

Appendix E  
Water Supply Report



## **Raleigh and Heiden Properties Water Supply Report**

Raleigh Heiden Properties Development  
Heiden Road  
Town of Fallsburg, Sullivan County, New York

Prepared for:

Town of Fallsburg Planning Board  
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June 20, 2011





# **RALEIGH AND HEIDEN PROPERTIES WATER SUPPLY REPORT**

Heiden Road, Town of Fallsburg, New York

<b>TABLE OF CONTENTS</b>		<b>PAGE</b>
1.0	Introduction	1
2.0	Geology and Fracture Trace	2
3.0	Well Drilling	3
4.0	Private Well Monitoring	3
5.0	Test Procedure	4
6.0	Water Quality	5
7.0	Weather During Test Period	5
8.0	Pumping Test Results	5
9.0	Conclusion	6
Figure 1	Location Map	
Figure 2	Bedrock Geology	
Figure 3	New York State Mapped Aquifers	
Figure 4	Surficial Deposits	
Figure 5	Well Location Map	
Appendix A:	Correspondence	
Appendix B:	Fracture Trace Report	
Appendix C:	Well Logs	
Appendix D:	Homeowner Letters and Questionnaire	
Appendix E:	Charts	
Appendix F:	Analytical Reports and Table	



## **1.0 INTRODUCTION**

This report was prepared to summarize the results of a groundwater study conducted in September of 2009, associated with the proposed Raleigh and Heiden Properties development. The proposed development is located on 196.9 acres, in the Town of Fallsburg, Sullivan County, New York.

This report examines the potential for the property to supply sufficient water for the proposed residential development. Five (5) wells have been drilled and tested for use as production wells as part of a community water supply system. The subsequent testing is detailed below. The proposed project includes 236 single family homes and duplex units, however, only 181 units will be supplied by the proposed community water supply service. The remaining 55 units are located within the Town of Fallsburg public water supply district and therefore these units will be supplied water from that district.

The project water demand estimate was reviewed by the New York State Department of Health (NYSDOH) via a Pump Test Protocol letter dated June 15, 2009, attached in Appendix A. This letter explained that 181 units from the proposed development would be requiring water from an onsite community water supply system. These homes are proposed to be 4-bedroom single family homes and duplex units requiring 380 gallons per day (gpd) each. A letter dated June 30, 2009, from the NYSDOH concurred that 380 gpd would be sufficient for the single family homes and duplex units, however the NYSDOH requires that the pump test prove 1.5 times the average daily demand with the best well out of service. The average daily demand has been calculated to be 72,000 gallons per day or 50 gallons per minute (gpm). Therefore, the pump test must prove at least 75 gpm, which is 1.5 times the average daily demand, with the best well out of service.

As part of the preparation for the pumping test the existing wells were inspected, these wells were not drilled with the oversight of SSEC or TMA. SSEC deduced that Well-3 should be drilled deeper to provide greater yield. This well was drilled deeper taking the final depth from 375 feet below the ground surface to 600 feet below the ground surface. Five wells that had recently been drilled were used during the pump test; Well-1, Well-2, Well-3, Well-4 and Well-4A.

### **Recharge Analysis**

For purposes of this analysis, recharge has been calculated assuming the only source of water is the rainfall that falls on the site itself. The primary source of groundwater is precipitation which infiltrates through the surface of the ground and percolates into the water table. The majority of rainfall is "lost" to surface water runoff, shallow subsurface flow and evapotranspiration. Depending on the physical characteristics of the recharge area, between 15 and 40 percent of the annual precipitation typically recharges the local aquifer.

Evaluation of groundwater recharge with respect to a specific project or land use is usually done by comparing the projected water demand and the ability of the local watershed to recharge the aquifer. Generally, the groundwater table in an unconfined aquifer will loosely follow the surface topography of the land. Groundwater would be expected to flow from drainage boundaries, such as ridges, toward points topographically lower in the watershed. Groundwater in storage and recharge "collected" within the natural drainage basin area would be available to replenish or recharge the aquifer. Due in part to the anisotropic (irregular) nature of the bedrock aquifer or confined aquifer, however, only a portion of total basin recharge could

transmit water to any given pumping area. For example, heavily faulted and fractured bedrock zones are capable of transmitting larger quantities of water to recharge the bedrock aquifer than are less fractured zones.

The project site wells have been drilled into a confined aquifer and the site is likely underlain by a system of subsurface minor faults and fractures. The fractures, if tapped successfully, will potentially pick up recharge from a large area, including the area beneath the Sheldrake Stream. The faults and fractures that form the valleys surrounding the project site may extend for miles and intercept additional fractures well beyond the property. Precipitation falling anywhere within this area naturally drains towards the valleys from the higher elevations. As previously noted, between 15 and 40 percent of precipitation becomes groundwater through recharge and is potentially available to wells tapping these interconnected fractures. The following table provides an estimate of the amount of water available for recharge for only the subject property assuming 25 percent rate of precipitation recharge.

<b>Table 1 Recharge Calculations</b>	
Acres	196.4
Square Feet	8,555,184
Average rainfall per year (inches) *	44.9
Average rainfall per year (feet)	3.74
Cubic feet of precipitation per year (on the property)	31,996,388
Gallons of precipitation per year	239,349,604
Amount lost to evapotranspiration and runoff (75%)	179,512,203
Amount, in gallons, available for recharge per year	59,837,401
Amount, in gallons, available for recharge per day	163,938
Amount, in gallons, available for recharge per minute	113.8
Source: Tim Miller Associates, Inc., * USDA Soil Survey of Sullivan County, Table 1	

This quantitative analysis of the recharge potential for the project site is only an estimate, since the recharge area for subject property could conceivably take into account an area that is considerably larger than the local watershed itself. The location, width, and the interconnection of fractures, all affect the amount of groundwater available in any given location.

Using a fairly conservative recharge rate of 25 percent (the percentage of precipitation available to recharge groundwater) results in about 163,938 gallons of recharge per day available from the site alone or 113.8 gallons per minute, which is more than the anticipated water demand of 75 gallons per minute with the best well out of service (assuming 1.5x the average daily demand which is 50 gpm). This recharge rate far exceeds the estimated project average water demand of 72,000 gallons per day.

## **2.0 GEOLOGY AND FRACTURE TRACE**

The Fracture Trace of the Raleigh Hotel site in Fallsburg, NY, was completed using the United States Geologic Survey (USGS) digital elevation data combined with one foot orthoimagery and included in Appendix B. The project site is shown on Figure 1, Site Location Map. The data was processed in a geo-spatial software package. The database also includes existing aquifer and

geologic fault data from the New York State Museum archives.

The Fallsburg area is underlain by the Upper Devonian aged Walton formation, a unit primarily composed of shale, sandstone and conglomerate rock. The rock structure is generally flat lying to slightly inclined. Bedrock outcrops are not common except along road rock-cuts or on hill peaks, however, bedrock outcrops were observed on the property. The Walton formation, both the lower and the upper, has poor primary permeability but does have better than average secondary permeability since the rock units, other than the shale portion, contains a relatively low percentage of clay components (see Figure 2, Bedrock Geology). Therefore, wells that intercept bedrock fractures have somewhat higher yields than do average wells in other rock types. The NYS Museum data indicates that there are unconsolidated aquifer deposits (glacial outwash) in the area of the Raleigh Hotel but that there are no “aquifers” mapped in the area (see Figure 3 and 4). While drilling, an unconsolidated aquifer was not encountered.

The fracture trace map, shown in Appendix B, shows several areas that may contain significant fracturing and were considered to be suitable for well drilling. The central and southern portions of the property appear more heavily fractured and thus were the focus of the well drilling operations.

### **3.0 WELL DRILLING**

The test wells for the Raleigh and Heiden Properties development project were drilled by Wm Fulton & Son Well Drilling under the supervision of the project developer. Initially, four (4) wells were drilled, Well-1, Well-2, Well-3 and Well-4. At a later date a fifth well was drilled (Well-4A) and Well-3 was deepened at TMA and SSECs request (see Figure 5, Well Location Map). Well logs were completed for each of the wells and can be found in Appendix C of this report. Table 2 summarizes well log information for the five water supply wells that were drilled on the property.

<b>Table 2 Well Drilling Results</b>						
<b>Well Number</b>	<b>Depth of Well (ft bgs)</b>	<b>Water Bearing Fractures (ft bgs)</b>	<b>Static Water Level (ft bgs)</b>	<b>Casing Depth</b>	<b>Preliminary Yields</b>	<b>Notes</b>
Well-1	400	305, 340	40	50	15	
Well-2	600	225, 380, 530	40	42	16	
Well-3	375/600	320	15	40	20	Well deepened
Well-4	500	325, 465	60	42	30	
Well-4A	625	145, 510	60	50	13	
<b>Notes:</b> ft bgs = feet below ground surface; Source: Wm Fulton and Son Well Drilling Logs Well logs are supplied in Appendix C						

## **4.0 PRIVATE WELL MONITORING**

### **Establishment of Off-Site Well Monitoring Locations**

Mr. Will Illing the Town of Fallsburg Engineer aided in suggesting off-site homeowners who should be included in the off-site monitoring program. Letters were sent to the private well owners requesting their permission to allow us to monitor their wells during the pumping test program. Eight (8) property owners received the letter and questionnaire, which was sent on August 13, 2009. Tim Miller Associates did not receive any reply letters. Phone calls were made to these property owners and no replies were received.

The Town of Fallsburg suggested extending the request to the Fallsburg Fishing and Boating Club, which owns property located approximately 1,200 feet from the closest well on the Raleigh and Heiden property. Mr. Jim Reynolds, the contact person for the Fishing and Boating Club, circulated the well monitoring request letters and questionnaires within the community. Two homeowners responded positively; Mr. Uhl and Mr. Bisnoff. The Bisnoff property is located on Lot 52 on the eastern side of Pleasure Lake and the Uhl well is located on Lot 26 on the western side of Pleasure Lake. Both wells are located directly adjacent to the lake. The homeowners agreed to allow their wells to be monitored just as the test was beginning therefore, no pretest data was collected from these wells. A copy of the letter and survey are attached in Appendix D, as well as a list of the recipients of the mailing. The loggers placed in the off-site homeowner wells were programmed to collect data every minute for the duration of the test. The data collected from the data loggers are shown in the attached graphs in Appendix E.

## **5.0 TEST PROCEDURE**

The Raleigh and Heiden properties development will require wells that produce a total of 72,000 gpd or 50 gpm (average daily demand). As stated above the NYSDOH required that the pump test produce 1.5 times the average daily demand with the best well out of service, which would be 75 gpm with the best well out of service.

To meet the project water demand requirements, as described above, the five test wells were fitted with test pumps suitable for the expected well yields. Each well was also fitted with a digital data logger to collect water level, water temperature and specific conductivity information. The loggers were programmed to record the datum from each well at a frequency of one reading per minute, in the test wells, and one reading per hour in the offsite and onsite monitoring wells. All of the above monitoring points and test wells were fitted with digital data loggers.

The well testing was completed as a "stress" test in which the four primary test wells (Wells 1, 2, 3, and 4A) were pumped simultaneously for 72-hours. This test was started on September 3, 2009 and the pumps were shut off on September 6, 2009. The test was a constant rate test with the pumping rates based on the observed rates during drilling. It was determined that some adjustments were needed early during the test and the pumping rates were increased. Well-4, the primary well, or "best well", was tested separately for 72 hours after a suitable recovery period of the primary test wells and the aquifer. This test was started on September 8, 2009 and the pump was shut off on September 11, 2009.

### **Private Well Monitoring**

Two private wells, Bisnoff and Uhl wells, were monitored during the pumping test, see Figure 5 for the location of these residential lots. Both wells were located near the shore of Pleasure Lake located to the north of the Raleigh Hotel property. The monitoring results show that the Bisnoff well (lot 52) on the east shore was not impacted by the pumping test. The Uhl well, lot 26, on the west shore may have been affected by the pumping test. The data shows that there may have been as much as 7 feet of interference. Mr. Ken Uhl provided information on his well stating that the well was completed 310 feet below the ground surface and that the major water-bearing fracture is located at 210 feet below the ground surface and the yield of his well is 15 gpm. Based on observation of the data and information provided by Mr. Uhl in the questionnaire, the Uhl well appears to be a productive well and will not be adversely affected by the Raleigh wells. The Uhl and Bisnoff well charts are shown in Graphs 1 and 2 in Appendix E.

### **Wetland Monitoring**

Two piezometer points were installed in the wetlands near Well 2 and Wells 4. Digital data loggers were installed in the piezometer points and used to monitor the wetland water levels and temperature of the water during the pumping test. The data shows that there does not appear to be a connection between the surface water, shallow groundwater and the bedrock ground water. The wetland monitoring charts are shown in Graphs 3 and 4 in Appendix E.

## **6.0 WATER QUALITY**

A set of water quality samples was collected from the five (5) test wells, Well-1, Well-2, Well-3, Well-4 and Well-4A. The samples were transported (same day) in iced coolers to a New York State certified laboratory for analysis using the NYSDOH Subpart 5.1. In addition to the subpart 5.1 parameters, samples were also analyzed for Giardia, Cryptosporidium, and Microscopic Examination for Microorganisms (MPAs) in Well-1, Well-2, Well-4, and Well-4A. No biological materials were observed in any of the four wells tested. The results are provided in Appendix F. The Subpart 5.1 test analytical results meet all water quality standards except for Iron in Well-1, Well-2 and Well-4A as well as turbidity in Well-1 and Well-2. Within each of these wells iron and turbidity were found above the NYSDOH standard for drinking water. Sodium does not have a standard but more of a guidance value which reads; "Water containing more than 20 mg/L (or 20,000 ug/L) of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more then 270 mg/L (or 270,000 ug/L) should not be used for drinking by people on moderately restricted sodium diets". All of the wells sampled for this water supply report had sodium levels above the 20,000 ug/L value. The analytical reports and a table comparing the analytical results to standards is included in Appendix F.

## **7.0 WEATHER DURING TEST PERIOD**

The weather during the pump test is shown in Graph 10, attached in Appendix E. The graph shows weather data from the Monitcello Airport. The pumping test was conducted September 3rd through the 11th, 2009. The weather was typical for that time of year, warm with occasional rain. Rain events occurred after the pumping test was completed on the 11th with 0.16 inches of precipitation recorded. There was no rain events recorded during the period of the pump test.

## **8.0 PUMPING TEST RESULTS**

The combined primary well test produced a total of 75 gpm with the back-up well producing 35 gpm. All wells stabilized for greater than the required 6-hour period. The well graphs for the individual test data are shown in Graphs 5 through 9. The table below shows the pumping test results and stabilization of Well-1 through Well-4A.

<b>Table 3 Pumping Test Results</b>							
<b>Well Number</b>	<b>Test Rate (gpm)</b>	<b>Stabilized Drawdown</b>	<b>Stabilized Duration</b>	<b>Stabilization Range</b>	<b>Hourly Change</b>	<b>Saturated Well Depth</b>	<b>Test</b>
1	15	85.59 to 85.45 ft.	39 hours	0.86 ft	0.22 ft/hr	360 ft	Primary
2	15	159.9 to 168.7 ft.	58.2 hours	8.8 ft	0.15 ft/hr	558 ft	Primary
3	30	109.7 to 110.5 ft.	39.3 hours	0.8 ft	0.02 ft/hr	335 ft	Primary
4	35	59.4 to 65.01 ft.	55 hours	5.6 ft	0.1 ft/hr	565 ft	Secondary (Best well)
4A	15	80.5 to 85.7 ft	42 hours	2.2 ft	0.05 ft/hr	558 ft	Primary

Source: SSEC Raleigh and Heiden Pump Test, September 3, 2009 to September 11, 2009.  
gpm = gallons per minute

### **Groundwater Under the Influence of Surface Water Monitoring**

The test wells were fitted with data loggers that measured water level data, temperature and conductivity. The resulting data are plotted in Graphs 5 through 9. Two of the test wells, Well-2 and Well-4, are located within 100 feet of small wetlands. A wetland monitoring point was installed in both wetlands and fitted with data loggers to measure surface water level and temperature. The wetland points were monitored during the test, as discussed above.

The conductivity data, as shown in Graphs 5 through 9 indicate variations in conductivity and temperature that appear to be related to the influence of the test pump and movement of water in the well but not related to possible infiltration of surface water towards the wells. Before the start of the pumping test the water in the well was relatively stagnant. Once the test starts the stagnant water is removed from the well and replaced by formation water that has had less exposure to oxygen. Additionally, the pump gives off considerable heat and raises the water temperature in the well. Therefore, the greatest changes in temperature and conductivity (conductivity levels are related to temperature) are found early in the test and at the end of the test when the pump is shut down and the residual pump heat is dispersed into still well water.

Changes related to surface water infiltration would appear as changes beyond those described above and are not evident in the charts. The wetland points appear to be affected by diurnal temperature and barometric pressure changes that also affect the shallow wetland water level. Since relatively little water is present in the wetlands, atmospheric temperature changes will cause the water temperature to change relatively quickly and thus cause increased evaporation. The wetland monitoring does not indicate that there is connection between the wetland and adjacent bedrock wells.

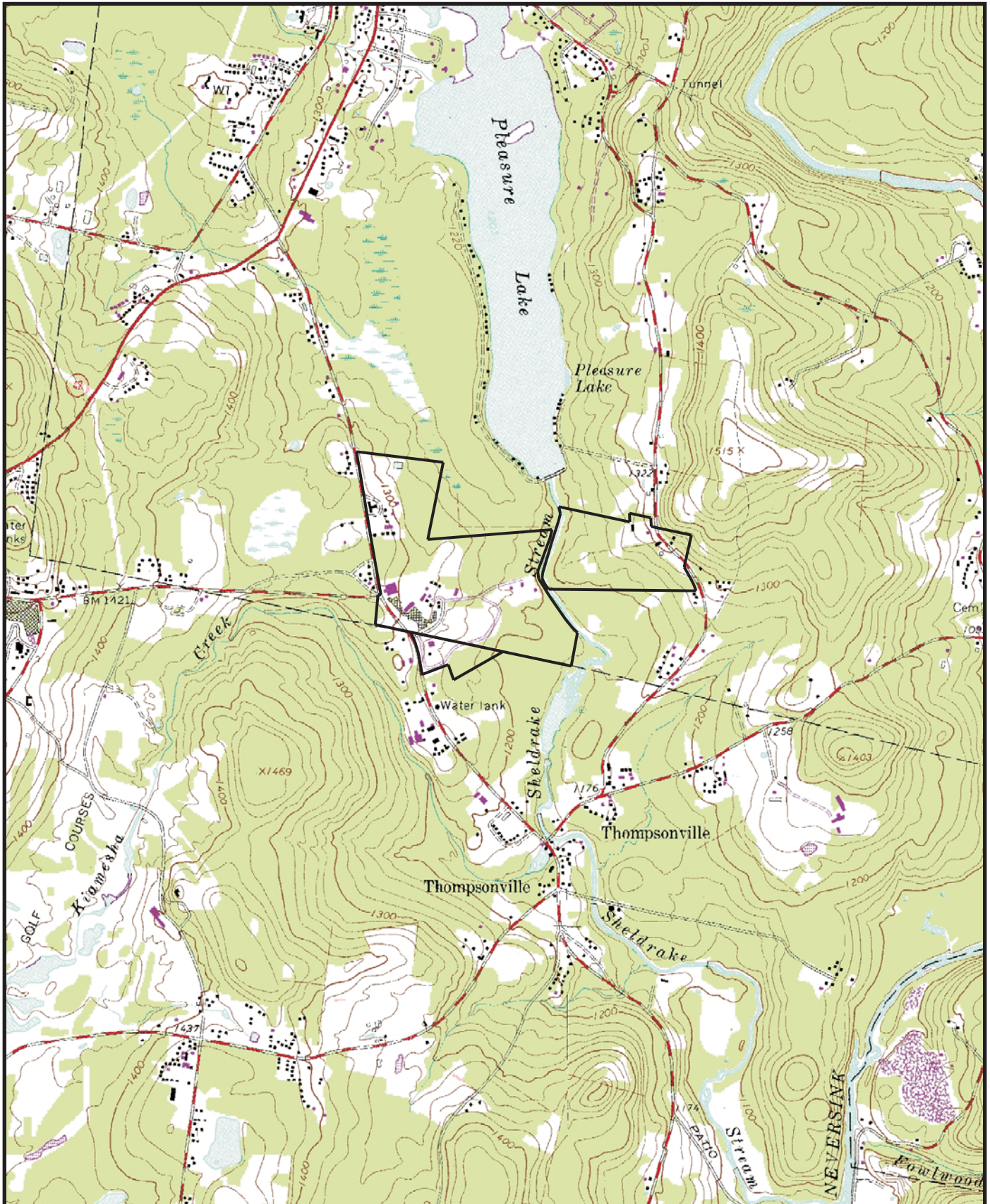


## **9.0 CONCLUSION**

The production wells, Well-1 through Well 4A, completed for the Raleigh and Heiden Properties development are suitable for use as a community well system. The following conclusions can be made:

1. The project requires that a total of 72 gpm be proven, with the best well out of service. The pump test proved that the onsite wells can provide 75 gpm with the best well out of service.
2. The calculated recharge of the site is 113.8 gpm, which is larger than the anticipated 72 gpm needed from the production wells.
3. The subpart 5 analysis concluded that iron was found above the state standard in Well-1, Well-2, and Well-4A and turbidity was above the state standards in Well-1 and Well-2.
4. There was no connection observed between the test wells, Well-1 through Well-4A, with the Bisnoff Well on the east side of Pleasure Lake. There could be a connection between the Uhl well, located on the western portion of Pleasure Lake.
5. A connection between the pumping test wells and the Uhl Well, north of the Raleigh and Heiden Properties site was shown in the logger information, see Graph 1. However, information provided by Mr. Ken Uhl on the questionnaire (Appendix D) shows the Uhl Well is 310 feet deep with a water-bearing fracture at approximately 210 feet below the ground surface. He also states that the well has yield of approximately 15 gpm, the drawdown in the Uhl well was approximately 7 feet from the static water level of the well (30 ft below the ground surface) leaving approximately 270 feet of water in the well. The well has sufficient water column in the well to avoid problems with water supply.
6. The fracture system tapped by the Raleigh and Heiden Properties wells are sufficiently productive to provide water for the proposed development. The future use of the Raleigh and Heiden Properties wells (Well-1 through Well-4A) should not adversely impact neighboring wells unless the neighboring wells are not sufficiently deep enough to sustain the additional drawdown. If water supply problems are experienced by Mr. Uhl or neighbors on the western side of Pleasure Lake, the applicant will work with the Town of Fallsburg to determine and confirm that the suspected impacts to the private wells were indeed caused by the Raleigh and Heiden Properties Development. If it is determined that the proposed development caused such impacts, the applicant will mitigate the neighbors' drinking water wells by either deepening the well or drilling a new well.





**LEGEND**  
 Site Property Boundary

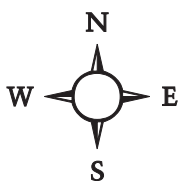
**Figure 1: Site Location Map**

Raleigh and Heiden Properties

Town of Fallsburg, Sullivan County, New York

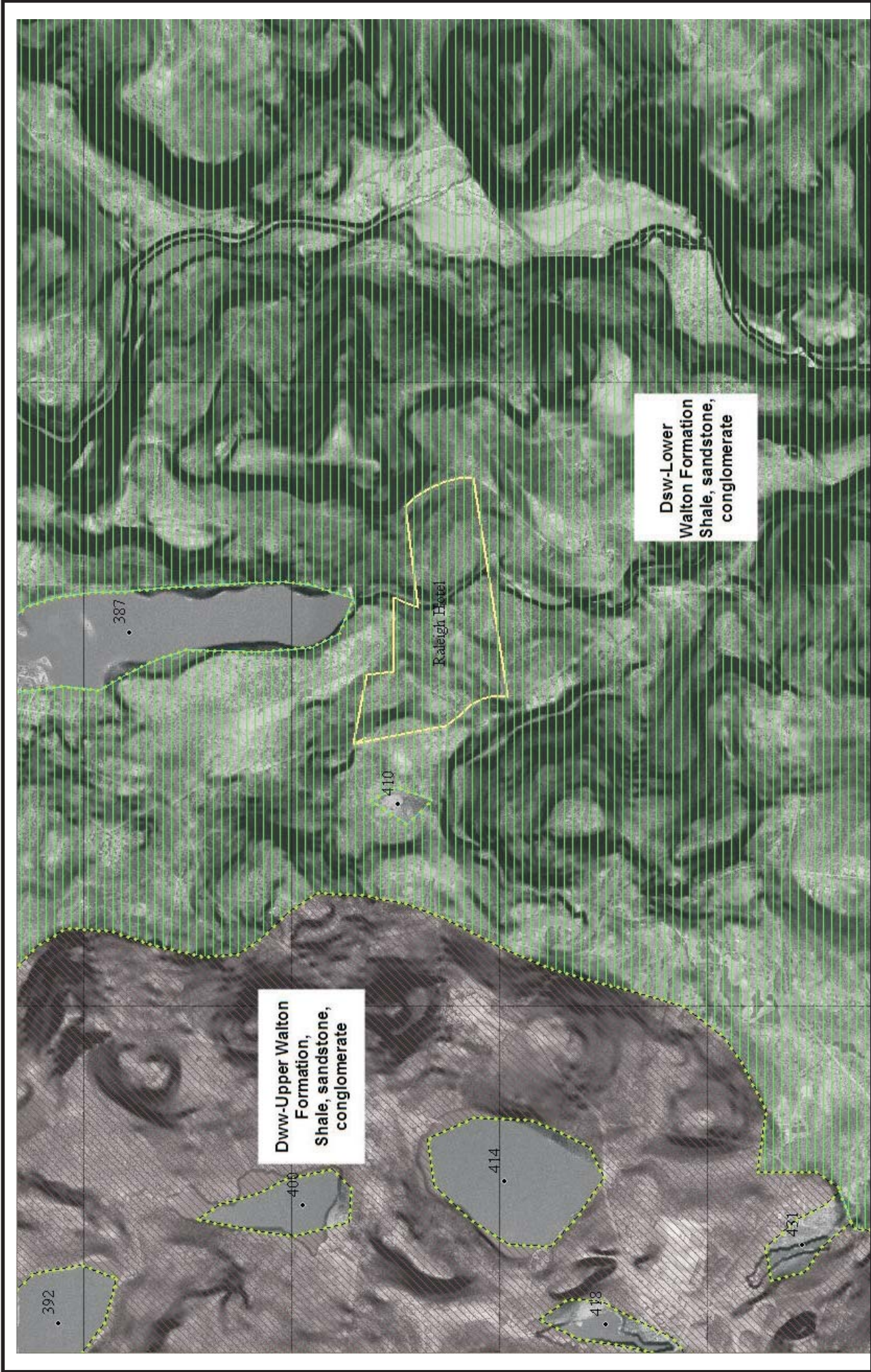
Base Map: USGS 7.5-minute Topographic Map, Monticello Quad, 2000

Scale: 1" = 2000'



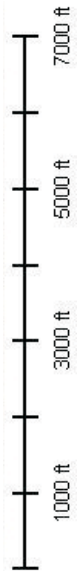
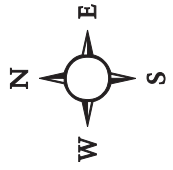






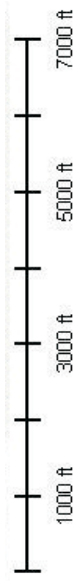
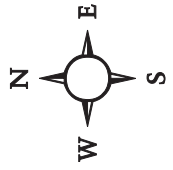
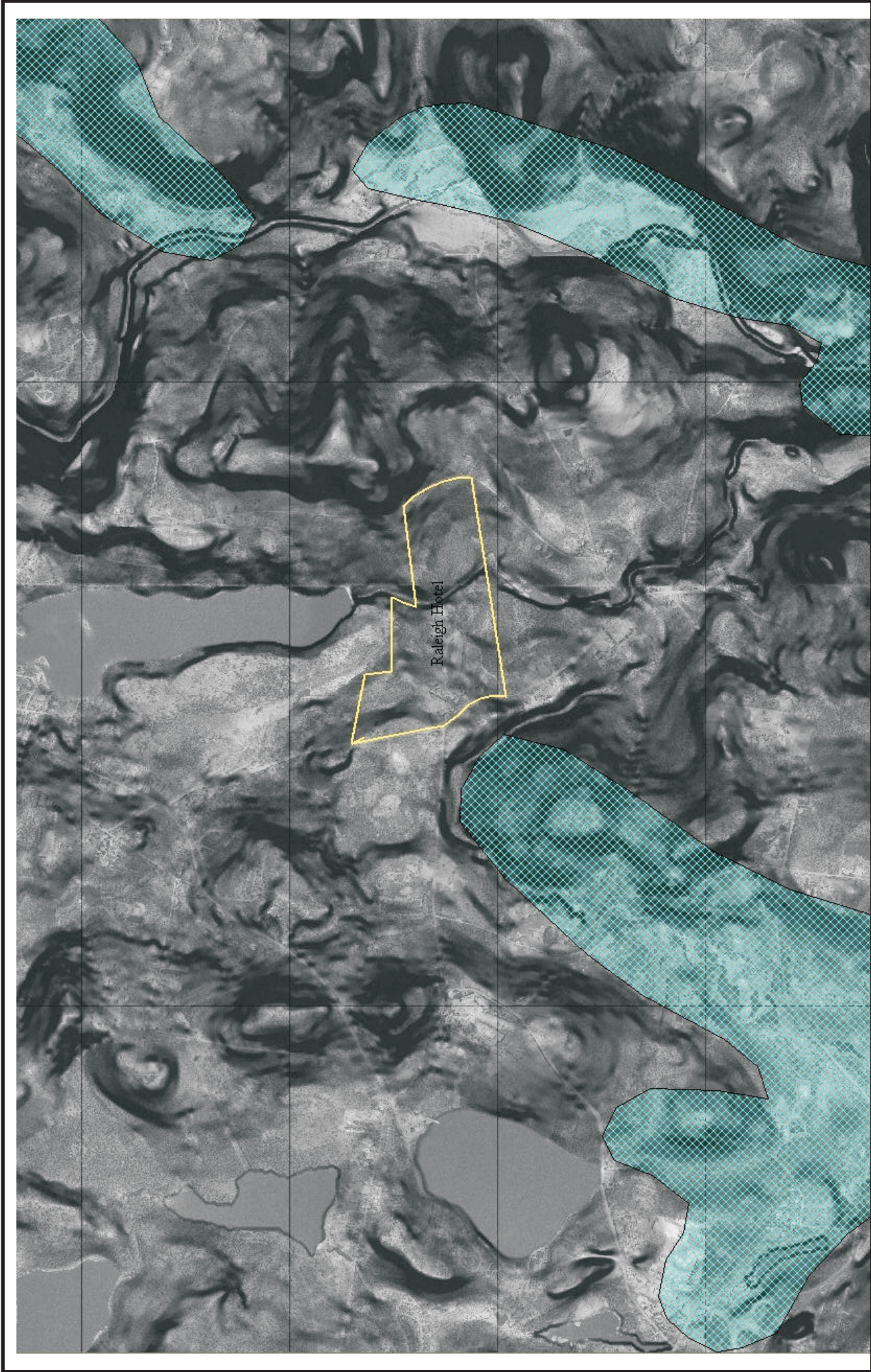
**Dww-Upper Walton  
Formation,  
Shale, sandstone,  
conglomerate**

**Dsw-Lower  
Walton Formation  
Shale, sandstone,  
conglomerate**



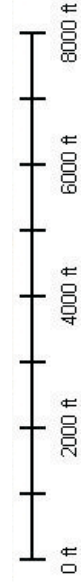
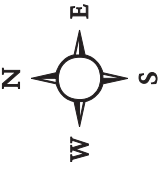
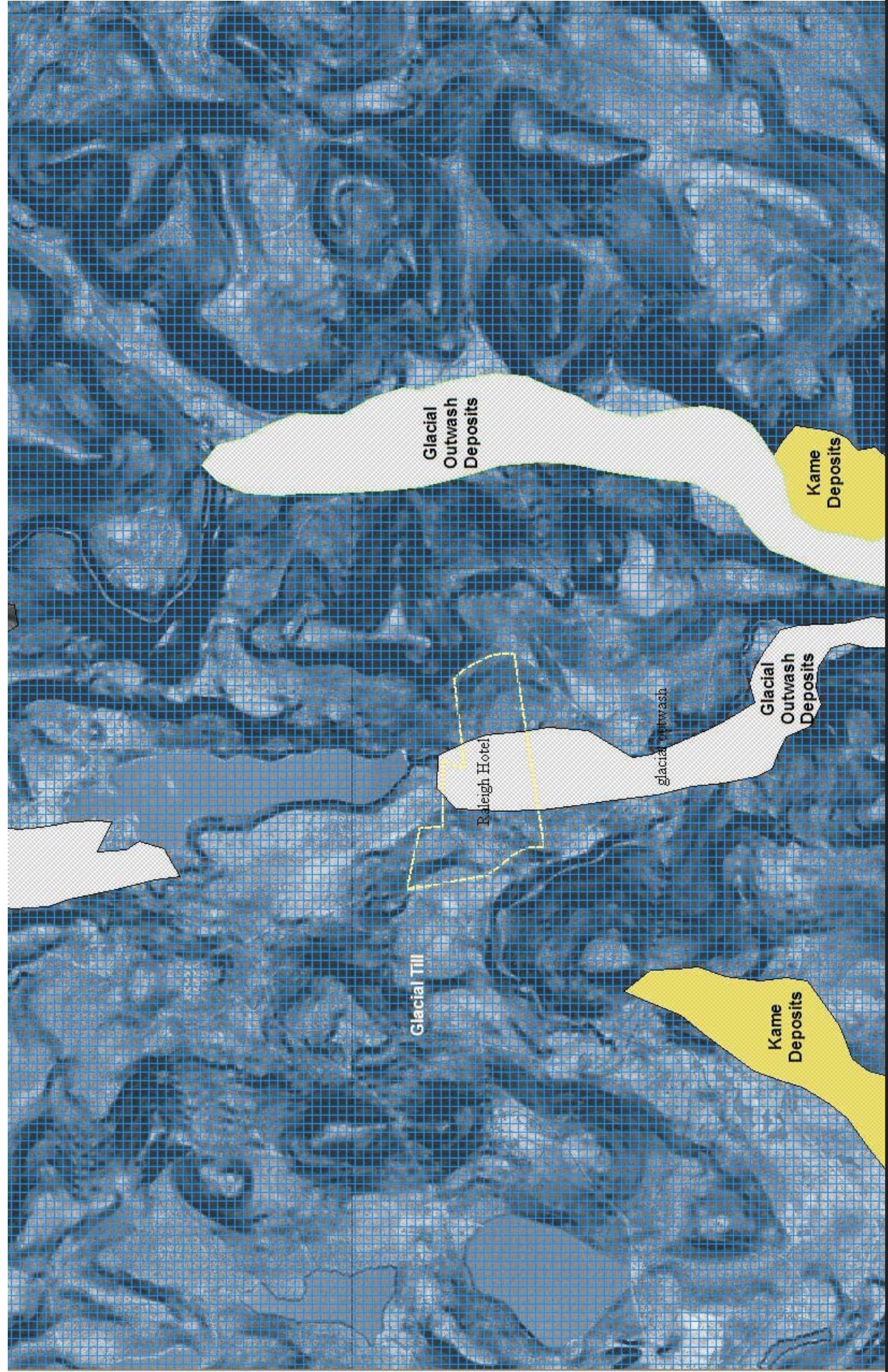
**Figure 2: Bedrock Geology**  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, New York  
 Scale: As shown





**Figure 3: NYS Mapped Aquifers**  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, New York  
 Scale: As shown



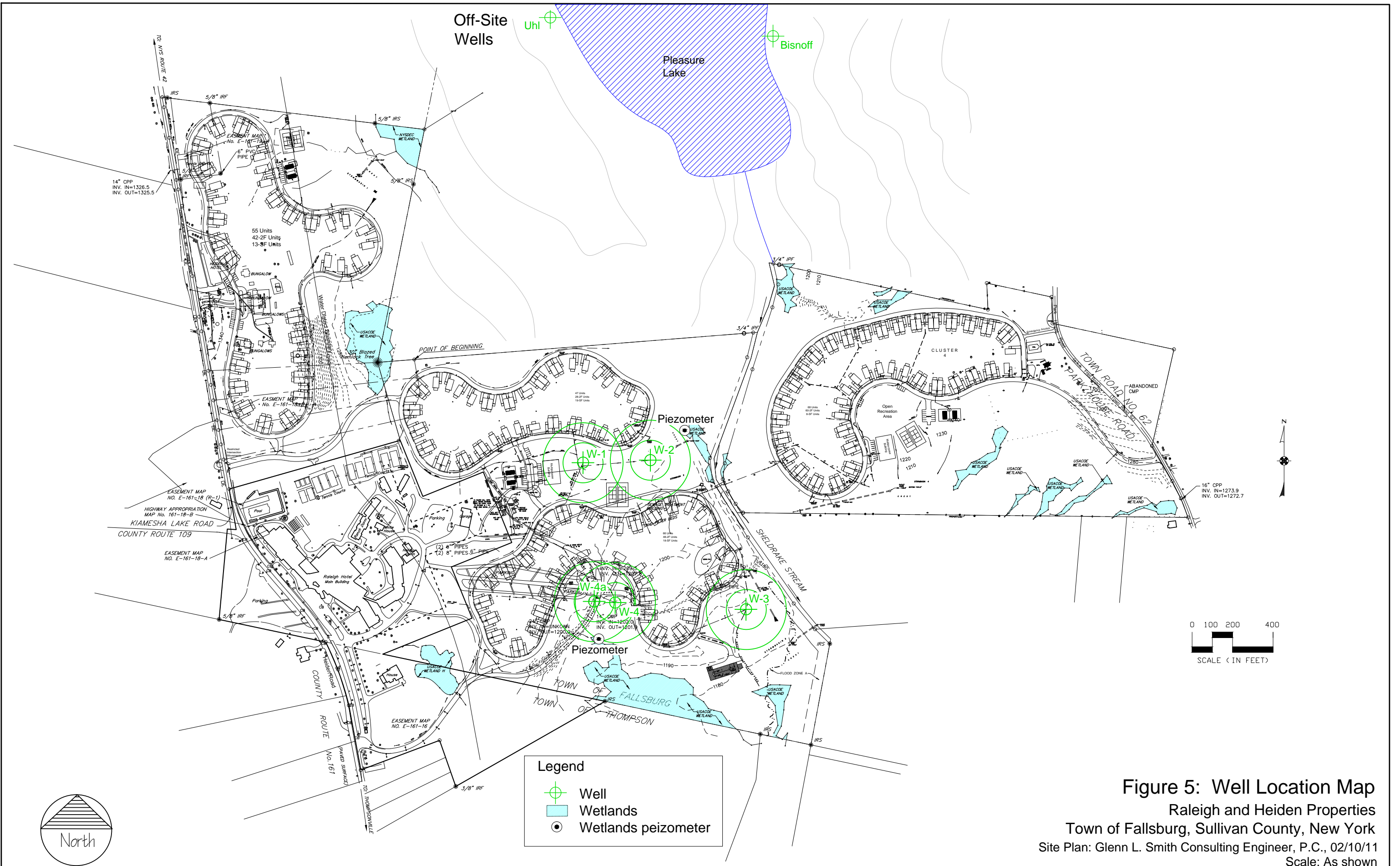


**Figure 4: Surficial Deposits**  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, New York  
 Scale: As shown









**Figure 5: Well Location Map**  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, New York  
 Site Plan: Glenn L. Smith Consulting Engineer, P.C., 02/10/11  
 Scale: As shown



Appendix A  
Correspondence



**TIM  
MILLER  
ASSOCIATES, INC.**

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*10 North Street, Cold Spring, NY 10516 (845) 265-4400 265-4418 fax www.timmillerassociates.com*

June 15, 2009

Mr. Will Illing  
Town of Fallsburg Engineer  
Town of Fallsburg, WWTP  
PO Box 830  
5410 State Route 42  
South Fallsburg, New York 12779

Re: Well Testing Protocol for Raleigh Hotel Property  
Town of Fallsburg

Dear Mr. Illing,

We are writing to provide a well testing protocol for the Raleigh Hotel project, Town of Fallsburg, New York. The protocol and testing procedures are intended to meet the requirements of the New York State Department of Conservation (NYSDEC) pumping test requirements and the New York State Department of Health (NYSDOH) requirements.

**Objective**

The purpose of the Raleigh Hotel pumping test is to determine if sufficient groundwater is available to the proposed project and to determine if the taking of groundwater from the project wells will have an adverse impact on neighboring private wells.

**Procedure**

Test Wells and Project Water Supply Demand

Test wells will be drilled for this project until the project demand water yield is developed. The water demand for this project will be based on supplying sufficient water for 181 homes, each having four (4) bedrooms, and using about 380 gallons per day (gpd). An additional 55 homes will be supplied by Town water and will not be included in the groundwater supply calculation. The planned development will require 48 gallons per minute (gpm) as one times the average daily demand. The NYSDOH requires that for a community well system, the system needs to produce the maximum daily water demand with the best well out of service. Generally, community water systems do have varying amounts of storage capacity to meet peak water demand; therefore RALHAL Corporation has proposed that the wells provide 1x the daily demand (48 gpm) with the best well out of service. Given that the project average water demand is 48 gpm, the well system needs to produce a proven 48 gpm with the best well out of service, with a 72-hour pump test.

The suitable wells developed during the drilling phase will be pumped, as a group, at 48 gpm plus the sustainable yield of the best well for a minimum of 72-hours.

Pumping will be terminated after at least 6-hours of stabilization (both pumping rate and drawdown stabilization) is achieved. A minimum of 24-hours of recovery (at least 97%) will be recorded. The data will be recorded using digital data loggers that will be set to record every minute during the pretest period, the test period and the recovery period.

The water pumped from the production/test wells will be diverted towards the nearest surface water body, which is not being tested for GWUDI (groundwater under the direct influence of surface water), if GWIUDI testing is needed. This will be done either directly with a hose or through silt fencing or straw bales. Flow rates from each pumping well will be measured using a combination of flow meters and periodic bucket/stopwatch readings. Water level data will be based on drawdown and referenced to a depth-to-water level from a convenient measuring point.

The production/test wells will be stagger started, about one-hour delay between starts, at a constant rate. The test will start after a minimum of 48 hours of background data is collected from selected neighboring wells. The test will continue for a minimum of 72-hours with a minimum of 6-hours of stabilization in pumping wells. If the pumping wells do not stabilize for the minimum 6-hour period, the test will continue until the wells stabilize for the required duration or for a maximum of 120-hours. Pumping rates will be monitored using "instant read" water meters (gpm meters) and will be checked using 5 or 20 gallon buckets and a stopwatch, depending on the flow rate.

### **Off-site Monitoring**

All offsite properties to be monitored will be discussed with the Town of Fallsburg and will be confirmed with the Town of Fallsburg Engineer. The request for permission to monitor private wells will be in the form of a letter (sent by certified mail) detailing the test procedure and including a questionnaire for residents to complete. An example of the approval request letter is attached. The letter will request a response within 10 days of receipt of the letter. Positive respondents will be interviewed and their wells will be inspected to see if they could be monitored. If the well is suitable a data logger will be installed in the well with the assistance of the drilling/pump contractor to assure that problems, if they occur, are resolved quickly and disruption to individual water supplies is prevented.

The data loggers will be set to collect water level information from the neighboring wells for a minimum of 48 hours prior to the start of the pumping test and for a minimum period of 24 hours after the conclusion of the test. The sampling interval will be 60 minutes between readings.

### **On-site Monitoring**

Data loggers will be installed in the proposed production test wells, and in the two (2) Raleigh Hotel Wells not being utilized for water supply, as shown in Figure 1.

In addition, data-loggers will be placed in any water bodies within 500 feet of the production wells, as mandated by the NYSDEC pump test requirements. These water bodies will then be monitored for water level fluctuations. Piezometer screens will be installed a minimum of two feet below the streambed or wetland soil surface. Periodic water level readings (not less than two per day) will be taken prior to, during, and following the pumping test. Measurements will be taken on the outside of each piezometer to the

Mr. Will Illing  
Page 3

standing water level in the stream or wetland, and inside each piezometer to the level of the shallow groundwater to identify upward or downward gradient conditions in these water bodies. A log of weather conditions will be maintained during the test.

### **Water Quality**

A set of water quality samples will be collected from each test well just before the test is shut down. The samples will be transported the same day in iced coolers to a New York State certified laboratory for analysis using the parameters specified by the NYSDOH – Monticello District Office (NYSDOH Full Subpart 5 parameters).

### **Report**

The data collected during the pumping test, outlined above, will be summarized in a technical report. The data will be presented in tabular and graphic form. The data from the test wells will be presented on individual charts that include drawdown and pumping rate data plotted on a suitable time scale. The neighboring well data will be presented on individual graphs, which will also include the pumping period. The common format will allow direct comparison and analysis of the possible interference affects. All water level data will be presented in both “0” (drawdown) form and in depth to water format. The report will also include a recharge analysis suitable for the Town of Fallsburg area.

Please contact me at the number above should you have any questions. We appreciate your assistance with the well testing plan and look forward to hearing from you regarding any comments or you agreement with this plan.

Sincerely,

ORIGINAL SIGNED

Maureen S. Fisher  
Environmental Scientist  
Tim Miller Associates, Inc.

cc: Mr. Sergio Smiriglio – SSEC  
Mr. Glen Illing – NYSDOH, Monticello District Office  
Mr. Mendel Lerner







STATE OF NEW YORK  
DEPARTMENT OF HEALTH

Monticello District Office 50 North Street Suite 2 Monticello, NY 12701-1711 (845)-794-2045 Fax (845)-794-3165

Richard F. Daines, M.D.  
*Commissioner*

Wendy Saunders  
*Chief of Staff*

June 30, 2009

Maureen S. Fisher  
Environmental Scientist  
Tim Miller Associates, Inc.  
10 North St.  
Cold Spring, NY 10516

Re: RAC HAL Corporation Property  
Water Supply Wells  
(T) Fallsburg – SBL 60-1-56

Dear Ms. Fisher,

I am writing to follow up on our telephone conversation last week regarding the pump test protocol addressed to the Town of Fallsburg, dated June 15, 2009 at the above referenced facility.

Please be advised that the New York State Department of Health will not accept a maximum day demand calculation based on a 1.0 multiplier of the average daily demand. This office requires that the water supply maximum day demand calculation be based on a minimum of one and one half (1.5) times the average daily demand. You are reminded that our review for this project will be in accordance with "Recommended Standards for Waterworks (2007 Edition)" and the total developed groundwater source capacity shall equal or exceed the maximum day demand with the largest producing well out of service.

If you have any questions regarding this matter, please contact me at (845) 794-2045.

Sincerely,

A handwritten signature in black ink, appearing to read 'G. Illing'.

Glenn D. Illing, P.E.  
Senior Sanitary Engineer

GDI:ce

Cc: William H. Illing, P.E., Town Engineer - (T) Fallsburg  
File



Appendix B  
Fracture Trace Report



4 Deer Trail  
Cornwall, New York 12518  
845 534 3816 [tel]  
845 534 3314 [fax]  
info@groundwatergeology.com

SS&C Inc.

# Technical Memorandum

To: Maureen Fisher  
From: Sergio Smiriglio  
CC:  
Date: March 6, 2008  
Re: Raleigh Hotel Hotel, Sullivan County, Fracture Trace Analysis

---

The Fracture Trace of the Raleigh Hotel site in Fallsburgh, NY, was completed using the United States Geologic Survey [USGS] digital elevation data combined with one foot orthoimagery. The data was processed in a geo-spatial software package. The database also includes existing aquifer and geologic fault data from the New York State Museum archives. Figure 1 shows the project site outlined in yellow. The two existing project wells are shown on the western side of the property. Both wells are estimated to produce in excess of 100 gallons per minute.

The Fallsburgh area is underlain by the Upper Devonian aged Walton formation, a unit primarily composed of shale, sandstone and conglomerate rock. The rock structure is generally flat lying to slightly inclined. Bedrock outcrops are not common except along road rock-cuts or on hill peaks. The Walton formation, both the lower and the upper, has poor primary permeability but does have better than average secondary permeability since the rock units, other than the shale portion, contains a relatively low percentage of clay components. [Figure 2] Therefore, wells that intercept bedrock fractures have somewhat higher yields than do average wells in other rock types. The NYS Museum data indicates that there are unconsolidated aquifer deposits [glacial outwash] in the area of the Raleigh Hotel but no "aquifers" are mapped in the area. [Figures 3 and 4]

The suggested test drilling locations are shown on figure 5. The suggested locations are indicated by blue "x"s. The location within the hachured area may be within the area indicated to be sand and gravel aquifer. All wells should be drilled to a minimum depth of 600 feet, unless sufficient water is developed before reaching that point. Wells drilled within the "sand and gravel" area should be drilled using a method suitable for developing unconsolidated aquifer wells.



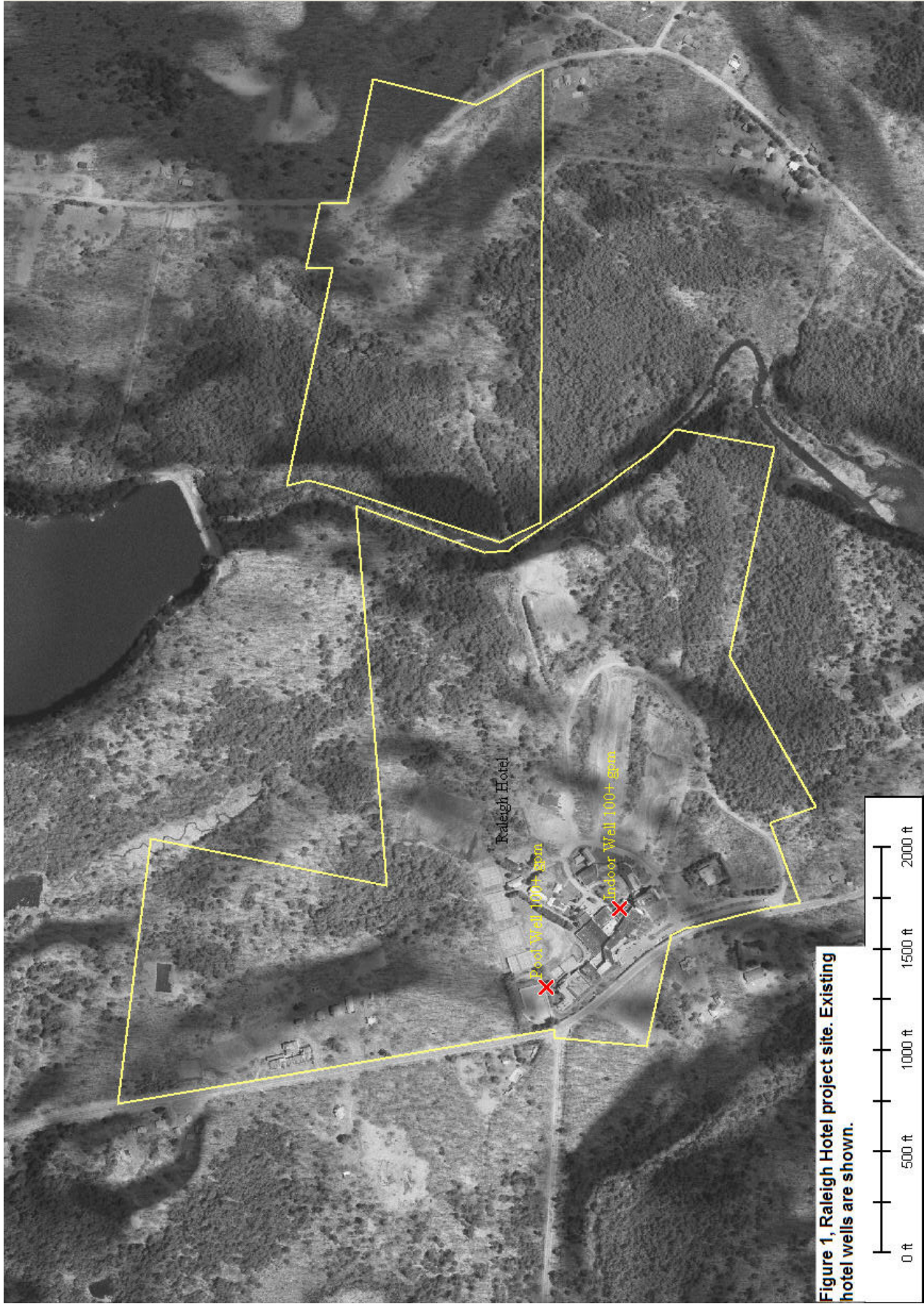
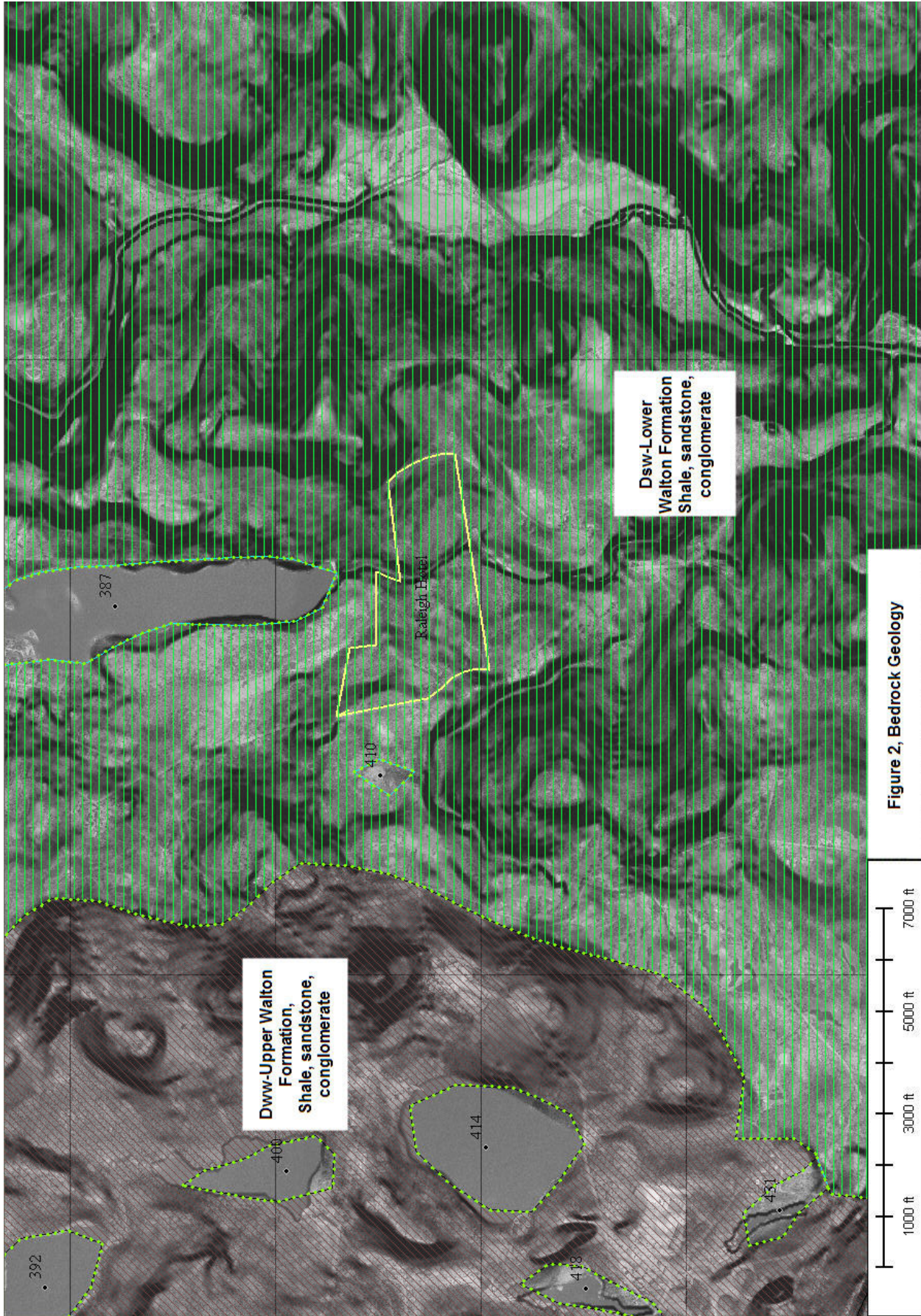
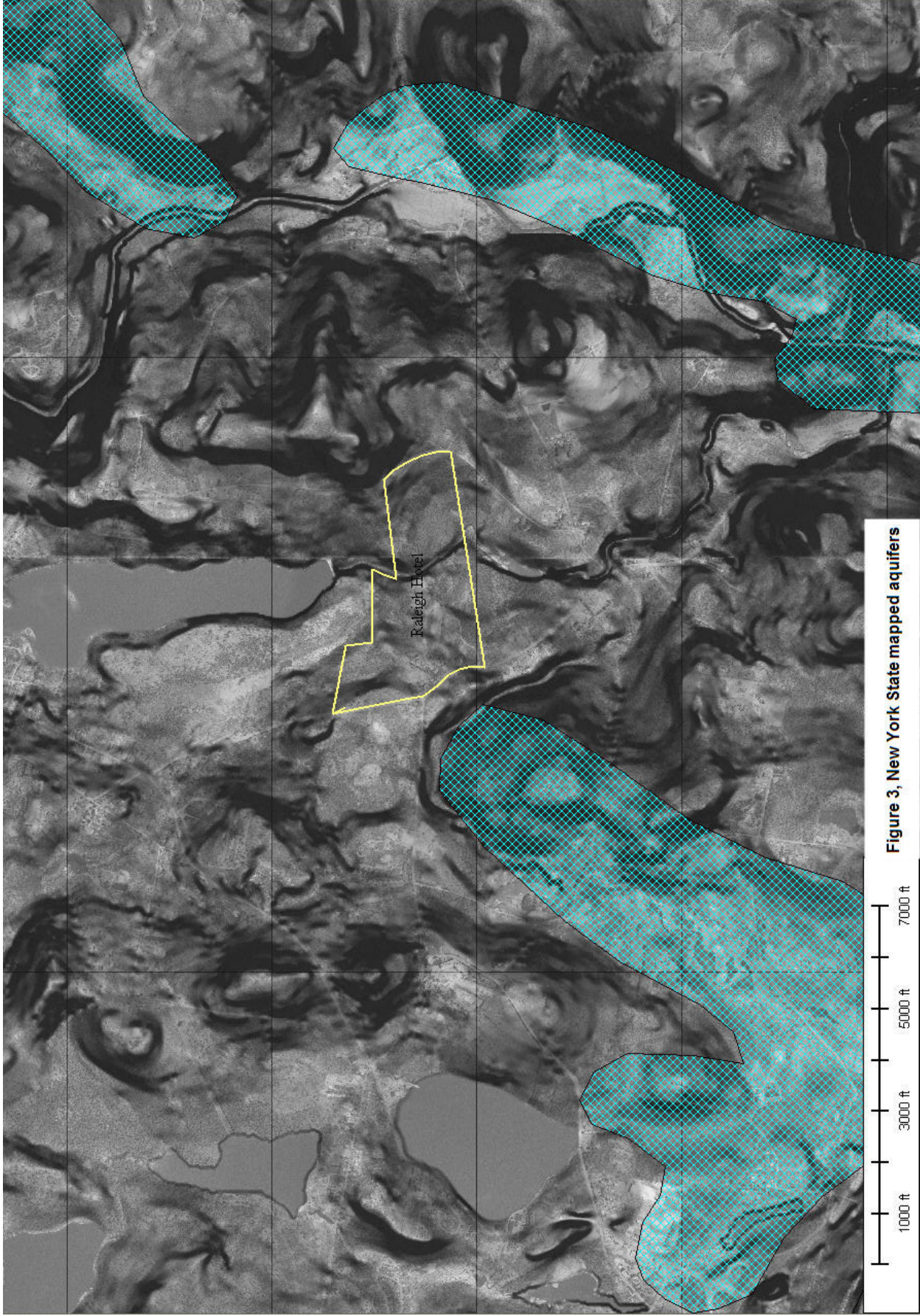


Figure 1, Raleigh Hotel project site. Existing hotel wells are shown.

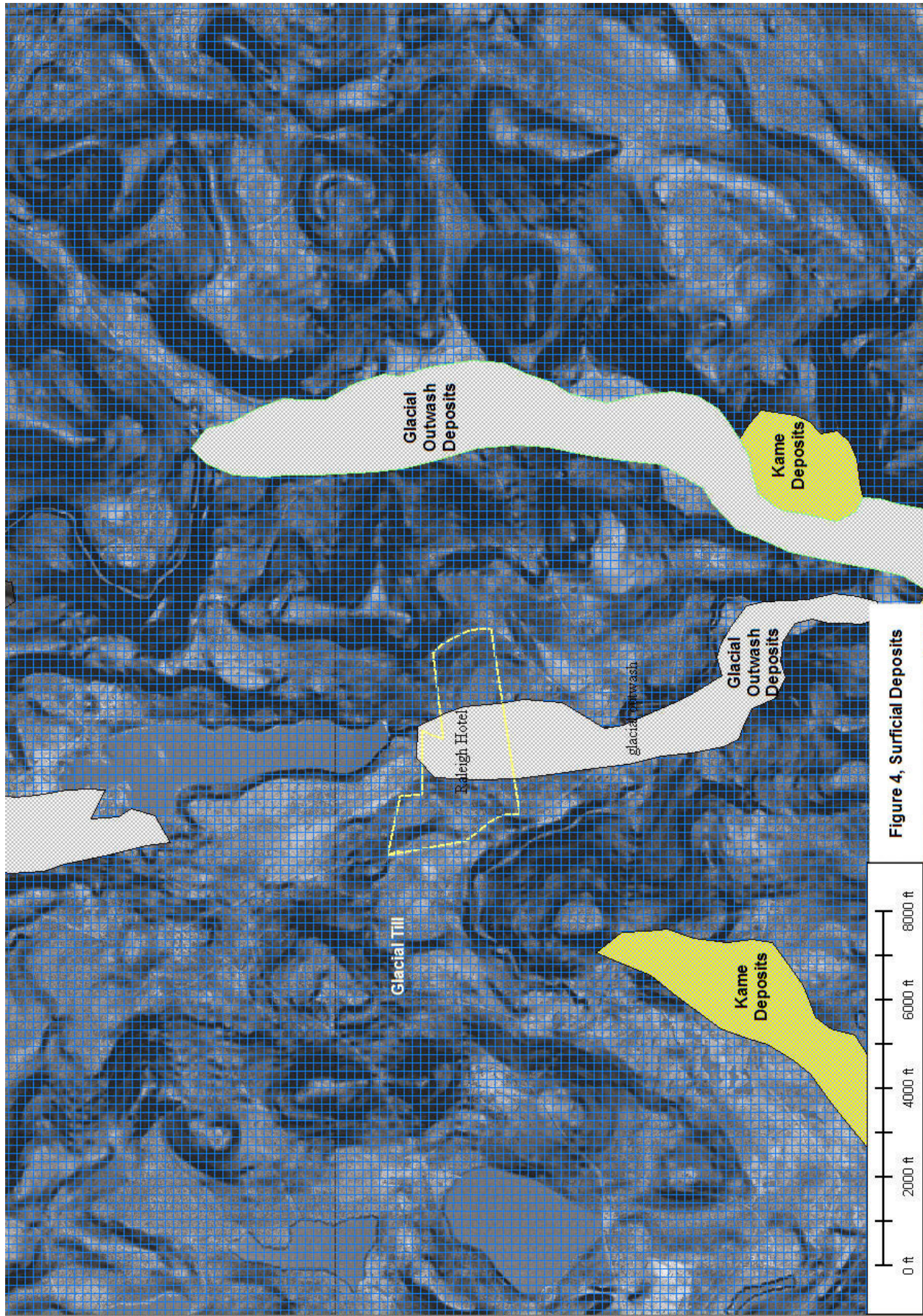














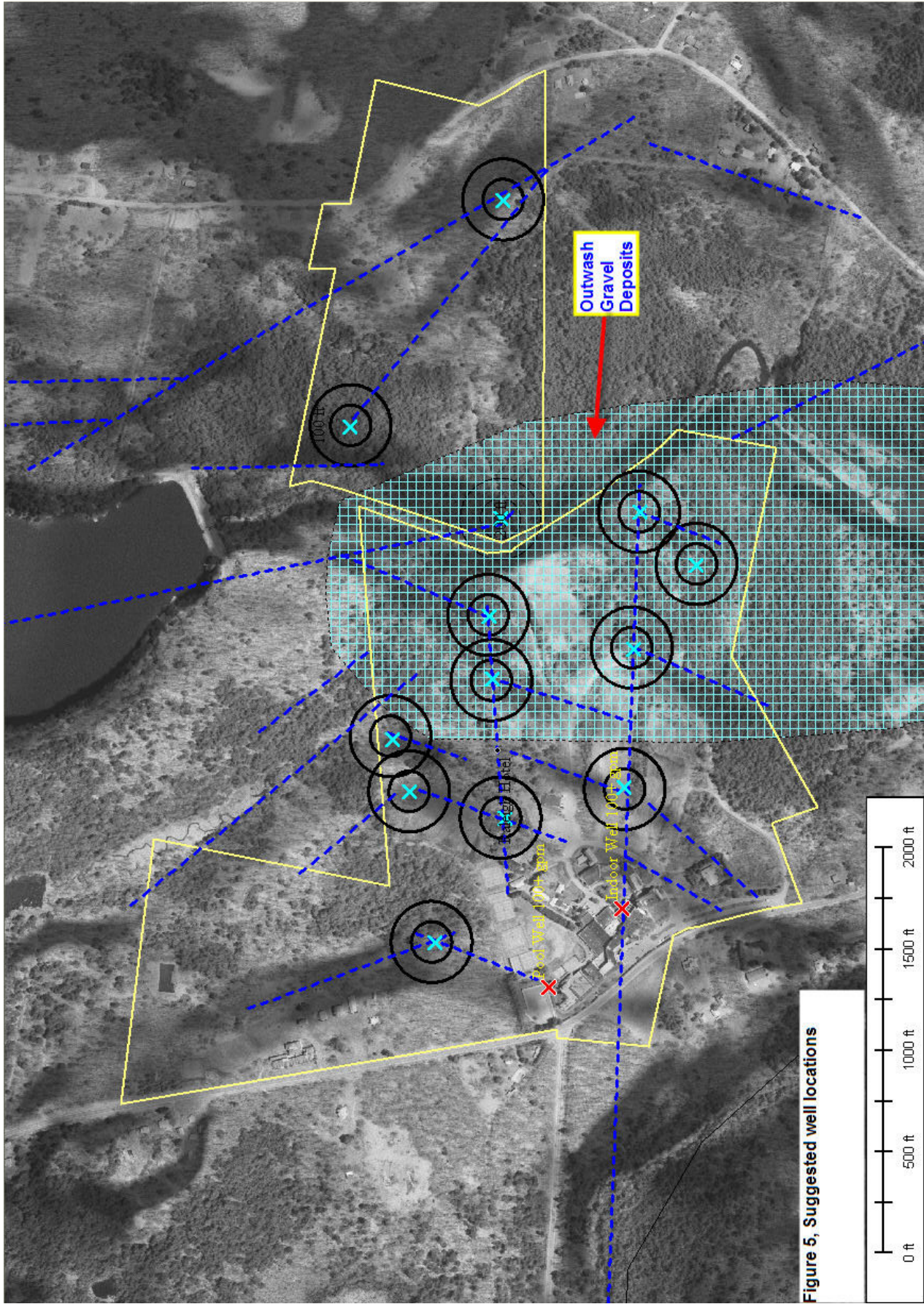


Figure 5, Suggested well locations



Appendix C

Well Logs



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



(1) COUNTY Sullivan  
(2) TOWN Jacksburg

(3) DEC Well Number  
SV 3318

WATER WELL COMPLETION REPORT

(4) OWNER <u>Raleigh Hotel Development - Well #1</u>		(43) LOG	
(5) ADDRESS <u>So. Jacksburg N.Y.</u>		Depth to Bedrock <u>18</u> (ft. below ground surface)	
(6) LOCATION OF WELL (See instructions on reverse) (Check here <input type="checkbox"/> if same as address above, also provide Lat / Long below) <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Map Interpolation <u>N41.40.859 W074.37.695</u>		Ground Elev. <u>1246</u> (ft. above S.L.)	
(7) DEPTH OF WELL BELOW LAND SURFACE (feet) <u>400</u>		Top of Casing <u>2</u> (ft. above (+) or below (-) ground surface)	
(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) <u>40</u>		DATE MEASURED <u>5/28/09</u>	
(8) DIAMETER		TOP OF WELL	
(10) LENGTH		0-15	
(11) GROUT TYPE / SEALING		15-25	
(12) GROUT / SEALING INTERVAL (feet) FROM TO		25-60	
(13) MAKE & MATERIAL		60-90	
(14) OPENINGS		90-105	
(15) DIAMETER		105-120	
(16) LENGTH		120-125	
(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)		125-135	
(18) DATE <u>5/28/09</u>		135-145	
(19) DURATION OF TEST <u>1/2 hr</u>		145-160	
(20) LIFT METHOD <input type="checkbox"/> Pump <input checked="" type="checkbox"/> Air Lift <input type="checkbox"/> Bail		160-165	
(21) STABILIZED DISCHARGE (GPM) <u>15</u>		165-170	
(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing) <u>40</u>		170-210	
(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) <u>300</u>		210-220	
(24) RECOVERY (Time in hours/minutes) <u>25 min</u>		220-235	
(25) Was the water produced during the test discharged away from immediate area? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		235-250	
(26) PUMP INSTALLED? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		250-305	
(27) DATE		305-330	
(28) PUMP INSTALLER		330-340	
(29) TYPE		340-360	
(30) MAKE		360-380	
(31) MODEL		380-400	
(32) MAXIMUM CAPACITY (GPM)			
(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)			
(34) METHOD OF DRILLING <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input type="checkbox"/> Other			
(35) USE OF WATER (See instructions for choices) <u>Public</u>			
(36) DATE DRILLING WORK STARTED <u>5/28/09</u>			
(37) DATE DRILLING WORK COMPLETED <u>5/28/09</u>			
(38) DATE REPORT FILED <u>6/24/09</u>			
(39) REGISTERED COMPANY <u>Wm Fulton &amp; Son Well Drilling</u>			
(40) DEC REGISTRATION NO. <u>NYRD 10108</u>			
(41) CERTIFIED DRILLER (Print name) <u>Eugene Fulton</u>			
(42) CERTIFIED DRILLER SIGNATURE <u>Eugene Fulton</u>			

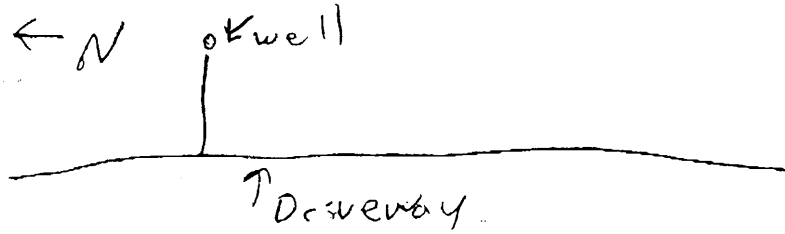
0-15  
15-25  
25-60  
60-90  
90-105  
105-120  
120-125  
125-135  
135-145  
145-160  
160-165  
165-170  
170-210  
210-220  
220-235  
235-250  
250-305  
305-330  
330-340  
340-360  
360-380  
380-400

Topsoil: Sand  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Black Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale

BOTTOM OF HOLE

OWNER COPY

LOCATION SKETCH - Indicate north



\* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law §15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a class A Misdemeanor under Penal Law §210.45.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



(1) COUNTY Sullivan  
(2) TOWN Fallsburg

(3) DEC Well Number  
SV3325

WATER WELL COMPLETION REPORT

(4) OWNER  
Raleigh Hotel Development - Well # 2

(5) ADDRESS  
50. Fallsburg N.Y.

(6) LOCATION OF WELL (See instructions on Reverse) (Check here  if same as address above, also provide Lat / Long below)  
Show Lat/Long if available and method used:  
 GPS  Map Interpolation N 41.40.866 W 074.37.624

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 600' (8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 40 DATE MEASURED 6/2/09

(9) DIAMETER 6 5/8 in.

(10) LENGTH 42 ft.

(11) GROUT TYPE / SEALING

(12) GROUT / SEALING INTERVAL (feet) FROM \_\_\_\_\_ TO \_\_\_\_\_

(13) MAKE & MATERIAL

(14) OPENINGS

(15) DIAMETER in. | in. | in. | in.

(16) LENGTH ft. | ft. | ft. | in.

(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (feet)

(18) DATE 6/2/09 (19) DURATION OF TEST 1 1/2 hrs.

(20) LIFT METHOD  Pump  Air Lift  Bail (21) STABILIZED DISCHARGE (GPM) 16

(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing) 40 (23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) 500

(24) RECOVERY (Time in hours/minutes) 40 min (25) Was the water produced during the test discharged away from immediate area? Yes  No

(26) PUMP INSTALLED? YES  NO  (27) DATE (28) PUMP INSTALLER

(29) TYPE (30) MAKE (31) MODEL

(32) MAXIMUM CAPACITY (GPM) (33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (feet)

(34) METHOD OF DRILLING  Rotary  Cable Tool  Other \_\_\_\_\_ (35) USE OF WATER (See instructions for choices) Public

(36) DATE DRILLING WORK STARTED 6/1/09 (37) DATE DRILLING WORK COMPLETED 6/2/09

(38) DATE REPORT FILED 6/24/09 (39) REGISTERED COMPANY Wm Fulton & Son Well Drilling (40) DEC REGISTRATION NO. NYRD 10108

(41) CERTIFIED DRILLER (Print name) WILLIAM FULTON (42) CERTIFIED DRILLER SIGNATURE William Fulton

(43) LOG

Depth to Bedrock 6 (ft. below ground surface)

Ground Elev. 1230 (ft. above S.L.)

Top of Casing 2 (ft. above (+) or below (-) ground surface)

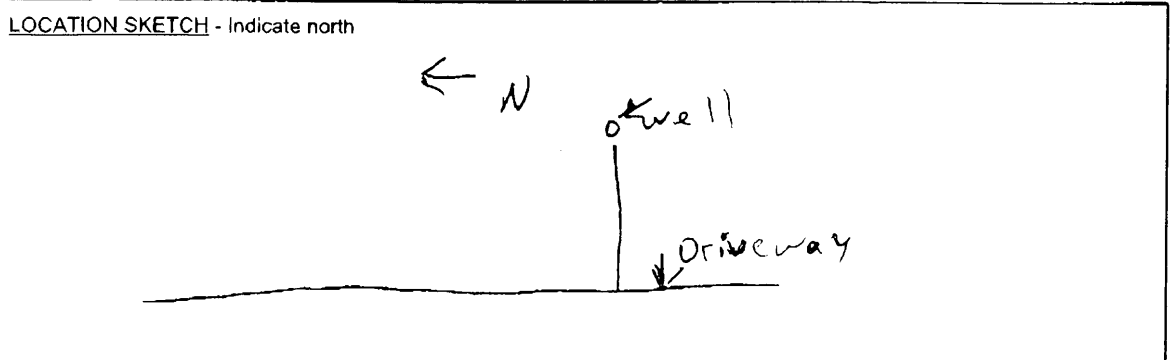
TOP OF WELL	
0-5	Topsoil
5-25	Red Shale
25-50	Gray Rock
50-85	Red Shale
85-100	Gray Rock
100-130	Red Shale
130-140	Gray Rock
140-160	Red Shale
160-180	Gray Rock
180-185	Red Shale
185-210	Gray Rock
210-220	Red Shale
220-225	Gray Rock
225-245	Red Shale
245-310	Gray Rock
310-330	Red Shale
330-340	Gray Rock
340-360	Red Shale
360-380	Gray Rock
380-405	Red Shale
405-470	Gray Rock
470-480	Black Shale
480-520	Gray Rock
520-530	Red Shale
530-565	Gray Rock

BOTTOM OF HOLE

OWNER COPY

\* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law §15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a class A misdemeanor under Penal Law §210.45.

8/2007







(1) COUNTY Sullivan

(2) TOWN Fultonburg

(3) DEC Well Number

503233

**WATER WELL COMPLETION REPORT**

(4) OWNER  
Robbie's Hotel Development - Well # 3

(5) ADDRESS  
22. Fultonburg NY

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here  if same as address above, also provide Lat / Long below) Show Lat/Long if available and method used:  
 GPS  Map Interpolation N 41.40.756 W 074.37.518

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 375' (8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 15' DATE MEASURED 6/15/09

**CASINGS**

(9) DIAMETER 6 5/8 in. | | | | in.

(10) LENGTH 40 ft. | | | | ft. | | | | in.

(11) GROUT TYPE / SEALING (12) GROUT / SEALING INTERVAL (feet) FROM \_\_\_\_\_ TO \_\_\_\_\_

**SCREENS**

(13) MAKE & MATERIAL (14) OPENINGS

(15) DIAMETER in. | | | | in.

(16) LENGTH ft. | | | | ft. | | | | in.

(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)

**YIELD TEST**

(18) DATE 6/15/09 (19) DURATION OF TEST 1 1/2 hrs

(20) LIFT METHOD  Pump  Air Lift  Bail (21) STABILIZED DISCHARGE (GPM) 20

(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing) 15 (23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) 300

(24) RECOVERY (Time in hours/minutes) 22 min (25) Was the water produced during the test discharged away from immediate area? Yes  No

**PUMP INSTALLATION**

(26) PUMP INSTALLED? YES  NO  (27) DATE (28) PUMP INSTALLER

(29) TYPE (30) MAKE (31) MODEL

(32) MAXIMUM CAPACITY (GPM) (33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet) 340-375

(34) METHOD OF DRILLING  Rotary  Cable Tool  Other \_\_\_\_\_ (35) USE OF WATER (See instructions for choices) Drinking

(36) DATE DRILLING WORK STARTED 6/15/09 (37) DATE DRILLING WORK COMPLETED 6/15/09

(38) DATE REPORT FILED 6/24/09 (39) REGISTERED COMPANY Wm. Fulton & Son Well Drill (40) DEC REGISTRATION NO. NYRD 10108

(41) CERTIFIED DRILLER (Print name) Eric Fulton (42) CERTIFIED DRILLER SIGNATURE \* Eric Fulton

\* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law §15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a class A Misdemeanor under Penal Law §210.45.

(43) LOG

Depth to Bedrock 3 (ft. below ground surface)

Ground Elev. 1210' (ft. above S.L.)

Top of Casing 2 (ft., above (+) or below (-) ground surface)

TOP OF WELL

0-3	Top Soil
3-8	Red Shale
8-25	Gray Rock
25-35	Red Shale
35-50	Gray Rock
50-75	Red Shale
75-90	Gray Rock
90-120	Red Shale
120-125	Gray Rock
125-145	Red Shale
145-190	Gray Rock
190-210	Red Shale
210-330	Gray Rock
330-340	Red Shale
340-375	Gray Rock
380-400	Red Shale
400-515	Gray Rock
515-520	Red Shale
520-530	Gray Rock
530-540	Black Slc
540-580	Gray Rock
580-600	Gray Rock a

BOTTOM OF HOLE

OTHER



(1) COUNTY Sullivan

(2) TOWN Fallsburg

(3) DEC Well Number

SV3390

**WATER WELL COMPLETION REPORT**

(4) OWNER <u>Raleigh Hotel Development</u> <u>Well #5</u>		(43) LOG	
(5) ADDRESS <u>Heiden Rd</u> <u>So. Fallsburg NY</u>		Depth to Bedrock _____ (ft. below ground surface)	
(6) LOCATION OF WELL (See Instructions On Reverse) (Check here <input type="checkbox"/> if same as address above, also provide Lat / Long below) Show Lat/Long if available and method used: <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Map Interpolation <u>N 41.40.749</u> <u>W 074.37.686</u>		Ground Elev. <u>1227</u> (ft. above S.L.)	
(7) DEPTH OF WELL BELOW LAND SURFACE (feet) <u>625</u>		Top of Casing <u>2</u> (ft. above (+) or below (-) ground surface)	
(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet)		DATE MEASURED	
<b>CASINGS</b>			
(9) DIAMETER <u>6 5/8</u> in.   in.   in.   in.		0-14	
(10) LENGTH <u>50</u> ft.   ft.   ft.   in.		<u>14-25</u>	
(11) GROUT TYPE / SEALING		<u>25-45</u>	
(12) GROUT / SEALING INTERVAL (feet) FROM _____ TO _____		<u>45-60</u>	
<b>SCREENS</b>			
(13) MAKE & MATERIAL		<u>60-95</u>	
(14) OPENINGS		<u>95-110</u>	
(15) DIAMETER in.   in.   in.   in.		<u>110-165</u>	
(16) LENGTH ft.   ft.   ft.   in.		<u>165-205</u>	
(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)		<u>205-230</u>	
<b>YIELD TEST</b>			
(18) DATE <u>9/1/09</u>		(19) DURATION OF TEST <u>1 1/2 hr</u>	
(20) LIFT METHOD <input type="checkbox"/> Pump <input checked="" type="checkbox"/> Air Lift <input type="checkbox"/> Bail		(21) STABILIZED DISCHARGE (GPM) <u>13</u>	
(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)		(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)	
(24) RECOVERY (Time in hours/minutes)		(25) Was the water produced during the test discharged away from immediate area? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<b>PUMP INSTALLATION</b>			
(26) PUMP INSTALLED? YES _____ NO _____		(27) DATE	(28) PUMP INSTALLER
(29) TYPE		(30) MAKE	(31) MODEL
(32) MAXIMUM CAPACITY (GPM)		(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)	
(34) METHOD OF DRILLING <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input type="checkbox"/> Other _____		(35) USE OF WATER (See instructions for choices) <u>Public</u>	
(36) DATE DRILLING WORK STARTED <u>9/1/09</u>		(37) DATE DRILLING WORK COMPLETED <u>9/1/09</u>	
(38) DATE REPORT FILED	(39) REGISTERED COMPANY <u>Wm Fulton &amp; Son Well Drilling</u>	(40) DEC REGISTRATION NO. <u>NYRD 10108</u>	
(41) CERTIFIED DRILLER (Print name) <u>Eugene Fulton</u>		(42) CERTIFIED DRILLER SIGNATURE * <u>Eugene Fulton</u>	
* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law §15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a class A Misdemeanor under Penal Law §210.45.			
		<b>OWNER COPY</b>	

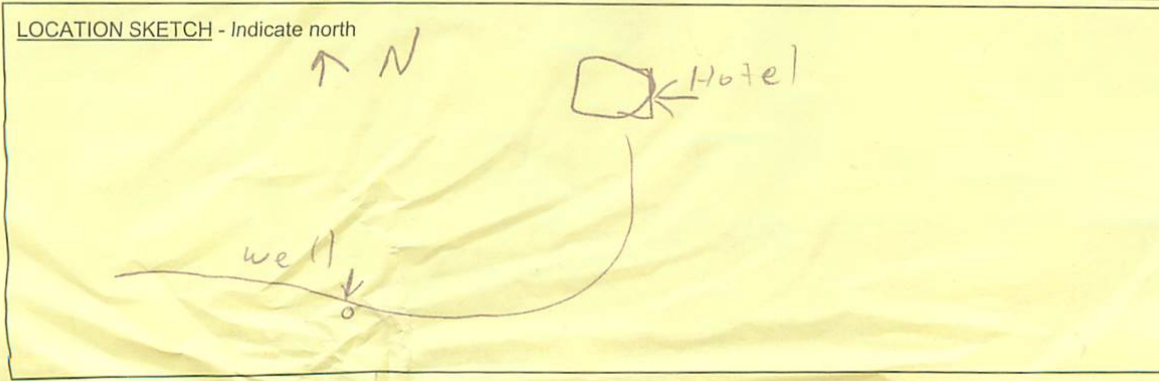
TOP OF WELL

0-14  
14-25  
25-45  
45-60  
60-95  
95-110  
110-165  
165-205  
205-230  
230-240  
240-250  
250-280  
280-295  
295-310  
310-335  
335-345  
345-365  
365-390  
390-415  
415-430  
430-440  
440-510  
510-520  
520-525  
525-535  
535-545  
545-575  
575-590  
590-595  
595-615  
615-6

Topsoil - Bedrock  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
1st Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Red Shale  
Gray Rock  
Black Shale  
Gray Rock  
Black Shale  
Gray Rock  
Red Shale  
Black Shale  
Gray Rock  
Gray Rock w/ quartz  
Gray Rock w/ quartz  
Red Shale

2nd well

BOTTOM OF HOLE







(1) COUNTY Sullivan  
 (2) TOWN Fallsburg

(3) DEC Well Number  
SU3377

**WATER WELL COMPLETION REPORT**

(4) OWNER <u>Raliegh Hotel Development well #4</u>	
(5) ADDRESS <u>Heiden Rd Fallsburg</u>	
(6) LOCATION OF WELL (See Instructions On Reverse) (Check here <input type="checkbox"/> if same as address above, also provide Lat / Long below) Show Lat/Long if available and method used. <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Map Interpolation <u>NY1440.762 W074B37.680</u>	
(7) DEPTH OF WELL BELOW LAND SURFACE (feet) <u>500</u>	(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) DATE MEASURED <u>60</u> <u>8/7/09</u>
<b>CASINGS</b>	
(9) DIAMETER <u>6 5/8</u> in.   in.   in.   in.	
(10) LENGTH <u>42</u> ft.   ft.   ft.   in.	
(11) GROUT TYPE / SEALING	(12) GROUT / SEALING INTERVAL (feet) FROM _____ TO _____
<b>SCREENS</b>	
(13) MAKE & MATERIAL	(14) OPENINGS
(15) DIAMETER in.   in.   in.   in.	(16) LENGTH ft.   ft.   ft.   in.
(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet) <u>325'</u>	
<b>YIELD TEST</b>	
(18) DATE <u>8/7/09</u>	(19) DURATION OF TEST <u>1 1/2 hours</u>
(20) LIFT METHOD <input type="checkbox"/> Pump <input checked="" type="checkbox"/> Air Lift <input type="checkbox"/> Ball	(21) STABILIZED DISCHARGE (GPM) <u>30</u>
(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing) <u>60</u>	(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) <u>460</u>
(24) RECOVERY (Time in hours/minutes) <u>20 min</u>	(25) Was the water produced during the test discharged away from immediate area? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>PUMP INSTALLATION</b>	
(26) PUMP INSTALLED? YES _____ NO <input checked="" type="checkbox"/>	(27) DATE
(29) TYPE	(30) MAKE
(32) MAXIMUM CAPACITY (GPM)	(31) MODEL
(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)	
(34) METHOD OF DRILLING <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input type="checkbox"/> Other _____	(35) USE OF WATER (See instructions for choices) <u>Public</u>
(36) DATE DRILLING WORK STARTED <u>8/6/09</u>	(37) DATE DRILLING WORK COMPLETED <u>8/7/09</u>
(38) DATE REPORT FILED	(39) REGISTERED COMPANY <u>Wm Fulton + son</u>
(40) DEC REGISTRATION NO. <u>NYRD 10108</u>	
(41) CERTIFIED DRILLER (Print name) <u>Eugene Fulton</u>	(42) CERTIFIED DRILLER SIGNATURE <u>Eugene Fulton</u>

(43) LOG

Depth to Bedrock 10 (ft. below ground surface)  
 Ground Elev. 137 (ft. above S.L.)  
 Top of Casing 2 (ft. above (+) or below (-) ground surface)

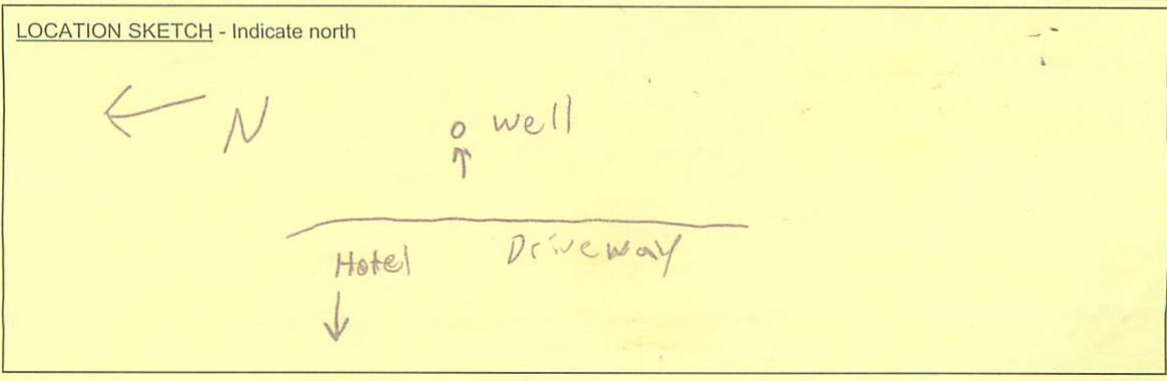
**TOP OF WELL**

0-10	Topsoil
10-50	Red shale
50-200	Gray Rock
200-225	Red Shale
225-235	Gray Rock
235-250	Red Shale
250-285	Gray Rock
285-300	Red Shale
300-310	Gray Rock
310-335	Red Shale
325'	1 <sup>st</sup> Water 10gpm
335-345	Gray Rock
345-360	Red Shale
360-385	Gray Rock
385-410	Red Shale
465'	2 <sup>nd</sup> Water 30gpm
410-500	Gray Rock

**BOTTOM OF HOLE**

\* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law §15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a class A Misdemeanor under Penal Law §210.45.

**OWNER COPY**





Appendix D

Homeowner Letters and  
Questionnaire



**Property Owners w/Wells within 1,500 feet of the Test Wells**

<b>Map #</b>	<b>Recipient Mailing Address</b>	<b>Physical Address</b>	<b>Response</b>	<b>Comments</b>
1	15.-1-32.1	Heiden Road (no # address)		No Response
	Stella Mossini			
	248-16 Union Tpke			
	Bellrose, New York 11426			
2	15.-1-32.3	666 Heiden Road		No Response
	Stella Mossini	Thompson, New York		
	248-16 Union Tpke			
	Bellrose, New York 11426			
3	15.-1-32.2	660 Heiden Road		No Response
	Stephen Fortunato	Thompson, New York		
	PO Box 9			
	Thompsonville, New York 12784			
4	15.-1-27	Heiden Road (no # address)		No Response
	Laurie H Landon			
	9 Ann Blvd.			
	Chestnut Ridge, New York 10977			
5	15.-1-29	689 Heiden Road		No Response
	Congregation and Yeshiva	Thompson, New York		
	Hatorah Mivtzar			
	PO Box 363			
6	15.-1-31	689 Heiden Road		No Response
	Leonid Tune	Thompson, New York		
	PO Box 127			
	Thompsonville, New York 12784			
7	15.-1-33	657 Heiden Road		No Response
	Bobover Yeshiva Bnei Zion	Thompson, New York		
	PO Box 190376			
	Brooklyn, New York 11219			
8	Fallsburg Fishing and Boating Club	Lot 26 and Lot 52	Yes, Uhl and Bisnoff	
	Lakes Street			
	South Fallsburg, New York			
Symbol KEY: <span style="margin-left: 200px;">Yes Response Rec'd &amp; Selected for Monitoring</span>				





**TIM  
MILLER  
ASSOCIATES, INC.**

-----  
*10 North Street, Cold Spring, NY 10516 (845) 265-4400 265-4418 fax www.timmillerassociates.com*

August 13, 2009

Property Owner  
Town of Fallsburg, New York

RE: **RAHAL Property (Raleigh Hotel)  
Pump Test Off-Site Monitoring**

Dear Property Owner:

The applicant for the proposed development known as RAHAL Property "Raleigh Hotel Property" has engaged our firm to evaluate the groundwater supply for the project and to evaluate any potential off-site well impacts. The results of this study will be included as part of an environmental impact study for the project. We seek your cooperation in enabling us to conduct the ground water testing program.

Water for the RAHAL project will be supplied from groundwater wells on the project site. As an initial step in this process, we are sending questionnaires to residences/private properties in the immediate vicinity of the project to collect basic information on existing wells, including water quantity and quality. We encourage you to fill out as much information as possible on the form and submit it to us in the enclosed pre-stamped envelope to be returned to us by **August 20, 2009**.

The second part of the groundwater program involves conducting a pump test of the wells previously installed on the property while simultaneously monitoring water levels in a select number of private wells in the project vicinity. To that end, we request that you indicate on the attached letter whether you would allow your well to be monitored, while we pump the project's wells. Consent does not mean that your well will be monitored; but we need to secure consent before finalizing the testing program.

If your well is selected to be monitored, the process will not exceed a period of two weeks. The monitoring procedure will require the insertion of an electronic water level monitoring probe that is disinfected prior to entry into your well to measure the water level in your well throughout the test.

A professional, experienced in this work, will visit the well to install and then periodically monitor the probe, typically each day during the testing period. Collection of the water level information typically takes about 15 minutes per visit. We will endeavor not to disturb you during the monitoring visits, which will take place outside of your house. After the conclusion of the testing, the technician will remove the probe and properly close your well.

Well monitoring should have no detrimental effects - it assesses water levels in your well before, during and after the on-site wells are pump tested. Although no effects are

*RAHAL Property, Well Monitoring*  
*August 13, 2009*

anticipated, the applicant will be responsible for any damage to your well as a result of the monitoring program, but will not be responsible for any pre-existing conditions.

Occasionally, especially in older wells or wells with high iron and/or manganese, insertion of a test probe will cause the well water to become temporarily cloudy. This is due to the agitation of fine particles that have settled in the well over time. This condition typically clears within 24 hours and is not a health concern.

The monitoring data from your well will be made available to you, at no charge, and may prove useful to you in ascertaining existing conditions of your well.

By checking the first line below and signing this letter, you hereby agree to permit our technician to enter your property, with prior notice, for the purpose of monitoring your well. If you do not want your well monitored, please check the second line.

Please sign and print your name, address, telephone number, and email address on the next page. Please mail this page, along with the completed questionnaire in the enclosed envelope by **August 20, 2009**. You may also fax the information to (845) 265-4418 or email it to me at [mfisher@timmillerassociates.com](mailto:mfisher@timmillerassociates.com). If you have any questions about this process please feel free to call the undersigned at (845) 265-4400. Thank you for your cooperation in this matter.

Sincerely,

ORIGINAL SIGNED

Maureen S. Fisher  
Environmental Scientist  
TIM MILLER ASSOCIATES, INC.

**Please check one:**

**I agree to permit my well to be monitored as described above.**

**I do not agree to allow my well to be monitored.**

**Signature** \_\_\_\_\_

**Print Name** \_\_\_\_\_ **Date** \_\_\_\_\_

**Address** \_\_\_\_\_ **Zip** \_\_\_\_\_

**Eve. Telephone** \_\_\_\_\_ **Day Telephone** \_\_\_\_\_

**Email** \_\_\_\_\_

Please send information to:

Tim Miller Associates, Inc.  
10 North Street  
Cold Spring, New York 10516  
Phone (845) 265-4400  
Fax (845) 265-4418  
Email: [mfisher@timmillerassociates.com](mailto:mfisher@timmillerassociates.com)  
or  
[jdahlgren@timmillerassociates.com](mailto:jdahlgren@timmillerassociates.com)

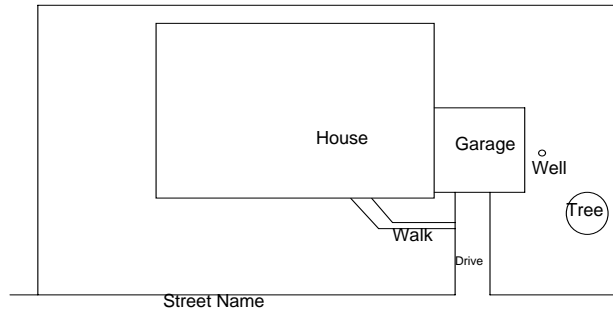
**RAHAL “Raleigh Hotel” Property**

**Homeowner Well Monitoring Questionnaire**

This questionnaire is being sent to homeowners within the vicinity of the proposed expansion of the RAHAL “Raleigh Hotel” Property on Heiden Road in the Town of Fallsburg, New York, in conjunction with a well monitoring program for the Project.

Please answer the questions below, if you can. If you do not have the necessary information or are unsure how to answer a question, please indicate so.

Please provide a sketch of your property, including well and septic location, as in the example. Use the back of this page for your sketch.



Name \_\_\_\_\_

Address \_\_\_\_\_

Telephone Number (indicate whether day or evening number) \_\_\_\_\_

What year was your well installed?

What is the total depth of your well?

What is the approximate depth to the water table, if known?

Does your well tap the bedrock or sand and gravel aquifer?

How much casing was used during the installation of your well?

Is the top of your well above ground, in a well pit, buried, or other?

What is the approximate depth to water-bearing fractures, if known?

Does your well have a submersible pump, a jet pump or a centrifugal pump?

What is the approximate yield of your well?

How far is your well from your or your neighbor’s septic leaching field?

Does your well ever run dry?

During high usage times

During dry weather periods

Because of mechanical/electrical problems

Does your well have water quality problems?

Bacterial

Sulfur

Iron

Hardness

Cloudiness

Taste

Chemical

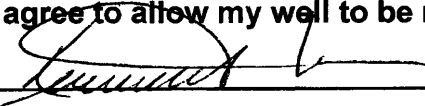
Additional Comments:



**Please check one:**

**I agree to permit my well to be monitored as described above.**

**I do not agree to allow my well to be monitored.**

Signature 

Print Name Kenneth G. UHL Date 8/25/2009

Address 269 OREGON TR., PineBUSH, N.Y. Zip 12566

Eve. Telephone 845-401-3036 Day Telephone 845-401-3036

Email senioruhs@yahoo.com

Please send information to:

Tim Miller Associates, Inc.  
10 North Street  
Cold Spring, New York 10516  
Phone (845) 265-4400  
Fax (845) 265-4418  
Email: [mfisher@timmillerassociates.com](mailto:mfisher@timmillerassociates.com)  
or  
[jdahlgren@timmillerassociates.com](mailto:jdahlgren@timmillerassociates.com)

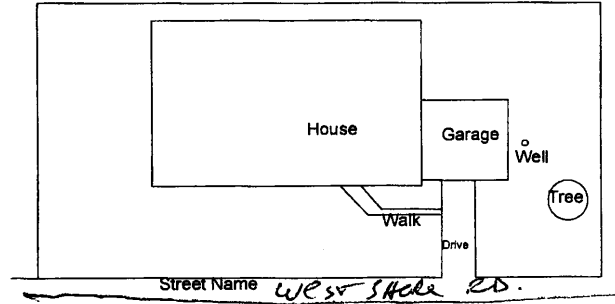
**RAHAL "Raleigh Hotel" Property**

**Homeowner Well Monitoring Questionnaire**

This questionnaire is being sent to homeowners within the vicinity of the proposed expansion of the RAHAL "Raleigh Hotel" Property on Heiden Road in the Town of Fallsburg, New York, in conjunction with a well monitoring program for the Project.

Please answer the questions below, if you can. If you do not have the necessary information or are unsure how to answer a question, please indicate so.

Please provide a sketch of your property, including well and septic location, as in the example. Use the back of this page for your sketch.



Name Kenneth G. UHL

Address 26 WEST SHORE ROAD, PLEASANT LAKE, NY WELL

Telephone Number (indicate whether day or evening number) 845-401-3036 DAYTIME

What year was your well installed? 2004

What is the total depth of your well? 310'

What is the approximate depth to the water table, if known?

Does your well tap the bedrock or sand and gravel aquifer?

How much casing was used during the installation of your well? 40'

Is the top of your well above ground in a well pit, buried, or other?

What is the approximate depth to water-bearing fractures, if known? 210'

Does your well have a submersible pump, a jet pump or a centrifugal pump?

What is the approximate yield of your well? 15 GPM

How far is your well from your or your neighbor's septic leaching field? 150'

Does your well ever run dry? NO

During high usage times

During dry weather periods

Because of mechanical/electrical problems

Does your well have water quality problems?

Bacterial

Sulfur

Iron

Hardness

Cloudiness

Taste

Chemical

**Please check one:**

**I agree to permit my well to be monitored as described above.**

**I do not agree to allow my well to be monitored.**

**Signature** \_\_\_\_\_

**Print Name** \_\_\_\_\_ **Date** \_\_\_\_\_

**Address** #52 east shore rd \_\_\_\_\_ **Zip** \_\_\_\_\_

**Eve. Telephone** \_\_\_\_\_ **Day Telephone** 718 354-1800

**Email** \_\_\_\_\_

Please send information to:

Tim Miller Associates, Inc.  
10 North Street  
Cold Spring, New York 10516  
Phone (845) 265-4400  
Fax (845) 265-4418  
Email: [mfisher@timmillerassociates.com](mailto:mfisher@timmillerassociates.com)  
or  
[jdahlgren@timmillerassociates.com](mailto:jdahlgren@timmillerassociates.com)

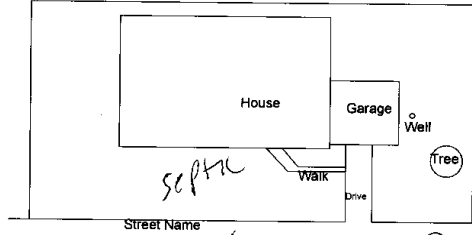
**RAHAL "Raleigh Hotel" Property**

**Homeowner Well Monitoring Questionnaire**

This questionnaire is being sent to homeowners within the vicinity of the proposed expansion of the RAHAL "Raleigh Hotel" Property on Heiden Road in the Town of Fallsburg, New York, in conjunction with a well monitoring program for the Project.

Please answer the questions below, if you can. If you do not have the necessary information or are unsure how to answer a question, please indicate so.

Please provide a sketch of your property, including well and septic location, as in the example. Use the back of this page for your sketch.



Name \_\_\_\_\_

Address \_\_\_\_\_

Telephone Number (indicate whether day or evening number) \_\_\_\_\_

What year was your well installed? 1999

What is the total depth of your well? 130'

What is the approximate depth to the water table, if known?

Does your well tap the bedrock or sand and gravel aquifer?

How much casing was used during the installation of your well?

Is the top of your well above ground, in a well pit, buried, or other? Above ground

What is the approximate depth to water-bearing fractures, if known?

Does your well have a submersible pump, a jet pump or a centrifugal pump? Submersible pump

What is the approximate yield of your well?

How far is your well from your or your neighbor's septic leaching field? 150-200'

Does your well ever run dry?

During high usage times NO!

During dry weather periods

Because of mechanical/electrical problems

Does your well have water quality problems?

Bacterial

Sulfur

Iron

Hardness

Cloudiness

Taste

Chemical



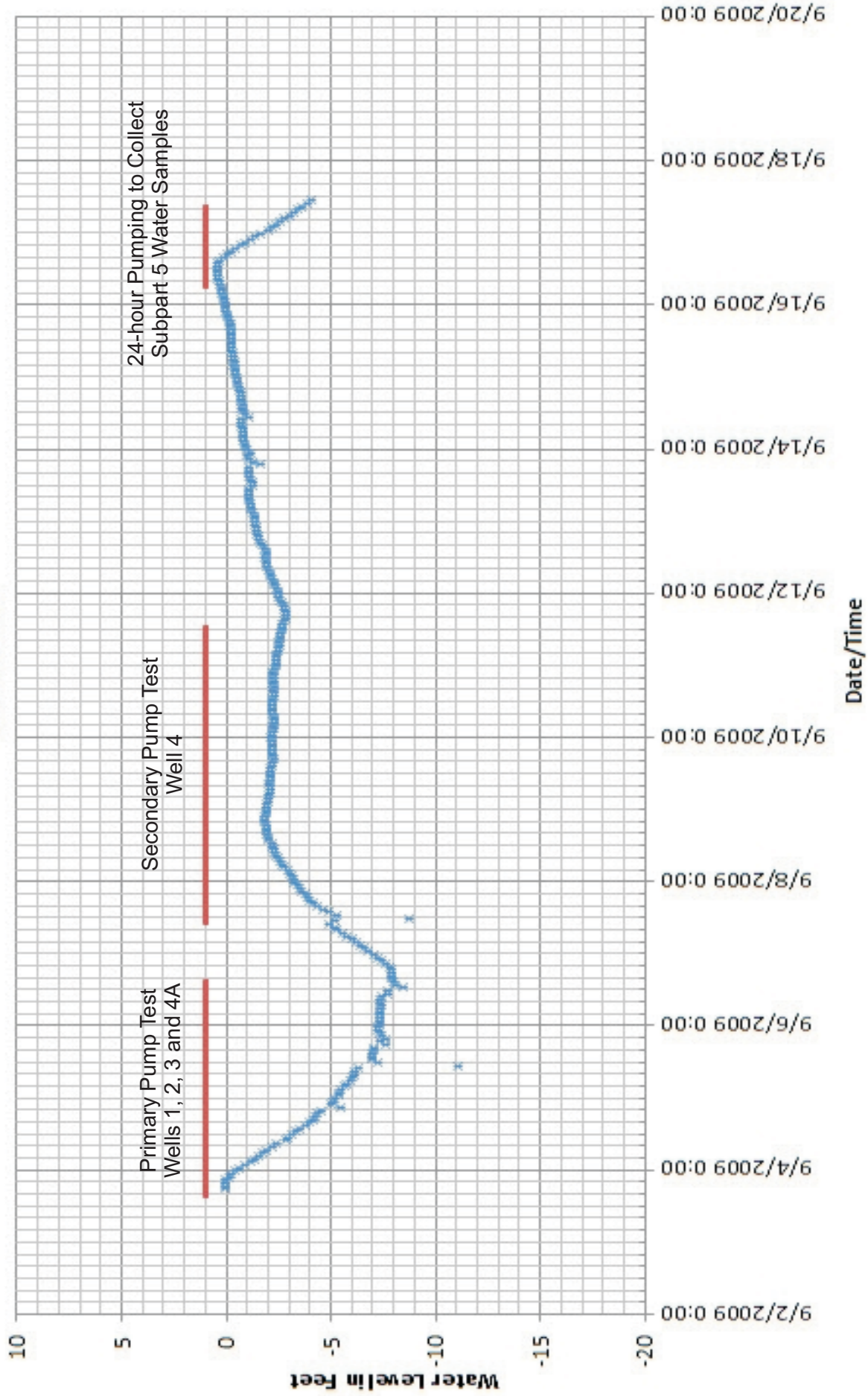


Appendix E

Charts

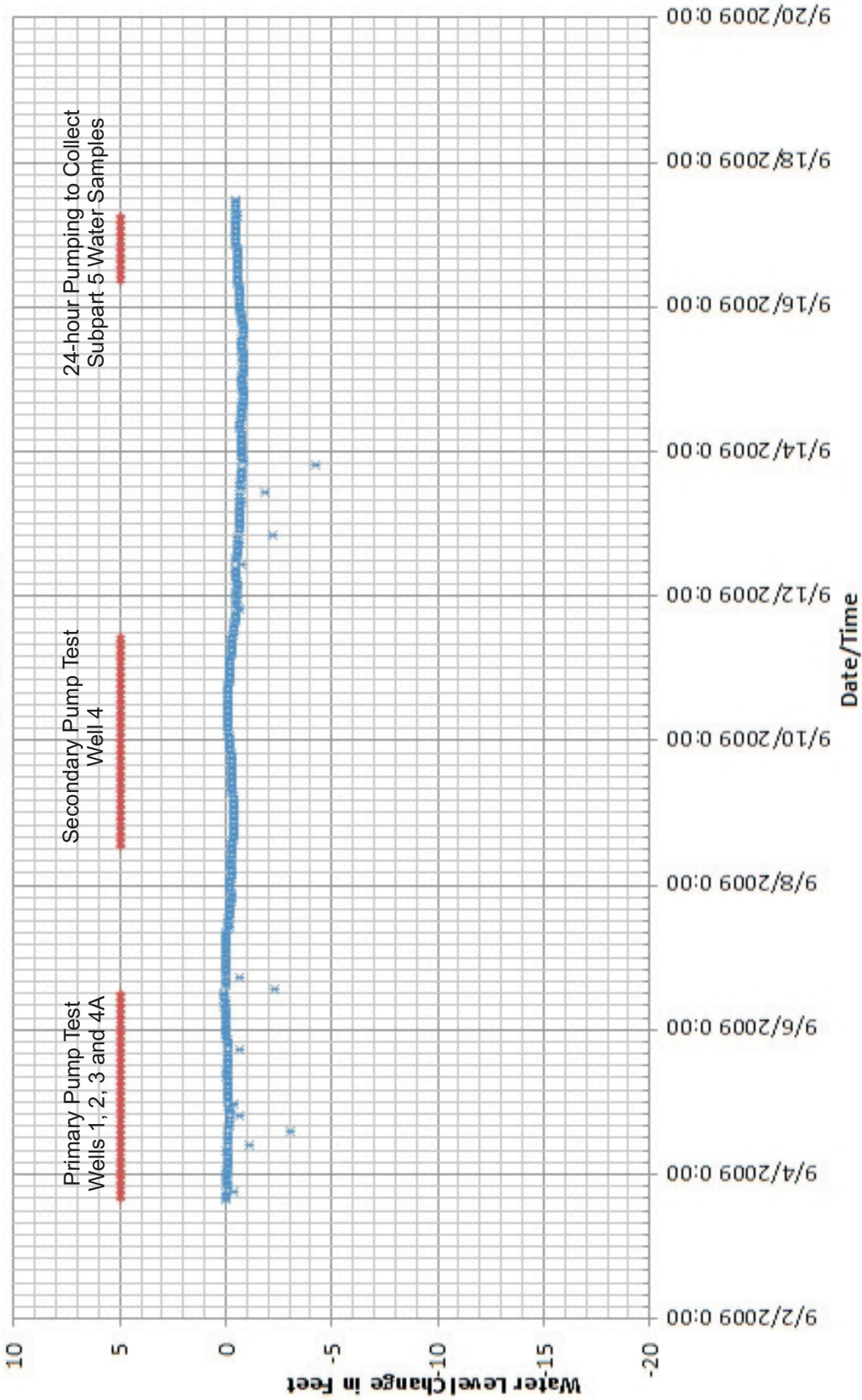


# Uhl Well Lot 26

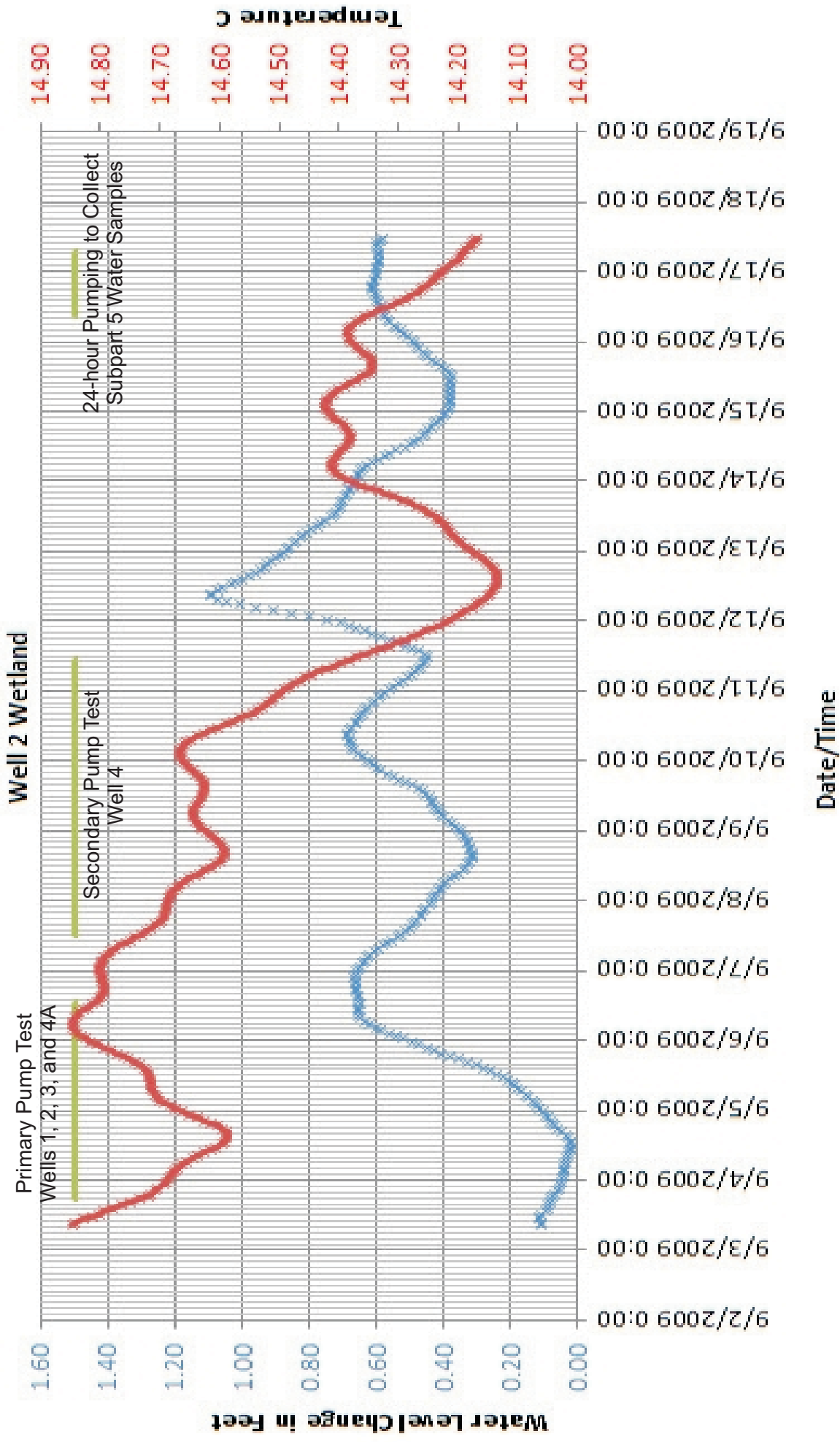


Graph 1: Uhl Well - Lot 26  
Raleigh and Heiden Properties  
Town of Fallsburg, Sullivan County, NY  
Source: SSEEC  
Date: May 2011

### Bisnoff Well, Lot 52

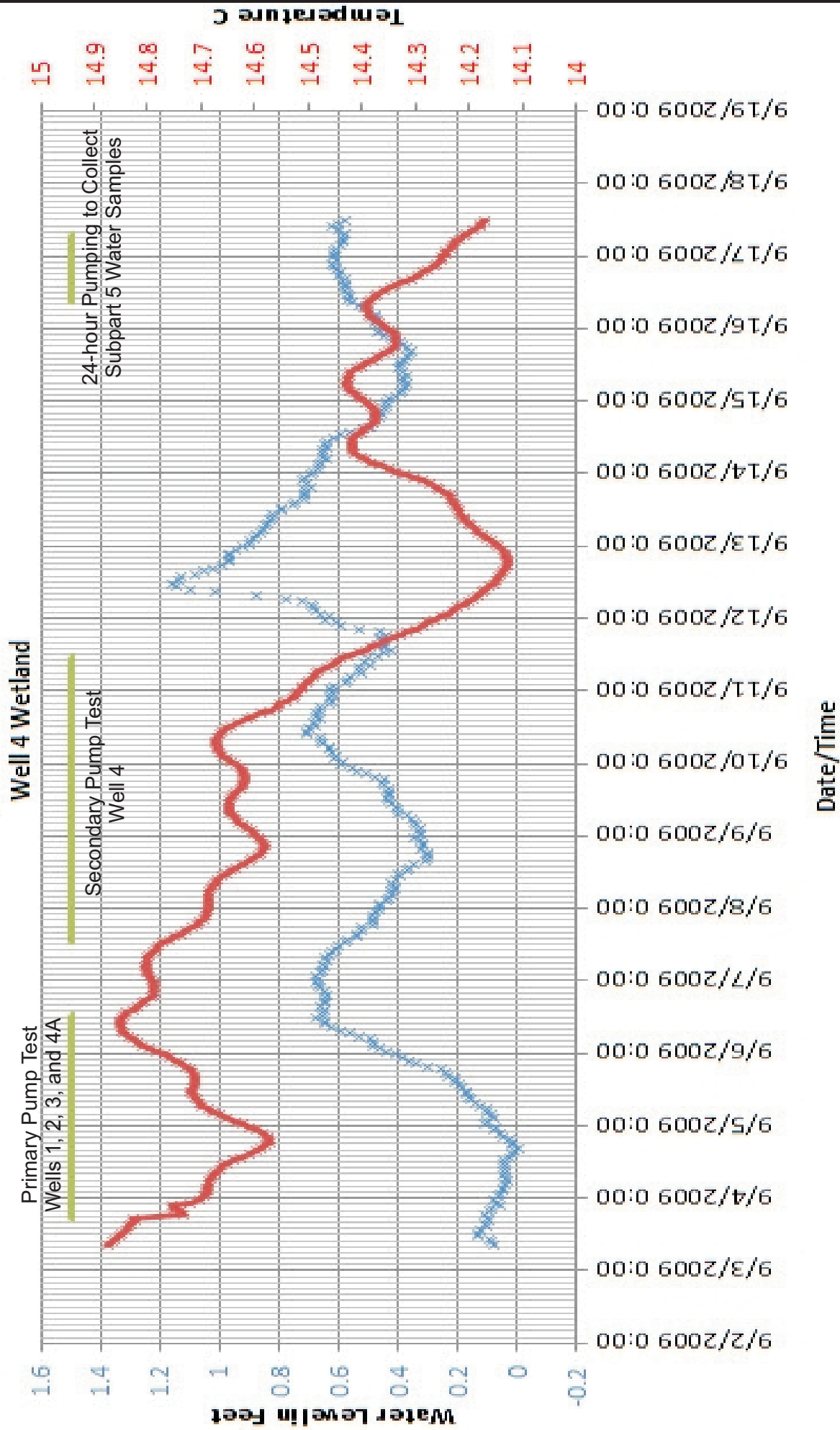


Graph 2: Bisnoff Well - Lot 52  
Raleigh and Heiden Properties  
Town of Fallsburg, Sullivan County, NY  
Source: SSEC  
Date: May 2011



**Graph 3: Wetland Monitoring by Well 2**  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, NY  
 Source: SSEC  
 Date: May 2011





**Graph 4: Wetland Monitoring by Well 4**  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, NY  
 Source: SSEC  
 Date: May 2011

# Precipitation in Inches

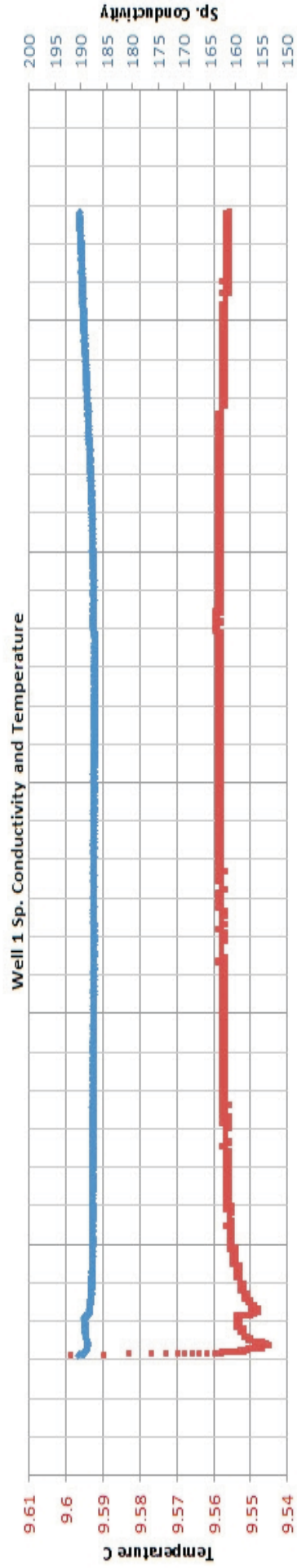
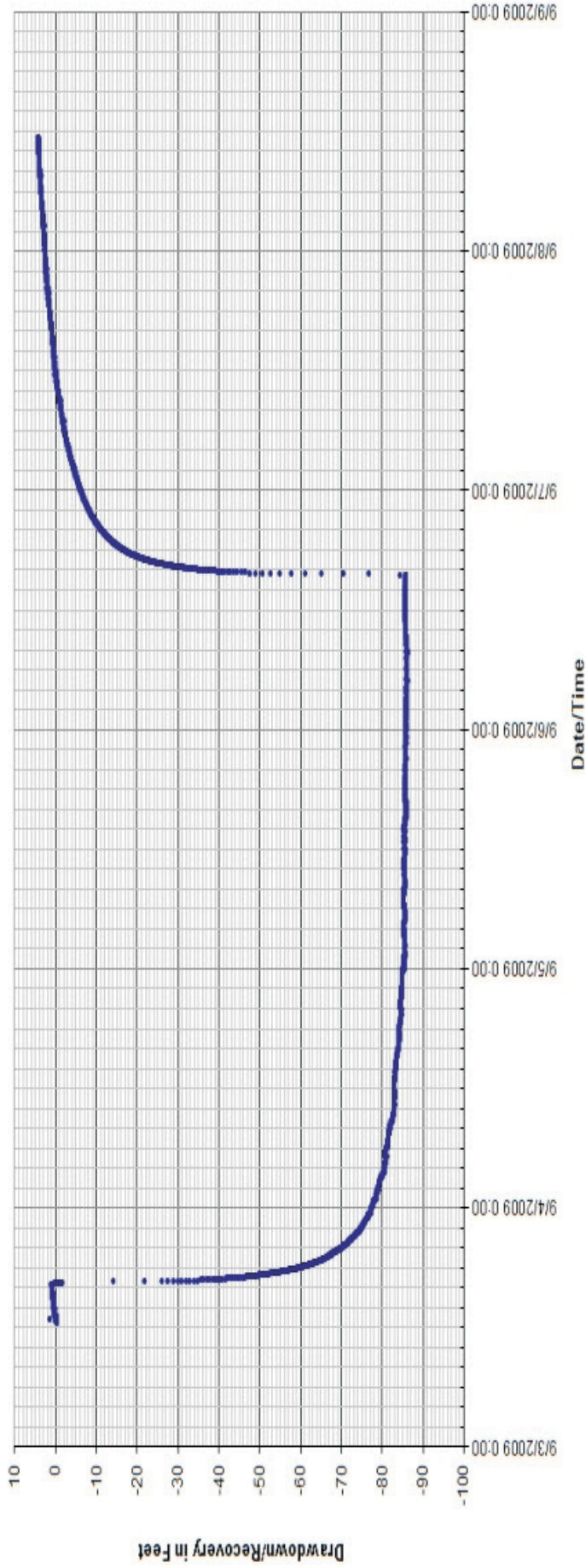
Monticello Airport

Test Period



Graph 5: Precipitation in Inches during Test Periods  
Raleigh and Heiden Properties  
Town of Fallsburg, Sullivan County, NY  
Source: SSEC  
Date: May 2011

Well 1 Test

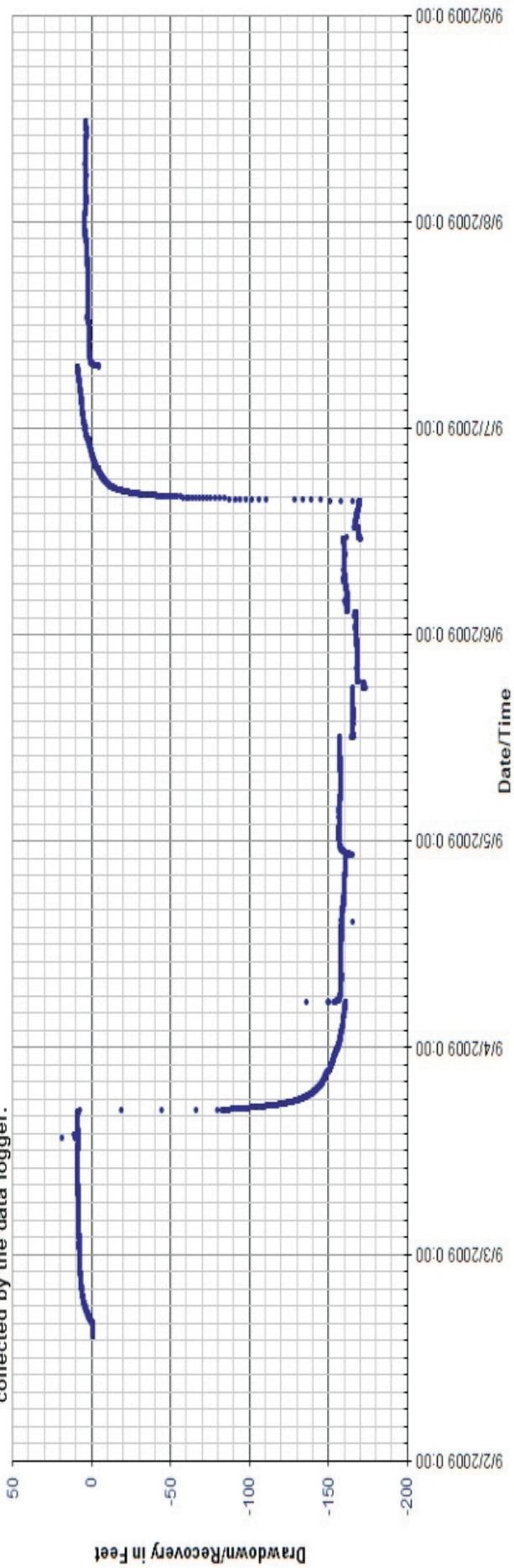


Graph 6: Well 1 Test  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, NY  
 Source: SSEC  
 Date: May 2011

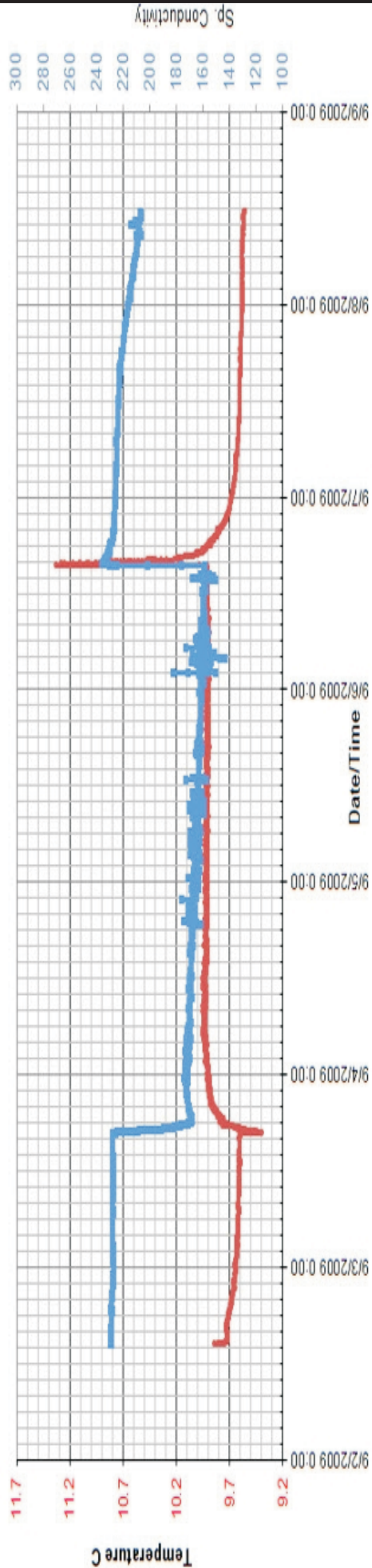


### Well 2 Test

An electrical field problem with the test pump caused the distorted data collected by the data logger.

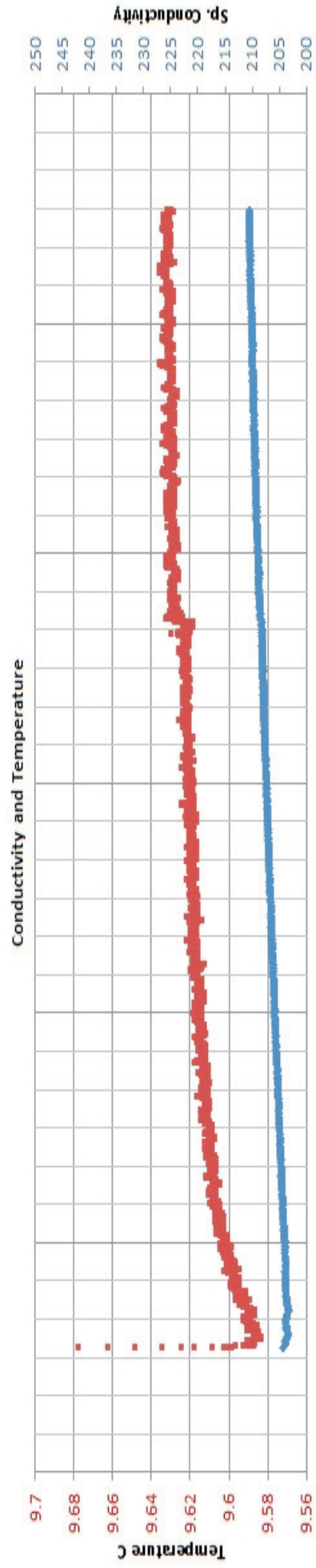
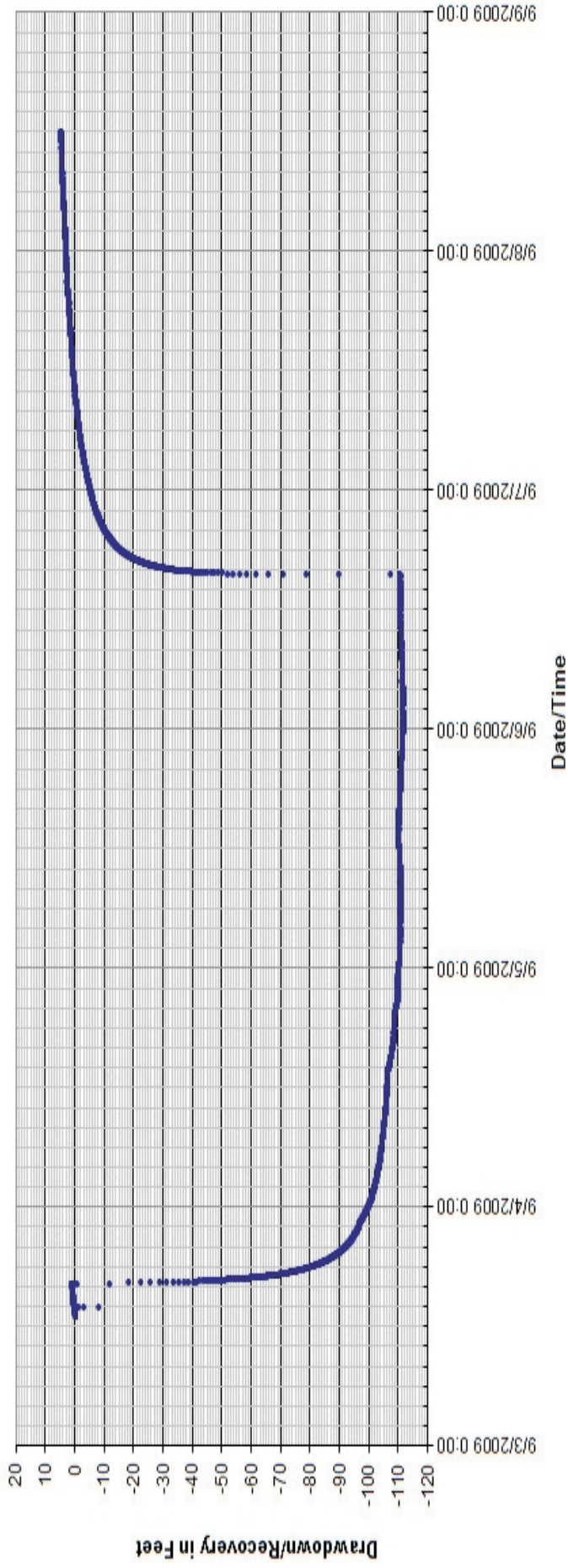


### Well 2 Sp. Conductivity and Temperature



Graph 7: Well 2 Test  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, NY  
 Source: SSEC  
 Date: May 2011

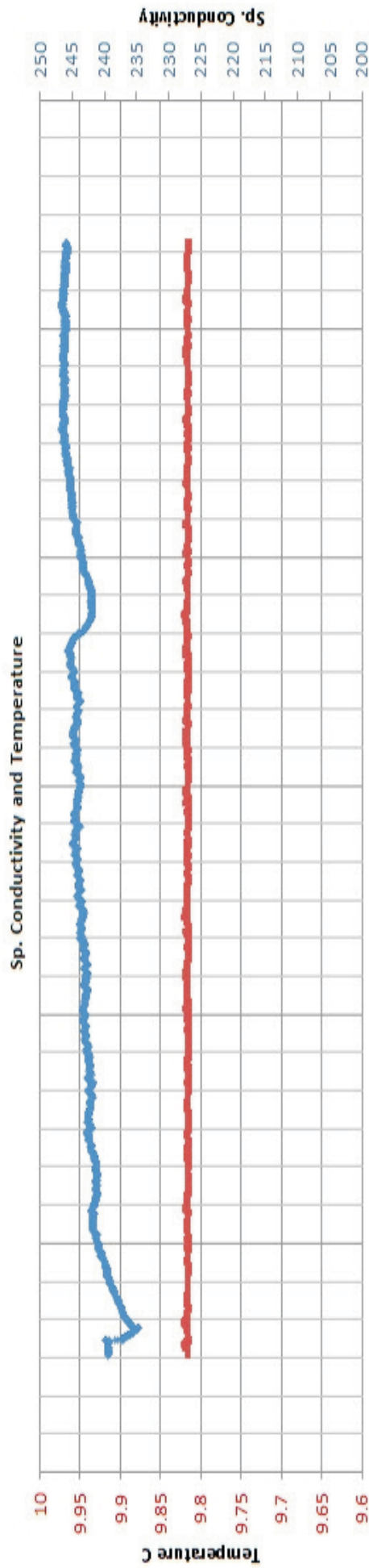
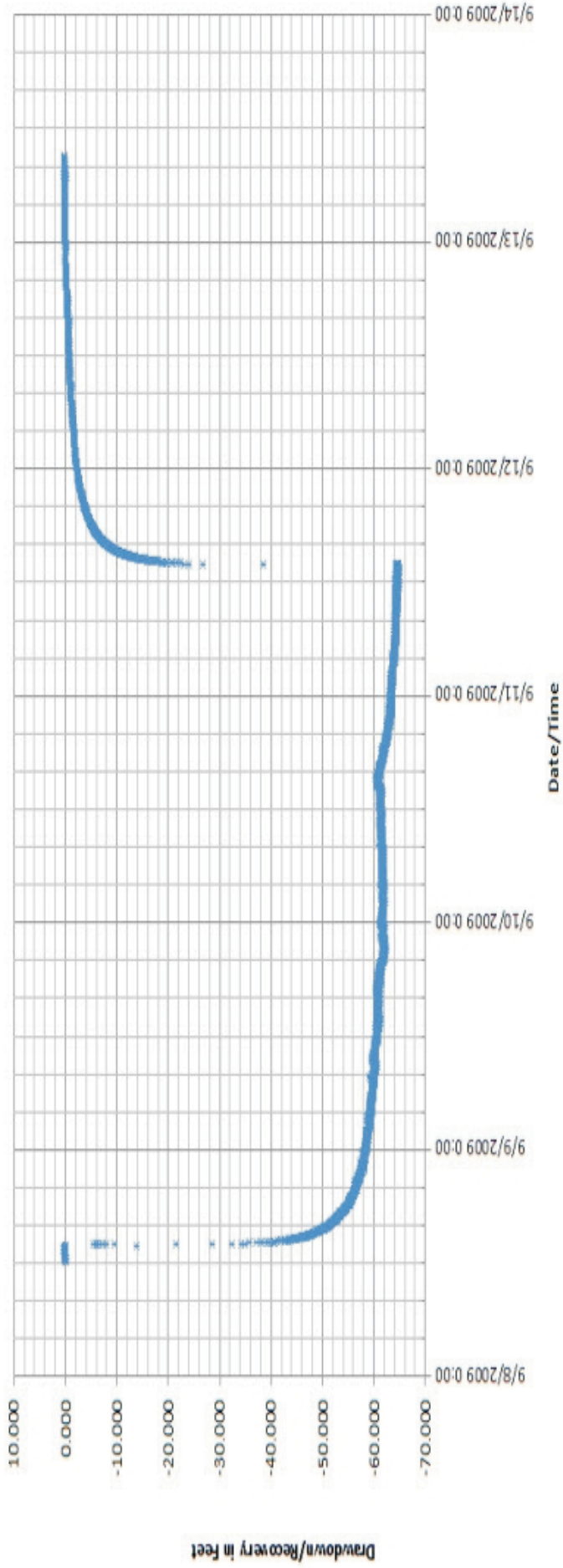
Well 3 Test



Graph 8: Well 3 Test  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, NY  
 Source: SSEEC  
 Date: May 2011

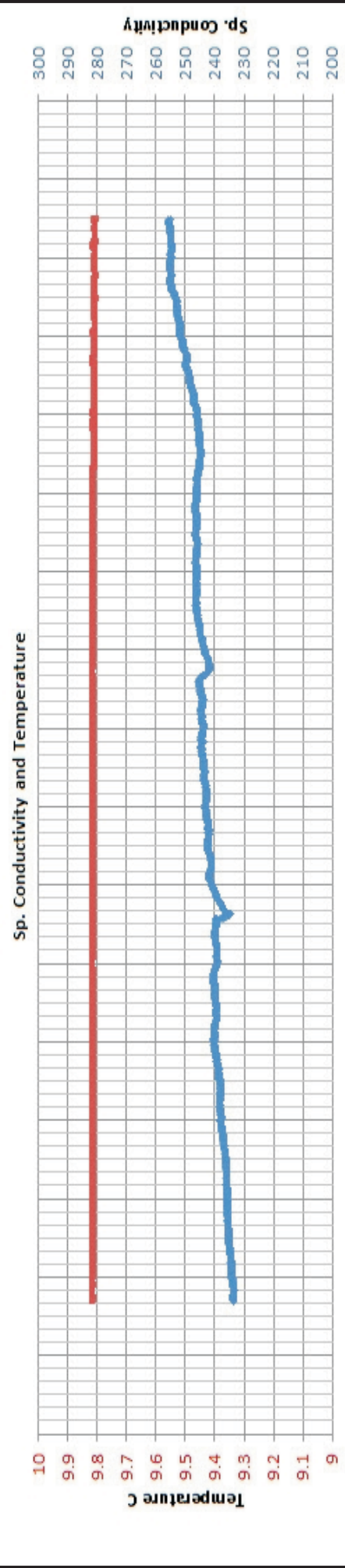
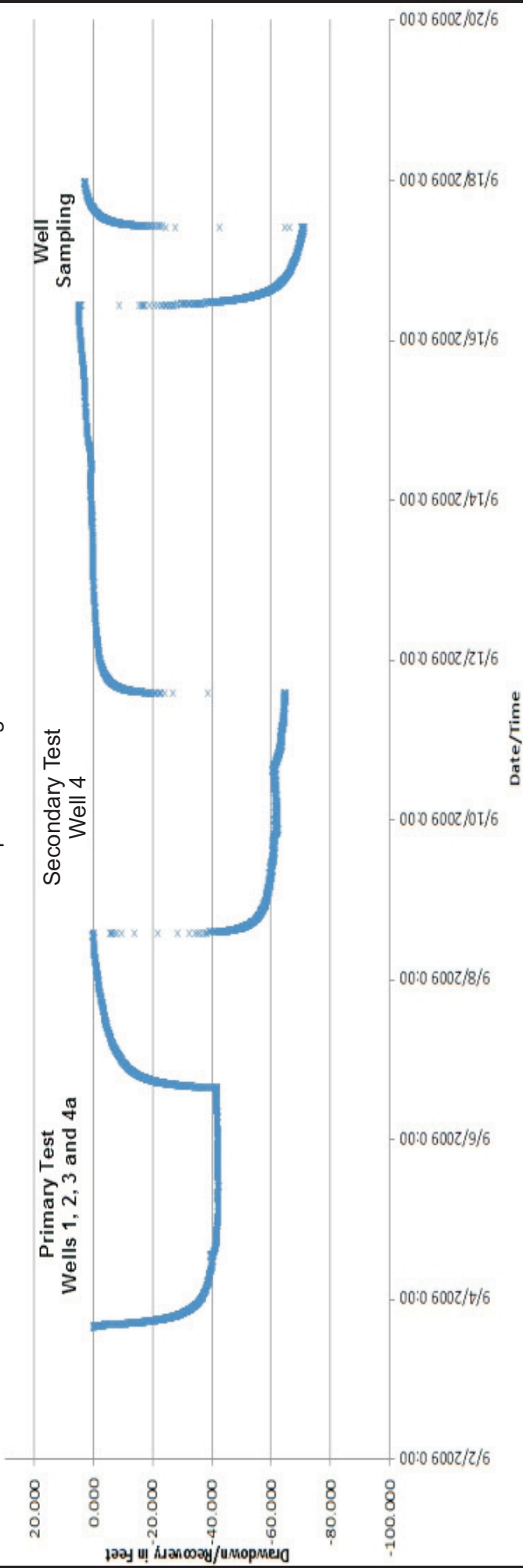


Well 4 Test



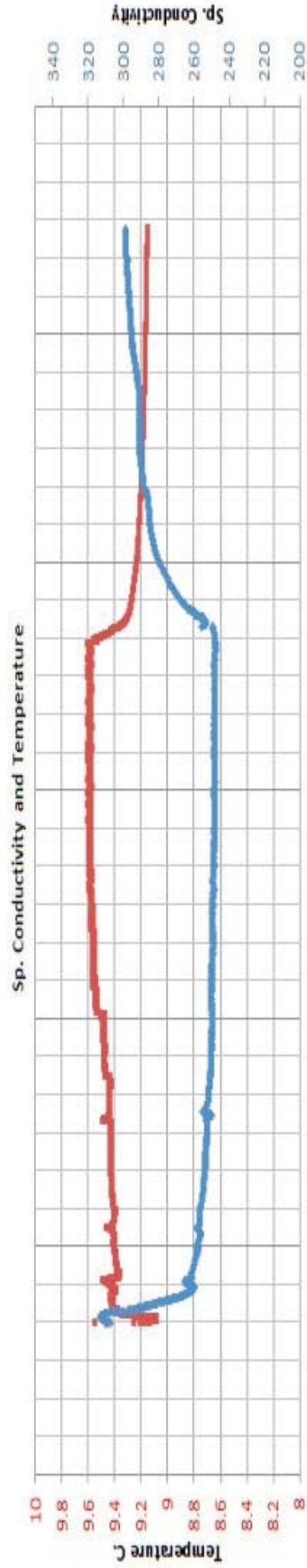
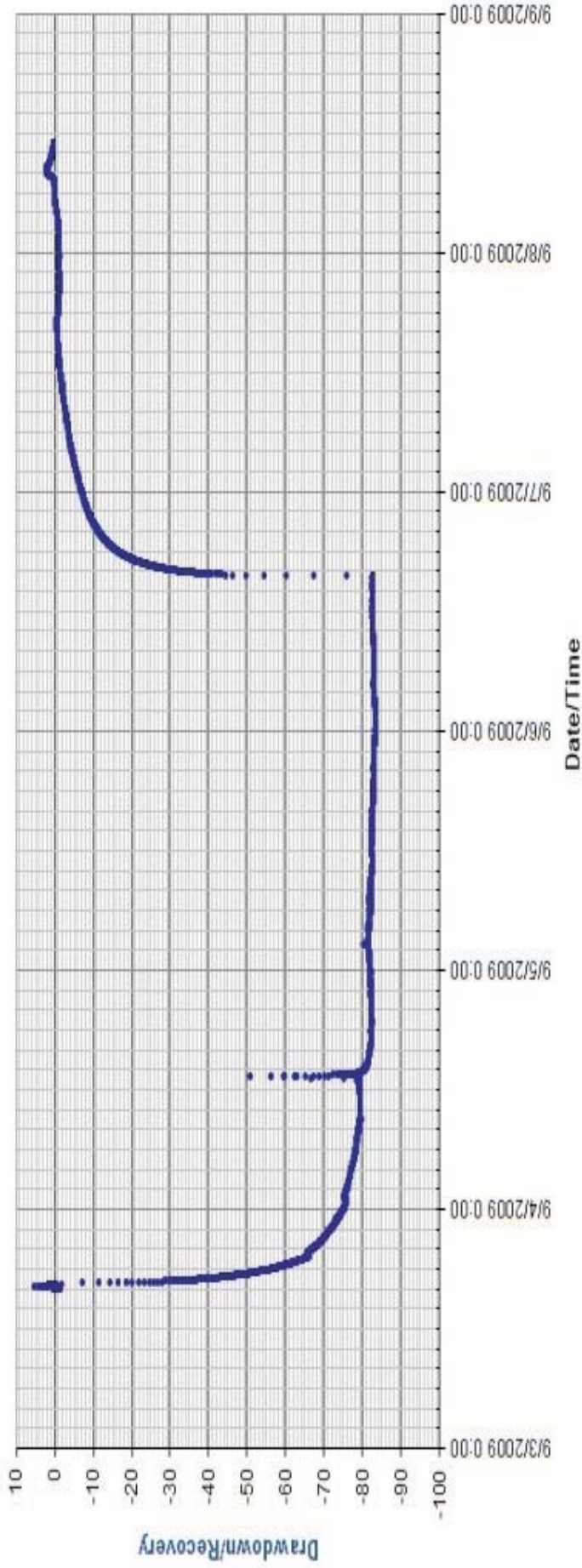
Graph 9: Well 4 Test  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, NY  
 Source: SSEC  
 Date: May 2011

Well 4 Monitoring and Complete Testing



Graph 10: Well 4 Monitoring and Test Period During Complete Test  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, NY  
 Source: SSEEC  
 Date: May 2011

Well 4A Test



Graph 11: Well 4A Test  
 Raleigh and Heiden Properties  
 Town of Fallsburg, Sullivan County, NY  
 Source: SSEC  
 Date: May 2011



APPENDIX F

Analytical Reports and Table





**Table 1**  
**Raleigh and Heiden Properties Development**  
**Sub-Part 5 Analytical**  
**September 17, 2009**

Parameter	Method	Standard	Well-1	Well-2	Well-3	Well-4	Well-4A	Units
Corrosivity (Langelier Index)	SM2330B	NA	-0.18	0.14	-0.61	-0.59	-1.4	Index Limit
1,1,1,2-Tetrachloroethane	EPA 502.2	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Trichloroethene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
trans-1,3-Dichloropropene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
trans-1,2-Dichloroethene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Toluene		5	<0.50	2.3	1.4	<0.50	<0.50	ug/L
Tetrachloroethene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
tert-Butylbenzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Styrene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
sec-Butylbenzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
o-Xylene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Naphthalene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
n-Propylbenzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
n-Butylbenzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Methylene Chloride		5	<1.0	<1.0	<1.0	<1.0	<1.0	ug/L
Methyl-tert-butyl-ether (MTBE)		10	<1.0	<1.0	<1.0	<1.0	<1.0	ug/L
m&p-Xylene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Isopropylbenzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Hexachlorobutadiene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Ethylene Dibromide		0.05	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Ethylbenzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Dichlorodifluoromethane		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Bromodichloromethane		80 <sup>C</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Dibromomethane		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
cis-1,3-Dichloropropene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
cis-1,2-Dichloroethene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Chloromethane		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Chloroform		80 <sup>C</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Chloroethane		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Dibromochloromethane		80 <sup>C</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Bromochloromethane		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Trichlorofluoromethane		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Chlorobenzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Carbon tetrachloride		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Bromomethane		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Bromoform		80 <sup>C</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Bromobenzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
Benzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
4-Isopropyltoluene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
4-Chlorotoluene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
2-Chlorotoluene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
2,2-Dichloropropane		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
1,4-Dichlorobenzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
1,3-Dichloropropane		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
1,3-Dichlorobenzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
1,3,5-Trimethylbenzene		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
1,2-Dichloropropane		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
1,2-Dichloroethane		5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L
1,2-Dichlorobenzene	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
1,2-Dibromo-3-chloropropane	0.2	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
1,2,4-Trimethylbenzene	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
1,2,4-Trichlorobenzene	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
1,2,3-Trichloropropane	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
1,2,3-Trichlorobenzene	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
1,1-Dichloropropene	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
1,1-Dichloroethene	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
1,1-Dichloroethane	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
1,1,2-Trichloroethane	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
1,1,2,2-Tetrachloroethane	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
1,1,1-Trichloroethane	5	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
Vinyl chloride	2	<0.50	<0.50	<0.50	<0.50	<0.50	ug/L	
Iron (Fe)	EPA 200.7	300	2,600	1,000	<100	<100	320	ug/L
Manganese (Mn)		300	100	67	<15	<15	110	ug/L
Iron & Manganese (Combined)		500	2,700	1,067	<115	<115	430	ug/L
Sodium (Na)		20,000 <sup>B</sup>	35,000	34,000	26,000	28,000	33,000	ug/L
Zinc (Zn)		5,000	180	53	67	89	620	ug/L

**Table 1**  
**Raleigh and Heiden Properties Development**  
**Sub-Part 5 Analytical**  
**September 17, 2009**

Parameter	Method	Standard	Well-1	Well-2	Well-3	Well-4	Well-4A	Units	
Silver (Ag)	EPA 200.8	100	<1.0	<1.0	<1.0	<1.0	<1.0	ug/L	
Lead (Pb)		15	1.7	3.0	<1.0	<1.0	<1.0	ug/L	
Arsenic (As)		10	5.5	4.4	7.1	4.3	2.6	ug/L	
Beryllium (Be)		4	<1.0	<1.0	<1.0	<1.0	<1.0	ug/L	
Cadmium (Cd)		5	<1.0	<1.0	<1.0	<1.0	<1.0	ug/L	
Chromium (Cr)		100	4.9	<2.0	<2.0	2.3	<2.0	ug/L	
Copper (Cu)		1,300	41	<2.1	<2.1	<2.1	2.7	ug/L	
Nickel (Ni)		100	4.3	<1.1	<1.1	<1.1	1.2	ug/L	
Antimony (Sb)		6	<2.0	<2.0	<2.0	<2.0	<2.0	ug/L	
Thallium (Tl)		2	<1.0	<1.0	<1.0	<1.0	<1.0	ug/L	
Barium (Ba)		2,000	450	37	150	97	180	ug/L	
Selenium (Se)		EPA 200	50	<5.0	<5.0	<5.0	<5.0	<5.0	ug/L
Mercury (Hg)		EPA 245.1	2	<0.20	<2.0	<0.20	<0.20	<0.20	ug/L
Hardness, Calcium (as CaCO <sub>3</sub> )	SM2340B	150 <sup>A</sup>	24	16	41	32	33	mg/L	
Nitrate as N	EPA 300	10	<0.25	<0.25	<0.25	<0.25	<0.25	mg/L	
Nitrite as N		1	<0.25	<0.25	<0.25	<0.25	<0.25	mg/L	
Total Nitrate and Nitrite		10	<0.50	<0.50	<0.50	<0.50	<0.50	mg/L	
Sulfate		250	5.7	5.7	6.3	5.6	8.9	mg/L	
Chloride		250	10	7.8	10	8.2	20	mg/L	
Color	SM2120B	15 Units	10	15	10	5.0	10	Pt/Co	
Turbidity	SM2130B	5	22	37	4.4	1.1	13	NTU	
Odor	SM2150B	3 Units	1.0	1.0	1.0	1.0	1.0	-----	
Alkalinity, Total as CaCO <sub>3</sub>	SM2320B	**	88	96	87	84	88	mg/L	
Solids, Total Dissolved (TDS)	SM2540C	NA	120	120	140	140	150	mg/L	
Cyanide (free)	SM4500 CN E	0.2	0.012	0.019	<0.010	<0.010	<0.010	mg/L	
Cyanide (total)	SM4500 CN E	0.2	<0.010	<0.010	<0.010	<0.010	<0.010	mg/L	
Fluoride	SM4500 F C	2.2	<0.20	<0.20	<0.20	<0.20	<0.20	mg/L	
pH	4500H+B	**	8.66	8.88	7.93	8.10	7.25	SU	
Coliform, Fecal	SM9222D	NA*	<1.0	<1.0	<1.0	<1.0	<1.0	CFU/100 mL	
Coliform, Total	SM9223	NA*	<1.0	<1.0	<1.0	<1.0	<1.0	CFU/100 mL	
E. Coliform	SM9223	NA*	<1.0	<1.0	<1.0	<1.0	<1.0	CFU/100 mL	
Heterotrophic Plate Count	SM9215B	NA*****	170	8.0	10	77	120	CFU/mL	
Alachlor	EPA 525.2	2	<0.033	<0.033	<0.033	<0.033	<0.033	ug/L	
Atrazine		3	<0.022	<0.022	<0.022	<0.022	<0.022	ug/L	
Benzo (a) pyrene		0.2	<0.029	<0.029	<0.029	<0.029	<0.029	ug/L	
Bis(2-ethylhexyl)phthalate		6	<0.61	0.82	<0.61	<0.61	<0.61	ug/L	
Di(2-ethylhexyl)adipate		5	<0.61	<0.61	<0.61	<0.61	<0.61	ug/L	
Hexachlorobenzene		1	<0.041	<0.041	<0.041	<0.041	<0.041	ug/L	
Hexachlorocyclopentadiene		5	<0.042	<0.042	<0.042	<0.042	<0.042	ug/L	
Butachlor		5	<0.032	<0.032	<0.032	<0.032	<0.032	ug/L	
Simazine		4	<0.035	<0.035	<0.035	<0.035	<0.035	ug/L	
Metolachlor		5	<0.020	<0.020	<0.020	<0.020	<0.020	ug/L	
Metribuzin		5	<0.022	<0.022	<0.022	<0.022	<0.022	ug/L	
Propachlor		5	<0.025	<0.025	<0.025	<0.025	<0.025	ug/L	
Bromate		EPA 300.1B	10	<2.6	<2.6	<2.6	<2.6	<2.6	ug/L
3-Hydroxycarbofuran	EPA 531.1	5	<0.31	<0.31	<0.31	<0.31	<0.31	ug/L	
Oxamyl		5	<0.35	<0.35	<0.35	<0.35	<0.35	ug/L	
Carbofuran		40	<0.43	<0.43	<0.43	<0.43	<0.43	ug/L	
Aldicarb		3	<0.41	<0.41	<0.41	<0.41	<0.41	ug/L	
Aldicarb sulfone		2	<0.25	<0.25	<0.25	<0.25	<0.25	ug/L	
Aldicarb sulfoxide		4	<0.25	<0.25	<0.25	<0.25	<0.25	ug/L	
Carbaryl		5	<0.31	<0.31	<0.31	<0.31	<0.31	ug/L	
Methomyl		5	<0.49	<0.49	<0.49	<0.49	<0.49	ug/L	
1,2-Dibromo-3-chloropropane	EPA 504.1	0.2	<0.0030	<0.0030	<0.0031	<0.0030	<0.0030	ug/L	
Ethylene Dibromide	EPA 504.1	0.05	<0.0073	<0.0072	<0.0074	<0.0073	<0.0072	ug/L	
Aldrin	EPA 508	5	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	ug/L	
Chlordane		2	<0.11	<0.11	<0.12	<0.11	<0.11	ug/L	
Endrin		2	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	ug/L	
HCH-gamma (Lindane)		0.2	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	ug/L	
Heptachlor		0.4	<0.0059	<0.0059	<0.0061	<0.0059	<0.0059	ug/L	
Heptachlor epoxide		0.2	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	ug/L	
Methoxychlor		40	<0.0074	<0.0074	<0.0075	<0.0074	<0.0074	ug/L	
Dieldrin		5	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	ug/L	
PCB-1016		0.5	<0.064	<0.064	<0.065	<0.064	<0.064	ug/L	
PCB-1221		0.5	<0.048	<0.048	<0.049	<0.048	<0.048	ug/L	
PCB-1232		0.5	<0.092	<0.092	<0.094	<0.092	<0.092	ug/L	
PCB-1242		0.5	<0.13	<0.13	<0.13	<0.13	<0.13	ug/L	
PCB-1248		0.5	<0.046	<0.046	<0.047	<0.046	<0.046	ug/L	
PCB-1254		0.5	<0.048	<0.048	<0.049	<0.048	<0.048	ug/L	
PCB-1260		0.5	<0.047	<0.047	<0.048	<0.047	<0.047	ug/L	
Toxaphene		3	<0.055	<0.055	<0.056	<0.055	<0.055	ug/L	
Polychlorinated biphenyls, Total		0.5	<0.042	<0.042	<0.043	<0.042	<0.042	ug/L	

**Table 1**  
**Raleigh and Heiden Properties Development**  
**Sub-Part 5 Analytical**  
**September 17, 2009**

Parameter	Method	Standard	Well-1	Well-2	Well-3	Well-4	Well-4A	Units
2,4-D	EPA 515.1	50	<0.037	<0.037	<0.036	<0.036	<0.036	ug/L
Dalapon		5	<1.0	<1.0	<0.98	<0.96	<0.96	ug/L
Dinoseb		7	<0.15	<0.15	<0.15	<0.14	<0.14	ug/L
Pentachlorophenol		1	<0.038	<0.038	<0.037	<0.037	<0.037	ug/L
Picloram		5	<0.077	<0.078	<0.075	<0.074	<0.074	ug/L
Dicamba		5	<0.085	<0.086	<0.083	<0.082	<0.082	ug/L
Silvex (2,4,5-TP)		10	<0.060	<0.061	<0.059	<0.058	<0.058	ug/L
Chlorite		EPA 300.1B	1,000	<20	<20	<20	<20	<20
Radium 226	EPA 903.0	5 Combined	0.59J	0.25J	0.10J	<0.15	0.39J	pCi/L
Radium 228	EPA 904.0		<0.28	0.43J	0.03J	<-0.07	<0.15	pCi/L
Uranium	ASTM 5174-91	30	3.88	5.09	5.72	3.65	2.46	ug/L
Gross alpha	EPA 900	15	5.3	5.5	5.1	2.7J	1.6J	pCi/L
Gross beta		*****	4.6	4.6	2.0J	3.4J	2.5J	pCi/L
Radon	SM7500-RnB	NVA	1,330(+/-40)	1,360(+/-40)	1,960(+/-40)	830(+/-40)	1,650(+/-40)	pCi/L

**Notes:**

<sup>A</sup> - Guidance value to determine if the water is hard and is in need for a water softner system and/or a special septic engineer requirements for disposal of calcium build-up.

<sup>B</sup> - Water containing more than 20 mg/L (or 20,000 ug/L) of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/L (or 270,000) should not be used for drinking by people on moderately restricted sodium diets.

<sup>C</sup> - Total Trihalomethanes can not exceed 80 ppb, considered a disinfection byproduct.

\* - total coliform and e-coli and fecal coliform can not be present in water supply systems that are currently supplying water to the public.

These samples collected for these spetic wells are raw water samples before any treatment.

\*\* - Alkalinity, Total as CaCO3 ranging from 120-240 mg/L should have a pH of approximatly 7.0.

\*\*\* - Turbidity is measured by entery points for surface water and groundwater directly influenced by surface water.

It is assumed that these wells are not influenced but surface water.

\*\*\*\* - Four Millirens/year - concentrations determined by Health Department.

\*\*\*\*\* - If chlorine is used as the disinfectant, a free chlorine residual determination shall be made at the same time and location that the sample is collected for total coliform analysis. Monitoring for heterotrophic bacteria may be substituted for free chlorine residuals. A heterotrophic plate count result equal to or less than 500 colonies per milliliter is considered to be equivalent to a measurable free chlorine residual.

\*\*\*\*\* - Four millirems per year as the annual dose equivalent to the total body or any internal organ.

NA - Not Applicable

mf/L - million fibers per liter

ug/L - micrograms per liter (ppb-parts per billion).

mg/L - milligrams per liter (ppm-parts per million).

NSB - no asbestos detected

pCi/L - picocuries per liter

NVA - no value available





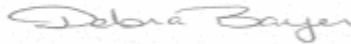
## **ANALYTICAL REPORT**

Job Number: 420-30027-1

Job Description: Tim Miller Associates, Inc.

For:  
Tim Miller Associates, Inc.  
10 North Street  
Cold Spring, NY 10516

Attention: Ms. Maureen Fisher



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Debra Bayer  
Customer Service Manager  
dbayer@envirotestlaboratories.com  
11/25/2009

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. EnviroTest Laboratories Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our laboratory. All questions regarding this report should be directed to the EnviroTest Customer Service Representative.

EnviroTest Laboratories, Inc. Certifications and Approvals: NELAP Accredited, NYSDOH 10142, NJDEP NY015, CTDOH PH-0554, EPA NY00049.

**Job Narrative**  
**420-J30027-1**

**Comments**

No additional comments.

**Receipt**

All samples were received in good condition within temperature requirements.

**GC VOA**

Method 502.2: The laboratory control standard (LCS) for batch 34367 exceeded control limits for the analytes indicated by an asterisk (\*) on the results form. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported with confidence of no false negatives.

No other analytical or quality issues were noted.

**Metals**

No analytical or quality issues were noted.

**General Chemistry**

No analytical or quality issues were noted.

**Biology**

No analytical or quality issues were noted.

## METHOD SUMMARY

Client: Tim Miller Associates, Inc.

Job Number: 420-30027-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
ICP Metals by 200.7	EnvTest	EPA 200.7 Rev 4.4	
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200
ICPMS Metals by 200.8	EnvTest	EPA 200.8	
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200
Mercury in Water by CVAA	EnvTest	EPA 245.1	
Digestion for CVAA Mercury in Waters	EnvTest		EPA 245.1
Anions by Ion Chromatography	EnvTest	MCAWW 300.0	
Anions by Ion Chromatography	EnvTest	MCAWW 300.0	
Volatile Organic Compounds by Purge and Trap (Preserved)	EnvTest	EPA 502.2	
EPA 504.1 EDB		EPA 504.1	
EPA 508 Chlorinated Pesticides in Water		EPA 508	
EPA 515 Chlorinated Acids		EPA 515	
EPA 525.2 Semivolatile Organics		EPA 525.2	
EPA 531.1 Carbamate Pesticides in Drinki		STL-SAV 531.1	
EPA 900 Series GA/GB/RA226/RA228/Gamma		STL-RCH 900	
Uranium		STL-STL EPA	
Color, Colorimetric	EnvTest	SM18 SM 2120B	
Turbidity	EnvTest	SM20 SM 2130B	
Odor, Threshold Test	EnvTest	SM20 SM 2150B	
Alkalinity, Titration Method	EnvTest	SM18 SM 2320B	
Corrosivity LSI Calculation	EnvTest	SM20 SM 2330B	
Hardness by Calculation	EnvTest	SM20 SM 2340B	
Total Dissolved Solids (Dried at 180 °C)	EnvTest	SM18 SM 2540C	
Cyanide, Total: Colorimetric Method	EnvTest	SM18 SM 4500 CN E	
Cyanide: Distillation	EnvTest		SM18 SM 4500 CN C
Fluoride (Ion-selective Electrode)	EnvTest	SM18 SM 4500 F C	
pH	EnvTest	SM19 SM 4500 H+ B	
Heterotrophic Plate Count	EnvTest	SM18 SM 9215B	
Membrane Filter Technique - Fecal Coliform Procedure	EnvTest	SM18 SM 9222D	
Total Coliform and Escherichia coli by Colilert - Quantity Tray	EnvTest	SMWW SM 9223	
General Sub Contract Method		Subcontract	

**Lab References:**

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EnvTest = EnviroTest

**EnviroTest Laboratories, Inc.**

## METHOD SUMMARY

Client: Tim Miller Associates, Inc.

Job Number: 420-30027-1

<b>Description</b>	<b>Lab Location</b>	<b>Method</b>	<b>Preparation Method</b>
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### Method References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SM19 = "Standard Methods For The Examination Of Water And Wastewater", 19Th Edition, 1995."

SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."

SMWW = "Standard Methods for the Examination of Water and Wastewater"

STL-RCH = Severn Trent Laboratories, Richland, Facility Standard Operating Procedure.

STL-SAV = Severn Trent Laboratories, Savannah, Facility Standard Operating Procedure.

STL-STL = Severn Trent Laboratories, St. Louis, Facility Standard Operating Procedure.

## SAMPLE SUMMARY

Client: Tim Miller Associates, Inc.

Job Number: 420-30027-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
420-30027-1	Raleigh Hotel Well 1	Water	09/17/2009 1030	09/17/2009 1231
420-30027-2	Raleigh Hotel Well 2	Water	09/17/2009 1015	09/17/2009 1231
420-30027-3	Raleigh Hotel Well 3	Water	09/17/2009 0945	09/17/2009 1231
420-30027-4	Raleigh Hotel Well 4	Water	09/17/2009 1130	09/17/2009 1231
420-30027-5	Raleigh Hotel Well 4A	Water	09/17/2009 1100	09/17/2009 1231

Ms. Maureen Fisher  
Tim Miller Associates, Inc.  
10 North Street  
Cold Spring, NY 10516

Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 1**  
**Lab Sample ID: 420-30027-1**

Date Sampled: 09/17/2009 1030  
Date Received: 09/17/2009 1231  
Client Matrix: Water

Analyte	Result/Qualifier	Unit	NONE	NONE	Dilution
<b>Method: SM 2330B</b> Langelier Index	-0.18	NONE	Date Analyzed: 09/28/2009 0914		1.0



Ms. Maureen Fisher  
 Tim Miller Associates, Inc.  
 10 North Street  
 Cold Spring, NY 10516

Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 1**  
**Lab Sample ID: 420-30027-1**

Date Sampled: 09/17/2009 1030  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: 502.2</b>		Date Analyzed: 09/19/2009 0318			
1,1,1,2-Tetrachloroethane	0.50 U	ug/L	0.50	0.50	1.0
Trichloroethene	0.50 U	ug/L	0.50	0.50	1.0
trans-1,3-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
trans-1,2-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
Toluene	0.50 U	ug/L	0.50	0.50	1.0
Tetrachloroethene	0.50 U	ug/L	0.50	0.50	1.0
tert-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Styrene	0.50 U	ug/L	0.50	0.50	1.0
sec-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
o-Xylene	0.50 U	ug/L	0.50	0.50	1.0
Naphthalene	0.50 U	ug/L	0.50	0.50	1.0
N-Propylbenzene	0.50 U	ug/L	0.50	0.50	1.0
n-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Methylene Chloride	1.0 U	ug/L	1.0	1.0	1.0
Methyl tert-butyl ether	1.0 U	ug/L	1.0	1.0	1.0
m-Xylene & p-Xylene	0.50 U	ug/L	0.50	0.50	1.0
Isopropylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Hexachlorobutadiene	0.50 U	ug/L	0.50	0.50	1.0
Ethylene Dibromide	0.50 U	ug/L	0.50	0.50	1.0
Ethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Dichlorodifluoromethane	0.50 U	ug/L	0.50	0.50	1.0
Bromodichloromethane	0.50 U	ug/L	0.50	0.50	1.0
Dibromomethane	0.50 U	ug/L	0.50	0.50	1.0
cis-1,3-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
cis-1,2-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
Chloromethane	0.50 U	ug/L	0.50	0.50	1.0
Chloroform	0.50 U	ug/L	0.50	0.50	1.0
Chloroethane	0.50 U	ug/L	0.50	0.50	1.0
Dibromochloromethane	0.50 U	ug/L	0.50	0.50	1.0
Bromochloromethane	0.50 U	ug/L	0.50	0.50	1.0
Trichlorofluoromethane	0.50 U	ug/L	0.50	0.50	1.0
Chlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
Carbon tetrachloride	0.50 U	ug/L	0.50	0.50	1.0
Bromomethane	0.50 U	ug/L	0.50	0.50	1.0
Bromoform	0.50 U	ug/L	0.50	0.50	1.0
Bromobenzene	0.50 U	ug/L	0.50	0.50	1.0
Benzene	0.50 U	ug/L	0.50	0.50	1.0
4-Isopropyltoluene	0.50 U	ug/L	0.50	0.50	1.0
4-Chlorotoluene	0.50 U	ug/L	0.50	0.50	1.0
2-Chlorotoluene	0.50 U	ug/L	0.50	0.50	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 1**  
**Lab Sample ID: 420-30027-1**

Date Sampled: 09/17/2009 1030  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
2,2-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,4-Dichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,3-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,3-Dichlorobenzene	0.50 U *	ug/L	0.50	0.50	1.0
1,3,5-Trimethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dibromo-3-Chloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2,4-Trimethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2,4-Trichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2,3-Trichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2,3-Trichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,2-Trichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,2,2-Tetrachloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,1-Trichloroethane	0.50 U	ug/L	0.50	0.50	1.0
Vinyl chloride	0.50 U	ug/L	0.50	0.50	1.0

**Method: 200.7 Rev 4.4**

Date Analyzed: 09/24/2009 1134

**Prep Method: 200**

Date Prepared: 09/22/2009 1005

Fe	2600	g	ug/L	100	100	1.0
Mn	100		ug/L	15	15	1.0
Na	35000		ug/L	5000	5000	1.0
Zn	180		ug/L	20	20	1.0

**Method: 200.8**

Date Analyzed: 09/28/2009 1400

**Prep Method: 200**

Date Prepared: 09/22/2009 1011

Ag	1.0	U	ug/L	1.0	1.0	1.0
Pb	1.7		ug/L	1.0	1.0	1.0
Arsenic	5.5		ug/L	1.0	1.0	1.0
Be	1.0	U	ug/L	1.0	1.0	1.0
Cadmium	1.0	U	ug/L	1.0	1.0	1.0
Chromium	4.9		ug/L	2.0	2.0	1.0
Cu	41		ug/L	2.1	2.1	1.0
Ni	4.3		ug/L	1.1	1.1	1.0
Sb	2.0	U	ug/L	2.0	2.0	1.0
Tl	1.0	U	ug/L	1.0	1.0	1.0
Barium	450		ug/L	2.0	2.0	1.0

**Method: 200.8**

Date Analyzed: 10/01/2009 1225

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 1**  
**Lab Sample ID: 420-30027-1**

Date Sampled: 09/17/2009 1030  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Prep Method: 200</b> Selenium	5.0 U	ug/L	5.0	5.0	1.0
<b>Method: 245.1</b> <b>Prep Method: 245.1</b> Hg	0.20 U	ug/L	0.20	0.20	1.0
<b>Method: SM 2340B</b> Calcium hardness as calcium carbonate	24	mg/L	2.5	2.5	1.0
<b>Method: 300.0</b> Nitrate as N	0.25 U	mg/L	0.25	0.25	1.0
Nitrite as N	0.25 U	mg/L	0.25	0.25	1.0
Sulfate	5.7	mg/L	5.0	5.0	1.0
<b>Method: 300.0</b> Chloride	10	mg/L	1.5	1.5	1.0
<b>Method: SM 2120B</b> Color	10	Color Units	2.5	2.5	1.0
<b>Method: SM 2130B</b> Turbidity	22 g	NTU	0.10	0.10	1.0
<b>Method: SM 2150B</b> Odor	1.0	Units for Odor	1.0	1.0	1.0
<b>Method: SM 2320B</b> Alkalinity	88	mg/L	5.0	5.0	1.0
<b>Method: SM 2540C</b> Total Dissolved Solids	120	mg/L	5.0	5.0	1.0
<b>Method: SM 4500 CN E</b> Cyanide, Free	0.012	mg/L	0.010	0.010	1.0
<b>Method: SM 4500 CN E</b> <b>Prep Method:</b> Cyanide, Total	0.010 U	mg/L	0.010	0.010	1.0
<b>Method: SM 4500 F C</b> Fluoride	0.20 U	mg/L	0.20	0.20	1.0
<b>Method: SM 4500 H+ B</b> pH	8.66	SU	0.200	0.200	1.0
<b>Method: SM 9222D</b> Coliform, Fecal	1.0 U	CFU/100mL	1.0	1.0	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 1**  
**Lab Sample ID: 420-30027-1**

Date Sampled: 09/17/2009 1030  
Date Received: 09/17/2009 1231  
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: SM 9223</b>					
			Date Analyzed:	09/17/2009 1720	
Coliform, Total	1.0 U	CFU/100mL	1.0	1.0	1.0
Escherichia coli	1.0 U	CFU/100mL	1.0	1.0	1.0
<b>Method: SM 9215B</b>					
			Date Analyzed:	09/17/2009 1615	
Heterotrophic Plate Count	170	CFU/mL	2.0	2.0	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 2**  
**Lab Sample ID: 420-30027-2**

Date Sampled: 09/17/2009 1015  
Date Received: 09/17/2009 1231  
Client Matrix: Water

Analyte	Result/Qualifier	Unit	NONE	NONE	Dilution
<b>Method: SM 2330B</b> Langelier Index	0.14	NONE	Date Analyzed: 09/28/2009 0914		1.0



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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 2**  
**Lab Sample ID: 420-30027-2**

Date Sampled: 09/17/2009 1015  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: 502.2</b>		Date Analyzed: 09/19/2009 0408			
1,1,1,2-Tetrachloroethane	0.50 U	ug/L	0.50	0.50	1.0
Trichloroethene	0.50 U	ug/L	0.50	0.50	1.0
trans-1,3-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
trans-1,2-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
Toluene	2.3	ug/L	0.50	0.50	1.0
Tetrachloroethene	0.50 U	ug/L	0.50	0.50	1.0
tert-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Styrene	0.50 U	ug/L	0.50	0.50	1.0
sec-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
o-Xylene	0.50 U	ug/L	0.50	0.50	1.0
Naphthalene	0.50 U	ug/L	0.50	0.50	1.0
N-Propylbenzene	0.50 U	ug/L	0.50	0.50	1.0
n-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Methylene Chloride	1.0 U	ug/L	1.0	1.0	1.0
Methyl tert-butyl ether	1.0 U	ug/L	1.0	1.0	1.0
m-Xylene & p-Xylene	0.50 U	ug/L	0.50	0.50	1.0
Isopropylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Hexachlorobutadiene	0.50 U	ug/L	0.50	0.50	1.0
Ethylene Dibromide	0.50 U	ug/L	0.50	0.50	1.0
Ethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Dichlorodifluoromethane	0.50 U	ug/L	0.50	0.50	1.0
Bromodichloromethane	0.50 U	ug/L	0.50	0.50	1.0
Dibromomethane	0.50 U	ug/L	0.50	0.50	1.0
cis-1,3-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
cis-1,2-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
Chloromethane	0.50 U	ug/L	0.50	0.50	1.0
Chloroform	0.50 U	ug/L	0.50	0.50	1.0
Chloroethane	0.50 U	ug/L	0.50	0.50	1.0
Dibromochloromethane	0.50 U	ug/L	0.50	0.50	1.0
Bromochloromethane	0.50 U	ug/L	0.50	0.50	1.0
Trichlorofluoromethane	0.50 U	ug/L	0.50	0.50	1.0
Chlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
Carbon tetrachloride	0.50 U	ug/L	0.50	0.50	1.0
Bromomethane	0.50 U	ug/L	0.50	0.50	1.0
Bromoform	0.50 U	ug/L	0.50	0.50	1.0
Bromobenzene	0.50 U	ug/L	0.50	0.50	1.0
Benzene	0.50 U	ug/L	0.50	0.50	1.0
4-Isopropyltoluene	0.50 U	ug/L	0.50	0.50	1.0
4-Chlorotoluene	0.50 U	ug/L	0.50	0.50	1.0
2-Chlorotoluene	0.50 U	ug/L	0.50	0.50	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 2**  
**Lab Sample ID: 420-30027-2**

Date Sampled: 09/17/2009 1015  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
2,2-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,4-Dichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,3-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,3-Dichlorobenzene	0.50 U *	ug/L	0.50	0.50	1.0
1,3,5-Trimethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dibromo-3-Chloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2,4-Trimethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2,4-Trichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2,3-Trichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2,3-Trichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,2-Trichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,2,2-Tetrachloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,1-Trichloroethane	0.50 U	ug/L	0.50	0.50	1.0
Vinyl chloride	0.50 U	ug/L	0.50	0.50	1.0

**Method: 200.7 Rev 4.4**

Date Analyzed: 09/24/2009 1138

**Prep Method: 200**

Date Prepared: 09/22/2009 1005

Fe	1000	g	ug/L	100	100	1.0
Mn	67		ug/L	15	15	1.0
Na	34000		ug/L	5000	5000	1.0
Zn	53		ug/L	20	20	1.0

**Method: 200.8**

Date Analyzed: 09/28/2009 1402

**Prep Method: 200**

Date Prepared: 09/22/2009 1011

Ag	1.0	U	ug/L	1.0	1.0	1.0
Pb	3.0		ug/L	1.0	1.0	1.0
Arsenic	4.4		ug/L	1.0	1.0	1.0
Be	1.0	U	ug/L	1.0	1.0	1.0
Cadmium	1.0	U	ug/L	1.0	1.0	1.0
Chromium	2.0	U	ug/L	2.0	2.0	1.0
Cu	2.1	U	ug/L	2.1	2.1	1.0
Ni	1.1	U	ug/L	1.1	1.1	1.0
Sb	2.0	U	ug/L	2.0	2.0	1.0
Tl	1.0	U	ug/L	1.0	1.0	1.0
Barium	37		ug/L	2.0	2.0	1.0

**Method: 200.8**

Date Analyzed: 10/01/2009 1227

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 2**  
**Lab Sample ID: 420-30027-2**

Date Sampled: 09/17/2009 1015  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Prep Method: 200</b> Selenium	5.0 U	ug/L	5.0	5.0	1.0
<b>Method: 245.1</b> <b>Prep Method: 245.1</b> Hg	0.20 U	ug/L	0.20	0.20	1.0
<b>Method: SM 2340B</b> Calcium hardness as calcium carbonate	16	mg/L	2.5	2.5	1.0
<b>Method: 300.0</b> Nitrate as N	0.25 U	mg/L	0.25	0.25	1.0
Nitrite as N	0.25 U	mg/L	0.25	0.25	1.0
Sulfate	5.7	mg/L	5.0	5.0	1.0
<b>Method: 300.0</b> Chloride	7.8	mg/L	1.5	1.5	1.0
<b>Method: SM 2120B</b> Color	15	Color Units	2.5	2.5	1.0
<b>Method: SM 2130B</b> Turbidity	37 g	NTU	0.10	0.10	1.0
<b>Method: SM 2150B</b> Odor	1.0	Units for Odor	1.0	1.0	1.0
<b>Method: SM 2320B</b> Alkalinity	96	mg/L	5.0	5.0	1.0
<b>Method: SM 2540C</b> Total Dissolved Solids	120	mg/L	5.0	5.0	1.0
<b>Method: SM 4500 CN E</b> Cyanide, Free	0.019	mg/L	0.010	0.010	1.0
<b>Method: SM 4500 CN E</b> <b>Prep Method:</b> Cyanide, Total	0.010 U	mg/L	0.010	0.010	1.0
<b>Method: SM 4500 F C</b> Fluoride	0.20 U	mg/L	0.20	0.20	1.0
<b>Method: SM 4500 H+ B</b> pH	8.88	SU	0.200	0.200	1.0
<b>Method: SM 9222D</b> Coliform, Fecal	1.0 U	CFU/100mL	1.0	1.0	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 2**  
**Lab Sample ID: 420-30027-2**

Date Sampled: 09/17/2009 1015  
Date Received: 09/17/2009 1231  
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: SM 9223</b>			Date Analyzed:	09/17/2009 1720	
Coliform, Total	1.0 U	CFU/100mL	1.0	1.0	1.0
Escherichia coli	1.0 U	CFU/100mL	1.0	1.0	1.0
<b>Method: SM 9215B</b>			Date Analyzed:	09/17/2009 1615	
Heterotrophic Plate Count	8.0	CFU/mL	2.0	2.0	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 3**  
**Lab Sample ID: 420-30027-3**

Date Sampled: 09/17/2009 0945  
Date Received: 09/17/2009 1231  
Client Matrix: Water

Analyte	Result/Qualifier	Unit	NONE	NONE	Dilution
<b>Method: SM 2330B</b> Langelier Index	-0.61	NONE	Date Analyzed: 09/28/2009 0914		1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 3**  
**Lab Sample ID: 420-30027-3**

Date Sampled: 09/17/2009 0945  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: 502.2</b>		Date Analyzed: 09/19/2009 0458			
1,1,1,2-Tetrachloroethane	0.50 U	ug/L	0.50	0.50	1.0
Trichloroethene	0.50 U	ug/L	0.50	0.50	1.0
trans-1,3-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
trans-1,2-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
Toluene	1.4	ug/L	0.50	0.50	1.0
Tetrachloroethene	0.50 U	ug/L	0.50	0.50	1.0
tert-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Styrene	0.50 U	ug/L	0.50	0.50	1.0
sec-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
o-Xylene	0.50 U	ug/L	0.50	0.50	1.0
Naphthalene	0.50 U	ug/L	0.50	0.50	1.0
N-Propylbenzene	0.50 U	ug/L	0.50	0.50	1.0
n-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Methylene Chloride	1.0 U	ug/L	1.0	1.0	1.0
Methyl tert-butyl ether	1.0 U	ug/L	1.0	1.0	1.0
m-Xylene & p-Xylene	0.50 U	ug/L	0.50	0.50	1.0
Isopropylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Hexachlorobutadiene	0.50 U	ug/L	0.50	0.50	1.0
Ethylene Dibromide	0.50 U	ug/L	0.50	0.50	1.0
Ethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Dichlorodifluoromethane	0.50 U	ug/L	0.50	0.50	1.0
Bromodichloromethane	0.50 U	ug/L	0.50	0.50	1.0
Dibromomethane	0.50 U	ug/L	0.50	0.50	1.0
cis-1,3-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
cis-1,2-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
Chloromethane	0.50 U	ug/L	0.50	0.50	1.0
Chloroform	0.50 U	ug/L	0.50	0.50	1.0
Chloroethane	0.50 U	ug/L	0.50	0.50	1.0
Dibromochloromethane	0.50 U	ug/L	0.50	0.50	1.0
Bromochloromethane	0.50 U	ug/L	0.50	0.50	1.0
Trichlorofluoromethane	0.50 U	ug/L	0.50	0.50	1.0
Chlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
Carbon tetrachloride	0.50 U	ug/L	0.50	0.50	1.0
Bromomethane	0.50 U	ug/L	0.50	0.50	1.0
Bromoform	0.50 U	ug/L	0.50	0.50	1.0
Bromobenzene	0.50 U	ug/L	0.50	0.50	1.0
Benzene	0.50 U	ug/L	0.50	0.50	1.0
4-Isopropyltoluene	0.50 U	ug/L	0.50	0.50	1.0
4-Chlorotoluene	0.50 U	ug/L	0.50	0.50	1.0
2-Chlorotoluene	0.50 U	ug/L	0.50	0.50	1.0



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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 3**  
**Lab Sample ID: 420-30027-3**

Date Sampled: 09/17/2009 0945  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
2,2-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,4-Dichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,3-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,3-Dichlorobenzene	0.50 U *	ug/L	0.50	0.50	1.0
1,3,5-Trimethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dibromo-3-Chloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2,4-Trimethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2,4-Trichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2,3-Trichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2,3-Trichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,2-Trichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,2,2-Tetrachloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,1-Trichloroethane	0.50 U	ug/L	0.50	0.50	1.0
Vinyl chloride	0.50 U	ug/L	0.50	0.50	1.0

**Method: 200.7 Rev 4.4**

Date Analyzed: 09/24/2009 1054

**Prep Method: 200**

Date Prepared: 09/21/2009 1541

Fe	100 U	ug/L	100	100	1.0
Mn	15 U	ug/L	15	15	1.0
Na	26000	ug/L	5000	5000	1.0
Zn	67	ug/L	20	20	1.0

**Method: 200.8**

Date Analyzed: 09/22/2009 1417

**Prep Method: 200**

Date Prepared: 09/21/2009 1541

Ag	1.0 U	ug/L	1.0	1.0	1.0
Pb	1.0 U	ug/L	1.0	1.0	1.0
Arsenic	7.1	ug/L	1.0	1.0	1.0
Be	1.0 U	ug/L	1.0	1.0	1.0
Cadmium	1.0 U	ug/L	1.0	1.0	1.0
Chromium	2.0 U	ug/L	2.0	2.0	1.0
Cu	2.1 U	ug/L	2.1	2.1	1.0
Ni	1.1 U	ug/L	1.1	1.1	1.0
Sb	2.0 U	ug/L	2.0	2.0	1.0
Tl	1.0 U	ug/L	1.0	1.0	1.0
Barium	150	ug/L	2.0	2.0	1.0
Selenium	5.0 U	ug/L	5.0	5.0	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 3**  
**Lab Sample ID: 420-30027-3**

Date Sampled: 09/17/2009 0945  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: 245.1</b> <b>Prep Method: 245.1</b> Hg	0.20 U	ug/L	0.20	0.20	1.0
<b>Method: SM 2340B</b> Calcium hardness as calcium carbonate	41	mg/L	2.5	2.5	1.0
<b>Method: 300.0</b> Nitrate as N	0.25 U	mg/L	0.25	0.25	1.0
Nitrite as N	0.25 U	mg/L	0.25	0.25	1.0
Sulfate	6.3	mg/L	5.0	5.0	1.0
<b>Method: 300.0</b> Chloride	10	mg/L	1.5	1.5	1.0
<b>Method: SM 2120B</b> Color	10	Color Units	2.5	2.5	1.0
<b>Method: SM 2130B</b> Turbidity	4.4	NTU	0.10	0.10	1.0
<b>Method: SM 2150B</b> Odor	1.0	Units for Odor	1.0	1.0	1.0
<b>Method: SM 2320B</b> Alkalinity	87	mg/L	5.0	5.0	1.0
<b>Method: SM 2540C</b> Total Dissolved Solids	140	mg/L	5.0	5.0	1.0
<b>Method: SM 4500 CN E</b> Cyanide, Free	0.010 U	mg/L	0.010	0.010	1.0
<b>Method: SM 4500 CN E</b> <b>Prep Method:</b> Cyanide, Total	0.010 U	mg/L	0.010	0.010	1.0
<b>Method: SM 4500 F C</b> Fluoride	0.20 U	mg/L	0.20	0.20	1.0
<b>Method: SM 4500 H+ B</b> pH	7.93	SU	0.200	0.200	1.0
<b>Method: SM 9222D</b> Coliform, Fecal	1.0 U	CFU/100mL	1.0	1.0	1.0
<b>Method: SM 9223</b> Coliform, Total	1.0 U	CFU/100mL	1.0	1.0	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 3**  
**Lab Sample ID: 420-30027-3**

Date Sampled: 09/17/2009 0945  
Date Received: 09/17/2009 1231  
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Escherichia coli	1.0 U	CFU/100mL	1.0	1.0	1.0
<b>Method: SM 9215B</b>			Date Analyzed: 09/17/2009 1615		
Heterotrophic Plate Count	10	CFU/mL	2.0	2.0	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 4**  
**Lab Sample ID: 420-30027-4**

Date Sampled: 09/17/2009 1130  
Date Received: 09/17/2009 1231  
Client Matrix: Water

Analyte	Result/Qualifier	Unit	NONE	NONE	Dilution
<b>Method: SM 2330B</b> Langelier Index	-0.59	NONE	Date Analyzed: 10/05/2009 1332		1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 4**  
**Lab Sample ID: 420-30027-4**

Date Sampled: 09/17/2009 1130  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: 502.2</b>		Date Analyzed: 09/19/2009 0548			
1,1,1,2-Tetrachloroethane	0.50 U	ug/L	0.50	0.50	1.0
Trichloroethene	0.50 U	ug/L	0.50	0.50	1.0
trans-1,3-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
trans-1,2-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
Toluene	0.50 U	ug/L	0.50	0.50	1.0
Tetrachloroethene	0.50 U	ug/L	0.50	0.50	1.0
tert-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Styrene	0.50 U	ug/L	0.50	0.50	1.0
sec-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
o-Xylene	0.50 U	ug/L	0.50	0.50	1.0
Naphthalene	0.50 U	ug/L	0.50	0.50	1.0
N-Propylbenzene	0.50 U	ug/L	0.50	0.50	1.0
n-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Methylene Chloride	1.0 U	ug/L	1.0	1.0	1.0
Methyl tert-butyl ether	1.0 U	ug/L	1.0	1.0	1.0
m-Xylene & p-Xylene	0.50 U	ug/L	0.50	0.50	1.0
Isopropylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Hexachlorobutadiene	0.50 U	ug/L	0.50	0.50	1.0
Ethylene Dibromide	0.50 U	ug/L	0.50	0.50	1.0
Ethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Dichlorodifluoromethane	0.50 U	ug/L	0.50	0.50	1.0
Bromodichloromethane	0.50 U	ug/L	0.50	0.50	1.0
Dibromomethane	0.50 U	ug/L	0.50	0.50	1.0
cis-1,3-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
cis-1,2-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
Chloromethane	0.50 U	ug/L	0.50	0.50	1.0
Chloroform	0.50 U	ug/L	0.50	0.50	1.0
Chloroethane	0.50 U	ug/L	0.50	0.50	1.0
Dibromochloromethane	0.50 U	ug/L	0.50	0.50	1.0
Bromochloromethane	0.50 U	ug/L	0.50	0.50	1.0
Trichlorofluoromethane	0.50 U	ug/L	0.50	0.50	1.0
Chlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
Carbon tetrachloride	0.50 U	ug/L	0.50	0.50	1.0
Bromomethane	0.50 U	ug/L	0.50	0.50	1.0
Bromoform	0.50 U	ug/L	0.50	0.50	1.0
Bromobenzene	0.50 U	ug/L	0.50	0.50	1.0
Benzene	0.50 U	ug/L	0.50	0.50	1.0
4-Isopropyltoluene	0.50 U	ug/L	0.50	0.50	1.0
4-Chlorotoluene	0.50 U	ug/L	0.50	0.50	1.0
2-Chlorotoluene	0.50 U	ug/L	0.50	0.50	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 4**  
**Lab Sample ID: 420-30027-4**

Date Sampled: 09/17/2009 1130  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
2,2-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,4-Dichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,3-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,3-Dichlorobenzene	0.50 U *	ug/L	0.50	0.50	1.0
1,3,5-Trimethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dibromo-3-Chloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2,4-Trimethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2,4-Trichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2,3-Trichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2,3-Trichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,2-Trichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,2,2-Tetrachloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,1-Trichloroethane	0.50 U	ug/L	0.50	0.50	1.0
Vinyl chloride	0.50 U	ug/L	0.50	0.50	1.0

**Method: 200.7 Rev 4.4**

**Prep Method: 200**

Fe	100 U	ug/L	100	100	1.0
Mn	15 U	ug/L	15	15	1.0
Na	28000	ug/L	5000	5000	1.0
Zn	89	ug/L	20	20	1.0

Date Analyzed: 09/24/2009 1059

Date Prepared: 09/21/2009 1541

**Method: 200.8**

**Prep Method: 200**

Ag	1.0 U	ug/L	1.0	1.0	1.0
Pb	1.0 U	ug/L	1.0	1.0	1.0
Arsenic	4.3	ug/L	1.0	1.0	1.0
Be	1.0 U	ug/L	1.0	1.0	1.0
Cadmium	1.0 U	ug/L	1.0	1.0	1.0
Chromium	2.3	ug/L	2.0	2.0	1.0
Cu	2.1 U	ug/L	2.1	2.1	1.0
Ni	1.1 U	ug/L	1.1	1.1	1.0
Sb	2.0 U	ug/L	2.0	2.0	1.0
Tl	1.0 U	ug/L	1.0	1.0	1.0
Barium	97	ug/L	2.0	2.0	1.0
Selenium	5.0 U	ug/L	5.0	5.0	1.0

Date Analyzed: 09/22/2009 1419

Date Prepared: 09/21/2009 1541



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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 4**  
**Lab Sample ID: 420-30027-4**

Date Sampled: 09/17/2009 1130  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: 245.1</b>			Date Analyzed:	09/21/2009 1325	
<b>Prep Method: 245.1</b>			Date Prepared:	09/18/2009 1415	
Hg	0.20 U	ug/L	0.20	0.20	1.0
<b>Method: SM 2340B</b>			Date Analyzed:	09/24/2009 1037	
Calcium hardness as calcium carbonate	32	mg/L	2.5	2.5	1.0
<b>Method: 300.0</b>			Date Analyzed:	09/18/2009 1242	
Nitrate as N	0.25 U	mg/L	0.25	0.25	1.0
Nitrite as N	0.25 U	mg/L	0.25	0.25	1.0
Sulfate	5.6	mg/L	5.0	5.0	1.0
<b>Method: 300.0</b>			Date Analyzed:	09/18/2009 1455	
Chloride	8.2	mg/L	1.5	1.5	1.0
<b>Method: SM 2120B</b>			Date Analyzed:	09/18/2009 1245	
Color	5.0	Color Units	2.5	2.5	1.0
<b>Method: SM 2130B</b>			Date Analyzed:	09/18/2009 1400	
Turbidity	1.1	NTU	0.10	0.10	1.0
<b>Method: SM 2150B</b>			Date Analyzed:	09/18/2009 1245	
Odor	1.0	Units for Odor	1.0	1.0	1.0
<b>Method: SM 2320B</b>			Date Analyzed:	09/18/2009 1712	
Alkalinity	84	mg/L	5.0	5.0	1.0
<b>Method: SM 2540C</b>			Date Analyzed:	09/24/2009 1013	
Total Dissolved Solids	140	mg/L	5.0	5.0	1.0
<b>Method: SM 4500 CN E</b>			Date Analyzed:	09/21/2009 1515	
Cyanide, Free	0.010 U	mg/L	0.010	0.010	1.0
<b>Method: SM 4500 CN E</b>			Date Analyzed:	09/25/2009 1118	
<b>Prep Method:</b>			Date Prepared:	09/24/2009 0930	
Cyanide, Total	0.010 U	mg/L	0.010	0.010	1.0
<b>Method: SM 4500 F C</b>			Date Analyzed:	09/22/2009 1018	
Fluoride	0.20 U	mg/L	0.20	0.20	1.0
<b>Method: SM 4500 H+ B</b>			Date Analyzed:	09/17/2009 1524	
pH	8.10	SU	0.200	0.200	1.0
<b>Method: SM 9222D</b>			Date Analyzed:	09/17/2009 1636	
Coliform, Fecal	1.0 U	CFU/100mL	1.0	1.0	1.0
<b>Method: SM 9223</b>			Date Analyzed:	09/17/2009 1720	
Coliform, Total	1.0 U	CFU/100mL	1.0	1.0	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 4**  
**Lab Sample ID: 420-30027-4**

Date Sampled: 09/17/2009 1130  
Date Received: 09/17/2009 1231  
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Escherichia coli	1.0 U	CFU/100mL	1.0	1.0	1.0
<b>Method: SM 9215B</b>			Date Analyzed: 09/17/2009 1615		
Heterotrophic Plate Count	77	CFU/mL	2.0	2.0	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 4A**  
**Lab Sample ID: 420-30027-5**

Date Sampled: 09/17/2009 1100  
Date Received: 09/17/2009 1231  
Client Matrix: Water

Analyte	Result/Qualifier	Unit	NONE	NONE	Dilution
<b>Method: SM 2330B</b> Langelier Index	-1.4	NONE	Date Analyzed: 10/05/2009 1332		1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 4A**  
**Lab Sample ID: 420-30027-5**

Date Sampled: 09/17/2009 1100  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: 502.2</b>		Date Analyzed: 09/19/2009 0638			
1,1,1,2-Tetrachloroethane	0.50 U	ug/L	0.50	0.50	1.0
Trichloroethene	0.50 U	ug/L	0.50	0.50	1.0
trans-1,3-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
trans-1,2-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
Toluene	0.50 U	ug/L	0.50	0.50	1.0
Tetrachloroethene	0.50 U	ug/L	0.50	0.50	1.0
tert-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Styrene	0.50 U	ug/L	0.50	0.50	1.0
sec-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
o-Xylene	0.50 U	ug/L	0.50	0.50	1.0
Naphthalene	0.50 U	ug/L	0.50	0.50	1.0
N-Propylbenzene	0.50 U	ug/L	0.50	0.50	1.0
n-Butylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Methylene Chloride	1.0 U	ug/L	1.0	1.0	1.0
Methyl tert-butyl ether	1.0 U	ug/L	1.0	1.0	1.0
m-Xylene & p-Xylene	0.50 U	ug/L	0.50	0.50	1.0
Isopropylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Hexachlorobutadiene	0.50 U	ug/L	0.50	0.50	1.0
Ethylene Dibromide	0.50 U	ug/L	0.50	0.50	1.0
Ethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
Dichlorodifluoromethane	0.50 U	ug/L	0.50	0.50	1.0
Bromodichloromethane	0.50 U	ug/L	0.50	0.50	1.0
Dibromomethane	0.50 U	ug/L	0.50	0.50	1.0
cis-1,3-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
cis-1,2-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
Chloromethane	0.50 U	ug/L	0.50	0.50	1.0
Chloroform	0.50 U	ug/L	0.50	0.50	1.0
Chloroethane	0.50 U	ug/L	0.50	0.50	1.0
Dibromochloromethane	0.50 U	ug/L	0.50	0.50	1.0
Bromochloromethane	0.50 U	ug/L	0.50	0.50	1.0
Trichlorofluoromethane	0.50 U	ug/L	0.50	0.50	1.0
Chlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
Carbon tetrachloride	0.50 U	ug/L	0.50	0.50	1.0
Bromomethane	0.50 U	ug/L	0.50	0.50	1.0
Bromoform	0.50 U	ug/L	0.50	0.50	1.0
Bromobenzene	0.50 U	ug/L	0.50	0.50	1.0
Benzene	0.50 U	ug/L	0.50	0.50	1.0
4-Isopropyltoluene	0.50 U	ug/L	0.50	0.50	1.0
4-Chlorotoluene	0.50 U	ug/L	0.50	0.50	1.0
2-Chlorotoluene	0.50 U	ug/L	0.50	0.50	1.0

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Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 4A**  
**Lab Sample ID: 420-30027-5**

Date Sampled: 09/17/2009 1100  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
2,2-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,4-Dichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,3-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,3-Dichlorobenzene	0.50 U *	ug/L	0.50	0.50	1.0
1,3,5-Trimethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2-Dibromo-3-Chloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2,4-Trimethylbenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2,4-Trichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,2,3-Trichloropropane	0.50 U	ug/L	0.50	0.50	1.0
1,2,3-Trichlorobenzene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloropropene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloroethene	0.50 U	ug/L	0.50	0.50	1.0
1,1-Dichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,2-Trichloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,2,2-Tetrachloroethane	0.50 U	ug/L	0.50	0.50	1.0
1,1,1-Trichloroethane	0.50 U	ug/L	0.50	0.50	1.0
Vinyl chloride	0.50 U	ug/L	0.50	0.50	1.0

**Method: 200.7 Rev 4.4**

Date Analyzed: 09/24/2009 1143

**Prep Method: 200**

Date Prepared: 09/22/2009 1005

Fe	320	g	ug/L	100	100	1.0
Mn	110		ug/L	15	15	1.0
Na	33000		ug/L	5000	5000	1.0
Zn	620		ug/L	20	20	1.0

**Method: 200.8**

Date Analyzed: 09/28/2009 1410

**Prep Method: 200**

Date Prepared: 09/22/2009 1011

Ag	1.0	U	ug/L	1.0	1.0	1.0
Pb	1.0	U	ug/L	1.0	1.0	1.0
Arsenic	2.6		ug/L	1.0	1.0	1.0
Be	1.0	U	ug/L	1.0	1.0	1.0
Cadmium	1.0	U	ug/L	1.0	1.0	1.0
Chromium	2.0	U	ug/L	2.0	2.0	1.0
Cu	2.7		ug/L	2.1	2.1	1.0
Ni	1.2		ug/L	1.1	1.1	1.0
Sb	2.0	U	ug/L	2.0	2.0	1.0
Tl	1.0	U	ug/L	1.0	1.0	1.0
Barium	180		ug/L	2.0	2.0	1.0

**Method: 200.8**

Date Analyzed: 10/06/2009 1342

Ms. Maureen Fisher  
 Tim Miller Associates, Inc.  
 10 North Street  
 Cold Spring, NY 10516

Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 4A**  
**Lab Sample ID: 420-30027-5**

Date Sampled: 09/17/2009 1100  
 Date Received: 09/17/2009 1231  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Prep Method: 200</b> Selenium	5.0 U	ug/L	5.0	5.0	1.0
<b>Method: 245.1</b> <b>Prep Method: 245.1</b> Hg	0.20 U	ug/L	0.20	0.20	1.0
<b>Method: SM 2340B</b> Calcium hardness as calcium carbonate	33	mg/L	2.5	2.5	1.0
<b>Method: 300.0</b> Nitrate as N	0.25 U	mg/L	0.25	0.25	1.0
Nitrite as N	0.25 U	mg/L	0.25	0.25	1.0
Sulfate	8.9	mg/L	5.0	5.0	1.0
<b>Method: 300.0</b> Chloride	20	mg/L	1.5	1.5	1.0
<b>Method: SM 2120B</b> Color	10	Color Units	2.5	2.5	1.0
<b>Method: SM 2130B</b> Turbidity	13 g	NTU	0.10	0.10	1.0
<b>Method: SM 2150B</b> Odor	1.0	Units for Odor	1.0	1.0	1.0
<b>Method: SM 2320B</b> Alkalinity	88	mg/L	5.0	5.0	1.0
<b>Method: SM 2540C</b> Total Dissolved Solids	150	mg/L	5.0	5.0	1.0
<b>Method: SM 4500 CN E</b> Cyanide, Free	0.010 U	mg/L	0.010	0.010	1.0
<b>Method: SM 4500 CN E</b> <b>Prep Method:</b> Cyanide, Total	0.010 U	mg/L	0.010	0.010	1.0
<b>Method: SM 4500 F C</b> Fluoride	0.20 U	mg/L	0.20	0.20	1.0
<b>Method: SM 4500 H+ B</b> pH	7.25	SU	0.200	0.200	1.0
<b>Method: SM 9222D</b> Coliform, Fecal	1.0 U	CFU/100mL	1.0	1.0	1.0

Ms. Maureen Fisher  
Tim Miller Associates, Inc.  
10 North Street  
Cold Spring, NY 10516

Job Number: 420-30027-1

**Client Sample ID: Raleigh Hotel Well 4A**  
**Lab Sample ID: 420-30027-5**

Date Sampled: 09/17/2009 1100  
Date Received: 09/17/2009 1231  
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: SM 9223</b>			Date Analyzed:	09/17/2009 1720	
Coliform, Total	1.0 U	CFU/100mL	1.0	1.0	1.0
Escherichia coli	1.0 U	CFU/100mL	1.0	1.0	1.0
<b>Method: SM 9215B</b>			Date Analyzed:	09/17/2009 1615	
Heterotrophic Plate Count	120	CFU/mL	2.0	2.0	1.0



## DATA REPORTING QUALIFIERS

Client: Tim Miller Associates, Inc.

Job Number: 420-30027-1

<b>Lab Section</b>	<b>Qualifier</b>	<b>Description</b>
GC VOA		
	*	LCS or LCSD exceeds the control limits
	U	The analyte was analyzed for but not detected at or above the stated limit.
Metals		
	g	Result fails applicable drinking water standards
	U	The analyte was analyzed for but not detected at or above the stated limit.
General Chemistry		
	g	Result fails applicable drinking water standards
	U	The analyte was analyzed for but not detected at or above the stated limit.

**CHAIN OF CUSTODY**

Lab Name: **EnviroTest Laboratories**  
 Address & Phone: **315 Fullerton Avenue, Newburgh, New York 12550 845-562-0890**

REPORT# (Lab Use Only)

30027

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION	MATRIX TYPE	REQUIRED ANALYSES	PAGE 1 of 1
Raleigh Hotel	090370			40ml vial sulfuric	
ENVIROTEST PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.		250ml Plastic Sulfuric	
Debbie Rohl	090370			40ml vial HCL	
CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX		250ml Plastic Sulfuric	
Maureen Fisher	845-265-4400	845-265-4418		250 Plastic Nitric Acid	
CLIENT NAME	CLIENT ADDRESS			250ml Plastic Sod. Hydrox.	
Tim Miller Assoc., Inc.	10 North Street, Cold Spring, New York 10516			Liter Plastic	
COMPANY CONTRACTING THIS WORK (if applicable):				250ml Plastic Sterile	

SAMPLE DATE	TIME	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS SUBMITTED		REMARKS
			Total # of Containers	#OF COOLERS	
9/17/09	1030	Raleigh Hotel Well 1	28		See Attached
9/17/09	1615	Raleigh Hotel Well 2	28		See Attached
9/17/09	945	Raleigh Hotel Well 3	28		See Attached
9/17/09	1130	Raleigh Hotel Well 4	28		See Attached
9/17/09	1100	Raleigh Hotel Well 4A	28		See Attached

RELINQUISHED BY: (SIGNATURE)	COMPANY	DATE	TIME	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
Maureen S. Fisher	TMA	9/17/09	1235	[Signature]	Env.	9/17/09	1235
Maureen S. Fisher	TMA	9/17/09		[Signature]			
				[Signature]			

NOTE: \*\* SHORT HOLDING TIME \*\*

RECEIVED FOR LABORATORY BY: (SIGNATURE) \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

LABORATORY REMARKS: ICE \_\_\_\_\_ pH \_\_\_\_\_ CL2 \_\_\_\_\_ Revisited by: \_\_\_\_\_

Field Service Time: Cooler Temp. 4.6

## LOGIN SAMPLE RECEIPT CHECK LIST

Client: Tim Miller Associates, Inc.

Job Number: 420-30027-1

**Login Number: 30027**

<b>Question</b>	<b>T/F/NA</b>	<b>Comment</b>
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	False	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

## ANALYTICAL REPORT

Job Number: 680-50880-1

Job Description: 420-30027

For:

EnviroTest Laboratories Inc  
315 Fullerton Avenue  
Newburgh, NY 12550

Attention: Ms. Janine Rader



Approved for release.  
Sheila Hoffman  
Project Manager I  
10/7/2009 3:06 PM

---

Sheila Hoffman  
Project Manager I  
sheila.hoffman@testamericainc.com  
10/07/2009

cc: Ms. Renee Cusack  
Ms. Joyce Esposito  
Ms. Alicia Labare  
Debbie Rohl

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q

**TestAmerica Laboratories, Inc.**

TestAmerica Savannah 5102 LaRoche Avenue, Savannah, GA 31404  
Tel (912) 354-7858 Fax (912) 352-0165 [www.testamericainc.com](http://www.testamericainc.com)



**Job Narrative**  
**680-J50880-1**

**Comments**

No additional comments.

**Receipt**

Method(s) 525.2: The following samples was received with insufficient preservation: The pH was adjusted prior to preparation.

All other samples were received in good condition within temperature requirements.

**GC/MS Semi VOA**

Method(s) 525.2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 148804 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

**HPLC**

No analytical or quality issues were noted.

**GC Semi VOA.**

Method(s) 508: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for batch 680-148432 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 508: Two surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample(s) contained an allowable number of surrogate compounds outside limits: Raleigh Hotel Well 1 (680-50880-2), Raleigh Hotel Well 2 (680-50880-3). These results have been reported and qualified. Sample matrix was present in the samples.

Method(s) 515.1: Surrogate recovery for the following sample(s) was outside the upper control limit: Raleigh Hotel Well 4A (680-50880-6). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed. Non-target matrix interference was present in the sample.

No other analytical or quality issues were noted.

**General Chemistry**

No analytical or quality issues were noted.

## METHOD SUMMARY

Client: EnviroTest Laboratories Inc

Job Number: 680-50880-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Semivolatile Organic Compounds (GC/MS)	TAL SAV	EPA 525.2	
Extraction of Semivolatile Compounds	TAL SAV		EPA 525.2
EDB, DBCP and 1,2,3-TCP (GC)	TAL SAV	EPA-DW 504.1	
Microextraction	TAL SAV		EPA-DW 504.1
Chlorinated Pesticides & PCBs (GC)	TAL SAV	EPA 508	
Liquid-Liquid Extraction (Separatory Funnel)	TAL SAV		EPA 508
Herbicides (GC)	TAL SAV	EPA-01 515.1	
Extraction of Chlorinated Acids	TAL SAV		EPA-DW 515.1
Disinfection By-Products, (IC)	TAL SAV	EPA 300.1B	
Disinfection By-Products, (IC)	TAL SAV	EPA 300.1B	
Carbamate Pesticides (HPLC)	TAL SAV	EPA 531.1	

### Lab References:

TAL SAV = TestAmerica Savannah

### Method References:

EPA = US Environmental Protection Agency

EPA-01 = "Methods For The Determination Of Nonconventional Pesticides In Municipal And Industrial Wastewater", EPA/821/R/92/002, April 1992.

EPA-DW = "Methods For The Determination Of Organic Compounds In Drinking Water", EPA/600/4-88/039, December 1988 And Its Supplements.

## METHOD / ANALYST SUMMARY

Client: EnviroTest Laboratories Inc

Job Number: 680-50880-1

<b>Method</b>	<b>Analyst</b>	<b>Analyst ID</b>
EPA 525.2	Davis, Nancy	ND
EPA 300.1B	Brazell, Connie	CB
EPA 531.1	Brazell, Connie	CB
EPA-DW 504.1	Meincke, Griffin	GM
EPA 508	Kellar, Joshua	JK
EPA-01 515.1	Meincke, Griffin	GM



## SAMPLE SUMMARY

Client: EnviroTest Laboratories Inc

Job Number: 680-50880-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
680-50880-2	Raleigh Hotel Well 1	Drinking Water	09/17/2009 1030	09/18/2009 0939
680-50880-3	Raleigh Hotel Well 2	Drinking Water	09/17/2009 1015	09/18/2009 0939
680-50880-4	Raleigh Hotel Well 3	Drinking Water	09/17/2009 0945	09/18/2009 0939
680-50880-5	Raleigh Hotel Well 4	Drinking Water	09/17/2009 1130	09/18/2009 0939
680-50880-6	Raleigh Hotel Well 4A	Drinking Water	09/17/2009 1100	09/18/2009 0939

Ms. Janine Rader  
 EnviroTest Laboratories Inc  
 315 Fullerton Avenue  
 Newburgh, NY 12550

Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 1  
**Lab Sample ID:** 680-50880-2

Date Sampled: 09/17/2009 1030  
 Date Received: 09/18/2009 0939  
 Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	MDL	Dilution
<b>Method: 525.2</b>		Date Analyzed:	09/26/2009 2134	
<b>Prep Method: 525.2</b>		Date Prepared:	09/25/2009 0810	
Alachlor	<0.033	ug/L	0.033	1.0
Atrazine	<0.022	ug/L	0.022	1.0
Benzo[a]pyrene	<0.029	ug/L	0.029	1.0
Bis(2-ethylhexyl) phthalate	<0.61	ug/L	0.61	1.0
Di(2-ethylhexyl)adipate	<0.61	ug/L	0.61	1.0
Hexachlorobenzene	<0.041	ug/L	0.041	1.0
Hexachlorocyclopentadiene	<0.042	ug/L	0.042	1.0
Butachlor	<0.032	ug/L	0.032	1.0
Simazine	<0.035	ug/L	0.035	1.0
Metolachlor	<0.020	ug/L	0.020	1.0
Metribuzin	<0.022	ug/L	0.022	1.0
Propachlor	<0.025	ug/L	0.025	1.0
Surrogate			Acceptance Limits	
Perylene-d12	82	%	70 - 130	
<b>Method: 300.1B</b>		Date Analyzed:	09/30/2009 0955	
Bromate	<2.6	ug/L	2.6	1.0
Surrogate			Acceptance Limits	
Dichloroacetic acid	104	%	90 - 115	
<b>Method: 531.1</b>		Date Analyzed:	09/29/2009 1238	
3-Hydroxycarbofuran	<0.31	ug/L	0.31	1.0
Oxamyl	<0.35	ug/L	0.35	1.0
Carbofuran	<0.43	ug/L	0.43	1.0
Aldicarb	<0.41	ug/L	0.41	1.0
Aldicarb sulfone	<0.25	ug/L	0.25	1.0
Aldicarb sulfoxide	<0.25	ug/L	0.25	1.0
Carbaryl	<0.31	ug/L	0.31	1.0
Methomyl	<0.49	ug/L	0.49	1.0
<b>Method: 504.1</b>		Date Analyzed:	09/21/2009 2000	
<b>Prep Method: 504.1</b>		Date Prepared:	09/21/2009 1351	
1,2-Dibromo-3-Chloropropane	<0.0030	ug/L	0.0030	1.0
Ethylene Dibromide	<0.0073	ug/L	0.0073	1.0
Surrogate			Acceptance Limits	
1,2,3-Trichloropropane-(Surr)	97	%	70 - 130	
<b>Method: 508</b>		Date Analyzed:	09/24/2009 2134	
<b>Prep Method: 508</b>		Date Prepared:	09/22/2009 0955	

Ms. Janine Rader  
 EnviroTest Laboratories Inc  
 315 Fullerton Avenue  
 Newburgh, NY 12550

Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 1  
**Lab Sample ID:** 680-50880-2

Date Sampled: 09/17/2009 1030  
 Date Received: 09/18/2009 0939  
 Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	MDL	Dilution
Aldrin	<0.0014	ug/L	0.0014	1.0
Chlordane (technical)	<0.11	ug/L	0.11	1.0
Endrin	<0.0021	ug/L	0.0021	1.0
gamma-BHC (Lindane)	<0.0023	ug/L	0.0023	1.0
Heptachlor	<0.0059	ug/L	0.0059	1.0
Heptachlor epoxide	<0.0016	ug/L	0.0016	1.0
Methoxychlor	<0.0074	ug/L	0.0074	1.0
Dieldrin	<0.0015	ug/L	0.0015	1.0
PCB-1016	<0.064	ug/L	0.064	1.0
PCB-1221	<0.048	ug/L	0.048	1.0
PCB-1232	<0.092	ug/L	0.092	1.0
PCB-1242	<0.13	ug/L	0.13	1.0
PCB-1248	<0.046	ug/L	0.046	1.0
PCB-1254	<0.048	ug/L	0.048	1.0
PCB-1260	<0.047	ug/L	0.047	1.0
Toxaphene	<0.055	ug/L	0.055	1.0
Polychlorinated biphenyls, Total	<0.042	ug/L	0.042	1.0
Surrogate			Acceptance Limits	
DCB Decachlorobiphenyl	78	%	70 - 130	
Tetrachloro-m-xylene	15000 E X	%	70 - 130	
<b>Method: 515.1</b>			Date Analyzed: 09/29/2009 1853	
<b>Prep Method: 515.1</b>			Date Prepared: 09/28/2009 0858	
2,4-D	<0.037	ug/L	0.037	1.0
Dalapon	<1.0	ug/L	1.0	1.0
Dinoseb	<0.15	ug/L	0.15	1.0
Pentachlorophenol	<0.038	ug/L	0.038	1.0
Picloram	<0.077	ug/L	0.077	1.0
Dicamba	<0.085	ug/L	0.085	1.0
Silvex (2,4,5-TP)	<0.060	ug/L	0.060	1.0
Surrogate			Acceptance Limits	
2,4-Dichlorophenylacetic acid	102	%	70 - 130	

Ms. Janine Rader  
EnviroTest Laboratories Inc  
315 Fullerton Avenue  
Newburgh, NY 12550

Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 1  
**Lab Sample ID:** 680-50880-2

Date Sampled: 09/17/2009 1030  
Date Received: 09/18/2009 0939  
Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	RL	Dilution
<b>Method: 300.1B</b>			Date Analyzed: 09/29/2009 2141	
Chlorite	<20	ug/L	20	1.0
Surrogate			Acceptance Limits	
Dichloroacetic acid	103	%	90 - 115	

Ms. Janine Rader  
 EnviroTest Laboratories Inc  
 315 Fullerton Avenue  
 Newburgh, NY 12550

Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 2  
**Lab Sample ID:** 680-50880-3

Date Sampled: 09/17/2009 1015  
 Date Received: 09/18/2009 0939  
 Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	MDL	Dilution
<b>Method: 525.2</b>		Date Analyzed:	09/26/2009 2156	
<b>Prep Method: 525.2</b>		Date Prepared:	09/25/2009 0810	
Alachlor	<0.033	ug/L	0.033	1.0
Atrazine	<0.022	ug/L	0.022	1.0
Benzo[a]pyrene	<0.029	ug/L	0.029	1.0
Bis(2-ethylhexyl) phthalate	0.82	ug/L	0.61	1.0
Di(2-ethylhexyl)adipate	<0.61	ug/L	0.61	1.0
Hexachlorobenzene	<0.041	ug/L	0.041	1.0
Hexachlorocyclopentadiene	<0.042	ug/L	0.042	1.0
Butachlor	<0.032	ug/L	0.032	1.0
Simazine	<0.035	ug/L	0.035	1.0
Metolachlor	<0.020	ug/L	0.020	1.0
Metribuzin	<0.022	ug/L	0.022	1.0
Propachlor	<0.025	ug/L	0.025	1.0
Surrogate			Acceptance Limits	
Perylene-d12	70	%	70 - 130	
<b>Method: 300.1B</b>		Date Analyzed:	09/30/2009 1025	
Bromate	<2.6	ug/L	2.6	1.0
Surrogate			Acceptance Limits	
Dichloroacetic acid	103	%	90 - 115	
<b>Method: 531.1</b>		Date Analyzed:	09/29/2009 1318	
3-Hydroxycarbofuran	<0.31	ug/L	0.31	1.0
Oxamyl	<0.35	ug/L	0.35	1.0
Carbofuran	<0.43	ug/L	0.43	1.0
Aldicarb	<0.41	ug/L	0.41	1.0
Aldicarb sulfone	<0.25	ug/L	0.25	1.0
Aldicarb sulfoxide	<0.25	ug/L	0.25	1.0
Carbaryl	<0.31	ug/L	0.31	1.0
Methomyl	<0.49	ug/L	0.49	1.0
<b>Method: 504.1</b>		Date Analyzed:	09/21/2009 2010	
<b>Prep Method: 504.1</b>		Date Prepared:	09/21/2009 1351	
1,2-Dibromo-3-Chloropropane	<0.0030	ug/L	0.0030	1.0
Ethylene Dibromide	<0.0072	ug/L	0.0072	1.0
Surrogate			Acceptance Limits	
1,2,3-Trichloropropane-(Surr)	93	%	70 - 130	
<b>Method: 508</b>		Date Analyzed:	09/24/2009 2157	
<b>Prep Method: 508</b>		Date Prepared:	09/22/2009 0955	

Ms. Janine Rader  
 EnviroTest Laboratories Inc  
 315 Fullerton Avenue  
 Newburgh, NY 12550

Job Number: 680-50880-1

**Client Sample ID: Raleigh Hotel Well 2**  
**Lab Sample ID: 680-50880-3**

Date Sampled: 09/17/2009 1015  
 Date Received: 09/18/2009 0939  
 Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	MDL	Dilution
Aldrin	<0.0014	ug/L	0.0014	1.0
Chlordane (technical)	<0.11	ug/L	0.11	1.0
Endrin	<0.0021	ug/L	0.0021	1.0
gamma-BHC (Lindane)	<0.0023	ug/L	0.0023	1.0
Heptachlor	<0.0059	ug/L	0.0059	1.0
Heptachlor epoxide	<0.0016	ug/L	0.0016	1.0
Methoxychlor	<0.0074	ug/L	0.0074	1.0
Dieldrin	<0.0015	ug/L	0.0015	1.0
PCB-1016	<0.064	ug/L	0.064	1.0
PCB-1221	<0.048	ug/L	0.048	1.0
PCB-1232	<0.092	ug/L	0.092	1.0
PCB-1242	<0.13	ug/L	0.13	1.0
PCB-1248	<0.046	ug/L	0.046	1.0
PCB-1254	<0.048	ug/L	0.048	1.0
PCB-1260	<0.047	ug/L	0.047	1.0
Toxaphene	<0.055	ug/L	0.055	1.0
Polychlorinated biphenyls, Total	<0.042	ug/L	0.042	1.0
Surrogate			Acceptance Limits	
DCB Decachlorobiphenyl	126	%	70 - 130	
Tetrachloro-m-xylene	13900	E X %	70 - 130	
<b>Method: 515.1</b>			Date Analyzed: 09/29/2009 1910	
<b>Prep Method: 515.1</b>			Date Prepared: 09/28/2009 0858	
2,4-D	<0.037	ug/L	0.037	1.0
Dalapon	<1.0	ug/L	1.0	1.0
Dinoseb	<0.15	ug/L	0.15	1.0
Pentachlorophenol	<0.038	ug/L	0.038	1.0
Picloram	<0.078	ug/L	0.078	1.0
Dicamba	<0.086	ug/L	0.086	1.0
Silvex (2,4,5-TP)	<0.061	ug/L	0.061	1.0
Surrogate			Acceptance Limits	
2,4-Dichlorophenylacetic acid	92	%	70 - 130	

Ms. Janine Rader  
EnviroTest Laboratories Inc  
315 Fullerton Avenue  
Newburgh, NY 12550

Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 2  
**Lab Sample ID:** 680-50880-3

Date Sampled: 09/17/2009 1015  
Date Received: 09/18/2009 0939  
Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	RL	Dilution
<b>Method:</b> 300.1B			Date Analyzed: 09/29/2009 2313	
Chlorite	<20	ug/L	20	1.0
Surrogate			Acceptance Limits	
Dichloroacetic acid	108	%	90 - 115	



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 Newburgh, NY 12550

Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 3  
**Lab Sample ID:** 680-50880-4

Date Sampled: 09/17/2009 0945  
 Date Received: 09/18/2009 0939  
 Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	MDL	Dilution
<b>Method: 525.2</b>		Date Analyzed:	09/26/2009 2218	
<b>Prep Method: 525.2</b>		Date Prepared:	09/25/2009 0810	
Alachlor	<0.033	ug/L	0.033	1.0
Atrazine	<0.022	ug/L	0.022	1.0
Benzo[a]pyrene	<0.029	ug/L	0.029	1.0
Bis(2-ethylhexyl) phthalate	<0.61	ug/L	0.61	1.0
Di(2-ethylhexyl)adipate	<0.61	ug/L	0.61	1.0
Hexachlorobenzene	<0.041	ug/L	0.041	1.0
Hexachlorocyclopentadiene	<0.042	ug/L	0.042	1.0
Butachlor	<0.032	ug/L	0.032	1.0
Simazine	<0.035	ug/L	0.035	1.0
Metolachlor	<0.020	ug/L	0.020	1.0
Metribuzin	<0.022	ug/L	0.022	1.0
Propachlor	<0.025	ug/L	0.025	1.0
Surrogate			Acceptance Limits	
Perylene-d12	93	%	70 - 130	
<b>Method: 300.1B</b>		Date Analyzed:	09/30/2009 1056	
Bromate	<2.6	ug/L	2.6	1.0
Surrogate			Acceptance Limits	
Dichloroacetic acid	103	%	90 - 115	
<b>Method: 531.1</b>		Date Analyzed:	09/29/2009 1357	
3-Hydroxycarbofuran	<0.31	ug/L	0.31	1.0
Oxamyl	<0.35	ug/L	0.35	1.0
Carbofuran	<0.43	ug/L	0.43	1.0
Aldicarb	<0.41	ug/L	0.41	1.0
Aldicarb sulfone	<0.25	ug/L	0.25	1.0
Aldicarb sulfoxide	<0.25	ug/L	0.25	1.0
Carbaryl	<0.31	ug/L	0.31	1.0
Methomyl	<0.49	ug/L	0.49	1.0
<b>Method: 504.1</b>		Date Analyzed:	09/21/2009 2019	
<b>Prep Method: 504.1</b>		Date Prepared:	09/21/2009 1351	
1,2-Dibromo-3-Chloropropane	<0.0031	ug/L	0.0031	1.0
Ethylene Dibromide	<0.0074	ug/L	0.0074	1.0
Surrogate			Acceptance Limits	
1,2,3-Trichloropropane-(Surr)	88	%	70 - 130	
<b>Method: 508</b>		Date Analyzed:	09/24/2009 2220	
<b>Prep Method: 508</b>		Date Prepared:	09/22/2009 0955	

Ms. Janine Rader  
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Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 3  
**Lab Sample ID:** 680-50880-4

Date Sampled: 09/17/2009 0945  
 Date Received: 09/18/2009 0939  
 Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	MDL	Dilution
Aldrin	<0.0014	ug/L	0.0014	1.0
Chlordane (technical)	<0.12	ug/L	0.12	1.0
Endrin	<0.0021	ug/L	0.0021	1.0
gamma-BHC (Lindane)	<0.0023	ug/L	0.0023	1.0
Heptachlor	<0.0061	ug/L	0.0061	1.0
Heptachlor epoxide	<0.0016	ug/L	0.0016	1.0
Methoxychlor	<0.0075	ug/L	0.0075	1.0
Dieldrin	<0.0015	ug/L	0.0015	1.0
PCB-1016	<0.065	ug/L	0.065	1.0
PCB-1221	<0.049	ug/L	0.049	1.0
PCB-1232	<0.094	ug/L	0.094	1.0
PCB-1242	<0.13	ug/L	0.13	1.0
PCB-1248	<0.047	ug/L	0.047	1.0
PCB-1254	<0.049	ug/L	0.049	1.0
PCB-1260	<0.048	ug/L	0.048	1.0
Toxaphene	<0.056	ug/L	0.056	1.0
Polychlorinated biphenyls, Total	<0.043	ug/L	0.043	1.0
Surrogate			Acceptance Limits	
DCB Decachlorobiphenyl	89	%	70 - 130	
Tetrachloro-m-xylene	93	%	70 - 130	
<b>Method: 515.1</b>			Date Analyzed: 09/29/2009 1929	
<b>Prep Method: 515.1</b>			Date Prepared: 09/28/2009 0858	
2,4-D	<0.036	ug/L	0.036	1.0
Dalapon	<0.98	ug/L	0.98	1.0
Dinoseb	<0.15	ug/L	0.15	1.0
Pentachlorophenol	<0.037	ug/L	0.037	1.0
Picloram	<0.075	ug/L	0.075	1.0
Dicamba	<0.083	ug/L	0.083	1.0
Silvex (2,4,5-TP)	<0.059	ug/L	0.059	1.0
Surrogate			Acceptance Limits	
2,4-Dichlorophenylacetic acid	130	%	70 - 130	

Ms. Janine Rader  
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Newburgh, NY 12550

Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 3  
**Lab Sample ID:** 680-50880-4

Date Sampled: 09/17/2009 0945  
Date Received: 09/18/2009 0939  
Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	RL	Dilution
<b>Method:</b> 300.1B			Date Analyzed: 09/30/2009 0044	
Chlorite	<20	ug/L	20	1.0
Surrogate			Acceptance Limits	
Dichloroacetic acid	105	%	90 - 115	

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Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 4  
**Lab Sample ID:** 680-50880-5

Date Sampled: 09/17/2009 1130  
 Date Received: 09/18/2009 0939  
 Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	MDL	Dilution
<b>Method: 525.2</b>		Date Analyzed:	09/26/2009 2240	
<b>Prep Method: 525.2</b>		Date Prepared:	09/25/2009 0810	
Alachlor	<0.033	ug/L	0.033	1.0
Atrazine	<0.022	ug/L	0.022	1.0
Benzo[a]pyrene	<0.029	ug/L	0.029	1.0
Bis(2-ethylhexyl) phthalate	<0.61	ug/L	0.61	1.0
Di(2-ethylhexyl)adipate	<0.61	ug/L	0.61	1.0
Hexachlorobenzene	<0.041	ug/L	0.041	1.0
Hexachlorocyclopentadiene	<0.042	ug/L	0.042	1.0
Butachlor	<0.032	ug/L	0.032	1.0
Simazine	<0.035	ug/L	0.035	1.0
Metolachlor	<0.020	ug/L	0.020	1.0
Metribuzin	<0.022	ug/L	0.022	1.0
Propachlor	<0.025	ug/L	0.025	1.0
Surrogate			Acceptance Limits	
Perylene-d12	101	%	70 - 130	
<b>Method: 300.1B</b>		Date Analyzed:	09/30/2009 1125	
Bromate	<2.6	ug/L	2.6	1.0
Surrogate			Acceptance Limits	
Dichloroacetic acid	104	%	90 - 115	
<b>Method: 531.1</b>		Date Analyzed:	09/29/2009 1555	
3-Hydroxycarbofuran	<0.31	ug/L	0.31	1.0
Oxamyl	<0.35	ug/L	0.35	1.0
Carbofuran	<0.43	ug/L	0.43	1.0
Aldicarb	<0.41	ug/L	0.41	1.0
Aldicarb sulfone	<0.25	ug/L	0.25	1.0
Aldicarb sulfoxide	<0.25	ug/L	0.25	1.0
Carbaryl	<0.31	ug/L	0.31	1.0
Methomyl	<0.49	ug/L	0.49	1.0
<b>Method: 504.1</b>		Date Analyzed:	09/21/2009 2029	
<b>Prep Method: 504.1</b>		Date Prepared:	09/21/2009 1351	
1,2-Dibromo-3-Chloropropane	<0.0030	ug/L	0.0030	1.0
Ethylene Dibromide	<0.0073	ug/L	0.0073	1.0
Surrogate			Acceptance Limits	
1,2,3-Trichloropropane-(Surr)	95	%	70 - 130	
<b>Method: 508</b>		Date Analyzed:	09/24/2009 2243	
<b>Prep Method: 508</b>		Date Prepared:	09/22/2009 0955	

Ms. Janine Rader  
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Job Number: 680-50880-1

**Client Sample ID: Raleigh Hotel Well 4**  
**Lab Sample ID: 680-50880-5**

Date Sampled: 09/17/2009 1130  
 Date Received: 09/18/2009 0939  
 Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	MDL	Dilution
Aldrin	<0.0014	ug/L	0.0014	1.0
Chlordane (technical)	<0.11	ug/L	0.11	1.0
Endrin	<0.0021	ug/L	0.0021	1.0
gamma-BHC (Lindane)	<0.0023	ug/L	0.0023	1.0
Heptachlor	<0.0059	ug/L	0.0059	1.0
Heptachlor epoxide	<0.0016	ug/L	0.0016	1.0
Methoxychlor	<0.0074	ug/L	0.0074	1.0
Dieldrin	<0.0015	ug/L	0.0015	1.0
PCB-1016	<0.064	ug/L	0.064	1.0
PCB-1221	<0.048	ug/L	0.048	1.0
PCB-1232	<0.092	ug/L	0.092	1.0
PCB-1242	<0.13	ug/L	0.13	1.0
PCB-1248	<0.046	ug/L	0.046	1.0
PCB-1254	<0.048	ug/L	0.048	1.0
PCB-1260	<0.047	ug/L	0.047	1.0
Toxaphene	<0.055	ug/L	0.055	1.0
Polychlorinated biphenyls, Total	<0.042	ug/L	0.042	1.0
Surrogate			Acceptance Limits	
DCB Decachlorobiphenyl	81	%	70 - 130	
Tetrachloro-m-xylene	80	%	70 - 130	
<b>Method: 515.1</b>			Date Analyzed: 09/29/2009 1947	
<b>Prep Method: 515.1</b>			Date Prepared: 09/28/2009 0858	
2,4-D	<0.036	ug/L	0.036	1.0
Dalapon	<0.96	ug/L	0.96	1.0
Dinoseb	<0.14	ug/L	0.14	1.0
Pentachlorophenol	<0.037	ug/L	0.037	1.0
Picloram	<0.074	ug/L	0.074	1.0
Dicamba	<0.082	ug/L	0.082	1.0
Silvex (2,4,5-TP)	<0.058	ug/L	0.058	1.0
Surrogate			Acceptance Limits	
2,4-Dichlorophenylacetic acid	98	%	70 - 130	

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Newburgh, NY 12550

Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 4  
**Lab Sample ID:** 680-50880-5

Date Sampled: 09/17/2009 1130  
Date Received: 09/18/2009 0939  
Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	RL	Dilution
<b>Method:</b> 300.1B			Date Analyzed: 09/30/2009 0115	
Chlorite	<20	ug/L	20	1.0
Surrogate			Acceptance Limits	
Dichloroacetic acid	100	%	90 - 115	

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 Newburgh, NY 12550

Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 4A  
**Lab Sample ID:** 680-50880-6

Date Sampled: 09/17/2009 1100  
 Date Received: 09/18/2009 0939  
 Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	MDL	Dilution
<b>Method: 525.2</b>		Date Analyzed:	09/26/2009 2301	
<b>Prep Method: 525.2</b>		Date Prepared:	09/25/2009 0810	
Alachlor	<0.033	ug/L	0.033	1.0
Atrazine	<0.022	ug/L	0.022	1.0
Benzo[a]pyrene	<0.029	ug/L	0.029	1.0
Bis(2-ethylhexyl) phthalate	<0.61	ug/L	0.61	1.0
Di(2-ethylhexyl)adipate	<0.61	ug/L	0.61	1.0
Hexachlorobenzene	<0.041	ug/L	0.041	1.0
Hexachlorocyclopentadiene	<0.042	ug/L	0.042	1.0
Butachlor	<0.032	ug/L	0.032	1.0
Simazine	<0.035	ug/L	0.035	1.0
Metolachlor	<0.020	ug/L	0.020	1.0
Metribuzin	<0.022	ug/L	0.022	1.0
Propachlor	<0.025	ug/L	0.025	1.0
Surrogate			Acceptance Limits	
Perylene-d12	90	%	70 - 130	
<b>Method: 300.1B</b>		Date Analyzed:	09/30/2009 1155	
Bromate	<2.6	ug/L	2.6	1.0
Surrogate			Acceptance Limits	
Dichloroacetic acid	102	%	90 - 115	
<b>Method: 531.1</b>		Date Analyzed:	09/29/2009 1634	
3-Hydroxycarbofuran	<0.31	ug/L	0.31	1.0
Oxamyl	<0.35	ug/L	0.35	1.0
Carbofuran	<0.43	ug/L	0.43	1.0
Aldicarb	<0.41	ug/L	0.41	1.0
Aldicarb sulfone	<0.25	ug/L	0.25	1.0
Aldicarb sulfoxide	<0.25	ug/L	0.25	1.0
Carbaryl	<0.31	ug/L	0.31	1.0
Methomyl	<0.49	ug/L	0.49	1.0
<b>Method: 504.1</b>		Date Analyzed:	09/21/2009 2039	
<b>Prep Method: 504.1</b>		Date Prepared:	09/21/2009 1351	
1,2-Dibromo-3-Chloropropane	<0.0030	ug/L	0.0030	1.0
Ethylene Dibromide	<0.0072	ug/L	0.0072	1.0
Surrogate			Acceptance Limits	
1,2,3-Trichloropropane-(Surr)	91	%	70 - 130	
<b>Method: 508</b>		Date Analyzed:	09/24/2009 2307	
<b>Prep Method: 508</b>		Date Prepared:	09/22/2009 0955	

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Job Number: 680-50880-1

**Client Sample ID: Raleigh Hotel Well 4A**  
**Lab Sample ID: 680-50880-6**

Date Sampled: 09/17/2009 1100  
 Date Received: 09/18/2009 0939  
 Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	MDL	Dilution
Aldrin	<0.0014	ug/L	0.0014	1.0
Chlordane (technical)	<0.11	ug/L	0.11	1.0
Endrin	<0.0021	ug/L	0.0021	1.0
gamma-BHC (Lindane)	<0.0023	ug/L	0.0023	1.0
Heptachlor	<0.0059	ug/L	0.0059	1.0
Heptachlor epoxide	<0.0016	ug/L	0.0016	1.0
Methoxychlor	<0.0074	ug/L	0.0074	1.0
Dieldrin	<0.0015	ug/L	0.0015	1.0
PCB-1016	<0.064	ug/L	0.064	1.0
PCB-1221	<0.048	ug/L	0.048	1.0
PCB-1232	<0.092	ug/L	0.092	1.0
PCB-1242	<0.13	ug/L	0.13	1.0
PCB-1248	<0.046	ug/L	0.046	1.0
PCB-1254	<0.048	ug/L	0.048	1.0
PCB-1260	<0.047	ug/L	0.047	1.0
Toxaphene	<0.055	ug/L	0.055	1.0
Polychlorinated biphenyls, Total	<0.042	ug/L	0.042	1.0
Surrogate			Acceptance Limits	
DCB Decachlorobiphenyl	92	%	70 - 130	
Tetrachloro-m-xylene	73	%	70 - 130	
<b>Method: 515.1</b>			Date Analyzed: 09/29/2009 2006	
<b>Prep Method: 515.1</b>			Date Prepared: 09/28/2009 0858	
2,4-D	<0.036	ug/L	0.036	1.0
Dalapon	<0.96	ug/L	0.96	1.0
Dinoseb	<0.14	ug/L	0.14	1.0
Pentachlorophenol	<0.037	ug/L	0.037	1.0
Picloram	<0.074	ug/L	0.074	1.0
Dicamba	<0.082	ug/L	0.082	1.0
Silvex (2,4,5-TP)	<0.058	ug/L	0.058	1.0
Surrogate			Acceptance Limits	
2,4-Dichlorophenylacetic acid	164	X %	70 - 130	



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Job Number: 680-50880-1

**Client Sample ID:** Raleigh Hotel Well 4A  
**Lab Sample ID:** 680-50880-6

Date Sampled: 09/17/2009 1100  
Date Received: 09/18/2009 0939  
Client Matrix: Drinking Water

Analyte	Result/Qualifier	Unit	RL	Dilution
<b>Method:</b> 300.1B			Date Analyzed: 10/01/2009 1324	
Chlorite	<20	ug/L	20	1.0
Surrogate			Acceptance Limits	
Dichloroacetic acid	105	%	90 - 115	

## DATA REPORTING QUALIFIERS

Client: EnviroTest Laboratories Inc

Job Number: 680-50880-1

<b>Lab Section</b>	<b>Qualifier</b>	<b>Description</b>
GC Semi VOA	E	Result exceeded calibration range.
	X	Surrogate exceeds the control limits

EnviroTest Laboratories, Inc.  
 315 Fullerton Avenue  
 Newburgh, NY 12550  
 Phone (845) 562-0890 Fax (845) 562-0841

Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b> Client Contact: <b>Lab P.M. / Refl. Debra R</b> Shipping/Receiving: <b>E-Mail: / dbayer@envirotestlaboratories.com</b> Company:		Carrier Tracking Note: COC No: 420-4126-1 Page: Page 1 of 1 STL Job #: 420-30027-1	
Due Date Requested: 9/29/2009 TAT Requested (days): PO #: MO #: Project #: 42001187 SOW#:		<b>Analysis Requested</b> SUBCONTRACT/ 508 Chlorinated Pesticides in Water SUBCONTRACT/ 515 Chlorinated Acids SUBCONTRACT/ 504 EPA 504.1 EDB/BCP SUBCONTRACT/ 531.1 Carbamate Pesticides in DW SUBCONTRACT/ 525.2 Semivolatile Organics SUBCONTRACT/ Chlorite to Sav SUBCONTRACT/ Bromate to Sav TOTAL Number of Containers:	
Address: 5102 LaRoche Ave., City: Savannah State, Zip: GA, 31404 Phone: Email:		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 L - EDTA Other:	
Sample Identification Client ID (Lab ID) Raleigh Hotel Well 1 (420-30027-1) Raleigh Hotel Well 2 (420-30027-2) Raleigh Hotel Well 3 (420-30027-3) Raleigh Hotel Well 4 (420-30027-4) Raleigh Hotel Well 4A (420-30027-5)		Special Instructions/Note: Matrix (Water, Sewage, Stormwater, Other) Sample Type (C=Comp, G=grab) Sample Time Sample Date Sample Date Requested: 9/17/09 10:30 9/17/09 10:15 9/17/09 9:45 9/17/09 11:30 9/17/09 11:00	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: <i>[Signature]</i> Date/Time: 9/17/09 4:00 Company: ENV		Received by:	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Custody Seal Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 68-50880 4.9 15.9 15.1 16.0	

# Login Sample Receipt Check List

Client: EnviroTest Laboratories Inc

Job Number: 680-50880-1

**Login Number: 50880**  
**Creator: Conner, Keaton**  
**List Number: 1**

**List Source: TestAmerica Savannah**

<b>Question</b>	<b>T / F / NA</b>	<b>Comment</b>
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	False	
Sample Preservation Verified	True	



TestAmerica Laboratories, Inc.

## **ANALYTICAL REPORT**

**Radiological Testing**

**Lot #: F9I180226**

**Debra Rohl**

**EnviroTest Laboratories Inc  
315 Fullerton Avenue  
Newburgh, NY 12550**

**TESTAMERICA LABORATORIES, INC.**

  
for **Kay Clay**  
Project Manager

**October 7, 2009**

**Case Narrative**  
**LOT NUMBER: F9I180226**

This report contains the analytical results for the five samples received under chain of custody by TestAmerica St. Louis on September 18, 2009. These samples are associated with your Radiological Testing project.

The analytical results included in this report meet all applicable quality control procedure requirements, except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. **TestAmerica St. Louis' Florida certification number is E87689.** The case narrative is an integral part of this report.

This report shall not be reproduced, except in full, without the written approval of the laboratory.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

**Observations/Nonconformances**

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

**Gross Alpha and Beta Method EPA 900.0 MOD**

The Gross Alpha sample duplicate results were (188.61%) % RPD > 40% and RER > 1.0 (6.693E+000). Samples were sent back for re-extraction. This excursion is due to a matrix spike duplicate that was not spiked. The matrix spike was spiked resulting in poor duplication. The re-extracted results are within the required RPD/RER requirements. The results will be reported.

**Affected Samples:**

- F9I180226 (1): RALEIGH HOTEL WELL 1 (420-30027-1)
- F9I180226 (2): RALEIGH HOTEL WELL 2 (420-30027-2)
- F9I180226 (3): RALEIGH HOTEL WELL 3 (420-30027-3)
- F9I180226 (4): RALEIGH HOTEL WELL 4 (420-30027-4)
- F9I180226 (5): RALEIGH HOTEL WELL 4A (420-30027-5)

**METHODS SUMMARY**

F9I180226

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Gross Alpha/Beta EPA 900	EPA 900.0 MOD	EPA 900.0
Radium-226 by GFPC	EPA 903.0 MOD	
Radium-228 by GFPC	EPA 904 MOD	
Total Uranium By Laser Ph osphorimetry	ASTM 5174-91	

**References:**

ASTM      Annual Book Of ASTM Standards.

EPA      "EASTERN ENVIRONMENTAL RADIATION FACILITY RADIOCHEMISTRY  
PROCEDURES MANUAL" US EPA    EPA 520/5-84-006 AUGUST 1984

**SAMPLE SUMMARY****F9I180226**

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LK32L	001	RALEIGH HOTEL WELL 1 (420-30027-1)	09/17/09	10:30
LK321	002	RALEIGH HOTEL WELL 2 (420-30027-2)	09/17/09	10:15
LK323	003	RALEIGH HOTEL WELL 3 (420-30027-3)	09/17/09	09:45
LK326	004	RALEIGH HOTEL WELL 4 (420-30027-4)	09/17/09	11:30
LK328	005	RALEIGH HOTEL WELL 4A (420-30027-5)	09/17/09	11:00

**NOTE (S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



## EnviroTest Laboratories Inc

Client Sample ID: RALEIGH HOTEL WELL 1 (420-30027-1)

### Radiochemistry

Lab Sample ID: F9I180226-001      Date Collected: 09/17/09 1030  
 Work Order: LK32L      Date Received: 09/18/09 0800  
 Matrix: WATER

Parameter	Result	Qual	Count Uncert.	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD								
Radium (226)	0.59	J		0.18	1.00	0.14	09/18/09	10/05/09
Batch # 9261464 Yld % 106								
Radium 228 by GFPC EPA 904 MOD								
Radium 228	0.28	U		0.23	1.00	0.37	09/18/09	10/05/09
Batch # 9261465 Yld % 102								
Total Uranium by KPA ASTM 5174-91								
Total Uranium	3.88			0.40	1.00	0.31	09/29/09	10/03/09
Batch # 9272109 Yld %								
Gross Alpha/Beta EPA 900								
Gross Alpha	5.3			1.6	3.0	1.3	09/25/09	09/29/09
Gross Beta	4.6			1.4	4.0	1.8	09/25/09	09/29/09
Batch # 9268444 Yld %								

#### NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

## EnviroTest Laboratories Inc

Client Sample ID: RALEIGH HOTEL WELL 2 (420-30027-2)

## Radiochemistry

Lab Sample ID: F9I180226-002  
 Work Order: LK321  
 Matrix: WATER

Date Collected: 09/17/09 1015  
 Date Received: 09/18/09 0800

Parameter	Result	Qual	Count Uncert.	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD					pCi/L	Batch # 9261464	Yld % 102	
Radium (226)	0.25	J		0.14	1.00	0.17	09/18/09	10/05/09
Radium 228 by GFPC EPA 904 MOD					pCi/L	Batch # 9261465	Yld % 99	
Radium 228	0.43	J		0.24	1.00	0.34	09/18/09	10/05/09
Total Uranium by KPA ASTM 5174-91					ug/L	Batch # 9272109	Yld %	
Total Uranium	5.09			0.53	1.00	0.31	09/29/09	10/03/09
Gross Alpha/Beta EPA 900					pCi/L	Batch # 9268444	Yld %	
Gross Alpha	5.5			1.7	3.0	1.7	09/25/09	09/29/09
Gross Beta	4.6			1.4	4.0	1.9	09/25/09	09/29/09

## NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

## EnviroTest Laboratories Inc

Client Sample ID: RALEIGH HOTEL WELL 3 (420-30027-3)

### Radiochemistry

Lab Sample ID: F9I180226-003  
 Work Order: LK323  
 Matrix: WATER

Date Collected: 09/17/09 0945  
 Date Received: 09/18/09 0800

Parameter	Result	Qual	Count Uncert.	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Analysis Date
<b>Radium 226 by EPA 903.0 MOD</b>							<b>Batch # 9261464</b>	<b>Yld % 103</b>
Radium (226)	0.10	U		0.14	1.00	0.23	09/18/09	10/05/09
<b>Radium 228 by GFPC EPA 904 MOD</b>							<b>Batch # 9261465</b>	<b>Yld % 97</b>
Radium 228	0.03	U		0.20	1.00	0.35	09/18/09	10/05/09
<b>Total Uranium by KPA ASTM 5174-91</b>							<b>Batch # 9272109</b>	<b>Yld %</b>
Total Uranium	5.72			0.60	1.00	0.31	09/29/09	10/03/09
<b>Gross Alpha/Beta EPA 900</b>							<b>Batch # 9268444</b>	<b>Yld %</b>
Gross Alpha	5.1			1.5	3.0	1.1	09/25/09	09/29/09
Gross Beta	2.0	J		1.1	4.0	1.7	09/25/09	09/29/09

#### NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

## EnviroTest Laboratories Inc

Client Sample ID: RALEIGH HOTEL WELL 4 (420-30027-4)

## Radiochemistry

Lab Sample ID: F9I180226-004  
 Work Order: LK326  
 Matrix: WATER

Date Collected: 09/17/09 1130  
 Date Received: 09/18/09 0800

Parameter	Result	Qual	Count Uncert.	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Analysis Date
<b>Radium 226 by EPA 903.0 MOD</b>								
Radium (226)	0.15	U		0.13	1.00	0.18	09/18/09	10/05/09
<b>Radium 228 by GFPC EPA 904 MOD</b>								
Radium 228	-0.07	U		0.19	1.00	0.35	09/18/09	10/05/09
<b>Total Uranium by KPA ASTM 5174-91</b>								
Total Uranium	3.65			0.39	1.00	0.31	09/29/09	10/03/09
<b>Gross Alpha/Beta EPA 900</b>								
Gross Alpha	2.7	J		1.2	3.0	1.3	09/25/09	09/29/09
Gross Beta	3.4	J		1.3	4.0	1.9	09/25/09	09/29/09

## NOTE (S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

## EnviroTest Laboratories Inc

Client Sample ID: RALEIGH HOTEL WELL 4A (420-30027-5)

## Radiochemistry

Lab Sample ID: F9I180226-005  
 Work Order: LK328  
 Matrix: WATER

Date Collected: 09/17/09 1100  
 Date Received: 09/18/09 0800

Parameter	Result	Qual	Count Uncert.	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Analysis Date
Radium 226 by EPA 903.0 MOD					pCi/L		Batch # 9261464	Yld % 101
Radium (226)	0.39	J		0.21	1.00	0.27	09/18/09	10/05/09
Radium 228 by GFPC EPA 904 MOD					pCi/L		Batch # 9261465	Yld % 96
Radium 228	0.15	U		0.30	1.00	0.50	09/18/09	10/05/09
Total Uranium by KPA ASTM 5174-91					ug/L		Batch # 9272109	Yld %
Total Uranium	2.46			0.31	2.00	0.62	09/29/09	10/03/09
Gross Alpha/Beta EPA 900					pCi/L		Batch # 9268444	Yld %
Gross Alpha	1.6	J		1.0	3.0	1.4	09/25/09	09/29/09
Gross Beta	2.5	J		1.1	4.0	1.6	09/25/09	09/29/09

## NOTE (S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

## EnviroTest Laboratories Inc

Client Sample ID: 2-WS

## Radiochemistry

Lab Sample ID: F9I180249-005  
 Work Order: LK38J  
 Matrix: WATER

Date Collected: 09/17/09 1200  
 Date Received: 09/18/09 0800

Parameter	Result	Qual	Count Uncert.	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Analysis Date
Gross Alpha/Beta	EPA 900				pCi/L		Batch # 9268444	Yld %
Gross Alpha	0.9	U	1.2	1.2	3.0	2.1	09/25/09	09/29/09
Gross Beta	9.2		1.4	1.6	4.0	1.7	09/25/09	09/29/09

**NOTE(S)**

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

# EnviroTest Laboratories Inc

## Client Sample ID: 2-WS DUP

### Radiochemistry

Lab Sample ID: F9I180249-005X  
 Work Order: LK38J  
 Matrix: WATER

Date Collected: 09/17/09 1200  
 Date Received: 09/18/09 0800

Parameter	Result	Qual	Count Uncert.	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Analysis Date
<b>Gross Alpha/Beta</b>	<b>EPA 900</b>							
					pCi/L	Batch # 9268444	Yld %	
Gross Alpha	0.8	U	1.8	1.8	3.0	3.2	09/25/09	09/29/09
Gross Beta	8.2		1.5	1.6	4.0	1.8	09/25/09	09/29/09

#### NOTE (S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

## METHOD BLANK REPORT

## Radiochemistry

Client Lot ID: F9I180226  
 Matrix: WATER

Parameter	Result	Qual	Count Uncert.	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Lab Sample ID Analysis Date	
Radium 226 by EPA 903.0 MOD				pCi/L	Batch #	9261464	Yld %	106	F9I180000-464B
Radium (226)	0.046	U		0.090	1.00	0.16	09/18/09	10/05/09	
Radium 228 by GFPC EPA 904 MOD				pCi/L	Batch #	9261465	Yld %	97	F9I180000-465B
Radium 228	0.14	U		0.23	1.00	0.39	09/18/09	10/05/09	
Gross Alpha/Beta EPA 900				pCi/L	Batch #	9268444	Yld %		F9I250000-444B
Gross Alpha	0.25	U	0.42	0.42	2.00	0.72	09/25/09	09/29/09	
Gross Beta	0.25	U	0.97	0.98	4.00	1.6	09/25/09	09/29/09	
Total Uranium by KPA ASTM 5174-91				mg/L	Batch #	9272109	Yld %		F9I290000-109B
Total Uranium	0.000279	U		0.000037	0.00100	0.00031	09/29/09	10/03/09	

## NOTE(S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only  
 Bold results are greater than the MDC

U Result is less than the sample detection limit.



## Laboratory Control Sample Report

## Radiochemistry

Client Lot ID: F9I180226  
 Matrix: WATER

Parameter	Spike Amount	Result	Count Uncert. (2 $\sigma$ +/-)	Total Uncert.	MDC	% Yld	% Rec	Lab Sample ID QC Control Limits
<b>Gross Alpha/Beta EPA 900</b>			pCi/L	900.0 MOD				<b>F9I250000-444C</b>
Gross Alpha	49.4	45.7	3.6	5.1	1.1		92	(80 - 140)
	Batch #:	9268444			Analysis Date:	09/29/09		
<b>Gross Alpha/Beta EPA 900</b>			pCi/L	900.0 MOD				<b>F9I250000-444C</b>
Gross Beta	68.7	62.9	2.8	5.4	1.6		92	(77 - 123)
	Batch #:	9268444			Analysis Date:	09/29/09		
<b>Total Uranium by KPA ASTM 5174-91</b>			mg/L	5174-91				<b>F9I290000-109C</b>
Total Uranium	0.0400	0.0426		0.0052	0.0003		106	(90 - 118)
	Batch #:	9272109			Analysis Date:	10/03/09		
<b>Total Uranium by KPA ASTM 5174-91</b>			mg/L	5174-91				<b>F9I290000-109C</b>
Total Uranium	0.00800	0.00883		0.00092	0.00031		110	(90 - 118)
	Batch #:	9272109			Analysis Date:	10/03/09		

## NOTE(S)

MDC is determined by instrument performance only  
 Calculations are performed before rounding to avoid round-off error in calculated results

MATRIX SPIKE/MATRIX SPIKE DUPLICATE REPORT

Radiochemistry

Client Lot ID: F9I170132  
 Matrix: WATER

Date Sampled: 09/14/09 1021  
 Date Received: 09/17/09 0830

Parameter	Spike Amount	SPIKE Result	Total Uncert. (2 σ +/-)	Spike Yld	SAMPLE Result	Total Uncert. (2 σ +/-)	QC Sample ID		QC Control Limits
							% Yld	% Rec	
Total Uranium by KPA ASTM 5			mg/L	5174-91		F9I170132-001			
Total Uranium	0.0400	0.149	0.018		0.108	0.013	101		(57 - 150)
Spk2	0.0400	0.152	0.018		0.108	0.013	108		(57 - 150)
							Precision:	2	%RPD
Batch #:			9272109	Analysis date:		10/03/09			

NOTE (S)

Data are incomplete without the case narrative.

Calculations are performed before rounding to avoid round-off error in calculated results

## MATRIX SPIKE REPORT

## Radiochemistry

Client Lot Id: F9I180249  
 Matrix: WATER

Date Sampled: 09/17/09  
 Date Received: 09/18/09

Parameter	Spike Amount	Spike Result	Total Uncert. (2σ +/-)	Spike Yld.	Sample Result	Total Uncert. (2σ +/-)	QC Sample ID		QC Control Limits
							%YLD	%REC	
Gross Alpha/Beta EPA 900			pCi/L		900.0 MOD				F9I180249-005
Gross Beta	68.7	78.9	6.7		9.2	1.6		101	(71 - 146)
	Batch #:	9268444		Analysis Date:	09/29/09				
Gross Alpha/Beta EPA 900			pCi/L		900.0 MOD				F9I180249-005
Gross Alpha	49.4	37.0	5.8		0.9	1.2		73	(33 - 150)
	Batch #:	9268444		Analysis Date:	09/29/09				

## NOTE(S)

Data are incomplete without the case narrative.

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Laboratory Control Sample/LCS Duplicate Report

## Radiochemistry

Client Lot ID: F9I180226

Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 $\sigma$ +/-)	% Yld	% Rec	Lab Sample ID	
						QC Control Limits	Precision
Radium 226 by EPA	903.0 MOD		pCi/L	903.0 MOD			F9I180000-464C
Radium (226)	11.3	12.0	1.2	106	107	(45 - 150)	
Spk 2	11.3	12.5	1.2	104	111	(45 - 150)	4 %RPD
	Batch #:	9261464		Analysis Date:	10/05/09		
Radium 228 by GFPC EPA	904 MOD		pCi/L	904 MOD			F9I180000-465C
Radium 228	6.73	5.58	0.70	96	83	(64 - 150)	
Spk 2	6.73	6.22	0.75	97	93	(64 - 150)	11 %RPD
	Batch #:	9261465		Analysis Date:	10/05/09		

## NOTE(S)

Calculations are performed before rounding to avoid round-off error in calculated results

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID: F9I180226  
 Matrix: WATER

Date Sampled: 09/17/09  
 Date Received: 09/18/09

Parameter	SAMPLE Result	Total Uncert. (2σ +/-)	% Yld	DUPLICATE Result	Total Uncert. (2σ +/-)	% Yld	QC Sample ID	
							Precision	
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD		F9I180249-005		
Gross Alpha	0.9 U	1.2		0.8 U	1.8		6	%RPD
Gross Beta	9.2	1.6		8.2	1.6		12	%RPD
Batch #:			9268444 (Sample)	9268444 (Duplicate)				

NOTE(S)

Data are incomplete without the case narrative.  
 Calculations are performed before rounding to avoid round-off error in calculated results

U Result is less than the sample detection limit.



EnviroTest Laboratories, Inc.  
 315 Fullerton Avenue  
 Newburgh, NY 12550  
 Phone (845) 562-0880 Fax (845) 562-0841

Chain of Custody Record

EnviroTest Laboratories Inc.

<b>Client Information (Sub Contract Lab)</b> Client Contact: _____ Shipping/Receiving: _____ Company: TestAmerica Analytical Testing Corp. Address: 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045 Phone: _____ Email: _____ Project Name: Tim Miller Associates, Inc. Site: _____		Lab P.M.: _____ Roil, Debra R. E-Mail: dbayer@envirotestlaboratories.com Phone: _____		Carrier Tracking No(s): _____ COC No: 420-4122-1 Page: Page 1 of 1 STL Job #: 420-30027-1	
Due Date Requested: 10/12/09 TAT Requested (days): _____ PO #: _____ WO #: _____ Project #: 42001187 SSOW#: _____		<b>Analysis Requested</b> SUBCONTRACT/ 900 GA/GB/RA 226/RA 228 SUBCONTRACT/ Total Uranium Perform MS/SP (Yes or No) Field Filled Sample (Yes or No)			
Company: TestAmerica Analytical Testing Corp. Address: 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045 Phone: _____ Email: _____ Project Name: Tim Miller Associates, Inc. Site: _____		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SCS R - Na2S2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA L - EDA Other: _____			
<b>Sample Identification Client ID (Lab ID)</b> Raleigh Hotel Well 1 (420-30027-1) Raleigh Hotel Well 2 (420-30027-2) Raleigh Hotel Well 3 (420-30027-3) Raleigh Hotel Well 4 (420-30027-4) Raleigh Hotel Well 4A (420-30027-5)		Matrix (Water, Solid, Other) Sample Type (C=Comp, G=Grab) Sample Time Sample Date Preservation Code Total Number of Containers			
		Special Instructions/Note: xep			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Empty Kit Relinquished by: _____ Relinquished by: _____ Relinquished by: _____ Relinquished by: _____ Custody Seals Intact: _____ Δ Yes Δ No		Special Instructions/QC Requirements: Method of Shipment: Date/Time: 9/17/09 4:00 Date/Time: 9/17/09 4:00 Date/Time: _____ Date/Time: _____ Company: EnviroTest Company: _____ Company: _____ Company: _____ Cooler Temperature(s) °C and Other Remarks:			

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F9I180226  
230  
231

**CONDITION UPON RECEIPT FORM**

Client: Enviro Test

Quote No: 76370

COC/RFA No: see below

Initiated By: bn

Date: 412 7/10/09

Time: 0600

**Shipping Information**

Shipper:  FedEx  UPS  DHL  Courier  Client  Other: \_\_\_\_\_ Multiple Packages:  Y  N

Shipping # (s):\* 7969 5507 5715 Sample Temperature (s):\*\* ambient

1. <u>7969</u>	6. _____	1. <u>ambient</u>	6. _____
2. _____	7. _____	2. <u>L</u>	7. _____
3. _____	8. _____	3. _____	8. _____
4. _____	9. _____	4. _____	9. _____
5. _____	10. _____	5. _____	10. _____

\*Numbered shipping lines correspond to Numbered Sample Temp lines

\*\*Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

**Condition** (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1. <input checked="" type="radio"/> Y <input checked="" type="radio"/> N	Are there custody seals present on the cooler?	8. <input checked="" type="radio"/> Y <input checked="" type="radio"/> N	Are there custody seals present on bottles?
2. <input checked="" type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Do custody seals on cooler appear to be tampered with?	9. <input checked="" type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Do custody seals on bottles appear to be tampered with?
3. <input checked="" type="radio"/> Y <input type="radio"/> N	Were contents of cooler frisked after opening, but before unpacking?	10. <input checked="" type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Was sample received with proper pH <sup>1</sup> ? (If not, make note below)
4. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received with Chain of Custody?	11. <input checked="" type="radio"/> Y <input type="radio"/> N	Sample received in proper containers?
5. <input checked="" type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. <input checked="" type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
6. <input checked="" type="radio"/> Y <input checked="" type="radio"/> N	Was sample received broken?	13. <input checked="" type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Was Internal COC/Workshare received?
7. <input checked="" type="radio"/> Y <input type="radio"/> N	Is sample volume sufficient for analysis?	14. <input checked="" type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> N/A	Was pH taken by original TestAmerica lab?

<sup>1</sup> For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes: 420-4122.1  
4110.1  
4111.1

Corrective Action:

Client Contact Name: \_\_\_\_\_ Informed by: \_\_\_\_\_

Sample(s) processed "as is"

Sample(s) on hold until: \_\_\_\_\_

Project Management Review: [Signature] If released, notify: \_\_\_\_\_

Date: 07-22-09

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.





**Hazen Research, Inc.**

4601 Indiana Street  
Golden, CO 80403 USA  
Tel: (303) 279-4501  
Fax: (303) 278-1528

DATE September 21, 2009  
HRI PROJECT 009-587  
HRI SERIES NO 1285/09  
DATE REC'D. 9/18/2009  
CUST. P.O.# Job# 420-30027-1

EnviroTest Laboratories Inc. - Newburgh  
Debra R. Rohl  
315 Fullerton Avenue  
Newburgh, NY 12550

**REPORT OF ANALYSIS**

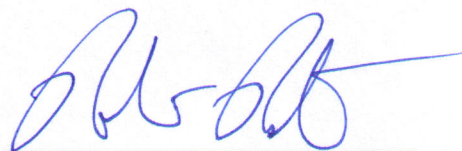
SAMPLE NO. 1285/09-1

SAMPLE IDENTIFICATION: 420-30027-1 - Raleigh Hotel Well 1  
Project #42001187 - Tim Miller Associates, Inc.  
Sampled on 09/17/2009 @ 1030

PARAMETER	RESULT	DETECTION LIMIT	METHOD	ANALYSIS DATE	ANALYST
Radon (+-Precision*), pCi/l (T)	1330(+40)	11	SM 7500-Rn B	9/18/2009 @ 1000	AN

\*Variability of the radioactive decay process (counting error) at the 95% confidence level, 1.96 sigma.  
Certification ID's: CO/EPA CO00008; CT PH-0152; KY 90076; KS E-10265; NH 232809;  
NYELAP 11417; PADEP 68-00551; RI LAO00284; WI 998376610

Results reported herein relate only to discrete samples submitted by the client. Hazen Research, Inc. does not warrant that the results are representative of anything other than the samples that were received in the laboratory.

By:   
Robert Rostad  
Laboratory Manager

CODES: (T) = Total (D) = Dissolved (S) = Suspended (R) = Total Recoverable  
(PD) = Potentially Dissolved < = Less Than



**Hazen Research, Inc.**  
 4601 Indiana Street  
 Golden, CO 80403 USA  
 Tel: (303) 279-4501  
 Fax: (303) 278-1528

DATE September 21, 2009  
 HRI PROJECT 009-587  
 HRI SERIES NO 1285/09  
 DATE REC'D. 9/18/2009  
 CUST. P.O.# Job# 420-30027-1

EnviroTest Laboratories Inc. - Newburgh  
 Debra R. Rohl  
 315 Fullerton Avenue  
 Newburgh, NY 12550

**REPORT OF ANALYSIS**

SAMPLE NO. 1285/09-2

SAMPLE IDENTIFICATION: 420-30027-2 - Raleigh Hotel Well 2  
 Project #42001187 - Tim Miller Associates, Inc.  
 Sampled on 09/17/2009 @ 1015

PARAMETER	RESULT	DETECTION LIMIT	METHOD	ANALYSIS DATE	ANALYST
Radon (+-Precision*), pCi/l (T)	1360(+/-40)	11	SM 7500-Rn B	9/18/2009 @ 1002	AN

\*Variability of the radioactive decay process (counting error) at the 95% confidence level, 1.96 sigma.  
 Certification ID's: CO/EPA CO00008; CT PH-0152; KY 90076; KS E-10265; NH 232809;  
 NYELAP 11417; PADEP 68-00551; RI LAO00284; WI 998376610

Results reported herein relate only to discrete samples submitted by the client. Hazen Research, Inc. does not warrant that the results are representative of anything other than the samples that were received in the laboratory.

By:   
 Robert Rostad  
 Laboratory Manager

CODES: (T) = Total (D) = Dissolved (S) = Suspended (R) = Total Recoverable  
 (PD) = Potentially Dissolved < = Less Than





**Hazen Research, Inc.**

4601 Indiana Street  
Golden, CO 80403 USA  
Tel: (303) 279-4501  
Fax: (303) 278-1528

DATE September 21, 2009  
HRI PROJECT 009-587  
HRI SERIES NO I285/09  
DATE REC'D. 9/18/2009  
CUST. P.O.# Job# 420-30027-1

EnviroTest Laboratories Inc. - Newburgh  
Debra R. Rohl  
315 Fullerton Avenue  
Newburgh, NY 12550

**REPORT OF ANALYSIS**

SAMPLE NO. I285/09-3

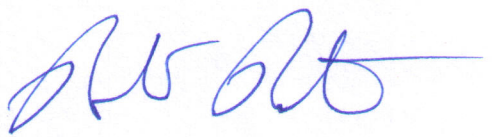
SAMPLE IDENTIFICATION: 420-30027-3 - Raleigh Hotel Well 3  
Project #42001187 - Tim Miller Associates, Inc.  
Sampled on 09/17/2009 @ 0945

PARAMETER	RESULT	DETECTION LIMIT	METHOD	ANALYSIS DATE	ANALYST
Radon (+-Precision*), pCi/l (T)	1960(+50)	11	SM 7500-Rn B	9/18/2009 @ 1004	AN

\*Variability of the radioactive decay process (counting error) at the 95% confidence level, 1.96 sigma.  
Certification ID's: CO/EPA CO00008; CT PH-0152; KY 90076; KS E-10265; NH 232809;  
NYELAP 11417; PADEP 68-00551; RI LAO00284; WI 998376610

Results reported herein relate only to discrete samples submitted by the client. Hazen Research, Inc. does not warrant that the results are representative of anything other than the samples that were received in the laboratory.

CODES: (T) = Total (D) = Dissolved (S) = Suspended (R) = Total Recoverable  
(PD) = Potentially Dissolved < = Less Than

By:   
Robert Rostad  
Laboratory Manager



**Hazen Research, Inc.**  
 4601 Indiana Street  
 Golden, CO 80403 USA  
 Tel: (303) 279-4501  
 Fax: (303) 278-1528

DATE September 21, 2009  
 HRI PROJECT 009-587  
 HRI SERIES NO 1285/09  
 DATE REC'D. 9/18/2009  
 CUST. P.O.# Job# 420-30027-1

EnviroTest Laboratories Inc. - Newburgh  
 Debra R. Rohl  
 315 Fullerton Avenue  
 Newburgh, NY 12550

**REPORT OF ANALYSIS**

SAMPLE NO. 1285/09-4

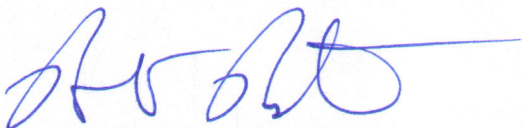
SAMPLE IDENTIFICATION: 420-30027-4 - Raleigh Hotel Well 4  
 Project #42001187 - Tim Miller Associates, Inc.  
 Sampled on 09/17/2009 @ 1130

PARAMETER	RESULT	DETECTION LIMIT	METHOD	ANALYSIS DATE	ANALYST
Radon (+-Precision*), pCi/l (T)	830(+/-30)	12	SM 7500-Rn B	9/18/2009 @ 1006	AN

\*Variability of the radioactive decay process (counting error) at the 95% confidence level, 1.96 sigma.  
 Certification ID's: CO/EPA CO00008; CT PH-0152; KY 90076; KS E-10265; NH 232809;  
 NYELAP 11417; PADEP 68-00551; RI LAO00284; WI 998376610

Results reported herein relate only to discrete samples submitted by the client. Hazen Research, Inc. does not warrant that the results are representative of anything other than the samples that were received in the laboratory.

CODES: (T) = Total (D) = Dissolved (S) = Suspended (R) = Total Recoverable  
 (PD) = Potentially Dissolved < = Less Than

By:   
 Robert Rostad  
 Laboratory Manager





**Hazen Research, Inc.**

4601 Indiana Street  
Golden, CO 80403 USA  
Tel: (303) 279-4501  
Fax: (303) 278-1528

DATE September 21, 2009  
HRI PROJECT 009-587  
HRI SERIES NO 1285/09  
DATE REC'D. 9/18/2009  
CUST. P.O.# Job# 420-30027-1

EnviroTest Laboratories Inc. - Newburgh  
Debra R. Rohl  
315 Fullerton Avenue  
Newburgh, NY 12550

**REPORT OF ANALYSIS**

SAMPLE NO. 1285/09-5

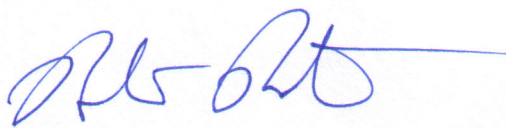
SAMPLE IDENTIFICATION: 420-30027-5 - Raleigh Hotel Well 4A  
Project #42001187 - Tim Miller Associates, Inc.  
Sampled on 09/17/2009 @ 1100

PARAMETER	RESULT	DETECTION LIMIT	METHOD	ANALYSIS DATE	ANALYST
Radon (+-Precision*), pCi/l (T)	1650(+/-40)	12	SM 7500-Rn B	9/18/2009 @ 1008	AN

\*Variability of the radioactive decay process (counting error) at the 95% confidence level, 1.96 sigma.  
Certification ID's: CO/EPA CO00008; CT PH-0152; KY 90076; KS E-10265; NH 232809;  
NYELAP 11417; PADEP 68-00551; RI LAO00284; WI 998376610

Results reported herein relate only to discrete samples submitted by the client. Hazen Research, Inc. does not warrant that the results are representative of anything other than the samples that were received in the laboratory.

CODES: (T) = Total (D) = Dissolved (S) = Suspended (R) = Total Recoverable  
(PD) = Potentially Dissolved < = Less Than

By:   
Robert Rostad  
Laboratory Manager



REPORT: MICROSCOPIC PARTICULATE ANALYSIS

ENVIRONMENTAL ASSOCIATES LTD.
24 Oak Brook Drive, Ithaca, NY 14850
(607) 272-8902 Fax (607) 256-7092



Filter ID: 35635 Client: EnviroTest Laboratories Inc.

Station/Body of water: Raleigh Hotel Well #1 (420-30027-1)

RECEIPT OF FILTER:

Date Received: 9/18/2009 # of filters: NA Type: cubitainer Carrier: Fed Ex Priority

COLLECTION:

Collector: N/A Date collected: 9/17/2009
Temperature: 60 F Turbidity: -----
Water Type: well

FILTER PROCESSING

Color of water around filter: NA Total volume of sediment: 0.05 ml
Filter color: NA Volume of sediment/100 gallons: 1.9 ml/100gal.
Color of sediment: tan IFA equivalent liter volume examined: -----
# gallons filtered: 2.642 Phase equivalent gallon volume examined: 2.642

ANALYSIS OF PARTICULATES:

key = (EH) - extremely heavy [>20/field @ 100X] (H) - heavy [10-20/field @ 100X]
(M) - moderate [4-9/field @ 100X] (R) - rare [<1-3/field @ 100X] (NF) - none found

PARTICULATE DEBRIS

Table with 2 columns: Quantity, Description. Rows include Large part. 5 micrometers & larger (M), Small part. up to 5 micrometers (EH), Plant debris (NF).

PROTOZOANS

Table with 2 columns: Quantity, Description. Rows include Other Coccidia (NF), Other protozoans (NF).

OTHER ORGANISMS

Table with 2 columns: Quantity, Description. Rows include Nematodes (NF), Nematode eggs (NF), Rotifers (NF), Crustaceans (NF), Crustacean eggs (NF), Insects (NF), Other (NF).

ALGAE

Table with 2 columns: Quantity, Description. Rows include Green Algae (NF), Diatoms (NF), Blue-Green Algae (NF), Flagellated Algae (NF).

COMMENTS:

No biological materials were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk). Sample was collected and processed using the NYSDOH Modified Microscopic Particulate Analysis method.

Environmental Associates Ltd. certifies that all quality control elements, as required by NELAP, associated with the above data have been met. Results relate only to the sample.

REPORT REVIEWED BY: [Signature] DATE: November 3, 2009

PWS ID#	Well ID#	Utility Name	EAL Sample ID:
Raleigh Hotel Well #1 (420-30027)	Raleigh Hotel Well #1 (420-30027)	EnviroTest Laboratories Inc.	35635

**EPA Relative Surface Water Risk Factors**

Date: 9/17/2009



Primary Particulates	#/100 gallon	Relative Frequency	Relative Risk Factor	Comments
Coccidia (confirmed)	0	NF	0	
Diatoms	0	NF	0	
Other Algae	0	NF	0	
Insects/larvae	0	NF	0	
Rotifers	0	NF	0	
Plant Debris (with chloro.)	0	NF	0	

EPA Relative Risk = 0 Low Risk

Secondary Particulates			
Nematodes	0	NF	
Crustaceans	0	NF	
Amoeba	0	NF	
Non-photo. flag. & ciliates	0	NF	
Photosynthetic flagellates	0	NF	
Other:	0	NF	

**COMMENTS:** No biological materials were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk). Sample was collected and processed using the NYSDOH Modified Microscopic Particulate Analysis method.

**REFERENCE:** Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA) USEPA Manchester Environmental Laboratory, EPA 910/9-92-029, October 1992.

Environmental Associates Ltd. certifies that all quality control elements, as required by NELAP, associated with the above data have been met. Results relate only to the sample.

**REPORT REVIEWED BY:** *Sharon Z. Bortus* **DATE:** November 3, 2009 **Environmental Associates, Ltd.**



# REPORT: MICROSCOPIC PARTICULATE ANALYSIS

**ENVIRONMENTAL ASSOCIATES LTD.**  
 24 Oak Brook Drive, Ithaca, NY 14850  
 (607) 272-8902 Fax (607) 256-7092



Filter ID: 35637 Client: EnviroTest Laboratories Inc.

Station/Body of water: Raleigh Hotel Well #2 (420-30027-2)

**RECEIPT OF FILTER:**

Date Received: 9/18/2009 # of filters: NA Type: cupitainer Carrier: Fed Ex Priority

**COLLECTION:**

Collector: N/A Date collected: 9/17/2009  
 Temperature: °F Turbidity: -----  
 Water Type: well

**FILTER PROCESSING**

Color of water around filter: NA Total volume of sediment: 0.02 ml  
 Filter color: NA Volume of sediment/100 gallons: 7.7 ml/100gal.  
 Color of sediment: tan IFA equivalent liter volume examined: -----  
 # gallons filtered: 0.26 Phase equivalent gallon volume examined: 0.26

**ANALYSIS OF PARTICULATES:**

key = (EH) - extremely heavy [ $>20/\text{field @ } 100X$ ] (H) - heavy [ $10-20/\text{field @ } 100X$ ]  
 (M) - moderate [ $4-9/\text{field @ } 100X$ ] (R) - rare [ $<1-3/\text{field @ } 100X$ ] (NF) - none found

**PARTICULATE DEBRIS**

Quantity	Description
<u>EH</u>	<u>fine silt &amp; sand</u>
<u>EH</u>	<u>fine amorphous debris</u>
<u>NF</u>	<u></u>

**PROTOZOANS**

Quantity	Description
<u>NF</u>	<u>Other Coccidia</u>
<u>NF</u>	<u>Other protozoans</u>
<u></u>	<u></u>

**OTHER ORGANISMS**

<u>NF</u>	<u>Nematodes</u>
<u>NF</u>	<u>Nematode eggs</u>
<u>NF</u>	<u>Rotifers</u>
<u>NF</u>	<u>Crustaceans</u>
<u>NF</u>	<u>Crustacean eggs</u>
<u>NF</u>	<u>Insects</u>
<u>NF</u>	<u>Other</u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>

**ALGAE**

<u>NF</u>	<u>Green Algae</u>
<u>NF</u>	<u>Diatoms</u>
<u>NF</u>	<u>Blue-Green Algae</u>
<u>NF</u>	<u>Flagellated Algae</u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>

**COMMENTS:**

No biological materials were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).  
 Sample was collected and processed using the NYSDOH Modified Microscopic Particulate Analysis method.

Environmental Associates Ltd. certifies that all quality control elements, as required by NELAP, associated with the above data have been met. Results relate only to the sample.

REPORT REVIEWED BY: Josuan H. Bortos DATE: November 4, 2009

PWS ID#	Well ID#	Utility Name	EAL Sample ID:
Raleigh Hotel Well #2 (420-30027)	Raleigh Hotel Well #2 (420-30027)	EnviroTest Laboratories Inc.	35637

**EPA Relative Surface Water Risk Factors**

Date: 9/17/2009



Primary Particulates	#/100 gallon	Relative Frequency	Relative Risk Factor	Comments
Coccidia (confirmed)	0	NF	0	
Diatoms	0	NF	0	
Other Algae	0	NF	0	
Insects/larvae	0	NF	0	
Rotifers	0	NF	0	
Plant Debris (with chloro.)	0	NF	0	

EPA Relative Risk = 0 Low Risk

Secondary Particulates			
Nematodes	0	NF	
Crustaceans	0	NF	
Amoeba	0	NF	
Non-photo. flag. & ciliates	0	NF	
Photosynthetic flagellates	0	NF	
Other:	0	NF	

**COMMENTS:** No biological materials were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).  
 Sample was collected and processed using the NYSDOH Modified Microscopic Particulate Analysis method.

**REFERENCE:** Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA) USEPA Manchester Environmental Laboratory, EPA 910/9-92-029, October 1992.

Environmental Associates Ltd. certifies that all quality control elements, as required by NELAP, associated with the above data have been met. Results relate only to the sample.

**REPORT REVIEWED BY:** *Sharon J. Bortner* **DATE:** November 4, 2009 **Environmental Associates, Ltd.**

# REPORT: MICROSCOPIC PARTICULATE ANALYSIS

ENVIRONMENTAL ASSOCIATES LTD.  
24 Oak Brook Drive, Ithaca, NY 14850  
(607) 272-8902 Fax (607) 256-7092



Filter ID: 35638 Client: EnviroTest Laboratories Inc.

Station/Body of water: Raleigh Hotel Well #4 (420-30027-4)

### RECEIPT OF FILTER:

Date Received: 9/18/2009 # of filters: NA Type: cubitainer Carrier: Fed Ex Priority

### COLLECTION:

Collector: N/A Date collected: 9/17/2009  
Temperature: °F Turbidity: -----  
Water Type: well

### FILTER PROCESSING

Color of water around filter: NA Total volume of sediment: 0.02 ml  
Filter color: NA Volume of sediment/100 gallons: 0.8 ml/100gal.  
Color of sediment: tan IFA equivalent liter volume examined: -----  
# gallons filtered: 2.642 Phase equivalent gallon volume examined: 2.642

### ANALYSIS OF PARTICULATES:

key = (EH) - extremely heavy [ $>20$ /field @ 100X] (H) - heavy [10-20/field @ 100X]  
(M) - moderate [4-9/field @ 100X] (R) - rare [ $<1-3$ /field @ 100X] (NF) - none found

### PARTICULATE DEBRIS

Quantity	Description
<u>EH</u>	<u>fine silt &amp; sand</u>
<u>EH</u>	<u>fine amorphous debris</u>
<u>NF</u>	<u></u>

### PROTOZOANS

Quantity	Description
<u>NF</u>	<u>Other Coccidia</u>
<u>NF</u>	<u>Other protozoans</u>

### OTHER ORGANISMS

<u>NF</u>	<u>Nematodes</u>
<u>NF</u>	<u>Nematode eggs</u>
<u>NF</u>	<u>Rotifers</u>
<u>NF</u>	<u>Crustaceans</u>
<u>NF</u>	<u>Crustacean eggs</u>
<u>NF</u>	<u>Insects</u>
<u>NF</u>	<u>Other</u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>

### ALGAE

<u>NF</u>	<u>Green Algae</u>
<u>NF</u>	<u>Diatoms</u>
<u>NF</u>	<u>Blue-Green Algae</u>
<u>NF</u>	<u>Flagellated Algae</u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>

### COMMENTS:

No biological materials were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).  
Sample was collected and processed using the NYSDOH Modified Microscopic Particulate Analysis method.

Environmental Associates Ltd. certifies that all quality control elements, as required by NELAP, associated with the above data have been met. Results relate only to the sample.

REPORT REVIEWED BY: Josuan H. Bortos DATE: November 5, 2009

PWS ID#	Well ID#	Utility Name	EAL Sample ID:
Raleigh Hotel Well #4 (420-30027)	Raleigh Hotel Well #4 (420-30027)	EnviroTest Laboratories Inc.	35638

**EPA Relative Surface Water Risk Factors**

Date: 9/17/2009



Primary Particulates	#/100 gallon	Relative Frequency	Relative Risk Factor	Comments
Coccidia (confirmed)	0	NF	0	
Diatoms	0	NF	0	
Other Algae	0	NF	0	
Insects/larvae	0	NF	0	
Rotifers	0	NF	0	
Plant Debris (with chloro.)	0	NF	0	

EPA Relative Risk = 0 Low Risk

Secondary Particulates			
Nematodes	0	NF	
Crustaceans	0	NF	
Amoeba	0	NF	
Non-photo. flag. & ciliates	0	NF	
Photosynthetic flagellates	0	NF	
Other:	0	NF	

**COMMENTS:** No biological materials were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk). Sample was collected and processed using the NYSDOH Modified Microscopic Particulate Analysis method.

REFERENCE: Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA) USEPA Manchester Environmental Laboratory, EPA 910/9-92-029, October 1992.

Environmental Associates Ltd. certifies that all quality control elements, as required by NELAP, associated with the above data have been met. Results relate only to the sample.

REPORT REVIEWED BY:

*Sharon J. Bortner*

DATE:

November 5, 2009

Environmental Associates, Ltd.

# REPORT: MICROSCOPIC PARTICULATE ANALYSIS

ENVIRONMENTAL ASSOCIATES LTD.  
24 Oak Brook Drive, Ithaca, NY 14850  
(607) 272-8902 Fax (607) 256-7092



Filter ID: 35636 Client: Envirotest Labs

Station/Body of water: Raleigh Hotel Well #4A (420-30027-5)

### RECEIPT OF FILTER:

Date Received: 9/18/2009 # of filters: NA Type: cupitainer Carrier: Fed Ex Priority

### COLLECTION:

Collector: N/A Date collected: 9/17/2009  
Temperature: °F Turbidity: -----  
Water Type: well

### FILTER PROCESSING

Color of water around filter: NA Total volume of sediment: 0.02 ml  
Filter color: NA Volume of sediment/100 gallons: 6.1 ml/100gal.  
Color of sediment: tan IFA equivalent liter volume examined: -----  
# gallons filtered: 0.33 Phase equivalent gallon volume examined: 0.33

### ANALYSIS OF PARTICULATES:

key = (EH) - extremely heavy [ $>20$ /field @ 100X] (H) - heavy [10-20/field @ 100X]  
(M) - moderate [4-9/field @ 100X] (R) - rare [ $<1-3$ /field @ 100X] (NF) - none found

### PARTICULATE DEBRIS

Quantity	Description
<u>EH</u>	<u>fine silt &amp; sand</u>
<u>EH</u>	<u>fine amorphous debris</u>
<u>NF</u>	<u></u>

### PROTOZOANS

Quantity	Description
<u>NF</u>	<u>Other Coccidia</u>
<u>NF</u>	<u>Other protozoans</u>

### OTHER ORGANISMS

<u>NF</u>	<u>Nematodes</u>
<u>NF</u>	<u>Nematode eggs</u>
<u>NF</u>	<u>Rotifers</u>
<u>NF</u>	<u>Crustaceans</u>
<u>NF</u>	<u>Crustacean eggs</u>
<u>NF</u>	<u>Insects</u>
<u>NF</u>	<u>Other</u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>

### ALGAE

<u>NF</u>	<u>Green Algae</u>
<u>NF</u>	<u>Diatoms</u>
<u>NF</u>	<u>Blue-Green Algae</u>
<u>NF</u>	<u>Flagellated Algae</u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>

### COMMENTS:

No biological materials were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).  
Sample was collected and processed using the NYSDOH Modified Microscopic Particulate Analysis method.

Environmental Associates Ltd. certifies that all quality control elements, as required by NELAP, associated with the above data have been met. Results relate only to the sample.

REPORT REVIEWED BY: Josuan H. Bortos DATE: November 3, 2009

PWS ID#	Well ID#	Utility Name	EAL Sample ID:
	Raleigh Hotel Well #4A (420)	Envirotest Labs	35636

**EPA Relative Surface Water Risk Factors**

Date: 9/17/2009



Primary Particulates	#/100 gallon	Relative Frequency	Relative Risk Factor	Comments
Coccidia (confirmed)	0	NF	0	
Diatoms	0	NF	0	
Other Algae	0	NF	0	
Insects/larvae	0	NF	0	
Rotifers	0	NF	0	
Plant Debris (with chloro.)	0	NF	0	

EPA Relative Risk = 0 Low Risk

Secondary Particulates			
Nematodes	0	NF	
Crustaceans	0	NF	
Amoeba	0	NF	
Non-photo. flag. & ciliates	0	NF	
Photosynthetic flagellates	0	NF	
Other:	0	NF	

**COMMENTS:** No biological materials were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk). Sample was collected and processed using the NYSDOH Modified Microscopic Particulate Analysis method.

**REFERENCE:** Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA) USEPA Manchester Environmental Laboratory, EPA 910/9-92-029, October 1992.

Environmental Associates Ltd. certifies that all quality control elements, as required by NELAP, associated with the above data have been met. Results relate only to the sample.

**REPORT REVIEWED BY:** *Sharon J. Bortner* **DATE:** November 3, 2009 **Environmental Associates, Ltd.**