E-01	4.17E-01	2.52E+00	2.87E+00	3.63E-01	2.40E+00	2.72E+00	NA	NA	NA	
	005	161.7	-88.5	8/11/2008	11:44	2.30E+02	1.08E+02	1.75E+02	7.70E-02	4.19E-01	7.81E-01	6.25E-01	2.43E+00	4.16E+00	3.15E+00	2.07E+00	4.11E+00	-5.27E+00	1.22E+01	2.16E+01	
	006	161.7	-88.5	10/28/2008	13:15	1.12E+02	1.77E+02	1.96E+02	2.80E-01	6.35E-01	7.35E-01	-2.00E+00	5.84E+00	6.26E+00	2.11E+00	6.08E+00	7.29E+00	3.75E+00	1.79E+01	2.04E+01	
	007	161.7	-88.5	1/19/2009	11:47	1.07E+02	1.33E+02	1.48E+02	1.32E-01	5.16E-01	6.16E-01	-3.98E-01	3.32E+00	3.67E+00	4.22E-01	2.96E+00	3.41E+00	-9.17E+00	1.85E+01	2.20E+01	
	008	161.7	-88.5	4/13/2009	12:25	1.42E+02	1.37E+02	1.38E+02	3.28E-01	4.94E-01	5.46E-01	-2.83E+00	5.84E+00	3.89E+00	-6.45E-01	3.81E+00	4.06E+00	-2.90E+00	1.85E+01	2.17E+01	
MW-41-40	002	34.4	20.5	4/12/2006	15:00	7.26E+02	2.07E+02	1.56E+02	2.63E+00	1.74E+00	1.58E+00	2.91E+00	2.62E+00	3.03E+00	-7.58E-01	2.55E+00	2.74E+00	NA	NA	NA	MW-41-40
	003	34.4	20.5	5/25/2006	10:00	6.07E+02	2.22E+02	1.88E+02	5.18E+00	1.46E+00	1.07E+00	4.35E+00	1.06E-01	1.24E-01	-1.16E+00	1.07E-01	1.14E+01	NA	NA	NA	
	004	34.4	20.5	6/12/2006	9:50	6.76E+02	2.00E+02	1.51E+02	3.58E+00	6.83E-01	5.31E-01	5.30E+00	1.02E-01	1.19E-01	9.42E-02	9.32E+00	1.02E+01	NA	NA	NA	
	005	31.4	20.5	7/14/2006	8:15	9.83E+02	2.64E+02	2.07E+02	7.02E+00	2.83E+00	2.09E+00	3.44E+00	1.29E-01	1.63E-01	-2.31E+00	1.07E-01	1.29E+01	NA	NA	NA	
	006	34.4	20.5	8/16/2006	13:15	4.47E+02	1.95E+02	1.68E+02	NA	NA	NA	7.39E-01	6.84E+00	8.78E+00	1.70E-01	5.46E+00	7.51E+00	NA	NA	NA	
	007	34.4	20.5	11/13/2006	12:55	4.25E+02	1.38E+02	1.30E+02	4.64E+00	8.70E-01	6.90E-01	5.00E-01	5.70E+00	6.90E+00	1.30E+00	6.90E+00	8.20E+00	3.10E+00	5.70E+00	6.40E+00	
	008	34.4	20.5	6/19/2007	14:45	3.91E+03	7.32E+02	3.60E+02	5.99E+00	1.15E+00	7.49E-01	-3.09E+00	4.42E+00	3.28E+00	-3.47E-01	2.81E+00	3.01E+00	2.21E-01	1.27E+01	1.49E+01	
	009	34.4	20.5	8/14/2007	14:35	3.80E+02	1.97E+02	2.00E+02	5.96E+00	1.17E+00	7.45E-01	0.00E+00	3.52E+00	3.31E+00	1.40E+00	4.08E+00	4.00E+00	NA	NA	NA	
	010	34.4	20.5	1/24/2008	16:28	2.15E+02	1.80E+02	1.93E+02	3.05E+00	1.07E+00	7.54E-01	2.67E+00	2.55E+00	2.21E+00	-5.18E-01	2.00E+00	2.16E+00	NA	NA	NA	
	011	34.4	20.5	10/22/2008	14:49	2.21E+03	7.26E+02	5.92E+02	5.91E+00	1.10E+00	4.21E-01	3.07E+00	6.33E+00	7.66E+00	-3.60E+00	8.64E+00	8.40E+00	NA	NA	NA	
	012	34.4	20.5	4/7/2009	15:56	5.71E+02	1.91E+02	1.50E+02	5.38E+00	1.14E+00	6.33E-01	4.26E+00	7.29E+00	4.86E+00	4.60E-01	3.27E+00	3.76E+00	NA	NA	NA	
MW-41-63	001	59.5	-4.6	4/12/2006	14:45	7.01E+02	2.03E+02	1.53E+02	5.49E+00	2.21E+00	1.60E+00	6.98E-01	2.27E+00	2.52E+00	-3.89E-02	2.68E+00	2.78E+00	NA	NA	NA	MW-41-63
	002	59.5	-4.6	5/25/2006	10:20	3.61E+02	2.07E+02	1.92E+02	5.22E+00	1.53E+00	1.10E+00	7.91E-02	9.63E+00	1.15E-01	3.51E+00	7.87E+00	1.07E+01	NA	NA	NA	
	003	59.5	-4.6	6/12/2006	10:05	2.68E+02	1.67E+02	1.52E+02	8.45E-01	5.28E-01	5.86E-01	8.20E-01	8.70E+00	9.55E+00	2.12E+00	7.05E+00	8.29E+00	NA	NA	NA	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	004	59.5	-4.6	7/18/2006	13:04	2.43E+02	1.95E+02	1.92E+02	2.17E+00	9.90E-01	8.04E-01	3.04E+00	9.49E+00	1.11E-01	1.73E-01	8.00E+00	8.75E+00	NA	NA	NA	
	005	59.5	-4.6	8/16/2006	13:00	3.56E+02	1.89E+02	1.70E+02	NA	NA	NA	3.69E+00	8.12E+00	1.03E-01	-1.55E+00	7.58E+00	7.11E+00	NA	NA	NA	
	006	59.5	-4.6	11/13/2006	13:10	1.57E+02	1.35E+02	1.30E+02	2.06E+00	6.60E-01	6.60E-01	-1.60E+00	4.50E+00	5.70E+00	0.00E+00	5.40E+00	6.60E+00	3.00E+00	6.60E+00	7.30E+00	
	007	59.5	-4.6	6/20/2007	11:05	5.52E+02	1.97E+02	1.86E+02	7.08E+00	1.28E+00	6.27E-01	-3.10E-01	2.37E+00	2.65E+00	-1.06E-02	2.33E+00	2.65E+00	-4.39E-01	1.26E+01	1.48E+01	
	008	59.5	-4.6	8/14/2007	16:10	5.47E+02	2.04E+02	1.99E+02	3.55E+00	9.02E-01	5.31E-01	-2.83E+00	3.40E+00	3.20E+00	1.32E-01	3.48E+00	3.87E+00	NA	NA	NA	
	009	59.5	-4.6	1/25/2008	10:05	3.03E+02	2.79E+02	2.93E+02	3.76E+00	1.13E+00	8.22E-01	0.00E+00	3.33E+00	1.89E+00	5.24E-02	1.64E+00	1.88E+00	NA	NA	NA	
	010	59.5	-4.6	10/22/2008	12:34	6.91E+02	5.73E+02	5.92E+02	5.69E+00	1.13E+00	4.41E-01	2.60E+00	5.59E+00	6.71E+00	9.04E-01	6.08E+00	7.02E+00	NA	NA	NA	
	011	59.5	-4.6	4/23/2009	11:57	5.26E+02	1.85E+02	1.83E+02	4.08E+00	8.84E-01	3.37E-01	4.19E-01	6.80E+00	4.53E+00	1.22E+00	4.19E+00	4.93E+00	NA	NA	NA	
MW-42-49	001	42.6	27.1	3/23/2006	11:15	2.63E+03	6.60E+02	5.89E+02	5.19E+01	1.72E+00	4.88E-01	1.02E+05	7.14E-02	1.00E-02	1.94E-02	2.78E-01	2.32E+01	NA	NA	NA	MW-42-49
	002	42.6	27.1	3/31/2006	9:29	2.49E+03	4.49E+02	2.37E+02	2.10E+01	9.96E-01	3.67E-01	6.55E+03	1.24E-02	2.76E-01	2.29E-01	2.10E-01	2.50E+01	NA	NA	NA	
	003	42.6	27.1	4/7/2006	17:52	2.51E+03	7.88E+02	7.37E+02	1.09E+02	2.16E+00	4.09E-01	8.11E+04	7.08E-02	1.01E-02	8.81E-01	2.52E-01	1.97E+01	2.22E+03	1.76E+02	5.84E+01	
	004	42.6	27.1	6/18/2007	15:00	1.34E+03	5.00E+02	3.74E+02	7.73E+01	4.04E+00	6.07E-01	1.90E+04	1.85E-03	1.31E-01	4.29E+00	3.71E+00	4.82E+00	1.03E+03	4.53E+01	1.44E+01	
	007	42.6	27.1	10/4/2007	12:40	2.46E+03	2.87E+02	1.93E+02	4.65E+01	3.12E+00	6.02E-01	3.69E+04	3.14E-03	1.83E-01	1.59E-01	6.25E+00	3.61E+00	1.17E+03	4.94E+01	1.88E+01	
	008	42.6	27.1	1/21/2008	16:11	1.32E+03	5.25E+02	4.15E+02	3.34E+01	3.18E+00	9.11E-01	3.38E+04	2.93E-03	2.02E-01	0.00E+00	4.13E+00	5.42E+00	5.01E+02	5.01E+01	2.68E+01	
	010	42.6	27.1	5/13/2008	13:20	3.24E+03	2.56E+02	1.44E+02	2.36E+01	1.54E+00	5.48E-01	1.41E+04	7.89E-02	1.47E-01	1.69E-01	4.47E+00	4.67E+00	7.34E+02	2.85E+01	2.19E+01	
	011	42.6	27.1	8/4/2008	14:24	3.16E+03	2.65E+02	1.91E+02	3.56E+01	1.72E+00	5.59E-01	1.06E+04	6.13E-02	1.20E-01	-8.47E-03	2.69E+00	4.52E+00	3.13E+02	2.60E+01	2.61E+01	
	012	42.6	27.1	9/5/2008	12:52	1.32E+04	8.36E+02	5.08E+02	2.96E+02	4.98E+00	4.02E-01	2.21E+04	1.38E-03	1.58E-01	NA	NA	NA	4.62E+02	2.17E+01	2.03E+01	
	013	42.6	27.1	10/31/2008	13:27	2.60E+03	3.77E+02	1.63E+02	9.61E+01	4.34E+00	4.16E-01	1.78E+04	1.58E-03	1.83E-01	5.88E-01	6.96E+00	7.78E+00	2.71E+02	2.73E+01	1.99E+01	
	014	42.6	27.1	11/17/2008	14:56	1.12E+03	2.01E+02	1.73E+02	1.02E+02	6.96E+00	1.28E+00	1.54E+04	1.16E-03	1.74E-01	3.26E+00	5.21E+00	6.76E+00	2.44E+02	3.00E+01	2.25E+01	
	015	42.6	27.1	1/26/2009	16:16	1.28E+03	3.03E+02	2.06E+02	6.77E+02	1.13E+01	7.44E-01	8.05E+04	8.01E-03	2.66E-01	0.00E+00	5.24E+00	5.56E+00	9.12E+02	4.50E+01	1.90E+01	
	016	42.6	27.1	3/16/2009	14:50	7.22E+04	1.03E+03	1.60E+02	5.88E+02	8.57E+00	7.24E-01	1.40E+05	3.00E-01	2.00E-01	5.23E+00	3.54E+00	2.17E+00	1.16E+03	4.95E+01	2.06E+01	
	017	42.6	27.1	4/17/2009	11:03	2.22E+03	3.29E+02	1.89E+02	2.58E+02	6.63E+00	5.69E-01	8.63E+04	4.86E-01	3.24E-01	2.68E+00	4.67E+00	5.75E+00	9.16E+02	4.11E+01	2.19E+01	
MW-42-78	001	74	-4.3	3/24/2006	9:45	1.28E+03	5.87E+02	5.75E+02	3.09E-01	3.90E-01	4.08E-01	4.46E+03	1.36E-02	2.22E-01	1.08E-01	1.71E-01	2.08E+01	NA	NA	NA	MW-42-78
	002	74	-4.3	4/7/2006	17:58	7.92E+02	7.04E+02	7.30E+02	1.03E-01	3.68E-01	3.98E-01	1.98E+03	1.19E-02	3.13E-01	-2.34E+00	2.35E-01	2.51E+01	3.66E+01	1.39E+01	1.43E+01	
	003	74	-4.3	6/18/2007	14:40	3.78E+02	1.88E+02	1.88E+02	3.83E-01	5.34E-01	5.78E-01	6.28E+01	1.21E-01	4.11E+00	2.31E+00	3.40E+00	4.00E+00	2.48E+00	1.32E+01	1.52E+01	
	006	74	-4.3	10/4/2007	13:25	4.34E+02	1.94E+02	1.94E+02	2.33E-01	3.09E-01	3.43E-01	3.04E+02	3.44E-01	4.71E+00	3.10E+00	4.04E+00	5.18E+00	6.86E-01	1.53E+01	1.77E+01	
	007	74	-4.3	1/21/2008	15:33	3.46E+02	1.89E+02	1.96E+02	-2.51E-01	6.81E-01	9.32E-01	1.08E+02	1.52E-01	3.35E+00	1.71E-01	3.33E+00	3.61E+00	9.73E+00	2.42E+01	2.75E+01	
	009	74	-4.3	8/4/2008	12:07	6.18E+02	1.50E+02	1.91E+02	3.91E-01	2.57E-01	3.76E-01	2.71E+00	2.02E+00	3.75E+00	-6.44E-01	2.10E+00	3.29E+00	-7.57E-01	1.52E+01	2.68E+01	
	010	74	-4.3	10/31/2008	13:34	5.62E+02	2.12E+02	1.65E+02	4.17E-02	3.01E-01	3.87E-01	3.31E-01	5.68E+00	6.34E+00	8.32E-01	6.72E+00	7.68E+00	3.69E+00	1.77E+01	2.02E+01	
	011	74	-4.3	1/30/2009	11:22	3.65E+02	2.18E+02	2.00E+02	4.40E-01	6.45E-01	7.03E-01	6.70E-01	3.32E+00	3.88E+00	-1.89E-01	3.57E+00	3.99E+00	NA	NA	NA	
	012	74	-4.3	4/17/2009	10:49	2.74E+02	1.88E+02	1.89E+02	4.67E-01	6.74E-01	7.47E-01	1.61E+00	5.85E+00	3.90E+00	5.31E-01	3.60E+00	4.14E+00	6.58E+00	1.91E+01	2.16E+01	
MW-43-28	002	23.5	25.3	4/12/2006	12:45	3.46E+02	1.79E+02	1.59E+02	9.40E-02	7.40E-01	8.06E-01	-1.41E+00	2.52E+00	2.54E+00	1.56E+00	2.24E+00	2.56E+00	NA	NA	NA	MW-43-28
	003	23.5	25.3	5/25/2006	12:10	1.20E+02	1.83E+02	1.89E+02	2.65E+00	1.89E+00	1.77E+00	-8.64E-01	9.47E+00	1.03E+01	-1.33E-01	9.42E+00	1.06E+01	NA	NA	NA	
	004	23.5	25.3	6/12/2006	12:45	2.30E+02	1.62E+02	1.52E+02	1.39E-01	4.27E-01	5.27E-01	2.85E+00	6.93E+00	7.82E+00	-7.55E-01	5.93E+00	6.39E+00	NA	NA	NA	
	005	23.5	25.3	7/12/2006	9:40	1.09E+02	1.88E+02	1.95E+02	1.10E+00	1.69E+00	1.72E+00	2.41E+00	9.87E+00	1.11E-01	-7.95E-01	8.58E+00	9.11E+00	NA	NA	NA	
	006	23.5	25.3	8/16/2006	12:10	2.60E+02	1.83E+02	1.72E+02	NA	NA	NA	5.47E-01	8.43E-01	9.56E-01	-5.16E-01	7.70E-01	8.30E-01	NA	NA	NA	
	007	23.5	25.3	6/18/2007	13:30	2.78E+02	1.70E+02	1.74E+02	1.07E+00	5.97E-01	4.86E-01	-3.68E-01	3.13E+00	3.39E+00	-3.72E-01	3.31E+00	3.46E+00	3.58E+00	1.50E+01	1.73E+01	
	008	23.5	25.3	8/13/2007	11:35	9.56E+01	1.71E+02	1.93E+02	-6.25E-01	7.50E-01	1.02E+00	-7.36E-01	3.57E+00	3.68E+00	2.77E-01	2.70E+00	3.12E+00	NA	NA	NA	
	009	23.5	25.3	1/25/2008	11:11	3.06E+02	2.82E+02	2.96E+02	1.46E-01	6.06E-01	7.38E-01	1.88E+00	2.16E+00	2.66E+00	1.46E+00	2.51E+00	3.03E+00	8.44E+00	1.76E+01	1.99E+01	
	010	23.5	25.3	10/31/2008	14:17	2.65E+02	1.58E+02	1.66E+02	-1.08E-01	3.95E-01	5.66E-01	4.07E+00	5.19E+00	6.44E+00	-1.16E+00	6.21E+00	6.63E+00	NA	NA	NA	
	011	23.5	25.3	4/7/2009	12:14	3.14E+02	1.65E+02	1.51E+02	-1.43E-01	5.66E-01	7.05E-01	5.41E-01	5.93E+00	3.95E+00	-1.31E-01	3.45E+00	3.77E+00	NA	NA	NA	
MW-43-62	002	51	-2.2	4/12/2006	11:55	2.00E+02	1.65E+02	1.58E+02	4.34E-01	4.63E-01	4.83E-01	3.27E+00	4.04E+00	3.73E+00	1.82E+00	3.09E+00	3.47E+00	NA	NA	NA	MW-43-62
	003	51	-2.2	5/25/2006	12:30	1.24E+02	1.77E+02	1.82E+02	3.23E-01	1.64E+00	1.77E+00	-1.21E+00	1.26E-01	1.36E-01	-2.10E+00	9.81E+00	1.02E+01	NA	NA	NA	
	004	51	-2.2	6/12/2006	12:40	1.29E+02	1.40E+02	1.38E+02	1.25E+00	5.58E-01	5.86E-01	4.97E+00	7.02E+00	7.98E+00	-6.81E-01	7.19E+00	7.85E+00	NA	NA	NA	
	005	51	-2.2	7/12/2006	10:05	2.04E+01	1.53E+02	1.65E+02	4.76E-01	1.46E+00	1.54E+00	1.34E+01	1.10E+01	1.36E+01	3.73E-01	1.01E+01	1.11E+01	NA	NA	NA	
	006	51	-2.2	8/16/2006	11:55	1.08E+02	1.67E+02	1.70E+02	NA	NA	NA	2.23E-01	9.10E-01	1.01E+00	-1.95E-01	8.33E-01	9.13E-01	NA	NA	NA	
	007	51	-2.2	6/19/2007	9:36	1.97E+02	1.88E+02	2.02E+02	8.55E-01	6.58E-01	6.40E-01	-6.77E-01	3.21E+00	3.42E+00	-8.52E-01	3.10E+00	3.26E+00	1.38E+00	1.33E+01	1.55E+01	
	008	51	-2.2	8/13/2007	12:42	1.14E+02	1.73E+02	1.92E+02	1.29E-01	6.90E-01	8.27E-01	-1.18E+00	3.65E+00	3.89E+00	1.53E-01	3.31E+00	3.80E+00	NA	NA	NA	
	009	51	-2.2	1/25/2008	10:57	1.23E+02	1.74E+02	1.93E+02	1.00E+00	6.47E-01	5.52E-01	4.31E-01	2.42E+00	2.39E+00	-1.11E+00	2.07E+00	2.10E+00	3.76E+00	1.67E+01	1.91E+01	
	010	51	-2.2	10/31/2008	13:16	2.25E+02	1.56E+02	1.66E+02	1.97E-01	4.13E-01	4.74E-01	-3.65E-03	6.45E+00	6.96E+00	2.59E+00	6.30E+00	7.60E+00	NA	NA	NA	
	011	51	-2.2	4/7/2009	13:59	1.34E+02	1.43E+02	1.52E+02	6.85E-01	5.88E-01	5.94E-01	1.18E+01	6.15E+00	4.10E+00	-4.55E-01	3.89E+00	4.22E+00	NA	NA	NA	
MW-44-66	001	62.4	31.1	3/28/2006	14:05	3.38E+02	1.91E+02	1.73E+02	7.38E-02	1.53E+00	1.67E+00	6.54E-01	1.05E-01	1.17E-01	-2.87E+00	1.02E-01	1.09E+01	NA	NA	NA	MW-44-66
	002	62.4	31.1	5/24/2006	9:05	2.37E+02	1.97E+02	1.92E+02	7.41E-01	4.11E-01	4.45E-01	-3.07E-01	8.97E+00	9.69E+00	4.85E+00	9.06E+00	1.11E+01	NA	NA	NA	
	003	62.4	31.1	7/20/2006	11:15	8.92E+02	2.27E+02	1.63E+02	7.55E-01	1.22E+00	1.31E+00	3.54E+01	1.74E-01	9.59E+00	6.24E-01	7.37E+00	8.48E+00	NA	NA	NA	
	004	62.4	31.1	6/29/2007	15:00	2.68E+02	1.73E+02	1.84E+02	-4.25E-01	7.28E-01	9.04E-01	2.64E-01	3.03E+00	3.47E+00	7.78E-01	3.40E+00	3.98E+00	NA	NA	NA	
	005	62.4	31.1	8/14/2007	13:10	4.17E+02	1.98E+02	2.00E+02	9.30E-02	4.72E-01	5.75E-01	-8.93E-01	2.91E+00	3.08E+00	-3.39E-01	3.40E+00	3.11E+00	NA	NA	NA	
	006	62.4	31.1	10/31/2007	13:30	5.13E+02	1.82E+02	1.81E+02	3.77E-01	4.10E-01	4.21E-01	2.76E+00	4.29E+00	4.81E+00	1.91E+00	3.90E+00	4.71E+00	NA	NA	NA	
	007	62.4	31.1	1/24/2008	12:55	2.91E+02	2.00E+02	2.12E+02	2.85E-01	4.53E-01	4.99E-01	1.73E+01	4.35E+00	2.31E+00	1.40E+00	3.17E+00	2.43E+00	NA	NA	NA	
	008	62.4	31.1	4/30/2008	15:38	1.61E+02	1.19E+02	1.96E+02	4.11E-02	4.06E-01	7.89E-01	-8.72E-02	2.06E+00	3.38E+00	9.13E-01	2.44E+00	4.27E+00	NA	NA	NA	
	009	62.4	31.1	7/25/2008	12:18	5.50E+02	2.55E+02	3.75E+02	3.07E-01	3.66E-01	6.17E-01	-2.33E+00	2.53E+00	3.03E+00	-2.09E-01	1.74E+00	2.85E+00	NA	NA	NA	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	010	62.4	31.1	10/23/2008	13:17	3.18E+02	1.61E+02	1.66E+02	3.23E-01	3.83E-01	3.92E-01	-3.20E+00	5.21E+00	5.30E+00	-1.59E+00	5.73E+00	6.02E+00	NA	NA	NA	
	011	62.4	31.1	2/3/2009	9:40	2.06E+02	1.92E+02	1.97E+02	4.52E-01	7.98E-01	8.95E-01	1.96E+00	3.53E+00	4.18E+00	3.09E+00	3.06E+00	4.12E+00	NA	NA	NA	
	012	62.4	31.1	4/28/2009	13:32	3.10E+02	1.98E+02	2.06E+02	2.20E-01	4.85E-01	5.59E-01	-7.47E-01	6.38E+00	4.25E+00	-1.51E-01	4.49E+00	4.97E+00	NA	NA	NA	
MW-44-102	001	80	13.5	6/13/2006	10:35	2.53E+02	2.01E+02	1.96E+02	3.53E-01	9.93E-01	1.26E+00	-3.22E+00	8.26E+00	8.67E+00	-7.71E-01	7.99E+00	8.52E+00	NA	NA	NA	MW-44-102
	002	80	13.5	7/20/2006	10:50	3.16E+02	1.82E+02	1.64E+02	-3.39E-01	1.05E+00	1.29E+00	-2.99E+00	9.39E+00	9.83E+00	-2.34E+00	9.50E+00	9.39E+00	NA	NA	NA	
	003	80	13.5	8/4/2006	9:40	7.61E+02	2.30E+02	1.81E+02	NA	NA	NA	-4.04E+00	8.10E+00	7.76E+00	-2.00E+00	7.01E+00	6.82E+00	NA	NA	NA	
	004	80	13.5	9/13/2006	11:30	2.67E+02	1.94E+02	2.00E+02	NA	NA	NA	7.19E+00	9.68E+00	1.12E+01	-4.76E-01	8.18E+00	8.99E+00	NA	NA	NA	
	005	80	13.5	6/19/2007	17:46	2.98E+02	1.76E+02	1.83E+02	-1.33E-01	4.81E-01	6.39E-01	1.88E+00	2.15E+00	2.63E+00	6.41E-01	2.02E+00	2.38E+00	-4.92E+00	1.31E+01	1.58E+01	
	006	80	13.5	8/14/2007	14:55	2.84E+02	1.89E+02	1.99E+02	1.97E-01	7.63E-01	8.99E-01	-1.46E+00	2.76E+00	2.77E+00	-1.35E+00	2.79E+00	2.73E+00	NA	NA	NA	
	007	80	13.5	10/31/2007	12:01	3.54E+02	1.76E+02	1.82E+02	-2.58E-01	7.75E-01	9.60E-01	-6.60E-01	2.88E+00	3.11E+00	-1.23E+00	3.60E+00	3.11E+00	NA	NA	NA	
	008	80	13.5	1/24/2008	13:05	4.17E+02	2.94E+02	2.96E+02	2.06E-01	5.16E-01	6.04E-01	1.18E+01	4.64E+00	3.19E+00	-4.44E-03	2.85E+00	3.11E+00	NA	NA	NA	
	009	80	13.5	4/30/2008	15:28	2.56E+02	1.22E+02	1.96E+02	7.90E-02	3.71E-01	7.13E-01	1.03E+00	2.03E+00	3.63E+00	-2.07E+00	3.04E+00	4.52E+00	NA	NA	NA	
	010	80	13.5	7/25/2008	12:18	4.37E+02	2.46E+02	3.75E+02	-2.83E-02	1.83E-01	3.21E-01	-4.07E-01	1.78E+00	2.88E+00	1.35E+00	1.87E+00	3.41E+00	NA	NA	NA	
	011	80	13.5	10/23/2008	13:48	4.75E+02	1.68E+02	1.65E+02	2.01E-01	4.65E-01	5.44E-01	1.72E+00	6.24E+00	7.28E+00	2.39E+00	8.12E+00	8.47E+00	NA	NA	NA	
	012	80	13.5	2/2/2009	12:06	2.57E+02	1.94E+02	1.93E+02	4.66E-01	6.12E-01	6.71E-01	9.83E-01	3.39E+00	4.02E+00	-9.65E-01	3.53E+00	3.74E+00	NA	NA	NA	
	013	80	13.5	4/28/2009	13:34	5.14E+02	1.82E+02	1.80E+02	3.70E-01	7.10E-01	8.03E-01	9.60E-01	8.27E+00	5.51E+00	-2.67E-01	5.18E+00	5.85E+00	NA	NA	NA	
MW-45-42	001	37	16.6	4/4/2006	17:20	5.18E+02	2.22E+02	2.17E+02	8.83E-01	5.94E-01	5.95E-01	1.41E+01	1.35E+01	1.54E+01	-4.38E-02	1.22E+01	1.34E+01	NA	NA	NA	MW-45-42
	002	37	16.6	5/25/2006	9:25	1.82E+03	3.74E+02	2.45E+02	9.78E-01	1.14E+00	1.18E+00	-7.92E+00	1.21E+01	1.17E+01	-3.97E+00	1.21E+01	1.23E+01	NA	NA	NA	
	003	37	16.6	6/12/2006	10:45	2.27E+03	4.13E+02	2.15E+02	1.02E+00	6.80E-01	7.49E-01	9.06E-02	5.68E+00	6.29E+00	2.61E+00	5.68E+00	6.70E+00	NA	NA	NA	
	004	37	16.6	7/14/2006	9:30	4.19E+02	2.18E+02	2.00E+02	0.00E+00	1.45E+00	1.59E+00	1.22E+00	8.17E+00	9.27E+00	2.33E+00	9.82E+00	1.13E+01	NA	NA	NA	
	005	37	16.6	8/11/2006	10:00	3.16E+03	5.51E+02	2.71E+02	NA	NA	NA	-1.16E-01	1.51E+00	1.64E+00	-4.26E-01	1.40E+00	1.54E+00	NA	NA	NA	
	006	37	16.6	9/13/2006	11:50	4.15E+03	7.32E+02	3.27E+02	NA	NA	NA	-1.58E+00	5.85E+00	6.00E+00	-1.46E+00	5.39E+00	5.27E+00	NA	NA	NA	
	007	37	16.6	11/13/2006	13:20	5.25E+02	1.38E+02	1.40E+02	-7.10E-01	7.50E-01	8.50E-01	3.70E+00	5.40E+00	5.60E+00	5.00E-01	6.90E+00	8.30E+00	3.00E-01	3.60E+00	4.10E+00	
	008	37	16.6	6/21/2007	15:05	2.32E+03	6.27E+02	4.36E+02	-6.08E-02	6.25E-01	7.76E-01	1.31E-01	4.14E+00	4.59E+00	2.51E+00	2.82E+00	4.08E+00	3.58E+00	1.30E+01	1.49E+01	
	009	37	16.6	8/15/2007	11:30	1.16E+03	1.80E+02	1.47E+02	-3.79E-01	7.74E-01	9.47E-01	1.92E+00	2.76E+00	3.41E+00	1.19E+00	2.60E+00	3.23E+00	NA	NA	NA	
	010	37	16.6	10/5/2007	11:05	2.22E+03	3.05E+02	1.50E+02	3.55E-01	5.10E-01	5.56E-01	0.00E+00	4.13E+00	1.99E+00	3.65E-01	1.94E+00	2.21E+00	NA	NA	NA	
	011	37	16.6	1/25/2008	12:15	1.44E+03	3.90E+02	2.96E+02	2.08E-01	5.15E-01	6.03E-01	1.60E+00	2.43E+00	2.88E+00	5.96E-01	2.31E+00	2.66E+00	NA	NA	NA	
	012	37	16.6	5/1/2008	15:15	1.13E+03	1.51E+02	1.96E+02	-4.10E-02	3.11E-01	6.29E-01	6.65E-01	1.99E+00	3.47E+00	-1.17E+00	3.62E+00	4.55E+00	NA	NA	NA	
	013	37	16.6	7/25/2008	16:40	2.32E+03	3.77E+02	3.74E+02	3.02E-01	2.75E-01	4.42E-01	-1.77E+00	1.76E+00	2.53E+00	1.09E+00	1.76E+00	3.19E+00	NA	NA	NA	
	014	37	16.6	10/22/2008	14:55	3.14E+03	8.03E+02	5.91E+02	4.62E-01	5.15E-01	5.29E-01	-1.64E+00	5.07E+00	5.26E+00	-3.00E+00	4.93E+00	4.36E+00	NA	NA	NA	
	015	37	16.6	2/2/2009	18:02	1.41E+03	3.27E+02	1.97E+02	-1.78E-01	4.41E-01	6.64E-01	-1.41E+00	2.57E+00	2.67E+00	-1.27E+00	2.55E+00	2.57E+00	NA	NA	NA	
	016	37	16.6	4/23/2009	15:20	5.99E+03	9.50E+02	4.08E+02	2.63E-01	5.33E-01	6.08E-01	-1.68E-01	4.41E+00	2.94E+00	-1.42E+00	2.49E+00	2.48E+00	NA	NA	NA	
MW-45-61	001	58	-4.4	4/4/2006	17:00	2.98E+02	2.18E+02	2.23E+02	1.82E-01	5.03E-01	5.39E-01	8.62E+00	1.14E+01	1.32E+01	1.40E+00	1.02E+01	1.17E+01	NA	NA	NA	MW-45-61
	002	58	-4.4	5/25/2006	9:10	1.71E+03	3.57E+02	2.37E+02	5.63E-01	9.81E-01	1.03E+00	7.76E-01	9.14E+00	1.02E+01	5.35E+00	1.06E+01	1.31E+01	NA	NA	NA	
	003	58	-4.4	6/12/2006	11:00	1.02E+03	2.31E+02	1.56E+02	4.81E-01	5.85E-01	6.90E-01	-4.60E+00	6.63E+00	7.11E+00	9.35E-02	6.22E+00	7.59E+00	NA	NA	NA	
	004	58	-4.4	7/20/2006	12:50	3.72E+02	1.88E+02	1.66E+02	0.00E+00	1.36E+00	1.59E+00	-3.98E-01	5.08E+00	5.30E+00	1.33E+00	3.96E+00	5.02E+00	NA	NA	NA	
	005	58	-4.4	8/11/2006	9:45	1.35E+03	2.88E+02	1.91E+02	NA	NA	NA	6.43E+00	9.17E+00	1.16E+01	-8.33E-01	9.00E+00	9.75E+00	NA	NA	NA	
	006	58	-4.4	9/13/2006	9:30	1.45E+03	3.09E+02	2.04E+02	NA	NA	NA	-6.55E+00	7.21E+00	5.92E+00	-3.06E+00	7.35E+00	6.87E+00	NA	NA	NA	
	007	58	-4.4	11/13/2006	11:20	9.57E+02	1.44E+02	1.40E+02	1.73E+00	7.50E-01	7.60E-01	-3.00E-01	4.50E+00	5.30E+00	-3.20E+00	4.50E+00	6.30E+00	2.50E+00	6.60E+00	7.30E+00	
	008	58	-4.4	6/21/2007	12:55	1.47E+03	5.42E+02	4.34E+02	-7.02E-02	7.47E-01	9.67E-01	3.52E+00	4.72E+00	3.52E+00	-7.21E-01	3.56E+00	3.69E+00	3.35E+00	1.49E+01	1.71E+01	
	009	58	-4.4	8/15/2007	11:55	1.50E+03	1.88E+02	1.41E+02	4.74E-02	7.90E-01	9.41E-01	3.33E+00	4.25E+00	4.03E+00	-6.51E-01	3.86E+00	3.59E+00	NA	NA	NA	
	010	58	-4.4	10/5/2007	11:30	2.15E+03	3.03E+02	1.52E+02	4.87E-01	5.23E-01	5.36E-01	-1.73E-01	1.43E+00	1.56E+00	6.59E-02	1.46E+00	1.62E+00	NA	NA	NA	
	011	58	-4.4	1/25/2008	11:55	2.66E+03	4.80E+02	2.96E+02	4.26E-01	5.76E-01	6.21E-01	2.42E+00	3.60E+00	2.52E+00	-2.05E-01	2.88E+00	3.19E+00	NA	NA	NA	
	012	58	-4.4	5/1/2008	10:16	2.21E+03	1.80E+02	1.95E+02	6.93E-01	4.96E-01	7.66E-01	3.16E-01	2.07E+00	3.59E+00	-1.29E+00	2.25E+00	3.53E+00	NA	NA	NA	
	013	58	-4.4	7/25/2008	13:51	1.80E+03	3.46E+02	3.76E+02	2.36E-01	2.45E-01	4.05E-01	-1.88E+00	1.91E+00	2.80E+00	7.83E-01	1.91E+00	3.40E+00	NA	NA	NA	
	014	58	-4.4	10/22/2008	9:33	1.27E+03	6.35E+02	5.90E+02	1.99E-01	5.82E-01	6.91E-01	-1.52E+00	5.07E+00	5.32E+00	1.04E+00	5.73E+00	6.58E+00	NA	NA	NA	
	015	58	-4.4	2/2/2009	13:13	1.36E+03	3.24E+02	1.99E+02	-1.47E-01	7.61E-01	9.47E-01	9.93E-01	3.59E+00	4.20E+00	2.30E-01	3.23E+00	3.66E+00	NA	NA	NA	
	016	58	-4.4	4/23/2009	10:20	1.46E+03	5.45E+02	4.05E+02	-1.37E-01	6.17E-01	8.06E-01	-4.72E-01	4.17E+00	2.78E+00	1.13E+00	2.54E+00	3.01E+00	NA	NA	NA	
MW-46	002	10.5	7.6	4/12/2006	17:15	1.38E+03	2.81E+02	1.76E+02	6.24E-01	4.82E-01	4.89E-01	9.28E-01	2.98E+00	3.31E+00	-5.36E-01	2.67E+00	2.88E+00	NA	NA	NA	MW-46
	003	10.5	7.6	5/24/2006	12:55	6.23E+02	2.24E+02	1.87E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003	10.5	7.6	5/24/2006	12:55	9.00E+02	1.71E+03	6.33E+02	3.07E-01	6.15E-01	7.47E-01	-7.06E-02	9.87E+00	1.18E+01	5.38E+00	8.80E+00	1.21E+01	NA	NA	NA	
	004	10.5	7.6	6/13/2006	13:10	6.79E+01	1.80E+02	1.91E+02	3.46E-01	1.04E+00	1.33E+00	2.58E+00	7.28E+00	8.29E+00	-9.79E-01	8.23E+00	8.81E+00	NA	NA	NA	
	005	10.5	7.6	7/12/2006	13:23	7.86E+02	2.36E+02	1.92E+02	5.77E-01	1.21E+00	1.23E+00	3.98E+00	9.37E+00	1.09E+01	4.49E+00	8.68E+00	1.06E+01	NA	NA	NA	
	006	10.5	7.6	8/4/2006	8:40	1.15E+03	2.75E+02	1.98E+02	NA	NA	NA	1.15E+00	5.05E+00	6.52E+00	-3.50E+00	5.84E+00	5.97E+00	NA	NA	NA	
	007	10.5	7.6	9/13/2006	13:15	1.47E+03	3.30E+02	2.19E+02	NA	NA	NA	3.73E-01	6.01E+00	6.95E+00	2.75E+00	7.27E+00	6.27E+00	NA	NA	NA	
	008	10.5	7.6	6/14/2007	13:50	3.43E+03	5.64E+02	2.95E+02	2.15E-01	4.65E-01	5.35E-01	3.08E-01	3.92E+00	4.37E+00	8.52E-02	3.65E+00	4.09E+00	-1.05E+00	1.52E+01	1.78E+01	
	009	10.5	7.6	8/1/2007	11:35	6.62E+02	3.50E+02	2.44E+02	7.89E-02	3.66E-01	4.49E-01	6.63E-01	3.52E+00	3.80E+00	6.33E-02	2.43E+00	2.77E+00	NA	NA	NA	
	010	10.5	7.6	10/22/2007	14:20	1.67E+03	5.27E+02	4.01E+02	2.17E-01	4.72E-01	5.44E-01	4.68E-01	2.97E+00	3.34E+00	-7.20E-01	2.94E+00	3.09E+00	NA	NA	NA	
	011	10.5	7.6	1/22/2008	12:19	5.49E+02	1.74E+02	1.70E+02	5.30E-01	7.71E-01	8.47E-01	-3.99E-01	2.64E+00	2.84E+00	1.73E+00	2.61E+00	3.31E+00	NA	NA	NA	
	012	10.5	7.6	4/29/2008	16:00	5.21E+02	1.53E+02	2.20E+02	4.10E-01	3.51E-01	5.64E-01	7.87E-01	2.12E+00	3.75E+00	4.57E-01	2.24E+00	3.90E+00	NA	NA	NA	

J:\17.000-18.999\17869\17869-91.MG\2009 Quarter 2 Report\Tables\Draft tables\:
Q2Table5.xlsx:
MakeTable5

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	013	10.5	7.6	7/24/2008	16:56	7.71E+02	2.75E+02	3.77E+02	2.74E-01	3.07E-01	5.10E-01	6.05E-01	1.96E+00	3.38E+00	-1.89E+00	2.10E+00	3.09E+00	NA	NA	NA	
	014	10.5	7.6	10/20/2008	15:27	1.38E+03	6.44E+02	5.89E+02	9.33E-01	5.85E-01	5.11E-01	-2.27E+00	5.88E+00	5.91E+00	-5.88E-01	5.63E+00	6.09E+00	NA	NA	NA	
	015	10.5	7.6	2/5/2009	13:46	1.00E+03	2.88E+02	1.96E+02	-1.30E-01	6.23E-01	7.82E-01	-1.68E+00	2.78E+00	2.71E+00	7.02E-01	2.82E+00	3.28E+00	NA	NA	NA	
	016	10.5	7.6	4/10/2009	12:31	7.56E+02	2.07E+02	1.48E+02	-7.29E-02	5.46E-01	6.63E-01	9.83E-04	5.58E+00	3.72E+00	1.54E+00	3.68E+00	4.40E+00	NA	NA	NA	
MW-47-56	002	53.2	17.1	4/13/2006	12:05	7.60E+02	2.22E+02	1.67E+02	2.27E+00	7.65E-01	7.30E-01	8.27E-02	5.45E+00	5.95E+00	-4.55E-01	5.30E+00	5.77E+00	NA	NA	NA	MW-47-56
	003	53.2	17.1	7/18/2006	10:13	1.54E+02	1.95E+02	1.99E+02	1.91E-01	1.47E+00	1.59E+00	3.70E+00	7.80E+00	9.34E+00	2.47E+00	1.04E-01	1.29E+01	NA	NA	NA	
	004	53.2	17.1	6/20/2007	10:07	NA	NA	NA	NA	NA	NA	0.00E+00	4.28E+00	3.79E+00	1.63E+00	3.17E+00	3.79E+00	3.81E+00	1.32E+01	1.51E+01	
	004	53.2	17.1	6/20/2007	10:07	5.29E+02	1.95E+02	1.85E+02	5.93E-01	5.25E-01	5.10E-01	0.00E+00	6.66E+00	3.37E+00	3.57E+00	3.71E+00	4.73E+00	NA	NA	NA	
	005	53.2	17.1	8/10/2007	11:00	2.70E+02	1.88E+02	2.02E+02	5.07E-01	8.04E-01	8.91E-01	-3.84E-01	3.48E+00	3.75E+00	1.49E-01	2.94E+00	3.37E+00	NA	NA	NA	
MW-47-80	001	74	-3.7	4/13/2006	11:45	2.33E+03	4.28E+02	2.29E+02	2.73E+00	7.35E-01	6.53E-01	-5.82E-01	4.48E+00	5.14E+00	2.25E-01	3.91E+00	4.76E+00	NA	NA	NA	MW-47-80
	002	74	-3.7	7/18/2006	8:51	1.87E+03	3.87E+02	2.58E+02	2.86E+00	1.43E+00	1.14E+00	1.67E+00	1.05E-01	1.19E-01	2.39E+00	9.21E+00	1.09E+01	NA	NA	NA	
	003	74	-3.7	6/19/2007	11:00	2.36E+03	5.94E+02	3.58E+02	3.27E+00	8.98E-01	5.28E-01	2.05E+00	3.81E+00	4.58E+00	-2.27E+00	4.82E+00	3.92E+00	4.08E-01	1.18E+01	1.38E+01	
	004	74	-3.7	8/10/2007	12:21	3.51E+03	7.25E+02	4.52E+02	3.55E+00	1.21E+00	9.05E-01	-9.39E-02	3.21E+00	3.56E+00	-8.20E-02	3.18E+00	3.50E+00	NA	NA	NA	
MW-48-23	001	20.4	-5	2/8/2006	10:10	1.66E+02	3.26E+02	3.42E+02	1.93E-01	5.04E-01	5.94E-01	-2.14E-01	1.04E-01	1.13E-01	1.46E+00	9.95E+00	1.12E+01	NA	NA	NA	MW-48-23
	002	20.4	-5	4/12/2006	9:58	1.24E+02	4.08E+02	4.52E+02	-1.10E-01	3.90E-01	4.40E-01	3.25E+00	9.75E+00	7.26E+00	2.49E+00	7.47E+00	6.18E+00	NA	NA	NA	
	003	20.4	-5	4/27/2006	13:42	2.38E+02	1.94E+02	2.03E+02	-2.50E-02	4.58E-01	5.04E-01	-1.88E+00	5.06E+00	5.65E+00	-1.19E-01	4.40E+00	5.27E+00	NA	NA	NA	
	004	20.4	-5	5/22/2006	10:30	7.55E+02	4.26E+02	4.46E+02	2.42E-01	2.88E-01	3.10E-01	3.22E+00	9.67E+00	7.12E+00	4.29E+00	1.29E-01	9.62E+00	NA	NA	NA	
	005	20.4	-5	6/9/2006	11:15	7.37E+02	2.09E+02	1.56E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	005	20.4	-5	6/9/2006	11:15	6.03E+01	4.39E+02	6.24E+02	3.70E-01	3.60E-01	4.00E-01	2.59E+00	7.76E+00	5.90E+00	3.25E+00	9.74E+00	7.61E+00	1.60E+01	1.53E+01	1.62E+01	
	005	20.4	-5	6/9/2006	11:15	2.95E+02	4.14E+02	4.53E+02	3.10E-01	9.88E-01	1.26E+00	1.09E+00	5.21E+00	5.80E+00	3.08E+00	5.41E+00	5.96E+00	NA	NA	NA	
	006	20.4	-5	7/6/2006	12:00	4.21E+02	4.17E+02	4.52E+02	-2.20E-01	4.20E-01	4.90E-01	2.55E+00	7.64E+00	5.49E+00	2.60E+00	7.79E+00	5.78E+00	NA	NA	NA	
	007	20.4	-5	8/8/2006	10:30	1.04E+02	1.68E+02	1.72E+02	7.00E-02	6.30E-01	7.00E-01	1.93E+00	4.76E+00	5.56E+00	1.99E+00	4.41E+00	5.37E+00	NA	NA	NA	
	008	20.4	-5	9/5/2006	10:05	2.44E+01	1.59E+02	1.72E+02	-6.00E-02	7.80E-01	8.60E-01	-2.90E+00	7.82E+00	8.12E+00	1.05E-01	8.58E+00	1.02E+01	NA	NA	NA	
	009	20.4	-5	11/22/2006	9:23	1.67E+02	4.08E+02	4.50E+02	-7.00E-02	6.30E-01	7.10E-01	3.91E+00	1.17E-01	8.71E+00	3.22E+00	9.67E+00	7.76E+00	NA	NA	NA	
	010	20.4	-5	2/9/2007	10:54	2.72E+02	1.68E+02	1.70E+02	-1.60E-01	1.53E+00	1.70E+00	3.70E-01	1.80E+00	2.00E+00	8.30E-01	2.07E+00	2.30E+00	NA	NA	NA	
	011	20.4	-5	8/16/2007	11:00	3.93E+02	1.64E+02	1.61E+02	-3.91E-01	5.69E-01	8.47E-01	1.66E+00	4.92E+00	3.58E+00	5.36E-01	3.03E+00	3.55E+00	NA	NA	NA	
MW-48-37	001	36	-20.6	2/10/2006	14:10	1.00E+01	4.26E+02	4.73E+02	NA	NA	NA	1.18E+00	3.54E+00	2.53E+00	2.07E+00	6.21E+00	4.39E+00	NA	NA	NA	MW-48-37
	002	36	-20.6	4/12/2006	10:00	-5.40E+01	4.02E+02	4.52E+02	2.10E-01	3.90E-01	4.30E-01	1.70E+00	5.09E+00	3.53E+00	3.34E+00	1.00E-01	6.89E+00	NA	NA	NA	
	003	36	-20.6	4/27/2006	13:20	-2.15E+02	1.77E+02	2.04E+02	-4.96E-02	3.79E-01	4.20E-01	7.95E+00	9.91E+00	1.01E-01	-3.17E-01	8.42E+00	9.20E+00	NA	NA	NA	
	004	36	-20.6	5/22/2006	10:00	1.39E+02	4.02E+02	4.46E+02	-1.20E-01	3.60E-01	4.10E-01	1.35E+00	4.05E+00	2.94E+00	2.31E+00	6.94E+00	5.00E+00	NA	NA	NA	
	005	36	-20.6	6/9/2006	11:30	1.43E+02	1.67E+02	1.66E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	005	36	-20.6	6/9/2006	11:30	1.66E+02	4.11E+02	4.53E+02	2.08E+00	4.50E-01	4.00E-01	2.40E+00	7.20E+00	4.95E+00	4.14E+00	1.24E-01	8.50E+00	4.58E+00	1.35E+01	1.46E+01	
	005	36	-20.6	6/9/2006	11:30	5.96E+02	1.38E+03	6.24E+02	1.05E-01	7.89E-01	1.03E+00	1.50E+00	5.71E+00	6.44E+00	-1.58E+00	5.25E+00	5.52E+00	NA	NA	NA	
	006	36	-20.6	7/6/2006	8:45	1.47E+02	4.08E+02	4.52E+02	1.70E-01	8.10E-01	8.80E-01	2.10E+00	6.31E+00	4.44E+00	4.21E+00	1.26E-01	8.77E+00	NA	NA	NA	
	007	36	-20.6	8/8/2006	10:20	1.09E+01	1.55E+02	1.69E+02	6.00E-02	6.90E-01	7.80E-01	1.86E+00	5.68E+00	6.65E+00	2.95E-01	5.29E+00	5.93E+00	NA	NA	NA	
	008	36	-20.6	9/5/2006	10:20	5.73E+02	2.12E+02	1.75E+02	0.00E+00	6.90E-01	7.70E-01	-2.86E-01	5.59E+00	6.04E+00	1.60E+00	5.35E+00	6.37E+00	NA	NA	NA	
	009	36	-20.6	11/22/2006	9:34	2.62E+02	4.11E+02	4.50E+02	0.00E+00	6.30E-01	7.00E-01	1.60E+00	4.80E+00	3.39E+00	3.58E+00	1.07E-01	7.47E+00	NA	NA	NA	
	010	36	-20.6	2/9/2007	10:59	2.70E+01	1.65E+02	1.70E+02	-1.40E-01	1.38E+00	1.50E+00	-6.10E-01	1.26E+00	1.50E+00	-4.70E-01	1.38E+00	1.60E+00	NA	NA	NA	
	011	36	-20.6	8/16/2007	11:07	1.29E+02	1.59E+02	1.75E+02	4.11E-02	6.27E-01	7.94E-01	1.78E+00	4.35E+00	4.53E+00	-4.00E-01	4.51E+00	5.01E+00	NA	NA	NA	
MW-49-26	001	19.1	-4.4	3/22/2006	16:50	1.54E+04	2.81E+03	1.82E+03	1.84E+01	9.96E-01	4.29E-01	-5.28E-01	9.40E+00	1.02E-01	-1.35E+00	8.98E+00	9.69E+00	NA	NA	NA	MW-49-26
	003	19.1	-4.4	5/19/2006	14:55	9.40E+03	1.50E+03	4.96E+02	9.03E+00	9.40E-01	5.45E-01	2.65E+00	7.87E+00	9.09E+00	1.15E+00	5.99E+00	6.92E+00	NA	NA	NA	
	003	19.1	-4.4	5/19/2006	14:55	1.42E+04	6.75E+03	6.29E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	004	19.1	-4.4	6/6/2006	9:55	1.40E+04	2.16E+03	4.95E+02	1.41E+01	1.17E+00	5.80E-01	6.14E+00	1.18E-01	1.41E-01	2.42E+00	1.02E-01	1.21E+01	NA	NA	NA	
	005	19.1	-4.4	7/7/2006	9:15	1.00E+04	2.06E+03	1.51E+03	1.26E+01	2.67E+00	1.51E+00	1.38E+00	8.45E+00	9.49E+00	-1.98E+00	8.42E+00	8.90E+00	NA	NA	NA	
	006	19.1	-4.4	8/1/2006	9:28	1.37E+04	1.13E+03	6.16E+02	NA	NA	NA	-5.93E+00	6.06E+00	4.56E+00	-3.09E+00	5.14E+00	4.31E+00	3.67E+01	3.09E+01	3.26E+01	
	007	19.1	-4.4	8/28/2006	12:30	1.10E+04	1.12E+03	7.68E+02	NA	NA	NA	-2.69E+00	5.42E+00	5.50E+00	-3.57E+00	4.78E+00	3.71E+00	NA	NA	NA	
	008	19.1	-4.4	11/15/2006	11:28	6.39E+03	1.38E+03	1.00E+03	1.55E+01	1.95E+00	7.70E-01	8.00E-01	3.00E+00	3.40E+00	-3.00E-01	4.20E+00	5.00E+00	8.40E+00	2.04E+01	2.20E+01	
	009	19.1	-4.4	6/26/2007	12:30	7.76E+03	3.48E+02	1.79E+02	1.27E+01	1.40E+00	7.13E-01	1.36E+00	2.55E+00	2.83E+00	-8.28E-01	2.23E+00	2.31E+00	-1.92E+00	1.28E+01	1.50E+01	
	010	19.1	-4.4	8/9/2007	11:17	6.72E+03	9.50E+02	4.62E+02	1.43E+01	2.16E+00	9.06E-01	4.09E-01	3.72E+00	4.23E+00	2.50E+00	3.51E+00	4.54E+00	7.93E-01	2.07E+01	2.42E+01	
	011	19.1	-4.4	1/28/2008	16:28	4.21E+03	5.76E+02	2.98E+02	2.29E+01	2.40E+00	8.52E-01	-1.19E+00	1.95E+00	2.07E+00	4.31E-01	1.97E+00	2.29E+00	5.16E+00	1.53E+01	1.75E+01	
	012	19.1	-4.4	4/25/2008	12:45	5.00E+03	3.13E+02	1.44E+02	1.81E+01	1.32E+00	5.69E-01	2.68E+00	2.36E+00	4.34E+00	2.08E+00	2.22E+00	4.14E+00	1.76E+00	1.19E+01	2.05E+01	
	013	19.1	-4.4	7/30/2008	15:03	3.96E+03	1.73E+02	1.30E+02	1.62E+01	1.27E+00	8.36E-01	-9.75E-01	1.74E+00	2.74E+00	1.31E+00	2.17E+00	3.93E+00	-2.81E+00	1.64E+01	2.92E+01	
	014	19.1	-4.4	11/5/2008	15:54	3.47E+03	4.55E+02	1.91E+02	1.53E+01	2.06E+00	6.10E-01	-1.36E+00	5.03E+00	5.26E+00	-3.17E-01	4.65E+00	5.18E+00	2.96E+00	1.77E+01	2.02E+01	
	015	19.1	-4.4	2/6/2009	13:03	3.10E+03	2.66E+02	1.69E+02	1.38E+01	1.91E+00	8.59E-01	1.77E+00	4.34E+00	4.54E+00	1.26E+00	3.56E+00	4.24E+00	2.31E+01	2.21E+01	2.42E+01	
	016	19.1	-4.4	5/6/2009	10:46	3.20E+03	4.05E+02	1.80E+02	1.50E+01	1.85E+00	4.90E-01	2.93E+00	7.91E+00	5.27E+00	2.01E-01	3.78E+00	4.33E+00	7.21E-01	1.67E+01	1.91E+01	
MW-49-42	001	38.1	-23.4	3/22/2006	16:45	1.13E+04	2.55E+03	1.83E+03	1.94E+01	1.04E+00	4.30E-01	3.30E+00	1.19E-01	1.32E-01	-4.57E+00	1.11E-01	1.14E+01	NA	NA	NA	MW-49-42
	003	38.1	-23.4	5/19/2006	15:07	8.83E+03	5.33E+03	6.29E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003	38.1	-23.4	5/19/2006	15:07	9.39E+03	1.49E+03	4.90E+02	1.20E+01	9.57E-01	4.54E-01	2.16E+00	1.39E-01	1.56E-01	3.96E+00	1.40E-01	1.63E+01	NA	NA	NA	
	004	38.1	-23.4	6/6/2006	10:10	8.28E+03	1.32E+03	3.86E+02	1.63E+01	1.27E+00	5.67E-01	2.88E+00	1.37E-01	1.58E-01	-1.26E+00	1.07E-01	1.13E+01	NA	NA	NA	
	005	38.1	-23.4	7/7/2006	9:15	5.85E+03	1.82E+03	1.52E+03	1.92E+01	3.23E+00	1.49E+00	2.01E+00	1.14E-01	1.30E-01	-1.61E+00	1.06E-01	1.11E+01	NA	NA	NA	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	006	38.1	-23.4	8/1/2006	9:40	8.80E+03	9.68E+02	6.16E+02	NA	NA	NA	-4.22E+00	9.33E+00	8.64E+00	-1.94E+00	8.78E+00	8.99E+00	8.06E+00	9.86E+00	1.05E+01	
	007	38.1	-23.4	8/28/2006	12:40	8.69E+03	9.57E+02	6.10E+02	NA	NA	NA	-8.31E-02	1.05E-01	1.16E-01	-6.74E+00	9.40E+00	6.18E+00	NA	NA	NA	
	008	38.1	-23.4	11/15/2006	14:21	6.19E+03	1.38E+03	1.00E+03	2.11E+01	2.46E+00	8.10E-01	-6.60E-01	2.25E+00	2.60E+00	1.18E+00	2.34E+00	2.60E+00	2.60E+00	5.70E+00	6.20E+00	
	009	38.1	-23.4	6/26/2007	12:30	4.44E+03	2.90E+02	1.86E+02	2.08E+01	1.65E+00	6.22E-01	-3.62E-01	4.56E+00	4.32E+00	-2.09E+00	3.66E+00	3.54E+00	-5.19E+00	1.30E+01	1.54E+01	
	010	38.1	-23.4	8/9/2007	12:05	4.30E+03	7.91E+02	4.59E+02	2.56E+01	2.77E+00	8.29E-01	-1.17E+00	3.27E+00	3.37E+00	2.77E+00	3.52E+00	4.56E+00	4.03E-01	2.10E+01	2.46E+01	
	011	38.1	-23.4	1/28/2008	15:49	2.81E+03	4.92E+02	2.98E+02	2.94E+01	2.57E+00	5.58E-01	8.68E-01	2.10E+00	2.43E+00	8.96E-01	2.13E+00	2.52E+00	5.79E+00	1.73E+01	1.97E+01	
	012	38.1	-23.4	4/25/2008	12:38	3.20E+03	2.54E+02	1.44E+02	2.33E+01	1.49E+00	5.24E-01	4.07E-01	1.82E+00	3.18E+00	5.91E-01	2.37E+00	4.13E+00	-1.03E+00	1.17E+01	2.04E+01	
	013	38.1	-23.4	7/30/2008	15:06	2.52E+03	1.45E+02	1.30E+02	2.16E+01	1.41E+00	6.09E-01	4.49E-01	1.59E+00	2.79E+00	7.96E-01	1.70E+00	3.09E+00	-2.73E+00	1.59E+01	2.84E+01	
	014	38.1	-23.4	11/5/2008	14:31	2.54E+03	4.04E+02	1.97E+02	2.16E+01	2.50E+00	7.01E-01	-1.27E+00	6.33E+00	6.92E+00	-1.93E+00	8.10E+00	7.46E+00	4.70E+00	1.84E+01	2.09E+01	
	015	38.1	-23.4	2/6/2009	9:57	2.25E+03	2.40E+02	1.70E+02	2.07E+01	2.37E+00	9.73E-01	1.38E+00	3.51E+00	4.09E+00	-2.43E+00	3.38E+00	3.11E+00	-2.15E+00	2.15E+01	2.48E+01	
	016	38.1	-23.4	5/6/2009	14:27	2.50E+03	3.63E+02	1.79E+02	1.75E+01	2.04E+00	4.71E-01	1.31E+00	7.25E+00	4.83E+00	1.78E-01	4.17E+00	4.49E+00	-7.29E+00	1.67E+01	1.94E+01	
MW-49-65	001	60	-45.4	3/22/2006	16:55	5.43E+03	2.13E+03	1.82E+03	1.85E+01	1.01E+00	4.13E-01	1.36E+00	1.43E-01	1.72E-01	5.51E+00	1.37E-01	1.81E+01	NA	NA	NA	MW-49-65
	003	60	-45.4	5/19/2006	15:55	5.70E+03	9.38E+02	3.84E+02	1.13E+01	8.98E-01	4.28E-01	-2.86E+00	8.51E+00	8.67E+00	-1.43E-01	9.39E+00	1.03E+01	NA	NA	NA	
	003	60	-45.4	5/19/2006	15:55	5.75E+03	4.30E+03	6.29E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	004	60	-45.4	6/6/2006	10:40	4.32E+03	7.20E+02	2.88E+02	1.72E+01	1.30E+00	6.17E-01	4.52E+00	1.41E-01	1.63E-01	4.24E+00	1.28E-01	1.52E+01	NA	NA	NA	
	005	60	-45.4	7/7/2006	9:10	4.63E+03	1.73E+03	1.52E+03	1.56E+01	3.24E+00	1.86E+00	-2.76E+00	6.49E+00	6.88E+00	1.84E+00	6.45E+00	7.36E+00	NA	NA	NA	
	006	60	-45.4	8/1/2006	10:00	5.76E+03	8.48E+02	6.14E+02	NA	NA	NA	-1.20E+00	6.84E+00	7.48E+00	-6.55E-01	8.18E+00	9.78E+00	5.75E+00	1.06E+01	1.15E+01	
	007	60	-45.4	8/28/2006	12:35	5.54E+03	8.40E+02	6.16E+02	NA	NA	NA	-4.07E+00	9.28E+00	9.08E+00	-1.27E+00	7.42E+00	7.60E+00	NA	NA	NA	
	008	60	-45.4	11/15/2006	13:46	3.04E+03	1.20E+03	1.00E+03	1.92E+01	2.31E+00	8.40E-01	2.12E+00	2.61E+00	2.80E+00	3.00E-01	2.07E+00	2.40E+00	-1.80E+00	6.90E+00	7.70E+00	
	009	60	-45.4	6/26/2007	12:30	2.62E+03	2.45E+02	1.85E+02	1.58E+01	1.58E+00	8.28E-01	-1.36E-03	3.06E+00	3.38E+00	-3.59E+00	4.30E+00	2.75E+00	-7.43E+00	1.41E+01	1.68E+01	
	010	60	-45.4	8/9/2007	11:20	2.41E+03	6.42E+02	4.60E+02	2.08E+01	2.40E+00	9.11E-01	3.44E-01	2.76E+00	3.13E+00	1.65E+00	3.03E+00	3.73E+00	3.50E+00	2.14E+01	2.49E+01	
	011	60	-45.4	1/28/2008	16:52	1.85E+03	4.22E+02	2.95E+02	2.73E+01	2.79E+00	6.29E-01	2.83E+00	3.72E+00	3.81E+00	-1.63E+00	3.17E+00	3.09E+00	1.01E+01	1.95E+01	2.20E+01	
	012	60	-45.4	4/25/2008	13:13	1.93E+03	1.86E+02	1.96E+02	1.90E+01	6.62E-01	3.64E-01	-8.45E-02	1.93E+00	3.28E+00	-1.40E-01	2.29E+00	3.84E+00	6.81E+00	9.59E+00	1.62E+01	
	013	60	-45.4	7/30/2008	13:58	1.56E+03	1.23E+02	1.30E+02	1.78E+01	1.29E+00	5.51E-01	-4.77E-01	2.20E+00	3.63E+00	8.42E-02	2.02E+00	3.39E+00	-6.53E+00	1.67E+01	2.96E+01	
	014	60	-45.4	11/5/2008	14:43	1.26E+03	3.02E+02	1.92E+02	1.72E+01	2.23E+00	5.97E-01	-4.96E+00	6.60E+00	6.62E+00	2.51E+00	6.11E+00	7.41E+00	8.42E-01	1.80E+01	2.06E+01	
	015	60	-45.4	2/6/2009	9:59	1.42E+03	2.10E+02	1.70E+02	1.73E+01	2.10E+00	9.15E-01	-9.15E-01	2.96E+00	3.20E+00	7.61E-01	2.64E+00	3.21E+00	2.70E+00	2.22E+01	2.54E+01	
	016	60	-45.4	5/6/2009	15:18	1.34E+03	2.85E+02	1.80E+02	1.28E+01	1.79E+00	7.13E-01	1.40E-01	4.37E+00	2.91E+00	-3.07E-01	2.99E+00	3.02E+00	-1.93E+00	1.79E+01	2.05E+01	
MW-50-42	001	42	-27.1	3/22/2006	14:25	9.75E+03	5.78E+02	2.14E+02	1.93E+01	1.12E+00	4.76E-01	-1.36E+00	9.90E+00	1.13E-01	-5.74E-01	8.55E+00	1.02E+01	4.01E+00	1.34E+01	1.46E+01	MW-50-42
	003	42	-27.1	5/19/2006	13:55	4.59E+03	7.74E+02	3.53E+02	1.95E+01	1.25E+00	4.77E-01	4.84E+00	8.95E+00	1.18E-01	-4.07E-01	8.17E+00	1.02E+01	NA	NA	NA	
	003	42	-27.1	5/19/2006	13:55	4.58E+03	3.84E+03	6.30E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	004	42	-27.1	6/7/2006	9:00	1.79E+02	1.89E+02	1.56E+02	3.94E+00	7.62E-01	6.06E-01	1.15E-01	7.81E+00	8.62E+00	-1.70E+00	7.37E+00	7.69E+00	NA	NA	NA	
	005	42	-27.1	7/3/2006	11:35	3.98E+02	2.18E+02	2.02E+02	3.45E+00	2.00E+00	1.65E+00	6.90E+00	1.38E-01	1.65E-01	4.75E+00	1.01E-01	1.30E+01	NA	NA	NA	
	006	42	-27.1	8/1/2006	11:20	1.41E+03	6.42E+02	6.14E+02	NA	NA	NA	8.99E+00	1.01E+01	1.33E+01	6.21E+00	9.26E+00	1.24E+01	1.12E+01	1.53E+01	1.64E+01	
	007	42	-27.1	8/28/2006	11:50	3.11E+02	1.89E+02	1.76E+02	NA	NA	NA	1.97E+00	5.84E+00	6.74E+00	3.49E+00	6.36E+00	7.93E+00	NA	NA	NA	
	008	42	-27.1	11/15/2006	11:50	1.70E+03	1.11E+03	1.00E+03	1.13E+01	1.56E+00	8.30E-01	7.20E+00	4.20E+00	4.30E+00	-9.00E-01	3.00E+00	3.80E+00	-1.20E+00	6.00E+00	6.70E+00	
	009	42	-27.1	6/26/2007	14:30	2.15E+02	1.71E+02	1.86E+02	1.16E+01	1.35E+00	7.64E-01	1.91E+00	4.44E+00	5.12E+00	-1.64E+00	4.29E+00	3.94E+00	-6.30E+00	1.84E+01	2.19E+01	
	010	42	-27.1	7/26/2007	11:20	1.45E+02	1.74E+02	1.93E+02	1.94E+01	1.81E+00	5.31E-01	-5.50E+00	4.71E+00	3.68E+00	2.53E+00	3.39E+00	4.32E+00	4.92E+00	1.91E+01	2.19E+01	
	011	42	-27.1	10/18/2007	14:08	1.01E+02	1.76E+02	1.97E+02	2.45E+01	2.52E+00	5.71E-01	3.02E-01	3.38E+00	3.87E+00	6.26E-01	3.75E+00	3.81E+00	-9.14E-01	1.62E+01	1.87E+01	
	013	42	-27.1	2/26/2008	12:19	6.13E+02	2.94E+02	2.87E+02	2.40E+00	8.61E-01	7.34E-01	-1.95E+00	4.80E+00	4.66E+00	1.77E+00	3.90E+00	4.68E+00	1.71E+01	2.40E+01	2.67E+01	
	014	42	-27.1	7/31/2008	15:43	3.73E+02	1.34E+02	1.91E+02	9.28E+00	8.66E-01	4.39E-01	-9.40E-01	1.99E+00	3.20E+00	9.53E-01	1.91E+00	3.44E+00	1.58E+01	1.76E+01	2.96E+01	
	015	42	-27.1	11/6/2008	10:44	1.29E+02	1.76E+02	1.92E+02	2.56E+00	9.87E-01	6.85E-01	1.65E+00	4.98E+00	5.77E+00	5.18E-01	5.36E+00	6.17E+00	0.00E+00	1.76E+01	2.03E+01	
	016	42	-27.1	1/22/2009	15:23	2.15E+02	1.38E+02	1.48E+02	1.96E+00	8.06E-01	6.31E-01	-1.74E+00	2.48E+00	2.37E+00	-5.18E-01	2.31E+00	2.39E+00	-3.34E+00	1.74E+01	2.03E+01	
	017	42	-27.1	5/5/2009	14:11	3.92E+02	1.95E+02	1.72E+02	2.38E+00	8.93E-01	6.96E-01	5.89E-01	9.20E+00	6.13E+00	-2.50E+00	5.75E+00	5.71E+00	-9.99E+00	2.07E+01	2.42E+01	
MW-50-66	001	60	-45.1	3/22/2006	14:50	6.81E+03	4.94E+02	2.13E+02	2.55E+01	1.21E+00	4.90E-01	-7.67E+00	1.60E-01	1.66E-01	-2.18E+00	1.68E-01	1.81E+01	5.33E+00	1.35E+01	1.47E+01	MW-50-66
	003	60	-45.1	5/19/2006	15:20	9.61E+03	1.52E+03	4.94E+02	1.95E+01	1.22E+00	5.16E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003	60	-45.1	5/19/2006	15:20	1.08E+04	5.90E+03	6.30E+02	NA	NA	NA	3.23E+00	1.06E-01	1.23E-01	7.78E-01	1.12E-01	1.25E+01	NA	NA	NA	
	004	60	-45.1	6/7/2006	9:20	1.05E+04	1.65E+03	4.29E+02	1.98E+01	1.18E+00	4.66E-01	-1.97E+00	8.71E+00	9.38E+00	2.49E+00	8.98E+00	1.04E+01	NA	NA	NA	
	005	60	-45.1	7/3/2006	11:00	8.62E+03	2.00E+03	1.52E+03	2.53E+01	3.79E+00	1.67E+00	-2.04E+00	9.54E+00	1.02E-01	4.40E-01	8.34E+00	9.23E+00	NA	NA	NA	
	006	60	-45.1	8/1/2006	9:28	7.93E+03	9.36E+02	6.16E+02	NA	NA	NA	5.59E-01	5.98E+00	6.68E+00	-4.31E+00	6.18E+00	5.00E+00	1.06E+01	1.06E+01	1.13E+01	
	007	60	-45.1	8/28/2006	12:05	6.77E+03	1.59E+03	1.30E+03	NA	NA	NA	7.66E-02	4.67E+00	5.86E+00	1.34E+00	4.23E+00	5.88E+00	NA	NA	NA	
	008	60	-45.1	11/15/2006	10:37	5.05E+03	1.32E+03	1.00E+03	2.15E+01	2.34E+00	8.10E-01	2.00E-01	3.30E+00	3.70E+00	2.60E+00	3.30E+00	3.50E+00	1.50E+00	5.70E+00	6.30E+00	
	009	60	-45.1	6/26/2007	14:02	4.21E+03	2.85E+02	1.86E+02	2.93E+01	1.86E+00	5.25E-01	-2.19E+00	2.64E+00	2.49E+00	1.63E-01	2.36E+00	2.74E+00	-6.05E-01	1.50E+01	1.74E+01	
	010	60	-45.1	7/26/2007	11:25	4.50E+03	3.39E+02	2.04E+02	3.10E+01	2.50E+00	5.78E-01	-1.12E+00	4.54E+00	4.18E+00	1.08E-02	3.46E+00	3.94E+00	1.93E+01	1.86E+01	2.02E+01	
	011	60	-45.1	10/18/2007	14:38	3.85E+03	6.53E+02	3.62E+02	4.74E+01	3.72E+00	7.97E-01	-2.28E+00	4.61E+00	4.36E+00	1.65E+00	4.20E+00	4.96E+00	-3.71E+00	1.58E+01	1.83E+01	
	013	60	-45.1	2/26/2008	13:46	3.74E+03	7.98E+02	5.31E+02	3.58E+01	2.36E+00	7.40E-01	7.87E-01	2.69E+00	3.18E+00	2.54E-01	2.54E+00	2.96E+00	4.87E+00	1.86E+01	2.12E+01	
	015	60	-45.1	5/12/2008	15:40	2.80E+03	2.39E+02	1.44E+02	3.38E+01	1.85E+00	7.01E-01	7.08E-01	2.24E+00	3.87E+00	1.23E+00	2.13E+00	3.83E+00	7.86E+00	1.28E+01	2.17E+01	
	016	60	-45.1	7/31/2008	17:02	2.71E+03	2.48E+02	1.91E+02	3.30E+01	1.59E+00	4.02E-01	2.31E+00	1.82E+00	3.43E+00	6.64E-01	1.46E+00	2.68E+00	3.58E+00	1.40E+01	2.43E+01	
	017	60	-45.1	9/8/2008	16:21	2.08E+03	4.17E+02	5.04E+02	3.23E+01	1.66E+00	4.88E-01	-8.81E-01	2.69E+00	3.96E+00	NA	NA	NA	1.22E+01	1.23E+01	2.06E+01	
	018	60	-45.1	11/6/2008	12:38	2.73E+03	4.17E+02	1.98E+02	3.20E+01	3.00E+00	7.41E-01	-8.66E-01	5.97E+00	6.56E+00	-2.52E+00	8.96E+00	8.45E+00	-1.63E+00	2.07E+01	2.39E+01	
	019	60	-45.1	11/19/2008	16:29	2.43E+03	2.49E+02	1.73E+02	4.99E+01	3.75E+00	8.66E-01	2.50E+00	5.26E+00	2.61E+00	5.13E-01	2.70E+00	3.17E+00	-5.06E-01	1.98E+01	2.29E+01	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	020	60	-45.1	1/22/2009	16:01	2.30E+03	2.16E+02	1.48E+02	2.75E+01	2.28E+00	4.07E-01	-1.68E+00	4.20E+00	3.99E+00	-1.97E-01	3.32E+00	3.66E+00	-9.33E+00	1.88E+01	2.23E+01	
	021	60	-45.1	3/18/2009	15:16	3.13E+03	7.02E+02	3.88E+02	2.42E+01	2.58E+00	9.13E-01	1.95E-02	5.75E+00	3.83E+00	-9.37E-01	3.56E+00	3.65E+00	1.55E+00	1.70E+01	1.94E+01	
	022	60	-45.1	5/5/2009	16:33	3.45E+03	4.35E+02	1.74E+02	2.82E+01	2.33E+00	6.13E-01	-4.57E+00	8.96E+00	5.97E+00	-6.21E-03	5.87E+00	6.54E+00	-1.93E+00	1.85E+01	2.13E+01	
MW-51-40	001	39.7	28	5/30/2007	11:45	1.98E+02	1.65E+02	1.68E+02	-5.30E-01	6.73E-01	9.82E-01	1.04E-01	3.48E+00	3.77E+00	1.61E+00	3.23E+00	3.77E+00	NA	NA	NA	MW-51-40
	002	39.7	28	7/24/2007	15:30	2.23E+02	1.59E+02	1.60E+02	7.09E-02	4.71E-01	5.38E-01	1.65E-02	3.39E+00	3.85E+00	-1.32E+00	4.02E+00	4.13E+00	NA	NA	NA	
	004	39.7	28	11/9/2007	15:40	1.47E+02	1.55E+02	1.70E+02	-8.16E-02	3.87E-01	4.52E-01	1.68E+00	2.96E+00	3.52E+00	-5.71E-02	3.15E+00	3.49E+00	NA	NA	NA	
	005	39.7	28	1/8/2008	10:47	5.86E+01	1.56E+02	1.79E+02	1.57E-01	6.77E-01	8.32E-01	1.83E-02	2.66E+00	2.93E+00	7.71E-01	2.75E+00	2.87E+00	NA	NA	NA	
	007	39.7	28	5/30/2008	10:27	1.41E+02	1.01E+02	1.60E+02	3.71E-01	5.67E-01	9.67E-01	3.19E-01	2.03E+00	3.41E+00	2.18E+00	2.36E+00	3.50E+00	NA	NA	NA	
	008	39.7	28	8/8/2008	14:40	3.29E+02	1.60E+02	2.03E+02	3.74E-01	4.02E-01	6.70E-01	1.59E+00	2.19E+00	3.98E+00	-1.99E-01	1.79E+00	2.99E+00	-8.33E+00	1.02E+01	1.83E+01	
	009	39.7	28	10/27/2008	13:11	1.68E+02	1.85E+02	1.95E+02	1.84E-02	4.26E-01	5.67E-01	4.51E-01	4.28E+00	4.88E+00	-1.93E+00	6.35E+00	6.59E+00	-5.03E+00	2.11E+01	2.46E+01	
	010	39.7	28	1/20/2009	14:50	2.37E+01	1.68E+02	1.92E+02	1.92E-01	7.95E-01	9.70E-01	9.89E-01	2.81E+00	3.26E+00	1.05E+00	2.75E+00	3.30E+00	8.95E+00	1.67E+01	1.87E+01	
	011	39.7	28	5/7/2009	14:27	2.03E+02	1.76E+02	1.81E+02	1.02E-01	6.81E-01	8.27E-01	1.18E+00	7.08E+00	4.72E+00	-1.14E+00	5.00E+00	5.08E+00	-1.06E+00	1.83E+01	2.11E+01	
MW-51-79	001	78.7	-11	5/30/2007	12:42	9.89E+01	1.55E+02	1.72E+02	-2.36E-01	6.98E-01	9.58E-01	2.20E+00	3.63E+00	3.90E+00	3.52E-01	3.31E+00	3.76E+00	NA	NA	NA	MW-51-79
	002	78.7	-11	7/24/2007	17:00	4.24E+01	1.43E+02	1.67E+02	8.02E-03	5.35E-01	6.15E-01	-6.37E-01	3.88E+00	4.21E+00	-2.83E-01	4.51E+00	4.93E+00	NA	NA	NA	
	004	78.7	-11	11/9/2007	16:18	5.00E+01	1.50E+02	1.71E+02	-4.97E-02	2.99E-01	3.52E-01	2.66E+00	2.97E+00	3.56E+00	-2.43E-01	4.02E+00	4.45E+00	NA	NA	NA	
	005	78.7	-11	1/8/2008	10:08	9.26E+01	1.59E+02	1.79E+02	-4.64E-01	7.01E-01	9.74E-01	-7.91E-01	2.22E+00	2.42E+00	2.58E-01	2.37E+00	2.70E+00	NA	NA	NA	
	007	78.7	-11	5/30/2008	10:55	6.70E+01	9.41E+01	1.61E+02	2.46E-02	4.94E-01	9.94E-01	-1.14E+00	3.43E+00	4.80E+00	-5.13E-01	2.70E+00	4.31E+00	NA	NA	NA	
	008	78.7	-11	8/8/2008	12:55	1.61E+02	1.31E+02	2.01E+02	2.03E-01	2.99E-01	5.18E-01	9.63E-01	2.17E+00	3.82E+00	5.64E-01	2.30E+00	3.98E+00	-1.07E+01	1.07E+01	1.93E+01	
	009	78.7	-11	10/27/2008	13:30	1.14E+01	1.62E+02	1.99E+02	3.14E-03	6.14E-01	7.85E-01	8.42E-01	5.07E+00	5.75E+00	2.41E+00	5.21E+00	6.37E+00	3.72E+00	1.77E+01	2.02E+01	
	010	78.7	-11	1/20/2009	15:21	1.01E+02	1.33E+02	1.48E+02	-1.71E-01	3.15E-01	5.02E-01	5.93E-01	5.57E+00	3.65E+00	-2.94E-01	3.21E+00	3.56E+00	1.58E+01	1.73E+01	1.90E+01	
	011	78.7	-11	5/7/2009	15:10	6.19E+01	1.58E+02	1.81E+02	6.97E-01	7.58E-01	8.29E-01	5.17E-01	7.68E+00	5.12E+00	2.33E+00	5.79E+00	6.97E+00	-6.40E+00	1.73E+01	2.00E+01	
MW-51-104	001	103.7	-36	5/30/2007	11:05	5.71E+01	1.48E+02	1.71E+02	-6.74E-02	7.59E-01	9.90E-01	1.25E+00	3.27E+00	3.35E+00	7.70E-02	3.25E+00	3.62E+00	NA	NA	NA	MW-51-104
	002	103.7	-36	7/24/2007	17:06	9.07E+01	1.47E+02	1.64E+02	3.62E-01	4.86E-01	5.41E-01	-4.20E+00	4.62E+00	3.92E+00	1.42E+00	4.44E+00	5.33E+00	NA	NA	NA	
	004	103.7	-36	11/9/2007	14:35	5.17E+01	1.50E+02	1.70E+02	-2.40E-01	3.18E-01	3.86E-01	-1.26E+00	2.85E+00	2.92E+00	1.15E+00	2.61E+00	3.18E+00	NA	NA	NA	
	005	103.7	-36	1/8/2008	12:15	-4.84E+00	1.45E+02	1.78E+02	-6.19E-02	7.22E-01	9.34E-01	-9.37E-01	2.09E+00	2.26E+00	-3.84E-01	2.54E+00	2.50E+00	NA	NA	NA	
	006	103.7	-36	8/8/2008	10:50	2.82E+02	1.55E+02	2.08E+02	-2.66E-01	4.00E-01	7.92E-01	1.56E+00	2.03E+00	3.60E+00	-1.21E-01	2.07E+00	3.38E+00	-4.19E+00	1.31E+01	2.36E+01	
	007	103.7	-36	10/27/2008	10:07	1.21E+02	1.39E+02	1.49E+02	1.19E-01	4.97E-01	6.13E-01	5.61E+00	6.81E+00	8.52E+00	-5.72E+00	8.93E+00	8.26E+00	-1.01E+00	1.84E+01	2.12E+01	
	008	103.7	-36	1/20/2009	10:46	9.95E+01	1.33E+02	1.48E+02	9.07E-03	3.78E-01	5.04E-01	-1.33E+00	2.87E+00	3.03E+00	-1.01E+00	2.37E+00	2.42E+00	-2.06E+00	2.00E+01	2.33E+01	
	009	103.7	-36	5/7/2009	11:48	1.11E+02	1.61E+02	1.78E+02	-1.53E-01	6.36E-01	7.99E-01	-8.75E-01	5.79E+00	3.86E+00	4.67E-01	3.51E+00	4.01E+00	-1.35E+01	2.36E+01	2.71E+01	
MW-51-135	001	135.2	-67.5	5/30/2007	13:00	8.24E+01	1.50E+02	1.70E+02	-4.68E-01	5.53E-01	8.40E-01	-4.01E-01	3.62E+00	4.03E+00	2.56E+00	3.84E+00	4.48E+00	NA	NA	NA	MW-51-135
	002	135.2	-67.5	7/24/2007	12:40	9.51E+01	1.43E+02	1.59E+02	5.33E-02	5.04E-01	5.76E-01	-4.56E-01	4.07E+00	4.36E+00	3.42E-01	3.30E+00	3.84E+00	NA	NA	NA	
	004	135.2	-67.5	11/9/2007	11:55	9.83E+01	1.53E+02	1.72E+02	-2.42E-01	2.54E-01	3.18E-01	-7.27E-01	3.46E+00	3.70E+00	-3.14E-01	3.29E+00	3.66E+00	NA	NA	NA	
	005	135.2	-67.5	1/8/2008	13:20	4.91E+01	1.55E+02	1.80E+02	3.47E-02	7.04E-01	8.79E-01	6.30E-02	1.88E+00	2.09E+00	1.43E-02	1.71E+00	1.90E+00	NA	NA	NA	
	006	135.2	-67.5	8/8/2008	11:50	2.09E+02	1.39E+02	1.99E+02	5.09E-02	2.40E-01	4.57E-01	-1.03E+00	2.08E+00	3.29E+00	1.01E-02	2.01E+00	3.34E+00	-6.78E+00	1.14E+01	2.02E+01	
	007	135.2	-67.5	10/27/2008	10:05	7.68E+01	1.73E+02	1.99E+02	2.72E-04	5.05E-01	6.63E-01	-1.74E+00	5.26E+00	5.63E+00	3.92E+00	6.09E+00	7.69E+00	-2.05E-01	1.74E+01	2.01E+01	
	008	135.2	-67.5	1/20/2009	11:02	1.31E+02	1.35E+02	1.48E+02	-3.04E-01	3.41E-01	5.84E-01	-6.92E-01	3.89E+00	4.31E+00	9.34E-01	3.06E+00	3.66E+00	-1.08E+01	1.76E+01	2.10E+01	
	009	135.2	-67.5	5/7/2009	11:53	2.44E+01	1.43E+02	1.71E+02	8.54E-02	4.71E-01	5.79E-01	3.06E+00	7.04E+00	4.69E+00	-7.33E-01	3.77E+00	4.00E+00	-2.11E+01	2.24E+01	2.60E+01	
MW-51-163	001	162.7	-95	5/30/2007	14:10	1.18E+02	1.56E+02	1.69E+02	3.29E-01	1.16E+00	1.36E+00	-2.81E-01	3.09E+00	3.45E+00	1.77E-01	2.82E+00	3.20E+00	NA	NA	NA	MW-51-163
	002	162.7	-95	7/24/2007	14:05	4.98E+01	1.44E+02	1.66E+02	1.05E-01	4.58E-01	5.21E-01	-2.43E-01	3.44E+00	3.78E+00	8.64E-02	3.25E+00	3.63E+00	NA	NA	NA	
	004	162.7	-95	11/9/2007	13:32	7.30E+01	1.52E+02	1.71E+02	2.08E-01	2.82E-01	3.12E-01	1.41E-01	3.54E+00	3.51E+00	-1.11E+00	3.01E+00	3.11E+00	NA	NA	NA	
	005	162.7	-95	1/8/2008	13:57	-1.99E+01	1.47E+02	1.82E+02	4.40E-01	8.22E-01	9.29E-01	-1.74E+00	2.66E+00	2.46E+00	8.69E-02	2.15E+00	2.44E+00	NA	NA	NA	
	006	162.7	-95	8/8/2008	11:16	6.92E+01	8.27E+01	1.40E+02	-1.22E-01	2.63E-01	5.44E-01	-1.54E+00	2.25E+00	3.56E+00	3.78E-01	1.97E+00	3.39E+00	4.33E+00	1.26E+01	2.15E+01	
	007	162.7	-95	10/27/2008	10:20	5.58E+01	1.67E+02	1.95E+02	2.55E-01	5.76E-01	6.67E-01	-1.70E+00	6.18E+00	6.74E+00	5.42E-01	5.38E+00	6.25E+00	2.11E+00	1.88E+01	2.14E+01	
	008	162.7	-95	1/20/2009	11:44	4.60E+01	1.30E+02	1.48E+02	-1.98E-01	4.97E-01	6.98E-01	-9.70E-01	3.14E+00	3.27E+00	-7.70E-02	3.24E+00	3.54E+00	-1.01E+01	1.80E+01	2.14E+01	
	009	162.7	-95	5/7/2009	12:09	5.68E+01	1.56E+02	1.81E+02	-5.45E-02	4.61E-01	6.13E-01	-7.96E-01	5.09E+00	3.39E+00	1.08E+00	3.63E+00	3.83E+00	4.18E+00	1.89E+01	2.15E+01	
MW-51-189	001	189.2	-121.5	5/30/2007	14:00	1.87E+02	1.67E+02	1.71E+02	-2.88E-02	8.90E-01	1.11E+00	-3.62E-02	3.98E+00	3.82E+00	4.56E+00	3.57E+00	4.63E+00	NA	NA	NA	MW-51-189
	002	189.2	-121.5	7/24/2007	13:15	9.49E+01	1.46E+02	1.63E+02	3.93E-01	4.08E-01	4.48E-01	-8.87E-01	4.11E+00	3.58E+00	1.57E+00	4.02E+00	4.31E+00	NA	NA	NA	
	003	189.2	-121.5	10/2/2007	12:20	8.45E+00	1.70E+02	1.96E+02	-5.06E-02	2.16E-01	2.58E-01	1.38E+01	5.45E+00	2.92E+00	-4.14E-01	2.79E+00	3.04E+00	NA	NA	NA	
	004	189.2	-121.5	11/9/2007	13:05	-6.26E+00	1.48E+02	1.71E+02	1.93E-01	3.61E-01	4.08E-01	3.04E+00	3.27E+00	4.07E+00	-8.07E-02	3.65E+00	4.05E+00	NA	NA	NA	
	005	189.2	-121.5	1/8/2008	13:10	-4.82E+00	1.44E+02	1.77E+02	-3.17E-02	7.01E-01	8.92E-01	1.35E+00	2.13E+00	2.49E+00	1.42E+00	1.98E+00	2.41E+00	NA	NA	NA	
	006	189.2	-121.5	8/8/2008	11:17	1.10E+02	8.97E+01	1.43E+02	-1.43E-01	3.38E-01	6.60E-01	-2.27E+00	2.13E+00	3.12E+00	-1.79E+00	2.70E+00	3.57E+00	-5.89E+00	1.15E+01	2.04E+01	
	007	189.2	-121.5	10/27/2008	10:11	7.69E+01	1.74E+02	1.99E+02	5.61E-01	7.16E-01	7.51E-01	6.11E-01	6.38E+00	7.30E+00	3.04E+00	6.13E+00	7.60E+00	-6.95E+00	1.84E+01	2.17E+01	
	008	189.2	-121.5	1/20/2009	11:33	3.32E+01	1.30E+02	1.48E+02	-2.14E-01	3.45E-01	5.59E-01	-2.05E+00	3.48E+00	3.62E+00	1.91E+00	3.32E+00	4.20E+00	-8.33E+00	1.79E+01	2.11E+01	
	009	189.2	-121.5	5/7/2009	11:55	2.06E+01	1.52E+02	1.81E+02	1.44E-01	5.33E-01	6.41E-01	1.70E+00	9.39E+00	6.26E+00	-1.22E+00	5.79E+00	6.11E+00	-3.36E+00	1.86E+01	2.14E+01	
MW-52-11	001	10	6.8	6/20/2007	12:35	1.47E+02	1.68E+02	1.84E+02	-3.58E-01	6.33E-01	8.33E-01	1.96E+00	2.54E+00	2.99E+00	6.12E-01	2.29E+00	2.65E+00	-4.56E+00	1.28E+01	1.54E+01	MW-52-11
	002	10	6.8	8/6/2007	16:18	7.71E+01	1.73E+02	1.94E+02	-5.43E-01	6.12E-01	9.38E-01	-2.16E+00	3.42E+00	3.23E+00	3.39E-02	2.79E+00	3.12E+00	NA	NA	NA	
	003	10	6.8	4/28/2008	13:23	1.13E+03	1.53E+02	1.96E+02	1.97E-01	4.73E-01	8.46E-01	5.19E-01	1.93E+00	3.36E+00	-2.15E+00	3.52E+00	4.08E+00	NA	NA	NA	
	004	10	6.8	4/30/2009	14:27	5.19E+02	4.61E+02	4.72E+02	4.52E-02	5.64E-01	7.17E-01	2.98E-01	7.52E+00	5.01E+00	1.41E+00	5.07E+00	6.04E+00	NA	NA	NA	
MW-52-18	001	17.5	-2.6	5/24/2007	10:44	1.62E+02	1.52E+02	1.65E+02	-2.20E-01	4.98E-01	7.30E-01	6.53E-01	3.19E+00	3.74E+00	3.13E+00	3.30E+00	4.22E+00	-1.09E+00	9.82E+00	1.14E+01	MW-52-18
	002	17.5	-2.6	8/6/2007	13:45	6.73E+01	1.74E+02	1.96E+02	-7.91E-02	6.92E-01	8.93E-01	-1.43E+00	3.54E+00	3.67E+00	1.11E-01	3.15E+00	3.54E+00	NA	NA	NA	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	004	17.5	-2.6	4/30/2009	16:15	2.29E+02	2.01E+02	2.17E+02	-6.52E-02	5.55E-01	7.37E-01	-1.47E-02	7.89E+00	5.26E+00	8.60E-01	4.49E+00	5.24E+00	NA	NA	NA	
MW-52-48	001	48	-33.1	5/24/2007	11:35	7.02E+01	1.48E+02	1.67E+02	-3.61E-01	7.44E-01	1.01E+00	3.66E-01	2.94E+00	3.39E+00	-9.91E-01	3.03E+00	3.11E+00	-2.74E+00	8.16E+00	9.55E+00	MW-52-48
	002	48	-33.1	8/6/2007	14:00	1.15E+02	1.76E+02	1.96E+02	-5.59E-01	4.83E-01	7.33E-01	7.85E-01	3.24E+00	3.75E+00	4.31E-01	3.29E+00	3.75E+00	NA	NA	NA	
	004	48	-33.1	5/1/2009	11:35	1.43E+02	9.84E+01	1.00E+02	4.55E-02	6.02E-01	7.02E-01	1.19E+00	7.61E+00	5.07E+00	-2.32E+00	4.41E+00	4.29E+00	NA	NA	NA	
MW-52-64	001	64	-49.1	5/24/2007	14:44	3.82E+00	1.70E+02	1.98E+02	-3.20E-01	7.68E-01	9.77E-01	-1.03E+00	3.25E+00	3.45E+00	8.00E-01	3.54E+00	4.11E+00	-2.85E+00	9.12E+00	1.07E+01	MW-52-64
	002	64	-49.1	8/6/2007	15:50	3.72E+01	1.71E+02	1.96E+02	-1.70E-02	7.22E-01	9.23E-01	5.10E-01	3.50E+00	3.68E+00	1.80E+00	6.08E+00	4.12E+00	NA	NA	NA	
	004	64	-49.1	5/1/2009	13:50	-1.02E+01	8.27E+01	1.00E+02	4.33E-01	7.01E-01	7.72E-01	1.82E+00	6.54E+00	4.36E+00	1.24E+00	4.25E+00	4.80E+00	NA	NA	NA	
MW-52-118	004			4/30/2009	12:03	1.15E+02	1.00E+02	1.06E+02	-3.34E-01	4.29E-01	6.89E-01	2.00E+00	8.58E+00	5.72E+00	1.27E+00	4.68E+00	5.65E+00	NA	NA	NA	MW-52-118
MW-52-122	001	122	-107.1	5/24/2007	14:55	6.78E+01	1.47E+02	1.66E+02	-4.24E-01	6.62E-01	9.64E-01	2.52E+00	3.59E+00	3.62E+00	-1.76E+00	3.38E+00	3.29E+00	-1.94E+00	9.68E+00	1.13E+01	MW-52-122
	002	122	-107.1	8/6/2007	12:05	4.42E+01	1.71E+02	1.96E+02	-4.19E-01	7.10E-01	9.60E-01	1.99E+00	4.09E+00	4.34E+00	2.10E-01	4.13E+00	4.70E+00	NA	NA	NA	
	003	122	-107.1	4/28/2008	15:23	8.87E+01	8.60E+01	1.44E+02	1.21E-01	2.92E-01	5.22E-01	-1.25E+00	2.05E+00	3.24E+00	2.72E+00	2.38E+00	4.52E+00	NA	NA	NA	
MW-52-162	001	161.5	-146.6	5/24/2007	11:55	2.82E+02	1.95E+02	2.03E+02	-5.15E-01	4.87E-01	8.12E-01	-5.80E-01	3.59E+00	3.29E+00	1.59E+00	3.15E+00	3.88E+00	-7.54E-01	9.75E+00	1.13E+01	MW-52-162
	002	161.5	-146.6	8/6/2007	11:30	2.11E+02	1.80E+02	1.95E+02	1.53E-02	4.79E-01	6.03E-01	3.61E-02	3.44E+00	3.77E+00	-3.73E-02	3.12E+00	3.52E+00	NA	NA	NA	
	003	161.5	-146.6	4/28/2008	10:22	1.45E+02	8.73E+01	1.43E+02	1.03E+00	3.62E-01	4.43E-01	-9.14E-01	2.03E+00	3.31E+00	2.33E+00	2.13E+00	4.14E+00	NA	NA	NA	
	004	161.5	-146.6	4/30/2009	12:06	4.92E+02	4.58E+02	4.73E+02	-1.49E-01	5.60E-01	7.37E-01	-5.43E-01	8.54E+00	5.69E+00	-1.26E+00	5.06E+00	5.17E+00	NA	NA	NA	
MW-52-181	001	181	-166.1	5/24/2007	12:06	2.48E+02	1.94E+02	2.04E+02	-3.19E-01	5.07E-01	7.58E-01	-5.99E-01	3.30E+00	3.52E+00	-2.81E-01	3.74E+00	4.19E+00	-2.23E-01	1.01E+01	1.17E+01	MW-52-181
	002	181	-166.1	8/6/2007	11:40	1.19E+02	1.77E+02	1.97E+02	5.84E-02	5.56E-01	6.77E-01	-1.21E+00	2.87E+00	2.97E+00	1.28E+00	2.96E+00	3.57E+00	NA	NA	NA	
	003	181	-166.1	4/29/2008	10:24	1.56E+02	8.77E+01	1.44E+02	1.62E-01	2.46E-01	4.28E-01	1.08E+00	2.25E+00	3.96E+00	4.11E-01	2.12E+00	3.63E+00	NA	NA	NA	
	004	181	-166.1	4/30/2009	12:07	1.47E+02	9.95E+01	1.01E+02	-4.95E-02	5.36E-01	7.43E-01	-2.57E+00	5.82E+00	3.88E+00	-1.51E+00	4.17E+00	4.27E+00	NA	NA	NA	
MW-53-82	001	75	-4.7	8/23/2006	12:50	1.18E+04	1.85E+03	5.02E+02	6.68E+00	3.10E+00	2.74E+00	-3.52E+00	7.20E+00	6.64E+00	1.30E+00	1.02E-01	1.16E+01	4.41E+00	9.39E+00	1.02E+01	MW-53-82
	001	75	-4.7	8/23/2006	12:50	1.32E+04	1.11E+03	6.12E+02	NA	NA	NA	9.35E-01	5.78E+00	6.37E+00	1.36E+00	5.70E+00	6.30E+00	NA	NA	NA	
	002	75	-4.7	11/9/2006	11:15	4.54E+02	1.38E+02	1.40E+02	8.00E-02	8.10E-01	9.00E-01	-1.20E+00	3.00E+00	3.60E+00	-1.30E+00	3.30E+00	4.00E+00	1.30E+00	4.20E+00	4.60E+00	
	003	75	-4.7	6/22/2007	15:30	8.68E+03	1.05E+03	4.31E+02	3.98E+00	1.45E+00	1.04E+00	3.81E+00	3.78E+00	4.53E+00	1.95E+00	3.62E+00	4.63E+00	4.53E+00	1.54E+01	1.77E+01	
	004	75	-4.7	8/9/2007	11:31	7.76E+02	2.06E+02	2.04E+02	-3.41E-02	6.87E-01	8.82E-01	6.29E-01	2.33E+00	2.76E+00	-1.05E+00	2.17E+00	2.17E+00	-2.21E+00	1.99E+01	2.36E+01	
	005	75	-4.7	10/24/2007	13:53	1.11E+03	4.71E+02	4.03E+02	2.35E-01	3.11E-01	3.43E-01	3.07E-01	2.71E+00	3.05E+00	-1.06E+00	2.44E+00	2.38E+00	-1.59E+00	2.09E+01	2.41E+01	
	006	75	-4.7	1/21/2008	12:52	9.42E+02	1.86E+02	1.71E+02	2.19E-01	4.28E-01	4.87E-01	0.00E+00	5.42E+00	3.23E+00	-1.36E+00	2.84E+00	2.84E+00	3.81E+00	1.85E+01	2.11E+01	
	008	75	-4.7	8/4/2008	12:25	1.21E+03	1.84E+02	1.91E+02	6.95E-01	3.04E-01	3.94E-01	2.79E+00	2.26E+00	4.16E+00	2.55E-02	2.14E+00	3.58E+00	1.15E+01	1.24E+01	2.09E+01	
	009	75	-4.7	10/30/2008	15:52	7.94E+02	2.37E+02	1.65E+02	-4.79E-02	2.99E-01	4.19E-01	3.66E+00	6.21E+00	7.56E+00	-1.78E+00	6.33E+00	6.63E+00	-4.83E+00	1.65E+01	1.92E+01	
	010	75	-4.7	1/26/2009	12:00	4.26E+03	3.06E+02	1.92E+02	2.30E+00	1.07E+00	9.76E-01	1.10E+00	3.96E+00	4.51E+00	-2.25E-01	3.59E+00	3.88E+00	8.04E+00	1.64E+01	1.84E+01	
	011	75	-4.7	4/14/2009	14:58	1.75E+03	3.14E+02	1.36E+02	-3.03E-01	7.29E-01	8.97E-01	7.76E+00	6.60E+00	4.40E+00	1.28E-01	4.34E+00	4.84E+00	-1.09E+00	1.85E+01	2.16E+01	
MW-53-120	001	109.8	-39.5	8/30/2006	11:30	4.42E+03	1.25E+03	1.12E+03	NA	NA	NA	-6.13E+00	9.49E+00	9.40E+00	4.98E-01	8.96E+00	9.83E+00	NA	NA	NA	MW-53-120
	002	109.8	-39.5	11/9/2006	11:20	7.90E+03	1.47E+03	1.00E+03	2.47E+01	1.83E+00	7.90E-01	-1.60E-01	2.70E+00	3.10E+00	-3.50E-01	2.76E+00	3.30E+00	2.71E+01	1.32E+01	1.30E+01	
	003	109.8	-39.5	6/22/2007	14:22	9.61E+03	1.10E+03	4.32E+02	3.57E+01	3.69E+00	1.04E+00	7.93E+00	5.09E+00	2.84E+00	9.47E-01	3.15E+00	3.72E+00	1.73E+01	1.38E+01	1.47E+01	
	004	109.8	-39.5	8/9/2007	12:45	8.05E+03	1.02E+03	4.59E+02	3.70E+01	3.18E+00	9.24E-01	1.37E+00	3.62E+00	4.27E+00	-1.59E-01	3.74E+00	4.17E+00	1.95E+01	2.14E+01	2.35E+01	
	005	109.8	-39.5	10/24/2007	13:38	7.40E+03	9.29E+02	4.02E+02	3.81E+01	2.27E+00	4.82E-01	-5.34E-01	3.51E+00	3.29E+00	-2.23E-01	3.35E+00	3.72E+00	7.06E+00	2.10E+01	2.38E+01	
	006	109.8	-39.5	1/21/2008	10:43	7.48E+03	3.48E+02	1.72E+02	3.12E+01	2.40E+00	6.46E-01	1.38E+00	3.02E+00	3.18E+00	1.14E-01	3.30E+00	3.71E+00	1.71E+01	1.85E+01	2.02E+01	
	008	109.8	-39.5	5/13/2008	10:10	5.91E+03	3.38E+02	1.43E+02	3.11E+01	1.73E+00	6.73E-01	-1.39E+00	1.98E+00	3.10E+00	1.33E+00	2.15E+00	3.99E+00	2.22E+01	1.28E+01	2.08E+01	
	009	109.8	-39.5	8/4/2008	10:15	5.80E+03	3.46E+02	1.91E+02	3.03E+01	1.52E+00	3.11E-01	-9.74E-01	1.93E+00	3.02E+00	-1.15E-01	2.33E+00	3.20E+00	2.65E+01	1.30E+01	2.11E+01	
	010	109.8	-39.5	9/5/2008	10:55	5.76E+03	5.90E+02	5.07E+02	3.10E+01	1.59E+00	4.10E-01	-3.34E-01	2.41E+00	3.94E+00	NA	NA	NA	1.94E+01	1.19E+01	3.88E-01	
	011	109.8	-39.5	10/30/2008	13:00	5.57E+03	5.39E+02	1.66E+02	2.53E+01	2.04E+00	3.80E-01	2.73E+00	4.75E+00	5.74E+00	0.00E+00	9.13E+00	9.26E+00	5.82E+00	1.69E+01	1.93E+01	
	012	109.8	-39.5	11/17/2008	10:31	5.04E+03	3.23E+02	1.72E+02	4.25E+01	3.63E+00	6.74E-01	3.25E-01	4.72E+00	5.28E+00	-1.96E-02	4.09E+00	4.49E+00	2.12E+01	2.03E+01	2.21E+01	
	013	109.8	-39.5	1/26/2009	12:43	5.06E+03	3.26E+02	1.92E+02	2.64E+01	2.37E+00	7.50E-01	-3.60E-01	4.53E+00	5.10E+00	2.32E+00	4.34E+00	5.39E+00	1.27E+01	2.22E+01	2.49E+01	
	014	109.8	-39.5	3/16/2009	9:40	5.07E+03	8.51E+02	3.81E+02	2.37E+01	2.07E+00	7.32E-01	-9.24E-02	2.48E+00	1.65E+00	-7.85E-01	1.86E+00	1.58E+00	1.34E+01	1.73E+01	1.91E+01	
	015	109.8	-39.5	4/14/2009	13:08	5.65E+03	5.40E+02	1.36E+02	2.96E+01	2.19E+00	5.66E-01	-2.26E+00	6.15E+00	4.10E+00	-6.33E-01	3.86E+00	4.10E+00	8.66E+00	1.83E+01	2.07E+01	
MW-54-37	001	36.5	-23.4	5/3/2007	16:19	8.01E+02	3.14E+02	3.02E+02	1.25E+01	2.12E+00	7.94E-01	2.44E+00	3.63E+00	4.42E+00	-1.43E+00	2.71E+00	2.51E+00	6.09E+00	1.98E+01	2.27E+01	MW-54-37
	002	36.5	-23.4	7/31/2007	10:30	8.88E+02	4.14E+02	2.68E+02	5.30E+00	1.11E+00	6.26E-01	1.46E+00	2.54E+00	3.03E+00	-2.64E-02	2.82E+00	3.13E+00	-4.74E+00	1.83E+01	2.14E+01	
	003	36.5	-23.4	10/19/2007	13:25	1.04E+03	4.26E+02	3.66E+02	6.19E+00	1.37E+00	6.14E-01	6.04E-01	3.30E+00	3.84E+00	6.61E-01	3.54E+00	4.19E+00	1.04E+01	1.59E+01	1.77E+01	
	004	36.5	-23.4	1/15/2008	13:18	1.07E+03	4.97E+02	4.18E+02	5.79E+00	1.47E+00	7.26E-01	7.48E-02	2.81E+00	3.11E+00	1.03E+00	2.79E+00	3.00E+00	-1.88E-01	2.06E+01	2.43E+01	
	005	36.5	-23.4	5/2/2008	13:59	8.70E+02	1.47E+02	1.43E+02	5.08E+00	7.44E-01	5.59E-01	-9.28E-01	2.12E+00	3.29E+00	-8.38E-01	2.56E+00	4.06E+00	3.37E+00	1.24E+01	2.12E+01	
	006	36.5	-23.4	7/22/2008	17:00	9.50E+02	1.08E+02	1.31E+02	6.20E+00	7.50E-01	4.63E-01	1.34E+00	2.22E+00	3.94E+00	-4.43E-01	2.09E+00	3.34E+00	1.42E+00	1.68E+01	2.95E+01	
	007	36.5	-23.4	11/11/2008	13:16	1.25E+03	2.07E+02	1.73E+02	7.33E+00	1.45E+00	5.76E-01	-2.50E+00	6.27E+00	6.87E+00	2.81E+00	5.14E+00	6.50E+00	2.49E+00	1.92E+01	2.21E+01	
	008	36.5	-23.4	2/3/2009	15:34	1.16E+03	1.86E+02	1.64E+02	5.93E+00	1.16E+00	6.66E-01	1.70E+00	3.33E+00	3.92E+00	-1.15E+00	3.24E+00	3.14E+00	-3.14E+00	2.16E+01	2.50E+01	
	009	36.5	-23.4	5/6/2009	11:51	1.24E+03	2.78E+02	1.81E+02	6.35E+00	1.20E+00	4.75E-01	-1.81E-02	4.22E+00	2.81E+00	-1.16E+00	2.75E+00	2.61E+00	4.33E+00	1.91E+01	2.16E+01	
MW-54-58	001	57.5	-44.4	5/3/2007	16:45	7.60E+02	3.11E+02	3.02E+02	2.22E+00	9.99E-01	7.02E-01	-3.77E-01	2.81E+00	3.07E+00	1.15E-01	2.71E+00	3.09E+00	7.50E+00	1.88E+01	2.12E+01	MW-54-58
	002	57.5	-44.4	7/31/2007	9:55	6.93E+02	3.72E+02	2.62E+02	1.76E+00	8.53E-01	7.52E-01	-1.32E+00	3.12E+00	3.23E+00	8.17E-03	3.01E+00	3.35E+00	1.97E-01	1.80E+01	2.08E+01	
	003	57.5	-44.4	10/19/2007	13:35	5.61E+02	2.00E+02	1.94E+02	4.38E-01	8.43E-01	9.56E-01	-2.08E-01	3.03E+00	3.40E+00	3.56E-01	2.96E+00	3.39E+00	2.09E+00	1.59E+01	1.81E+01	
	004	57.5	-44.4	1/15/2008	13:45	6.47E+02	4.40E+02	4.18E+02	2.32E+00	1.09E+00	8.13E-01	2.16E+00	4.59E+00	3.18E+00	-7.34E-01	3.06E+00	3.27E+00	4.41E+00	2.34E+01	2.71E+01	
	005	57.5	-44.4	5/2/2008	14:15	7.33E+02	1.39E+02	1.43E+02	1.69E+00	4.97E-01	5.77E-01	8.65E-01	2.13E+00	3.75E+00	1.63E+00	2.46E+00	4.54E+00	9.78E-01	1.27E+01	2.20E+01	
	006	57.5	-44.4	7/22/2008	17:05	5.78E+02	9.64E+01	1.31E+02	1.71E+00	5.24E-01	6.47E-01	3.78E-01	2.07E+00	3.59E+00	-1.41E-01	2.67E+00	4.23E+00	1.37E+01	1.69E+01	2.85E+01	
	007	57.5	-44.4	11/11/2008	13:02	6.98E+02	1.85E+02	1.74E+02	9.02E+00	1.65E+00	5.87E-01	-7.43E-01	3.71E+00	3.89E+00	-1.72E+00	3.50E+00	3.31E+00	3.01E+00	1.91E+01	2.18E+01	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	008	57.5	-44.4	2/3/2009	14:53	6.82E+02	1.71E+02	1.66E+02	1.98E+00	8.52E-01	7.24E-01	9.58E-01	2.78E+00	3.29E+00	4.22E-01	2.94E+00	3.39E+00	-3.05E+00	1.95E+01	2.27E+01	
	009	57.5	-44.4	5/6/2009	12:13	6.58E+02	2.24E+02	1.78E+02	2.00E+00	8.60E-01	6.94E-01	2.19E+00	6.09E+00	4.06E+00	-2.90E+00	3.63E+00	3.32E+00	-1.92E+01	2.15E+01	2.50E+01	
MW-54-123	001	123	-109.9	5/3/2007	14:18	1.11E+03	3.75E+02	3.36E+02	2.19E+01	2.71E+00	8.06E-01	4.21E+00	3.50E+00	3.67E+00	-2.65E+00	7.07E+00	3.31E+00	7.45E+00	1.79E+01	2.03E+01	MW-54-123
	002	123	-109.9	7/31/2007	11:10	9.63E+02	4.29E+02	3.69E+02	1.35E+01	1.47E+00	8.87E-01	0.00E+00	4.68E+00	4.49E+00	2.96E+00	4.02E+00	5.06E+00	-3.63E+00	1.86E+01	2.17E+01	
	003	123	-109.9	10/19/2007	12:09	7.01E+02	3.87E+02	3.62E+02	1.16E+01	1.88E+00	8.13E-01	4.02E-02	3.51E+00	3.88E+00	-1.72E+00	3.65E+00	3.68E+00	-4.31E-01	2.19E+01	2.51E+01	
	004	123	-109.9	1/15/2008	10:52	5.33E+02	4.23E+02	4.18E+02	9.56E+00	1.92E+00	7.51E-01	8.25E-01	3.48E+00	3.94E+00	4.41E-01	3.00E+00	3.42E+00	6.86E+00	2.25E+01	2.58E+01	
	005	123	-109.9	5/2/2008	10:06	6.98E+02	1.34E+02	1.39E+02	6.45E+00	8.46E-01	5.98E-01	-1.28E+00	2.22E+00	3.42E+00	4.12E+00	2.63E+00	5.24E+00	-3.04E+00	1.19E+01	2.08E+01	
	006	123	-109.9	7/22/2008	15:30	6.12E+02	9.77E+01	1.32E+02	6.52E+00	8.15E-01	5.56E-01	-2.82E-01	2.22E+00	3.72E+00	-2.93E+00	2.52E+00	3.55E+00	4.33E+00	1.57E+01	2.73E+01	
	007	123	-109.9	11/11/2008	11:03	5.80E+02	1.77E+02	1.71E+02	1.26E+01	2.10E+00	7.26E-01	-6.72E-01	5.14E+00	5.51E+00	2.63E+00	4.29E+00	5.62E+00	-4.68E+00	1.83E+01	2.15E+01	
	008	123	-109.9	2/3/2009	11:55	5.31E+02	1.64E+02	1.64E+02	5.91E+00	1.15E+00	5.70E-01	9.03E-01	3.03E+00	3.59E+00	5.33E-02	3.09E+00	3.52E+00	9.09E-01	2.00E+01	2.30E+01	
	009	123	-109.9	5/6/2009	12:40	6.94E+02	2.28E+02	1.78E+02	3.94E+00	1.00E+00	5.36E-01	-1.73E+00	5.94E+00	3.96E+00	2.06E+00	3.18E+00	3.94E+00	2.67E-01	1.86E+01	2.13E+01	
MW-54-144	001	144	-130.9	5/3/2007	14:31	1.34E+03	5.64E+02	4.68E+02	1.61E+01	2.42E+00	6.97E-01	-1.34E+00	3.62E+00	3.78E+00	5.23E-01	3.36E+00	3.84E+00	4.64E+00	1.68E+01	1.93E+01	MW-54-144
	002	144	-130.9	7/31/2007	13:33	1.89E+03	5.67E+02	2.66E+02	1.92E+01	1.98E+00	6.71E-01	-1.19E+00	2.90E+00	3.03E+00	5.02E-02	3.33E+00	3.77E+00	-6.13E+00	1.89E+01	2.23E+01	
	003	144	-130.9	10/19/2007	12:12	1.54E+03	4.73E+02	3.62E+02	1.58E+01	2.15E+00	7.69E-01	8.53E-01	2.85E+00	3.35E+00	-4.41E-01	3.18E+00	3.39E+00	4.35E-01	1.54E+01	1.78E+01	
	004	144	-130.9	1/15/2008	11:22	1.40E+03	5.34E+02	4.16E+02	1.53E+01	2.34E+00	8.48E-01	3.67E+00	5.04E+00	4.39E+00	4.86E-02	3.96E+00	4.34E+00	9.81E+00	2.24E+01	2.54E+01	
	005	144	-130.9	5/2/2008	10:20	1.15E+03	1.64E+02	1.43E+02	1.59E+01	1.31E+00	7.05E-01	-9.63E-01	2.26E+00	3.61E+00	-1.06E+00	2.37E+00	3.65E+00	-2.00E+00	1.21E+01	2.11E+01	
	006	144	-130.9	7/22/2008	15:35	1.13E+03	1.13E+02	1.31E+02	1.69E+01	1.23E+00	5.01E-01	1.57E+00	1.91E+00	3.48E+00	-4.98E-01	2.43E+00	3.49E+00	1.11E+01	1.69E+01	2.87E+01	
	007	144	-130.9	11/11/2008	11:06	1.14E+03	2.03E+02	1.72E+02	2.02E+01	2.27E+00	4.69E-01	-6.18E-01	3.90E+00	4.30E+00	5.67E-01	5.17E+00	5.96E+00	4.08E+00	2.09E+01	2.39E+01	
	008	144	-130.9	2/3/2009	12:41	1.13E+03	2.03E+02	1.77E+02	1.44E+01	1.76E+00	6.51E-01	-5.38E-03	3.15E+00	3.46E+00	-2.00E-02	2.91E+00	3.20E+00	2.21E+00	2.37E+01	2.76E+01	
	009	144	-130.9	5/6/2009	10:23	1.45E+03	2.91E+02	1.78E+02	1.46E+01	1.89E+00	5.95E-01	-1.95E+00	4.97E+00	3.31E+00	9.27E-01	3.35E+00	3.90E+00	-5.83E+00	1.91E+01	2.21E+01	
MW-54-173	001	172.5	-159.4	5/3/2007	14:43	1.90E+03	6.27E+02	4.71E+02	2.09E+01	2.64E+00	8.31E-01	-4.52E-01	3.82E+00	4.16E+00	1.92E+00	3.46E+00	4.27E+00	5.00E+00	1.94E+01	2.21E+01	MW-54-173
	002	172.5	-159.4	7/31/2007	13:40	2.08E+03	5.94E+02	2.68E+02	1.45E+01	1.85E+00	8.29E-01	7.90E-01	2.63E+00	3.10E+00	7.75E-01	2.22E+00	2.74E+00	3.92E+00	1.81E+01	2.07E+01	
	003	172.5	-159.4	10/19/2007	12:14	1.91E+03	5.07E+02	3.63E+02	1.49E+01	2.07E+00	6.21E-01	1.05E+00	3.29E+00	3.79E+00	-3.08E-01	2.87E+00	3.18E+00	1.37E+00	1.49E+01	1.70E+01	
	004	172.5	-159.4	1/15/2008	11:15	1.84E+03	5.84E+02	4.16E+02	1.41E+01	1.80E+00	9.29E-01	-3.68E-01	2.81E+00	3.08E+00	5.21E-01	3.00E+00	3.49E+00	4.79E+00	2.30E+01	2.65E+01	
	005	172.5	-159.4	5/2/2008	10:35	2.11E+03	2.10E+02	1.42E+02	1.22E+01	1.18E+00	9.06E-01	-6.44E-01	2.22E+00	3.66E+00	1.71E+00	2.10E+00	4.01E+00	4.47E+00	1.23E+01	2.10E+01	
	006	172.5	-159.4	7/22/2008	15:51	2.05E+03	1.35E+02	1.30E+02	1.29E+01	1.08E+00	5.25E-01	-6.92E-02	2.07E+00	3.52E+00	-1.62E+00	2.11E+00	3.15E+00	7.86E+00	1.59E+01	2.72E+01	
	007	172.5	-159.4	11/11/2008	11:07	1.66E+03	2.24E+02	1.75E+02	1.61E+01	2.12E+00	7.21E-01	1.51E-01	4.23E+00	4.77E+00	-5.84E-01	3.93E+00	4.19E+00	3.04E+00	1.92E+01	2.20E+01	
	008	172.5	-159.4	2/3/2009	12:19	1.98E+03	5.45E+02	3.85E+02	1.02E+01	1.45E+00	5.93E-01	-1.52E+00	3.03E+00	3.08E+00	-2.37E+00	3.20E+00	2.94E+00	4.01E+00	2.37E+01	2.76E+01	
	009	172.5	-159.4	5/6/2009	10:24	1.57E+03	3.03E+02	1.80E+02	8.59E+00	1.46E+00	7.75E-01	3.40E-01	5.16E+00	3.44E+00	1.02E+00	2.63E+00	3.14E+00	-1.38E+00	1.92E+01	2.20E+01	
MW-54-190	001	190	-176.9	5/3/2007	15:00	1.87E+03	6.23E+02	4.71E+02	1.95E+01	2.56E+00	7.00E-01	1.82E+00	3.23E+00	3.90E+00	3.32E-01	2.90E+00	3.30E+00	1.54E+00	1.88E+01	2.18E+01	MW-54-190
	002	190	-176.9	7/31/2007	13:45	2.25E+03	6.12E+02	2.66E+02	1.79E+01	2.15E+00	7.59E-01	-2.13E+00	3.35E+00	3.12E+00	9.32E-01	3.09E+00	3.67E+00	-3.07E+00	1.66E+01	1.94E+01	
	003	190	-176.9	10/19/2007	12:20	2.13E+03	5.24E+02	3.60E+02	2.04E+01	2.46E+00	7.97E-01	-1.01E+00	3.45E+00	3.07E+00	7.41E-01	4.05E+00	3.33E+00	-3.38E+00	1.71E+01	1.97E+01	
	004	190	-176.9	1/15/2008	11:37	2.24E+03	6.26E+02	4.16E+02	1.93E+01	2.54E+00	8.15E-01	6.45E-01	2.64E+00	3.11E+00	-3.88E-01	2.28E+00	2.50E+00	9.23E+00	2.42E+01	2.75E+01	
	005	190	-176.9	5/2/2008	10:30	1.84E+03	1.98E+02	1.43E+02	1.95E+01	1.40E+00	7.88E-01	8.19E-01	1.98E+00	3.46E+00	8.81E-01	1.95E+00	3.51E+00	6.07E+00	1.25E+01	2.13E+01	
	006	190	-176.9	7/22/2008	15:50	1.25E+03	1.15E+02	1.30E+02	2.13E+01	1.37E+00	5.60E-01	8.45E-01	1.98E+00	3.41E+00	-1.64E+00	2.06E+00	3.02E+00	-8.42E+00	1.61E+01	2.92E+01	
	007	190	-176.9	11/11/2008	11:09	1.44E+03	2.10E+02	1.69E+02	3.38E+01	3.12E+00	6.14E-01	-5.41E-01	5.00E+00	5.54E+00	-6.47E-01	3.54E+00	3.63E+00	4.86E-01	1.91E+01	2.20E+01	
	008	190	-176.9	2/3/2009	12:35	1.43E+03	4.88E+02	3.80E+02	1.90E+01	1.85E+00	3.85E-01	-1.18E+00	3.48E+00	3.74E+00	7.39E-01	3.08E+00	3.70E+00	-5.10E+00	2.37E+01	2.84E+01	
	009	190	-176.9	5/6/2009	10:27	1.60E+03	3.05E+02	1.80E+02	1.98E+01	2.07E+00	4.19E-01	2.31E+00	7.22E+00	4.81E+00	-8.94E-01	3.86E+00	4.01E+00	-2.80E+00	1.91E+01	2.23E+01	
MW-55-24	001	16	2.3	11/9/2006	13:20	2.00E+03	1.11E+03	1.00E+03	1.66E+01	2.40E+00	1.90E+00	-7.00E-01	4.50E+00	5.80E+00	4.00E-01	5.40E+00	6.70E+00	1.10E+00	5.40E+00	6.00E+00	MW-55-24
	002	16	2.3	6/28/2007	11:20	3.08E+03	2.96E+02	1.87E+02	3.25E+01	3.51E+00	1.06E+00	0.00E+00	4.00E+00	3.70E+00	1.16E+00	3.81E+00	4.60E+00	NA	NA	NA	
	003	16	2.3	8/2/2007	11:17	2.71E+03	7.28E+02	5.47E+02	2.31E+01	2.67E+00	9.19E-01	-4.91E-01	2.79E+00	3.02E+00	1.40E+00	2.94E+00	3.47E+00	-7.94E+00	1.91E+01	2.31E+01	
	004	16	2.3	10/16/2007	10:15	2.20E+03	5.36E+02	3.68E+02	2.29E+01	2.61E+00	8.43E-01	6.26E-01	3.63E+00	4.21E+00	7.46E-01	3.29E+00	3.47E+00	NA	NA	NA	
	005	16	2.3	1/28/2008	12:57	1.14E+03	3.65E+02	2.96E+02	2.26E+01	2.46E+00	9.24E-01	3.33E+00	3.26E+00	2.50E+00	1.04E+00	1.55E+00	2.51E+00	1.44E+01	1.82E+01	2.00E+01	
	006	16	2.3	4/25/2008	14:15	1.05E+03	1.59E+02	1.44E+02	2.55E+01	1.57E+00	4.89E-01	1.08E+00	2.31E+00	4.02E+00	-9.33E-01	2.55E+00	4.02E+00	1.25E+00	1.11E+01	1.97E+01	
	007	16	2.3	8/1/2008	13:15	1.40E+03	1.93E+02	1.91E+02	2.22E+01	1.36E+00	5.73E-01	-7.37E-03	2.19E+00	3.69E+00	2.85E+00	2.34E+00	4.16E+00	6.11E+00	1.24E+01	2.11E+01	
	008	16	2.3	10/21/2008	13:19	7.82E+02	2.57E+02	1.93E+02	1.08E+01	1.80E+00	5.55E-01	1.30E+00	5.13E+00	5.92E+00	-3.49E+00	6.66E+00	6.59E+00	4.77E+00	1.79E+01	2.03E+01	
	009	16	2.3	2/11/2009	12:55	1.04E+03	4.49E+02	3.84E+02	1.69E+01	1.74E+00	3.85E-01	1.90E+00	2.88E+00	3.50E+00	1.35E+00	3.14E+00	3.76E+00	-1.21E+01	2.45E+01	2.99E+01	
	010	16	2.3	4/29/2009	11:28	1.14E+03	2.69E+02	1.80E+02	1.55E+01	1.88E+00	6.50E-01	-1.81E-01	1.02E-01	6.77E+00	-9.81E-01	4.91E+00	5.14E+00	4.88E+00	1.95E+01	2.22E+01	
MW-55-35	001	32	-13.8	11/9/2006	13:40	9.04E+03	1.50E+03	1.00E+03	4.04E+01	4.80E+00	3.30E+00	-1.10E+00	3.30E+00	3.90E+00	-5.00E-01	3.30E+00	4.10E+00	4.30E+00	5.40E+00	5.80E+00	MW-55-35
	002	32	-13.8	6/28/2007	11:50	3.09E+03	2.93E+02	1.84E+02	3.25E+01	3.31E+00	9.71E-01	-1.64E-01	3.46E+00	3.78E+00	-1.00E+00	3.62E+00	3.75E+00	NA	NA	NA	
	003	32	-13.8	8/2/2007	11:20	3.68E+03	7.91E+02	5.33E+02	3.40E+01	3.45E+00	8.95E-01	9.35E-01	3.19E+00	3.24E+00	7.69E-01	2.23E+00	2.70E+00	2.90E+00	1.96E+01	2.28E+01	
	004	32	-13.8	10/16/2007	10:02	5.09E+03	7.34E+02	3.63E+02	3.16E+01	3.04E+00	1.04E+00	2.62E+00	3.36E+00	3.58E+00	1.44E+00	3.44E+00	4.20E+00	NA	NA	NA	
	005	32	-13.8	1/28/2008	11:46	2.33E+03	4.59E+02	2.97E+02	2.64E+01	2.60E+00	5.21E-01	-5.28E-01	2.12E+00	2.26E+00	-6.90E-01	2.19E+00	2.32E+00	1.12E+01	1.76E+01	1.96E+01	
	006	32	-13.8	4/25/2008	12:07	1.60E+03	1.86E+02	1.42E+02	3.44E+01	1.86E+00	6.11E-01	1.46E+00	2.26E+00	4.06E+00	2.34E+00	2.40E+00	4.61E+00	5.22E+00	1.25E+01	2.14E+01	
	007	32	-13.8	8/1/2008	10:47	1.73E+03	2.08E+02	1.91E+02	2.54E+01	1.42E+00	4.28E-01	3.51E-01	2.17E+00	3.74E+00	2.59E-01	2.33E+00	3.99E+00	1.26E+01	1.23E+01	2.05E+01	
	008	32	-13.8	2/4/2009	13:46	8.53E+02	4.28E+02	3.84E+02	1.71E+01	1.82E+00	4.39E-01	1.01E+00	3.14E+00	3.69E+00	1.58E-01	2.78E+00	3.15E+00	8.49E-01	2.30E+01	2.69E+01	
	009	32	-13.8	4/29/2009	11:26	2.70E+03	3.77E+02	1.80E+02	3.51E+01	2.79E+00	6.05E-01	-4.06E+00	6.72E+00	4.48E+00	7.97E-01	4.28E+00	5.04E+00	7.31E+00	2.03E+01	2.28E+01	
MW-55-54	001	47	-28.8	11/9/2006	13:30	1.31E+04	1.68E+03	1.00E+03	2.28E+01	1.35E+00	8.10E-01	1.00E+00	3.30E+00	3.80E+00	-3.20E+00	4.50E+00	5.70E+00	1.70E+00	4.80E+00	5.40E+00	MW-55-54
	002	47	-28.8	6/28/2007	11:40	1.04E+04	4.79E+02	1.84E+02	2.47E+01	2.88E+00	9.85E-01	1.30E-01	3.09E+00	3.43E+00	-4.69E-01	3.27E+00	3.48E+00	NA	NA	NA	
	003	47	-28.8	8/2/2007	12:00	9.91E+03	1.19E+03	5.51E+02	2.22E+01	2.38E+00	9.10E-01	-1.09E+00	3.69E+00	3.80E+00	1.46E+00	2.87E+00	3.56E+00	6.13E+00	1.99E+01	2.28E+01	

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Q2Table5.xlsx:
MakeTable5

See Page 23 for Notes

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	004	47	-28.8	10/16/2007	10:05	1.03E+04	9.96E+02	3.61E+02	2.23E+01	2.49E+00	6.15E-01	-9.80E-01	2.82E+00	3.02E+00	8.80E-01	3.65E+00	2.99E+00	NA	NA	NA	
	005	47	-28.8	1/28/2008	11:42	7.48E+03	7.35E+02	2.97E+02	2.28E+01	2.40E+00	5.39E-01	-8.47E-01	2.16E+00	2.30E+00	-1.29E+00	2.81E+00	2.20E+00	1.09E+01	1.86E+01	2.09E+01	
	006	47	-28.8	4/25/2008	10:35	5.96E+03	3.39E+02	1.44E+02	2.67E+01	1.62E+00	6.56E-01	1.74E+00	2.35E+00	4.25E+00	1.63E+00	2.59E+00	4.75E+00	7.69E+00	1.25E+01	2.13E+01	
	007	47	-28.8	8/1/2008	10:38	6.31E+03	3.59E+02	1.91E+02	2.32E+01	1.30E+00	3.56E-01	6.53E-01	2.07E+00	3.52E+00	1.29E+00	1.79E+00	3.30E+00	1.82E+01	1.26E+01	2.08E+01	
	008	47	-28.8	10/21/2008	10:21	7.76E+03	6.65E+02	1.96E+02	1.94E+01	2.37E+00	6.25E-01	-3.17E+00	5.29E+00	5.27E+00	-1.63E+00	5.43E+00	5.54E+00	-9.99E+00	1.69E+01	2.01E+01	
	009	47	-28.8	2/4/2009	12:42	7.33E+03	9.09E+02	3.82E+02	2.11E+01	2.01E+00	3.69E-01	-3.34E-01	3.11E+00	3.46E+00	-3.64E-01	3.35E+00	3.69E+00	5.24E+00	2.34E+01	2.70E+01	
	010	47	-28.8	4/29/2009	10:55	7.00E+03	5.76E+02	1.80E+02	3.27E+01	2.55E+00	6.48E-01	3.95E-01	6.93E+00	4.62E+00	-1.58E+00	4.23E+00	4.33E+00	2.56E+00	1.79E+01	2.04E+01	
MW-56-53	001	52	18.3	1/4/2007	9:39	7.80E+02	5.40E+02	5.10E+02	-9.00E-02	7.80E-01	8.80E-01	1.36E+01	4.80E+00	4.20E+00	2.00E+00	3.60E+00	3.80E+00	-3.70E+00	6.60E+00	7.80E+00	MW-56-53
	002	52	18.3	6/26/2007	10:51	2.89E+02	1.70E+02	1.82E+02	-4.49E-02	5.50E-01	6.66E-01	-5.30E-01	4.46E+00	4.11E+00	2.93E+00	4.88E+00	4.84E+00	1.30E+00	1.41E+01	1.62E+01	
	003	52	18.3	8/10/2007	12:25	2.16E+02	1.86E+02	2.03E+02	-5.66E-01	6.10E-01	9.04E-01	8.31E-01	2.79E+00	3.21E+00	3.99E-02	2.56E+00	2.85E+00	NA	NA	NA	
	004	52	18.3	1/31/2008	12:30	2.63E+02	1.27E+02	1.31E+02	5.70E-01	8.81E-01	9.77E-01	3.38E-01	3.69E+00	3.87E+00	5.97E-01	3.48E+00	3.99E+00	1.74E+00	1.55E+01	1.80E+01	
	005	52	18.3	10/24/2008	12:21	3.99E+02	1.64E+02	1.65E+02	5.40E-01	5.47E-01	5.45E-01	-7.92E-02	5.88E+00	6.64E+00	-5.42E+00	7.44E+00	6.23E+00	NA	NA	NA	
	006	52	18.3	4/16/2009	11:43	5.00E+02	1.95E+02	1.96E+02	-8.46E-02	6.21E-01	7.53E-01	6.63E-01	6.14E+00	4.09E+00	2.86E+00	3.41E+00	4.34E+00	NA	NA	NA	
MW-56-83	001	74	-3.7	9/8/2006	11:15	5.40E+02	1.62E+02	1.26E+02	2.70E+00	1.12E+00	9.59E-01	1.82E+00	6.51E+00	8.45E+00	-2.15E-01	5.23E+00	6.87E+00	NA	NA	NA	MW-56-83
	002	74	-3.7	11/9/2006	10:20	1.65E+02	1.35E+02	1.40E+02	7.00E-02	7.20E-01	8.10E-01	7.70E-01	2.70E+00	3.10E+00	-2.20E-01	2.91E+00	3.50E+00	3.30E+00	5.40E+00	5.80E+00	
	003	74	-3.7	1/4/2007	13:20	1.28E+03	5.70E+02	5.20E+02	2.30E+00	9.00E-01	8.90E-01	1.18E+01	4.80E+00	4.40E+00	1.00E-01	3.00E+00	3.60E+00	-7.00E-01	7.80E+00	8.80E+00	
	004	74	-3.7	6/22/2007	10:44	1.85E+03	5.76E+02	4.30E+02	1.87E+00	1.15E+00	1.09E+00	1.47E-01	3.39E+00	3.85E+00	-1.87E+00	2.82E+00	2.46E+00	3.95E+00	1.27E+01	1.46E+01	
	005	74	-3.7	8/10/2007	11:10	1.49E+03	5.52E+02	4.55E+02	2.43E+00	1.05E+00	9.23E-01	-9.15E-01	3.86E+00	4.02E+00	1.87E-01	2.75E+00	3.15E+00	NA	NA	NA	
	006	74	-3.7	1/31/2008	9:30	1.94E+03	1.97E+02	1.34E+02	3.56E+00	1.34E+00	9.49E-01	-8.03E-01	3.69E+00	3.23E+00	1.60E+00	2.78E+00	3.51E+00	6.57E-01	1.59E+01	1.85E+01	
	007	74	-3.7	10/24/2008	12:22	2.98E+03	7.91E+02	5.91E+02	2.13E+00	7.32E-01	4.94E-01	-1.15E+00	4.62E+00	4.98E+00	3.29E+00	5.58E+00	8.07E+00	NA	NA	NA	
	008	74	-3.7	4/16/2009	11:49	3.24E+03	7.61E+02	4.34E+02	2.71E+00	7.59E-01	4.21E-01	6.03E-03	5.39E+00	3.59E+00	1.38E+00	4.11E+00	4.92E+00	NA	NA	NA	
MW-57-11	001	10	5	6/22/2007	12:17	4.61E+03	8.10E+02	4.36E+02	4.55E+01	3.96E+00	7.97E-01	2.29E+00	6.04E+00	4.31E+00	3.69E-02	3.87E+00	4.37E+00	2.24E+01	1.79E+01	1.91E+01	MW-57-11
	002	10	5	8/6/2007	12:30	4.09E+03	3.21E+06	1.97E+02	3.79E+01	2.77E+00	5.36E-01	1.15E+00	3.78E+00	4.16E+00	3.95E-03	3.01E+00	3.41E+00	-5.75E-01	2.16E+01	2.50E+01	
	003	10	5	5/5/2008	12:43	2.17E+03	2.29E+02	2.65E+02	2.27E+01	1.95E+00	9.08E-01	8.71E-01	2.21E+00	3.83E+00	2.87E+00	2.26E+00	4.47E+00	-1.12E+00	1.35E+01	2.34E+01	
	004	10	5	11/12/2008	10:55	3.28E+03	2.76E+02	1.73E+02	4.16E+01	3.39E+00	7.64E-01	3.34E+00	7.25E+00	4.76E+00	1.81E+00	3.78E+00	5.03E+00	-5.18E-01	2.03E+01	2.35E+01	
	005	10	5	4/21/2009	12:08	4.22E+03	4.29E+02	1.90E+02	4.72E+01	2.97E+00	5.57E-01	3.89E+00	6.71E+00	4.47E+00	1.11E+00	2.76E+00	3.35E+00	4.47E+00	1.98E+01	2.25E+01	
MW-57-20	001	19	-4	6/22/2007	12:30	1.65E+03	5.58E+02	4.32E+02	1.96E+00	1.07E+00	9.67E-01	-1.33E+00	3.69E+00	3.90E+00	-9.51E-01	3.65E+00	3.84E+00	4.77E-01	1.36E+01	1.59E+01	MW-57-20
	002	19	-4	8/6/2007	12:15	9.96E+02	2.15E+02	1.96E+02	1.23E+00	6.67E-01	5.78E-01	1.21E+00	3.59E+00	3.64E+00	6.05E-01	2.75E+00	3.22E+00	-1.19E+01	2.06E+01	2.46E+01	
	003	19	-4	5/5/2008	13:18	7.27E+02	1.45E+02	1.97E+02	1.23E+00	2.16E-01	2.85E-01	-2.17E+00	1.99E+00	2.84E+00	-9.61E-01	3.60E+00	4.56E+00	-6.89E+00	9.27E+00	1.62E+01	
	004	19	-4	11/12/2008	11:30	1.51E+03	2.16E+02	1.72E+02	3.06E+00	1.30E+00	1.14E+00	-1.91E+00	3.94E+00	3.82E+00	-4.35E-01	3.52E+00	3.67E+00	-5.58E-01	1.94E+01	2.25E+01	
	005	19	-4	4/21/2009	12:22	1.52E+03	2.87E+02	1.90E+02	2.77E+00	1.02E+00	8.57E-01	-2.08E+00	5.76E+00	3.84E+00	2.32E+00	3.15E+00	4.06E+00	1.34E+01	2.16E+01	2.41E+01	
MW-57-45	001	40	-25	8/24/2006	9:30	4.06E+03	8.82E+02	7.71E+02	NA	NA	NA	-2.85E-01	4.41E+00	4.80E+00	-1.81E-01	3.89E+00	4.37E+00	NA	NA	NA	MW-57-45
	001	40	-25	8/24/2006	9:30	4.00E+03	6.98E+02	3.17E+02	1.88E+01	3.51E+00	2.11E+00	-5.40E-01	6.75E+00	7.36E+00	1.19E+00	6.35E+00	7.50E+00	8.29E+00	9.09E+00	9.70E+00	
	002	40	-25	6/22/2007	12:55	9.55E+02	4.85E+02	4.35E+02	1.90E+00	1.05E+00	8.65E-01	-1.97E-01	3.40E+00	3.82E+00	-8.51E-01	3.50E+00	3.65E+00	6.46E-01	1.23E+01	1.43E+01	
	003	40	-25	8/6/2007	12:17	7.40E+02	2.07E+02	1.98E+02	2.55E+00	8.77E-01	6.09E-01	-3.91E-01	3.15E+00	3.42E+00	-1.89E-01	3.59E+00	3.35E+00	-1.15E+01	2.09E+01	2.49E+01	
	004	40	-25	5/5/2008	14:59	5.65E+02	1.38E+02	1.97E+02	2.26E+00	2.91E-01	3.68E-01	-1.35E-01	1.68E+00	2.84E+00	-4.61E-01	1.66E+00	2.69E+00	-3.60E+00	9.38E+00	1.62E+01	
	005	40	-25	11/12/2008	13:22	1.13E+03	2.01E+02	1.73E+02	1.20E+00	6.79E-01	5.97E-01	1.72E-01	3.63E+00	4.05E+00	9.15E-01	4.42E+00	5.17E+00	-2.81E+00	1.91E+01	2.22E+01	
	006	40	-25	4/21/2009	13:34	1.19E+03	2.64E+02	1.90E+02	2.25E+00	8.36E-01	6.41E-01	1.80E-01	5.64E+00	3.76E+00	-1.30E+00	3.95E+00	4.12E+00	8.26E+00	2.09E+01	2.35E+01	
MW-58-26	001	20	-5.4	11/16/2006	13:25	-2.60E+01	1.59E+02	1.60E+02	3.70E-01	7.50E-01	8.20E-01	7.27E+01	8.40E+00	4.50E+00	-9.00E-01	3.30E+00	4.30E+00	-3.20E+00	5.70E+00	6.40E+00	MW-58-26
	002	20	-5.4	1/5/2007	8:57	2.60E+02	1.80E+02	1.80E+02	-8.00E-02	7.50E-01	8.50E-01	2.34E+00	2.97E+00	3.20E+00	9.50E-01	2.73E+00	3.10E+00	-3.90E+00	6.30E+00	7.40E+00	
	003	20	-5.4	6/21/2007	11:10	5.97E+02	2.00E+02	1.86E+02	1.04E+00	6.09E-01	5.25E-01	1.62E+00	2.42E+00	2.86E+00	-3.94E-01	2.42E+00	2.60E+00	1.07E+00	1.24E+01	1.45E+01	
	004	20	-5.4	7/31/2007	11:00	8.56E+02	3.99E+02	2.58E+02	1.02E+00	6.33E-01	5.78E-01	1.18E+00	3.31E+00	3.83E+00	4.20E-01	3.01E+00	3.51E+00	NA	NA	NA	
	005	20	-5.4	1/22/2008	13:20	2.95E+02	1.62E+02	1.70E+02	-1.43E-01	4.65E-01	6.60E-01	9.19E-01	2.31E+00	2.67E+00	-5.41E-02	2.57E+00	2.61E+00	NA	NA	NA	
	006	20	-5.4	11/7/2008	13:39	2.38E+02	1.55E+02	1.63E+02	2.31E-01	6.60E-01	7.90E-01	-3.38E+00	6.24E+00	5.49E+00	-3.23E-01	4.58E+00	4.84E+00	NA	NA	NA	
	007	20	-5.4	2/3/2009	12:49	5.19E+02	2.36E+02	1.98E+02	-8.35E-03	5.27E-01	6.83E-01	1.40E+00	2.76E+00	3.29E+00	1.45E-01	3.09E+00	3.31E+00	NA	NA	NA	
	008	20	-5.4	4/24/2009	12:21	4.13E+02	1.48E+02	1.47E+02	-5.74E-02	4.53E-01	5.97E-01	1.26E+00	4.28E+00	2.85E+00	1.02E-01	2.31E+00	2.57E+00	NA	NA	NA	
MW-58-65	001	54	-39.4	11/16/2006	13:18	-9.60E+01	1.59E+02	1.60E+02	-6.00E-02	7.20E-01	8.10E-01	2.20E+00	3.00E+00	3.30E+00	-9.00E-01	4.20E+00	4.90E+00	-3.40E+00	6.90E+00	7.80E+00	MW-58-65
	002	54	-39.4	1/5/2007	9:25	5.50E+02	5.40E+02	5.20E+02	1.60E-01	8.10E-01	8.80E-01	-1.95E+00	2.52E+00	3.00E+00	-1.30E-01	2.73E+00	3.20E+00	-1.40E+00	7.80E+00	8.70E+00	
	003	54	-39.4	6/21/2007	11:10	3.15E+02	1.77E+02	1.81E+02	-1.90E-01	3.96E-01	5.60E-01	-2.19E-01	2.37E+00	2.65E+00	-2.89E+00	3.17E+00	2.36E+00	2.80E+00	1.26E+01	1.45E+01	
	004	54	-39.4	7/31/2007	11:00	3.42E+02	3.02E+02	2.72E+02	6.20E-03	5.19E-01	6.52E-01	2.18E+00	3.39E+00	3.37E+00	1.02E+00	3.24E+00	3.39E+00	NA	NA	NA	
	005	54	-39.4	1/22/2008	12:00	3.13E+02	1.62E+02	1.69E+02	1.21E-01	5.85E-01	7.22E-01	5.54E-01	3.93E+00	3.92E+00	-1.23E-01	3.29E+00	3.05E+00	NA	NA	NA	
	006	54	-39.4	11/7/2008	13:55	2.81E+02	1.55E+02	1.62E+02	8.19E-01	8.77E-01	8.82E-01	9.13E-02	3.38E+00	3.86E+00	-1.58E+00	3.21E+00	2.98E+00	NA	NA	NA	
	007	54	-39.4	2/3/2009	12:05	2.75E+02	2.03E+02	1.98E+02	6.60E-01	8.00E-01	8.56E-01	-8.45E-01	3.21E+00	3.41E+00	1.91E+00	3.09E+00	3.89E+00	NA	NA	NA	
	008	54	-39.4	4/24/2009	11:52	2.33E+02	1.67E+02	1.78E+02	-2.36E-01	4.62E-01	6.58E-01	9.67E-02	3.86E+00	2.57E+00	-1.84E-01	2.46E+00	2.72E+00	NA	NA	NA	
MW-59-32	001	27	-12.5	11/16/2006	11:05	2.80E+01	1.77E+02	1.80E+02	-6.00E-02	7.20E-01	7.90E-01	8.60E-01	2.91E+00	3.30E+00	3.00E-01	4.20E+00	4.90E+00	-2.60E+00	6.60E+00	7.50E+00	MW-59-32
	002	27	-12.5	1/5/2007	9:41	1.35E+02	1.77E+02	1.80E+02	3.00E-01	7.50E-01	8.20E-01	1.50E+00	3.60E+00	4.10E+00	1.30E+00	3.90E+00	4.40E+00	-1.90E+00	6.90E+00	8.10E+00	
	003	27	-12.5	6/21/2007	15:25	4.67E+02	4.23E+02	4.36E+02	-6.68E-02	6.78E-01	9.11E-01	6.01E-01	3.96E+00	4.59E+00	-4.19E-01	4.46E+00	4.71E+00	-4.37E-01	1.24E+01	1.45E+01	
	004	27	-12.5	7/31/2007	14:35	1.69E+02	1.59E+02	1.63E+02	2.00E-01	6.72E-01	7.96E-01	2.26E-01	3.30E+00	3.73E+00	7.97E-01	3.19E+00	3.75E+00	NA	NA	NA	
MW-59-45	001	42	-27.5	11/16/2006	11:18	5.50E+01	1.74E+02	1.70E+02	2.40E-01	7.20E-01	8.00E-01	3.74E+01	8.70E+00	6.20E+00	2.60E+00	4.20E+00	4.50E+00	-1.60E+00	5.70E+00	6.60E+00	MW-59-45
	002	42	-27.5	1/5/2007	9:48	8.80E+01	1.80E+02	1.80E+02	0.00E+00	7.80E-01	8.70E-01	1.49E+02	1.26E-01	4.90E+00	2.00E-01	3.90E+00	4.60E+00	-2.50E+00	7.50E+00	8.60E+00	

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Q2Table5.xlsx;
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See Page 23 for Notes

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	003	42	-27.5	6/21/2007	15:25	7.54E+02	4.59E+02	4.34E+02	-2.74E-01	6.86E-01	9.10E-01	-1.10E-01	2.50E-00	2.83E-00	8.14E-02	2.16E-00	2.49E+00	7.74E-01	1.47E+01	1.71E+01	
	004	42	-27.5	7/31/2007	13:58	2.49E+02	1.74E+02	1.65E+02	1.64E-01	5.90E-01	7.05E-01	4.48E-01	3.52E-00	3.70E-00	7.64E-01	3.35E-00	3.94E+00	NA	NA	NA	
MW-59-68	001	58	-43.5	11/16/2006	11:30	5.50E+01	1.74E+02	1.80E+02	1.20E-01	7.20E-01	8.10E-01	1.15E+02	1.11E-01	5.60E-00	1.00E-00	3.00E-00	3.60E+00	-2.30E+00	5.70E+00	6.40E+00	MW-59-68
	002	58	-43.5	1/5/2007	10:05	1.56E+02	1.83E+02	1.80E+02	3.30E-01	8.10E-01	8.90E-01	6.76E+01	6.60E-00	4.10E-00	-8.00E-01	3.60E-00	4.10E+00	1.90E+00	7.50E+00	8.40E+00	
	003	58	-43.5	6/21/2007	15:25	5.90E+02	4.41E+02	4.39E+02	2.97E-01	8.79E-01	1.03E+00	6.26E-01	3.50E-00	3.80E-00	1.27E-00	2.91E-00	3.62E+00	-4.23E+00	1.30E+01	1.56E+01	
	004	58	-43.5	7/31/2007	13:58	8.19E+02	4.02E+02	2.68E+02	3.66E-01	7.08E-01	7.98E-01	9.02E-01	2.88E-00	2.95E-00	3.72E-01	2.77E-00	3.17E+00	NA	NA	NA	
MW-60-35	001	34.9	-22.4	5/8/2007	13:27	-9.12E+00	1.49E+02	1.79E+02	-1.79E-01	5.28E-01	7.62E-01	1.41E+00	4.84E-00	3.30E-00	2.45E-00	3.72E-00	4.67E+00	0.00E+00	1.81E+01	2.12E+01	MW-60-35
	002	34.9	-22.4	7/27/2007	13:07	7.61E+02	2.40E+02	1.78E+02	6.48E-02	3.80E-01	4.66E-01	5.95E-01	4.26E-00	3.23E-00	-3.31E-01	3.07E-00	3.39E+00	NA	NA	NA	
	003	34.9	-22.4	10/9/2007	13:20	1.84E+02	1.48E+02	1.51E+02	3.01E-01	5.97E-01	6.78E-01	1.51E+00	6.06E-00	3.54E-00	0.00E-00	2.64E-00	2.61E+00	NA	NA	NA	
	004	34.9	-22.4	1/14/2008	17:05	7.78E+01	1.58E+02	1.78E+02	5.05E-01	8.10E-01	8.98E-01	1.11E+00	3.21E-00	3.79E-00	-9.16E-01	3.36E-00	3.54E+00	NA	NA	NA	
	005	34.9	-22.4	4/24/2008	15:30	5.51E+01	1.14E+02	1.95E+02	3.45E-01	4.83E-01	8.34E-01	-8.41E-01	2.06E-00	3.37E-00	-8.73E-01	1.68E-00	2.56E+00	NA	NA	NA	
	006	34.9	-22.4	7/30/2008	16:10	1.95E+02	1.21E+02	1.91E+02	2.85E-01	3.50E-01	5.92E-01	1.81E+00	1.93E-00	3.50E-00	-1.19E+00	2.07E-00	3.20E+00	NA	NA	NA	
	007	34.9	-22.4	11/5/2008	15:03	1.42E+02	1.80E+02	1.99E+02	1.62E-01	5.01E-01	6.09E-01	-2.38E+00	5.87E-00	6.17E-00	-3.83E+00	8.52E-00	7.56E+00	NA	NA	NA	
	008	34.9	-22.4	2/9/2009	16:12	2.00E+02	1.83E+02	1.98E+02	3.81E-01	8.27E-01	9.42E-01	-1.20E+00	3.09E-00	3.19E-00	-3.23E-01	3.00E-00	3.22E+00	-3.26E+00	2.39E+01	2.82E+01	
	009	34.9	-22.4	5/5/2009	14:06	1.54E+02	1.64E+02	1.71E+02	2.06E-01	6.48E-01	7.50E-01	1.11E+00	8.76E-00	5.84E-00	7.57E-01	5.60E-00	6.58E+00	NA	NA	NA	
MW-60-53	001	53.4	-40.9	5/8/2007	11:52	5.32E+01	1.58E+02	1.82E+02	-4.92E-01	5.52E-01	8.96E-01	-2.83E+00	4.86E-00	4.07E-00	2.15E-01	3.59E-00	4.12E+00	3.58E+00	1.84E+01	2.12E+01	MW-60-53
	002	53.4	-40.9	7/27/2007	12:50	1.25E+02	1.71E+02	1.87E+02	-4.72E-01	5.26E-01	7.31E-01	1.46E-01	3.01E-00	3.34E-00	7.87E-01	3.25E-00	3.79E+00	NA	NA	NA	
	003	53.4	-40.9	10/9/2007	12:22	1.13E+02	1.44E+02	1.56E+02	6.19E-01	6.50E-01	6.79E-01	-2.11E+00	3.39E-00	3.51E-00	3.62E-01	2.79E-00	3.21E+00	NA	NA	NA	
	004	53.4	-40.9	1/14/2008	15:40	5.35E+01	1.55E+02	1.78E+02	-1.69E-01	5.28E-01	7.59E-01	-1.10E+00	2.78E-00	2.88E-00	-1.89E+00	2.94E-00	2.76E+00	NA	NA	NA	
	005	53.4	-40.9	4/24/2008	12:18	-1.77E+01	1.12E+02	1.96E+02	5.27E-01	5.19E-01	8.52E-01	-1.84E-01	2.47E-00	4.13E-00	-1.36E+00	2.50E-00	3.95E+00	NA	NA	NA	
	006	53.4	-40.9	7/30/2008	13:23	1.28E+02	9.80E+01	1.63E+02	6.53E-01	5.33E-01	8.58E-01	-1.68E-01	2.09E-00	3.43E-00	1.05E-00	2.04E-00	3.65E+00	NA	NA	NA	
	007	53.4	-40.9	11/5/2008	14:32	1.38E+02	1.80E+02	1.99E+02	-1.95E-01	5.82E-01	8.17E-01	8.77E-01	4.58E-00	5.22E-00	1.30E-00	5.78E-00	6.68E+00	NA	NA	NA	
	008	53.4	-40.9	2/9/2009	11:28	1.31E+02	1.79E+02	1.98E+02	4.81E-01	8.09E-01	9.06E-01	-1.28E+00	3.80E-00	3.55E-00	5.34E-01	2.78E-00	3.22E+00	-1.24E+00	2.43E+01	2.85E+01	
	009	53.4	-40.9	5/5/2009	10:08	4.99E+02	2.12E+02	1.75E+02	6.40E-02	6.75E-01	8.02E-01	7.73E-01	1.18E-01	7.89E-00	-3.04E+00	8.30E-00	7.85E+00	0.00E+00	2.39E+01	2.81E+01	
MW-60-72	001	72.4	-59.9	5/8/2007	12:17	-9.26E+00	1.52E+02	1.82E+02	2.87E-01	8.13E-01	9.71E-01	1.61E+00	4.72E-00	3.33E-00	9.40E-01	3.21E-00	3.82E+00	8.28E-01	1.69E+01	1.97E+01	MW-60-72
	002	72.4	-59.9	7/27/2007	13:22	1.10E+02	1.64E+02	1.81E+02	-3.27E-01	4.92E-01	5.76E-01	4.79E-01	3.96E-00	4.51E-00	-1.10E+00	3.94E-00	4.17E+00	NA	NA	NA	
	003	72.4	-59.9	10/9/2007	14:15	1.24E+02	1.43E+02	1.54E+02	1.64E-01	6.00E-01	7.12E-01	7.48E-01	3.78E-00	4.27E-00	6.12E-01	3.76E-00	4.33E+00	NA	NA	NA	
	004	72.4	-59.9	1/14/2008	14:12	1.36E+02	1.65E+02	1.78E+02	1.58E-01	5.93E-01	7.23E-01	5.42E-03	3.33E-00	3.56E-00	8.47E-01	2.97E-00	3.54E+00	NA	NA	NA	
	005	72.4	-59.9	4/24/2008	12:20	1.65E+02	1.17E+02	1.93E+02	3.08E-01	4.82E-01	8.38E-01	-5.33E-01	2.37E-00	3.92E-00	1.80E-01	2.23E-00	3.75E+00	NA	NA	NA	
	006	72.4	-59.9	7/30/2008	13:25	8.27E+01	9.69E+01	1.63E+02	1.73E-01	1.41E-01	2.33E-01	-8.79E-01	2.39E-00	3.91E-00	-1.11E+00	2.47E-00	3.96E+00	NA	NA	NA	
	007	72.4	-59.9	11/5/2008	14:58	1.94E+02	1.64E+02	1.78E+02	2.09E-01	6.54E-01	7.78E-01	-9.53E-01	5.68E-00	6.09E-00	-1.43E+00	5.36E-00	5.64E+00	NA	NA	NA	
	008	72.4	-59.9	2/9/2009	11:25	1.67E+02	1.55E+02	1.69E+02	-4.16E-01	7.19E-01	9.60E-01	-6.54E-01	3.00E-00	3.30E-00	7.83E-01	3.09E-00	3.69E+00	-9.25E+00	2.21E+01	2.66E+01	
	009	72.4	-59.9	5/5/2009	10:32	1.57E+02	1.67E+02	1.75E+02	6.32E-02	6.66E-01	7.71E-01	2.29E+00	1.10E-01	7.32E-00	1.75E-00	6.02E-00	7.24E+00	NA	NA	NA	
MW-60-135	001	134.9	-122.4	5/8/2007	12:03	2.54E+01	1.55E+02	1.81E+02	3.35E-01	6.77E-01	7.74E-01	-1.05E+00	3.50E-00	3.08E-00	1.74E-01	3.12E-00	3.52E+00	4.54E+00	1.77E+01	2.02E+01	MW-60-135
	002	134.9	-122.4	7/27/2007	16:00	3.92E+02	2.03E+02	1.81E+02	-2.13E-01	3.09E-01	4.69E-01	2.78E-02	2.70E-00	3.07E-00	1.78E-01	2.63E-00	3.04E+00	NA	NA	NA	
	003	134.9	-122.4	10/9/2007	14:20	5.20E+02	1.83E+02	1.50E+02	-2.59E-01	4.46E-01	6.31E-01	-1.55E+00	3.40E-00	3.52E-00	-8.88E-02	3.57E-00	3.94E+00	NA	NA	NA	
	004	134.9	-122.4	1/14/2008	14:19	3.79E+02	1.89E+02	1.74E+02	-1.70E-01	6.17E-01	8.52E-01	-1.33E+00	3.14E-00	3.25E-00	4.22E-01	3.17E-00	3.59E+00	NA	NA	NA	
	005	134.9	-122.4	4/24/2008	12:31	5.85E+02	1.33E+02	1.93E+02	-1.98E-02	3.17E-01	6.59E-01	1.16E+00	2.24E-00	3.93E-00	-1.70E+00	2.67E-00	3.93E+00	NA	NA	NA	
	006	134.9	-122.4	7/30/2008	13:33	4.91E+02	1.42E+02	1.91E+02	1.70E-01	3.44E-01	6.18E-01	-4.68E-01	1.79E-00	2.88E-00	1.43E-00	2.00E-00	3.61E+00	NA	NA	NA	
	007	134.9	-122.4	11/6/2008	10:49	4.25E+02	2.01E+02	1.99E+02	-1.71E-01	5.01E-01	7.18E-01	-2.18E-02	5.71E-00	6.40E-00	-3.93E+00	6.25E-00	5.99E+00	NA	NA	NA	
	008	134.9	-122.4	2/9/2009	12:04	3.83E+02	1.67E+02	1.69E+02	5.52E-01	5.96E-01	6.39E-01	1.42E+00	2.96E-00	3.48E-00	4.24E-01	3.05E-00	3.35E+00	3.74E+00	2.27E+01	2.58E+01	
	009	134.9	-122.4	5/5/2009	10:54	3.17E+02	1.85E+02	1.71E+02	-1.77E-01	6.12E-01	7.45E-01	-3.22E+00	1.31E-01	8.76E-00	3.12E-01	6.81E-00	7.64E+00	NA	NA	NA	
MW-60-154	001	154.4	-141.9	5/8/2007	12:33	4.13E+01	1.55E+02	1.80E+02	3.06E-01	8.13E-01	9.50E-01	1.97E-01	3.46E-00	3.86E-00	1.46E-00	3.75E-00	4.46E+00	5.52E-01	1.68E+01	1.97E+01	MW-60-154
	002	154.4	-141.9	7/27/2007	16:18	4.62E+02	2.09E+02	1.79E+02	-1.53E-01	3.46E-01	4.09E-01	8.09E-01	4.23E-00	4.60E-00	3.74E-00	2.42E-00	3.80E+00	NA	NA	NA	
	003	154.4	-141.9	10/9/2007	14:23	5.80E+02	1.88E+02	1.50E+02	-1.92E-02	4.98E-01	6.33E-01	-1.63E+00	3.50E-00	3.68E-00	2.20E-01	3.30E-00	3.76E+00	NA	NA	NA	
	004	154.4	-141.9	1/14/2008	12:35	5.59E+02	2.13E+02	1.79E+02	1.10E+00	1.17E+00	1.24E+00	1.59E+00	3.84E-00	4.46E-00	2.92E-01	4.35E-00	4.82E+00	NA	NA	NA	
	005	154.4	-141.9	4/24/2008	12:36	4.53E+02	1.28E+02	1.94E+02	-2.44E-01	3.65E-01	7.77E-01	-1.25E+00	2.37E-00	3.69E-00	1.29E-00	2.06E-00	3.79E+00	NA	NA	NA	
	006	154.4	-141.9	7/30/2008	13:35	5.16E+02	1.44E+02	1.91E+02	5.10E-01	2.50E-01	3.30E-01	-8.80E-01	2.67E-00	3.58E-00	4.30E-01	1.89E-00	3.25E+00	NA	NA	NA	
	007	154.4	-141.9	11/6/2008	11:19	6.87E+02	4.16E+02	3.86E+02	4.32E-01	6.57E-01	7.19E-01	2.47E+00	4.96E-00	5.91E-00	5.49E-01	5.87E-00	6.61E+00	NA	NA	NA	
	008	154.4	-141.9	2/9/2009	12:23	4.15E+02	1.65E+02	1.67E+02	4.63E-01	7.98E-01	8.96E-01	7.14E-01	3.02E-00	3.45E-00	1.01E-00	3.54E-00	4.13E+00	-3.74E+00	2.09E+01	2.42E+01	
	009	154.4	-141.9	5/5/2009	11:15	4.39E+02	2.01E+02	1.72E+02	7.36E-02	5.70E-01	6.88E-01	-2.52E-01	6.89E-00	4.59E-00	-1.47E+00	5.07E-00	5.42E+00	NA	NA	NA	
MW-60-176	001	175.9	-163.4	5/8/2007	15:16	5.30E+02	2.01E+02	1.80E+02	6.88E-02	5.66E-01	7.29E-01	3.49E-01	4.54E-00	4.38E-00	1.14E-00	3.90E-00	3.98E+00	7.69E+00	1.73E+01	1.96E+01	MW-60-176
	002	175.9	-163.4	7/27/2007	17:35	8.49E+02	2.49E+02	1.78E+02	-4.60E-01	5.84E-01	7.87E-01	2.00E+00	3.29E-00	4.00E-00	-1.76E+00	3.15E-00	3.03E+00	NA	NA	NA	
	003	175.9	-163.4	10/9/2007	14:57	7.02E+02	2.01E+02	1.53E+02	-5.93E-02	5.11E-01	6.64E-01	-2.68E-01	2.63E-00	2.85E-00	3.91E-01	2.71E-00	3.09E+00	NA	NA	NA	
	004	175.9	-163.4	1/14/2008	12:25	6.68E+02	2.25E+02	1.83E+02	-7.68E-02	7.89E-01	1.04E+00	2.22E-01	3.99E-00	4.52E-00	5.49E-01	3.54E-00	4.09E+00	NA	NA	NA	
	005	175.9	-163.4	4/24/2008	13:10	7.77E+02	2.04E+02	2.73E+02	2.68E-01	4.91E-01	8.54E-01	-1.81E+00	2.70E-00	4.00E-00	-9.94E-01	2.53E-00	3.95E+00	NA	NA	NA	
	006	175.9	-163.4	7/30/2008	14:08	8.95E+02	1.67E+02	1.91E+02	-2.08E-02	2.96E-01	5.88E-01	-3.15E-01	2.12E-00	3.44E-00	-2.05E-01	2.03E-00	3.34E+00	NA	NA	NA	
	007	175.9	-163.4	11/6/2008	11:55	8.32E+02	4.35E+02	3.86E+02	2.17E-01	4.71E-01	5.45E-01	-2.63E+00	5.09E-00	5.07E-00	-1.06E-01	5.66E-00	6.33E+00	NA	NA	NA	
	008	175.9	-163.4	2/9/2009	13:08	9.16E+02	1.91E+02	1.70E+02	4.25E-01	6.80E-01	7.58E-01	-2.42E-01	3.27E-00	3.56E-00	5.10E-01	3.29E-00	3.74E+00	-1.22E+01	2.06E+01	2.44E+01	
	009	175.9	-163.4	5/5/2009	11:18	1.04E+03	2.64E+02	1.72E+02	2.40E-01	6.00E-01	6.90E-01	-4.10E+00	8.45E-00	5.63E-00	1.23E-00	5.69E-00	6.59E+00	NA	NA	NA	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID^1	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing^2	SAMPLE ZONE CENTER, elevation ft msl^2	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID^1
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
MW-62-18	001	13.5	1.2	5/17/2007	13:10	4.52E+02	1.83E+02	1.55E+02	2.98E-02	5.53E-01	7.27E-01	-5.10E-01	2.61E+00	2.89E+00	1.00E-01	2.79E+00	3.19E+00	4.61E+00	1.52E+01	1.74E+01	MW-62-18
	002	13.5	1.2	7/26/2007	15:45	5.08E+02	2.13E+02	1.78E+02	4.68E-01	4.93E-01	5.35E-01	9.04E-01	3.75E+00	4.35E+00	-2.80E+00	4.88E+00	3.80E+00	NA	NA	NA	
	003	13.5	1.2	10/10/2007	13:50	3.76E+02	1.73E+02	1.55E+02	1.80E+00	6.67E-01	4.87E-01	0.00E+00	3.39E+00	1.87E+00	-7.14E-02	1.71E+00	1.92E+00	NA	NA	NA	
	004	13.5	1.2	1/31/2008	15:15	3.50E+02	1.34E+02	1.34E+02	4.95E-01	7.55E-01	8.27E-01	1.18E+00	4.23E+00	4.46E+00	5.24E-01	3.38E+00	3.96E+00	NA	NA	NA	
	006	13.5	1.2	8/6/2008	12:55	2.69E+02	1.41E+02	2.25E+02	5.31E-01	3.30E-01	4.89E-01	9.69E-02	1.67E+00	2.82E+00	-1.26E-01	1.99E+00	3.33E+00	NA	NA	NA	
	007	13.5	1.2	10/29/2008	13:20	4.08E+02	1.65E+02	1.66E+02	5.23E-01	6.03E-01	6.37E-01	-3.09E-02	5.10E+00	5.60E+00	-3.91E+00	5.25E+00	4.70E+00	NA	NA	NA	
	008	13.5	1.2	1/23/2009	11:55	4.64E+02	1.39E+02	1.07E+02	1.09E+00	6.47E-01	6.00E-01	9.88E-01	2.55E+00	3.06E+00	-3.42E-01	2.48E+00	2.74E+00	NA	NA	NA	
	009	13.5	1.2	4/15/2009	13:18	4.56E+02	1.85E+02	1.36E+02	1.76E-01	5.99E-01	7.14E-01	-3.54E-01	5.81E+00	3.87E+00	1.91E+00	3.29E+00	4.20E+00	-1.88E+00	1.86E+01	2.17E+01	
MW-62-37	001	34.5	-19.8	5/17/2007	11:10	2.97E+02	1.70E+02	1.59E+02	3.30E-01	8.28E-01	9.66E-01	9.81E-01	2.00E+00	2.37E+00	-1.12E+00	2.25E+00	2.31E+00	1.01E+01	1.81E+01	2.04E+01	MW-62-37
	002	34.5	-19.8	7/26/2007	15:35	2.50E+02	1.79E+02	1.75E+02	-2.57E-01	4.14E-01	5.18E-01	-6.88E-02	2.64E+00	2.94E+00	-4.23E-01	2.60E+00	2.81E+00	NA	NA	NA	
	003	34.5	-19.8	10/10/2007	14:50	3.02E+02	1.58E+02	1.47E+02	-1.67E-01	4.44E-01	6.10E-01	2.12E-01	1.81E+00	2.02E+00	-7.67E-01	1.74E+00	1.83E+00	NA	NA	NA	
	004	34.5	-19.8	1/10/2008	13:55	3.97E+02	1.68E+02	1.71E+02	1.34E-01	6.05E-01	7.24E-01	8.35E-01	4.43E+00	4.62E+00	-2.10E-01	3.87E+00	4.19E+00	NA	NA	NA	
	006	34.5	-19.8	8/6/2008	12:00	3.94E+02	1.19E+02	1.45E+02	2.23E-01	2.69E-01	4.54E-01	-2.55E+00	1.52E+00	2.06E+00	-1.08E+00	1.56E+00	2.38E+00	NA	NA	NA	
	007	34.5	-19.8	10/29/2008	13:57	5.35E+02	1.71E+02	1.66E+02	1.36E+00	6.57E-01	5.24E-01	4.20E-01	4.77E+00	5.33E+00	-2.20E+00	5.19E+00	5.20E+00	NA	NA	NA	
	008	34.5	-19.8	1/23/2009	12:20	4.87E+02	1.42E+02	1.08E+02	1.28E-01	7.41E-01	9.02E-01	-7.69E-01	3.12E+00	3.43E+00	-6.49E-01	3.14E+00	3.36E+00	NA	NA	NA	
	009	34.5	-19.8	4/15/2009	13:13	4.39E+02	1.82E+02	1.35E+02	-3.16E-01	6.68E-01	8.49E-01	-1.73E-01	5.94E+00	3.96E+00	-6.46E-01	4.44E+00	4.81E+00	-1.65E+01	1.74E+01	2.14E+01	
MW-62-53	001	53.1	-40.3	5/10/2007	15:00	3.93E+02	1.91E+02	1.72E+02	4.41E-01	7.97E-01	8.96E-01	6.50E-01	3.40E+00	3.86E+00	-9.12E-01	3.52E+00	3.74E+00	-5.00E+00	1.40E+01	1.68E+01	MW-62-53
	002	53.1	-40.3	7/26/2007	15:34	3.45E+02	1.94E+02	1.78E+02	3.56E-01	6.98E-01	7.85E-01	0.00E+00	4.62E+00	2.53E+00	-8.44E-01	2.77E+00	2.45E+00	NA	NA	NA	
	003	53.1	-40.3	1/10/2008	15:37	3.48E+02	1.67E+02	1.71E+02	4.45E-02	6.72E-01	8.15E-01	-7.91E-01	2.75E+00	2.93E+00	7.68E-01	2.88E+00	3.43E+00	NA	NA	NA	
	005	53.1	-40.3	8/6/2008	12:35	3.52E+02	1.54E+02	2.41E+02	9.52E-03	2.54E-01	4.95E-01	1.38E+00	2.24E+00	3.98E+00	3.02E-01	2.30E+00	3.87E+00	NA	NA	NA	
	006	53.1	-40.3	10/29/2008	13:51	4.08E+02	1.67E+02	1.67E+02	6.63E-02	3.87E-01	4.94E-01	-3.99E-01	5.85E+00	6.51E+00	-2.87E+00	8.09E+00	7.19E+00	NA	NA	NA	
	007	53.1	-40.3	1/23/2009	12:44	3.56E+02	2.16E+02	2.08E+02	4.53E-01	7.68E-01	8.60E-01	2.27E-01	3.30E+00	3.77E+00	-1.27E+00	3.56E+00	3.71E+00	NA	NA	NA	
	008	53.1	-40.3	4/15/2009	13:29	4.33E+02	1.82E+02	1.36E+02	-5.89E-01	6.65E-01	9.09E-01	-4.92E-01	5.30E+00	3.53E+00	2.83E-01	2.82E+00	3.31E+00	-6.14E+00	1.79E+01	2.12E+01	
MW-62-71	001	71.1	-58.3	5/10/2007	11:35	5.02E+02	2.00E+02	1.71E+02	6.16E-01	8.34E-01	8.92E-01	-8.78E-01	3.51E+00	3.75E+00	1.37E-01	3.21E+00	3.59E+00	4.93E+00	1.29E+01	1.48E+01	MW-62-71
	002	71.1	-58.3	7/26/2007	12:20	1.51E+02	1.65E+02	1.74E+02	2.15E-01	7.26E-01	8.29E-01	1.11E+00	3.36E+00	3.91E+00	-2.39E-01	3.48E+00	3.90E+00	NA	NA	NA	
	003	71.1	-58.3	10/10/2007	12:23	2.69E+02	1.61E+02	1.55E+02	1.15E-01	5.22E-01	6.30E-01	1.18E+00	2.43E+00	2.45E+00	1.54E+00	2.10E+00	2.55E+00	NA	NA	NA	
	004	71.1	-58.3	1/10/2008	14:04	3.53E+02	1.89E+02	1.94E+02	3.78E-01	5.85E-01	6.46E-01	-7.82E-01	2.51E+00	2.72E+00	3.78E-02	2.22E+00	2.55E+00	NA	NA	NA	
	006	71.1	-58.3	8/6/2008	11:42	4.64E+02	1.66E+02	2.53E+02	3.31E-01	2.60E-01	3.94E-01	5.85E-01	2.01E+00	3.53E+00	-4.96E-01	2.23E+00	3.66E+00	NA	NA	NA	
	007	71.1	-58.3	10/29/2008	12:00	5.12E+02	1.70E+02	1.66E+02	3.70E-01	4.81E-01	5.03E-01	-2.34E+00	5.97E+00	6.37E+00	-1.31E+00	6.46E+00	7.00E+00	NA	NA	NA	
	008	71.1	-58.3	1/23/2009	12:12	2.99E+02	2.07E+02	2.04E+02	2.47E-01	7.35E-01	8.56E-01	1.92E+00	3.53E+00	4.25E+00	-4.84E-01	3.87E+00	4.22E+00	NA	NA	NA	
	009	71.1	-58.3	4/15/2009	12:06	4.78E+02	1.89E+02	1.38E+02	2.78E-01	6.38E-01	7.30E-01	1.27E+00	6.32E+00	4.21E+00	1.21E+00	3.48E+00	4.20E+00	-3.18E+00	1.88E+01	2.20E+01	
MW-62-92	001	91.6	-78.8	5/10/2007	11:18	7.00E+02	2.16E+02	1.68E+02	7.11E-01	9.21E-01	9.85E-01	-1.58E+00	4.63E+00	3.30E+00	7.45E-01	3.12E+00	3.72E+00	-7.73E+00	1.30E+01	1.65E+01	MW-62-92
	002	91.6	-78.8	7/26/2007	12:35	4.37E+02	2.07E+02	1.80E+02	-2.28E-02	3.39E-01	3.94E-01	6.50E-01	3.15E+00	3.63E+00	8.32E-01	3.38E+00	3.95E+00	NA	NA	NA	
	003	91.6	-78.8	10/10/2007	12:15	4.28E+02	1.73E+02	1.50E+02	-1.91E-01	4.77E-01	6.54E-01	6.23E-01	1.88E+00	2.01E+00	1.85E+00	1.80E+00	2.21E+00	NA	NA	NA	
	004	91.6	-78.8	1/10/2008	11:09	3.94E+02	1.92E+02	1.94E+02	1.38E-01	6.59E-01	7.90E-01	3.75E-01	2.94E+00	3.39E+00	9.37E-01	3.47E+00	3.62E+00	NA	NA	NA	
	006	91.6	-78.8	8/6/2008	11:49	4.95E+02	1.59E+02	2.38E+02	2.43E-01	3.29E-01	5.64E-01	1.51E+00	2.29E+00	4.11E+00	5.16E+00	2.59E+00	5.35E+00	NA	NA	NA	
	007	91.6	-78.8	10/29/2008	12:10	4.82E+02	1.68E+02	1.66E+02	-4.52E-02	5.40E-01	7.12E-01	1.64E+00	6.57E+00	7.61E+00	2.71E+00	6.33E+00	7.68E+00	NA	NA	NA	
	008	91.6	-78.8	1/23/2009	12:28	5.25E+02	2.33E+02	2.05E+02	-1.59E-01	6.86E-01	8.73E-01	2.90E-01	4.58E+00	4.83E+00	1.88E+00	3.83E+00	4.74E+00	NA	NA	NA	
	009	91.6	-78.8	4/15/2009	12:15	6.08E+02	2.06E+02	1.36E+02	1.09E-01	5.42E-01	6.60E-01	3.15E-01	6.21E+00	4.14E+00	-9.11E-01	3.36E+00	3.56E+00	-1.28E+01	1.83E+01	2.22E+01	
MW-62-138	001	138.1	-125.3	5/10/2007	10:22	4.55E+02	1.98E+02	1.74E+02	8.19E-01	8.16E-01	8.00E-01	1.73E+00	4.17E+00	3.28E+00	-1.40E+00	3.42E+00	3.55E+00	-4.93E+00	1.32E+01	1.64E+01	MW-62-138
	002	138.1	-125.3	7/26/2007	15:55	5.38E+02	2.19E+02	1.82E+02	5.26E-01	5.79E-01	6.09E-01	6.88E-02	3.51E+00	3.98E+00	6.39E-01	3.93E+00	4.54E+00	NA	NA	NA	
	003	138.1	-125.3	10/10/2007	14:46	7.78E+02	2.09E+02	1.54E+02	8.37E-01	8.30E-01	8.69E-01	0.00E+00	2.67E+00	2.90E+00	-1.19E+00	2.44E+00	2.50E+00	NA	NA	NA	
	004	138.1	-125.3	1/10/2008	10:05	7.69E+02	1.82E+02	1.74E+02	7.34E-01	4.32E-01	3.52E-01	4.30E-01	3.36E+00	3.88E+00	1.05E-01	3.47E+00	3.91E+00	NA	NA	NA	
	006	138.1	-125.3	8/6/2008	11:41	5.33E+02	1.55E+02	2.28E+02	1.21E+00	4.18E-01	5.01E-01	8.24E-01	2.44E+00	4.27E+00	3.85E-01	2.41E+00	4.20E+00	NA	NA	NA	
	007	138.1	-125.3	10/29/2008	12:25	7.50E+02	1.82E+02	1.66E+02	1.24E+00	5.53E-01	3.58E-01	1.40E+00	6.06E+00	7.05E+00	2.04E+00	8.28E+00	8.60E+00	NA	NA	NA	
	008	138.1	-125.3	1/23/2009	12:50	6.26E+02	2.43E+02	2.04E+02	2.46E+00	8.27E-01	6.23E-01	-4.23E-01	2.40E+00	2.67E+00	5.99E-01	2.24E+00	2.64E+00	NA	NA	NA	
	009	138.1	-125.3	4/15/2009	12:38	7.72E+02	2.18E+02	1.32E+02	1.78E+00	8.70E-01	7.93E-01	-7.43E-01	6.18E+00	4.12E+00	4.95E-01	3.20E+00	3.73E+00	1.23E+00	1.83E+01	2.12E+01	
MW-62-182	001	182.1	-169.3	5/10/2007	10:43	5.41E+02	2.09E+02	1.76E+02	1.22E-01	7.18E-01	8.90E-01	3.74E-02	3.50E+00	3.33E+00	-2.40E-01	3.23E+00	3.53E+00	-1.76E+00	1.24E+01	1.50E+01	MW-62-182
	002	182.1	-169.3	7/26/2007	16:20	4.17E+02	2.06E+02	1.82E+02	-9.56E-02	2.73E-01	3.26E-01	-1.16E+00	3.10E+00	3.25E+00	6.21E-01	2.70E+00	3.15E+00	NA	NA	NA	
	003	182.1	-169.3	10/10/2007	14:42	4.94E+02	1.83E+02	1.54E+02	-1.48E-01	4.40E-01	5.99E-01	6.04E-01	1.91E+00	1.91E+00	5.45E-01	1.92E+00	2.23E+00	NA	NA	NA	
	004	182.1	-169.3	1/10/2008	11:15	4.70E+02	1.68E+02	1.71E+02	8.15E-02	5.13E-01	6.33E-01	-1.17E-01	2.96E+00	2.99E+00	9.22E-01	1.31E+00	2.33E+00	NA	NA	NA	
	006	182.1	-169.3	8/6/2008	13:54	3.99E+02	1.52E+02	2.34E+02	5.30E-02	3.33E-01	6.16E-01	8.48E-01	2.19E+00	3.85E+00	-2.67E-01	2.40E+00	3.97E+00	NA	NA	NA	
	007	182.1	-169.3	10/29/2008	15:52	4.98E+02	1.70E+02	1.66E+02	4.40E-02	7.13E-01	9.16E-01	1.60E+00	6.21E+00	6.92E+00	2.99E-01	5.82E+00	6.54E+00	NA	NA	NA	
	008	182.1	-169.3	1/23/2009	13:49	4.98E+02	2.28E+02	2.03E+02	-1.85E-01	4.56E-01	6.98E-01	-1.91E+00	2.55E+00	2.68E+00	-1.03E+00	2.43E+00	2.55E+00	NA	NA	NA	
	009	182.1	-169.3	4/15/2009	14:53	7.36E+02	2.21E+02	1.37E+02	-6.26E-01	7.43E-01	9.46E-01	2.06E-01	6.32E+00	4.21E+00	2.09E-01	4.55E+00	5.11E+00	-6.59E+00	1.83E+01	2.17E+01	
MW-63-18	001	14.9	0.7	5/18/2007	10:35	2.30E+02	1.59E+02	1.57E+02	4.75E-02	5.37E-01	6.95E-01	8.56E-01	2.44E+00	2.67E+00	1.11E+00	2.65E+00	2.74E+00	7.36E+00	1.61E+01	1.82E+01	MW-63-18
	002	14.9	0.7	7/30/2007	13:10	2.00E+02	1.74E+02	1.89E+02	-2.18E-01	3.91E-01	4.68E-01	1.98E+00	2.65E+00	3.03E+00	-1.31E+00	2.50E+00	2.53E+00	NA	NA	NA	
	003	14.9	0.7	10/11/2007	12:43	1.49E+02	1.56E+02	1.71E+02	3.08E-01	6.23E-01	7.12E-01	1.52E+00	2.63E+00	3.16E+00	-1.41E-01	2.52E+00	2.74E+00	NA	NA	NA	
	004	14.9	0.7	1/9/2008	14:55	1.23E+02	1.56E+02	1.73E+02	-6.34E-02	5.55E-01	7.38E-01	2.55E+00	3.29E+00	3.42E+00	1.97E+00	2.94E+00	3.75E+00	NA	NA	NA	
	005	14.9	0.7	4/23/2008	14:50	2.57E+02	1.53E+02	2.43E+02	2.31E-02	4.68E-01	8.62E-01	8.04E-01	2.35E+00	4.03E+00	7.68E-01	2.06E+00	3.69E+00	8.53E+00	1.43E+01	2.42E+01	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID^1	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing^2	SAMPLE ZONE CENTER, elevation ft msl^2	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID^1
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	006	14.9	0.7	7/30/2008	11:13	1.79E+02	1.20E+02	1.91E+02	3.29E+00	5.61E-01	4.68E-01	-1.71E-02	1.75E+00	2.97E+00	-1.16E+00	2.04E+00	2.49E+00	NA	NA	NA	
	007	14.9	0.7	11/5/2008	10:53	3.20E+02	1.59E+02	1.65E+02	3.25E-01	6.20E-01	7.03E-01	1.31E-01	5.91E+00	6.75E+00	-1.52E+00	5.73E+00	6.04E+00	NA	NA	NA	
	008	14.9	0.7	1/29/2009	13:46	1.54E+02	1.85E+02	1.98E+02	-2.22E-01	6.74E-01	8.57E-01	9.78E-02	2.64E+00	3.01E+00	1.02E+00	3.20E+00	3.87E+00	NA	NA	NA	
	009	14.9	0.7	5/4/2009	12:29	1.97E+02	1.62E+02	1.64E+02	1.26E-01	6.00E-01	6.93E-01	-2.37E+00	6.86E+00	4.57E+00	8.34E-01	4.26E+00	4.94E+00	NA	NA	NA	
MW-63-34	001	31.5	-17.3	5/18/2007	13:03	2.28E+02	1.58E+02	1.55E+02	-1.62E-01	5.43E-01	7.77E-01	4.10E-01	2.21E+00	2.51E+00	-3.25E-01	2.65E+00	2.44E+00	1.57E+00	1.54E+01	1.80E+01	MW-63-34
	002	31.5	-17.3	7/30/2007	13:28	2.80E+02	1.77E+02	1.90E+02	-1.64E-01	3.36E-01	4.03E-01	1.73E-01	3.66E+00	3.56E+00	3.98E-01	3.66E+00	4.24E+00	NA	NA	NA	
	003	31.5	-17.3	10/11/2007	12:50	2.31E+02	1.61E+02	1.74E+02	-2.75E-01	4.44E-01	6.73E-01	-6.24E-01	3.60E+00	3.58E+00	3.81E-01	2.65E+00	3.10E+00	NA	NA	NA	
	004	31.5	-17.3	1/9/2008	14:20	3.26E+02	1.65E+02	1.71E+02	1.24E-01	5.57E-01	6.84E-01	1.83E+00	3.63E+00	4.44E+00	3.53E-01	3.90E+00	4.35E+00	NA	NA	NA	
	005	31.5	-17.3	4/23/2008	13:55	4.90E+02	1.68E+02	2.45E+02	3.82E-01	5.68E-01	9.89E-01	1.71E+00	2.05E+00	3.78E+00	-1.77E+00	3.53E+00	4.19E+00	5.77E+00	1.46E+01	2.49E+01	
	006	31.5	-17.3	7/30/2008	11:12	4.41E+02	1.39E+02	1.91E+02	1.15E+00	4.60E-01	6.45E-01	-1.48E-02	2.26E+00	3.87E+00	-7.91E-01	2.52E+00	3.65E+00	NA	NA	NA	
	007	31.5	-17.3	11/5/2008	11:03	4.14E+02	3.77E+02	3.85E+02	3.15E-01	6.77E-01	7.78E-01	5.73E-01	5.43E+00	6.10E+00	-1.40E-01	5.17E+00	5.67E+00	NA	NA	NA	
	008	31.5	-17.3	1/29/2009	12:22	4.20E+02	2.22E+02	1.96E+02	2.20E-01	6.87E-01	8.13E-01	1.41E+00	2.91E+00	3.45E+00	-2.64E-01	2.96E+00	3.23E+00	NA	NA	NA	
	009	31.5	-17.3	5/4/2009	12:10	3.23E+02	1.76E+02	1.59E+02	2.16E-01	6.03E-01	6.89E-01	6.53E-01	7.29E+00	4.86E+00	1.92E+00	3.42E+00	4.32E+00	NA	NA	NA	
MW-63-50	001	49.5	-37.2	5/15/2007	11:48	3.26E+02	1.83E+02	1.73E+02	-9.70E-02	6.15E-01	8.32E-01	-1.33E-01	5.28E+00	5.01E+00	6.64E-01	4.23E+00	4.81E+00	-2.41E+00	1.24E+01	1.51E+01	MW-63-50
	002	49.5	-37.2	7/25/2007	14:00	2.25E+02	1.80E+02	1.95E+02	1.29E-01	6.03E-01	6.84E-01	2.08E+00	3.18E+00	3.90E+00	-1.58E-01	3.19E+00	3.54E+00	NA	NA	NA	
	003	49.5	-37.2	10/11/2007	11:10	2.89E+02	1.62E+02	1.73E+02	-3.41E-01	5.10E-01	7.67E-01	6.21E-01	2.98E+00	3.39E+00	1.56E+00	3.17E+00	3.86E+00	NA	NA	NA	
	004	49.5	-37.2	1/9/2008	12:32	3.56E+02	1.67E+02	1.72E+02	4.48E-01	7.41E-01	8.26E-01	3.37E-01	2.66E+00	3.02E+00	-1.42E+00	3.14E+00	3.20E+00	NA	NA	NA	
	005	49.5	-37.2	4/23/2008	13:04	2.70E+02	1.63E+02	2.65E+02	4.27E-01	5.45E-01	9.26E-01	-1.10E+00	1.85E+00	2.93E+00	9.01E-01	1.75E+00	3.27E+00	2.43E+00	1.40E+01	2.41E+01	
	006	49.5	-37.2	7/30/2008	10:29	3.35E+02	1.32E+02	1.91E+02	6.10E-01	4.97E-01	8.02E-01	-1.77E+00	1.83E+00	2.66E+00	-1.22E+00	1.91E+00	2.80E+00	NA	NA	NA	
	007	49.5	-37.2	11/5/2008	9:39	3.17E+02	1.94E+02	1.99E+02	5.67E-01	6.58E-01	6.79E-01	1.26E+00	6.36E+00	7.04E+00	-7.21E-01	6.52E+00	7.08E+00	NA	NA	NA	
	008	49.5	-37.2	1/29/2009	14:06	2.98E+02	2.04E+02	1.96E+02	5.67E-01	8.00E-01	8.76E-01	8.89E-02	3.09E+00	3.51E+00	1.37E+00	3.41E+00	4.19E+00	NA	NA	NA	
	009	49.5	-37.2	5/4/2009	11:31	3.30E+02	1.80E+02	1.65E+02	1.58E-01	5.73E-01	6.59E-01	1.22E+00	6.27E+00	4.18E+00	-2.49E-01	3.98E+00	4.34E+00	NA	NA	NA	
MW-63-93	001	93	-80.7	10/2/2006	13:10	5.16E+02	1.95E+02	5.70E+01	7.81E-02	6.73E-01	7.32E-01	5.46E-01	1.43E-01	1.59E-01	-4.42E+00	1.67E-01	2.03E+01	-5.31E+00	1.23E+01	1.54E+01	MW-63-93
	002	93	-80.7	5/15/2007	12:45	2.81E+02	1.80E+02	1.75E+02	8.20E-02	7.29E-01	9.24E-01	1.87E-01	4.80E+00	4.60E+00	9.57E-01	4.54E+00	4.51E+00	NA	NA	NA	
	003	93	-80.7	7/25/2007	14:34	2.37E+02	1.82E+02	1.97E+02	-4.43E-01	4.41E-01	5.29E-01	1.24E+00	3.31E+00	3.90E+00	9.28E-03	3.75E+00	4.16E+00	NA	NA	NA	
	004	93	-80.7	10/11/2007	11:17	1.15E+02	1.55E+02	1.72E+02	8.19E-01	8.90E-01	9.47E-01	-6.98E-01	2.97E+00	3.16E+00	-1.77E+00	3.33E+00	3.23E+00	NA	NA	NA	
	005	93	-80.7	1/9/2008	12:46	2.15E+02	1.59E+02	1.71E+02	1.86E-01	7.08E-01	8.45E-01	7.74E-01	3.06E+00	3.56E+00	1.05E-01	3.20E+00	3.58E+00	NA	NA	NA	
	005	93	-80.7	4/23/2008	11:23	3.02E+02	1.65E+02	2.65E+02	2.93E-01	5.46E-01	9.39E-01	3.49E-01	2.27E+00	3.88E+00	7.04E-01	2.41E+00	4.14E+00	-3.72E+00	1.41E+01	2.46E+01	
	007	93	-80.7	7/29/2008	14:17	2.38E+02	1.25E+02	1.92E+02	2.28E-03	2.21E-01	3.86E-01	-4.02E-01	2.01E+00	3.36E+00	-3.19E-01	1.96E+00	3.23E+00	NA	NA	NA	
	008	93	-80.7	11/5/2008	10:14	3.90E+02	3.75E+02	3.86E+02	-9.77E-02	1.94E-01	2.36E-01	1.53E+00	5.10E+00	5.92E+00	2.80E+00	6.24E+00	7.60E+00	NA	NA	NA	
	009	93	-80.7	1/29/2009	14:20	3.40E+02	2.09E+02	1.93E+02	1.18E-01	6.33E-01	7.75E-01	-9.44E-01	3.17E+00	3.42E+00	-8.17E-01	3.63E+00	3.88E+00	NA	NA	NA	
	010	93	-80.7	5/4/2009	12:00	1.66E+02	1.59E+02	1.64E+02	5.44E-01	5.13E-01	5.53E-01	2.00E+00	6.72E+00	4.48E+00	-1.69E+00	3.63E+00	3.63E+00	NA	NA	NA	
MW-63-112	001	111.5	-99.2	5/15/2007	13:10	4.24E+02	1.95E+02	1.75E+02	-5.27E-02	7.50E-01	9.42E-01	2.58E+00	3.90E+00	3.59E+00	9.59E-01	3.72E+00	4.19E+00	-5.14E+00	1.34E+01	1.55E+01	MW-63-112
	002	111.5	-99.2	7/25/2007	14:52	2.69E+02	1.83E+02	1.97E+02	6.32E-02	3.46E-01	3.99E-01	6.92E-01	4.14E+00	4.19E+00	-6.35E-01	3.94E+00	4.34E+00	NA	NA	NA	
	003	111.5	-99.2	10/11/2007	13:45	2.78E+02	1.62E+02	1.72E+02	-7.94E-02	6.73E-01	8.71E-01	-3.04E+00	5.49E+00	4.52E+00	7.65E-01	3.50E+00	4.15E+00	NA	NA	NA	
	004	111.5	-99.2	1/9/2008	10:20	4.69E+02	1.73E+02	1.72E+02	2.19E-01	5.07E-01	5.92E-01	3.90E-01	3.30E+00	3.34E+00	2.87E-01	3.56E+00	3.75E+00	NA	NA	NA	
	005	111.5	-99.2	4/23/2008	11:08	3.72E+02	1.68E+02	2.65E+02	-3.90E-02	3.96E-01	7.94E-01	4.77E-01	2.30E+00	3.89E+00	1.75E+00	2.78E+00	4.52E+00	-5.00E-01	1.43E+01	2.48E+01	
	006	111.5	-99.2	7/29/2008	14:20	2.07E+02	1.01E+02	1.63E+02	7.08E-01	5.39E-01	8.66E-01	6.61E-01	2.23E+00	3.89E+00	1.07E+00	2.46E+00	4.41E+00	NA	NA	NA	
	007	111.5	-99.2	11/4/2008	12:41	2.75E+02	1.92E+02	2.01E+02	4.72E-01	5.88E-01	6.17E-01	1.89E-01	5.68E+00	6.43E+00	-2.75E+00	8.34E+00	7.58E+00	NA	NA	NA	
	008	111.5	-99.2	1/30/2009	14:39	4.37E+02	2.21E+02	1.97E+02	2.43E-02	7.80E-01	9.24E-01	-1.10E+00	2.81E+00	2.86E+00	1.77E+00	3.41E+00	4.13E+00	NA	NA	NA	
	009	111.5	-99.2	5/4/2009	14:30	4.42E+02	1.94E+02	1.64E+02	1.54E-01	5.99E-01	7.38E-01	-2.30E+00	6.18E+00	4.12E+00	1.38E+00	3.93E+00	4.71E+00	NA	NA	NA	
MW-63-121	001	121	-108.7	5/15/2007	13:42	3.11E+02	1.83E+02	1.75E+02	3.00E-01	7.97E-01	9.37E-01	6.30E-01	4.25E+00	4.20E+00	-1.19E+00	3.65E+00	3.87E+00	2.29E+00	1.52E+01	1.77E+01	MW-63-121
	002	121	-108.7	7/25/2007	11:50	2.96E+02	1.82E+02	1.94E+02	3.19E-01	5.31E-01	5.93E-01	-1.31E+00	3.29E+00	3.46E+00	1.70E-01	3.46E+00	3.87E+00	NA	NA	NA	
	003	121	-108.7	10/11/2007	13:51	4.62E+02	1.70E+02	1.74E+02	2.39E-01	6.25E-01	7.37E-01	2.48E+00	4.51E+00	4.94E+00	1.54E+00	4.00E+00	4.54E+00	NA	NA	NA	
	004	121	-108.7	1/9/2008	10:42	5.40E+02	1.74E+02	1.71E+02	2.06E-02	4.70E-01	6.09E-01	2.54E+00	3.38E+00	4.15E+00	1.09E+00	3.41E+00	4.02E+00	NA	NA	NA	
	005	121	-108.7	4/23/2008	11:17	4.54E+02	1.34E+02	1.98E+02	5.36E-01	4.94E-01	8.04E-01	-3.56E-01	9.40E-01	1.55E+00	-1.33E+00	2.71E+00	1.81E+00	-3.22E+00	1.41E+01	2.46E+01	
	006	121	-108.7	7/29/2008	14:30	3.44E+02	1.04E+02	1.61E+02	7.60E-01	3.83E-01	5.73E-01	2.86E-01	2.08E+00	3.57E+00	1.23E+00	2.30E+00	4.11E+00	NA	NA	NA	
	007	121	-108.7	11/4/2008	12:43	4.95E+02	2.06E+02	1.98E+02	3.81E-01	7.52E-01	8.55E-01	-7.97E-01	5.42E+00	5.97E+00	1.20E+00	6.38E+00	7.41E+00	NA	NA	NA	
	008	121	-108.7	1/30/2009	14:41	6.23E+02	2.42E+02	1.97E+02	7.30E-01	5.09E-01	4.47E-01	1.91E+00	3.18E+00	3.92E+00	9.14E-01	2.84E+00	3.45E+00	NA	NA	NA	
	009	121	-108.7	5/4/2009	14:35	5.38E+02	2.04E+02	1.65E+02	7.71E-01	8.55E-01	9.23E-01	-6.65E-02	8.16E+00	5.44E+00	2.35E+00	4.29E+00	5.35E+00	NA	NA	NA	
MW-63-163	001	162.5	-150.2	5/15/2007	11:38	5.78E+02	2.10E+02	1.73E+02	-6.43E-02	6.50E-01	8.74E-01	-8.04E-01	2.84E+00	2.59E+00	9.51E-01	2.25E+00	2.64E+00	-9.58E-01	1.44E+01	1.73E+01	MW-63-163
	002	162.5	-150.2	7/25/2007	12:13	4.79E+02	1.91E+02	1.96E+02	-7.20E-01	3.46E-01	6.26E-01	-3.18E+00	5.16E+00	4.39E+00	-4.54E-01	3.75E+00	3.99E+00	NA	NA	NA	
	003	162.5	-150.2	10/11/2007	14:18	3.49E+02	1.65E+02	1.73E+02	7.93E-03	7.98E-01	9.60E-01	-4.46E-01	3.00E+00	3.28E+00	-1.91E-02	2.94E+00	3.30E+00	NA	NA	NA	
	004	162.5	-150.2	1/9/2008	10:51	5.68E+02	1.77E+02	1.72E+02	3.19E-03	5.55E-01	7.17E-01	-4.52E-01	3.50E+00	3.89E+00	2.23E+00	6.11E+00	4.38E+00	NA	NA	NA	
	005	162.5	-150.2	4/23/2008	11:23	4.44E+02	1.70E+02	2.65E+02	1.82E-01	4.33E-01	7.87E-01	8.04E-01	1.06E+00	1.84E+00	6.60E-01	1.13E+00	1.94E+00	5.30E+00	1.52E+01	2.60E+01	
	006	162.5	-150.2	7/29/2008	14:56	4.48E+02	1.07E+02	1.63E+02	-8.79E-02	2.50E-01	4.37E-01	-2.09E+00	2.34E+00	3.61E+00	9.03E-01	2.59E+00	4.48E+00	NA	NA	NA	
	007	162.5	-150.2	11/4/2008	12:45	6.85E+02	1.86E+02	1.76E+02	-1.44E-01	5.53E-01	7.46E-01	1.77E-01	5.37E+00	6.12E+00	7.78E-01	6.21E+00	7.23E+00	NA	NA	NA	
	008	162.5	-150.2	1/29/2009	11:57	5.81E+02	2.40E+02	1.95E+02	2.86E-01	5.64E-01	6.42E-01	5.82E+00	7.23E+00	3.42E+00	-1.73E-01	2.81E+00	3.03E+00	NA	NA	NA	
	009	162.5	-150.2	5/4/2009	14:39	4.36E+02	1.94E+02	1.66E+02	-1.10E-02	6.03E-01	7.41E-01	-2.88E-01	5.57E+00	3.71E+00	-4.47E+00	4.50E+00	3.64E+00	NA	NA	NA	
MW-63-174	001	174	-161.7	5/15/2007	11:54	5.93E+02	2.12E+02	1.73E+02	2.64E-01	7.62E-01	9.04E-01	-6.91E-01	2.52E+00	2.70E+00	8.16E-03	2.49E+00	2.76E+00	1.30E+00	1.28E+01	1.51E+01	MW-63-174

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	002	174	-161.7	7/25/2007	12:00	5.28E+02	1.94E+02	1.97E+02	-2.78E-01	4.41E-01	6.59E-01	6.28E-01	3.98E+00	4.55E+00	-3.03E-01	3.45E+00	3.80E+00	NA	NA	NA	
	003	174	-161.7	10/11/2007	14:22	3.70E+02	1.65E+02	1.72E+02	-2.85E-01	7.14E-01	9.39E-01	1.94E+00	2.90E+00	2.70E+00	-8.59E-01	2.56E+00	2.71E+00	NA	NA	NA	
	004	174	-161.7	1/9/2008	10:45	6.23E+02	1.79E+02	1.72E+02	6.16E-01	6.95E-01	7.24E-01	-1.24E+00	3.14E+00	3.33E+00	1.48E+00	3.03E+00	3.77E+00	NA	NA	NA	
	005	174	-161.7	4/23/2008	11:21	4.89E+02	1.72E+02	2.65E+02	-6.82E-02	3.65E-01	7.48E-01	-5.74E-01	2.01E+00	3.30E+00	3.66E-01	2.43E+00	4.19E+00	-2.14E+00	1.44E+01	2.50E+01	
	006	174	-161.7	7/29/2008	14:40	4.49E+02	1.40E+02	1.92E+02	6.56E-02	2.76E-01	4.80E-01	-3.76E-01	2.23E+00	3.71E+00	-1.72E+00	2.65E+00	3.79E+00	NA	NA	NA	
	007	174	-161.7	11/4/2008	12:44	4.77E+02	2.04E+02	1.99E+02	-2.76E-01	5.52E-01	7.83E-01	-2.68E+00	4.83E+00	4.74E+00	1.18E+00	5.45E+00	6.30E+00	NA	NA	NA	
	008	174	-161.7	1/29/2009	11:55	4.92E+02	2.28E+02	1.97E+02	4.27E-01	5.96E-01	6.57E-01	-4.53E-01	3.81E+00	3.67E+00	-1.34E+00	3.29E+00	3.32E+00	NA	NA	NA	
	009	174	-161.7	5/4/2009	14:28	4.57E+02	1.94E+02	1.63E+02	-2.15E-01	6.62E-01	7.87E-01	1.98E-01	4.58E+00	3.05E+00	-2.66E+00	3.11E+00	2.63E+00	NA	NA	NA	
MW-65-48	001	43.3	26.356	1/4/2007	12:00	2.08E+02	1.83E+02	1.80E+02	0.00E+00	7.80E-01	8.60E-01	1.60E+00	3.60E+00	3.90E+00	-5.00E-01	3.00E+00	3.70E+00	-2.20E+00	6.30E+00	7.30E+00	MW-65-48
MW-65-80	001	71.4	-1.659	9/8/2006	9:40	3.29E+01	1.62E+02	1.74E+02	4.72E-01	9.80E-01	1.04E+00	-5.15E-01	1.99E+00	2.18E+00	-2.34E-01	1.81E+00	1.98E+00	NA	NA	NA	MW-65-80
	002	71.4	-1.659	1/4/2007	12:35	1.83E+02	1.80E+02	1.80E+02	1.60E-01	7.80E-01	8.70E-01	-2.50E-01	2.22E+00	2.50E+00	-1.13E+00	2.31E+00	2.80E+00	-1.90E+00	6.60E+00	7.40E+00	
MW-66-21	001	14.1	0	7/30/2007	13:45	3.57E+03	2.91E+02	1.96E+02	1.79E+00	7.08E-01	2.08E+03	1.77E-01	3.07E+00	3.51E+00	2.21E+00	3.27E+00	4.20E+00	NA	NA	NA	MW-66-21
	002	14.1	0	10/15/2007	10:45	1.04E+03	2.24E+02	1.95E+02	2.42E+00	7.97E-01	5.30E-01	-8.32E-01	3.03E+00	2.74E+00	1.01E-01	2.79E+00	3.18E+00	1.48E+01	2.06E+01	2.28E+01	
	003	14.1	0	1/14/2008	11:33	8.18E+02	4.62E+02	4.16E+02	1.09E+00	8.96E-01	8.19E-01	1.68E+00	3.14E+00	3.77E+00	2.35E+00	3.86E+00	4.26E+00	-5.07E+00	2.12E+01	2.55E+01	
	004	14.1	0	4/21/2008	14:10	9.53E+02	1.51E+02	1.93E+02	1.01E+00	2.05E-01	2.82E-01	6.53E-01	2.36E+00	4.07E+00	1.86E-02	2.26E+00	3.74E+00	-7.28E+00	8.88E+00	1.55E+01	
	005	14.1	0	7/29/2008	11:48	7.83E+02	1.02E+02	1.30E+02	9.07E-01	3.56E-01	4.39E-01	-1.01E+00	1.88E+00	2.92E+00	1.71E+00	2.17E+00	3.99E+00	-6.26E+00	1.66E+01	2.99E+01	
	006	14.1	0	11/4/2008	10:30	5.34E+02	2.07E+02	1.64E+02	1.03E+00	6.96E-01	6.69E-01	1.44E+00	4.67E+00	5.42E+00	2.98E+00	5.17E+00	6.47E+00	-5.68E+00	1.79E+01	2.09E+01	
	007	14.1	0	1/27/2009	13:52	4.61E+02	1.74E+02	1.75E+02	2.91E-01	7.50E-01	8.72E-01	8.99E+00	5.45E+00	3.11E+00	-1.87E+00	2.90E+00	2.71E+00	1.29E+01	1.74E+01	1.93E+01	
	008	14.1	0	3/17/2009	12:00	4.29E+02	3.80E+02	3.81E+02	3.49E-01	6.45E-01	7.29E-01	1.60E-01	6.36E+00	4.24E+00	1.72E+00	3.84E+00	4.65E+00	-4.98E+00	1.70E+01	1.99E+01	
	009	14.1	0	4/20/2009	17:00	8.28E+01	1.65E+02	1.87E+02	1.93E-01	5.55E-01	6.50E-01	1.27E+00	7.23E+00	4.82E+00	9.73E-01	4.11E+00	4.81E+00	-1.86E+00	1.91E+01	2.22E+01	
MW-66-36	001	33.6	-19.5	7/30/2007	12:49	9.10E+03	4.13E+02	1.94E+02	6.20E+00	1.19E+00	6.05E-01	-9.84E-01	2.67E+00	2.76E+00	-5.59E-01	2.90E+00	3.06E+00	NA	NA	NA	MW-66-36
	002	33.6	-19.5	10/15/2007	10:16	8.95E+03	4.61E+02	1.92E+02	1.12E+01	1.61E+00	5.63E-01	0.00E+00	8.34E+00	4.32E+00	-2.92E-01	4.34E+00	4.68E+00	1.17E+01	1.88E+01	2.09E+01	
	003	33.6	-19.5	1/14/2008	11:40	7.26E+03	1.01E+03	4.16E+02	1.51E+01	2.40E+00	8.34E-01	2.34E+00	3.38E+00	4.14E+00	-1.08E+00	3.78E+00	3.39E+00	7.19E+00	2.36E+01	2.71E+01	
	004	33.6	-19.5	4/21/2008	13:25	6.09E+03	2.89E+02	1.97E+02	1.32E+01	5.27E-01	3.65E-01	-2.89E-01	2.09E+00	3.46E+00	-2.09E+00	3.54E+00	4.13E+00	-3.35E-01	8.98E+00	1.54E+01	
	005	33.6	-19.5	7/29/2008	12:05	5.01E+03	1.91E+02	1.30E+02	1.20E+01	1.06E+00	6.20E-01	2.07E-01	1.66E+00	2.82E+00	-1.05E+00	1.93E+00	3.00E+00	-1.00E+00	1.69E+01	2.98E+01	
	006	33.6	-19.5	11/4/2008	10:40	5.44E+03	5.34E+02	1.67E+02	1.38E+01	1.71E+00	5.23E-01	6.91E-01	4.32E+00	4.90E+00	1.78E+00	5.24E+00	6.23E+00	9.57E-01	1.61E+01	1.88E+01	
	007	33.6	-19.5	1/27/2009	13:07	3.65E+03	7.62E+02	4.41E+02	1.22E+01	1.56E+00	6.15E-01	-1.04E+00	2.88E+00	3.06E+00	6.35E-02	3.27E+00	3.72E+00	1.45E+01	1.70E+01	1.87E+01	
	008	33.6	-19.5	4/20/2009	15:26	4.39E+03	4.34E+02	1.87E+02	1.07E+01	1.42E+00	5.97E-01	5.54E-02	6.44E+00	4.29E+00	-1.13E+00	4.05E+00	4.20E+00	8.95E+00	1.97E+01	2.21E+01	
MW-67-39	001	38.3	-25.8	8/31/2007	12:05	4.86E+03	4.34E+02	1.92E+02	1.86E+01	1.86E+00	4.73E-01	-1.93E-01	2.02E+00	2.24E+00	-9.45E-01	2.00E+00	2.09E+00	NA	NA	NA	MW-67-39
	002	38.3	-25.8	10/1/2007	11:30	5.07E+03	3.75E+02	1.95E+02	2.71E+01	2.44E+00	6.21E-01	1.02E+01	4.11E+00	1.98E+00	3.69E-01	2.07E+00	2.39E+00	2.51E+00	1.68E+01	1.93E+01	
	004	38.3	-25.8	2/25/2008	15:38	4.17E+03	8.28E+02	5.29E+02	2.05E+01	1.77E+00	6.97E-01	-1.15E+00	3.44E+00	3.73E+00	1.99E+00	4.39E+00	3.98E+00	-5.41E-01	2.26E+01	2.63E+01	
	005	38.3	-25.8	7/28/2008	14:07	3.87E+03	1.72E+02	1.30E+02	1.37E+01	1.11E+00	3.97E-01	-1.03E+00	2.60E+00	3.42E+00	4.47E-01	2.15E+00	3.68E+00	6.31E+00	1.67E+01	2.88E+01	
	007	38.3	-25.8	12/18/2008	11:30	3.18E+03	2.66E+02	1.71E+02	1.62E+01	1.69E+00	1.00E+00	1.18E+00	4.61E+00	5.40E+00	7.33E-01	5.04E+00	5.81E+00	8.37E-01	1.68E+01	1.94E+01	
	008	38.3	-25.8	1/27/2009	16:15	3.67E+03	2.91E+02	1.92E+02	1.42E+01	1.71E+00	7.62E-01	-8.03E-01	2.04E+00	2.15E+00	-1.11E-01	2.06E+00	2.25E+00	1.12E+01	1.68E+01	1.87E+01	
	009	38.3	-25.8	4/20/2009	15:02	3.88E+03	4.14E+02	1.90E+02	1.13E+01	1.56E+00	5.49E-01	-2.66E-01	7.17E+00	4.78E+00	1.31E-01	3.74E+00	4.21E+00	1.36E+01	2.06E+01	2.29E+01	
MW-67-105	001	104.8	-92.3	8/31/2007	12:35	1.86E+03	5.16E+02	3.34E+02	1.11E+00	6.12E-01	5.26E-01	2.26E-01	2.00E+00	2.00E+00	-3.08E-01	1.68E+00	1.86E+00	NA	NA	NA	MW-67-105
	002	104.8	-92.3	10/1/2007	11:40	2.64E+03	2.96E+02	1.95E+02	4.12E-01	8.28E-01	9.46E-01	0.00E+00	6.11E+00	3.77E+00	-4.57E-01	3.63E+00	3.96E+00	1.05E+01	1.58E+01	1.76E+01	
	003	104.8	-92.3	1/11/2008	15:15	2.43E+03	6.42E+02	4.15E+02	7.58E-01	9.98E-01	1.07E+00	9.32E+00	5.13E+00	2.83E+00	7.41E-01	3.60E+00	3.70E+00	1.81E+01	2.42E+01	2.67E+01	
	004	104.8	-92.3	2/25/2008	13:44	2.38E+03	6.89E+02	5.30E+02	1.13E+00	7.89E-01	8.12E-01	-1.27E+00	3.25E+00	3.38E+00	-4.79E-02	2.97E+00	3.25E+00	1.24E+01	1.74E+01	1.93E+01	
	005	104.8	-92.3	7/28/2008	14:25	2.16E+03	1.40E+02	1.37E+02	9.63E-01	3.54E-01	4.16E-01	4.17E-01	1.59E+00	2.78E+00	7.65E-01	1.51E+00	2.78E+00	7.25E+00	1.65E+01	2.85E+01	
	006	104.8	-92.3	11/3/2008	14:21	2.93E+03	4.02E+02	1.66E+02	1.11E+00	5.60E-01	4.64E-01	-2.48E-01	6.36E+00	7.11E+00	7.75E-02	6.87E+00	7.59E+00	6.32E+00	1.68E+01	1.90E+01	
	007	104.8	-92.3	1/27/2009	16:45	1.96E+03	2.42E+02	1.92E+02	4.08E-01	8.30E-01	9.49E-01	-1.13E+00	3.32E+00	2.71E+00	-3.40E-02	2.39E+00	2.66E+00	1.21E+01	1.64E+01	1.81E+01	
	008	104.8	-92.3	4/20/2009	16:00	1.98E+03	3.15E+02	1.88E+02	6.38E-01	6.92E-01	7.12E-01	-1.78E+00	4.89E+00	3.26E+00	3.61E-01	3.35E+00	3.92E+00	1.01E+01	1.97E+01	2.20E+01	
MW-67-173	001	172.3	-159.8	8/31/2007	13:04	1.05E+03	4.28E+02	3.37E+02	3.73E-01	3.77E-01	4.12E-01	-1.46E+00	3.56E+00	3.68E+00	1.19E-02	3.75E+00	4.15E+00	NA	NA	NA	MW-67-173
	002	172.3	-159.8	10/1/2007	12:30	1.01E+03	2.25E+02	1.95E+02	1.48E-01	8.62E-01	1.07E+00	-1.34E+00	3.79E+00	4.01E+00	2.82E+00	3.25E+00	3.77E+00	4.12E+00	1.71E+01	1.96E+01	
	004	172.3	-159.8	2/25/2008	14:00	9.51E+02	5.51E+02	5.30E+02	-4.12E-01	6.06E-01	7.76E-01	6.65E-01	2.82E+00	3.23E+00	-3.63E-01	2.54E+00	2.70E+00	-5.95E+00	2.37E+01	2.82E+01	
	005	172.3	-159.8	7/28/2008	14:42	9.12E+02	1.09E+02	1.36E+02	1.05E-01	2.66E-01	4.85E-01	-1.22E+00	2.06E+00	3.19E+00	-3.63E-01	2.14E+00	3.49E+00	5.88E+00	1.64E+01	2.84E+01	
	006	172.3	-159.8	11/3/2008	14:37	9.93E+02	2.58E+02	1.66E+02	-3.48E-02	2.59E-01	3.02E-01	-1.41E+00	6.69E+00	6.32E+00	1.49E+00	6.66E+00	7.65E+00	-1.40E+00	1.69E+01	1.97E+01	
	007	172.3	-159.8	1/27/2009	16:33	7.57E+02	2.00E+02	1.92E+02	4.35E-01	5.94E-01	6.32E-01	1.34E+01	4.85E+00	2.53E+00	-1.24E+00	2.58E+00	2.73E+00	1.48E+01	1.79E+01	1.96E+01	
	008	172.3	-159.8	3/17/2009	14:00	6.73E+02	4.19E+02	3.81E+02	-5.07E-01	5.72E-01	6.95E-01	-1.51E+00	5.85E+00	3.90E+00	8.11E-01	3.41E+00	4.00E+00	-3.42E+00	1.71E+01	2.00E+01	
	009	172.3	-159.8	4/20/2009	15:50	7.47E+02	2.28E+02	1.87E+02	2.33E-01	6.84E-01	7.84E-01	-2.70E+00	7.05E+00	4.70E+00	9.39E-01	3.60E+00	4.24E+00	8.40E+01	2.45E+01	2.47E+01	
MW-67-219	001	218.8	-206.3	8/31/2007	13:43	1.25E+03	4.46E+02	3.30E+02	3.27E-02	3.00E-01	3.47E-01	-1.58E-01	3.04E+00	3.32E+00	9.02E-01	3.09E+00	3.68E+00	NA	NA	NA	MW-67-219
	002	218.8	-206.3	10/1/2007	12:53	9.46E+02	2.22E+02	1.95E+02	-2.27E-01	7.50E-01	1.03E+00	1.48E-01	2.60E+00	2.90E+00	1.38E-01	2.37E+00	2.65E+00	1.21E+01	2.64E+01	2.99E+01	
	004	218.8	-206.3	2/25/2008	11:43	1.23E+03	5.81E+02	5.31E+02	-7.61E-02	4.93E-01	6.12E-01	-1.33E+00	3.03E+00	3.18E+00	1.08E+00	3.15E+00	3.78E+00	1.23E+01	1.81E+01	2.03E+01	
	005	218.8	-206.3	7/28/2008	11:00	1.17E+03	1.16E+02	1.36E+02	-7.49E-02	2.34E-01	4.85E-01	-2.91E-01	1.98E+00	3.33E+00	-2.64E-01	1.92E+00	3.18E+00	5.99E+00	1.68E+01	2.90E+01	
	006	218.8	-206.3	11/3/2008	11:31	1.37E+03	2.93E+02	1.68E+02	8.78E-02	1.69E-01	1.91E-01	1.32E+00	4.93E+00	5.86E+00	4.00E+00	6.30E+00	8.05E+00	2.30E+00	1.65E+01	1.88E+01	
	007	218.8	-206.3	1/27/2009	12:34	9.68E+02	2.81E+02	2.50E+02	-7.56E-02	5.30E-01	7.13E-01	-3.58E-01	1.89E+00	2.10E+00	7.86E-02	1.83E+00	2.09E+00	1.14E+01	2.16E+01	2.43E+01	
	008	218.8	-206.3	4/20/2009	12:09	1.18E+03	2.63E+02	1.89E+02	3.27E-01	6.63E-01	7.50E-01	-2.03E+00	6.20E+00	4.13E+00	4.77E-01	4.26E+00	4.84E+00	9.52E+00	1.85E+01	2.08E+01	
MW-67-276	001	275.3	-262.8	8/31/2007	12:20	6.79E+02	3.83E+02	3.41E+02	-3.34E-01	3.57E-01	4.29E-01	1.36E+00	3.82E+00	4.02E+00	-9.09E-01	3.75E+00	4.00E+00	NA	NA	NA	MW-67-276
	002	275.3	-262.8	10/1/2007	13:04	1.11E+03	2.30E+02	1.96E+02	3.82E-02	8.36E-01	9.91E-01	-3.32E+00	3.63E+00	3.34E+00	-3.17E-01	3.51E+00	3.31E+00	5.04E-01	1.59E+01	1.84E+01	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	004	275.3	-262.8	2/25/2008	11:48	1.07E+03	5.64E+02	5.29E+02	4.43E-01	7.06E-01	7.88E-01	2.00E+00	3.45E+00	4.21E+00	1.79E+00	4.11E+00	4.33E+00	1.08E+01	1.89E+01	2.11E+01	
	005	275.3	-262.8	7/28/2008	11:09	1.16E+03	1.16E+02	1.36E+02	-5.05E-02	2.76E-01	5.47E-01	-8.94E-01	1.98E+00	3.18E+00	5.92E-01	1.97E+00	3.45E+00	7.55E+00	1.62E+01	2.77E+01	
	006	275.3	-262.8	11/3/2008	11:39	1.18E+03	2.75E+02	1.66E+02	-5.08E-02	1.81E-01	2.16E-01	3.75E-01	5.63E+00	6.29E+00	-7.43E-01	6.00E+00	6.50E+00	7.29E+00	1.73E+01	1.95E+01	
	007	275.3	-262.8	1/27/2009	13:01	1.10E+03	5.12E+02	4.39E+02	3.32E-01	5.93E-01	6.66E-01	2.35E-01	3.24E+00	3.70E+00	-1.19E+00	3.74E+00	3.96E+00	1.15E+01	1.68E+01	1.87E+01	
	008	275.3	-262.8	4/20/2009	12:15	9.46E+02	2.43E+02	1.86E+02	7.29E-03	5.33E-01	6.74E-01	1.18E+00	5.45E+00	3.63E+00	-2.84E-01	3.63E+00	4.04E+00	2.21E+01	2.07E+01	2.28E+01	
MW-67-323	001	322.3	-309.8	8/31/2007	13:20	3.13E+02	1.55E+02	1.57E+02	-2.41E-01	3.06E-01	3.74E-01	1.14E+00	3.71E+00	4.33E+00	1.29E-01	3.76E+00	4.32E+00	NA	NA	NA	MW-67-323
	002	322.3	-309.8	10/1/2007	14:08	1.29E+03	2.40E+02	1.96E+02	5.67E-01	8.58E-01	9.37E-01	-5.77E-01	3.04E+00	3.24E+00	-6.19E-01	3.35E+00	3.58E+00	5.25E-01	1.65E+01	1.92E+01	
	004	322.3	-309.8	2/25/2008	11:59	3.72E+02	2.75E+02	2.87E+02	3.61E-01	7.60E-01	8.62E-01	-2.08E-01	2.97E+00	3.32E+00	1.29E+00	3.50E+00	4.18E+00	6.85E+00	1.88E+01	2.13E+01	
	005	322.3	-309.8	7/28/2008	11:25	3.38E+02	9.08E+01	1.36E+02	-2.38E-01	3.66E-01	7.29E-01	8.29E-01	2.30E+00	3.99E+00	2.24E-01	2.04E+00	3.46E+00	-5.98E+00	1.59E+01	2.86E+01	
	006	322.3	-309.8	11/3/2008	11:44	6.84E+02	2.24E+02	1.64E+02	4.20E-02	3.40E-01	4.37E-01	-3.56E+00	5.21E+00	5.18E+00	4.29E-01	5.12E+00	5.87E+00	-7.38E+00	1.59E+01	1.87E+01	
	007	322.3	-309.8	1/27/2009	13:50	3.65E+02	1.70E+02	1.76E+02	-1.15E-01	4.05E-01	5.85E-01	4.74E-01	3.86E+00	4.42E+00	3.47E-01	3.38E+00	3.86E+00	9.84E+00	1.32E+01	1.47E+01	
	008	322.3	-309.8	4/20/2009	12:20	3.97E+02	1.98E+02	1.87E+02	2.21E-01	7.17E-01	8.23E-01	-5.22E-01	6.86E+00	4.57E+00	-2.70E+00	4.50E+00	4.33E+00	-5.56E+00	2.10E+01	2.43E+01	
MW-67-340	001	339.8	-327.3	8/31/2007	12:54	3.69E+02	1.61E+02	1.60E+02	1.69E-01	2.71E-01	3.04E-01	6.52E-01	4.61E+00	5.13E+00	4.53E+00	5.43E+00	5.20E+00	NA	NA	NA	MW-67-340
	002	339.8	-327.3	10/1/2007	14:00	3.90E+02	1.92E+02	1.96E+02	1.42E-01	3.71E-01	4.20E-01	7.29E-01	3.46E+00	3.96E+00	-1.22E+00	3.33E+00	3.50E+00	3.89E+00	1.54E+01	1.76E+01	
	004	339.8	-327.3	2/25/2008	12:00	4.78E+02	2.82E+02	2.86E+02	-2.17E-01	5.53E-01	6.94E-01	-1.58E+00	3.99E+00	3.94E+00	-7.62E-01	3.19E+00	3.43E+00	5.72E+00	1.83E+01	2.09E+01	
	005	339.8	-327.3	7/28/2008	11:18	5.11E+02	9.36E+01	1.30E+02	-3.39E-01	2.28E-01	5.49E-01	3.13E-01	2.21E+00	3.81E+00	9.03E-01	2.25E+00	3.68E+00	-6.94E+00	1.57E+01	2.78E+01	
	006	339.8	-327.3	11/3/2008	11:54	6.69E+02	2.22E+02	1.63E+02	8.08E-02	4.26E-01	5.43E-01	2.23E+00	6.25E+00	7.45E+00	3.65E+00	6.76E+00	8.47E+00	-8.34E+00	1.59E+01	1.88E+01	
	007	339.8	-327.3	1/27/2009	12:44	5.23E+02	4.37E+02	4.39E+02	2.57E-01	5.48E-01	6.31E-01	4.72E-01	3.72E+00	4.19E+00	-4.00E-01	3.41E+00	3.67E+00	7.78E+00	1.68E+01	1.90E+01	
	008	339.8	-327.3	4/20/2009	12:25	4.96E+02	2.07E+02	1.88E+02	4.35E-01	5.64E-01	6.05E-01	3.18E+00	7.19E+00	4.79E+00	-1.37E-01	3.53E+00	3.83E+00	8.03E+00	2.03E+01	2.29E+01	
MW-107	004	32.7	110.1	9/28/2005	12:00	3.09E+02	3.87E+02	4.20E+02	NA	NA	NA	3.86E+00	1.16E-01	8.53E+00	NA	NA	NA	NA	NA	NA	MW-107
	001	32.7	110.1	12/8/2005	11:15	1.28E+02	4.11E+02	4.54E+02	7.65E+00	1.53E+01	1.33E+01	2.55E+00	7.64E+00	5.59E+00	4.11E+00	1.23E-01	8.97E+00	NA	NA	NA	
	002	32.7	110.1	4/18/2006	11:15	1.27E+02	4.11E+02	4.51E+02	0.00E+00	3.90E-01	4.40E-01	2.65E+00	7.94E+00	5.62E+00	4.36E+00	1.31E-01	9.21E+00	NA	NA	NA	
	003	32.7	110.1	6/6/2006	13:30	1.05E+02	1.53E+02	1.56E+02	-2.07E-01	5.43E-01	7.13E-01	1.65E+00	8.31E+00	9.24E+00	-3.66E-01	8.36E+00	9.05E+00	NA	NA	NA	
	005	32.7	110.1	7/23/2007	14:18	8.92E+01	1.52E+02	1.70E+02	1.66E-01	5.19E-01	5.87E-01	8.13E-01	2.73E+00	1.60E+00	1.03E-01	1.41E+00	1.60E+00	NA	NA	NA	
	006	32.7	110.1	4/24/2008	15:41	1.91E+02	8.90E+01	1.44E+02	-6.22E-02	2.21E-01	4.42E-01	-2.03E+00	2.78E+00	4.11E+00	-1.38E+00	2.12E+00	3.07E+00	NA	NA	NA	
	007	32.7	110.1	5/30/2008	15:25	4.62E+01	9.02E+01	1.58E+02	6.62E-02	5.51E-01	9.60E-01	1.22E+00	1.88E+00	3.36E+00	5.48E-01	2.20E+00	3.57E+00	NA	NA	NA	
	008	32.7	110.1	4/22/2009	12:30	1.96E+02	1.71E+02	1.86E+02	9.02E-03	4.34E-01	5.52E-01	-2.11E-01	3.86E+00	2.57E+00	1.54E+00	2.61E+00	3.19E+00	NA	NA	NA	
MW-108	003	8.3	6.2	9/29/2005	12:00	3.32E+02	3.84E+02	4.20E+02	NA	NA	NA	3.23E+00	9.70E+00	7.39E+00	3.21E+00	9.64E+00	7.84E+00	NA	NA	NA	MW-108
	004	8.3	6.2	11/3/2005	12:00	1.97E+02	4.26E+02	4.76E+02	NA	NA	NA	3.41E+00	1.02E-01	7.53E+00	2.65E+00	7.95E+00	6.39E+00	NA	NA	NA	
	002	8.3	6.2	5/13/2006	10:53	2.78E+02	1.82E+02	1.68E+02	6.89E-01	8.26E-01	8.08E-01	3.12E+00	8.86E+00	1.05E-01	-1.45E-01	1.23E-01	1.34E+01	NA	NA	NA	
MW-109	003	8.5	6.1	9/29/2005	12:00	1.54E+02	3.81E+02	4.20E+02	NA	NA	NA	3.74E+00	1.12E-01	8.45E+00	3.19E+00	9.57E+00	7.88E+00	NA	NA	NA	MW-109
	004	8.5	6.1	11/3/2005	12:00	1.01E+02	4.23E+02	4.76E+02	NA	NA	NA	3.59E+00	1.08E-01	7.89E+00	2.59E+00	7.78E+00	6.26E+00	NA	NA	NA	
	002	8.5	6.1	5/13/2006	10:10	3.39E+02	1.89E+02	1.70E+02	2.98E-01	8.24E-01	9.27E-01	2.00E-01	5.68E+00	6.24E+00	-2.50E+00	6.12E+00	6.08E+00	NA	NA	NA	
MW-111	001	16.5	2.4	9/29/2005	10:00	2.05E+05	2.56E+04	6.24E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	MW-111
	001	16.5	2.4	9/29/2005	10:00	2.15E+05	2.26E+03	4.20E+02	NA	NA	NA	4.48E+00	1.34E-01	1.02E-01	1.81E+00	5.42E+00	5.57E+00	NA	NA	NA	
	002	16.5	2.4	10/14/2005	10:00	6.81E+03	4.73E+03	6.41E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003	16.5	2.4	10/21/2005	10:00	2.84E+05	3.05E+04	6.41E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	004	16.5	2.4	10/28/2005	8:30	2.18E+05	6.54E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	005	16.5	2.4	11/4/2005	9:00	3.02E+05	9.06E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	006	16.5	2.4	11/22/2005	10:00	1.80E+05	5.40E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	007	16.5	2.4	12/2/2005	10:15	1.25E+05	3.75E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	008	16.5	2.4	12/8/2005	16:50	2.71E+05	8.13E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	009	16.5	2.4	12/15/2005	11:00	2.96E+05	8.88E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	010	16.5	2.4	12/19/2005	9:15	1.92E+05	5.76E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	011	16.5	2.4	12/29/2005	10:00	2.12E+05	6.36E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	012	16.5	2.4	1/6/2006	10:45	1.13E+05	3.39E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	013	16.5	2.4	1/13/2006	10:30	1.99E+05	5.97E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	014	16.5	2.4	1/20/2006	9:30	1.19E+05	3.57E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	015	16.5	2.4	1/27/2006	10:05	5.78E+05	1.73E+02	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	016	16.5	2.4	2/3/2006	12:20	2.95E+05	3.09E+04	6.33E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	017	16.5	2.4	2/7/2006	16:10	2.38E+05	2.78E+04	6.37E+02	1.17E+00	6.03E-01	6.31E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	018	16.5	2.4	2/16/2006	13:40	2.94E+05	3.09E+04	6.36E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	019	16.5	2.4	3/3/2006	9:00	2.36E+05	7.08E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	020	16.5	2.4	4/7/2006	9:50	1.45E+05	4.35E+03	7.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	021	16.5	2.4	5/17/2006	14:05	4.31E+04	6.51E+03	9.10E+02	2.49E+00	1.40E+00	1.24E+00	-2.32E-01	1.34E-01	1.51E-01	4.25E+00	1.30E-01	1.49E+01	NA	NA	NA	
	022	16.5	2.4	6/23/2006	8:35	2.62E+05	3.92E+04	2.35E+03	6.23E-01	1.07E+00	1.32E+00	-4.18E+00	1.40E-01	1.46E-01	-1.60E-01	1.38E-01	1.52E+01	NA	NA	NA	
	023	16.5	2.4	9/21/2006	10:25	1.59E+05	2.07E+04	1.42E+03	8.79E-01	1.25E+00	1.33E+00	9.50E-02	1.13E+00	1.26E+00	-6.26E-02	1.15E+00	1.24E+00	NA	NA	NA	
	024	16.5	2.4	6/15/2007	14:17	1.19E+05	3.69E+03	3.52E+02	9.74E-01	6.30E-01	5.76E-01	-7.53E-01	3.27E+00	3.00E+00	1.21E-01	2.79E+00	3.17E+00	6.34E+00	1.26E+01	1.43E+01	
	025	16.5	2.4	8/3/2007	9:53	9.88E+04	2.93E+03	3.68E+02	9.74E-01	6.73E-01	6.27E-01	4.24E-01	2.75E+00	3.15E+00	3.95E-01	2.60E+00	3.02E+00	NA	NA	NA	
	026	16.5	2.4	1/28/2008	11:38	4.77E+04	1.77E+03	2.97E+02	2.56E+00	9.45E-01	6.18E-01	2.60E+00	4.05E+00	3.90E+00	-6.32E-01	2.55E+00	2.63E+00	1.33E+01	1.58E+01	1.73E+01	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	027	16.5	2.4	9/4/2008	14:00	7.39E+04	1.89E+03	5.47E+02	1.02E+00	3.62E-01	4.21E-01	-8.16E-01	2.22E+00	3.61E+01	NA	NA	NA	NA	NA	NA	
	028	16.5	2.4	10/21/2008	14:20	6.64E+04	2.00E+03	2.60E+02	9.08E-01	9.32E-01	9.72E-01	-9.35E-01	3.60E+00	3.79E+00	5.10E-01	4.32E+00	5.03E+00	NA	NA	NA	
	029	16.5	2.4	4/30/2009	12:36	3.89E+04	1.38E+03	1.71E+02	2.17E+00	8.97E-01	7.67E-01	1.51E+00	1.04E+01	6.92E+00	-3.30E+00	6.45E+00	6.44E+00	NA	NA	NA	
U3-4D	007	25.6	-10.8	10/16/2005	12:00	3.70E+02	4.05E+02	4.38E+02	NA	NA	NA	4.72E+00	1.41E+01	1.01E+01	3.72E+00	1.12E+01	8.50E+00	NA	NA	NA	U3-4D
	008	25.6	-10.8	10/21/2005	12:00	3.99E+02	3.90E+02	4.27E+02	NA	NA	NA	3.11E+00	9.34E+00	6.58E+00	2.98E+00	8.95E+00	6.58E+00	NA	NA	NA	
	009	25.6	-10.8	10/28/2005	12:00	4.05E+02	4.29E+02	4.72E+02	NA	NA	NA	3.91E+00	1.17E+01	8.54E+00	4.36E+00	1.31E+01	9.84E+00	NA	NA	NA	
	012	25.6	-10.8	11/18/2005	12:00	1.10E+02	4.35E+02	4.81E+02	NA	NA	NA	3.04E+00	9.13E+00	6.67E+00	2.04E+00	6.11E+00	4.97E+00	NA	NA	NA	
	013	25.6	-10.8	12/2/2005	12:00	2.73E+02	4.23E+02	4.64E+02	NA	NA	NA	2.97E+00	8.92E+00	6.62E+00	2.00E+00	6.01E+00	5.05E+00	NA	NA	NA	
	001	25.6	-10.8	12/15/2005	13:10	3.99E+02	4.32E+02	4.70E+02	NA	NA	NA	2.73E+00	8.20E+00	6.05E+00	2.88E+00	8.64E+00	6.66E+00	NA	NA	NA	
	002	25.6	-10.8	12/30/2005	9:25	4.42E+02	4.35E+02	4.71E+02	NA	NA	NA	3.53E+00	1.06E+01	7.76E+00	3.96E+00	1.19E+01	8.99E+00	NA	NA	NA	
	003	25.6	-10.8	1/12/2006	11:00	5.73E+02	4.38E+02	4.72E+02	NA	NA	NA	3.29E+00	9.86E+00	7.12E+00	3.42E+00	1.03E+01	7.75E+00	NA	NA	NA	
	004	25.6	-10.8	2/15/2006	13:45	2.71E+02	9.39E+02	6.36E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	006	25.6	-10.8	4/26/2006	14:20	5.75E+02	2.19E+02	1.87E+02	-1.48E-01	6.11E-01	7.91E-01	-3.01E-01	8.38E+00	9.11E+00	-3.10E+00	8.21E+00	8.71E+00	NA	NA	NA	
	014	25.6	-10.8	6/22/2006	10:20	7.10E+02	2.15E+02	1.68E+02	1.27E-01	5.73E-01	7.39E-01	-2.41E+00	1.15E+01	1.21E+01	-2.08E+00	8.42E+00	8.34E+00	NA	NA	NA	
	015	25.6	-10.8	2/1/2008	12:40	3.75E+02	1.36E+02	1.35E+02	-1.78E-01	7.83E-01	9.77E-01	2.83E-01	2.69E+00	3.10E+00	1.41E+00	3.26E+00	3.97E+00	NA	NA	NA	
	016	25.6	-10.8	4/29/2008	13:27	3.19E+02	1.43E+02	2.22E+02	1.44E-01	2.76E-01	4.94E-01	5.15E-01	1.91E+00	3.36E+00	-1.53E-01	1.73E+00	2.91E+00	NA	NA	NA	
	017	25.6	-10.8	7/28/2008	16:46	4.66E+02	2.50E+02	3.79E+02	-3.57E-01	4.96E-01	9.81E-01	2.89E-01	2.08E+00	3.62E+00	4.78E-01	2.36E+00	3.69E+00	NA	NA	NA	
	018	25.6	-10.8	10/20/2008	14:40	5.68E+02	1.71E+02	1.64E+02	-8.59E-02	8.61E-01	1.11E+00	3.53E-01	4.62E+00	5.17E+00	7.12E-01	4.13E+00	4.79E+00	NA	NA	NA	
	010	25.6	-10.8	11/4/2008	12:00	1.18E+02	4.23E+02	4.76E+02	NA	NA	NA	3.17E+00	9.51E+00	6.90E+00	3.34E+00	1.00E+01	7.54E+00	NA	NA	NA	
	011	25.6	-10.8	11/10/2008	12:00	3.16E+02	4.14E+02	4.61E+02	NA	NA	NA	4.10E+00	1.23E+01	8.95E+00	4.07E+00	1.22E+01	9.41E+00	NA	NA	NA	
	019	25.6	-10.8	2/10/2009	14:15	4.82E+02	2.31E+02	1.97E+02	1.00E-01	5.16E-01	6.41E-01	3.86E-01	2.66E+00	3.00E+00	7.53E-01	3.02E+00	3.39E+00	NA	NA	NA	
	020	25.6	-10.8	4/17/2009	15:57	3.82E+02	1.83E+02	1.89E+02	-1.17E-01	3.51E-01	5.11E-01	-9.67E-01	6.92E+00	4.61E+00	4.01E-01	3.32E+00	3.82E+00	NA	NA	NA	
U3-T1	007	5.7	2.8	10/7/2005	12:00	1.59E+03	4.20E+02	4.15E+02	NA	NA	NA	2.71E+00	8.14E+00	6.09E+00	2.77E+00	8.30E+00	6.55E+00	NA	NA	NA	U3-T1
	008	5.7	2.8	10/21/2005	12:00	3.09E+02	3.87E+02	4.27E+02	NA	NA	NA	3.92E+00	1.18E+01	8.66E+00	3.87E+00	1.16E+01	9.03E+00	NA	NA	NA	
	009	5.7	2.8	10/28/2005	12:00	3.40E+02	4.29E+02	4.72E+02	NA	NA	NA	3.55E+00	1.06E+01	8.06E+00	5.35E+00	1.61E+01	1.23E+01	NA	NA	NA	
	010	5.7	2.8	11/4/2005	12:00	1.97E+02	4.29E+02	4.76E+02	NA	NA	NA	4.01E+00	1.20E+01	8.86E+00	3.90E+00	1.17E+01	9.13E+00	NA	NA	NA	
	011	5.7	2.8	11/10/2005	12:00	5.63E+02	4.26E+02	4.61E+02	NA	NA	NA	3.11E+00	9.32E+00	6.89E+00	2.97E+00	8.92E+00	6.99E+00	NA	NA	NA	
	012	5.7	2.8	11/18/2005	12:00	0.00E+00	4.29E+02	4.81E+02	NA	NA	NA	3.90E+00	1.17E+01	8.39E+00	3.40E+00	1.02E+01	7.71E+00	NA	NA	NA	
	013	5.7	2.8	12/2/2005	12:00	4.98E+02	4.29E+02	4.64E+02	NA	NA	NA	2.80E+00	8.39E+00	6.23E+00	2.94E+00	8.83E+00	6.86E+00	NA	NA	NA	
	001	5.7	2.8	12/15/2005	13:15	3.40E+02	4.29E+02	4.70E+02	NA	NA	NA	2.53E+00	7.60E+00	5.63E+00	2.89E+00	8.67E+00	6.65E+00	NA	NA	NA	
	002	5.7	2.8	12/30/2005	10:40	5.29E+02	4.38E+02	4.71E+02	NA	NA	NA	4.02E+00	1.21E+01	8.71E+00	4.07E+00	1.22E+01	9.17E+00	NA	NA	NA	
	003	5.7	2.8	1/12/2006	9:50	7.87E+02	4.47E+02	4.72E+02	NA	NA	NA	3.10E+00	9.31E+00	6.88E+00	2.83E+00	8.49E+00	6.70E+00	NA	NA	NA	
	004	5.7	2.8	2/15/2006	13:15	8.35E+02	1.65E+03	6.36E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	005	5.7	2.8	3/16/2006	11:50	1.26E+03	2.79E+02	1.85E+02	6.55E-01	8.43E-01	8.29E-01	1.06E+00	5.49E+00	6.18E+00	-1.81E-01	5.63E+00	6.14E+00	NA	NA	NA	
	006	5.7	2.8	5/26/2006	13:30	7.32E+02	2.33E+02	1.89E+02	1.27E+00	1.02E+00	1.01E+00	1.21E+00	8.34E+00	9.42E+00	5.99E+00	8.98E+00	1.15E+01	NA	NA	NA	
	014	5.7	2.8	7/12/2006	12:50	6.84E+02	2.36E+02	1.98E+02	3.36E-01	1.36E+00	1.44E+00	1.15E+00	1.13E+01	1.18E+01	-1.14E+00	1.18E+01	1.26E+01	NA	NA	NA	
	015	5.7	2.8	8/15/2006	11:30	7.66E+02	2.25E+02	1.73E+02	NA	NA	NA	-4.04E+00	6.82E+00	6.33E+00	2.15E+00	6.84E+00	8.29E+00	NA	NA	NA	
	016	5.7	2.8	6/12/2007	12:54	5.06E+02	4.25E+02	4.39E+02	6.25E-01	8.75E-01	9.54E-01	-8.51E-02	2.94E+00	2.22E+00	7.17E-01	2.00E+00	2.33E+00	-1.46E+00	1.40E+01	1.63E+01	
	017	5.7	2.8	8/1/2007	13:20	4.90E+02	3.38E+02	2.73E+02	5.21E-02	5.13E-01	6.47E-01	8.49E-01	3.57E+00	4.15E+00	2.83E-01	3.42E+00	3.92E+00	NA	NA	NA	
	018	5.7	2.8	10/22/2007	16:13	5.30E+02	4.01E+02	4.01E+02	3.41E-01	5.49E-01	6.09E-01	-1.08E+00	3.44E+00	3.64E+00	-1.34E+00	3.52E+00	3.68E+00	NA	NA	NA	
	019	5.7	2.8	1/22/2008	16:11	6.05E+02	3.15E+02	2.97E+02	6.43E-01	7.41E-01	7.79E-01	1.11E+00	2.75E+00	3.21E+00	2.38E-01	2.51E+00	2.75E+00	1.14E+01	1.65E+01	1.84E+01	
	019	5.7	2.8	1/22/2008	16:11	7.29E+02	3.27E+02	2.96E+02	6.26E-01	7.26E-01	7.69E-01	1.21E+00	3.14E+00	3.76E+00	-1.79E-01	3.56E+00	3.93E+00	8.87E+00	1.85E+01	2.09E+01	
	020	5.7	2.8	5/2/2008	15:24	7.09E+02	1.63E+02	2.22E+02	7.24E-01	5.19E-01	8.26E-01	2.85E-01	1.84E+00	3.19E+00	-1.15E+00	1.87E+00	2.82E+00	NA	NA	NA	
	021	5.7	2.8	7/23/2008	11:16	5.56E+02	2.58E+02	3.79E+02	6.40E-01	5.19E-01	8.37E-01	2.41E+00	2.24E+00	4.18E+00	6.51E-01	2.44E+00	4.01E+00	NA	NA	NA	
	022	5.7	2.8	10/20/2008	10:19	5.99E+02	5.63E+02	5.91E+02	7.01E-01	5.47E-01	5.20E-01	2.51E+00	6.27E+00	7.46E+00	1.51E+00	6.24E+00	7.35E+00	NA	NA	NA	
	023	5.7	2.8	1/28/2009	12:00	6.75E+02	2.48E+02	2.04E+02	1.04E+00	7.47E-01	7.44E-01	-1.53E+00	3.59E+00	2.95E+00	-6.63E-01	2.30E+00	2.48E+00	NA	NA	NA	
	024	5.7	2.8	4/10/2009	15:22	3.28E+02	1.65E+02	1.49E+02	3.23E-01	6.69E-01	7.61E-01	1.68E-01	6.03E+00	4.02E+00	1.24E+00	3.39E+00	4.14E+00	NA	NA	NA	
U3-T2	012	5.7	2.6	10/7/2005	12:00	7.03E+02	3.93E+02	4.15E+02	NA	NA	NA	3.67E+00	1.10E+01	8.06E+00	4.13E+00	1.24E+01	9.39E+00	NA	NA	NA	U3-T2
	013	5.7	2.6	10/21/2005	12:00	1.47E+03	3.63E+02	4.27E+02	NA	NA	NA	3.33E+00	1.00E+01	7.23E+00	3.00E+00	9.00E+00	6.90E+00	NA	NA	NA	
	014	5.7	2.6	10/28/2005	12:00	1.28E+03	4.56E+02	4.72E+02	NA	NA	NA	3.44E+00	1.03E+01	7.67E+00	4.28E+00	1.28E+01	9.89E+00	NA	NA	NA	
	015	5.7	2.6	11/4/2005	12:00	1.19E+03	4.59E+02	4.76E+02	NA	NA	NA	3.41E+00	1.02E+01	7.53E+00	3.86E+00	1.16E+01	8.81E+00	NA	NA	NA	
	016	5.7	2.6	11/10/2005	12:00	1.64E+03	4.59E+02	4.61E+02	NA	NA	NA	3.81E+00	1.14E+01	8.34E+00	3.98E+00	1.19E+01	9.09E+00	NA	NA	NA	
	017	5.7	2.6	11/18/2005	12:00	1.13E+03	4.65E+02	4.81E+02	NA	NA	NA	3.97E+00	1.19E+01	8.70E+00	4.15E+00	1.25E+01	9.55E+00	NA	NA	NA	
	018	5.7	2.6	12/2/2005	12:00	1.33E+03	4.56E+02	4.64E+02	NA	NA	NA	2.31E+00	6.92E+00	5.23E+00	2.58E+00	7.74E+00	6.11E+00	NA	NA	NA	
	001	5.7	2.6	12/15/2005	13:30	1.29E+03	4.62E+02	4.70E+02	NA	NA	NA	2.77E+00	8.30E+00	6.09E+00	2.85E+00	8.55E+00	6.57E+00	NA	NA	NA	
	002	5.7	2.6	12/30/2005	10:50	1.69E+03	4.74E+02	4.71E+02	NA	NA	NA	3.81E+00	1.14E+01	8.46E+00	3.49E+00	1.05E+01	8.31E+00	NA	NA	NA	
	003	5.7	2.6	1/6/2006	8:45	2.42E+03	4.92E+02	4.66E+02	NA	NA	NA	2.86E+00	8.57E+00	6.56E+00	4.04E+00	1.21E+01	9.38E+00	NA	NA	NA	
	004	5.7	2.6	1/13/2006	13:20	1.78E+03	4.77E+02	4.72E+02	NA	NA	NA	4.01E+00	1.20E+01	8.74E+00	3.41E+00	1.02E+01	7.94E+00	NA	NA	NA	
	005	5.7	2.6	1/20/2006	11:00	1.75E+03	4.56E+02	4.61E+02	NA	NA	NA	3.40E+00	1.02E+01	7.71E+00	3.27E+00	9.82E+00	7.99E+00	NA	NA	NA	
	006	5.7	2.6	1/25/2006	11:10	2.32E+03	4.86E+02	4.61E+02	NA	NA	NA	3.96E+00	1.19E+01	8.77E+00	3.17E+00	9.50E+00	7.64E+00	NA	NA	NA	

TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID[1]	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing[2]	SAMPLE ZONE CENTER, elevation ft msl[2]	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID[1]
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
	007	5.7	2.6	2/1/2006	11:15	2.13E+03	4.80E+02	4.60E+02	NA	NA	NA	3.17E+00	9.51E+00	7.02E+00	3.47E+00	1.04E-01	7.99E+00	NA	NA	NA	
	009	5.7	2.6	2/17/2006	9:20	1.92E+03	2.50E+03	6.36E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	010	5.7	2.6	3/16/2006	12:00	1.69E+03	3.36E+02	2.04E+02	5.87E-01	9.21E-01	1.00E+00	-7.43E-01	6.36E+00	6.83E+00	-1.22E-01	6.33E+00	6.88E+00	NA	NA	NA	
	011	5.7	2.6	5/26/2006	13:15	1.90E+03	3.86E+02	2.48E+02	1.49E+00	1.11E+00	1.01E+00	1.64E+00	1.01E-01	1.22E-01	5.67E+00	9.40E+00	1.25E+01	NA	NA	NA	
	019	5.7	2.6	7/12/2006	12:25	1.83E+03	3.78E+02	2.54E+02	7.24E-01	1.72E+00	1.80E+00	2.58E+00	6.90E+00	8.07E+00	1.30E+00	6.69E+00	7.74E+00	NA	NA	NA	
	020	5.7	2.6	8/15/2006	10:30	1.58E+03	7.79E+02	7.72E+02	NA	NA	NA	-8.87E-01	7.17E+00	7.64E+00	3.29E+00	9.10E+00	1.14E+01	NA	NA	NA	
	021	5.7	2.6	6/12/2007	9:25	1.45E+03	5.19E+02	4.36E+02	-3.89E-01	7.05E-01	9.59E-01	2.03E-01	2.29E+00	2.54E+00	-1.00E-01	2.42E+00	2.74E+00	5.88E+00	1.39E+01	1.57E+01	
	022	5.7	2.6	8/1/2007	14:14	1.25E+03	4.62E+02	2.55E+02	-4.84E-02	5.37E-01	7.11E-01	-1.75E+00	3.23E+00	3.20E+00	1.99E-02	3.54E+00	4.00E+00	NA	NA	NA	
	023	5.7	2.6	10/22/2007	15:07	1.17E+03	4.76E+02	4.02E+02	2.36E-01	5.28E-01	6.08E-01	-7.13E-02	2.82E+00	3.11E+00	2.53E+00	3.50E-02	3.81E+00	NA	NA	NA	
	024	5.7	2.6	1/22/2008	16:16	1.33E+03	3.83E+02	2.97E+02	4.31E-01	8.54E-01	9.63E-01	7.39E-01	2.97E+00	3.39E+00	-1.14E+00	3.39E+00	2.86E+00	2.78E+00	1.62E+01	1.89E+01	
	025	5.7	2.6	5/2/2008	14:44	1.02E+03	1.77E+02	2.22E+02	6.52E-01	3.31E-01	4.70E-01	5.80E-01	2.06E+00	3.53E+00	7.90E-01	1.63E+00	3.00E+00	NA	NA	NA	
	026	5.7	2.6	7/23/2008	13:40	9.97E+02	2.85E+02	3.64E+02	5.90E-01	5.19E-01	8.44E-01	3.57E-02	1.72E+00	2.93E+00	-1.02E+00	2.44E+00	3.39E+00	NA	NA	NA	
	027	5.7	2.6	10/20/2008	10:36	9.28E+02	5.97E+02	5.90E+02	4.73E-01	4.95E-01	4.85E-01	-4.68E-01	4.82E+00	5.31E+00	-5.02E+00	6.54E+00	6.06E+00	NA	NA	NA	
	028	5.7	2.6	1/28/2009	11:40	1.11E+03	2.87E+02	2.04E+02	6.04E-01	6.41E-01	6.75E-01	7.10E-01	2.42E+00	2.74E+00	4.09E-01	2.30E+00	2.61E+00	NA	NA	NA	
	029	5.7	2.6	4/24/2009	11:24	1.03E+03	4.97E+02	4.14E+02	1.76E+00	6.54E-01	4.11E-01	1.62E+00	6.65E+00	4.43E+00	3.29E-01	4.16E+00	4.69E+00	NA	NA	NA	
U1-CSS	001	14	6.1	1/30/2007	11:45	1.76E+03	6.00E+02	5.70E+02	1.95E+01	2.19E+00	1.70E+00	7.00E-01	1.32E+00	1.40E+00	-3.20E-01	1.38E+00	1.60E+00	1.64E+01	2.67E+01	2.90E+01	U1-CSS
	002	14	6.1	2/27/2007	11:24	4.32E+03	6.90E+02	5.70E+02	1.38E+01	2.31E+00	2.10E+00	1.11E+00	1.95E+00	2.10E+00	7.00E-01	1.95E+00	2.20E+00	-1.30E+00	2.55E+01	2.90E+01	0
	003	14	6.1	6/13/2007	11:39	1.53E+03	5.25E+02	4.35E+02	1.45E+01	1.91E+00	6.24E-01	8.50E-01	3.57E+00	4.15E+00	2.82E+00	4.28E+00	4.93E+00	4.42E+00	1.95E+01	2.22E+01	0
	004	14	6.1	8/6/2007	15:55	2.80E+03	2.81E+02	1.95E+02	2.68E+01	2.33E+00	5.71E-01	2.53E+00	4.30E+00	4.61E+00	2.48E+00	6.84E+00	4.17E+00	NA	NA	NA	0
	005	14	6.1	1/15/2008	14:54	4.95E+02	2.04E+02	1.76E+02	7.73E+00	1.31E+00	6.91E-01	2.85E+00	6.56E+00	3.36E+00	-6.88E-02	3.33E+00	3.71E+00	NA	NA	NA	0
	006	14	6.1	4/23/2008	15:25	1.77E+03	1.96E+02	1.44E+02	6.74E+00	9.01E-01	7.19E-01	-1.36E+00	2.12E+00	3.20E+00	-7.61E-01	2.08E+00	3.16E+00	NA	NA	NA	0
	007	14	6.1	5/12/2008	14:05	6.88E+02	1.35E+02	1.42E+02	4.83E+00	8.35E-01	9.25E-01	2.59E+00	2.30E+00	4.25E+00	3.09E-01	2.58E+00	3.96E+00	-2.18E+00	1.19E+01	2.08E+01	0
	008	14	6.1	9/8/2008	10:24	1.45E+03	3.77E+02	4.98E+02	9.38E+00	9.40E-01	5.43E-01	1.90E+00	2.07E+00	3.76E+00	NA	NA	NA	NA	NA	NA	0
	009	14	6.1	11/6/2008	14:48	2.66E+03	3.86E+02	1.66E+02	6.74E+00	1.20E+00	5.33E-01	3.52E+00	6.01E+00	7.29E+00	-1.94E+00	6.45E+00	6.67E+00	1.02E+01	1.65E+01	1.85E+01	0
	010	14	6.1	11/19/2008	13:50	2.20E+03	2.33E+02	1.62E+02	9.08E+00	1.38E+00	5.80E-01	2.35E+00	4.04E+00	4.98E+00	8.56E-01	4.63E+00	5.37E+00	NA	NA	NA	0
	011	14	6.1	3/18/2009	13:05	1.57E+03	5.36E+02	3.81E+02	1.41E+01	2.04E+00	9.21E-01	2.00E+00	5.93E+00	3.95E+00	2.86E-01	3.03E+00	3.42E+00	6.46E-01	1.91E+01	2.22E+01	0
	012	14	6.1	4/21/2009	13:07	3.28E+03	3.87E+02	1.91E+02	3.56E+01	2.64E+00	7.19E-01	5.75E-01	5.28E+00	3.52E+00	1.36E+00	3.02E+00	3.74E+00	1.79E+01	1.92E+01	2.11E+01	0
U1-NCD	001			5/8/2008	9:45	9.50E+03	3.49E+02	1.96E+02	3.97E+02	2.58E+00	3.57E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	U1-NCD
	002			10/15/2008	12:35	6.19E+03	3.71E+02	1.61E+02	4.35E+02	5.89E+00	3.33E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003			1/12/2009	13:45	2.13E+03	2.48E+02	1.92E+02	4.64E+02	8.90E+00	6.61E-01	2.84E+04	2.63E-03	1.22E-01	7.66E-01	2.37E+00	2.80E+00	6.41E+02	4.11E+01	1.89E+01	
	004			4/13/2009	12:15	5.21E+03	5.18E+02	1.35E+02	3.22E+02	7.74E+00	8.42E-01	2.70E+04	2.66E-01	1.77E-01	2.70E+00	4.46E+00	5.13E+00	5.09E+02	6.05E+01	4.30E+01	
U1-SFDS	001			4/9/2008	8:55	6.28E+02	1.41E+02	1.97E+02	9.98E+00	4.86E-01	4.31E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	U1-SFDS
	002			5/8/2008	9:10	8.81E+02	1.50E+02	1.96E+02	1.40E+01	5.18E-01	3.69E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003			10/15/2008	12:45	1.09E+03	1.79E+02	1.67E+02	1.85E+01	1.26E+00	4.56E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	004			1/14/2009	9:15	3.11E+02	1.82E+02	1.93E+02	1.22E+01	1.67E+00	8.15E-01	6.39E+00	3.47E+00	2.22E+00	1.03E+00	1.91E+00	2.27E+00	7.26E+00	1.62E+01	1.83E+01	
	005			4/13/2009	12:30	1.52E+03	2.96E+02	1.37E+02	4.93E+01	3.03E+00	6.15E-01	8.09E+00	5.87E+00	3.91E+00	2.45E+00	3.80E+00	4.79E+00	-9.47E+00	1.92E+01	2.30E+01	
RW-1	001	107.5	-30	10/25/2006	11:37	6.41E+04	4.88E+03	8.52E+02	-8.44E-01	1.29E+00	1.52E+00	9.50E-01	4.75E+00	5.45E+00	8.01E-01	4.62E+00	5.32E+00	NA	NA	NA	RW-1
	002	107.5	-30	10/25/2006	14:15	2.95E+04	2.28E+03	5.85E+02	3.10E-01	8.79E-01	9.23E-01	1.99E+00	5.23E+00	5.98E+00	4.31E-01	4.74E+00	5.22E+00	NA	NA	NA	
	004	107.5	-30	10/31/2006	15:55	2.63E+04	2.04E+03	5.51E+02	-1.06E+00	1.15E+00	1.39E+00	-2.26E-01	3.86E+00	3.99E+00	-6.22E-03	2.86E+00	3.21E+00	NA	NA	NA	
	003	107.5	-30	10/31/2006	12:27	1.07E+05	8.06E+03	1.10E+03	-3.70E-01	9.51E-01	1.09E+00	7.18E-01	4.23E+00	4.71E+00	7.34E-01	3.04E+00	3.61E+00	NA	NA	NA	
	005	107.5	-30	10/31/2006	20:00	1.89E+04	1.49E+03	4.73E+02	9.06E-01	1.15E+00	1.14E+00	5.93E-01	4.51E+00	5.21E+00	1.65E+00	5.31E+00	6.60E+00	NA	NA	NA	
	006	107.5	-30	11/1/2006	12:00	1.84E+04	1.45E+03	4.66E+02	3.64E-01	1.03E+00	1.08E+00	-3.39E+00	4.14E+00	3.90E+00	-5.25E-01	4.01E+00	4.19E+00	NA	NA	NA	
	007	107.5	-30	11/2/2006	12:00	2.40E+04	2.13E+03	1.00E+03	1.50E-01	6.00E-01	6.70E-01	1.12E+00	2.37E+00	2.60E+00	-8.50E-01	2.37E+00	2.90E+00	NA	NA	NA	
	008	107.5	-30	11/3/2006	9:00	3.06E+04	2.34E+03	1.00E+03	4.80E-01	7.20E-01	7.80E-01	-1.05E+00	2.19E+00	2.60E+00	8.20E-01	2.40E+00	2.70E+00	NA	NA	NA	
MH-5	001			6/29/2007	12:15	1.41E+03	2.33E+02	1.87E+02	-3.26E-01	6.21E-01	9.20E-01	-9.57E-01	3.40E+00	3.60E+00	6.39E-02	3.13E+00	3.49E+00	NA	NA	NA	MH-5
	002			8/10/2007	15:15	1.17E+03	5.21E+02	4.56E+02	3.17E-02	7.84E-01	9.38E-01	-5.40E-01	3.17E+00	2.87E+00	-8.50E-01	2.84E+00	2.93E+00	NA	NA	NA	
	003			10/26/2007	13:30	1.62E+03	2.30E+02	1.84E+02	1.60E-01	6.06E-01	7.10E-01	2.15E-01	2.64E+00	2.95E+00	-6.20E-01	2.90E+00	3.06E+00	NA	NA	NA	
	004			1/16/2008	12:30	9.28E+02	2.45E+02	1.77E+02	4.62E-01	8.33E-01	9.37E-01	5.23E-01	2.78E+00	3.09E+00	5.97E-01	2.55E+00	2.90E+00	NA	NA	NA	
	005			6/3/2009	14:45	1.20E+03	1.95E+02	1.62E+02	-5.27E-01	6.72E-01	8.48E-01	3.34E+00	9.21E+00	6.14E+00	7.60E-01	4.83E+00	5.73E+00	NA	NA	NA	
LAF-002	001		-22.3	6/6/2006	12:17	3.98E+01	3.60E+02	6.98E+02	1.38E+00	1.85E+00	1.93E+00	-3.88E+00	1.53E+00	1.59E+00	-2.21E+00	1.25E-01	1.34E+01	-2.84E-01	2.13E+01	2.34E+01	LAF-002
	001		-22.3	6/6/2006	12:47	5.20E+01	1.71E+02	1.83E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	003		-22.3	9/19/2006	13:14	-4.71E+01	1.50E+02	1.70E+02	-5.08E-01	8.90E-01	1.07E+00	6.45E-02	9.05E+00	1.01E+00	-2.76E+00	6.35E+00	4.99E+00	NA	NA	NA	
	004		-22.3	12/4/2006	13:38	-1.20E+01	1.62E+02	1.60E+02	-1.20E-01	7.80E-01	8.50E-01	NA	NA	NA	9.00E-01	5.40E+00	6.30E+00	-2.50E+00	7.20E+00	8.10E+00	
	005		-22.3	3/7/2007	14:45	-8.30E+01	1.56E+02	1.60E+02	8.20E-01	1.50E+00	1.60E+00	3.10E+00	4.80E+00	5.10E+00	-1.20E+00	5.40E+00	7.30E+00	NA	NA	NA	
	006		-22.3	6/7/2007	13:18	-6.85E+00	1.33E+02	1.54E+02	3.19E-01	6.02E-01	6.79E-01	7.80E-01	2.63E+00	3.04E+00	6.55E-01	2.60E+00	3.04E+00	NA	NA	NA	
	007		-22.3	10/9/2007	9:35	7.46E+01	1.37E+02	1.55E+02	4.43E-01	4.98E-01	5.18E-01	-5.45E-01	2.10E+00	1.69E+00	-1.44E+00	1.78E+00	1.39E+00	NA	NA	NA	
	008		-22.3	12/4/2007	10:50	9.00E+01	1.46E+02	1.62E+02	4.89E-01	6.20E-01	6.62E-01	-6.91E-01	4.59E+00	4.37E+00	-2.35E+00	3.72E+00	3.39E+00	NA	NA	NA	
	009		-22.3	4/10/2008	0:00	4.65E+01	8.46E+01	1.44E+02	4.73E-01	3.02E-01	4.56E-01	1.91E+00	2.14E+00	3.95E+00	1.61E+00	2.46E+00	4.56E+00	NA	NA	NA	
	010		-22.3	10/17/2008	10:32	8.19E+01	1.55E+02	1.74E+02	4.05E-01	7.90E-01	9.01E-01	2.36E-01	2.76E+00	3.16E+00	-3.08E-02	3.09E+00	3.46E+00	-4.61E+00	2.01E+01	2.35E+01	
	011		-22.3	4/21/2009	14:24	1.80E+02	1.77E+02	1.89E+02	1.77E-01	5.70E-01	6.58E-01	-1.74E+00	5.94E+00	3.96E+00	3.37E-01	3.99E+00	4.50E+00	2.34E+00	1.92E+01	2.19E+01	

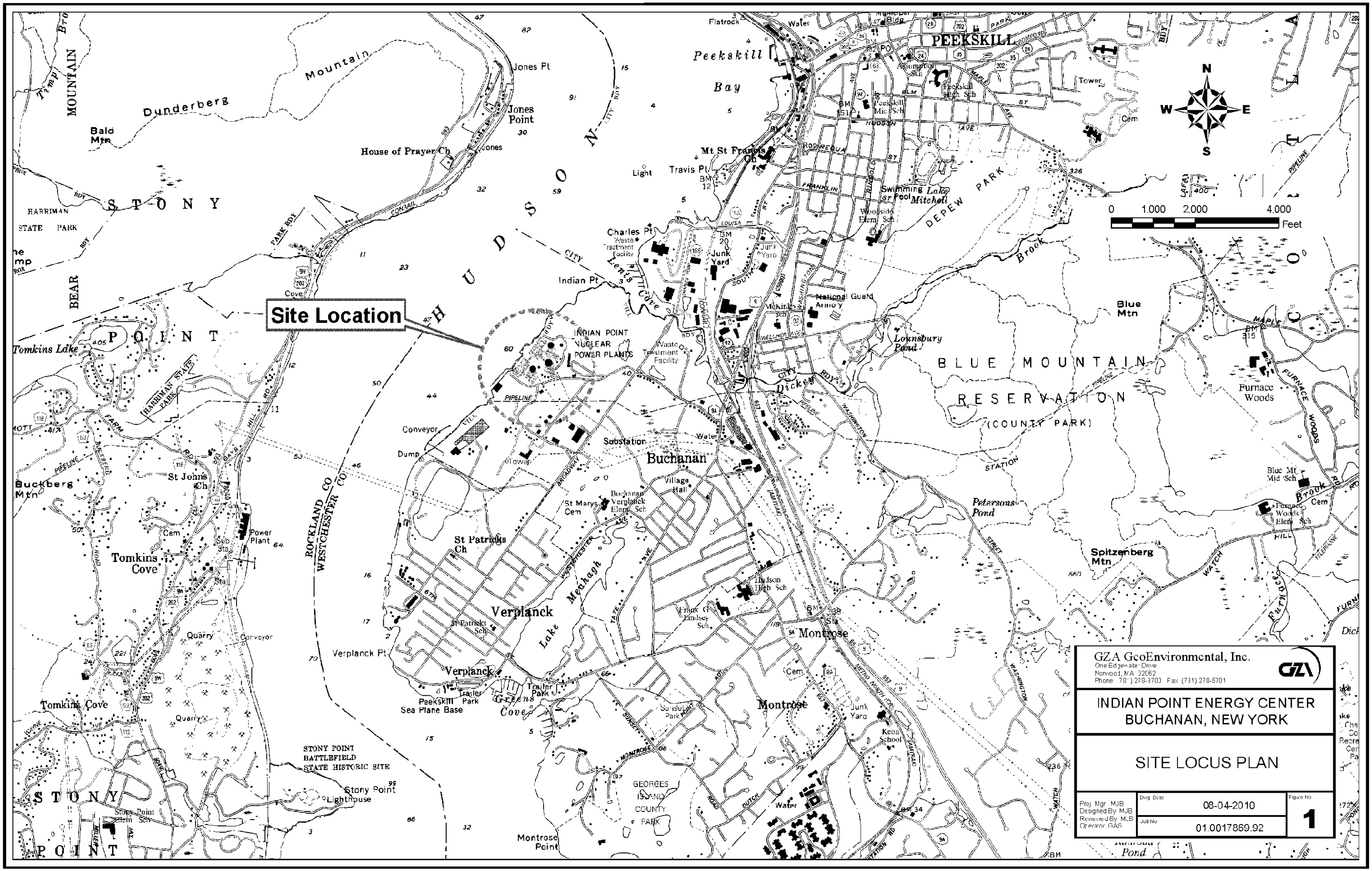
TABLE 5
HISTORIC GROUNDWATER ANALYTICAL RESULTS
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID^1	SAMPLE ID	SAMPLE ZONE CENTER, depth ft below top of casing^2	SAMPLE ZONE CENTER, elevation ft msl^2	SAMPLE COLLECTION		ANALYSIS RESULTS															Well ID^1
						TRITIUM (pCi/L)			Sr-90 (pCi/L)			Cs-137 (pCi/L)			Co-60 (pCi/L)			Ni-63 (pCi/L)			
				Date	Time	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	Result	Std. Dev.	MDC	
B-1	001			6/29/2007	12:35	7.93E+02	2.07E+02	1.89E+02	-3.83E-01	6.75E-01	9.80E-01	0.00E+00	7.04E-00	4.44E-00	-9.13E-01	3.30E-00	3.40E+00	NA	NA	NA	B-1
	002			8/14/2007	11:30	1.10E+03	2.25E+02	1.90E+02	1.29E-02	5.93E-01	7.38E-01	0.00E+00	6.71E-00	3.93E-00	9.94E-01	3.54E-00	4.16E+00	NA	NA	NA	
	003			10/22/2007	14:49	1.10E+03	4.68E+02	4.01E+02	-1.56E-01	3.72E-01	5.51E-01	1.68E+01	5.82E-00	3.82E-00	1.33E-00	3.23E-00	3.53E+00	NA	NA	NA	
	004			1/22/2008	13:08	2.27E+02	1.61E+02	1.71E+02	1.29E-01	5.00E-01	6.12E-01	3.13E-01	2.54E-00	2.83E-00	-9.46E-02	2.72E-00	3.01E+00	NA	NA	NA	
	005			4/18/2008	18:25	1.17E+03	1.57E+02	2.01E+02	-1.14E-01	3.81E-01	7.82E-01	2.00E+01	3.70E-00	3.07E-00	-2.48E-01	1.76E-00	2.97E+00	NA	NA	NA	
	006			6/3/2009	13:30	8.81E+02	1.83E+02	1.62E+02	7.01E-02	7.89E-01	9.15E-01	9.21E+00	1.11E-01	7.41E-00	-3.25E+00	6.23E-00	5.86E+00	NA	NA	NA	
B-6	001			7/5/2007	9:00	4.03E+02	1.67E+02	1.69E+02	1.01E-01	4.97E-01	5.67E-01	1.29E+00	3.46E-00	4.04E-00	1.09E-00	3.51E-00	4.15E+00	NA	NA	NA	B-6
	002			8/14/2007	8:30	5.46E+01	1.68E+02	1.92E+02	-3.06E-01	6.20E-01	8.32E-01	5.63E-01	2.97E-00	3.42E-00	-2.88E+00	3.31E-00	2.35E+00	NA	NA	NA	
	003			10/22/2007	11:30	1.07E+02	1.70E+02	1.90E+02	-7.54E-02	4.34E-01	5.83E-01	2.39E+00	2.33E-00	3.04E-00	1.04E-00	2.46E-00	3.05E+00	NA	NA	NA	
	004			1/16/2008	16:50	4.72E+02	2.04E+02	1.79E+02	1.05E-01	7.05E-01	8.83E-01	3.96E+00	4.41E-00	3.32E-00	1.29E-00	3.15E-00	3.66E+00	NA	NA	NA	
	005			4/25/2008	14:15	5.23E+01	8.45E+01	1.43E+02	-1.20E-01	2.59E-01	5.25E-01	-2.89E-01	1.96E-00	3.24E-00	-7.50E-01	3.43E-00	4.21E+00	NA	NA	NA	
	006			6/3/2009	9:40	1.08E+02	1.46E+02	1.63E+02	1.71E-01	7.08E-01	8.14E-01	1.50E-01	1.19E-01	7.94E-00	1.26E-00	5.79E-00	6.80E+00	NA	NA	NA	

Notes:

1. For nested multi-level monitoring wells, suffix of well ID indicates depth (rounded to nearest foot) from reference point on casing to bottom of well screen. For Waterloo multi-level systems, suffix indicates depth (rounded to nearest foot) from reference point on casing to top of sampling port. Well IDs without a suffix are open bedrock wellbores.
2. Sampling depths within sampling intervals (location of pump intake) have been established at location of most transmissive zone to the extent possible.
3. NA indicates that the constituent was not analyzed.
4. Current well identifications are shown for each location. Minor name changes have been made based on altered transducer installations.
5. Dot pattern denotes sampling interval is positioned within overburden soils. Open box indicates sampling interval is in bedrock.
6. At monitoring well U3T1, sample IDs 019-B, 019-D, and 019-S were collected for laboratory and field QAQC (B=Blind, D=Duplicate, S-Spike). Only the duplicate sample results were included in the calculations for rolling averages.
7. These locations are storm drains, not monitoring wells.

FIGURES



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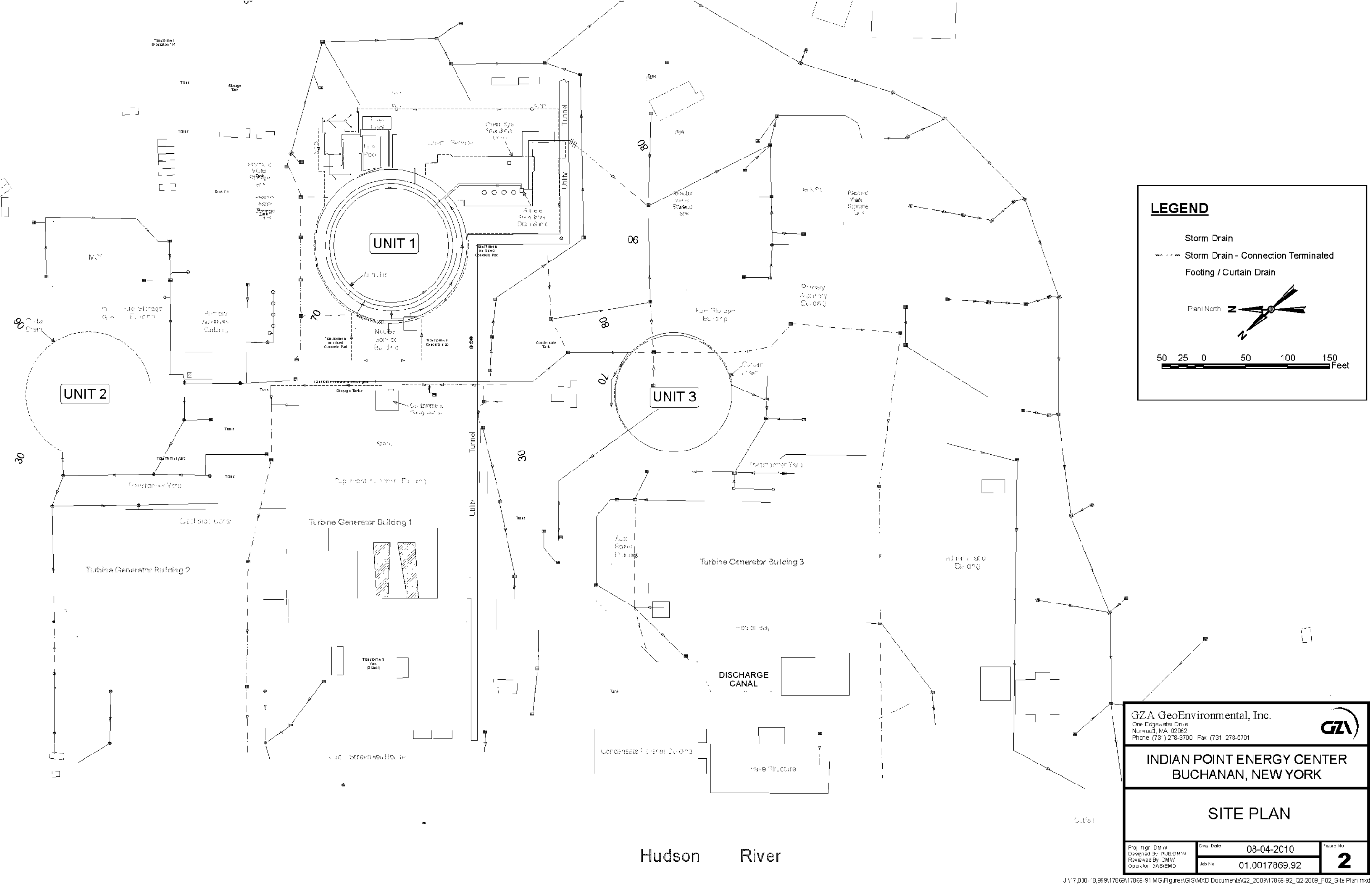
INDIAN POINT ENERGY CENTER
BUCHANAN, NEW YORK

SITE LOCUS PLAN

Proj Mgr MJB
Designed By MJB
Reviewed By MJB
Operator GAS

Dwg Date 08-04-2010
Job No 01.0017869.92
Figure No 1

J:\17,000-13,999\17869\17369-91 MG\Figures\GIS\MXD Documents\Q2_2009\17369-92_Q2-2009_F01_Site Location Plan.mxd



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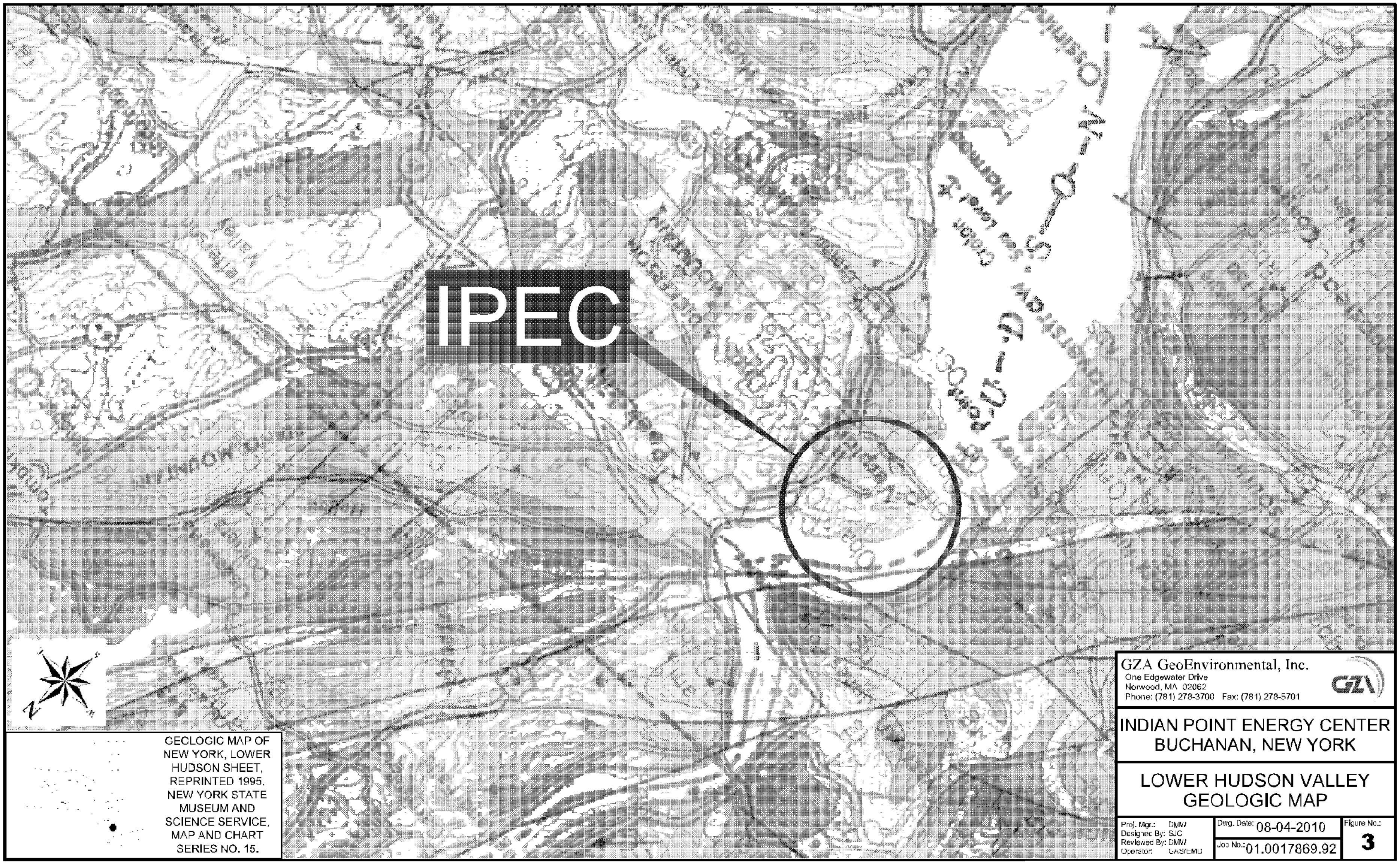
INDIAN POINT ENERGY CENTER
BUCHANAN, NEW YORK

SITE PLAN

Proj Mgr DMW
Designed By MJB/DMW
Reviewed By DMW
Operator GAS/EMD

Dwg Date 08-04-2010
Job No 01.0017869.92
Figure No 2

8,999\17869\17869-91 MG\Figures\GIS\MXD Documents\Q2_2009\17869-92_Q2-2009_F02_Site Plan mxd



GEOLOGIC MAP OF NEW YORK, LOWER HUDSON SHEET, REPRINTED 1995, NEW YORK STATE MUSEUM AND SCIENCE SERVICE, MAP AND CHART SERIES NO. 15.

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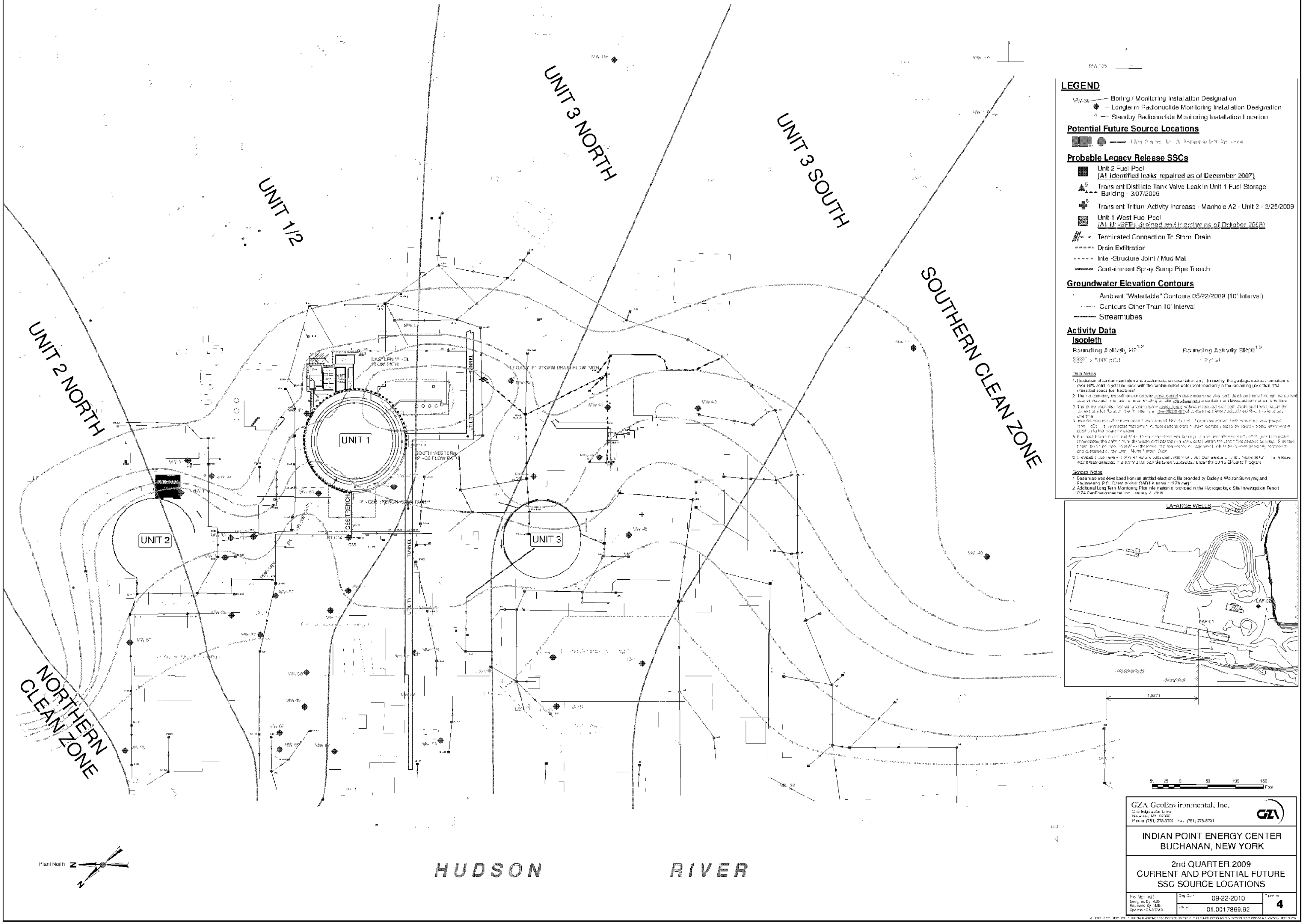
INDIAN POINT ENERGY CENTER
BUCHANAN, NEW YORK

LOWER HUDSON VALLEY GEOLOGIC MAP

Proj. Mgr.: DMW
Designed By: SJC
Reviewed By: DMW
Operator: CAS/EMD
Dwg. Date: 08-04-2010
Job No.: 01.0017869.92
Figure No.: 3

GZA–J:\17,000–18,999\17869\17869–91.MG\Figures\CADD\17869–92_Q2–2009_Lower Hudson Valley Geologic Map.dwg [FIG–3] August 13, 2010 – 10:37am Elaine.donohue

2nd QUARTER 2009 CURRENT AND POTENTIAL FUTURE SSC SOURCE LOCATIONS



LEGEND

MW-30 —— Boring / Monitoring Installation Designation
⊕ – Longterm Radionuclide Monitoring Installation Designation
– Standby Radionuclide Monitoring Installation Location

Potential Future Source Locations

▨ ● —— Unit 2 and Unit 3 Potential H3 Sources

Probable Legacy Release SSCs

■ Unit 2 Fuel Pool
(All identified leaks repaired as of December 2007)

▲5 Transient Distillate Tank Valve Leak in Unit 1 Fuel Storage Building - 3/07/2009

✚5 Transient Tritium Activity Increase - Manhole A2 - Unit 3 - 3/25/2009

▨ Unit 1 West Fuel Pool
(All U1-SFPs drained and inactive as of October 2008)

Terminated Connection To Storm Drain

Drain Exfiltration

Inter-Structure Joint / Mud Mat

Containment Spray Sump Pipe Trench

Groundwater Elevation Contours

Ambient "Watertable" Contours 05/22/2009 (10' Interval)

Contours Other Than 10' Interval

Streamtubes

Activity Data

Isopleth

Bounding Activity H3[1,2] | Bounding Activity SR90[1,3]

▨ ≥ 5,000 pCi/l | > 2 pCi/l

Data Notes

1. Illustration of contaminant plume is a schematic representation only. In reality the geologic bedrock formation is over 99% solid crystalline rock with the contaminated water contained only in the remaining (less than 1%) interstitial space (i.e. fractures).
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]

General Notes

1. Base map was developed from an untitled electronic file provided by Badey & Watson Surveying and Engineering, P.C. Dated [illegible] CAD file name "GZA.dwg".
2. Additional Long Term Monitoring Plan information is provided in the Hydrogeologic Site Investigation Report GZA GeoEnvironmental, Inc. January 7, 2008

GZA GeoEnvironmental, Inc.
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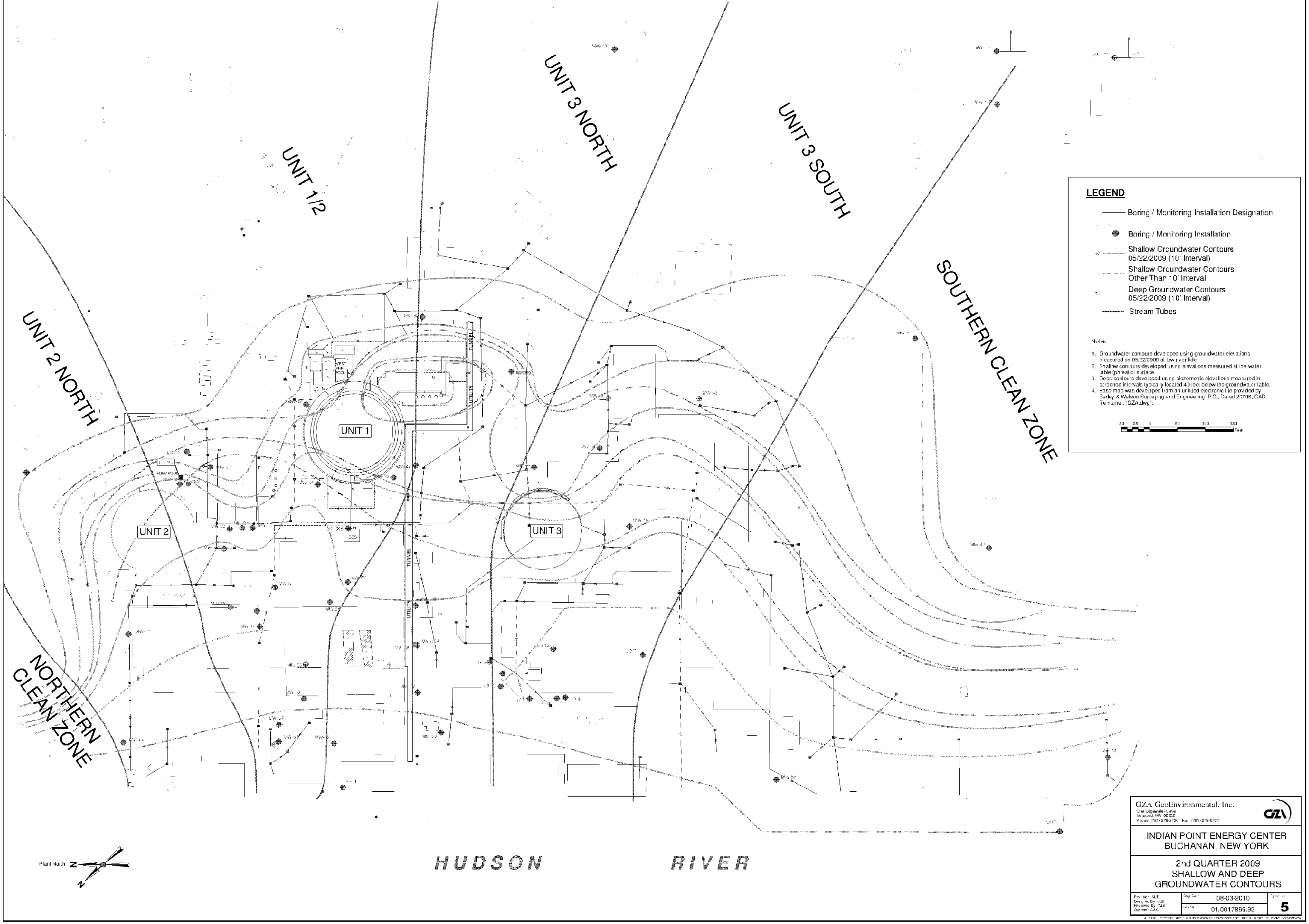
INDIAN POINT ENERGY CENTER
BUCHANAN, NEW YORK

2nd QUARTER 2009
CURRENT AND POTENTIAL FUTURE
SSC SOURCE LOCATIONS

Proj. Mgr: MJB
Designed By: MJB
Reviewed By: MJB
Operator: CAC/EMD

Dwg. Date: 09-22-2010
Job No: 01.0017869.92
Figure No: 4

2nd QUARTER 2009 SHALLOW AND DEEP GROUNDWATER CONTOURS



LEGEND

- Boring / Monitoring Installation Designation
- Boring / Monitoring Installation
- Shallow Groundwater Contours 05/22/2009 (10' Interval)
- Shallow Groundwater Contours Other Than 10' Interval
- Deep Groundwater Contours 05/22/2009 (10' Interval)
- Stream Tubes

Notes:

1. Groundwater contours developed using groundwater elevations measured on 05/22/2009 at low river tide
2. Shallow contours developed using elevations measured at the water table (phreatic) surface.
3. Deep contours developed using piezometric elevations measured in screened intervals typically located 40 feet below the groundwater table.
4. Base map was developed from an untitled electronic file provided by Badey & Watson Surveying and Engineering P.C., Dated 2/3/06; CAD file name : "GZA.dwg".

50 25 0 50 100 150 Feet

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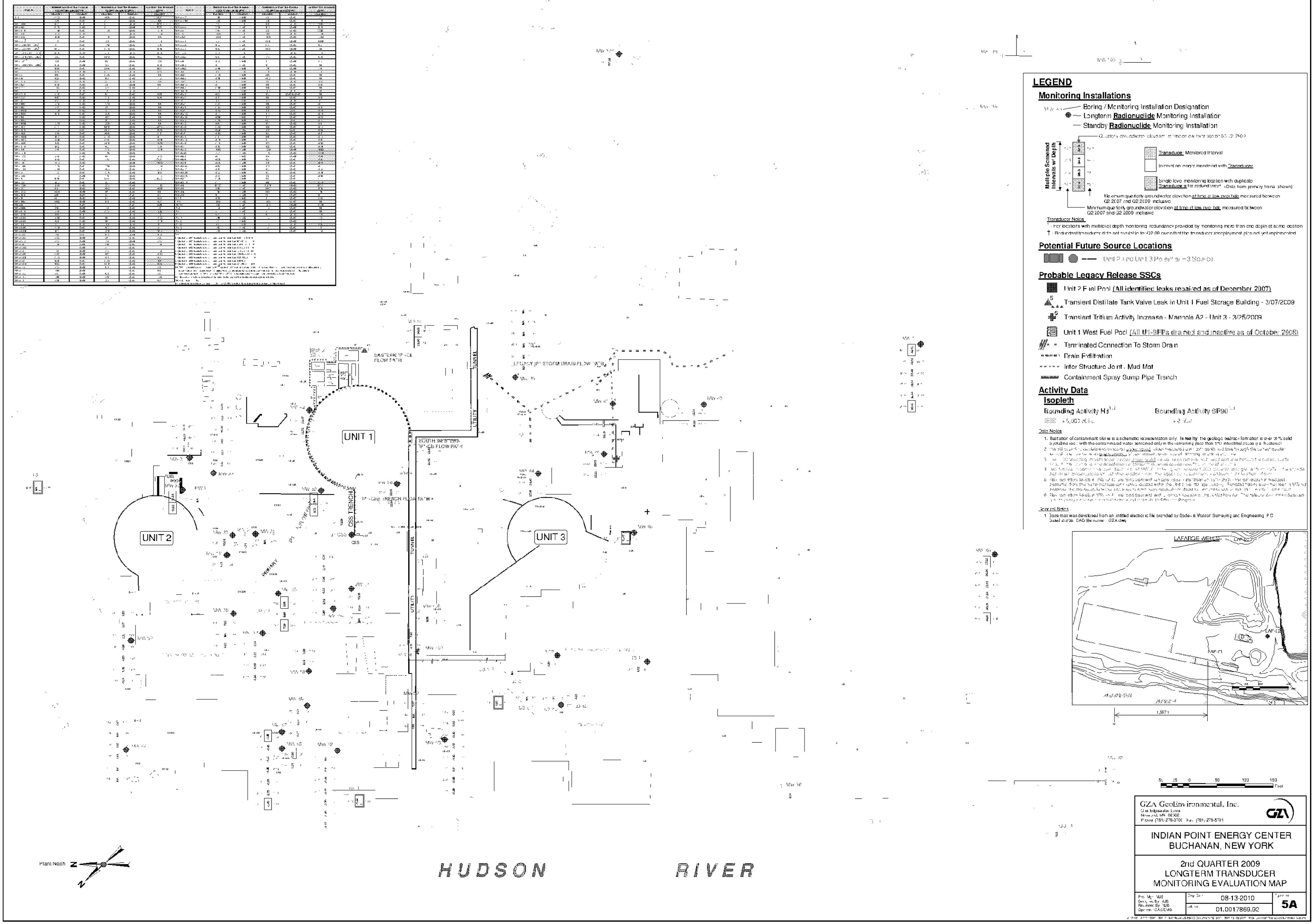
2nd QUARTER 2009
SHALLOW AND DEEP
GROUNDWATER CONTOURS

Proj Mgr: MJB
Designed By: MJB
Reviewed By: MJB
Operator: CAC

Dwg Date: 08-03-2010
Job No: 01.0017869.92
Figure No: 5

2nd QUARTER 2009 LONGTERM TRANSDUCER MONITORING EVALUATION MAP



LEGEND

Monitoring Installations

- Boring / Monitoring Installation Designation
- ● Longterm **Radionuclide** Monitoring Installation
- Standby **Radionuclide** Monitoring Installation

Quarterly groundwater elevation at time of low river tide on 05/02/2009

Multiple Screened Intervals w/ Depth

▨ Transducer Monitored Interval

☐ Interval no longer monitored with Transducer

▨ Single level monitoring location with duplicate Transducers for redundancy* (Data from primary trans. shown)

Maximum quarterly groundwater elevation at time of low river tide measured between Q2 2007 and Q2 2009 inclusive

Minimum quarterly groundwater elevation at time of low river tide measured between Q2 2007 and Q2 2009 inclusive

Transducer Notes

* - For locations with multilevel depth monitoring, redundancy provided by monitoring more than one depth at same location

† - Redundant transducer data not available for Q2 09 given that the transducer redeployment plan not yet implemented

Potential Future Source Locations

▇ ● —— Unit 2 and Unit 3 Potential H3 Source

Probable Legacy Release SSCs

- ▩ Unit 2 Fuel Pool **(All identified leaks repaired as of December 2007)**
- ▲5 Transient Distillate Tank Valve Leak in Unit 1 Fuel Storage Building - 3/07/2009
- ✚6 Transient Tritium Activity Increase - Manhole A2 - Unit 3 - 3/25/2009
- ▨ Unit 1 West Fuel Pool (All U1-SFPs drained and inactive as of October 2008)
- Terminated Connection To Storm Drain
- Drain Exfiltration
- Inter Structure Joint / Mud Mat
- Containment Spray Sump Pipe Trench

Activity Data

Isopleth

Bounding Activity H3[1,2]

Bounding Activity SR90[1,3]

▨ > 5,000 pCi/L

> 2 pCi/L

Data Notes

1. Illustration of contaminant plume is a schematic representation only. In reality, the geologic bedrock formation is over 99% solid crystalline rock with the contaminated water contained only in the remaining (less than 1%) interstitial space (i.e. fractures).
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]

General Notes

1. Base map was developed from an untitled electronic file provided by Badey & Watson Surveying and Engineering, P.C. Dated 2/3/06. CAD file name - GZA.dwg

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INDIAN POINT ENERGY CENTER
BUCHANAN, NEW YORK

2nd QUARTER 2009
LONGTERM TRANSDUCER
MONITORING EVALUATION MAP

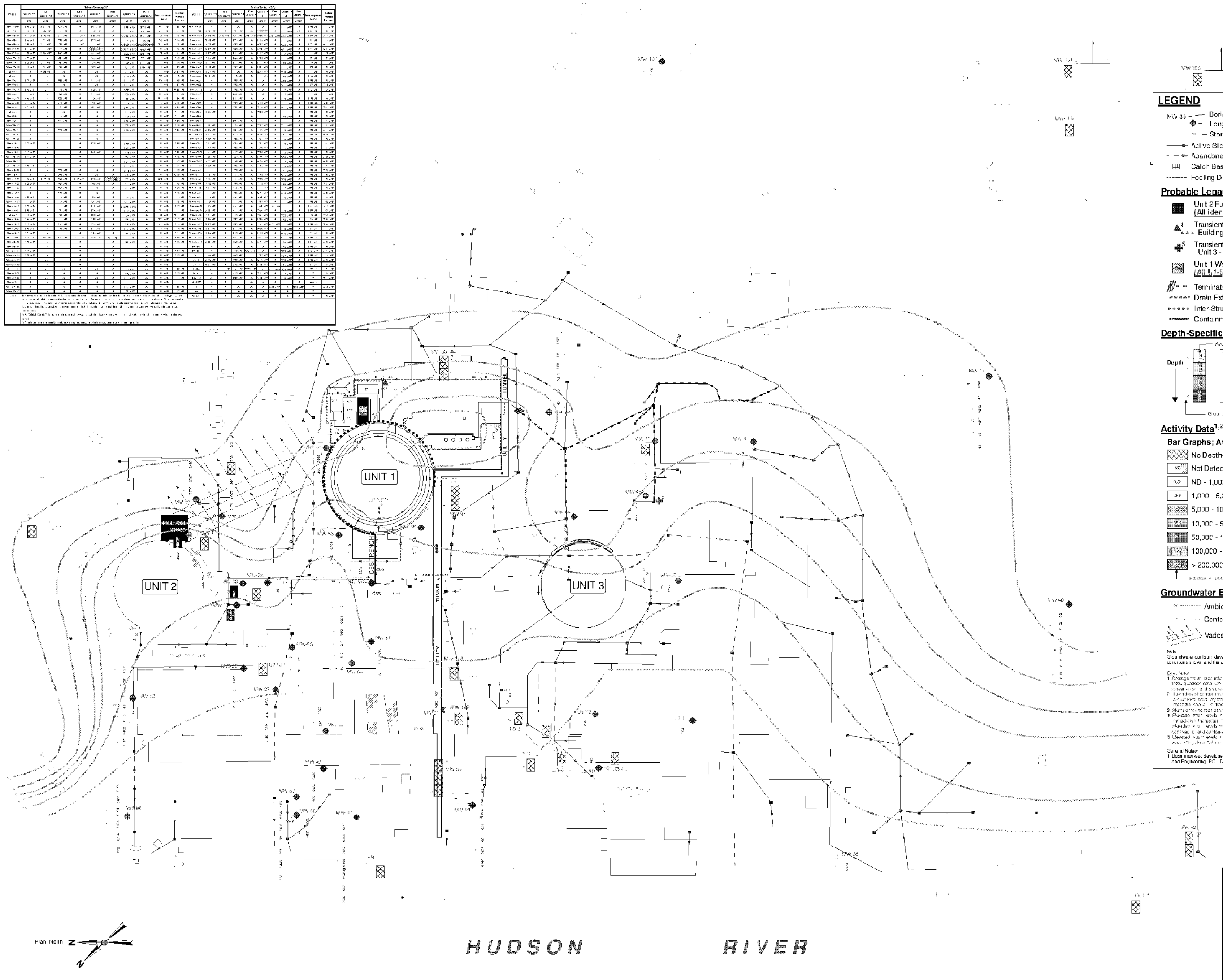
Proj. Mgr.: MJB
Designed By: MJB
Reviewed By: MJB
Operator: CAC/EMD

Dwg. Date: 08-13-2010

Job No.: 01.0017869.92

Figure No.: 5A

2nd QUARTER 2009 ROLLING AVERAGE[1] TRITIUM ACTIVITY MAP



LEGEND

- MW-30 — Boring / Monitoring Installation Designation
- Longterm Radionuclide Monitoring Installation
- Standby Radionuclide Monitoring Installation
- Active Storm Drain
- Abandoned Storm Drain
- ⊞ Catch Basin
- Footing Drain

Probable Legacy Release Locations

- Unit 2 Fuel Pool (All identified leaks repaired as of December 2007)
- Transient Distillate Tank Valve Leak in Unit 1 Fuel Storage Building - 3/07/2009
- Transient Tritium Activity Increase - Manhole A2 - Unit 3 - 3/25/2009
- Unit 1 West Fuel Pool (All U1-SFPs drained and inactive as of October 2008)
- Terminated Connection To Storm Drain
- Drain Exfiltration
- Inter-Structure Joint / Mud Mat
- Containment Spray Sump Trench

Depth-Specific Data

Average activity of H3 (pCi/L x 1000) for each screened interval

Depth

Multiple Screened Intervals

Screened in Soil

Screened in Bedrock

Groundwater elevation for each screened interval at time of low river tide on 05/22/2009

Activity Data[1,2]

Bar Graphs; Average H3, pCi/L

- ▨ No Depth-Specific Samples
- ND Not Detected (ND)
- ND - 1,000
- 1,000 - 5,000
- 5,000 - 10,000
- 10,000 - 50,000
- 50,000 - 100,000
- 100,000 - 200,000
- > 200,000

Isopleths; Average H3, pCi/L

- 5,000 - 10,000
- 10,000 - 50,000
- 50,000 - 100,000
- > 100,000

Groundwater Elevation Contours

- Ambient "Watertable" Contours 05/22/2009 (10' Interval)
- Contours Other Than 10' Interval
- Vadose Zone Contaminant Transport

Note
Groundwater contours developed from limited data available on 05/22/2009. Actual elevations may vary from conditions shown and the actual distribution of piezometric heads is likely more complex than indicated.

General Notes:
1 Base map was developed from an untitled electronic file provided by Bader & Watson Surveying and Engineering, PC. Dated 2/3/05. CAD file name "GZA.dwg

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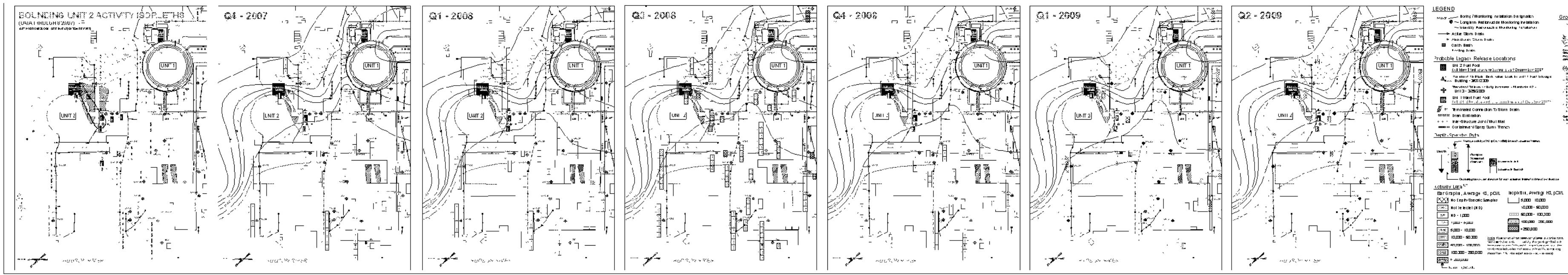
BUCHANAN, NEW YORK

2nd QUARTER 2009 ROLLING AVERAGE[1] TRITIUM ACTIVITY MAP

Proj. Mgr: MJB Designed By: MJB Reviewed By: MJB Operator: CAC/EMD	08-13-2010 01.0017869.92	6



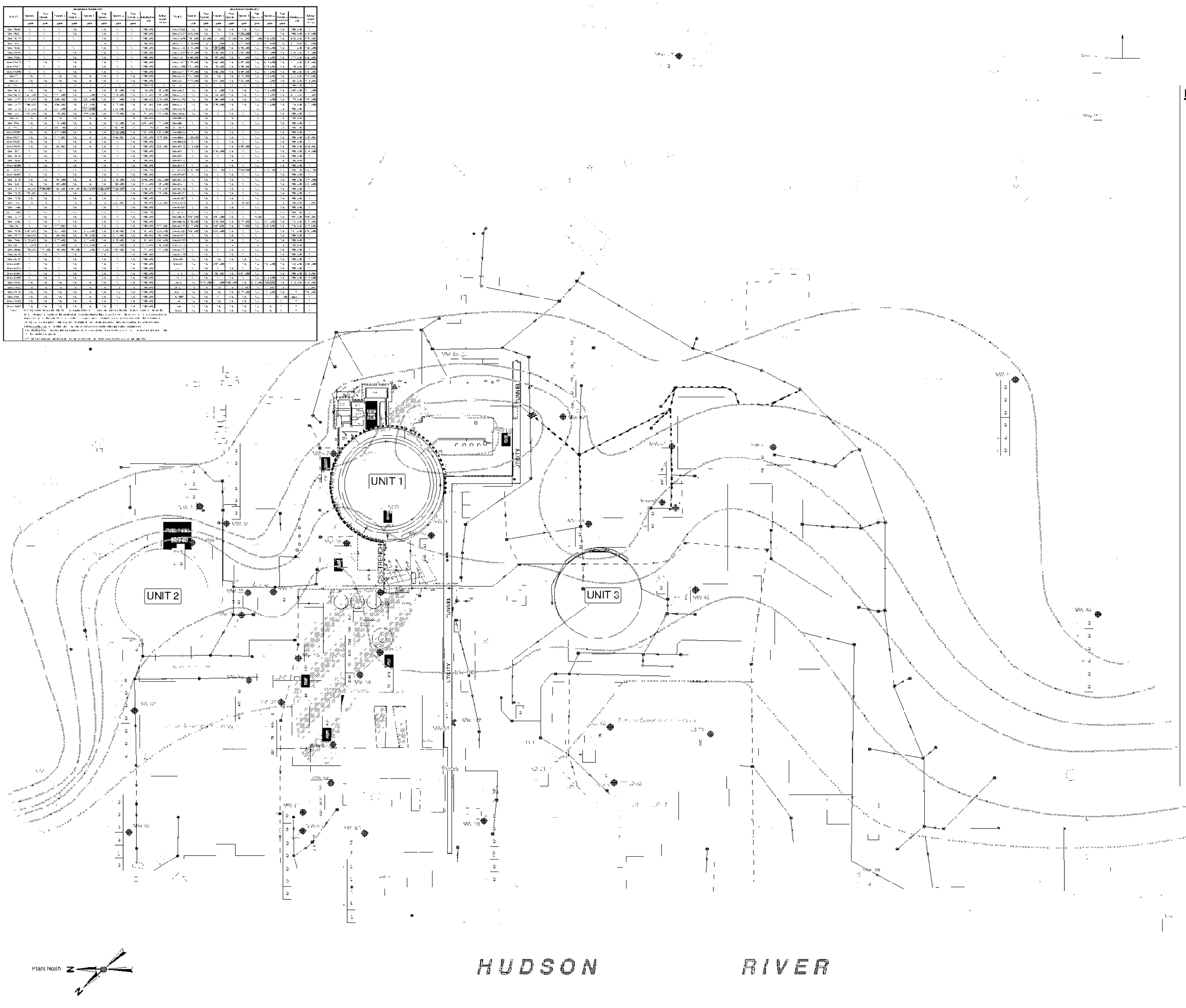
GZA GeoEnvironmental, Inc.

INDIAN POINT ENERGY CENTER
BUCHANAN, NEW YORK

2nd QUARTER 2009 TEMPORAL
TRENDS IN UNIT 2 ROLLING
AVERAGE TRITIUM ACTIVITY MAPS

Proj. Mgr: HJB Designed By: HJB Reviewed By: HJB	09-22-2010	6A

2nd QUARTER 2009 ROLLING AVERAGE[1] STRONTIUM-90 ACTIVITY MAP



LEGEND

- Boring / Monitoring Installation Designation
- Longterm Radionuclide Monitoring Installation
- Standby Radionuclide Monitoring Installation
- Active Storm Drain
- Abandoned Storm Drain
- Catch Basin
- Footing Drain

Probable Legacy Release Locations

- Unit 2 Fuel Pool (All identified leaks repaired as of December 2007)
- Transient Distillate Tank Valve Leak in Unit 1 Fuel Storage Building - 3/07/2009
- Transient Tritium Activity Increase - Manhole A2 - Unit 3 - 3/25/2009
- Unit 1 West Fuel Pool (All U1-SFPs drained and inactive as of October 2008)
- Terminated Connection To Storm Drain
- Drain Exfiltration
- Inter-Structure Joint / Mud Mat
- Containment Spray Sump Trench

Depth-Specific Data

Average activity of Sr90 (pCi/L) for each screened interval

Multiple Screened Intervals w/ Depth

Screened in Soil

Screened in Bedrock

Groundwater elevation for each screened interval at the time of low river tide on 05/22/2009

Activity Data[1,2]

Bar Graphs; Average Sr-90, pCi/L	Isopleths; Average Sr-90, pCi/L
No Sample	2 - 4
Not Detected (ND)	4 - 8
ND - 1	8 - 25
1.0 - 2.0	> 25
2.0 - 4.0	
4.0 - 8.0	
8.0 - 25	
> 25	

Note: Illustration of contaminant plume is a schematic representation only. In reality, the average bedrock contamination is a weighted average and the contaminated water contained only in the remaining [illegible] than 1% of the bedrock space, in fractures.

Groundwater Elevation Contours

- Ambient "Watertable" Contours 05/22/2009 (10' Interval)
- Contours Other Than 10' Interval
- Vadose Zone Contaminant Transport

Note:
Groundwater contours developed from limited data available on 05/22/2009. Actual elevations may vary from conditions shown and the actual distribution of piezometric heads is likely more complex than indicated.

Data Notes:

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]

General Notes:
1. Base map was developed from an untitled electronic file provided by Badey & Watson Surveying and Engineering, P.C. Dated 2/3/08. CAD file name: "GZA.dwg"

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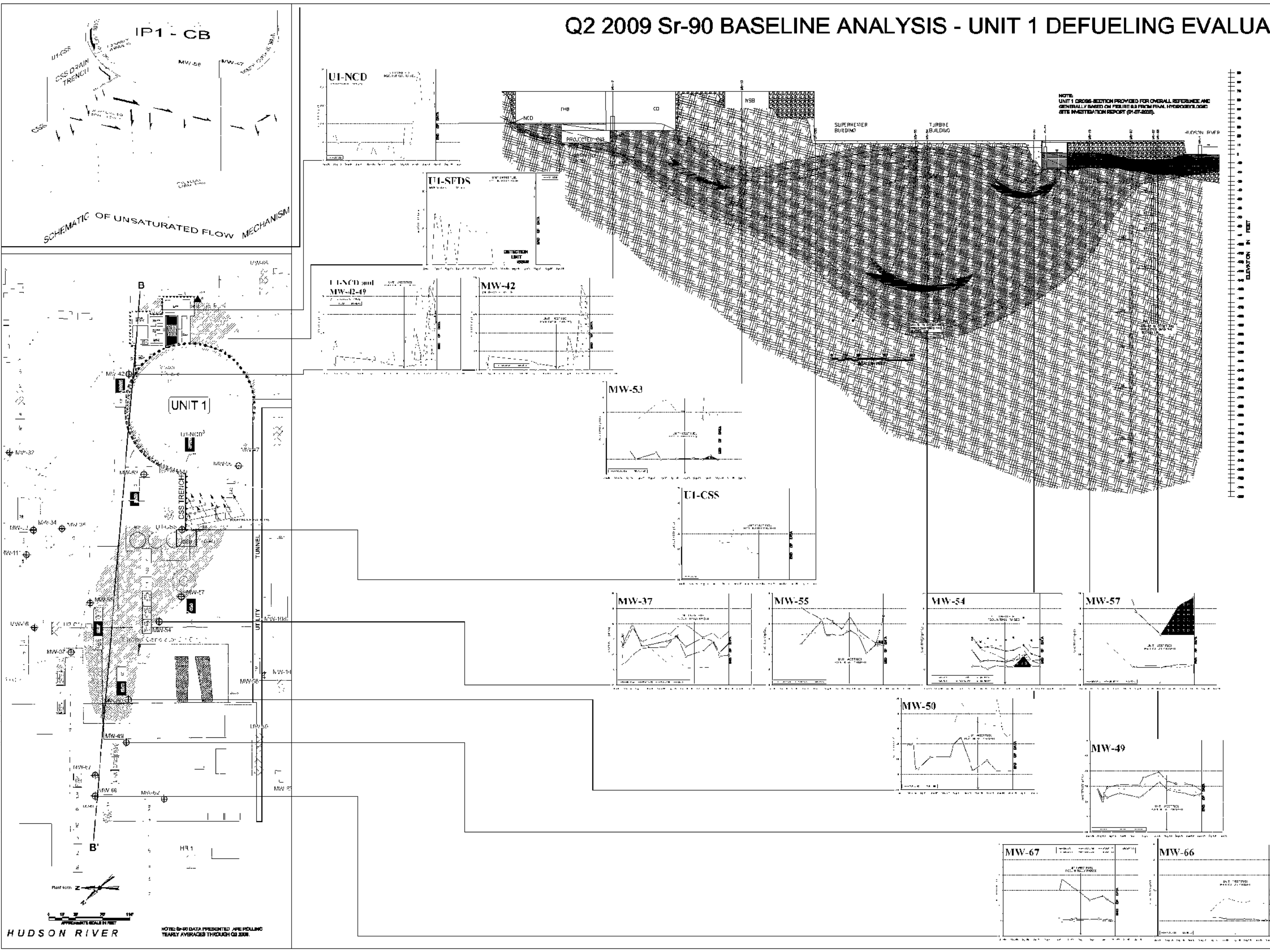
2nd QUARTER 2009 ROLLING AVERAGE[1] STRONTIUM-90 ACTIVITY MAP

Proj. Mgr: MJB Designed By: MJB Reviewed By: MJB Operator: CAC, EMB	Dwg. Date: 08-13-2010 Job No.: 01.0017869.92	Figure No.: 7

Q2 2009 Sr-90 BASELINE ANALYSIS - UNIT 1 DEFUELING EVALUATION



LEGEND

Sr-90 DATA GRAPHS

Point Shading

△○ Analytical Results Below MDC

●◸ Analytical Results Above MDC

Hatching

▧ Probable Response to Raising of Unit 1 West Fuel Pool

ISOPLETH PLAN

Isopleth Plan View Extracted from Figure 7

MW-30 ---- Boring / Monitoring Installation Designation

⊕ Longterm Radionuclide / Monitoring Installation

— Standby Radionuclide / Monitoring Installation

Active Storm Drain

Abandoned Storm Drain

Catch Basin

Footing Drain

Probable Legacy Release Locations

■ Unit 2 Fuel Pool (All identified leaks repaired as of December 2007)

▲ Transient Distillate Tank Valve Leak in Unit 1 Fuel Storage Building - 3/07/2009

✚ Transient Tritium Activity Increase - Manhole A2 - Unit 3 - 3/25/2009

■ Unit 1 West Fuel Pool (All U1-SFPs drained and inactive as of October 2008)

Terminated Connection To Storm Drain

Drain Exfiltration

Inter-Structure Joint / Mud Mat

Containment Spray Sump Trench

Depth-Specific Data

Multiple Screened Intervals w/ Depth

Screened in Soil

Screened in Bedrock

Activity Data [1,2] Quarter 2 2009

Bar Graphs; Average Sr-90, pCi/L	Isopleths: Average Sr-90, pCi/L
No Sample	2 - 4
Not Detected (ND)	4 - 8
ND - 1	8 - 25
1.0 - 2.0	> 25
2.0 - 4.0	
4.0 - 8.0	
8.0 - 25	
> 25	

Note: Illustration of contaminant plume is a schematic representation only. In reality, the geologic bedrock formation is over 99% solid, crystalline rock, with the contaminated water contained only in the remaining (less than 1%) interstitial space (i.e. fractures).

Groundwater Elevation Contours

Ambient "Watertable" Contours 05/22/2009 (10' Interval)

Contours Other Than 10' Interval

Vadose Zone Contaminant Transport

CROSS SECTION B - B'

Cross-Section generally based on Figure 9.2 from Final Hydrogeologic Site Investigation Report. 01-07-2008

Concrete

Overburden

Bedrock

Groundwater Piezometric Head Contour

Groundwater Table

Groundwater Flow Direction

Monitoring Well

Screened Interval

6.6 Measured Activity of SR-90 (pCi/L) for each Screened Interval (Quarter 2 2009)

CONTOUR INTERVAL

SOIL	ROCK	
		2-4 pCi/L
		4-8 pCi/L
		8-25 pCi/L
		>25 pCi/L

Most recent measured activities in pCi/L through July 2009 data.

Note: Illustration of contaminant plume is a schematic representation only. In reality, the geologic bedrock formation is over 99% solid, crystalline rock, with the contaminated water contained only in the remaining (less than 1%) interstitial space (i.e. fractures).

Notes:

1. Base map developed from electronic files, prepared by Badey and Watson Surveying & Engineering PC, Cold Spring, NY 10516. Exact locations and orientations of structures above the water table are approximate and/or have been modified on these sections to better illustrate contaminant source mechanisms and/or migration pathways.
2. Water level readings have been made in the monitoring wells at the times and under the conditions shown. These data have been reviewed and interpretations made in the text of this report. However, it must be stated that fluctuations in the level of the groundwater may occur due to variations in rainfall, tides, temperature and other factors.
3. The stratification lines are based upon interpolations between widely spaced borings, and monitoring wells and thus represent the approximate boundaries between soil types. Actual transitions may vary from those shown.
4. MW-62 is offset and projected onto the section line.

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GZA GeoEnvironmental, Inc.
Engineers and Scientists
ONE EDGEWATER DRIVE

INDIAN POINT ENERGY CENTER
BUCHANAN, NEW YORK

Sr-90 BASELINE ANALYSIS -
UNIT 1 DEFUELING EVALUATION
2nd QUARTER 2009

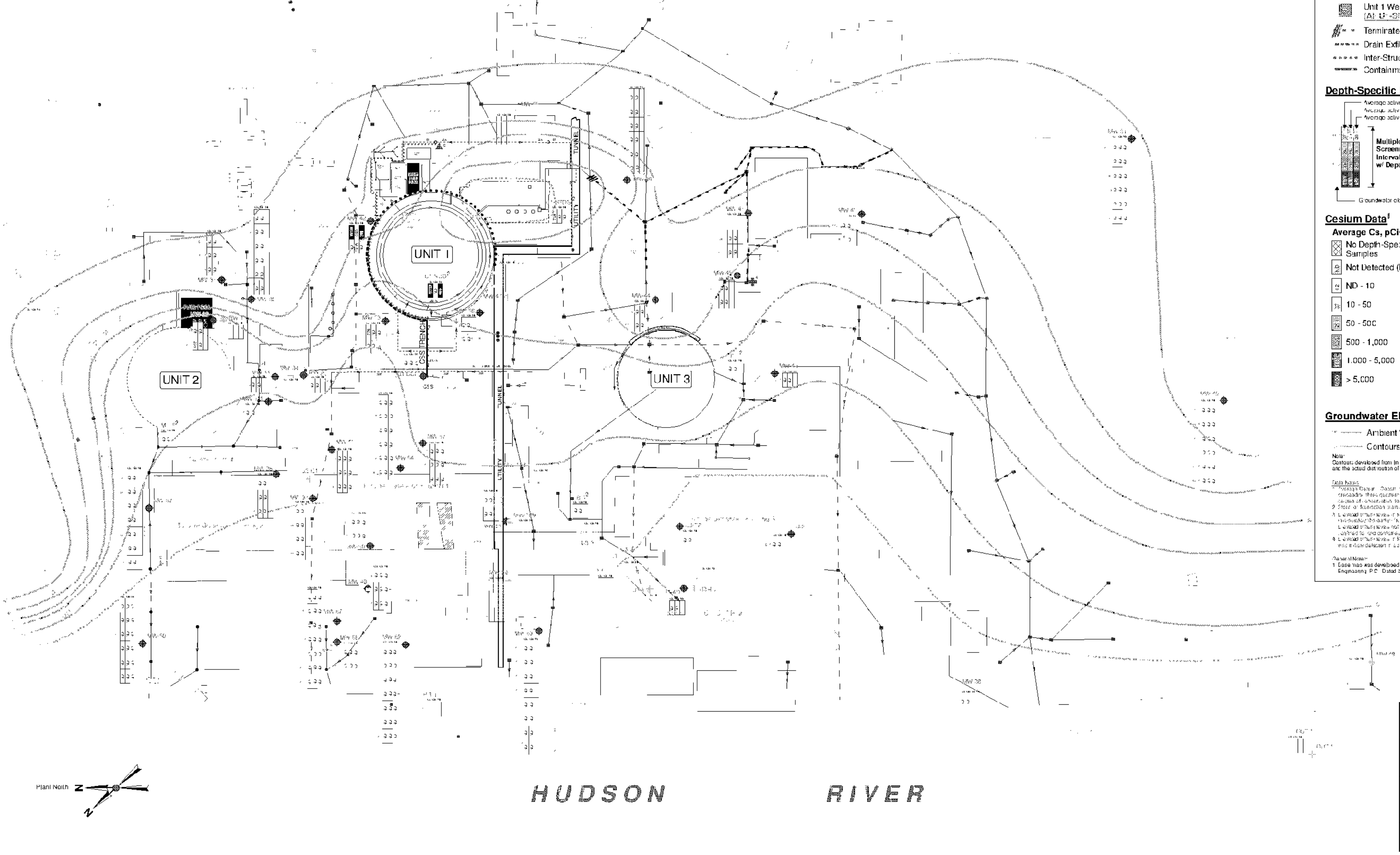
DATE: 08-13-2010
JOB NO. 01.0017869.92
FIGURE NO. 7A

2nd QUARTER 2009 ROLLING AVERAGE[1] CESIUM, COBALT, AND NICKEL ACTIVITY MAP

[illegible]

[illegible]

[illegible]



LEGEND

- MW-## Boring / Monitoring Installation Designation
- ◈ Longterm Radionuclide Monitoring Installation
- Standby Radionuclide Monitoring Installation
- → Active Storm Drain
- - - ▸ Abandoned Storm Drain
- ⊞ Catch Basin
- ------- Footing Drain

Probable Legacy Release Locations

- ■ Unit 2 Fuel Pool (All identified leaks repaired as of December 2007)
- ▲ Transient Distillate Tank Valve Leak in Unit 1 Fuel Storage Building - 3/07/2009
- ✚ Transient Tritium Activity Increase - Manhole A2 - Unit 3 - 3/25/2009
- ▨ Unit 1 West Fuel Pool (All U1-SFPs drained and inactive as of October 2008)
- Terminated Connection To Storm Drain
- Drain Exfiltration
- Inter-Structure Joint / Mud Mat
- Containment Spray Sump Trench

Depth-Specific Data

Average activity of Cs-137 (pCi/L) for each screened interval
Average activity of Co-60 (pCi/L) for each screened interval
Average activity of Ni-63 (pCi/L) for each screened interval

Multiple Screened Intervals w/ Depth

Screened in Soil

Screened in Bedrock

Groundwater elevation for each screened interval at mean low river tide on 05-22-2009

Cesium Data[1]	Cobalt Data[1]	Nickel Data[1]
Average Cs, pCi/L	Average Co, pCi/L	Average Ni, pCi/L
☒ No Depth-Specific Samples	☒ No Depth-Specific Samples	☒ No Depth-Specific Samples
Not Detected (ND)	Not Detected (ND)	Not Detected (ND)
ND - 10	ND - 25	ND - 12
10 - 50	25 - 100	12 - 25
50 - 500	100 - 200	25 - 50
500 - 1,000	200 - 300	50 - 100
1,000 - 5,000	300 - 500	100 - 250
> 5,000	> 500	250 - 500
		> 500

Groundwater Elevation Contours

- Ambient "Watertable" Contours 05/22/2009 (10' Interval)
- Contours Other Than 10' Interval

Note:
Contours developed from limited data available on 05/22/2009. Actual elevations may vary from conditions shown and the actual distribution of piezometric heads is likely more complex than indicated.

Data Notes:
1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]

General Notes:
1. Base map was developed from an untitled electronic file provided by Badey & Watson Surveying and Engineering, P.C. Dated [illegible]. CAD file name "GZA.dwg".

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INDIAN POINT ENERGY CENTER
BUCHANAN, NEW YORK

2nd QUARTER 2009 ROLLING AVERAGE[1]
CESIUM, COBALT, AND NICKEL
ACTIVITY MAP

Proj. Mgr.: MJB Designed By: MJB Reviewed By: MJB Operator: CAC/EMD	Dwg. Date: 08-13-2010	Figure No. 8
	Job No. 01.0017869.92	

APPENDIX A: LIMITATIONS

HYDROGEOLOGICAL LIMITATIONS

1. The conclusions and recommendations submitted in this report are based in part upon the radiological, chemical and physical data from water analyses. These data were obtained from specific sampling locations at specific times. The full nature and extent of variations in the data between these specific locations and times are not known. The conditions existing between these specific locations and times have only been inferred using interpolation and extrapolation based on judgment.

2. The subsurface profiles described in the text and presented in the report figures are intended to convey anticipated trends in subsurface conditions. The conditions shown are approximate and generalized and were developed, in part, based on judgment. For specific information at specific locations, refer to the individual subsurface investigation logs.

3. Water level readings (piezometric pressures) have been made in the specific borings, monitoring wells, and Waterloo installations at times and under conditions stated. These data have been reviewed and interpretations have been made in the text and on the figures of this report. However, it must be noted that temporal and spatial fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time and location measurements were made.

4. Where quantitative laboratory testing has been conducted by an outside laboratory, GZA has relied upon the validity of the data provided, and has not conducted an independent laboratory evaluation of the reliability of these data.

5. Radiological and chemical analyses have been performed for specific parameters during the course of this study, as summarized in the text. Additional constituents not searched for may be present in soil and groundwater at the site.

6. Variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past and current plant operational practices, the passage of time, and other factors. Should additional data (water analyses, water elevations, subsurface deposits, plant construction and operation, etc.) become available in the future, these data should be reviewed by GZA, and the conclusions and recommendations presented herein modified accordingly.

7. This monitoring report was developed by GZA GeoEnvironmental Inc for the exclusive of Entergy Nuclear Northeast (Entergy) at the Indian Point Energy Center. Any use of data or information provided in the report, by parties other than Entergy, is prohibitated without the prior written permission of Entergy and GZA.

APPENDIX B: TRANSDUCER INSTALLATION LOGS

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID HR-1
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 11886

FINAL BORING DEPTH (FT) --
GROUND ELEVATION (FT) 14.99
CASING ELEVATION (FT) 18.50
CASING DIAMETER (INCH) 2

DATUM NGVD 29
DATE 5/26/09

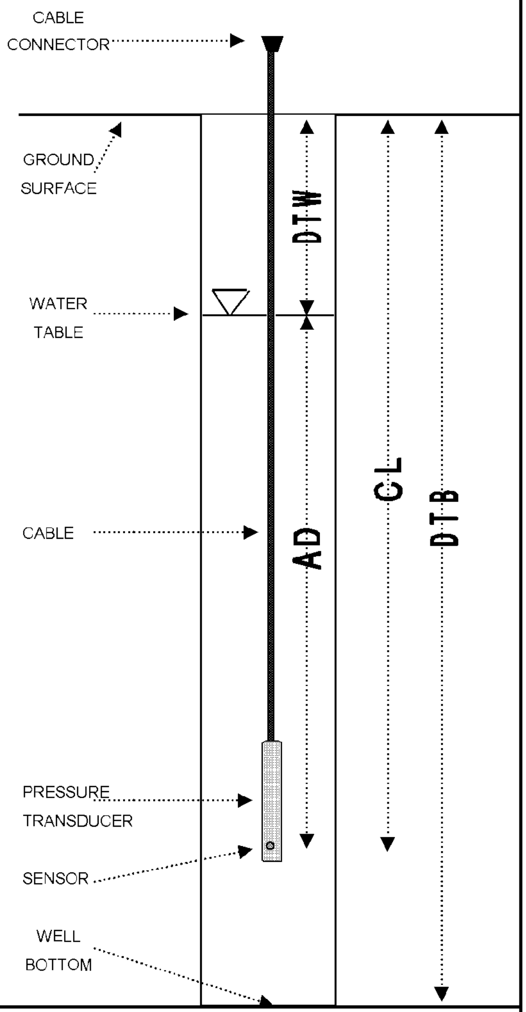
STATIC GROUNDWATER TABLE ELEVATION (FT) 2.63

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		--	FT
GROUND ELEVATION:		14.99	FT M.S.L.
CASING ELEVATION:		18.50	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		above	
DISTANCE FROM CASING TO GROUND (+ OR -):		3.50	FT
MEASURED CABLE LENGTH		--	FT
TIME OF MEASUREMENT:		1438	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:			FT
ACTUAL DEPTH:	+		FT
THEORETICAL CABLE LENGTH:	=	0.000	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		18.50	FT M.S.L.
DEPTH TO WATER:	−	15.87	FT
REFERENCE ELEVATION:	=	2.63	FT M.S.L.
TEST NAME:		HR-1	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1438	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Transducer off by -6.069. Reset and start new test.

GZA

WELL ID : HR-1

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID	I-2
SHEET	1 of 1
FILE NO.	01.0017869.91
PROJECT LOCATION	Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	41.00	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	80.92	DATE	5/8/09
PSI CAPACITY	30	CASING ELEVATION (FT)	82.23		
SERIAL NUMBER	9411	CASING DIAMETER (INCH)	2		

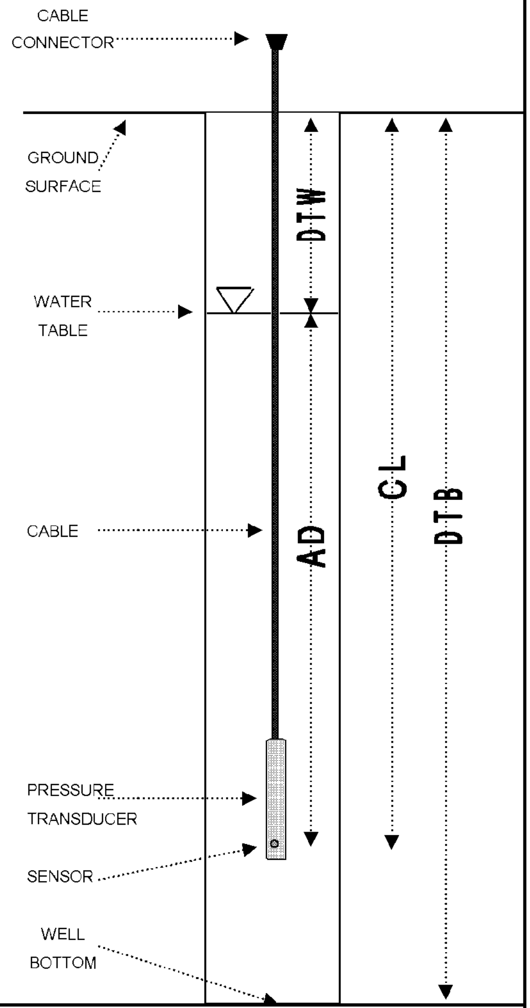
STATIC GROUNDWATER TABLE ELEVATION (FT) 82.23

GZA ENGINEER M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		41.00	FT
GROUND ELEVATION:		80.92	FT M.S.L.
CASING ELEVATION:		82.23	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		above	
DISTANCE FROM CASING TO GROUND (+ OR -):		1.31	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1431	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:			FT
ACTUAL DEPTH:	+		FT
THEORETICAL CABLE LENGTH:	=	0.000	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		82.23	FT M.S.L.
DEPTH TO WATER:	−	0.00	FT
REFERENCE ELEVATION:	=	82.23	FT M.S.L.
TEST NAME:		I-2	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1431	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
Install a different transducer. Transducer not reading correctly. Leave test running.

GZA

WELL ID : I-2

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID	MW-35
SHEET	1 of 1
FILE NO.	01.0017869.91
PROJECT LOCATION	Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	29.80	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	18.604	DATE	4/29/09
PSI CAPACITY	30	CASING ELEVATION (FT)	18.444		
SERIAL NUMBER	195	CASING DIAMETER (INCH)	4		

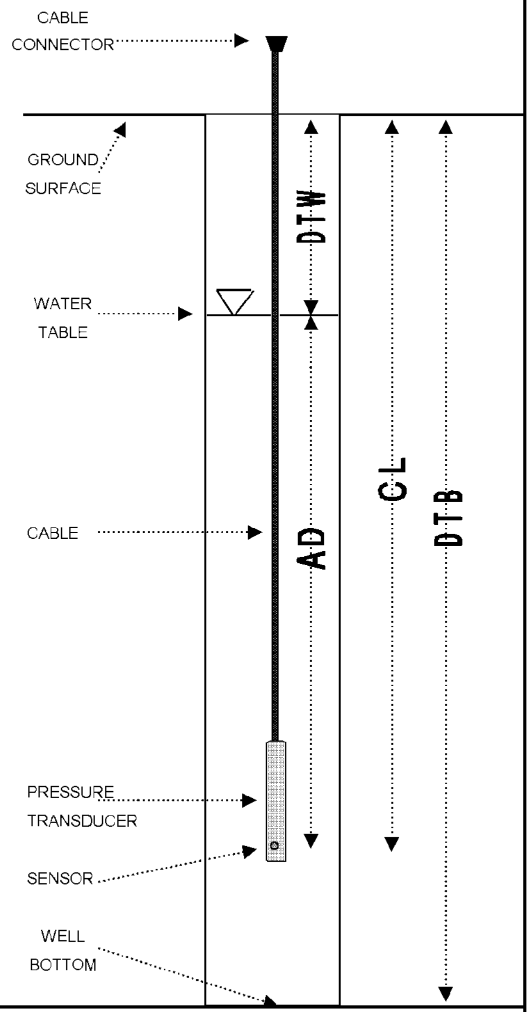
STATIC GROUNDWATER TABLE ELEVATION (FT) 10.22

GZA ENGINEER M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		29.80	FT
GROUND ELEVATION:		18.604	FT M.S.L.
CASING ELEVATION:		18.444	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.160	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1415	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		8.22	FT
ACTUAL DEPTH:	+	17.254	FT
THEORETICAL CABLE LENGTH:	=	25.474	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		18.444	FT M.S.L.
DEPTH TO WATER:	−	8.22	FT
REFERENCE ELEVATION:	=	10.224	FT M.S.L.
TEST NAME:		MW-35	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1415	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID : MW-35

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-36-24
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	54.00	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	11.799	DATE	5/01/09
PSI CAPACITY	30	CASING ELEVATION (FT)	11.598		
SERIAL NUMBER	5376	CASING DIAMETER (INCH)	2		

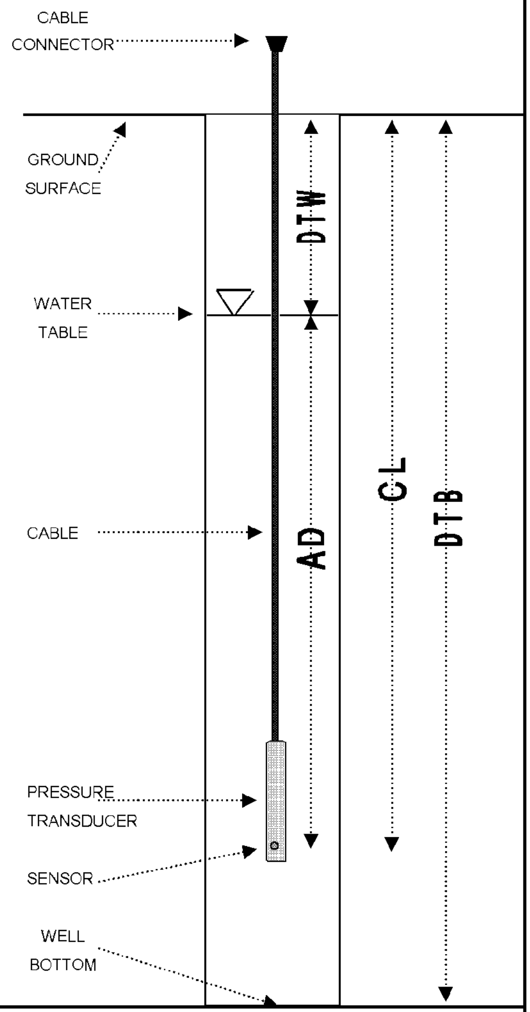
STATIC GROUNDWATER TABLE ELEVATION (FT) 9.21

GZA ENGINEER M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		24.00	FT
GROUND ELEVATION:		11.799	FT M.S.L.
CASING ELEVATION:		11.598	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.201	FT
		--	FT
TIME OF MEASUREMENT:		1240	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		2.39	FT
ACTUAL DEPTH:	+	35.507	FT
THEORETICAL CABLE LENGTH:	=	37.897	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		11.598	FT M.S.L.
DEPTH TO WATER:	−	2.39	FT
REFERENCE ELEVATION:	=	9.208	FT M.S.L.
TEST NAME:		MW-36-24	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1241	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID : MW-36-24

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-36-24
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 5376

FINAL BORING DEPTH (FT) 54.00
GROUND ELEVATION (FT) 11.799
CASING ELEVATION (FT) 11.598
CASING DIAMETER (INCH) 2

DATUM NGVD 29
DATE 5/20/09

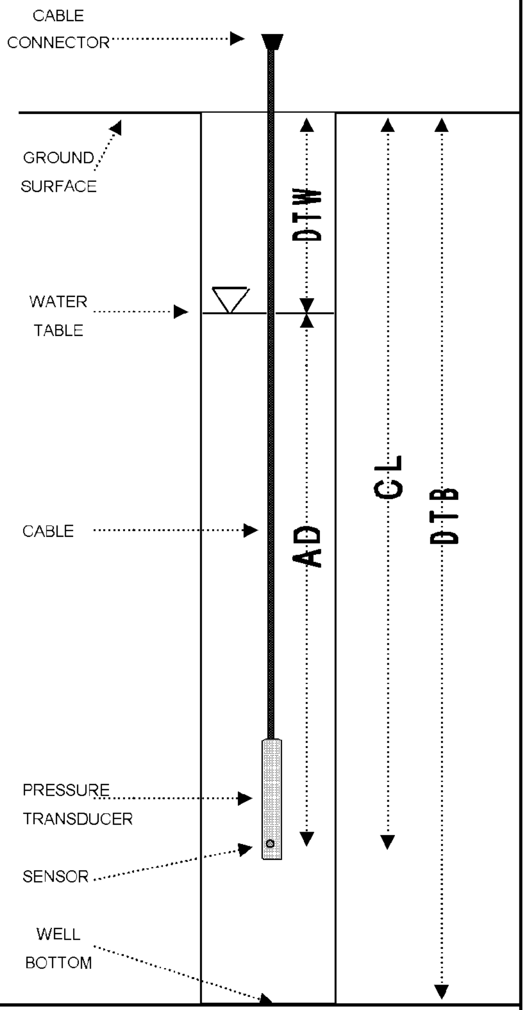
STATIC GROUNDWATER TABLE ELEVATION (FT) 7.05

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		24.00	FT
GROUND ELEVATION:		11.799	FT M.S.L.
CASING ELEVATION:		11.598	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.201	FT
		--	FT
TIME OF MEASUREMENT:		1043	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		4.55	FT
ACTUAL DEPTH:	+	35.371	FT
THEORETICAL CABLE LENGTH:	=	39.921	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		11.598	FT M.S.L.
DEPTH TO WATER:	−	4.55	FT
REFERENCE ELEVATION:	=	7.048	FT M.S.L.
TEST NAME:		MW-36-24	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1043	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
Readings were off by -1.828. Reset. Start new test.

GZA
WELL ID : MW-36-24

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-37-22
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER

FINAL BORING DEPTH (FT) 57.00
GROUND ELEVATION (FT) 15.021
CASING ELEVATION (FT) 14.852
CASING DIAMETER (INCH) 2

DATUM NGVD 29
DATE

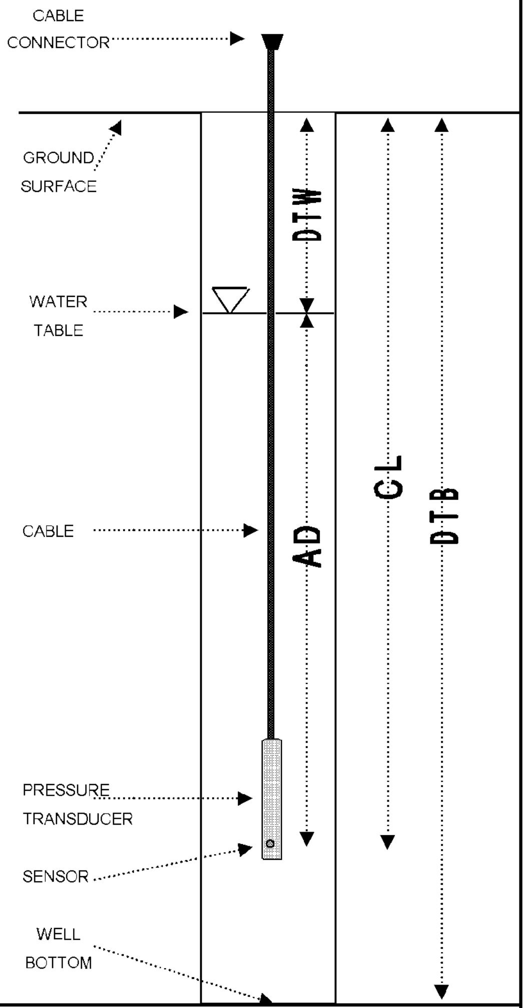
STATIC GROUNDWATER TABLE ELEVATION (FT) * 14.85

GZA ENGINEER M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		22.00	FT
GROUND ELEVATION:		15.021	FT M.S.L.
CASING ELEVATION:		14.852	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.17	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:			HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:			FT
ACTUAL DEPTH:	+		FT
THEORETICAL CABLE LENGTH:	=	0.00	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.852	*FT M.S.L.
DEPTH TO WATER:	−	0.00	FT
REFERENCE ELEVATION:	=	14.852	*FT M.S.L.
TEST NAME:		MW37-22	
LOGGING INTERVAL:		20	MIN
TEST START TIME:			HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID : MW-37-22

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK 440 NINTH AVENUE, 18th FLOOR NEW YORK, NEW YORK 10001 SCIENTISTS AND ENGINEERS	Client Entergy Indian Point Energy Center	WELL ID SHEET FILE NO. PROJECT LOCATION	MW-41-40 1 of 1 01.0017869.91 Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	64.00	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	54.87	DATE	4/7/09
PSI CAPACITY	30	CASING ELEVATION (FT)	54.13		
SERIAL NUMBER	6321	CASING DIAMETER (INCH)	2		

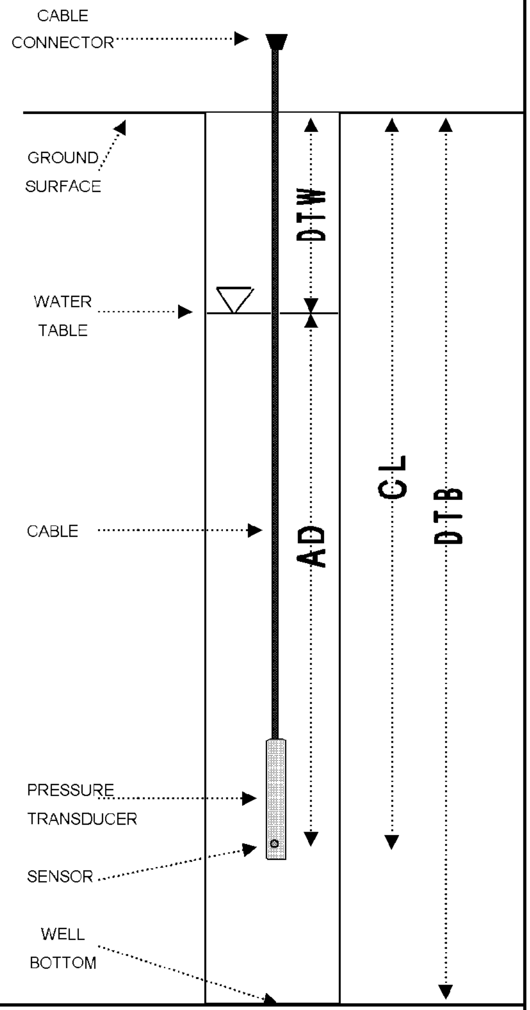
STATIC GROUNDWATER TABLE ELEVATION (FT) 32.63

GZA ENGINEER M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		40.00	FT
GROUND ELEVATION:		54.87	FT M.S.L.
CASING ELEVATION:		54.13	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.74	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1240	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		21.50	FT
ACTUAL DEPTH:	+	14.550	FT
THEORETICAL CABLE LENGTH:	=	36.050	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		54.13	FT M.S.L.
DEPTH TO WATER:	−	21.50	FT
REFERENCE ELEVATION:	=	32.63	FT M.S.L.
TEST NAME:		MW-41-40	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1240	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Transducer off by 0.53. Reset.Did not change time.

GZA

WELL ID : MW-41-40

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID	MW42-78
SHEET	1 of 1
FILE NO.	01.0017869.91
PROJECT LOCATION	Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	80.00	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	69.714	DATE	5/12/09
PSI CAPACITY	30	CASING ELEVATION (FT)	69.524		
SERIAL NUMBER	16626	CASING DIAMETER (INCH)	1		

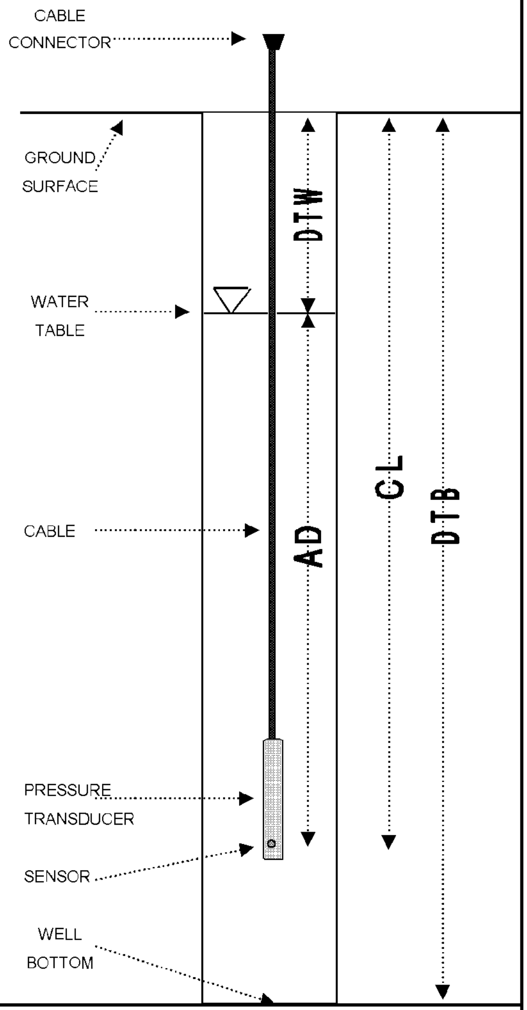
STATIC GROUNDWATER TABLE ELEVATION (FT) 36.32

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		78.00	FT
GROUND ELEVATION:		69.71	FT M.S.L.
CASING ELEVATION:		69.52	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.19	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1048	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		33.20	FT
ACTUAL DEPTH:	+	44.599	FT
THEORETICAL CABLE LENGTH:	=	77.799	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		69.524	FT M.S.L.
DEPTH TO WATER:	−	33.20	FT
REFERENCE ELEVATION:	=	36.324	FT M.S.L.
TEST NAME:		MW42-78	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1048	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Replaced low battery, started new test.

GZA

WELL ID : MW-42-78

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-45-61
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 16930

FINAL BORING DEPTH (FT) 67.00
GROUND ELEVATION (FT) 53.662
CASING ELEVATION (FT) 53.217
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE 5/11/09

STATIC GROUNDWATER TABLE ELEVATION (FT) 30.00

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: 61.00 FT
GROUND ELEVATION: 53.662 FT M.S.L.
CASING ELEVATION: 53.217 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): -0.45 FT
MEASURED CABLE LENGTH: -- FT

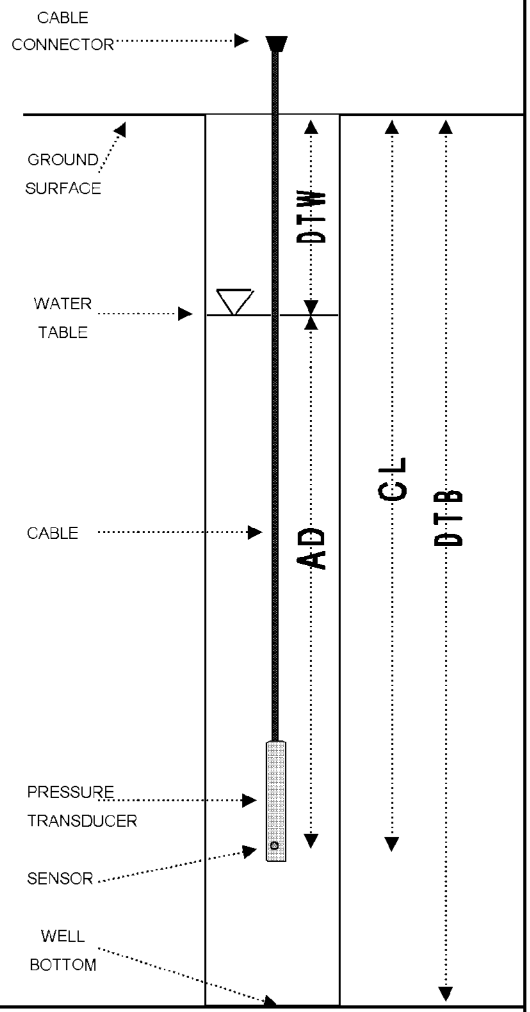
TIME OF MEASUREMENT: 1500 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 23.220 FT
ACTUAL DEPTH: + 38.064 FT
THEORETICAL CABLE LENGTH: = 61.284 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 53.217 FT M.S.L.
DEPTH TO WATER: − 23.22 FT
REFERENCE ELEVATION: = 29.997 FT M.S.L.

TEST NAME: MW-45-61
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1500 HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
Replaced batteries, Started new test.

GZA

WELL ID : MW-45-61

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID: MW-48-23
SHEET: 1 of 1
FILE NO.: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER: 3048

FINAL BORING DEPTH (FT): 40.00
GROUND ELEVATION (FT): 15.389
CASING ELEVATION (FT): 14.759
CASING DIAMETER (INCH): 2

DATUM: NGVD 29
DATE: 5/8/09

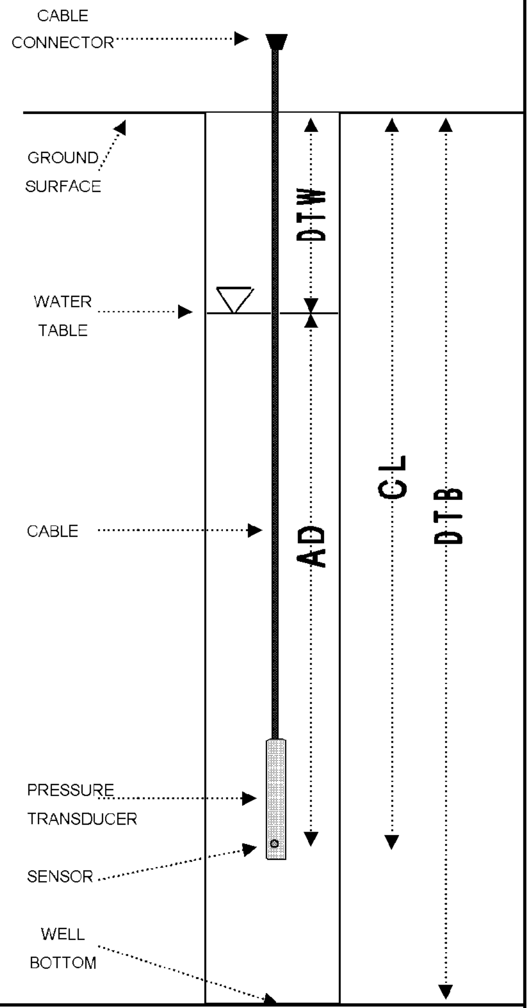
STATIC GROUNDWATER TABLE ELEVATION (FT): 2.66

GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		23.00	FT
GROUND ELEVATION:		15.389	FT M.S.L.
CASING ELEVATION:		14.759	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.63	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1055	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		12.10	FT
ACTUAL DEPTH:	+	9.912	FT
THEORETICAL CABLE LENGTH:	=	22.012	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.759	FT M.S.L.
DEPTH TO WATER:	−	12.10	FT
REFERENCE ELEVATION:	=	2.659	FT M.S.L.
TEST NAME:		MW-48-23	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1055	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
ABEND. Replaced battery, reset time, started new test.

GZA

WELL ID : MW-48-23

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-49-26
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER

FINAL BORING DEPTH (FT) 26.00
GROUND ELEVATION (FT) 14.650
CASING ELEVATION (FT) 14.171
CASING DIAMETER (INCH) 2

DATUM NGVD 29
DATE 5/6/09

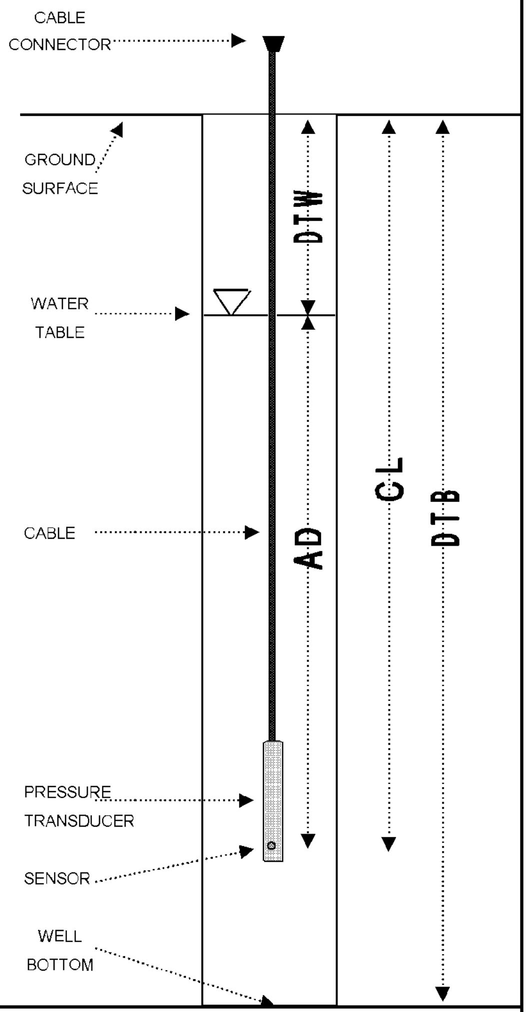
STATIC GROUNDWATER TABLE ELEVATION (FT) 1.33

GZA ENGINEER M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		26.00	FT
GROUND ELEVATION:		14.650	FT M.S.L.
CASING ELEVATION:		14.171	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.48	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		831	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		12.84	FT
ACTUAL DEPTH:	+	11.865	FT
THEORETICAL CABLE LENGTH:	=	24.705	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.17	FT M.S.L.
DEPTH TO WATER:	−	12.84	FT
REFERENCE ELEVATION:	=	1.33	FT M.S.L.
TEST NAME:		MW-49-26	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		833	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Reset clock, changed batteries.

GZA

WELL ID : MW-49-26

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-49-65
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 15847

FINAL BORING DEPTH (FT) 66.00
GROUND ELEVATION (FT) 14.650
CASING ELEVATION (FT) 14.457
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE 5/26/09

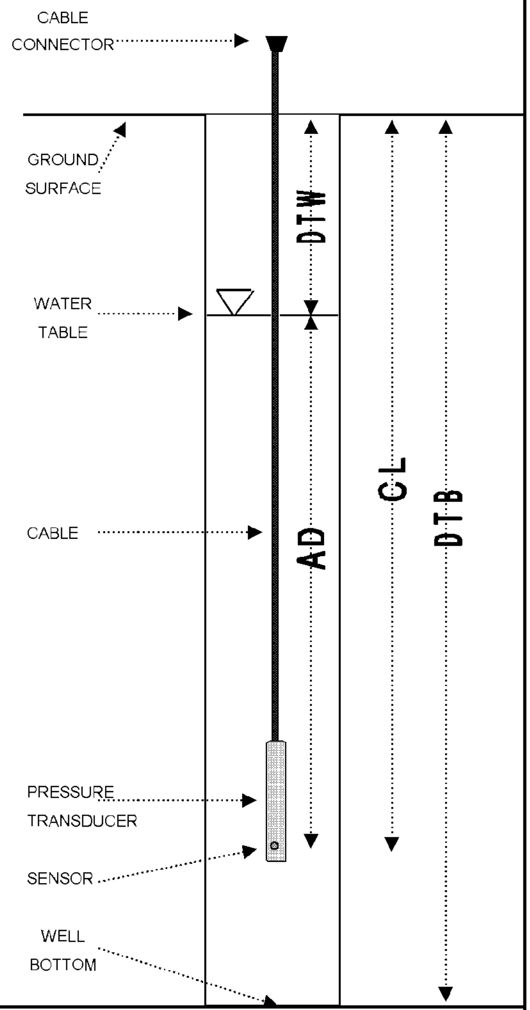
STATIC GROUNDWATER TABLE ELEVATION (FT) 3.15

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		65.50	FT
GROUND ELEVATION:		14.650	FT M.S.L.
CASING ELEVATION:		14.457	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.19	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1354	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		11.31	FT
ACTUAL DEPTH:	+	14.50	FT
THEORETICAL CABLE LENGTH:	=	25.81	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.457	FT M.S.L.
DEPTH TO WATER:	−	11.31	FT
REFERENCE ELEVATION:	=	3.147	FT M.S.L.
TEST NAME:		MW-49-65	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1354	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
Replaced batteries.

GZA

WELL ID : MW-49-65

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID	MW-50-66
SHEET	1 of 1
FILE NO.	01.0017869.91
PROJECT LOCATION	Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	67.00	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	14.92	DATE	5/20/09
PSI CAPACITY	30	CASING ELEVATION (FT)	14.61		
SERIAL NUMBER	14459	CASING DIAMETER (INCH)	1		

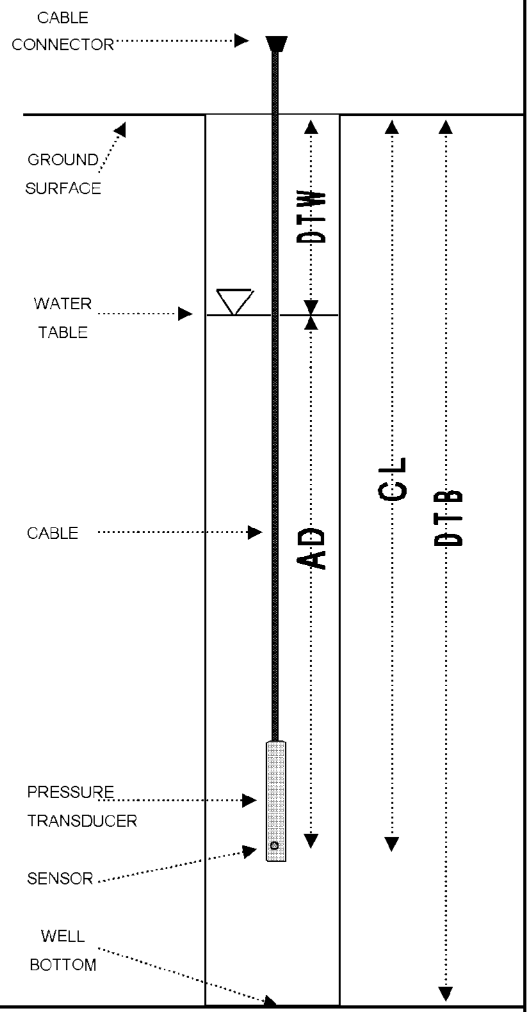
STATIC GROUNDWATER TABLE ELEVATION (FT) 3.27

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		65.75	FT
GROUND ELEVATION:		14.92	FT M.S.L.
CASING ELEVATION:		14.61	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.31	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1425	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		11.34	FT
ACTUAL DEPTH:	+	88.281	FT
THEORETICAL CABLE LENGTH:	=	99.621	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.614	FT M.S.L.
DEPTH TO WATER:	−	11.34	FT
REFERENCE ELEVATION:	=	3.274	FT M.S.L.
TEST NAME:		MW-50-66	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1425	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Replaced batteries. Reset and started new test.

GZA

WELL ID : MW-50-66

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID: MW-52-11
SHEET: 1 of 1
FILE NO.: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER: 14150

FINAL BORING DEPTH (FT): 12.00
GROUND ELEVATION (FT): 16.77
CASING ELEVATION (FT): 16.28
CASING DIAMETER (INCH): 2

DATUM: NGVD 29
DATE: 5/19/09

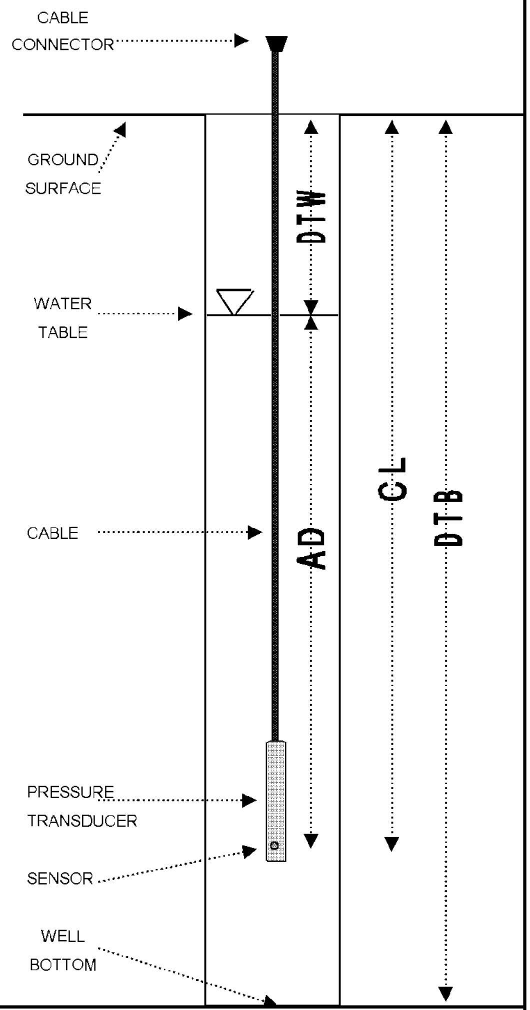
STATIC GROUNDWATER TABLE ELEVATION (FT): 8.14

GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		11.00	FT
GROUND ELEVATION:		16.77	FT M.S.L.
CASING ELEVATION:		16.28	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.49	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1328	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		8.14	FT
ACTUAL DEPTH:	+	-13.24	FT
THEORETICAL CABLE LENGTH:	=	-5.10	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:	*	16.28	FT M.S.L.
DEPTH TO WATER:	−	8.14	FT
REFERENCE ELEVATION:	=	8.14	FT M.S.L.
TEST NAME:		MW-52-12	
LOGGING INTERVAL:		20	MIN
TEST START TIME:			HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
Readings off by 0.425. reset. Started new test

GZA

WELL ID : MW-52-11

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID	MW-52-11
SHEET	1 of 1
FILE NO.	01.0017869.91
PROJECT LOCATION	Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	12.00	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	16.77	DATE	4/30/09
PSI CAPACITY	30	CASING ELEVATION (FT)	16.28		
SERIAL NUMBER	14150	CASING DIAMETER (INCH)	2		

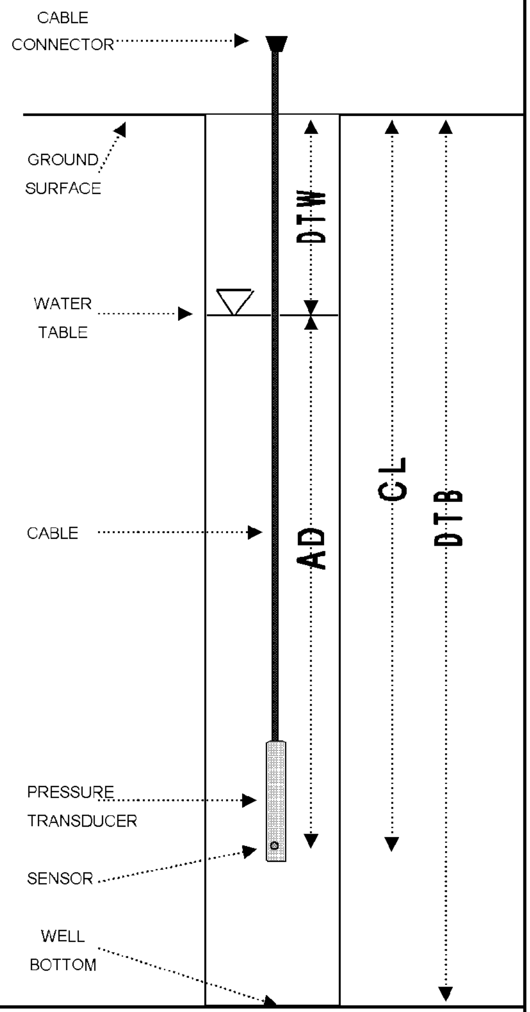
STATIC GROUNDWATER TABLE ELEVATION (FT) 8.10

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		11.00	FT
GROUND ELEVATION:		16.77	FT M.S.L.
CASING ELEVATION:		16.28	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.49	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1358	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		8.18	FT
ACTUAL DEPTH:	+	1.87	FT
THEORETICAL CABLE LENGTH:	=	10.05	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:	*	16.28	FT M.S.L.
DEPTH TO WATER:	−	8.18	FT
REFERENCE ELEVATION:	=	8.10	FT M.S.L.
TEST NAME:		MW-52-12	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1358	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Old trandsucer had water inside. Set time.

GZA WELL ID : MW-52-11

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-55-54
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 20801

FINAL BORING DEPTH (FT) 77.50
GROUND ELEVATION (FT) 18.25
CASING ELEVATION (FT) 17.77
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE 4/29/09

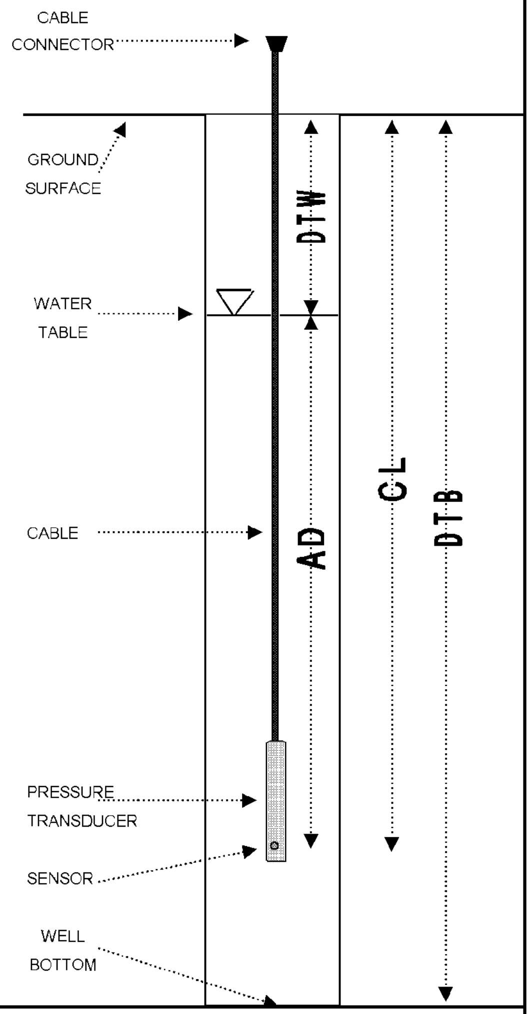
STATIC GROUNDWATER TABLE ELEVATION (FT) 7.45

GZA ENGINEER M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		54.00	FT
GROUND ELEVATION:		18.25	FT M.S.L.
CASING ELEVATION:		17.77	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.48	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		8:41	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		10.32	FT
ACTUAL DEPTH:	+	40.51	FT
THEORETICAL CABLE LENGTH:	=	50.83	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		17.77	FT M.S.L.
DEPTH TO WATER:	−	10.32	FT
REFERENCE ELEVATION:	=	7.45	FT M.S.L.
TEST NAME:		MW-55-54	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		841	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID : MW-55-54

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-56-53
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER

FINAL BORING DEPTH (FT) 88.50
GROUND ELEVATION (FT) 70.26
CASING ELEVATION (FT) 69.32
CASING DIAMETER (INCH) 2

DATUM NGVD 29
DATE 4/16/09

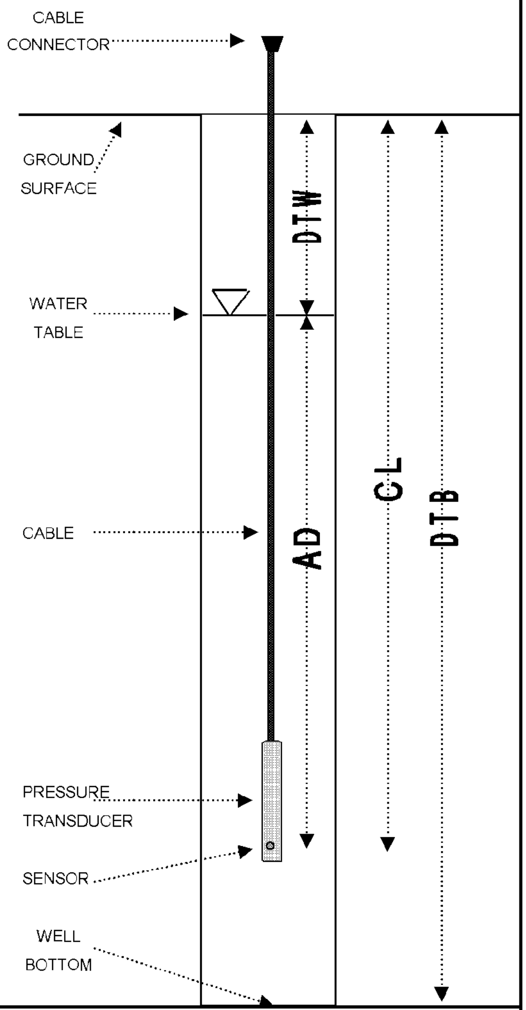
STATIC GROUNDWATER TABLE ELEVATION (FT) 22.08

GZA ENGINEER M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		53.00	FT
GROUND ELEVATION:		70.26	FT M.S.L.
CASING ELEVATION:		69.32	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.94	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		955	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		47.24	FT
ACTUAL DEPTH:	+	42.310	FT
THEORETICAL CABLE LENGTH:	=	89.550	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		69.32	FT M.S.L.
DEPTH TO WATER:	−	47.24	FT
REFERENCE ELEVATION:	=	22.08	FT M.S.L.
TEST NAME:		MW-56-53	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		955	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID : MW-56-53

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID: MW-56-83
SHEET: 1 of 1
FILE NO.: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER: 16394

FINAL BORING DEPTH (FT): 88.50
GROUND ELEVATION (FT): 70.258
CASING ELEVATION (FT): 69.207
CASING DIAMETER (INCH): 1

DATUM: NGVD 29
DATE: 4/16/09

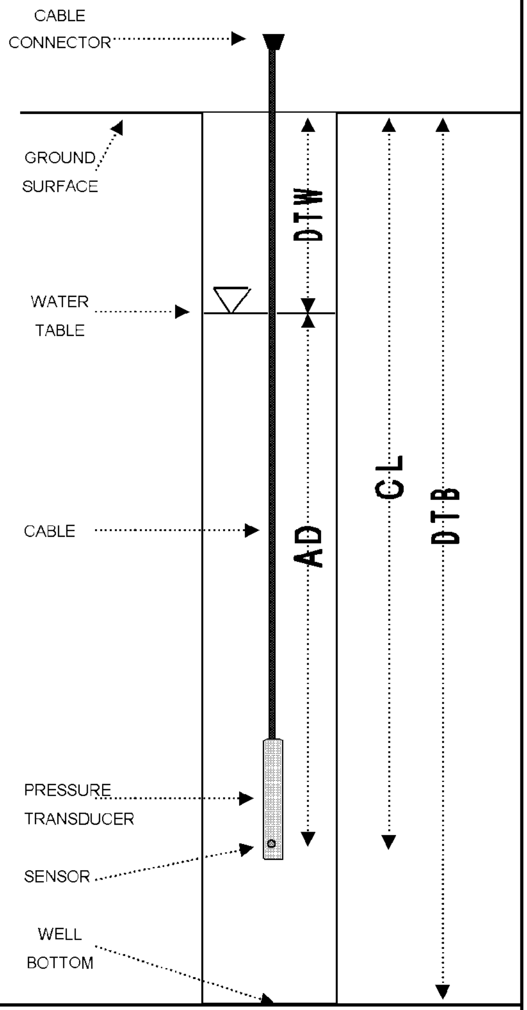
STATIC GROUNDWATER TABLE ELEVATION (FT): 22.05

GZA ENGINEER: M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		83.00	FT
GROUND ELEVATION:		70.258	FT M.S.L.
CASING ELEVATION:		69.207	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-1.05	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1210	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		47.16	FT
ACTUAL DEPTH:	+	36.820	FT
THEORETICAL CABLE LENGTH:	=	83.980	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		69.207	FT M.S.L.
DEPTH TO WATER:	−	47.16	FT
REFERENCE ELEVATION:	=	22.047	FT M.S.L.
TEST NAME:		MW-56-83	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1210	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID : MW-56-83

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-57-11
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 16389

FINAL BORING DEPTH (FT) 46.50
GROUND ELEVATION (FT) 14.98
CASING ELEVATION (FT) 14.73
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE 5/20/09

STATIC GROUNDWATER TABLE ELEVATION (FT) 10.03

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: 11.00 FT
GROUND ELEVATION: 14.98 FT M.S.L.
CASING ELEVATION: 14.73 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): -0.25 FT
MEASURED CABLE LENGTH: -- FT

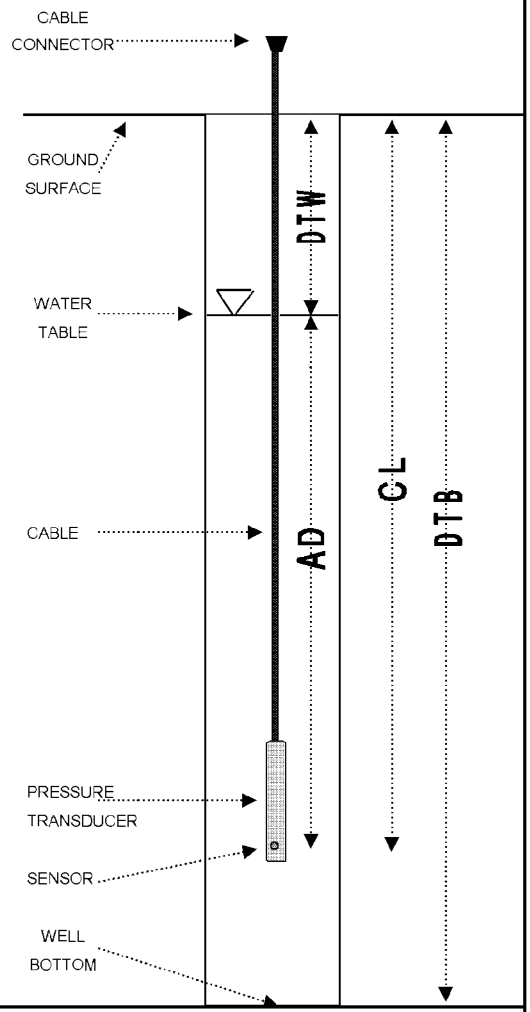
TIME OF MEASUREMENT: 1219 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 4.70 FT
ACTUAL DEPTH: + 40.600 FT
THEORETICAL CABLE LENGTH: = 45.300 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 14.73 FT M.S.L.
DEPTH TO WATER: − 4.70 FT
REFERENCE ELEVATION: = 10.03 FT M.S.L.

TEST NAME: MW-57-11n
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1219 HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Replaced cable, transducer and attached tubing. Started new test.
removed 3078

GZA

WELL ID : MW-57-11

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-57-11
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER

FINAL BORING DEPTH (FT) 46.50
GROUND ELEVATION (FT) 14.98
CASING ELEVATION (FT) 14.73
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE 4/21/09

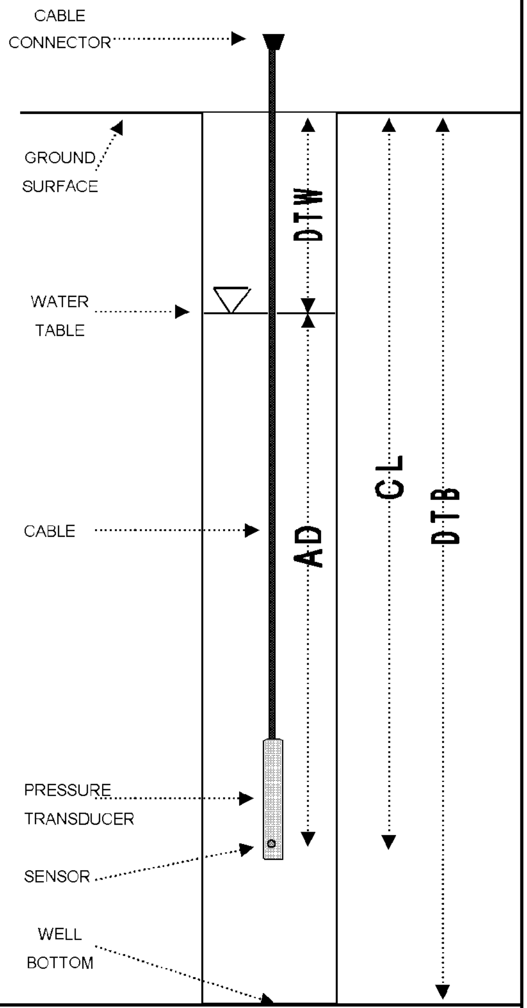
STATIC GROUNDWATER TABLE ELEVATION (FT) 10.09

GZA ENGINEER M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		11.00	FT
GROUND ELEVATION:		14.98	FT M.S.L.
CASING ELEVATION:		14.73	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.25	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		916	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		4.64	FT
ACTUAL DEPTH:	+	6.307	FT
THEORETICAL CABLE LENGTH:	=	10.947	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.73	FT M.S.L.
DEPTH TO WATER:	−	4.64	FT
REFERENCE ELEVATION:	=	10.09	FT M.S.L.
TEST NAME:		MW-57-11n	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		916	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Replaced cable, transducer and attached tubing. Started new test.

GZA

WELL ID : MW-57-11

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK 440 NINTH AVENUE, 18th FLOOR NEW YORK, NEW YORK 10001 SCIENTISTS AND ENGINEERS	Client Entergy Indian Point Energy Center	WELL ID: MW-57-20 SHEET: 1 of 1 FILE NO.: 01.0017869.91 PROJECT LOCATION: Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	46.50	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	14.98	DATE	4/21/09
PSI CAPACITY	30	CASING ELEVATION (FT)	14.75		
SERIAL NUMBER	5368	CASING DIAMETER (INCH)	1		

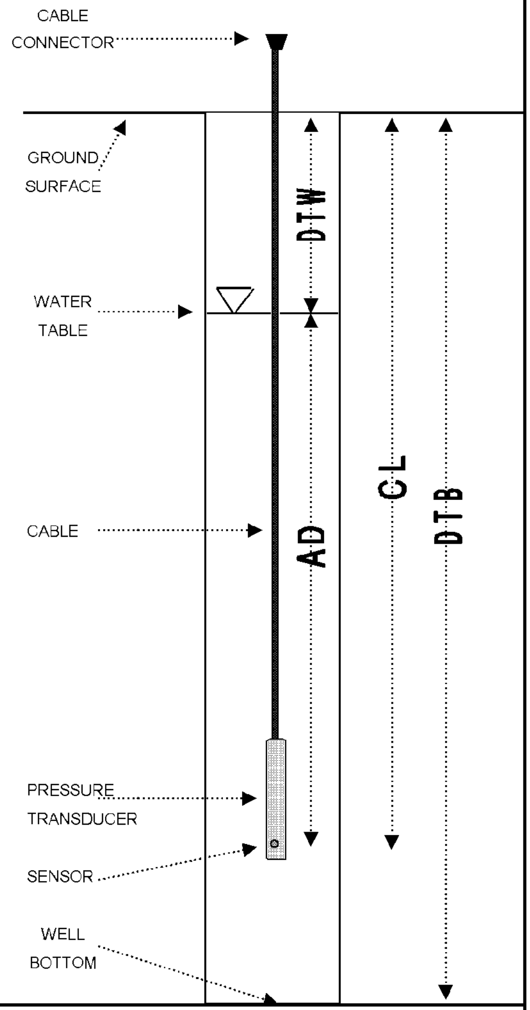
STATIC GROUNDWATER TABLE ELEVATION (FT) 10.15

GZA ENGINEER M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		20.00	FT
GROUND ELEVATION:		14.98	FT M.S.L.
CASING ELEVATION:		14.75	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.23	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		944	HRS
MEASUREMENT TAKEN FROM:		casing	
DEPTH TO WATER:		4.60	FT
ACTUAL DEPTH:	+	-15.471	FT
THEORETICAL CABLE LENGTH:	=	-10.871	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.75	FT M.S.L.
DEPTH TO WATER:	−	4.60	FT
REFERENCE ELEVATION:	=	10.15	FT M.S.L.
TEST NAME:		MW-57-20	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		944	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Transducer replaced. Old transducer corroded and reading negative numbers.

GZA WELL ID : MW-57-20

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID: MW-57-45
SHEET: 1 of 1
FILE NO.: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER: 16642

FINAL BORING DEPTH (FT): 46.50
GROUND ELEVATION (FT): 14.98
CASING ELEVATION (FT): 14.81
CASING DIAMETER (INCH): 1

DATUM: NGVD 29
DATE: 5/20/09

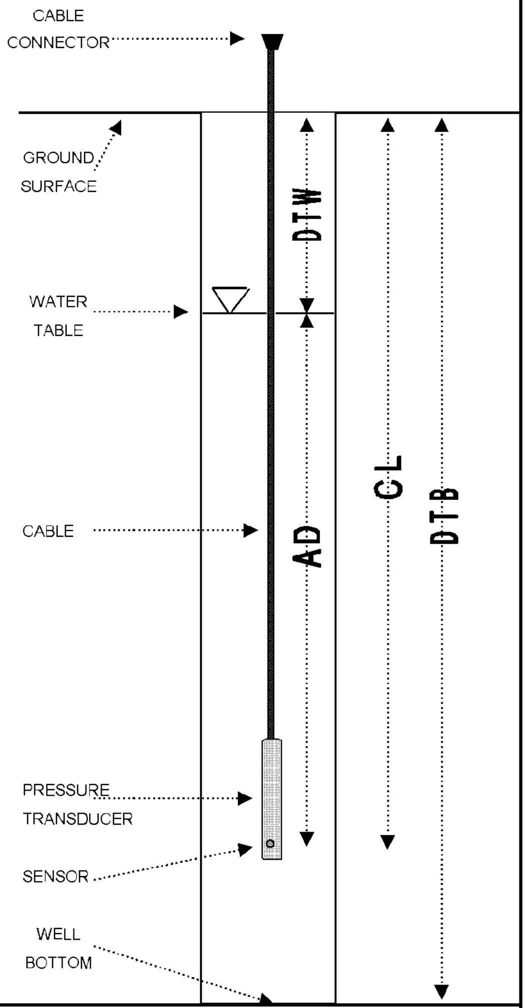
STATIC GROUNDWATER TABLE ELEVATION (FT): 9.41

GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		45.00	FT
GROUND ELEVATION:		14.98	FT M.S.L.
CASING ELEVATION:		14.81	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.17	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1135	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		5.40	FT
ACTUAL DEPTH:	+	73.292	FT
THEORETICAL CABLE LENGTH:	=	78.692	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.81	FT M.S.L.
DEPTH TO WATER:	−	5.40	FT
REFERENCE ELEVATION:	=	9.41	FT M.S.L.
TEST NAME:		MW-57-45	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1132	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Reading is off by -.709. Reset and start new test.

Non-vented cable.

GZA

WELL ID : MW-57-45

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-58-26
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	72.00	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	14.57	DATE	5/13/09
PSI CAPACITY	30	CASING ELEVATION (FT)	14.23		
SERIAL NUMBER	3114	CASING DIAMETER (INCH)	2		

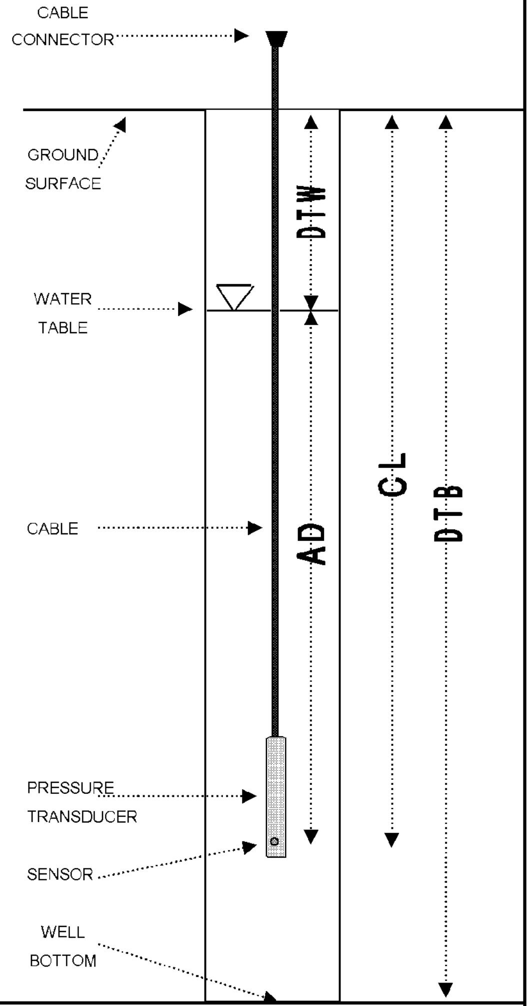
STATIC GROUNDWATER TABLE ELEVATION (FT) 8.43

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		26.00	FT
GROUND ELEVATION:		14.57	FT M.S.L.
CASING ELEVATION:		14.23	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.34	FT
		--	FT
TIME OF MEASUREMENT:		1443	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		5.80	FT
ACTUAL DEPTH:	+	19.370	FT
THEORETICAL CABLE LENGTH:	=	25.170	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.23	FT M.S.L.
DEPTH TO WATER:	−	5.80	FT
REFERENCE ELEVATION:	=	8.43	FT M.S.L.
TEST NAME:		MW-58-26	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1443	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Replaced batteries and started new test.

GZA

WELL ID : MW-58-26

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID: MW-58-65
SHEET: 1 of 1
FILE NO.: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	72.00	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	14.57	DATE	5/13/09
PSI CAPACITY	30	CASING ELEVATION (FT)	14.25		
SERIAL NUMBER	5619	CASING DIAMETER (INCH)	1		

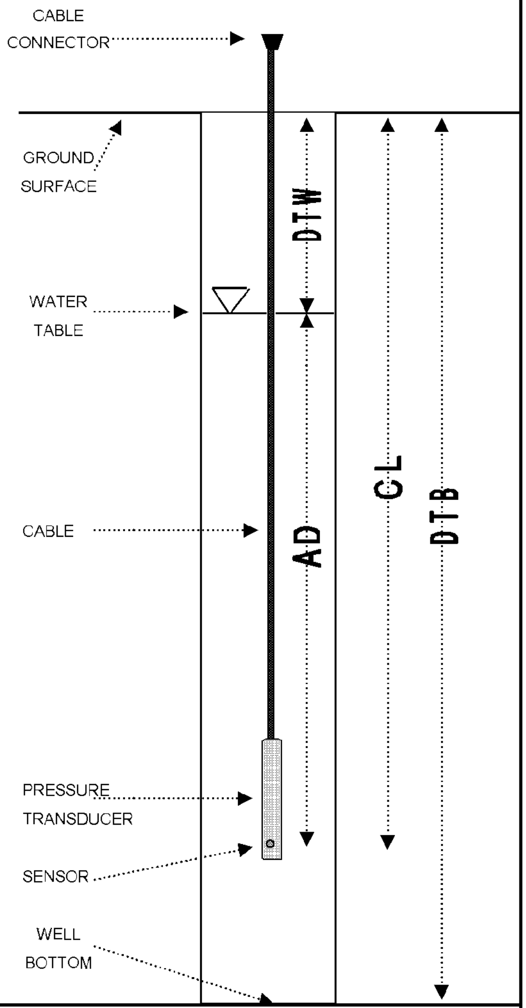
STATIC GROUNDWATER TABLE ELEVATION (FT): 7.97

GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		65.00	FT
GROUND ELEVATION:		14.57	FT M.S.L.
CASING ELEVATION:		14.25	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.32	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1454	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		6.28	FT
ACTUAL DEPTH:	+	62.242	FT
THEORETICAL CABLE LENGTH:	=	68.522	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.25	FT M.S.L.
DEPTH TO WATER:	−	6.28	FT
REFERENCE ELEVATION:	=	7.97	FT M.S.L.
TEST NAME:		MW-58-65	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1454	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
Off by 0.310. Reset

GZA

WELL ID : MW-58-65

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-59-32
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 16489

FINAL BORING DEPTH (FT) 77.00
GROUND ELEVATION (FT) 14.52
CASING ELEVATION (FT) 14.41
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE 5/14/09

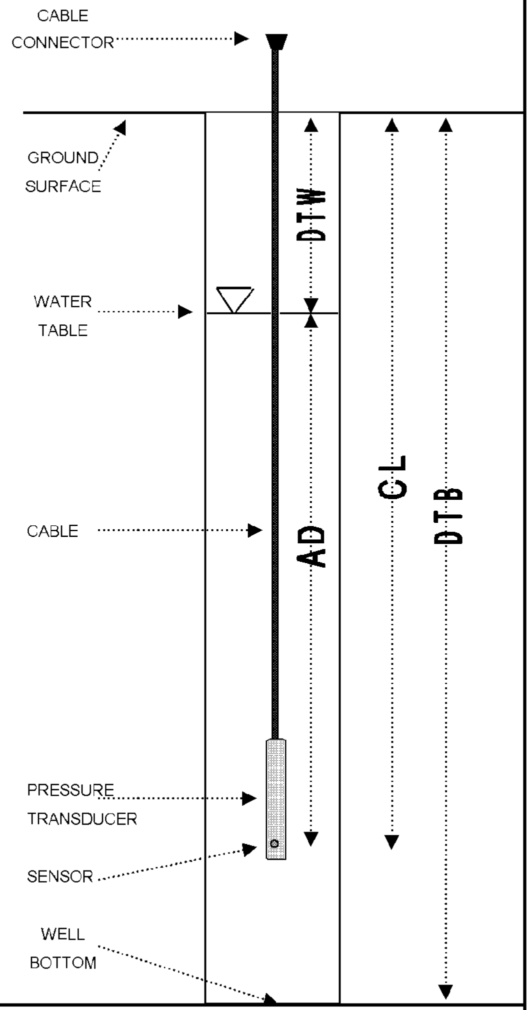
STATIC GROUNDWATER TABLE ELEVATION (FT) 1.24

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		32.00	FT
GROUND ELEVATION:		14.52	FT M.S.L.
CASING ELEVATION:		14.41	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.11	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		0833	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		13.17	FT
ACTUAL DEPTH:	+	47.01	FT
THEORETICAL CABLE LENGTH:	=	60.18	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.41	FT M.S.L.
DEPTH TO WATER:	−	13.17	FT
REFERENCE ELEVATION:	=	1.24	FT M.S.L.
TEST NAME:		MW-59-32	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		0833	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Replaced batteries, started new test.

GZA

WELL ID : MW-59-32

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-59-45
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	77.00	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	14.52	DATE	5/13/09
PSI CAPACITY	30	CASING ELEVATION (FT)	13.90		
SERIAL NUMBER	14340	CASING DIAMETER (INCH)	1		

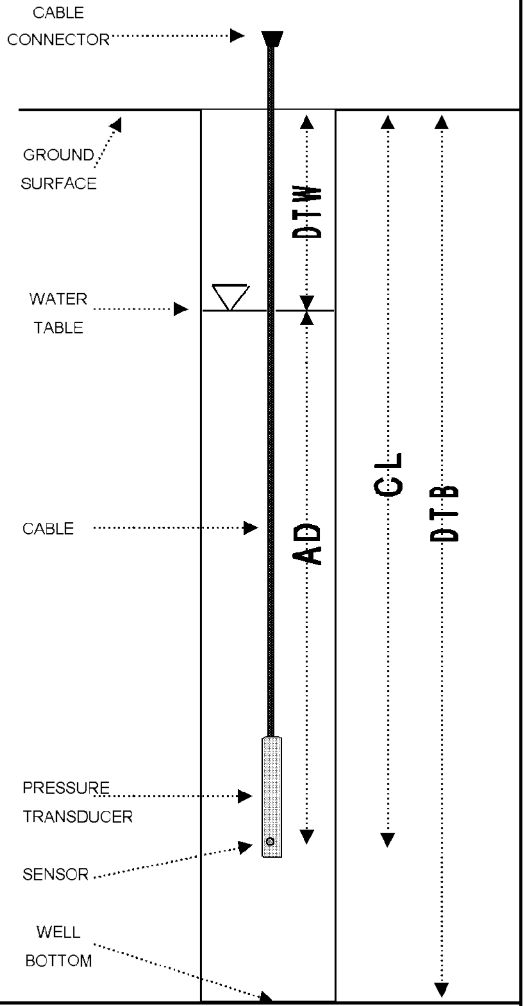
STATIC GROUNDWATER TABLE ELEVATION (FT) 3.58

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		45.00	FT
GROUND ELEVATION:		14.52	FT M.S.L.
CASING ELEVATION:		13.90	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.62	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1608	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		10.32	FT
ACTUAL DEPTH:	+	68.98	FT
THEORETICAL CABLE LENGTH:	=	79.30	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		13.90	FT M.S.L.
DEPTH TO WATER:	−	10.32	FT
REFERENCE ELEVATION:	=	3.58	FT M.S.L.
TEST NAME:		MW-59-45	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1608	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Off by -2.034, Reset, start new test.

GZA

WELL ID : MW-59-45

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW59-68
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	77.00	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	14.52	DATE	5/14/09
PSI CAPACITY	30	CASING ELEVATION (FT)	14.23		
SERIAL NUMBER	14261	CASING DIAMETER (INCH)	1		

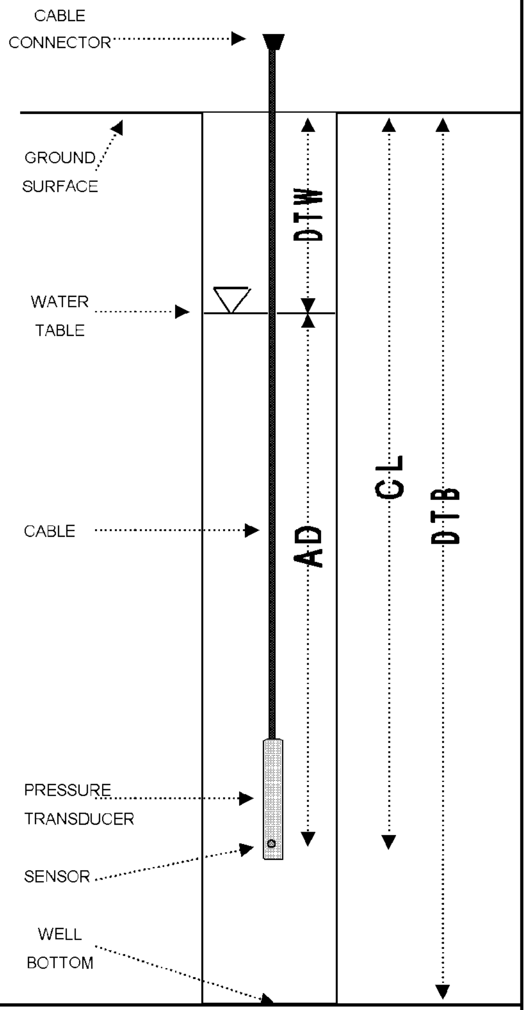
STATIC GROUNDWATER TABLE ELEVATION (FT) 2.94

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		68.30	FT
GROUND ELEVATION:		14.52	FT M.S.L.
CASING ELEVATION:		14.23	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		-	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.29	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		0859	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		11.29	FT
ACTUAL DEPTH:	+	64.59	FT
THEORETICAL CABLE LENGTH:	=	75.88	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.23	FT M.S.L.
DEPTH TO WATER:	−	11.29	FT
REFERENCE ELEVATION:	=	2.94	FT M.S.L.
TEST NAME:		MW59-68	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		0859	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Replaced batteries, started new test.

GZA

WELL ID : MW59-68

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID	MW-62-18
SHEET	1 of 1
FILE NO.	01.0017869.91
PROJECT LOCATION	Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	38.00	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	14.69	DATE	5/26/09
PSI CAPACITY	30	CASING ELEVATION (FT)	12.81		
SERIAL NUMBER	4859	CASING DIAMETER (INCH)	1		

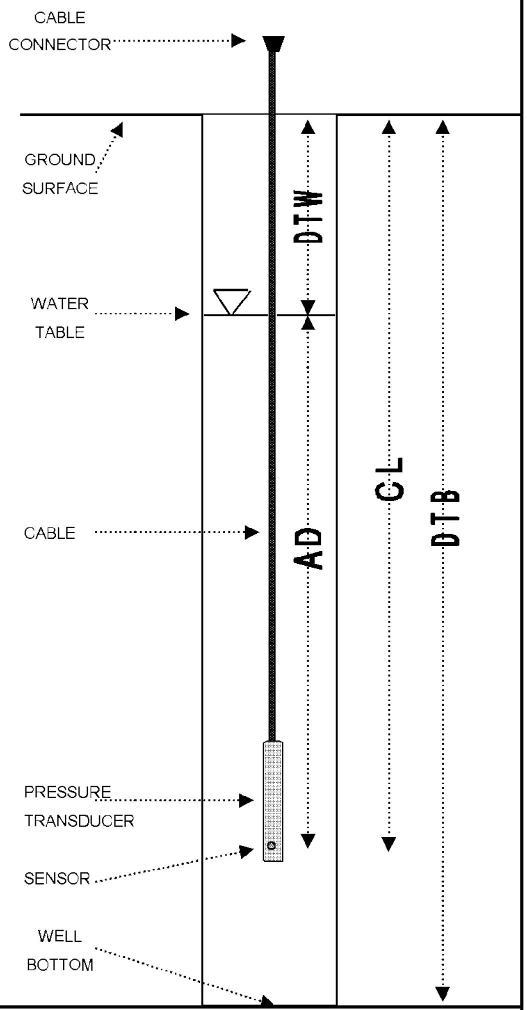
STATIC GROUNDWATER TABLE ELEVATION 1.21

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		18.00	FT
GROUND ELEVATION:		14.69	FT M.S.L.
CASING ELEVATION:		12.81	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-1.88	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		11:04	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		11.60	FT
ACTUAL DEPTH:	+	4.974	FT
THEORETICAL CABLE LENGTH:	=	16.574	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:	*	12.81	FT M.S.L.
DEPTH TO WATER:	−	11.60	FT
REFERENCE ELEVATION:	=	1.21	FT M.S.L.
TEST NAME:		MW-62-18	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1104	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
replaced batteries, started new test.

GZA

WELL ID : MW-62-18

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-63-34
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 5359

FINAL BORING DEPTH (FT) 35.00
GROUND ELEVATION (FT) 14.18
CASING ELEVATION (FT) 13.06
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE 5/18/09

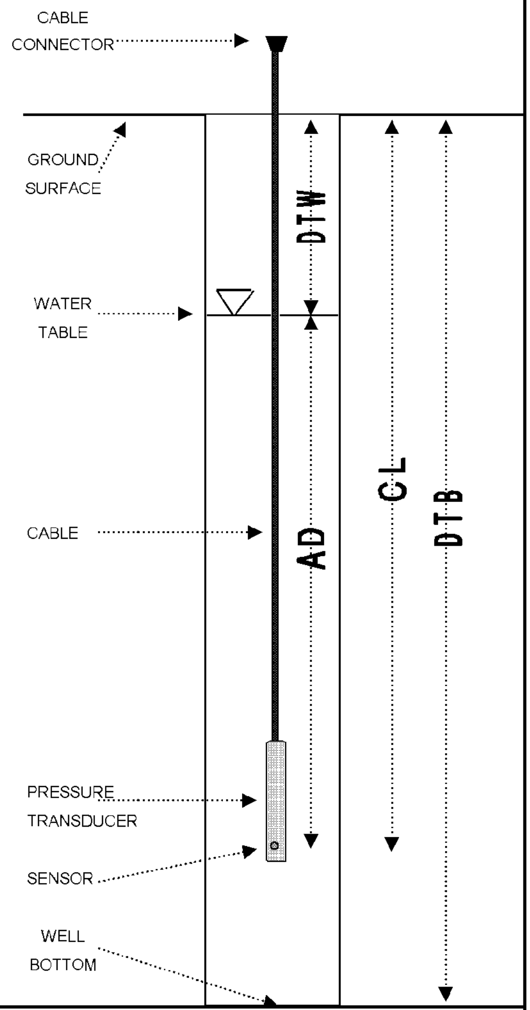
STATIC GROUNDWATER TABLE ELEVATION 0.66

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		34.00	FT
GROUND ELEVATION:		14.18	FT M.S.L.
CASING ELEVATION:		13.06	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-1.12	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1105	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		12.40	FT
ACTUAL DEPTH:	+	13.845	FT
THEORETICAL CABLE LENGTH:	=	26.245	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		13.06	FT M.S.L.
DEPTH TO WATER:	−	12.40	FT
REFERENCE ELEVATION:	=	0.66	FT M.S.L.
TEST NAME:		MW-63-34	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1105	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Replaced low battery. Started new test.

GZA

WELL ID : MW-63-34

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID: MW65-80
SHEET: 1 of 1
FILE NO.: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER: 8264

FINAL BORING DEPTH (FT): 80.00
GROUND ELEVATION (FT): 69.723
CASING ELEVATION (FT): 68.841
CASING DIAMETER (INCH): 1

DATUM: NGVD 29
DATE: 5/11/09

STATIC GROUNDWATER TABLE ELEVATION (FT): 33.84

GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: 80.00 FT
GROUND ELEVATION: 69.723 FT M.S.L.
CASING ELEVATION: 68.841 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): -0.882 FT
MEASURED CABLE LENGTH: -- FT

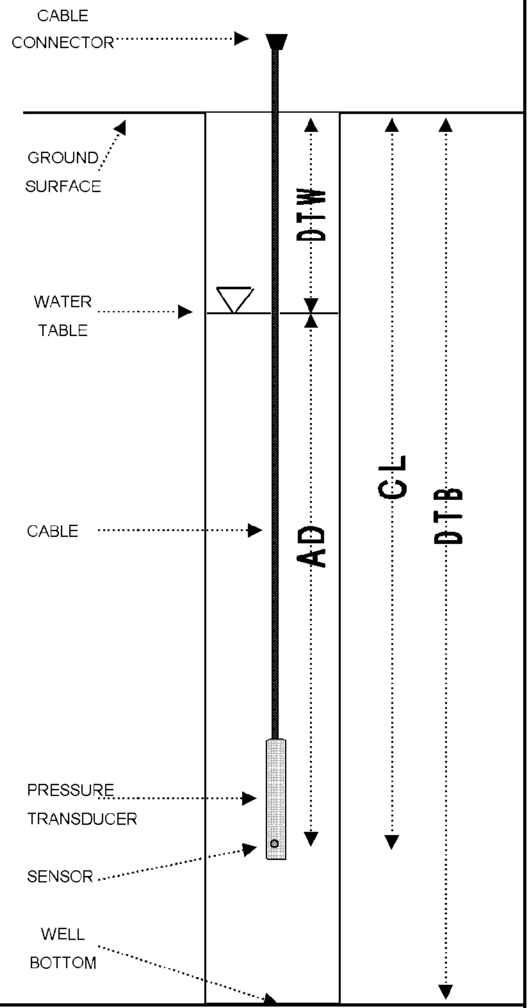
TIME OF MEASUREMENT: 1125 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 35.00 FT
ACTUAL DEPTH: + 36.860 FT
THEORETICAL CABLE LENGTH: = 71.860 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 68.841 FT M.S.L.
DEPTH TO WATER: − 35.00 FT
REFERENCE ELEVATION: = 33.841 FT M.S.L.

TEST NAME: MW65-80
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1125 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
Replaced battery. Started new.

GZA
WELL ID : MW65-80

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-109
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 5214

FINAL BORING DEPTH (FT) 11.80
GROUND ELEVATION (FT) 14.554
CASING ELEVATION (FT) 14.254
CASING DIAMETER (INCH) 2

DATUM NGVD 29
DATE 5/13/09

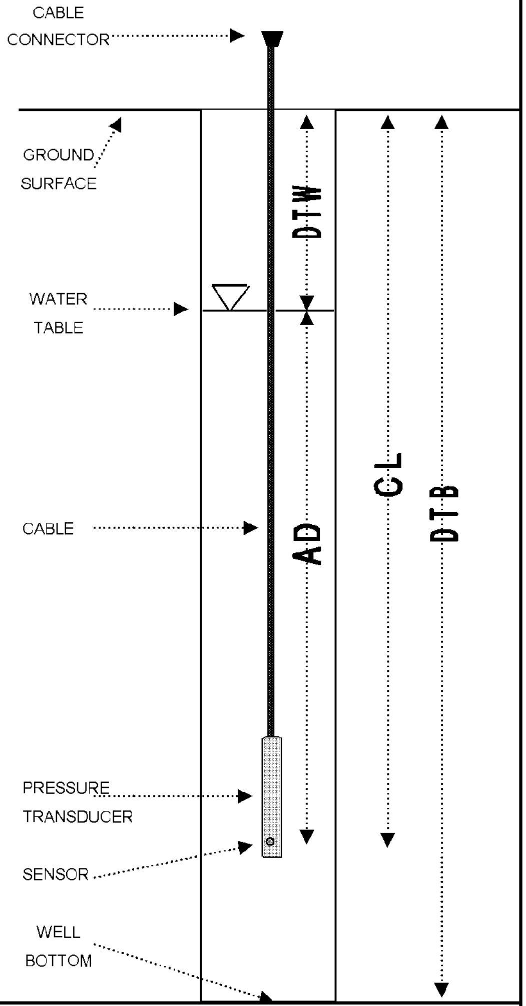
STATIC GROUNDWATER TABLE ELEVATION (FT) 8.84

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		11.80	FT
GROUND ELEVATION:		14.554	FT M.S.L.
CASING ELEVATION:		14.254	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.300	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1532	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		5.41	FT
ACTUAL DEPTH:	+	13.53	FT
THEORETICAL CABLE LENGTH:	=	18.94	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.254	FT M.S.L.
DEPTH TO WATER:	−	5.41	FT
REFERENCE ELEVATION:	=	8.844	FT M.S.L.
TEST NAME:		MW-109	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1532	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Transducer off by -7.221. Reset. Start new test.

GZA WELL ID : MW-109

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID OUT-1
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 16044

FINAL BORING DEPTH (FT) --
GROUND ELEVATION (FT) 8.20
CASING ELEVATION (FT) 11.89
CASING DIAMETER (INCH) 2

DATUM NGVD 29
DATE 5/5/09

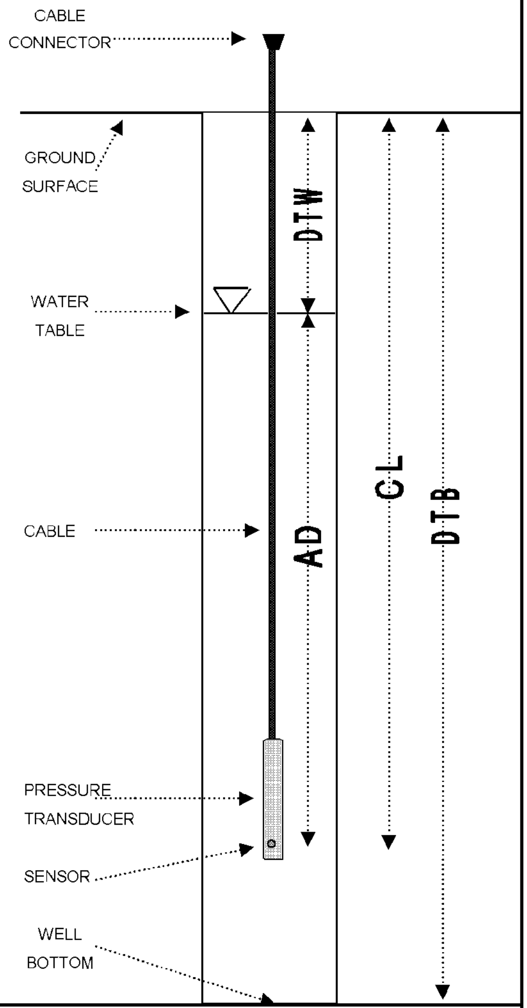
STATIC GROUNDWATER TABLE ELEVATION (FT) 3.55

GZA ENGINEER M. Britos A. Altieri

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		--	FT
GROUND ELEVATION:		8.20	FT M.S.L.
CASING ELEVATION:		11.89	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		above	
DISTANCE FROM CASING TO GROUND (+ OR -):		3.69	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1807	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		8.34	FT
ACTUAL DEPTH:	+	43.950	FT
THEORETICAL CABLE LENGTH:	=	52.290	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		11.891	FT M.S.L.
DEPTH TO WATER:	−	8.340	FT
REFERENCE ELEVATION:	=	3.551	FT M.S.L.
TEST NAME:		OUT-1	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1807	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

Reset clock

GZA

WELL ID : OUT-1

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK 440 NINTH AVENUE, 18th FLOOR NEW YORK, NEW YORK 10001 SCIENTISTS AND ENGINEERS	Client Entergy Indian Point Energy Center	WELL ID U3-3 SHEET 1 of 1 FILE NO. 01.0017869.91 PROJECT LOCATION Indian Point

MANUFACTURER	In-Situ	FINAL BORING DEPTH (FT)	14.15	DATUM	NGVD 29
MAKE	MiniTroll	GROUND ELEVATION (FT)	14.849	DATE	5/13/09
PSI CAPACITY	30	CASING ELEVATION (FT)	14.599		
SERIAL NUMBER	4318	CASING DIAMETER (INCH)	6		

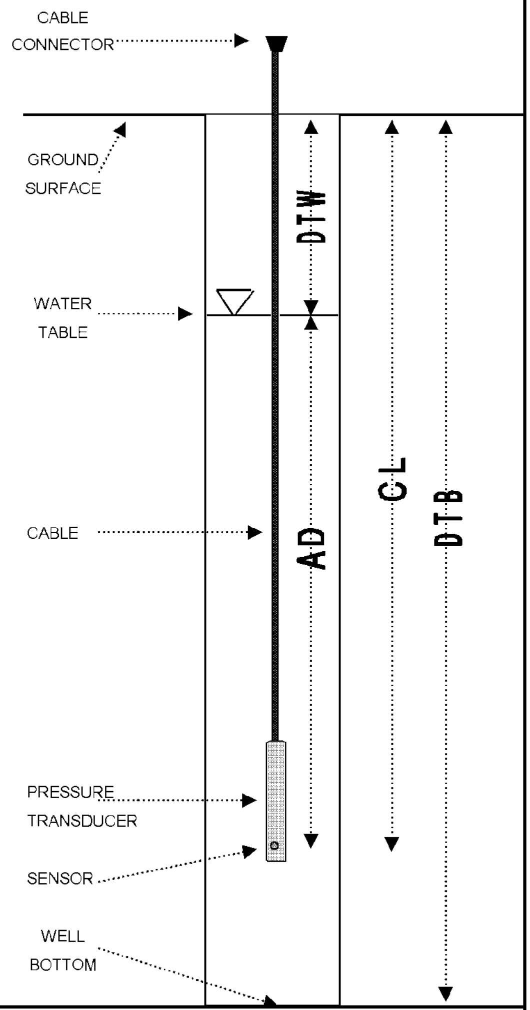
STATIC GROUNDWATER TABLE ELEVATION (FT) 8.14

GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		14.15	FT
GROUND ELEVATION:		14.849	FT M.S.L.
CASING ELEVATION:		14.599	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.250	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1333	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		6.46	FT
ACTUAL DEPTH:	+	9.260	FT
THEORETICAL CABLE LENGTH:	=	15.720	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.599	FT M.S.L.
DEPTH TO WATER:	−	6.46	FT
REFERENCE ELEVATION:	=	8.139	FT M.S.L.
TEST NAME:		U3-3	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1333	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

-0.341 off. Started new test.'U3-4D'!L85/13/09

GZA

WELL ID : U-3-3

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID: U3-4D
SHEET: 1 of 1
FILE NO.: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER: 14301

FINAL BORING DEPTH (FT): 27.25
GROUND ELEVATION (FT): 14.849
CASING ELEVATION (FT): 14.519
CASING DIAMETER (INCH): 4

DATUM: NGVD 29
DATE: 5/13/09

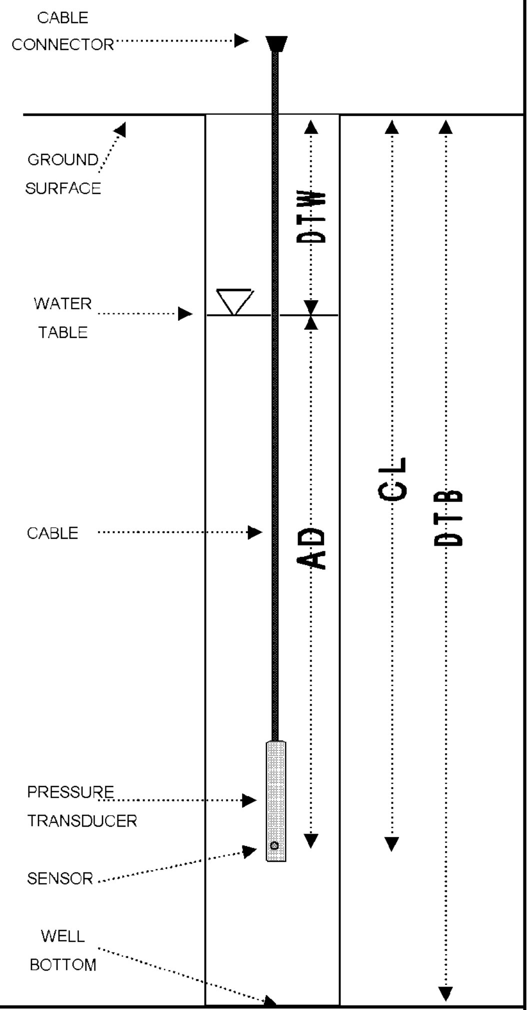
STATIC GROUNDWATER TABLE ELEVATION (FT): 4.35

GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM:		27.25	FT
GROUND ELEVATION:		14.849	FT M.S.L.
CASING ELEVATION:		14.519	FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:		below	
DISTANCE FROM CASING TO GROUND (+ OR -):		-0.330	FT
MEASURED CABLE LENGTH:		--	FT
TIME OF MEASUREMENT:		1228	HRS
MEASUREMENT TAKEN FROM:		TOC	
DEPTH TO WATER:		10.17	FT
ACTUAL DEPTH:	+	50.858	FT
THEORETICAL CABLE LENGTH:	=	61.028	FT
HAVE CLOCKS BEEN SYNCHRONIZED?		☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?		☑	check
ELEVATION OF MEASURING POINT:		14.519	FT M.S.L.
DEPTH TO WATER:	−	10.17	FT
REFERENCE ELEVATION:	=	4.349	FT M.S.L.
TEST NAME:		U3-4D	
LOGGING INTERVAL:		20	MIN
TEST START TIME:		1228	HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
Replaced battery and started new test.

GZA

WELL ID : U3-4D

APPENDIX C: CHAINS OF CUSTODY

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405

Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247

Address: 450 Broadway, Suite 3, Buchanan, NY 10511

Collected by: A.A. / M.B.
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							Comments Note: extra sample is required for sample specific QC
																			<-- Preservative Type (6)
MW-57-11-(005)	04/21/09	1208	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-57-20-(005)	04/21/09	1222	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-57-45-(006)	04/21/09	1334	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/21/09	1445	1 Secure Storage	4/21/09	1445
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered
4) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: A.A./M.B.
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							**Comments** Note: extra sample is required for sample specifi QC
MW-67-105-(008)	04/20/09	1600	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-67-173-(009)	04/20/09	1550	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-67-219-(008)	04/20/09	1209	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-67-276-(008)	04/20/09	1215	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-67-323-(008)	04/20/09	1220	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-67-340-(008)	04/20/09	1225	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-67-39-(009)	04/20/09	1502	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/20/09	1732	1 SECURED STORAGE	4/20/09	1732
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B - 3, 6010B/7470A - 1*).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA / MB
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							**Comments** Note: extra sample is required for sample specific QC
MW-66-21-(009)	4/20/09	1700	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-66-36-(008)	04/20/09	1526	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ___
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/20/09	1731	1 SECURED STORAGE	4/20/09	1731
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes N= Normal Sample, **TB** = Trip Blank, **FD**= Field Duplicate, **EB** = Equipment Blank, **MS**= Matrix Spike Sample, **MSD**= Matrix Spike Duplicate Sample, **G**= Grab, **C** = Composite
3.) Field Filtered. For liquid matrices, indicate with a **Y** - for yes the sample was field filtered or **N** - for sample was not field filtered.
4.) Matrix Codes. **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B - 3, 6010B/7470A - 1*).
6.) Preservative Type: **HA**= Hydrochloric Acid, **NI** = Nitric Acid, **SH**= Sodium Hydroxide, **SA**= Sulfuric Acid, **AA**= Ascorbic Acid, **HX**= Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

NRC FORM 303 U.S. NUCLEAR REGULATORY COMMISSION
(4-2004)

REQUEST FOR ANALYSIS AND CHAIN OF CUSTODY

LABORATORY:

LABORATORY USE ONLY

CONTROL NUMBER

SAMPLE LOCATION (LICENSEE): INDIAN POINT ENERGY CENTER

LICENSEE NUMBER

DOCKET NO.

SAMPLE SUBMITTED

# TOTAL	TYPE	VOLUME	WEIGHT
1	GROUND WATER	2000 ML	~ 2 Kg

DATE SAMPLES SUBMITTED

PRIORITY
☐ ROUTINE
☐ URGENT

SAMPLE COLLECTION INTERVAL

	MONTH	DAY	YEAR	TIME
START				
STOP				

INSPECTOR RESPONSIBLE: Jim Noggle (USNRC)

TELEPHONE NUMBER: (610) 337-5063

ANALYSIS TO BE PERFORMED	LIST DESIRED LLD *(Optional)*	OTHER TYPE OF ANALYSIS *(Specify)*	LIST DESIRED LLD *(Optional)*
☐ GROSS ALPHA (GA)		☒ STRONTIUM-90 (Sr90)	
☐ GROSS BETA (GB)		☒ NICKEL-63 (Ni63)	
☒ GAMMA SPEC (GS)		☐	
☒ TRITIUM (H3)		☐	
☐ CARBON-14 (C14)		☐	
☐ IODINE-125 (I125)		☐	

RELENQUISHED BY	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
		4/20/09	1710	OVERSEE SAMPLES
		4/20/09	1710	verify Samples
	SECURED STORAGE	4/20/09	1730	STORAGE

FEE RECOVERABLE ☐ NO ☒ YES

TAC NUMBER

REMARKS:

NOTE: SAMPLES WILL BE DISCARDED AFTER ANALYSIS UNLESS REASON ARE NOTED IN REMARKS ABOVE.

NRC FORM303 (4-2004)

PAGE 1 of 2

NRC FORM 303 U.S. NUCLEAR REGULATORY COMMISSION
(4-2004)

REQUEST FOR ANALYSIS AND CHAIN OF CUSTODY

LABORATORY:

LABORATORY USE ONLY
CONTROL NUMBER

LICENSEE NUMBER	DOCKET NO.

SAMPLE LOCATION (LICENSEE)
INDIAN POINT ENERGY CENTER

SAMPLE SUBMITTED

# TOTAL	TYPE	VOLUME	WEIGHT
1	GROUND WATER	2000 ML	~ 2 Kg

DATE SAMPLES SUBMITTED

PRIORITY
☐ ROUTINE
☐ URGENT

SAMPLE COLLECTION INTERVAL

	MONTH	DAY	YEAR	TIME
START				
STOP				

INSPECTOR RESPONSIBLE: Jim Noggle (USNRC)
TELEPHONE NUMBER: (610) 337-5063

ANALYSIS TO BE PERFORMED	LIST DESIRED LLD *(Optional)*	OTHER TYPE OF ANALYSIS *(Specify)*	LIST DESIRED LLD *(Optional)*
☐ GROSS ALPHA (GA)		☒ STRONTIUM-90 (Sr90)	
☐ GROSS BETA (GB)		☒ NICKEL-63 (Ni63)	
☒ GAMMA SPEC (GS)		☐	
☒ TRITIUM (H3)		☐	
☐ CARBON-14 (C14)		☐	
☐ IODINE-125 (I125)		☐	

RELENQUISHED BY	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
		4/20/09	1707	OVERSEE SAMPLES
		4/20/09	1707	verify Samples
	SECURED STORAGE	4/20/09	1730	STORAGE

FEE RECOVERABLE ☐ NO ☒ YES

TAC NUMBER

REMARKS:

NOTE: SAMPLES WILL BE DISCARDED AFTER ANALYSIS UNLESS REASON ARE NOTED IN REMARKS ABOVE.

NRC FORM303 (4-2004)

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: M. Britos
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								**Comments** Note: extra sample is required for sample specifi QC
U3-4D-(020)	04/17/09	1557	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1		4/17/09	1715	SECURED STORAGE	4/17/09	1715
2						
3						

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1) Chain of Custody Number = Client Determined
2) QC Codes N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3) Field Filtered. For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4) Matrix Codes DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6) Preservative Type HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405

Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247

Address: 450 Broadway, Suite 3, Buchanan, NY 10511

Collected by: Miguel Britos
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							<-- Preservative Type (6) Comments Note: extra sample is required for sample specific QC
MW-42-49-(017)	04/17/09	1103	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-42-78-(012)	04/17/09	1049	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1		4/17/09	1200	SECURED STORAGE	4/17/09	1200
2						
3						

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1) Chain of Custody Number = Client Determined
2) QC Codes. N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3) Field Filtered. For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4) Matrix Codes. DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA / MB
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								Comments Note: extra sample is required for sample specific QC
																			<-- Preservative Type (6)
MW-56-53-(006)	04/16/09	1143	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-56-83-(008)	04/16/09	1149	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/16/09	1400	1 SECURED STORAGE	4/16/09	1400
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B- 3, 6010B/7470A - 1*).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added -- leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-0001

CHAIN OF CUSTODY

Client: New York State Department of Environmental Conservation

Project: Entergy- Indian Point Ground Water Monitoring

Sampled by: Angela Altieri / Miguel Britos

Client Contact: Tim Rice (NYSDEC) **Phone:** (518) 402-8574

Sample Description:						Analysis / Method																						
Sample Location	Date Completed	Time Completed	Sample Matrix	Composite or Grab	No. of Containers	Gross Alpha	Gross Beta	Ni-59	Ni-63	Fe-55	Gamma	Tritium	I-129	P-32	C-14	Ce-144	Am-241	Np-237	Nb-94	Pu-238, 239/240	Pu-241	Ra-224, 226	Sr-89/90	Tc-99	U-234, 235, 238	Th-230, 232	Cs-137	Other
MW-62-138-(009)	04/15/09	1238	GW	Grab	1				X		X	X											X					
MW-62-18-(009)	04/15/09	1318	GW	Grab	1				X		X	X											X					
MW-62-182-(009)	04/15/09	1453	GW	Grab	1				X		X	X											X					
MW-62-37-(009)	04/15/09	1313	GW	Grab	1				X		X	X											X					
MW-62-53-(008)	04/15/09	1329	GW	Grab	1				X		X	X											X					
MW-62-71-(009)	04/15/09	1206	GW	Grab	1				X		X	X											X					
MW-62-92-(009)	04/15/09	1215	GW	Grab	1				X		X	X											X					

Relinquished by: Date: 4/15/09 Time: 1459 **Received by:** Date: 4/15/09 Time: 1459

Relinquished by: Date: Time: **Received by:** Date: Time:

Relinquished by: Date: Time: **Received by:** Date: Time:

Shipment Method: **AirBill Number:**

Turnaround Time Required: ____________________

Comments:

Routine: ____________________

Rush: ____________________

Cooler Temp: ____________________

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA / M.B
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							**Comments** Note: extra sample is required for sample specific QC
MW-62-138-(009)	04/15/09	1238	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-62-18-(009)	04/15/09	1318	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-62-182-(009)	04/15/09	1453	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-62-37-(009)	04/15/09	1313	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-62-53-(008)	04/15/09	1329	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-62-71-(009)	04/15/09	1206	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-62-92-(009)	04/15/09	1215	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/15/09		1 SECURED STORAGE	4/15/09	1510
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes N= Normal Sample, **TB** = Trip Blank, **FD**= Field Duplicate, **EB** = Equipment Blank, **MS**= Matrix Spike Sample, **MSD**= Matrix Spike Duplicate Sample, **G**= Grab, **C** = Composite
3.) Field Filtered For liquid matrices, indicate with a **Y** - for yes the sample was field filtered or **N** - for sample was not field filtered.
4.) Matrix Codes **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B - 3, 6010B/7470A - 1*).
6.) Preservative Type **HA**= Hydrochloric Acid, **NI** = Nitric Acid, **SH**= Sodium Hydroxide, **SA**= Sulfuric Acid, **AA**= Ascorbic Acid, **HX**= Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-0001

CHAIN OF CUSTODY

Client: New York State Department of Environmental Conservation

Project: Entergy- Indian Point Ground Water Monitoring

Sampled by: Angelo Altieri / Miguel Britos

Client Contact: Tim Rice (NYSDEC) **Phone:** (518) 402-8574

Sample Description:						Analysis / Method																							
Sample Location	Date Completed	Time Completed	Sample Matrix	Composite or Grab	No. of Containers	Gross Alpha	Gross Beta	Ni-59	Ni-63	Fe-55	Gamma	Tritium	I-129	P-32	C-14	Ce-144	Am-241	Np-237	Nb-94	Pu-238, 239/240	Pu-241	Ra-224, 226	Sr-89/90	Tc-99	U-234, 235, 238	Th-230, 232	Cs-137	Other
MW-31-49-(015)	04/14/09	1036	GW	Grab	1						X	X											X					
MW-31-63-(015)	04/14/09	1207	GW	Grab	1						X	X											X					
MW-31-85-(015)	04/14/09	1141	GW	Grab	1						X	X											X					

Relinquished by: Date: 4/14/09 Time: 1220 Received by: Date: 4/14/09 Time: 1220

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Shipment Method: AirBill Number:

Turnaround Time Required: ______

Routine: ______

Rush: ______

Cooler Temp: ______

Comments:

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA / MB
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-31-49-(015)	04/14/09	1036	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-31-63-(015)	04/14/09	1207	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-31-85-(015)	04/14/09	1141	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/14/09	1601	1 SECURED STORAGE	4/14/09	1601
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1) Chain of Custody Number = Client Determined
2) QC Codes N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C = Composite
3) Field Filtered For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered
4) Matrix Codes DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5) Sample Analysis Requested Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6) Preservative Type HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only

Custody Seal Intact?
YES NO

Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-0001

CHAIN OF CUSTODY

Client: New York State Department of Environmental Conservation

Project: Entergy- Indian Point Ground Water Monitoring

Sampled by: Angela Altieri / Miguel Britos

Client Contact: Tim Rice (NYSDEC) **Phone:** (518) 402-8574

Sample Description:						Analysis / Method																						
Sample Location	Date Completed	Time Completed	Sample Matrix	Composite or Grab	No. of Containers	Gross Alpha	Gross Beta	Ni-59	Ni-63	Fe-55	Gamma	Tritium	I-129	P-32	C-14	Ce-144	Am-241	Np-237	Nb-94	Pu-238, 239/240	Pu-241	Ra-224, 226	Sr-89/90	Tc-99	U-234, 235, 238	Th-230, 232	Cs-137	Other
MW-53-120-(015)	04/14/09	1308	GW	Grab	1				X		X	X											X					
MW-53-82-(011)	04/14/09	1458	GW	Grab	1				X		X	X											X					

Relinquished by: Date: 4/14/09 Time: 1505 Received by: Date: 4/14/09 Time: 1505

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Shipment Method: AirBill Number:

Turnaround Time Required: ____________

Routine: ____________

Rush: ____________

Cooler Temp: ____________

Comments:

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA / MB Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-53-120-(015)	04/14/09	1308	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-53-82-(011)	04/14/09	1458	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge) Fax Results: Yes / [✓ No]

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/14/09	1600	SECURED STORAGE	4/14/09	1600
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6.) Preservative Type HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-0001

CHAIN OF CUSTODY

Client: New York State Department of Environmental Conservation

Project: Entergy- Indian Point Ground Water Monitoring

Sampled by: Miguel Britos

Client Contact: Tim Rice (NYSDEC) **Phone:** (518) 402-8574

Sample Description:						Analysis / Method																					
Sample Location	Date Completed	Time Completed	Sample Matrix	Composite or Grab	No. of Containers	Gross Alpha	Gross Beta	Ni-59	Ni-63	Fe-55	Gamma	Tritium	I-129	P-32	C-14	Ce-144	Am-241	Np-237	Nb-94	Pu-238, 239/240	Pu-241	Ra-224, 226	Sr-89/90	Tc-99	U-234, 235, 238	Th-230, 232	Cs-137	Other
MW-40-100-(010)	04/13/09	1107	GW	Grab	1				X		X	X											X					
MW-40-127-(010)	04/13/09	1124	GW	Grab	1				X		X	X											X					
MW-40-162-(008)	04/13/09	1225	GW	Grab	1				X		X	X											X					
MW-40-27-(007)	04/13/09	1417	GW	Grab	1				X		X	X											X					
MW-40-46-(008)	04/13/09	1440	GW	Grab	1				X		X	X											X					
MW-40-81-(008)	04/13/09	1106	GW	Grab	1				X		X	X											X					

Relinquished by:	Date: 4/13/09	Time: 1445	Received by:	Date: 4/13/09	Time: 1445
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Shipment Method:			AirBill Number:		

Turnaround Time Required: __________

Routine: __________

Rush: __________

Cooler Temp: __________

Comments:

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

:____1____ of ____1____
ect #: Entergy GW Mon Prog
. Quote #:
Number (1):
Number: 50013510

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

nt Name: Entergy   Phone #: (914) 736-8405
ect/Site Name: Indian Point Energy Center   Fax #: (914) 734-6247
lress: 450 Broadway, Suite 3, Buchanan, NY 10511
lected by: Miguel Britos   Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							<-- Preservative Type (6) Comments Note: extra sample is required for sample specific QC
MW-40-100-(010)	04/13/09	1107	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-40-127-(010)	04/13/09	1124	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-40-162-(008)	04/13/09	1225	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-40-27-(007)	04/13/09	1417	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-40-46-(008)	04/13/09	1440	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-40-81-(008)	04/13/09	1106	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)   Fax Results: Yes / [✓ No]

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

marks: ***Are there any known hazards applicable to these samples? If so, please list the hazards***

Sample Collection Time Zone
[✓ Eastern]   Pacific
Central   Other ______
Mountain

Chain of Custody Signatures						Sample Shipping and Delivery Details			
elinquished By (Signed)	Date	Time	Received by (signed)	Date	Time				
	4/14/09	1603	1 SECURED STORAGE	4/14/09	1603	GEL PM:	ERIN TREN		
						Method of Shipment:	FEDEX	Date Shipped:	
			2			Airbill #:			
			3			Airbill #:			

Chain of Custody Number = Client Determined
QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES   NO
Cooler Temp:
C

WHITE = LABORATORY   YELLOW = FILE   PINK = CLIENT

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: Miguel Britos
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)							<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-46-(016)	04/10/09	1231	N	N	GW	Y	Y	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1		4/10/09	1605	1	SECURED STORAGE	4/10/09	1605
2				2			
3				3			

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes N= Normal Sample, **TB** = Trip Blank, **FD**= Field Duplicate, **EB** = Equipment Blank, **MS**= Matrix Spike Sample, **MSD**= Matrix Spike Duplicate Sample, **G**= Grab, C = Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, ML=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B- 3, 6010B/7470A - 1*).
6.) Preservative Type: **HA**= Hydrochloric Acid, **NI** = Nitric Acid, **SH**= Sodium Hydroxide, **SA**= Sulfuric Acid, **AA**= Ascorbic Acid, **HX**= Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

age: 1 of 1
roject #: Entergy GW Mon Prog
EL Quote #:
OC Number (1):
O Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

lient Name: Entergy
Phone #: (914) 736-8405
roject/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
ddress: 450 Broadway, Suite 3, Buchanan, NY 10511
ollected by: M. Britos
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

						Should this sample be considered:												<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)							**Comments** Note: extra sample is required for sample specific QC
U3-T1-(024)	04/10/09	1522	N	N	GW	Y	Y	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

emarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
	4/10/09	1600	1 SECURED STORAGE	4/10/09	1600
			2		
			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TRENT
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

) Chain of Custody Number = Client Determined
) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405

Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247

Address: 450 Broadway, Suite 3, Buchanan, NY 10511

Collected by: Miguel BriTos
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-39-102-(006)	04/09/09	1538	N	N	GW	Y	Y	1	1	1	1	2 Liter Poly
MW-39-124-(006)	04/09/09	1146	N	N	GW	Y	Y	1	1	1	1	2 Liter Poly
MW-39-183-(006)	04/09/09	1145	N	N	GW	Y	Y	1	1	1	1	2 Liter Poly
MW-39-195-(006)	04/09/09	1208	N	N	GW	Y	Y	1	1	1	1	2 Liter Poly
MW-39-67-(006)	04/09/09	1455	N	N	GW	Y	Y	1	1	1	1	2 Liter Poly
MW-39-84-(006)	04/09/09	1525	N	N	GW	Y	Y	1	1	1	1	2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/9/09	1645	1 SECURED STORAGE	4/9/09	1645
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405

Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247

Address: 450 Broadway, Suite 3, Buchanan, NY 10511

Collected by: Miguel Britos
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [1]	Field Filtered [3]	Sample Matrix [4]	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								**Comments** Note: extra sample is required for sample specific QC
MW-41-40-(012)	04/07/09	1556	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ___ Specify: ___ (Subject to Surcharge)

Fax Results: Yes / [✓ No]

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ___
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	04/07/09	1630	1 SECURED STORAGE	04/07/09	1630
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B - 3, 6010B/7470A - 1*).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: Miguel Britos
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-43-28-(011)	04/07/09	1214	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-43-62-(011)	04/07/09	1359	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/7/09	1630	1 SECURED STORAGE	4/7/09	1630
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes N = Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered. For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1)
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy   Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center   Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: M. Britos   Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-51-104-(009)	05/07/09	1148	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-51-135-(009)	05/07/09	1153	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-51-163-(009)	05/07/09	1209	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-51-189-(009)	05/07/09	1155	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-51-40-(011)	05/07/09	1427	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-51-79-(011)	05/07/09	1510	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)   Fax Results: Yes / [✓ No]   Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	5/8/09	1450	1 SECURED STORAGE	5/8/09	1450
3			2		
			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX   Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B- 3, 6010B/7470A - 1*).
5) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA/MB
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-54-123-(009)	05/06/09	1240	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-54-144-(009)	05/06/09	1023	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-54-173-(009)	05/06/09	1024	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-54-190-(009)	05/06/09	1027	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-54-37-(009)	05/06/09	1151	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-54-58-(009)	05/06/09	1213	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	5/6/09	1545	1 SECURED STORAGE	5/6/09	1545
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number - Client Determined
2.) QC Codes N= Normal Sample, **TB** = Trip Blank, **FD**= Field Duplicate, **EB** = Equipment Blank, **MS**= Matrix Spike Sample, **MSD**= Matrix Spike Duplicate Sample, **G**= Grab, **C**= Composite
3.) Field Filtered: For liquid matrices, indicate with a **Y** - for yes the sample was field filtered or **N** - for sample was not field filtered.
4.) Matrix Codes **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B- 3, 6010B/7470A - 1*)
6.) Preservative Type: **HA**= Hydrochloric Acid, **NI** = Nitric Acid, **SH**= Sodium Hydroxide, **SA**= Sulfuric Acid, **AA**= Ascorbic Acid, **HX**= Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA / MB
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							**Comments** Note: extra sample is required for sample specific QC
MW-49-26-(016)	05/06/09	1046	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-49-42-(016)	05/06/09	1427	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-49-65-(016)	05/06/09	1518	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1		5/6/09	1545	1	Secure Storage	5/6/09	1545
2				2			
3				3			

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1)
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

'age: 1 of 1
'roject #: Entergy GW Mon Prog
iEL Quote #:
:OC Number [1]:
'O Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

'lient Name: Entergy
Phone #: (914) 736-8405
'roject/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
ıddress: 450 Broadway, Suite 3, Buchanan, NY 10511
'ollected by: AA / MB
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

<-- Preservative Type (6)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								Comments Note: extra sample is required for sample specific QC
MW-60-135-(009)	05/05/09	1054	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-60-154-(009)	05/05/09	1115	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-60-176-(009)	05/05/09	1118	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-60-35-(009)	05/05/09	1406	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-60-53-(009)	05/05/09	1008	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-60-53-(009)-B	05/05/09	1028	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-60-53-(009)-D	05/05/09	1022	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-60-53-(009)-S	05/05/09	1015	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-60-72-(009)	05/05/09	1032	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

'emarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
	5/5/09	1645	1 SECURED STORAGE	5/5/09	1645
			2		
			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TRENT
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

) Chain of Custody Number = Client Determined
) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA/MB
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-50-42-(017)	05/05/09	1411	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-50-66-(022)	05/05/09	1633	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1		5/5/09	1645	1	Secure Storage	5/5/09	1645
2				2			
3				3			

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested. Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B- 3, 6010B/7470A - 1).
6.) Preservative Type HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405

Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247

Address: 450 Broadway, Suite 3, Buchanan, NY 10511

Collected by: AA/MB
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-63-112-(009)	05/04/09	1430	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-63-121-(009)	05/04/09	1435	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-63-163-(009)	05/04/09	1439	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-63-174-(009)	05/04/09	1428	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-63-18-(009)	05/04/09	1229	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-63-34-(009)	05/04/09	1210	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-63-50-(009)	05/04/09	1131	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-63-93-(010)	05/04/09	1200	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
		$																	

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1		5/4/09	1500	1	SECURED STORAGE	5/4/09	1500
2				2			
3				3			

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered. For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B- 3, 6010B/7470A - 1).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

ge: 1 of 1
oject #: Entergy GW Mon Prog
EL Quote #:
OC Number [1]:
) Number: 50013510

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

lient Name: Entergy
Phone #: (914) 736-8405
roject/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
ddress: 450 Broadway, Suite 3, Buchanan, NY 10511
ollected by: AA / MB
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								**Comments** Note: extra sample is required for sample specific QC
MW-52-11-(004)	04/30/09	1427	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-52-118-(004)	04/30/09	1203	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-52-162-(004)	04/30/09	1206	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-52-18-(004)	04/30/09	1615	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-52-181-(004)	04/30/09	1207	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-52-48-(004)	05/01/09	1135	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-52-64-(004)	05/01/09	1350	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

emarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
	5/1/09	1545	1 SECURED STORAGE	5/1/09	1545
			2		
			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TRENT
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
C

1) Chain of Custody Number = Client Determined
2) QC Codes: N = Normal Sample, **TB** = Trip Blank, **FD**= Field Duplicate, **EB** = Equipment Blank, **MS**= Matrix Spike Sample, **MSD**= Matrix Spike Duplicate Sample, **G**= Grab, **C** = Composite
3) Field Filtered: For liquid matrices, indicate with a **Y** - for yes the sample was field filtered or **N** - for sample was not field filtered.
4) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
5) Sample Analysis Requested: Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B* - 3, *6010B/7470A* - 1).
6) Preservative Type: **HA**= Hydrochloric Acid, **NI** = Nitric Acid, **SH**= Sodium Hydroxide, **SA**= Sulfuric Acid, **AA**= Ascorbic Acid, **HX**= Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy Phone #: (914) 736-8405

Project/Site Name: Indian Point Energy Center Fax #: (914) 734-6247

Address: 450 Broadway, Suite 3, Buchanan, NY 10511

Collected by: AA/MB Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-36-24-(014)	05/01/09	1355	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-36-41-(008)	05/01/09	1450	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-36-52-(013)	05/01/09	1507	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)

Fax Results: Yes / [✓ No]

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	5/1/09	1545	1 Secure Storage	5/1/09	1545
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B- 3, 6010B/7470A - 1).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA/MB Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-37-22-(014)	05/01/09	1216	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-37-32-(014)	05/01/09	1213	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-37-40-(014)	05/01/09	1415	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-37-57-(014)	05/01/09	1239	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed) Date Time	Received by (signed) Date Time
1 5/1/09 1545	1 secure Storage 5/1/09 1545
2	2
3	3

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX Date Shipped:
Airbill #:
Airbill #:

1) Chain of Custody Number = Client Determined
2) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
3) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA/MB
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								**Comments** Note: extra sample is required for sample specifi QC
MW-35-(019)	04/30/09	1117	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1		4/30/09	1630	1	secure storage	4/30/09	1630
2				2			
3				3			

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1) Chain of Custody Number = Client Determined
2.) QC Codes. N = Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3) Field Filtered For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5) Sample Analysis Requested: Analytical method requested (i e 8260B, 6010B/7470A) and number of containers provided for each (i e. *8260B* 3, *6010B/7470A* - 1).
6) Preservative Type HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA/MB
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								**Comments** Note: extra sample is required for sample specifi QC
MW-111-(029)	04/30/09	1236	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/30/09	1630	1 secure storage	4/30/09	1630
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1) Chain of Custody Number = Client Determined
2) QC Codes N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
3) Field Filtered For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4) Matrix Codes DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1)
6) Preservative Type HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA/MB
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							<-- Preservative Type (6) Comments Note: extra sample is required for sample specific QC
MW-55-24-(010)	04/29/09	1128	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-55-35-(009)	04/29/09	1126	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly
MW-55-54-(010)	04/29/09	1055	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1		4/29/09	1540	1	secure Storage	4/29/09	1540
2				2			
3				3			

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B- 3, 6010B/7470A - 1*).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA/MB
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr-90)								Comments Note: extra sample is required for sample specific QC
																			<-- Preservative Type (6)
MW-33-(024)	04/29/09	1512	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1		4/29/09	1540	1	Secure Storage	4/29/09	1540
2				2			
3				3			

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B- 3, 6010B/7470A - 1).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA/MB
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-44-102-(013)	04/28/05	1334	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-44-66-(012)	04/28/05	1332	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1		4/28/05	1450	1	secure Storage	4/28/05	1450
2				2			
3				3			

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B - 3, 6010B/7470A - 1*)
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: MB/AA
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								Comments Note: extra sample is required for sample specific QC
																			<-- Preservative Type (6)
MW-32-131-(007)	—	—	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-32-149-(010)	04/27/09	1331	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-32-173-(008)	04/27/09	1332	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-32-190-(011)	04/27/09	1324	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-32-59-(009)	04/27/09	1554	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-32-85-(012)	04/27/09	1534	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ___
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/27/09	1645	1 SECURED STORAGE	4/27/09	1645
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B- 3, 6010B/7470A - 1*).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA/MB
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
MW-30-69-(024)	04/27/09	1027	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-30-84-(015)	04/27/09	1430	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1		4/27/09	1645	1	Secure Storage	4/27/09	1645
2				2			
3				3			

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B - 3, 6010B/7470A - 1*).
6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA / MB
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								**Comments** Note: extra sample is required for sample specific QC
U3-T2-(029)	04/24/09	1124	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures						Sample Shipping and Delivery Details	
Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time	GEL PM: ERIN TRENT	
	4/24/09	1300	SECURED STORAGE	4/24/09	1300	Method of Shipment: FEDEX	Date Shipped:
2			2			Airbill #:	
3			3			Airbill #:	

) Chain of Custody Number = Client Determined
) QC Codes N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
) Field Filtered For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered
) Matrix Codes DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
) Sample Analysis Requested. Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B* - 3, *6010B/7470A* - 1).
) Preservative Type HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

IPEC00223044

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA / MB Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								**Comments** Note: extra sample is required for sample specific QC
MW-58-26-(008)	04/24/09	1221	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-58-65-(008)	04/24/09	1152	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested. Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
	4/24/09	1300	1	Secure Storage	4/24/09	1300
			2			
			3			

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX Date Shipped:
Airbill #:
Airbill #:

) Chain of Custody Number = Client Determined
) QC Codes N = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
) Field Filtered For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
) Matrix Codes **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
) Sample Analysis Requested. Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B - 3, 6010B/7470A - 1*).
) Preservative Type **HA**= Hydrochloric Acid, **NI** = Nitric Acid, **SH**= Sodium Hydroxide. **SA**= Sulfuric Acid, **AA**= Ascorbic Acid, **HX**= Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA/MB
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								**Comments** Note: extra sample is required for sample specific QC
MW-45-42-(016)	04/23/09	1520	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-45-61-(016)	04/23/09	1028	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/23/09	1555	1 SECURED STORAGE	4/23/09	1555
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

) Chain of Custody Number = Client Determined
) QC Codes N= Normal Sample, **TB** = Trip Blank, **FD**= Field Duplicate, **EB** = Equipment Blank, **MS**= Matrix Spike Sample, **MSD**= Matrix Spike Duplicate Sample, **G**= Grab, **C**= Composite
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) Matrix Codes **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=Nasal
) Sample Analysis Requested Analytical method requested (i.e. **8260B, 6010B/7470A**) and number of containers provided for each (i.e. *8260B- 3, 6010B/7470A - 1*).
) Preservative Type **HA**= Hydrochloric Acid, **NI** = Nitric Acid, **SH**= Sodium Hydroxide, **SA**= Sulfuric Acid, **AA**= Ascorbic Acid, **HX**= Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy   Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center   Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA / MB   Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								**Comments** Note: extra sample is required for sample specific QC
MW-41-63-(011)	04/23/09	1157	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)   Fax Results: Yes / [✓ No]   Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ________
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/23/09	1556	1 SECURED STORAGE	4/23/09	1556
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX   Date Shipped:
Airbill #:
Airbill #:

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

1.) Chain of Custody Number = Client Determined
2.) QC Codes N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6.) Preservative Type HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

WHITE = LABORATORY   YELLOW = FILE   PINK = CLIENT

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: AA / MB
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

<-- Preservative Type (6)

						Should this sample be considered:						
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	**Comments** Note: extra sample is required for sample specifi QC
MW-38-(021)	04/22/09	1045	N	N	GW	Y	Y	1	1	1	1	2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1		4/22/09	1510	1	Secure Storage	4/22/09	1510
2				2			
3				3			

Sample Shipping and Delivery Details

GEL PM: ERIN TRENT
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B- 3, 6010B/7470A - 1).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy Phone #: (914) 736-8405

Project/Site Name: Indian Point Energy Center Fax #: (914) 734-6247

Address: 450 Broadway, Suite 3, Buchanan, NY 10511

Collected by: AA (MB Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specifi QC
MW-107-(008)	04/22/09	1230	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)

Fax Results: Yes / [✓ No]

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	4/22/09	1510	1 Secure Storage	4/22/09	1510
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN

Method of Shipment: FEDEX Date Shipped:

Airbill #:

Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

NRC FORM 303
(4-2004)

U.S. NUCLEAR REGULATORY COMMISSION

REQUEST FOR ANALYSIS AND CHAIN OF CUSTODY

LABORATORY:

LABORATORY USE ONLY

CONTROL NUMBER

LICENSEE NUMBER

DOCKET NO.

SAMPLE LOCATION (LICENSEE)
INDIAN POINT ENERGY CENTER

SAMPLE SUBMITTED

# TOTAL	TYPE	VOLUME	WEIGHT
1	GROUND WATER	2000 ML	~ 2 Kg

DATE SAMPLES SUBMITTED

PRIORITY
☐ ROUTINE
☐ URGENT

SAMPLE COLLECTION INTERVAL

	MONTH	DAY	YEAR	TIME
START				
STOP				

INSPECTOR RESPONSIBLE: Jim Noggle (USNRC)

TELEPHONE NUMBER: (610) 337-5063

ANALYSIS TO BE PERFORMED	LIST DESIRED LLD *(Optional)*	OTHER TYPE OF ANALYSIS *(Specify)*	LIST DESIRED LLD *(Optional)*
☐ GROSS ALPHA (GA)		☒ STRONTIUM-90 (Sr90)	
☐ GROSS BETA (GB)		☒ NICKEL-63 (Ni63)	
☒ GAMMA SPEC (GS)		☐	
☒ TRITIUM (H3)		☐	
☐ CARBON-14 (C14)		☐	
☐ IODINE-125 (I125)		☐	

RELENQUISHED BY	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
		4/21/09	1438	OBSERVED SAMPLE
		4/21/09	1438	VERIFIED SAMPLE
	SECURED STORAGE	4/21/09	1600	STORAGE

FEE RECOVERABLE ☐ NO ☒ YES

TAC NUMBER

REMARKS

NOTE: SAMPLES WILL BE DISCARDED AFTER ANALYSIS UNLESS REASON ARE NOTED IN REMARKS ABOVE.

NRC FORM303 (4-2004)

PRINTED ON RECYCLED PAPER

age: 1 of 1
roject #: Entergy GW Mon Prog
EL Quote #:
OC Number [1]:
O Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

lient Name: Entergy
Phone #: (914) 736-8405

roject/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247

ddress: 450 Broadway, Suite 3, Buchanan, NY 10511

ollected by: AA | MB
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								<-- Preservative Type (6) **Comments** Note: extra sample is required for sample specific QC
LAF-002-(011)	04/21/09	1424	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

emarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
	4/21/09	1600	1 SECURED STORAGE	4/21/09	1600
			2		
			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

Chain of Custody Number = Client Determined
QC Codes: N = Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405

Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247

Address: 450 Broadway, Suite 3, Buchanan, NY 10511

Collected by: A.A./M.B.
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

<-- Preservative Type (6)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)	Nickel 63 (Ni63)							**Comments** Note: extra sample is required for sample specific QC
U1-CSS-(012)	04/21/09	1307	N	N	GW	Y	Y	1	1	1	1	1							2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1		4/21/09	1445	1	Secure Storage	4/21/09	1445
2				2			
3				3			

Sample Shipping and Delivery Details

GEL PM: ERIN TREN
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1) Chain of Custody Number = Client Determined
2) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B- 3, 6010B/7470A - 1*)
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [(1)]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy Phone #: (914) 736-8405

Project/Site Name: Indian Point Energy Center Fax #: (914) 734-6247

Address: 450 Broadway, Suite 3, Buchanan, NY 10511

Collected by: Miguel Britos Send Results To: Patrick Donahue

Sample Analysis Requested [(5)] (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [(2)]	Field Filtered [(3)]	Sample Matrix [(4)]	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								**Comments** Note: extra sample is required for sample specific QC
B-1-(006)	06/03/09	1330	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
B-6-(006)	06/03/09	0940	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MH-5-(005)	06/03/09	1445	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge) Fax Results: Yes / [✓ No] Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	6/3/09	1510	SECURED STORAGE	6/3/09	1510
			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TRENT
Method of Shipment: FEDEX Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes. N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B- 3, 6010B/7470A - 1*).
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number [1]:
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: Miguel Britos
Send Results To: Patrick Donahue

Sample Analysis Requested [5] (Fill in the number of containers for each test)

						Should this sample be considered:													<-- Preservative Type (6)
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code [2]	Field Filtered [3]	Sample Matrix [4]	Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								**Comments** Note: extra sample is required for sample specific QC
MW-32-149-(011)	06/02/09	1205	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-32-173-(009)	06/02/09	1158	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-32-190-(012)	06/02/09	1201	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-32-59-(010)	06/02/09	1359	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-32-85-(013)	06/02/09	1511	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	6/2/09	1600	1 SECURED STORAGE	6/2/09	1600
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TRENT
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B- 3, 6010B/7470A - 1)
6.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
____ *C*

WHITE = LABORATORY YELLOW = FILE PINK = CLIENT

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: Miguel Britos
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

<-- Preservative Type (6)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								Comments Note: extra sample is required for sample specific QC
MW-30-69-(025)	06/01/09	1202	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-30-84-(016)	06/01/09	1325	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ______
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
	06/01/09	1445	1 SECURED STORAGE	06/01/09	1445
			2		
			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TRENT
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

) Chain of Custody Number = Client Determined
) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. *8260B - 3, 6010B/7470A - 1*).
) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES *NO*
Cooler Temp:
C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Page: 1 of 1
Project #: Entergy GW Mon Prog
GEL Quote #:
COC Number (1):
PO Number: 50013510

GEL Chain of Custody and Analytical Request

See www.gel.com for GEL's Sample Acceptance SOP

GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: Entergy
Phone #: (914) 736-8405
Project/Site Name: Indian Point Energy Center
Fax #: (914) 734-6247
Address: 450 Broadway, Suite 3, Buchanan, NY 10511
Collected by: Miguel Britos
Send Results To: Patrick Donahue

Sample Analysis Requested (5) (Fill in the number of containers for each test)

<-- Preservative Type (6)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Total number of containers	Tritium (H3)	Gamma Spec (GS)	Strontium 90 (Sr90)								Comments Note: extra sample is required for sample specific QC
MW-31-49-(016)	05/29/09	1142	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-31-63-(016)	05/29/09	1234	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly
MW-31-85-(016)	05/29/09	1250	N	N	GW	Y	Y	1	1	1	1								2 Liter Poly

TAT Requested: Normal: ✓ Rush: ____ Specify: ____ (Subject to Surcharge)
Fax Results: Yes / [✓ No]
Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards

Sample Collection Time Zone
[✓ Eastern] Pacific
Central Other ____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	5/29/09	1415	1 SECURED STORAGE	5/29/09	1415
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM: ERIN TRENT
Method of Shipment: FEDEX
Date Shipped:
Airbill #:
Airbill #:

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
C

.) Chain of Custody Number = Client Determined
.) QC Codes: N= Normal Sample, TB = Trip Blank, FD= Field Duplicate, EB = Equipment Blank, MS= Matrix Spike Sample, MSD= Matrix Spike Duplicate Sample, G= Grab, C= Composite
.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B- 3, 6010B/7470A - 1)
.) Preservative Type: HA= Hydrochloric Acid, NI = Nitric Acid, SH= Sodium Hydroxide, SA= Sulfuric Acid, AA= Ascorbic Acid, HX= Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

APPENDIX D: 2ND QUARTER 2009 SAMPLING DATA SHEETS

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: **INDIAN POINT ENERGY CENTER**
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/6/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten	**Weather:**
Time Arrived onSite:	1200		
Time Left Site:	1700		

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Bring van into Protected Area, and prepare equip. for sampling

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/7/09
GZA Engineers: Miguel Britos
Angela Altien

GZA Engineer:	Miguel Britos	Angela Altien
Time Arrived onSite:	0700	
Time Left Site:	1730	

Weather: P. Sunny, windy 40°F

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-41-40 (012)	IPEC	2 L	poly			
MW-43-28 (011)	↓	↓	↓			
MW-43-62 (011)	↓	↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		
MW-41-40	✓	✓	Reset but did not change time (0.53' off)	
MW-43-28	✓		0.037 off	
MW-43-62	✓		0.299 off	

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Start Q2 sampling at U3 first and ahead of schedule due to Tritium release event.

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/9/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten
Time Arrived onSite:	0630	
Time Left Site:	1730	

Weather: Mostly Sunny 60°F

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-39-102(006)	IPEC	2 L	poly			
-124						
-183						
-195						
-67						
↓ ↓ -84	↓ ↓	↓ ↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	ACTIVITY (check) Installation	Special Notes/Issues/Observations	Follow-up Required?

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Unable to download MW-39 because of connection problems with cable.

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38			13.999										
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	0.53	✓	—	—	✓	Kept old time
MW-41-63			54.130										
MW-42-49			69.419										
MW-42-78			69.524										
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	0.299	✓				
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42			53.196										
MW-45-61			53.217										
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11			16.283										
MW-53-82			69.930										
MW-53-120			70.190										
MW-55-24			17.770										
MW-55-35			17.770										
W-55-54			17.770										
W-56-53			69 322										

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory broken transducers, et
MW-56-83			69.207										
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26			14.230										
MW-58-65			14.250										
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18			12.810										
MW-62-37			12.810										
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407										
MW-66-36			13.364										
MW-107			142.757										
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
I-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519										
J3-4S			13.943										
J3-T1			8.518										
J3-T2			8.512										
J3-C1			18.060										
R-1			18.496										
UT-1			11.891										
W-1			75.822										

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-41-40
SHEET: 1 of 1
FILE NO.: 41.0017869.01
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY:
SERIAL NUMBER: 6321

FINAL BORING DEPTH (FT): 40
GROUND ELEVATION (FT):
CASING ELEVATION (FT): 54.130
CASING DIAMETER (INCH): 2

DATUM: MSL
DATE: 4/7/09

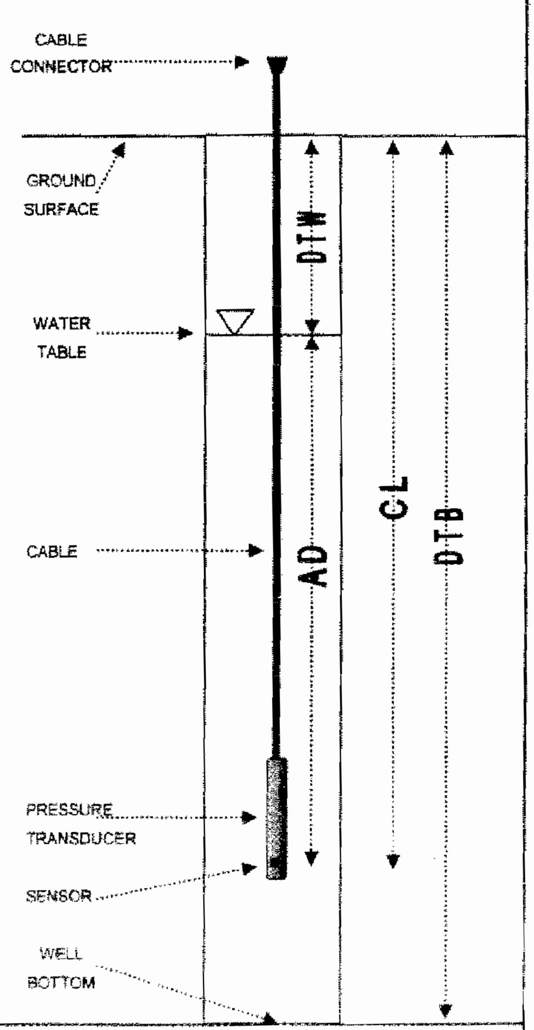
DTW
STATIC GROUNDWATER TABLE ELEVATION (FT): 21.50

GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

DEPTH TO BOTTOM:	40	FT
GROUND ELEVATION:		FT A.S.L.
CASING ELEVATION:	54.130	FT A.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:	above / [✓ below]	
DISTANCE FROM CASING TO GROUND (+ OR -):		FT
MEASURED CABLE LENGTH:		FT
TIME OF MEASUREMENT:	1240	HRS
MEASUREMENT TAKEN FROM:	ground / casing	
DEPTH TO WATER:	21.500	FT
ACTUAL DEPTH:	+ 14.550	FT
THEORETICAL CABLE LENGTH:	= 36.050	FT
HAVE CLOCKS BEEN SYNCHRONIZED?	☐	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?	☑	check
ELEVATION OF MEASURING POINT:	54.130	FT A.S.L.
DEPTH TO WATER:	− 21.500	FT
REFERENCE ELEVATION:	= 32.630	FT A.S.L.
TEST NAME:	MW-41-40	
LOGGING INTERVAL:	20	MIN
TEST START TIME:	1240	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Check transducer reading. 0.53 off. Battery 100%. Download and reset. Did not reset Time, kept old Time.

GZA

WELL ID: MW-41-40

WELL ID: MW 39 - 195

SAMPLE ID: 006

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Sunny 60°F

PROJECT NO 01.0017869.91
DATE 4/9/09
SAMPLER(S) M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

193.0 to 198.6

SAMPLING PORT

195

TOTAL VOLUME PURGED: 0.90 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0930	PUMP	ON						9/6	84
1045	0.05	6.86	1.672	—	1.41	13.57	-257.1	9/6	72
1052	0.10	7.16	1.620	—	0.87	14.28	-252.2		
1059	0.15	7.19	1.627	—	0.76	14.35	-266.0		
1106	0.25	7.17	1.617	6.73	0.66	15.09	-251.8		
1112	0.35	7.25	1.588	6.66	0.60	15.15	-243.4		
1118	0.50	7.25	1.562	6.31	0.50	15.40	-234.5		
1124	0.70	7.26	1.530	6.25	0.48	15.43	-233.8		
1131	0.75	7.27	1.506	6.13	0.46	15.48	-236.4		
1135		START	SAMPLE	COLLECTION					
1208		SAMPLE	COMPLETED		2 L	IPEC			
1208		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW 39 - 183

SAMPLE ID: 006

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 60°F

PROJECT NO: 01.0017864.91
DATE: 4/9/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

169.5 to 186.0

SAMPLING PORT

183

2

TOTAL VOLUME PURGED: 2.0 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1030	ON PUMP								
1035	PUMP OFF								
1040	PUMP ON							9/6	72
1045	0.25	6.94	1.194	—	0.47	13.19	-240.7	↓	↓
1054	0.75	7.09	1.181	—	0.22	13.71	-187.5		
1059	0.90	7.09	1.159	—	0.20	13.89	-195.9		
1106	1.15	7.10	1.154	8.04	0.15	14.43	-202.1		
1112	1.35	7.10	1.137	6.37	0.15	14.32	-203.4		
1118	1.75	7.11	1.124	6.28	0.15	14.47	-202.0		
1124	1.90	7.10	1.127	6.46	0.15	14.52	-201.4		
1128	START SAMPLE COLLECTION								
1145	SAMPLE COMPLETED : 2 L IPEC								
1145	PUMP OFF								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW 39.124

SAMPLE ID: 006

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 60°F

PROJECT NO: 01.0017869.91
DATE: 4/9/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

115.0 to 126.5

SAMPLING PORT

124

3

TOTAL VOLUME PURGED: 5.4 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1030	PUMP ON								
1035	PUMP OFF								
1040	PUMP ON							9/6	72
1045	0.7	7.04	2.496	—	0.92	13.66	-207.6	↓	↓
1054	1.2	7.10	2.589	—	1.18	13.83	-157.5	↓	↓
1100	1.7	7.18	2.609	—	1.32	13.95	-131.3	↓	↓
1106	2.4	7.19	2.641	41.30	1.48	13.95	-99.9	↓	↓
1112	3.0	7.19	2.653	34.09	1.58	14.05	-96.2	↓	↓
1118	3.6	7.19	2.665	20.89	1.60	14.13	-94.0	↓	↓
1127	4.3	7.18	2.673	16.32	1.65	14.18	-93.1	↓	↓
1133	4.7	7.17	2.674	15.91	1.67	14.21	-92.6	↓	↓
1138	5.3	7.18	2.675	15.61	1.68	14.22	-91.7	↓	↓
1141		START	SAMPLE COLLECTION						
1146		SAMPLE	COMPLETED : 2 L IPEC						
1146		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID MW 39 102

SAMPLE ID 006

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy IPEC
SITE Buchanan, NY
WEATHER Sunny 60°F

PROJECT NO 01.0017869.91
DATE 4/9/09
SAMPLER(S) M. BEITOS

SAMPLING INTERVAL (depth in ft below top of casing)
93.0 to 103.0

SAMPLING PORT
102

4

TOTAL VOLUME PURGED: 2.05 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1340	0	PUMP ON							
1352	0.2	6.59	3.522	—	3.00	15.31	-151.4	6/8	40
1359	0.3	6.67	3.563	—	3.30	15.31	-128.6	↓	↓
1405	0.5	6.78	3.600	4.46	3.35	15.52	-90.3	↓	↓
1410	0.75	6.83	3.626	7.11	3.46	15.58	-76.8	↓	↓
1416	0.90	6.84	3.640	4.20	3.35	15.71	-56.3	↓	↓
1426	1.05	6.86	3.661	3.19	3.26	15.98	-34.7	↓	↓
1434	1.15	6.87	3.672	3.73	3.31	16.16	-30.0	↓	↓
1442	1.40	6.87	3.688	3.68	3.36	15.51	-20.0	↓	↓
1449	1.70	6.88	3.695	2.80	3.40	15.56	-14.3	↓	↓
1457	1.80	6.87	3.705	2.75	3.42	15.62	-12.9	↓	↓
1504	1.95	6.88	3.707	2.71	3.44	15.65	-11.9	↓	↓
1506		START SAMPLE COLLECTION							
1538		SAMPLE COMPLETED : 2 L IPEC							
1538		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	20070125 4

NOTES AND OBSERVATIONS:

WELL ID: MW 39 - 84

SAMPLE ID 006

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Sunny 60°F

PROJECT NO 01.0017869.41
DATE 4/9/09
SAMPLER(S): M. BEITOS

SAMPLING INTERVAL (depth in ft below top of casing)
76.5 to 85.0

TOTAL VOLUME PURGED: 2.1 gal

PURGE RATE: variable (gal / min)

SAMPLING PORT
84

6

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1340	0	PUMP	ON						
1352	0.2	7.03	3.140	—	5.77	15.15	-136.0	6/8	40
1359	0.3	7.10	3.210	—	6.04	15.09	-105.4	↓	↓
1405	0.5	7.12	3.266	5.23	6.21	15.31	-70.9		
1410	0.75	7.13	3327	7.25	6.22	15.37	-56.2		
1416	0.95	7.14	3378	4.90	6.37	15.36	-40.0		
1426	1.10	7.14	3393	4.76	6.63	15.69	-18.0		
1434	1.30	7.14	3.401	4.82	6.66	15.95	+6.9		
1442	1.70	7.14	3.402	0.17	6.72	15.51	+12.0		
1449	1.80	7.14	3.407	0.08	6.68	15.60	+14.6		
1457	1.90	7.14	3.413	0.03	6.70	15.64	+16.0		
1502	2.0	7.14	3.414	0.01	6.72	15.68	+17.2		
1504		START SAMPLE COLLECTION							
1525		SAMPLE COMPLETED : 2 L. IPEC							
1525		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	/
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW 39 - 67

SAMPLE ID: 006

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: SUNNY 60°F

PROJECT NO: 01.0017869.91
DATE: 4/9/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

65.0 to 70.5

SAMPLING PORT

67

7

TOTAL VOLUME PURGED: 2.1 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1340	0	PUMP	ON						
1352	0.3	7.15	2.932	—	5.95	14.78	1.9	6/8	40
1359	0.5	7.14	2.954	—	5.99	14.72	34.3		
1405	0.75	7.14	2.969	6.83	5.97	14.83	60.2		
1410	0.95	7.15	2.986	9.30	6.05	14.96	68.9		
1416	1.15	7.15	2.993	6.12	6.06	15.07	79.9		
1426	1.60	7.15	3.002	3.34	6.06	15.14	89.9		
1434	1.80	7.15	3.004	3.70	6.06	15.31	89.9		
1439	2.0	7.15	3.010	3.29	6.08	15.29	88.4	↓	↓
1441		START	SAMPLE	COLLECTION					
1455		SAMPLE	COMPLETED		: 2 L	IPEC			
1455		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW-43-62
SAMPLE ID: 011

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: P. Sunny, windy 40's

PROJECT NO: 01.0017869.91
DATE: 4/7/09
SAMPLER(S): M. BRITOS
PUMP DEPTH: 53.5 ft

WATER QUALITY: DTW - 16.68

Time	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (⁰C)	ORP	Rate (gal/hr)	Purged Notes H_2O
0830	31.44								
0845	31.462	START PUMP							
0846		PUMP OFF						6/9@30psi	
1215	31.337	PUMP ON							
1220	31.114	6.71		—	3.91	11.04	-190.5		
1227	31.098	6.69	1.750	—	3.10	11.94	-147.0		
1236	31.059	6.80	2.208	12.72	2.96	11.85	-40.0		0.1
1242	31.066	6.87	2.233	12.18	2.77	11.52	+ 8.5		
1251	31.071	6.90	2.249	12.94	2.64	11.40	+21.2		0.25
1256	31.098	6.91	2.259	12.43	2.63	11.31	+27.4		0.30
1301	31.096	6.91	2.257	12.81	2.62	11.26	+30.1		0.35
1306	31.088	6.91	2.261	12.63	2.61	11.21	+31.5		0.40
1311	31.084	6.92	2.262	12.48	2.60	11.18	32.1		0.50
1312	START SAMPLE COLLECTION								
1359	SAMPLE COMPLETED : 2 L IPEC								
1400	PUMP OFF								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
flow meter	—
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

WELL ID: MW-43-28
SAMPLE ID: 011

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: P. Sunny, windy 40°F

PROJECT NO: 01.0017869.91
DATE: 4/7/09
SAMPLER(S): M. Britos
PUMP DEPTH: 23 ft

WATER QUALITY: DTW - 15.30

Time	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Purged Notes H_2O gal
0830	32.758							6/9-17 psi	
[illegible]	32.748	PUMP ON							
0855	32.528	6.36	4.069	--	3.32	10.60	116.5		
0908	32.475	6.64	5.254	58.82	2.02	9.50	118.3		
0918	32.460	6.68	5.310	32.29	1.44	9.36	121.5		0.02
0926	32.446	6.70	5.321	25.41	1.01	9.29	122.8		0.05
0933	32.438	6.70	5.304	24.28	0.99	9.30	121.5		
0938	32.431	6.69	5.299	24.01	0.98	9.34	121.5		
0944	32.423	6.68	5.296	23.51	0.97	9.37	121.7		0.10
0945	START	SAMPLE	COLLECTION						
1214	SAMPLE	COMPLETED	: 2	L IPEC					
	PUMP OFF								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
flow meter	
turbidity meter	20070I254

NOTES AND OBSERVATIONS:
Depth and Depth to Water (DTW) measurements are given in feet from top of casing.
Groundwater Elevation measurements are given in feet msl.
TOTAL VOLUME PURGED - 0.3 gal

WELL ID: MW-41-40
SAMPLE ID: 012

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: P. Sunny, windy 40°F

PROJECT NO: 01.0017869.91
DATE: 4/7/09
SAMPLER(S): M. BRITOS
PUMP DEPTH: ______ ft

WATER QUALITY: DTW - 21.50 = 32.630

Time	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Purged Notes H_2O (gal)
	32.630								
1405	32.579	PUMP ON							
1408	32.515	7.22	2.957	—	8.21	10.48	189.0		
1410	32.394	7.25	3.410	12.60	6.03	10.68	201.7		
1415	32.458	7.33	3.531	11.60	5.40	10.39	204.4		
1430	32.492	7.37	3.579	11.66	5.52	9.32	214.7		0.1
1435	32.479	7.36	3.574	12.01	5.49	9.29	214.7		
1440	32.451	7.38	3.568	11.88	5.46	9.31	214.5		0.18
1441	START	SAMPLE COLLECTION							
1556	SAMPLE COMPLETED : 2 L. IPEC								
	PUMP	OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
flow meter	KI #1
turbidity meter	20070

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

Project:	Radiological Groundwater Sampling Program	**Date:**	5/7/09
Client:	Entergy Nuclear NorthEast		
Site:	**INDIAN POINT ENERGY CENTER**	**GZA Engineers:**	Miguel Britos
Location:	Buchanan, NY		Angela Altieri
Project #:	01.0017869.91		

GZA Engineer:	Miguel Britos	Angela Altieri
Time Arrived onSite:	0630	
Time Left Site:	1630	

Weather: Cloudy, Showers 60's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-51-104	IPEC	2 L	Poly			
↓ ↓ -135	↓	↓	↓			
↓ ↓ -163	↓	↓	↓			
↓ ↓ -189	↓	↓	↓			
↓ ↓ -40	↓	↓	↓			
↓ ↓ -79	↓	↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	ACTIVITY (check) Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-51	✓		Reset time (standard)	

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

WELL ID: MW 51-189

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.92
DATE: 5/7/09
SAMPLER(S): M.B

SAMPLING INTERVAL (depth in ft below top of casing)

184.2 to 197.8

SAMPLING PORT

189

TOTAL VOLUME PURGED: 2.90 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (⁰C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1025	0	PUMP	ON					5.6/5.6	70
1030	0.1	6.86	1.622	—	1.39	13.52	-221.4	5.6/5.6	70
1035	0.6	7.08	1.632	—	0.65	13.00	-253.3	5.6/5.6	48
1042	0.75	7.10	1.631	—	0.48	13.31	-258.6		50
1049	1.0	7.12	1.628	6.45	0.38	13.41	-274.5		
1055	1.25	7.16	1.616	7.82	0.34	13.48	-289.8		
1102	1.40	7.16	1.614	8.44	0.29	13.43	-276.8		
1111	1.75	7.16	1.608	8.91	0.29	13.43	-284.5		
1121	2.20	7.17	1.602	7.31	0.26	13.54	-260.1		
1129	2.50	7.18	1.599	7.26	0.26	13.60	-254.8		
1134	2.75	7.18	1.598	7.17	0.25	13.62	-262.6		
1140		START	SAMPLE	COLLECTION					
1155		SAMPLE	COMPLETED		: 2 L	IPEC			
1155		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 51-163

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.92
DATE: 5/7/09
SAMPLER(S): M.B

SAMPLING INTERVAL (depth in ft below top of casing)

154.7 to 166.2

SAMPLING PORT

163

2

TOTAL VOLUME PURGED: 2.25 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1025	0	PUMP	ON					5.6/5.6	70
1030	0.1	6.59	2.021	—	2.09	13.35	-179.6	5.6/5.6	70
1035	0.4	6.85	2.046	—	1.06	13.04	-159.1	5.6/5.6	48
1042	0.55	6.77	2.051	—	0.85	13.49	-269.9		50
1049	0.75	6.77	2.056	42.34	0.86	13.59	-299.6		
1055	0.85	6.85	2.052	89.39	0.80	13.72	-332.7		
1102	1.0	6.91	2.048	55.78	0.65	13.70	-361.4		
1111	1.20	6.92	2.044	32.86	0.50	13.81	-370.0		
1121	1.50	6.93	2.043	23.69	0.45	13.90	-360.6		
1129	1.75	6.94	2.043	21.39	0.43	14.00	-356.8		
1134	1.90	6.94	2.042	20.80	0.41	14.10	-355.4		
1141	2.0	6.94	2.042	20.07	0.40	14.15	-351.5		
1146	2.10	6.94	2.042	20.19	0.39	14.18	-347.2	↓	↓
1147		START SAMPLE COLLECTION							
1209		SAMPLE COMPLETED : 2 L IPEC							
1209		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 51 - 135

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.92
DATE: 5/7/09
SAMPLER(S): M.B.

SAMPLING INTERVAL (depth in ft below top of casing)

130.2 to 143.7

SAMPLING PORT

135

3

TOTAL VOLUME PURGED: 2.40 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1035	0	PUMP	ON					56/56	48
1043	0.1	6.85	2.200	—	2.69	13.40	-175.1		50
1050	0.4	7.08	2.240	—	1.20	13.29	-151.8		
1056	0.7	7.11	2.258	4.03	0.80	13.26	-126.4		
1103	1.0	7.12	2.261	3.70	0.60	13.25	-119.1		
1113	1.4	7.13	2.262	0.81	0.59	13.30	-121.3		
1123	1.8	7.13	2.263	3.22	0.51	13.37	-119.4		
1131	2.1	7.14	2.264	3.16	0.50	13.40	-116.9		
1136	2.25	7.15	2.264	3.18	0.49	13.43	-116.4		
1140		START	SAMPLE	COLLECTION					
1153		SAMPLE	COMPLETED	: 2 L	IPEC				
1153		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	20070423

NOTES AND OBSERVATIONS:

WELL ID: MW 51-104

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.92
DATE: 5/7/09
SAMPLER(S): M.B.

SAMPLING INTERVAL (depth in ft below top of casing)

101.2 to 111.2

SAMPLING PORT

104

4

TOTAL VOLUME PURGED: 4.85 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1035	0	PUMP ON						5.6/5.6	48
1043	0.4	6.72	2.475	—	1.27	12.99	-166.6		50
1050	0.9	6.85	2.518	—	1.02	12.94	-133.7		
1056	1.4	6.90	2.516	5.47	0.90	12.90	-100.5		
1103	2.0	6.92	2.513	0.75	0.88	12.89	-190.0		
1113	2.75	6.96	2.515	1.50	0.87	12.91	-126.9		
1123	3.30	6.97	2.520	0.00	0.86	12.94	-120.7		
1131	4.0	6.98	2.520	0.00	0.84	13.02	-120.7		
1136	4.70	6.99	2.519	0.00	0.83	13.03	-118.6	↓	↓
1140		START SAMPLE COLLECTION							
1148		SAMPLE COMPLETED : 2 L IPEC							
1148		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW ____ - ____

SAMPLE ID: __________

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-51-40 (011)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.91
DATE: 5/7/09
SAMPLER(S): M. BEITOS

SAMPLING INTERVAL (depth in ft below top of casing)

29.7 to 44.2

SAMPLING PORT

40

7

TOTAL VOLUME PURGED: 2.65 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1305	0	PUMP	ON					6.5/84	25
1315	0.3	7.04	2.454	—	3.82	14.02	-149.1	↓	↓
1320	0.5	7.05	2.462	0.56	3.81	14.09	-133.9		
1321		PUMP	OFF						
1327		PUMP	ON						
1330	0.70	7.07	2.491	1.62	3.97	13.80	-131.4		
1336	1.0	7.06	2.489	1.34	4.24	13.64	-112.9		
1346	1.4	7.05	2.486	1.01	4.35	13.83	-114.5		
1352	1.75	7.05	2.495	0.84	4.32	13.83	-113.9		
1359	2.0	7.04	2.497	1.19	4.40	13.82	-107.6		
1408	2.3	7.05	2.504	1.23	4.42	13.84	-109.1		
1413	2.50	7.05	2.506	1.24	4.40	13.87	-109.7	↓	↓
1414		START SAMPLE COLLECTION							
1427		SAMPLE COMPLETED : 2 L IPEC							
1427		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 51-79

SAMPLE ID: 011

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.92
DATE: 5/7/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

63.2 to 81.2

SAMPLING PORT

79

6

TOTAL VOLUME PURGED: 2.35 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1305	0	PUMP ON						6.5/8.4	25
1315	0.1	6.78	2.424	—	1.19	15.29	-188.5		
1320	0.15	6.90	2.436	11.43	1.40	15.01	-176.4		
1325	0.30	7.09	2.468	18.89	1.64	13.68	-153.1		
1330	0.55	7.07	2.449	23.25	1.56	14.09	-144.8		
1336	0.75	7.14	2.461	16.71	1.55	14.20	-130.8		
13.46	1.0	7.16	2.458	10.89	1.46	14.34	-110.9		
1352	1.15	7.16	2.468	11.94	1.52	14.36	-108.8		
1359	1.40	7.16	2.472	14.43	1.56	14.23	-101.0		
1408	1.65	7.17	2.477	8.24	1.55	15.49	-85.3		
1430	2.0	7.17	2.480	9.08	1.56	14.60	-78.0		
1436	2.1	7.17	2.479	9.15	1.58	14.66	-76.8		
1441	2.2	7.17	2.478	9.09	1.59	14.69	-75.2		
1443		START SAMPLE COLLECTION							
1510		SAMPLE COMPLETED : 2 L IPEC							
1510		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/10/09
GZA Engineers: Miguel Britos
Angela Allen

GZA Engineer:	Miguel Britos	Angela Allen	**Weather:** Rain expected
Time Arrived onSite:	0700		
Time Left Site:	1630		

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-46(016)	IPEC	2 L	poly			
U3-T1 (024)	IPEC	2 L	poly			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Work in progress @ transformer yard around MW-46. Move van to let trailer go by.

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: **INDIAN POINT ENERGY CENTER**
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/13/09
GZA Engineers: Miguel Britos
Angela Altieri

GZA Engineer:	Miguel Britos	Angela Altieri
Time Arrived onSite:	0630	
Time Left Site:	1630	

Weather: Sunny 58°F

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-40-162	(008) IPEC	2 L	poly	DEC	2 L	poly
↓ ↓ -127	(010) ↓	↓	↓	↓	↓	↓
↓ ↓ -100	(010) ↓	↓	↓	↓	↓	↓
↓ ↓ -81	(008) ↓	↓	↓	↓	↓	↓
↓ ↓ -46	(008) ↓	↓	↓	↓	↓	↓
↓ ↓ -27	(007) ↓	↓	↓	↓	↓	↓

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Split samples with DEC rep. Alex Czuhanich.

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/14/09
GZA Engineers: Miguel Britos
Angela Alhen

GZA Engineer:	Miguel Britos	Angela Alhen	Weather: 50's, cloudy
Time Arrived onSite:	630	640	
Time Left Site:	1730	1720	

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-31-49(015)	IPEC	2L	poly	NYSDEC	2L	poly
MW-31-63(015)	↓	↓	↓	↓	↓	↓
MW-31-85(015)	↓	↓	↓	↓	↓	↓
MW53-82(011)	↓	↓	↓	↓	↓	↓
MW53-120(015)	↓	↓	↓	↓	↓	↓

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	ACTIVITY (check) Installation	Special Notes/Issues/Observations	Follow-up Required?
DUT-1	X		Checked [illegible] sub. 0.213 to data	
MW31-49	x			
MW-31-63	x			
MW-31-85	x			
MW53-82	x		Checked - add 0.033 to data	
MW53-120	x		Checked - add 0.028 to data	

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83			69.207										
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26			14.230										
MW-58-65			14.250										
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18			12.810										
MW-62-37			12.810										
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407										
MW-66-36			13.364										
MW-107			142.757										
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519										
J3-4S			13.943										
J3-T1	4/10/09		8.518	5.66	2.858	2.883	1.370	0.025	✓				
J3-T2			8.512										
J3-C1			18.060										
R-1			18.496										
UT-1	4/14/09		11.891	9.37	2.021	2.234	42.[illegible]1	-0.213	✓				
W-1			75.822										

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38			13.999										
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	0.53	✓	—	—	✓	Kept old time
MW-41-63			54.130										
MW-42-49			69.419										
MW-42-78			69.524										
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	0.299	✓				
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42			53.196										
MW-45-61			53.217										
MW-46			16.970										
MW-47-56			69.805										
IW-47-80			69.742										
IW-48-23			14.759										
IW-48-37			15.189										
IW-49-26			14.171										
IW-49-42			14.223										
IW-49-65			14.457										
IW-50-42			14.453										
IW-50-66			14.614										
IW-52-11			16.283										
IW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.246	0.033	✓				
IW-53-120	4/14/09		70.190	60.822	9.37	9.348	57.526	0.028	✓				
IW-55-24			17.770										
IW-55-35			17.770										
W-55-54			17.770										
W-56-53			69.322										

MW-46 (016)

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Expected rain 54°F

PROJECT NO: 01.0017869.91
DATE: 4/10/09
SAMPLER(S): M. BRITOS

WATER COLUMN HEIGHT (ft)

29.7 (DTB) - 4.56 (DTW) = 24.14 ft (Well Column Height)

Well Diameter: ______ inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 24.14 x 0.653 (Multiplier) = 15.76 gallons (Well Volume)

15.76 x 1.5 = 23.65 gallons (Designed Purge Volume)

TOTAL VOLUME PURGED: 24 gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: [✓ DTW] or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1055	0	PUMP	ON							
1103	3.0	4.53	8.03	0.436	—	0.76	15.46	-66.3		
1110	5.0	--	8.02	0.441	64.68	0.59	15.54	-41.7		
1115	6.5	—	795	0.518	74.92	0.65	15.66	-55.1		
1130	12.0	—	8.11	0.488	56.05	0.44	17.18	-94.6		
1140	14.5	—	8.07	0.514	55.97	0.20	17.20	-84.3		
1150	17.0	—	8.06	0.526	51.28	0.22	17.19	-94.5		
1200	19.0	—	8.05	0.540	46.19	0.24	17.21	-96.8		
1210	21.0	—	8.03	0.568	41.83	0.23	17.21	-83.2		
1220	23.0	—	8.00	0.589	32.96	0.24	17.20	-81.4		
1225	24.0	—	7.98	0.608	26.49	0.25	17.19	-76.8		
1226		START	SAMPLE	COLLECTION						
1231		SAMPLE	COMPLETED	1 2	& IPEC					
1231		PUMP	OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

WELL ID: U3-T1
SAMPLE ID: 024

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Showers 54°F

PROJECT NO: 01.0017869.91
DATE: 4/10/09
SAMPLER(S): M. Baitos
PUMP DEPTH: 5.7 ft

WATER QUALITY: DTW - 566 = 1.370

Time	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
1405	1.370	PUMP ON							
1410	1.383	7.15	1.177	—	6.09	16.28	195.1	2	
1415	1.376	7.51	1.197	2.91	4.83	16.73	210.1	1.5	
1420	1.385	7.60	1.186	3.66	4.10	17.01	196.7	↓	
1425	1.383	7.64	1.186	3.79	4.08	17.09	180.1		
1430	1.388	7.67	1.188	3.52	3.80	17.08	171.4		
1435	1.389	7.68	1.189	3.40	3.41	17.10	166.3		
1440	1.389	7.68	1.190	3.36	3.38	17.11	163.4		
1445	1.393	7.69	1.191	3.29	3.36	17.12	161.8		1.2
1450	1.390			3.27	3.32	17.12	159.4		
1453	START SAMPLE COLLECTION								
1522	SAMPLE COMPLETED : 2 L IPEC								
1522	PUMP OFF								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
flow meter	Ki 0-10 gph
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

WELL ID: MW 40-162

SAMPLE ID: 008

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54°F

PROJECT NO: 01.0017869.91
DATE: 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)
158.7 to 190.3

TOTAL VOLUME PURGED: 1.0 gal

PURGE RATE: variable (gal / min)

SAMPLING PORT
162

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0830	0	PUMP	ON					7/8.6	44
0840	0.01	6.35	1.361	—	4.20	10.99	-82.0		48
0850	0.10	6.37	1.365	—	2.48	11.18	-134.3		
0904	0.20	6.78	1.362	—	1.00	11.25	-161.6		
0913	0.35	6.82	1.357	11.12	0.69	11.47	-161.5		
0920	0.45	6.88	1.355	1.88	0.59	11.69	-159.8		
0930	0.65	7.05	1.358	2.25	0.47	12.01	-165.7		
0940	0.75	7.13	1.348	3.13	0.43	12.10	-166.4		
0953	0.80	7.14	1.350	2.89	0.39	12.27	-167.6		
0958	0.85	7.16	1.348	2.91	0.38	12.30	-167.6		
1003	0.90	7.17	1.349	2.86	0.36	12.36	-166.4	↓	↓
1004		PUMP	OFF						
1050		START	SAMPLE	COLLECTION					
12.25		SAMPLE	COMPLETED		: {2 L	IPEC			
1225		PUMP	OFF		2 L	DEC			

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	20070125 4

NOTES AND OBSERVATIONS:

WELL ID: MW 40-46

SAMPLE ID: 008

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54°F

5

PROJECT NO: 01.0017869.91
DATE: 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

44.2 to 53.7

SAMPLING PORT

46

TOTAL VOLUME PURGED: 1.50 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1230	0	PUMP	ON					5.6/6.4	20
1245	0.05	6.80	3.983	—	2.01	14.48	-94.4	↓	↓
1250	0.15	6.91	3.974	—	0.94	14.50	-88.7		
1258	0.35	6.94	3.998	8.18	0.53	14.51	-65.9		
1307	0.55	7.01	4.022	5.29	0.43	15.40	-50.9		
1313	0.65	7.02	4.020	4.79	0.39	15.68	-44.7		
1323	0.90	7.03	4.041	7.41	0.35	14.89	-33.1		
1328	1.0	7.03	4.043	6.60	0.37	14.80	-36.3		
1336	1.15	7.03	4.070	1.42	0.37	14.88	-34.6		
1341	1.25	7.03	4.083	1.32	0.38	14.92	-33.0		
1346	1.40	7.04	4.096	1.40	0.38	14.94	-32.9		
1348		PUMP	OFF						
1352		START	SAMPLE COLLECTION						
1440		SAMPLE	COMPLETED		: {2 L	IPEC			
		PUMP OFF			{2 L	DEC			

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	20070125G

NOTES AND OBSERVATIONS:

WELL ID: MW 40 . 127

SAMPLE ID: 010

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT. Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54° F

2

PROJECT NO. 01.0017869.91
DATE. 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

125.2 to 136.7

SAMPLING PORT

127

TOTAL VOLUME PURGED: 2.6 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0830	0	PUMP	ON					7/8.6	44
0840	0.05	6.14	2.043	—	5.10	10.81	-94.9		48
0850	0.35	6.60	2.039	—	1.53	11.85	-105.4		
0904	0.75	6.81	2.039	—	1.01	11.95	-107.9		
0913	1.00	6.90	2.054	9.13	0.83	12.03	-109.0		
0920	1.15	6.92	2.052	2.88	0.77	12.26	-107.1		
0930	1.50	6.93	2.051	2.96	0.72	12.19	-103.9		
0942	1.75	6.94	2.050	2.55	0.64	12.49	-103.4		
0953	2.05	6.95	2.048	1.71	0.60	12.55	-101.2		
0958	2.15	6.95	2.046	1.89	0.60	12.60	-99.8		
1005	2.35	6.96	2.045	1.83	0.58	12.70	-98.2		
1010	2.50	6.96	2.047	1.88	0.57	12.73	-98.1	↓	↓
1011		PUMP	OFF						
1050		START	SAMPLE	COLLECTION					
1124		SAMPLE	COMPLETED		: 12 L	IPEC			
1124		PUMP	OFF		12 L	DEC			

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	20070125 4

NOTES AND OBSERVATIONS:

WELL ID: MW 40 - 100

SAMPLE ID: 010

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54° F

3

PROJECT NO: 01.0017869.91
DATE: 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

93.2 to 106.7

SAMPLING PORT

100

TOTAL VOLUME PURGED: 7.1 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0830	0	PUMP ON						7/8.6	44
0842	0.3	6.74	2.441	—	0.76	12.11	-140.7		48
0852	1.0	7.00	2.452	—	0.45	12.70	-123.9		
0904	1.8	7.06	2.452	—	0.43	12.66	-103.1		
0914	2.4	7.07	2.448	31.09	0.48	12.80	-90.6		
0922	2.9	7.08	2.441	34.28	0.51	13.03	-81.4		
0931	3.4	7.08	2.440	31.73	0.55	12.91	-66.8		
0942	4.0	7.09	2.437	31.65	0.56	13.07	-53.5		
0954	4.8	7.08	2.429	34.74	0.58	13.09	-37.7		
0959	5.05	7.08	2.428	31.20	0.59	13.13	-35.2		
1006	5.70	7.08	2.428	34.02	0.60	13.20	-29.8		
1011	6.25	7.08	2.427	33.71	0.60	13.26	-28.0		
1017	7.00	7.08	2.427	33.64	0.61	13.29	-27.4	↓	↓
1018		PUMP OFF							
1050		START SAMPLE COLLECTION							
1107		SAMPLE COMPLETED :			(2 L IPEC				
1107		PUMP OFF			(2 L DEC				

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW 40 - 81

SAMPLE ID: 008

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54°F 4

PROJECT NO: 01.0017869.91
DATE: 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

64.7 to 84.2

SAMPLING PORT

81

TOTAL VOLUME PURGED: 7.1 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0830	0	PUMP	ON					7/8 6	44
0843	0.5	6.79	2.445	—	0.70	12.14	-141.8		48
0853	1.25	7.00	4.093	—	2.83	12.92	-18.8		
0905	2.00	7.01	4.065	—	2.42	13.00	+ 8.8		
0915	3.0	7.00	4.069	3.38	2.20	13.05	29.4		
0924	3.9	7.01	4.064	2.56	2.14	13.13	40.9		
0932	4.6	7.00	4.095	2.64	2.04	13.00	52.1		
0943	5.5	7.00	4.100	2.18	1.98	13.13	60.9		
0954	6.4	7.00	4.109	2.09	1.93	13.20	64.3		
1000	7.0	7.00	4.135	2.13	1.90	13.22	65.6	↓	↓
1001		PUMP	OFF						
1050		START	SAMPLE COLLECTION						
1106		SAMPLE	COMPLETED		(2L	IPEC			
1106		PUMP	OFF		(2L	DEC			

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	20070125 4

NOTES AND OBSERVATIONS:

WELL ID: MW 40-27

SAMPLE ID: 007

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54°F 6

PROJECT NO: 01.0017869.91
DATE: 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

18.2 to 35.2

SAMPLING PORT

27

TOTAL VOLUME PURGED: 2.60 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1230	0	PUMP	ON					5.6/6.4	20
1245	0.15	6.78	6.310	—	6.27	14.14	7.3		
1250	0.35	6.76	6.352	—	4.99	14.15	12.6		
1258	0.75	6.60	6.359	3.73	4.19	14.19	22.8		
1307	1.05	6.76	6.360	4.54	3.67	14.41	19.1		
1313	1.15	6.76	6.371	3.32	3.56	14.37	20.1		
1323	1.70	6.75	6.370	7.36	3.57	14.41	22.4		
1328	1.90	6.75	6.371	7.39	3.52	14.46	23.0		
1337	2.10	6.84	6.367	1.27	3.46	14.43	21.7		
1342	2.30	6.80	6.362	1.38	3.44	14.51	22.5		
1347	2.50	6.78	6.370	1.30	3.42	14.51	22.9		
1348	PUMP OFF								
1352	START SAMPLE COLLECTION								
1417	SAMPLE COMPLETED : {2 L IPEC								
1418	PUMP OFF			{2 L NEC					

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW 31-63

SAMPLE ID: 015

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, 40's

PROJECT NO: 01.0017869.91
DATE: 4/14/09
SAMPLER(S): AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)
55.3 to 63.8

SAMPLING PORT
63

TOTAL VOLUME PURGED: 1.5 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
910	Pump on								
921	0.05	7.26	1.056	2.13	3.08	13.49	-57.3	617	29
927	0.1	7.28	1.051	2.34	2.06	13.44	-56.4		
933	0.15	7.29	1.048	3.73	1.95	13.50	-48.1		
939	0.2	7.29	1.049	3.19	1.76	13.56	-37.5		
945	0.25	7.30	1.051	2.15	1.61	13.62	-26.7		
951	0.3	7.31	1.055	2.57	1.54	13.77	-13.6		
957	0.35	7.31	1.060	2.14	1.48	13.93	-0.8		
1002	0.4	7.32	1.068	2.17	1.52	14.16	10.8		
1008	0.45	7.32	1.074	1.44	1.63	14.30	26.9		
1014	0.55	7.32	1.079	1.99	1.36	14.42	33.7		
1019	0.6	7.32	1.092	2.38	1.44	14.49	43.4		
1024	0.7	7.32	1.111	1.80	1.39	14.40	52.1		
1029	0.8	7.32	1.117	1.84	1.46	14.47	57.8		
1034	0.9	7.32	1.121	1.89	1.62	14.45	62.4		
1039	1.0	7.33	1.118	1.14	1.58	14.60	65.9		
1045	1.1	7.33	1.132	2.72	1.45	15.09	71.9		
1050	1.2	7.33	1.137	2.90	1.46	15.17	76.6		
1056	1.35	7.33	1.143	2.98	1.43	15.24	80.1		
1059	Start sampling								
1207	SAMPLE COMPLETED			: 2 L	IPEC				
1208	PUMP OFF			2 L	DEC				

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	20070254

NOTES AND OBSERVATIONS:

WELL ID: MW 31 - 85

SAMPLE ID: 015

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 40's, cloudy

PROJECT NO: 01.0017869.91
DATE: 4/14/09
SAMPLER(S): AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)
69.8 to 85.4

SAMPLING PORT
85

TOTAL VOLUME PURGED: 2.6 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
910	Pump on								
922	0.1	7.30	1.954	1.60	2.49	14.57	-153.0	617	29
928	0.15	7.29	2.007	1.77	2.93	14.65	-146.2		
934	0.25	7.27	2.036	2.18	3.41	14.81	-129.2		
940	0.35	7.26	2.054	2.03	3.67	14.94	-112.4		
946	0.5	7.26	2.063	2.84	3.98	15.04	-94.8		
952	0.70	7.26	2.053	2.76	4.24	15.26	-74.2		
958	0.85	7.26	2.048	2.55	4.36	15.43	-58.7		
1003	1.0	7.26	2.044	2.58	4.42	15.58	-45.1		
1009	1.15	7.26	2.042	1.38	4.58	15.65	-33.6		
1015	1.30	7.26	2.039	1.97	4.55	15.75	-24.7		
1020	1.45	7.26	2.040	2.72	4.55	15.77	-16.9		
1025	1.6	7.28	2.039	2.14	4.69	15.77	-10.2		
1030	1.75	7.27	2.041	2.46	4.73	15.77	-3.0		
1035	1.85	7.27	2.040	1.08	4.83	15.84	0.9		
1040	1.95	7.27	2.038	1.68	4.89	16.00	4.5		
1046	2.05	7.27	2.042	1.07	4.86	16.29	7.2		
1051	2.2	7.27	2.045	1.01	4.90	16.30	8.5		
1059	Start sampling								
1141	end sampling								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
turbidity meter	20070125

NOTES AND OBSERVATIONS:

WELL ID: MW31-49

SAMPLE ID: 015

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE: Buchanan, NY
WEATHER Cloudy, 40's

PROJECT NO [illegible]
DATE 4/14/09
SAMPLER(S) AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)
34.8 to 49.7

SAMPLING PORT
49

TOTAL VOLUME PURGED: 2.8 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
910	Pump on								
920	0.05	7.00	1.910	4.26	2.02	14.12	210.7	6/7	29
926	0.20	7.06	1.793	2.54	3.29	15.93	107.0		
932	0.55	7.10	1.757	2.44	3.65	16.41	111.6		
938	1.0	7.11	1.751	2.86	3.78	16.55	120.2		
944	1.25	7.10	1.751	2.09	3.79	16.61	127.4		
950	1.6	7.10	1.748	1.71	3.70	16.77	131.9		
956	2.0	7.09	1.741	2.11	3.82	16.88	135.4		
1001	2.25	7.08	1.732	1.98	3.88	16.96	137.5		
1007	2.5	7.07	1.727	1.99	3.93	16.95	139.1		
1011	Start sampling								
1035	end sampling								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	20070254

NOTES AND OBSERVATIONS:

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW-53-120 (015)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy 50°F

PROJECT NO: 01.0017869.01
DATE: 4/14/09
SAMPLER(S): MB/AA

WATER COLUMN HEIGHT (ft)

120 (DTB) - 60.82 (DTW) = 59.18 ft (**Well Column Height**)

Well Diameter: 1 inches

Diameter	**Multipliers**
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 59.18 x 0.041 (**Multiplier**) = 2.43 gallons (**Well Volume**)

2.43 x 1.5 = 3.64 gallons (**Designed Purge Volume**)

TOTAL VOLUME PURGED: 3.7 gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1110		PUMP	ON							
1117	0.2	—	7.04	1.557	—	4.25	14.44	203.9		
1120	0.8	—	7.30	1.599	—	2.72	15.71	197.6		
1123	1.3	—	7.32	1.615	—	2.76	15.87	195.6		
1126	1.8	—	7.14	1.630	—	3.15	15.90	193.1		
1129	2.3	—	7.12	1.634	—	3.91	16.05	189.7		
1131	2.8	—	7.41	1.631	—	4.06	16.12	187.0		
1134	3.3	—	7.15	1.635	—	4.02	16.17	185.5		
1136	3.6	—	7.40	1.640	—	4.00	16.17	187.4		
1136		PUMP	OFF							
1303		START SAMPLE COLLECTION								
1308		SAMPLE COMPLETED								
1308		PUMP OFF								

Equipment Used	**Equipment Identification #**
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl

WELL ID: MW-53-82
SAMPLE ID: 011

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy 50°F

PROJECT NO: 01.0017869.91
DATE: 4/14/09
SAMPLER(S): AA / MB
PUMP DEPTH: 75 ft

WATER QUALITY: DTW - 6017 = 9.793

Time	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
1110	9.793	PUMP	ON	PUMP OFF					
1245	9.800	PUMP	ON						
1245	= 21.255								6/8@40psi
1253	21.020	6.59	3.776	—	4.33	14.20	39.6		
1258	21.129	6.85	4.741	6.88	4.27	14.07	36.7		
1304	21.127	7.06	5.369	5.14	5.64	12.78	35.9		
1309	21.088	7.18	5.447	5.53	6.32	12.02	36.0		
1315	21.078	7.24	5.412	4.53	6.06	11.97	36.7		
1321	21.130	7.29	5.418	4.50	5.91	12.08	36.5		
1327	21.137	7.32	5.425	4.20	5.89	12.12	36.6		
1332	21.138	7.34	5.435	4.31	5.96	12.20	36.8		
1332	Start Sampling - 2L IPEC + 2L NYS DEC								
1458	end sampling								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
flow meter	—
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~ 0.65 gal purged

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/10/09
GZA Engineers: Miguel Britos
Angela Ahen

GZA Engineer:	Miguel Britos	Angela Ahen
Time Arrived onSite:	0700	
Time Left Site:	1630	

Weather: Rain expected

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-46(016)	IPEC	2 L	poly			
U3-T1(024)	IPEC	2 L	poly			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Work in progress @ transformer yard around MW-46. Move van to let trailer go by.

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: **INDIAN POINT ENERGY CENTER**
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/13/09
GZA Engineers: Miguel Britos
Angela Altieri

GZA Engineer:	Miguel Britos	Angela Altieri
Time Arrived onSite:	0630	
Time Left Site:	1630	

Weather: Sunny 58°F

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-40-162	(008) IPEC	2 L	poly	DEC	2 L	poly
↓ ↓ -127	(010) ↓	↓	↓	↓	↓	↓
↓ ↓ -100	(010) ↓	↓	↓	↓	↓	↓
↓ ↓ -81	(008) ↓	↓	↓	↓	↓	↓
↓ ↓ -46	(008) ↓	↓	↓	↓	↓	↓
↓ ↓ -27	(007) ↓	↓	↓	↓	↓	↓

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Split samples with DEC rep. Alex Czuhanich.

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/14/09
GZA Engineers: Miguel Britos
Angela Athen

GZA Engineer:	Miguel Britos	Angela Athen
Time Arrived onSite:	630	640
Time Left Site:	1730	1720

Weather: 50's, cloudy

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-31-49(015)	IPEC	2L	poly	NYSDEC	2L	poly
MW-31-63(015)	↓	↓	↓	↓	↓	↓
MW-31-85(015)	↓	↓	↓	↓	↓	↓
MW53-82(011)	↓	↓	↓	↓	↓	↓
MW53-120(015)	↓	↓	↓	↓	↓	↓

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
DUT-1	X		Checked [illegible]. sub. 0.213 to data	
MW31-49	x			
MW-31-63	x			
MW-31-85	x			
MW53-82	x		Checked. add 0.033 to data	
MW53-120	x		checked. add 0.028 to data	

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83			69.207										
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26			14.230										
MW-58-65			14.250										
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18			12.810										
MW-62-37			12.810										
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407										
MW-66-36			13.364										
MW-107			142.757										
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519										
J3-4S			13.943										
J3-T1	4/10/09		8.518	5.66	2.858	2.883	1.370	0.025	✓				
J3-T2			8.512										
J3-C1			18.060										
R-1			18.496										
UT-1	4/14/09		11.891	9.37	2.021	2.234	42.151	-0.213	✓				
W-1			75.822										

IPEC00223100

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38			13.999										
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	0.53	✓	—	—	✓	Kept old time
MW-41-63			54.130										
MW-42-49			69.419										
MW-42-78			69.524										
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	0.299	✓				
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42			53.196										
MW-45-61			53.217										
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11			16.283										
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.246	0.033	✓				
MW-53-120	4/14/09		70.190	60.82	9.37	9.349	57.526	0.028	✓				
MW-55-24			17.770										
MW-55-35			17.770										
W-55-54			17.770										
W-56-53			69.322										

MW-46 (016)

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Expected rain 54°F

PROJECT NO: 01.0017869.91
DATE: 4/10/09
SAMPLER(S): M. BRITOS

WATER COLUMN HEIGHT (ft)

29.7 (DTB) - 4.56 (DTW) = 24.14 ft (Well Column Height)

Well Diameter: ______ inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 24.14 x 0.653 (**Multiplier**) = 15.76 gallons (**Well Volume**)

15.76 x 1.5 = 23.65 gallons (**Designed Purge Volume**)

TOTAL VOLUME PURGED: 24 gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: [✓ DTW] or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1055	0	PUMP	ON							
1103	3.0	4.53	8.03	0.436	—	0.76	15.46	-66.3		
1110	5.0	--	8.02	0.441	64.68	0.59	15.54	-41.7		
1115	6.5	—	7.95	0.518	74.92	0.65	15.66	-55.1		
1130	12.0	—	8.11	0.488	56.05	0.44	17.18	-94.6		
1140	14.5	—	8.07	0.514	55.97	0.20	17.20	-84.3		
1150	17.0	—	8.06	0.526	51.28	0.22	17.19	-94.5		
1200	19.0	—	8.05	0.540	46.19	0.24	17.21	-96.8		
1210	21.0	—	8.03	0.568	41.83	0.23	17.21	-83.2		
1220	23.0	—	8.00	0.589	32.96	0.24	17.20	-81.4		
1225	24.0	—	7.98	0.608	26.49	0.25	17.19	-76.8		
1226		START	SAMPLE	COLLECTION						
1231		SAMPLE	COMPLETED	1 2	& IPEC					
1231		PUMP	OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	20070125[illegible]

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl

WELL ID: U3-T1
SAMPLE ID: 024

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Showers 54°F

PROJECT NO: 01.0017869.91
DATE: 4/10/09
SAMPLER(S): M. Barros
PUMP DEPTH: 5.7 ft

WATER QUALITY: DTW - 566 = 1.370

Time	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
1405	1.370	PUMP ON							
1410	1.383	7.15	1.177	—	6.09	16.28	195.1	2	
1415	1.376	7.51	1.197	2.91	4.83	16.73	210.1	1.5	
1420	1.385	7.60	1.186	3.66	4.10	17.01	196.7		
1425	1.383	7.64	1.186	3.79	4.08	17.09	180.1		
1430	1.398	7.67	1.188	3.52	3.80	17.08	171.4		
1435	1.389	7.68	1.189	3.40	3.41	17.10	166.3		
1440	1.389	7.68	1.190	3.36	3.38	17.11	163.4		
1445	1.393	7.69	1.191	3.29	3.36	17.12	161.8		1.2
1450	1.390			3.27	3.32	17.12	159.4		
1453	START	SAMPLE COLLECTION							
1522	SAMPLE	COMPLETED		: 2	L IPEC				
1522	PUMP	OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
flow meter	Ki 0-10 gph
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

WELL ID: MW 40.162

SAMPLE ID: 008

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54°F

PROJECT NO: 01.0017869.91
DATE: 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

158.7 to 190.3

TOTAL VOLUME PURGED: 1.0 gal

PURGE RATE: variable (gal / min)

SAMPLING PORT

162

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0830	0	PUMP	ON					7/8.6	44
0840	0.01	6.35	1.361	—	4.20	10.99	-82.0		48
0850	0.10	6.37	1.365	—	2.48	11.18	-134.3		
0904	0.20	6.78	1.362	—	1.00	11.25	-161.6		
0913	0.35	6.82	1.357	11.12	0.69	11.47	-161.5		
0920	0.45	6.88	1.355	1.88	0.59	11.69	-159.8		
0930	0.65	7.05	1.358	2.25	0.47	12.01	-165.7		
0940	0.75	7.13	1.348	3.13	0.43	12.10	-166.4		
0953	0.80	7.14	1.350	2.89	0.39	12.27	-167.6		
0958	0.85	7.16	1.348	2.91	0.38	12.30	-167.6		
1003	0.90	7.17	1.349	2.86	0.36	12.36	-166.4	↓	↓
1004		PUMP	OFF						
1050		START	SAMPLE	COLLECTION					
1225		SAMPLE	COMPLETED		: 2 L	IPEC			
1225		PUMP	OFF		{2 L	DEC			

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	20070125 4

NOTES AND OBSERVATIONS:

WELL ID: MW 40-46

SAMPLE ID: 008

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54° F

5

PROJECT NO: 01.0017869.91
DATE: 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

44.2 to 53.7

SAMPLING PORT

46

TOTAL VOLUME PURGED: 1.50 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1230	0	PUMP	ON					5.6/6.4	20
1245	0.05	6.80	3.983	—	2.01	14.48	-94.4		
1250	0.15	6.91	3.974	—	0.94	14.50	-88.7		
1258	0.35	6.94	3.998	2.18	0.53	14.51	-65.9		
1307	0.55	7.01	4.022	5.29	0.43	15.40	-50.9		
1313	0.65	7.02	4.020	4.79	0.39	15.68	-44.7		
1323	0.90	7.03	4.041	7.41	0.35	14.89	-33.1		
1328	1.0	7.03	4.043	6.60	0.37	14.80	-36.3		
1336	1.15	7.03	4.070	1.42	0.37	14.88	-34.6		
1341	1.25	7.03	4.083	1.32	0.38	14.92	-33.0		
1346	1.40	7.04	4.096	1.40	0.38	14.94	-32.9		
1348		PUMP	OFF						
1352		START	SAMPLE	COLLECTION					
1440		SAMPLE	COMPLETED		: {2L	IPEC			
		PUMP OFF			{2L	DEC			

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	20070125

NOTES AND OBSERVATIONS:

WELL ID: MW 40 - 127

SAMPLE ID: 010

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54° F

2

PROJECT NO. 01.0017869.91
DATE: 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

125.2 to 136.7

SAMPLING PORT

127

TOTAL VOLUME PURGED: 2.6 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0830	0	PUMP	ON					7/8.6	44
0840	0.05	6.14	2.043	—	5.10	10.81	-94.9		48
0850	0.35	6.60	2.039	—	1.53	11.85	-105.4		
0904	0.75	6.81	2.039	—	1.01	11.95	-107.9		
0913	1.00	6.90	2.054	9.13	0.83	12.03	-109.0		
0920	1.15	6.92	2.052	2.88	0.77	12.26	-107.1		
0930	1.50	6.93	2.051	2.96	0.72	12.19	-103.9		
0942	1.75	6.94	2.050	2.55	0.64	12.49	-103.4		
0953	2.05	6.95	2.048	1.71	0.60	12.55	-101.2		
0958	2.15	6.95	2.046	1.89	0.60	12.60	-99.8		
1005	2.35	6.96	2.045	1.83	0.58	12.70	-98.2		
1010	2.50	6.96	2.047	1.88	0.57	12.73	-98.1		
1011		PUMP	OFF						
1050		START	SAMPLE	COLLECTION					
1124		SAMPLE	COMPLETED		: 12 L	IPEC			
1124		PUMP	OFF		12 L	DEC			

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	20070125 4

NOTES AND OBSERVATIONS:

WELL ID: MW 40 - 100

SAMPLE ID: 010

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54° F

3

PROJECT NO: 01.0017869.91
DATE: 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

93.2 to 106.7

SAMPLING PORT

100

TOTAL VOLUME PURGED: 7.1 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0830	0	PUMP	ON					7/8.6	44
0842	0.3	6.74	2.441	—	0.76	12.11	-140.7		48
0852	1.0	7.00	2.452	—	0.45	12.70	-123.9		
0904	1.8	7.06	2.452	—	0.43	12.66	-103.1		
0914	2.4	7.07	2.448	31.09	0.48	12.80	-90.6		
0922	2.9	7.08	2.441	34.28	0.51	13.03	-81.9		
0931	3.4	7.08	2.440	31.73	0.55	12.91	-66.8		
0942	4.0	7.09	2.437	31.65	0.56	13.07	-53.5		
0954	4.8	7.08	2.429	34.74	0.58	13.09	-37.7		
0959	5.05	7.08	2.428	31.20	0.59	13.13	-35.2		
1006	5.70	7.08	2.428	34.02	0.60	13.20	-29.8		
1011	6.25	7.08	2.427	33.71	0.60	13.26	-28.0		
1017	7.00	7.08	2.427	33.64	0.61	13.29	-27.4	↓	↓
1018		PUMP	OFF						
1050		START	SAMPLE	COL	LECTION				
1107		SAMPLE	COMPLETED :		(2 L IPEC				
1107		PUMP OFF			(2 L DEC				

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	20070 1254

NOTES AND OBSERVATIONS:

WELL ID: MW 40 . 81

SAMPLE ID: 008

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54° F

4

PROJECT NO: 01.0017369.91
DATE: 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

64.7 to 84.2

TOTAL VOLUME PURGED: 7.1 gal

PURGE RATE: variable (gal / min)

SAMPLING PORT

81

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0830	0	PUMP	ON					7/86	44
0843	0.5	6.79	2.445	—	0.70	12.14	-141.8		48
0853	1.25	7.00	4.093	—	2.83	12.92	-18.8		
0905	2.00	7.01	4.065	—	2.42	13.00	+ 8.8		
0915	3.0	7.00	4.069	3.38	2.20	13.05	29.4		
0924	3.9	7.01	4.064	2.56	2.14	13.13	40.9		
0932	4.6	7.00	4.095	2.64	2.04	13.00	52.1		
0943	5.5	7.00	4.100	2.18	1.98	13.13	60.9		
0954	6.4	7.00	4.109	2.09	1.93	13.20	64.3		
1000	7.0	7.00	4.135	2.13	1.90	13.22	65.6	↓	↓
1001		PUMP	OFF						
1050		START	SAMPLE	COLLECTION					
1106		SAMPLE	COMPLETED		:(2L	IPEC			
1106		PUMP	OFF		{2L	DEC			

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	20070 1254

NOTES AND OBSERVATIONS:

WELL ID: MW 40-27

SAMPLE ID: 007

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 54°F 6

PROJECT NO: 01.0017869.91
DATE: 4/13/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

18.2 to 35.2

SAMPLING PORT

27

TOTAL VOLUME PURGED: 2.60 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1238	0	PUMP	ON					5.6/6.4	20
1245	0.15	6.78	6.310	—	6.27	14.14	7.3		
1250	0.35	6.76	6.352	—	4.99	14.15	12.6		
1258	0.75	6.60	6.359	3.73	4.19	14.19	22.8		
1307	1.05	6.76	6.360	4.54	3.67	14.41	19.1		
1313	1.15	6.76	6.371	3.32	3.56	14.37	20.1		
1323	1.70	6.75	6.370	7.36	3.57	14.41	22.4		
1328	1.90	6.75	6.371	7.39	3.52	14.46	23.0		
1337	2.10	6.84	6.367	1.27	3.46	14.43	21.7		
1342	2.30	6.80	6.362	1.38	3.44	14.51	22.5		
1347	2.50	6.78	6.370	1.30	3.42	14.51	22.9		
1348	PUMP	OFF							
1352	START	SAMPLE	COLLEC	TION					
1417	SAMPLE	COMPLETED:			{2 L IPEC				
1418	PUMP OFF				{2 L DEC				

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW 31-63

SAMPLE ID: 015

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC

SITE: Buchanan, NY

WEATHER: Cloudy, 40's

PROJECT NO: 01.0017869.91

DATE: 4/14/09

SAMPLER(S): AA/MG

SAMPLING INTERVAL (depth in ft below top of casing)

55.3 to 63.8

TOTAL VOLUME PURGED: 1.5 gal

PURGE RATE: variable (gal / min)

SAMPLING PORT

63

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
910	Pump on								
921	0.05	7.26	1.056	2.13	3.08	13.49	-57.3	617	29
927	0.1	7.28	1.051	2.34	2.06	13.44	-56.4		
933	0.15	7.29	1.048	3.73	1.95	13.50	-48.1		
939	0.2	7.29	1.049	3.19	1.76	13.56	-37.5		
945	0.25	7.30	1.051	2.15	1.61	13.62	-26.7		
951	0.3	7.31	1.055	2.57	1.54	13.77	-13.6		
957	0.35	7.31	1.060	2.14	1.48	13.93	-0.8		
1002	0.4	7.32	1.068	2.17	1.52	14.16	10.8		
1008	0.45	7.32	1.074	1.44	1.63	14.30	26.9		
1014	0.55	7.32	1.079	1.99	1.36	14.42	33.7		
1019	0.6	7.32	1.092	2.38	1.44	14.49	43.4		
1024	0.7	7.32	1.114	1.86	1.39	14.40	52.1		
1029	0.8	7.32	1.117	1.84	1.46	14.47	57.8		
1034	0.9	7.32	1.121	1.89	1.62	14.45	62.4		
1039	1.0	7.33	1.118	1.14	1.58	14.60	65.9		
1045	1.1	7.33	1.132	2.72	1.45	15.09	71.9		
1050	1.2	7.33	1.137	2.90	1.46	15.17	76.6		
1056	1.35	7.33	1.143	2.98	1.43	15.24	80.1		
1059	Start sampling								
1207	SAMPLE COMPLETED			: 2 L	IPEC				
1208	PUMP OFF			2 L	DEC				

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW 31 - 85

SAMPLE ID: 015

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 40's, cloudy

PROJECT NO: 01.0017869.91
DATE: 4/14/09
SAMPLER(S): AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)

69.8 to 85.4

TOTAL VOLUME PURGED: 2.6 gal

PURGE RATE: variable (gal / min)

SAMPLING PORT

85

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
910	Pump On								
922	0.1	7.30	1.954	1.60	2.49	14.57	-153.0	6/7	29
928	0.15	7.29	2.007	1.77	2.93	14.65	-146.2		
934	0.25	7.27	2.036	2.18	3.41	14.81	-129.2		
940	0.35	7.26	2.054	2.03	3.67	14.94	-112.4		
946	0.5	7.26	2.063	2.84	3.98	15.04	-94.8		
952	0.70	7.26	2.053	2.76	4.24	15.26	-74.2		
958	0.85	7.26	2.048	2.55	4.36	15.43	-58.7		
1003	1.0	7.26	2.044	2.58	4.42	15.58	-45.1		
1009	1.15	7.26	2.042	1.38	4.58	15.65	-33.6		
1015	1.30	7.26	2.039	1.97	4.55	15.75	-24.7		
1020	1.45	7.26	2.040	2.72	4.55	15.77	-16.9		
1025	1.6	7.28	2.039	2.14	4.67	15.77	-10.2		
1030	1.75	7.27	2.041	2.46	4.73	15.77	-3.0		
1035	1.85	7.27	2.040	1.08	4.83	15.84	0.9		
1040	1.95	7.27	2.038	1.68	4.89	16.00	4.5		
1046	2.05	7.27	2.042	1.07	4.86	16.29	7.2		
1051	2.2	7.27	2.045	1.01	4.90	16.30	8.5		
1059	Start sampling								
1141	end sampling								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW31-49

SAMPLE ID: 015

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, 40's

PROJECT NO: [illegible]
DATE: 4/14/09
SAMPLER(S): AH/HB

SAMPLING INTERVAL (depth in ft below top of casing)
34.8 to 49.7

SAMPLING PORT
49

TOTAL VOLUME PURGED: 2.8 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
910	Pump on								
920	0.05	7.00	1.910	4.26	2.02	14.12	210.7	6/7	29
926	0.20	7.06	1.793	2.54	3.29	15.93	107.0		
932	0.55	7.10	1.757	2.44	3.65	16.41	111.6		
938	1.0	7.11	1.751	2.86	3.78	16.55	120.2		
944	1.25	7.10	1.751	2.09	3.79	16.61	127.4		
950	1.6	7.10	1.748	1.71	3.70	16.77	131.9		
956	2.0	7.09	1.741	2.11	3.82	16.88	135.4		
1001	2.25	7.08	1.732	1.98	3.88	16.96	137.5		
1007	2.5	7.07	1.727	1.99	3.93	16.95	139.1		
1011	Start sampling								
1035	end sampling								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	20070254

NOTES AND OBSERVATIONS:

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW-53-120 (015)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy 50 °F

PROJECT NO: 01.0017869.01
DATE: 4/14/09
SAMPLER(S): MB/AA

WATER COLUMN HEIGHT (ft)

120 (DTB) - 60.82 (DTW) = 59.18 ft (Well Column Height)

Well Diameter: 1 inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 59.18 x 0.041 (Multiplier) = 2.43 gallons (Well Volume)

2.43 x 1.5 = 3.64 gallons (Designed Purge Volume)

TOTAL VOLUME PURGED: 3.7 gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1110		PUMP	ON							
1117	0.2	—	7.04	1.557	—	4.25	14.44	203.9		
1120	0.8	—	7.30	1.599	—	2.72	15.71	197.6		
1123	1.3	—	7.32	1.615	—	2.76	15.87	195.6		
1126	1.8	—	7.14	1.630	—	3.15	15.90	193.1		
1129	2.3	—	7.12	1.634	—	3.91	16.05	189.7		
1131	2.8	—	7.41	1.631	—	4.06	16.12	187.0		
1134	3.3	—	7.15	1.635	—	4.02	16.17	185.5		
1136	3.6	—	7.40	1.640	—	4.00	16.17	187.4		
1136		PUMP	OFF							
1303		START SAMPLE COLLECTION								
1308		SAMPLE COMPLETED								
1308		PUMP	OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl

WELL ID: MW-53-82
SAMPLE ID: O11

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy 50°F

PROJECT NO: 01.0017869.91
DATE: 4/14/09
SAMPLER(S): AA/MB
PUMP DEPTH: 75 ft

WATER QUALITY: DTW - 6017 = 9.793

Time	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
1110	9.793	PUMP	ON	PUMP OFF					
1245	9.800	PUMP	ON						
1245	= 21.255								6/8@40psi
1253	21.020	6.59	3.776	—	4.33	14.20	39.6		
1258	21.129	6.85	4.741	6.88	4.27	14.07	36.7		
1304	21.127	7.06	5.369	5.14	5.64	12.78	35.9		
1309	21.088	7.18	5.447	5.53	6.32	12.02	36.0		
1315	21.078	7.24	5.412	4.53	6.06	11.97	36.7		
1321	21.130	7.29	5.418	4.50	5.91	12.08	36.5		
1327	21.137	7.32	5.425	4.20	5.89	12.12	36.6		
1332	21.138	7.34	5.435	4.31	5.96	12.20	36.8		
1332	Start	Sampling	-	2L IPEC	+	2L NYS DEC			
1458	end	sampling							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
flow meter	—
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~ 0.65 gal Purged

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: **INDIAN POINT ENERGY CENTER**
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/15/09

GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten	Weather:
Time Arrived onSite:	630	640	AM- 40's cloudy
Time Left Site:	1645	1630	then Sun, 50's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW62-18 (009)	IPEC	2L	poly	NYSDEC	2L	Poly
MW62-37(009)						
MW62-53 (009						
MW62-71 (009)						
MW62-92(009)						
MW62-138(009)						
MW62-182(009)	↓	↓	↓	↓		↓

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	ACTIVITY (check) Installation	Special Notes/Issues/Observations	Follow-up Required?
MW62S	X		all waterloo port	
MW62-18	X		re installed	
MW62-37	X			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

WELL ID: MW-62-18
SAMPLE ID: 059

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, 40'S F

PROJECT NO: 01.0017869.91
DATE: 4/15/09
SAMPLER(S): MB, AA
PUMP DEPTH: ______ ft

WATER QUALITY: 11.70 = 1.868 = 4.808

Time	circle one: DTW or (GW Elevation)	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (⁰C)	ORP	Rate (gal/hr)	Notes
0916	4.808								
938	4.654								1
939	Pump On							2	
949	4.584	7.63	2.003	-	9.61	10.88	233.0		
955	4.549	7.69	2.026	-	9.63	10.94	226.2	1.7	
1001	4.514	7.68	2.050	4.53	9.15	11.07	219.8		
1007	4.483	7.67	2.088	2.77	8.91	11.24	215.6	1.5	
1014	4.446	7.69	2.118	3.08	8.83	11.45	197.5	1.3	
1020	4.408	7.69	2.156	3.23	8.95	11.66	170.0		
1026	4.385	7.70	2.173	3.40	8.81	11.76	157.7	1.0	
1032	4.367	7.72	2.181	3.46	8.92	12.05	119.3		
1038	41.333	7.72	2.208	2.41	8.77	12.37	128.2		
1048	4.290	7.72	2.220	2.23	8.59	12.56	135.5		
1054	4.278	7.72	2.236	1.96	8.61	12.66	139.7		
1103	4.243	7.71	2.254	2.39	8.32	12.41	65.4		
1109	4.239	7.69	2.256	2.03	8.15	12.32	75.1		
1115	4.229	7.70	2.261	1.97	8.50	12.41	58.2		
1121	4.217	7.70	2.258	0	8.33	12.44	49.3		
1126	4.215	7.70	2.240	0	8.12	12.50	41.8		
1131	4.227	7.69	2.235	0	8.80	12.66	44.8		

1133 Start sampling 2

1318 end sampling

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
flow meter	4
turbidity meter	20070254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. Water level dropping, prior to sampling.
2. ~1.5 gal purged

WELL ID: MW-62-37
SAMPLE ID: 029

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: cloudy, 40'sF

PROJECT NO: 01.0017869.91
DATE: 4/15/09
SAMPLER(S): MB/AP
PUMP DEPTH: ______ ft

WATER QUALITY: DTW - 11.72 = 0.893 = 13.721

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (⁰C)	ORP	Rate (gal/hr)	Notes
0921	13.721								
938	13.653								1
939	Pump on							2	
950	13.502	7.61	1.384	—	5.09	11.92	3.0	1.8	
956	13.481	7.70	1.375	—	3.14	12.24	-4.1	1.5	
1002	13.521	7.81	1.380	9.82	2.04	12.56	-11.0		
1008	13.486	7.86	1.392	6.16	1.57	12.72	-33.6	1.2	
1015	13.477	7.93	1.400	6.11	1.21	12.68	-31.4		
1021	13.460	7.96	1.401	7.67	1.03	12.73	-36.1		
1027	13.446	7.98	1.402	7.61	0.95	12.76	-35.5	1.0	
1033	13.432	8.00	1.403	5.81	0.87	12.82	-34.8		
1039	13.448	8.04	1.405	3.58	0.81	1293	-41.7		
1049	13.410	8.05	1.407	3.54	0.79	12.99	-423		
1055	13.399	8.04	1.408	3.59	0.75	12.99	-42.0		2
1101	Start sampling - 2L IPEC + 2L NYSDEC								
1313	end sampling								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
flow meter	5
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. water level dropping prior to sampling
2. ~1.2 gal purged.

WELL ID: MW62-182

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy 50's

PROJECT NO.: 01.0017869.91
DATE: 4/15/09
SAMPLER(S): AA/MB

SAMPLING INTERVAL (depth in ft below top of casing) 177.6 to 198.7

SAMPLING PORT 182

TOTAL VOLUME PURGED: 1.7 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1337	0	PUMP ON							
1343	0.1	7.16	1.262	1.71	0.97	14.83	-51.5	6/4.3	40
1350	0.35	7.38	1.261	0.59	0.54	15.00	-24.8		
1357	0.75	7.45	1.257	0.68	0.41	15.30	-4.0		
1408	1.0	7.47	1.260	0.3	0.30	15.18	-1.9		
1413	1.25	7.48	1.262	0.27	0.29	15.11	0.1		
1419	1.5	7.49	1.262	0.29	0.28	15.16	-1.1	↓	↓
1420	Start sample collection - 21 IPEC + 2C NYSDEC								
1453	end sample collection								
1453	PUMP OFF								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

WELL ID: MW62 . 138

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE: Buchanan, NY
WEATHER Cloudy 50's

PROJECT NO. 01.0017869.91
DATE 4/15/09
SAMPLER(S) AA / MB

SAMPLING INTERVAL (depth in ft below top of casing) 126.1 to 143.6

SAMPLING PORT 138

3

TOTAL VOLUME PURGED: 1.20 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1018	0	PUMP ON							
1025	0.01	6.73	1.551	—	3.28	11.77	-141.6	5/6	22
1030	0.05	7.04	1.551	—	1.44	12.07	-154.2		
1041	0.20	7.32	1.566	—	0.80	12.45	-144.8		
1049	0.35	7.41	1.570	5.20	0.60	12.70	-122.1		
1057	0.55	7.47	1.574	1.90	0.54	12.87	-110.8		
1106	0.70	7.48	1.576	1.12	0.49	13.00	-96.8		
1112	0.80	7.48	1.577	0.0	0.47	13.19	-90.9		
1118	0.95	7.49	1.578	0.0	0.46	13.22	-90.0		
1131	1.10	7.50	1.577	0.0	0.44	13.30	-88.2		
1135		START SAMPLE COLLECTION							
1238		End Sample Collection			- 2C IPEC + 2C NYSDEC				
1238		Pump Off							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	20070428

NOTES AND OBSERVATIONS:

WELL ID: MW 62-92

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE: Buchanan, NY
WEATHER Cloudy 50's

PROJECT NO. 01.0017869.91
DATE: 4/15/09
SAMPLER(S): AA/MB

SAMPLING INTERVAL (depth in ft below top of casing) 88.6 to 99.1

SAMPLING PORT 92

TOTAL VOLUME PURGED: 1.70 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

4

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1018	0	PUMP ON							
1025	0.04	6.83	1.345	—	1.69	12.10	-77.8	5/6	22
1029	0.15	7.08	1.330	—	1.79	12.40	-76.5		
1041	0.40	7.35	1.327	—	0.72	12.81	-72.0		
1049	0.70	7.41	1.327	3.02	0.78	13.02	-72.0		
1057	0.90	7.46	1.328	1.67	0.51	13.29	-74.3		
1105	1.0	7.46	1.329	1.29	0.37	13.34	-74.9		
1110	1.15	7.47	1.330	0.50	0.35	13.48	-76.2		
1116	1.30	7.48	1.331	0.48	0.34	13.50	-77.2		
1126	1.60	7.49	1.333	0.46	0.32	13.56	-77.6		
1130		START SAMPLE COLLECTION							
1215		SAMPLE COMPLETED : 2 L IPEC, 2 L DEC							
1215		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

WELL ID: MW 62-71

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy 50's

PROJECT NO: 01.0017869.91
DATE: 4/15/09
SAMPLER(S): AK/MB

SAMPLING INTERVAL (depth in ft below top of casing) 61.1 to 82.6

TOTAL VOLUME PURGED: 1.85 gal

PURGE RATE: variable (gal / min)

SAMPLING PORT 71 5

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1018	0	PUMP ON							
1024	0.05	6.87	1.274	—	0.56	12.47	-158.1	5/6	22
1029	0.20	7.11	1.291	—	0.36	12.70	-128.3		
1040	0.65	7.36	1.303	—	0.23	13.08	-111.2		
1048	0.80	7.41	1.304	4.42	0.18	13.31	-118.0		
1056	1.05	7.44	1.306	1.25	0.15	13.55	-103.2		
1104	1.20	7.46	1.307	1.32	0.14	13.57	-101.8		
1109	1.35	7.46	1.307	0.82	0.14	13.66	-103.6		
1115	1.65	7.47	1.309	0.86	0.15	13.70	-99.8		
1122	1.75	7.48	1.310	0.89	0.16	13.74	-96.4	↓	↓
1126		START SAMPLE COLLECTION							
1206		SAMPLE COMPLETED: 2 L IPEC, 2 L DEC							
1206		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 62 - 53

SAMPLE ID: 008

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC

SITE: Buchanan, NY

WEATHER: Cloudy 50's

PROJECT NO. 01.0017869.91

DATE 4/15/09

SAMPLER(S) AA / MB

SAMPLING INTERVAL (depth in ft below top of casing) 49.6 to 54.1

SAMPLING PORT 53

TOTAL VOLUME PURGED: 0.95 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1018	0	PUMP	ON						
1023	0.05	6.94	1.257	—	2.26	12.57	-94.8	5/6	22
1028	0.15	7.12	1.262	—	1.20	12.54	-106.2		
1040	0.25	7.28	1.259	—	0.82	12.71	-98.6		
1048	0.30	7.31	1.258	11.82	0.70	12.79	-85.4		
1056	0.35	7.36	1.258	6.81	0.66	12.86	-78.1		
1101	0.40	7.38	1.257	7.24	0.63	12.93	-69.4		
1108	0.45	7.39	1.257	7.22	0.62	13.00	-68.0		
1113	0.50	7.40	1.257	3.28	0.61	13.19	-50.1		
1119	0.55	7.45	1.258	2.95	0.58	13.22	-49.8		
1138	0.75	7.51	1.257	6.54	0.63	13.99	-42.3		
1143	0.80	7.52	1.257	7.00	0.64	14.01	-41.3		
1148	0.85	7.54	1.259	7.14	0.64	14.08	-40.6		
1150		START	SAMPLE		COLLECTION				
1329		End Sample		collection		2 L IPEC,		2 L DEC	
1329		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	20070 4293

NOTES AND OBSERVATIONS:

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-62-18
SHEET: 1 of 1
FILE NO: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: miniTroll
PSI CAPACITY: 30
SERIAL NUMBER:

FINAL BORING DEPTH (FT):
GROUND ELEVATION (FT):
CASING ELEVATION (FT): 12.810
CASING DIAMETER (INCH): 1

DATUM: NGVD 29
DATE:

STATIC GROUNDWATER TABLE ELEVATION (FT): 11.35'

GZA ENGINEER: AA / MB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

DEPTH TO BOTTOM: 18 FT
GROUND ELEVATION: FT M.S.L.
CASING ELEVATION: FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: –
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

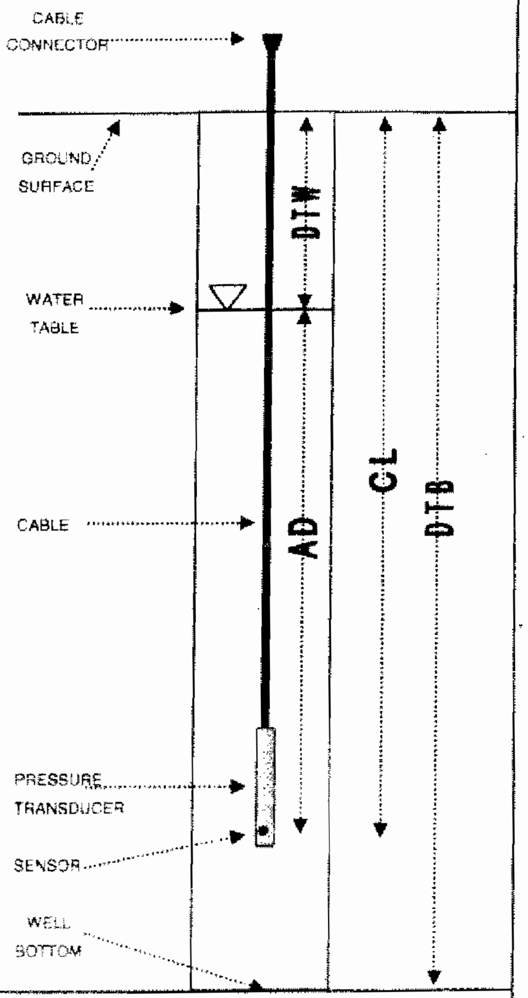
TIME OF MEASUREMENT: 14:16 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 11.35 FT
ACTUAL DEPTH: + 5.202 FT
THEORETICAL CABLE LENGTH: = 16.552 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☒ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☒ check

ELEVATION OF MEASURING POINT: 12.810 FT M.S.L.
DEPTH TO WATER: – 11.35 FT
REFERENCE ELEVATION: = 1.460 FT M.S.L.

TEST NAME: MW62-18
LOGGING INTERVAL: 20 MIN
TEST START TIME: 14:17 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES

GZA

WELL ID: MW62-18

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83			69.207										
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26			14.230										
MW-58-65			14.250										
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12.810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/15/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407										
MW-66-36			13.364										
MW-107			142.757										
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
I-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519										
J3-4S			13.943										
J3-T1	4/10/09		8.518	5.66	2.858	2.883	1.370	-0.025	✓				
3-T2			8.512										
J3-C1			18.060										
R-1			18.496										
UT-1	4/14/09		11.891	9.37	2.021	2.234	42.151	-0.213	✓				
W-1			75.822										

2.094   11.37

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38			13.999										
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63			54.130										
MW-42-49			69.419										
MW-42-78			69.524										
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	-0.299	✓				
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42			53.196										
MW-45-61			53.217										
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11			16.283										
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.245	0.033	✓				
MW-53-120	4/14/09		70.190	60.820	9.37	9.398	57.526	0.028	✓				
MW-55-24			17.770										
W-55-35			17.770										
W-55-54			17.770										
W-56-53			69 322										

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: **INDIAN POINT ENERGY CENTER**
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/16/09
GZA Engineers: Miguel Britos
Angela Altieri

GZA Engineer:	Miguel Britos	Angela Altieri
Time Arrived onSite:	0630	0640
Time Left Site:	1630	1520

Weather: Sunny 50's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-56-53	IPEC	2 L	poly			
MW-56-83	IPEC	2 L	poly			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		
MW-56-53	✓	✓		
MW-56-83	✓	✓		
HR-1		✓		
HR-1 #2	✓		Test #2	

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

GWS and transducer Time charged to task # 21. So far.
Do you want us to charge Transducer Time to Task #3?

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	37.16	-.514	✓				
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14 810										
MW-58-26			14.230										
MW-58-65			14 250										
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12 810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/15/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68 841										
MW-66-21			13.407										
MW-66-36			13.364										
MW-107			142.757										
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14 599										
J3-4D			14.519										
J3-4S			13.943										
J3-T1	4/19/09		8.518	5.66	2.858	2.883	1.370	-0.025	✓				
J3-T2			8.512										
J3-C1			18.060										
R-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.141	-0.241	✓				
UT-1	4/14/09		11 891	9.87	2.021	2.234	42.151	-0.213	✓				
W-1			75.822										

2094 11 37

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38			13.999										
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.628	+ 0.032	✓				
MW-42-49			69.419										
MW-42-78			69.524										
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	-0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	-0.299	✓				
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
W-48-23			14.759										
W-48-37			15.189										
W-49-26			14.171										
W-49-42			14.223										
W-49-65			14.457										
W-50-42			14.453										
W-50-66			14.614										
W-52-11			16.283										
W-53-82	4/14/09		69.930	60.17	9.760	9.793	21.246	0.033	✓				
W-53-120	4/14/09		70.190	60.920	9.27	9.298	57.836	0.028	✓				
W-55-24			17.770										
W-55-35			17.770										
W-55-54			17.770										
W-56-53			69.322	47.24	22.082	23.959	42.306	-1.877	✓				
MW41-40	4/16/09	1035	54.130	21.73	32.40	32.283	14.148	+0.117	✓				

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID: HR-1
SHEET: 1 of 1
FILE NO.: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE:
PSI CAPACITY:
SERIAL NUMBER: 11886

FINAL BORING DEPTH (FT):
GROUND ELEVATION (FT):
CASING ELEVATION (FT): 18.496
CASING DIAMETER (INCH): 2

DATUM: NGVD 29
DATE:

STATIC GROUNDWATER TABLE ELEVATION (FT):

GZA ENGINEER: AA

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: FT
GROUND ELEVATION: FT M.S.L.
CASING ELEVATION: 18.496 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

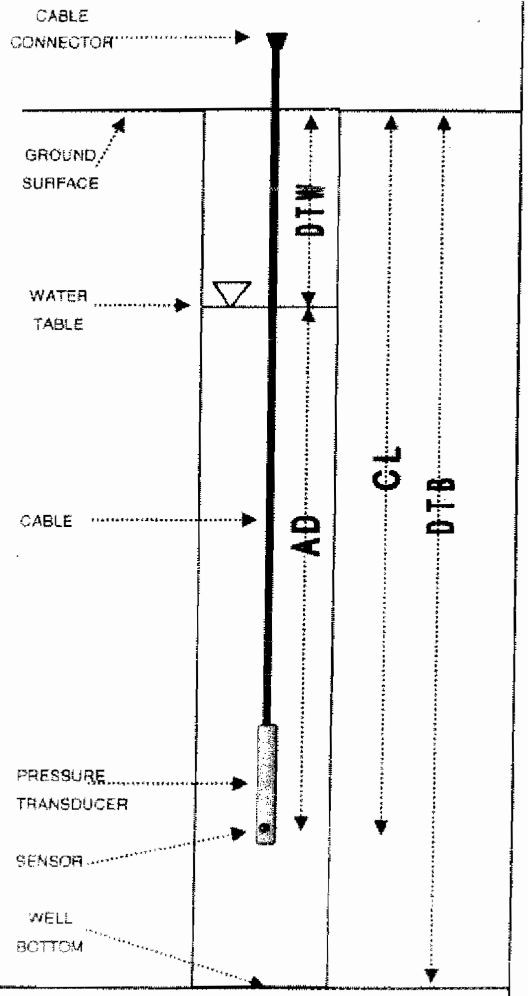
TIME OF MEASUREMENT: 14:20 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 11.19 FT
ACTUAL DEPTH: + 8.731 FT
THEORETICAL CABLE LENGTH: = 19.571 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 18.496 FT M.S.L.
DEPTH TO WATER: - 11.14 FT
REFERENCE ELEVATION: = 7.356 FT M.S.L.

TEST NAME: HR-1
LOGGING INTERVAL: 20 MIN
TEST START TIME: 14:21 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID: HR-1

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW56-53
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE
PSI CAPACITY
SERIAL NUMBER

FINAL BORING DEPTH (FT) 52
GROUND ELEVATION (FT)
CASING ELEVATION (FT) 69.322
CASING DIAMETER (INCH) 2

DATUM NGVD 29
DATE 4/16/09

STATIC GROUNDWATER TABLE ELEVATION (FT)

GZA ENGINEER AM/MB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

DEPTH TO BOTTOM: FT
GROUND ELEVATION: FT M.S.L.
CASING ELEVATION: 69.322 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: –
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

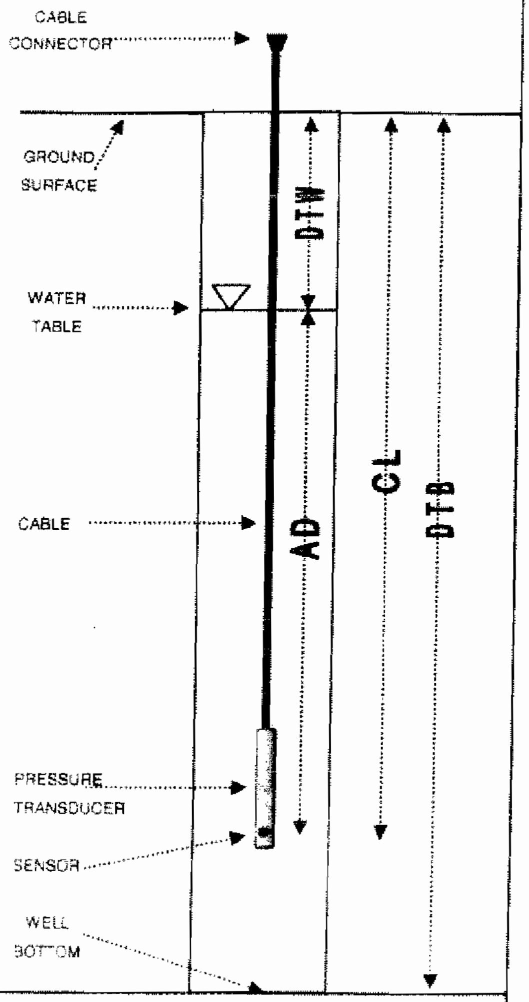
TIME OF MEASUREMENT: 954 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 47.24 FT
ACTUAL DEPTH: + 42.310 FT
THEORETICAL CABLE LENGTH: = 89.550 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 69.322 FT M.S.L.
DEPTH TO WATER: − 47.24 FT
REFERENCE ELEVATION: = 22.082 FT M.S.L.

TEST NAME: MW56-53
LOGGING INTERVAL: 20 MIN
TEST START TIME: 955 HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID MW56-53

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW56-83
SHEET: 1 of 1
FILE NO.: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: in-Situ
MAKE: [illegible]
PSI CAPACITY:
SERIAL NUMBER: 16394

FINAL BORING DEPTH (FT):
GROUND ELEVATION (FT):
CASING ELEVATION (FT): 69.207
CASING DIAMETER (INCH): 1

DATUM: NGVD 29
DATE: 4/16/09

STATIC GROUNDWATER TABLE ELEVATION (FT):

GZA ENGINEER: AA/MB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: 83 FT
GROUND ELEVATION: FT M.S.L.
CASING ELEVATION: FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

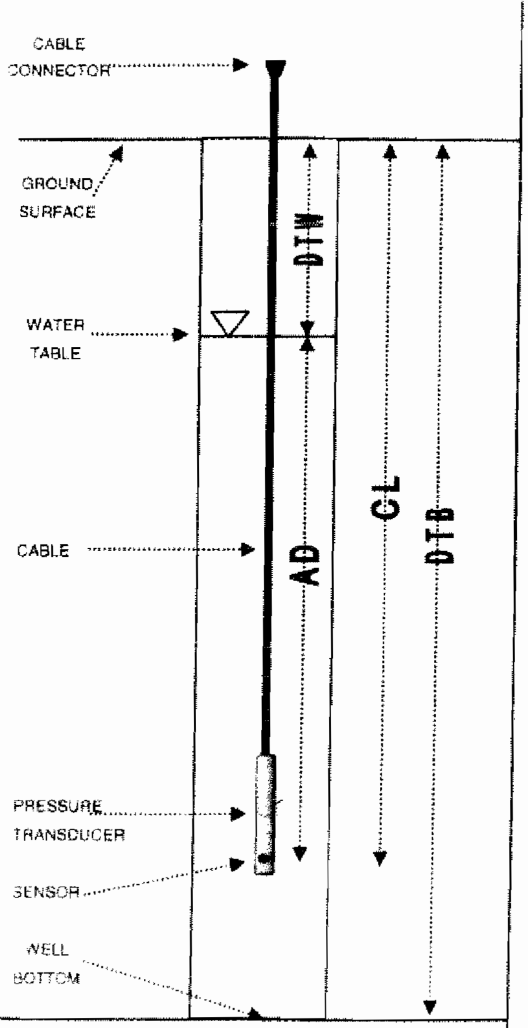
TIME OF MEASUREMENT: 1210 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 47.16 FT
ACTUAL DEPTH: + 36.820 FT
THEORETICAL CABLE LENGTH: = 83.980 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 69.207 FT M.S.L.
DEPTH TO WATER: − 47.16 FT
REFERENCE ELEVATION: = 22.047 FT M.S.L.

TEST NAME: MW56-83
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1211 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID: MW56-83

SAMPLE ID: MW56-53 (006)

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 50's, Sun

PROJECT NO: 01.0017869.91
DATE: 4/16/09
SAMPLER(S): MJB / MA
PUMP DEPTH: ______ ft

WATER QUALITY: DTW - 47.24'

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Purged Notes H_2O (gal)
954	42.310								
957	Pump on								
1003	42.247	5.85	1.409	—	4.08	12.98	277.0	6/7@ 30psi	
1012	42.263	6.78	2.500	6.41	5.11	13.10	160.6		
1018	42.285	7.06	2.736	5.68	5.90	12.97	145.2		
1029	42.261	7.04	2.808	4.25	6.43	12.25	139.1		
1035	42.213	7.21	2.961	3.75	5.56	13.39	135.0		0.3
1040	42.204	7.34	3.110	2.33	5.52	14.00	107.7		
1046	42.204	7.43	3.286	2.41	6.74	14.27	66.8		
1052	42.173	7.51	3.367	2.68	5.56	14.57	44.3		0.7
1059	42.125	7.60	3.452	4.18	5.53	15.01	11.7		
1105	42.091	7.59	3.478	3.83	5.44	15.26	4.0		
1111	42.065	7.60	3.554	2.38	5.08	15.45	-8.1		
1116	42.020	7.58	3.599	1.52	4.85	15.55	-12.4		1.8
1121	42.006	7.53	3.668	1.57	4.65	15.55	-17.9		2.0
1126	41.995	7.57	3.705	1.47	4.51	15.60	-18.8	↓	
1131	start	sampling		-2L	IPEC				2.6
1143	SAMPLE	COMPLETED		: 2	L IPEC				
1143	PUMP	OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
flow meter	—
turbidity meter	20070254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

- MW56-83
(008)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sun, 50's

PROJECT NO: 01.0017869.01
DATE: 4/16/09
SAMPLER(S): ZMB/AA

WATER COLUMN HEIGHT (ft)

83 (DTB) - 47.06 (DTW) = 35.94 ft (Well Column Height)

Well Diameter: 1 inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 35.94 x 0.041 (Multiplier) = 1.47 gallons (Well Volume)

1.47 x 1.5 = 2.21 gallons (Designed Purge Volume)

TOTAL VOLUME PURGED: 2.30 gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1053	0	PUMP ON								
1100	0.2	—	7.16	1.140	150.2	4.85	14.27	218.0	74	
1106	0.25	—	7.24	1.499	195.8	5.06	14.03	209.9		
1112	0.45	—	7.34	1.941	143.7	5.48	13.89	205.3		
1115	0.70	—	7.34	2.000	133.1	5.52	13.92	204.1		
1123	1.0	—	7.27	2.046	78.03	5.59	14.46	202.0		
1131	1.5	—	7.33	2.210	62.73	5.82	15.21	191.5		
1136	1.8	—	7.32	2.228	34.24	5.87	15.69	188.8		
1140	2.1	—	7.35	2.224	25.78	5.73	16.19	178.9		
1142	2.2	—	7.35	2,224	20.03	5.73	16.26	178.0	↓	
1143		START	SAMPLE COLLECTION							
1149		SAMPLE COMPLETED : 2 L IPEC								
1149		PUMP	OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	/
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl

Flow cell full of dirt/debris from possible flooded vault.

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: **INDIAN POINT ENERGY CENTER**
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/17/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten
Time Arrived onSite:	0630	
Time Left Site:	1730	

Weather: Sunny 68°F

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-42-49 (017)	IPEC	2 L	poly			
MW-42-78 (012)						
U3-4D (020)	↓	↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-42-78	✓	✓		
MW-42-49	✓			
U3-4D	✓			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (battenes, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38			13.999										
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.691	15.028	+0.039	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.525	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	+0.521	✓			✓	Kept old time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	-0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	-0.299	✓				
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11			16.283										
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.246	-0.033	✓				
MW-53-120	4/14/09		70.190	60.820	9.37	9.398	57.820	-0.028	✓				
W-55-24			17.770										
W-55-35			17.770										
W-55-54			17.770										
W-56-53			69.322	47.24	22.082	23.959	42.306	-1.877	✓				
MW41-40	4/16/09	1235	54.130	21.73	32.40	32.283	14.198	+0.117	✓				

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	37.126	-.514	✓				
MW-57-11			14.730										
MW-57-20			14.750										
MW 57-45			14.810										
MW-58-26			14.230										
MW-58-65			14.250										
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12.810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/15/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407										
MW-66-36			13.364										
MW-107			142.757										
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-0.183					
J3-4S			13.943										
J3-T1	4/16/09		8.518	5.66	2.858	2.883	1.370	-0.025	✓				
J3-T2			8.512										
J3-C1			18.060										
R-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.44	-0.241	✓				
UT-1	4/14/09		11.891	9.87	2.021	2.234	42.151	-0.213	✓				
W-1			75.822										

2.094 11.87

WELL ID: U3-4D
SAMPLE ID: 020

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

1 of 2

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 68°F

PROJECT NO: 01.0017869.91
DATE: 4/17/09
SAMPLER(S): M. BRITOS
PUMP DEPTH: 25.6 ft

WATER QUALITY: DTW - 10.66 = 40.42 = 50.025

Time	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	purged Notes H2O (gal)
1401	50.027	Pump on							
1408	49.902	8.49	1.697	—	6.98	19.55	89.2		
1413	49.842	9.07	3.247	—	4.40	19.56	47.9		
1423	49.725	9.54	3.244	8.54	3.90	18.86	36.2		0.02
1428	49.707	9.56	3.248	8.60	3.74	18.74	33.4		
1433	49.663	9.72	3.251	8.89	3.76	18.46	31.7		

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
flow meter	Ki #1
turbidity meter	100701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl

Water level dropping. Pump rate set at slowest possible.
Change sampling method to modified traditional.

2 of 2

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

U3-4D (020)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 68° F

PROJECT NO: 01.0017569.91
DATE: 4/17/09
SAMPLER(S): M. BRITOS

WATER COLUMN HEIGHT (ft)

27.25 (DTB) - 10.66 (DTW) = 16.59 ft (**Well Column Height**)

Well Diameter: ________ inches

Diameter	**Multipliers**
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 16.59 x 0.653 (**Multiplier**) = 10.83 gallons (**Well Volume**)

10.83 x 1.5 = 16.24 gallons (**Designed Purge Volume**)

TOTAL VOLUME PURGED: 8.9 gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1436	0.1	49.465	9.73	3.219	8.13	3.33	22.76	29.2	25.6	
1442	1.0	48.570	9.85	3.239	6.41	2.75	25.72	28.8		
1452	2.0	47.001	9.88	3.243	2.63	2.69	25.71	26.7		
1502	3.0	45.084	9.86	3.239	2.00	2.66	25.54	24.7		
1512	4.0	43.231	9.85	3.238	2.47	2.64	25.56	22.8		1
1522	6.0	40.570	9.84	3.236	3.47	2.55	25.61	22.1		
1532	8.0	37.903	9.83	3.234	4.14	2.48	25.84	21.7	↓	
1536		PUMP	OFF	well dry						
1540		START	SAMPLE	COLLECTION						
1557		SAMPLE	COMPLETED	: 2 L IPEC						
1557		PUMP	OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	20070 1254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

1. Add 1 more Tubing for purging

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-42-78
SHEET: 1 of 1
FILE NO: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: mini Troll
PSI CAPACITY: 30
SERIAL NUMBER: 16626

FINAL BORING DEPTH (FT): 78
GROUND ELEVATION (FT):
CASING ELEVATION (FT): 69.524
CASING DIAMETER (INCH): 1

DATUM: NGVD 29
DATE: 4/17/08

STATIC DTW ~~GROUNDWATER TABLE ELEVATION (FT)~~: 34.12

GZA ENGINEER: M. BRITOS

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: 78 FT
GROUND ELEVATION: FT M.S.L.
CASING ELEVATION: 69.524 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

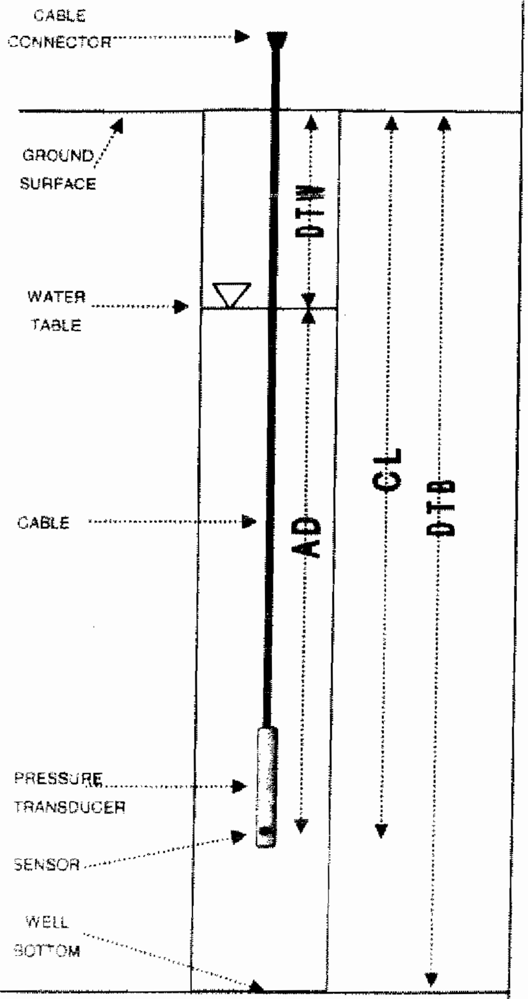
TIME OF MEASUREMENT: 0956 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: FT
ACTUAL DEPTH: + 43.850 FT
THEORETICAL CABLE LENGTH: = FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 69.524 FT M.S.L.
DEPTH TO WATER: − 34.090 FT
REFERENCE ELEVATION: = 35.434 FT M.S.L.

TEST NAME: MW-42-78n
LOGGING INTERVAL: 20 MIN
TEST START TIME: 0956 HRS



LEGEND
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Transducer reading off by +0.521. Re set.

GZA

WELL ID: MW-42-78

SAMPLE ID:______

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

MW-42-49(017)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 68°F

PROJECT NO: 01.0017869.91
DATE: 4/17/09
SAMPLER(S): M. BRITOS
PUMP DEPTH: 41 ft

WATER QUALITY: DTW = 34.95 = 34.362 = 13526

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	DRIVE/VENT PRESSURE (PSI) Rate (gal/hr)	Purged H₂O (gal) Notes
917	13.526								
922	13.527		PUMP	ON				5/10@24	
934	13.385	6.92	9.378	—	6.69	13.99	65.4	5/19@26	
942	13.396	7.12	8.828	9.05	5.40	14.40	56.7		
949	13.340	7.25	8.390	8.37	5.17	14.16	47.5		0.15
957	13.381	7.38	8.182	8.04	4.80	14.36	42.7		0.25
1005	13.401	7.47	8.100	7.33	4.81	14.46	40.9		0.30
1013	13.401	7.60	8.060	7.40	4.70	14.42	37.7		0.35
1021	13.380	7.62	8.028	7.19	4.77	14.39	37.6		0.50
1032	13.530	7.64	8.009	7.30	4.72	14.48	36.9	↓	0.60
1035		START	SAMPLE	COLLECTION					
1103		SAMPLE	COMPLETED		:	2 L	IPEC		
1103		PUMP	OFF						

Equipment Used	**Equipment Identification #**
YSI 556 MPS Reader and 5563 Sonde	2
~~flow meter~~ Pump control unit	Solonist 466
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW-42-78(012)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 68°F

PROJECT NO: 01.0017869.91
DATE: 4/17/09
SAMPLER(S): M. BRITOS

WATER COLUMN HEIGHT (ft)

78 (DTB) - 34.12 (DTW) = 43.88 ft (Well Column Height)

Well Diameter: ______ inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 43.88 x 0.041 (Multiplier) = 1.80 gallons (Well Volume)

1.80 x 1.5 = 2.70 gallons (Designed Purge Volume)

TOTAL VOLUME PURGED: 3.0 gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1024	0		PUMP ON							
1027	0.01	—	7.44	2.104	—	5.20	14.95	213.8		
1031	0.70	—	7.31	2.207	165.5	4.03	15.41	195.7		
1034	1.10	—	7.30	2.282	227.9	3.73	15.47	180.2		
1038	1.70	—	7.32	2.357	250.9	3.47	15.52	161.6		
1041	2.30	—	7.30	2.399	282.3	3.24	15.56	141.4		
1043	2.70	—	7.33	2.410	316.5	3.24	15.58	130.8		
1045		START SAMPLE COLLECTION								
1049		SAMPLE COMPLETED : 2 L IPEC								
1049		PUMP OFF								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

ATTACHMENT 9.3 REQUEST FOR ENTRY EVALUATION FORM AND PERMIT-REQUIRED CONFINED SPACE PERMIT

Sheet 1 of 4

SUPERVISOR

REQUEST FOR ENTRY EVALUATION FORM

Section 1 Confined Space Information

Work Package #:

Component # & Description:

Department:

Work Activity:

Section 2: Hazard Evaluation & Control

A. Potential Work Hazards	Yes	No	B. Hazardous Work to be Performed	Yes	No
Falls	☐	☐	Welding/Cutting/Open Flame	☐	☐
Hazardous Energy	☐	☐	Hazardous Material	☐	☐
Respiratory	☐	☐	Solvents/Painting	☐	☐
Heat	☐	☐	Asphyxiating Material (i.e., nitrogen, argon)	☐	☐
Engulfment or Entrapment	☐	☐	Abrasive Blasting/Grinding	☐	☐
Other (Describe)	☐	☐	Other (Describe)	☐	☐

C. Energy & Hazard Isolation Controls Completed YES ☐ NO ☐ N/A ☐

Method of Isolation or Control ______________________ Clearance No. ______________

D. Hot Work Permit Required YES ☐ NO ☐ N/A ☐

Initiating Entry Supervisor

Print Signature Date Time

CST

Section 3: Atmospheric Analysis

Type	Oxygen	Combustible	CO	Other
Instrument				
Location				
Reading				
Acceptable	19.5-23.5%	0-10%	0-35ppm	

Print Signature Date Time

SAFETY

Section 4: Ventilation

Purging/Ventilation Required ☐ Yes ☐ No (ventilation required for welding, cutting, open flame)

If yes, Natural ☐ Mechanical ☐

Equipment to be used:

Duration:

Section 5: Protective Equipment and Work Practices

	Yes	No	Special Instructions
Lifeline/Harness	☐	☐	
Protective Clothing	☐	☐	
Respiratory Protection	☐	☐	
Work Practice/Stay Time	☐	☐	

Reclassified- No Permit Required ☐ *Permit Required ☐ No Entry ☐

*If permit required, a pre-job brief is required.

Print Signature Date Time

Re-evaluation Required:
- ☐ For Hazardous Activities
- ☐ Each Shift
- ☐ Every ____ Hours
- ☐ N/A

ATTACHMENT 9.3 REQUEST FOR ENTRY EVALUATION FORM AND PERMIT-REQUIRED CONFINED SPACE PERMIT

Sheet 1 of 4

SUPERVISOR

REQUEST FOR ENTRY EVALUATION FORM

Section 1 Confined Space Information

Work Package #:	Component # & Description:
Department:	Work Activity:

Section 2: Hazard Evaluation & Control

A. Potential Work Hazards	Yes	No	B. Hazardous Work to be Performed	Yes	No
Falls	☐	☐	Welding/Cutting/Open Flame	☐	☐
Hazardous Energy	☐	☐	Hazardous Material	☐	☐
Respiratory	☐	☐	Solvents/Painting	☐	☐
Heat	☐	☐	Asphyxiating Material (i.e., nitrogen, argon)	☐	☐
Engulfment or Entrapment	☐	☐	Abrasive Blasting/Grinding	☐	☐
Other (Describe)	☐	☐	Other (Describe)	☐	☐

C. Energy & Hazard Isolation Controls Completed YES ☐ NO ☐ N/A ☐

Method of Isolation or Control____________________________ Clearance No. __________________

D. Hot Work Permit Required YES ☐ NO ☐ N/A ☐

Initiating Entry Supervisor

Print Signature Date Time

CST

Section 3: Atmospheric Analysis

Type	Oxygen	Combustible	CO	Other
Instrument				
Location				
Reading				
Acceptable	19.5-23.5%	0-10%	0-35ppm	

Print Signature Date Time

SAFETY

Section 4: Ventilation

Purging/Ventilation Required ☐ Yes ☐ No (ventilation required for welding, cutting, open flame)	If yes, Natural ☐ Mechanical ☐
Equipment to be used:	Duration:

Section 5: Protective Equipment and Work Practices

	Yes	No	Special Instructions
Lifeline/Harness	☐	☐	
Protective Clothing	☐	☐	
Respiratory Protection	☐	☐	
Work Practice/Stay Time	☐	☐	

Reclassified- No Permit Required ☐ *Permit Required ☐ No Entry ☐
*If permit required, a pre-job brief is required.

Print Signature Date Time

Re-evaluation Required:
- ☐ For Hazardous Activities
- ☐ Each Shift
- ☐ Every ____ Hours
- ☐ N/A

Project:	Radiological Groundwater Sampling Program	**Date:**	4/20/09
Client:	Entergy Nuclear NorthEast	**GZA Engineers:**	Migue Britos
Site:	INDIAN POINT ENERGY CENTER		Angela Allen
Location:	Buchanan, NY		
Project #:	01.0017869.91		

GZA Engineer:	Miguel Britos	Angela Allen
Time Arrived onSite:	0630	0640
Time Left Site:	1830	1830

Weather: Rain, upper 40's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-67-105	(008) IPEC	2 L	poly	NRC	2 L	poly
-173	(009) ↓	↓	↓	↓	↓	↓
-219	(008)					
-276	(008)					
-323	(008)					
-340	(008)					
-39	(009)					
MW-66-21	(009) IPEC	2 L	poly	NRC	2 L	poly
MW-66-36	(008) IPEC	2 L	poly	NRC	2 L	poly

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-67	✓		All	
MW-66-21	✓			
MW-66-36	✓			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

SAMPLE ID:______

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

MW-66-36 (008)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 40'sF, cloudy

PROJECT NO: 01.0017869.91
DATE: 4/20/09
SAMPLER(S): AA/MB
PUMP DEPTH: ______ ft

WATER QUALITY:

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
1102	15.397	Pump on						1.3	1
1115	Pump off								
1121	Pump on								
1125	15.183	6.98	2.963	23.89	2.36	11.82	-38.0	1.0	
1130	15.161	7.06	2.995	12.73	1.71	12.01	-48.7		
1136	15.137	7.11	3.043	11.11	1.21	12.01	-51.4		
1142	15.097	7.20	3.058	8.11	1.14	12.03	-55.5		
1147	15.075	7.25	3.058	7.21	1.11	12.03	-57.5		
1152	15.046	7.28	3.062	5.99	1.00	12.01	-56.9		
1158	15.017	7.31	3.068	3.77	0.88	11.98	-57.1		
1204	14.976	7.34	3.072	3.81	0.82	11.98	-57.6		
1211	14.956	7.36	3.076	3.93	0.77	11.92	-55.6		
1216	14.906	7.38	3.068	3.60	0.70	11.98	-55.3		
1222	14.877	7.39	3.079	3.74	0.71	11.84	-51.6		
1233	14.825	7.40	3.079	4.06	0.64	11.63	-53.3		
1243	14.747	7.41	3.069	3.81	0.64	11.71	-52.3		
1253	14.707	7.42	3.072	3.76	0.60	11.83	-54.9		
1303	14.656	7.43	3.075	3.89	0.59	11.81	-53.4		
1312	14.606	7.44	3.103	3.79	0.62	11.81	-52.3		
1318	Start sampling								

1526 end sampling - 2L IPEC + 2L NRC

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
flow meter	5
turbidity meter	20050493

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. Water level dropping prior to sampling (lowside).

~17 gal purged

WELL ID: MW-
SAMPLE ID:

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

MW-66-21 (009)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 40'sF, cloudy

PROJECT NO: 01.0017869.91
DATE: 4/20/09
SAMPLER(S): AA/MB
PUMP DEPTH: ft

WATER QUALITY:

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
1102	9.219	Pump on						1.3	1
1115	Pump off								
1121	Pump on							1.0	
1124	9.064	7.26	1.091	10.31	2.41	11.14	-75.9		
1129	9.036	7.26	1.090	8.54	2.35	11.16	-60.5	<1.0	
1135	9.004	7.25	1.088	9.46	2.41	11.19	-37.4		
1141	8.967	7.25	1.084	7.49	2.40	11.19	-26.6		
1146	8.955	7.25	1.082	6.15	2.44	11.22	-3.4		
1151	8.914	7.25	1.084	7.99	2.30	11.23	15.4		
1157	8.880	7.25	1.084	8.42	2.58	11.25	24.1		
1203	8.872	7.25	1.084	7.91	2.48	11.26	31.8		
1209	8.848	7.24	1.085	5.52	2.48	11.25	35.5		
1215	8.807	7.24	1.085	5.91	2.41	11.20	40.1		
1221	8.771	7.24	1.085	6.07	1.83	11.20	36.9		
1227	8.747	7.24	1.086	5.84	1.93	11.19	36.5		
1233	8.633	7.24	1.089	6.22	2.11	11.04	39.5		
1238	8.642	7.24	1.090	6.10	2.04	11.00	37.1		
1243	8.674	7.23	1.092	6.75	1.91	11.00	26.0		
1248	8.630	7.24	1.095	6.52	1.88	11.00	20.9		
1253	8.656	7.23	1.097	6.31	1.82	10.99	19.8		
1301	8.574	7.23	1.100	6.03	1.60	10.94	21.3		
1306	8.555	7.23	1.101	5.59	1.53	10.92	22.9		
1311	8.501	7.24	1.102	5.83	1.58	10.86	25.6		

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
flow meter	4
turbidity meter	20070429 3

1314 Start sampling

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. Water level dropping prior to sampling. (low tide)

~0.65gal purged

WELL ID: MW 67-276

SAMPLE ID: 008

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC

SITE Buchanan, NY

WEATHER 3

PROJECT NO [illegible]

DATE 4/20/09

SAMPLER(S) AA/MS

SAMPLING INTERVAL (depth in ft below top of casing)

280.8 to 281.3

SAMPLING PORT

276

TOTAL VOLUME PURGED: 2.5 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
924	Pump on							6/6	47
937	0.30	7.09	0.947	7.11	0.58	14.95	-195.1		
943	0.45	7.20	0.940	7.93	0.31	15.20	-181.6		
950	0.60	7.25	0.937	6.25	0.21	15.24	-143.1		
956	0.85	7.28	0.934	5.74	0.18	15.22	-131.9		
1003	1.10	7.30	0.932	5.40	0.17	15.16	-114.2		
1009	1.35	7.31	0.929	5.03	0.16	15.09	-106.5		
1015	1.60	7.32	0.929	1.80	0.14	14.98	-111.6		
1021	1.95	7.32	0.928	2.14	0.12	15.04	-102.0		
1027	2.20	7.32	0.929	2.28	0.11	14.97	-102.2		
1031	Pump off								
1150	Start sample collection			-2L	IPEC + 2L NRC				
1215	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW67 323

SAMPLE ID: 008

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 2

PROJECT NO 01.0017869.91
DATE: 4/20/09
SAMPLER(S): AA/ MS

SAMPLING INTERVAL (depth in ft below top of casing) 317.8 to 328.3

SAMPLING PORT 323

TOTAL VOLUME PURGED: 2.5 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
924	Pump On							6/6	47
936	0.20	6.97	0.782	7.91	1.40	13.88	-99.3		
942	0.35	7.27	0.776	9.27	1.01	14.53	-185.8		
949	0.45	7.22	0.791	8.30	0.77	14.75	-240.5		
955	0.60	7.19	0.807	6.65	0.67	14.85	-269.7		
1002	0.90	7.19	0.812	4.49	0.62	14.84	-278.9		
1008	1.15	7.20	0.813	5.45	0.59	14.79	-286.2		
1014	1.35	7.20	0.814	2.58	0.53	14.68	-290.0		
1020	1.65	7.20	0.815	2.68	0.49	14.65	-291.6		
1026	1.90	7.20	0.817	2.51	0.49	14.66	-291.2		
1033	2.20	7.19	0.823	2.32	0.45	14.70	-285.8		
1036	Pump Off								
1150	Start	Sample	collection	- 2L IPEC	- 2L NRC				
1220	SAMPLE	COMPLETED							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	2007012554

NOTES AND OBSERVATIONS:

WELL ID: MW67 340
SAMPLE ID: 008

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Cloudy, 4[illegible]5F

PROJECT NO [illegible]
DATE 4/20/09
SAMPLER(S) MT/HB

SAMPLING INTERVAL (depth in ft below top of casing)
335.3 to 347.9

SAMPLING PORT
340

TOTAL VOLUME PURGED: 2.15 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
924	Pump on							6/6	47
935	0.15	7.20	0.805	10.37	2.41	13.90	-147.8		
941	0.30	7.52	0.796	7.77	1.53	14.73	-202.5		
948	0.45	7.46	0.784	6.79	1.14	14.89	-242.0		
954	0.60	7.45	0.776	6.37	0.80	14.93	-230.8		
1001	0.80	7.42	0.771	5.56	0.70	14.90	-236.4		
1007	1.10	7.40	0.771	4.93	0.65	14.85	-248.8		
1013	1.35	7.39	0.774	2.95	0.63	14.74	-241.3		
1019	1.65	7.39	0.775	3.11	0.62	14.72	-244.0		
1025	1.90	7.38	0.779	2.83	0.57	14.65	-236.6		
1030	Pump off								
1150	Start sample	collection	-	2L IPEC	+ 2L	NRC			
1225	end sample	collection							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MWO 1 - 01

SAMPLE ID: 002

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER:

4

PROJECT NO: 01.0017869.91
DATE: 4/20/09
SAMPLER(S): AH MB

SAMPLING INTERVAL (depth in ft below top of casing)

209 to 229.8

SAMPLING PORT

219

TOTAL VOLUME PURGED: 3.7 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
924	Pump on							6/6	47
938	1.0	7.30	1.165	7.62	0.73	15.38	-177.9		
944	1.4	7.35	1.110	7.41	0.55	15.44	-170.9		
951	1.7	7.35	1.108	6.57	0.46	15.47	-172.1		
957	2.0	7.36	1.108	6.62	0.40	15.39	-176.8		
1004	2.25	7.37	1.104	5.03	0.36	15.39	-176.4		
1010	2.50	7.37	1.103	6.17	0.32	15.25	-174.5		
1016	2.75	7.37	1.102	3.46	0.32	15.17	-169.4		
1022	3.0	7.37	1.102	3.40	0.30	15.24	-171.1		
1028	3.25	7.37	1.101	3.16	0.29	15.24	-169.0		
1131	Pump off								
1058	START	SAMPLE	COLLECTION						
1209	SAMPLE	COMPLETED :		2 L IPEC					
				2 L NRC					
1210	PUMP	OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
turbidity meter	20070254

NOTES AND OBSERVATIONS:

WELL ID: MW67 3

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Rain upper 40's

PROJECT NO [illegible]
DATE 4/20/09
SAMPLER(S) AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)
28.8 to 54.3

SAMPLING PORT
39 7

TOTAL VOLUME PURGED: 4.5 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (C)	ORP	Drive Vent Cycle (seconds)	Drive Pr (ps
1308	0	PUMP	ON					8/8	23
1319	0.3	7.42	2.534	—	0.48	14.93	-115.6		
1324	0.8	7.67	2.505	—	0.35	15.30	-120.4		
1331	1.5	7.81	2.503	2.34	0.32	15.26	-124.0		
1338	1.9	7.84	2.519	2.65	0.35	15.06	-126.9		
1345	2.3	7.85	2.518	2.17	0.32	15.06	-1259		
1350	2.7	7.84	2.521	1.87	0.28	15.26	-131.1		
1355	3.0	7.83	2.522	2.53	0.30	15.23	-131.2		
1400	3.25	7.84	2.527	2.27	0.30	15.34	-127.9		
1405	3.5	7.84	2.534	1.55	0.33	15.06	-139.9		
1410	3.65	7.83	2.529	1.57	0.28	15.19	-133.0		
1415	3.8	7.83	2.536	1.44	0.30	15.01	-140.5		
1420	4.0	7.82	2.530	1.42	0.31	15.20	-137.3		
1425	4.2	7.82	2.531	1.23	0.29	15.34	-146.3		
1427	Start sample collection								
1502	end sample collection - 2L IPEC + 2L NRC								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW67_173

SAMPLE ID: 089

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Rain upper 40's

PROJECT NO: 01.0017369.91
DATE: 4/20/09
SAMPLER(S): AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)
164.8 to 188.3

TOTAL VOLUME PURGED: 2.6 gal

PURGE RATE: variable (gal / min)

SAMPLING PORT
173

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1308	PUMP	ON						3/8	23
1317	0.1	6.95	0.983	—	2.26	12.86	-146.9		
1322	0.3	7.06	0.988	—	1.15	13.66	-202.0		
1329	0.45	7.03	0.995	7.33	0.85	14.10	-229.5		
1336	0.60	7.02	0.997	4.42	0.79	14.28	-257.3		
AA ~~1339~~	~~0.73~~	~~7.24~~							
1343	0.80	7.02	0.996	3.89	0.71	14.18	-223.2		
1348	1.0	7.02	0.994	4.50	0.63	14.23	-223.1		
1353	1.2	7.03	0.994	4.81	0.58	14.22	-231.2		
1358	1.35	7.03	0.992	3.47	0.53	14.32	-252.4		
1403	1.50	7.02	0.991	3.46	0.47	14.33	-240.9		
1408	1.65	7.02	0.989	3.34	0.42	14.18	-238.8		
1413	1.75	7.02	0.988	4.04	0.41	14.17	-250.7		
1418	1.85	7.02	0.988	3.64	0.39	14.11	-262.2		
1423	1.95	7.03	0.983	3.54	0.43	14.22	-260.0		
1430	2.05	7.03	0.981	2.49	0.38	14.34	-266.8		
1435	2.15	7.03	0.980	2.69	0.37	14.34	-269.8		
1440	2.25	7.03	0.978	2.71	0.35	14.47	-279.8		
1445	2.40	7.04	0.977	2.78	0.34	14.48	-290.0		
1447	Start sample collection								
1550	end sample collection 2L IPEC + 2L NRC								
1550	PUMP	OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	20070125 4

NOTES AND OBSERVATIONS:

WELL ID: MW67 105

SAMPLE ID: 008

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC

SITE: Buchanan, NY

WEATHER: Rain upper 40's

6

PROJECT NO: 41.0017369.91

DATE: 4/20/09

SAMPLER(S): AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)

90.3 to 110.8

SAMPLING PORT

105

TOTAL VOLUME PURGED: 4.1 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1308	0	PUMP	ON					8/8	23
1318	0.1	6.98	1.526	—	1.21	13.51	-161.8		
1323	0.3	7.12	1.516	—	0.79	13.95	-187.0		
1330	0.5	7.18	1.521	3.10	0.59	14.09	-186.3		
1338	0.8	7.21	1.527	2.60	0.47	14.10	-183.4		
1344	1.0	7.23	1.525	2.48	0.42	14.03	-165.8		
1349	1.2	7.24	1.526	1.44	0.40	14.12	-198.5		
1354	1.4	7.25	1.529	2.29	0.37	14.07	-1750		
1359	1.6	7.26	1.529	2.86	0.35	14.25	-178.3		
1404	1.8	7.26	1.534	1.84	0.33	14.06	-165.9		
1409	1.95	7.27	1.530	1.84	0.31	14.11	-186.8		
1414	2.1	7.27	1.531	1.65	0.29	14.03	-157.0		
1419	2.2	7.28	1.521	1.37	0.40	14.01	-162.2		
1424	2.35	7.28	1.531	2.71	0.34	14.14	-172.3		
1431	2.5	7.26	1.529	1.55	0.29	14.32	-192.5		
1436	2.65	7.26	1.530	1.65	0.27	14.38	-206.8		
1441	2.8	7.26	1.531	2.67	0.26	14.52	-215.6		
1446	3.0	7.26	1.534	2.42	0.25	14.43	-205.9		
1452	3.15	7.26	1.534	2.31	0.25	14.42	-200.4		
1457	3.25	7.26	1.535	2.28	0.26	14.34	-182.7		
1502	3.4	7.25	1.537	2.35	0.24	14.33	-174.5		
1507	3.6	7.25	1.537	2.45	0.24	14.26	-171.9		
1512	3.85	7.24	1.534	2.49	0.23	14.41	-181.9		

1513 Start sample collection

1600 end sample collection 2L IPEC + 2L NRC

1600 PUMP OFF

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
turbidity meter	20070i254

NOTES AND OBSERVATIONS:

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	37.126	-.514	✓				
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26			14.230										
MW-58-65			14.250										
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12.810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/15/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407	11.50	1907	2054		0.147					9277
MW-66-36			13.364	11.30	2.064	2050	15396	0.014					
MW-107			142.757										
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
I-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-.0183					
J3-4S			13.943										
J3-T1	4/10/09		8.518	5.66	2.858	2.883	1.370	-0.025	✓				
J3-T2			8.512										
J3-C1			18.060										
R-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.44	-0.241	✓				
UT-1	4/14/09		11.891	9.87	2.021	2.234	42.151	-0.213	✓				
W-1			75.822										

2.094 11.77

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38			13.999										
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.028	+ 0.030	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.525	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	+0.521	✓			✓	Kept old time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	0.299	✓				
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11			16.283										
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.286	0.033	✓				
MW-53-120	4/14/09		70.190	60.820	9.37	9.398	57.826	0.028	✓				
MW-55-24			17.770										
W-55-35			17.770										
W-55-54			17.770										
W-56-53			69.322	47.24	22.082	23.959	42.300	-1.877	✓				
MW41-40	4/16/09	1035	54.130	21.73	32.40	32.383	14.198	+0.117	✓				

Project:	Radiological Groundwater Sampling Program	**Date:**	4/21/09
Client:	Entergy Nuclear NorthEast		
Site:	**INDIAN POINT ENERGY CENTER**	**GZA Engineers:**	Miguel Britos
Location:	Buchanan, NY		Angela Allen
Project #:	01.0017869.91		

GZA Engineer:	Miguel Britos	Angela Allen
Time Arrived onSite:	630	640
Time Left Site:	1640	1640

Weather: AM · Lt rain, 40's
PM · cloudy,

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
LAF-002	IPEC	2L	poly	NRC	2L	Poly
U1-CSS	IPEC	↓	↓			
* MW57-11	↓	↓	↓			
* MW-57-20	↓	↓	↓			
* MW-57-45	↓	↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW57-11	x		} Reinstalled.	
MW-57-20	x		← replaced transducer	
MW-57-45	x			
U1-CSS	x			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

*MW 57 · well annulus flooded w/ orange/brown colored water
Sampled after purging 5 well volumes. (which is what we
did during sampling in May '08 + Nov '08)

WELL ID: LAF-002
SAMPLE ID: 011

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: cloudy, drizzle 50's

PROJECT NO: 01.0017869.91
DATE: 4/21/09
SAMPLER(S): AA/MB
PUMP DEPTH: ______ ft

WATER QUALITY:

Time	circle one [✓ DTW] or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (⁰C)	ORP	Rate (gal/hr)	purged Notes H_2O (gal)
1115	75.20							8/10@35	
1125								8/13@45	
1128	75.25	6.58	2.530	—	10.11	12.30	238.0	8/13@55	
1133	75.25	6.50	2.616	—	8.93	12.59	100.1	6/8@55	
1137	75.40	6.43	2.698	—	6.43	12.74	41.9	6/18@45	
1142	75.43	6.43	2.709	5.30	2.46	12.61	24.4	6/21@49	
1150	75.40	6.44	2.711	3.83	2.02	12.65	22.8	6/21@48	
1155	75.46	6.45	2.710	4.10	1.80	12.70	17.6		0.3
1200	75.50	6.45	2.712	3.47	1.60	12.80	13.5		0.35
1208	75.50	6.45	2.713	3.68	1.60	12.88	15.1		0.40
1218	75.52	6.46	2.714	3.70	1.51	12.91	14.2		0.50
1228	75.54	6.45	2.713	3.26	1.32	13.01	19.9		0.65
1238	75.54	6.45	2.714	3.31	1.28	13.07	20.3		0.70
1243	75.54	6.45	2.713	3.34	1.26	13.11	21.0		0.75
1248	75.54	6.45	2.713	3.36	1.24	13.15	22.1	↓	0.80
1250	START	SAMPLE		COLLECTION					
1424	SAMPLE	COMPLETED:		2 L	IPEC				
				2 L	NRC				
1424	PUMP OFF								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
flow meter	
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

WELL ID: U1-CSS
SAMPLE ID: 012

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: rain 40'sF

PROJECT NO: 01.0017869.91
DATE: 4/21/09
SAMPLER(S): AA/MG
PUMP DEPTH: ft

WATER QUALITY: DTW - 5.14' = 9.628' transducer

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
938	9.628								
1008	9.709								
1009	Pump on							<1	
1012	Pump off								
1017	Pump on.								1
1026	9.407	8.13	2.652	—	8.15	18.56	206.3		
1032	9.329	8.16	2.767	4.84	8.15	18.66	205.5		
1038	9.341	8.19	2.815	3.80	8.28	18.74	201.1		
1043	9.441	8.22	2.833	2.04	8.33	18.76	200.6		
1048	9.468	8.23	2.845	2.08	8.32	18.78	202.1		2
1050	Start	sampling		~2L	IPEC				
1307	end	sampling							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
flow meter	4
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. Pumping as slow as possible.
2. ~0.3 gal purged

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW57-11
005

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 40's, rain

PROJECT NO: 01.0017869.91
DATE: 4/21/09
SAMPLER(S): AA/MR

WATER COLUMN HEIGHT (ft) 11 (DTB) - 4.63 (DTW) = 6.37 ft (**Well Column Height**)

Well Diameter: 1 inches

Diameter	**Multipliers**
[✓ 1]	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 6.37 x 0.041 (**Multiplier**) = 0.26 gallons (**Well Volume**)

0.26 x ~~1.5~~ 5 = ~~0.39~~ 1.3 gallons (**Designed Purge Volume**)

TOTAL VOLUME PURGED: 1.5 gal

WATER QUALITY: DTW: 4.64' = 6.307' transducer

Time	Volume Purged (gal)	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1137	0	6.305								
1139	Pump on									
1142	0.15	6.230	6.94	2.678	12.90	3.94	21.43	128.3		
1147	0.35	6.183	7.08	2.729	6.64	2.63	21.72	77.2		
1152	0.75	6.128	7.18	2.778	2.30	2.23	21.73	79.9		
1158	1.1	6.083	7.23	2.804	2.44	2.12	21.72	80.7		
1201	1.3	6.071	7.24	2.807	2.31	2.08	21.72	80.6		
1203	Start sample collection - 2L IPEC									
1208	end sample collection									

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	20070125W

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl

MW57-20
005

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 40's, rain

PROJECT NO: 01.0017869.91
DATE: 4/21/09
SAMPLER(S): AA/MB

WATER COLUMN HEIGHT (ft) 20 (DTB) - 465 (DTW) = 15.35 ft (Well Column Height)

Well Diameter: (inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 15.35 x 0.041 (Multiplier) = 0.63 gallons (Well Volume)

0.63 x ~~15~~ 5 = ~~0.94~~ 3.15 gallons (Designed Purge Volume)

TOTAL VOLUME PURGED: 3.25 gal

WATER QUALITY: DTW = 4.60' = 15.471' transducer

	Time	Volume Purged (gal)	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1137	~~15.461~~	0	15.461								
	1139	Pump on									
	1144	0.15	15.263	7.51	2.743	38.32	2.72	21.21	116.5		
	1149	0.35	15.204	7.55	2.606	18.06	3.06	21.35	66.2		
	1154	0.75	15.129	7.54	2.578	12.87	3.06	21.89	65.2		
	1200	1.1	15.074	7.53	2.568	5.46	3.15	21.39	78.6		
	1206	2.0	15.072	7.53	2.561	3.63	3.13	21.40	85.5		
	1211	2.6	15.057	7.53	2.552	1.90	4.00	21.40	90.3		
	1214	2.85	15.077	7.52	2.549	4.29	3.23	21.40	91.7		
	1217	Start sample collection				-20-IPEC					
	1222	end sample collection									

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	(
turbidity meter	20070125 4

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW57-45
006

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 40's, rain

PROJECT NO: 01.0017869.91
DATE: 4/21/09
SAMPLER(S): AA/MK

WATER COLUMN HEIGHT (ft)

45 (DTB) - 5.25 (DTW) = 39.75 ft (Well Column Height)

Well Diameter: 1 inches

Diameter	Multipliers
[✓ 1]	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 39.75 x 0.041 (Multiplier) = 1.63 gallons (Well Volume)

1.63 x ~~15~~ 5 = ~~2.44~~ 8.15 gallons (Designed Purge Volume)

TOTAL VOLUME PURGED: 8.3 gal

WATER QUALITY: DTW = 5.24' = 72.762' transducer

Time	Volume Purged (gal)	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1137	0	72.716								
1139	Pump on									
1143	0.15	72.110	7.48	2.218	0.55	1.95	20.98	189.3		
1148	0.35	71.961	7.52	2.276	0	1.60	20.91	212.0		
1153	0.65	71.820	7.52	2.287	0	1.47	20.89	177.7		
1159	1.0	71.769	7.52	2.234	0	1.36	20.87	158.5		
1205	1.6	71.759	7.52	2.295	0	1.30	20.86	149.5		
1212	2.3	71.728	7.51	2.288	0	1.60	20.86	145.3		
1227	3.3	71.718	7.51	2.266	0	1.22	20.87	135.8		
1236	4.0	71.724	7.51	2.251	0	1.15	20.86	132.3		
1259	6.0	71.715	7.52	2.210	0	1.30	20.86	138.2		
1312	7.0	71.710	7.50	2.189	0	1.09	20.86	132.2		
1327	8.2	71.695	7.49	2.171	0	0.94	20.86	125.4		
1328	Start sample collection				-2L	IPEC				

1334 end sample collection

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
turbidity meter	2007012S4

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW57-11
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE
PSI CAPACITY
SERIAL NUMBER

FINAL BORING DEPTH (FT)
GROUND ELEVATION (FT)
CASING ELEVATION (FT) 14.730
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE 4/21/09

STATIC GROUNDWATER TABLE ELEVATION (FT)

GZA ENGINEER AA/MB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: 11 FT
GROUND ELEVATION: FT M.S.L.
CASING ELEVATION: 14.730 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: -
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

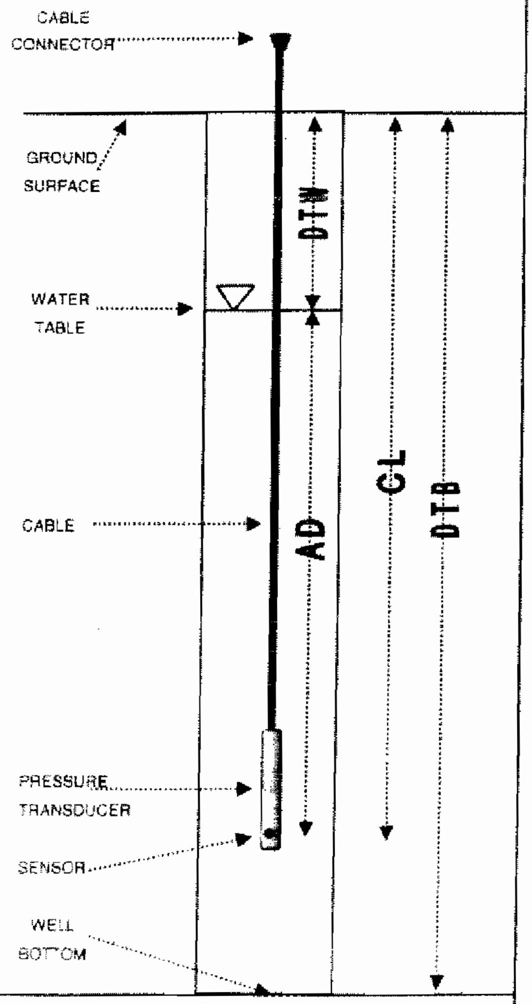
TIME OF MEASUREMENT: 915 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 4.64 FT
ACTUAL DEPTH: + 6.307 FT
THEORETICAL CABLE LENGTH: = 10.947 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 14.730 FT M.S.L.
DEPTH TO WATER: − 4.64 FT
REFERENCE ELEVATION: = 10.090 FT M.S.L.

TEST NAME: MW57-11
LOGGING INTERVAL: 20 MIN
TEST START TIME: 9~~16816~~ HRS



LEGEND
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES

GZA

WELL ID MW57-11

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW 57-20
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE
PSI CAPACITY
SERIAL NUMBER ~~9444~~ 5368

FINAL BORING DEPTH (FT) 20
GROUND ELEVATION (FT)
CASING ELEVATION (FT) 14.75
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE 4/20/09

STATIC GROUNDWATER TABLE ELEVATION (FT)

GZA ENGINEER AAMB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: ______ FT
GROUND ELEVATION: ______ FT M.S.L.
CASING ELEVATION: 14.75 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: -
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH ______ FT

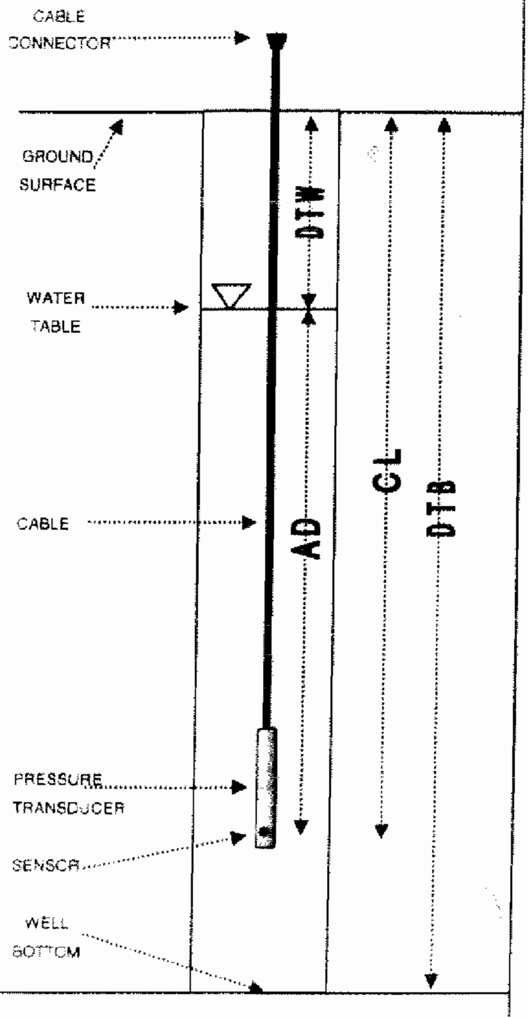
TIME OF MEASUREMENT: ~~924~~ 944 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 4.60 FT
ACTUAL DEPTH: + 15.471 FT
THEORETICAL CABLE LENGTH: = 20.071 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 14.75 FT M.S.L.
DEPTH TO WATER: − ~~4.66~~ 4.60 FT
REFERENCE ELEVATION: = ~~10.09~~ FT M.S.L.
10.15

TEST NAME: MW57-20
LOGGING INTERVAL: 20 MIN
TEST START TIME: 945 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
trans. replaced - old trans. corroded & reading negative numbers.

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW57-45
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE
PSI CAPACITY
SERIAL NUMBER 16044

FINAL BORING DEPTH (FT) 45
GROUND ELEVATION (FT)
CASING ELEVATION (FT) 14.810
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE

STATIC GROUNDWATER TABLE ELEVATION (FT)

GZA ENGINEER AAMB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: FT
GROUND ELEVATION: FT M.S.L.
CASING ELEVATION: 14.810 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: —
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

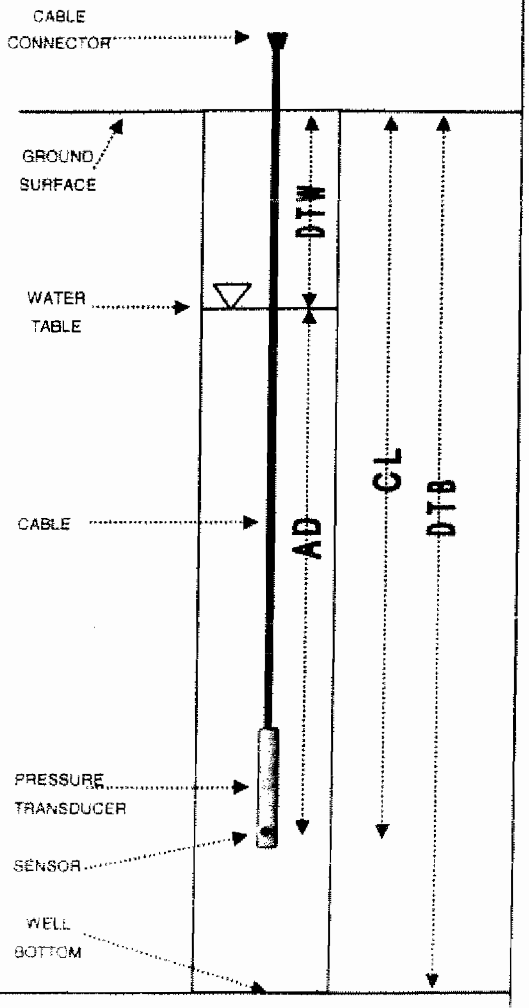
TIME OF MEASUREMENT: 928 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 5.24 FT
ACTUAL DEPTH: + 72.762 FT
THEORETICAL CABLE LENGTH: = N/A FT
Non-vented

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 14.810 FT M.S.L.
DEPTH TO WATER: − 5.24 FT
REFERENCE ELEVATION: = 9.570 FT M.S.L.

TEST NAME: MW5745
LOGGING INTERVAL: 20 MIN
TEST START TIME: 930 HRS



LEGEND:
- **DTW** - DEPTH TO WATER
- **DTB** - DEPTH TO BOTTOM OF WELL
- **AD** - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
- **CL** - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID MW 57-45

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	37.12	-.514	✓				
MW-57-11	4/21/09	908	14.730	4.63	10.10	6.303	6.302	+3.797	✓				
MW-57-20	4/21/09	919	14.750	4.65	10.10	-16.497	-9.039	+26.597	✓				[illegible] corroded [illegible]
MW-57-45	4/21/09	927	14.810	5.25	9.56	9.029	72.741						[illegible]
MW-58-26			14.230										
MW-58-65			14 250										
MW-59-32			14.410										
MW-59-45			13 900										
MW-59-68			14 230										
MW-62-18	4/15/09	916	12 810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/13/09	921	12 810	11.72	1.090	0.893		+0.197	✓				
MW-63-18			13 059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407	11.50	1907	2054		0.147					927?
MW-66-36			13.364	11.30	2.064	2050	15 396	0.014					
MW-107			142.757										
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-0.183					
J3-4S			13.943										
J3-T1	4/10/09		8.518	5.56	2.858	2.883	1.370	-0.025	✓				
J3-T2			8.512										
J3-C1			18.060										
R-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.141	-0.241	✓				
UT-1	4/14/09		11.891	9.37	2.021	2.234	42.151	-0.213	✓				
W-1			75.822										
U-1CSS	4/21/09	938	20.073	5.14	14.933	14.886	9.628	-0.047					
						2.094	11.3						

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38			13.999										
MW-41-40	4/7/09	1240	54 130	21.50	32.633	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.628	+ 0.032	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.525	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	+0.521	✓			✓	Kept old time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	-0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	-0.299	✓				
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14 223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11			16.283										
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.245	-0.033	✓				
MW-53-120	4/14/09		70.190	60.820	9.37	9.398	57.526	-0.028	✓				
MW-55-24			17.770										
MW-55-35			17.770										
MW-55-54			17.770										
MW-56-53			69 322	47.24	22.082	23.959	42.300	-1.877	✓				
MW41-40	4/16/09	1035	54.130	21.73	32.40	32,283	14.198	+0.117	✓				

Project:	Radiological Groundwater Sampling Program	**Date:**	4/21/09
Client:	Entergy Nuclear NorthEast		
Site:	**INDIAN POINT ENERGY CENTER**	**GZA Engineers:**	Miguel Britos
Location:	Buchanan, NY		Angela Alhen
Project #:	01.0017869.91		

GZA Engineer:	Miguel Britos	Angela Alhen	**Weather:** AM- Lt rain 40's PM- cloudy
Time Arrived onSite:	630	640	
Time Left Site:	1640	1640	

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
LAF-002	IPEC	2L	Poly	NRC	2L	Poly
U1-CSS	IPEC	↓	↓			
*MW57-11	↓	↓	↓			
*MW-57-20	↓	↓	↓			
*MW-57-45	↓	↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW57-11	x		Reinstalled.	
MW-57-20	x		← replaced transducer	
MW-57-45	x			
U1-CSS	x			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

*MW57 · well annulus flooded w/ orange/brown colored water
Sampled after purging 5 well volumes. (which is what we did during sampling in May '08 + NOV '08)

WELL ID: LAF-002
SAMPLE ID: 011

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: cloudy, drizzle 50's

PROJECT NO: 01.0017869.91
DATE: 4/21/09
SAMPLER(S): AA / MB
PUMP DEPTH: ______ ft

WATER QUALITY:

Time	circle one [✓ DTW] or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (⁰C)	ORP	Rate (gal/hr)	purged Notes H₂O (gal)
1115	75.20							8/10@35	
1125								8/13@45	
1128	75.25	6.58	2.530	—	10.11	12.30	238.0	8/13@50	
1133	75.25	6.50	2.616	—	8.93	12.59	100.1	6/8@55	
1137	75.40	6.43	2.698	—	6.43	12.74	41.9	6/18@45	
1142	75.43	6.43	2.709	5.30	2.46	12.61	24.4	6/21@45	
1150	75.40	6.44	2.711	3.83	2.02	12.65	22.8	6/21@48	
1155	75.46	6.45	2.710	4.10	1.80	12.70	17.6		0.3
1200	75.50	6.45	2.712	3.47	1.60	12.80	13.5		0.35
1208	75.50	6.45	2.713	3.68	1.60	12.88	15.1		0.40
1218	75.52	6.46	2.714	3.70	1.51	12.91	14.2		0.50
1228	75.54	6.45	2.713	3.26	1.32	13.01	19.9		0.65
1238	75.54	6.45	2.714	3.31	1.28	13.07	20.3		0.70
1243	75.54	6.45	2.713	3.34	1.26	13.11	21.0		0.75
1248	75.54	6.45	2.713	3.36	1.24	13.15	22.1	↓	0.80
1250	START	SAMPLE		COLLECTION					
1424	SAMPLE	COMPLETED:		2 L	IPEC				
				2 L	NRC				
1424	PUMP OFF								

Equipment Used	**Equipment Identification #**
YSI 556 MPS Reader and 5563 Sonde	5
flow meter	
turbidity meter	20070125 4

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

WELL ID: U1-CSS
SAMPLE ID: 012

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: rain 40's F

PROJECT NO: 01.0017869.91
DATE: 4/21/09
SAMPLER(S): AA/MG
PUMP DEPTH: ft

WATER QUALITY: DTW - 5.14' = 9.628' transducer

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
938	9.628								
1008	9.709								
1009	Pump on.							<1	
1012	Pump off.								
1017	Pump on.								1
1026	9.407	8.13	2.652	—	8.15	18.56	206.3		
1032	9.329	8.16	2.767	4.84	8.15	18.66	203.5		
1038	9.341	8.19	2.815	3.80	8.28	18.74	201.1		
1043	9.441	8.22	2.833	2.04	8.33	18.76	200.6		
1048	9.468	8.23	2.845	2.08	8.32	18.78	202.1		2
1050	Start	sampling		~2L IPEC					
1307	end	sampling							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
flow meter	4
turbidity meter	20704253

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. Pumping as slow as possible.

2. ~0.3 gal purged

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW57-11
005

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 40's, rain

PROJECT NO: 01.0017869.91
DATE: 4/21/09
SAMPLER(S): AH/MR

WATER COLUMN HEIGHT (ft) 11 (DTB) - 4.63 (DTW) = 6.37 (Well Column Height) ft

Well Diameter: 1 inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 6.37 x 0.041 (**Multiplier**) = 0.26 (**Well Volume**) gallons

0.26 x ~~1.5~~ 5 = ~~0.39~~ 1.3 (**Designed Purge Volume**) gallons

TOTAL VOLUME PURGED: 1.5 gal

WATER QUALITY: DTW= 4.64' = 6.307' transducer

Time	Volume Purged (gal)	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1137	0	6.305								
1139	Pump on									
1142	0.15	6.230	6.94	2.678	12.90	3.94	21.43	128.3		
1147	0.35	6.183	7.08	2.729	6.66	2.63	21.72	77.2		
1152	0.75	6.128	7.18	2.778	2.30	2.23	21.73	79.9		
1158	1.1	6.083	7.23	2.804	2.44	2.12	21.72	80.7		
1201	1.3	6.071	7.24	2.807	2.31	2.08	21.72	80.6		
1203	Start sample collection - 2L IPEC									
1208	end sample collection									

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW57-20
005

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 40's, rain

PROJECT NO: 01.0017869.91
DATE: 4/21/09
SAMPLER(S): AA/MB

WATER COLUMN HEIGHT (ft) 20 (DTB) - 4.65 (DTW) = 15.35 ft (Well Column Height)

Well Diameter: 1 inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 15.35 x 0.041 (Multiplier) = 0.63 gallons (Well Volume)

0.63 x ~~1.5~~ 5 = ~~0.94~~ 3.15 gallons (Designed Purge Volume)

TOTAL VOLUME PURGED: 3.25 gal

WATER QUALITY: DTW = 4.60' = 15.471' transducer

Time	Volume Purged (gal)	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1137 ~~15.461~~	0	15.461								
1139	Pump on									
1144	0.15	15.263	7.51	2.743	38.32	2.72	21.21	116.5		
1149	0.35	15.204	7.55	2.606	18.06	3.06	21.35	66.2		
1154	0.75	15.129	7.52	2.578	12.87	3.06	21.39	65.2		
1200	1.1	15.074	7.53	2.568	5.46	3.15	21.39	78.6		
1206	2.0	15.072	7.53	2.561	3.63	3.13	21.40	85.5		
1211	2.6	15.057	7.53	2.552	1.90	4.00	21.40	90.3		
1214	2.85	15.077	7.52	2.549	4.29	3.23	21.40	91.7		
1217	Start sample collection				-21-IPEC					
1222	end sample collection									

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	20070125

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW57-45
006

CLIENT Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 40's, rain

PROJECT NO: 01.0017869.91
DATE: 4/21/09
SAMPLER(S): AA/MK

WATER COLUMN HEIGHT (ft)

45 (DTB) - 5.25 (DTW) = 39.75 ft (Well Column Height)

Well Diameter: 1 inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 39.75 x 0.041 (Multiplier) = 1.63 gallons (Well Volume)

1.63 x ~~1.5~~ 5 = ~~2.44~~ 8.15 gallons (Designed Purge Volume)

TOTAL VOLUME PURGED: 8.3 gal

WATER QUALITY: DTW= 5.24' = 72.762' transducer

Time	Volume Purged (gal)	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1137	0	72.716								
1139	Pump on									
1143	0.15	72.110	7.48	2.218	0.55	1.95	20.98	189.3		
1148	0.35	71.961	7.52	2.276	0	1.60	20.91	212.0		
1153	0.65	71.820	7.52	2.287	0	1.47	20.89	177.7		
1159	1.0	71.769	7.52	2.234	0	1.36	20.87	158.5		
1205	1.6	71.759	7.52	2.295	0	1.30	20.86	149.5		
1212	2.3	71.728	7.51	2.288	0	1.60	20.86	145.3		
1227	3.3	71.718	7.51	2.266	0	1.22	20.87	135.8		
1236	4.0	71.724	7.51	2.251	0	1.15	20.86	132.3		
1259	6.0	71.715	7.52	2.210	0	1.30	20.86	132.2		
1312	7.0	71.710	7.50	2.189	0	1.09	20.86	132.2		
1327	8.2	71.695	7.49	2.171	0	0.94	20.86	125.4		
1328	Start sample collection				-2L	IPEC				

1334 end sample collection

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW57-11
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE
PSI CAPACITY
SERIAL NUMBER

FINAL BORING DEPTH (FT)
GROUND ELEVATION (FT)
CASING ELEVATION (FT) 14.730
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE 4/21/09

GZA ENGINEER AA / NSB

STATIC GROUNDWATER TABLE ELEVATION (FT)

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: 11 FT
GROUND ELEVATION: FT M.S.L.
CASING ELEVATION: 14.730 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: –
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

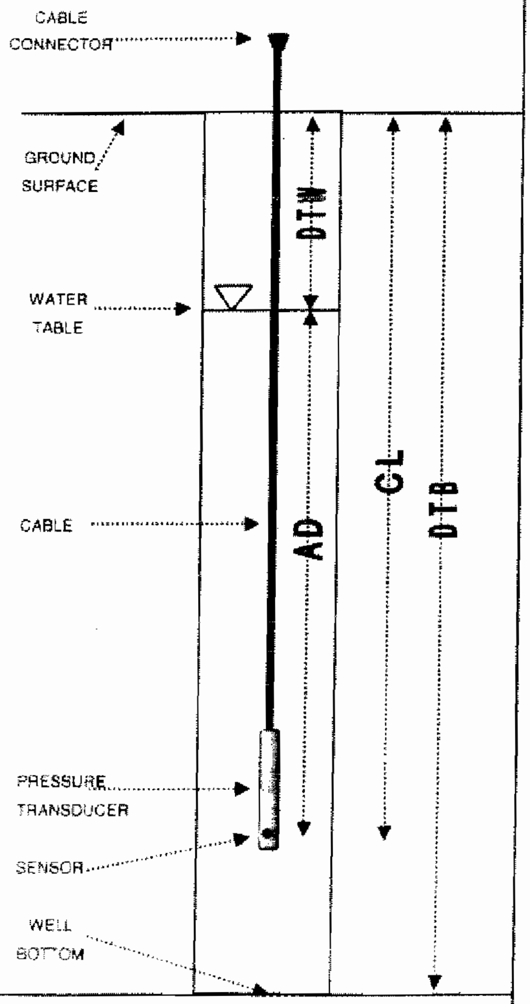
TIME OF MEASUREMENT: 915 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 4.64 FT
ACTUAL DEPTH: + 6.307 FT
THEORETICAL CABLE LENGTH: = 10.947 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 14.730 FT M.S.L.
DEPTH TO WATER: – 4.64 FT
REFERENCE ELEVATION: = 10.090 FT M.S.L.

TEST NAME: MW57-11
LOGGING INTERVAL: 20 MIN
TEST START TIME: 916~~816~~ HRS



LEGEND
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES

GZA WELL ID MW57-11

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW 57-20
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE
PSI CAPACITY
SERIAL NUMBER ~~944~~ 5368

FINAL BORING DEPTH (FT) 20
GROUND ELEVATION (FT)
CASING ELEVATION (FT) 14.75
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE 4/20/09

STATIC GROUNDWATER TABLE ELEVATION (FT)

GZA ENGINEER AAMK

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: ______ FT
GROUND ELEVATION: ______ FT M.S.L.
CASING ELEVATION: 14.75 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: -
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH ______ FT

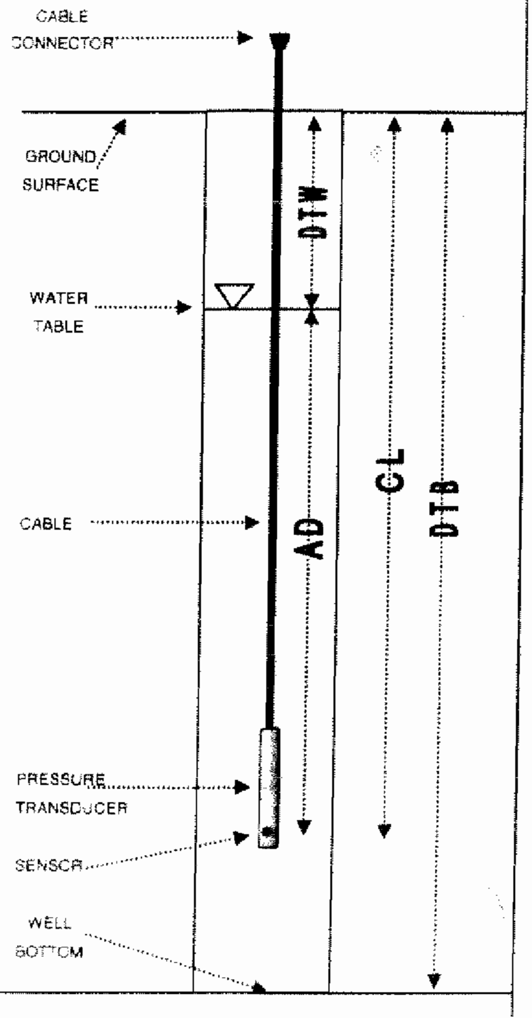
TIME OF MEASUREMENT: ~~924~~ 944 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 4.60 FT
ACTUAL DEPTH: + 15.471 FT
THEORETICAL CABLE LENGTH: = 20.071 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 14.75 FT M.S.L.
DEPTH TO WATER: MK − ~~4.66~~ 4.60 FT
REFERENCE ELEVATION: = ~~10.09~~ FT M.S.L.
MK 10.15

TEST NAME: MW57-20
LOGGING INTERVAL: 20 MIN
TEST START TIME: 945 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
trans. replaced - old trans. corroded & reading negative numbers.

GZA

WELL ID MW57-20

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW57-45
SHEET 1 of 1
FILE NO. 01.0017869.91
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE
PSI CAPACITY
SERIAL NUMBER 16040

FINAL BORING DEPTH (FT) 45
GROUND ELEVATION (FT)
CASING ELEVATION (FT) 14.810
CASING DIAMETER (INCH) 1

DATUM NGVD 29
DATE

STATIC GROUNDWATER TABLE ELEVATION (FT)

GZA ENGINEER AA/MB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: FT
GROUND ELEVATION: FT M.S.L.
CASING ELEVATION: 14.810 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: –
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

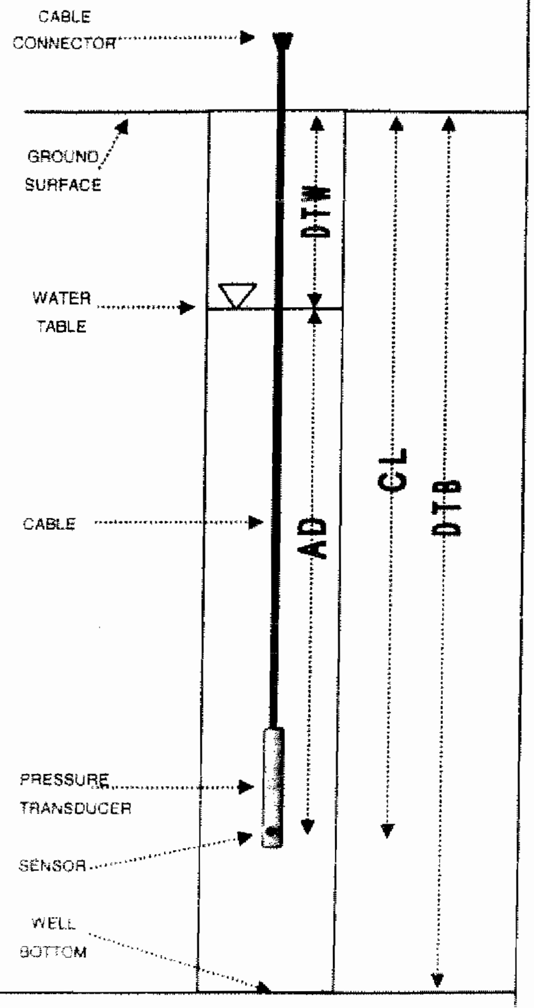
TIME OF MEASUREMENT: 928 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 5.24 FT
ACTUAL DEPTH: + 72.762 FT
THEORETICAL CABLE LENGTH: = N/A FT
Non-vented

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 14.810 FT M.S.L.
DEPTH TO WATER: – 5.24 FT
REFERENCE ELEVATION: = 9.570 FT M.S.L.

TEST NAME: MW5745
LOGGING INTERVAL: 20 MIN
TEST START TIME: 930 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID MW57-45

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	37.12	-.514	✓				
MW-57-11	4/21/09	908	14.730	4.63	10.10	6.303	6.302	+3.797	✓				
MW-57-20	4/21/09	919	14.750	4.65	10.10	-16.497	-9.039	+26.597	✓				trans corroded + [illegible]
MW-57-45	4/21/09	927	14.810	5.25	9.56	9.029	72.741						J [illegible]
MW-58-26			14.230										
MW-58-65			14 250										
MW-59-32			14.410										
MW-59-45			13 900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12.810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/13/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407	11.50	1.907	2054		0.147					927?
MW-66-36			13.364	11.30	2.064	2050	15.396	0.014					
MW-107			142.757										
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-0.183					
J3-4S			13.943										
J3-T1	4/10/09		8.518	5.66	2.858	2.883	1.370	-0.025	✓				
J3-T2			8.512										
3-C1			18.060										
R-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.141	-0.241	✓				
UT-1	4/14/09		11.891	9.37	2.021	2.234	42.251	-0.213	✓				
W-1			75.822										
U-1055	4/21/09	938	20.073	5.14	14.933	14.886	9.628	-0.047					
					2.094		11.3						

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38			13.999										
MW-41-40	4/7/09	1240	54 130	21.50	32.630	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.678	+ 0.032	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.525	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	-0.521	✓			✓	Kept old time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	-0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	-0.299	✓				
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14 223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11			16.283										
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.245	-0.033	✓				
MW-53-120	4/14/09		70.190	60.820	9.37	9.398	57.526	-0.028	✓				
MW-55-24			17.770										
MW-55-35			17.770										
W-55-54			17.770										
W-56-53			69 322	47.24	22.082	23.959	42.300	-1.877	✓				
MW-41-40	4/16/09	1035	54.130	21.73	32.40	32,283	14.198	+0.117	✓				

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/22/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten
Time Arrived onSite:	630	640
Time Left Site:	1600	1550

Weather: cloudy - AM
Lt rain - PM
50's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW107	IPEC	2L	poly			
MW38	↓	↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW107			test not running started new test	
MW38	X			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

WELL ID: ________
SAMPLE ID: ________

MW-107
(008)

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Mostly cloudy 60°F

PROJECT NO: 01.0017869.91
DATE: 4/22/09
SAMPLER(S): AA / MB
PUMP DEPTH: 32.7 ft

WATER QUALITY: DTW - 24.32' = 13,597 GW elevation

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate ~~(gal/hr)~~ DRIVE/VENT PSI	Notes
1018	13.597								
1030	13.608	PUMP ON							
1032	13.600	6.16	0934	—	9.20	11.50	203	6/8 4@22 psi	
1033		PUMP OFF							
1130	13.660	Pump on							
1132	13.661	6.31	1.021	9.85	7.30	11.92	192.6		
1138	13.659	6.36	1.037	7.76	5.51	11.37	203.7		
1144	13.669	6.38	1.039	4.60	5.22	11.25	209.3		
1149	13.653	6.38	1.037	3.97	5.22	11.19	214.4		
1155	13.672	6.39	1.035	3.28	5.24	11.13	218.3		
1201	13.665	6.38	1.027	2.96	5.30	11.12	208.6		
1206	13.663	6.38	1.021	2.31	5.17	11.10	194.3		
1211	13.684	6.38	1.013	1.94	5.45	11.84	184.6		
1216	13.686	6.38	1.006	2.03	5.28	11.05	178.4		
1221	13.688	6.38	1.004	2.11	5.39	11.06	174.8		
1222	start sample collection								
1230	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
flow meter	—
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~3 gal purged

SAMPLE ID:______ MW-38 (02)

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy. 50'sF

PROJECT NO: 01.0017869.91
DATE: 4/22/09
SAMPLER(S): AA/MB
PUMP DEPTH: ______ ft

WATER QUALITY: 8.98' DTW = 29.492' transducer

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
937	Pump on							1.5	
944	29.518	7.29	4.430	4.85	9.02	17.66	201.0	2.0	
949	29.527	7.52	6.344	8.28	8.15	17.80	183.7		
955	29.533	7.59	6.450	8.93	7.87	17.96	172.9		
1001	29.544	7.62	6.473	7.85	8.15	17.94	163.3		
1007	29.548	7.64	6.477	4.88	7.95	18.15	155.9		
1012	29.550	7.64	6.484	4.93	8.07	18.15	149.8		
1017	29.546	7.65	6.482	4.55	7.80	18.17	145.0		
1022	29.542	7.65	6.483	4.69	7.64	18.26	141.0		
1023	Start sample collection - 2C IPEC								
1045	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
flow meter	20570254
turbidity meter	5

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~1.3 gal purged

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38	4/24/09	935	13.999	8.98	5.019	4.949	27.492	+0.070	✓				
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	-0.53	✓	—	—	✓	Kept old Time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.078	+0.030	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.525	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	+0.521	✓			✓	Kept old Time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	-0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	-0.299	✓				
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11			16.283										
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.246	-0.033	✓				
MW-53-120	4/14/09		70.190	60.820	9.37	9.398	57.830	-0.028	✓				
W-55-24			17.770										
W-55-35			17.770										
W-55-54			17.770										
W-56-53			69.322	47.24	22.082	23.959	42.306	-1.877	✓				
MW41-40	4/16/09	1035	54.130	21.73	32.40	32,283	14.198	+0.117	✓				

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	57.126	-.514	✓				
MW-57-11	4/21/09	908	14.730	4.63	10.10	6.303	6.302	+3.797	✓				
MW-57-20	4/21/09	919	14.750	4.65	10.10	-16.497	-9.137	+26.597	✓				trans corroded & changing [illegible]
MW-57-45	4/21/09	927	14.810	5.25	9.56	9.029	72.741						
MW-58-26			14.230										
MW-58-65			14.250										
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12.810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/15/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407	11.50	1.907	2.054		0.147					9277
MW-66-36			13.364	11.30	2.064	2050	15.396	0.014					
MW-107			142.757	24.320	118.437	118.390	13.597	0.047	✓				
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
I-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-0.183					
J3-4S			13.943										
J3-T1	4/10/09		8.518	5.56	2.858	2.883	1.370	-0.025	✓				
J3-T2			8.512										
J3-C1			18.060										
MR-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.141	-0.241	✓				
OUT-1	4/14/09		11.891	9.37	2.021	2.234	42.[illegible]51	-0.213	✓				
RW-1			75.822										
U-1CSS	4/21/09	938	20.073	5.14	14.933	14.886	9.038	-0.047					
					2.048		[illegible]						

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/23/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten	**Weather:** Sun + Clouds 50's
Time Arrived onSite:	0630	0640	
Time Left Site:	1700	1650	

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-41-63(011)	IPEC	2 L	poly			
MW-45-42(016)	↓	↓	↓			
MW-45-61(016)						

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
			No downloads today.	
			These wells already done and data sent.	

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Compressor works ok.

WELL ID: MW45-42
SAMPLE ID: 016

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

1 of 2

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 50's F, partly cloudy

PROJECT NO: 01.0017869.91
DATE: 4/23/09
SAMPLER(S): AA / MB
PUMP DEPTH: ______ ft

WATER QUALITY: 23.88' DTW = 17.088' transducer GW elev.

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr) ambient	Notes pressure
9:34	17.088							6/70	24 ①
957	Pump on								
1029									②

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
flow meter	—
turbidity meter	2007064293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. water level continues to drop, as venting time started at 35 sec + increased to 90 sec. (5 sec drive • 23 psi)
2. water level dropped ~0.8' + continues to drop. switching modified traditional.

2 of 2

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW45-42
(016)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Partly cloudy 50's

PROJECT NO: 01.0017869.91
DATE: 4/23/09
SAMPLER(S): AA/MB

WATER COLUMN HEIGHT (ft)

42 (DTB) - 23.88 (DTW) = 18.12 ft (Well Column Height)

Well Diameter: 2 inches

Diameter	Multipliers
1	0.041
[✓ 2]	[✓ 0.163]
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 18.12 x 6.163 (Multiplier) = 2.95 gallons (Well Volume)

2.95 x 1.5 = 4.4 gallons (Designed Purge Volume)

TOTAL VOLUME PURGED: 4 gal

3.2 gal from pump level = 1.5 x well volume

WATER QUALITY:

Time	Volume Purged (gal)	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
	0.2								37	
1031	Pump on								Drawdown	PSI
1035	0.85	13.752	8.49	1.537	10.61	1.34	16.90	159.2	51.8	20
1042	1.50	12.824	8.81	1.559	23.11	0.73	16.98	137.6		
1048	2.80	8.109	9.09	1.510	90.89	0.77	16.98	124.8		
1055	2.85	6.466	8.87	1.561	57.21	0.68	16.81	118.8		
1101	3.40	5.667	8.81	1.579	38.42	0.67	16.65	113.9		
1108	3.70	4.465	8.79	1.572	30.85	1.10	15.90	106.8		
1116	3.80	3.876	8.75	1.574	20.54	0.88	15.75	101.2		
1122	4.0									3
1316	Start sample collection									
1335	PUMP OFF									
1500	PUMP ON									
1520	SAMPLE COMPLETED : 2 L				IPEC					

1520 PUMP OFF

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

3. Well dry. Allowing to recharge before we sample.

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW45-61
(016)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 50's, partly cloudy

PROJECT NO: 01.0017869.91
DATE: 9/23/09
SAMPLER(S): AA/MS

WATER COLUMN HEIGHT (ft)

61 (DTB) - 25.36 (DTW) = 35.64 ft (**Well Column Height**)

Well Diameter: 1 inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 35.64 x 0.041 (**Multiplier**) = 1.46 gallons (**Well Volume**)

1.46 x 1.5 = 2.2 gallons (**Designed Purge Volume**)

TOTAL VOLUME PURGED: 2.3 gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: [✓ DTW] or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
937	0	25.36								
952	0	Pump on								
957	0.2	~~9.29~~	9.29	0.251	62.45	8.22	15.82	172.8		
1002	0.65	—	7.62	0.830	196.6	4.46	16.82	199.6		
1007	1.0	—	7.57	0.867	525.2	3.49	16.92	189.5		
1014	1.75	—	7.59	0.890	525.3	3.23	17.11	176.3		
1020	2.1	—	7.58	0.913	568.0	3.03	16.98	168.1		
1022	start sample collection - 2L IPEC									
1028	end sample collection									

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200204093

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

WELL ID:__________
SAMPLE ID:_______

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW-41-63(011)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sun + clouds 50's, windy

PROJECT NO. 01.0017869.9A
DATE: 4/23/09
SAMPLER(S): AA / MB

WATER COLUMN HEIGHT (ft)

63.0 (DTB) - 24.89 (DTW) = 38.11 ft (**Well Column Height**)

Well Diameter: 1 inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 38.11 x 0.041 (**Multiplier**) = 1.56 gallons (**Well Volume**)

1.56 x 1.5 = 2.3 gallons (**Designed Purge Volume**)

TOTAL VOLUME PURGED: 2.6 gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1138	0	PUMP	ON							
1143	0.5	—	6.60	1.383	—	3.82	15.88	130.7		
1146	1.0	—	6.57	2.546	28.78	3.23	15.89	50.2		
1148	1.5	—	6.77	3.075	12.31	3.33	15.94	16.2		
1150	2.0	—	6.81	3.340	7.86	3.43	16.00	9.6		
1152	2.5	—	6.81	3.420	6.83	3.46	15.98	8.0		
1152		PUMP	OFF							
1154		START	SAMPLE COLLECTION							
1157		SAMPLE	COMPLETED :			2 L	IPEC			
1157		PUMP	OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/24/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten
Time Arrived onSite:	0630	0640
Time Left Site:	1330	1320

Weather: M. Sunny 70°F

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
U3-T2 (029)	IPEC	2 L	poly			
MW-58-26 (008)	↓	↓				
MW-58-65 (008)	↓	↓				

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		
U3-T2	✓			
MW-58	✓			
MW-58	✓			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

WELL ID: ____________
SAMPLE ID: ________

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet U3-T2(029)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: M. Sunny 70°F

PROJECT NO: 01.0017869.91
DATE: 4/24/09
SAMPLER(S): AA / MB
PUMP DEPTH: ____________ ft

WATER QUALITY: DTW - 4.38 = 2.348

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	purged Notes H_2O (gal)
929	2.348								
1020	2.484	PUMP ON							
1030	2.476	6.34	2.274	–	2.91	24.27	-90.3	1.7	
1035	2.478	6.42	2.360	9.93	1.51	24.28	-81.0		
1040	2.496	6.46	2.414	4.54	1.10	24.40	-78.6	1.8	0.35
1045	2.506	6.49	2.440	3.41	0.93	24.48	-80.3		0.45
1050	2.515	6.50	2.464	2.18	0.80	24.53	-82.1		0.55
1055	2.519	6.48	2.473	2.22	0.77	24.60	-82.8		0.70
1100	2.525	6.50	2.480	2.24	0.75	24.65	-83.3		0.80
1103	START	SAMPLE COLLECTION							
1124	SAMPLE	COMPLETED : 2 L IPEC							
1124	PUMP	OFF							

Equipment Used	**Equipment Identification #**
YSI 556 MPS Reader and 5563 Sonde	2
flow meter	Ki #2
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

WELL ID: MW58-26
SAMPLE ID: ______

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sun, 60's F

PROJECT NO: 01.0017869.91
DATE: 4/24/09
SAMPLER(S): AA/MB
PUMP DEPTH: ______ ft

WATER QUALITY:

Time	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (^{0}C)	ORP	Rate (gal/hr)	Notes
937	19.028								
938	Pump on							<1	
957	18.843	7.28	2.912	10.85	1.08	12.70	-80.6		
1003	18.827	7.38	2.913	8.19	0.79	13.07	-87.9		
1009	18.800	7.45	2.915	5.46	0.98	13.80	-86.1		
1016	18.859	7.52	2.918	7.65	0.68	14.32	-93.3		
1022	18.812	7.57	2.923	7.29	0.63	14.87	-103.9		
1028	18.826	7.60	2.920	7.59	0.73	15.34	-164.1		
1034	18.836	7.61	2.919	5.12	0.62	15.65	-105.4		
1040	18.853	7.63	2.919	5.40	0.58	15.75	-119.4		
1046	18.830	7.65	2.923	8.19	0.46	15.79	-133.8		
1052	18.830	7.66	2.936	8.29	0.52	15.91	-132.9		
1057	18.833	7.66	2.928	8.63	0.79	16.12	-129.2		
1103	18.827	7.66	2.925	6.12	0.40	16.24	-135.4		
1108	18.846	7.68	2.939	7.23	0.49	16.26	-140.4		
1113	18.833	7.69	2.943	6.66	0.38	16.33	-142.1		
1119	18.862	7.70	2.942	6.09	0.40	16.43	-143.2		
1125	18.804	7.71	2.950		0.36	16.61	-142.2		
1126	Start sampling - 2L IPEC								
1221	end sampling								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
flow meter	4
turbidity meter	220704293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~1.0 gal purged

WELL ID: MW58-65
SAMPLE ID:

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sun, 60's F

PROJECT NO: 01.0017869.91
DATE: 4/24/09
SAMPLER(S): AA/MB
PUMP DEPTH: ft

WATER QUALITY:

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (⁰C)	ORP	Rate (gal/hr)	Notes
937	61.389								
938	Pump on							<1	
953	61.298	7.56	1.238	7.00	6.15	12.46	-19.6	1.5	
959	61.296	7.63	1.258	3.80	3.60	13.12	-89.3		
1004	61.291	7.71	1.272	5.19	3.04	13.72	-92.6		
1010	61.296	7.79	1.279	2.91	2.37	14.61	-108.3		
1017	61.303	7.82	1.274	2.76	1.79	15.35	-112.3		
1023	61.303	7.83	1.262	2.42	1.40	15.84	-115.1		
1029	61.301	7.83	1.254	1.37	1.17	16.28	-111.0		
1035	61.301	7.83	1.249	1.43	1.04	16.54	-106.3		
1041	61.313	7.83	1.243	1.48	1.05	16.50	-104.3		
1047	61.305	7.82	1.238	4.56	0.79	16.58	-115.0		
1053	61.330	7.82	1.234	4.86	0.78	16.82	-118.7		
1058	61.320	7.82	1.233	5.04	0.74	16.95	-112.3		
1100	Start sample collection - 2L IPEC								
1152	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
flow meter	3
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~1.6 gal purged

WELL ID: MW 30 - 69

SAMPLE ID: 024

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC

SITE Buchanan, NY

WEATHER Sun, 80°F

PROJECT NO 01 K [illegible]

DATE 4/27/09

SAMPLER(S) AA/NB

SAMPLING INTERVAL (depth in ft below top of casing) 67.3 to 71.3

SAMPLING PORT 69

TOTAL VOLUME PURGED: 1.4 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1031	0	Pump on						6/7	46
1036	0.35	8.09	1.299	—	7.52	25.25	151.3		
1041	0.5	8.23	1.289	—	7.63	25.31	129.3		
1046	0.7	8.26	1.289	—	7.69	25.25	90.6	6/7	42
1054	1.0	8.29	1.323	—	7.65	25.18	64.1		
1059	1.2	8.30	1.331	—	7.67	25.18	54.6	6/7	36
1104	1.3	8.30	1.325	—	7.67	25.19	48.9	6/7	30
1108	1.4	8.30	1.328	—	7.72	25.18	46.7		
1109	Start Sample Collection - JL IPEC								
1127	end Sample Collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	—

NOTES AND OBSERVATIONS:

WELL ID: MW-30 84

SAMPLE ID: 015

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER 80'sF, Sun

PROJECT NO [illegible]
DATE 4/27/09
SAMPLER(S) AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)
77.3 to 85.4

SAMPLING PORT
84

TOTAL VOLUME PURGED: 1.75 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1031	0	Pump on						6/7	46
1037	0.2	7.23	1.532	–	2.98	24.88	41.1		
1042	0.35	7.25	1.512	–	2.78	25.23	32.4		
1047	0.50	7.27	1.505	–	2.81	25.35	45.2	6/7	42
1054	0.80	8.32	1.475	–	8.90	25.14	127.8		
1059	1.0	8.55	1.482	–	9.43	25.15	121.3	6/7	36
1104	1.1	8.57	1.489	–	9.29	25.13	95.8	6/7	30
1108	1.2	8.60	1.488	–	9.33	25.12	81.0		
1113	1.3	8.62	1.487	–	9.37	25.12	67.5		
1118	1.4	8.64	1.486	–	9.40	25.09	61.8		
1123	1.5	8.65	1.492	–	9.44	25.09	56.1		
1128	1.6	8.64	1.492	–	9.47	25.04	53.0		
1129	Start sample collection								
1215	Stop pump								/
1420	PUMP ON		CONTINUE SAMPLING						
1430	SAMPLE COMPLETED : 2 L IPEC								
	PUMP OFF								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	–

NOTES AND OBSERVATIONS:
1. Very little water coming out of the well. Pump shut off + allowing well to recharge.

WELL ID: MW

SAMPLE ID: MW-32-190(011)

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 80°F

PROJECT NO: [illegible]
DATE: 4/27/09
SAMPLER S: AA / MB

SAMPLING INTERVAL (depth in ft below top of casing): 180.3 to 193.9

TOTAL VOLUME PURGED: 1.5 gal

PURGE RATE: variable (gal/min)

SAMPLING PORT: 190

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1200	0	PUMP ON						6/7	57
1210	0.01	6.75	1.563	—	1.49	22.17	-199.9	6/7	57
1215	0.05	6.78	1.586	—	0.69	22.07	-205.9	7/7	60
1220	0.1	7.09	1.598	6.03	0.40	21.53	-199.5		
1227	0.4	7.19	1.599	2.38	0.34	21.43	-171.4		
1237	0.75	7.23	1.600	2.23	0.23	21.16	-114.0		
1247	1.0	7.25	1.597	2.75	0.22	21.09	-76.3		
1253	1.15	7.26	1.597	2.49	0.20	21.14	-71.3		
1258	1.30	7.27	1.597	2.33	0.20	21.06	-74.4		
1301	start sample collection - 22 IPEC								
1324	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW

SAMPLE ID:

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-32-173(008)

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Sunny 80°F

PROJECT NO [illegible]2
DATE 4/27/09
SAMPLER S: AA/MB

SAMPLING INTERVAL (depth in ft below top of casing) 165.8 to 174.3

TOTAL VOLUME PURGED: ~~2.15~~ AA gal

PURGE RATE: variable (gal/min)

SAMPLING PORT 173

2

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1200	0	PUMP	ON					6/7	57
1210	0.05	6.93	1.768	—	1.50	21.71	-243.5	6/7	57
1216	0.1	7.08	1.819	—	0.95	21.21	-242.5	7/7	60
1228	0.5	7.23	1.845	4.87	0.56	20.82	-230.1		
1242	1.0	7.27	1.844	2.23	0.45	20.68	-229.4		
1249	1.3	7.27	1.844	2.86	0.41	20.59	-221.4		
1254	1.45	7.28	1.843	3.68	0.38	20.54	-223.8		
1259	1.65	7.29	1.841	3.64	0.37	20.56	-220.8		
1304	1.85	7.29	1.842	1.78	0.35	20.63	-218.6		
1309	2.0	7.30	1.840	1.86	0.35	20.55	-218.3		
~~1312~~	~~start sample collection~~								
1314	2.2	7.30	1.839	1.69	0.32	20.67	-216.6	↓	↓
1316	start sample collection								
1332	SAMPLE COMPLETED : 2 L IPEC								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW

SAMPLE ID:

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-32-149 (010)

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Sunny 80°F

PROJECT NO [illegible]
DATE 4/27/09
SAMPLER(S) AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)

147.3 to 156.8

SAMPLING PORT

149

3

TOTAL VOLUME PURGED: 1.7 AD ~~2.7~~ gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1200	0	PUMP	ON					6/7	57
1211	0.1	6.89	1.860	—	0.86	22.22	-237.7	6/7	57
1217	0.3	7.04	1.864	—	0.41	21.69	-222.4	7/7	60
1230	0.5	7.13	1.873	4.31	0.20	21.26	-209.3		
1243	0.9	7.13	1.892	3.72	0.14	21.07	-196.9		
1249	1.1	7.13	1.901	3.04	0.14	20.95	-200.9		
1255	1.25	7.13	1.912	3.11	0.13	20.92	-210.0		
1259	1.35	7.14	1.914	2.15	0.13	20.97	-215.1		
1304	1.45	7.14	1.921	2.29	0.13	20.98	-206.6		
1309	1.55	7.14	1.926	2.13	0.12	20.97	-206.4	↓	↓
1312	start sample collection								
1331	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW ____

SAMPLE ID: ____________

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-32-131 (007)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 80°F

PROJECT NO: 01.0017360.02
DATE: 4/27/09
SAMPLER(S): AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)

125.8 to 138.3

TOTAL VOLUME PURGED: ____________ gal

PURGE RATE: variable (gal/min)

SAMPLING PORT

131

4

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1200	0	PUMP	ON					6/7	57
1211	0.0							7/7	60
1217	0.005	6.44	N/A	—	N/A	24.23	-156.2	7/7	60
	No	water	in this level.						
	Unable	to	get a sample.						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	Z
turbidity meter	200701254

NOTES AND OBSERVATIONS:

WELL ID: MW 32-85

SAMPLE ID: 012

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sun 80F

PROJECT NO: 01.0017869.91
DATE: 4/27/09
SAMPLER(S): AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)

79.3 to 92.8

SAMPLING PORT

85

TOTAL VOLUME PURGED: ______ gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1348	0	Pump on						6/7	42
1354	0.2	6.81	1.338	9.00	3.67	21.46	-213.8	↓	↓
1400	0.35	6.98	1.351	5.84	1.96	21.19	-220.8		
1407	0.50	7.12	1.364	4.85	1.05	21.31	-210.7		
1412	0.65	7.17	1.384	2.08	0.83	21.40	-206.2		
1419	0.80	7.21	1.404	1.37	0.68	21.47	-189.9		
1424	0.95	7.23	1.416	1.32	0.63	21.48	-184.3		
1429	1.10	7.25	1.424	1.71	0.61	21.41	-177.6		
1434	1.25	7.25	1.427	1.89	0.60	21.50	-173.4		
1439	1.40	7.26	1.441	1.75	0.68	21.54	-162.8		
1444	1.55	7.27	1.447	1.91	0.61	21.62	-156.6		
1450	1.70	7.28	1.455	2.03	0.60	21.60	-150.0		
1455	1.85	7.29	1.464	1.92	0.60	21.64	-142.8		
1500	2.0	7.29	1.468	2.11	0.61	21.70	-139.3		
1505	2.15	7.29	1.474	2.03	0.63	21.65	-135.0		
1509	Start	sample	collection -	20	IPEC				
1534	end	sample	collection						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	200761254

NOTES AND OBSERVATIONS:

WELL ID: MW32-59

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sun, 80°F

PROJECT NO: 01.0017869.91
DATE: 4/27/09
SAMPLER(S): AA/MB

6

SAMPLING INTERVAL (depth in ft below top of casing)

28.3 to 61.3

SAMPLING PORT

59

TOTAL VOLUME PURGED: 11.3 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1348	0	Pump on						6/7	42
1353	0.5	6.59	1.695	3.63	4.83	20.21	125.3		
1359	1.0	7.06	1.968	1.89	5.08	20.27	76.1		
1406	1.6	7.35	2.004	1.86	5.05	20.36	53.4		
1412	2.2	7.47	2.007	1.27	5.08	20.34	46.1		
1418	2.8	7.58	2.008	1.56	4.93	20.36	41.2		
1423	3.3	7.64	2.006	1.43	5.01	20.40	39.7		
1428	3.8	7.68	2.006	1.56	5.04	20.39	38.3		
1433	4.2	7.70	2.005	1.68	5.03	20.38	36.6		
1439	4.8	7.74	1.987	0.78	5.18	20.47	32.9		
1444	5.3	7.76	1.971	0.83	4.96	20.47	34.2		
1449	5.8	7.78	1.896	0.46	5.02	20.52	33.8		
1454	6.3	7.79	1.844	0.51	4.99	20.54	31.8		
1459	6.8	7.80	1.820	0.49	4.94	20.52	32.5		
1504	7.3	7.81	1.794	0.53	4.98	20.44	32.3		
1509	7.8	7.81	1.740	0.52	4.91	20.44	31.4		
1514	8.3	7.81	1.687	0.48	4.81	20.51	30.4		
1520	8.9	7.81	1.642	0	4.89	20.48	31.2		
1525	9.4	7.82	1.616	0	4.91	20.53	29.8		
1530	9.9	7.82	1.554	0	5.09	20.58	29.9		
1535	10.4	7.82	1.534	0	4.84	20.43	30.0		
1540	10.9	7.82	1.492	0	5.10	20.46	29.7		
1545	11.2	7.81	1.472	0	5.05	20.48	30.2		

1547 START SAMPLE COLLECTION
1554 SAMPLE COMPLETED : 2 L IPEC
1554 PUMP OFF

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/28/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten
Time Arrived onSite:	0630	0640
Time Left Site:	1600	1550

Weather: Sunny, hot 91°F

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-44-67	(012) IPEC	2 L	poly			
MW-44-102	(013) IPEC	2 L	poly			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-44-67	✓			
MW-44-102	✓			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

MW-44 - Temporarily inside RCA. Had to log into system and work with an RP all day. After sampling survey all equip. in SAM. Very slow recharge well. Modified Traditional Purge is the only way to sample this well.

WELL ID: MW4467
SAMPLE ID: 012

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

Pg 1 of 2

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 80's, Sun

PROJECT NO: 01.0017869.91
DATE: 4/28/09
SAMPLER(S): AA/MB
PUMP DEPTH: 62 ft

WATER QUALITY: DTW = 58.51' = 5.733'

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
925	5.733							Drive/vent	PSI
936	Pump on							6/12	36
954	4.854	6.70	2.442	–	2.01	18.66	-17.0		①
959	4.807	6.86	2.454	11.99	2.62	19.76	-17.9		
1009	4.719	6.95	2.566	17.72	2.24	20.92	-27.6	2/22	36
1018	4.661	7.01	2.593	14.50	2.16	21.45	-16.0		②

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
flow meter	—
turbidity meter	20070125A

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. Adjusting Drive/vent + PSI. Water level continuing to drop
2. Water level dropped over 1 ft. Changed to modified traditional technique at 10:20

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW44-67
pg 2 of 2 (0.2)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sun, 80°F

PROJECT NO: 01.0017869.91
DATE: 4/28/09
SAMPLER(S): MT/MB

WATER COLUMN HEIGHT (ft)

67 (DTB) - 58.51 (DTW) = 8.49 ft (Well Column Height)

Well Diameter: 0.163 inches

Diameter	Multipliers
1	0.041
[✓ 2]	[✓ 0.163]
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 8.49 x 0.163 (Multiplier) = 1.38 gallons (Well Volume)

1.38 x 1.5 = 2.08 gallons (Designed Purge Volume)

TOTAL VOLUME PURGED: ________ gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pavement ~~Pump Depth (ft)~~	Notes PSI
1020	0.2	4.509							2.614	36
1024	0.35	4.264	7.07	2.717	14.46	3.09	18.69	-70.9		
1032	0.7	3.257	7.15	2.699	9.89	3.98	17.22	-2.4		
1039	1.0	2.295	7.23	2.630	17.68	3.97	17.21	0.0		
1045	1.3	1.499	7.25	2.583	61.78	3.22	17.13	0.8		
1051	1.6	1.486	7.24	2.613	60.37	2.86	17.18	2.6		
1056	1.8	1.471	7.23	2.660	52.99	2.56	17.28	-0.5		
1103	Pump off									(3)
1318		start sample collection								
1332		end sample collection - 2C IPEC								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200701291

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl

3. Pump off - well dry. Allowing well to recharge.

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW44-102
(OB)

CLIENT Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 80'SF, Sun

PROJECT NO 01.0017869.91
DATE: 4/28/09
SAMPLER(S): [illegible]

WATER COLUMN HEIGHT (ft)

102 - 66-28 = 35.72 ft
DTB DTW **Well Column Height**

Well Diameter: 1 inches

Diameter	Multipliers
[✓ 1]	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 35.72 x 0.041 **Multiplier** = 1.46 **Well Volume** gallons

1.46 x 1.5 = 2.2 **Designed Purge Volume** gallons

TOTAL VOLUME PURGED: 1.6 gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
959	0	N/A	Pump on							
1010	Pump off									①
1027	Pump on									
1029	0.2	—	7.37	0.621	823.7	9.17	25.48	171.4		
1036	0.5	—	7.53	0.809	183.1	8.31	25.04	152.4		
1043	Pump off									②
1050	Pump on		7.54	1.014	80.83	8.02	23.18	124.7		
1052	Pump off									
1113	Pump on									
1117	1.0	—	7.65	1.338	123.6	11.82	19.03	124.4		
1123	1.5	—	7.69	1.368	17.32	8.93	21.63	-28.0		② Pumpoff
1129	Pump on									③
1340	Start sample collection.				21	IPEC				
1344	End sample collection									

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	
turbidity meter	

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

① NO water coming Out of the well.
② Allowing well to recharge.

③ well Dry - 1.6gal purged allowing well to recharge before sampling.

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers. etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38	4/22/09	935	13.999	8.90	5.09	4.949	29.492	+0.070	✓				
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.028	+ 0.032	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.525	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	+0.521	✓			✓	Kept old time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	-0.037	✓				
MW-43-62	4/3/09		47.821	16.68	31.191	31.44	37.072	-0.249	✓				
MW-44-67	4/28/09	925	93.020	58.51	34.510	34.599	5.733	+0.089	✓				
MW-44-102	4/28/09	919	93.090	66.28	26.74	26.901	32.444	+ 0.159	✓				
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11			16.283										
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.246	-0.033	✓				
MW-53-120	4/14/09		70.190	60.820	9.37	9.398	57.526	-0.028	✓				
W-55-24			17.770										
W-55-35			17.770										
W-55-54			17.770										
W-56-53			69.322	47.24	22.082	23.959	42.306	-1.877	✓				

MW41-40 4/16/09 1035 54.130 21.73 32.40 32.283 14.198 +0.117 ✓

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	27.126	-.514	✓				
MW-57-11	4/21/09	908	14.730	4.63	10.10	6.303	6.302	+3.797	✓				
MW-57-20	4/21/09	919	14.750	4.65	10.10	-16.497	-9.237	+26.597	✓				trans corroded & changing [illegible]
MW-57-45	4/21/09	927	14.810	5.25	9.56	9.029	72.741						
MW-58-26	4/23/09	921	14.230	6.14	8.09	8.094	19.011	+.004	✓				
MW-58-65	4/23/09	919	14.250	7.14	7.11	7.390	61.351	+0.28	✓				
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/18/09	916	12.810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/18/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407	11.50	1.907	2.054		0.147					927?
MW-66-36			13.364	11.30	2.064	2.050	15.396	0.014					
MW-107			142.757	24.320	118.437	118.390	13.597	0.047	✓				
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
I-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-0.183					
J3-4S			13.943										
J3-T1	4/18/09		8.518	5.66	2.858	2.883	1.370	-0.025	✓				
J3-T2	4/29/09	9:29	8.512	4.38	4.132	4.112	21.348	+.020	✓				
J3-C1			18.060										
#R-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.141	-0.241	✓				
)UT-1	4/14/09		11.891	9.37	2.021	2.234	42.151	-0.213	✓				
!W-1			75.822										
U-1CSS	4/14/09	938	20.073	5.14	14.933	14.886	9.628	-0.047					

2 094 11 37

Project:	Radiological Groundwater Sampling Program	**Date:**	4/29/09
Client:	Entergy Nuclear NorthEast	**GZA Engineers:**	Miguel Britos
Site:	INDIAN POINT ENERGY CENTER		Angela Alten
Location:	Buchanan, NY		
Project #:	01.0017869.91		

GZA Engineer:	Miguel Britos	Angela Alten	**Weather:** Sun + clouds Low 60's
Time Arrived onSite:	0630	0640	
Time Left Site:	1700	1650	

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-55-24(010)						
│ │ -35(009)						
↓ ↓ -54(010)						
MW-33(024)						

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-55-54	✓	✓	Kept old time	
MW-35	✓	✓	programmed w/ new standard time	
MW-55-24	✓			
MW-55-35	✓			
NOTE : Bill extra work done @ MW-35. Spend all day (8 hours)				
(Miguel) pumping oil out and cleaning inside of casing.				
Transducer could now be checked and reseted.				
Will sample tomorrow.				

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619	8.410	10.209	10.273	16.946	-0.064	✓				Kept old time
MW-34			18.071										
MW-35			18.444	8.22	10.224	9.629		+0.595	✓			✓	re-set time
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38	4/22/09	935	13.999	8.98	5.019	4.949	29.492	+0.070	✓				
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.628	+0.030	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.525	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	+0.521	✓			✓	Kept old time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	[illegible]	0.037	✓				
MW-43-62	[illegible]		47.821	16.68	31.141	31.44	37.072	0.299	✓				
MW-44-67	4/28/09	825	93.020	58.51	34.510	34.599	5.735	+0.089	✓				
MW-44-102	4/28/09	919	93.090	66.28	26.79	26.961	32.44	+ 0.159	✓				
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11			16.283										
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.248	0.033	✓				
MW-53-120	4/14/09		70.190	60.220	9.97	9.948	57.828	0.028	✓				
W-55-24	4/29/09	849	17.770	10.18	7.590	7.593	5.639	-.003	✓				
W-55-35	4/29/09	847	17.770	10.99	7.180	7.141	23.125	-0.039	✓				
W-55-54	4/29/09	836	17.770	10.32	7.450	6.525	40.530	+0.925	✓			✓	Kept old time
W-56-53			69.322	47.24	22.082	23.959	42.300	-1.877	✓				
MW41-40	4/16/09	1035	54.130	21.73	32.40	32.283	14.198	+0.117	✓				

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	37.16	-.514	✓				
MW-57-11	4/21/09	908	14.730	4.63	10.10	6.303	6.302	+3.797	✓				
MW-57-20	4/21/09	919	14.750	4.65	10.10	76.497	-9.139	+26.597	✓				
MW-57-45	4/21/09	927	14.810	5.25	9.56	9.029	72.741	+0.531					tubes corroded + changing J Nelson
MW-58-26	4/23/09	921	14.230	6.14	8.09	8.094	19.011	+.004	✓				
MW-58-65	4/23/09	919	14.250	7.14	7.11	7.390	61.351	+0.28	✓				
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12.810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/15/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407	11.50	1.907	2054		+0.147					927?
MW-66-36			13.364	11.30	2.064	2050	15.396	+0.014					
MW-107			142.757	24.320	118.437	118.390	13.597	0.047	✓				
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-.0183					
J3-4S			13.943										
J3-T1	4/19/09		8.518	5.66	2.858	2.883	1.370	-0.025	✓				
J3-T2	4/28/09	9:29	8.512	4.38	4.132	4.112	2.348	+.020	✓				
J3-C1			18.060										
R-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.141	-0.241	✓				
UT-1	4/14/09		11.891	9.37	2.021	2.234	42.151	-0.213	✓				
W-1			75.822										
U-1CSS	4/24/09	938	20.073	5.14	14.933	14.886	9.628	-0.047					
					2.094		11.37						

WELL ID:_________

SAMPLE ID:______

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

MW-33(024)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 60's F, Sun

PROJECT NO: 01.0017869.91
DATE: 4/29/09
SAMPLER(S): AT, MR
PUMP DEPTH: ________ ft

WATER QUALITY: DTW - 8.410 = 16946 actual depth

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
1238	16946								
1239	Pump on							<1	
1243	16.783	7.28	0.636	-	4.45	15.57	67.3		
1250	16.755	7.30	0.628	10.59	1.93	15.84	54.5		
1255	16.748	7.34	0.625	5.85	1.56	16.00	51.3		
1301	16.740	7.36	0.622	5.34	1.29	16.33	66.0		
1307	16.726	7.35	0.621	4.98	1.52	16.61	68.6		
1312	16.709	7.39	0.621	5.09	1.42	16.78	59.3		
1318	16.697	7.39	0.621	4.69	1.38	17.06	52.1		
1324	16.729	7.38	0.622	4.59	1.15	17.21	47.7		
1330	16.745	7.39	0.622	4.96	1.07	17.51	47.2		
1335	16.738	7.41	0.624	4.77	1.01	18.17	45.9		
1340	16.732	7.43	0.625	4.09	0.93	18.54	43.4		
1346	16.730	7.43	0.624	4.29	0.84	19.26	42.6		
1352	16.740	7.42	0.626	4.23	0.77	19.49	41.9		
1358	16.755	7.42	0.626	4.47	0.68	19.77	41.9		
1403	16.759	7.43	0.627	4.21	0.65	19.89	42.2		
1408	16.773	7.43	0.630	4.41	0.62	19.94	41.5		
1411	Start Sample Collection				IL	IPEC			
1512	End Sample Collection								

Equipment Used	**Equipment Identification #**
YSI 556 MPS Reader and 5563 Sonde	2
flow meter	5
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

20.8 gal purged

WELL ID: MW55-35
SAMPLE ID: ~~010~~ 009

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sun 60's F

PROJECT NO: 01.0017869.91
DATE: 4/29/09
SAMPLER(S): AA/MB
PUMP DEPTH: ______ ft

WATER QUALITY: 23.125'

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
847	~~7.180~~ DTW = 10.59'								
908	Pump on							1.0	
918	23.030	7.02	0.847	—	5.52	17.09	27.7		
925	23.031	7.13	0.835	5.23	2.35	16.67	-28.4		
930	23.017	7.23	0.838	5.21	1.48	16.86	-51.8		
935	23.032	7.30	0.852	4.55	1.15	16.84	-46.1		
941	23.070	7.39	0.883	7.19	0.97	16.87	-53.9		
947	23.064	7.50	0.931	4.80	0.74	17.28	-61.1		
953	23.093	7.59	0.941	4.42	0.65	17.71	-60.9		
1002	23.119	7.63	0.972	3.55	0.56	17.84	-59.7		
1007	23.135	7.63	1.032	3.16	0.50	18.04	-57.5		
1012	23.117	7.65	1.056	3.18	0.49	18.05	-60.1		
1017	23.132	7.66	1.093	3.26	0.47	17.83	-63.1		
1022	23.158	7.67	1.133	3.06	0.41	17.95	-60.9		
1028	23.202	7.67	1.165	7.54	0.44	17.96	-58.8		
1033	23.209	7.68	1.181	4.86	0.39	18.07	-57.0		
1038	23.226	7.69	1.196	4.97	0.37	18.20	-55.9		
1043	23.242	7.69	1.210	4.81	0.37	18.15	-53.9		
1045	start sample collection - 2L IPEC								
1126	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
flow meter	5
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~1.3 gal purged.

WELL ID: MW55-54
SAMPLE ID: 210

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sun, 60's F

PROJECT NO: 01.0017869.91
DATE: 4/29/09
SAMPLER(S): AA/MK
PUMP DEPTH: ______ ft

WATER QUALITY: 40.510

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
846	~~7.450~~	DTW = 10.3 ft							
908	Pump on							1.3	
917	40.449	7.34	2.730	—	6.19	16.61	233.1	1.5	
924	40.431	7.44	2.867	4.32	3.63	16.55	201.0		
929	40.426	7.47	2.869	2.75	3.89	16.72	191.2	1.7	
934	40.435	7.48	2.868	2.93	3.61	16.93	184.6		
940	40.451	7.48	2.870	2.62	3.39	17.02	178.5		
946	40.461	7.48	2.874	7.22	3.66	16.96	172.3		
952	40.472	7.48	2.870	3.38	3.39	17.37	163.6		
1000	40.492	7.50	2.876	1.54	3.57	17.60	156.5		
1006	40.500	7.51	2.873	3.20	3.44	17.73	150.2	2.0	
1011	40.498	7.51	2.876	3.53	3.59	17.73	144.7		
1016	40.515	7.52	2.872	3.72	3.48	17.77	139.9		
1021	40.539	7.52	2.870	5.21	3.37	17.87	136.1		
1027	40.560	7.53	2.871	4.92	3.51	17.82	131.9		
1032	40.566	7.53	2.868	4.78	3.34	17.96	129.2		
1034	start sample collection								
1055	end sample collection - c IPEC								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
flow meter	4
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~ 2 gal purged

WELL ID: MW35-24
SAMPLE ID: 010

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sun, 60's F

PROJECT NO: 01.0017869.91
DATE: 4/29/09
SAMPLER(S): AH/OB
PUMP DEPTH: ____ ft

WATER QUALITY:

Time	circle one: DTW or [✓ GW] Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
849	5.639	DTW = 10.18'							
908	Pump on.							<1.0	
919	5.373	8.06	0.798	—	5.21	17.01	-90.1		
926	5.393	8.18	0.807	4.41	2.07	16.56	-113.7		
931	5.350	8.18	0.819	4.87	1.21	16.58	-111.9		
936	5.379	8.20	0.826	4.94	1.08	16.67	-111.1		
942	5.410	8.22	0.831	5.38	0.97	16.74	-113.0		
948	5.405	8.24	0.834	5.82	0.90	17.01	-118.3		
954	5.461	8.24	0.834	5.78	0.94	17.31	-111.7		
1002	5.485	8.25	0.837	4.59	0.77	17.95	-113.0		
1008	5.451	8.24	0.839	2.26	0.73	18.14	-115.7		
1013	5.476	8.26	0.840	2.26	0.72	18.23	-120.0		
1018	5.479	8.26	0.844	2.36	0.69	18.32	-124.6		
1023	5.496	8.27	0.846	2.19	0.65	18.39	-127.6		
1025	start sample collection								
1128	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
flow meter	1
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~0.6 gal purged

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW55-54
SHEET: 1 of 1
FILE NO: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE:
PSI CAPACITY: 30
SERIAL NUMBER: 20801

FINAL BORING DEPTH (FT): 54
GROUND ELEVATION (FT):
CASING ELEVATION (FT): 17.770
CASING DIAMETER (INCH): 1

DATUM: NGVD 29
DATE: 4/29/09

STATIC GROUNDWATER TABLE ELEVATION (FT):

GZA ENGINEER: AA/MB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: 54 FT
GROUND ELEVATION: – FT M.S.L.
CASING ELEVATION: 17.770 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: –
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

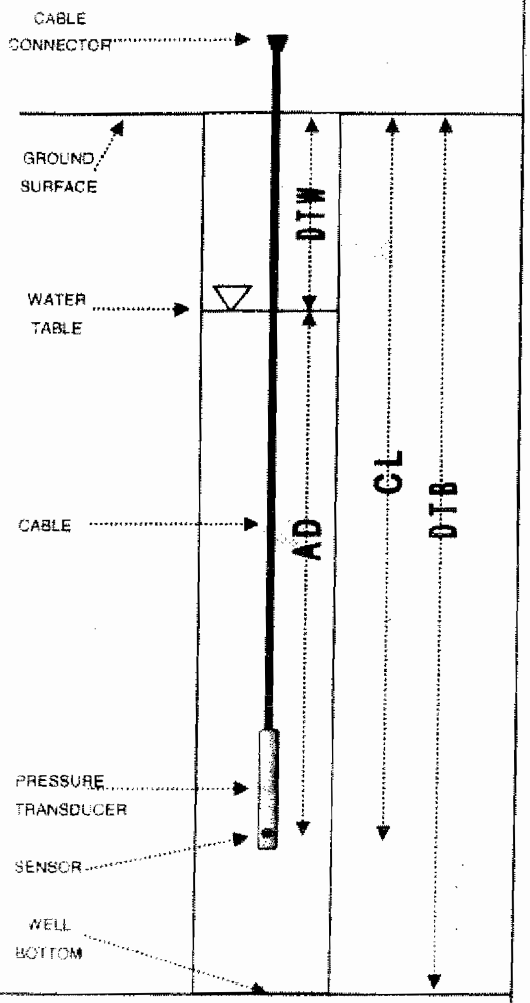
TIME OF MEASUREMENT: 8:41 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 10.32 FT
ACTUAL DEPTH: + 40.510 FT
THEORETICAL CABLE LENGTH: = 50.830 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 17.770 FT M.S.L.
DEPTH TO WATER: − 10.32 FT
REFERENCE ELEVATION: = 7.450 FT M.S.L.

TEST NAME: MW55-54
LOGGING INTERVAL: 20 MIN
TEST START TIME: 8:41 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: kept old time

GZA

WELL ID: MW55-54

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID: MW 35
SHEET: 1 of 1
FILE NO.: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE:
PSI CAPACITY:
SERIAL NUMBER:

FINAL BORING DEPTH (FT):
GROUND ELEVATION (FT):
CASING ELEVATION (FT): 18.444
CASING DIAMETER (INCH): 4

DATUM: NGVD 29
DATE: 4/25/05

STATIC GROUNDWATER TABLE ELEVATION (FT):

GZA ENGINEER: AA / MB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: ______ FT
GROUND ELEVATION: ______ FT M.S.L.
CASING ELEVATION: ______ FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: —
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH ______ FT

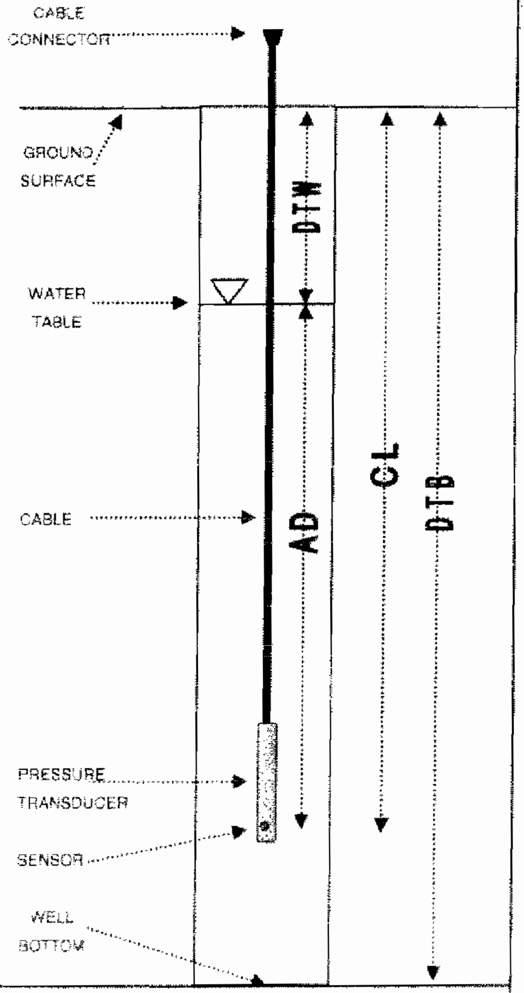
TIME OF MEASUREMENT: 1415 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 8.22 FT
ACTUAL DEPTH: + 17.254 FT
THEORETICAL CABLE LENGTH: = 25.474 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☐ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☒ check

ELEVATION OF MEASURING POINT: 18.444 FT M.S.L.
DEPTH TO WATER: − 8.22 FT
REFERENCE ELEVATION: = 10.224 FT M.S.L.

TEST NAME: MW-35
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1420 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID: MW35

GZA FIELD ACTIVITIES SHEET

Project:	Radiological Groundwater Sampling Program	**Date:**	4/30/09
Client:	Entergy Nuclear NorthEast		
Site:	**INDIAN POINT ENERGY CENTER**	**GZA Engineers:**	Miguel Britos
Location:	Buchanan, NY		Angela Alten
Project #:	01.0017869.91		

GZA Engineer:	Miguel Britos	Angela Alten	**Weather:** 60° F partly cloudy
Time Arrived onSite:	630	640	
Time Left Site:	1800	1750	

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW35	IPEC	2L	poly			
MW111	↓	↓	↓			
MW52-11	↓	↓	↓			
* MW52-118	↓	↓	↓			
MW52-162	↓	↓	↓			
MW52-18	↓	↓	↓			
MW52-181	↓	↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	ACTIVITY (check) Installation	Special Notes/Issues/Observations	Follow-up Required?
MW111	X		reinstalled	
MW52-11	X	X	transducer had water in it + it was	
			replaced.	
Geokons:			times were off on geokons	
MW52-18	X		by: 1hr 10min	
MW52-48	X		1hr 12 min Geokons- all	
MW52-64	X		1hr 14Min downloaded.	
MW52-118	X		1hr 15min time was reset +	
MW52-122	X		1hr 20min all old data was	
MW52-162	X		1hr 22min cleared.	
MW52-181	X		1hr 13min All Batteries OK ~ 85%	
				full

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Normally we sample MW52-122, however this zone has a duplicate port: so a sample was collected from MW52-118.

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 4/29/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten
Time Arrived onSite:	0630	0640
Time Left Site:	1700	1650

Weather: Sun + clouds
Low 60's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-55-24(010)	IPEC	2L	Poly			
↓ ↓ -35(009)	↓	↓	↓			
↓ ↓ -54(010)						
MW-33(024)						

REVISED

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-55-54	✓	✓	kept old time	
MW-35	✓	✓	programmed w/ new standard time	
MW-55-24	✓			
MW-55-35	✓			
MW-33	✓			

NOTE: Bill extra work done @ MW-35. Spend all day (8 hours) (Miguel) pumping oil out and cleaning inside of casing. Transducer could now be checked and reseted. Will sample tomorrow.

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619	8.410	10.209	10.273	16946	-0.064	✓				Kept old time
MW-34			18.071										
MW-35			18.444	8.22	10.224	9.629		+0.595	✓			✓	re-set time
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38	4/24/09	935	13.999	8.98	5.019	4.949	29.492	+0.070	✓				
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.028	+0.032	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.525	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	+0.521	✓			✓	Kept old time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.859	-0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	-0.299	✓				
MW-44-67	4/28/09	925	93.020	58.51	34.510	34.599	5.333	+0.0[illegible]	✓				
MW-44-102	4/28/09	0919	93.090	66.28	26.79	26.901	32.444	+ 0.159	✓				
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11	4/30/09		16.283	8.18	8.103	8.093	1.867					✓	water in trans. — Broken
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.246	0.033	✓				
MW-53-120	4/14/09		70.190	60.800	9.39	9.888	57.820	0.028	✓				
MW-55-24	4/09/09	849	17.770	10.18	7.590	7.593	5.639	-.003	✓				
W-55-35	4/09/09	847	17.770	10.59	7.180	7.141	23.125	-0.039	✓				
W-55-54	4/29/09	836	17.770	10.32	7.45 0	6.525	40.530	+ 0.925	✓			✓	Kept old time
W-56-53			69 322	47.24	22.082	23.959	42.306	-1.877	✓				
MW41-40	4/16/09	1235	54.130	21.73	32.40	32.283	14.198	+0.117					

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	37.12	-.514	✓				
MW-57-11	4/21/09	908	14.730	4.63	10.10	6.303	6.302	+3.797	✓				
MW-57-20	4/21/09	919	14.750	4.65	10.10	-16.497	-9.139	+26.597	✓				trans corroded + change new [illegible]
MW-57-45	4/21/09	927	14.810	5.25	9.56	9.029	72.741	+0.531					
MW-58-26	4/23/09	921	14.230	6.14	8.09	8.094	19.011	+.004	✓				
MW-58-65	4/23/09	919	14.250	7.14	7.11	7.390	61.351	+0.28	✓				
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12.810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/15/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407	11.50	1.907	2.054		-0.147					927?
MW-66-36			13.364	11.30	2.064	2050	15.396	0.014					
MW-107			142.757	24.320	118.437	118.390	13.597	0.047	✓				
MW-108			14.230										
MW-109			14.254										
MW-111	4/30/09	925	18.380	8.75	9.63	10.325	6.766	-0.695	✓			8	set new time
I-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-.183					
J3-4S			13.943										
J3-T1	4/16/09		6.518	5.66	2.858	2.883	1.370	-0.025	✓				
J3-T2	4/29/09	9:29	8.512	4.38	4.132	4.112	2.348	+.020	✓				
J3-C1			18.060										
R-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.141	-0.241	✓				
UT-1	4/14/09		11.891	9.37	2.021	2.234	42.151	-0.213	✓				
W-1			75.822										
U-1CSS	4/17/09	938	20.073	5.14	14.933	14.886	9.628	-0.047					

WELL ID: MW35
SAMPLE ID: 019

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: partly cloudy, 60°

PROJECT NO: 01.0017869.91
DATE: 4/30/09
SAMPLER(S): AA/MB
PUMP DEPTH: 15.0 ft

WATER QUALITY: DTW= 8.17 ≈ 10.350 ≈ 17.377

Time	circle one: ~~DTW~~ or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
0937	17.377								①
958	Pump on							1.5	
1007	17.292	7.07	0.757	20.88	4.87	14.97	-120.2	1.2	
1013	17.296	7.05	0.757	20.99	1.53	14.83	-106.2		
1018	17.294	7.06	0.754	19.17	1.10	14.83	-108.3		
1024	17.298	7.07	0.753	19.84	1.03	14.76	-107.4		
1029	17.298	7.05	0.751	20.55	1.02	14.86	-103.1		
1032	Start sample collection				~2L	IPEC			
1117	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
flow meter	~~Sn~~ 4
turbidity meter	20070254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

① Pumped out ~0.2 gal prior to purge. Oil in the well. Miguel cleaned oil out/pumped oil out yesterday, but oil has already returned.

~0.5 gal purged.

WELL ID: MW111
SAMPLE ID: 029

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 60's, partly cloudy

PROJECT NO: 01.0017869.91
DATE: 4/30/09
SAMPLER(S): AA/MB
PUMP DEPTH: 16.5 ft

WATER QUALITY: DTW = 8.74' = 6.759 transducer rdng

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
928	6.759								
1041	6.744	Pumping						1.0	
1048	6.609	6.96	0.764	—	4.95	16.90	30.7	<1	
1053	6.588	6.96	0.788	30.78	3.13	16.07	28.6		
1058	6.559	6.94	0.798	32.43	2.09	15.89	33.5		
1104	6.571	7.02	0.801	36.20	1.31	16.15	34.7		
1110	6.556	6.99	0.802	21.11	0.88	16.64	36.6		
1115	6.561	7.12	0.805	20.81	0.82	16.89	36.4		
1120	6.526	7.13	0.807	19.10	0.68	16.97	36.4		
1126	6.573	7.08	0.806	11.65	0.56	17.29	35.5		
1132	6.565	7.12	0.808	12.75	0.53	17.74	36.1		
1137	6.555	7.22	0.809	16.10	0.50	17.86	35.4		
1142	6.572	7.14	0.809	15.72	0.47	17.94	35.0		
1147	6.541	7.14	0.809	15.31	0.46	18.08	34.9		
1149	Start	sample collection - 2L 1P[illegible]							
1236	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
flow meter	5
turbidity meter	20070254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~6.7 gal purged

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW-52-11 (004)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: P. Cloudy 60's

PROJECT NO: 01.0017869.92
DATE: 4/30/09
SAMPLER(S): AA/MB

WATER COLUMN HEIGHT (ft)

11.0 (DTB) - 8.18 (DTW) = 2.82 ft (**Well Column Height**)

Well Diameter: 2 inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 2.82 x 0.163 (**Multiplier**) = 0.46 gallons (**Well Volume**)

0.46 x 1.5 = 0.69 gallons (**Designed Purge Volume**)

TOTAL VOLUME PURGED: 0.75 gal

WATER QUALITY: DTW - 8.18 = 8.098 ≃ 1.867

Time	Volume Purged (gal)	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
13.58	0	1.867								
1409	Pump on									
1411	0.2	1.560	7.33	2.993	62.88	9.31	15.67	-157.3		
1414	0.4	1.367	7.41	2.593	47.82	2.61	14.55	-105.3		
1417	0.6	1.174	7.52	2.255	26.69	1.54	14.22	-95.0		
1420	Start sample collection				- 2L IPEC					
1427	end sample collection									

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	205709293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

WELL ID: MW

SAMPLE ID:

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-52-118 (?)

CLIENT Entergy - IPEC
SITE: Buchanan, NY
WEATHER P Cloudy 60's

PROJECT NO [illegible]
DATE 4/30/09
SAMPLER(S) AA/MB

SAMPLING INTERVAL (depth in ft below top of casing) 4
110.5 to 123.5

SAMPLING PORT
118

TOTAL VOLUME PURGED: 1.8 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1043	0	PUMP ON							
1056	0	Foot valve not holding pressure. Water not reaching							
		The surface. Changed from PORT 122 to PORT 0118							
1105	0	PUMP ON							
1115	0.01							9.6/12	60
1130	0.60	8.38	0.923	—	12.70	15.87	185.1	↓	↓
	BUBBLING INSIDE FLOW CELL CONSTANTLY.							↓	↓
1139	1.0	8.66	0.900	—	13.18	15.77	192.4	9.6/12	55
1148	1.4	8.71	0.897	—	13.17	15.77	196.4	↓	↓
1153	1.7	8.72	0.900	—	13.13	15.78	199.3	↓	↓
1154		START SAMPLE COLLECTION							
1203		SAMPLE COMPLETED : 2 L IPEC							
1203		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	20070429

NOTES AND OBSERVATIONS:

* Change from PORT 122 to duplicate sample PORT 118.
PORT 122 - Foot valve not holding pressure.

WELL ID: MW

SAMPLE ID

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-52-162 (004)

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER P. Cloudy 60's

PROJECT NO [illegible]2
DATE 4/30/09
SAMPLER S AA / MB

SAMPLING INTERVAL (depth in ft below top of casing) 2

154.5 to 164.0

SAMPLING PORT

162.

TOTAL VOLUME PURGED: 2.3 gal

PURGE RATE: variable (gal min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1043	0	PUMP ON						7/12	50
1056	0.05	5.51	2.689	—	0.99	15.62	-68.9		
1107	0.50	6.82	2.511	—	0.26	15.64	-242.5	↓	↓
1115	0.70	7.02	2.507	—	0.17	15.67	-258.3	9.6/12	60
1122	0.95	7.15	2.504	4.86	0.14	15.69	-264.8		
1130	1.40	7.12	2.510	5.01	0.13	15.80	-248.1	↓	↓
1137	1.70	7.15	2.518	3.58	0.12	15.97	-226.8	9.6/12	55
1142	1.90	7.20	2.514	3.49	0.12	16.02	-220.7		
1147	2.20	7.22	2.515	3.40	0.11	16.01	-220.0	↓	↓
1149		START SAMPLE COLLECTION							
1206		SAMPLE COMPLETED: 2 L IPEC							
1206		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	20070 4293

NOTES AND OBSERVATIONS:

WELL ID: MW 52-181

SAMPLE ID: 004

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER P. Cloudy 60's

PROJECT NO [illegible]
DATE 4/30/09
SAMPLER S AA / MB

SAMPLING INTERVAL (depth in ft below top of casing)
171.0 to 198.1

SAMPLING PORT
181

TOTAL VOLUME PURGED: 1.6 gal

PURGE RATE: variable (gal min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS m)	Turbidity (NTU)	Dissolved Oxygen (mg l)	Temp (C)	ORP	Drive Vent Cycle (seconds)	Drive Pressure (psi)
1043	0	PUMP	ON					7/12	50
1055	0.01	5.01	1.741	—	3.98	16.09	-146.1		
1107	0.25	5.20	1.447	—	0.75	15.71	-358.3	↓	↓
1115	0.50	5.80	1.407	—	0.54	15.72	-330.1	9.6/12	60
1122	0.75	6.15	1.390	4.70	0.47	15.72	-316.4		
1130	1.0	6.39	1.371	8.91	0.42	15.86	-328.6	↓	↓
1137	1.20	6.37	1.370	3.86	0.39	15.99	-326.4	9.6/12	55
1142	1.35	6.35	1.358	3.91	0.37	16.02	-323.7		
1147	1.50	6.39	1.353	3.79	0.36	16.03	-319.6	↓	↓
1148		START SAMPLE COLLECTION							
1207		SAMPLE COMPLETED : 2 L IPEC							
1208		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	|
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW

SAMPLE ID:

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-52-18 (004)

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER P. Cloudy 60's

PROJECT NO [illegible]
DATE 4/30/09
SAMPLER S AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)
10.0 to 30.0

SAMPLING PORT
18

TOTAL VOLUME PURGED: ______ gal

PURGE RATE: variable (gal min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1424	0								
1434	0.3	7.79	6.607	—	7.13	15.19	-21.9	5.7/10	20
1441	0.7	7.84	6.680	—	7.86	14.99	-5.9		
1447	1.15	7.75	3.628	—	8.38	14.75	+2.9		
1453	1.30	7.72	2.4	14.91	8.39	14.67	3.4	↓	↓
1507	1.95	7.52	1.778	12.09	6.75	15.14	-13.4	5.7/10	14
1512	2.00	7.37	1.768	10.17	5.16	15.23	-10.2		
1517	2.15	7.37	1.765	9.00	3.80	15.35	-8.4		
1522	2.30	7.27	1.769	8.44	3.39	15.39	-7.5		
1527	2.45	7.27	1.779	8.39	3.34	15.33	-7.1		
1532	2.60	7.26	1.783	8.32	3.29	15.31	-6.8	↓	↓
1533		PUMP	OFF						
1534		START	SAMPLE	COLLECTION					
		SAMPLE	COLLECTION	: 2	L	IPEC			
		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW

SAMPLE ID:

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-52-48(004)

CLIENT Entergy - IPEC

SITE Buchanan, NY

WEATHER P. Cloudy 60's

6

PROJECT NO [illegible]

DATE 4/30/08

SAMPLER S) AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)

48.0 to 56.0

SAMPLING PORT

48

TOTAL VOLUME PURGED: ________ gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1424	0								
1433	0.15	7.00	0.618	—	0.52	16.10	-146.3	5/7/10	20
1440	0.30	7.25	0.603	—	0.30	16.01	-134.8		
1446	0.60	7.38	0.596	—	0.20	15.97	-143.6		
1453	0.85	7.44	0.590	2.81	0.17	15.92	-132.9		
1454		PUMP	OFF						

NOT SAMPLED

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Could not run with same PSI as Port 68. This sample will be collected later.

WELL ID: MW

SAMPLE ID:

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-52-64(006)

CLIENT Entergy - IPEC

SITE Buchanan, NY

WEATHER P. Cloudy 60's

5

PROJECT NO [illegible]

DATE 4/30/09

SAMPLER(S) AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)

59.9 to 71.5

SAMPLING PORT

64

TOTAL VOLUME PURGED: ______ gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1424	0							5.7/10	17
1433	0.01	6.21	0.476	—	2.22	16.85	-41.3	5.7/10	20
1440	0.02	6.18	0.474	—	0.89	17.58	-37.4		
1446	0.03	6.17	0.468	—	0.59	18.20	-39.5		
1453	0.035	6.22	0.467	3.92	0.49	18.76	-44.1		
1454		PUMP	OFF						

NOT SAMPLED

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Could not run with same PSI as Port 18.
This sample will be collected later.

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW52-11
SHEET: 1 of 1
FILE NO.: 01.0017869.91
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: minitroll
PSI CAPACITY: 30
SERIAL NUMBER: 14150

FINAL BORING DEPTH (FT): 11
GROUND ELEVATION (FT):
CASING ELEVATION (FT): 16.283
CASING DIAMETER (INCH): 2

DATUM: NGVD 29
DATE: 4/30/09

STATIC GROUNDWATER DTW ~~TABLE ELEVATION (FT)~~ 8.18

GZA ENGINEER: AA/MB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: 11 FT
GROUND ELEVATION: FT M.S.L.
CASING ELEVATION: 16283 FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

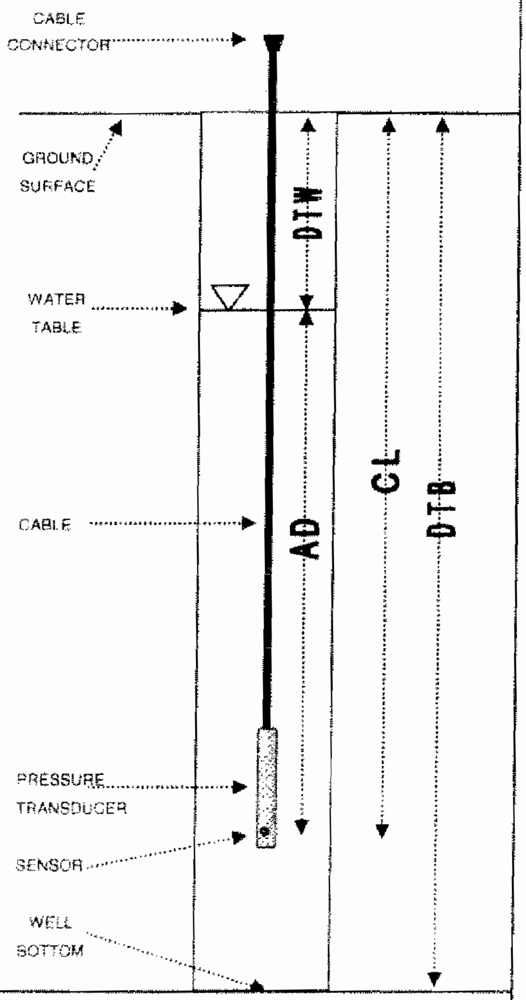
TIME OF MEASUREMENT: HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 8.180 FT
ACTUAL DEPTH: + 1.867 FT
THEORETICAL CABLE LENGTH: = 10.047 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 16.283 FT M.S.L.
DEPTH TO WATER: - 8.18 FT
REFERENCE ELEVATION: = 8.103 FT M.S.L.

TEST NAME: MW-52-11
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1358 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE, TOP OF CASING

NOTES:
Set to new time
old Transducer had water inside

GZA

WELL ID: MW52-11

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/11/09
GZA Engineers: Miguel Britos
Angela Aften

GZA Engineer:	Miguel Britos	Angela Aften
Time Arrived onSite:	630	640
Time Left Site:	1740	1730

Weather: ~70'F
Rain on+off

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW52-48	IPEC	2L	poly			
MW52-64	↓	↓	↓			
MW37-22	↓	↓	↓			
MW37-32	↓	↓	↓			
MW37-40	↓	↓	↓			
MW-37-57	↓	↓	↓			
MW36-24	↓	↓	↓			
MW36-40	↓	↓	↓			
MW-36-52	↓	↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	ACTIVITY (check) Installation	Special Notes/Issues/Observations	Follow-up Required?
MW36-24	X	X	reset + reset time	
MW36-52	X			
MW37-22	X			
MW-37-32	X			
MW-37-40	X			
MW-37-57	X			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619	8.410	10.209	10.273	16.946	-0.064	✓				Kept old time
MW-34			18.071										
MW-35			18.444	8.22	10.224	9.629		+0.595	✓			✓	re-set time
MW-36-24	5/1/09	1232	11.598	2.61	8.988	20.114	35.507	-11.126	✓			✓	reset time
MW-36-40	—	—	11.754	—	—	—							
MW-36-52	5/1/09	1230	11.670	4.20	7.470	7.483	47.339	+.013					
MW-37-22	5/1/09	928	14.852	9.05	5.822	5.763	12.857	+.029	✓				
MW-37-32	5/1/09	923	14.791	9.00	5.791	5.836		+.045	✓				
MW-37-40	5/1/09	926	14.852	7.33	7.522	7.546	32.795	-.024	✓				
MW-37-57	5/1/09	919	14.788	7.71	7.478	7.515	43.319	+.037	✓				
MW-38	4/22/09	935	13.999	8.98	5.019	4.949	29.492	+0.070	✓				
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.628	+0.032	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.525	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	+0.521	✓			✓	Kept old time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.[illegible]	-0.037	✓				
MW-43-62	[illegible]		47.821	16.68	31.[illegible]	31.44	37.072	-0.2[illegible]	✓				
MW-44-67	4/28/09	925	93.020	[illegible]	34.[illegible]	34.599	5.733	+0.019	✓				
MW-44-102	4/28/09	0119	93.090	66.28	26.79	26.901	32.4[illegible]	+ 0.159	✓				
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11	4/13/09		16.283	8.18	8.103	8.093	1.867					✓	[illegible] in trans. - Broken
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.[illegible]	-0.033	✓				
MW-53-120	4/14/09		70.190	60.[illegible]	9.37	9.348	57.3[illegible]	0.023	✓				
MW-55-24	4/29/09	849	17.770	10.18	7.590	7.593	5.639	-.003	✓				
MW-55-35	4/29/09	847	17.770	10.59	7.180	7.141	23.125	-0.039	✓				
MW-55-54	4/29/09	836	17.770	10.32	7.450	6.525	40.530	+0.925	✓			✓	kept old time
MW-56-53			69.322	47.24	22.082	23.959	42.306	-1.877	✓				
MW-41-40	4/16/09	1035	54.130	21.73	32.40	32.283	14.198	+0.117	✓				

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	37.12	-.514	✓				
MW-57-11	4/21/09	908	14.730	4.63	10.10	6.303	6.302	+3.797	✓				
MW-57-20	4/21/09	919	14.750	4.65	10.10	-16.497	-9.139	+26.597	✓				trans corroded & [illegible]
MW-57-45	4/21/09	927	14.810	5.25	9.56	9.029	72.791	+0.531					
MW-58-26	4/23/09	921	14.230	6.14	8.09	8.094	19.04	+.004	✓				
MW-58-65	4/23/09	919	14.250	7.14	7.11	7.390	61.351	+0.28	✓				
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12.810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/15/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407	11.50	1.907	2.054		0.147					9277
MW-66-36			13.364	11.30	2.064	2.050	15.396	+0.014					
MW-107			142.757	24.320	118.437	118.390	13.597	0.047	✓				
MW-108			14.230										
MW-109			14.254										
MW-111	4/30/09	9.25	18.380	8.75	9.63	10.325	6.766	-0.695	✓			b	set new time
-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-.0183					
J3-4S			13.943										
J3-T1	4/16/09		8.518	5.66	2.858	2.883	1.370	-0.025	✓				
J3-T2	4/24/09	9:29	8.512	4.28	4.122	4.112	2.368	+.020	✓				
J3-C1			18.060										
R-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.141	-0.241	✓				
UT-1	4/14/09		11.891	9.37	2.021	2.234	42.151	-0.213	✓				
W-1			75.822										
U-1CSS	4/21/09	938	20.073	5.14	14.933	14.886	9.628	-0.047					
					2044		11	5					

page 2 of 2

WELL ID: MW

SAMPLE ID:

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-52-64 (004)

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Rain 60's

PROJECT NO [illegible]2
DATE 5/1/09
SAMPLER S AA/MB

SAMPLING INTERVAL (depth in ft below top of casing) 5

59.0 to 71.5

TOTAL VOLUME PURGED: 0.40 gal

PURGE RATE: variable (gal/min)

SAMPLING PORT

64

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1020	0	PUMP ON						5.5/10	25
1025	0.005	7.21	0.475	—	5.01	15.71	-110.1	5.5/10	22
1032	0.01	7.23	0.471	—	0.66	15.80	-128.3	↓	↓
1043	0.02	7.39	0.461	5.96	0.55	16.33	-135.3		
1056	0.1	7.47	0.461	4.89	0.43	16.96	-141.2		
1101	0.13	7.48	0.461	4.04	0.43	17.27	-151.5		
1110	0.15	7.49	0.462	3.98	0.42	17.42	-154.5		
1115	0.20	7.50	0.461	3.95	0.43	17.46	-155.6		
1120	0.25	7.51	0.461	3.90	0.44	17.49	-156.9		
1122		START SAMPLE COLLECTION							
1350		SAMPLE COMPLETED : 2 L IPEC							
1350		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW

SAMPLE ID:

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-52-48(004)

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Rain 60's

PROJECT NO [illegible]02
DATE 5/1/09
SAMPLER S AA/MB

SAMPLING INTERVAL (depth in ft below top of casing) 6
48.0 to 56.0

SAMPLING PORT
48

TOTAL VOLUME PURGED: 2.5 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1020	0	PUMP ON						5.5/10	25
1025	0.05	6.83	0.576	—	4.00	15.34	-23.8	5.5/10	22
1032	0.25	7.02	0.570	—	1.47	15.33	-12.1	5.5/10	22
1043	0.75	7.23	0.568	5.03	0.69	15.48	-5.5	5.5/10	23
1056	1.15	7.35	0.566	1.27	0.53	15.68	-3.3	↓	↓
1103	1.55	7.42	0.564	1.35	0.44	15.87	-0.1		
1110	1.80	7.43	0.562	1.30	0.46	15.89	+1.9		
1115	2.05	7.45	0.563	1.38	0.43	15.90	+2.1		
1120	2.30	7.46	0.562	1.40	0.41	15.93	+2.3		
1125		START SAMPLE COLLECTION							
1135		SAMPLE COMPLETED : 2 L IPEC							
1135		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 37-22
SAMPLE ID: 014

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: rain, 70°F

PROJECT NO: 01.0017869.91
DATE: 5/1/09
SAMPLER(S): AA/MB
PUMP DEPTH: 17 ft

WATER QUALITY:

Time	circle one: [✓ DTW] or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
928	9.65								
949	Pump on							1.8	
1011	9.84	7.40	2.392	—	3.28	20.09	-33.6		
1020	9.08	7.41	2.410	9.68	1.95	20.30	-67.7		
1026	9.09	7.44	2.419	6.57	1.66	20.35	-59.2		
1033	9.08	7.43	2.423	6.47	1.28	20.37	-69.7		
1039	9.08	7.45	2.425	5.19	1.36	20.39	-70.2		
1046	9.07	7.46	2.428	5.32	1.26	20.39	-71.5		
1055	9.07	7.47	2.430	5.20	1.27	20.35	-71.2		
1058	Start sample collection				-2C	1FC			
1216	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
flow meter	3
turbidity meter	20070254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~0.7 gal purged

WELL ID: MW27-32
SAMPLE ID: 214

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: rain, 70°F

PROJECT NO: 01.0017869.91
DATE: 5/1/09
SAMPLER(S): AA/MB
PUMP DEPTH: 29 ft

WATER QUALITY: DTW- 9.81'

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
948	15.364								
949	Pump on							<1	
1012	15.360	7.15	1.991	—	6.43	20.26	212.7	1.0	
1021	15.321	7.23	2.033	10.21	2.28	20.22	219.6		
1027	15.343	7.27	2.053	7.17	1.86	20.29	203.4		
1034	15.307	7.30	2.088	6.05	1.36	20.33	189.7		
1040	15.345	7.31	2.097	6.39	1.31	20.36	182.4		
1047	15.310	7.32	2.108	6.40	1.19	20.40	174.6		
1056	15.298	7.33	2.116	6.32	1.23	20.41	167.9		
1102	15.329	7.34	2.121	3.53	1.21	20.47	176.5		
1108	15.319	7.35	2.132	3.49	1.10	20.52	168.7		
1113	15.308	7.36	2.138	3.82	1.12	20.55	165.5		
1118	15.323	7.36	2.140	3.45	1.03	20.58	162.5		
1121	Start sample collection				→ IPEC				
1213	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
flow meter	5
turbidity meter	2050201254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~0.85 gal purged

WELL ID: MW37-4
SAMPLE ID: 014

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: rain, 70°F

PROJECT NO: 01.0017869.91
DATE: 5/6/09
SAMPLER(S): AA/MB
PUMP DEPTH: 39 ft

WATER QUALITY: DTW = 7.33' = 32.798

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
925	32.798								
949	Pump on							<1	①
1013	32.080	7.58	1.905	—	2.86	19.93	-152.8		
1021	32.081	7.68	1.910	16.65	1.62	20.07	-170.8		
1027	32.160	7.69	1.913	13.73	1.38	20.07	-170.7		
1034	32.113	7.70	1.912	11.49	1.24	20.11	-166.7		
1040	32.109	7.71	1.914	12.02	1.20	20.13	-169.9		
1047	32.209	7.70	1.913	11.46	1.14	20.15	-171.4		
1050	Start sample collection				-YCIPEC				
1115	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
flow meter	|
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. Pumping as slow as possible
~0.35 gal purged

WELL ID: MW37-57
SAMPLE ID: 014

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: rain, 70°F

PROJECT NO: 01.0017869.91
DATE: 5/1/09
SAMPLER(S): AA/MB
PUMP DEPTH: 55 ft

WATER QUALITY: DTW - 7.31'

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
919	43.399								
956	Pump on							<1	
1014	43.187	7.44	1.983	—	2.86	20.52	67.6		
1022	43.213	7.54	2.067	9.59	2.21	20.44	29.4		
1028	43.233	7.55	2.083	7.45	1.63	20.40	35.7		
1035	43.205	7.54	2.074	7.03	1.66	20.34	42.3		
1041	43.257	7.55	2.053	7.59	1.67	20.31	50.8		
1048	43.094	7.54	2.047	7.19	1.80	20.41	62.8		
1056	43.217	7.52	2.049	7.12	1.67	20.43	71.5		
1102	43.231	7.54	2.048	5.67	1.82	20.48	76.1		
1108	43.165	7.53	2.049	4.18	1.68	20.54	79.2		
1113	43.233	7.54	2.049	3.96	1.68	20.58	82.4		
1118	43.215	7.54	2.048	4.07	1.75	20.65	85.2		
1123	Start sample collection				-2L	IPEC			
1239	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	6
flow meter	4
turbidity meter	2007020054

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~0.10 gal purged.

WELL ID: ________
SAMPLE ID: 014
MW36-24

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 70's lt. rain

PROJECT NO: 01.0017869.91
DATE: 5/14/09
SAMPLER(S): AAMB
PUMP DEPTH: ________ ft

WATER QUALITY: 2.61' DTW

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
1232	35.507								
1300	Pump on								
1302	Pump off								
1304	Pump on								
1306	35.503	7.31	1.546	6.91	4.58	18.26	44.9	4.2	
1311	35.508	7.40	1.889	4.67	2.50	18.17	34.1		
1317	35.508	7.56	1.914	2.79	1.94	18.19	32.8		
1322	35.504	7.62	1.918	2.63	1.77	18.23	32.3		
1327	35.506	7.68	1.928	2.60	1.65	18.23	31.7		
1332	35.504	7.73	1.930	1.35	1.56	18.25	31.3		
1338	35.506	7.77	1.927	1.44	1.49	18.26	31.0		
1343	35.508	7.79	1.926	1.32	1.45	18.25	30.8		
1345	Start sample collection								
1355	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
flow meter	-
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~2.8gal purged

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

MW-36-41 (008)

CLIENT Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Rain 60's

PROJECT NO: 01.0017869.02
DATE: 5/1/09
SAMPLER(S): AA/MB

WATER COLUMN HEIGHT (ft)

35.5 (DTB) - 3.03 (DTW) = 32.47 ft (Well Column Height)

Well Diameter: ______ inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 32.47 x 0.041 (Multiplier) = 1.33 gallons (Well Volume)

1.33 x 1.5 = 2.0 gallons (Designed Purge Volume)

TOTAL VOLUME PURGED: 2.1 gal

WATER QUALITY:

Time	Volume Purged (gal)	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1340	0	PUMP ON								
1347	0.4	—	7.99	1.798	336.4	2.25	18.60	127.4	35	
1351	0.7	—	8.12	1.811	203.2	2.18	18.54	109.5		
1355	0.9	—	8.14	1.806	732.4	2.25	18.58	72.1		
1400	1.2	—	8.12	1.799	642.0	2.16	18.70	15.3		
1404	1.4	—	8.09	1.772	589.1	1.97	18.99	-3.4		
1408	1.5	—	7.93	1.723	523.3	1.81	19.08	-13.8		
1415	1.7	—	7.86	1.686	769.4	1.18	19.05	-29.3		
1424	1.9	—	7.78	1.686	698.0	1.45	19.02	-26.3		
1430	2.1	—	7.76	1.684	687.1	1.51	19.03	-25.2		
1431			START SAMPLE COLLECTION							
1450			SAMPLE COMPLETED : 2 L IPEC							
1450			PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	—
	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

MW36-52
(013)

GZA GeoEnvironmental of New York
Modified Traditional Purge
Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 70's Lt rain

PROJECT NO: 01.0017569.91
DATE: 5/1/09
SAMPLER(S): AA/MB

WATER COLUMN HEIGHT (ft) 52 (DTB) - 4.20 (DTW) = 51.80 (Well Column Height) ft

Well Diameter: 1 inches

Diameter	Multipliers
1	0.041
2	0.163
4	0.653

GALLONS OF WATER PER WELL VOLUME:

Water Column Height 51.80 x 0.041 (Multiplier) = 2.12 (Well Volume) gallons

2.12 x 1.5 = 3.2 (Designed Purge Volume) gallons

TOTAL VOLUME PURGED: 3.3 gal

WATER QUALITY: DTW - 2.59'

Time	Volume Purged (gal)	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Pump Depth (ft)	Notes
1240	0	38.077	47.351							
1251	0	Pump on		Peristaltic pump won't purge well						
1255		Pump off								
1420		Pump on		Waterra						
1427	0.1	—	7.59	1.452	44.31	3.30	19.97	30.4		
1433	0.4	—	7.53	1.766	205.8	1.98	19.06	-46.9		
1438	0.6	—	7.55	1.816	311.1	0.88	19.12	-54.2		
1443	0.9	—	7.53	1.758	485.0	0.60	19.06	-60.2		
1448	1.6	—	7.48	1.696	402.1	0.50	19.22	-61.4		
1453	2.3	—	7.38	1.629	394.0	0.46	19.23	-55.6		
1456	2.7	—	7.34	1.619	382.4	0.45	19.28	-54.7		
1500	3.2	—	7.33	1.612	371.3	0.45	19.30	-53.3		
1502			START SAMPLE COLLECTION							
1507			SAMPLE COMPLETED : 2 L IPEC							

1507 PUMP OFF

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing

Groundwater Elevation measurements are given in feet msl

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW36-24
SHEET: 1 of 1
FILE NO.: 41.0017869.01
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER: 5376

FINAL BORING DEPTH (FT): 24
GROUND ELEVATION (FT):
CASING ELEVATION (FT): 11.598
CASING DIAMETER (INCH): 2

DATUM: MSL
DATE: 5/1/09

STATIC GROUNDWATER TABLE ELEVATION (FT):

GZA ENGINEER: AA/MB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

DEPTH TO BOTTOM: ______ FT
GROUND ELEVATION: ______ FT A.S.L.
CASING ELEVATION: ______ FT A.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: above / [✓ below]
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

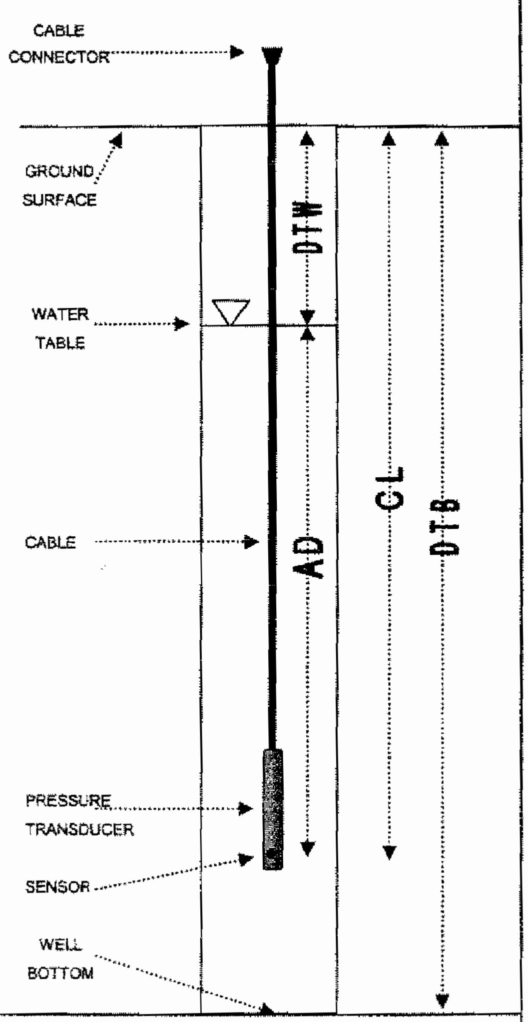
TIME OF MEASUREMENT: 1240 HRS
MEASUREMENT TAKEN FROM: ground / [✓ casing]

DEPTH TO WATER: 2.59 FT
ACTUAL DEPTH: + 25.507 FT
THEORETICAL CABLE LENGTH: = 28.097 ~~FT~~ NA

HAVE CLOCKS BEEN SYNCHRONIZED? ☒ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☒ check

ELEVATION OF MEASURING POINT: 11.598 FT A.S.L.
DEPTH TO WATER: − 2.59 FT
REFERENCE ELEVATION: = 9.008 FT A.S.L.

TEST NAME: MW36-24
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1244 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:

GZA

WELL ID: MW36-24

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/4/09
GZA Engineers: Miguel Britos
Angela Alberi

GZA Engineer:	Miguel Britos	Angela Alberi
Time Arrived onSite:	630	600
Time Left Site:	1640	1630

Weather: 50's, lt rain on+off

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW63-18	IPEC	2L	poly			
MW 63-34	↓	↓	↓			
MW63-50	↓	↓	↓			
MW-63-93	↓	↓	↓			
MW63-112	↓	↓	↓			
MW63-121	↓	↓	↓			
MW63-163	↓	↓	↓			
MW63-174	↓	↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW63-18	✓			
MW63-34	✓			
Geotrans:	time	off by	(hrs:min)	
MW63-50		1:15		
MW 63-91		1:21		
MW 63-93		1:10		
MW 63-112		1:20		
MW 63-123		1:07		
MW 63-163		1:13		
MW 63-174		1:20		

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

* 730-830 - Sitewide safety stand down 1 hr meeting after our normal safety briefing meeting

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	4/16/09	946	69.207	47.06	22.147	22.661	37.26	-.514	✓				
MW-57-11	4/21/09	918	14.730	4.63	10.10	6.303	6.302	+3.797	✓				
MW-57-20	4/21/09	919	14.750	4.65	10.10	-16.497	-9.039	+26.597	✓				trans corroded & changed
MW-57-45	4/21/09	927	14.810	5.25	9.56	9.029	72.741	+0.531					
MW-58-26	4/23/09	921	14.230	6.14	8.09	8.094	19.011	+.004	✓				
MW-58-65	4/23/09	919	14.250	7.14	7.11	7.390	61.351	+0.28	✓				
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12.810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/15/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18	5/4/09	952	13.059	11.05	~~2.011~~ 2.004	2.011	6.459	+.002					
MW-63-34	5/4/09	951	13.059	11.02	2.059	2.124	15.210	-.075	✓				
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407	11.50	1907	2054		+0.147					927?
MW-66-36			13.364	11.30	2.064	2050	15.396	+0.014					
MW-107			142.757	24.320	118.437	118.390	13.597	0.047	✓				
MW-108			14.230										
MW-109			14.254										
MW-111	4/30/09	925	18.380	8.75	9.63	10.325	6.766	-0.695	✓				set new time
I-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-0.183					
J3-4S			13.943										
J3-T1	4/10/09		8.518	5.66	2.858	2.883	1.370	-0.025	✓				
J3-T2	4/24/09	9:29	8.512	4.38	4.132	4.112	2.344	+.020	✓				
J3-C1			18.060										
HR-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.141	-0.241	✓				
OUT-1	4/14/09		11.891	9.37	2.021	2.234	42.151	-0.213	✓				
RW-1			75.822										
U-1CSS	4/14/09	938	20.073	5.14	14.933	14.886	9.628	-0.047					
						2.044	11.8						

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619	8.410	10.209	10.273	16.946	-0.064	✓				Kept old time
MW-34			18.071										
MW-35			18.444	8.22	10.224	9.629		+0.595	✓			✓	reset time
MW-36-24	5/1/09	1232	11.598	2.61	8.988	20.114	35.507	-11.126	✓			✓	reset time
MW-36-40	—	—	11.754	—	—	—			—	—	—		
MW-36-52	5/1/09	1230	11.670	4.20	7.470	7.483	47.339	+.013					
MW-37-22	5/1/09	928	14.852	9.05	5.802	5.763	12.857	+.039	✓				
MW-37-32	5/1/09	922	14.791	9.00	5.791	5.836		+.045	✓				
MW-37-40	5/1/09	926	14.852	7.33	7.522	7.546	32.796	+.024	✓				
MW-37-57	5/1/09	919	14.788	7.31	7.478	7.515	43.319	+.037	✓				
MW-38	4/28/09	935	13.999	8.98	5.019	4.949	29.492	+0.070	✓				
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	-0.55	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.628	+0.032	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.525	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	+0.521	✓			✓	Kept old time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	[illegible]	-0.037	✓				
MW-43-62	[illegible]		47.821	16.68	[illegible]	31.44	37.072	-0.299	✓				
MW-44-67	4/28/09	825	93.020	[illegible]	[illegible]	[illegible]	5.838	+0.[illegible]	✓				
MW-44-102	4/28/09	919	93.090	66.28	26.79	26.901	[illegible]	+ 0.159	✓				
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11	4/30/09		16.283	8.18	8.103	8.098	1.867					✓	[illegible] trans. — Broken
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.246	-0.033	✓				
MW-53-120	4/14/09		70.190	60.820	9.37	[illegible]	57.826	-0.028	✓				
MW-55-24	4/29/09	849	17.770	10.18	[illegible]	7.593	5.639	-.003	✓				
MW-55-35	4/29/09	847	17.770	10.59	7.180	7.141	23.125	-0.039	✓				
MW-55-54	4/29/09	836	17.770	10.32	7.450	6.525	40.530	+0.923	✓			✓	Kept old time
MW-56-53			69.322	47.24	22.082	23.959	42.306	-1.877	✓				
MW41-40	4/16/09	1035	54.130	21.73	32.40	32.283	14.191	+0.117	✓				

WELL ID: MW63-18
SAMPLE ID: 059

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 50's lt rain

PROJECT NO: 01.0017869.91
DATE: 5/4/09
SAMPLER(S): AA/MB
PUMP DEPTH: 149 ft

WATER QUALITY: DTW - 11.05'

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
953	6.459								1
1019	6.252								
1022	Pump on							1.5	
1030	6.140	7.20	1.781	8.45	8.45	13.68	143.5		
1036	6.081	7.28	1.776	8.29	4.15	13.60	13.9		
1043	6.046	7.34	1.763	5.68	3.80	13.62	-18.9		
1051 ~~1044~~	5.989	7.36	1.757	4.15	2.99	13.74	-49.7		
1057	5.942	7.37	1.751	4.23	2.60	13.69	-67.9		
1102	5.879	7.37	1.728	2.72	2.31	13.53	-81.6		
1107	5.848	7.38	1.715	2.29	2.05	13.57	-87.0		
1112	5.814	7.39	1.705	1.82	1.91	13.55	-93.8		
1118	5.755	7.39	1.701	1.75	1.71	13.62	-92.7		
1124	5.701	7.39	1.670	1.59	1.35	13.70	-103.9		
1130	5.663	7.41	1.658	1.48	1.37	13.68	-115.0		
1136	5.630	7.42	1.638	1.64	1.14	13.65	-114.1		
1141	5.571	7.43	1.619	1.48	1.07	13.69	-119.1		
1147	5.531	7.44	1.614	1.48	0.98	13.77	-117.4		
1152	5.510	7.44	1.606	1.55	0.91	13.93	-123.3		
1157	5.465	7.45	1.602	1.64	0.95	13.96	-124.5		
1158	Start	sample collection			- 21	IPEC			

1229 end sample collection

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
flow meter	4
turbidity meter	20070493

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. Water level dropping prior to sampling, however this well has a high K value - purge at 1.5 gph

~1.75 gal purged

WELL ID MW63-34
SAMPLE ID: 009

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: 50's, lt rain

PROJECT NO: 01.0017869.91
DATE: 5/4/09
SAMPLER(S): AA/MB
PUMP DEPTH: 31.5 ft

WATER QUALITY: DTW - 11.00'

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
951	15.210								1
1015	15.002								
1022	Pump on							1.5	
1031	14.857	7.40	1.476	11.47	2.24	14.23	907.8		
1037	14.815	7.48	1.461	4.93	1.37	14.35	1015.9		
1044	14.757	—	—	3.06	—	—	—		2
1058	14.654	7.08	1.473	2.88	1.08	14.60	-120.5		
1103	14.611	7.22	1.466	2.44	0.64	14.50	-124.9		
1108	14.572	7.31	1.463	1.28	0.51	14.50	-126.4		
1113	14.535	7.38	1.462	0.89	0.46	14.47	-129.8		
1118	14.497	7.42	1.459	1.71	0.42	14.51	-130.9		
1124	14.455	7.45	1.458	1.03	0.39	14.58	-134.1		
1130	14.410	7.48	1.456	1.00	0.39	14.55	-134.5		
1136	14.367	7.50	1.457	0.96	0.37	14.57	-136.4		
1140	start sample collection - 2L IPEC								
1210	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	675
flow meter	5
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. Water level dropping prior to sampling, however this well has a high K value - purge at 1.5 gph.
2. ORP does not appear to be reading correctly, switched YSI meters.

~1.5 gal purged

WELL ID: MW 63 50

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Rain 60°F

PROJECT NO [illegible]92
DATE 5/4/09
SAMPLER S: AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)
41.5 to 58.0

SAMPLING PORT
50

5

TOTAL VOLUME PURGED: 3.0 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1024	Pump on							8/8	23
1033	0.25	6.92	1.253	2.31	0.60	14.37	9.5		
1039	0.55	7.05	1.218	0.85	0.45	14.59	15.5		
1046	1.0	7.17	1.218	2.07	0.41	14.71	16.5		
1052	1.35	7.25	1.236	1.50	0.36	14.78	17.6		
1058	1.65	7.31	1.236	0.18	0.34	14.83	17.9		
1103	2.0	7.34	1.239	0.16	0.32	14.86	18.0		
1109	2.2	7.37	1.247	0	0.30	14.89	18.2		
1114	2.5	7.38	1.258	0	0.29	14.92	18.7		
1119	2.8	7.40	1.266	0	0.28	14.95	18.2		
1121	Start	sample	collection	-	2L (IPEC				
1131	end	sample	collection						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	20070 4293

NOTES AND OBSERVATIONS:

WELL ID: MW 63 93

SAMPLE ID: 010

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Rain 60°F

PROJECT NO [illegible]
DATE 5/4/09
SAMPLER S: AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)
81.5 to 100.5

SAMPLING PORT
93

TOTAL VOLUME PURGED: ________ gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

7

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1024	Pump on							8/8	23
1032	0.1	7.10	0.961	5.73	3.10	14.12	37.0		
1038	0.25	7.40	1.204	2.10	0.80	14.30	-75.1		
1045	0.5	7.55	1.267	3.49	0.57	14.45	-75.4		
1051	0.75	7.59	1.296	2.23	0.40	14.54	-65.8		
1058	1.0	7.60	1.321	2.88	0.42	14.58	-61.4		
1103	1.2	7.60	1.330	2.86	0.32	14.61	-58.0		
1108	1.4	7.61	1.342	0.61	0.35	14.65	-55.5		
1113	1.6	7.61	1.350	0.59	0.37	14.66	-53.5		
1119	1.8	7.61	1.354	0.51	0.34	14.72	-51.6		
1125	2.0	7.62	1.355	1.28	0.32	14.76	-50.4		
1132	2.3	7.63	1.355	0.57	0.35	14.79	-49.4		
1137	2.5	7.63	1.355	0.55	0.32	14.82	-49.5		
1142	2.7	7.63	1.356	0.53	0.34	14.88	-49.6		
1145	start sample collection			~2L	IPEC				
1200	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

WELL ID MW63 112

SAMPLE ID: 089

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Rain 60°F

PROJECT NO [illegible]2
DATE 5/4/08
SAMPLER S: AA/MB

SAMPLING INTERVAL (depth in ft below top of casing) 106.5 to 112.0

TOTAL VOLUME PURGED: 2.4 gal

PURGE RATE: variable (gal/min)

SAMPLING PORT 112

PURGE METHOD: Double Valve Pump

4

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive Vent Cycle (seconds)	Drive Pressure (psi)
1311	0	PUMP ON						8/8	30
1322	0.3	7.08	1.216	—	0.39	14.89	23.8		
1322	0.8	7.17	1.294	3.73	0.25	15.04	26.6		
1342	1.05	7.23	1.295	0.70	0.20	15.29	26.8		
1349	1.25	7.25	1.289	0.49	0.19	15.07	26.8		
1355	1.45	7.25	1.292	0.54	0.18	15.07	26.3		
1400	1.75	7.26	1.293	0.47	0.17	15.10	26.2		
1406	2.0	7.27	1.292	0.49	0.17	15.08	25.9		
1411	2.20	7.28	1.289	0.48	0.17	15.10	25.7		
1413		START SAMPLE COLLECTION							
1430		SAMPLE COMPLETED : 2 L IPEC							
1430		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

WELL ID: MW63 121

SAMPLE ID: 019

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Rain 60°F

PROJECT NO: [illegible]
DATE: 5/4/09
SAMPLER(S): AA/MB

SAMPLING INTERVAL (depth in ft below top of casing): 118 to 127.5

TOTAL VOLUME PURGED: 1.65 gal

PURGE RATE: variable (gal/min)

SAMPLING PORT: 121

PURGE METHOD: Double Valve Pump

3

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1311	0	PUMP ON						8/8	30
1321	0.1	7.51	1.380	—	0.59	14.81	-136.2		
1331	0.5	7.58	1.437	3.45	0.40	14.90	-120.6		
1341	0.75	7.59	1.456	1.04	0.38	15.24	-138.3		
1349	0.85	7.59	1.492	0.51	0.35	15.03	-129.7		
1355	1.00	7.58	1.487	0.00	0.25	14.97	-120.3		
1400	1.10	7.58	1.487	0.00	0.25	15.01	-106.8		
1406	1.35	7.58	1.492	0.00	0.24	14.99	-100.0		
1411	1.45	7.58	1.493	0.00	0.24	14.98	-106.1	↓	↓
1412		START SAMPLE COLLECTION							
1435		SAMPLE COMPLETED : 2 L IPEC							
1435		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

WELL ID: MW ~~63~~ 163

SAMPLE ID 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC

SITE Buchanan, NY

WEATHER Rain 60°F

PROJECT NO [illegible]2

DATE 5/4/09

SAMPLER(S) AA/MB

SAMPLING INTERVAL (depth in ft below top of casing) 158.5 to 165

TOTAL VOLUME PURGED: 1.35 gal

PURGE RATE: variable (gal/min)

SAMPLING PORT 163

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1311	0	PUMP ON						8/8	30
1320	0.05	7.12	0.977	—	0.37	14.90	-128.2		
1330	0.30	7.31	0.978	2.58	0.24	15.02	-139.3		
1340	0.40	7.31	0.982	1.72	0.29	15.30	-139.7		
1349	0.50	7.32	0.993	0.40	0.25	15.27	-142.5		
1354	0.70	7.30	1.001	0.00	0.16	15.07	-140.5		
1359	0.80	7.30	1.004	0.00	0.16	15.07	-120.6		
1406	1.05	7.30	1.004	0.00	0.15	15.08	-117.5		
1411	1.15	7.30	1.005	0.00	0.14	15.07	-115.6	↓	↓
1412		START SAMPLE COLLECTION							
1439		SAMPLE COMPLETED			2 L	IPEC			
		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

WELL ID: MW 63 174

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Rain 60°F

PROJECT NO [illegible]2
DATE 5/4/09
SAMPLER S: AA/ MB

SAMPLING INTERVAL (depth in ft below top of casing)
168.0 to 191.1

SAMPLING PORT
174

TOTAL VOLUME PURGED: 1.3 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1311	0	PUMP ON						8/8	30
1320	0.05	7.16	0.988	—	1.55	14.89	-80.6	↓	↓
1330	0.3	7.20	0.968	3.46	0.54	15.01	-86.8		
1339	0.55	7.17	0.966	3.28	0.54	15.34	-72.1		
1348	0.70	7.17	0.967	1.38	0.49	15.35	-67.6		
1354	0.80	7.16	0.975	0.00	0.31	15.11	-63.6		
1359	0.95	7.16	0.979	0.00	0.31	15.08	-63.2		
1404	1.10	7.16	0.982	0.00	0.30	15.09	-62.7		
1406		START SAMPLE COLLECTION							
1428		SAMPLE COMPLETED : 2 L IPEC							
1428		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	20070 4293

NOTES AND OBSERVATIONS:

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/5/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten
Time Arrived onSite:	630	640
Time Left Site:	1830	1820

Weather: 50's F
rain

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW50-42	IPEC	2L	poly			
MW50-66						
MW60-35						
# MW60-53 ←				Dup + Matrix spike taken - 2L each		
MW 60-72						
MW 60-135						
MW 60-154						
MW 60-176	↓	↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW50-42	x			
MW50-66	x			
OUT-1	x	x		
GeoKon	time off by			
MW60-35	1:13	(hrs:min)		
60-53	1:20		downloaded +	
60-55	1:19		cleared data + reset time.	
60-72	1:26			
60-135	1:13			
60-154	1:20			
60-176	1:07			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619	8.410	10.209	10.273	16946	-0.064	✓				Kept old time
MW-34			18.071										
MW-35			18.444	8.28	10.224	9.619		+0.595	✓			✓	reset time
MW-36-24	5/1/09	1232	11.598	2.61	8.988	20.114	35.507	-11.126	✓			✓	reset time
MW-36-40	—	—	11.754	—	—	—	—						
MW-36-52	5/1/09	1230	11.670	4.20	7.470	7.483	47.339	+.013					
MW-37-22	5/1/09	928	14.852	9.05	5.802	5.763	12.857	+.039	✓				
MW-37-32	5/1/09	923	14.791	9.00	5.791	5.836		+.045	✓				
MW-37-40	5/1/09	925	14.852	7.33	7.522	7.546	32.798	-.024	✓				
MW-37-57	5/1/09	919	14.788	7.31	7.478	7.515	43.319	+.037	✓				
MW-38	4/22/09	935	13.999	8.98	5.019	4.949	29.492	+0.070	✓				
MW-41-40	4/7/09	1240	54.130	21.50	32.630	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.628	+0.032	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.528	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	+0.521	✓			✓	Kept old time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.[illegible]	-0.037	✓				
MW-43-62	[illegible]		47.821	16.68	31.141	31.44	37.072	-0.299	✓				
MW-44-67	4/28/09	0825	93.020	[illegible]	[illegible]	34.599	[illegible]	[illegible]	✓				
MW-44-102	4/28/09	0919	93.090	66.28	[illegible]	26.901	32.446	+ 0.159	✓				
MW-45-42	4/16/09	1257	53.196	24.80	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42	5/5/09	1104	14.453	6.59	7.863	7.827	34.415	+.036					
MW-50-66	5/5/09	1106	14.614	10.01	4.728→	4.613	89.506	-0.135					
MW-52-11	4/30/09		16.283	8.18	8.103	8.098	1.867					✓	extract in trans. – Broken
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.246	[illegible]	✓				
MW-53-120	4/14/09		70.190	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	✓				
W-55-24	4/29/09	849	17.770	10.18	7.590	7.593	5.639	-.003	✓				
W-55-35	4/29/09	847	17.770	10.59	7.180	7.141	23.125	-0.039	✓				
W-55-54	4/29/09	836	17.770	10.32	7.45 0	6.525	40.530	+0.925	✓			✓	kept old time
W-56-53			69.322	47.24	22.082	23.959	42.300	-1.877	✓				
MW41-40	4/16/09	1035	54.130	21.73	32.40	32.283	14.198	+0.117	✓				
OUT-1	5/5/09	1755	11.891	8.46	3.431	3.834	43.16	-0.397					

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	37.12	-.514	✓				
MW-57-11	4/21/09	908	14.730	4.63	10.10	6.303	6.302	+3.797	✓				
MW-57-20	4/21/09	919	14.750	4.65	10.10	-16.497	-9.139	+26.597	✓				trans corroded + changing readings
MW-57-45	4/21/09	927	14.810	5.25	9.56	9.029	72.741	+0.531					
MW-58-26	4/23/09	921	14.230	6.14	8.09	8.054	19.011	+.004	✓				
MW-58-65	4/23/09	919	14.250	7.14	7.11	7.390	61.351	+0.28	✓				
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12.810	11.70	1.110	1.868		-0.758	✓			X	
MW-62-37	4/15/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18	5/4/09	952	13.059	11.05	~~2.011~~ 2.009	2.011	6.459	+.002					
MW-63-34	5/4/09	951	13.059	11.00	2.059	2.124	15.210	-.075	✓				
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407	11.50	1.907	2054		0.147					927?
MW-66-36			13.364	11.30	2.064	2050	15.396	0.014					
MW-107			142.757	24.320	118.437	118.390	13.597	0.047	✓				
MW-108			14.230										
MW-109			14.254										
MW-111	4/30/09	925	18.380	8.75	9.63	10.325	6.766	-0.695	✓			6	set new time
I-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-0.183					
J3-4S			13.943										
J3-T1	4/8/09		8.518	5.66	2.858	2.883	1.370	-0.025	✓				
J3-T2	4/28/09	9:29	8.512	4.38	4.132	4.112	21.348	+.020	✓				
J3-C1			18.060										
R-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.141	-0.241	✓				
UT-1	4/14/09		11.891	9.37	2.021	2.234	42.151	-0.213	✓				
W-1			75.822										
U-1CSS	4/21/09	938	20.073	5.14	14.933	14.886	9.628	-0.047					

2094 113

WELL ID: MW50-42
SAMPLE ID: 017

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

Pg 1 of 2

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: rain, 50°F

PROJECT NO: 01.0017869.91
DATE: 5/15/09
SAMPLER(S): AA/MB
PUMP DEPTH: 27.0 ft

WATER QUALITY: 6.59' = DTW

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
1104	34.415								
1109	Pump on								
1124	34.412	9.25	1.364	—	1.89	18.00	41.1	2.0	
1129	34.402	9.33	1.448	10.64	1.39	18.59	38.5	2.0	
1135	34.386	9.32	1.541	5.89	1.29	18.75	86.8		
1140	34.340	9.34	1.574	4.49	1.26	18.87	86.0		
1145	34.422	9.18	1.586	4.90	1.23	18.93	85.2		
1150	34.348	8.87	1.608	4.79	1.23	19.10	84.4		
1155	34.306	8.64	1.616	2.19	1.20	19.09	84.1		
1200	34.351	12.45	1.626	2.68	1.18	18.88	83.6		
1205	34.237	12.24	1.626	2.07	1.18	18.62	83.5		
1211	34.261	12.08	1.625	4.03	1.19	18.77	83.5		
1217	34.288	11.28	1.626	3.47	1.22	18.95	83.2		
1223	34.280	11.40	1.624	3.83	1.20	19.10	83.9		
1230	34.235	12.15	1.626	3.50	1.65	19.13	83.4		
1235	34.230	11.95	1.607	3.13	1.60	19.13	82.8		①
1245	34.311	8.31	1.648	3.14	3.41	18.79	102.7		
1250	34.274	8.36	1.653	2.34	3.14	18.86	91.5		
1256	34.269	8.35	1.646	2.69	2.68	19.07	73.2		
1304	34.245	8.37	1.641	1.98	2.61	19.26	35.4		

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
flow meter	#2
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

① Equipment Malfunction - switched YSIs.

WELL ID: MW50-42
SAMPLE ID: 017

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

Pg 2 of 2

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: rain 50s F

PROJECT NO: 01.0017869.91
DATE: 5/5/09
SAMPLER(S): AA/MB
PUMP DEPTH: 27.0 ft

WATER QUALITY:

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
1310	34.264	8.38	1.641	1.92	2.46	19.30	6.8	2.0	
1316	34.241	8.39	1.640	1.59	2.42	19.34	-7.5		
1322	34.193	8.40	1.640	1.49	2.38	19.35	-15.7		
1327	34.203	8.41	1.640	1.62	2.35	19.35	-13.5		
1335	start sample collection								
144	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
flow meter	2
turbidity meter	20501254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

~3.3 gal purged

WELL ID: MW50-66
SAMPLE ID: 022

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: rain 50'sF

PROJECT NO: 01.0017869.91
DATE: 5/5/09
SAMPLER(S): AA/MS
PUMP DEPTH: 60.0 ft

WATER QUALITY: DTW-10.01'

Time	circle one: DTW or GW Elevation	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (^{0}C)	ORP	Rate (gal/hr)	Notes
1106	89.506								
1119	Pump on								
1125	88.562	7.56	2.119	—	1.15	17.85	117.3	0.5	①
1132	88.819	7.56	2.128	6.01	1.05	17.56	154.9	<1	
1136	88.923	7.57	2.129	3.52	1.15	17.48	137.1		
1141	88.888	7.58	2.142	2.13	1.28	17.43	123.8		
1146	88.926	7.59	2.157	2.52	1.17	17.37	113.2		
1151	88.821	7.59	2.168	2.63	1.06	17.30	104.4		
1156	88.880	7.61	2.184	2.51	1.34	17.19	101.1		
1201	88.796	7.62	2.195	2.47	1.40	17.10	107.1		
1206	88.886	7.62	2.204	1.74	1.18	16.92	115.2		
1212	88.849	7.62	2.187	4.15	1.28	16.69	116.3		
1218	88.989	7.62	2.179	3.97	1.35	16.47	116.5		
1224	89.006	7.63	2.188	3.48	1.14	16.31	119.4		
1231	89.023	7.63	2.198	3.44	1.21	16.22	122.6		
1236	89.066	7.63	2.200	3.36	1.20	16.19	122.6		
1239	Start sample collection								
1633	end sample collection.								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
flow meter	#1
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

1. Pumping as slow as possible.

~0.5gal purged.

WELL ID: MW 60 35

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Rain 60°F

PROJECT NO: [illegible]2
DATE: 5/5/09
SAMPLER S: AA / MB

SAMPLING INTERVAL (depth in ft below top of casing)

24.9 to 39.4

TOTAL VOLUME PURGED: 1.40 gal

PURGE RATE: variable (gal/min)

SAMPLING PORT

35 7

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1153	0	PUMP ON						5/7	18
1203	0.05	7.32	5.712	3.07	0.83	13.19	-172.1		
1213	0.10	7.58	5.807	2.37	1.21	13.19	-148.6		
1223	0.25	7.71	5.906	1.96	1.97	13.05	-110.6		
1233	0.40	7.74	5.972	2.39	2.78	13.06	-93.7		
1245	0.60	7.73	6.015	3.70	3.99	13.09	-79.8		
1253	0.75	7.73	6.038	4.20	4.20	13.10	-59.2		
1300	0.90	7.73	6.049	2.69	4.60	13.10	-53.0		
1309	1.05	7.73	6.053	2.81	4.81	13.10	-51.1		
1318	1.15	7.73	6.050	2.76	4.97	13.13	-49.7		
1323	1.25	7.73	6.050	2.83	5.01	13.15	-48.2		
1325		START SAMPLE COLLECTION							
1406		SAMPLE COMPLETED : 2 L IPEC							
1406		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	20070 4293

NOTES AND OBSERVATIONS:

WELL ID: MW 60 - 176

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy IPEC
SITE Buchanan, NY
WEATHER Rain 60°F

PROJECT NO [illegible]
DATE 5/5/09
SAMPLERS AA/MB

SAMPLING INTERVAL (depth in ft below top of casing) 170.9 to 200.4

TOTAL VOLUME PURGED: 1.0 gal

PURGE RATE: variable (gal/min)

SAMPLING PORT 176

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive Vent Cycle (seconds)	Drive Pressure (psi)
905	0	PUMP	ON						
916	0.001	6.33	0.868	—	8.30	13.58	-82.3	5/5	35
923	0.05	6.39	0.816	3.13	1.28	13.51	-119.6		
930	0.1	6.57	0.787	2.60	0.69	13.42	-153.8		
936	0.2	6.83	0.781	0.61	0.60	13.26	-174.9		
944	0.25	6.99	0.774	1.65	0.56	13.18	-172.9		
953	0.30	7.05	0.769	1.35	0.50	13.21	-160.8		
1003	0.35	7.07	0.768	1.62	0.47	13.21	-149.7		
1008	0.40	7.08	0.767	1.40	0.45	13.13	-150.1		
1019	0.60	7.09	0.765	0.85	0.41	13.17	-145.3		
1026	0.70	7.09	0.766	0.89	0.42	13.19	-137.2		
1035	0.80	7.09	0.765	0.87	0.41	13.20	-139.4		
1039	Start sample collection								
[illegible]	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 60 - 154

SAMPLE ID 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT	Entergy - IPEC	PROJECT NO	[illegible]2
SITE	Buchanan, NY	DATE	5/5/09
WEATHER	Rain 60°F	SAMPLER S:	AA/MB

SAMPLING INTERVAL (depth in ft below top of casing) 147.4 to 164.9

TOTAL VOLUME PURGED: 4.8 gal

PURGE RATE: variable (gal/min)

SAMPLING PORT 154

PURGE METHOD: Double Valve Pump

2

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive Vent Cycle (seconds)	Drive Pressure (psi)
905	0	PUMP ON						5/5	35
9.16	0.1	6.48	1.615	3.43	0.73	13.33	-95.2	↓	↓
923	0.35	6.91	1.676	2.46	0.54	13.41	-114.1		
930	0.65	7.12	1.689	1.88	0.57	13.47	-112.8		
937	0.95	7.24	1.684	2.23	0.25	13.50	-95.6		
945	1.20	7.29	1.681	1.39	0.24	13.54	-95.7		
954	1.60	7.33	1.678	0.60	0.49	13.58	-101.2		
1003	2.25	7.35	1.675	2.20	0.37	13.56	-89.9		
1011	2.70	7.37	1.672	2.07	0.33	13.57	-81.8		
1019	3.0	7.38	1.670	1.11	0.25	13.63	-90.1		
1027	3.25	7.39	1.668	0.84	0.22	13.64	-92.8		
1035	3.75	7.40	1.666	0.80	0.27	13.60	-83.5		
1041	4.0	7.41	1.664	1.01	0.17	13.56	-83.2		
~~1043~~	~~Start sample~~		~~Collection AA~~						
1047	4.2	7.41	1.662	0.81	0.16	13.51	-86.4		
1053	4.4	7.41	1.661	0.87	0.18	13.50	-81.5		
1058	4.6	7.42	1.662	0.79	0.18	13.50	-85.7	↓	↓
1059	Start sample collection								
1115	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

WELL ID: MW 60-135

SAMPLE ID 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Rain 60°F

PROJECT NO [illegible]
DATE 5/5/09
SAMPLER S AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)
124.9 to 141.4

SAMPLING PORT
135

3

TOTAL VOLUME PURGED: 4.7 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
905	0	PUMP	ON					5/5	35
917	0.25	7.33	2.122	1.57	1.43	13.34	-171.8	↓	↓
924	0.45	7.50	2.132	1.75	1.02	13.41	-170.4		
931	0.70	7.53	2.218	0.85	0.90	13.48	-172.5		
940	1.25	7.53	2.256	1.32	0.82	13.52	-180.2		
946	1.50	7.52	2.278	1.13	0.75	13.56	-178.0		
954	2.10	7.51	2.270	1.00	0.60	13.61	-184.1		
1005	2.50	7.50	2.285	0.51	0.49	13.59	-186.7		
1012	2.95	7.49	2.296	0.49	0.43	13.62	-185.0		
1019	3.30	7.49	2.303	0.22	0.38	13.65	-188.1		
1027	3.70	7.50	2.305	0.25	0.37	13.65	-190.2		
1036	4.10	7.50	2.309	0.23	0.33	13.63	-195.1		
1041	4.50	7.50	2.297	0.25	0.33	13.57	-197.0		
1043	Start sample collection								
1054	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	20070429З

NOTES AND OBSERVATIONS:

WELL ID: MW 60 - 72

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER Rain 60°F

PROJECT NO [illegible]
DATE 5/5/09
SAMPLER S AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)

66.4 to 78.2

TOTAL VOLUME PURGED: 6.2 gal

PURGE RATE: variable (gal/min)

SAMPLING PORT

72

4

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
905	0	PUMP	ON						
918	0.5	6.96	3.828	6.58	0.52	13.50	75.2	5/5	35
925	0.9	7.11	3.658	2.07	0.38	13.60	82.4		
931	1.3	7.19	3.607	1.36	0.34	13.66	84.2		
940	2.1	7.24	3.643	.80	0.32	13.71	85.4		
947	2.9	7.26	3.666	4.81	0.32	13.75	85.7		
955	3.4	7.29	3.679	4.67	0.30	13.77	85.7		
1005	3.9	7.31	3.689	4.12	0.28	13.75	85.4		
1015	4.5	7.32	3.693	3.36	0.27	13.80	85.2		
1020	5.4	7.33	3.696	3.40	0.27	13.82	85.0		
1025	6.0	7.33	3.697	3.32	0.27	13.81	84.8	↓	↓
1026		START	SAMPLE	COLLECTION					
1032		SAMPLE	COMPLETED	: 2 L	IPEC				
1032		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	2
turbidity meter	20070 4293

NOTES AND OBSERVATIONS:

WELL ID MW 60 53

SAMPLE ID 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy IPEC
SITE Buchanan NY
WEATHER Rain 60°F

PROJECT NO [illegible]
DATE 5/5/09
SAMPLER S AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)

45.4 to 59.4

SAMPLING PORT

53 6

TOTAL VOLUME PURGED: 5.1 gal

PURGE RATE: variable (gal min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
905	0	PUMP	ON					5/5	35
918	0.6	7.61	3.825	3.73	0.78	13.58	-77.0		
925	1.1	7.66	4.031	3.19	0.98	13.66	-51.4		
932	1.9	7.68	4.095	1.43	0.99	13.73	-28.5		
941	3.0	7.67	4.214	0.01	1.04	13.81	- 2.9		
947	3.4	7.68	4.272	1.60	1.10	13.82	+16.6		
956	4.15	7.68	4.262	1.63	1.10	13.83	+17.3		
1001	4.9	7.67	4.289	1.68	1.12	13.85	18.0		
1002		START	SAMPLE COLLECTION						
1008		SAMPLE	COMPLETED		: 24	IPEC	ROUTINE		
1015		[illegible]	"		: 24	IPEC	SPIKE		
1022		"	"		: 24	IPEC	DUPLICATE		
1022		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200704293

NOTES AND OBSERVATIONS:

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: OUT-1
SHEET: 1 of 1
FILE NO: 01.0017569.31
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: Minitroll
PSI CAPACITY:
SERIAL NUMBER: 160464

FINAL BORING DEPTH (FT):
GROUND ELEVATION (FT):
CASING ELEVATION (FT): 11.891
CASING DIAMETER (INCH):

DATUM: NGVD 29
DATE: 5/5/09

STATIC GROUNDWATER TABLE ELEVATION (FT):

GZA ENGINEER: AJ MB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

DEPTH TO BOTTOM: FT
GROUND ELEVATION: FT M.S.L.
CASING ELEVATION: FT M.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND:
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH FT

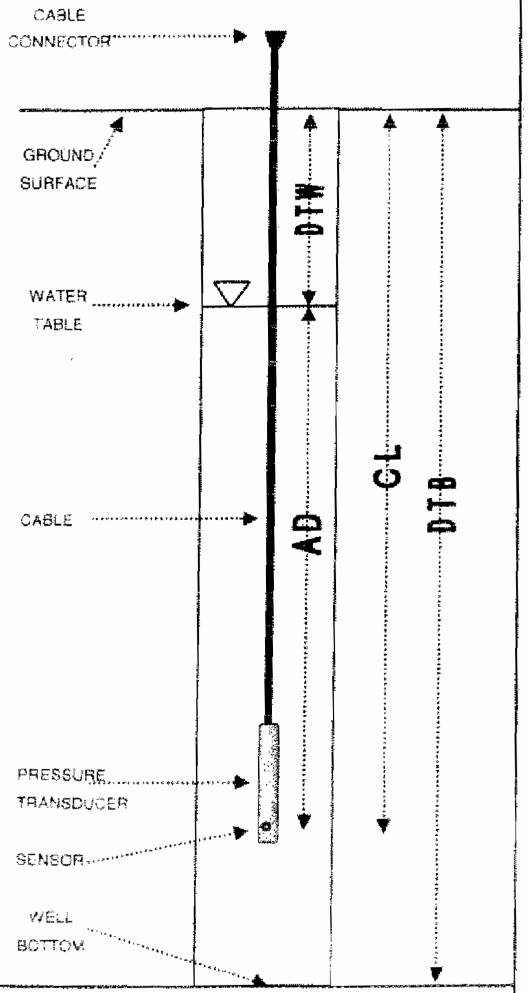
TIME OF MEASUREMENT: HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 8.34 FT
ACTUAL DEPTH: + 43.950 FT
THEORETICAL CABLE LENGTH: = 52.290 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 11.891 FT M.S.L.
DEPTH TO WATER: − 8.34 FT
REFERENCE ELEVATION: = 3.551 FT M.S.L.

TEST NAME: OUT-1
LOGGING INTERVAL: 20 MIN
TEST START TIME: 18:07 HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Reset clock

GZA

WELL ID: OUT-1

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/6/05
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten
Time Arrived onSite:	630	640
Time Left Site:	1600	1700

Weather: Mostly cloudy 60's F

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW49-26						
MW 49-42						
MW 49 65						
MW54-37						
MW54-58						
MW54-123						
MW54-144						
MW54-173						
MW54-190						

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW49-26	x	x	Changed Batteries + reset clock	
MW49-42	x			
MW49-65	x			
MW54-37	x			
MW54-58	x			
MW 54-123	x			
MW54-144	x			
MW-54-173	x			
MW-54-190	x			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

TRANSDUCER INSTALLATION LOG

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW49-26
SHEET: 1 of 1
FILE NO.: 41.0017869.01
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER:

FINAL BORING DEPTH (FT): 26
GROUND ELEVATION (FT):
CASING ELEVATION (FT): 14.171
CASING DIAMETER (INCH): 2

DATUM: MSL
DATE: 5/6/09

STATIC GROUNDWATER TABLE ELEVATION (FT):

GZA ENGINEER: AA/MB

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

DEPTH TO BOTTOM: 26 FT
GROUND ELEVATION: FT A.S.L.
CASING ELEVATION: 14.171 FT A.S.L.
CASING ABOVE (+) OR BELOW (-) GROUND: above / [✓ below]
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH: FT

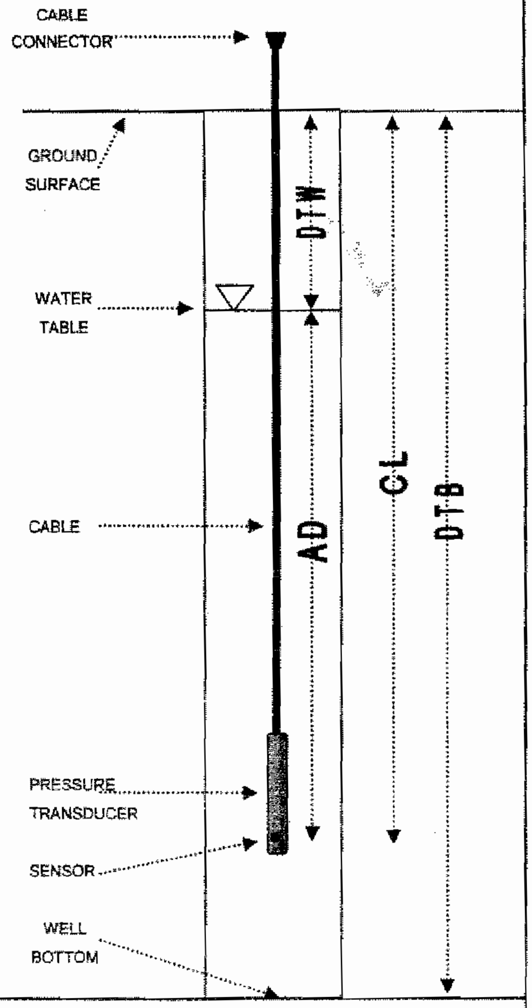
TIME OF MEASUREMENT: 831 HRS
MEASUREMENT TAKEN FROM: ground / [✓ casing]

DEPTH TO WATER: 12.84 FT
ACTUAL DEPTH: + 11.865 FT
THEORETICAL CABLE LENGTH: = 24.705 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

ELEVATION OF MEASURING POINT: 14.171 FT A.S.L.
DEPTH TO WATER: - 12.84 FT
REFERENCE ELEVATION: = 1.331 FT A.S.L.

TEST NAME: MW49-26
LOGGING INTERVAL: 30 MIN
TEST START TIME: 833 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
- reset clock
- Changed Batteries.

GZA

WELL ID: MW49-26

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619	8.410	10.209	10.273	16.946	-0.064	✓				Kept old time
MW-34			18.071										
MW-35			18.444	8.28	10.224	9.629		+0.595	✓			✓	reset time
MW-36-24	5/1/09	1232	11.598	2.61	8.988	20.114	35.507	-11.126	✓			✓	reset time
MW-36-40	—	—	11.754	—	—	—							
MW-36-52	5/1/09	1230	11.670	4.20	7.410	7.483	47.339	+.013					
MW-37-22	5/1/09	938	14.852	9.05	5.802	5.763	12.857	+.039	✓				
MW-37-32	5/1/09	923	14.791	9.00	5.791	5.836		+.045	✓				
MW-37-40	5/1/09	925	14.852	7.33	7.522	7.546	32.798	-.024	✓				
MW-37-57	5/1/09	919	14.788	7.31	7.478	7.515	43.319	+.037	✓				
MW-38	4/22/09	935	13.999	8.98	5.019	4.949	29.492	+0.070	✓				
MW-41-40	4/7/09	1240	54.130	21.50	32.620	32.771	14.547	-0.53	✓	—	—	✓	Kept old time
MW-41-63	4/16/09	1242	54.130	26.46	27.73	27.698	15.628	+0.032	✓				
MW-42-49	4/17/09		69.419	34.95	34.469	34.362	13.525	-0.107	✓				
MW-42-78	4/17/09		69.524	34.12	35.404	35.925	43.858	+0.521	✓			✓	Kept old time
MW-43-28	4/7/09		48.021	15.30	32.721	32.758	11.659	-0.037	✓				
MW-43-62	4/7/09		47.821	16.68	31.141	31.44	37.072	-0.299	✓				
MW-44-67	4/28/09	925	93.020	[illegible]	38.580	38.599	5.733	+0.019	✓				
MW-44-102	4/28/09	0919	93.090	66.28	26.70	26.901	32.648	+ 0.159	✓				
MW-45-42	4/16/09	1257	53.196	24.66	28.391	28.536	16.256	-0.145	✓				
MW-45-61	4/16/09	1402	53.217	25.80	27.417	27.314	35.465	+0.103					
MW-46			16.970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23			14.759										
MW-48-37			15.189										
MW-49-26	5/6/09	815	14.171	13.03	1.[illegible]	1.074	11.661	+.967 ~~[illegible]~~	✓				changed batteries & reset clock
MW-49-42	5/6/09	915	14.223	12.27	1.953	2.002	14.729	+0.049	✓				
MW-49-65	5/6/09	904	14.457	12.34	2.117	2.075	13.606	+0.042	✓				
MW-50-42	5/5/09	1104	14.453	6.59	7.863	7.827	34.415	+.036	✓				
MW-50-66	5/5/09	1106	14.614	10.01	4.7284	4.613	89.506	-0.125	✓				
MW-52-11	4/30/09		16.283	8.18	8.103	8.098	1.867					✓	water in trans. - Broken
MW-53-82	4/14/09		69.930	60.17	9.760	9.793	21.246	-0.033	✓				
MW-53-120	4/14/09		70.190	[illegible]	[illegible]	9.898	57.828	-0.028	✓				
MW-55-24	4/29/09	849	17.770	10.18	7.590	7.593	5.639	-.003	✓				
MW-55-35	4/29/09	847	17.770	10.59	7.180	7.141	23.125	-0.039	✓				
MW-55-54	4/29/09	836	17.770	10.32	7.450	6.525	40.530	+0.925	✓			✓	Kept old time
MW-56-53			69.322	47.24	22.082	23.959	42.306	-1.877	✓				
MW41-40	4/16/09	1235	54.130	21.73	32.40	32.283	14.198	+0.117	✓				
OUT-1	5/5/09	1758	11.891	8.46	3.431	3.834	43.761	-0.[illegible]					

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Clear Vent Lines? N=NO W=water	New Tubing?	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	4/16/09	940	69.207	47.06	22.147	22.661	27.12	-.514	✓				
MW-57-11	4/21/09	908	14.730	4.63	10.10	6.303	6.302	+3.797	✓				
MW-57-20	4/21/09	919	14.750	4.65	10.10	-16.497	-9.039	+26.597	✓				trans corroded & changing numbers
MW-57-45	4/21/09	927	14.810	5.25	9.56	9.029	72.741	+0.531					
MW-58-26	4/23/09	921	14.230	6.14	8.09	8.094	19.011	+.004	✓				
MW-58-65	4/23/09	919	14.250	7.14	7.11	7.390	61.351	+0.28	✓				
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18	4/15/09	916	12.810	11.70	1.110	1.862		-0.758	✓			X	
MW-62-37	4/15/09	921	12.810	11.72	1.090	0.893		+0.197	✓				
MW-63-18	5/4/09	953	13.059	11.05	~~2.011~~ 2.009	2.011	6.459	+.002					
MW-63-34	5/4/09	951	13.059	11.00	2.059	2.124	15.210	-.075	✓				
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407	11.50	1.907	2.054		0.147					927?
MW-66-36			13.364	11.30	2.064	2.050	15.396	0.014					
MW-107			142.757	24.320	118.437	118.390	13.597	0.047	✓				
MW-108			14.230										
MW-109			14.254										
MW-111	4/30/09	925	18.380	8.75	9.63	10.325	6.766	-0.695	✓			10	set new time
I-2			82.230										
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519	10.66	3.859	4.042	50.055	-0.183					
J3-4S			13.943										
J3-T1	4/10/09		8.518	5.66	2.858	2.883	1.370	-0.025	✓				
J3-T2	4/24/09	9:29	8.512	4.38	4.132	4.112	2.368	+.020	✓				
J3-C1			18.060										
MR-1 #2	4/16/09	1412	18.496	17.21	1.286	1.527	39.141	-0.241	✓				
OUT-1	4/14/09		11.891	9.37	2.021	2.234	42.151	-0.213	✓				
IW-1			75.822										
U-1CSS	4/17/09	938	20.073	5.14	14.933	14.886	9.638	-0.047					

2 094 11 8

WELL ID: MW49-26
SAMPLE ID: 016

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Mostly cloudy, 60'sF

PROJECT NO: 01.0017869.91
DATE: 5/6/09
SAMPLER(S): AAT/MB
PUMP DEPTH: 20.0 ft

WATER QUALITY: DTW: 12.84' = 11.865 transducer

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
831	11.865								
852	Pump on							2.0	
858	12.127	7.00	2.399	29.39	2.63	15.58	196.0		
903	12.168	7.11	2.422	24.38	1.30	15.65	186.3		
908	12.223	7.20	2.434	24.74	1.01	15.78	194.4		
913	12.267	7.25	2.436	23.46	0.83	15.86	189.1		
919	12.315	7.30	2.433	18.62	0.42	16.05	217.6		
925	12.366	7.34	2.433	15.43	0.77	16.20	205.7		
931	12.410	7.36	2.429	18.55	0.45	16.33	188.4	2.5	
936	12.453	7.37	2.426	11.61	0.44	16.48	171.8		
942	12.507	7.39	2.426	11.79	0.34	16.68	127.4		
947	12.537	7.40	2.429	10.63	0.96	16.62	98.8		
953	12.583	7.41	2.427	10.69	0.35	16.67	70.9		
959	12.624	7.41	2.428	8.39	0.28	16.74	38.5		
1007	12.675	7.42	2.429	6.44	0.32	16.69	1.9		
1014	12.708	7.43	2.429	6.56	0.27	16.73	-17.2		
1020	12.740	7.43	2.427	6.06	0.25	16.65	-25.8		
1025	12.766	7.43	2.426	6.09	0.26	16.61	-25.0		
1037	start	sample collection			~20	IPEC			
1046	end	sample collection							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
flow meter	1
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl

~2.75 gal purged

WELL ID: MW49-4
SAMPLE ID: 016

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Mostly cloudy, 60's F

PROJECT NO: 01.0017869.91
DATE: 5/6/09
SAMPLER(S): AA/MB
PUMP DEPTH: 37.0 ft

WATER QUALITY: DTW - 12.27'

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
915	14.729								
1212	14.952	Pump on						1.6	
1221	14.842	7.59	2.169	5.26	1.87	17.27	163.9		
1227	14.820	7.59	2.159	2.75	0.94	17.48	166.8		
1232	14.778	7.59	2.155	3.11	0.84	17.52	165.3		
1237	14.758	7.59	2.154	2.88	0.59	17.54	164.5	1.0	
1244	14.686	7.59	2.153	2.81	0.56	17.54	163.3		
1250	14.696	7.59	2.152	2.91	0.50	17.56	160.9	<1.0	
1258	14.652	7.59	2.151	2.79	0.53	17.56	159.2		
1303	14.661	7.59	2.151	2.85	0.53	17.59	158.4		
1308	start sample collection				→ SC IPEC				
1427	end sample collection								

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
flow meter	4
turbidity meter	200701254

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl.

WELL ID: MW49-65
SAMPLE ID: 6020016

GZA GeoEnvironmental of New York
Low-Flow Sampling Data Sheet

CLIENT Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Mostly cloudy, 60's F

PROJECT NO: 01.0017869.91
DATE: 5/6/09
SAMPLER(S): AA/MB
PUMP DEPTH: 61.0 ft

WATER QUALITY: 12.34 = DTW

Time	circle one: DTW or [✓ GW Elevation]	pH (SU)	Specific Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (g/l)	Temp (°C)	ORP	Rate (gal/hr)	Notes
904	13.606								
1037	14.091	Pump on.							
1046	Pump off								
1047	Pump on							1.0	
1059	14.630	7.32	1.992	—	9.78	15.52	79.5		
1109	14.023	7.34	2.029	6.85	8.00	15.68	5.7	<1.0	
1115	13.984	7.36	2.027	5.49	8.07	15.62	20.0		
1123	13.980	7.37	2.035	4.26	7.98	15.76	11.6		
1128	13.983	7.37	2.038	4.71	7.99	15.83	52.3		
1133	13.938	7.38	2.039	5.35	8.78	15.85	60.7		
1138	13.911	7.38	2.041	4.09	7.88	15.91	60.5		
1143	13.903	7.39	2.043	4.48	8.20	15.90	54.0		
1149	13.895	7.39	2.042	3.24	8.38	15.95	37.1		
1155	13.850	7.40	2.044	3.09	8.23	15.93	9.3		
1201	13.785	7.40	2.045	3.55	8.28	16.07	25.6		
1206	13.771	7.40	2.047	4.12	6.95	16.09	38.0		
1211	13.742	7.40	2.049	2.54	7.33	16.26	3.3		
1216	13.665	7.40	2.050	2.69	6.96	16.42	-3.4		
1221	13.650	7.40	2.045	2.76	6.99	16.86	-10.1		
1226	13.648	7.40	2.052	2.53	7.37	17.01	-6.6		
1231	13.652	7.40	2.053	2.62	6.78	17.17	-1.1		

1234 start sample collection - 2 L 1 PEC
1518 end sample collection

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	
flow meter	
turbidity meter	200701054

NOTES AND OBSERVATIONS:

Depth and Depth to Water (DTW) measurements are given in feet from top of casing.

Groundwater Elevation measurements are given in feet msl

~0.65 gal purged.

WELL ID: MW 54-37

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: P. Cloudy 60's

PROJECT NO: [illegible]2
DATE: 5/6/09
SAMPLER S: AA/MB

SAMPLING INTERVAL (depth in ft below top of casing): 29.0 to 42.0

SAMPLING PORT: 37

TOTAL VOLUME PURGED: 3.[illegible]5 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

6

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive Vent Cycle (seconds)	Drive Pressure (psi)
1050	0	PUMP	ON					6/4	19
1100	0.4	7.30	2.144	—	0.35	2086	-107.9		
1110	1.0	7.46	2.164	—	0.30	20.99	-58.8		
1117	1.5	7.49	2.165	0.39	0.30	21.00	-30.0		
1124	2.0	7.48	2.168	0.40	0.30	21.02	-16.2		
1129	2.2	7.48	2.170	0.38	0.31	21.02	-15.4		
1134	2.6	7.48	2.172	0.40	0.32	21.02	-14.9		
1139	3.0	7.48	2.174	0.37	0.32	21.03	-14.5	↓	↓
1140		START	SAMPLE COLLECTION						
1151		SAMPLE	COMPLETED : 2 L IPEC						
1151		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

WELL ID: MW 54-58

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER P. Cloudy 60's

PROJECT NO. [illegible] 2
DATE 5/6/09
SAMPLER(S) AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)

51.5 to 64.0

SAMPLING PORT

58 S

TOTAL VOLUME PURGED: 3.35 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1050	0	PUMP	ON					6/4	19
1100	0.4	7.18	1.705	—	1.00	20.54	-71.1		
1110	0.9	7.32	1.702	—	0.38	20.65	-60.3		
1117	1.1	7.33	1.713	3.25	0.33	20.68	-56.8		
1124	1.5	7.35	1.723	1.44	0.30	20.70	-53.5		
1129	1.9	7.35	1.730	1.93	0.29	20.71	-50.0		
1134	2.2	7.36	1.734	1.55	0.28	20.73	-48.7		
1143	2.8	7.36	1.741	1.88	0.26	20.76	-46.2		
1150	3.0	7.37	1.747	1.91	0.25	20.77	-45.0		
1156	3.2	7.38	1.750	1.93	0.25	20.78	-44.8		
1158		START	SAMPLE	COLLECTION					
1213		SAMPLE	COMPLETED		: 2 L	IPEC			
1213		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 54-123

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER P. Cloudy 60's

PROJECT NO [illegible]2
DATE 5/6/09
SAMPLER(S) AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)
116.0 to 126.0

TOTAL VOLUME PURGED: 1.55 gal

PURGE RATE: variable (gal/min)

SAMPLING PORT
123 4

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1050	0	PUMP	ON					6/4	19
1100	0.01	6.12	1.788	—	1.16	20.28	-57.4		
1110	0.10	6.52	1.772	—	0.47	20.41	-94.4		
1117	0.20	6.72	1.772	1.65	0.34	20.45	-104.9		
1124	0.40	6.90	1.772	1.68	0.30	20.50	-110.4		
1129	0.50	7.00	1.772	1.32	0.28	20.52	-110.7		
1134	0.60	7.02	1.772	1.88	0.27	20.52	-113.9		
1143	0.80	7.06	1.773	1.90	0.25	20.58	-114.8		
1150	1.00	7.08	1.773	1.98	0.22	20.60	-111.9		
1156	1.20	7.09	1.774	2.01	0.21	20.60	-111.7		
1202	1.40	7.09	1.774	1.97	0.21	20.63	-111.7	↓	↓
1204		START	SAMPLE COLLECTION						
1240		SAMPLE	COMPLETED :	2 L IPEC					
1240		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 54 - 144

SAMPLE ID 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC

SITE Buchanan, NY

WEATHER P. Sunny 60's

PROJECT NO [illegible]42

DATE 5/6/09

SAMPLER(S) AA/MB

SAMPLING INTERVAL (depth in ft below top of casing)

135.0 to 155.5

SAMPLING PORT

144

3

TOTAL VOLUME PURGED: 2.70 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive Vent Cycle (seconds)	Drive Pressure (psi)
0918	0	PUMP	ON					8/4	49
0926	0.25	6.85	1.829	—	0.44	20.94	-80.8	↓	↓
0934	0.55	7.22	1.812	—	0.30	20.78	-48.8		
0944	1.10	7.33	1.814	1.28	0.27	20.54	-23.1		
0950	1.60	7.35	1.816	0.68	0.25	20.42	-15.7		
0955	2.00	7.37	1.819	0.62	0.25	20.38	-15.7		
1003	2.40	7.35	1.821	0.60	0.26	20.34	-16.2		
1008	2.60	7.36	1.824	0.66	0.27	20.30	-16.9		
1009		START	SAMPLE COLLECTION						
1023		SAMPLE	COMPLETED:		2 L	IPEC			
1023		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 54-173

SAMPLE ID 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC
SITE Buchanan, NY
WEATHER P. Sunny 60's

PROJECT NO [illegible]
DATE 5/6/09
SAMPLER S AA/MO

SAMPLING INTERVAL (depth in ft below top of casing)
170.5 to 182.0

TOTAL VOLUME PURGED: 2.85 gal

PURGE RATE: variable (gal/min)

SAMPLING PORT
173

2

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive Vent Cycle (seconds)	Drive Pressure (psi)
0918	0	PUMP	ON					8/4	42
0925	0.25	6.53	1.815	—	1.63	20.94	-73.3		
0934	0.55	7.21	1.820	—	0.49	20.78	-76.0		
0944	1.10	7.36	1.817	2.69	0.28	20.60	-58.3		
0950	1.60	7.39	1.816	0.68	0.24	20.50	-45.1		
0955	1.90	7.42	1.817	2.65	0.24	20.40	-40.0		
1003	2.40	7.40	1.817	2.65	0.24	20.37	-40.9		
1008	2.75	7.39	1.817	2.60	0.22	20.31	-41.6	↓	↓
1010		START	SAMPLE	COLLECTION					
1024		SAMPLE	COMPLETED	: 2 L	IPEC				
1024		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 54 190

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT Entergy - IPEC

SITE Buchanan, NY

WEATHER P. Sunny 60's

PROJECT NO [illegible]2

DATE 5/6/09

SAMPLER S: AA / MB

SAMPLING INTERVAL (depth in ft below top of casing)

185.0 to 203.6

SAMPLING PORT

190

TOTAL VOLUME PURGED: 2.35 gal

PURGE RATE: variable (gal/min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0918	0	PUMP	ON					8/4	42
0925	0.25	6.09	1912	—	1.18	20.92	-30.8	↓	↓
0934	0.55	6.75	1.863	—	0.55	20.82	-40.2		
0944	1.0	7.00	1.857	1.61	0.40	20.61	-80.8		
0950	1.45	7.06	1.855	1.60	0.39	20.54	-63.5		
0955	1.55	7.08	1.855	2.69	0.36	20.45	-54.2		
1003	1.95	7.12	1.854	2.65	0.33	20.33	-54.2		
1008	2.25	7.10	1.855	2.60	0.33	20.31	-54.2		
1011		START	SAMP	LE COL	LECTION				
1027		SAMPLE	COMP	LETED:	2 L	IPEC			
1027		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	|
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/7/09
GZA Engineers: Miguel Britos
Angela Altieri

GZA Engineer:	Miguel Britos	Angela Altieri
Time Arrived onSite:	0630	
Time Left Site:	1630	

Weather: Cloudy, Showers 60's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-51-104	IPEC	2 L	poly			
↓ ↓ -135	↓	↓	↓			
↓ ↓ -163	↓	↓	↓			
↓ ↓ -189	↓	↓	↓			
↓ ↓ -40	↓	↓	↓			
↓ ↓ -79	↓	↓	↓			

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-51	✓		Reset time (standard)	

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

WELL ID: MW 51 - 189

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.92
DATE: 5/7/09
SAMPLER(S): M.B

SAMPLING INTERVAL (depth in ft below top of casing)

184.2 to 197.8

SAMPLING PORT

189

TOTAL VOLUME PURGED: 2.90 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1025	0	PUMP	ON					5.6/5.6	70
1030	0.1	6.86	1.622	–	1.39	13.52	-221.4	5.6/5.6	70
1035	0.6	7.08	1.632	–	0.65	13.00	-253.3	5.6/5.6	48
1042	0.75	7.10	1.631	–	0.48	13.31	-258.6	↓	50
1049	1.0	7.12	1.628	6.45	0.38	13.41	-274.5		
1055	1.25	7.16	1.616	7.82	0.34	13.48	-289.8		
1102	1.40	7.16	1.614	8.44	0.29	13.43	-276.8		
1111	1.75	7.16	1.608	8.91	0.29	13.43	-284.5		
1121	2.20	7.17	1.602	7.31	0.26	13.54	-260.1		
1129	2.50	7.18	1.599	7.26	0.26	13.60	-254.8		
1134	2.75	7.18	1.598	7.17	0.25	13.62	-262.6		
1140		START SAMPLE COLLECTION							
1155		SAMPLE COMPLETED			: 2 L	IPEC			
1155		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

WELL ID: MW 51-163

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.92
DATE: 5/7/09
SAMPLER(S): M.B

SAMPLING INTERVAL (depth in ft below top of casing)

154.7 to 166.2

SAMPLING PORT

163

2

TOTAL VOLUME PURGED: 2.25 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1025	0	PUMP	ON					5.6/5.6	70
1030	0.1	6.59	2.021	—	2.09	13.35	-179.6	5.6/5.6	70
1035	0.4	6.85	2.046	—	1.06	13.04	-159.1	5.6/5.6	48
1042	0.55	6.77	2.051	—	0.85	13.49	-269.9	↓	50
1049	0.75	6.77	2.056	42.34	0.86	13.59	-299.6		↓
1055	0.85	6.85	2.052	89.39	0.80	13.72	-332.7		
1102	1.0	6.91	2.048	55.78	0.65	13.70	-361.4		
1111	1.20	6.92	2.044	32.86	0.50	13.81	-370.0		
1121	1.50	6.93	2.043	23.69	0.45	13.90	-360.6		
1129	1.75	6.94	2.043	21.39	0.43	14.00	-356.8		
1134	1.90	6.94	2.042	20.80	0.41	14.10	-355.4		
1141	2.0	6.94	2.042	20.07	0.40	14.15	-351.5		
1146	2.10	6.94	2.042	20.19	0.39	14.18	-347.2		
1147		START SAMPLE COLLECTION							
1209		SAMPLE COMPLETED : 2 L IPEC							
1209		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 51 - 135

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.92
DATE: 5/7/09
SAMPLER(S): M.B.

SAMPLING INTERVAL (depth in ft below top of casing)

130.2 to 143.7

SAMPLING PORT

135

3

TOTAL VOLUME PURGED: 2.40 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1035	0	PUMP	ON					56/56	48
1043	0.1	6.85	2.200	—	2.69	13.40	-175.1	↓	50
1050	0.4	7.08	2.240	—	1.20	13.29	-151.8		↓
1056	0.7	7.11	2.258	4.03	0.80	13.26	-126.4		
1103	1.0	7.12	2.261	3.70	0.60	13.25	-119.1		
1113	1.4	7.13	2.262	0.81	0.59	13.30	-121.3		
1123	1.8	7.13	2.262	3.22	0.51	13.37	-119.4		
1131	2.1	7.14	2.264	3.16	0.50	13.40	-116.9		
1136	2.25	7.15	2.264	3.18	0.49	13.43	-116.4		
1140		START	SAMPLE	COLLECTION					
1153		SAMPLE	COMPLETED	: 2 L	IPEC				
1153		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

WELL ID: MW SL-104

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.92
DATE: 5/7/09
SAMPLER(S): M.B.

SAMPLING INTERVAL (depth in ft below top of casing)

101.2 to 111.2

SAMPLING PORT

104

4

TOTAL VOLUME PURGED: 4.85 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1035	0	PUMP ON						5.6/56	48
1043	0.4	6.72	2.475	—	1.27	12.99	-166.6		50
1050	0.9	6.85	2.518	—	1.02	12.94	-133.7		
1056	1.4	6.90	2.516	5.47	0.90	12.90	-100.5		
1103	2.0	6.92	2.513	0.75	0.88	12.89	-190.0		
1113	2.75	6.96	2.515	1.50	0.87	12.91	-126.9		
1123	3.30	6.97	2.520	0.00	0.86	12.94	-120.7		
1131	4.0	6.98	2.520	0.00	0.84	13.02	-120.7		
1136	4.70	6.99	2.519	0.00	0.83	13.03	-118.6	↓	↓
1140		START SAMPLE COLLECTION							
1148		SAMPLE COMPLETED : 2L IPEC							
1148		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

WELL ID: MW ____ - ____

SAMPLE ID: ____________

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

MW-51-40 (011)

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.91
DATE: 5/7/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)
29.7 to 44.2

SAMPLING PORT
40

7

TOTAL VOLUME PURGED: 2.65 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (^{0}C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1305	0	PUMP	ON					6.5/8.4	25
1315	0.3	7.04	2.454	—	3.82	14.02	-149.1		
1320	0.5	7.05	2.462	0.56	3.81	14.09	-133.9		
1321		PUMP	OFF						
1327		PUMP	ON						
1330	0.70	7.07	2.491	1.62	3.97	13.80	-131.4		
1336	1.0	7.06	2.489	1.34	4.24	13.64	-112.9		
1346	1.4	7.05	2.486	1.01	4.35	13.83	-114.5		
1352	1.75	7.05	2.495	0.84	4.32	13.83	-113.9		
1359	2.0	7.04	2.497	1.19	4.40	13.82	-107.6		
1408	2.3	7.05	2.504	1.23	4.42	13.84	-109.1		
1413	2.50	7.05	2.506	1.24	4.40	13.87	-109.7	↓	↓
1414		START SAMPLE COLLECTION							
1427		SAMPLE COMPLETED : 2 L IPEC							
1427		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200704293

NOTES AND OBSERVATIONS:

WELL ID: MW 51-79

SAMPLE ID: 011

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Cloudy, showers 60's

PROJECT NO: 01.0017869.92
DATE: 5/7/09
SAMPLER(S): M. BRITTO

SAMPLING INTERVAL (depth in ft below top of casing)

63.2 to 81.2

SAMPLING PORT

79

6

TOTAL VOLUME PURGED: 2.35 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1305	0	PUMP	ON					6.5/8.4	25
1315	0.1	6.78	2.424	—	1.19	15.29	-188.5		
1320	0.15	6.90	2.436	11.43	1.40	15.01	-176.4		
1325	0.30	7.09	2.468	18.89	1.64	13.68	-153.1		
1330	0.55	7.07	2.449	23.25	1.56	14.09	-144.8		
1336	0.75	7.14	2.461	16.71	1.55	14.20	-130.8		
1346	1.0	7.16	2.458	10.89	1.46	14.34	-110.9		
1352	1.15	7.16	2.468	11.94	1.52	14.36	-108.8		
1359	1.40	7.16	2.472	14.43	1.56	14.23	-101.0		
1408	1.65	7.17	2.477	8.24	1.55	15.49	-85.3		
1430	2.0	7.17	2.480	9.08	1.56	14.60	-78.0		
1436	2.1	7.17	2.479	9.15	1.58	14.66	-76.8		
1441	2.2	7.17	2.478	9.09	1.59	14.69	-75.2	↓	↓
1443		START	SAMPLE		COLLECTION				
1510		SAMPLE	COMPLETED		: 2 L		IPEC		
1510		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	4
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/8/09
GZA Engineers: Miguel Britos
Angela Ahern

GZA Engineer:	Miguel Britos	Angela Ahern
Time Arrived onSite:	0630	
Time Left Site:	1530	

Weather: Sunny 70's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-40	✓		All levels. Reset to standard time	
MW-38	✓		Reset Time	
MW-48-23	✓	✓	" "	
MW-48-37	✓		" "	
I-2	✓		Used 2 different transducers but neither	
			are working correctly. See installation logs	

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Bring van back into PA. Secured MW-51 samples for shipping.

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	BATTERY ~~Clean/Kept Lines? Notes/ Wastewater~~ %	Time ~~New Tubing?~~ Reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83			69.207										
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26			14.230										
MW-58-65			14.250										
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18			12.810										
MW-62-37			12.810										
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48			68.856										
MW-65-80			68.841										
MW-66-21			13.407										
MW-66-36			13.364										
MW-107	5/8/09		142.757	22.340	120.417	120.353	15.558		✓	74	✓		5746, running
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
I-2	5/8/09		82.230	29.800	52.430				✓				11972, ABEND
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519										
J3-4S			13.943										
J3-T1			8.518										
J3-T2			8.512										
J3-C1			18.060										
IR-1			18.496										
)UT-1			11.891										
!W-1			75.822										

U1-CSS

20,073

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Battery ~~Clear Vent Lines? N=No W=water~~ %	Time ~~[illegible]~~ ~~Testing~~ reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18 619										
MW-34			18 071										
MW-35			18 444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11 670										
MW-37-22			14.852										
MW-37-32			14 791										
MW-37-40			14 852										
MW-37-57			14.788										
MW-38	5/8/09		13 999	10.120	3879	3 850	28.393		✓	100	✓		#4386, running
MW-41-40			54.130										
MW-41-63			54 130										
MW-42-49			69 419										
MW-42-78			69 524										
MW-43-28			48 021										
MW-43-62			47 821										
MW-44-67			93 020										
MW-44-102			93 090										
MW-45-42			53 196										
MW-45-61			53.217										
MW-46			16 970										
MW-47-56			69.805										
MW-47-80			69.742										
MW-48-23	5/8/09		14.759	12.100	2.659	2.661	9.912		✓	100 new	✓	✓	3048 ABEND, running
MW-48-37	5/8/09		15.189	12.600	2.589	2.435	23693		✓	100	✓		6095, running
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14 457										
MW-50-42			14.453										
MW-50-66			14.614										
W-52-11			16.283										
W-53-82			69.930										
W-53-120			70.190										
W-55-24			17.770										
W-55-35			17.770										
W-55-54			17.770										
W-56-53			69.322										

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-48-23
SHEET: 1 of 1
FILE NO.: 01.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
GZA ENGINEER: M. Britos

PSI CAPACITY: 30
SERIAL NUMBER: 3048
CASING DIAMETER (INCH): 2

DATUM: MSL
DATE: 5/8/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: –
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

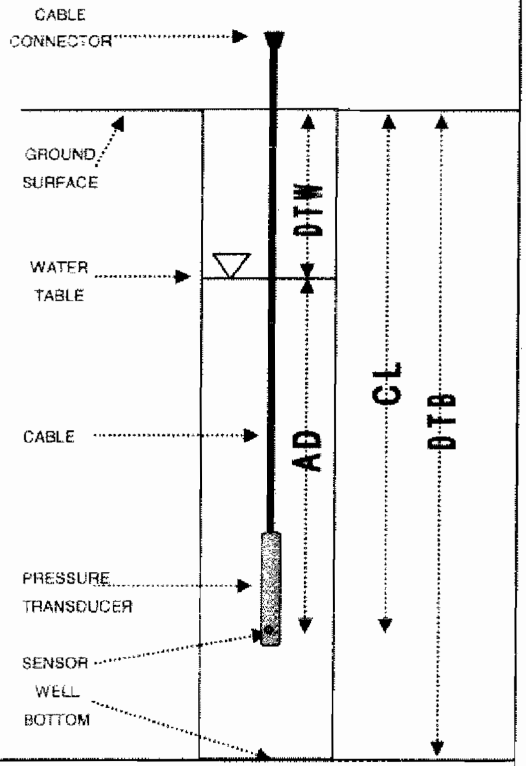
ELEVATION OF MEASURING POINT: 14.759 FT A.S.L.
DEPTH TO WATER: – 12.100 FT
REFERENCE ELEVATION: = 2.659 FT A.S.L.

TIME OF MEASUREMENT: 1055 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 12.100 FT
ACTUAL DEPTH: + 9.912 FT
THEORETICAL CABLE LENGTH: = ______ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-48-23
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1055 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Abend test. Replace batt. Reset time. Start test

GZA

WELL ID: MW-48-23

1 of 2

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID I - 2
SHEET 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
GZA ENGINEER M. Beifas

PSI CAPACITY 30
SERIAL NUMBER 11972
CASING DIAMETER (INCH) 2

DATUM MSL
DATE 5/8/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION) 29.89

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: +
DISTANCE FROM CASING TO GROUND (+ OR -): ____ FT
MEASURED CABLE LENGTH: ____ FT

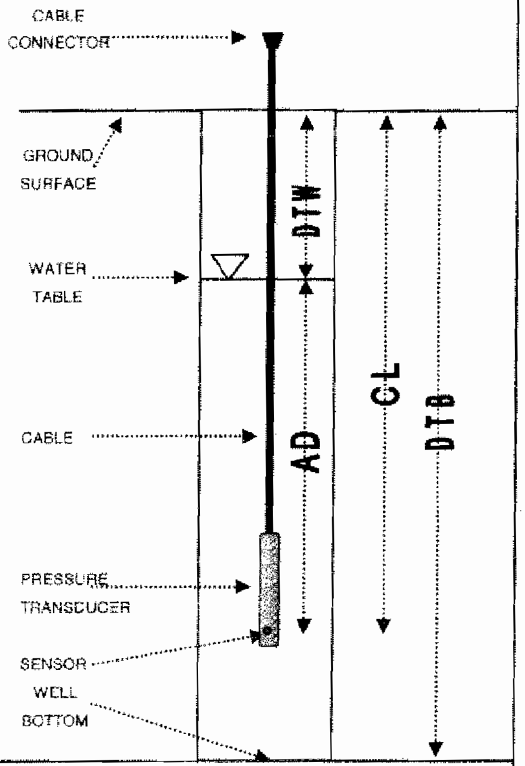
ELEVATION OF MEASURING POINT: 82.230 FT A.S.L.
DEPTH TO WATER: − 29.800 FT
REFERENCE ELEVATION: = 52.430 FT A.S.L.

TIME OF MEASUREMENT: 1350 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: ____ FT
ACTUAL DEPTH: + ____ FT
THEORETICAL CABLE LENGTH: = ____ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: I - 2
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1350 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES:
Found Test ABEND. Replaced batteries. New Test.
Transducer not reading accurately. Replace Transducer.

GZA
WELL ID: I - 2

2 of 2

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID I-2
SHEET 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
GZA ENGINEER M. Bartos

PSI CAPACITY 30
SERIAL NUMBER 9411
CASING DIAMETER (INCH) 2

DATUM MSL
DATE 5/2/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: +
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

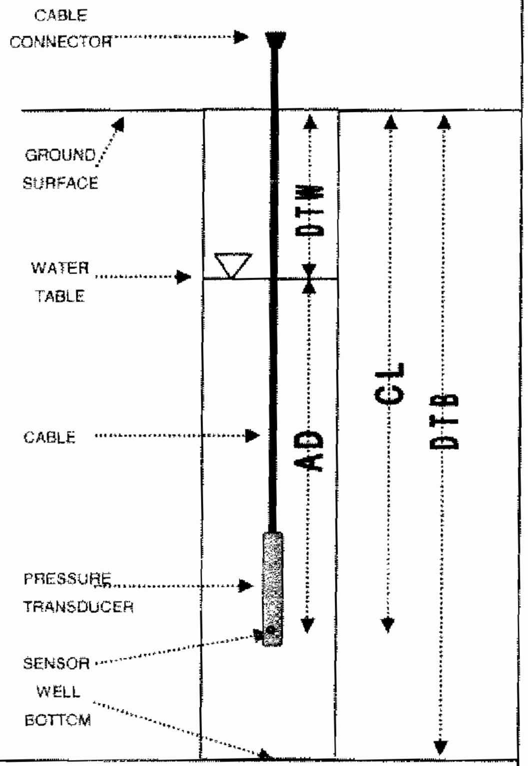
ELEVATION OF MEASURING POINT: 82.230 FT A.S.L.
DEPTH TO WATER: − 29.750 FT
REFERENCE ELEVATION: = 52.480 FT A.S.L.

TIME OF MEASUREMENT: 2.31 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: ______ FT
ACTUAL DEPTH: + ______ FT
THEORETICAL CABLE LENGTH: = ______ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: I-2
LOGGING INTERVAL: 20 MIN
TEST START TIME: 2.31 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Install a different transducer
Transducer not reading correctly.
Leave Test running.

GZA

WELL ID: I-2

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/11/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten
Time Arrived onSite:	0630	
Time Left Site:	1530	

Weather: Sunny 60's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-65-48	✓	✓	Worked on rusted manhole cover.	
MW-65-80	✓			
MW-56-53	✓		Lubricate manhole cover, works ok.	
MW-56-83	✓			
MW-47-56	✓			
MW-47-80	✓			
MW-43-28	✓			
MW-43-62	✓			
MW-41-40	✓			
MW-41-63	✓			
MW-45-42	✓			
MW-45-61	✓	✓		

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Checked all transducers against a DTW level.

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Battery ~~Clear Vent Lines? N=No W=water~~	Time ~~Datalog?~~ reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38	5/8/09		13.999	10.120	3879	3.850	28.393		✓	100	✓		#4386, running
MW-41-40	5/11/09		54.130	20.910	33.220	33.166	15.081	+0.054	✓	100	✓		6321, running
MW-41-63	5/11/09		54.130	23.950	30.180	30.192	17.522	-0.012	✓	100	✓		5977, running
MW-42-49			69.419										
MW-42-78			69.524										
MW-43-28	5/11/09		48.021	15.200	32.821	32.815	11.716	+0.006	✓	100	✓		11331, running
MW-43-62	5/11/09		47.821	16.200	31.621	31.843	37.466	-0.222	✓	100	✓		16236, running
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	5/11/09		53.196	22.690	30.506	30.517	18.382	-0.011	✓	100	✓	✓	6082, running
MW-45-61	5/11/09		53.217	23.210	30.007	29.861	38.012	+0.146	✓	.25	✓	✓	16930, batt replaced
MW-46			16.970										
MW-47-56	5/11/09		69.805	44.01	25.795	25.708	6.422	+0.087	✓	81	✓		15843, Running
MW-47-80	5/11/09		69.742	43.640	26.102	26.187	7.514	-0.085	✓	92	✓		9445, Running
MW-48-23	5/8/09		14.759	12.100	2.659	2.661	9.912	-0.002	✓	100 new	✓	✓	3048 ABEND, running
MW-48-37	5/8/09		15.189	12.600	2.589	2.435	23693	+0.154	✓	100	✓		6095, running
W-49-26			14.171										
W-49-42			14.223										
W-49-65			14.457										
W-50-42			14.453										
W-50-66			14.614										
W-52-11			16.283										
W-53-82			69.930										
W-53-120			70.190										
W-55-24			17.770										
W-55-35			17.770										
W-55-54			17.770										
W-56-53	5/11/09		69.322	44.83	24.492	24.458	14.678	+0.034	✓	100	✓		16499, Running

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	BATTERY ~~Clear Vent Lines?~~ %	Time ~~New Tubing?~~ Reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83	5/11/09		69.207	44.46	24.747	24.642	39.396	+0.105	✓	100	✓		16394, Running
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26			14.230										
MW-58-65			14.250										
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18			12.810										
MW-62-37			12.810										
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48	5/11/09		68.856	31.55	37306	37.297	8.761	+0.009	✓	100	✓		13993, Running
MW-65-80	5/11/09		68.841	35.02	33821	33.590	36843	-0.231	✓	13%			8264, Replace batteries,
MW-66-21			13.407										
MW-66-36			13.364										
MW-107	5/8/09		142.757	22.340	120.417	120.353	15.558		✓	74	✓		5746, running
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
I-2	5/8/09		82.230	29.800	52.430				✓				11972, ABEND
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519										
J3-4S			13.943										
J3-T1			8.518										
J3-T2			8.512										
J3-C1			18.060										
IR-1			18.496										
JUT-1			11.891										
W-1			75.822										

U1-CSS 20073

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-45-61
SHEET: 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
GZA ENGINEER: M. Britos

PSI CAPACITY: 30
SERIAL NUMBER: 16930
CASING DIAMETER (INCH): 1

DATUM: MSL
DATE: 5/11/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

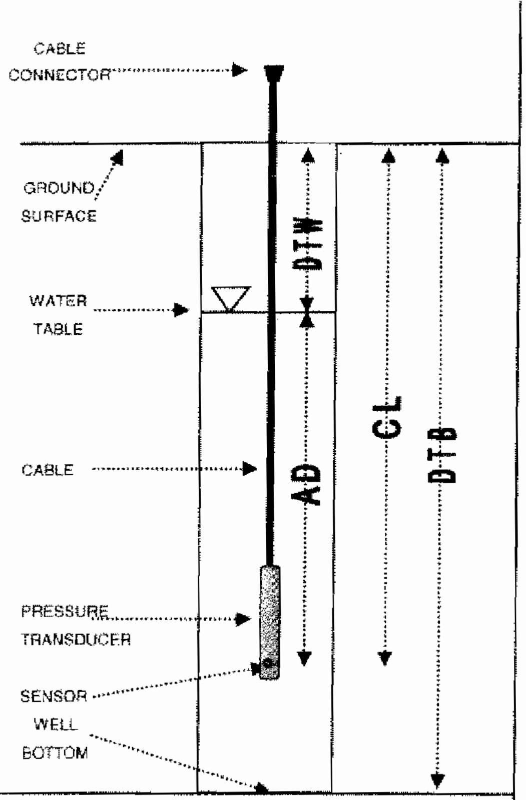
ELEVATION OF MEASURING POINT: 53.217 FT A.S.L.
DEPTH TO WATER: − 23.22 FT
REFERENCE ELEVATION: = 29.997 FT A.S.L.

TIME OF MEASUREMENT: 1500 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 23.220 FT
ACTUAL DEPTH: + 38.064 FT
THEORETICAL CABLE LENGTH: = 61.284 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-45-61
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1500 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Replaced batteries. Start new test.

GZA

WELL ID: MW-45-61

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-65-80
SHEET: 1 of 1
FILE NO.: 01.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER: 9264
CASING DIAMETER (INCH): 1
DATUM: MSL
DATE: 5/11/09
GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

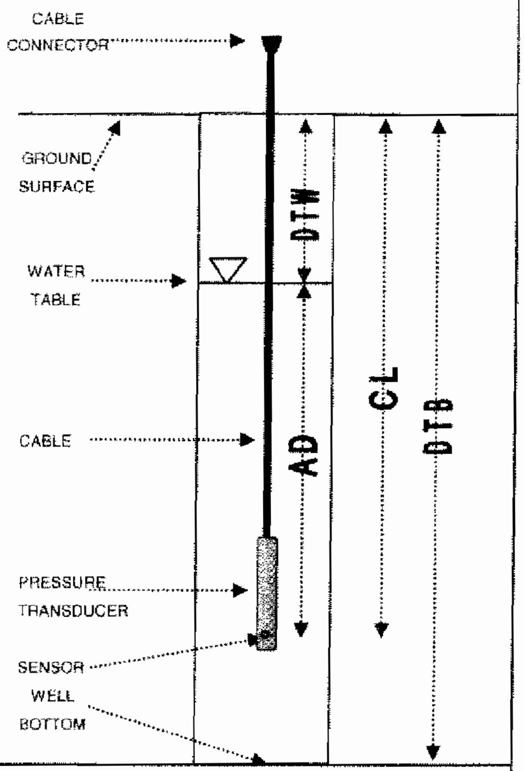
ELEVATION OF MEASURING POINT: 68.841 FT A.S.L.
DEPTH TO WATER: − 35.000 FT
REFERENCE ELEVATION: = 33.841 FT A.S.L.

TIME OF MEASUREMENT: 1125 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 35.000 FT
ACTUAL DEPTH: + 36.860 FT
THEORETICAL CABLE LENGTH: = ______ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-65-80
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1125 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Battery cap. 13%. Replaced batteries. Reset transducer.

GZA

WELL ID: MW-65-80

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/12/09
GZA Engineers: Miguel Britos
Angela Altieri

GZA Engineer:	Miguel Britos	Angela Altieri
Time Arrived onSite:	0630	
Time Left Site:	1530	

Weather: Sunny 70°F

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		
MW-67	✓		All 7 levels	
MW-32	✓		" " "	
MW-31	✓		" 3 levels - did not download. Will go back	
MW-42-49	✓			
MW-42-78	✓	✓		
MW-53-82	✓			
MW-53-120	✓			
MW-66-21	✓			
MW-66-36	✓			
I-2	✓		Just to check if it was logging.	

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	BATTERY ~~Clear Vent Lines? N=NO W=water~~ %	Time ~~New Tubing?~~ Reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	5/11/09		69.207	44.46	24.747	24.642	39.396	+0.105	✓	100	✓		16394, Running
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26			14.230										
MW-58-65			14.250										
MW-59-32			14.410										
MW-59-45			13.900										
MW-59-68			14.230										
MW-62-18			12.810										
MW-62-37			12.810										
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48	5/11/09		68.856	31.55	37306	37.297	8.761	+0.009	✓	100	✓		13993, Running
MW-65-80	5/11/09		68.841	35.02	33821	33.590	36843	-0.231	✓	13%	✓	✓	8264, Replace batteries,
MW-66-21	5/12/09		13.407	11.70	1.707	1.855	9.083	-0.148	✓	86	✓		15849, run
MW-66-36	5/12/09		13.364	11.41	1.954	2.011	15.350	-0.057	✓	87	✓		11840, run
MW-107	5/8/09		142.757	22.340	120.417	120.353	15.558		✓	74	✓		5746, running
MW-108			14.230										
MW-109			14.254										
MW-111			18.380										
I-2	5/8/09		82.230	29.800	52.430				✓				11972, ABEND
J3-1			13.495										
J3-2			14.114										
J3-3			14.599										
J3-4D			14.519										
J3-4S			13.943										
J3-T1			8.518										
J3-T2			8.512										
J3-C1			18.060										
IR-1			18.496										
UT-1			11.891										
W-1			75.822										

U1-CSS 20073

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Battery ~~Clear Vent Lines? N=NO W=water~~ %	Time ~~Testing?~~ reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers. etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38	5/8/09		13.999	10.120	3879	3 850	28.393		✓	100	✓		#4386, running
MW-41-40	5/11/09		54.130	20.910	33.220	33.166	15.081	+0.054	✓	100	✓		6321, running
MW-41-63	5/11/09		54.130	23.950	30.180	30.192	17.522	-0.012	✓	100	✓		5977, running
MW-42-49	5/12/09		69.419	34.820	34.599	34.587	13.750	+0.012	✓	77	✓		11978, running
MW-42-78	5/12/09		69.524	33.200	36.324	36.156	44.569	+0.168	✓	33	✓	✓	16626, batteries replaced
MW-43-28	5/11/09		48.021	15.200	32.821	32.815	11.716	+0.006	✓	100	✓		11331, running
MW-43-62	5/11/09		47.821	16.200	31.621	31.843	37.466	-0.222	✓	100	✓		16236, running
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	5/11/09		53.196	22.690	30.506	30.517	18.382	-0.011	✓	100	✓		6082, running
MW-45-61	5/11/09		53.217	23.210	30.007	29.861	38.012	+0.146	✓	.25	✓	✓	16930, batt replaced
MW-46			16.970										
MW-47-56	5/11/09		69.805	44.01	25.795	25.708	6.422	+0.087	✓	81	✓		15843, Running
MW-47-80	5/11/09		69.742	43.640	26.102	26.187	7.514	-0.085	✓	92	✓		9445, Running
MW-48-23	5/8/09		14.759	12.100	2.659	2.661	9.912	-0.002	✓	100 new	✓	✓	3048 ABEND, running
MW-48-37	5/8/09		15.189	12.600	2.589	2.435	23693	+0.154	✓	100	✓		6095, running
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
IW-50-42			14.453										
IW-50-66			14.614										
IW-52-11			16.283										
IW-53-82	5/12/09		69.930	58.300	11.630	11.637	23.091	-0.007	✓	76	✓		11897, running
IW-53-120	5/12/09		70.190	58.960	11.230	11.168	59.296	+0.062	✓	76	✓		6097, run
IW-55-24			17.770										
W-55-35			17.770										
W-55-54			17.770										
W-56-53	5/11/09		69.322	44.83	24.492	24.458	14.678	+0.034	✓	100	✓		16499, Running

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-42-78
SHEET 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
GZA ENGINEER M. Britos

PSI CAPACITY 30 psia
SERIAL NUMBER 16626
CASING DIAMETER (INCH) 1

DATUM MSL
DATE 5/12/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

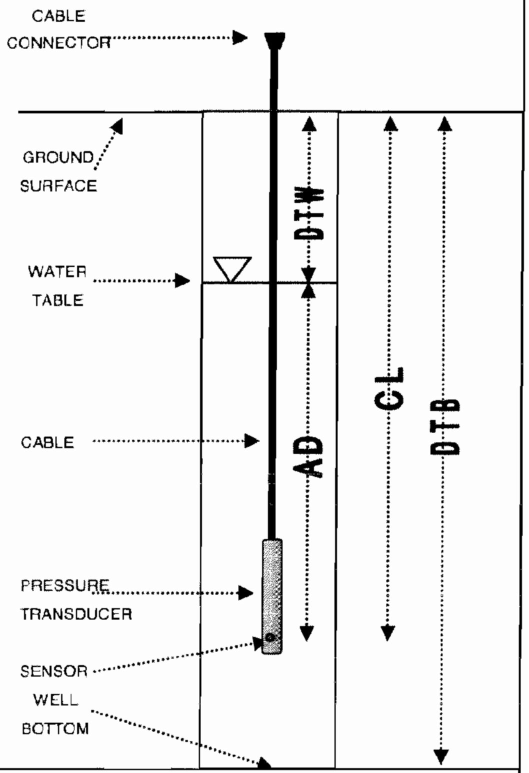
ELEVATION OF MEASURING POINT: 69.524 FT A.S.L.
DEPTH TO WATER: − 33.200 FT
REFERENCE ELEVATION: = 36.324 FT A.S.L.

TIME OF MEASUREMENT: 1048 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 33.200 FT
ACTUAL DEPTH: + 44.599 FT
THEORETICAL CABLE LENGTH: = 77.799 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-42-78
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1048 HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Replaced batt. (33%). New Test.

GZA

WELL ID: MW-42-78

Project: Radiological Groundwater Sampling Program
Client: Enterqy Nuclear NorthEast
Site: **INDIAN POINT ENERGY CENTER**
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/13/09
GZA Engineers: Miguel Britos
Angela Alban

GZA Engineer:	Miguel Britos	Angela Alban
Time Arrived onSite:	0630	
Time Left Site:	1530	

Weather: Sunny 70's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		
MW-59-45	✓	✓		
MW-108	✓			
MW-109	✓	✓		
MW-58-26	✓	✓		
MW-58-65	✓	✓		
W3-3	✓	✓		
U3-4Dn	✓	✓		
U3-4S	✓			
U3-C1	✓			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	BATTERY ~~Clear Vent Lines? NaHO, Wwater~~ %	Time ~~New Tubing?~~ Reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83	5/11/09		69.207	44.46	24.747	24.642	39.396	+0.105	✓	100	✓		16394, Running
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26	5/13/09		14.230	5.910	8.390	8.359	19.276	-0.039	✓	1	✓	✓	3114, Replace batt.
MW-58-65	5/13/09		14.250	6.280	7.970	8.280	62.242	-0.310	✓	96	✓	✓	5619, Reset
MW-59-32			14.410										
MW-59-45	5/13/09		13.900	10.300	3.600	5.634	68.954	-2.034	✓	79	✓	✓	14340, Reset
MW-59-68			14.230										
MW-62-18			12.810										
MW-62-37			12.810										
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48	5/11/09		68.856	31.55	37306	37.297	8.761	+0.009	✓	100	✓		13993, Running
MW-65-80	5/11/09		68.841	35.02	33821	33.590	36.843	-0.231	✓	13%	✓	✓	8264, Replace batteries,
MW-66-21	5/12/09		13.407	11.70	1.707	1.855	9.083	-0.148	✓	86	✓		15849, run
MW-66-36	5/12/09		13.364	11.41	1.954	2.011	15.350	-0.057	✓	87	✓		11840, run
MW-107	5/8/09		142.757	22.340	120.417	120.353	15.558		✓	74	✓		5746, running
MW-108	5/13/09		14.230	4.780	9.450	9.195	6.322	+0.255	✓	68	✓		20738, run.
MW-109	5/13/09		14.254	5.390	8.864	16.085	13.017	-7.221	✓	88	✓		15214, Reset -7.221 off
MW-111			18.380										
-2	5/8/09		82.230	29.800	52.430				✓				11972, ABEND
J3-1			13.495										
J3-2			14.114										
J3-3	5/13/09		14.599	6.470	8.129	8.470	9.257	-0.341	✓	100	✓	✓	4318, Reset
J3-4D	5/13/09		14.519	10.180	4.339	4.858	50.871	-0.519	✓	25	✓	✓	14301 Replaced batt.
J3-4S	5/13/09		13.943	9.640	4.303	4.379	7.020	-0.076	✓	100	✓		9401, run
J3-T1			8.518										
J3-T2			8.512										
J3-C1	5/13/09		18.060	13.40	4.660	4.535	7.848	+0.125	✓	100	✓		5548, run.
IR-1			18.496										
UT-1			11.891										
W-1			75.822										

U1-CSS

20073

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Battery/ ~~Clear Vent Lines? N=NO W=water~~	Time reset	Reset Transducer? Installation Log?	Follow up Required? issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38	5/8/09		13.999	10.120	3879	3.850	28.393		✓	100	✓		#4386, running
MW-41-40	5/11/09		54.130	20.910	33.220	33.166	15.081	+0.054	✓	100	✓		6321, running
MW-41-63	5/11/09		54.130	23.950	30.180	30.192	17.522	-0.012	✓	100	✓		5977, running
MW-42-49	5/12/09		69.419	34.820	34.599	34.587	13.750	+0.012	✓	77	✓		11978, running
MW-42-78	5/12/09		69.524	33.200	36.324	36.156	44.569	+0.168	✓	33	✓	✓	16626, batteries replaced
MW-43-28	5/11/09		48.021	15.200	32.821	32.815	11.716	+0.006	✓	100	✓		11331, running
MW-43-62	5/11/09		47.821	16.200	31.621	31.843	37.466	-0.222	✓	100	✓		16236, running
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	5/11/09		53.196	22.690	30.506	30.517	18.382	-0.011	✓	100	✓	✓	6082, running
MW-45-61	5/11/09		53.217	23.210	30.007	29.861	38.012	+0.146	✓	.25	✓	✓	16930, batt replaced
MW-46			16.970										
W-47-56	5/11/09		69.805	44.01	25.795	25.708	6.422	+0.087	✓	81	✓		15843, Running
W-47-80	5/11/09		69.742	43.640	26.102	26.187	7.514	-0.085	✓	92	✓		9445, Running
W-48-23	5/8/09		14.759	12.100	2.659	2.661	9.912	-0.002	✓	100 new	✓	✓	3048 ABEND, running
W-48-37	5/8/09		15.189	12.600	2.589	2.435	23693	+0.154	✓	100	✓		6095, running
W-49-26			14.171										
W-49-42			14.223										
W-49-65			14.457										
W-50-42			14.453										
W-50-66			14.614										
W-52-11			16.283										
W-53-82	5/12/09		69.930	58.300	11.630	11.637	23.091	-0.007	✓	76	✓		11897, running
W-53-120	5/12/09		70.190	58.960	11.230	11.168	59.296	+0.062	✓	76	✓		6097, run
W-55-24			17.770										
W-55-35			17.770										
W-55-54			17.770										
W-56-53	5/11/09		69.322	44.83	24.492	24.458	14.678	+0.034	✓	100	✓		16499, Running

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID: MW-59-45
SHEET: 1 of 1
FILE NO.: 01.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
GZA ENGINEER: M. Britos

PSI CAPACITY: 30
SERIAL NUMBER: 14340
CASING DIAMETER (INCH): 1

DATUM: MSL
DATE: 5/13/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ____ FT
MEASURED CABLE LENGTH: ____ FT

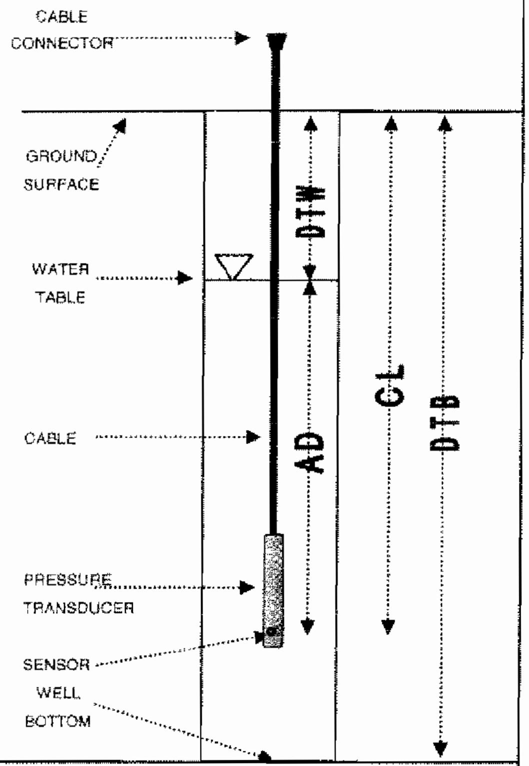
ELEVATION OF MEASURING POINT: 13.900 FT A.S.L.
DEPTH TO WATER: − 10.320 FT
REFERENCE ELEVATION: = 3.580 FT A.S.L.

TIME OF MEASUREMENT: 1608 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 10.320 FT
ACTUAL DEPTH: + 68.978 FT
THEORETICAL CABLE LENGTH: = ____ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-59-45
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1608 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Off by -2.034. Reset. Start new test.

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-109
SHEET 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY
SERIAL NUMBER 15214
CASING DIAMETER (INCH)
DATUM MSL
DATE
GZA ENGINEER

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND:
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH: FT

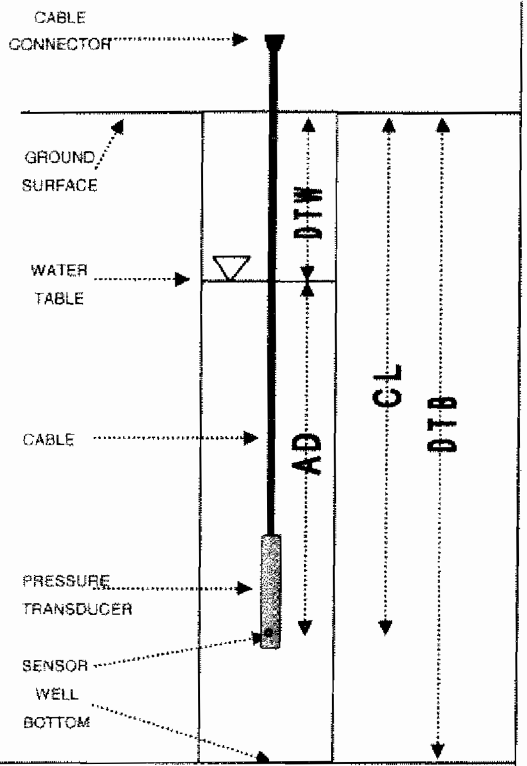
ELEVATION OF MEASURING POINT: 14.254 FT A.S.L.
DEPTH TO WATER: − 5.410 FT
REFERENCE ELEVATION: = 8.844 FT A.S.L.

TIME OF MEASUREMENT: 1532 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 5.410 FT
ACTUAL DEPTH: + 13.053 FT
THEORETICAL CABLE LENGTH: = FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-109
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1532 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Transducer off by -7.221. Reset. Start new test.

GZA
WELL ID: MW-109

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-58-65
SHEET 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
GZA ENGINEER M. Britos

PSI CAPACITY 30
SERIAL NUMBER 5619
CASING DIAMETER (INCH) 1

DATUM MSL
DATE 5/13/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

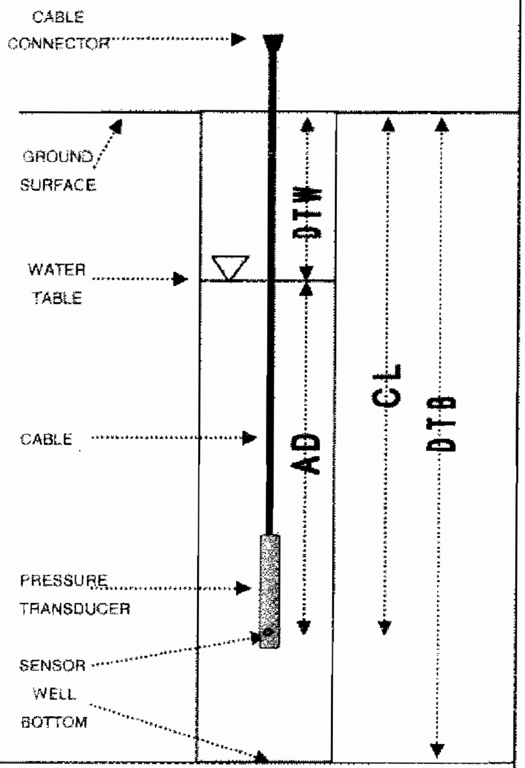
ELEVATION OF MEASURING POINT: 14.250 FT A.S.L.
DEPTH TO WATER: − 6.280 FT
REFERENCE ELEVATION: = 7.970 FT A.S.L.

TIME OF MEASUREMENT: 1454 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 6.280 FT
ACTUAL DEPTH: + 62.242 FT
THEORETICAL CABLE LENGTH: = 68.522 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-58-65
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1454 HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: off by -0.310. Recal. Start new test.

GZA

WELL ID: MW-56-65

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-58-26
SHEET: 1 of 1
FILE NO.: 01.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
GZA ENGINEER: M. Britos

PSI CAPACITY: 30
SERIAL NUMBER: 3114
CASING DIAMETER (INCH): 2

DATUM: MSL
DATE: 5/13/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

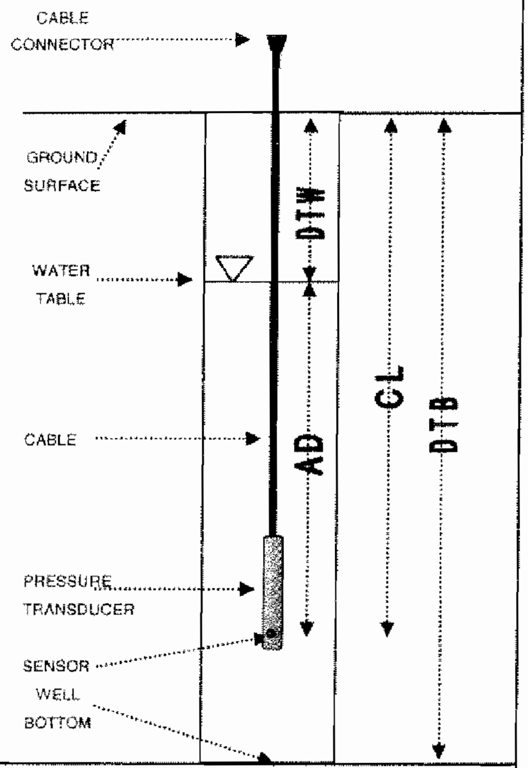
ELEVATION OF MEASURING POINT: 14.230 FT A.S.L.
DEPTH TO WATER: − 5.800 FT
REFERENCE ELEVATION: = 8.430 FT A.S.L.

TIME OF MEASUREMENT: 1443 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 5.800 FT
ACTUAL DEPTH: + 19.370 FT
THEORETICAL CABLE LENGTH: = 25.170 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-58-26
LOGGING INTERVAL: 20 MIN
TEST START TIME: 14.43 HRS



LEGEND:
- **DTW** - DEPTH TO WATER
- **DTB** - DEPTH TO BOTTOM OF WELL
- **AD** - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
- **CL** - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Batteries 1% remaining. Replaced batteries and start new test.

GZA

WELL ID: MW-58-26

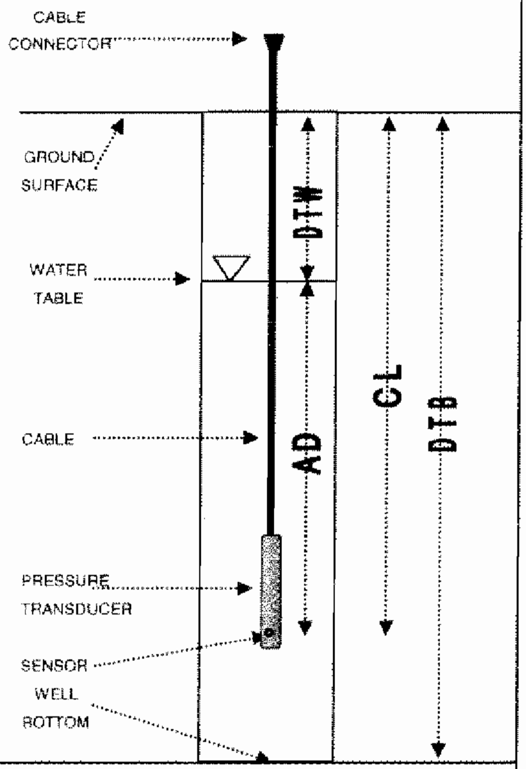
GZA GEOENVIRONMENTAL OF NEW YORK 440 NINTH AVENUE, 18th FLOOR NEW YORK, NEW YORK 10001 SCIENTISTS AND ENGINEERS	Client Entergy Indian Point Energy Center	WELL ID U3-3 SHEET 1 of 1 FILE NO. 01.0017869.92 PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
GZA ENGINEER M. Britos
PSI CAPACITY 30
SERIAL NUMBER 4318
CASING DIAMETER (INCH) 6
DATUM MSL
DATE 5/13/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND:	below	
DISTANCE FROM CASING TO GROUND (+ OR -):		FT
MEASURED CABLE LENGTH:		FT
ELEVATION OF MEASURING POINT:	14.599	FT A.S.L.
DEPTH TO WATER:	− 6.460	FT
REFERENCE ELEVATION:	= 8.139	FT A.S.L.
TIME OF MEASUREMENT:	1333	HRS
MEASUREMENT TAKEN FROM:	TOC	
DEPTH TO WATER:	6.460	FT
ACTUAL DEPTH:	+ 9.260	FT
THEORETICAL CABLE LENGTH:	= 15.720	FT
HAVE CLOCKS BEEN SYNCHRONIZED?	☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?	☑	check
TEST NAME:	U3-3	
LOGGING INTERVAL:	20	MIN
TEST START TIME:	1333	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Reset transducer. -0.341 off. New test running.

GZA WELL ID: U3-3

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

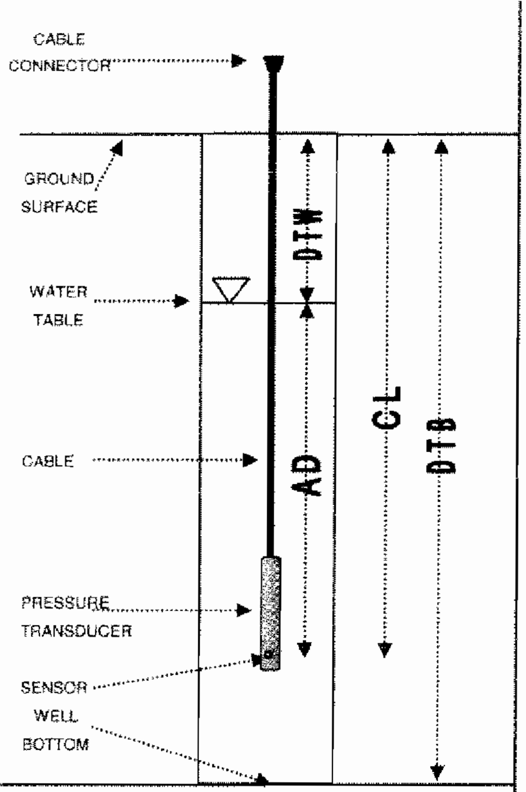
WELL ID: U3-4D n
SHEET: 1 of 1
FILE NO.: 01.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30 psia
SERIAL NUMBER: 14301
CASING DIAMETER (INCH): 4
DATUM: MSL
DATE: 5/13/09
GZA ENGINEER: M. Butos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If tranaducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND:	below	
DISTANCE FROM CASING TO GROUND (+ OR -):		FT
MEASURED CABLE LENGTH:		FT
ELEVATION OF MEASURING POINT:	14.519	FT A.S.L.
DEPTH TO WATER:	− 10.170	FT
REFERENCE ELEVATION:	= 4.349	FT A.S.L.
TIME OF MEASUREMENT:	1228	HRS
MEASUREMENT TAKEN FROM:	TOC	
DEPTH TO WATER:	10.17	FT
ACTUAL DEPTH:	+ 50.858	FT
THEORETICAL CABLE LENGTH:	= 61.028	FT
HAVE CLOCKS BEEN SYNCHRONIZED?	☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?	☑	check
TEST NAME:	U3-4D n	
LOGGING INTERVAL:	20	MIN
TEST START TIME:	1228	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Batt 25 %. Replaced and start new test.

GZA

WELL ID: U3-4D n

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/14/09
GZA Engineers: Miguel Britos
Angela Altieri

GZA Engineer:	Miguel Britos	Angela Altieri
Time Arrived onSite:	0630	
Time Left Site:	0930	

Weather: Cloudy, showers 60's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	ACTIVITY (check) Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-59-32	✓	✓		
MW-59-68	✓	✓		

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Left site in the morning to go to another assignment.
Also all day friday the 15th, all day away.

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	BATTERY ~~Clear Vent Lines? NAWG, Waterlevel~~ %	Time ~~New Tubing?~~ Reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	5/11/09		69.207	44.46	24.747	24.642	39.396	+0.105	✓	100	✓		16394, Running
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26	5/13/09		14.230	5.910	8.390	8.359	19.276	-0.039	✓	1	✓	✓	3114, Replace batt
MW-58-65	5/13/09		14.250	6.280	7.970	8.280	62.242	-0.310	✓	96	✓	✓	5619, Reset
MW-59-32	5/14/09		14.410	13.070	1.340	1.515	47.167	-0.175	✓	21	✓	✓	16489, Replaced batt
MW-59-45	5/13/09		13.900	10.300	3.600	5.634	68.954	-2.034	✓	79	✓	✓	14340, Reset
MW-59-68	5/14/09		14.230	11.190	3.040	-1.616	64.574	+4.656	✓	23	✓	✓	14361, Replaced batt
MW-62-18			12.810										
MW-62-37			12.810										
MW-63-18			13.059										
MW-63-34			13.059										
MW-65-48	5/11/09		68.856	31.55	37306	37.297	8.761	+0.009	✓	100	✓		13993, Running
MW-65-80	5/11/09		68.841	35.02	33821	33.590	36843	-0.231	✓	13%	✓	✓	8264, Replace batteries,
MW-66-21	5/12/09		13.407	11.70	1 707	1.855	9.083	-0.148	✓	86	✓		15849, run
MW-66-36	5/12/09		13.364	11.41	1.954	2.011	15.350	-0.057	✓	87	✓		11840, run
MW-107	5/8/09		142.757	22.340	120.417	120.353	15.558		✓	74	✓		5746, running
MW-108	5/13/09		14.230	4.780	9.450	9.195	6.322	+0.255	✓	68	✓		20738, run.
MW-109	5/13/09		14.254	5.390	8.864	16.085	13.017	-7.221	✓	88	✓		15214, Reset: -7.221 add
MW-111			18.380										
I-2	5/8/09		82.230	29.800	52.430				✓				11972, ABEND
J3-1			13.495										
J3-2			14.114										
J3-3	5/13/09		14.599	6.470	8.129	8.470	9.257	-0.341	✓	100	✓	✓	4318, Reset
J3-4D	5/13/09		14.519	10.180	4.339	4.858	50.871	-0.519	✓	25	✓	✓	14301 Replaced batt.
J3-4S	5/13/09		13.943	9.640	4.303	4.379	7.020	-0.076	✓	100	✓		9401, run
J3-T1			8.518										
J3-T2			8.512										
J3-C1	5/13/09		18.060	13.40	4.660	4.535	7.848	+0.125	✓	100	✓		5548, run.
R-1			18.496										
UT-1			11.891										
W-1			75.822										

U1-CSS 20073

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Battery ~~Clear Vent Lines? N=NO W=water~~ %	Time ~~Testing?~~ reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38	5/8/09		13.999	10.120	3879	3.850	28.393		✓	100	✓		#4386, running
MW-41-40	5/11/09		54.130	20.910	33.220	33.166	15.081	+0.054	✓	100	✓		6321, running
MW-41-63	5/11/09		54.130	23.950	30.180	30.192	17.522	-0.012	✓	100	✓		5977, running
MW-42-49	5/12/09		69.419	34.820	34.599	34.587	13.750	+0.012	✓	77	✓		11978, running
MW-42-78	5/12/09		69.524	33.200	36.324	36.156	44.569	+0.168	✓	33	✓	✓	16626, batteries replaced
MW-43-28	5/11/09		48.021	15.200	32.821	32.815	11.716	+0.006	✓	100	✓		11331, running
MW-43-62	5/11/09		47.821	16.200	31.621	31.843	37.466	-0.222	✓	100	✓		16236, running
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	5/11/09		53.196	22.690	30.506	30.517	18.382	-0.011	✓	100	✓	✓	6082, running
MW-45-61	5/11/09		53.217	23.210	30.007	29.861	38.012	+0.146	✓	.25	✓	✓	16930, batt replaced
MW-46			16.970										
MW-47-56	5/11/09		69.805	44.01	25.795	25.708	6.422	+0.087	✓	81	✓		15843, Running
MW-47-80	5/11/09		69.742	43.640	26.102	26.187	7.514	-0.085	✓	92	✓	✓	9445, Running
MW-48-23	5/8/09		14.759	12.100	2.659	2.661	9.912	-0.002	✓	100 new	✓	✓	3048 ABEND, running
MW-48-37	5/8/09		15.189	12.600	2.589	2.435	23.693	+0.154	✓	100	✓		6095, running
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
W-50-42			14.453										
W-50-66			14.614										
W-52-11			16.283										
W-53-82	5/12/09		69.930	58.300	11.630	11.637	23.091	-0.007	✓	76	✓		11897, running
W-53-120	5/12/09		70.190	58.960	11.230	11.168	59.296	+0.062	✓	76	✓		6097, run
W-55-24			17.770										
W-55-35			17.770										
W-55-54			17.770										
W-56-53	5/11/09		69.322	44.83	24.492	24.458	14.678	+0.034	✓	100	✓		16499, Running

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-59-32
SHEET: 1 of 1
FILE NO.: 01.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
GZA ENGINEER: M. Britos

PSI CAPACITY: 30
SERIAL NUMBER: 16489
CASING DIAMETER (INCH): 1

DATUM: MSL
DATE: 5/14/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

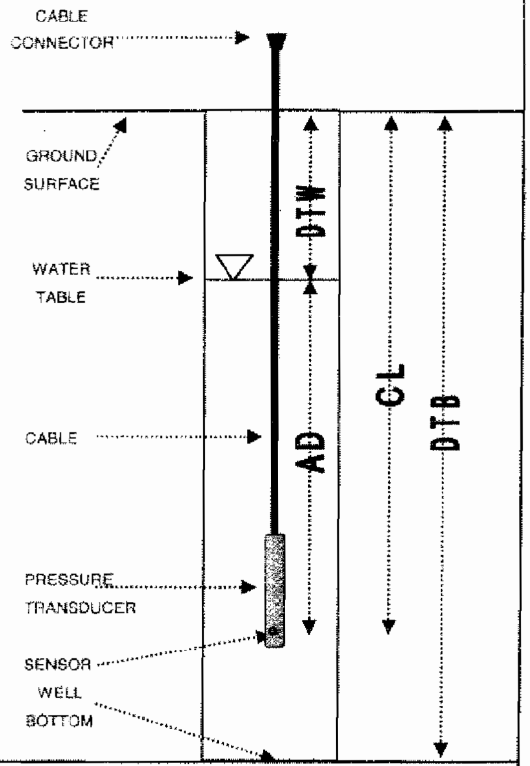
ELEVATION OF MEASURING POINT: 14.410 FT A.S.L.
DEPTH TO WATER: − 13.170 FT
REFERENCE ELEVATION: = 1.240 FT A.S.L.

TIME OF MEASUREMENT: 0833 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 13.170 FT
ACTUAL DEPTH: + 47.010 FT
THEORETICAL CABLE LENGTH: = ______ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-59-32
LOGGING INTERVAL: 20 MIN
TEST START TIME: 0833 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Batt 21%. Replaced. Start new test

GZA

WELL ID: MW-59-32

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-59-68
SHEET: 1 of 1
FILE NO.: 01.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER: 14361
CASING DIAMETER (INCH): 1
DATUM: MSL
DATE: 5/14/09
GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

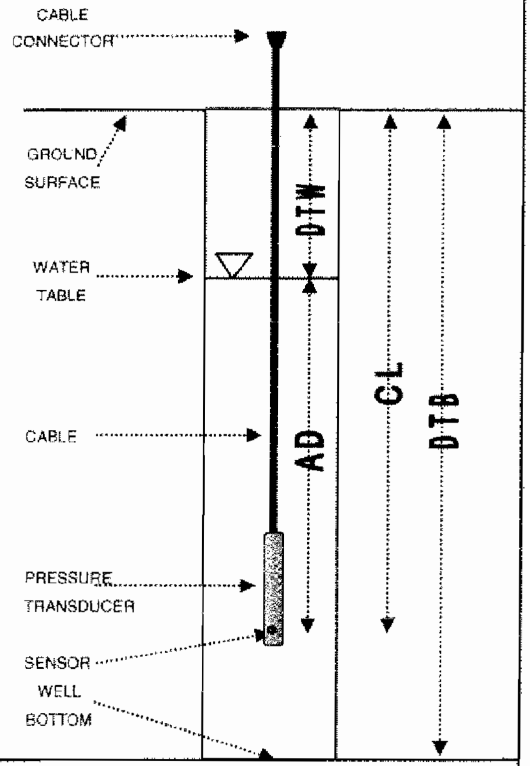
ELEVATION OF MEASURING POINT: 14.230 FT A.S.L.
DEPTH TO WATER: 1129 − ~~10.940~~ FT
REFERENCE ELEVATION: 2940 = 3.970 FT A.S.L.

TIME OF MEASUREMENT: 0859 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 11.290 FT
ACTUAL DEPTH: + 64.585 FT
THEORETICAL CABLE LENGTH: = 75.875 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-59-68 n
LOGGING INTERVAL: 20 MIN
TEST START TIME: 0859 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Batteries 23%. Replaced. Start new test.

GZA

WELL ID: MW-59-68 n

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/18/09
GZA Engineers: Miguel Britos
Angela Athen

GZA Engineer:	Miguel Britos	Angela Athen
Time Arrived onSite:	0630	
Time Left Site:	1330	

Weather: M. Cloudy 50's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-60-35	✓			
-53	✓			
55	✓			
72	✓			
135	✓			
154	✓			
176	✓		Batt 0%, Replaced batt but still shows 0%	✓
MW-63-50	✓			
-91	✓			
-93	✓			
-112	✓			
-121	✓			
-163	✓		Batt 27%. Replaced batteries + start new test.	
-174	✓			
MW-63-18	✓			
MW-63-34	✓	✓		

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Leave site early for OSHA refresher.
There might be an issue with datalogger MW-60-176. I spent some time on it but still doesn't work properly. Could you check the data and let me know if the data is okay or not. I don't have any extra dataloggers. I can't replace it.

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	BATTERY ~~Clear Vent Lines? NaHO, Wwater~~ %	Time ~~New Tubing?~~ Reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83	5/11/09		69.207	44.46	24.747	24.642	39.396	+0.105	✓	100	✓		16394, Running
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26	5/13/09		14.230	5.910	8.390	8.359	19.276	-0.039	✓	1	✓	✓	3114, Replace batt.
MW-58-65	5/13/09		14.250	6.280	7.970	8.280	62.242	-0.310	✓	96	✓	✓	5619, Reset
MW-59-32	5/14/09		14.410	13.070	1.340	1.515	47.167	-0.175	✓	21	✓	✓	16489, Replaced batt
MW-59-45	5/13/09		13.900	10.300	3.600	5.634	68.954	-2.034	✓	79	✓	✓	14340, Reset
MW-59-68	5/14/09		14.230	11.190	3.040	-1.616	64.574	+4.656	✓	23	✓	✓	14361, Replaced batt
MW-62-18			12.810										
MW-62-37			12.810										
MW-63-18	5/18/09		13.059	12.330	0.729	0.738	5.186	-0.009	✓	100	✓	~~✓~~	16104, run
MW-63-34	5/18/09		13.059	12.200	0.859	0.919	14.005	-0.060	✓	27	✓	✓	5359, Replace battery
MW-65-48	5/11/09		68.856	31.55	37306	37.297	8.761	+0.009	✓	100	✓		13993, Running
MW-65-80	5/11/09		68.841	35.02	33821	33.590	36843	-0.231	✓	13%	✓	✓	8264, Replace batteries,
MW-66-21	5/12/09		13.407	11.70	1.707	1.855	9.083	-0.148	✓	86	✓		15849, run
MW-66-36	5/12/09		13.364	11.41	1.954	2.011	15.350	-0.057	✓	87	✓		11840, run
MW-107	5/13/09		142.757	22.340	120.417	120.353	15.558		✓	74	✓		5746, running
MW-108	5/13/09		14.230	4.780	9.450	9.195	6.322	+0.255	✓	68	✓		20738, run.
MW-109	5/13/09		14.254	5.390	8.864	16.085	13.017	-7.[illegible]	✓	88	✓		15214, Reset : -7.221 off
MW-111			18.380										
-2	5/18/09		82.230	29.800	52.430				✓				11972, ABEND
J3-1			13.495										
J3-2			14.114										
J3-3	5/13/09		14.599	6.470	8.129	8.470	9.257	-0.341	✓	100	✓	✓	4318, Reset
J3-4D	5/13/09		14.519	10.180	4.339	4.858	50.871	-0.519	✓	25	✓	✓	14301 Replaced batt.
J3-4S	5/13/09		13.943	9.640	4.303	4.379	7.020	-0.076	✓	100	✓		9401, run
J3-T1			8.518										
J3-T2			8.512										
J3-C1	5/13/09		18.060	13.40	4.660	4.535	7.848	+0.125	✓	100	✓		5548, run.
R-1			18.496										
UT-1			11.891										
W-1			75.822										

U1-CSS 20073

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Battery ~~Clear Vent Lines? N=NO W=water~~	Time reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33			18.619										
MW-34			18.071										
MW-35			18.444										
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38	5/8/09		13.999	10.120	3879	3.850	28.393		✓	100	✓		#4386, running
MW-41-40	5/11/09		54.130	20.910	33.220	33.166	15.081	+0.054	✓	100	✓		6321, running
MW-41-63	5/11/09		54.130	23.950	30.180	30.192	17.522	-0.012	✓	100	✓		5977, running
MW-42-49	5/12/09		69.419	34.820	34.599	34.587	13.750	+0.012	✓	77	✓		11978, running
MW-42-78	5/12/09		69.524	33.200	36.324	36.156	44.569	+0.168	✓	33	✓	✓	16626, batteries replaced
MW-43-28	5/11/09		48.021	15.200	32.821	32.815	11.716	+0.006	✓	100	✓		11331, running
MW-43-62	5/11/09		47.821	16.200	31.621	31.843	37.466	-0.222	✓	100	✓		16236, running
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	5/11/09		53.196	22.690	30.506	30.517	18.382	-0.011	✓	100	✓		6082, running
MW-45-61	5/11/09		53.217	23.210	30.007	29.861	38.012	+0.146	✓	25	✓	✓	16930, batt replaced
MW-46			16.970										
MW-47-56	5/11/09		69.805	44.01	25.795	25.708	6.422	+0.087	✓	81	✓		15843, Running
MW-47-60	5/11/09		69.742	43.640	26.102	26.187	7.514	-0.085	✓	92	✓		9445, Running
MW-48-23	5/8/09		14.759	12.100	2.659	2.661	9.912	-0.002	✓	100 new	✓	✓	3048 ABEND, running
MW-48-37	5/8/09		15.189	12.600	2.589	2.435	23693	+0.154	✓	100	✓		6095, running
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11			16.283										
MW-53-82	5/12/09		69.930	58.300	11.630	11.637	23.091	-0.007	✓	76	✓		11897, running
MW-53-120	5/12/09		70.190	58.960	11.230	11.168	59.296	+0.062	✓	76	✓		6097, run
MW-55-24			17.770										
MW-55-35			17.770										
MW-55-54			17.770										
MW-56-53	5/11/09		69.322	44.83	24.492	24.458	14.678	+0.034	✓	100	✓		16499, Running

GZA GEOENVIRONMENTAL OF NEW YORK	Client	WELL ID	MW-63-34
440 NINTH AVENUE, 18th FLOOR	Entergy	SHEET	1 of 1
NEW YORK, NEW YORK 10001	Indian Point Energy Center	FILE NO.	01.0017869.92
SCIENTISTS AND ENGINEERS		PROJECT LOCATION	Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
GZA ENGINEER M. Britos
PSI CAPACITY 30
SERIAL NUMBER 5359
CASING DIAMETER (INCH) 1
DATUM MSL
DATE 5/18/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): FT
MEASURED CABLE LENGTH: FT

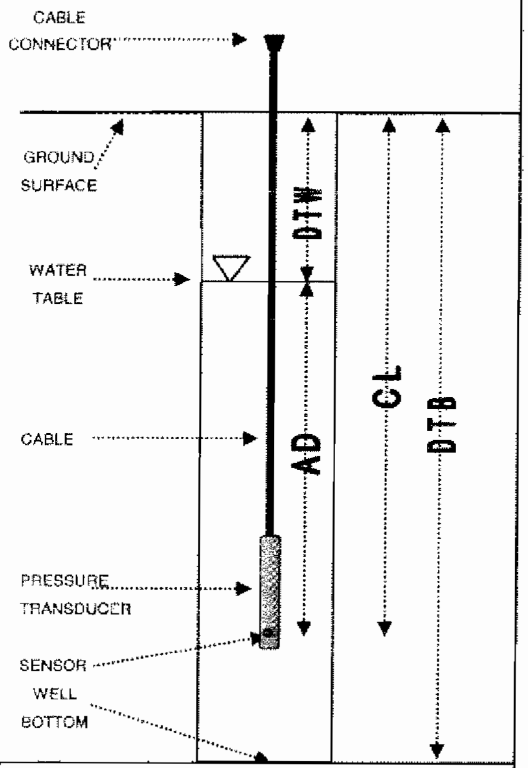
ELEVATION OF MEASURING POINT: 13.059 FT A.S.L.
DEPTH TO WATER: − 12.400 FT
REFERENCE ELEVATION: = 0.659 FT A.S.L.

TIME OF MEASUREMENT: 11.05 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 12.400 FT
ACTUAL DEPTH: + 13.845 FT
THEORETICAL CABLE LENGTH: = 26.245 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-63-34
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1105 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/TOP OF CASING

NOTES: Batt 27%. Starts new test. Replaced batt.

GZA

WELL ID: MW-63-34

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: **INDIAN POINT ENERGY CENTER**
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/19/09
GZA Engineers: Miguel Britos
Angela Athen

GZA Engineer:	Miguel Britos	Angela Athen	**Weather:** Sunny 50's
Time Arrived onSite:	0630		
Time Left Site:	1330		

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		
MW-55-24	✓			
MW-55-35	✓			
MW-55-54	✓			
MW-35	✓			
MW-34	✓			
MW-33	✓			
MW-111	✓			
MW-52-11	✓	✓		
MW-52-18	✓			
-48	✓			
-64	✓			
-118	✓			
-122	✓			
-162	✓			
-181	✓			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Battery/ Clear Vent Lines? N=NO W=water %	Time ~~Testing?~~ reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33	5/19/09		18.619	7.870	10.749	10.872	17.544	-0.123	✓	58	✓		5385, run
MW-34	5/19/09		18.071	?		7.084	18.345		✓	55	✓		3894,
MW-35	5/19/09		18.444	7.670	10.774	10.746	17.773	-0.002	✓	58	-		195, run time was already si
MW-36-24			11.598										
MW-36-40			11.754										
MW-36-52			11.670										
MW-37-22			14.852										
MW-37-32			14.791										
MW-37-40			14.852										
MW-37-57			14.788										
MW-38	5/8/09		13.999	10.120	3879	3.850	28.393		✓	100	✓		#4386, running
MW-41-40	5/11/09		54.130	20.910	33.220	33.166	15.081	+0.054	✓	100	✓		6321, running
MW-41-63	5/11/09		54.130	23.950	30.180	30.192	17.522	+0.012	✓	100	✓		5977, running
MW-42-49	5/12/09		69.419	34.820	34.599	34.587	13.750	+0.012	✓	77	✓		11978, running
MW-42-78	5/12/09		69.524	33.200	36.324	36.156	44.569	+0.168	✓	33	✓	✓	16626, batteries replaced
MW-43-28	5/11/09		48.021	15.200	32.821	32.815	11.716	+0.006	✓	100	✓		11331, running
MW-43-62	5/11/09		47.821	16.200	31.621	31.843	37.466	-0.222	✓	100	✓		16236, running
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	5/11/09		53.196	22.690	30.506	30.517	18.382	-0.011	✓	100	✓		6082, running
MW-45-61	5/11/09		53.217	23.210	30.007	29.861	38.012	+0.146	✓	25	✓	✓	16930, batt replaced
MW-46			16.970										
MW-47-56	5/11/09		69.805	44.01	25.795	25.708	6.422	+0.087	✓	81	✓		15843, Running
MW-47-80	5/11/09		69.742	43.640	26.102	26.187	7.514	-0.085	✓	92	✓		9445, Running
MW-48-23	5/8/09		14.759	12.100	2.659	2.661	9.912	-0.002	✓	100 new	✓	✓	3048 ABEND, running
MW-48-37	5/8/09		15.189	12.600	2.589	2.435	23693	+0.154	✓	100	✓		6095, running
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42			14.453										
MW-50-66			14.614										
MW-52-11	5/19/09		16.283	8.100	8.183	8.608	2.377	-0.425	✓	100			14150
MW-53-62	5/12/09		69.930	58.300	11.630	11.637	23.091	-0.007	✓	76	✓		11897, running
MW-53-120	5/12/09		70.190	58.960	11.230	11.168	59.296	+0.062	✓	76	✓		6097, run
MW-55-24	5/19/09		17.770	9.490	8.280	8.281	6.328	-0.001	✓	81	✓		13988, run
MW-55-35	5/19/09		17.770	9.930	7.840	7.781	23.780	+0.059	✓	29	✓		3414, run
MW-55-54			17.770	9.570	8.910	8.114	41.163	+0.086	✓	97	✓		20801, run
MW-56-53	5/11/09		69.322	44.83	24.492	24.458	14.678	+0.034	✓	100	✓		16499, Running

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	BATTERY ~~Clear Vent Lines?~~ %	Time ~~New Tubing?~~ Reset	Reset Transducer? Installation Log?	Follow up Required? issues? Notes (batteries, memory, broken transducers, et
MW-56-83	5/11/09		69.207	44.46	24.747	24.642	39.396	+0.105	✓	100	✓		16394, Running
MW-57-11			14.730										
MW-57-20			14.750										
MW-57-45			14.810										
MW-58-26	5/13/09		14.230	5.910	8.390	8.359	19.276	-0.039	✓	1	✓	✓	3114, Replace batt.
MW-58-65	5/13/09		14.250	6.280	7.970	8.280	62.242	-0.310	✓	96	✓	✓	5619, Reset
MW-59-32	5/14/09		14.410	13.070	1.340	1.515	47.167	-0.175	✓	21	✓	✓	16489, Replaced batt
MW-59-45	5/13/09		13.900	10.300	3.600	5.634	68.954	-2.034	✓	79	✓	✓	14340, Reset
MW-59-68	5/14/09		14.230	11.190	3.040	-1.616	64.574	+4.656	✓	23	✓	✓	14361, Replaced batt
MW-62-18			12.810										
MW-62-37			12.810										
MW-63-18	5/18/09		13.059	12.330	0.729	0.738	5.186	-0.009	✓	100	✓	✓	16104, run
MW-63-34	5/18/09		13.059	12.200	0.859	0.919	14.005	-0.060	✓	27	✓	✓	5359, Replace battery
MW-65-48	5/11/09		68.856	31.55	37306	37.297	8.761	+0.009	✓	100	✓		13993, Running
MW-65-80	5/11/09		68.841	35.02	33321	33.590	36843	-0.231	✓	13%	✓	✓	8264, Replace batteries,
MW-66-21	5/12/09		13.407	11.70	1.707	1.855	9.083	-0.148	✓	86	✓		15849, run
MW-66-36	5/12/09		13.364	11.41	1.954	2.011	15.350	-0.057	✓	87	✓		11840, run
MW-107	5/8/09		142.757	22.340	120.417	120.353	15.558		✓	74	✓		5746, running
MW-108	5/15/09		14.230	4.780	9.450	9.195	6.322	+0.255	✓	68	✓		20738, run.
MW-109	5/13/09		14.254	5.390	8.864	16.085	13.017	-7.221	✓	88	✓		15214, Reset -7.221 off
MW-111	5/19/09		18.380	8.320	10.060	10.176	7.295	-0.116	✓	48	✓		6767, run
I-2	5/18/09		82.230	29.800	52.430				✓				11972, ABEND
J3-1			13.495										
J3-2			14.114										
J3-3	5/13/09		14.599	6.470	8.129	8.470	9.257	-0.341	✓	100	✓	✓	4318, Reset
J3-4D	5/13/09		14.519	10.180	4.339	4.858	50.871	-0.519	✓	25	✓	✓	14301 Replaced batt.
J3-4S	5/13/09		13.943	9.640	4.303	4.379	7.020	-0.076	✓	100	✓		9401, run
J3-T1			8.518										
J3-T2			8.512										
J3-C1	5/13/09		18.060	13.40	4.660	4.535	7.843	+0.125	✓	100	✓		5548, run.
R-1			18.496										
UT-1			11.891										
W-1			75.822										

U1-CSS 20073

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GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-52-11
SHEET 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 14150
CASING DIAMETER (INCH) 2
DATUM MSL
DATE 5/19/09
GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ____ FT
MEASURED CABLE LENGTH: ____ FT

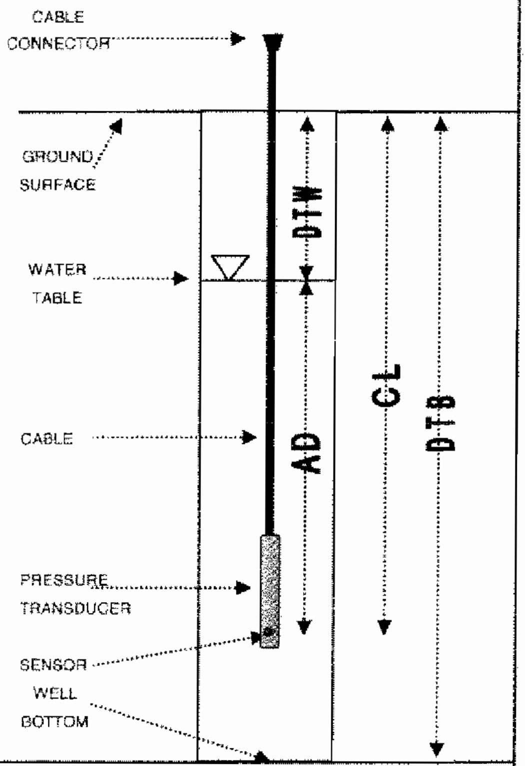
ELEVATION OF MEASURING POINT: 16.283 FT A.S.L.
DEPTH TO WATER: − 8.140 FT
REFERENCE ELEVATION: = 8.143 FT A.S.L.

TIME OF MEASUREMENT: 1328 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 8.140 FT
ACTUAL DEPTH: + 13.242 FT
THEORETICAL CABLE LENGTH: = ____ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-52-11
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1328 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Readings off by 0.425. Reset. Start new test.

GZA WELL ID MW-52-11

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/20/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten
Time Arrived onSite:	0630	
Time Left Site:	1500	

Weather: Sunny 70's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		
MW-37-22	✓			
- 40	✓			
- 32	✓			
↓ ↓ - 57	✓			
MW-36-52	✓			
MW-36-24	✓	✓		
MW-57-20	✓	✓		
- 45	✓	✓		
↓ ↓ - 11	✓	✓ ✓	Replace cable + transducer w/non vented.	
NI-CSS	✓			
MW-50-42	✓			
MW-50-66	✓	✓		

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Battery/ ~~Clear Vent Lines? N=NO W=water~~	Time ~~Testing~~ reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33	5/19/09		18.619	7.870	10.749	10.872	17.544	-0.123	✓	58	✓		5385, run
MW-34	5/19/09		18.071	?		7.084	18.345		✓	55	✓		3894,
MW-35	5/19/09		18.444	7.670	10.774	10.746	17.773	-0.002	✓	58	–		195, run time was already s
MW-36-24	5/20/09		11.598	4.550	7.048	8.876	35.366	-1.828		58	✓	✓	5376, run
MW-36-40			11.754	NO	TRANSDUCER								
MW-36-52	5/20/09		11.670	4.850	6.820	6.849	46.705	-0.029	✓	71	✓		5965, run
MW-37-22	5/20/09		14.852	9.450	5.402	5.416	12.511	-0.014	✓	91	✓		6753, run
MW-37-32	5/20/09		14.791	9.410	5.381	5.515	15.031	-0.134	✓	100	✓		6100, run
MW-37,40	5/20/09		14.852	8.050	6802	6.712	31.964	+0.09	✓	42	✓		2280, run
MW-37-57	5/29/09		14.788	8.020	6.768	6.833	42.667	-0.065	✓	91	✓		11802, run
MW-38	5/8/09		13.999	10.120	3879	3.850	28.393		✓	100	✓		#4386, running
MW-41-40	5/11/09		54.130	20.910	33.220	33.166	15.081	+0.054	✓	100	✓		6321, running
MW-41-63	5/11/09		54.130	23.950	30.180	30.192	17.522	-0.012	✓	100	✓		5977, running
MW-42-49	5/12/09		69.419	34.820	34.599	34.587	13.750	+0.012	✓	77	✓		11978, running
MW-42-78	5/12/09		69.524	33.200	36.324	36.156	44.569	+0.168	✓	33	✓	✓	16626, batteries replaced
MW-43-28	5/11/09		48.021	15.200	32.821	32.815	11.716	+0.006	✓	100	✓		11331, running
MW-43-62	5/11/09		47.821	16.200	31.621	31.843	37.466	-0.222	✓	100	✓		16236, running
MW-44-67			93.020										
MW-44-102			93.090										
MW-45-42	5/11/09		53.196	22.690	30.506	30.517	18.382	-0.011	✓	100	✓		6082, running
MW-45-61	5/11/09		53.217	23.210	30.007	29.861	38012	+0.146	✓	.25	✓	✓	16930, batt replaced
MW-46			16.970										
MW-47-56	5/11/09		69.805	44.01	25.795	25.708	6.422	+0.087	✓	81	✓		15843, Running
MW-47-80	5/11/09		69.742	43640	26.102	26.187	7.514	-0.085	✓	92	✓		9445, Running
MW-48-23	5/8/09		14.759	12.100	2.659	2.661	9.912	-0.002	✓	100 new	✓	✓	3048 ABEND, running
MW-48-37	5/8/09		15.189	12.600	2.589	2.435	23693	+0.154	✓	100	✓		6095, running
MW-49-26			14.171										
MW-49-42			14.223										
MW-49-65			14.457										
MW-50-42	5/20/09		14.453	8.330	6.123	6.137	32.725	-0.014		100	✓		9904, run
MW-50-66	5/20/09		14.614	11.620	2.994	3.365	88.143	-0.371	✓	23		✓	14459, Replaced batteries
MW-52-11	5/19/09		16.283	8.100	8.183	8.608	2.377	-0.425	✓	100			14150
MW-53-82	5/12/09		69.930	58.300	11.630	11.637	23.091	-0.007	✓	76	✓		11897, running
MW-53-120	5/12/09		70.190	58.960	11.230	11.168	59.296	+0.062	✓	76	✓		6097, run
MW-55-24	5/19/09		17.770	9.490	8.280	8.281	6.328	-0.001	✓	81	✓		13988, run
W-55-35	5/19/09		17.770	9.930	7.840	7.781	23.790	+0.059	✓	29	✓		3414, run
W-55-54	5/19/09		17.770	9.570	8.200	8.114	41.163	+0.086	✓	97	✓		20801, run
W-56-53	5/11/09		69.322	44.83	24.492	24.458	14.678	+0.034	✓	100	✓		16499, Running

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	BATTERY ~~Clean/Vent Lines? [illegible] Wewater~~ %	Time & ~~New Tubing?~~ Reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, et
MW-56-83	5/11/09		69.207	44.46	24.747	24.642	39.396	+0.105	✓	100	✓		16394, Running
MW-57-11	5/20/09		14.730	4.680	10.050	63.398	59.613	-53.348	✓	100	✓	✓	3078, Replaced transd, [illegible]
MW-57-20	5/20/09		14.750	4.650	10.100	10.196	15.508	-0.096	✓	100	✓		5368, Run
MW-57-45	5/20/09		14.810	5.410	9.400	10.109	73.294	-0.709	✓	100	✓	✓	16642 n,
MW-58-26	5/13/09		14.230	5.910	8.320	8.359	19.276	-0.039	✓	1	✓	✓	3114, Replace batt
MW-58-65	5/13/09		14.250	6.280	7.970	8.280	62.242	-0.310	✓	96	✓	✓	5619, Reset
MW-59-32	5/14/09		14.410	13.070	1.340	1.515	47.167	-0.175	✓	21	✓	✓	16489, Replaced batt
MW-59-45	5/13/09		13.900	10.300	3.600	5.634	68.954	-2.034	✓	79	✓	✓	14340, Reset
MW-59-68	5/14/09		14.230	11.190	3.040	-1.616	64.574	+4.656	✓	23	✓	✓	14361, Replaced batt
MW-62-18			12.810										
MW-62-37			12.810										
MW-63-18	5/18/09		13.059	12.330	0.729	0.738	5.186	-0.009	✓	100	✓		16104, run
MW-63-34	5/18/09		13.059	12.200	0.869	0.909	14.005	-0.060	✓	27	✓	✓	5359, Replace battery
MW-65-48	5/11/09		68.856	31.55	37306	37.297	8.761	+0.009	✓	100	✓		13993, Running
MW-65-80	5/11/09		68.841	35.02	33821	33.590	36843	-0.231	✓	13%	✓	✓	8264, Replace batteries,
MW-66-21	5/12/09		13.407	11.70	1.707	1.855	9.083	-0.148	✓	86	✓		15849, run
MW-66-36	5/12/09		13.364	11.41	1.954	2.011	15.350	-0.057	✓	87	✓		11840, run
MW-107	5/8/09		142.757	22.340	120.417	120.353	15.558		✓	74	✓		5746, running
MW-108	5/13/09		14.230	4.780	9.450	9.195	6.322	+0.255	✓	68	✓		20738, run.
MW-109	5/13/09		14.254	5.390	8.864	16.085	13.017	-7.991	✓	88	✓		15214, Reset: -7.221 off
MW-111	5/19/09		18.360	8.320	10.060	10.176	7.295	-0.116	✓	48	✓		6767, run
i-2	5/8/09		82.230	29.800	52.430				✓				11972, ABEND
J3-1	unaccesible		13.495		under	steel	plate						
J3-2	unaccesible		14.114		"	"		"					
J3-3	5/13/09		14.599	6.470	8.129	8.470	9.257	-0.341	✓	100	✓	✓	4318, Reset
J3-4D	5/13/09		14.519	10.180	4.339	4.858	50.871	-0.519	✓	25	✓	✓	14301 Replaced batt.
J3-4S	5/13/09		13.943	9.640	4.303	4.379	7.020	-0.076	✓	100	✓		9401, run
J3-T1			8.518										
J3-T2			8.512										
J3-C1	5/13/09		18.060	13.40	4.660	4.535	7.848	+0.125	✓	100	✓		5548, run.
R-1			18.496										
UT-1			11.891	DONE	ON	5							
W-1			75.822										
U1-CSS	5/20/09		20073	5.470	14.603	14.597	9.339	+0.006	✓	100	✓		13911

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GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-36-24
SHEET: 1 of 1
FILE NO.: 01.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
GZA ENGINEER: M. Britos

PSI CAPACITY: 30
SERIAL NUMBER: 5376
CASING DIAMETER (INCH): 2

DATUM: MSL
DATE: 5/20/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

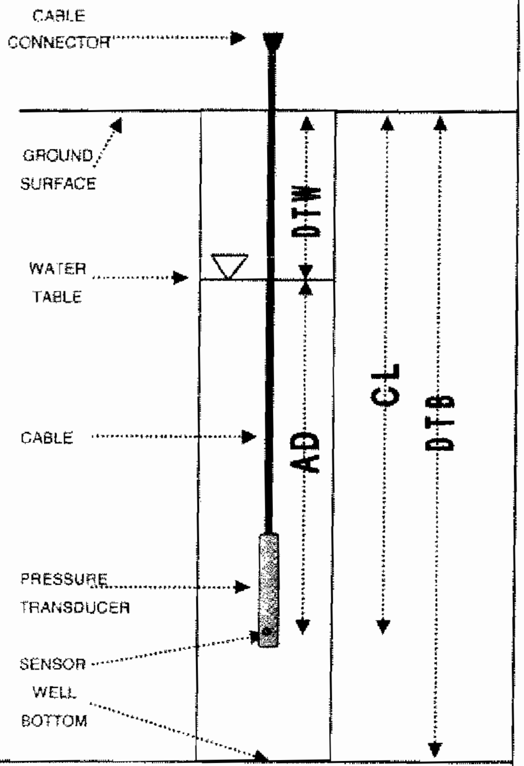
ELEVATION OF MEASURING POINT: 11.598 FT A.S.L.
DEPTH TO WATER: − 4.550 FT
REFERENCE ELEVATION: = 7.048 FT A.S.L.

TIME OF MEASUREMENT: 1043 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 4.550 FT
ACTUAL DEPTH: + 35.371 FT
THEORETICAL CABLE LENGTH: = 39.921 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-36-24
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1043 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Readings off by -1.828. Reset. Start new test.

GZA

WELL ID: MW-36-24

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-57-11
SHEET: 1 of 1
FILE NO.: 01.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER	In-Situ	PSI CAPACITY	30	DATUM	MSL
MAKE	MiniTroll	SERIAL NUMBER	3078	DATE	5/20/09
		CASING DIAMETER (INCH)	1		

GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

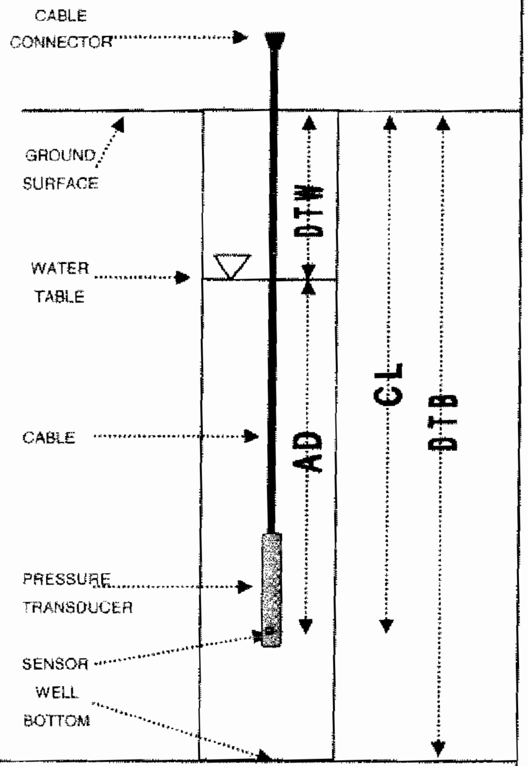
ELEVATION OF MEASURING POINT: 14.730 FT A.S.L.
DEPTH TO WATER: − 4.650 FT
REFERENCE ELEVATION: = 10.080 FT A.S.L.

TIME OF MEASUREMENT: ______ HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: ______ FT
ACTUAL DEPTH: + ______ FT
THEORETICAL CABLE LENGTH: = ______ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-57-11
LOGGING INTERVAL: 20 MIN
TEST START TIME: ______ HRS



LEGEND:
- **DTW** - DEPTH TO WATER
- **DTB** - DEPTH TO BOTTOM OF WELL
- **AD** - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
- **CL** - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Readings off by -53.348. Reset and start new test. Readings after the start of a new test are constantly increasing. Replace transducer w/ a non-vented transducer.

GZA WELL ID: MW-57-11

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: MW-57-11
SHEET: 1 of 1
FILE NO.: C1.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER: 16389
CASING DIAMETER (INCH): 1
DATUM: MSL
DATE: 5/20/09
GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

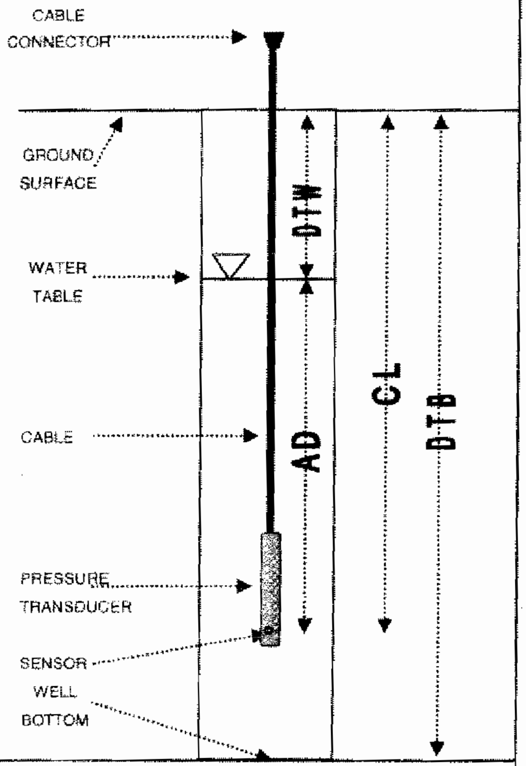
ELEVATION OF MEASURING POINT: 14.730 FT A.S.L.
DEPTH TO WATER: − 4.700 FT
REFERENCE ELEVATION: = 10.030 FT A.S.L.

TIME OF MEASUREMENT: 1219 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 4.700 FT
ACTUAL DEPTH: + 40.600 FT
THEORETICAL CABLE LENGTH: = 45.300 FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-57-11m
LOGGING INTERVAL: 20 MIN
TEST START TIME: 12.19 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Replace cable, transducer and attached tubing
Start new Test.

GZA WELL ID: MW-57-11

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-50-66
SHEET 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
PSI CAPACITY 30
SERIAL NUMBER 14459
CASING DIAMETER (INCH) 1
DATUM MSL
DATE 5/20/09
GZA ENGINEER M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

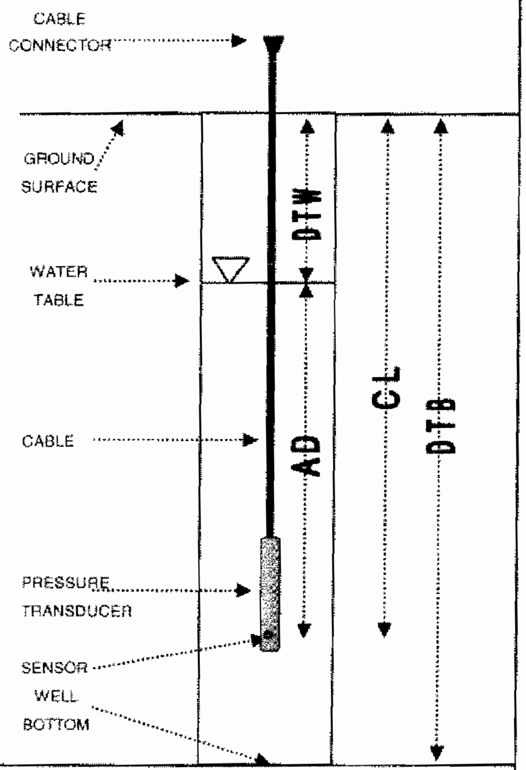
ELEVATION OF MEASURING POINT: 14.614 FT A.S.L.
DEPTH TO WATER: − 11.340 FT
REFERENCE ELEVATION: = 3.274 FT A.S.L.

TIME OF MEASUREMENT: 1425 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 11.340 FT
ACTUAL DEPTH: + 88.281 FT
THEORETICAL CABLE LENGTH: = ______ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-50-66
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1425 HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Replaced batteries. Reset and start new test.

GZA

WELL ID: MW-50-66

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client Entergy
Indian Point Energy Center

WELL ID MW-57-45
SHEET 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
GZA ENGINEER M. Britos
PSI CAPACITY 30
SERIAL NUMBER 16642
CASING DIAMETER (INCH) 1
DATUM MSL
DATE 5/20/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

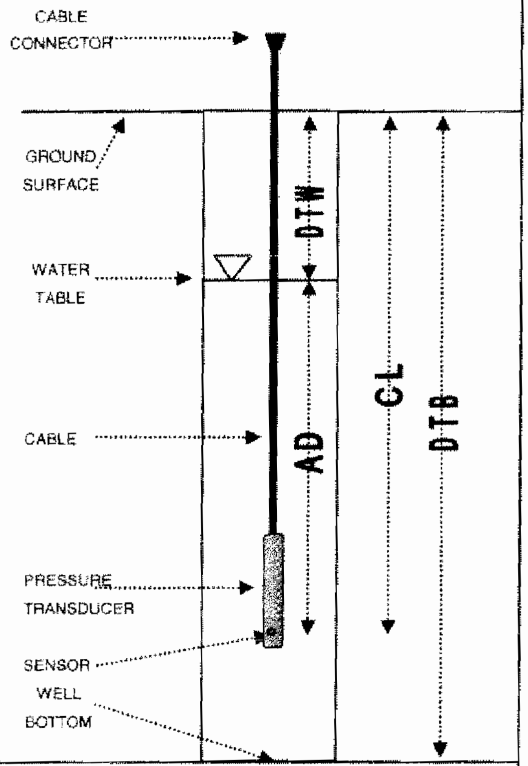
ELEVATION OF MEASURING POINT: 14.810 FT A.S.L.
DEPTH TO WATER: - 5.400 FT
REFERENCE ELEVATION: = 9.410 FT A.S.L.

TIME OF MEASUREMENT: 1135 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 5.400 FT
ACTUAL DEPTH: + 73.292 FT
THEORETICAL CABLE LENGTH: = ______ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-57-45
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1135 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Readings off by -0.709. Reset + start new test
Transducer reading 9.416 } o.K.
Hand measurement 9.410 }
Non vented cable.

GZA WELL ID: MW-57-45

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: **INDIAN POINT ENERGY CENTER**
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/26/09
GZA Engineers: Miguel Britos
Angela Ahen

GZA Engineer:	Miguel Britos	Angela Ahen
Time Arrived onSite:	0630	
Time Left Site:	1530	

Weather: Sun + clouds 60's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	Installation	Special Notes/Issues/Observations	Follow-up Required?
MW-62-18	✓	✓		
-37	✓			
-52	✓			
-53	✓			
-71	✓			
-92	✓			
-138	✓			
-181	✓			
-182	✓			
I-2-n		✓	Replaced cable and non-vented 100 psi transduc	
HR-1	✓	✓	Reset	
HR-1 #2	✓			
MW-49-65	✓	✓	Reset	
MW-49-26	✓			
MW-49-42	✓			
MW-46	✓			
MW-44-67	✓			
MW-44-102	✓			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client: Entergy
Indian Point Energy Center

WELL ID: HR-1
SHEET: 1 of 1
FILE NO.: 01.0017869.92
PROJECT LOCATION: Indian Point

MANUFACTURER: In-Situ
MAKE: MiniTroll
PSI CAPACITY: 30
SERIAL NUMBER: 11886
CASING DIAMETER (INCH): 2
DATUM: MSL
DATE: 5/26/09
GZA ENGINEER: M. Britos

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: above
DISTANCE FROM CASING TO GROUND (+ OR -): ____ FT
MEASURED CABLE LENGTH: ____ FT

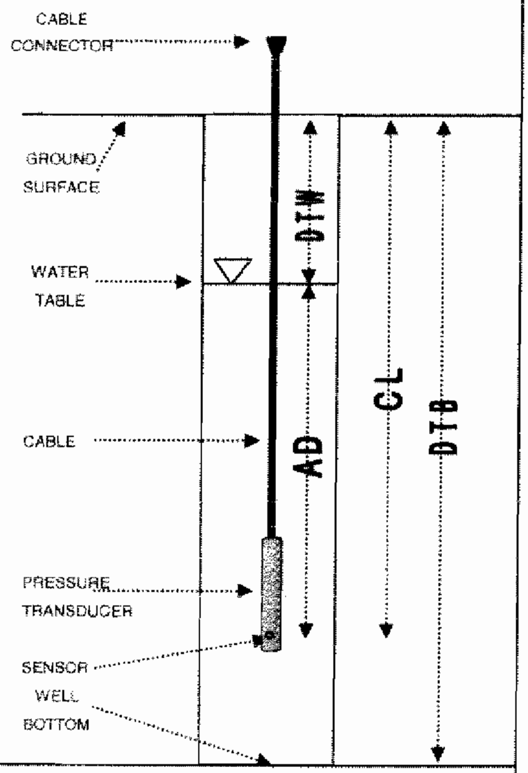
ELEVATION OF MEASURING POINT: 18.496 FT A.S.L.
DEPTH TO WATER: − 15.870 FT
REFERENCE ELEVATION: = 2.626 FT A.S.L.

TIME OF MEASUREMENT: 1438 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 15.870 FT
ACTUAL DEPTH: + 10.018 FT
THEORETICAL CABLE LENGTH: = ____ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: HR-1
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1438 HRS



LEGEND: **DTW** - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Transducer off by -6.069. Reset and start new Test.

GZA

WELL ID: HR-1

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-49-65
SHEET 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
GZA ENGINEER M. Britos

PSI CAPACITY 30
SERIAL NUMBER 15847
CASING DIAMETER (INCH) 1

DATUM MSL
DATE 5/26/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (If transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: below
DISTANCE FROM CASING TO GROUND (+ OR -): ____ FT
MEASURED CABLE LENGTH: ____ FT

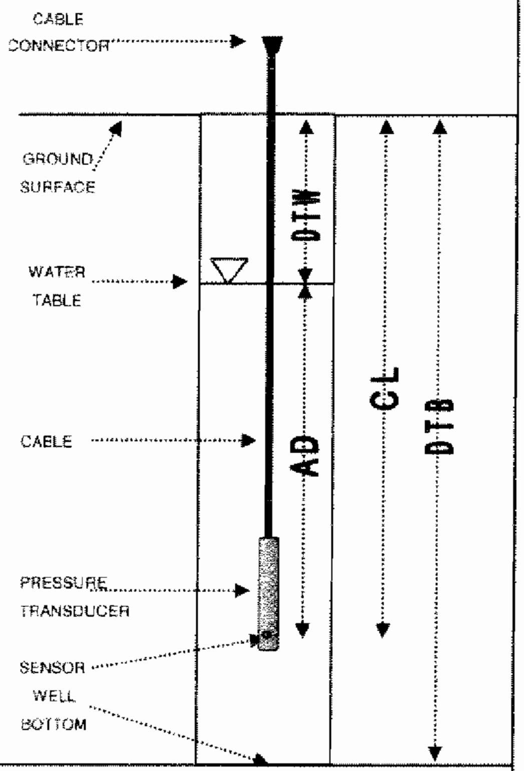
ELEVATION OF MEASURING POINT: 14.457 FT A.S.L.
DEPTH TO WATER: − 11.310 FT
REFERENCE ELEVATION: = 3.147 FT A.S.L.

TIME OF MEASUREMENT: 1354 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 11.310 FT
ACTUAL DEPTH: + 14.499 FT
THEORETICAL CABLE LENGTH: = ____ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: MW-49-65
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1354 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Replaced batteries. Start new test.

GZA

WELL ID: MW-49-65

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID I-2-n
SHEET 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
GZA ENGINEER M. Britos

PSI CAPACITY 100
SERIAL NUMBER 16587
CASING DIAMETER (INCH) 2

DATUM MSL
DATE 5/26/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND: above
DISTANCE FROM CASING TO GROUND (+ OR -): ______ FT
MEASURED CABLE LENGTH: ______ FT

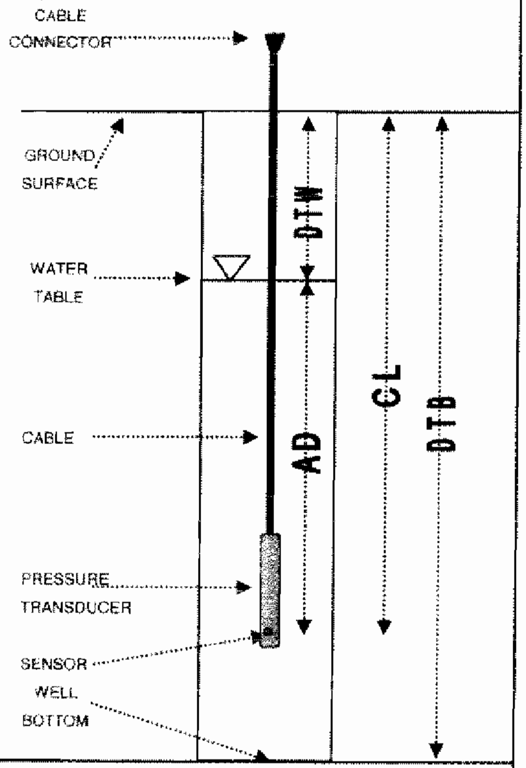
ELEVATION OF MEASURING POINT: 82.230 FT A.S.L.
DEPTH TO WATER: − 31.180 FT
REFERENCE ELEVATION: = 51.050 FT A.S.L.

TIME OF MEASUREMENT: 1210 HRS
MEASUREMENT TAKEN FROM: TOC

DEPTH TO WATER: 31.180 FT
ACTUAL DEPTH: + 42.867 FT
THEORETICAL CABLE LENGTH: = ______ FT

HAVE CLOCKS BEEN SYNCHRONIZED? ☑ check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS? ☑ check

TEST NAME: I-2-n
LOGGING INTERVAL: 20 MIN
TEST START TIME: 1210 HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: Install new 100 psi non vented transducer.

GZA GEOENVIRONMENTAL OF NEW YORK
440 NINTH AVENUE, 18th FLOOR
NEW YORK, NEW YORK 10001
SCIENTISTS AND ENGINEERS

Client
Entergy
Indian Point Energy Center

WELL ID MW-62-18
SHEET 1 of 1
FILE NO. 01.0017869.92
PROJECT LOCATION Indian Point

MANUFACTURER In-Situ
MAKE MiniTroll
GZA ENGINEER M. Britos

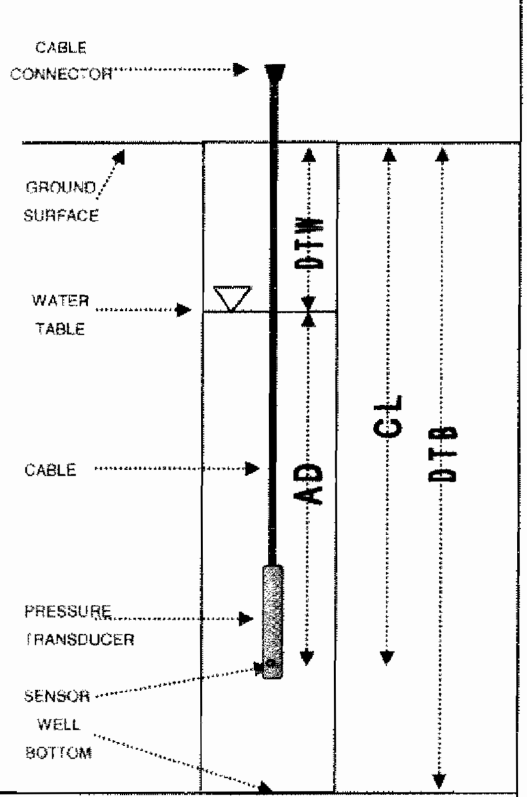
PSI CAPACITY 30
SERIAL NUMBER 4859
CASING DIAMETER (INCH) 1

DATUM MSL
DATE 5/26/09

ELEVATION OF MEASURING POINT - DEPTH TO WATER = REFERENCE ELEVATION (WATER TABLE ELEVATION)

DEPTH TO WATER + ACTUAL DEPTH = CABLE LENGTH (if transducer is functioning properly)

CASING ABOVE (+) OR BELOW (-) GROUND:	below	
DISTANCE FROM CASING TO GROUND (+ OR -):		FT
MEASURED CABLE LENGTH:		FT
ELEVATION OF MEASURING POINT:	12.810	FT A.S.L.
DEPTH TO WATER:	− 11.600	FT
REFERENCE ELEVATION:	= 1.210	FT A.S.L.
TIME OF MEASUREMENT:	1104	HRS
MEASUREMENT TAKEN FROM:	TOC	
DEPTH TO WATER:	11.600	FT
ACTUAL DEPTH:	+ 4.974	FT
THEORETICAL CABLE LENGTH:	= 16.574	FT
HAVE CLOCKS BEEN SYNCHRONIZED?	☑	check
IS TRANSDUCER SET TO TAKE "SURFACE" READINGS?	☑	check
TEST NAME:	MW-62-18	
LOGGING INTERVAL:	20	MIN
TEST START TIME:	1104	HRS



LEGEND:
DTW - DEPTH TO WATER
DTB - DEPTH TO BOTTOM OF WELL
AD - ACTUAL DEPTH OF TRANSDUCER UNDER WATER
CL - CABLE LENGTH FROM SENSOR TO GROUND SURFACE/ TOP OF CASING

NOTES: No connection. Replaced batteries. Reset. Start new test.

GZA

WELL ID: MW-62-18

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	BATTERY ~~Clear Vent Lines? NOTE, W/water~~ %	Time ~~New Tubing?~~ Reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	5/11/09		69.207	44.46	24.747	24.642	39.396	+0.105	✓	100	✓		16394, Running
MW-57-11	5/20/09		14.730	4.680	10.050	63.398	59.613	-53.348	✓	100	✓	✓	3078, Replaced transd, att
MW-57-20	5/20/09		14.750	4.650	10.100	10.196	15.508	-0.096	✓	100	✓		5368, Run
MW-57-45	5/20/09		14.810	5.410	9.400	10.109	73.294	-0.709	✓	100	✓		16642 n,
MW-58-26	5/13/09		14.230	5910	8.390	8.359	19.276	-0.039	✓	1	✓	✓	3114, Replace batt
MW-58-65	5/13/09		14.250	6.280	7.970	8.280	62.242	-0.310	✓	96	✓	✓	5619, Reset
MW-59-32	5/14/09		14.410	13.070	1.340	1.515	47.167	-0.175	✓	21	✓	✓	16489, Replaced batt
MW-59-45	5/13/09		13.900	10.300	3.600	5.634	68.954	-2.034	✓	79	✓	✓	14340, Reset
MW-59-68	5/14/09		14.230	11.190	3.040	-1.616	64.574	+4.656	✓	23	✓	✓	14361, Replaced batt
MW-62-18	5/26/09		12.810		NO CONNECTION				✓		✓		4859, Replaced batt, reset
MW-62-37	5/26/09		12.810	11.420	1.390	1.192	14.022	+0.198	✓	100	✓		5441, run
MW-63-18	5/18/09		13.059	12.330	0.729	0.738	5.186	-0.009	✓	100	✓		16104, run
MW-63-34	5/18/09		13.059	12.260	0.859	0.919	14.005	-0.060	✓	27	✓	✓	5359, Replace battery
MW-65-48	5/11/09		68.856	31.55	37306	37.297	8.761	+0.009	✓	100	✓		13993, Running
MW-65-80	5/11/09		68.841	35.02	33821	33.590	36843	-0.231	✓	13%	✓	✓	8264, Replace batteries,
MW-66-21	5/12/09		13.407	11.70	1.707	1.855	9.083	-0.148	✓	86	✓		15849, run
MW-66-36	5/12/09		13.364	11.41	1.954	2.011	15.350	-0.057	✓	87	✓		11840, run
MW-107	5/8/09		142.757	22.340	120.417	120.353	15.558		✓	74	✓		5746, running
MW-108	5/13/09		14.230	4.780	9.450	9.195	6.322	+0.255	✓	68	✓		20738, run.
MW-109	5/13/09		14.254	5.390	8.864	16.085	13.017	-7.221	✓	88	✓		15214, Reset -7.221 off
MW-111	5/19/09		18.380	8.320	10.060	10.176	7.295	-0.116	✓	48	✓		6767, run
-2	5/18/09		82.230	29.800	52.430	(5/26/09) New Transducer + cable installed)							11972, ABEND
J3-1	unaccessible		13.495		under steel plate								
J3-2	unaccessible		14.114		"	"		"					
J3-3	5/13/09		14.599	6.470	8.129	8.470	9.257	-0.341	✓	100	✓	✓	4318, Reset
J3-4D	5/13/09		14.519	10.180	4.339	4.858	50.871	-0.519	✓	25	✓	✓	14301 Replaced batt.
J3-4S	5/13/09		13.943	9.640	4.303	4.379	7.020	-0.076	✓	100	✓		9401, run
J3-T1			8.518										
J3-T2			8.512										
J3-C1	5/13/09		18.060	13.40	4.660	4.535	7.848	+0.125	✓	100	✓		5548, run.
R-1	5/26/09		18.496	15.730	2.766	8.835	10.197	-6.069	✓	100			11886, Reset
UT-1			11.891	DONE	ON	5							✓
W-1			75.822										
U1-CSS	5/20/09		20073	5.470	14.603	14.597	9.334	+0.006	✓	100	✓		13911
HR-1 #2	5/26/09		18.490	15.730	2.766	2.799	40.413	-0.033	✓	100	✓		16593, run

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Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Battery ~~Clear Vent Lines? N/NO W=water~~	Time ~~Reading~~ reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33	5/19/09		18.619	7.870	10.749	10.872	17.544	-0.123	✓	58	✓		5385, run
MW-34	5/19/09		18.071	?		7.084	18.345		✓	55	✓		3894,
MW-35	5/19/09		18.444	7.670	10.774	10.746	17.773	-0.002	✓	58	–		195, run time was already s
MW-36-24	5/20/09		11.598	4.550	7.048	8.876	35.366	-1.828		58	✓	✓	5376, run
MW-36-40			11.754	NO	TRANSDUCER								
MW-36-52	5/20/09		11.670	4.850	6.820	6.849	46.705	-0.029	✓	71	✓		5965, run
MW-37-22	5/20/09		14.852	9.450	5.402	5.416	12.511	-0.014	✓	91	✓		6753, run
MW-37-32	5/20/09		14.791	9.410	5.381	5.515	15.031	-0.134	✓	100	✓		6100, run
MW-37-40	5/20/09		14.852	8.050	6.802	6.712	31.964	+0.09	✓	42	✓		2280, run
MW-37-57	5/20/09		14.788	8.020	6.768	6.833	42.667	-0.065	✓	91	✓		11802, run
MW-38	5/8/09		13.999	10.120	3879	3.850	28393	+0.029	✓	100	✓		#4386, running
MW-41-40	5/11/09		54.130	20.910	33.220	33.166	15.081	+0.054	✓	100	✓		6321, running
MW-41-63	5/11/09		54.130	23.950	30.180	30.192	17.522	-0.012	✓	100	✓		5977, running
MW-42-49	5/12/09		69.419	34.820	34.599	34.587	13.750	+0.012	✓	77	✓		11978, running
MW-42-78	5/12/09		69.524	33.200	36.324	36.156	44.569	+0.168	✓	33	✓	✓	16626, batteries replaced
MW-43-28	5/11/09		48.021	15.200	32.821	32.815	11.716	+0.006	✓	100	✓		11331, running
MW-43-62	5/11/09		47.821	16.200	31.621	31.843	37466	-0.222	✓	100	✓		16236, running
MW-44-67	5/26/09		93.020	59.210	33.810	33.840	4.979	-0.030	✓	100	✓		16108, run.
MW-44-102	5/26/09		93.090	66.530	26.560	26.671	32.214	-0.111	✓	100	✓		15940, run,
MW-45-42	5/11/09		53.196	22.690	30.506	30.517	18.382	-0.011	✓	100	✓	✓	6082, running
MW-45-61	5/11/09		53.217	23.210	30.007	29.861	38012	+0.146	✓	25	✓	✓	16930, batt replaced
MW-46	5/26/09		16.970	4.350	12.620	12.368	23.488	+0.252	✓	84	✓		4424, run
MW-47-56	5/11/09		69.805	44.01	25.795	25.708	6.422	+0.087	✓	81	✓		15843, Running
MW-47-80	5/11/09		69.742	43.640	26.102	26.187	7.514	-0.085	✓	92	✓	✓	9445, Running
MW-48-23	5/8/09		14.759	12.100	2.659	2.661	9.912	-0.002	✓	100 new	✓	✓	3048 ABEND, running
MW-48-37	5/8/09		15.189	12.600	2.589	2.435	23693	+0.154	✓	100	✓		6095, running
MW-49-26	5/26/09		14.171	11.330	2.841	2.760	13.295	+0.081	✓	100	x		11948, run, keep same Time
MW-49-42	5/26/09		14.223	11.320	2.903	2.825	15.552	+0.078	✓	86	✓	·	5395, run
MW-49-65	5/26/09		14.457	11.490	2.967	2.836	14.367	+0.131	✓	23	✓	✓	15847, batt replaced
MW-50-42	5/20/09		14.453	8.330	6.123	6.137	32.725	-0.014		100	✓		9904, run
MW-50-66	5/20/09		14.614	11.620	2.994	3.365	88.143	-0.371	✓	23	·	✓	14459, Replaced batteries
W-52-11	5/19/09		16.283	8.100	8.183	8.608	2.377	-0.425	✓	100	·		14150
W-53-82	5/12/09		69.930	58.300	11.630	11.637	23.091	-0.007	✓	76	✓		11897, running
W-53-120	5/12/09		70.190	58.960	11.230	11.168	59.296	+0.062	✓	76	✓		6097, run.
W-55-24	5/19/09		17.770	9.490	8.280	8.281	6.328	-0.001	✓	81	✓		13988, run.
W-55-35	5/19/09		17.770	9.930	7.840	7.781	23.780	+0.059	✓	29	✓		3414, run.
W-55-54	5/19/09		17.770	9.570	8.910	8.114	41.163	+0.086	✓	97	✓		20801, run
W-56-53	5/11/09		69.322	44.83	24.492	24.458	14.678	+0.034	✓	100	✓		16499, Running

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.91

Date: 5/27/09
GZA Engineers: Miguel Britos
Angela Alten

GZA Engineer:	Miguel Britos	Angela Alten
Time Arrived onSite:	0630	
Time Left Site:	1530	

Weather: Rain 60's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		
MW-54-35	✓			
-37	✓			
-58	✓			
-123	✓			
-144	✓			
-173	✓			
-190	✓			
Baro 31	✓			
Baro polish bld	✓	✓		
U3-T1	✓			
U3-T2	✓			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	BATTERY ~~Clear Vent Lines? [illegible] Wwwater~~ %	Time ~~New Tubing?~~ Reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-56-83	5/11/09		69.207	44.46	24.747	24.642	39.396	+0.105	✓	100	✓		16394, Running
MW-57-11	5/20/09		14.730	4.680	10.050	63.398	59.613	-53.348	✓	100	✓	✓	3078, Replaced transd, cbl
MW-57-20	5/20/09		14.750	4.650	10.100	10.196	15.508	-0.096	✓	100	✓		5368, Run
MW-57-45	5/20/09		14.810	5.410	9.400	10.109	73.294	-0.709	✓	100	✓	✓	16642 r,
MW-58-26	5/13/09		14.230	5.910	8.390	8.359	19.276	-0.039	✓	1	✓	✓	3114, Replace batt.
MW-58-65	5/13/09		14.250	6.280	7.970	8.280	62.242	-0.310	✓	96	✓	✓	5619, Reset
MW-59-32	5/14/09		14.410	13.070	1.340	1.515	47.167	-0.175	✓	21	✓	✓	16489, Replaced batt
MW-59-45	5/13/09		13.900	10.300	3.600	5.634	68.954	-2.034	✓	79	✓	✓	14340, Reset
MW-59-68	5/14/09		14.230	11.190	3.040	-1.616	64.574	+4.656	✓	23	✓	✓	14361, Replaced batt
MW-62-18	5/26/09		12.810		NO CONNECTION				✓		✓		4859, Replaced batt, reset
MW-62-37	5/26/09		12.810	11.420	1.390	1.192	14.022	+0.198	✓	100	✓		5441, run
MW-63-18	5/18/09		13.059	12.330	0.729	0.738	5.186	-0.009	✓	100	✓		16104, run
MW-63-34	5/18/09		13.059	12.200	0.859	0.910	14.005	-0.060	✓	27	✓	✓	5359, Replace battery,
MW-65-48	5/11/09		68.856	31.55	37.306	37.297	8.761	+0.009	✓	100	✓		13993, Running
MW-65-80	5/11/09		68.841	35.02	33.821	33.590	36.843	-0.231	✓	13%	✓	✓	8264, Replace batteries,
MW-66-21	5/12/09		13.407	11.70	1.707	1.855	9.083	-0.148	✓	86	✓		15849, run
MW-66-36	5/12/09		13.364	11.41	1.954	2.011	15.350	-0.057	✓	87	✓		11840, run
MW-107	5/8/09		142.757	22.340	120.417	120.353	15.558		✓	74	✓		5746, running
MW-108	5/13/09		14.230	4.780	9.450	9.195	6.322	+0.255	✓	68	✓		20738, run.
MW-109	5/13/09		14.254	5.390	8.864	16.085	13.017	-7.991	✓	88	✓		15214, Reset -7.221 off
MW-111	5/19/09		18.380	8.320	10.060	10.176	7.295	-0.116	✓	48	✓		6767, run
I-2	5/8/09		82.230	29.800	52.430	(5/26/09) New Transducer + cable installed)							11972, ABEND
J3-1	unaccessible		13.495		under steel plate								
J3-2	unaccessible		14.114		〃	〃		〃					
J3-3	5/13/09		14.599	6.470	8.129	8.470	9.257	-0.341	✓	100	✓	✓	4318, Reset
J3-4D	5/13/09		14.519	10.180	4.339	4.858	50.871	-0.519	✓	25	✓	✓	14301 Replaced batt.
J3-4S	5/13/09		13.943	9.640	4.303	4.379	7.020	-0.076	✓	100	✓		9401, run
J3-T1	5/27/09		8.518	4.080	4.438	4.462	2.959	-0.024	✓	94	✓		3062, run
J3-T2	5/27/09		8.512	3.940	4.572	4.513	2.799	+0.059	✓	94	✓		16240, run
J3-C1	5/13/09		18.060	13.40	4.660	4.535	7.848	+0.125	✓	100	✓		5548, run.
HR-1	5/26/09		18.496	15.730	2.766	8.835	10.197	-6.069	✓	100			11886, Reset
OUT-1			11.891	DONE	ON	5							✓
W-1			75.822										
UI-CSS	5/20/09		20.073	5.470	14.603	14.597	9.339	+0.006	✓	100	✓		13911
HR-1 #2	5/26/09		18.490	15.730	2.766	2.799	40.413	-0.033	✓	100	✓		16593, run
BARO (polishing build)	5/27/09												16654, replaced batt new test

Transducer Maintenance and Datadownload Checklist

	Date	Time	TOC Elevation	DTW from TOC	GW Elevation	Transducer Reading (Surface)	Actual Depth	Add to Data	End Test and Extract Data?	Battery ~~Clear Vent Lines? N=NO W=water~~	Time reset	Reset Transducer? Installation Log?	Follow up Required? Issues? Notes (batteries, memory, broken transducers, etc
MW-33	5/19/09		18.619	7.870	10.749	10.872	17.544	-0.123	✓	58	✓		5385, run
MW-34	5/19/09		18.071	?		7.084	18.345		✓	55	✓		3894,
MW-35	5/19/09		18.444	7.670	10.774	10.746	17.773	-0.002	✓	58	←		195, run time was already s
MW-36-24	5/20/09		11.598	4.550	7.048	8.876	35.366	-1.828		58	✓	✓	5376, run
MW-36-40			11.754	NO	TRANSDUCER								
MW-36-52	5/20/09		11.670	4.850	6.820	6.849	46.705	-0.029	✓	71	✓		5965, run
MW-37-22	5/20/09		14.852	9.450	5.402	5.416	12.511	-0.014	✓	91	✓		6753, run
MW-37-32	5/20/09		14.791	9.410	5.381	5.515	15.031	-0.134	✓	100	✓		6100, run
MW-37-40	5/20/09		14.852	8.050	6.802	6.712	31.964	+0.09	✓	42	✓		2280, run
MW-37-57	5/29/09		14.788	8.020	6.768	6.833	42.667	-0.065	✓	91	✓		11802, run
MW-38	5/8/09		13.999	10.120	3879	3.850	28.393	+0.029	✓	100	✓		#4386, running
MW-41-40	5/11/09		54.130	20.910	33.220	33.166	15.081	+0.054	✓	100	✓		6321, running
MW-41-63	5/11/09		54.130	23.950	30.180	30.192	17.522	-0.012	✓	160	✓		5977, running
MW-42-49	5/12/09		69.419	34.820	34.599	34.587	13.750	+0.012	✓	77	✓		11978, running
MW-42-78	5/12/09		69.524	33.200	36.324	36.156	44.569	+0.168	✓	33	✓	✓	16626, batteries replaced
MW-43-28	5/11/09		48.021	15.200	32.821	32.815	11.716	+0.006	✓	100	✓		11331, running
MW-43-62	5/11/09		47.821	16.200	31.621	31.843	37.466	-0.222	✓	100	✓		16236, running
MW-44-67	5/26/09		93.020	59.210	33.810	33.840	4.979	-0.030	✓	100	✓		16108, run.
MW-44-102	5/26/09		93.090	66.530	26.560	26.671	32.214	-0.111	✓	100	✓		15940, run,
MW-45-42	5/11/09		53.196	22.690	30.506	30.517	18.382	-0.011	✓	100	✓	✓	6082, running
MW-45-61	5/11/09		53.217	23.210	30.007	29.861	38.012	+0.146	✓	.25	✓	✓	16930, batt replaced
MW-46	5/26/09		16.970	4.350	12.620	12.368	23.488	+0.252	✓	.84	✓		4424, run
MW-47-56	5/11/09		69.805	44.01	25.795	25.708	6.422	+0.087	✓	81	✓		15843, Running
MW-47-80	5/11/09		69.742	43.640	26.102	26.187	7.514	-0.085	✓	92	✓	✓	9445, Running
MW-48-23	5/8/09		14.759	12.100	2.659	2.661	9.912	-0.002	✓	100 new	✓	✓	3048 ABEND, running
MW-48-37	5/8/09		15.189	12.600	2.589	2.435	23.693	+0.154	✓	100	✓		6095, running
MW-49-26	5/26/09		14.171	11.330	2.841	2.760	13.295	+0.081	✓	100	✗		11948, run, keep same Time
MW-49-42	5/26/09		14.223	11.320	2.903	2.825	15.552	+0.078	✓	86	✓		5395, run
MW-49-65	5/26/09		14.457	11.490	2.967	2.836	14.367	+0.131	✓	23	✓	✓	15847, batt replaced
MW-50-42	5/20/09		14.453	8.330	6.123	6.137	32.725	-0.014		100	✓	✓	9904, run
MW-50-66	5/20/09		14.614	11.620	2.994	3.365	88.143	-0.371	✓	23		✓	14459, Replaced batteries
IW-52-11	5/19/09		16.283	8.100	8.183	8.608	2.377	-0.425	✓	100			14150
IW-53-82	5/12/09		69.930	58.300	11.630	11.637	23.091	-0.007	✓	76	✓		11897, running
IW-53-120	5/12/09		70.190	58.960	11.230	11.168	59.296	+0.062	✓	76	✓		6097, run.
IW-55-24	5/19/09		17.770	9.490	8.280	8.281	6.328	-0.001	✓	81	✓		13988, run.
IW-55-35	5/19/09		17.770	9.930	7.840	7.781	23.790	+0.059	✓	29	✓		3414, run.
W-55-54	5/19/09		17.770	9.570	8.906	8.814	41.163	+0.086	✓	97	✓		20801, run
W-56-53	5/11/09		69.322	44.83	24.492	24.458	14.678	+0.034	✓	100	✓		16499, Running

APPENDIX E: POST-Q2 2009 MID-QUARTER SAMPLING DATA SHEETS

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.92

Date: 5/29/09
GZA Engineers: Miguel Britos
Angela Altieri

GZA Engineer:	Miguel Britos	Angela Altieri
Time Arrived onSite:	0630	
Time Left Site:	1530	

Weather: Rain 70's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-31-49(016)	IPEC	2 L	poly	Tracer test	2 vials	30ml poly
MW-31-63(016)	↓	↓	↓	↓	↓	↓
MW-31-85(016)						

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check) Download	ACTIVITY (check) Installation	Special Notes/Issues/Observations	Follow-up Required?

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

WELL ID: MW 31 - 85

SAMPLE ID: 016

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Rain 70's

PROJECT NO: 01.0017869.92
DATE: 5/29/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

69.8 to 85.4

SAMPLING PORT

85

TOTAL VOLUME PURGED: ______ gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1021	0	PUMP	ON					6/7	29
1035	0.2	6.96	2.242	—	2.97	17.06	-195.4		
1043	0.3	7.07	2.247	6.79	3.09	17.08	-151.0		
1051	0.4	7.12	2.256	3.84	3.53	17.11	-105.6		
1059	0.6	7.14	2.261	3.91	3.55	17.15	- 78.6		
1105	0.75	7.15	2.260	1.63	3.70	17.29	- 63.4		
1116	0.90	7.16	2.260	0.28	3.72	17.44	- 41.1		
1120	1.0	7.16	2.260	0.10	3.79	17.47	- 33.4		
1128	1.15	7.17	2.259	1.32	3.81	17.68	- 12.8		
1141	1.45	7.18	2.259	1.30	3.79	17.76	- 5.1		
1149	1.65	7.18	2.259	1.40	3.78	17.76	+ 1.0		
1157	1.80	7.19	2.259	1.45	3.74	17.79	+ 6.1		
1210	2.0	7.19	2.258	1.42	3.70	17.82	+14.3		
1215	2.10	7.19	2.258	1.46	3.69	17.79	+15.2		
1220	2.25	7.19	2.258	1.40	3.72	17.80	+15.8	↓	↓
1221		PUMP	OFF						
1222		START	SAMPLE	COLLECTION					
1222		SAMPLE	: { 2	vials Tracer	test				
			{ 1 -	10 ml. entergy	analysis				
1250		SAMPLE	COMPLETED :	2 L IPEC					
1250		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Total volume purged 2.40 gal

WELL ID: MW 31 - 63

SAMPLE ID: 016

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Rain 70's

PROJECT NO: 01.0017869.92
DATE: 5/29/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

55.3 to 63.8

SAMPLING PORT

63

TOTAL VOLUME PURGED: ______ gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1021	0	PUMP	ON					6/7	29
1034	0.08	7.05	1.449	—	2.34	16.96	-33.4		
1043	0.15	7.07	1.443	7.05	2.65	16.81	-22.1		
1051	0.20	7.08	1.447	3.84	2.66	16.85	-9.8		
1058	0.25	7.08	1.449	4.23	2.65	16.85	-1.0		
1104	0.30	7.09	1.454	3.81	2.66	16.95	+8.5		
1114	0.40	7.08	1.459	2.35	2.58	17.11	18.4		
1119	0.50	7.09	1.462	1.69	2.49	17.17	23.2		
1127	0.60	7.09	1.470	2.38	2.72	17.37	28.9		
1140	0.80	7.09	1.503	2.70	2.73	17.59	35.9		
1148	0.90	7.09	1.515	2.64	2.69	17.62	38.6		
1153	0.95	7.09	1.520	2.68	2.71	17.63	39.3		
1158	1.0	7.09	1.524	2.70	2.71	17.64	39.8	↓	↓
1159		PUMP	OFF						
1200		START	SAMPLE COLLECTION						
1200		SAMPLE	: 2 vials Tracer Test						
			1-10 ml entergy analysis						
1234		SAMPLE	COMPLETED : 2 L IPEC						
1234		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Total volume purged 1.15 gal

WELL ID: MW 31 - 49

SAMPLE ID: 016

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Rain 70's

PROJECT NO: 01.0017869.92
DATE: 5/29/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

348 to 49.3

SAMPLING PORT

49

TOTAL VOLUME PURGED: ______ gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1021	0	PUMP	ON					6/7	29
1033	0.20	7.18	1.916	—	2.40	17.43	49.2		
1042	0.65	7.19	1.924	6.30	2.22	17.46	60.7		
1050	1.0	7.20	1.925	5.49	2.22	17.54	65.8		
1058	1.3	7.21	1.926	5.74	2.21	17.56	67.0		
1103	1.5	7.22	1.924	4.16	2.23	17.69	68.0		
1110	1.95	7.21	1.871	3.39	2.16	17.74	69.5		
1119	2.25	7.21	1.810	3.24	2.04	17.75	71.3		
1125	2.60	7.21	1.786	3.03	2.02	17.78	71.8		
1130	2.85	7.22	1.7	3.29	2.03	17.80	71.5	↓	↓
1131		PUMP	OFF						
1132		START	SAMPLE	COLLECTION					
1132		SAMPLE	: {2 vials	- tracer	Test				
			{1 10 ml	-	entergy	analysis			
1142		SAMPLE	COMPLETED	:	2 L IPEC				
1142		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Total volume purged 3.0 gal

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: INDIAN POINT ENERGY CENTER
Location: Buchanan, NY
Project #: 01.0017869.92

Date: 6/1/09
GZA Engineers: Miguel Britos
Angela Altieri

GZA Engineer:	Miguel Britos	Angela Alteri
Time Arrived onSite:	0630	
Time Left Site:	1600	

Weather: Sunny 70's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-30-69 (025)	IPEC	2 L	poly			
	Tracer Tes	2 vials	↓			
	Entergy analysis	10 ml				
MW-30-84 (06)	IPEC	2 L	poly			
	Tracer Test	2 vials	↓			
	Entergy analysis	10 ml				

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		
MW-30-69	✓			
MW-30-84	✓			

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

RW-1 inside posted area. Unable to pressurize packers.

WELL ID: MW 30-69

SAMPLE ID: 025

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 70's

PROJECT NO: 01.0017869.92
DATE: 6/1/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

67.3 to 71.3

SAMPLING PORT

69

TOTAL VOLUME PURGED: 1.70 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1040	0	PUMP	ON					6/7	40
1050	0.2	8.61	1.320	—	5.52	24.46	182.6	6/7	42
1103	0.5	8.64	1.370	—	5.78	24.62	122.7		
1111	0.75	8.65	1.349	—	5.94	24.52	100.2		
1116	0.95	8.65	1.344	—	6.05	24.46	88.6		
1123	1.05	8.65	1.330	—	6.20	24.40	78.9		
1128	1.15	8.65	1.340	—	6.30	24.38	73.1		
1133	1.30	8.65	1.350	—	6.31	24.37	69.4		
1140	1.55	8.65	1.356	—	6.34	24.37	67.5		
1142		START	SAMPLE		COLLECTION				
1148		SAMPLE :	2 -	TRACER	TEST	VIALS			
			1 -	10 ml	VIAL -	ENTERGY	analysis		
1202		SAMPLE	COMPLETED		: 2 L	IPEC			
1202		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	

NOTES AND OBSERVATIONS: - No Turbidity readings. Too much pressure (splash)

Total volume purged 1.70 gal

WELL ID: MW 30 - 84

SAMPLE ID: 016

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Sunny 70's

PROJECT NO: 01.0017869.92
DATE: 6/1/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

~~8~~ 77.3 to 85.4

SAMPLING PORT

84

TOTAL VOLUME PURGED: 1.35 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1040	0	PUMP	ON					6/7	40
1058	0.2	7.13	1.597	—	2.05	23.95	-33.4	6/7	42
1105	0.3	7.15	1.599	—	2.02	23.51	-4.8		
1112	0.35	7.15	1.588	—	2.12	23.32	+14.5		
1117	0.40	7.17	1.586	—	2.08	23.25	17.5		
1124	0.45	7.16	1.585	—	2.05	23.17	15.2		
1129	0.48	7.16	1.584	—	2.04	23.10	18.5		
1134	0.50	7.17	1.583	—	2.09	23.11	23.4		
1143	0.70	8.00	1.563	—	11.84	23.90	29.9		
1149	0.90	8.26	1.568	—	11.92	24.07	50.2		
1156	1.0	8.27	1.568	—	12.15	24.13	57.5		
1201	1.1	8.29	1.572	—	12.20	24.11	58.1		
1206	1.2	8.29	1.570	—	12.22	24.10	59.0		
1207		START	SAMPLE	COLLECTION					
1210		SAMPLE	1 2 TRACER	TEST VIALS					
			1 10 ml.	VIAL - ENTERGY ANALYSIS					
1325		SAMPLE	COMPLETED		2 L IPEC				
1325		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	

NOTES AND OBSERVATIONS:

Total volume purged 1.35 gal

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: **INDIAN POINT ENERGY CENTER**
Location: Buchanan, NY
Project #: 01.0017869.92

Date: 6/2/09
GZA Engineers: Miguel Britos
Angela Altieri

GZA Engineer:	Miguel Britos	Angela Altieri
Time Arrived onSite:	0630	
Time Left Site:	1700	

Weather: Showers upper 70's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
MW-32-149 (011)	IPEC	2 L	poly	2 vials tripec test 1-10 ml Entergy analysis		
-173 (009)						
-190 (012)						
-59 (010)						
-85 (013)						

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

WELL ID: MW 32 - 59

SAMPLE ID: 010

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Showers high 70's

6

PROJECT NO: 01.0017869.92
DATE: 6/2/09
SAMPLER(S): M. Britos

SAMPLING INTERVAL (depth in ft below top of casing)

28.3 to 61.3

SAMPLING PORT

59

TOTAL VOLUME PURGED: 4.55 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (^{0}C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1254	0							6/7	42
1305	0.6	6.78	1.099	—	4.77	20.06	28.6	6/7	40
1311	1.0	7.05	1.082	—	4.81	20.09	11.0		
1319	1.75	7.07	1.080	—	4.83	20.08	3.9	↓	↓
1327	2.30	7.20	1.080	7.74	4.80	20.09	0.9		
1334	3.0	7.40	1.090	10.01	4.77	20.09	0.8		
1340	3.5	7.41	1.100	8.94	4.81	20.05	0.7		
1346	4.0	7.47	1.113	8.47	4.81	20.01	0.5		
1351	4.4	7.47	1.118	8.63	4.83	20.04	0.3		
1353		START	SAMPLE	COLLECTION					
1356		SAMPLE :	2 vials	Tracer	Test				
			1-	10 ml	Entergy	analysis			
1359		SAMPLE	COMPLETED :	2 L	IPEC				
1359		PUMP	OFF						

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Total volume purged 4.55 gal

WELL ID: MW 32 - 85

SAMPLE ID: 013

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT:	Entergy - IPEC	PROJECT NO:	01.0017869.92
SITE:	Buchanan, NY	DATE:	6/2/09
WEATHER:	Showers high 70's 5	SAMPLER(S):	M. Britos

SAMPLING INTERVAL (depth in ft below top of casing)

79.3 to 92.8

TOTAL VOLUME PURGED: 2.35 gal

PURGE RATE: variable (gal / min)

SAMPLING PORT

85

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
1254	0	PUMP	ON					6/7	42
1305	0.2	6.97	1.453	—	1.07	20.74	-145.3	6/7	40
1312	0.3	7.00	1.457	—	0.88	20.70	-135.1	↓	↓
1319	0.5	7.03	1.479	—	0.77	20.76	-110.8		
1334	0.8	7.04	1.521	6.74	0.78	20.69	-96.0		
1340	0.9	7.05	1.534	8.43	0.82	20.62	-90.4		
1346	1.1	7.06	1.543	5.39	0.82	20.55	-88.1		
1357	1.25	7.06	1.551	4.18	0.86	20.64	-83.5		
1403	1.35	7.06	1.559	3.66	0.90	20.61	-81.4		
1411	1.65	7.06	1.568	1.47	1.02	20.43	-74.9		
1416	1.75	7.06	1.574	1.47	1.03	20.72	-71.4		
1424	1.90	7.06	1.580	1.23	1.06	20.77	-70.0		
1431	2.0	7.07	1.580	1.49	1.02	20.80	-69.7		
1436	2.1	7.07	1.581	1.42	0.99	20.83	-69.4		
1441	2.2	7.07	1.584	1.48	0.97	20.80	-69.6		
1443		START SAMPLE COLLECTION							
1453		SAMPLE : 2 vials Tracer Test							
			1 - 10 ml Entergy analysis						
1511		SAMPLE COMPLETED : 2 L IPEC							
1511		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	20070429З

NOTES AND OBSERVATIONS:

Total volume purged 2.35 gal

WELL ID: MW 32 - 190

SAMPLE ID: 019

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Showers high 70's

PROJECT NO: 01.0017869.92
DATE: 6/2/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

180.3 to 193.9

SAMPLING PORT

190

TOTAL VOLUME PURGED: 1.30 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0945	0	PUMP ON						7/7	60
0959	0.1	6.69	1.566	—	1.06	19.12	-184.6	7/8	53
1006	0.2	6.83	1.580	—	0.58	19.12	-168.8	7/8	48
1011	0.25	6.93	1.588	7.03	0.48	19.12	-178.9	↓	↓
1020	0.45	6.99	1.595	7.68	0.43	19.14	-168.8		
1027	0.60	7.02	1.597	6.52	0.39	19.18	-160.7		
1034	0.70	7.04	1.599	1.38	0.30	19.28	-154.5		
1042	0.75	7.05	1.600	0.00	0.30	19.38	-152.7		
1048	0.80	7.06	1.600	0.0	0.26	19.39	-153.6		
1053	0.90	7.06	1.598	0.0	0.29	19.49	-149.2		
1058	1.0	7.07	1.598	0.0	0.31	19.58	-147.4		
1100	1.1	7.07	1.598	0.0	0.30	19.62	-146.1		
1110	1.15	7.08	1.598	0.0	0.29	19.65	-144.7		
1114		START SAMPLE COLLECTION							
1129		SAMPLE : 2 vials tracer test							
		1 10 ml entergy analysis							
1201		SAMPLE COMPLETED : 2 L IPEC							
1201		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	5
turbidity meter	20070429З

NOTES AND OBSERVATIONS:

Total volume purged 1.30 gal

WELL ID: MW 32 - 173

SAMPLE ID: 009

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Showers high 70's

2

PROJECT NO: 01.0017869.92
DATE: 6/2/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

165.8 to 174.3

SAMPLING PORT

173

TOTAL VOLUME PURGED: 2.15 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0945	0	PUMP ON						7/7	60
1000	0.25	6.88	1.899	—	0.42	19.13	-255.2	7/8	53
1006	0.35	6.95	1.901	—	0.28	19.14	-222.1	7/8	48
1012	0.50	7.01	1.900	5.80	0.20	19.17	-225.8		
1020	0.76	7.05	1.897	7.39	0.17	19.19	-217.4		
1027	0.80	7.07	1.894	3.58	0.14	19.26	-209.8		
1034	1.0	7.08	1.892	0.81	0.13	19.34	-207.4		
1042	1.1	7.09	1.891	2.50	0.13	19.37	-169.4		
1048	1.2	7.10	1.890	0.0	0.10	19.42	-183.7		
1053	1.3	7.10	1.890	2.32	0.11	19.48	-172.8		
1059	1.5	7.11	1.888	1.15	0.10	19.59	-166.2		
1106	1.7	7.12	1.887	0.98	0.10	19.63	-160.4		
1117	1.8	7.12	1.887	0.96	0.09	19.66	-163.1		
1124	2.0	7.12	1.885	1.00	0.10	19.69	-160.8	↓	↓
1126		START SAMPLE COLLECTION							
1137		SAMPLE : {2 vials tracer test							
		{1-10 ml Entergy analysis							
1158		SAMPLE COMPLETED: 2 L IPEC							
1158		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	1
turbidity meter	20070429 3

NOTES AND OBSERVATIONS:

Total volume purged 2.15 gal

WELL ID: MW 32 - 149

SAMPLE ID: 011

GZA GeoEnvironmental of New York
Waterloo Sampling Data Sheet

CLIENT: Entergy - IPEC
SITE: Buchanan, NY
WEATHER: Showers high 70's 3

PROJECT NO: 01.0017869.92
DATE: 6/2/09
SAMPLER(S): M. BRITOS

SAMPLING INTERVAL (depth in ft below top of casing)

147.3 to 156.8

SAMPLING PORT

149

TOTAL VOLUME PURGED: 1.45 gal

PURGE RATE: variable (gal / min)

PURGE METHOD: Double Valve Pump

WATER QUALITY:

Time	Purged Volume (gal)	pH (SU)	Specific Conductivity (mS/m)	Turbidity (NTU)	Dissolved Oxygen (mg/l)	Temp (°C)	ORP	Drive/Vent Cycle (seconds)	Drive Pressure (psi)
0945	0	PUMP ON						7/7	60
1001	0.2	7.05	1.966	—	1.03	19.12	-215.2	7/8	53
1007	0.3	7.10	1.974	—	0.75	19.11	-187.2	7/8	48
1012	0.4	7.15	1.993	5.89	0.53	19.15	-200.9		
1020	0.5	7.18	2.012	6.24	0.42	19.18	-208.1		
1027	0.60	7.19	2.019	4.78	0.34	19.26	-193.2		
1035	0.75	7.20	2.031	2.36	0.32	19.33	-197.2		
1043	0.80	7.21	2.038	2.51	0.30	19.42	-197.6		
1049	0.90	7.21	2.042	2.51	0.26	19.47	-196.8		
1054	1.0	7.21	2.044	0.0	0.25	19.60	-197.6		
1059	1.1	7.22	2.050	1.38	0.25	19.69	-180.1		
1107	1.15	7.22	2.055	1.41	0.25	19.72	-178.6		
1117	1.30	7.23	2.060	1.40	0.24	19.73	-179.4	↓	↓
1119		START SAMPLE COLLECTION							
1142		SAMPLE : {2 vials tracer test							
		{1 - 10 ml Entergy analysis							
1205		SAMPLE COMPLETED: 2 L IPEC							
1205		PUMP OFF							

Equipment Used	Equipment Identification #
YSI 556 MPS Reader and 5563 Sonde	3
turbidity meter	200704293

NOTES AND OBSERVATIONS:

Total volume purged 1.45 gal

GZA FIELD ACTIVITIES SHEET

Project: Radiological Groundwater Sampling Program
Client: Entergy Nuclear NorthEast
Site: **INDIAN POINT ENERGY CENTER**
Location: Buchanan, NY
Project #: 01.0017869.92

Date: 6/3/09
GZA Engineers: Miguel Britos
Angela Altieri

GZA Engineer:	Miguel Britos	Angela Altieri
Time Arrived onSite:	0630	
Time Left Site:	1600	

Weather: Sunny 70's

WELL SAMPLING ACTIVITIES

Well ID	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)	Designation (IPEC, NRC, REL, CAP, etc.)	Quantity/ Volume	container type (voa, amber, poly, glass)
B-6 (006)	IPEC	2 L	poly			
B-1 (006)	↓	↓	↓			
MH5 (005)						

TRANSDUCER DOWNLOADING AND INSTALLATIONS

Well ID	ACTIVITY (check)		Special Notes/Issues/Observations	Follow-up Required?
	Download	Installation		

MEETINGS, SPECIAL ACTIVITIES, NOTABLE EVENTS, DELAYS, NOTES

APPENDIX F: DOSE CALCULATIONS

Facility Groundwater Flux Calculation

Site Indian Point
Job No. 17869.91

Prepared By: JAS
Reviewed By: mjb

Parameter Values:

year
2009

Totals

	Total Catchment Zone (ft^2)	Total Improved Zone (ft^2)	Recharge (ft/yr)	Precipitation (ft/yr)	
	3,969,765	1,432,972	0.70	2.69	

Surface Area

Northern Clean Zone Improved (ft^2)	Unit 2 North Improved Zone (ft^2)	Unit 1/2 Improved Zone (ft^2)	Unit 3 North Improved Zone (ft^2)	Unit 3 South Improved Zone (ft^2)	Southern Clean Improved Zone (ft^2)
0	148,214	433,904	316,210	321,290	213,354
Northern Clean Unimproved Zone (ft^2)	**Unit 2 North Unimproved Zone (ft^2)**	**Unit 1/2 Unimproved Zone (ft^2)**	**Unit 3 North Unimproved Zone (ft^2)**	**Unit 3 South Unimproved Zone (ft^2)**	**Southern Clean Zone Unimproved (ft^2)**
106,429	204,317	438,221	323,116	268.862	585,600
Discounted Area Within Zone	**Discounted Area Within Zone**	**Discounted Area Within Zone**	**Discounted Area Within Zone**	**Discounted Area Within Zone**	**Discounted Area Within Zone**
50,265	0	291,186	106,718	17,730	144,347
Northern Clean Zone Catchment (ft^2)	**Unit 2 North Catchment Zone (ft^2)**	**Unit 1/2 Catchment Zone (ft^2)**	**Unit 3 North Catchment Zone (ft^2)**	**Unit 3 South Zone (ft^2)**	**Southern Clean Zone (ft^2)**
156,694	352,531	1,163,311	746,044	607 882	943,302

Activity (pCi/L)

Groundwater

	Northern Clean Zone Catchment	Unit 2 North	Unit 1/2	Unit 3 North	Unit 3 South Zone	Southern Clean Zone
Upper Zone Before Canal	150	297	3,031	327	778	227
Lower Zone Before Canal	150	251	2,750	1,143	480	210

	Northern Clean Zone	Unit 2 North	Unit 1/2	Unit 3 North	Unit 3 South Zone	Southern Clean Zone
Upper Zone After Canal	150	198	3,121	376	778	227
Lower Zone After Canal	150	575	1,061	511	480	210

Stormwater Discharging to Canal (pCi/L)

Storm Water for Northern Clean Zone	Storm Water for Unit 2 North	Storm Water for Unit 1/2	Storm Water for Unit 3 North	Storm Water for Unit 3 South	Storm Water for Southern Clean Zone
	1,276		0	0	0
NA	*Avg MH-4a*	*NA*	*Avg CB-14 and CB-34*	*Avg U3-CB-B8*	*Avg D1, C3, E6, & E10*

Stormwater Discharging to River (pCi/L)

Storm Water for Northern Clean Zone	Storm Water for Unit 2 North	Storm Water for Unit 1/2	Storm Water for Unit 3 North	Storm Water for Unit 3 South	Storm Water for Southern Clean Zone
	613	0	683		251
NA	*Avg. MH-1 and MH-12*	*Avg MH-14*	*Avg CB-15*	*NA*	*Avg E13,CB-C2*

Potential Water Received by Storm Drain System

=(Improved Area) x Precipitation

Northern Clean Area	Unit 2 North	Unit 1/2	Unit 3 North	Unit 3 South	Southern Clean Zone	Units
0	398.572	1,166,841	850,342	864,001	573,746	ft^3/yr
0	1.092	3,197	2,330	2,367	1,572	ft^3/day
0.00	5.67	16.61	12.10	12.30	8.17	GPM
0	11,286.298	33,041,245	24,079,009	24,465,788	16,246,670	L/Yr

The total amount of water available to be received by the storm system is computed as the combined area of buildings and paved areas in the catchment multiplied by the annual precipitation rate. Note this conservatively assumes that the amount of water lost to the atmosphere or other sinks after precipitation has fallen on paved or built up surfaces is zero.

Water Directly Recharged to Aquifer from Precipitation

=Unimproved Area x Recharge

Northern Clean Area	Unit 2 North	Unit 1/2	Unit 3 North	Unit 3 South	Southern Clean Zone	Units
74,414	142.855	306,397	225,917	187,984	409,442	ft^3/yr
204	391	839	619	515	1,122	ft^3/day
1.06	2.03	4.36	3.22	2.68	5.83	GPM
2,107,156	4,045 210	8,676,196	6,397,256	5,323,118	11,594,104	L/Yr

Note that this calculation reflects recharge to the aquifer in non-paved areas. The Recharge value listed above and used in this calculation reflects only that portion of precipitation that actually recharges the aquifer.

Water Recharged to Aquifer (Direct Recharge Plus Storm Water Leakage Minus Building Drain Removal)

=(Direct Recharge + X% Water Received by Storm System) - (Y% x Water Removed by Building Drains)

Total Water Discharged to Aquifer

	[Northern Clean Area Catchment + (0% Storm Drain Water)][1]	[Unit 2 North + (50% Storm Drain Water)]-[5gpm]	[Unit 1/2 Area Catchment + (30% Storm Drain Water)]-[7.5 gpm]	[Unit 3 North Area Catchment + (60% Storm Drain Water)]-[7.5gpm]	[Unit 3 South Area + (10% Storm Drain Water)]	[Southern Clean Zone Area + (40% Storm Drain Water)]	Units
Upper and Lower Zone	74,414	-9.171	129,480	209,154	274,384	638,940	ft^3/yr
	204	-25	355	573	752	1,751	ft^3/day
	1.06	-0.13	1.84	2.98	3.91	9.09	GPM
	2,107,156	-259.703	3,666,477	5,922,569	7,769,697	18,092,772	L/Yr

[1] There are no improved surfaces in Northern Clean Zone.

While actual footing drain flow rates will vary with the magnitude and/or intensity of precipitation, the Unit 2 North Zone calculation includes a constant removal of 5 gpm from the groundwater system by the Unit 2 footing drain. This flow rate is fixed in the model because continuous flow data for the drain is not routinely measured. The value of 5 gpm is based on measurements made during the pumping test conducted on RW-1 in 2006. Since yearly precipitation prior to Q2 2009 was ~4 inches less than the fourteen year average, the actual footing drain withdrawal rate was likely less than the fixed 5 gpm value used by the model. As such, the model indicates that all the groundwater flow in this zone is accounted for by the drain (i.e., the model shows no groundwater flow to the river for the Q2 2009 data set. While it is likely that the footing drain flow rate is less than 5 gpm and some groundwater does flow to the river through this zone, the model approximation is conservative (i.e., results in a high bias to the dose computation). This is because the water removed from the Unit 2 footing drain, which would otherwise contribute to groundwater flow, is applied to the Unit 2 storm-drain water discharging to the canal through MH-4. This flow rate is multiplied times the radionuclide levels measured in MH-4, which are much higher than those applied to groundwater flowing through the Unit 2 North Zone.

Groundwater Discharged to Canal

=Water Recharged to Aquifer x X% flowing to Canal

	Northern Clean Area Catchment x 0%	Unit 2 North x 15.2%	Unit 1/2 Area Catchment 24.2%	Unit 3 North Area Catchment x 22.9%	Unit 3 South Area x68.4%	Southern Clean Zone Area x 0%	Units
Upper and Lower Zone	0	-1.394	31,334	47.896	187,679	0	ft^3/yr
	0	-4	86	131	514	0	ft^3/day
	0.00	-0.02	0.45	0.68	2.67	0.00	GPM
	0	-39.475	887,287	1,356,268	5,314,473	0	L/Yr

Groundwater Discharged to River

=Water Recharged to Aquifer x X% flowing to River x Y% Flowing in Appropriate Vertical Zone

	Northern Clean Area Catchment x 100% x 59.3%	Unit 2 North x 84.8% x 15.1%	Unit 1/2 Area Catchment x 75.8% x 11.7%	Unit 3 North Area Catchment x 77.1% x 47.9%	Unit 3 South Area x 31.6% x 31.3%	Southern Clean Zone Area x 100% x 55.2%	Units
Upper Zone	44,127	-1.174	11,483	77,242	27,139	352,695	ft^3/yr
	121	-3	31	212	74	966	ft^3/day
	0.63	-0.02	0.16	1.10	0.39	5.02	GPM
	1,249,543	-33.254	325,165	2,187,258	768,485	9,987,210	L/Yr
	Northern Clean Area Catchment x 100% x 40.7%	Unit 2 North x 84.8% x 84.9%	Unit 1/2 Area Catchment 75.8% x 88.3%	Unit 3 North Area Catchment x 77.1% x 52.1%	Unit 3 South Area x 31.6% x 68.7%	Southern Clean Zone Area x 100% x 44.8%	Units
Lower Zone	30,286	-6.603	86,663	84,015	59,567	286,245	ft^3/yr
	83	-18	237	230	163	784	ft^3/day
	0.43	-0.09	1.23	1.20	0.85	4.07	GPM
	857,612	-186.974	2,454,024	2,379,043	1,686,739	8,105,562	L/Yr

Water Remaining in Storm Drains and Discharged to Canal

=Storm Drain Water x X% Not Leaking to Groundwater and Not Discharging to River

Northern Clean Area Catchment (0% Storm Drain Water)	Unit 2 North (45% Unit 2 North and 30% of Unit 1/2 Storm Drain Water). Plus 5 gpm (351k cf/yr) from U2 footing drain.	Unit 1/2 Area Catchment (0% Storm Drain Water)	Unit 3 North Area Catchment (3% Unit 3 North Storm Drain Water)	Unit 3 South Area (3% Unit 3 North and 42% Unit 3 South Storm Drain Water)	Southern Clean Zone Area (30% Unit 1/2, 27% Unit 3 North, 43% Unit 3 South, and 55% Southern Clean Zone Storm Drain Water)	Units
0	880 410	0	25,510	388,391	1,266,725	ft^3/yr
0	2.412	0	70	1,064	3,470	ft^3/day
0	12.53	0.00	0.36	5.53	18.03	GPM
0	24,931.628	0	722,370	10,998,001	35,869,663	L/Yr

Water Remaining in Storm Drains and Discharged to River

Northern Clean Area Catchment (0% Storm Drain Water)	Unit 2 North (5% Storm Drain Water)	Unit 1/2 Area Catchment (10% Storm Drain Water)	Unit 3 North Area Catchment (7% Storm Drain Water)	Unit 3 South Area (5% Storm Drain Water)	Southern Clean Zone Area (5% Storm Drain Water)	Units
0	19.929	116,684	59,524	43,200	28,687	ft^3/yr
0	55	320	163	118	79	ft^3/day
0	0.28	1.66	0.85	0.61	0.41	GPM
0	564.315	3,304,125	1,685,531	1,223,289	812,334	L/Yr

Facility Groundwater Flux Calculation

Site Indian Point
Job No. 17869.91

Prepared By: JAS
Reviewed By: mjb

Flux Calculations

Conceptual Model: Migration Pathway Summary

	Northern Clean Area	Unit 2 North	Unit 1/2	Unit 3 North	Unit 3 South	Southern Clean Zone
GW	100% Upper and Lower Zone To River	84.8% Upper Zone and Lower Zone Flow To River. 15.2% Upper Zone and Lower Zone Flow to Canal	75.8% Upper Zone and Lower Zone To River. 24.2% Upper Zone and Lower Zone to Canal	77.1% Upper Zone and Lower Zone To River. 22.9% Upper Zone and Lower Zone to Canal	31.6% Upper Zone and Lower Zone To River. 68.4% Upper Zone and Lower Zone to Canal	100% Upper and Lower Zone To River
SW	NA	To Canal (Storm Water Considered Clean; Estimated at 5.5 GPM) and To River (5% Storm Water)	To Canal (60% Storm Water) and To River (10% Storm Water)	To Canal (33% Storm Water) and To River (7% Storm Water)	To Canal (85% Storm Water) and To River (5% Storm Water)	To Canal (55% Storm Water) and To River (5% Storm Water)

Flux (pCi/Yr)

	North Clean Area	Unit 2 North	Unit 1/2	Unit 3 North	Unit 3 South	South Clean Zone	Total
GW to River-Upper Zone	1.87E+08	0.00E+00	1.01E+09	8.23E+08	5.98E+08	2.26E+09	**4.88E+09**
GW to River-Lower Zone	1.29E+08	0.00E+00	2.60E+09	1.22E+09	8.09E+08	1.71E+09	**6.46E+09**
GW to Canal	0.00E+00	0.00E+00	2.69E+09	4.43E+08	4.13E+09	0.00E+00	**7.27E+09**
SW to Canal	NA	3.18E+10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**3.18E+10**
SW to River	NA	3.46E+08	0.00E+00	1.15E+09	0.00E+00	2.04E+08	**1.70E+09**
						Curies/Yr ==>	**0.05**

Notes:

The recharge rate used herein, 26% of precipitation (~10 in/yr), is within the range of values discussed in the USGS modeling report[1] The reported recharge ranged from 3.6 inches/year to 7.5 inches/year for a till to 20 inches per year for coarse grained glacially stratified deposits. A yearly rolling average precipitation value measured at the Facility meteorological station is also used in the computations. The catchment area was defined using an AutoCAD topo map for the Site and surrounding area. The catchment was defined by starting at the area marked "line of water grant" and tracking east, away from the River, to define portions of the land surface contributing water to the selected discharge zone. Calculations assume that run-off or overland flow in unimproved areas of the Site is negligible, there are no changes in storage and the Hudson River is a gaining stream.

1. USGS. Water Use, Ground-Water Recharge and Availability, and Quality of Water in the Greenwich Area, Fairfield County. Connecticut and Westchester County, New York, 2000-2002

APPENDIX G: UNIT 2 TRITIUM PLUME TREND ANALYSES

TABLE G1
MANN-KENDALL TREND EVALUATION SUMMARY
TRITIUM IN GROUNDWATER NEAR UNIT 2
INDIAN POINT ENERGY CENTER
BUCHANAN, NY

Well ID	Number of Data Points	Number of Times below MDC	Minimum Tritium Activity (pCi/L)	Maximum Tritium Activity (pCi/L)	Mann-Kendall Statistic (S)	Normalized Test Statistic (Z)	Probability	Trend at 95% Level of Significance
MW-30-69	28	0	7.36E+04	6.01E+05	-127.00	-2.49	0.994	decreasing
MW-30-84	15	0	3.78E+03	1.25E+04	-45.00	-2.18	0.985	decreasing
MW-31-49	26	0	2.98E+02	4.84E+04	-3	-0.04	0.518	no trend
MW-31-63	14	0	5.00E+03	4.06E+04	17	0.88	0.809	no trend
MW-31-85	14	0	3.17E+02	1.88E+04	53	2.85	0.998	increasing
MW-32-59	13	0	4.13E+02	6.43E+04	-24	-1.40	0.920	no trend
MW-32-85	12	0	5.42E+03	1.26E+04	-4	-0.21	0.581	no trend
MW-32-131	6	1	1.29E+02	1.13E+04	2	NA	0.575	no trend
MW-32-149	10	0	4.93E+02	1.05E+04	-27	-2.33	0.990	decreasing
MW-32-173	8	0	7.56E+02	5.89E+03	-24	NA	0.998	decreasing
MW-32-190	11	0	1.72E+03	1.13E+04	-23	-1.71	0.957	decreasing
MW-33	22	0	2.30E+04	2.64E+05	-85	-2.37	0.991	decreasing
MW-34	18	0	1.05E+04	2.76E+05	-19	-0.68	0.752	no trend
MW-35	19	0	1.04E+03	1.19E+05	-75	-2.59	0.995	decreasing
MW-36-24	12	2	1.54E+02	3.42E+04	-6	-0.34	0.634	no trend
MW-36-52	12	0	6.06E+03	2.68E+04	-46	-3.09	0.999	decreasing
MW-37-22	14	0	2.26E+03	3.49E+04	-47	-2.52	0.994	decreasing
MW-37-32	14	0	2.49E+03	3.01E+04	-57	-3.07	0.999	decreasing
MW-37-40	13	0	4.38E+03	1.70E+04	-64	-3.84	1.000	decreasing
MW-37-57	14	0	4.27E+03	4.48E+04	-55	-2.96	0.998	decreasing
MW-42-49	14	0	1.12E+03	7.22E+04	-3	-0.11	0.544	no trend
MW-42-78	9	0	3.46E+02	1.28E+03	-20	NA	0.976	decreasing
MW-49-26	16	0	3.10E+03	1.54E+04	-98	-4.37	1.000	decreasing
MW-49-42	16	0	2.25E+03	1.13E+04	-104	-4.64	1.000	decreasing
MW-49-65	16	0	1.26E+03	5.76E+03	-90	-4.01	1.000	decreasing
MW-50-42	17	4	1.01E+02	9.75E+03	-57	-2.31	0.989	decreasing
MW-50-66	21	0	2.08E+03	1.08E+04	-158	-4.74	1.000	decreasing
MW-53-82	11	0	4.54E+02	1.32E+04	-5	-0.31	0.622	no trend
MW-53-120	14	0	4.42E+03	9.61E+03	-45	-2.41	0.992	decreasing
MW-55-24	10	0	7.82E+02	3.08E+03	-26	-2.24	0.987	decreasing
MW-55-35	9	0	8.53E+02	9.04E+03	-20	NA	0.976	decreasing
MW-55-54	10	0	5.96E+03	1.31E+04	-27	-2.33	0.990	decreasing
MW-111	30	0	6.81E+03	5.78E+05	-138	-2.44	0.993	decreasing

Notes: Calculations based on Mann-Kendall trend evaluations as presented in U.S. EPA Practical Methods for Data Analysis, U.S. EPA QA/G-9 QA00 UPDATE, July 2000, Section 4.3.4

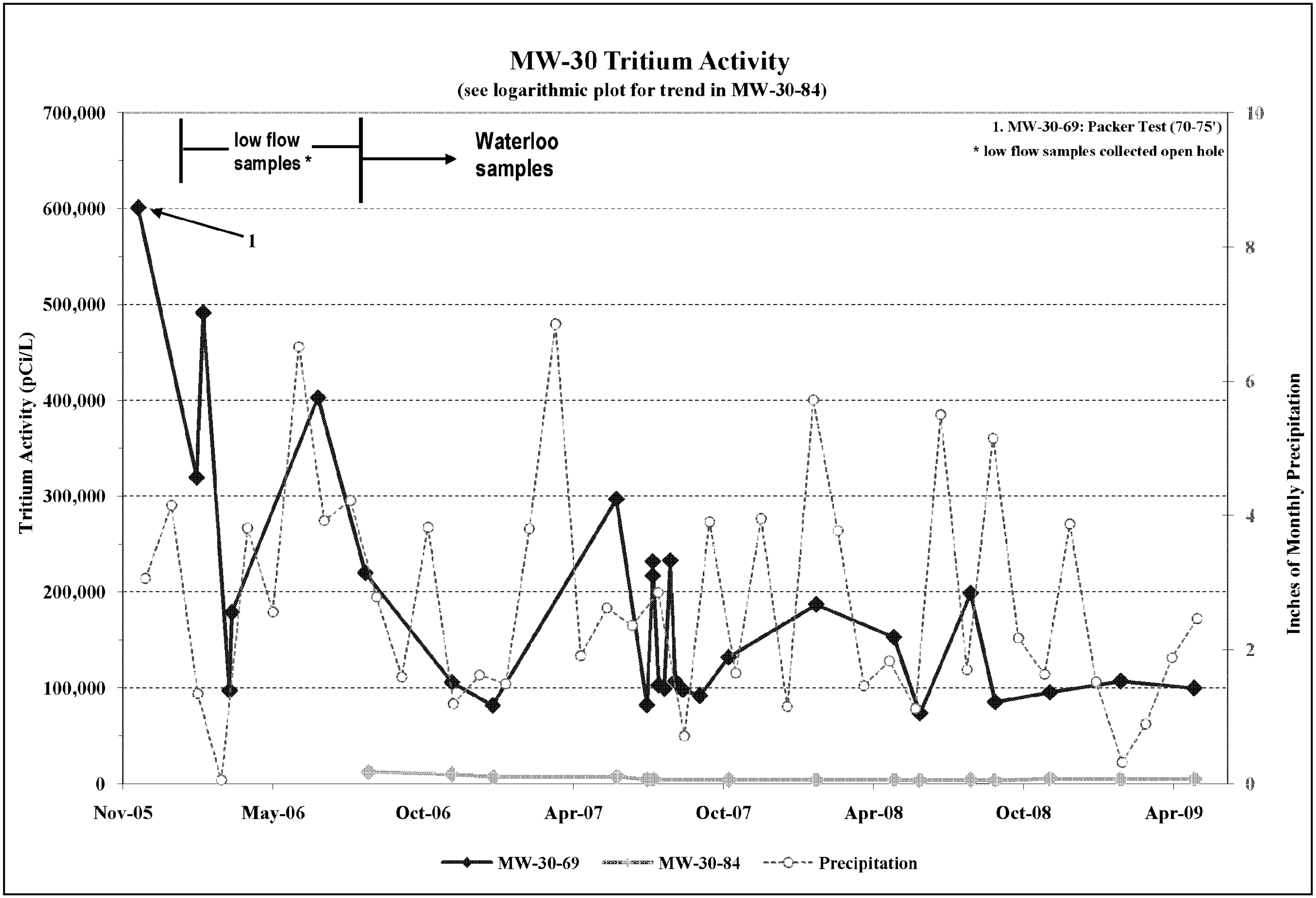

MW-30 Tritium Activity
(see logarithmic plot for trend in MW-30-84)
low flow samples *
Waterloo samples
1. MW-30-69: Packer Test (70-75')
* low flow samples collected open hole
1
Tritium Activity (pCi/L)
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Inches of Monthly Precipitation
10
8
6
4
2
0
Nov-05
May-06
Oct-06
Apr-07
Oct-07
Apr-08
Oct-08
Apr-09
MW-30-69
MW-30-84
Precipitation

FIGURE G1

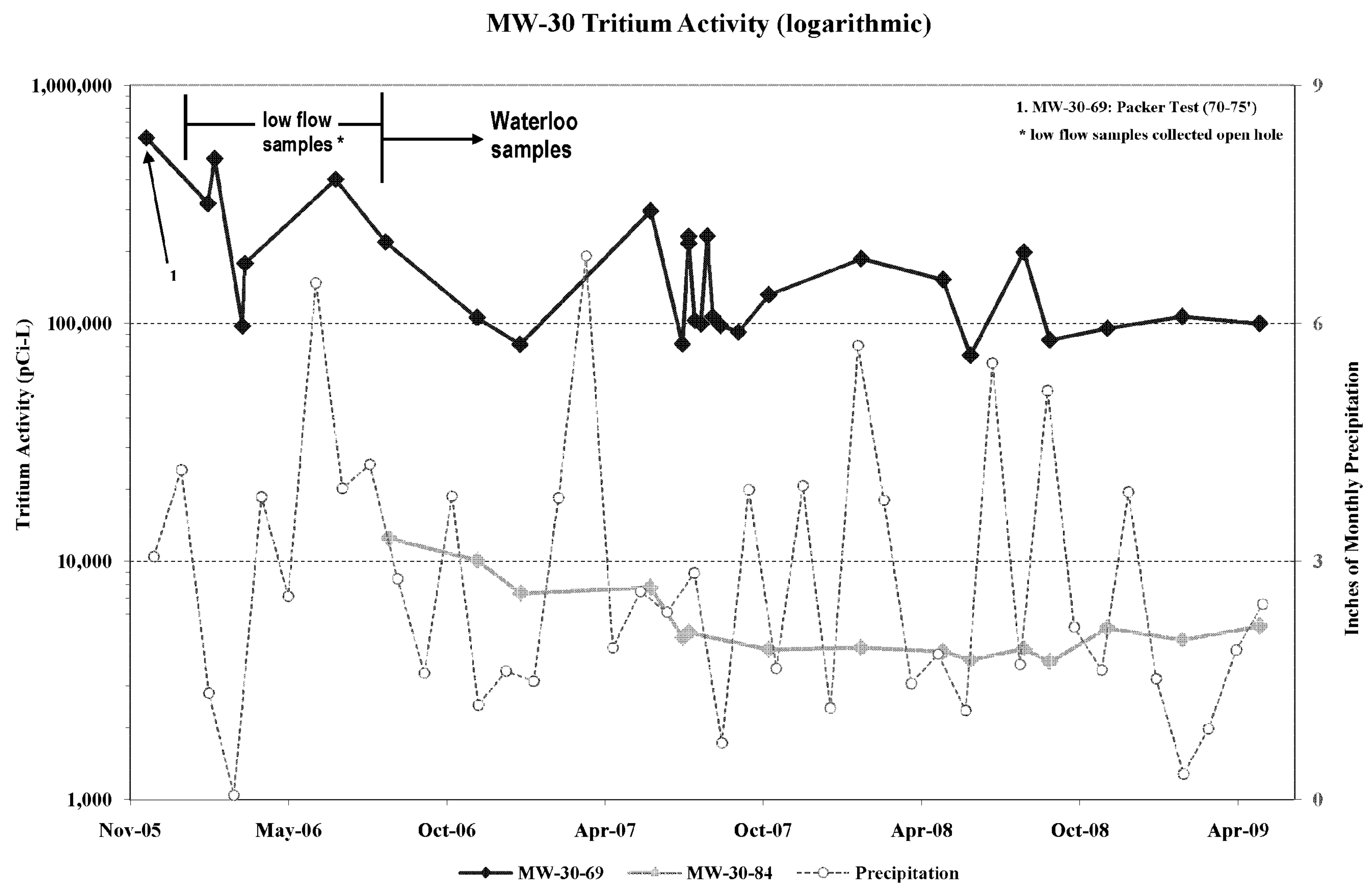

MW-30 Tritium Activity (logarithmic)
1,000,000
100,000
10,000
1,000
Tritium Activity (pCi-L)
9
6
3
0
Inches of Monthly Precipitation
Nov-05
May-06
Oct-06
Apr-07
Oct-07
Apr-08
Oct-08
Apr-09
low flow samples *
Waterloo samples
1
1. MW-30-69: Packer Test (70-75')
* low flow samples collected open hole
MW-30-69
MW-30-84
Precipitation

FIGURE G1a

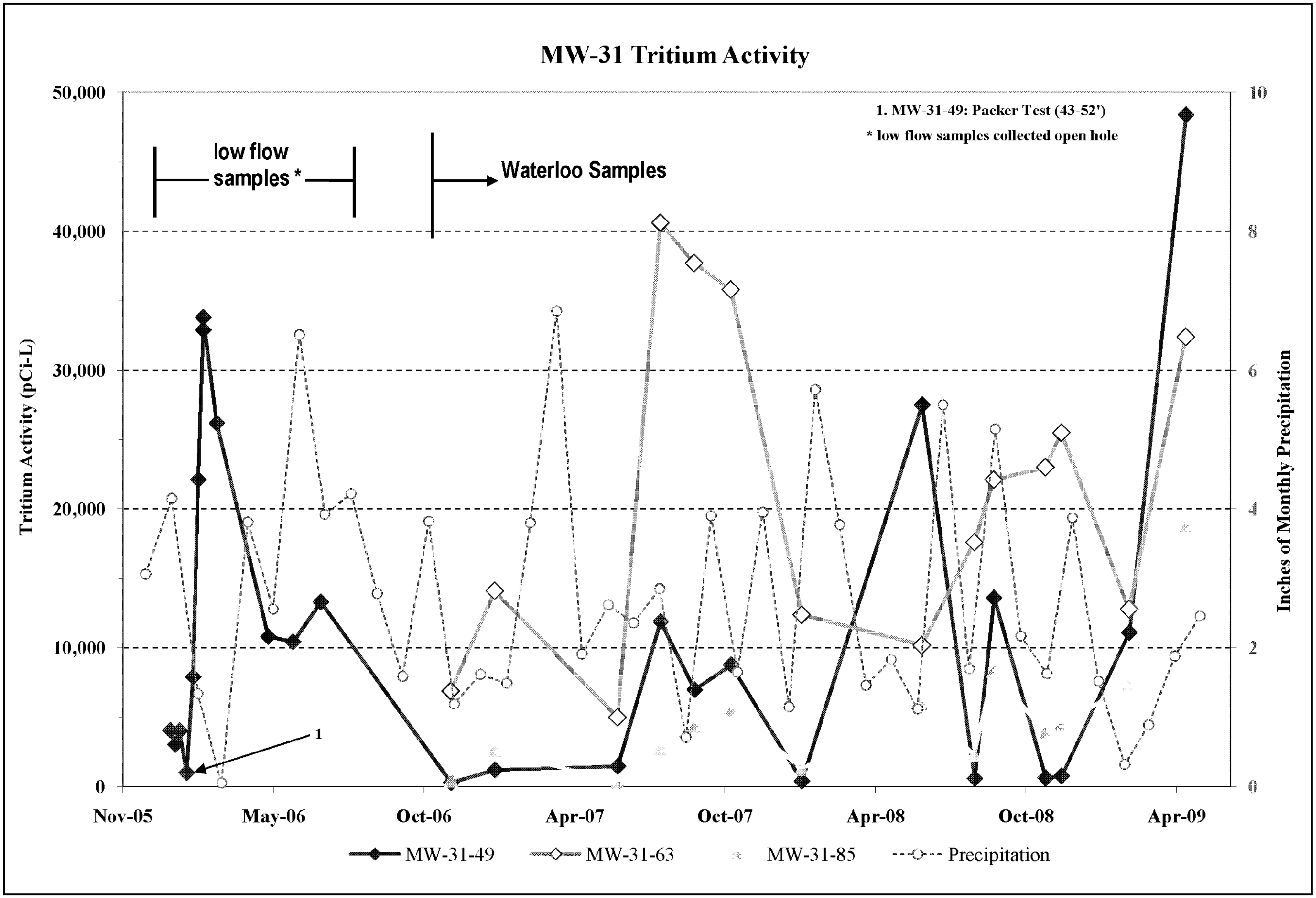

MW-31 Tritium Activity
50,000
40,000
30,000
20,000
10,000
0
Tritium Activity (pCi-L)
10
8
6
4
2
0
Inches of Monthly Precipitation
Nov-05
May-06
Oct-06
Apr-07
Oct-07
Apr-08
Oct-08
Apr-09
low flow samples *
Waterloo Samples
1
1. MW-31-49: Packer Test (43-52')
* low flow samples collected open hole
MW-31-49
MW-31-63
MW-31-85
Precipitation

FIGURE G2

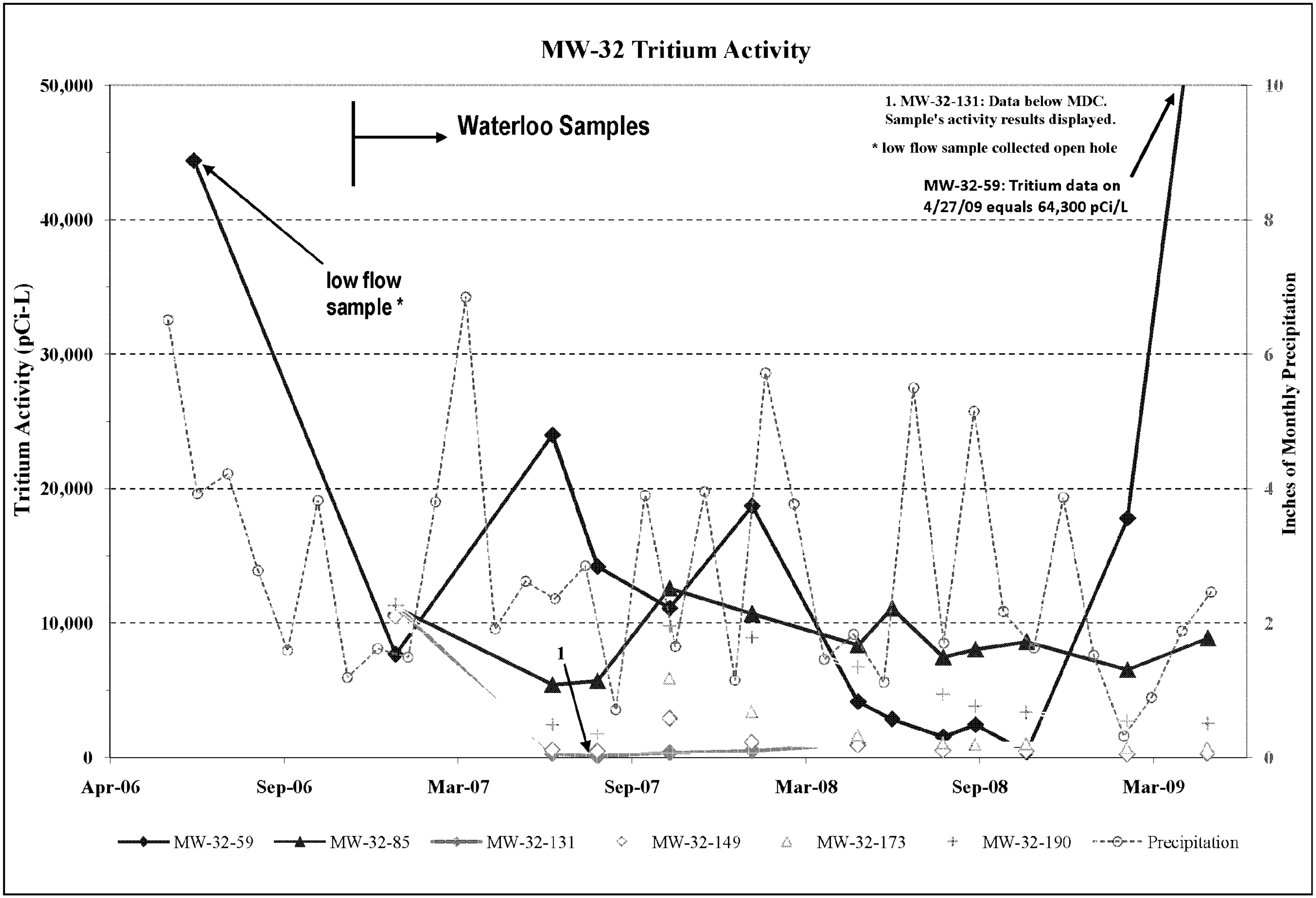

MW-32 Tritium Activity
Tritium Activity (pCi-L)
50,000
40,000
30,000
20,000
10,000
0
Inches of Monthly Precipitation
10
8
6
4
2
0
Apr-06
Sep-06
Mar-07
Sep-07
Mar-08
Sep-08
Mar-09
Waterloo Samples
low flow sample *
1
1. MW-32-131: Data below MDC. Sample's activity results displayed.
* low flow sample collected open hole
MW-32-59: Tritium data on 4/27/09 equals 64,300 pCi/L
MW-32-59
MW-32-85
MW-32-131
MW-32-149
MW-32-173
MW-32-190
Precipitation

FIGURE G3

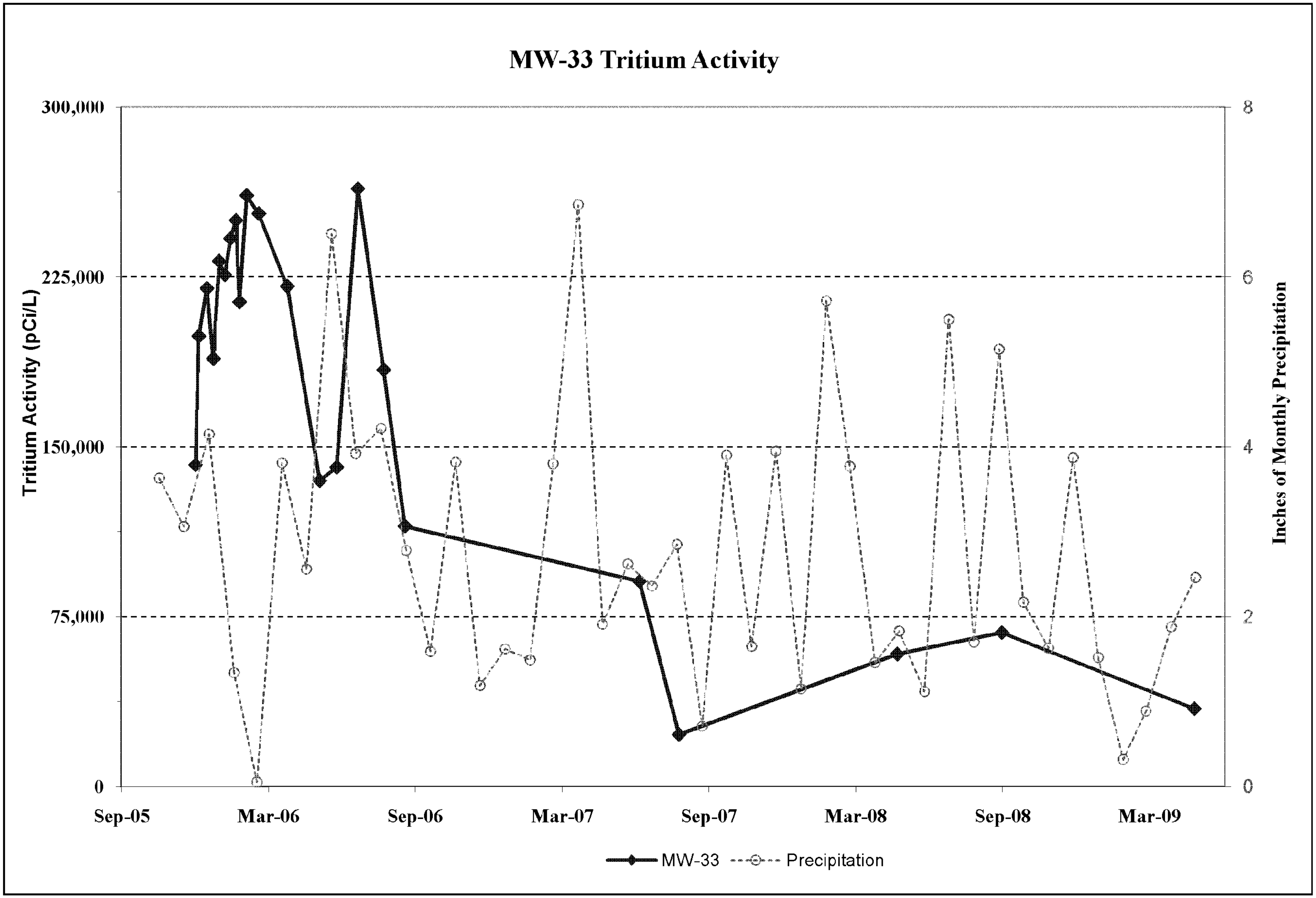

MW-33 Tritium Activity
Tritium Activity (pCi/L)
300,000
225,000
150,000
75,000
0
Inches of Monthly Precipitation
8
6
4
2
0
Sep-05
Mar-06
Sep-06
Mar-07
Sep-07
Mar-08
Sep-08
Mar-09
MW-33
Precipitation

FIGURE G4

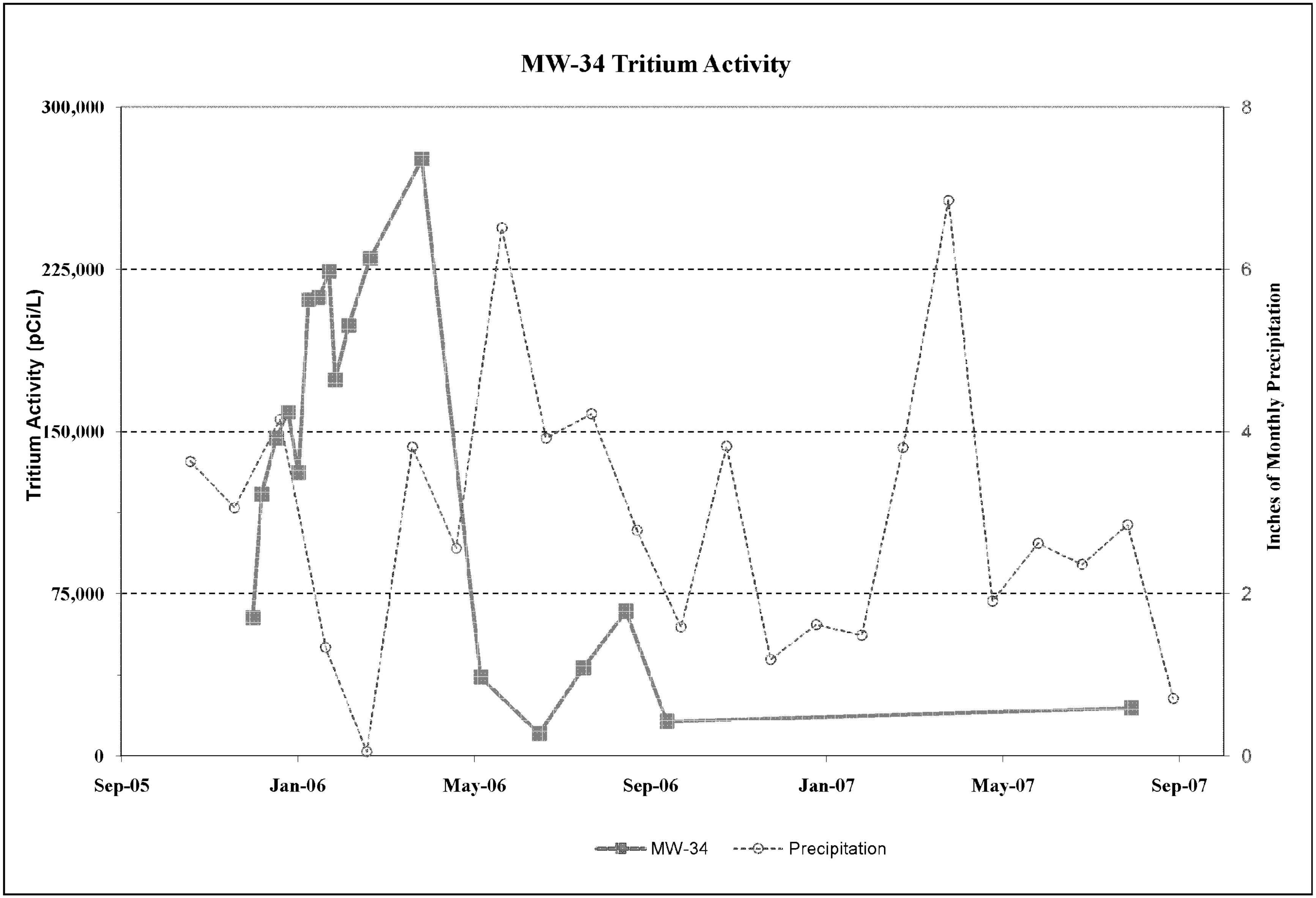

MW-34 Tritium Activity
Tritium Activity (pCi/L)
300,000
225,000
150,000
75,000
0
Inches of Monthly Precipitation
8
6
4
2
0
Sep-05
Jan-06
May-06
Sep-06
Jan-07
May-07
Sep-07
MW-34
Precipitation

FIGURE G5

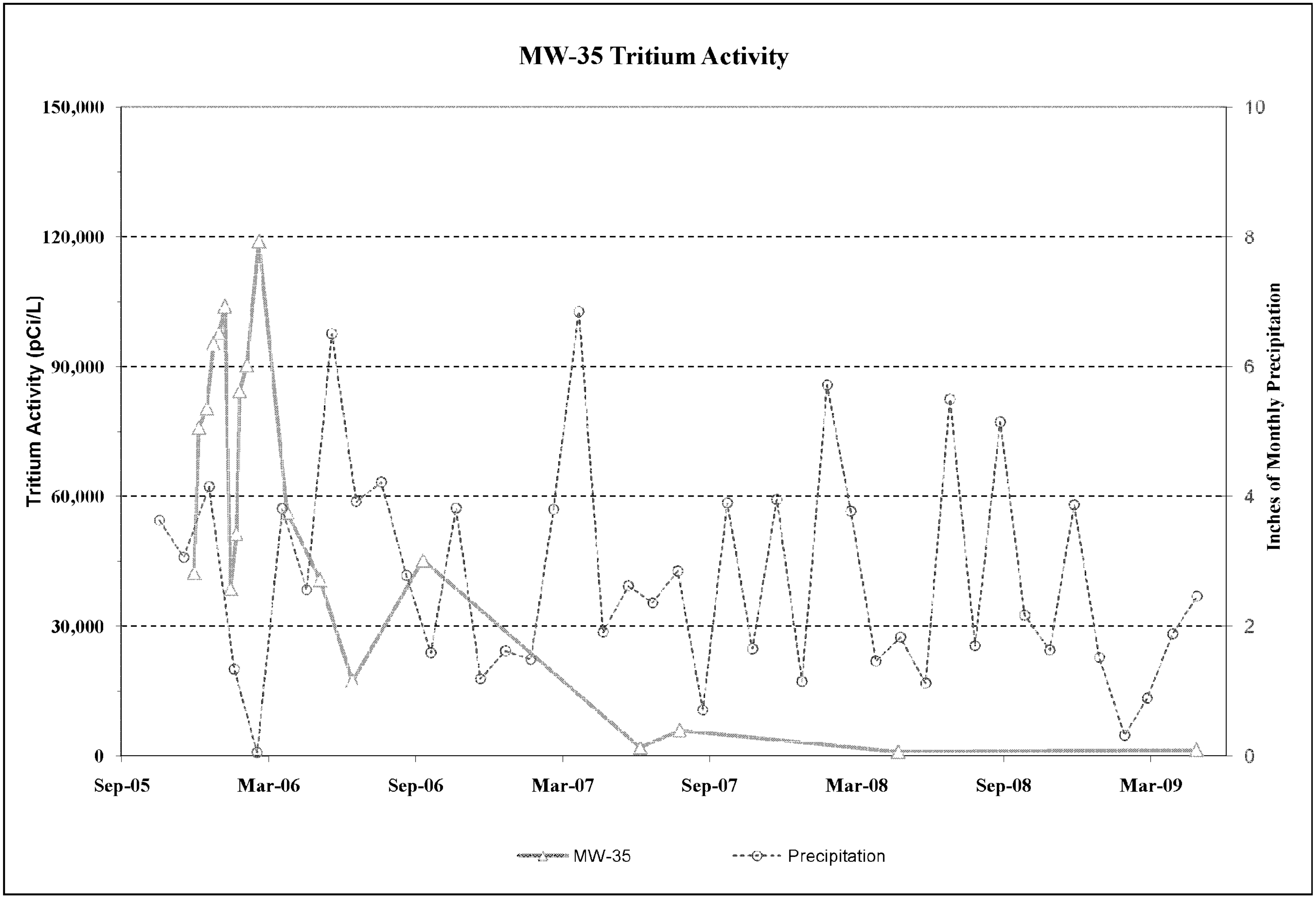

MW-35 Tritium Activity
Tritium Activity (pCi/L)
150,000
120,000
90,000
60,000
30,000
0
Inches of Monthly Precipitation
10
8
6
4
2
0
Sep-05
Mar-06
Sep-06
Mar-07
Sep-07
Mar-08
Sep-08
Mar-09
MW-35
Precipitation

FIGURE G6

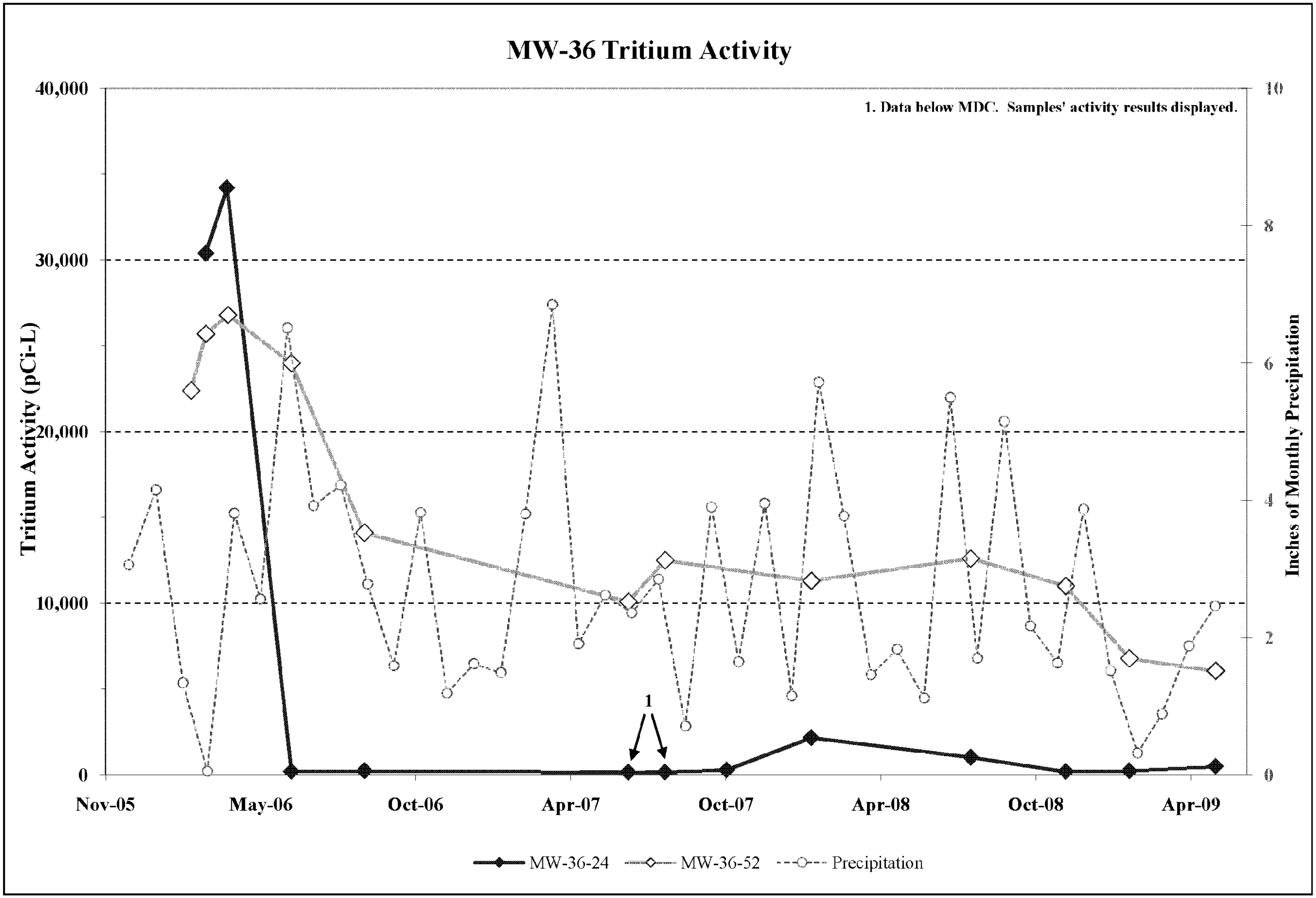

MW-36 Tritium Activity
1. Data below MDC. Samples' activity results displayed.
Tritium Activity (pCi-L)
40,000
30,000
20,000
10,000
0
Inches of Monthly Precipitation
10
8
6
4
2
0
1
Nov-05
May-06
Oct-06
Apr-07
Oct-07
Apr-08
Oct-08
Apr-09
MW-36-24
MW-36-52
Precipitation

FIGURE G7

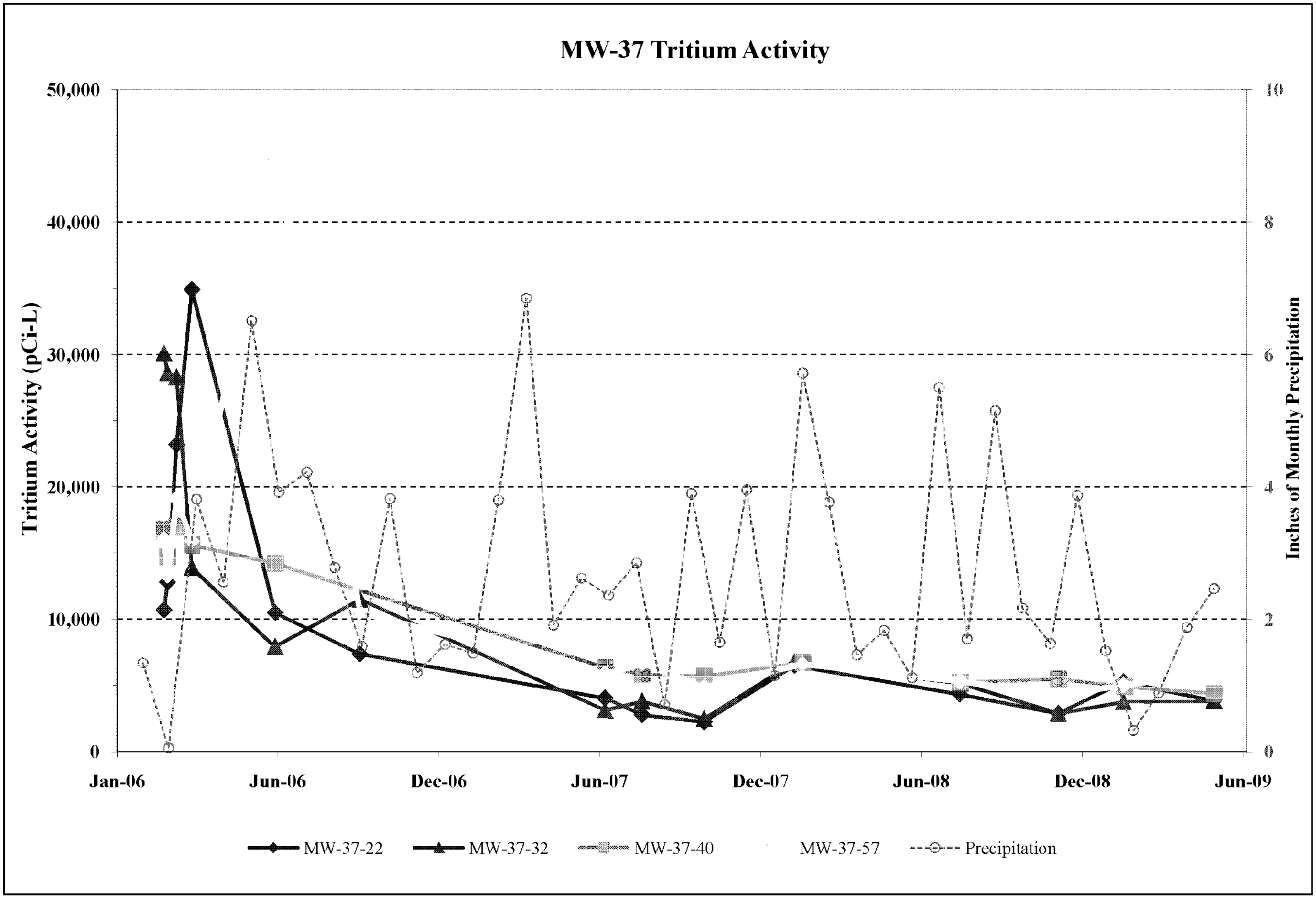

MW-37 Tritium Activity
Tritium Activity (pCi-L)
50,000
40,000
30,000
20,000
10,000
0
Inches of Monthly Precipitation
10
8
6
4
2
0
Jan-06
Jun-06
Dec-06
Jun-07
Dec-07
Jun-08
Dec-08
Jun-09
MW-37-22
MW-37-32
MW-37-40
MW-37-57
Precipitation

FIGURE G8

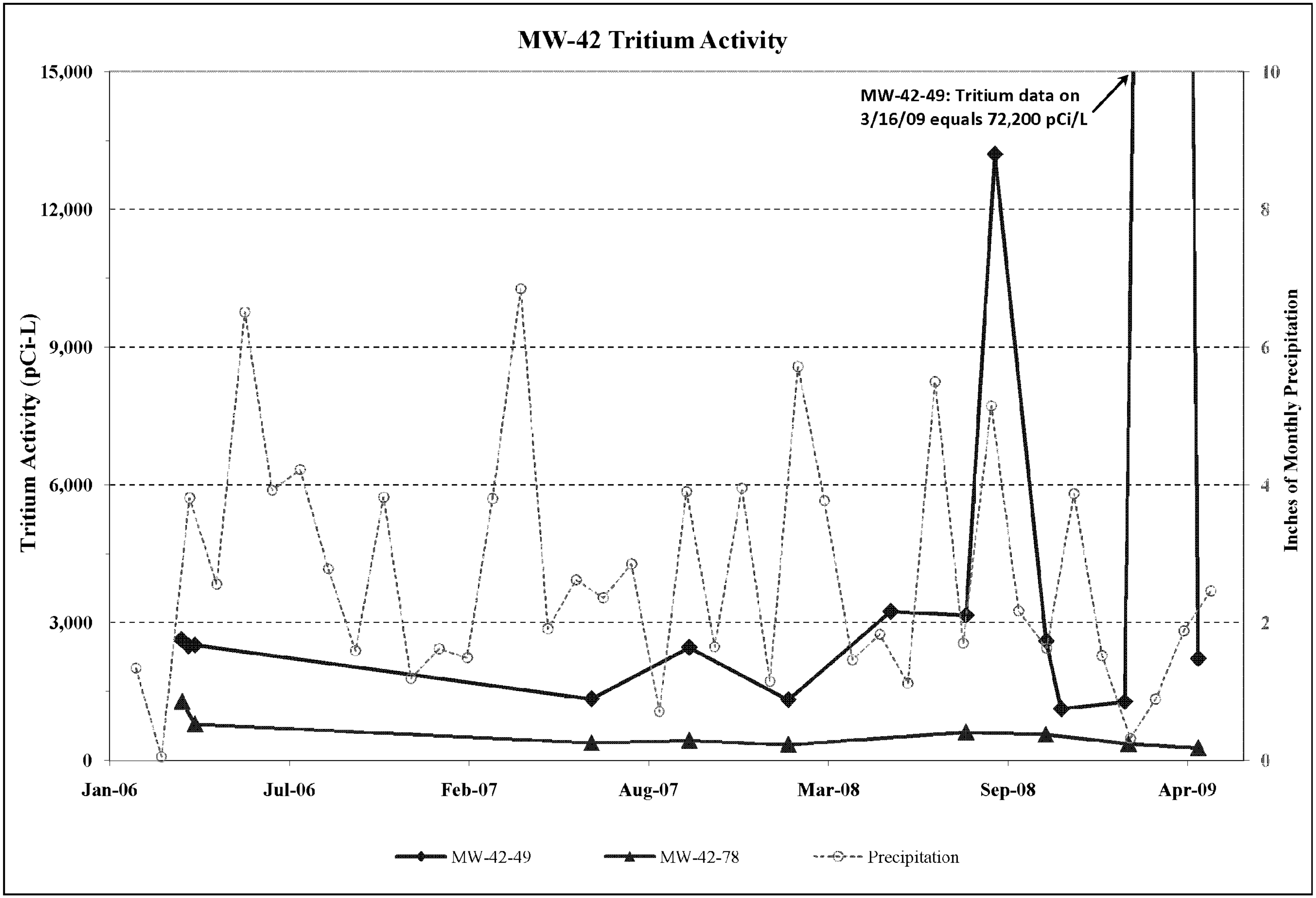

MW-42 Tritium Activity

FIGURE G9

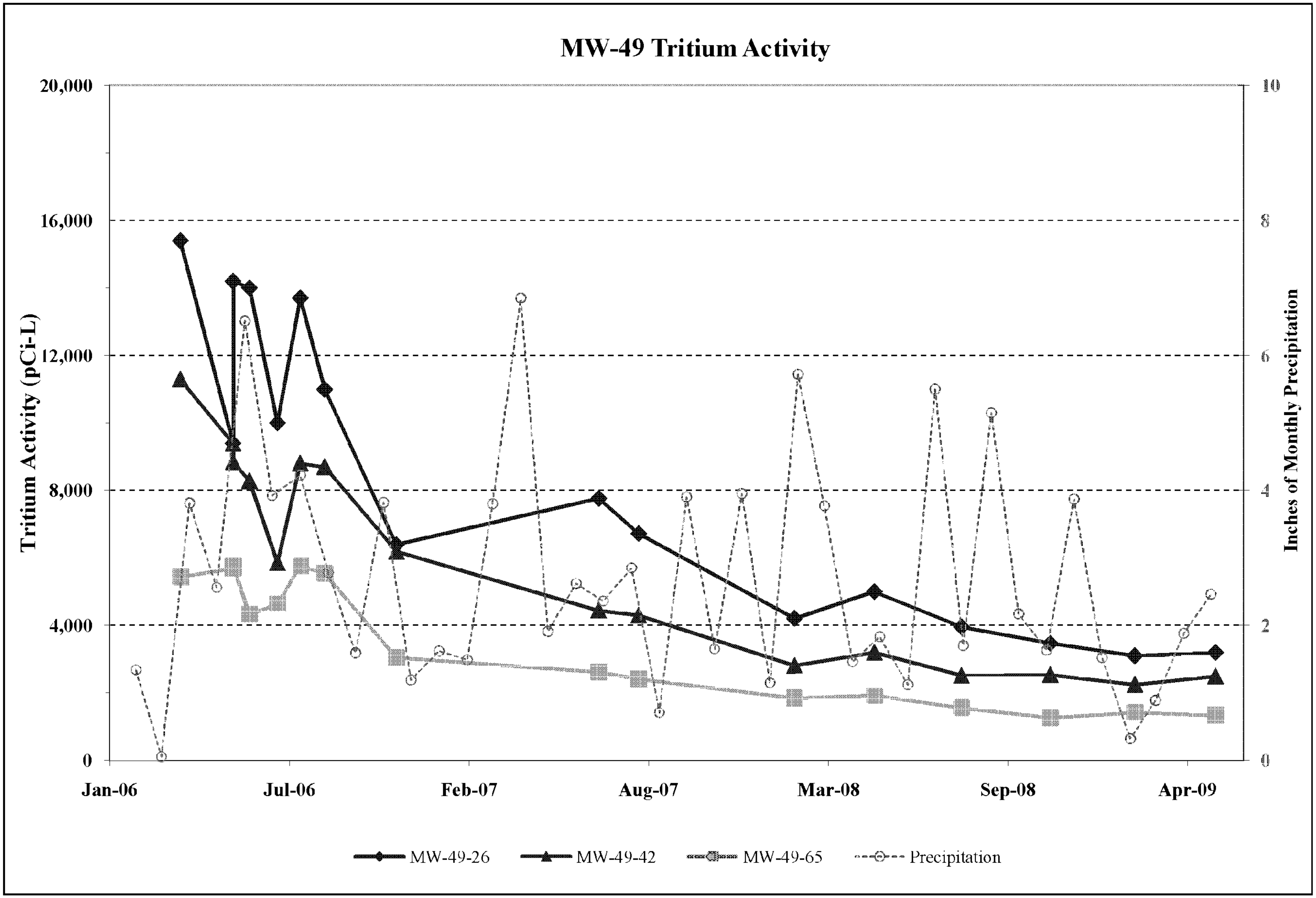

MW-49 Tritium Activity
Tritium Activity (pCi-L)
20,000
16,000
12,000
8,000
4,000
0
Inches of Monthly Precipitation
10
8
6
4
2
0
Jan-06
Jul-06
Feb-07
Aug-07
Mar-08
Sep-08
Apr-09
MW-49-26
MW-49-42
MW-49-65
Precipitation

FIGURE G10

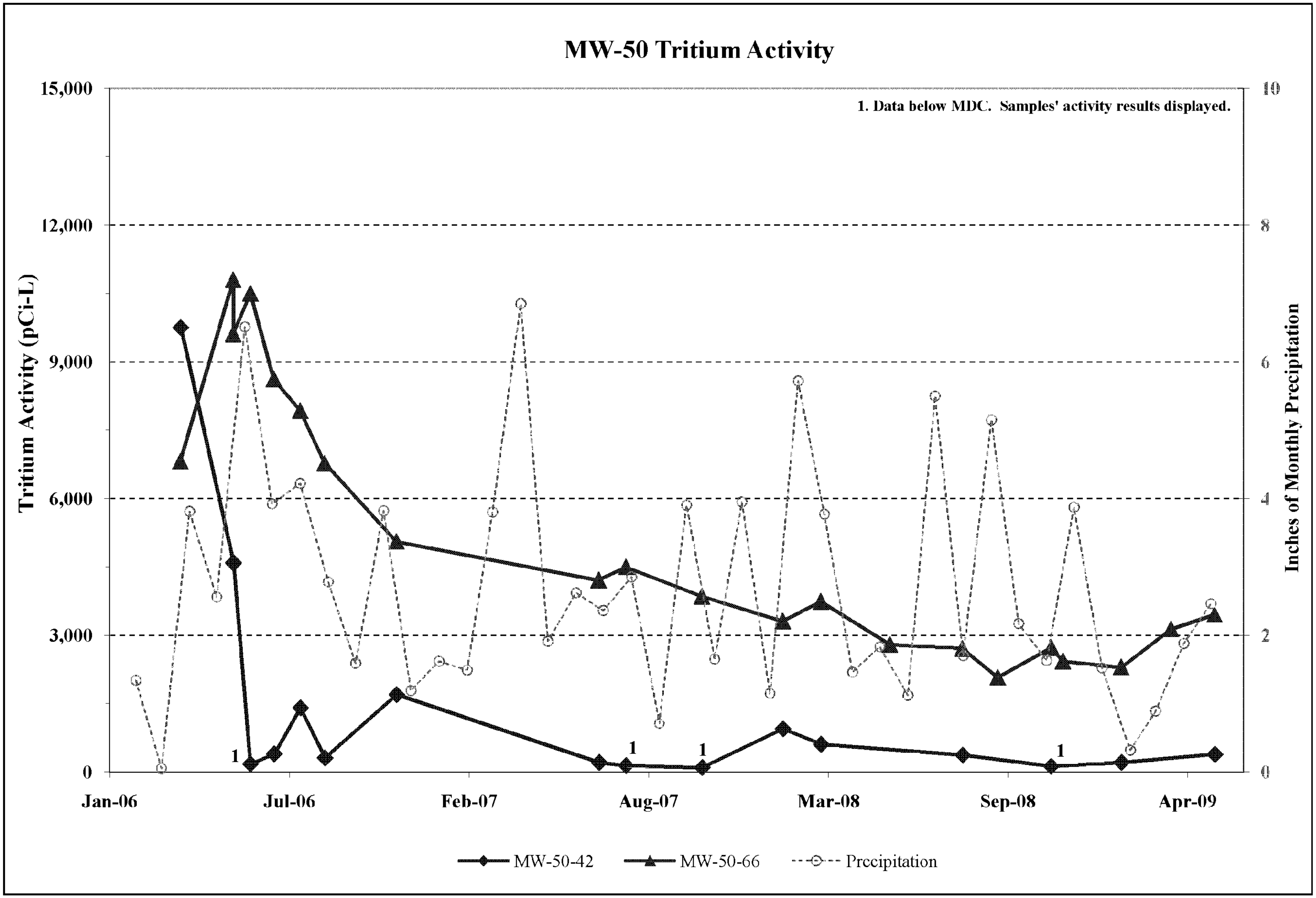

MW-50 Tritium Activity
1. Data below MDC. Samples' activity results displayed.
Tritium Activity (pCi-L)
15,000
12,000
9,000
6,000
3,000
0
Inches of Monthly Precipitation
10
8
6
4
2
0
Jan-06
Jul-06
Feb-07
Aug-07
Mar-08
Sep-08
Apr-09
1
1
1
1
MW-50-42
MW-50-66
Precipitation

FIGURE G11

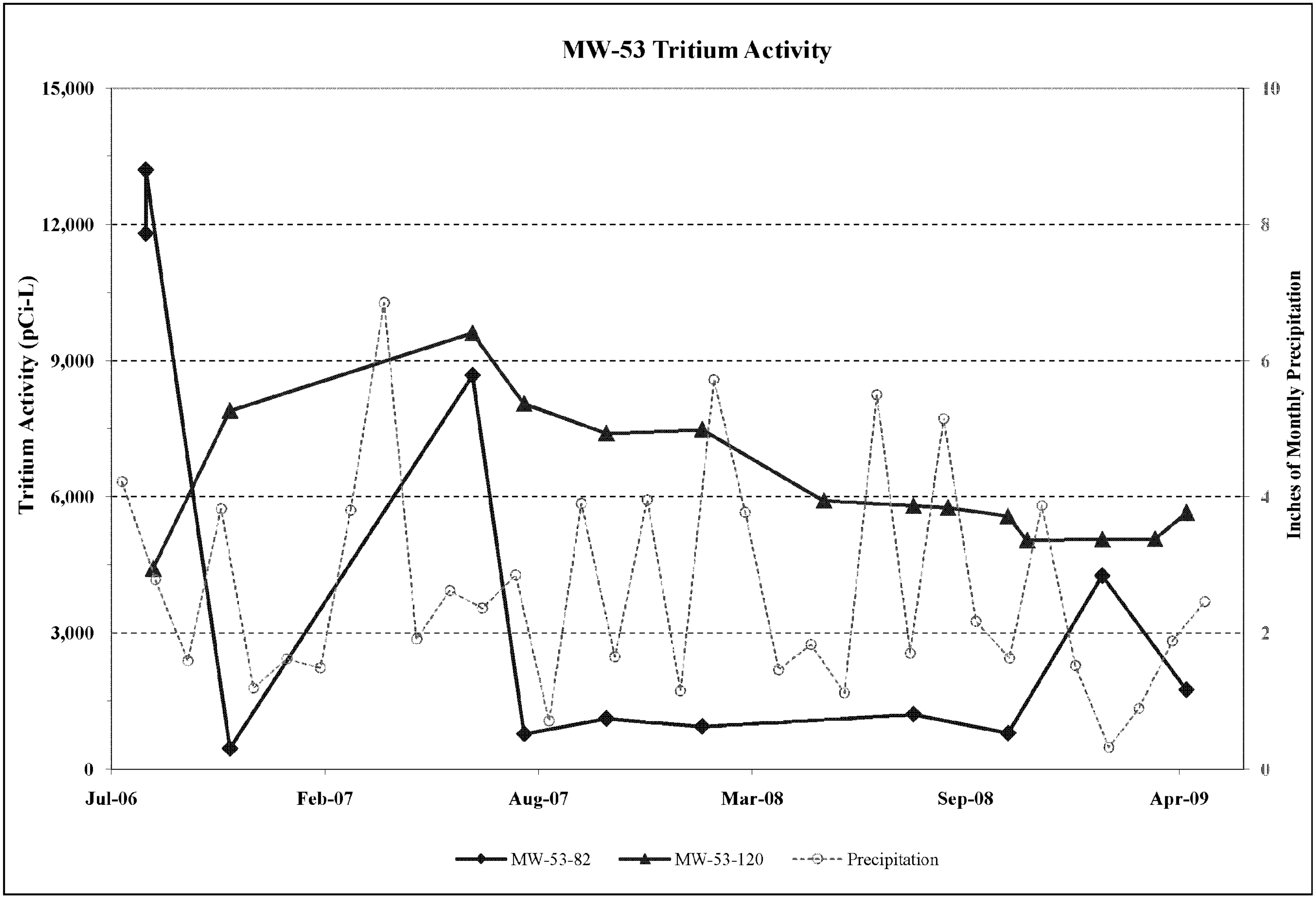

MW-53 Tritium Activity
Tritium Activity (pCi-L)
15,000
12,000
9,000
6,000
3,000
0
Inches of Monthly Precipitation
10
8
6
4
2
0
Jul-06
Feb-07
Aug-07
Mar-08
Sep-08
Apr-09
MW-53-82
MW-53-120
Precipitation

FIGURE G12

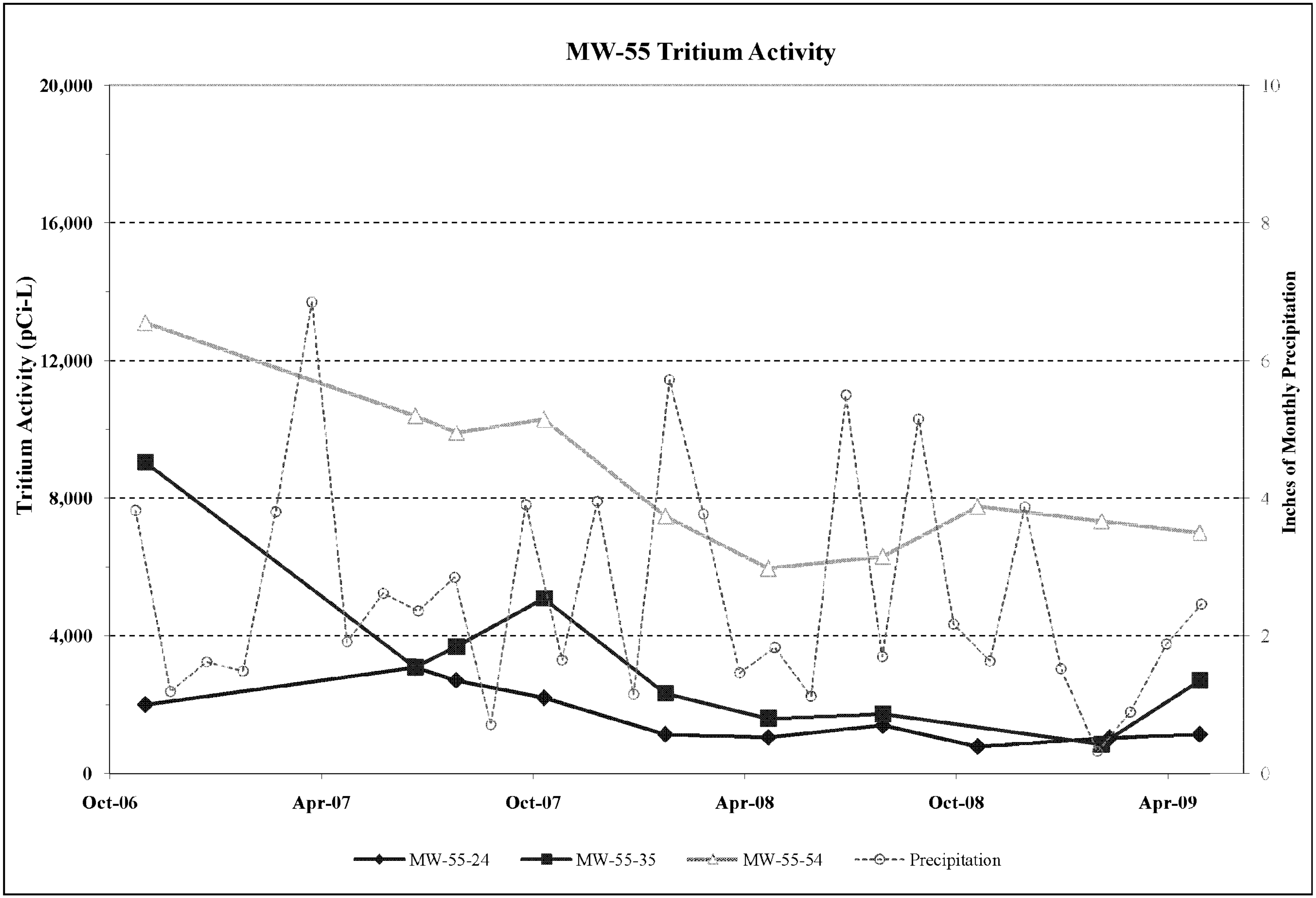

MW-55 Tritium Activity
Tritium Activity (pCi-L)
20,000
16,000
12,000
8,000
4,000
0
Inches of Monthly Precipitation
10
8
6
4
2
0
Oct-06
Apr-07
Oct-07
Apr-08
Oct-08
Apr-09
MW-55-24
MW-55-35
MW-55-54
Precipitation

FIGURE G13

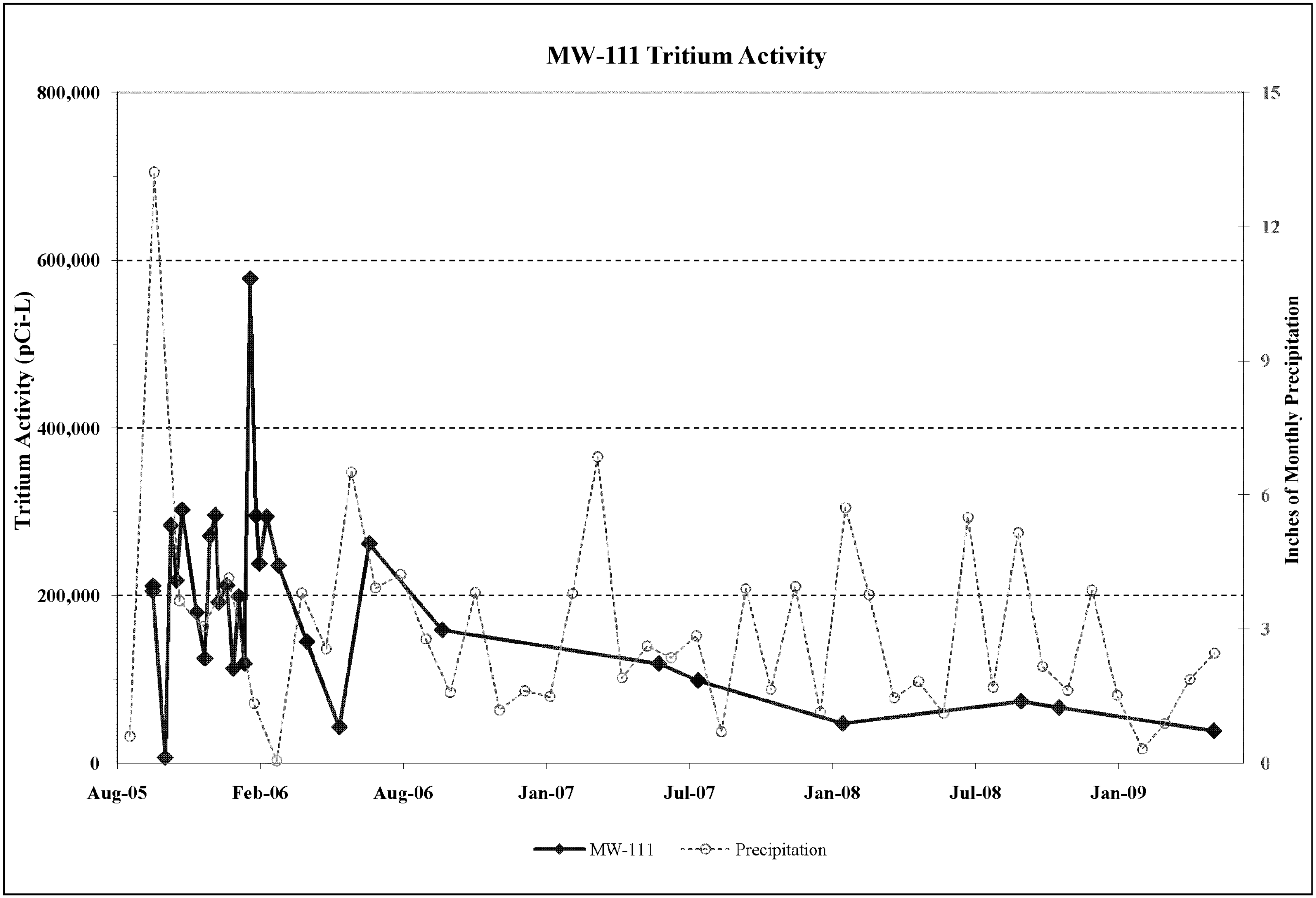
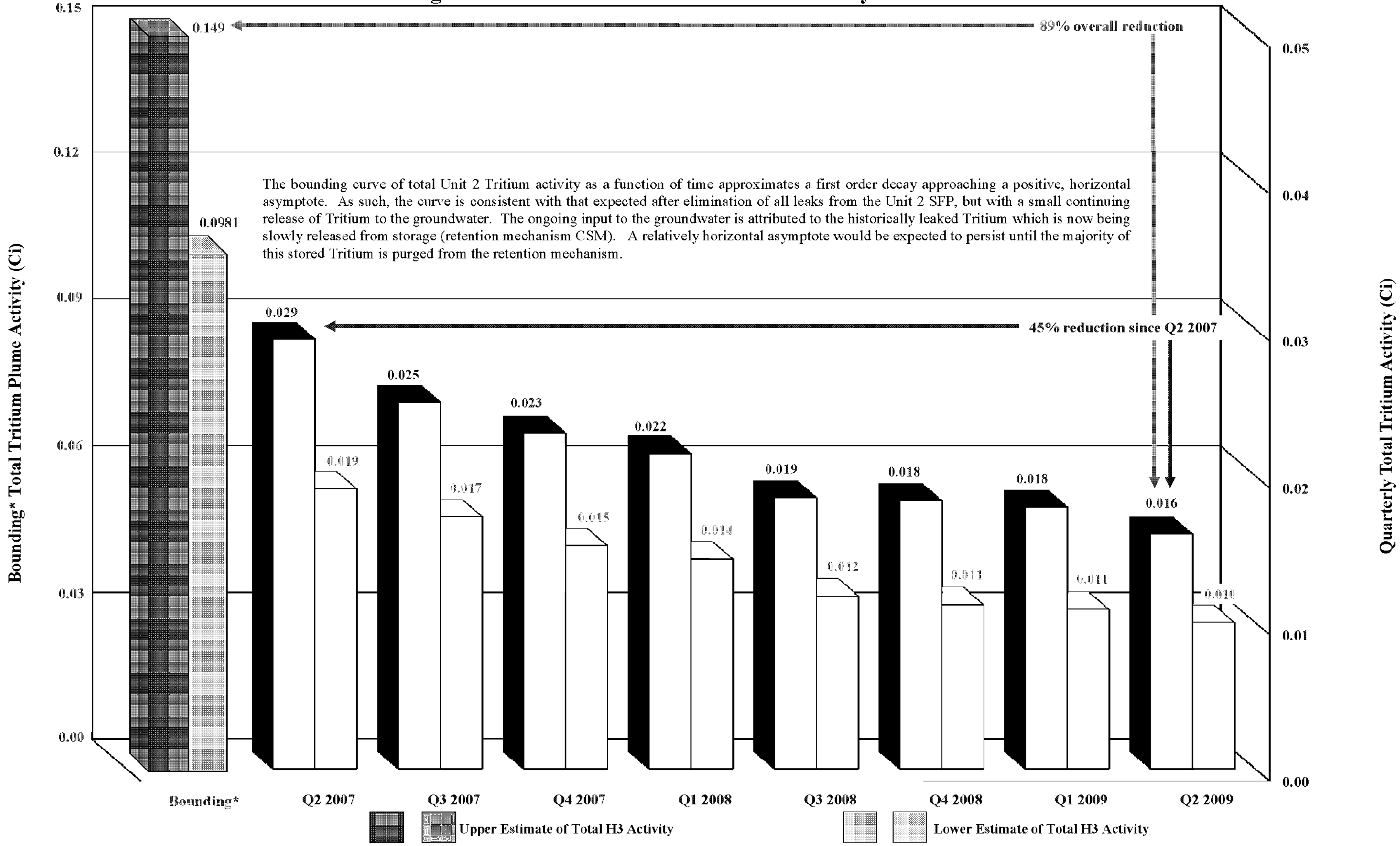

MW-111 Tritium Activity
Tritium Activity (pCi-L)
800,000
600,000
400,000
200,000
0
Inches of Monthly Precipitation
15
12
9
6
3
0
Aug-05
Feb-06
Aug-06
Jan-07
Jul-07
Jan-08
Jul-08
Jan-09
MW-111
Precipitation

FIGURE G14

Changes in Total Estimated Tritium Plume Activity Over Time



The bounding curve of total Unit 2 Tritium activity as a function of time approximates a first order decay approaching a positive, horizontal asymptote. As such, the curve is consistent with that expected after elimination of all leaks from the Unit 2 SFP, but with a small continuing release of Tritium to the groundwater. The ongoing input to the groundwater is attributed to the historically leaked Tritium which is now being slowly released from storage (retention mechanism CSM). A relatively horizontal asymptote would be expected to persist until the majority of this stored Tritium is purged from the retention mechanism.

Note: Lower estimate is based on a porosity of 0.0003 which was derived from a pumping test conducted in 2006. Upper estimate is based on a porosity of 0.003 derived from a tracer test conducted in 2007. The Q2 2007 to Q2 2009 Tritium plume activity estimates are each based on Tritium levels measured in the groundwater monitoring installations at individual, quarterly "snapshots" in time.

*The bounding activity estimate, however, encompasses a longer period of time, and is focused on the Tritium levels existing during the earliest portions of the groundwater investigation. During this period of time, before termination of all the identified SFP leaks, Tritium concentrations were at their highest levels, but the network of monitoring installations was still being installed. Therefore, measurements made at a multiple times were required to capture early data covering the full extent of the Tritium plume; primarily over the period from Nov 20005 through Nov 2006 (a smaller percentage of the Tritium levels required inclusion of measurements through Sept 07). For the bounding Tritium plume activity estimate, the highest value recorded for each monitoring location during this time period was used in the analysis. For further discussion see Sections 6.0, 7.0 and 8.0 of the Final Hydrogeologic Site Investigation Report, prepared by GZA and dated January 7, 2008.

FIGURE G15

APPENDIX H: PRECIPITATION MASS BALANCE MODEL RECALIBRATION

Recalibration of Precipitation Mass Balance Flow Model

GZA began routine quarterly monitoring of groundwater elevations at the Indian Point Energy Center via transducers and dataloggers in May 2007 (Q2 2007 inception of the Long Term Monitoring Program - LTMP)[1]. Approximately 140 transducers have been collecting groundwater elevation readings every twenty minutes across the Site, and the data was reduced and processed by GZA for each quarterly monitoring report (Q2 2007 through Q2 2009). Using these data, GZA developed Site groundwater elevation contours at low river tide conditions for the upper and lower portions of bedrock. Darcy's Law groundwater fluxes, based on the groundwater contours, were calculated and included in each quarterly report. To quantify the groundwater release of radionuclides into the Discharge Canal and Hudson River, and thus support subsequent dose computations, an analytical Precipitation Mass Balance Model (PMBM) was formulated and calibrated using the Q2 2007 (original reference) Darcy's Law groundwater flux data set. This model is based on the precept that, on a long term average, the groundwater flowing through and discharging from the aquifer is equal to the watershed infiltration recharge because the only substantial source of recharge to the aquifer is derived from precipitation. Site-specific precipitation data (collected at the IPEC meteorological station) was used in the initial PMBM model calibration.

The 2008 and 2009 groundwater elevation data indicated that the overall groundwater flow through the Site was approximately thirty percent greater than previously computed for Q2 2007. While the 2008 yearly rainfall was higher than that for 2007, it was only about five percent higher. However, the computed quarterly Darcy's Law fluxes are based on groundwater elevations measured at one time during the quarter. As such, the frequency/intensity of a precipitation event just prior to this snapshot measurement has a significant impact on the short-term flow computation as well as its contribution to the total yearly or quarterly rainfall; i.e., heavy rain before a groundwater elevation snapshot will tend to result in a high bias in the elevation measurements[2], and thus higher computed Darcy's Law fluxes. To attempt to quantify this transient impact, the rainfall was totaled for one week, two weeks and one month prior to each groundwater elevation measurement round, and then each amount was converted to an equivalent monthly rainfall rate. The maximum of these three values for each quarter was then compared to the average monthly rainfall amount, which was based on averaging monthly rainfall totals over the last fourteen years. For the three 2007 quarters, the maximum monthly rate was between 0.2 and 1.8 inches/month below the average. For the four 2008 and the 1st and 2nd 2009 quarters, the maximum monthly rate was between 0.45 and 1.8 inches/month above the average. These data may therefore explain the 30% higher computed quarterly flow rates for 2008 and 2009 when the total rainfall in 2008 was only 5% greater than in 2007.

GZA also investigated the range/variability in precipitation data collected at the IPEC meteorological station for the past fourteen years, and compared it to the range in the data captured during the quarterly groundwater monitoring. Because the PMBM model is based on yearly precipitation, but short-term precipitation events significantly influence onsite groundwater

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[1] Additional, earlier transducer data was also collected during progress of the groundwater investigations. These data are included in the Hydrogeoloic Site Investigation Report, January 7, 2008.

[2] While heavy rainfall will elevate transient groundwater levels in all types of geologic deposits, its impact on fractured bedrock regimes such as exists at IPEC is particularly rapid and large due to the low storativity.

fluxes used to calibrate the model, weekly, monthly, quarterly, semiannual and annual time frames were all analyzed (see **Figures H-1 through H-5**). As shown on the figures, a high percentage of the largest weekly, monthly, quarterly, semiannual and annual rainfall totals during the historical, fourteen year dataset were encompassed within the maximum precipitation bounds[3] recorded during the LTMP. Therefore, after reviewing the precipitation and groundwater elevation data, it was concluded that sufficient seasonal data was collected during the LTMP to recalibrate the Precipitation Mass Balance Model using data through Q2 2009. As such, a conservative approach was adopted for recalibration of the model by using the maximum groundwater flux[4] observed between Q2 2007 and Q2 2009 in the Darcy's Law Model. Based on these analyses, the Precipitation Mass Balance Model was recalibrated to the groundwater fluxes from Q4 2008 using the annual precipitation (37 inches) prior to this quarter. While this quarter did not yield the highest flow through the entire site, it did yield a high total flow, but more critically, it provided the highest flow through the Unit ½ Zone, and thus the highest computed dose. The recalibration of the model to the Q4 2008 data yielded Unit ½ Zone and total flows approximately 40% and 25% greater, respectively, than the original reference (Q2 2007) data set. The recalibrated model will be used for all future quarterly monitoring reports. Since precipitation is the only dependant variable controlling groundwater flux in the model, yearly precipitation prior to each quarterly reporting period will be input into the model. The recalibrated model results are presented in the **Recalibration Groundwater Flux Calculation** table, included below.

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[3] The analysis is focused on the variability in the upper precipitation levels because higher rainfall results in higher flow through the site. The highest flows through the site are then used to calibrate the model for computation of dose to the river. As such, this focus on the upper bound precipitation totals results in a more conservative (higher) computed dose.

[4] In order to approach the recalibration conservatively, GZA not only reviewed the groundwater flux across the entire site but also the flux in the Unit ½ Zone because the majority of the radionuclide dose is located within this Zone.

Recalibration Groundwater Flux Calculation

Site Indian Point
Job No. 17869.91

Prepared By: JAS
Reviewed By: mjb

Parameter Values:

year
2009

Totals

	Total Catchment Zone (ft^2)	Total Improved Zone (ft^2)	Recharge (ft/yr)	Precipitation (ft/yr)	
	3,969,765	1,432,972	0.80	3.08	

Surface Area

Northern Clean Zone Improved (ft^2)	Unit 2 North Improved Zone (ft^2)	Unit 1/2 Improved Zone (ft^2)	Unit 3 North Improved Zone (ft^2)	Unit 3 South Improved Zone (ft^2)	Southern Clean Improved Zone (ft^2)
0	148,214	433,904	316,210	321,290	213,354
Northern Clean Unimproved Zone (ft^2)	**Unit 2 North Unimproved Zone (ft^2)**	**Unit 1/2 Unimproved Zone (ft^2)**	**Unit 3 North Unimproved Zone (ft^2)**	**Unit 3 South Unimproved Zone (ft^2)**	**Southern Clean Zone Unimproved (ft^2)**
106,429	204,317	438,221	323,116	268,862	585,600
Discounted Area Within Zone	**Discounted Area Within Zone**	**Discounted Area Within Zone**	**Discounted Area Within Zone**	**Discounted Area Within Zone**	**Discounted Area Within Zone**
50,265	0	291,186	106,718	17,730	144,347
Northern Clean Zone Catchment (ft^2)	**Unit 2 North Catchment Zone (ft^2)**	**Unit 1/2 Catchment Zone (ft^2)**	**Unit 3 North Catchment Zone (ft^2)**	**Unit 3 South Zone (ft^2)**	**Southern Clean Zone (ft^2)**
156,694	352,531	1,163,311	746,044	607,882	943,302

Activity (pCi/L)

Groundwater

	Northern Clean Zone Catchment	Unit 2 North	Unit 1/2	Unit 3 North	Unit 3 South Zone	Southern Clean Zone
Upper Zone Before Canal	150	297	3,031	327	778	227
Lower Zone Before Canal	150	251	2,729	1,143	480	210

	Northern Clean Zone	Unit 2 North	Unit 1/2	Unit 3 North	Unit 3 South Zone	Southern Clean Zone
Upper Zone After Canal	150	198	3,121	376	778	227
Lower Zone After Canal	150	575	1,061	511	480	210

Stormwater Discharging to Canal (pCi/L)

Storm Water for Northern Clean Zone	Storm Water for Unit 2 North	Storm Water for Unit 1/2	Storm Water for Unit 3 North	Storm Water for Unit 3 South	Storm Water for Southern Clean Zone
	1,276		0	0	0
NA	*Avg MH-4a*	*NA*	*Avg CB-14 and CB-34*	*Avg U3-CB-B8*	*Avg D1, C3, E6, & E10*

Stormwater Discharging to River (pCi/L)

Storm Water for Northern Clean Zone	Storm Water for Unit 2 North	Storm Water for Unit 1/2	Storm Water for Unit 3 North	Storm Water for Unit 3 South	Storm Water for Southern Clean Zone
	613	0	683		251
NA	*Avg. MH-1 and MH-12*	*Avg MH-14*	*Avg CB-15*	*NA*	*Avg E13,CB-C2*

Potential Water Received by Storm Drain System

=(Improved Area) x Precipitation

Northern Clean Area	Unit 2 North	Unit 1/2	Unit 3 North	Unit 3 South	Southern Clean Zone	Units
0	455,758	1,334,255	972,347	987,965	656,065	ft^3/yr
0	1,249	3,655	2,664	2,707	1,797	ft^3/day
0.00	6.49	18.99	13.84	14.06	9.34	GPM
0	12,905,621	37,781,901	27,533,791	27,976,064	18,577,692	L/Yr

The total amount of water available to be received by the storm system is computed as the combined area of buildings and paved areas in the catchment multiplied by the annual precipitation rate. Note this conservatively assumes that the amount of water lost to the atmosphere or other sinks after precipitation has fallen on paved or built up surfaces is zero.

Water Directly Recharged to Aquifer from Precipitation

=Unimproved Area x Recharge

Northern Clean Area	Unit 2 North	Unit 1/2	Unit 3 North	Unit 3 South	Southern Clean Zone	Units
85,090	163,352	350,358	258,331	214,956	468,187	ft^3/yr
233	448	960	708	589	1,283	ft^3/day
1.21	2.32	4.99	3.68	3.06	6.66	GPM
2,409,484	4,625,604	9,921,029	7,315,115	6,086,863	13,257,590	L/Yr

Note that this calculation reflects recharge to the aquifer in non-paved areas. The Recharge value listed above and used in this calculation reflects only that portion of precipitation that actually recharges the aquifer.

Recalibration Groundwater Flux Calculation

Site Indian Point
Job No. 17869.91

Prepared By: JAS
Reviewed By: mjb

Water Recharged to Aquifer (Direct Recharge Plus Storm Water Leakage Minus Building Drain Removal)

=(Direct Recharge + X% Water Received by Storm System) - (Y% x Water Removed by Building Drains)

Total Water Discharged to Aquifer

	[Northern Clean Area Catchment + (0% Storm Drain Water)][1]	[Unit 2 North + (50% Storm Drain Water)]-[5gpm]	[Unit 1/2 Area Catchment + (30% Storm Drain Water)]-[7.5 gpm]	[Unit 3 North Area Catchment + (60% Storm Drain Water)]-[7.5gpm]	[Unit 3 South Area + (10% Storm Drain Water)]	[Southern Clean Zone Area + (40% Storm Drain Water)]	Units
Upper and Lower Zone	85,090	39.918	223,666	314,770	313,752	730,613	ft^3/yr
	233	109	613	862	860	2,002	ft^3/day
	1.21	0.57	3.18	4.48	4.47	10.40	GPM
	2,409,484	1,130.353	6,333,507	8,913,297	8,884,469	20,688,667	L/Yr

[1] There are no improved surfaces in Northern Clean Zone.

Note that the Unit 2 North Area calculation includes a constant removal of 5 gpm from the groundwater system due to the Unit 2 footing drain. Actual groundwater drainage rates will vary with the magnitude and/or intensity of precipitation: however, continuous flow data within the drain is not measured. Therefore, the conservative assumption for a drainage rate of 5 gpm is used in the model. The water removed from the Unit 2 footing drain is applied to the Unit 2 storm drain water discharging to the canal through MH-4. The radionuclide levels measured in MH-4 vs. Unit 2 North indicate the model uses additional conservatism by applying the constant drainage rate to MH-4 radionuclide levels

Groundwater Discharged to Canal

=Water Recharged to Aquifer x X% flowing to Canal

	Northern Clean Area Catchment x 0%	Unit 2 North x 15.2%	Unit 1/2 Area Catchment 24.2%	Unit 3 North Area Catchment x 22.9%	Unit 3 South Area x68.4%	Southern Clean Zone Area x 0%	Units
Upper and Lower Zone	0	6.068	54,127	72,082	214,606	0	ft^3/yr
	0	17	148	197	588	0	ft^3/day
	0.00	0.09	0.77	1.03	3.05	0.00	GPM
	0	171.814	1,532,709	2,041,145	6,076,977	0	L/Yr

Groundwater Discharged to River

=Water Recharged to Aquifer x X% flowing to River x Y% Flowing in Appropriate Vertical Zone

	Northern Clean Area Catchment x 100% x 59.3%	Unit 2 North x 84.8% x 15.1%	Unit 1/2 Area Catchment x 75.8% x 11.7%	Unit 3 North Area Catchment x 77.1% x 47.9%	Unit 3 South Area x 31.6% x 31.3%	Southern Clean Zone Area x 100% x 55.2%	Units
Upper Zone	50,458	5.111	19,836	116,247	31,033	403,299	ft^3/yr
	138	14	54	318	85	1,105	ft^3/day
	0.72	0.07	0.28	1.65	0.44	5.74	GPM
	1,428,824	144.739	561,693	3,291,761	878,745	11,420,144	L/Yr
Lower Zone	**Northern Clean Area Catchment x 100% x 40.7%**	**Unit 2 North x 84.8% x 84.9%**	**Unit 1/2 Area Catchment 75.8% x 88.3%**	**Unit 3 North Area Catchment x 77.1% x 52.1%**	**Unit 3 South Area x 31.6% x 68.7%**	**Southern Clean Zone Area x 100% x 44.8%**	**Units**
	34,632	28.739	149,703	126,440	68,113	327,315	ft^3/yr
	95	79	410	346	187	897	ft^3/day
	0.49	0.41	2.13	1.80	0.97	4.66	GPM
	980,660	813.800	4,239,105	3,580,391	1,928,747	9,268,523	L/Yr

Water Remaining in Storm Drains and Discharged to Canal

=Storm Drain Water x X% Not Leaking to Groundwater and Not Discharging to River

Northern Clean Area Catchment (0% Storm Drain Water)	Unit 2 North (45% Unit 2 North and 30% of Unit 1/2 Storm Drain Water). Plus 5 gpm (351k cf/yr) from U2 footing drain.	Unit 1/2 Area Catchment (0% Storm Drain Water)	Unit 3 North Area Catchment (3% Unit 3 North Storm Drain Water)	Unit 3 South Area (3% Unit 3 North and 42% Unit 3 South Storm Drain Water)	Southern Clean Zone Area (30% Unit 1/2, 27% Unit 3 North, 43% Unit 3 South, and 55% Southern Clean Zone Storm Drain Water)	Units
0	956 368	0	29,170	444 116	1,448,471	ft^3/yr
0	2.620	0	80	1.217	3,968	ft^3/day
0	13.61	0.00	0.42	6.32	20.62	GPM
0	27,082.625	0	826,014	12,575,960	41,016,132	L/Yr

Water Remaining in Storm Drains and Discharged to River

Northern Clean Area Catchment (0% Storm Drain Water)	Unit 2 North (5% Storm Drain Water)	Unit 1/2 Area Catchment (10% Storm Drain Water)	Unit 3 North Area Catchment (7% Storm Drain Water)	Unit 3 South Area (5% Storm Drain Water)	Southern Clean Zone Area (5% Storm Drain Water)	Units
0	22.788	133,426	68,064	49,398	32,803	ft^3/yr
0	62	366	186	135	90	ft^3/day
0	0.32	1.90	0.97	0.70	0.47	GPM
0	645.281	3.778,190	1,927,365	1.398,803	928,885	L/Yr

Recalibration Groundwater Flux Calculation

Site Indian Point
Job No. 17869.91
Prepared By: JAS
Reviewed By: mjb

Flux Calculations

Conceptual Model: Migration Pathway Summary

	Northern Clean Area	**Unit 2 North**	**Unit 1/2**	**Unit 3 North**	**Unit 3 South**	**Southern Clean Zone**
GW	100% Upper and Lower Zone To River	84.8% Upper Zone and Lower Zone Flow To River. 15.2% Upper Zone and Lower Zone Flow to Canal	75.8% Upper Zone and Lower Zone To River. 24.2% Upper Zone and Lower Zone to Canal	77.1% Upper Zone and Lower Zone To River. 22.9% Upper Zone and Lower Zone to Canal	31.6% Upper Zone and Lower Zone To River. 68.4% Upper Zone and Lower Zone to Canal	100% Upper and Lower Zone To River
SW	NA	To Canal (Storm Water Considered Clean; Estimated at 5.5 GPM) and To River (5% Storm Water)	To Canal (60% Storm Water) and To River (10% Storm Water)	To Canal (33% Storm Water) and To River (7% Storm Water)	To Canal (85% Storm Water) and To River (5% Storm Water)	To Canal (55% Storm Water) and To River (5% Storm Water)

Flux (pCi/Yr)

	North Clean Area	**Unit 2 North**	**Unit 1/2**	**Unit 3 North**	**Unit 3 South**	**South Clean Zone**	**Total**
GW to River-Upper Zone	2.14E+08	2.86E+07	1.75E+09	1.24E+09	6.84E+08	2.59E+09	**6.50E+09**
GW to River-Lower Zone	1.47E+08	4.68E+08	4.50E+09	1.83E+09	9.25E+08	1.95E+09	**9.82E+09**
GW to Canal	0.00E+00	5.10E+07	4.65E+09	6.66E+08	4.73E+09	0.00E+00	**1.01E+10**
SW to Canal	NA	3.46E+10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	**3.46E+10**
SW to River	NA	3.96E+08	0.00E+00	1.32E+09	0.00E+00	2.33E+08	**1.95E+09**

Curies/Yr ==> 0.06

Notes:

The recharge rate used herein, 26% of precipitation (~10 in/yr). is within the range of values discussed in the USGS modeling report[1] The reported recharge ranged from 3.6 inches/year to 7.5 inches/year for a till to 20 inches per year for coarse grained glacially stratified deposits. A yearly rolling average precipitation value measured at the Facility meteorological station is also used in the computations. The catchment area was defined using an AutoCAD topo map for the Site and surrounding area. The catchment was defined by starting at the area marked "line of water grant" and tracking east, away from the River, to define portions of the land surface contributing water to the selected discharge zone. Calculations assume that run-off or overland flow in unimproved areas of the Site is negligible, there are no changes in storage and the Hudson River is a gaining stream.

1. USGS. Water Use, Ground-Water Recharge and Availability, and Quality of Water in the Greenwich Area, Fairfield County, Connecticut and Westchester County, New York, 2000-2002

Indian Point Energy Center Weekly Precipitation

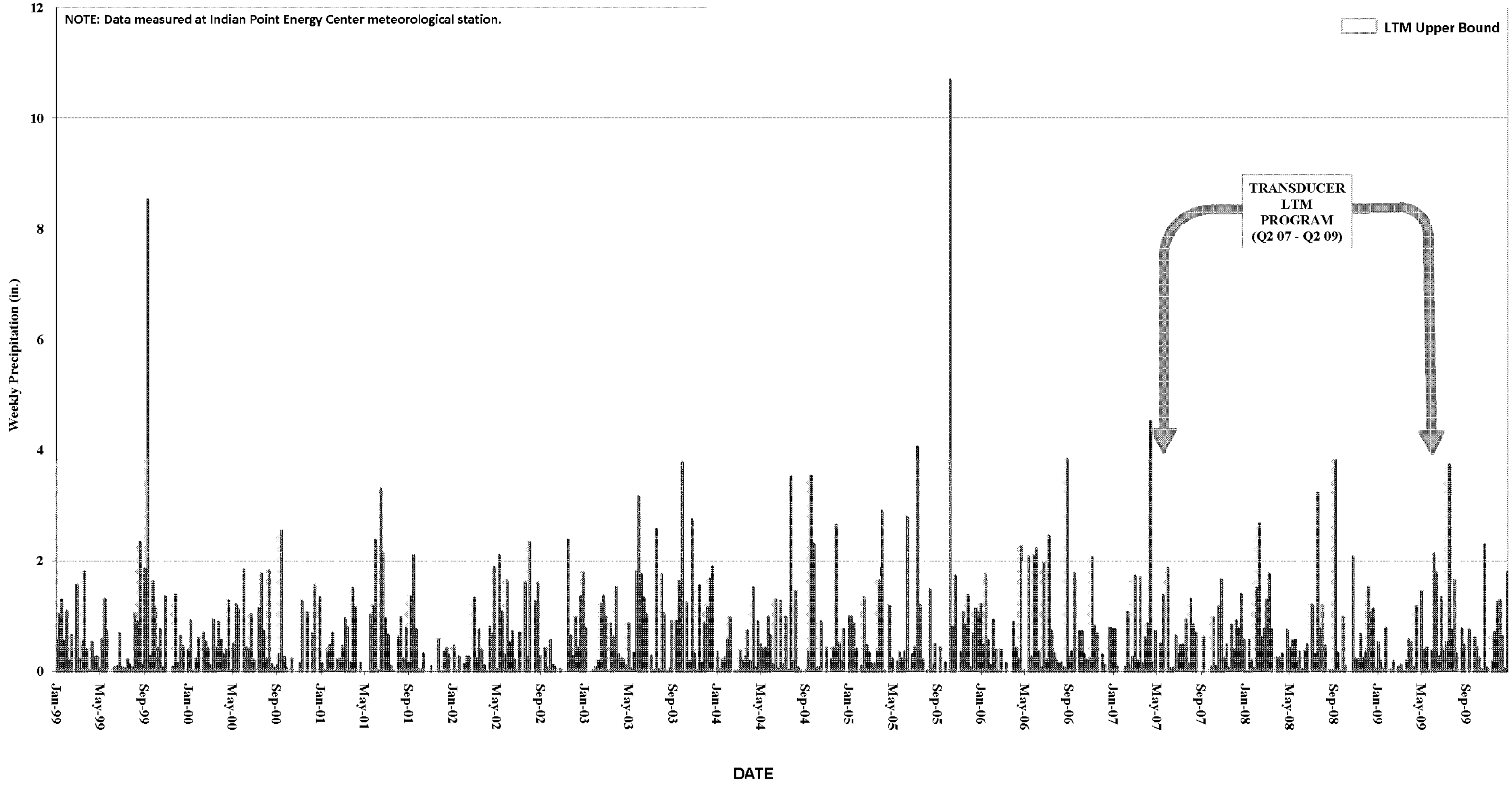

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FIGURE H1

Indian Point Energy Center Monthly Precipitation

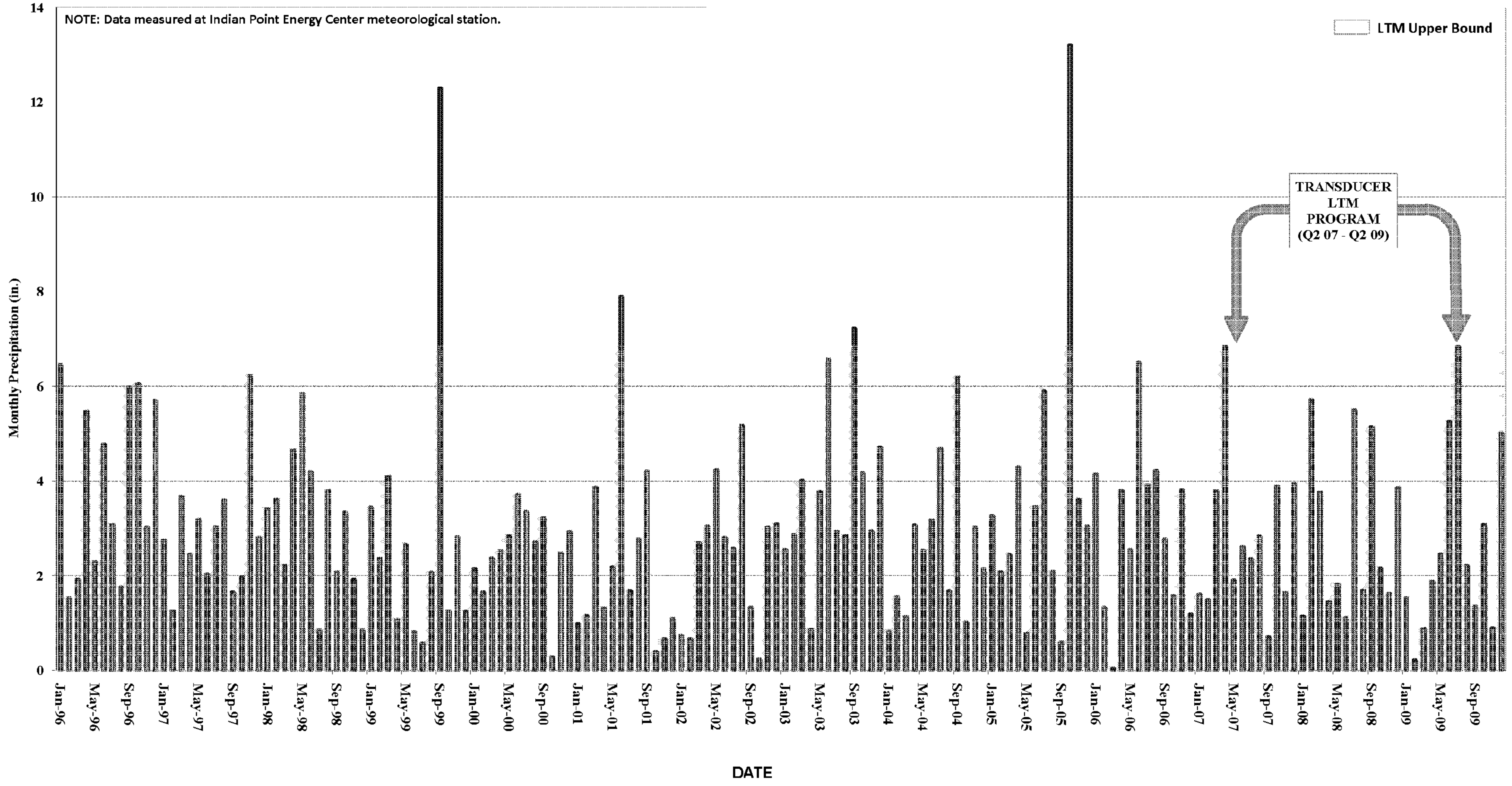

FIGURE H2

Indian Point Energy Center Quarterly Precipitation

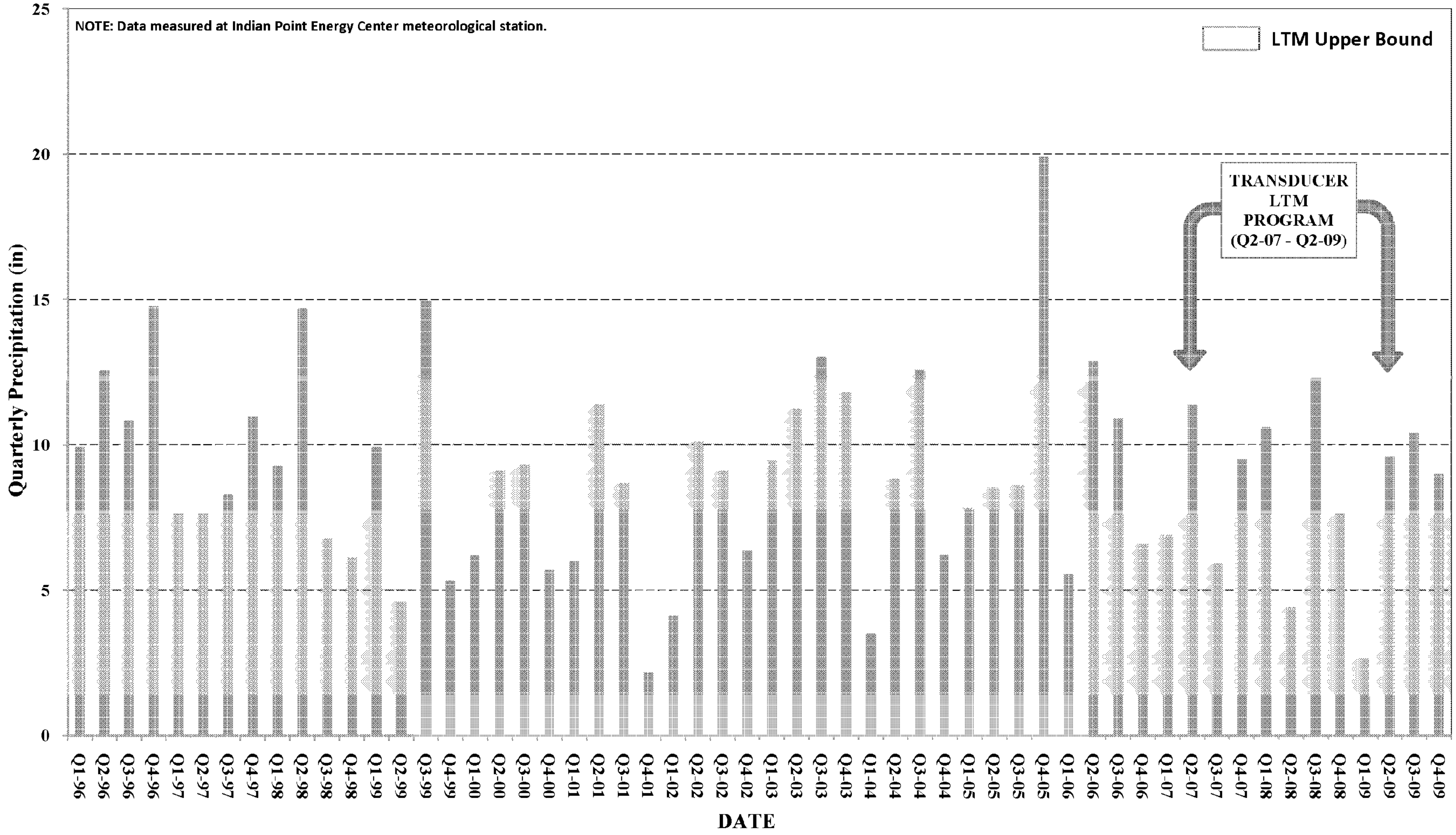

FIGURE H3

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Indian Point Energy Center Semiannual Precipitation

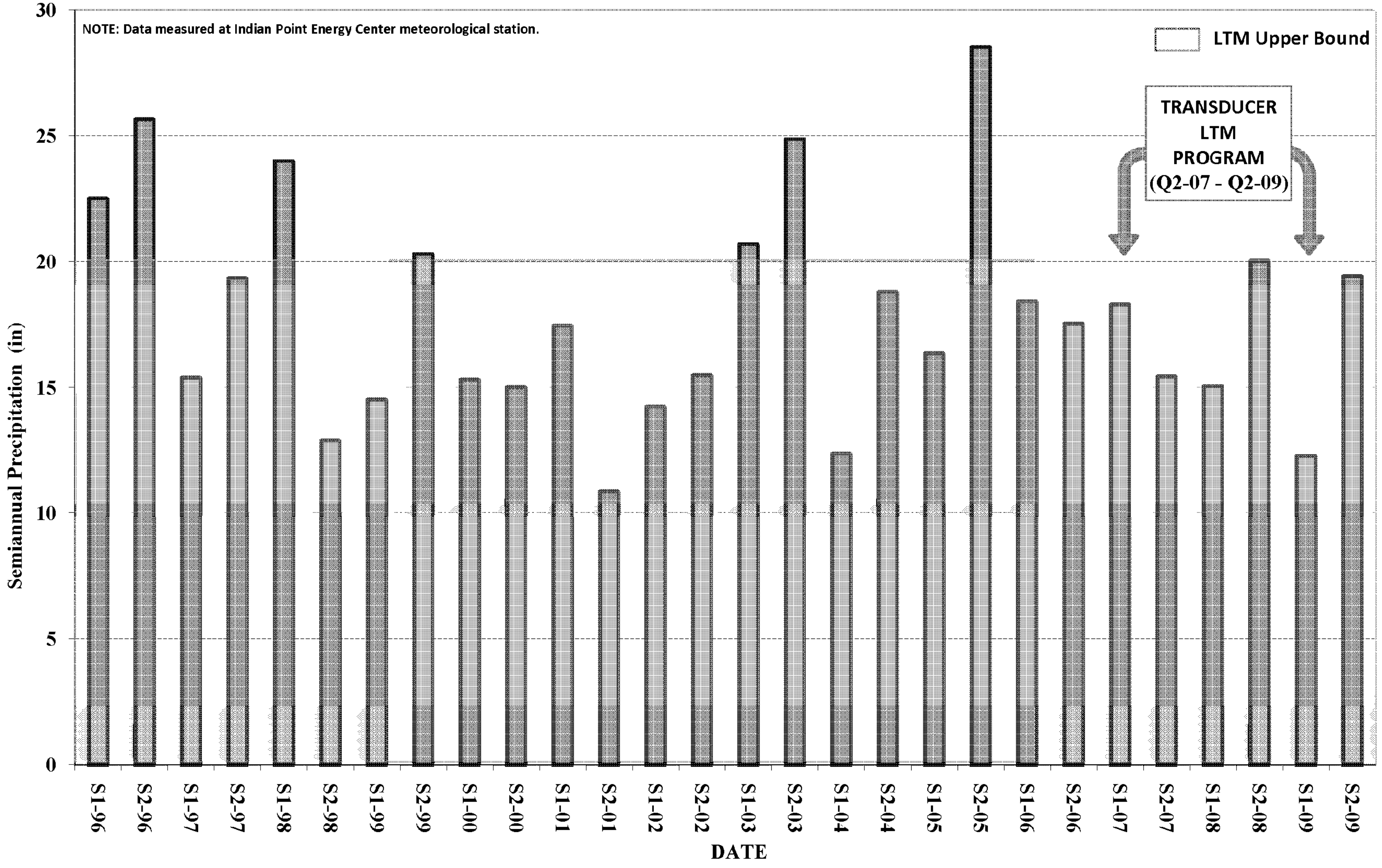

FIGURE H4

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Indian Point Energy Center Annual Precipitation

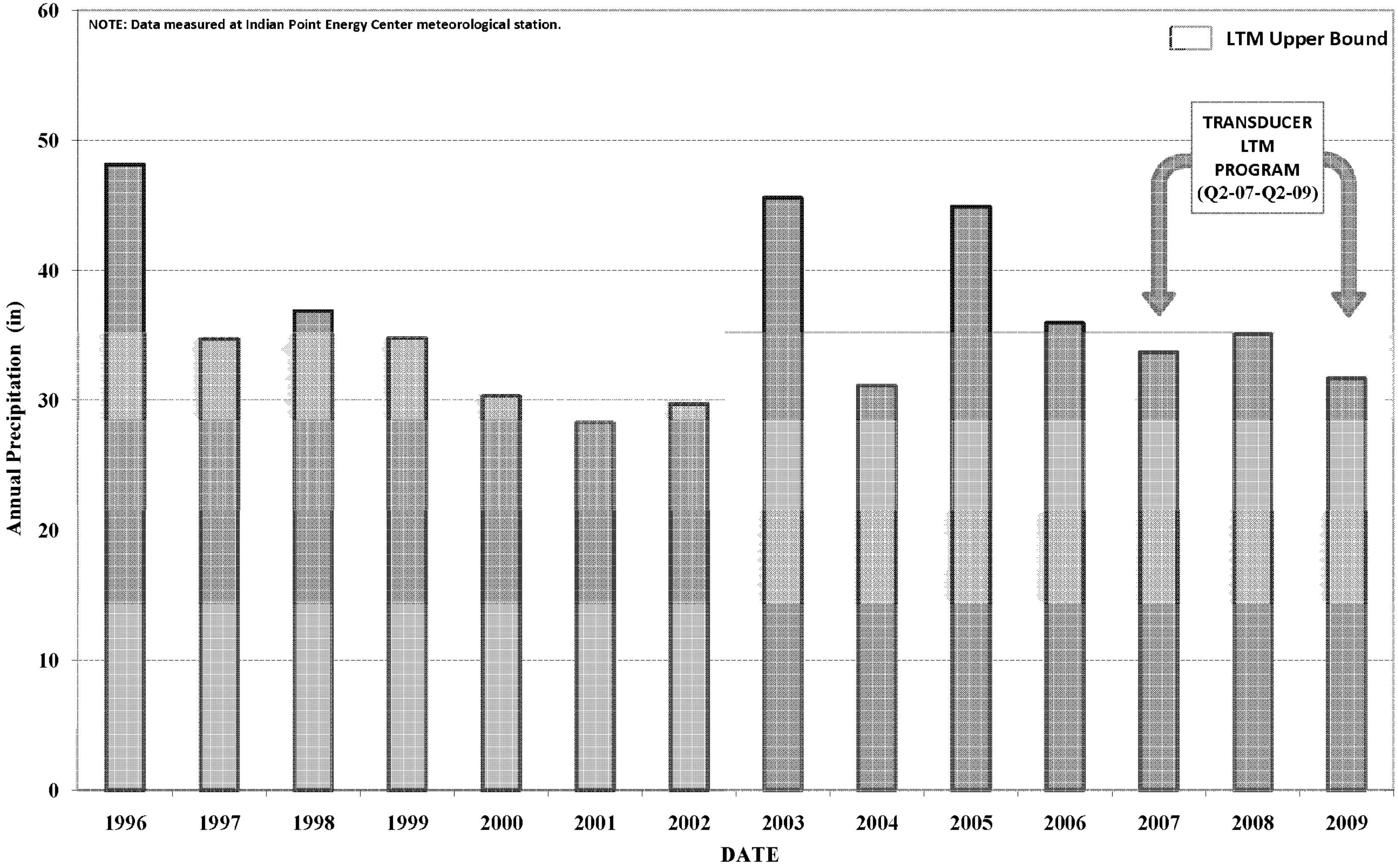

FIGURE H5

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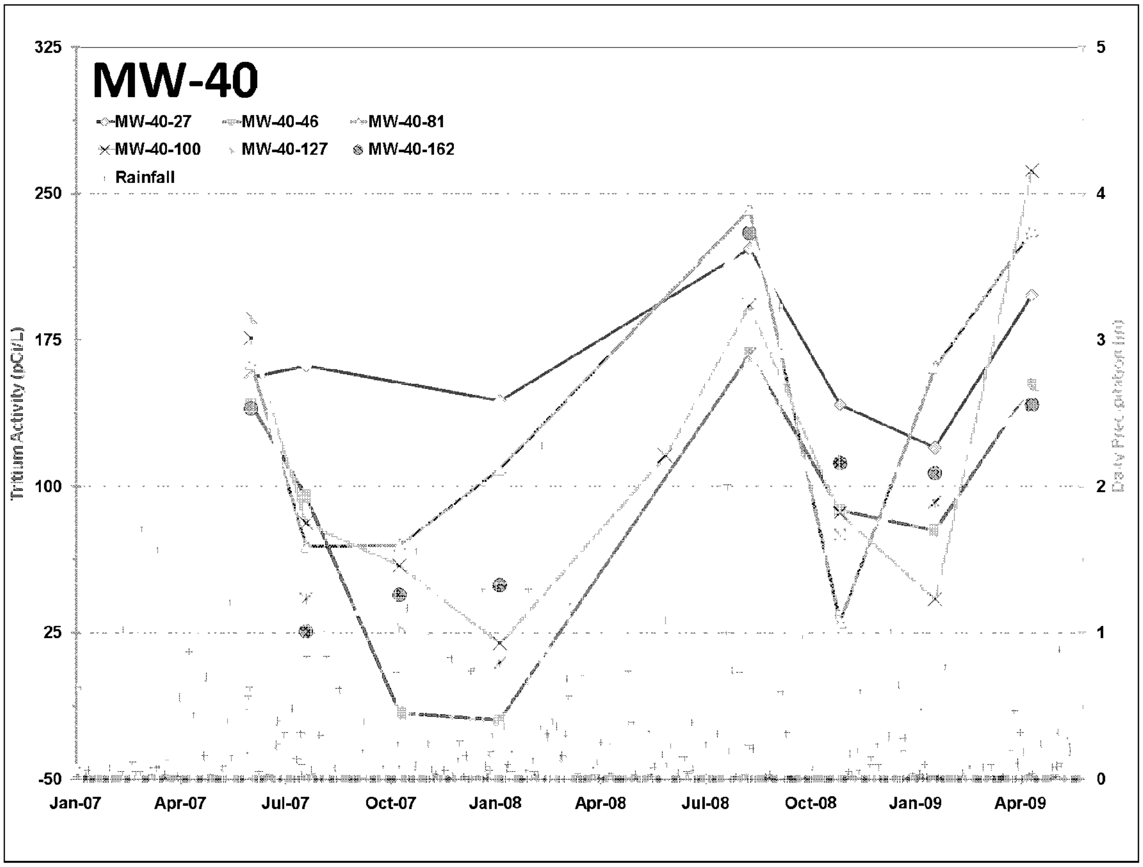
APPENDIX I: SOUTHERN BOUNDARY WELLS

TEMPORAL TRITIUM TRENDS IN SOUTHERN BOUNDARY WELLS



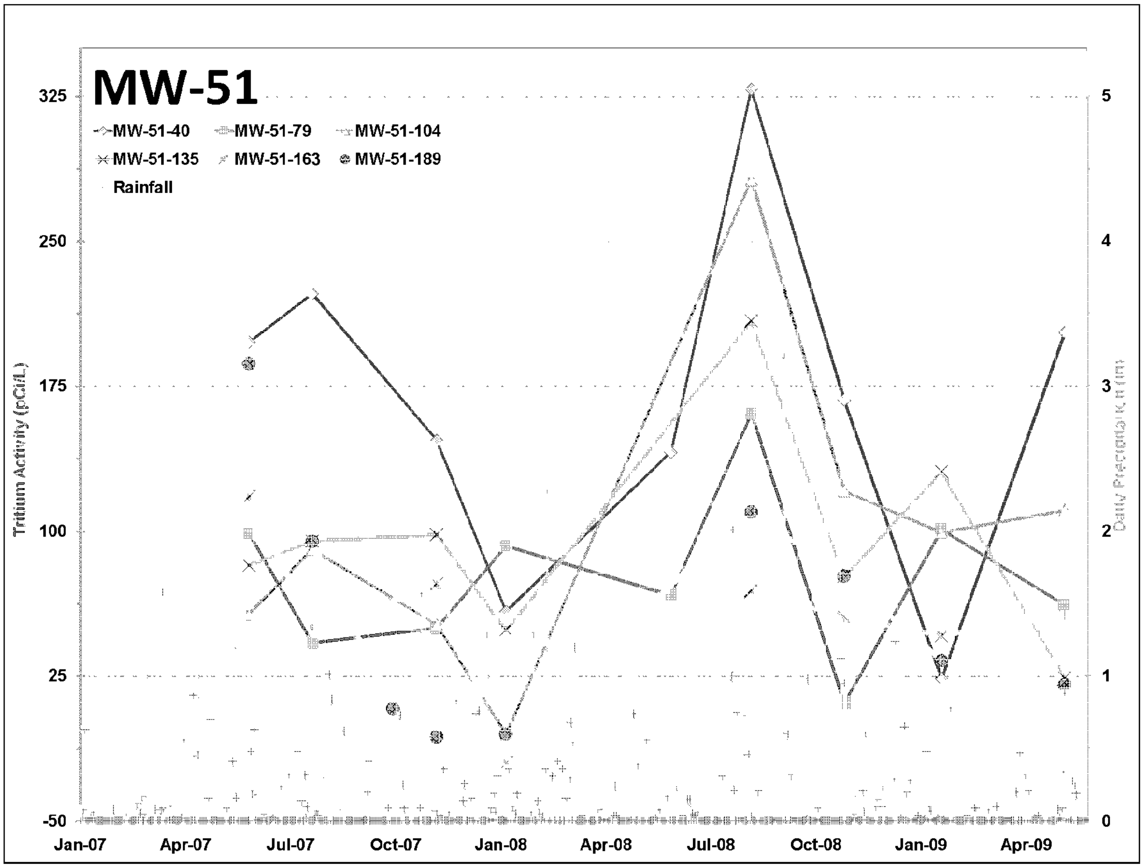


FIGURE I1

APPENDIX J: GROUNDWATER LEVEL TRANSDUCER REDEPLOYMENT

GZA
GeoEnvironmental, Inc.

Engineers and
Scientists

MEMORANDUM

TO: Mr. Patrick Donahue – Entergy
Mr. Bob Evers – Enercon

FROM: Matthew Barvenik and Dave Rusczyk – GZA

REVIEWED BY: Michael Powers – GZA

DATE: June 14, 2010

RE: Memorandum on Proposed Redeployment of Groundwater Level Transducers for the Long Term Monitoring Program

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At the request of Entergy Nuclear Northeast, Inc. (Entergy) and under subcontract to Enercon Services, Inc., GZA GeoEnvironmental of New York (GZA) has evaluated the continued use of the existing groundwater level transducers as part of the Long Term Monitoring Program. The following memo provides the basis for our recommendation that a limited number of these transducers be maintained in long-term operation.

BACKGROUND

As a part of the Hydrologic Site investigation for the Indian Point Energy Center (IPEC), electronic pressure transducers were placed in a large number of monitoring wells[1] at the site to routinely record groundwater levels over time. These data were converted into groundwater elevations, both water table elevations and piezometric elevations at multiple depths in the formation up to 350 feet below ground surface. The groundwater elevations were then used to develop groundwater contours and thus horizontal and vertical gradients across the site. These gradients, along with the hydraulic conductivities (measured using other investigation methods), were employed to compute groundwater flow rates through the site. These data, in part, formed the basis for the formulation, and refinement over time, of the Conceptual Site Model (CSM). The large amount of multi-level transducer data collected during the investigations (and initial Long Term Monitoring Program) allowed the conclusion to be reached (and further verified) that the behavior of the fractured bedrock could be characterized as a blocky porous medium, a major finding which significantly simplifies site analysis. Further summaries of this work are provided in the Final Hydrologic Site Investigation Report[2].

One specific objective of the work referenced above was to develop a method for routinely computing the estimated total yearly activity of radionuclides flowing to the Hudson River via the groundwater pathway (both directly to the river and also through the Discharge Canal). This total yearly activity is computed as the product of the groundwater flow rate and its radionuclide activity ("concentration"), as measured by analyses of groundwater samples collected from the monitoring installations, over time. The yearly total activity is then used to compute the radionuclide dose to the river.

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[1] As used in this memo, "monitoring well" includes a number of different types of groundwater monitoring instrumentation including: 2" standard single monitoring well casings/screens, small diameter (1") multi-level nested well casings/screens, multi-level Waterloo installations, and stilling wells.

[2] Hydrogeologic Site Investigation Report, January 7, 2008, prepared by GZA GeoEnvironmental, Inc. on behalf of Enercon Services, Inc., for Entergy Nuclear Northeast, Indian Point Energy Center, 450 Broadway, Buchanan, NY 10511.

To routinely estimate groundwater flow (i.e., groundwater mass flux) through the Site, an analytical groundwater flow computation was formulated based on a Precipitation Mass Balance Model. This model is based on the precept that, on a long term average, the groundwater flowing through and discharging from the aquifer is equal to the watershed infiltration recharge. This mass balance approach recognizes that the only substantial source of recharge to the aquifer is areal recharge derived from precipitation.

The Precipitation Mass Balance Model was calibrated[3] to groundwater fluxes computed using a Darcy's Law Model[4] based on site-specific groundwater elevation gradients and hydraulic conductivities. As summarized above, the groundwater pressure transducers provided an integral part of the data used to develop the overall CSM, as well as the Darcy's Law Model with respect to the groundwater flux distribution, both laterally and with depth throughout the site. The calibration compared the total groundwater flux values for each of six flow zones[5] computed independently[6] using the Precipitation Mass Balance Model and the Darcy's Law Model. This calibration not only verified the reasonableness of the overall groundwater flow rates predicted by the Precipitation Mass Balance Model, but also allowed further discretization of the groundwater flow into upper and lower flow zones as well as flow volumes upgradient and downgradient of the Discharge Canal, as described more fully in the Hydrogeologic Site Investigation Report.

The initial calibration was performed using gradients derived from contours of groundwater elevation measured on June, 1 2007. As part of the initial portions of the Long Term Monitoring Program, this calibration has been evaluated quarterly to verify that seasonal changes in groundwater elevations do not materially impact the validity of the calibration. To date, quarterly groundwater elevations measured with the transducers at representative low river tides[7] have been used to verify the Precipitation Mass Balance Model for the 2nd, 3rd, and 4th quarters of 2007[8], the 1st, 2nd, 3rd and 4th quarters of 2008 and the 1st and 2nd quarters of 2009[9]. As further described in these quarterly reports[10], the Precipitation Mass Balance Model has continued to provide suitably accurate approximations of the groundwater flow values computed using the Darcy's Law Model. Therefore, given the small variability of flow over the seasons monitored to date, as well as the overall recognition that the computed doses to the river are a small fraction of the permitted amounts, GZA believes that further calibration of the Precipitation Mass Balance Model is

---

[3] The process of achieving the desired degree of correspondence between the model results and observations of the physical hydrogeologic system.

[4] Both analytic modeling techniques as well as a 3-dimensional numerical model (Modflow), all based on Darcy's law for porous media, were used for the calibration of the Precipitation Mass Balance Model.

[5] See Hydrogeologic Site Investigation Report.

[6] The two models use different sets of input parameters which are not dependent or related to each other. The groundwater flow computed using the Precipitation Mass Balance Model is based on yearly precipitation amounts and the proportion of this precipitation that results in infiltration recharge to the groundwater. The Darcy's Law Model, on the other hand, is based on the measured groundwater flow gradients (as computed from groundwater elevation contours constructed from the transducer readings) and estimates of the formation hydraulic conductivity.

[7] Previous evaluations (provided in the Hydrogeologic Site Investigation Report) have shown that the shape of the groundwater contours is relatively unchanged at different times of the tidal cycle. However, the use of low tide contours provides the greatest transient gradients (larger than the average gradient) and therefore result in a computed groundwater flux from the Site that is biased high. Computation of radionuclide release rates to the river based on these data will therefore also have a high bias (i.e., they will be conservative).

[8] There was no formal 1st quarter monitoring event in 2007 given that the Long Term Monitoring Program had not yet been initiated.

[9] Transducer level data has also been collected and analyzed for Quarter 2 of 2009. While Quarter 2 technically post-dates the timeframe covered by this report, these data were included given their availability at the time of the writing of the report and also because Q2 is the last quarter for which full rounds of transducer data is to be collected.

[10] See Quarterly Reports prepared by GZA including: Final 2007 Quarterly Report dated May 1, 2008; Quarter 1 2008 Quarterly Report dated May 15, 2008; Quarter 2 and 3 2008 Quarterly Report dated February 6, 2009; and Quarter 4 2008 Quarterly Report dated September 1, 2009.

no longer warranted beyond Quarter 2, 2009. While transducer operation for further calibrations of the Precipitation Mass Balance Model are no longer recommended, a limited number of transducers should be maintained to continue to verify that the basic assumptions inherent in the model continue to remain valid. The locations and rational for these specific transducers are summarized below.

TRANSDUCER REDEPLOYMENT RECOMMENDATIONS

The primary objective of maintaining a limited number of transducers as part of the Long Term Monitoring Program is to provide ongoing confirmatory data that demonstrate substantial changes to the on-site groundwater flow field have not taken place[11], which thus supports the continuing validity of the Precipitation Mass Balance Model calibration. The most straightforward approach to demonstrate stasis would be to maintain the full complement of existing transducers, thus allowing the continued production of groundwater contours for the site. However, this level of detail is costly and is no longer considered necessary given the relatively small variability of seasonal and annual groundwater flow and the overall recognition that the computed dose to the river is only a small fraction of the permitted levels. More specifically, from a radionuclide groundwater contamination perspective, it is noted that:

- The only receptor for radionuclide releases to the groundwater is currently the Hudson River located immediately West of the power block area.
- The majority of this groundwater release to the river is concentrated within a small portion of the site just downgradient of the Unit 1 and 2 SFPs.
- The total yearly groundwater radionuclide release to the river is less than 1/100th of the allowable level.
- The primary radionuclide associated with the two operating units (Unit 2 and Unit 3) is Tritium, which is responsible for less than 1/1000th of the total current dose computed for the river. Therefore, the current Tritium release rate to the river results in approximately 1/100,000th of the allowable release level. As such, very substantial increases to the existing Tritium plume levels would have to occur to even begin to approach allowable annual release levels for tritium.
- Strontium is responsible for the majority of the current total computed dose to the river. The primary source of Strontium was leakage from Unit 1. As of the fall of 2008, the residual Unit 1 fuel has been removed and the fuel pools drained and cleaned. Therefore, the source term has been terminated and the associated total Strontium activity in the formation can only decrease with time. As such, it is hard to envision future conditions which would result in substantial increases to the Strontium levels in the groundwater plume.

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[11] It is possible that material changes to the groundwater flow field could occur due to variations in the seasonal precipitation, or perhaps on a longer term basis, changes to the level of the Hudson River associated with global warming. For example, a prolonged drought could substantially reduce the groundwater mound existing to the South of the power block which prevents power block groundwater from migrating to the South towards the quarry. In addition to natural variability, changes to on-site and/or off-site operations could also impact groundwater flow fields. These anthropogenic impacts could include those from construction at or near the facility, changes to foundation drain pumping, changes to storm drains and/or site grading, infiltration of clean water from operations, installation of off-site pumping facilities, etc.

From a groundwater flow perspective, a doubling of the dose to the river (still <2% allowable) would require the groundwater flow rate to double[12]. Given that the hydraulic conductivity of the bedrock and overburden formations below the site are fixed, a generalized, big picture analysis[13] shows that a doubling of the groundwater flow rate would require the gradient to double. Assuming the river elevation remains relatively constant[14], the upgradient groundwater elevations would therefore generally have to also double[15] (to double the gradient and thus flow rate to the river). However, this condition is not plausible because such a doubling of groundwater elevations would require the groundwater to extend above the respective ground surface elevations[16]. Therefore, even a relatively insignificant doubling of the radiological dose to the river due to an increase in groundwater flux is not plausible given the required increase in groundwater elevations as well as the increased rainfall.

Given the above summarized analysis, a strong case could be made that no further transducer monitoring is required. However, it is recommended that a limited number of transducers be maintained as part of the Long Term Monitoring Program to demonstrate that substantial changes to the on-site groundwater flow field have not taken place, and thus further substantiate the continued validity of the Precipitation Mass Balance Model calibration, as well as the overall CSM[17]. Therefore, the following subsections, organized into general functional groups, provide recommendations for transducer redeployment on a long term basis. The recommended locations for long term transducer redeployment are summarized on Figure 1.

Upgradient Southern, Eastern and Northern Boundaries

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[12] This assumes that the activity levels remained constant in the groundwater after the flow rate doubled. This is unlikely to occur over any sustained length of time because it would require additional leakage from the SSCs to maintain a doubling of the source term.

[13] While the intrinsic permeability of the formation materials is essentially fixed, it is recognized that as the groundwater elevation increases, portions of the unsaturated zone become saturated and thus will then also contribute to groundwater flow. If the hydraulic conductivity of these upper portions of the bedrock/overburden is substantially higher than that of the current saturated zone, then the overall effective formation hydraulic conductivity would in fact increase. However, the borehole geophysics data does not show a substantial increase in fracturing in the vadose zone as compared to the upper portion of the saturated zone. In addition, while the overburden can be substantially more pervious than the bedrock, in the area of the Tritium and Strontium plumes, current ground surface/foundation elevations are generally consistent with or below the original bedrock elevations. Therefore, overburden thicknesses are anticipated to generally be relatively shallow or non-existent. An exception to this generalization is where backfilling around structures was completed with soil (primarily Unit 2) rather than concrete (primarily Unit 1). However, the recharge to these higher conductivity preferential flow paths is still generally limited by the bedrock groundwater flow rates. In addition, a number of these soil backfilled areas are drained by foundation drains which are independently monitored (e.g., the U1-NCD). Finally, it is further noted that even if the effective formation hydraulic conductivity were to increase substantially with an increase in groundwater elevations, to double the groundwater flow through the site on a yearly average basis would require a doubling of the rate of rainfall infiltration. Even if the annual rainfall were to double, a highly improbable event (the on-site met. station measured a maximum variation in annual rainfall of only approximately 30% over the last thirteen years), the infiltration would likely not double given the increased surface water runoff that would be expected with such a large increase in rainfall (i.e., the infiltration rate would likely not increase linearly with rainfall increases as a higher percentage would become surface runoff).

[14] It is noted that any long term changes to river level will likely be gradual and the river elevation is already very nearly equal to Mean Sea Level. Therefore, river elevations can't decrease significantly so as to reduce the required increase in upgradient groundwater elevations. In fact, in the long term, river elevations are predicted to increase based on global warming impacts.

[15] In actuality, the difference between the upgradient groundwater elevations and the river elevation would have to double, to double the gradient. However, given that the river elevation is numerically sufficiently close to zero, for all intents and purposes, a doubling of the numerical value of the upgradient elevations is sufficient.

[16] The groundwater elevations upgradient of the power block area range from approximately el. 45' to el. 55' (wells I-2, MW-65, MW-51 and MW-40). The ground surface elevations in these areas range from approximately el. 70' to el. 80'. Therefore, a doubling of the groundwater elevations would substantially exceed the ground surface elevations. This is not plausible because once the groundwater reached the ground surface, it would dissipate as surface water runoff to the storm drains, and thus be unable to increase further in elevation.

[17] As part of the further validation of the overall CSM, long term transducer data will aid in detecting anthropogenic changes such as potential impacts if off-site groundwater pumping were to be initiated proximate to the site, the quarry were drained or filled, etc.

As presented in the Hydrogeologic Site Investigation Report, groundwater flow in both the upper and lower flow zones is toward the power block area from the North, East and South, with subsequent discharge to the Hudson River to the West. A corollary to this conclusion is that there is no groundwater flow, and thus no off-Site radionuclide migration from the power block area to the North, East or South. Groundwater flow associated with infiltration from the watershed may be as deep as 350 feet, but still ultimately discharges to the river.

Groundwater elevations rise to the South from the power block area, as is consistent with the increase in topographic elevations. Farther to the South, ground surface and groundwater elevations decrease, most specifically at the quarry where groundwater elevations of approximately 15' have been recorded in LaFarge MW-2 (also refered to as LAF-002). As such, it is important to continue to demonstrate that the groundwater mound which separates the power block groundwater from the LaFarge area groundwater remains elevated. As such, transducers should remain in both **MW-40** and **MW-51**. In each of these two installations, both the shallowest and deepest transducers are required to: 1) delineate the range of vertical piezometric elevations with depth and 2) provide a level of redundancy at each location in case one transducer fails. In addition, transducers should be maintained in **MW-43** and **MW-46**. These wells are located in the Unit 3 power block just downgriadient of MW-40 and MW-51 and provide a reference to demonstrate that the gradient is toward the power block area (i.e., to the north).

Groundwater elevations also rise from the power block area to the East. **MW-65** provides an appropriate location to monitor groundwater flow from the East just prior to migration into the power block area. Again both elevations in this monitoring installation should continue to be monitored, primarily to provide a level of redundancy.

Monitoring well **I-2** located to the North of the power block area provides a suitable location to monitor the upgradient groundwater elevations in this direction. Given that a single well screen exists at this location, two transducers should be installed to provide redundancy.

Downgradient Western Boundary

From the upgradient boundaries to the South, East and North, groundwater flows into the power block area and then ultimately exits at the river to the West. Given that the river is the ultimate sink for groundwater flow, and thus the radionuclides within the groundwater, it is important to verify its elevation over time. Stilling well **HR-1** was previously installed for this purpose. It is therefore proposed that this well be maintained as part of the Long Term Monitoring Program. Once again, a second transducer should be installed in this well to provide redundancy.

While the river is the ultimate sink for groundwater flow, the Discharge Canal forms an intermediate groundwater sink on the site. Stilling well **U3-C1** was installed to monitor the Discharge Canal surface water elevation. This well should continue to be monitored and should have an additional transducer installed to provide redundancy.

Groundwater Tritium and Strontium Plumes

The two primary sources of radionuclide release to the groundwater have been the Unit 1 (Strontium) and Unit 2 (Tritium) SFPs. While Unit 3 covers a large portion of the IPEC site, the groundwater data has not shown any significant releases from this unit. Therefore, it is recommended that transducer monitoring internal to the site (i.e., between the above summarized upgradient and downgradient boundaries) be primarily focused on the area of the Unit1/2 plumes.

The historic source area of each plume would be monitored using **MW-30** (Unit 2) and **MW-53**[18] (Unit 1). Both the upper and lower monitoring elevations in these installations should be monitored to: 1) provide vertical gradient information, and 2) provide a level of transducer redundancy.

It is recommended that a location just upgradient of the Discharge Canal also be monitored for each plume. **MW-55** satisfies this criterion for both plumes given that the two plumes converge at this location as a likely result of a preferential flow path (increased bedrock fracturing) in this area. Again, it is recommended that both the upper most and lowest monitoring elevations in this installation be monitored.

Finally, the toe of each plume should also be monitored just prior to where they discharge into the river. Again, this recommendation can be satisfied by one location given the convergence of the two plumes. In this case, the upper and lower levels of **MW-67** are recommended for bedrock monitoring and the upper level of the proximate **MW-66** is recommended to monitor the overburden groundwater levels in this area.

We appreciate the opportunity to be of service to you. Should you have any questions or comments, please feel free to contact Matt or Dave at (781) 278-3805 or (860) 858-3110.

Very truly yours,
GZA GEOENVIRONMENTAL, INC.

Matthew J. Barvenik, LSP
Senior Principal
Date:June 14, 2010

David Rusczyk, PE
Senior Project Manager
Date:June 14, 2010

Michael Powers, PE
Consultant/Reviewer
Date:June 14, 2010

Attachments: Figure 1: Long-Term Transducer Monitoring Evaluation Map

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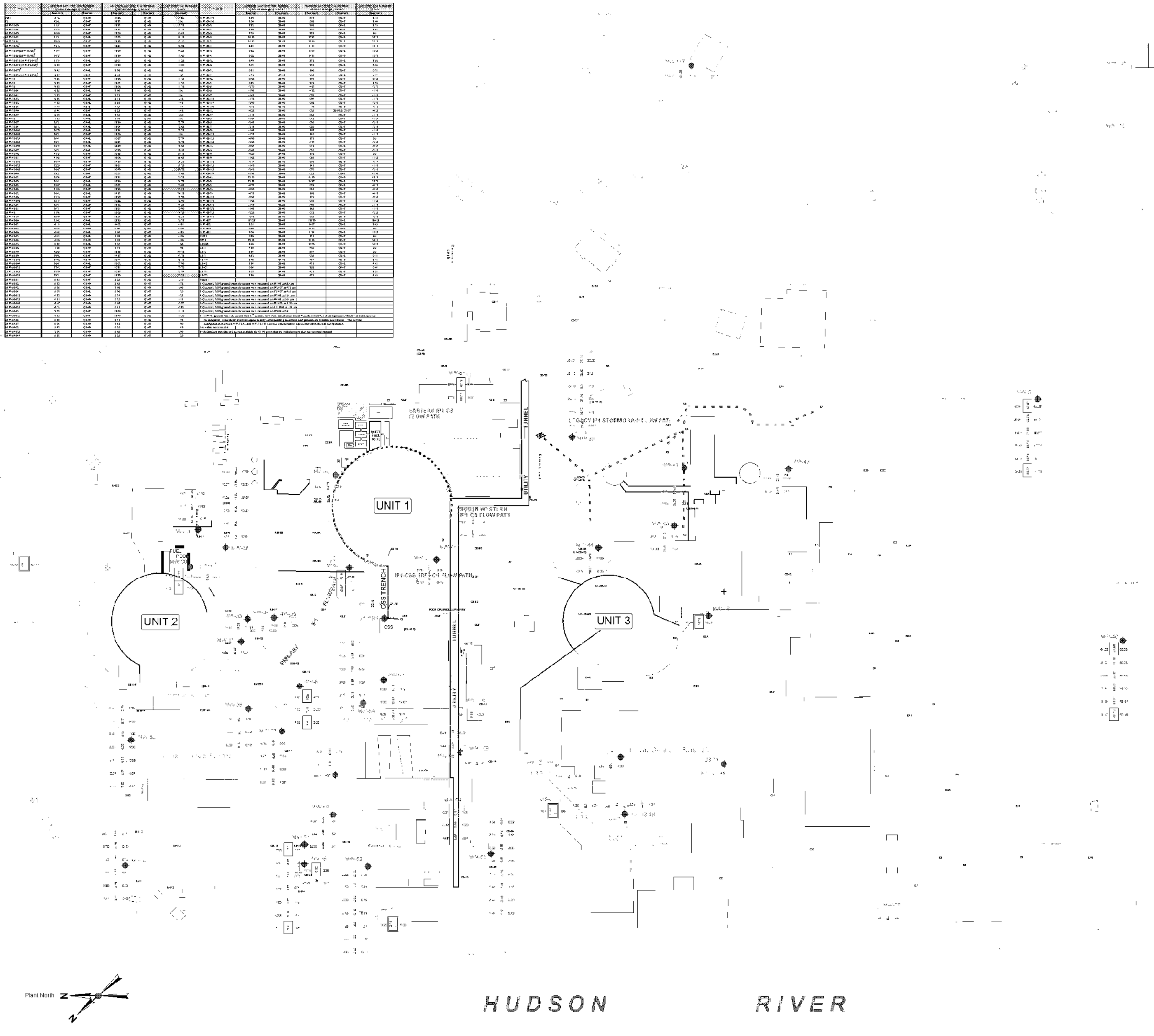
[18] MW-42 was considered as the historic source area monitoring location for Unit 1 given its closer proximity to the SFPs than MW-53. However, MW-42 is also very close to the NCD, which likely controls the groundwater elevations in MW-42 to a large extent. As such, it is judged that MW-53 would likely be more responsive to groundwater elevation variations indicative of changes at the site than would be MW-42.

LONGTERM TRANSDUCER MONITORING EVALUATION MAP



LEGEND

Monitoring Installations

- Boring / Monitoring Installation Designation
- Longterm **Radionuclide** Monitoring Installation
- Standby **Radionuclide** Monitoring Installation

Quarterly groundwater elevation at time of low river tide on 01-09-2009

Multiple Screened Intervals w/ Depth

▨ **Transducer** Monitored Interval

☐ Interval no longer monitored with **Transducer**

▨ Single level monitoring location with duplicate **Transducers** for redundancy†

Maximum quarterly groundwater elevation at time of low river tide measured between Q2 2007 and Q1 2009, inclusive

Minimum quarterly groundwater elevation at time of low river tide measured between Q2 2007 and Q1 2009, inclusive

Transducer Notes

* - For locations with multilevel depth monitoring, redundancy provided by monitoring more than one depth at same location

† - Redundant transducer data not available for Q1 09 given that the transducer redeployment plan not yet implemented

Potential Future Source Locations

[illegible]

Probable Legacy Release SSCs

- Unit 2 Fuel Pool **(All identified leaks repaired as of December 2007)**
- Unit 1 West Fuel Pool (All U1 SFPs drained and inactive as of October 2008)
- Terminated Connection To Storm Drain
- Drain Exfiltration
- Inter-Structure Joint / Mud Mat
- Containment Spray Sump Pipe Trench

Activity Data

Isopleth

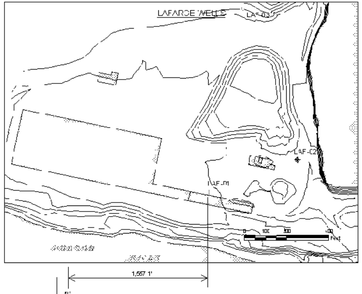
Bounding Activity H3[1]	Bounding Activity SR90[1]
[illegible]	[illegible]

Data Notes

1. Illustration of contaminant plume is a schematic representation only. **In reality**, the geologic bedrock formation is over 99% solid, crystalline rock, with the contaminated water contained only in the remaining (less than 1%) interstitial space (i.e. fractures).
2. [illegible]
3. [illegible]
4. [illegible]

General Notes

1. Base map was developed from an untitled electronic file provided by Badey & Watson Surveying and Engineering, P.C., Dated 2/3/06, CAD filename "GZA.dwg"



50 25 0 50 100 150 Feet

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INDIAN POINT ENERGY CENTER
BUCHANAN, NEW YORK

LONGTERM TRANSDUCER
MONITORING EVALUATION MAP

Proj. Mgr. MJE Designed By KJD Reviewed By MJB Operator GAS	Dwg. Date 06-16-2010 Job No. 01.0017869.92	Figure No. 1

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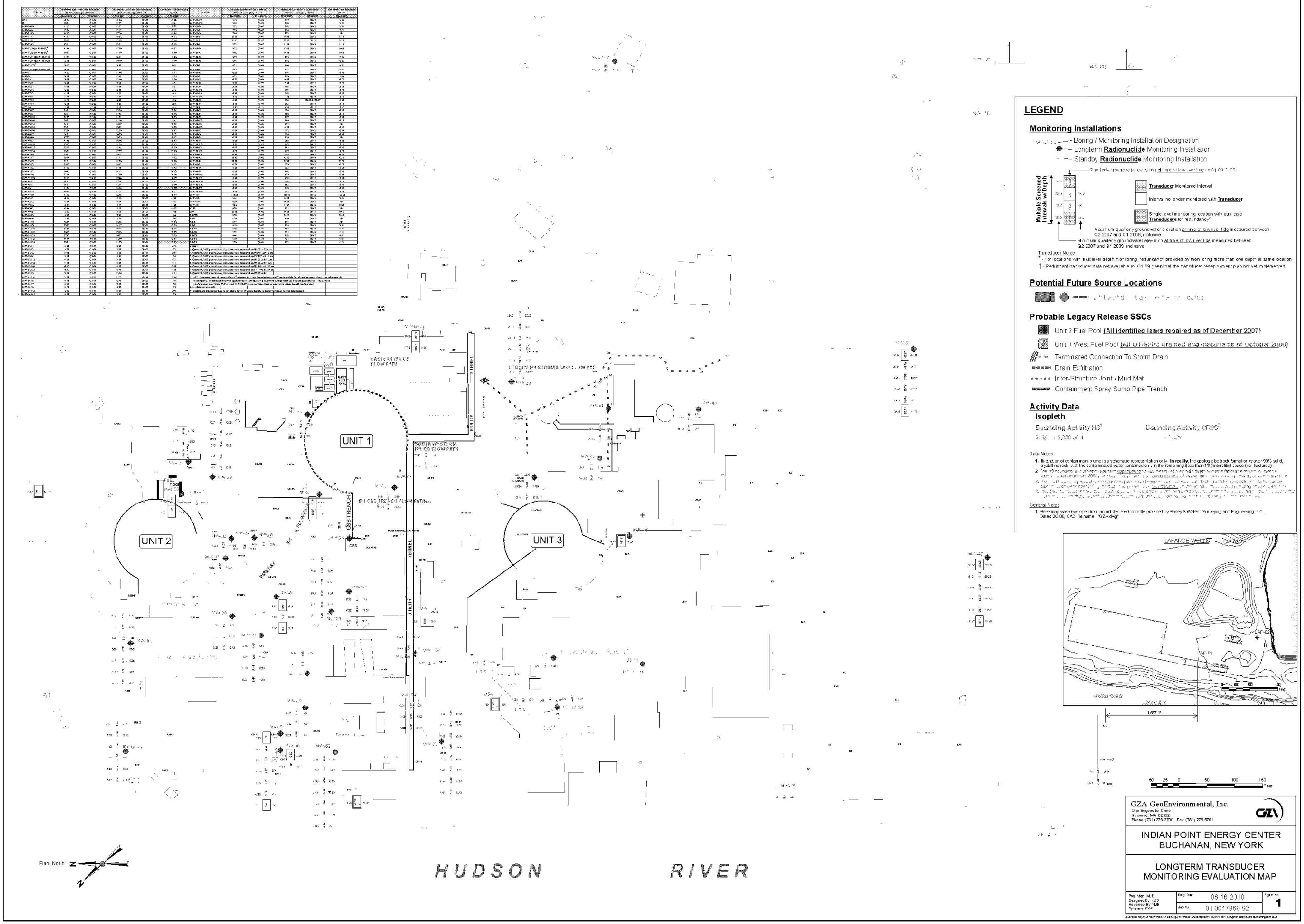
LONGTERM TRANSDUCER MONITORING EVALUATION MAP



LEGEND

Monitoring Installations

Boring / Monitoring Installation Designation

Longterm **Radionuclide** Monitoring Installation

Standby **Radionuclide** Monitoring Installation

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Inter-Structure Joint / Mud Mat

Containment Spray Sump Pipe Trench

Activity Data

Isopleth

Bounding Activity H3¹

Bounding Activity SR90¹

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LONGTERM TRANSDUCER
MONITORING EVALUATION MAP

Proj. Mgr. MJE Designed By: MJB Reviewed By: MJB Operator: GAS	Dwg. Date	06-16-2010	Figure No. 1
	Job No.	01.0017869.92	

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