

# **HYDROGEOLOGICAL STUDY REPORT**

**Proposed Quarry Site  
Wrenn Road  
Prospect Hill, Caswell County, North Carolina**

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August 14, 2019

*Piedmont Geologic, P.C. is a professional corporation licensed to practice  
Geology (C-216) and Engineering (C-3104) in North Carolina.*

**REPORT CERTIFICATION**

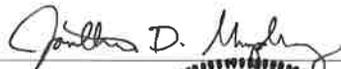
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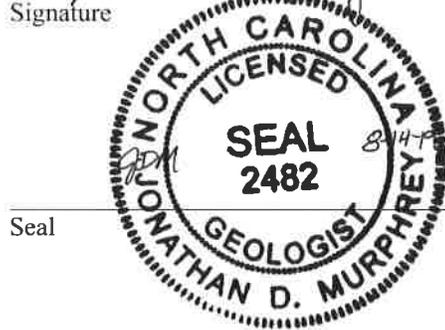
This *Hydrogeological Study Report* for the Carolina Sunrock – Caswell County property has been prepared under the responsible charge of the following Professional Geologists registered in the State of North Carolina.

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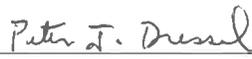
  
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## **1.0 INTRODUCTION AND SITE BACKGROUND INFORMATION**

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### **1.1 Introduction**

This report presents the methods and results of a hydrogeologic study conducted for Carolina Sunrock (“Sunrock”) in March-May 2019 at a property located off of Wrenn Road in Prospect Hill, Caswell County, North Carolina (the “site”). The site is being evaluated by Sunrock as a potential location for quarrying operations, and the study was commissioned in support of the permitting/application process.

The purpose of the study was to evaluate hydrogeological parameters for the site and the potential hydraulic effects that could result from quarrying operations (i.e., dewatering of the quarry). As there is no municipal water supply for area residents, all potable and non-potable water is obtained from private water-supply wells. Potential impacts to nearby properties from quarry dewatering could include decreased groundwater supply/production, or even dry wells.

The remainder of this document presents site background information, information regarding pumping well and observation well installations, methods and results of a pumping test conducted in April-May 2019, evaluations of hydrogeological parameters, and conclusions.

### **1.2 Site Description**

The site location and layout are shown in Figures 1 and 2, respectively. The site occupies approximately 500 acres and is bounded to the south by Wrenn Road, to the west by Ridgeville Road, and to the north and east by undeveloped wooded lands. A large waterbody, South Hyco Creek, is located northwest of the site. The site has historically been utilized primarily for agricultural purposes (i.e., farmland), and is composed of a mixture of agricultural fields and wooded lands. A majority of wooded areas at the site were clear-cut for timber harvesting around late-2018.

Based on preliminary geologic investigations by Sunrock, two potential quarrying areas have been identified, and were the focus of the hydrogeologic study. Area 1, situated in the northeastern portion of the site, and Area 2, situated in the east-central portion of the site (and south of Area 1), are both comprised of agricultural fields and wooded lands. An unnamed perennial stream, which trends roughly north-northeast to south-southwest, bisects Area 1 and Area 2. A second perennial stream (Sugartree Creek) is located approximately 1,200-feet southeast of Area 2. Both streams appear to flow to the north-northeast, towards South Hyco Creek.

Overall topography in the two study areas generally slopes from southwest to northeast. Each study area are of roughly equal elevations (approximately 600-feet above mean sea level), with the unnamed stream bisecting the two areas ranging in elevation from approximately 550- to 580-feet above mean sea level.

### **1.3 Site Geologic/Hydrogeologic Setting**

The site is located in the Piedmont physiographic province, which is characterized by moderately level interstream areas separated by broad valleys. Bedrock in Prospect Hill, North Carolina is mapped within the Carolina Slate Belt lithologic division of the Piedmont, which consists of metamorphosed volcanic and sedimentary rocks that are intruded by a number of igneous plutons. According to the Geologic Map of North Carolina (North Carolina Geological Survey, 1985), bedrock beneath the site consists of metamorphosed granitic rock.

Competent bedrock (consisting of diabase and diorite) within the study areas was encountered at depths of approximately 25- to 35-feet below grade. Overlying the bedrock is primarily unconsolidated overburden, consisting of sands and silt.

Groundwater in the Piedmont province occurs in the overburden under unconfined (i.e., water table) conditions, and in the underlying bedrock under both unconfined and confined conditions. Groundwater in the overburden occurs within pore spaces of the unconsolidated medium, including relict bedrock structures (i.e., fractures, foliations, etc.). Due to the typical fine-grained nature and low permeability of the overburden, the formation is not usually utilized for groundwater production. Groundwater in the underlying bedrock occurs along zones of secondary porosity, such as fractures, foliations, solution voids, etc. Most water-supply wells in the Piedmont are completed in bedrock with casings extending through the overburden.

Groundwater at the site areas appears to occur within the overburden and underlying bedrock under unconfined (i.e., water table) conditions, with observed depths to groundwater ranging from approximately 26-feet to 30-feet below grade within the study areas.

**2.0 MARCH 2019 OBSERVATION WELL AND PUMPING WELL INSTALLATIONS**

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As the first step in hydrogeological study, one pumping well and three observation wells were installed within each of the two study areas (Figures 2 through 4). Well-boring logs are provided in Appendix A, and well-construction specifications are summarized in Table 1. The wells were installed in March 2019 by a North Carolina licensed well driller employed by Carolina-Virginia Well Drilling Inc., under the supervision of Piedmont Geologic.

The wells were installed utilizing a truck-mounted Drilltech T25KW rig equipped with a combination of hollow-stem auger and air rotary tooling. All wells are constructed with 6.125-inch inside diameter Schedule 40 PVC outer casings with threaded and flush joints extending through overburden and into competent bedrock. Outer-casing depths for the wells ranged in depth from approximately 33- to 69-feet below grade. The outer-casing annuli were tremie-grouted to grade with cement/bentonite slurry. Following a minimum waiting period of approximately 24-hours, the inner borings (approximately 5.5-inch diameter) were advanced through the surface casing and into bedrock, to depths of approximately 300-feet below grade utilizing air-rotary drilling. After reaching the completion depth at each well location, the wells were purged/developed via air lifting using the drill rig’s down-hole air rotary tooling until the discharge water was reasonably clear of rock cuttings and suspended sediments. Drill cuttings and groundwater generated during the drilling and development processes were disposed of on the ground surface around each well.

The wells were installed within each study area such that observation wells were located at radial distances of approximately 30-feet, 100-feet, and 300-feet from the pumping well. In addition, the well locations were staggered, so as not to align in a linear fashion. There were slight variations in the actual radial distances versus the targeted distances based on field conditions encountered (i.e., access-limitations for the drill rig). A summary of distances between the pumping well and observation wells within each study area is provided as follows.

**Summary of Area 1 and Area 2 Pumping and Observation Well Layouts**

<b>Study Area</b>	<b>Pumping Well</b>	<b>Observation Well</b>	<b>Approximate Radial Distance between Observation Well and Pumping Well (feet)</b>
Area 1	PW-1	OW1-1	292
		OW1-2	100
		OW1-3	31
Area 2	PW-2	OW2-1	31
		OW2-2	254
		OW2-3	86

A pre-existing site observation well (CD-12) was installed by a North Carolina licensed well driller under supervision of Sunrock during late-2018. Based on the relatively large radial distance between CD-12 and pumping wells PW-1 and PW-2 (approximately 2,700-feet and 1,100-feet, respectively), CD-12 was utilized as a background observation well for the hydrogeological study.

### **3.0 APRIL-MAY 2019 PUMPING TEST**

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#### **3.1 Pumping Test Methods**

Pumping tests were completed in April-May 2019 utilizing the pumping and observation wells installed in Areas 1 and 2 in March 2019. Methods utilized for each pumping test are described below.

##### Area 2 Pumping Test Methods

The first pumping test was completed in Area 2 from April 30-May 6, 2019. Well PW-2 was utilized as the pumping well for the test, and wells OW2-1, OW2-2, and OW2-3 were utilized as observation wells. In addition, well CD-12 was utilized as a background observation well.

Pressure transducers with integral data loggers (In-Situ Level TROLL 700) were installed in all four Area 2 wells plus background observation well CD-12 for automated groundwater-level data collection at 5-second intervals. Groundwater levels were also manually monitored in the Area 2 pumping/observation wells at routine intervals of approximately once per hour using an electronic depth-to-water meter. CD-12 was also manually monitored for background groundwater levels during the pumping test at intervals ranging from approximately 6- to 12-hours.

Prior to the start of the Area 2 pumping test, on April 29, 2019, a submersible electric pump (Grundfos Redi-Flo3) was installed in pumping well PW-2 by Patrick Henry Well Drilling, with the pump inlet set to a depth of approximately 275-feet below grade. A step-drawdown test was planned to be conducted prior to the pumping tests for each of the two study areas. However, the pump provided by Patrick Henry Well Drilling could only be operated at the maximum rate (i.e., the pump could be turned “on” or “off”, with no control over flow rates) due to internal sensors within the pump which would shut off the pump if the effluent flow was restricted using a gate valve or similar flow-control device.

On April 30, 2019, pre-pumping static groundwater levels were measured in the pumping/observation wells, as described above, for an approximately 20-hour period. Following the pre-pumping monitoring period, groundwater pumping was initiated from PW-2 utilizing the submersible electric pump (which was powered by a portable gasoline-powered generator). The groundwater flow rate was measured at approximately 1-hour intervals using a flow totalizer meter that was installed on the pump-discharge piping. Extracted groundwater was discharged to the ground surface along the slopped area west of PW-2 such that the water would flow downhill towards the unnamed stream to the west and away from the Area 2 pumping/observation wells.

A pumping rate of approximately 26- to 29-gallons per minute (gpm) was maintained throughout the duration of the test. In addition, the submersible pump remained at its initial depth of approximately 275-feet below grade.

A groundwater sample was collected from the submersible pump discharge line at an elapsed pumping time of approximately 42-hours. The sample was submitted to Pace Analytical in Mt. Juliet, Tennessee (Pace) and analyzed for Target Analyte List (TAL) metals by EPA Methods 200.7 and 245.7.

The submersible pump in PW-2 was turned off after approximately 43-hours of pumping - short of the planned 48-hour period - due to groundwater in observation wells OW2-1 and OW2-3 drawing down to levels near the set depths of the pressure transducers in those wells. Groundwater level measurements in the observation wells were measured over an approximately 64-hour period following the cessation of pumping to monitor groundwater recovery using the procedure described above.

#### Area 1 Pumping Test Methods

The Area 1 pumping test was completed from May 6-9, 2019, commencing at the end of the 64-hour post-pumping monitoring period for the Area 2 pumping test. Well PW-1 was utilized as the pumping well for the test, and wells OW1-1, OW1-2, and OW1-3 were utilized as observation wells. As with the Area 2 pumping test, well CD-12 was utilized as a background observation well for the Area 1 test.

Prior to the start of the aquifer test, pre-pumping static groundwater levels were measured in the observation wells, as described above, for an approximately 14-hour period. Following the pre-pumping monitoring period, groundwater pumping was initiated from PW-1 utilizing the submersible electric pump and ancillary equipment described above for Area 1 (with the submersible electric pump set at a depth of approximately 275-feet below grade). Extracted groundwater was managed as described above for Area 2.

A pumping rate of approximately 23- to 27-gpm was maintained throughout the duration of the test. In addition, the submersible pump remained at its initial depth of approximately 275-feet below grade.

A groundwater sample was collected from the submersible pump discharge line for PW-1 at an elapsed pumping time of approximately 22-hours. The sample was submitted to Pace and analyzed for TAL metals by EPA Methods 200.7 and 245.7.

The submersible pump in PW-1 was turned off after approximately 22-hours of pumping - short of the planned 48-hour period - due to groundwater in observation wells OW1-1 and OW1-2 (plus pumping well PW-1) drawing down to levels near the set depths of the pressure transducers in those wells. Groundwater-

level measurements in the observation wells were measured over an approximately 31-hour period following the cessation of pumping, as described above, to monitor groundwater recovery.

It is noted that during the Area 1 and Area 2 tests, the generator referenced above was required to be shut off for relatively short periods of time (i.e., generally less than 5-minutes) every approximately 6- to 8-hours of pumping in order to refuel. Subsequently, this resulted in corresponding periods of down-time for the submersible electric pump. The generator/pump shutdown and restart times were recorded during the tests so that these time periods could be correlated to potential effects on observed groundwater levels for pumping and/or observation wells.

In addition, the pressure transducer in background observation well CD-12 had to be removed at the cessation of the Area 2 test for use in the Area 1 pumping/observation wells, in order to replace a pressure transducer that was malfunctioning. However, manual gauging of groundwater levels in CD-12 continued as described above throughout the Area 1 test.

### **3.2 Pumping Test Results**

Water-table contour maps showing pre-pumping and pumping conditions for Area 2 and Area 1 are provided as Figures 5 through 8. Graphs showing groundwater levels versus time for the pumping and observation wells, including manual water-level gauging data plus data logged by the pressure transducers, are provided in Appendix B. AQTESOLV software (version 4.5) by HydroSOLVE, Inc. was used to analyze pumping test data and estimate hydrogeologic-parameter values through curve matching (i.e., fitting mathematical models, or type curves, to drawdown and recovery data). Outputs of the AQTESOLV analyses are provided in Appendix C. A summary of hydrogeologic parameter estimates obtained through curve-matching is provided in Table 2.

The graph of groundwater levels versus time for background observation well CD-12 shows relatively stable groundwater levels throughout the entirety of the Area 2 and Area 1 tests, indicating very little background trends/fluctuations which could potentially effect data analysis. As such, no trend-corrections were applied to any of the Area 2 or Area 1 groundwater level data.

#### Area 2 Pumping Test Results – Curve Matching & Hydrogeologic Parameters

A table summarizing groundwater drawdown in response to pumping for Area 2 wells (as observed at cessation of the pumping cycle) is presented as follows.

**Summary of Area 2 Drawdown in Pumping/Observation Wells**

<b>Well</b>	<b>Distance from Pumping Well (feet)</b>	<b>Initial Depth-to-Water Prior to Pumping (feet below TOC)</b>	<b>Final Depth-to-Water at Cessation of Pumping (feet below TOC)</b>	<b>Drawdown at Cessation of Pumping (feet)</b>
PW-2	0	33.80	96.34	62.54
OW2-1	31	34.15	86.25	52.10
OW2-3	86	30.74	81.73	50.99
OW2-2	254	30.15	59.75	29.60

TOC = Top of casing.

Note: Table sorted by distance from pumping well PW-2.

The graph of groundwater levels versus time for pumping well PW-2 indicates sharp drawdown during the initial approximately 15-minutes of pumping (corresponding to a drawdown of approximately 16-feet in the well), followed by a more-subdued and sustained drawdown through the duration of the pumping cycle, ending with a final maximum drawdown in the well of approximately 63-feet upon shutdown of the submersible pump. As shown in the graph, the groundwater level in PW-2 fell below the set depth of the pressure transducer (approximately 87-feet below the top of well casing) following approximately 31-hours of elapsed time pumping. Groundwater recovery data for PW-2 generally inversely mirrors that of the pumping data, with a rise of approximately 15-feet during the first approximately 15-minutes of recovery, followed by a more-subdued rate of rise in groundwater levels through the end of post-pumping monitoring.

The graphs of groundwater levels versus time for observation wells OW2-1 and OW2-3 are relatively similar to that of PW-2, with final drawdowns in the well of approximately 52-feet and 51-feet, respectively. OW2-1 and OW2-3 both showed a relatively sharp decrease in groundwater levels during the initial approximately 20-minutes of pumping (drawdowns of approximately 5-feet), followed by a more-subdued rate of drawdown through the duration of pumping.

The graph of groundwater levels versus time for observation well OW2-2 shows steady drawdown throughout the duration of pumping, although much more-subdued than that of PW-2, OW2-1, and OW2-3. The brief intervals of pump-shutdowns for refueling the generator are apparent in the graphs for PW-2, OW2-1, and OW2-3, as indicated by temporary spikes in observed groundwater levels.

The percentages of recovery (i.e., feet of recovery divided by feet of drawdown) for Area 2 pumping/observation wells following the 64-hour post-pumping monitoring period ranged from approximately 77% (OW2-1) to approximately 87% (OW2-2).

AQTESOLV curve-matching outputs for Area 2 observation wells (Appendix C-1) were fitted using the Neuman solution, as fitting of the Theis solution and other potentially-applicable solutions available in AQTESOLV (e.g., the Moench solution for double-porosity fractured aquifers) to Area 2 wells yielded

poor matches. Estimates of hydrogeologic parameters, including transmissivity and hydraulic conductivity, were generated for each observation well based on the individual curve-matching solutions (Table 2). An aquifer thickness of 270-feet was assumed for Area 2 wells, based on the approximate maximum saturated thickness (i.e., total depth of well minus the observed depth-to-water).

Estimated transmissivity values for Area 2 observation wells ranged from 25.77 ft<sup>2</sup>/day to 68.27 ft<sup>2</sup>/day, with a mean of 41.72 ft<sup>2</sup>/day. Estimated hydraulic conductivities for Area 2 observation wells ranged from 0.0944 feet/day to 0.2501 feet/day, with a mean of 0.1528 feet/day.

Included in Appendix C-1 is the Neuman solution output showing all Area 2 wells and utilizing the mean of estimated hydrogeologic parameters for the individual wells, plus a distance-drawdown curve (observed drawdown at cessation of pumping) utilizing the Neuman solution estimates. The distance-drawdown curve shows a radius of influence of approximately 550-feet for 0.10-feet of drawdown.

Area 1 Pumping Test Results – Curve Matching & Hydrogeologic Parameters

A table summarizing groundwater drawdown in response to pumping for Area 1 wells (as observed at cessation of the pumping cycle) is presented as follows.

**Summary of Area 1 Drawdown in Pumping/Observation Wells**

Well	Distance from Pumping Well (feet)	Initial Depth-to-Water Prior to Pumping (feet below TOC)	Final Depth-to-Water at Cessation of Pumping (feet below TOC)	Drawdown at Cessation of Pumping (feet)
PW-1	0	34.47	174.04	137.57
OW1-3	31	27.09	53.45	26.36
OW1-2	100	25.94	87.46	61.52
OW1-1	292	29.06	85.51	56.45

TOC = Top of casing.

Note: Table sorted by distance from pumping well PW-1.

The graph of groundwater levels versus time for pumping well PW-1 indicates sharp drawdown during the initial approximately 3-hours of pumping (corresponding to a drawdown of approximately 115-feet in the well). Following that time, the rate of drawdown in the well was subdued, with only approximately 24-feet of drawdown over the remaining 18-hours of pumping (with groundwater levels nearly stabilized after 16-hours of elapsed time pumping). As shown in the graph, the groundwater level in PW-1 fell below the set depth of the pressure transducer (approximately 100-feet below grade) following approximately 45-minutes of elapsed time pumping. Groundwater recovery data for PW-1 generally inversely mirrors that of the pumping data.

The graph of groundwater levels versus time for observation well OW1-1 shows fairly steady drawdown, with the rate of drawdown appearing to decrease slightly over the duration of the pumping cycle (generally coinciding with the decreasing rate of drawdown over time observed in PW-1).

The graph of groundwater levels versus time for observation well OW1-2 shows relatively little drawdown (considering its distance to PW-1, as compared with OW1-1) over the initial approximately 6-hours of pumping. Following approximately 6-hours of elapsed time pumping, the rate of drawdown increases substantially, to rates that appear similar to those of OW1-1.

The graph of groundwater levels vs time for observation well OW1-3 shows relatively sharp drawdown (approximately 20-feet) during the initial 3-hours of pumping, followed by very slow rates of drawdown through the end of the pumping cycle (only approximately 6-feet of drawdown over the final 19-hours of pumping).

Similar to Area 2, the brief intervals of pump-shutdowns for refueling the generator are apparent in the graph of groundwater levels versus time for PW-1, although they are not readily apparent in any of the graphs for observation wells.

The percentages of recovery for Area 1 pumping/observation wells following the 31-hour post-pumping monitoring period ranged from approximately 90% (OW1-3) to approximately 99% (PW-1).

AQTESOLV curve-matching outputs for Area 1 observation wells (Appendix C-2) were fitted using the both the Theis solution and Moench solution. Estimates of hydrogeologic parameters, including transmissivity and hydraulic conductivity, were generated for each observation well based on the individual curve-matching solutions (Table 2). An aquifer thickness of 273-feet was assumed for Area 1, based on the approximate maximum saturated thickness for Area 1 wells.

Estimated transmissivities for Area 1 observation wells ranged from 23.71 ft<sup>2</sup>/day to 90.46 ft<sup>2</sup>/day, with a mean of 63.10 ft<sup>2</sup>/day. Estimated hydraulic conductivities for Area 2 observation wells ranged from 0.0868 feet/day to 0.3314 feet/day, with a mean of 0.2311 feet/day.

Included in Appendix C-2 are the Theis and Moench solution outputs, plotted and utilizing the mean of estimated hydrogeologic parameters for the individual wells, along with distance-drawdown curves (observed drawdown at cessation of pumping) utilizing the Theis and Moench solution estimates. The Theis and Moench distance-drawdown curves show radii of influence of approximately 950-feet and 2,250-feet, respectively, for 0.10-feet of drawdown.

Area 1 and Area 2 Pumping Test Results – Laboratory Analysis of Groundwater Samples

Laboratory results of analysis for groundwater samples collected during the pumping tests from the pumping well discharge lines for PW-1 and PW-2 are summarized in Table 3. Mercury was detected in the groundwater sample collected from PW-2 at a concentration of 0.461 µg/L, which is above the North Carolina surface water standard of 0.012 µg/L. However, the reported concentration was flagged by the laboratory, noting that mercury was also detected in the associated laboratory blank, indicating potential cross-contamination or erroneous measurements by the laboratory during analysis. No other analytes were detected at concentrations above applicable surface water standards.

Area 1 and Area 2 Pumping Test Results – Radius of Influence and Inflow Calculations

The Sichardt formula was utilized in order to provide estimates for the potential extent of hydraulic influence on the aquifer that could be expected due to future quarry-dewatering operations, with the calculations provided in Appendix E. Two estimates were calculated for each study area; one for an assumed quarry depth of 300-feet, and one for an assumed quarry depth of 500-feet.

The “Steady Groundwater Inflows into Open Excavations” worksheet developed by S.S. Papadopoulos & Associates, Inc. was provided by Sunrock in order to estimate potential groundwater withdrawal rates during the quarry-dewatering process. Model #7 in the worksheet (based on the Dupuit-Thiem equation and applicable for radial unconfined flow into a circular excavation) was utilized for the inflow calculations. Outputs of the worksheet calculations are provided in Appendix E. Separate outputs were generated for each of the two study areas, utilizing the mean hydraulic conductivities estimated for each area, the approximate radius of the proposed quarry pits, plus the estimated radii of influence on the aquifer from dewatering the pit as determined by the Sichardt formula calculations. In addition, inflow estimates were calculated for quarry depths of 300-feet and 500-feet.

Estimated radii of influence due to dewatering and groundwater inflow rates (from the aquifer into the quarry pit/excavation) are summarized as follows.

**Estimated Radii of Influence and Inflow Rates (Quarry Depths of 300-feet)**

Study Area	Estimated Radii of Influence Due to Quarry Pit Dewatering		Estimated Inflow Rates		
	(meters)	(feet)	(m <sup>3</sup> /sec)	(gal/day)	(gal/min)
Area 1	222	728	0.04293	979,896	680
Area 2	181	594	0.03368	768,733	534
<b>Combined Inflow Rate for Both Pits:</b>			<b>0.07661</b>	<b>1,748,629</b>	<b>1,214</b>

**Estimated Radii of Influence and Inflow Rates (Quarry Depths of 500-feet)**

Study Area	Estimated Radii of Influence Due to Quarry Pit Dewatering		Estimated Inflow Rates		
	(meters)	(feet)	(m <sup>3</sup> /sec)	(gal/day)	(gal/min)
Area 1	387	1,270	0.08437	1,925,683	1,337
Area 2	315	1,033	0.06526	1,489,433	1,034
<b>Combined Inflow Rate for Both Pits:</b>			<b>0.14963</b>	<b>3,415,116</b>	<b>2,371</b>

Because the variables used in the above calculations assume that the quarry pit walls will be near-vertical, compared to the designed slopes of approximately 40-degrees, the estimated radii of influence and inflow rates are likely over-conservative. For example, both calculations incorporate the saturated thickness required to be dewatered, utilizing the water table surface as the upper bound and the base of the pit as the lower bound. However, the aerial extent of the pits that will actually reach the maximum proposed depths is proportionally small, compared to the pit as a whole (less than approximately 25% of the pit footprints will reach those depths).

#### 4.0 WATER-SUPPLY WELL SURVEY

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A water-supply well (WSW) survey was conducted in August 2019 to locate private WSWs in the vicinity of the site. The WSW survey was completed utilizing the online graphical information system (GIS) tools for Caswell County and Person County, plus records on file in each county related to water-supply well permitting and well-construction details.

The WSW survey targeted properties located within 0.5-miles of a 728-foot buffer applied to the perimeter of the proposed quarry footprints. This buffer distance corresponds to the greater of the two estimates for extent of hydraulic influence on the aquifer due to dewatering based on quarry depths of 300-feet (as calculated above in Section 3.2). The 728-foot distance was used as the reference point for the 0.5-mile target area, rather than 1,270-feet (which corresponds to the greater of the two hydraulic influence estimates based on quarry depths of 500-feet) since each of the buffer calculations are presumed to be over-conservative.

A map showing the footprints of the two proposed quarry pits, the 728-foot estimated hydraulic influence buffer area (plus the 1,270-foot buffer area for comparison), along with the locations of WSWs is presented as Figure 9. A summary of the WSW survey results is provided as Table 4. Tax/property cards for the parcels identified in the WSW survey, plus well-construction records that were on file with Caswell County and Person County are provided in Appendix F.

As the first step of the WSW survey, a preliminary search of aerial imagery and property records using the Caswell County and Person County GIS tools was conducted to locate parcels potentially containing WSWs. Next, a search of Caswell and Person County WSW permit records was conducted using the list of addresses suspected of containing WSWs. Person County WSW permit records were obtained using the county's online database, while permit records for Caswell County were obtained with the assistance of Mr. Donnie Powell of the Caswell County Health Department.

A total of 30 properties containing WSWs were located during the WSW survey; 26 of which are located in Caswell County and 4 of which are located in Person County. Records indicate that one of the Person County properties contains two WSWs. All other available records for the remaining properties indicate the presence of only one WSW on each.

Reported depths of the WSWs (based on well-construction records submitted to the counties by the well-drilling contractors) range from approximately 105- to 562-feet below grade, with reported static water levels ranging from 6- to 35-feet below grade. Reported groundwater production rates (i.e., yields) of the wells range from 0.5- to 43-gpm.

One WSW (#1) is located on the site property (to the west of the proposed quarry pits), at/near the outer extent of the 728-foot hydraulic influence buffer. One offsite WSW (#2) is located within the 728-foot buffer, on the property to the west southern-most proposed quarry pit and across Wrenn Road. The property contains an abandoned residential structure and the remainder of the property appears to be utilized solely for agricultural purposes. No well-construction details are available for either of the two aforementioned WSWs. No other WSWs appear to be location within the 728-foot buffer area.

In addition to the two WSW referenced above, one other WSW (#14) appears to be located within the 1,270-foot buffer area. The parcel, located at 28 Henry Daniels Road, is situated near the outer extent of the 1,270-foot buffer. Based on the well-construction record, the WSW has a reported depth of 165-feet below grade, a reported static water level of 22-feet below grade, and a reported groundwater production rate of 9-gpm.

## 5.0 CONCLUSIONS/DISCUSSION

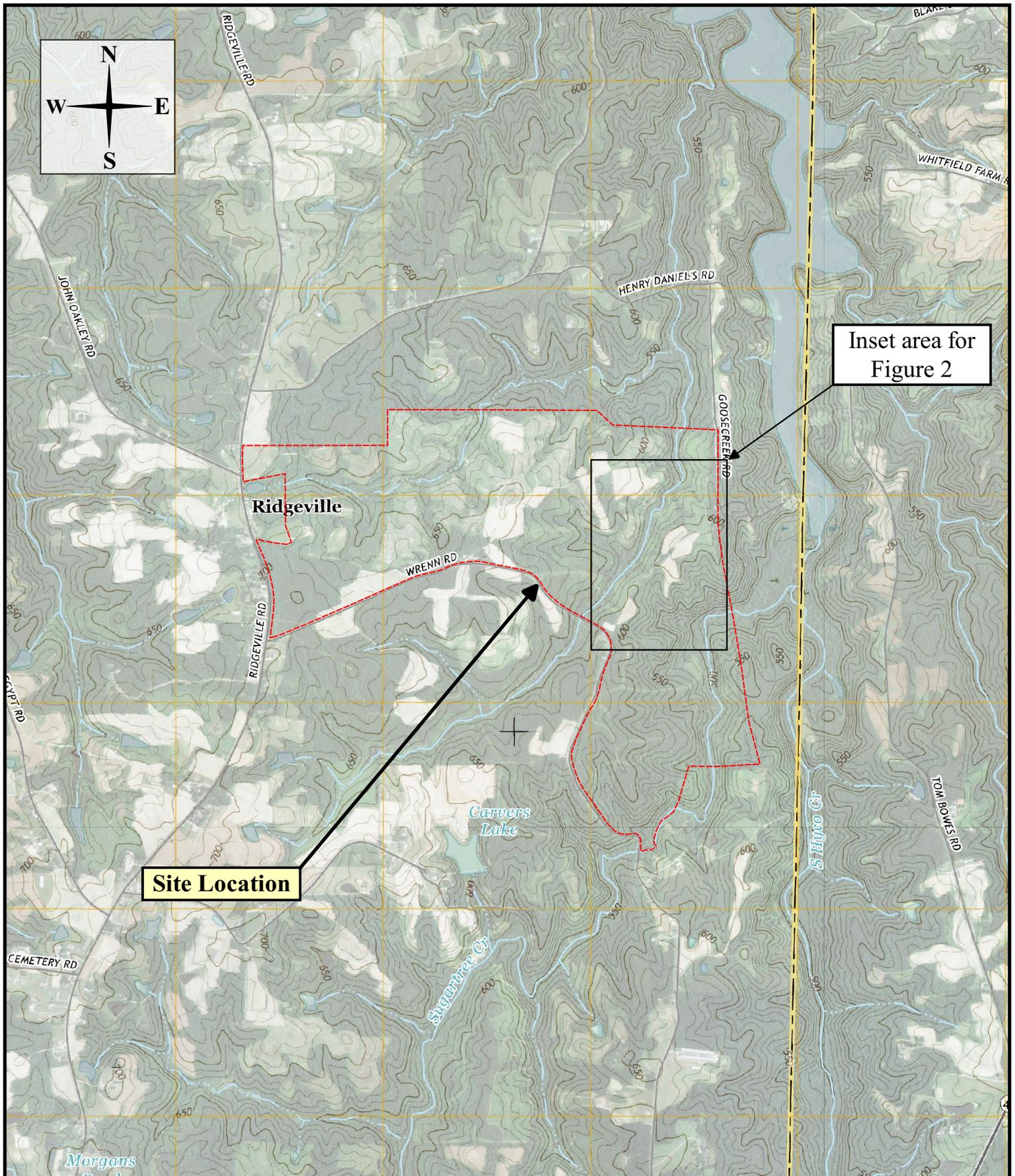
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Relatively substantial water-table drawdown was observed within both study areas during the pumping tests (although the greatest drawdown was generally confined to the area immediately surrounding the pumping well), indicating that similar effects may be observed as part of any future dewatering during quarrying operations. In addition, the drawdown would likely be greater in magnitude and aerial extent than that observed during the pumping tests, due to sustained and prolonged dewatering of the quarrying pits that would be typical of quarrying operations. As such, the quarry-dewatering process could potentially impact offsite private WSWs located within the estimated zone of hydraulic influence, through localized drawdown of the aquifer (which could result in reduced groundwater-production rates for the WSWs).

However, based on the estimated hydraulic conductivities and radii of hydraulic influence as determined by this hydrogeological study, impacts to offsite WSWs are expected to be negligible (with the possible exception of offsite WSW location #2, although it appears that this WSW is not currently in service due to the residential structure being abandoned and uninhabited). Based on available records, most of the WSWs are constructed to total depths between approximately 150- and 200-feet. In addition, the records indicate that all of the WSWs have static standing-water columns of at least approximately 90-feet, indicating that substantial drawdown of the aquifer (i.e., well-outside of estimated buffer areas) would be required to adversely affect groundwater-production rates of the WSWs.

To monitor/track drawdown of the aquifer (i.e., the cone of depression) that is expected to be induced over time as a result of quarry-dewatering, the existing site wells - including the nine wells installed for the hydrogeological study plus the one existing site WSW - can be utilized as observation wells, and gauged for water levels on a routine basis (e.g., monthly or quarterly). The existing site WSW, which is located west of the proposed quarry pits, will provide useful groundwater-level data due to it being located at/near the estimated 728-foot radius of hydraulic influence. Since the nine wells installed for the hydrogeological study are located within the footprints of the two proposed quarry pits, these wells will eventually be over-excavated/mined as quarrying operations proceed. Thus, new observation wells outside of the quarry footprints (e.g., along the perimeter of the site property) may eventually be installed to replace these wells as they are taken out of service.

## **FIGURES**



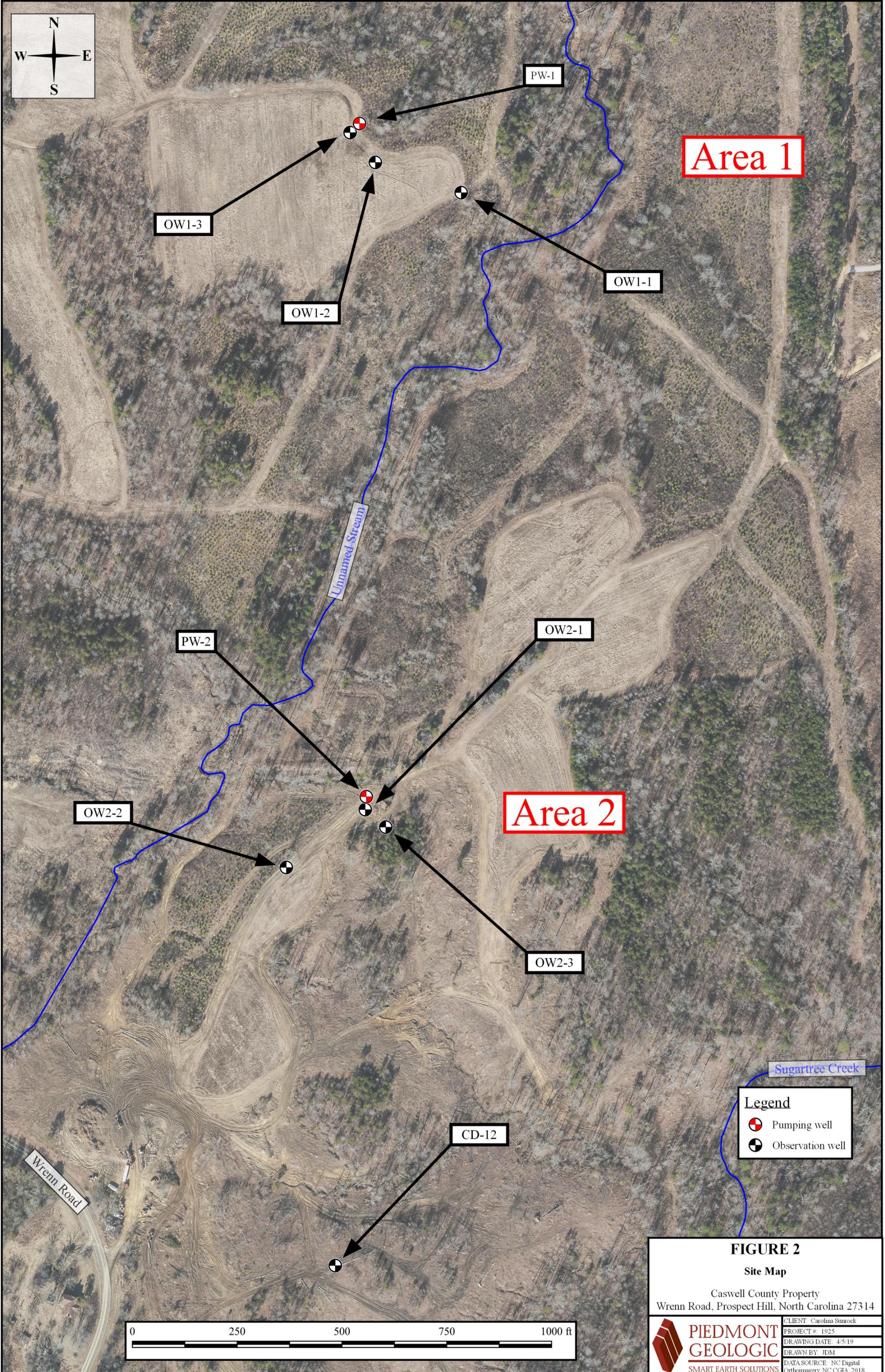
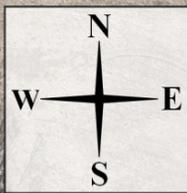
**PIEDMONT  
GEOLOGIC**  
SMART EARTH SOLUTIONS



**FIGURE 1  
SITE LOCATION MAP**

Carolina Sunrock  
Caswell County Property  
Prospect Hill, NC 27314

Data Source: USGS US Topo 7.5-minute map for Ridgeville, NC 2016.



Area 1

Area 2

Unnamed Stream

Sugartree Creek

Wrenn Road

**Legend**

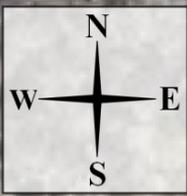
- Pumping well
- Observation well



**FIGURE 2**  
**Site Map**

Caswell County Property  
Wrenn Road, Prospect Hill, North Carolina 27314

	<b>PIEDMONT GEOLOGIC</b>	CLIENT: Carolina Sunrock
	SMART EARTH SOLUTIONS	PROJECT #: 1925
		DRAWING DATE: 4/5/19
		DRAWN BY: JDM
		DATA SOURCE: NC Digital Orthomogery; NC CGIA, 2018.



PW-1



OW1-3



Area 1

OW1-2

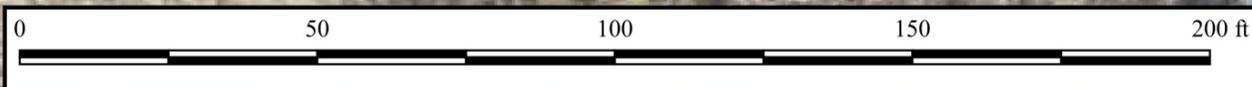


OW1-1



**Legend**

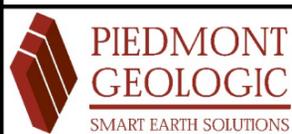
-  Pumping well
-  Observation well



**FIGURE 3**

**Area 1 of Hydro Study**

Caswell County Property  
Wrenn Road, Prospect Hill, North Carolina 27314



CLIENT: Carolina Sunrock
PROJECT #: 1925
DRAWING DATE: 4/5/19
DRAWN BY: JDM
DATA SOURCE: NC Digital Orthomagery; NC CGIA, 2018.



**Area 2**

PW-2



OW2-1



OW2-3

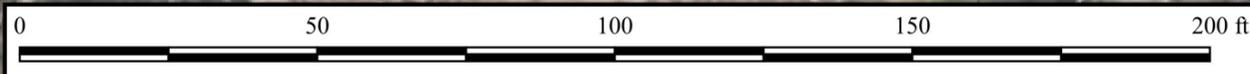


OW2-2



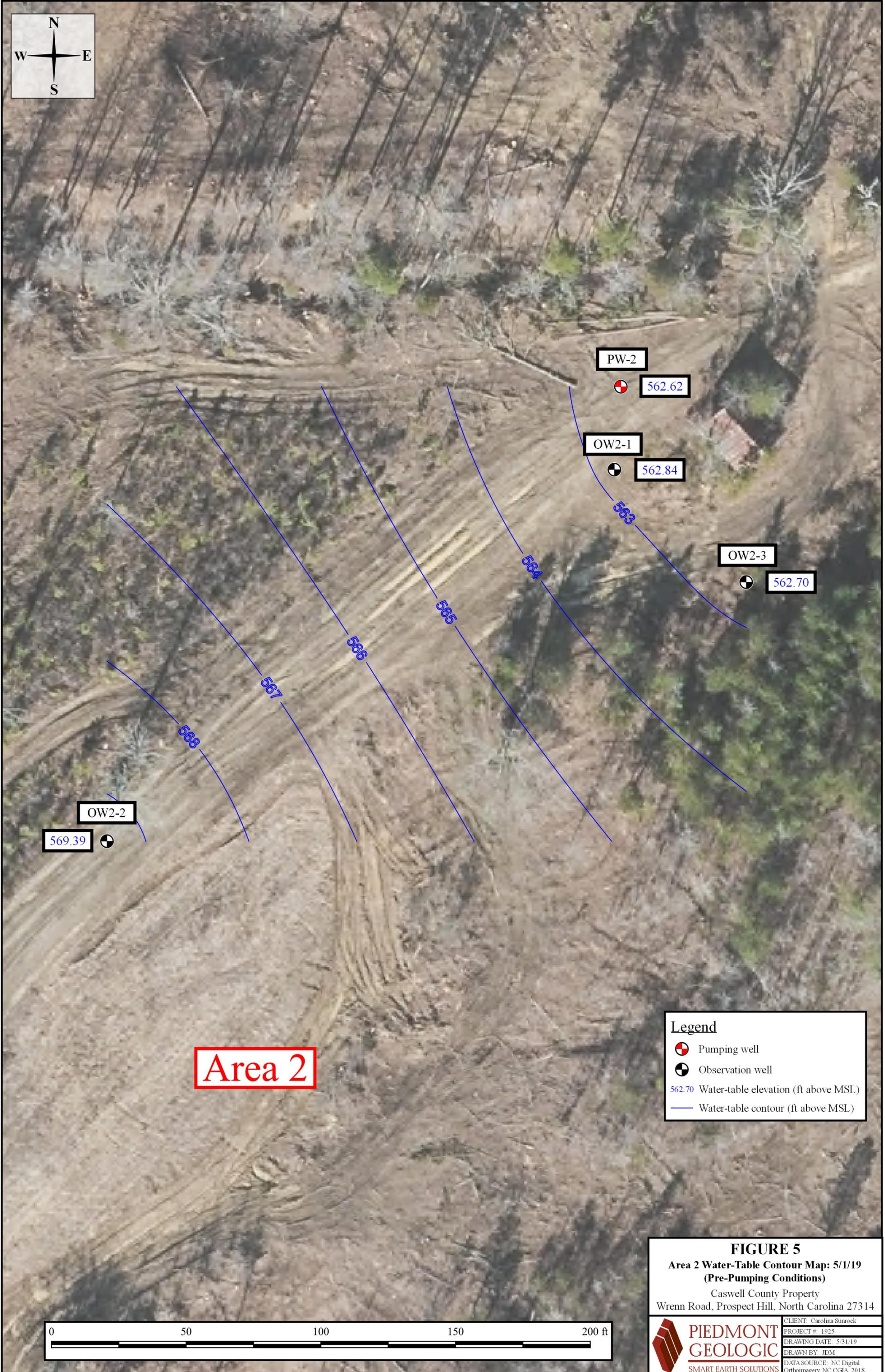
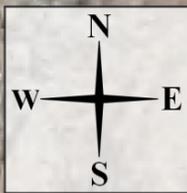
**Legend**

-  Pumping well
-  Observation well



**FIGURE 4**  
**Area 2 of Hydro Study**  
Caswell County Property  
Wrenn Road, Prospect Hill, North Carolina 27314

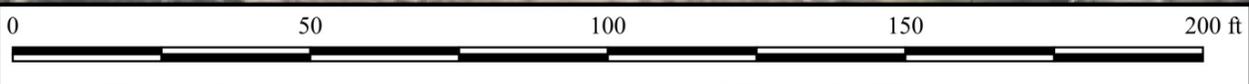
	CLIENT: Carolina Sunrock
	PROJECT #: 1925
	DRAWING DATE: 4/5/19
	DRAWN BY: JDM
DATA SOURCE: NC Digital Orthomagery; NC CGIA, 2018.	



**Area 2**

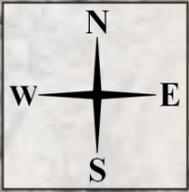
**Legend**

- Pumping well
- Observation well
- 562.70 Water-table elevation (ft above MSL)
- Water-table contour (ft above MSL)



**FIGURE 5**  
**Area 2 Water-Table Contour Map: 5/1/19**  
**(Pre-Pumping Conditions)**  
Caswell County Property  
Wrenn Road, Prospect Hill, North Carolina 27314

<b>PIEDMONT GEOLOGIC</b> SMART EARTH SOLUTIONS	CLIENT: Carolina Sunrock
	PROJECT #: 1925
	DRAWING DATE: 5/31/19
	DRAWN BY: JDM
	DATA SOURCE: NC Digital Orthomagey, NC CGIA, 2018.



**Area 2**

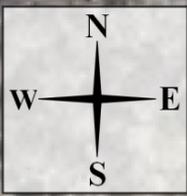
**Legend**

- Pumping well
- Observation well
- 511.91 Water-table elevation (ft above MSL)
- Water-table contour (ft above MSL)

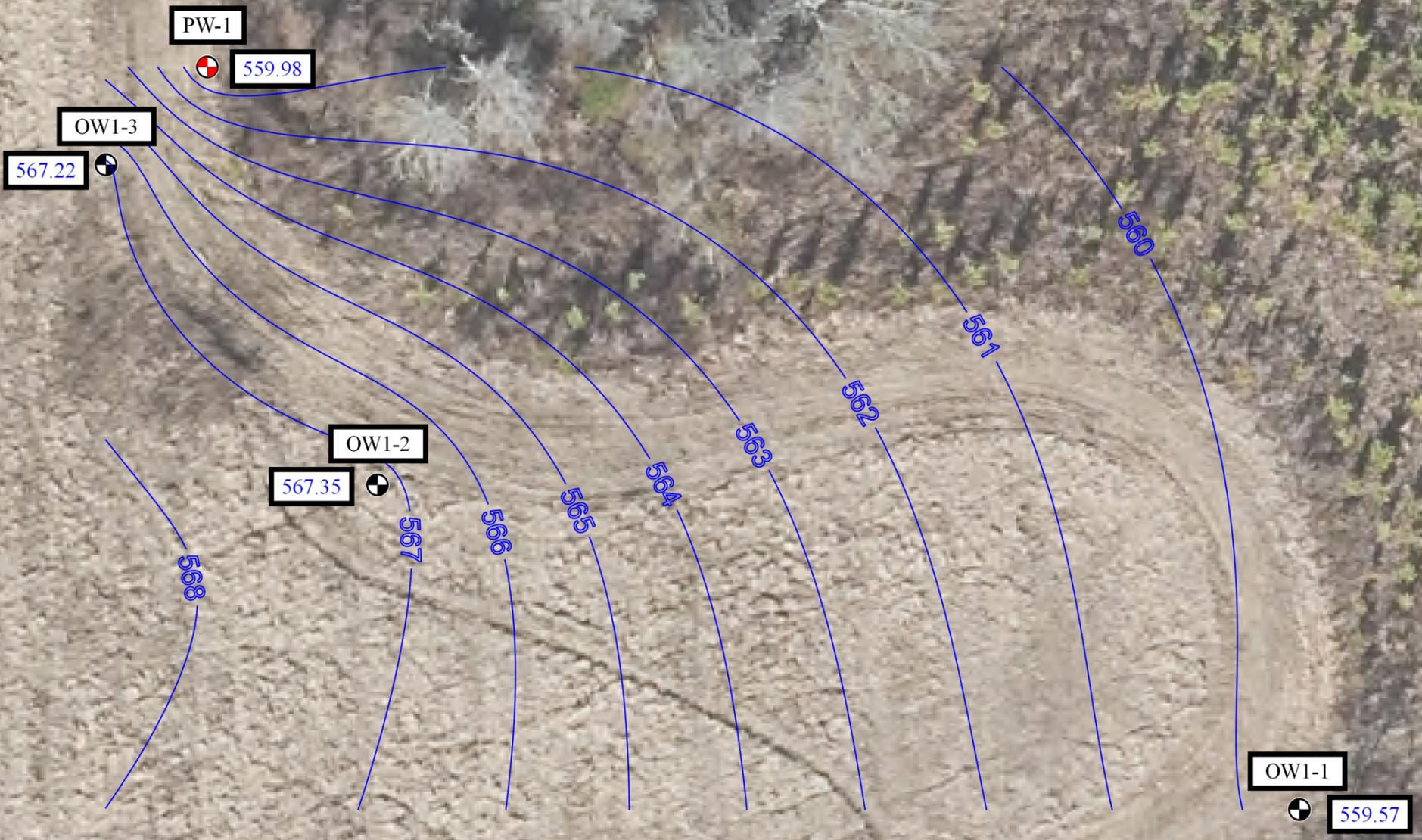


**FIGURE 6**  
**Area 2 Water-Table Contour Map: 5/3/19**  
**(Pumping Conditions - 43 Hours Elapsed)**  
Caswell County Property  
Wrenn Road, Prospect Hill, North Carolina 27314

	<b>PIEDMONT</b>	CLIENT: Carolina Sunrock
	<b>GEOLOGIC</b>	PROJECT #: 1925
	SMART EARTH SOLUTIONS	DRAWING DATE: 5/31/19
		DRAWN BY: JDM
		DATA SOURCE: NC Digital Orthomogery; NC CGIA, 2018.



**Area 1**



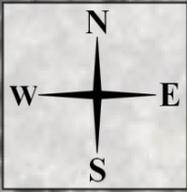
**Legend**

- Pumping well
- Observation well
- 559.57 Water-table elevation (ft above MSL)
- Water-table contour (ft above MSL)

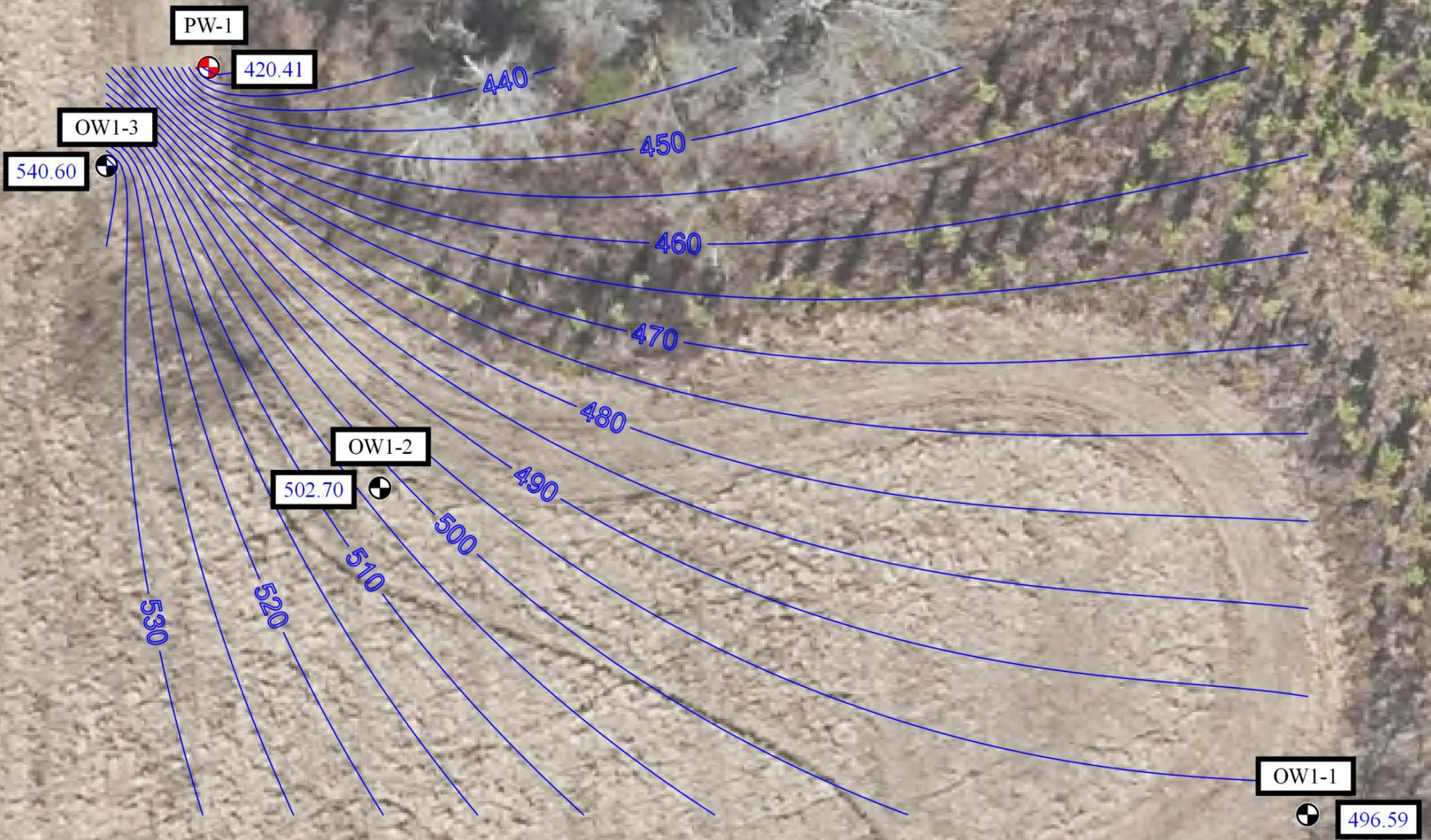


**FIGURE 7**  
**Area 1 Water-Table Contour Map: 5/7/19**  
**(Pre-Pumping Conditions)**  
Caswell County Property  
Wrenn Road, Prospect Hill, North Carolina 27314

	CLIENT: Carolina Sunrock
	PROJECT #: 1925
	DRAWING DATE: 5/31/19
	DRAWN BY: JDM
	DATA SOURCE: NC Digital Orthomagery, NC CGIA, 2018.

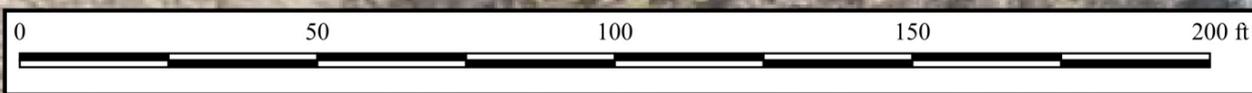


**Area 1**



**Legend**

- Pumping well
- Observation well
- 496.59 Water-table elevation (ft above MSL)
- Water-table contour (ft above MSL)



**FIGURE 8**  
**Area 1 Water-Table Contour Map: 5/8/19**  
**(Pumping Conditions - 22 Hours Elapsed)**  
Caswell County Property  
Wrenn Road, Prospect Hill, North Carolina 27314

	CLIENT: Carolina Sunrock
	PROJECT #: 1925
	DRAWING DATE: 5/31/19
	DRAWN BY: JDM
	DATA SOURCE: NC Digital Orthomagery; NC CGIA, 2018.



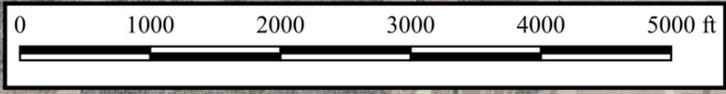
Estimated extent of hydraulic influence on aquifer due to dewatering (for quarry depth of 500 feet)

Estimated extent of hydraulic influence on aquifer due to dewatering (for quarry depth of 300 feet)

0.5-mile buffer from estimated extent of hydraulic influence on aquifer due to dewatering (based on quarry depth of 300 feet)

**Legend**

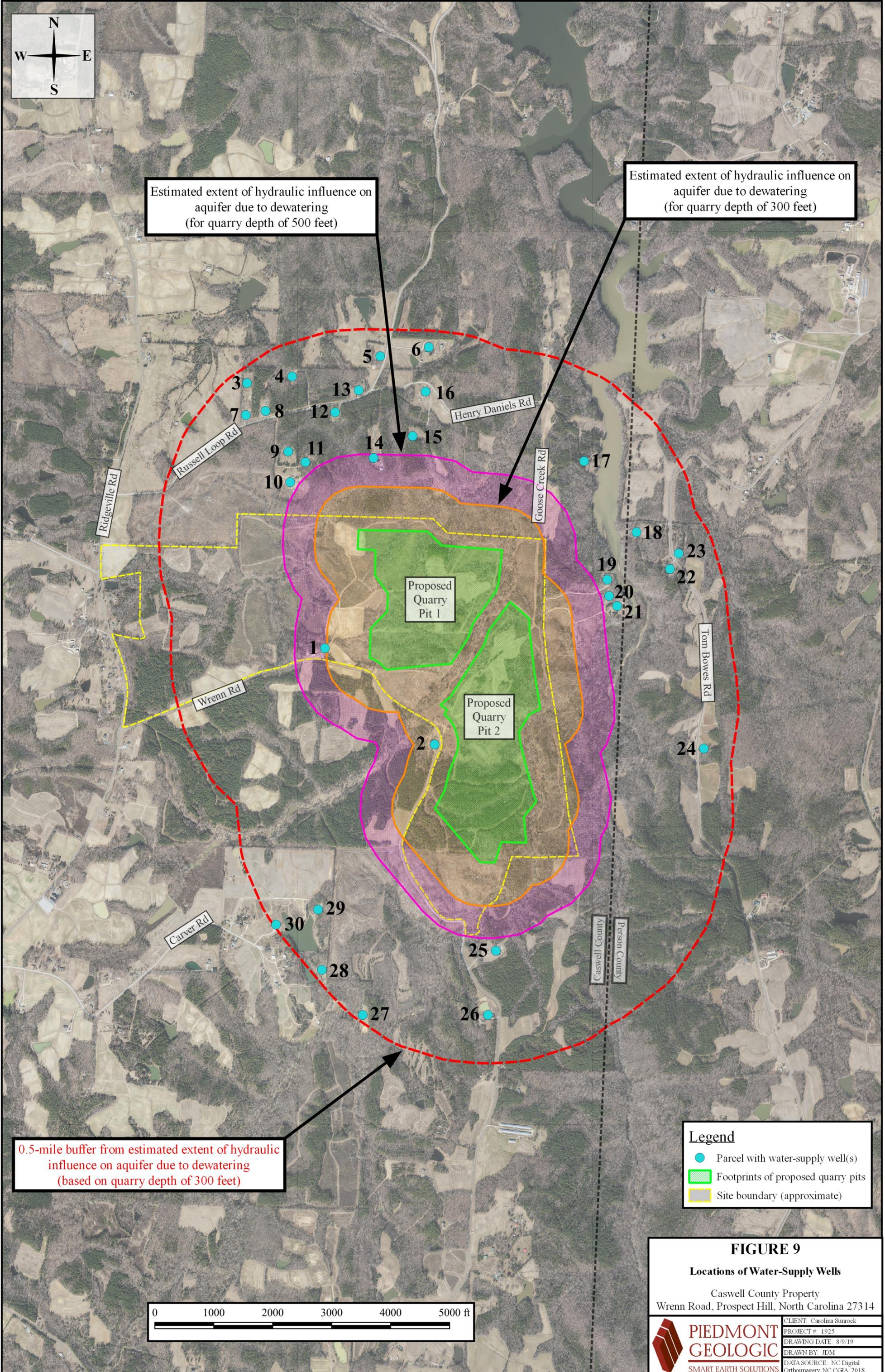
- Parcel with water-supply well(s)
- Footprints of proposed quarry pits
- Site boundary (approximate)



**FIGURE 9**  
**Locations of Water-Supply Wells**

Caswell County Property  
Wrenn Road, Prospect Hill, North Carolina 27314

CLIENT: Carolina Sunrock
PROJECT #: 1925
DRAWING DATE: 8/9/19
DRAWN BY: JDM
DATA SOURCE: NC Digital Orthomage; NC CGIA, 2018.



## **TABLES**

**TABLE 1  
GROUNDWATER OBSERVATION AND PUMPING WELL CONSTRUCTION DETAILS**

**Carolina Sunrock  
Caswell County Property  
Prospect Hill, North Carolina**

<b>AREA 1 OBSERVATION AND PUMPING WELLS</b>							
<b>Well No.</b>	<b>Date Installed</b>	<b>Total Depth (1)</b>	<b>Outer Casing Depth (1)</b>	<b>Outer Casing I.D. (in.)</b>	<b>Well I.D. (in.)</b>	<b>Screen Interval (1)</b>	<b>TOC Elev. (2)</b>
OW1-1	3/29/2019	300	33	6.125	5.5*	33-300*	588.63
OW1-2	4/3/2019	300	47	6.125	5.5*	47-300*	593.29
OW1-3	4/4/2019	300	52	6.125	5.5*	52-300*	594.31
PW-1	4/2/2019	300	52	6.125	5.5*	52-300*	594.45
<b>AREA 2 OBSERVATION AND PUMPING WELLS</b>							
<b>Well No.</b>	<b>Date Installed</b>	<b>Total Depth (1)</b>	<b>Outer Casing Depth (1)</b>	<b>Outer Casing I.D. (in.)</b>	<b>Well I.D. (in.)</b>	<b>Screen Interval (1)</b>	<b>TOC Elev. (2)</b>
OW2-1	3/19/2019	300	49	6.125	5.5*	49-300*	596.99
OW2-2	3/20/2019	300	36	6.125	5.5*	36-300*	599.54
OW2-3	3/26/2019	300	69	6.125	5.5*	69-300*	593.44
PW-2	3/21/2019	300	64	6.125	5.5*	64-300*	596.42
<b>BACKGROUND OBSERVATION WELL</b>							
<b>Well No.</b>	<b>Date Installed</b>	<b>Total Depth (1)</b>	<b>Outer Casing Depth (1)</b>	<b>Outer Casing I.D. (in.)</b>	<b>Well I.D. (in.)</b>	<b>Screen Interval (1)</b>	<b>TOC Elev. (2)</b>
CD-12	Dec. 2018	253	20	3	3	20-253*	586.12

(1) Measured in feet below ground surface.

(2) Measured in feet above Mean Sea Level.

\* Open-hole in bedrock. Well I.D. refers to open hole diameter and screen interval refers to open hole interval.

TOC = Top of casing.

I.D. = Inside diameter.

**TABLE 2**  
**SUMMARY OF AQTESOLV CURVE-MATCHING RESULTS**

**Carolina Sunrock**  
**Caswell County Property**  
**Prospect Hill, North Carolina**

**AREA 1 OBSERVATION WELLS**

Well	Solution	T (ft <sup>2</sup> /day)	K (ft/day)	S	K <sub>z</sub> /K <sub>r</sub>	K' (ft/day)	S <sub>s</sub> (ft <sup>-1</sup> )	S <sub>s</sub> ' (ft <sup>-1</sup> )	S <sub>y</sub>	S <sub>w</sub>	S <sub>f</sub>
OW1-1	Theis	23.71	0.0868	0.000014	1	--	--	--	--	--	--
	Moench	48.21	0.1766	--	--	0.0423	2.01E-10	2.04E-12	--	500	5
OW1-2	Theis	90.46	0.3314	0.000170	1	--	--	--	--	--	--
	Moench	76.41	0.2799	--	--	0.0423	5.22E-10	2.04E-12	--	500	5
OW1-3	Theis	50.08	0.1834	0.002119	1	--	--	--	--	--	--
	Moench	89.74	0.3287	--	--	1.89E-05	1.27E-06	4.84E-12	--	78.33	5
<i>Mean</i>		<b>63.10</b>	<b>0.2311</b>	<b>0.000768</b>	--	<b>0.0282</b>	<b>4.242E-07</b>	<b>2.97E-12</b>	--	<b>359</b>	<b>5.0</b>
<i>Standard Deviation</i>		<b>26.75</b>	<b>0.0980</b>	<b>0.001173</b>	--	<b>0.0244</b>	<b>7.342E-07</b>	<b>1.62E-12</b>	--	<b>243</b>	<b>0.00</b>

**AREA 2 OBSERVATION WELLS**

Well	Solution	T (ft <sup>2</sup> /day)	K (ft/day)	S	K <sub>z</sub> /K <sub>r</sub>	K' (ft/day)	S <sub>s</sub> (ft <sup>-1</sup> )	S <sub>s</sub> ' (ft <sup>-1</sup> )	S <sub>y</sub>	S <sub>w</sub>	S <sub>f</sub>
OW2-1	Neuman	25.77	0.0944	0.000186	107.1	--	--	--	0.007401	--	--
OW2-2	Neuman	68.27	0.2501	0.001585	1.778	--	--	--	0.0000273	--	--
OW2-3	Neuman	31.11	0.1140	0.000035	14.96	--	--	--	0.001	--	--
<i>Mean</i>		<b>41.72</b>	<b>0.1528</b>	<b>0.000602</b>	<b>41.3</b>	--	--	--	<b>0.00281</b>	--	--
<i>Standard Deviation</i>		<b>23.15</b>	<b>0.0848</b>	<b>0.000855</b>	<b>57.4</b>	--	--	--	<b>0.00401</b>	--	--

Note: Aquifer thickness (b) assumed to be 273 feet for Area 1 and 270 feet for Area 2.

T = Transmissivity (ft<sup>2</sup>/day)

K = Hydraulic conductivity of the aquifer [Theis & Neuman solutions] or fractures [Moench solution] (ft/day)

K' = Hydraulic conductivity of matrix (ft/day)

K<sub>z</sub>/K<sub>r</sub> = Hydraulic conductivity anisotropy ratio (dimensionless)

S = Storativity (dimensionless)

S<sub>s</sub> = Fracture specific storage (ft<sup>-1</sup>)

S<sub>s</sub>' = Matrix specific storage (ft<sup>-1</sup>)

S<sub>y</sub> = Specific yield (dimensionless)

S<sub>w</sub> = Wellbore skin factor (dimensionless)

S<sub>f</sub> = Fracture skin factor (dimensionless)

**TABLE 3  
SUMMARIZED RESULTS OF LABORATORY ANALYSIS  
GROUNDWATER SAMPLES COLLECTED FROM PUMPING WELLS PW-1 AND PW-2**

**Carolina Sunrock  
Caswell County Property  
Prospect Hill, North Carolina**

<b>Well I.D.:</b>	<b>PW-1</b>	<b>PW-2</b>	<b>S.W.</b>
<b>Sample Date:</b>	<b>5/8/19</b>	<b>5/3/19</b>	<b>Std. (2)</b>
<b>EPA Method 200.7 (µg/L) (1)</b>			
Barium	14.9	11.5	1,000 (3)
Calcium	35,100	45,800	NS
Magnesium	8,640	16,100	NS
Manganese	134	317	50 (3)(4)
Potassium	2,580 B	2,660	NS
Sodium	16,200	13,500	NS
Sulfur	7,000	4,090	NS
<b>EPA Method 245.1 (µg/L)</b>			
Mercury	<0.200	<b>0.461 B</b>	0.012 (5)

- 1) Method compounds detected in one or more samples are listed.  
2) NC surface water standard per 15A NCAC 2B or U.S. EPA National Recommended Water Quality Criteria (NRWQC).  
3) Human health criteria.  
4) Per NC surface water standards table - *"EPA approved removal of NC human health standards [for manganese] as part of 2007-2016 Triennial review due to high natural occurrence in NC surface waters. The EPA NRWQC remains here as guidance for instances when toxicity information is needed."*  
5) Freshwater aquatic life criteria.  
NS = No surface water standard exists.  
B = The same analyte was detected in the associated laboratory blank.  
Concentrations listed in bold type are above surface NC water standard or U.S. EPA National Criteria.

**TABLE 4  
SUMMARY OF WATER-SUPPLY WELLS LOCATED WITHIN 0.5-MILES**

**Carolina Sunrock  
Caswell County Property  
Prospect Hill, North Carolina**

Location I.D. Number (1)	Approximate Distance and Direction (2)	Property Address			Property Use/Type	Current Property Owner(s)	Confirmed WSW Based on County Records? (3)	Reported Depth, Static Water Level, and Yield of WSW (4)		
		Street	City	County				Depth	Static Water Level	Yield
1	20 feet / W	Wrenn Rd. (5)	Prospect Hill	Caswell	Agricultural	ETREE LLC	Yes	N/A	N/A	N/A
2	0 feet / SW	1238 Wrenn Rd.	Prospect Hill	Caswell	Agricultural (6)	ETREE LLC	Yes	N/A	N/A	N/A
3	2,350 feet / NW	523 Russell Loop Rd.	Prospect Hill	Caswell	Residential	Janice R Bullock	Yes	N/A	N/A	N/A
4	2,100 feet / NW	719 Russell Loop Rd.	Prospect Hill	Caswell	Residential/Agricultural	Joe Billy Oakes	Yes	340 feet	24 feet	10 gpm
5	2,200 feet / N	1063 Russell Loop Rd.	Prospect Hill	Caswell	Residential/Agricultural	Big Acorn Farm LLC	Yes	N/A	N/A	N/A
6	2,350 feet / N	1102 Russell Loop Rd.	Prospect Hill	Caswell	Residential	Christopher B Langley & Jerri N Thompson	Yes	160 feet	25 feet	15 gpm
7	1,950 feet / NW	523 Russell Loop Rd.	Prospect Hill	Caswell	Residential	Harvey B Wade Jr.	Yes	N/A	N/A	N/A
8	1,800 feet / NW	595 Russell Loop Rd.	Prospect Hill	Caswell	Residential	Dennis Murray & Lessie Dishman	Yes	N/A	N/A	N/A
9	950 feet / NW	115 Beaver Falls Dr	Prospect Hill	Caswell	Residential	Gene M & Sylvia C Herbert	Yes	157 feet	14 feet	15 gpm
10	650 feet / NW	206 Beaver Falls Dr.	Prospect Hill	Caswell	Residential	Sara Christine Cook	Yes	145 feet	21 feet	7-8 gpm
11	1,000 feet / NW	258 Beaver Falls Dr.	Prospect Hill	Caswell	Residential/Agricultural	Lora Worsham	Yes	105 feet	16 feet	30 gpm
12	1,350 feet / N	802 Russell Loop Rd.	Prospect Hill	Caswell	Residential	Dale R Kemper (trustee)	Yes	N/A	N/A	N/A
13	1,550 feet / N	915 Russell Loop Rd.	Prospect Hill	Caswell	Residential	Dorothy W Dix & Richard E Wilborne	Yes	N/A	N/A	N/A
14	450 feet / N	28 Henry Daniels Rd.	Prospect Hill	Caswell	Residential/Agricultural	Dale R Kemper (trustee)	Yes	165 feet	22 feet	9 gpm
15	8,500 feet / N	200 Henry Daniels Rd.	Prospect Hill	Caswell	Residential/Agricultural	Karen Oestreicher, et al.	Yes	186 feet	35 feet	8 gpm
16	1,600 feet / N	152 Henry Daniels Rd.	Prospect Hill	Caswell	Residential	Oscar & Teresa Gammon III	Yes	N/A	N/A	N/A
17	1,300 feet / NE	Henry Daniels Rd. (5)	Prospect Hill	Caswell	Residential	Tom & Donna Nicholais	Yes	N/A	N/A	N/A
18a	1,550 feet / W	1262 Tom Bowes Rd.	Hurdle Mills	Person	Residential	Amy C McCauley	Yes	142 feet	6 feet	8 gpm
18b								562 feet	29 feet	0.5 gpm
19	750 feet / W	Goose Creek Rd. (5)	Prospect Hill	Caswell	Residential	Georgia T Lewis & Jeffrey G Gravitte	Yes	N/A	N/A	N/A
20	650 feet / W	971 Goose Creek Rd.	Prospect Hill	Caswell	Residential	William N & Donna H Brown	Yes	N/A	N/A	N/A
21	750 feet / W	950 Goose Creek Rd.	Prospect Hill	Caswell	Residential/Agricultural	Parker Pruitt & Rita Hudgins	Yes	N/A	N/A	N/A
22	1,750 feet / W	Tom Bowes Rd. (5)	Hurdle Mills	Person	Residential	Joanne Howerton	Yes	N/A	N/A	N/A
23	2,000 feet / W	Tom Bowes Rd. (5)	Hurdle Mills	Person	Residential	Joanne Howerton	Yes	N/A	N/A	N/A
24	2,100 feet / W	Tom Bowes Rd. (5)	Hurdle Mills	Person	Residential	Ralph B Warren	Yes	N/A	N/A	N/A
25	700 feet / S	2101 Wrenn Rd.	Prospect Hill	Caswell	Residential	Nathaniel C & Jesse D Talley	Yes	180 feet	39 feet	40 gpm
26	1,800 feet / S	2592 Wrenn Rd.	Prospect Hill	Caswell	Residential/Agricultural	Christopher & Julie Woerdeman	Yes	160 feet	30 feet	8 gpm
27	2,500 feet / SW	1275 Carver Rd.	Prospect Hill	Caswell	Residential	John W & Pamela H Carver	Yes	400 feet	30 feet	15 gpm
28	2,500 feet / SW	1209 Carver Rd.	Prospect Hill	Caswell	Residential	Christopher M & Carrie Andrews	Yes	145 feet	Not listed	20 gpm
29	1,850 feet / SW	989 Carver Rd.	Prospect Hill	Caswell	Residential/Agricultural	John T Jr & Patricia M Carver	Yes	N/A	N/A	N/A
30	2,600 feet / SW	981 Carver Rd.	Prospect Hill	Caswell	Residential	Jonathon B Carver	Yes	200 feet	23 feet	43 gpm

(1) Refer to Figure 9 ("Locations of Water-Supply Wells") for I.D. numbers.

(2) Minimum distance from estimated extent of hydraulic influence due to dewatering of proposed quarry pits (based on pit depths of 300 feet).

(3) WSW confirmed based on Caswell County or Person County Health Department and/or tax card records.

(4) Based on well construction records and/or permits filed with County. Well depths and static water levels referenced in feet below grade.

(5) No specific street numbers listed for property in County GIS record or tax card. Refer to Figure 9 for actual location.

(6) Property also contains a vacant/abandoned residential structure.

Note: Property owner, use/type, and address information obtained from Caswell County and Person County GIS websites.

WSW = Water-supply well

N/A = Well construction record not available in County records.

gpm = Gallons per minute

**APPENDIX A**  
**BORING LOGS**

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>		SHEET: 1 OF 7	
BORING/WELL I.D.:	OW1-1	CLIENT:	Carolina Sunrock
DATE(S) DRILLED:	3/28/2019 - 3/29/2019	PROJECT NAME:	Caswell County Hydro Study
LOGGED BY:	J. Murphrey	PROJECT NO.:	1925
DRILL METHOD:	Truck-mounted Drilltech T25KW	PROJECT LOCATION:	Wrenn Road, Prospect Hill, NC
SAMPLING METHOD/INTERVAL:	Logged from cuttings.	DRILLING CONTR.:	Carolina-Virginia Well Co.
BORING DIAMETER:	8" (air hammer bit) from 0'-33' bgs; 5.5" (air hammer bit) from 33'-300' bgs.		
REMARKS:	Area 1 observation well.		
<b>WELL CONSTRUCTION INFORMATION</b>			
OUTER CASING SIZE/MATERIAL:	6.125" I.D. Sch. 40 PVC	OUTER CASING INTERVAL:	2.5' ags to 33' bgs
INNER CASING SIZE/MATERIAL:	N/A	INNER CASING INTERVAL:	N/A
SCREEN SIZE/MATERIAL:	N/A; open hole in bedrock	SCREEN INTERVAL:	33' bgs to 300' bgs
SAND PACK SIZE/MATERIAL:	N/A	SAND PACK INTERVAL:	N/A
GROUT TYPE:	Portland Cement	BENTONITE SEAL INTERVAL:	N/A
DEVELOPMENT METHOD/TIME:	Flushed out with rig's air tooling	GROUT INTERVAL:	0' bgs to 33' bgs
REMARKS:	Open hole in bedrock from 33' to 300' bgs. Completed as a stickup well (~2.5' of stickup).		

DESCRIPTIVE LOG					
CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
			█	-0-	0' - 9': Light brown to VF-C grained sand, some silt, dry.
			█	-	
			█	-	
			█	-	
			█	-	
			█	-5-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-10-	9' -22': Brown silt , some VF grained sand, mosit, possibly highly weathered diabase.
			█	-	
			█	-	
			█	-	
			█	-	
			█	-15-	22' - 26': SAA
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-20-	
			█	-	
			█	-25-	26' -35': SAA, color change from light brown to brown, silt, trace-little sand and gravel, moist, slightly weathered.
			█	-	
			█	-	
			█	-	
			█	-	
			█	-30-	

- |      |                      |   |                        |    |           |
|------|----------------------|---|------------------------|----|-----------|
| HSA  | Hollow stem auger    | █ | Native soil/rock       | VF | Very fine |
| ags  | Above ground surface | █ | Sand pack              | F  | Fine      |
| bgs  | Below ground surface | █ | Bentonite seal         | M  | Medium    |
| I.D. | Inside diameter      | █ | Cement/bentonite grout | C  | Coarse    |
|      |                      | █ | Well casing            |    |           |
|      |                      | █ | Well screen            |    |           |

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 2 OF 7
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BORING/WELL I.D.: OW1-1	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/28/2019 - 3/29/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-30-	
				-	
				-	
				-	Set 6.125" PVC casing to 33' bgs.
				-	
				-35-	35' - 42': Rock cuttings very light brown to white (diorite), unweathered.
				-	
				-	
				-	
				-40-	
				-	
				-	
				-	42' - 50': SAA
				-	
				-	
				-	
				-45-	
				-	
				-	
				-	
				-	
				-50-	50' - 62': SAA, vuttings dark gray to dark brown, wet.
				-	
				-	
				-	
				-	
				-55-	
				-	
				-	
				-	
				-	
				-60-	62' - 82': SAA
				-	
				-	
				-	
				-	
				-65-	
				-	
				-	
				-	
				-	
				-70-	
				-	
				-	
				-	
				-	
				-75-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		





# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 5 OF 7
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BORING/WELL I.D.: OW1-1	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/28/2019 - 3/29/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-170-	182' - 202': SAA
				-	
				-	
				-	
				-	
				-175-	
				-	
				-	
				-	
				-	
				-180-	
				-	
				-	
				-	
				-185-	
				-	
				-	
				-	
				-190-	
				-	
				-	
				-	
				-195-	
				-	
				-	
				-	
				-200-	
				-	
				-	
				-	
				-205-	
				-	
				-	
				-	
				-210-	
				-	
				-	
				-	
				-215-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 6 OF 7
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BORING/WELL I.D.: OW1-1	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/28/2019 - 3/29/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-220-	
				-	
				-	222' - 242': SAA
				-	
				-	
				-225-	
				-	
				-	
				-	
				-	
				-230-	
				-	
				-	
				-	
				-	
				-235-	
				-	
				-	
				-	
				-240-	
				-	242' - 262': SAA
				-	
				-	
				-245-	
				-	
				-	
				-	
				-250-	
				-	
				-	
				-	
				-	
				-255-	
				-	
				-	
				-	
				-	
				-260-	
				-	262' - 282': SAA
				-	
				-	
				-265-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		



# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>		SHEET: 1 OF 7	
BORING/WELL I.D.:	OW1-2	CLIENT:	Carolina Sunrock
DATE(S) DRILLED:	4/2/2019 - 4/3/2019	PROJECT NAME:	Caswell County Hydro Study
LOGGED BY:	J. Murphrey	PROJECT NO.:	1925
DRILL METHOD:	Truck-mounted Drilltech T25KW	PROJECT LOCATION:	Wrenn Road, Prospect Hill, NC
SAMPLING METHOD/INTERVAL:	Logged from cuttings.	DRILLING CONTR.:	Carolina-Virginia Well Co.
BORING DIAMETER:	8" (air hammer bit) from 0'-47' bgs; 5.5" (air hammer bit) from 47'-300' bgs.		
REMARKS:	Area 1 observation well.		

<b>WELL CONSTRUCTION INFORMATION</b>			
OUTER CASING SIZE/MATERIAL:	6.125" I.D. Sch. 40 PVC	OUTER CASING INTERVAL:	2.5' ags to 47' bgs
INNER CASING SIZE/MATERIAL:	N/A	INNER CASING INTERVAL:	N/A
SCREEN SIZE/MATERIAL:	N/A; open hole in bedrock	SCREEN INTERVAL:	47' bgs to 300' bgs
SAND PACK SIZE/MATERIAL:	N/A	SAND PACK INTERVAL:	N/A
GROUT TYPE:	Portland Cement	BENTONITE SEAL INTERVAL:	N/A
DEVELOPMENT METHOD/TIME:	Flushed out with rig's air tooling	GROUT INTERVAL:	0' bgs to 47' bgs
REMARKS:	Open hole in bedrock from 47' to 300' bgs. Completed as a stickup well (~2.5' of stickup).		

**DESCRIPTIVE LOG**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
			█	-0-	0' - 22': Light brown VF-C grained sand, some silt, trace quartz gravel, dry.
			█	-	
			█	-	
			█	-	
			█	-	
			█	-5-	
			█	-	
			█	-	
			█	-	
			█	-10-	
			█	-	22' - 52': SAA, moist, wet at 30-35 feet, getting into highly weathered rock at 30'. Softer zone 30-37 feet. More solid rock 37-42 feet. Cuttings dark brown at 40' (diabase).
			█	-	
			█	-	
			█	-	
			█	-	
			█	-15-	
			█	-	
			█	-	
			█	-	
			█	-20-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-25-	
			█	-	
			█	-	
			█	-30-	

- |      |                      |   |                        |    |           |
|------|----------------------|---|------------------------|----|-----------|
| HSA  | Hollow stem auger    | █ | Native soil/rock       | VF | Very fine |
| ags  | Above ground surface | █ | Sand pack              | F  | Fine      |
| bgs  | Below ground surface | █ | Bentonite seal         | M  | Medium    |
| I.D. | Inside diameter      | █ | Cement/bentonite grout | C  | Coarse    |
|      |                      | █ | Well casing            |    |           |
|      |                      | █ | Well screen            |    |           |





# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 4 OF 7
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BORING/WELL I.D.: OW1-2	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 4/2/2019 - 4/3/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-120-	
				-	
				-	122' - 142': SAA, possible fracture(s) around 125'-130'.
				-	
				-	
				-125-	
				-	
				-	
				-	
				-	
				-130-	
				-	
				-	
				-	
				-	
				-	
				-135-	
				-	
				-	
				-	
				-	
				-140-	
				-	142' - 162': SAA
				-	
				-	
				-145-	
				-	
				-	
				-	
				-	
				-150-	
				-	
				-	
				-	
				-	
				-155-	
				-	
				-	
				-	
				-	
				-160-	
				-	162' - 182': SAA
				-	
				-	
				-165-	

HSA	Hollow stem auger		Native soil/rock		VF	Very fine
ags	Above ground surface		Sand pack		F	Fine
bgs	Below ground surface		Bentonite seal		M	Medium
I.D.	Inside diameter		Cement/bentonite grout		C	Coarse
			Well casing			
			Well screen			

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 5 OF 7
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BORING/WELL I.D.: OW1-2	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 4/2/2019 - 4/3/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-170-	182' - 202': SAA
				-	
				-	
				-	
				-	
				-175-	
				-	
				-	
				-	
				-	
				-180-	
				-	
				-	
				-	
				-	
				-185-	
				-	
				-	
				-	
				-190-	
				-	
				-	
				-	
				-	
				-195-	
				-	
				-	
				-	
				-	
				-200-	
				-	
				-	
				-	
				-	
				-	
				-	
				-205-	
				-	
				-	
				-	
				-	
				-	
				-210-	
				-	
				-	
				-	
				-	
				-215-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 6 OF 7
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BORING/WELL I.D.: OW1-2	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 4/2/2019 - 4/3/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-220-	
				-	
				-	222' - 242': SAA
				-	
				-	
				-225-	
				-	
				-	
				-	
				-	
				-230-	
				-	
				-	
				-	
				-	
				-235-	
				-	
				-	
				-	
				-240-	
				-	242' - 262': SAA
				-	
				-	
				-245-	
				-	
				-	
				-	
				-250-	
				-	
				-	
				-	
				-	
				-255-	
				-	
				-	
				-	
				-	
				-260-	
				-	262' - 282': SAA
				-	
				-	
				-265-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		



# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>		SHEET: 1 OF 7	
BORING/WELL I.D.:	OW1-3	CLIENT:	Carolina Sunrock
DATE(S) DRILLED:	4/4/2019	PROJECT NAME:	Caswell County Hydro Study
LOGGED BY:	J. Murphrey	PROJECT NO.:	1925
DRILL METHOD:	Truck-mounted Drilltech T25KW	PROJECT LOCATION:	Wrenn Road, Prospect Hill, NC
SAMPLING METHOD/INTERVAL:	Logged from cuttings.	DRILLING CONTR.:	Carolina-Virginia Well Co.
BORING DIAMETER:	8" (air hammer bit) from 0'-52' bgs; 5.5" (air hammer bit) from 52'-300' bgs.		
REMARKS:	Area 1 observation well.		

<b>WELL CONSTRUCTION INFORMATION</b>			
OUTER CASING SIZE/MATERIAL:	6.125" I.D. Sch. 40 PVC	OUTER CASING INTERVAL:	2' ags to 52' bgs
INNER CASING SIZE/MATERIAL:	N/A	INNER CASING INTERVAL:	N/A
SCREEN SIZE/MATERIAL:	N/A; open hole in bedrock	SCREEN INTERVAL:	52' bgs to 300' bgs
SAND PACK SIZE/MATERIAL:	N/A	SAND PACK INTERVAL:	N/A
GROUT TYPE:	Portland Cement	BENTONITE SEAL INTERVAL:	N/A
DEVELOPMENT METHOD/TIME:	Flushed out with rig's air tooling	GROUT INTERVAL:	0' bgs to 52' bgs
REMARKS:	Open hole in bedrock from 52' to 300' bgs. Completed as a stickup well (~2' of stickup).		

DESCRIPTIVE LOG					
CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
			█	-0-	0' - 17': Light brown VF-C grained sand, some silt, dry.
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-15-	17' - 22': Light brown VF-C drained sand, trace quartz gravel.
			█	-	
			█	-	
			█	-	
			█	-	
			█	-20-	22' - 34': SAA, moist to wet (wet 30-33 feet), highly weathered rock with depth.
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-25-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-	
			█	-30-	

- |      |                      |   |                        |    |           |
|------|----------------------|---|------------------------|----|-----------|
| HSA  | Hollow stem auger    | █ | Native soil/rock       | VF | Very fine |
| ags  | Above ground surface | █ | Sand pack              | F  | Fine      |
| bgs  | Below ground surface | █ | Bentonite seal         | M  | Medium    |
| I.D. | Inside diameter      | █ | Cement/bentonite grout | C  | Coarse    |
|      |                      | █ | Well casing            |    |           |
|      |                      | █ | Well screen            |    |           |







# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 5 OF 7
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BORING/WELL I.D.: OW1-3	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 4/4/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-170-	182' - 202': SAA
				-	
				-	
				-	
				-	
				-175-	
				-	
				-	
				-	
				-	
				-180-	
				-	
				-	
				-	
				-	
				-185-	
				-	
				-	
				-	
				-190-	
				-	
				-	
				-	
				-	
				-195-	
				-	
				-	
				-	
				-200-	
				-	
				-	
				-	
				-	
				-205-	
				-	
				-	
				-	
				-	
				-210-	
				-	
				-	
				-	
				-	
				-215-	

HSA      Hollow stem auger		Native soil/rock	VF	Very fine
ags      Above ground surface		Sand pack	F	Fine
bgs      Below ground surface		Bentonite seal	M	Medium
I.D.      Inside diameter		Cement/bentonite grout	C	Coarse
		Well casing		
		Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 6 OF 7
--------------------------------	---------------

BORING/WELL I.D.: OW1-3	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 4/4/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-220-	
				-	
				-	222' - 242': SAA
				-	
				-	
				-225-	
				-	
				-	
				-	
				-	
				-230-	
				-	
				-	
				-	
				-	
				-235-	
				-	
				-	
				-	
				-240-	
				-	242' - 262': SAA
				-	
				-	
				-245-	
				-	
				-	
				-	
				-250-	
				-	
				-	
				-	
				-255-	
				-	
				-	
				-	
				-260-	
				-	262' - 282': SAA
				-	
				-	
				-265-	

HSA	Hollow stem auger		Native soil/rock		VF	Very fine
ags	Above ground surface		Sand pack		F	Fine
bgs	Below ground surface		Bentonite seal		M	Medium
I.D.	Inside diameter		Cement/bentonite grout		C	Coarse
			Well casing			
			Well screen			



# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>		SHEET: 1 OF 7	
BORING/WELL I.D.:	OW2-1	CLIENT:	Carolina Sunrock
DATE(S) DRILLED:	3/18/2019 - 3/19/2019	PROJECT NAME:	Caswell County Hydro Study
LOGGED BY:	J. Murphrey	PROJECT NO.:	1925
DRILL METHOD:	Truck-mounted Drilltech T25KW	PROJECT LOCATION:	Wrenn Road, Prospect Hill, NC
SAMPLING METHOD/INTERVAL:	Logged from cuttings.	DRILLING CONTR.:	Carolina-Virginia Well Co.
BORING DIAMETER:	8" (air hammer bit) from 0'-49' bgs; 5.5" (air hammer bit) from 49'-300' bgs.		
REMARKS:	Area 2 observation well.		

<b>WELL CONSTRUCTION INFORMATION</b>			
OUTER CASING SIZE/MATERIAL:	6.125" I.D. Sch. 40 PVC	OUTER CASING INTERVAL:	2' ags to 49' bgs
INNER CASING SIZE/MATERIAL:	N/A	INNER CASING INTERVAL:	N/A
SCREEN SIZE/MATERIAL:	N/A; open hole in bedrock	SCREEN INTERVAL:	49' bgs to 300' bgs
SAND PACK SIZE/MATERIAL:	N/A	SAND PACK INTERVAL:	N/A
GROUT TYPE:	Portland Cement	BENTONITE SEAL INTERVAL:	N/A
DEVELOPMENT METHOD/TIME:	Flushed out with rig's air tooling	GROUT INTERVAL:	0' bgs to 49' bgs
REMARKS:	Open hole in bedrock from 49' to 300' bgs. Completed as a stickup well (~2' of stickup).		

<b>DESCRIPTIVE LOG</b>					
CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
			█	-0-	0' - 8': Light brown silt and VF-F grained sand.
				-	
				-	
				-	
				-	
				-5-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-10-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-15-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-20-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-25-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-30-	

HSA	Hollow stem auger	█	Native soil/rock	VF	Very fine
ags	Above ground surface	▨	Sand pack	F	Fine
bgs	Below ground surface	▩	Bentonite seal	M	Medium
I.D.	Inside diameter	▧	Cement/bentonite grout	C	Coarse
		▬	Well casing		
		▮	Well screen		



# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 3 OF 7
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BORING/WELL I.D.: OW2-1	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/18/2019 - 3/19/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-75-	
				-	
				-	
				-	
				-	
				-80-	
				-	
				-	
				-	
				-	
				-	
				-85-	
				-	
				-	
				-	
				-	
				-	
				-90-	
				-	
				-	
				-	
				-	
				-95-	
				-	
				-	
				-	
				-	
				-100-	
				-	
				-	102' - 114': SAA, diabase, wet.
				-	
				-	
				-105-	
				-	
				-	
				-	
				-	
				-110-	
				-	
				-	
				-	
				-	
				-	114' - 122': SAA with apparent water-bearing fracture.
				-115-	
				-	
				-	
				-	
				-	
				-120-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 4 OF 7
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BORING/WELL I.D.: OW2-1	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/18/2019 - 3/19/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-120-	
				-	
				-	122' - 142': SAA
				-	
				-	
				-125-	
				-	
				-	
				-	
				-	
				-130-	
				-	
				-	
				-	
				-	
				-135-	
				-	
				-	
				-	
				-140-	
				-	142' - 162': SAA
				-	
				-	
				-145-	
				-	
				-	
				-	
				-150-	
				-	
				-	
				-	
				-	
				-155-	
				-	
				-	
				-	
				-	
				-160-	
				-	162' - 182': SAA
				-	
				-	
				-165-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 5 OF 7
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BORING/WELL I.D.: OW2-1	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/18/2019 - 3/19/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-170-	
				-	
				-	
				-	
				-	
				-175-	
				-	
				-	
				-	
				-	
				-180-	
				-	
				-	
				-	
				-	
				-	
				-185-	
				-	
				-	
				-	
				-	
				-190-	
				-	
				-	
				-	
				-	
				-	
				-	
				-195-	
				-	
				-	
				-	
				-	
				-	
				-200-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-205-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-210-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-215-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 6 OF 7
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BORING/WELL I.D.: OW2-1	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/18/2019 - 3/19/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-220-	
				-	
				-	222' - 242': SAA, possible weathered zone around 230' to 231'.
				-	
				-	
				-225-	
				-	
				-	
				-	
				-	
				-230-	
				-	
				-	
				-	
				-	
				-235-	
				-	
				-	
				-	
				-240-	
				-	242' - 262': SAA
				-	
				-	
				-245-	
				-	
				-	
				-	
				-250-	
				-	
				-	
				-	
				-	
				-255-	
				-	
				-	
				-	
				-260-	
				-	262' 282': SAA
				-	
				-	
				-265-	

HSA	Hollow stem auger		Native soil/rock		VF	Very fine
ags	Above ground surface		Sand pack		F	Fine
bgs	Below ground surface		Bentonite seal		M	Medium
I.D.	Inside diameter		Cement/bentonite grout		C	Coarse
			Well casing			
			Well screen			



# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>		SHEET: 1 OF 7	
BORING/WELL I.D.:	OW2-2	CLIENT:	Carolina Sunrock
DATE(S) DRILLED:	3/19/2019 - 3/20/2019	PROJECT NAME:	Caswell County Hydro Study
LOGGED BY:	J. Murphrey	PROJECT NO.:	1925
DRILL METHOD:	Truck-mounted Drilltech T25KW	PROJECT LOCATION:	Wrenn Road, Prospect Hill, NC
SAMPLING METHOD/INTERVAL:	Logged from cuttings.	DRILLING CONTR.:	Carolina-Virginia Well Co.
BORING DIAMETER:	8" (air hammer bit) from 0'-36' bgs; 5.5" (air hammer bit) from 36'-300' bgs.		
REMARKS:	Area 2 observation well.		

<b>WELL CONSTRUCTION INFORMATION</b>			
OUTER CASING SIZE/MATERIAL:	6.125" I.D. Sch. 40 PVC	OUTER CASING INTERVAL:	2' ags to 36' bgs
INNER CASING SIZE/MATERIAL:	N/A	INNER CASING INTERVAL:	N/A
SCREEN SIZE/MATERIAL:	N/A; open hole in bedrock	SCREEN INTERVAL:	36' bgs to 300' bgs
SAND PACK SIZE/MATERIAL:	N/A	SAND PACK INTERVAL:	N/A
GROUT TYPE:	Portland Cement	BENTONITE SEAL INTERVAL:	N/A
DEVELOPMENT METHOD/TIME:	Flushed out with rig's air tooling	GROUT INTERVAL:	0' bgs to 36' bgs
REMARKS:	Open hole in bedrock from 36' to 300' bgs. Completed as a stickup well (~2' of stickup).		

**DESCRIPTIVE LOG**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
			█	-0-	0' - 10': Light brown VF-F grained sand, some silt.
				-	
				-	
				-	
				-	
				-5-	
				-	
				-	
				-	
				-	
				-10-	10' - 22': Light brown VF-C grained sand, some silt, getting into highly weathered rock (still unconsolidated).
				-	
				-	
				-	
				-	
				-15-	
				-	
				-	
				-	
				-	
				-20-	22' - 30': SAA, increasing hardness, some gravel.
				-	
				-	
				-	
				-25-	
				-	
				-	
				-	
				-30-	

- |      |                      |   |                        |    |           |
|------|----------------------|---|------------------------|----|-----------|
| HSA  | Hollow stem auger    | █ | Native soil/rock       | VF | Very fine |
| ags  | Above ground surface | ▨ | Sand pack              | F  | Fine      |
| bgs  | Below ground surface | ▩ | Bentonite seal         | M  | Medium    |
| I.D. | Inside diameter      | ▧ | Cement/bentonite grout | C  | Coarse    |
|      |                      | ▩ | Well casing            |    |           |
|      |                      | ▩ | Well screen            |    |           |

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 2 OF 7
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BORING/WELL I.D.: OW2-2	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/19/2019 - 3/20/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-30-	30' - 40': SAA, getting harder with depth (drill bit chattering), unweathered rock.
				-	
				-	
				-35-	Set 6.125" PVC casing to 36' bgs.
				-	
				-	
				-40-	40' - 42': SAA, color change from light brown to light grey (diorite), wet.
				-	
				-	
				-42-	42' - 50': SAA
				-	
				-	
				-45-	
				-	
				-	
				-50-	50' - 52': SAA
				-	
				-	
				-52-	52' - 62': Color change back to brown / dark brown, rock much harder (diabase).
				-	
				-	
				-55-	
				-	
				-	
				-60-	62' - 82': SAA
				-	
				-	
				-65-	
				-	
				-	
				-70-	
				-	
				-	
				-75-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		





# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 5 OF 7
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BORING/WELL I.D.: OW2-2	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/19/2019 - 3/20/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-170-	182' - 202': SAA
				-	
				-	
				-	
				-	
				-175-	
				-	
				-	
				-	
				-	
				-180-	
				-	
				-	
				-	
				-	
				-185-	
				-	
				-	
				-	
				-190-	
				-	
				-	
				-	
				-	
				-195-	
				-	
				-	
				-	
				-	
				-200-	
				-	
				-	
				-	
				-	
				-	
				-205-	
				-	
				-	
				-	
				-	
				-210-	
				-	
				-	
				-	
				-	
				-215-	

HSA      Hollow stem auger		Native soil/rock	VF	Very fine
ags      Above ground surface		Sand pack	F	Fine
bgs      Below ground surface		Bentonite seal	M	Medium
I.D.      Inside diameter		Cement/bentonite grout	C	Coarse
		Well casing		
		Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 6 OF 7
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BORING/WELL I.D.: OW2-2	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/19/2019 - 3/20/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-220-	
				-	
				-	222' - 242': SAA
				-	
				-	
				-225-	
				-	
				-	
				-	
				-	
				-230-	
				-	
				-	
				-	
				-	
				-235-	
				-	
				-	
				-	
				-240-	
				-	242' - 262': SAA
				-	
				-	
				-245-	
				-	
				-	
				-	
				-250-	
				-	
				-	
				-	
				-255-	
				-	
				-	
				-	
				-260-	
				-	262' - 282': SAA
				-	
				-	
				-265-	

HSA	Hollow stem auger		Native soil/rock		VF	Very fine
ags	Above ground surface		Sand pack		F	Fine
bgs	Below ground surface		Bentonite seal		M	Medium
I.D.	Inside diameter		Cement/bentonite grout		C	Coarse
			Well casing			
			Well screen			



# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>				SHEET: 1 OF 7	
BORING/WELL I.D.: OW2-3		CLIENT: Carolina Sunrock			
DATE(S) DRILLED: 3/22/2019 & 3/26/2019		PROJECT NAME: Caswell County Hydro Study			
LOGGED BY: J. Murphrey		PROJECT NO.: 1925			
DRILL METHOD: Truck-mounted Drilltech T25KW		PROJECT LOCATION: Wrenn Road, Prospect Hill, NC			
SAMPLING METHOD/INTERVAL: Logged from cuttings.		DRILLING CONTR.: Carolina-Virginia Well Co.			
BORING DIAMETER: 8" (air hammer bit) from 0'-69' bgs; 5.5" (air hammer bit) from 69'-300' bgs.					
REMARKS: Area 2 observation well.					
<b>WELL CONSTRUCTION INFORMATION</b>					
OUTER CASING SIZE/MATERIAL: 6.125" I.D. Sch. 40 PVC		OUTER CASING INTERVAL: 1.5' ags to 69' bgs			
INNER CASING SIZE/MATERIAL: N/A		INNER CASING INTERVAL: N/A			
SCREEN SIZE/MATERIAL: N/A; open hole in bedrock		SCREEN INTERVAL: 69' bgs to 300' bgs			
SAND PACK SIZE/MATERIAL: N/A		SAND PACK INTERVAL: N/A			
GROUT TYPE: Portland Cement		BENTONITE SEAL INTERVAL: N/A			
DEVELOPMENT METHOD/TIME: Flushed out with rig's air tooling		GROUT INTERVAL: 0' bgs to 69' bgs			
REMARKS: Open hole in bedrock from 69' to 300' bgs. Completed as a stickup well (~1.5' of stickup).					
<b>DESCRIPTIVE LOG</b>					
CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
			█	-0-	0' - 22': Light brown VF-F grained sand and silt. Some M-C grained sand, dry.
				-	
				-	
				-	
				-	
				-5-	
				-	
				-	
				-	
				-	
				-10-	
				-	
				-	
				-	
				-	
				-15-	
				-	
				-	
				-	
				-20-	
				-	
				-	
				-	
				-25-	
				-	
				-	
				-	
				-30-	
			█	-	22' - 35': SAA, highly weathered rock, light brown to brown.
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	

- |      |                      |   |                        |    |           |
|------|----------------------|---|------------------------|----|-----------|
| HSA  | Hollow stem auger    | █ | Native soil/rock       | VF | Very fine |
| ags  | Above ground surface | █ | Sand pack              | F  | Fine      |
| bgs  | Below ground surface | █ | Bentonite seal         | M  | Medium    |
| I.D. | Inside diameter      | █ | Cement/bentonite grout | C  | Coarse    |
|      |                      | █ | Well casing            |    |           |
|      |                      | █ | Well screen            |    |           |

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 2 OF 7
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BORING/WELL I.D.: OW2-3	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/22/2019 & 3/26/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-30-	
				-	
				-	
				-	
				-35-	35' - 42': SAA, getting harder with depth, wet at 35 to 40 feet.
				-	
				-	
				-	
				-40-	
				-	
				-	
				-	
				-	
				-45-	
				-	
				-	
				-	
				-50-	
				-	
				-	
				-	
				-	
				-55-	
				-	
				-	
				-	
				-60-	
				-	
				-	
				-	
				-	
				-65-	
				-	
				-	
				-	
				-	
				-70-	Set 6.125" PVC casing to 69' bgs.
				-	
				-	
				-	
				-	
				-75-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 3 OF 7
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BORING/WELL I.D.: OW2-3	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/22/2019 & 3/26/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-75-	82' - 102': SAA
				-	
				-	
				-	
				-	
				-80-	
				-	
				-	
				-	
				-	
				-	
				-85-	
				-	
				-	
				-	
				-	
				-90-	
				-	
				-	
				-	
				-	
				-95-	
				-	
				-	
				-	
				-	
				-100-	
				-	
				-	
				-	
				-	
				-	
				-	
				-105-	
				-	
				-	
				-	
				-	
				-110-	
				-	
				-	
				-	
				-	
				-	
				-115-	
				-	
				-	
				-	
				-	
				-	
				-120-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 4 OF 7
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BORING/WELL I.D.: OW2-3	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/22/2019 & 3/26/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-120-	
				-	
				-	122' - 142': SAA
				-	
				-	
				-125-	
				-	
				-	
				-	
				-	
				-130-	
				-	
				-	
				-	
				-	
				-	
				-135-	
				-	
				-	
				-	
				-	
				-140-	
				-	142' - 162': SAA
				-	
				-	
				-	
				-145-	
				-	
				-	
				-	
				-	
				-150-	
				-	
				-	
				-	
				-	
				-	
				-155-	
				-	
				-	
				-	
				-	
				-160-	
				-	162' - 182': SAA
				-	
				-	
				-165-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 5 OF 7
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BORING/WELL I.D.: OW2-3	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/22/2019 & 3/26/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-170-	<div style="margin-bottom: 10px;">182' - 202': SAA</div> <div style="margin-bottom: 10px;">202' - 222': SAA</div>
				-	
				-	
				-	
				-	
				-175-	
				-	
				-	
				-	
				-	
				-180-	
				-	
				-	
				-	
				-	
				-185-	
				-	
				-	
				-	
				-	
				-190-	
				-	
				-	
				-	
				-	
				-195-	
				-	
				-	
				-	
				-	
				-200-	
				-	
				-	
				-	
				-	
				-205-	
				-	
				-	
				-	
				-	
				-210-	
				-	
				-	
				-	
				-	
				-215-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 6 OF 7
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BORING/WELL I.D.: OW2-3	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/22/2019 & 3/26/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-220-	
				-	
				-	222' - 242': SAA
				-	
				-	
				-225-	
				-	
				-	
				-	
				-	
				-230-	
				-	
				-	
				-	
				-	
				-235-	
				-	
				-	
				-	
				-240-	
				-	242' - 250': SAA, with water-bearing fracture at 250 feet.
				-	
				-	
				-245-	
				-	
				-	
				-	
				-250-	250' - 262': SAA
				-	
				-	
				-	
				-	
				-255-	
				-	
				-	
				-	
				-260-	
				-	262' - 282': SAA
				-	
				-	
				-265-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		



# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>		SHEET: 1 OF 7	
BORING/WELL I.D.:	PW-1	CLIENT:	Carolina Sunrock
DATE(S) DRILLED:	4/1/2019 - 4/2/2019	PROJECT NAME:	Caswell County Hydro Study
LOGGED BY:	J. Murphrey	PROJECT NO.:	1925
DRILL METHOD:	Truck-mounted Drilltech T25KW	PROJECT LOCATION:	Wrenn Road, Prospect Hill, NC
SAMPLING METHOD/INTERVAL:	Logged from cuttings.	DRILLING CONTR.:	Carolina-Virginia Well Co.
BORING DIAMETER:	8" (air hammer bit) from 0'-52' bgs; 5.5" (air hammer bit) from 52'-300' bgs.		
REMARKS:	Area 1 pumping well.		

<b>WELL CONSTRUCTION INFORMATION</b>			
OUTER CASING SIZE/MATERIAL:	6.125" I.D. Sch. 40 PVC	OUTER CASING INTERVAL:	3.5' ags to 52' bgs
INNER CASING SIZE/MATERIAL:	N/A	INNER CASING INTERVAL:	N/A
SCREEN SIZE/MATERIAL:	N/A; open hole in bedrock	SCREEN INTERVAL:	52' bgs to 300' bgs
SAND PACK SIZE/MATERIAL:	N/A	SAND PACK INTERVAL:	N/A
GROUT TYPE:	Portland Cement	BENTONITE SEAL INTERVAL:	N/A
DEVELOPMENT METHOD/TIME:	Flushed out with rig's air tooling	GROUT INTERVAL:	0' bgs to 52' bgs
REMARKS:	Open hole in bedrock from 52' to 300' bgs. Completed as a stickup well (~3.5' of stickup).		

<b>DESCRIPTIVE LOG</b>					
CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
			█	-0-	0' - 11': Light brown VF-C grained sand, some silt, dry
				-	
				-	
				-	
				-	
				-	
				-5-	
				-	
				-	
				-	
				-	
				-10-	
				-	11' - 13': White to light gray cuttings, silt, some VF-F grained sand, dry.
				-	13' - 22': Light brown VF-C grained sand, trace quartz gravel, mosit.
				-	
				-15-	
				-	
				-	
				-	
				-	
				-20-	
				-	22' - 34': SAA, moist to wet (wet 30-33 feet), highly weathered rock with depth.
				-	
				-	
				-25-	
				-	
				-	
				-	
				-30-	

- |      |                      |   |                        |    |           |
|------|----------------------|---|------------------------|----|-----------|
| HSA  | Hollow stem auger    | █ | Native soil/rock       | VF | Very fine |
| ags  | Above ground surface | ▨ | Sand pack              | F  | Fine      |
| bgs  | Below ground surface | ▩ | Bentonite seal         | M  | Medium    |
| I.D. | Inside diameter      | ▧ | Cement/bentonite grout | C  | Coarse    |
|      |                      | ▬ | Well casing            |    |           |
|      |                      | ▮ | Well screen            |    |           |



# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 3 OF 7
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BORING/WELL I.D.: PW-1	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 4/1/2019 - 4/2/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-75-	
				-	
				-	
				-	
				-	
				-80-	
				-	
				-	
				-	
				-	
				-	
				-	
				-85-	
				-	
				-	
				-	
				-	
				-	
				-90-	
				-	
				-	
				-	
				-	
				-	
				-95-	
				-	
				-	
				-	
				-	
				-	
				-100-	
				-	
				-	
				-	
				-	
				-	
				-	
				-105-	
				-	
				-	
				-	
				-	
				-	
				-	
				-110-	
				-	
				-	
				-	
				-	
				-	
				-	
				-115-	
				-	
				-	
				-	
				-	
				-	
				-	
				-	
				-120-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 4 OF 7
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BORING/WELL I.D.: PW-1	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 4/1/2019 - 4/2/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-120-	
				-	
				-	122' - 142': SAA
				-	
				-	
				-125-	
				-	
				-	
				-	
				-	
				-130-	
				-	
				-	
				-	
				-	
				-135-	
				-	
				-	
				-	
				-140-	
				-	142' - 162': SAA
				-	
				-	
				-145-	
				-	
				-	
				-	
				-150-	
				-	
				-	
				-	
				-155-	
				-	
				-	
				-	
				-160-	
				-	162' - 182': SAA
				-	
				-	
				-165-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 5 OF 7
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BORING/WELL I.D.: PW-1	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 4/1/2019 - 4/2/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-170-	
				-	
				-	
				-	
				-	
				-175-	
				-	
				-	
				-	
				-	
				-180-	
				-	
				-	
				-	
				-	
				-185-	
				-	
				-	
				-	
				-190-	
				-	
				-	
				-	
				-	
				-195-	
				-	
				-	
				-	
				-	
				-200-	
				-	
				-	
				-	
				-	
				-	
				-205-	
				-	
				-	
				-	
				-	
				-210-	
				-	
				-	
				-	
				-	
				-215-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

182' - 202': SAA

202' - 222': SAA, rock still appears to be diabase.

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 6 OF 7
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BORING/WELL I.D.: PW-1	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 4/1/2019 - 4/2/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-220-	
				-	
				-	222' - 242': SAA
				-	
				-	
				-225-	
				-	
				-	
				-	
				-	
				-230-	
				-	
				-	
				-	
				-	
				-235-	
				-	
				-	
				-	
				-240-	
				-	242' - 262': SAA
				-	
				-	
				-245-	
				-	
				-	
				-	
				-250-	
				-	
				-	
				-	
				-	
				-255-	
				-	
				-	
				-	
				-	
				-260-	
				-	262' - 282': SAA
				-	
				-	
				-265-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		



# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>		SHEET: 1 OF 7	
BORING/WELL I.D.:	PW-2	CLIENT:	Carolina Sunrock
DATE(S) DRILLED:	3/20/2019 - 3/21/2019	PROJECT NAME:	Caswell County Hydro Study
LOGGED BY:	J. Murphrey	PROJECT NO.:	1925
DRILL METHOD:	Truck-mounted Drilltech T25KW	PROJECT LOCATION:	Wrenn Road, Prospect Hill, NC
SAMPLING METHOD/INTERVAL:	Logged from cuttings.	DRILLING CONTR.:	Carolina-Virginia Well Co.
BORING DIAMETER:	8" (air hammer bit) from 0'-64' bgs; 5.5" (air hammer bit) from 64'-300' bgs.		
REMARKS:	Area 2 pumping well.		

<b>WELL CONSTRUCTION INFORMATION</b>			
OUTER CASING SIZE/MATERIAL:	6.125" I.D. Sch. 40 PVC	OUTER CASING INTERVAL:	3.5' ags to 64' bgs
INNER CASING SIZE/MATERIAL:	N/A	INNER CASING INTERVAL:	N/A
SCREEN SIZE/MATERIAL:	N/A; open hole in bedrock	SCREEN INTERVAL:	64' bgs to 300' bgs
SAND PACK SIZE/MATERIAL:	N/A	SAND PACK INTERVAL:	N/A
GROUT TYPE:	Portland Cement	BENTONITE SEAL INTERVAL:	N/A
DEVELOPMENT METHOD/TIME:	Flushed out with rig's air tooling	GROUT INTERVAL:	0' bgs to 64' bgs
REMARKS:	Open hole in bedrock from 64' to 300' bgs. Completed as a stickup well (~3.5' of stickup).		

<b>DESCRIPTIVE LOG</b>					
CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
			█	-0-	0'- 22': Light brown silt and VF-F grained sand, dry, some M-C grained sand. Lower 5-10 ft slightly more competent than above (highly weathered rock).
				-	
				-	
				-	
				-	
				-	
				-5-	
				-	
				-	
				-	
				-	
				-10-	
				-	
				-	
				-	
				-15-	
				-	
				-	
				-	
				-20-	
				-	
				-	
				-	
				-25-	
				-	
				-	
				-	
				-30-	
			█	22' - 32': SAA	

HSA	Hollow stem auger	█	Native soil/rock	VF	Very fine
ags	Above ground surface	▨	Sand pack	F	Fine
bgs	Below ground surface	▩	Bentonite seal	M	Medium
I.D.	Inside diameter	▧	Cement/bentonite grout	C	Coarse
		▬	Well casing		
		▮	Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 2 OF 7
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BORING/WELL I.D.: PW-2	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/20/2019 - 3/21/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
			[Graphic Column]	-30-	
				-	
				-	32' - 42': Color change from light brown to brown / dark brown, moist to wet, getting harder.
				-	
				-	
				-35-	
				-	
				-	
				-	
				-40-	
				-	42' - 62': SAA, color more light brown to light grey, hard rock.
				-	
				-	
				-45-	
				-	
				-	
				-	
				-50-	50': SAA, very hard rock.
				-	
				-	
				-	
				-55-	
				-	
				-	
				-	
				-60-	
				-	62' - 64': SAA
				-	Set 6.125" PVC casing to 64' bgs.
				-	64' - 102': SAA, brown / dark brown, very solid rock.
				-	
				-	
				-70-	
				-	
				-	
				-	
				-75-	

HSA	Hollow stem auger	[Solid Black]	Native soil/rock	VF	Very fine
ags	Above ground surface	[Dotted]	Sand pack	F	Fine
bgs	Below ground surface	[Cross-hatched]	Bentonite seal	M	Medium
I.D.	Inside diameter	[Horizontal Lines]	Cement/bentonite grout	C	Coarse
		[Vertical Lines]	Well casing		
		[Horizontal Lines]	Well screen		



# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 4 OF 7
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BORING/WELL I.D.: PW-2	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/20/2019 - 3/21/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-120-	
				-	
				-	122' - 142': SAA
				-	
				-	
				-125-	
				-	
				-	
				-	
				-	
				-130-	
				-	
				-	
				-	
				-	
				-135-	
				-	
				-	
				-	
				-140-	
				-	142' - 162': SAA
				-	
				-	
				-145-	
				-	
				-	
				-	
				-150-	
				-	
				-	
				-	
				-	
				-155-	
				-	
				-	
				-	
				-	
				-160-	
				-	162' - 182': SAA
				-	
				-	
				-165-	

HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 5 OF 7
--------------------------------	---------------

BORING/WELL I.D.: PW-2	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/20/2019 - 3/21/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-170-	182' - 202': SAA
				-	
				-	
				-	
				-	
				-175-	
				-	
				-	
				-	
				-	
				-180-	
				-	
				-	
				-	
				-	
				-185-	
				-	
				-	
				-	
				-190-	
				-	
				-	
				-	
				-	
				-195-	
				-	
				-	
				-	
				-	
				-200-	
				-	
				-	
				-	
				-	
				-	
				-205-	
				-	
				-	
				-	
				-	
				-210-	
				-	
				-	
				-	
				-	
				-	
				-215-	

HSA      Hollow stem auger	Native soil/rock Sand pack Bentonite seal Cement/bentonite grout Well casing Well screen	VF      Very fine F      Fine M      Medium C      Coarse
ags      Above ground surface		
bgs      Below ground surface		
I.D.      Inside diameter		

# BORING/WELL LOG

<b>PIEDMONT GEOLOGIC, P.C.</b>	SHEET: 6 OF 7
--------------------------------	---------------

BORING/WELL I.D.: PW-2	CLIENT/PROJECT: Carolina Sunrock	DATE(S) DRILLED: 3/20/2019 - 3/21/2019
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**DESCRIPTIVE LOG (continued)**

CORE RUN INTERVAL (FT)	SAMPLE INTERVAL (FT)	PID VOCs (ppm)	GRAPHIC COLUMN	DEPTH (FT)	DESCRIPTION OF MATERIAL
				-220-	
				-	
				-	222' - 242': SAA, water-bearing fracture around 225-230 feet.
				-	
				-	
				-225-	
				-	
				-	
				-	
				-	
				-230-	
				-	
				-	
				-	
				-	
				-235-	
				-	
				-	
				-	
				-240-	
				-	242' - 262': SAA
				-	
				-	
				-245-	
				-	
				-	
				-	
				-250-	
				-	
				-	
				-	
				-	
				-255-	
				-	
				-	
				-	
				-260-	
				-	262' - 282': SAA
				-	
				-	
				-265-	

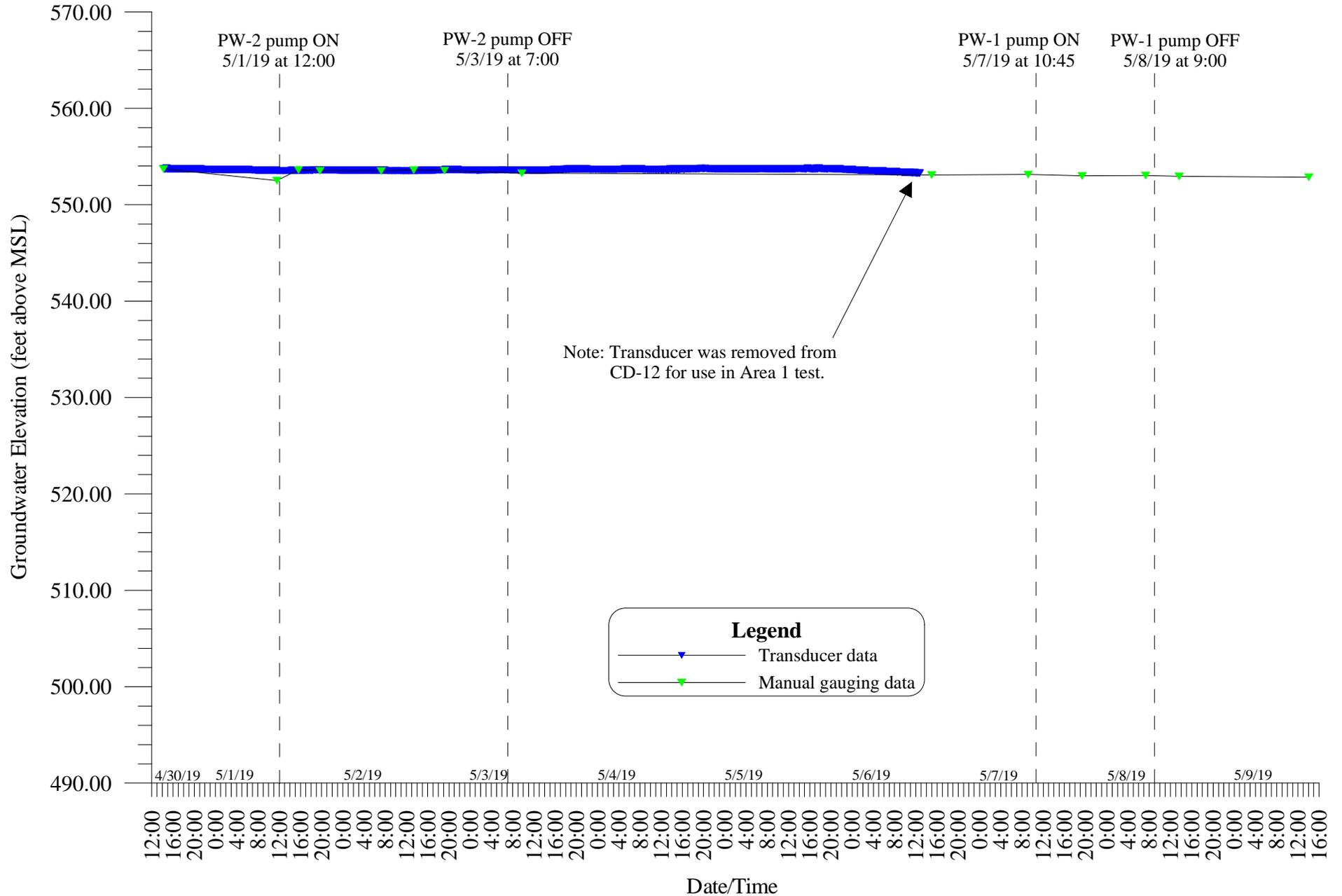
HSA	Hollow stem auger		Native soil/rock	VF	Very fine
ags	Above ground surface		Sand pack	F	Fine
bgs	Below ground surface		Bentonite seal	M	Medium
I.D.	Inside diameter		Cement/bentonite grout	C	Coarse
			Well casing		
			Well screen		



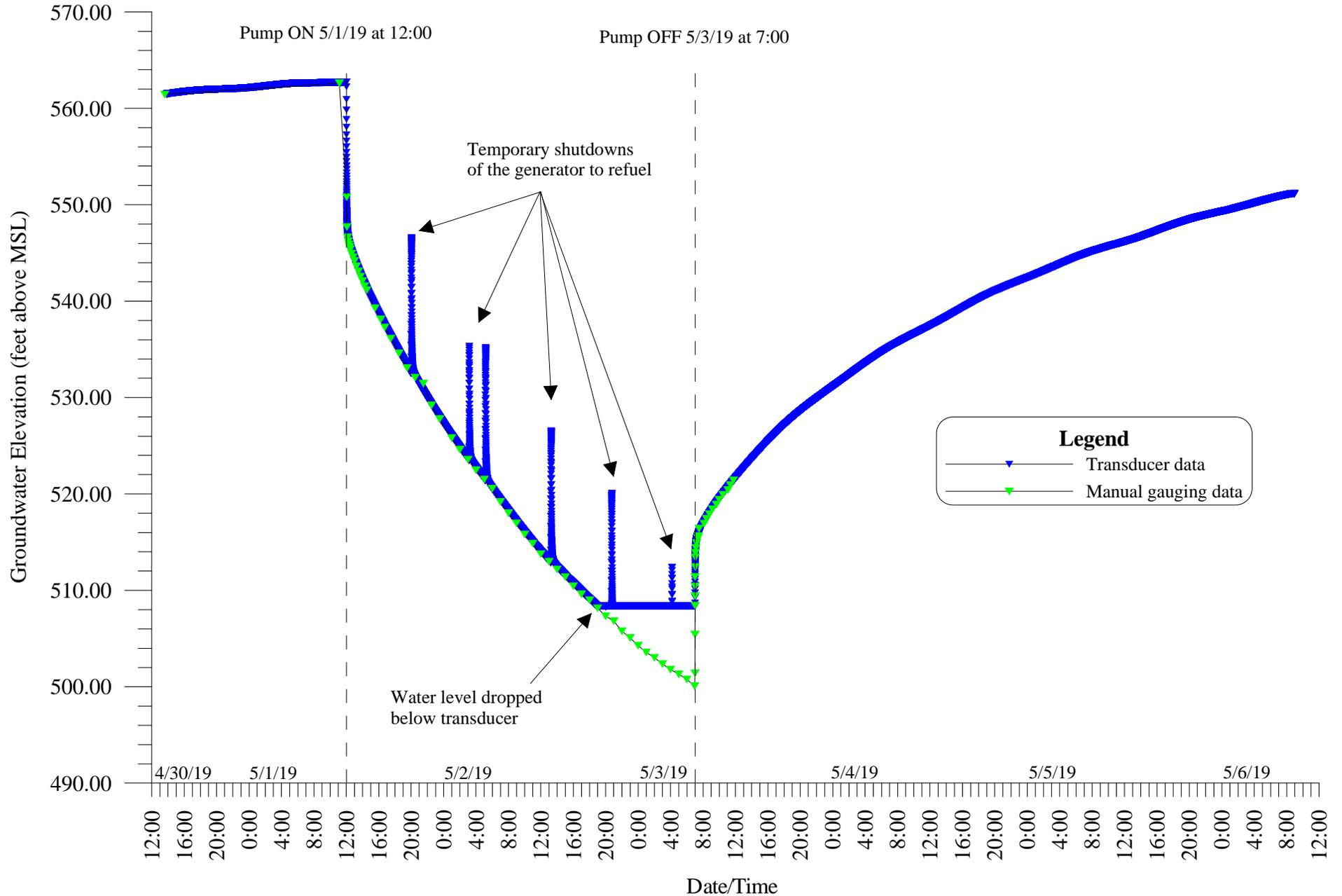
## **APPENDIX B**

### **GRAPHS (GROUNDWATER LEVELS VS TIME)**

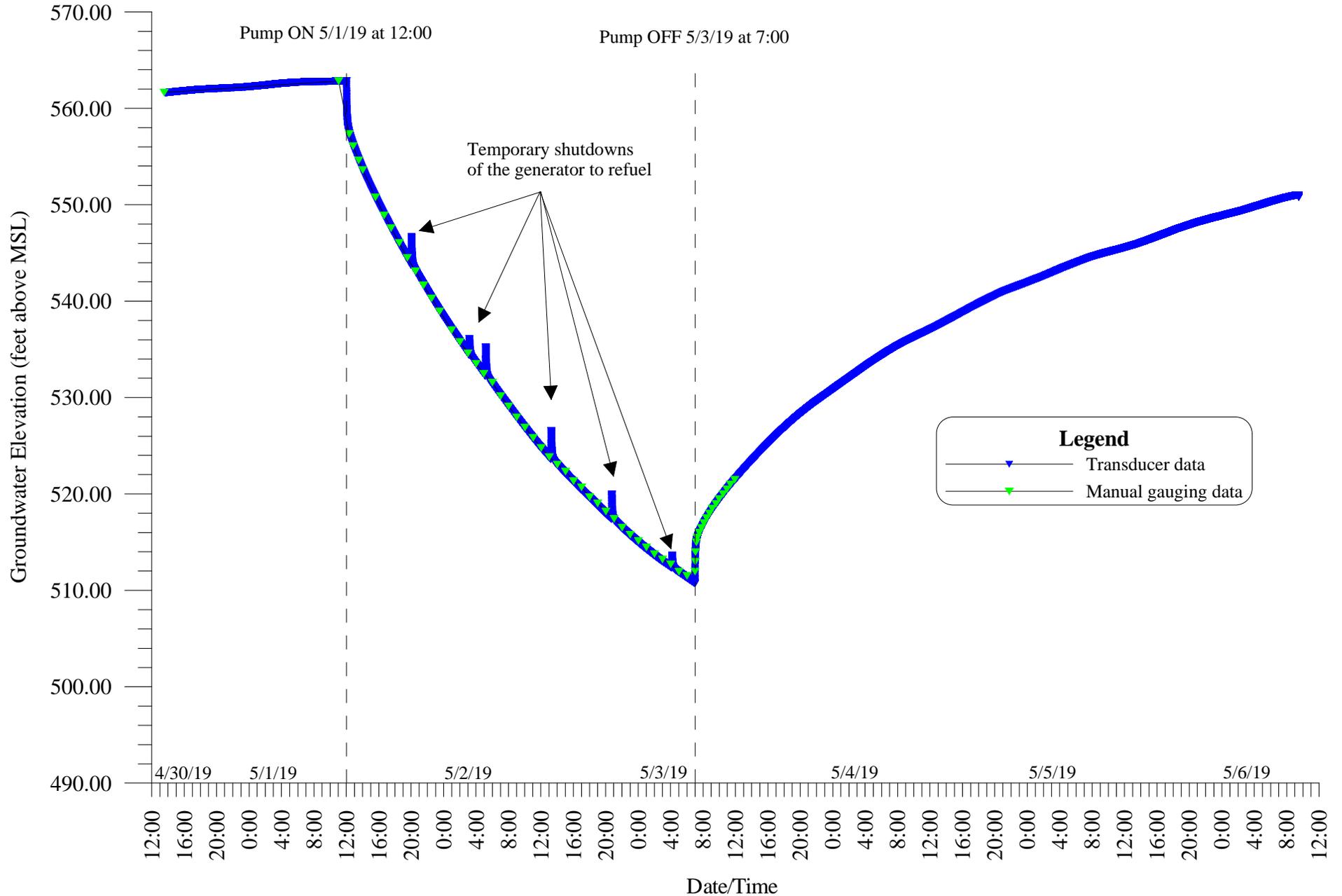
**CD-12 (BACKGROUND OBSERVATION WELL)  
GROUNDWATER LEVELS VERSUS TIME  
CAROLINA SUNROCK - CASWELL COUNTY PROPERTY  
APRIL 30 - MAY 9, 2019**



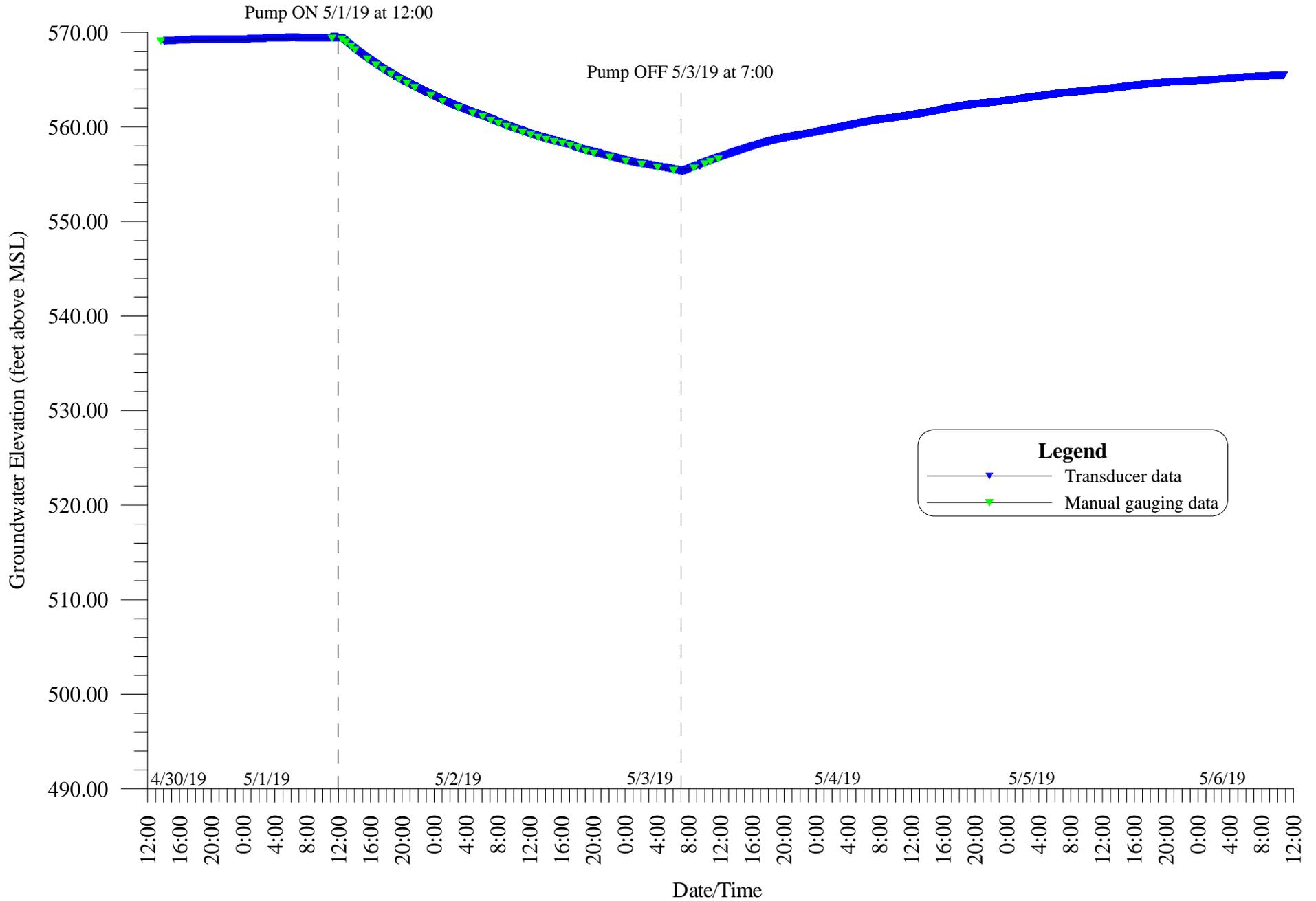
**PW-2 (AREA 2 PUMPING WELL)  
GROUNDWATER LEVELS VERSUS TIME  
CAROLINA SUNROCK - CASWELL COUNTY PROPERTY  
APRIL 30 - MAY 6, 2019**



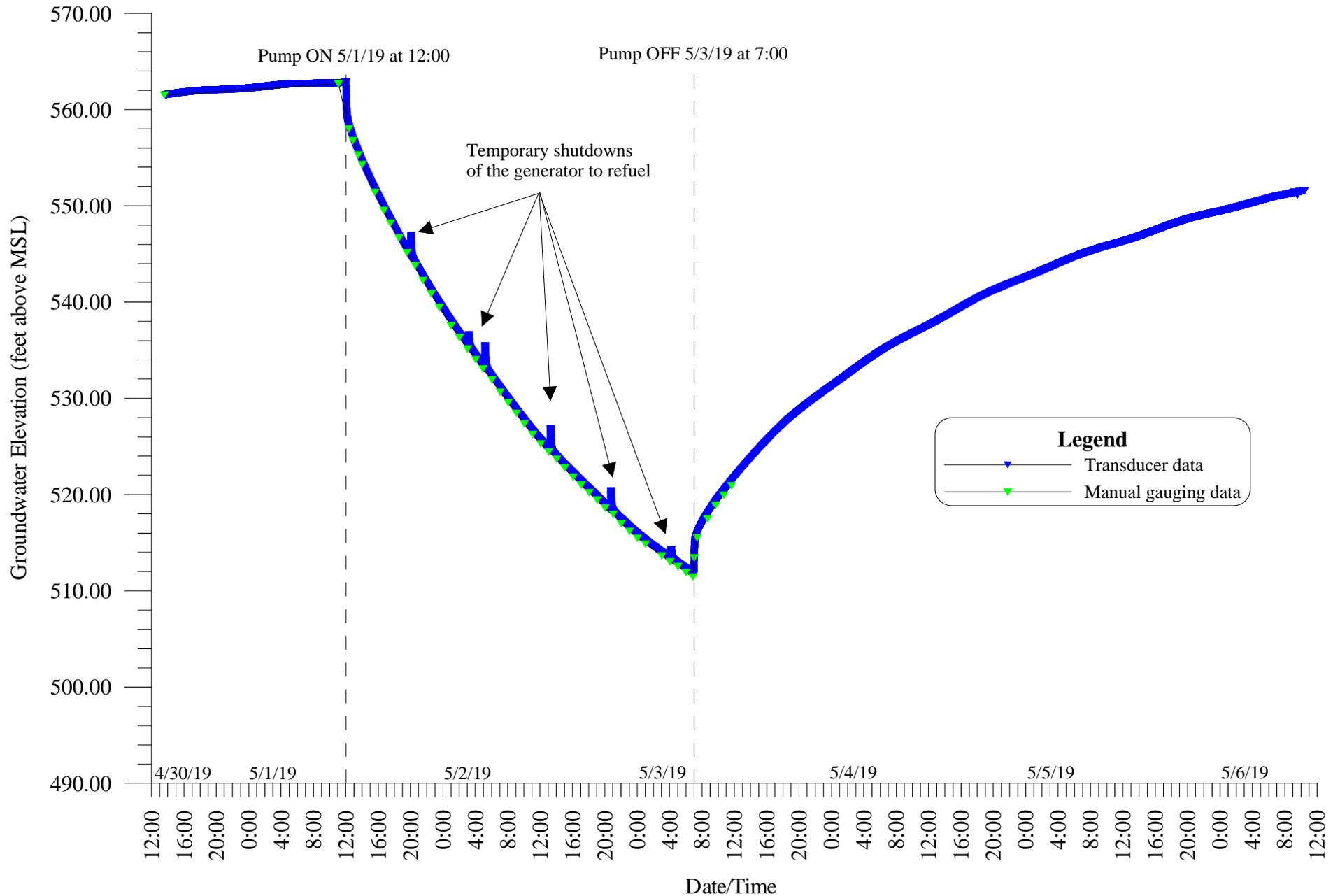
**OW2-1 (AREA 2 OBSERVATION WELL)  
GROUNDWATER LEVELS VERSUS TIME  
CAROLINA SUNROCK - CASWELL COUNTY PROPERTY  
APRIL 30 - MAY 6, 2019**



**OW2-2 (AREA 2 OBSERVATION WELL)  
GROUNDWATER LEVELS VERSUS TIME  
CAROLINA SUNROCK - CASWELL COUNTY PROPERTY  
APRIL 30 - MAY 6, 2019**

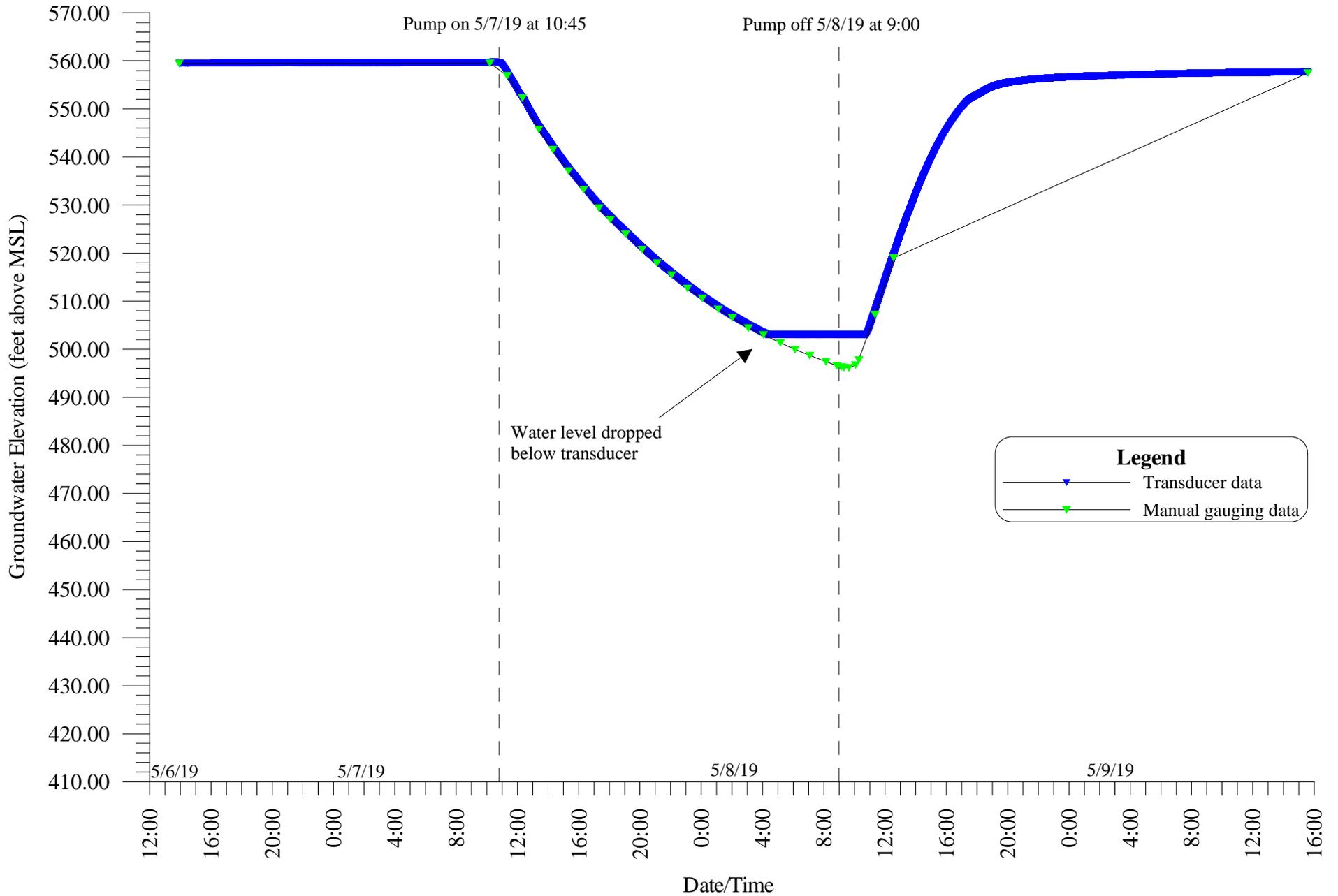


**OW2-3 (AREA 2 OBSERVATION WELL)  
GROUNDWATER LEVELS VERSUS TIME  
CAROLINA SUNROCK - CASWELL COUNTY PROPERTY  
APRIL 30 - MAY 6, 2019**

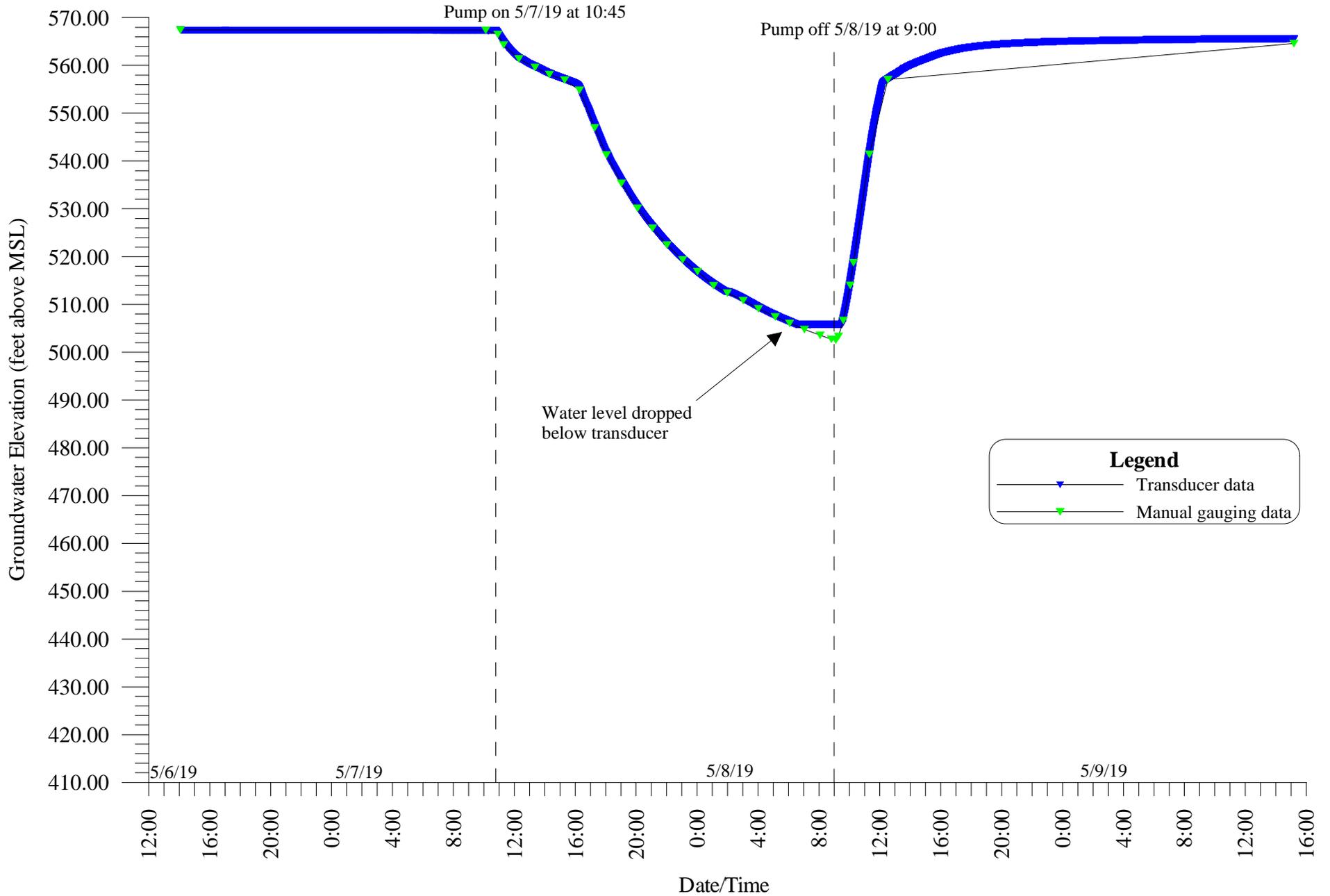




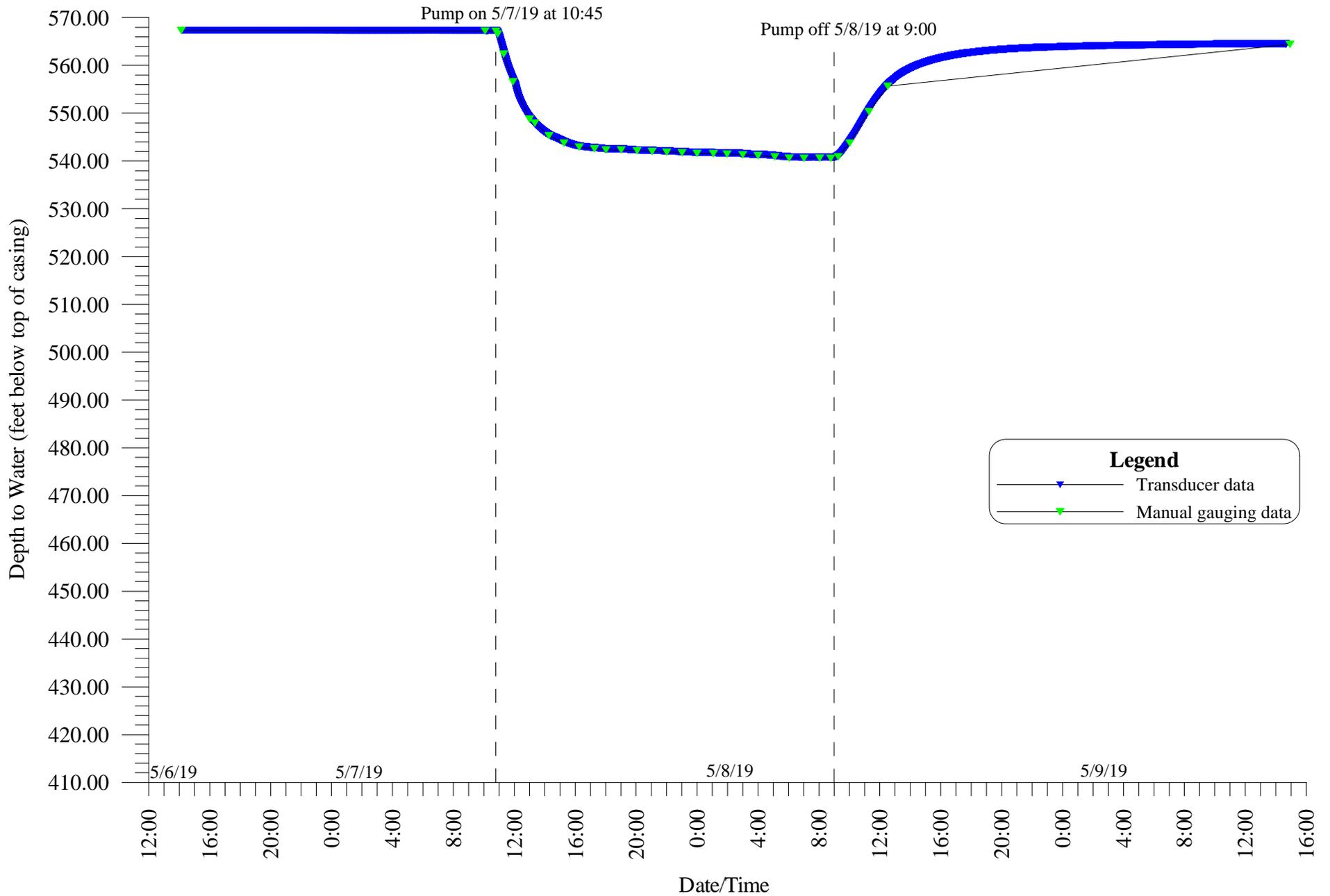
**OW1-1 (AREA 1 OBSERVATION WELL)  
GROUNDWATER LEVELS VERSUS TIME  
CAROLINA SUNROCK - CASWELL COUNTY PROPERTY  
MAY 6 - 9, 2019**



**OW1-2 (AREA 1 OBSERVATION WELL)  
GROUNDWATER LEVELS VERSUS TIME  
CAROLINA SUNROCK - CASWELL COUNTY PROPERTY  
MAY 6 - 9, 2019**



**OW1-3 (AREA 1 OBSERVATION WELL)  
GROUNDWATER LEVELS VERSUS TIME  
CAROLINA SUNROCK - CASWELL COUNTY PROPERTY  
MAY 6 - 9, 2019**



## **APPENDIX C**

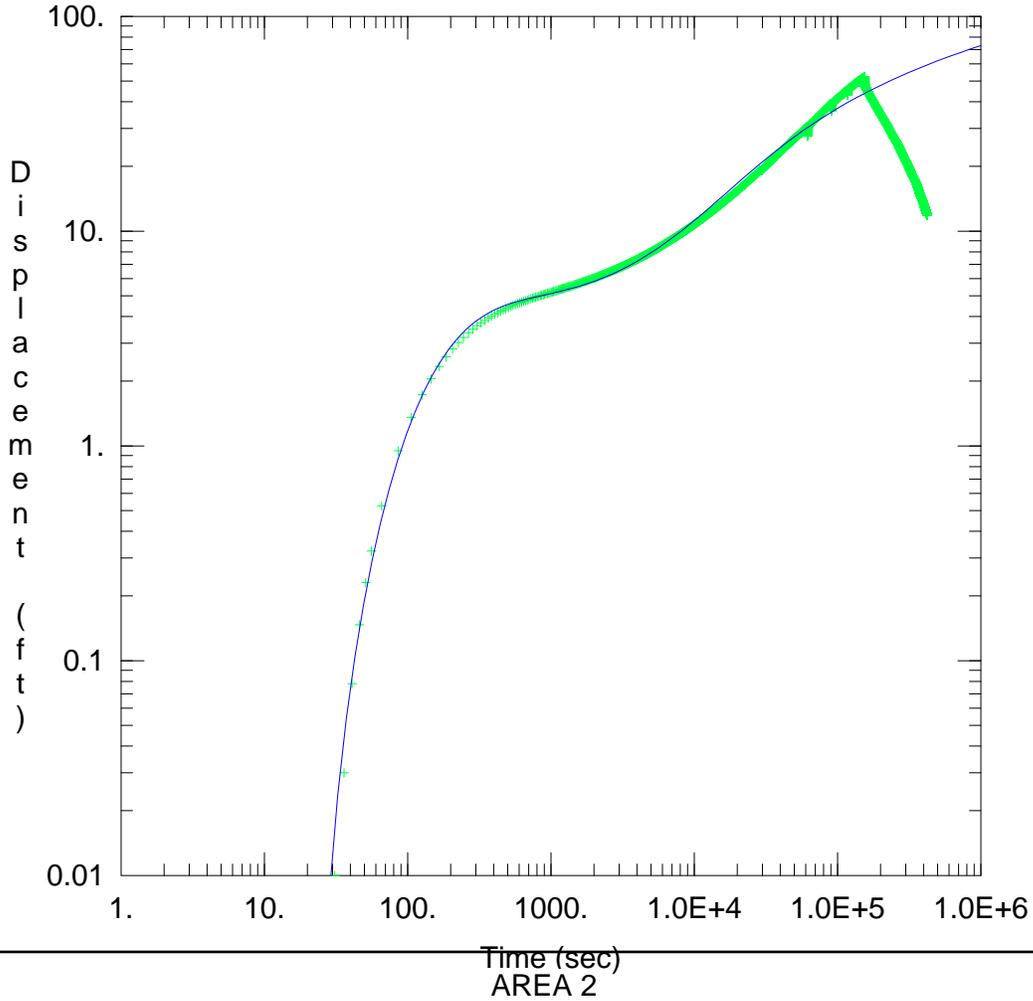
### **AQTESOLV CURVE-MATCHING OUTPUTS**

***APPENDIX C-1***  
***AREA 2 AQTESOLV OUTPUTS***

## **Index of Area 2 AQTESOLV Outputs**

- 1.** Neuman solution (OW2-1 only)
- 2.** Neuman solution (OW2-2 only)
- 3.** Neuman solution (OW2-3 only)
- 4.** Neuman solution (All wells) – Mean of solutions for individual wells
- 5.** Neuman solution (Distance-Drawdown) – Mean of solutions for individual wells

**Neuman solution (OW2-1 only)**



Time (sec)  
AREA 2

Data Set: S:\...\Area 2 - AQTESOLV.aqt  
Date: 07/02/19

Time: 15:57:39

PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-2  
Test Date: 5/1/19 - 5/3/19

AQUIFER DATA

Saturated Thickness: 270. ft

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)
PW-2	0	0

Well Name	X (ft)	Y (ft)
+ <u>OW2-1</u>	30.5	0

SOLUTION

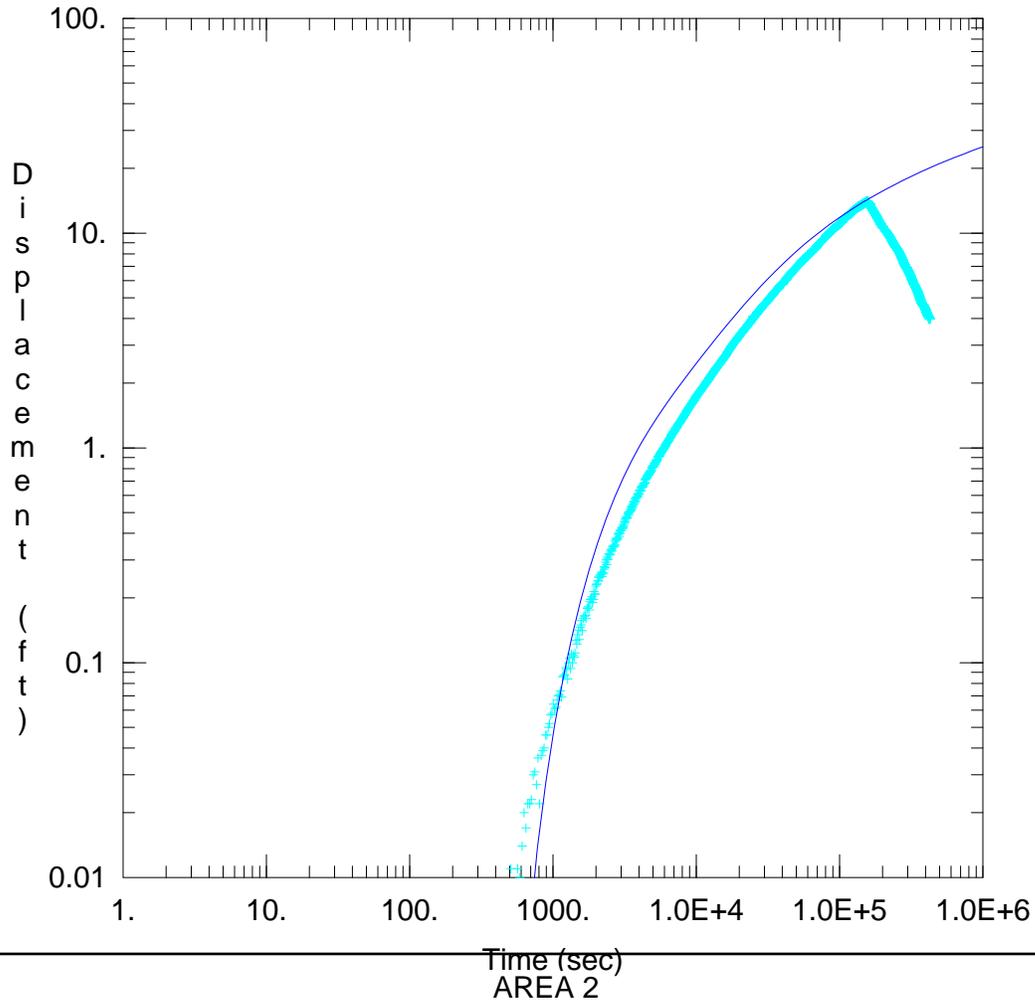
Aquifer Model: Unconfined

Solution Method: Neuman

T = 25.77 ft<sup>2</sup>/day  
Sy = 0.007401

S = 0.0001861  
Kz/Kr = 107.1

### Neuman solution (OW2-2 only)



Data Set: S:\...\Area 2 - AQTESOLV.aqt  
Date: 07/02/19

Time: 15:59:39

#### PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-2  
Test Date: 5/1/19 - 5/3/19

#### AQUIFER DATA

Saturated Thickness: 270. ft

#### WELL DATA

##### Pumping Wells

##### Observation Wells

Well Name	X (ft)	Y (ft)
PW-2	0	0

Well Name	X (ft)	Y (ft)
+ OW2-2	253.5	0

#### SOLUTION

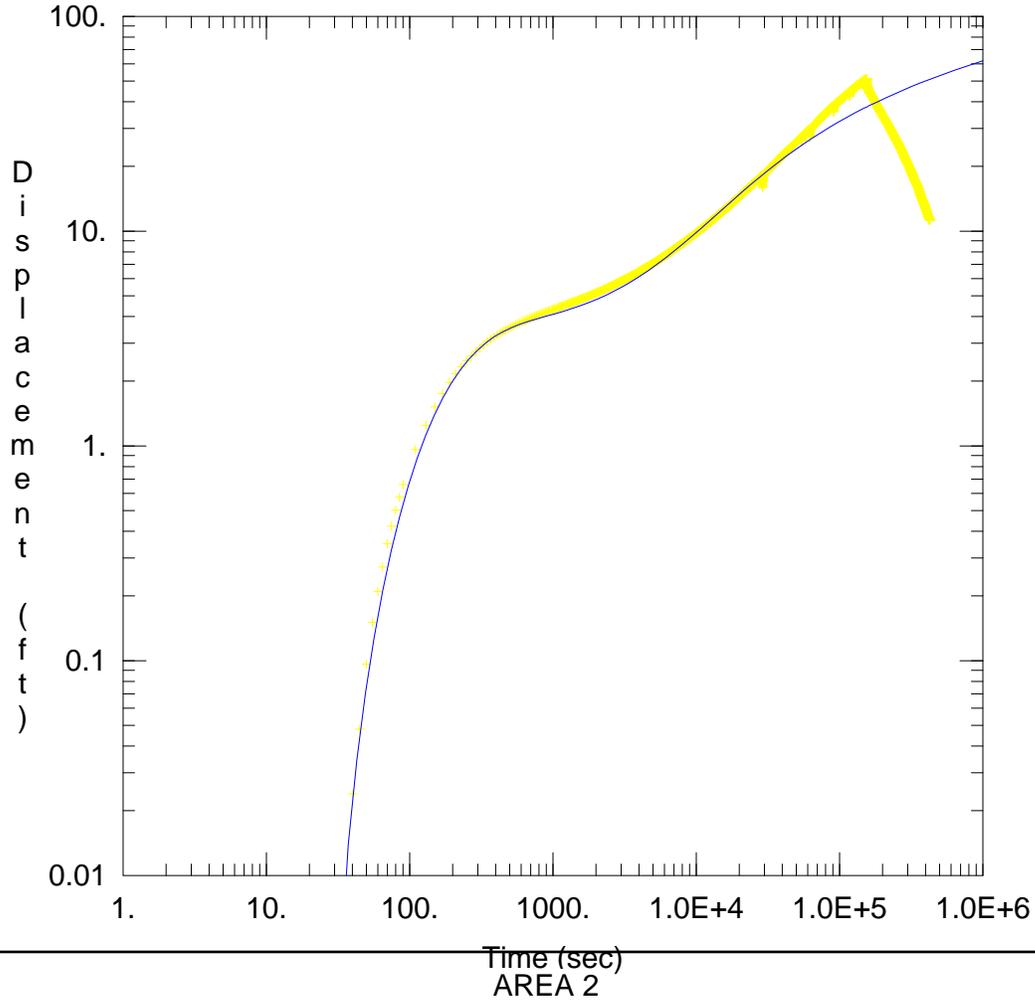
Aquifer Model: Unconfined

Solution Method: Neuman

T = 68.27 ft<sup>2</sup>/day  
Sy = 0.000273

S = 0.0001585  
Kz/Kr = 1.778

### Neuman solution (OW2-3 only)



Time (sec)  
AREA 2

Data Set: S:\...\Area 2 - AQTESOLV.aqt  
Date: 07/02/19

Time: 16:01:02

#### PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-2  
Test Date: 5/1/19 - 5/3/19

#### AQUIFER DATA

Saturated Thickness: 270. ft

#### WELL DATA

##### Pumping Wells

##### Observation Wells

Well Name	X (ft)	Y (ft)
PW-2	0	0

Well Name	X (ft)	Y (ft)
+ <u>OW2-3</u>	85.5	0

#### SOLUTION

Aquifer Model: Unconfined

Solution Method: Neuman

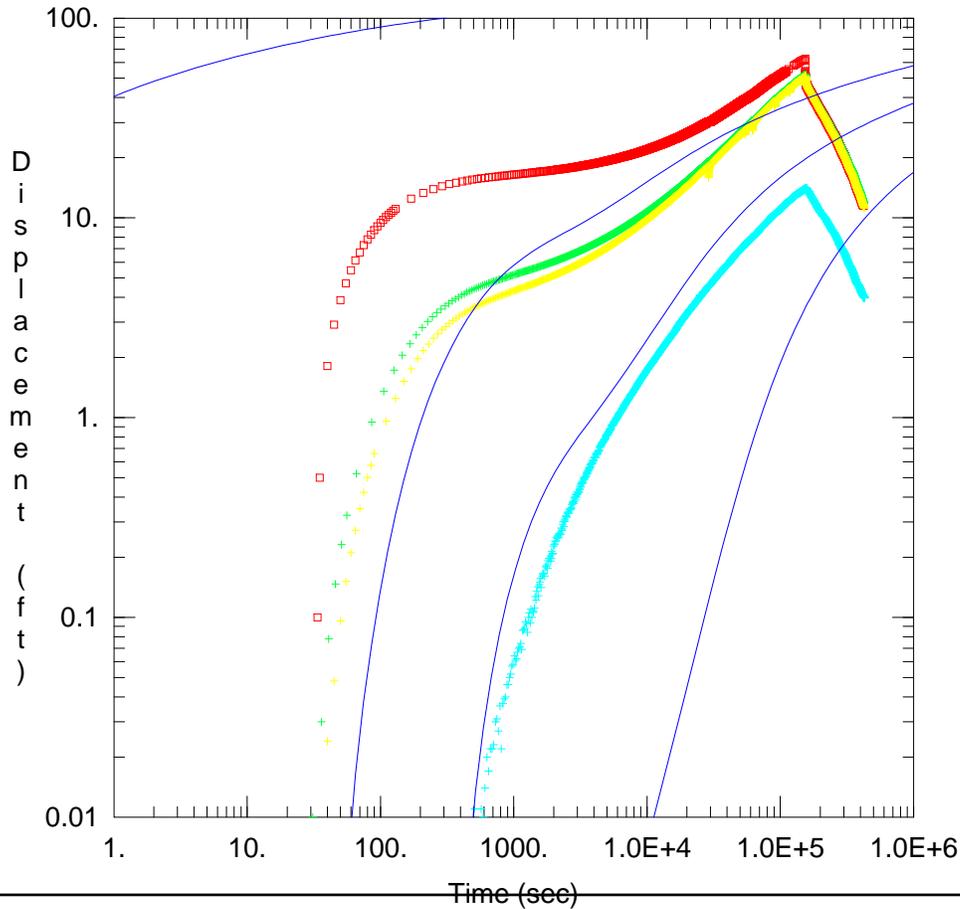
T = 31.11 ft<sup>2</sup>/day

S = 3.458E-5

Sy = 0.001

Kz/Kr = 14.96

## Neuman solution (All wells) – Mean of solutions for individual wells



Time (sec)  
AREA 2

Data Set: S:\...\Area 2 - AQTESOLV.aqt  
Date: 07/04/19  
Time: 10:45:17

PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-2  
Test Date: 5/1/19 - 5/3/19

AQUIFER DATA

Saturated Thickness: 270. ft

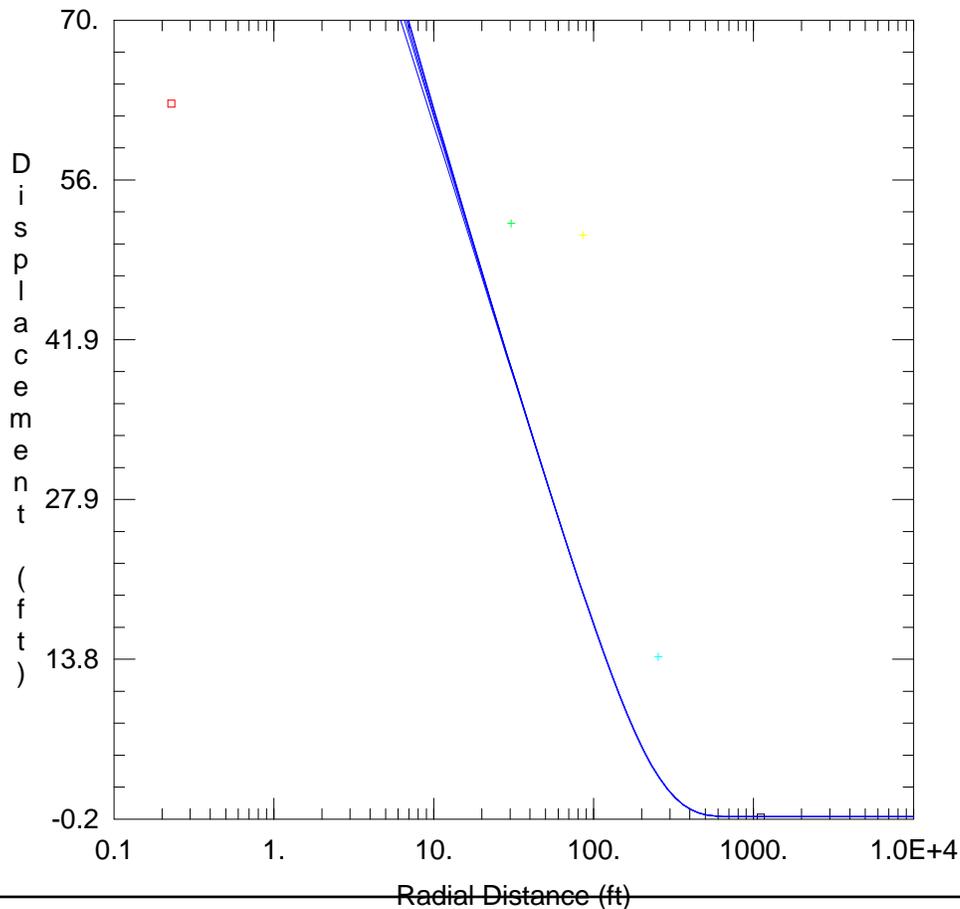
WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
PW-2	0	0	□ PW-2	0	0
			+ OW2-1	30.5	0
			+ OW2-2	253.5	0
			+ OW2-3	85.5	0

SOLUTION

Aquifer Model: <u>Unconfined</u> T = <u>41.72</u> ft <sup>2</sup> /day Sy = <u>0.00281</u>	Solution Method: <u>Neuman</u> S = <u>0.000602</u> Kz/Kr = <u>41.3</u>
--	--

# Neuman solution (Distance-Drawdown) – Mean of solutions for individual wells



Radial Distance (ft)

## AREA 2

Data Set: S:\...\Area 2 - AQTESOLV.aqt

Date: 07/04/19

Time: 10:44:09

## PROJECT INFORMATION

Company: Piedmont Geologic

Client: Carolina Sunrock

Project: 1925

Location: Caswell County, NC

Test Well: PW-2

Test Date: 5/1/19 - 5/3/19

## AQUIFER DATA

Saturated Thickness: 270 ft

## WELL DATA

### Pumping Wells

Well Name	X (ft)	Y (ft)
PW-2	0	0

### Observation Wells

Well Name	X (ft)	Y (ft)
□ PW-2	0	0
+ OW2-1	30.5	0
+ OW2-2	253.5	0
+ OW2-3	85.5	0
□ CD-12	1109	0

## SOLUTION

Aquifer Model: Unconfined

Solution Method: Neuman

T = 41.72 ft<sup>2</sup>/day

S = 0.000602

Sy = 0.00281

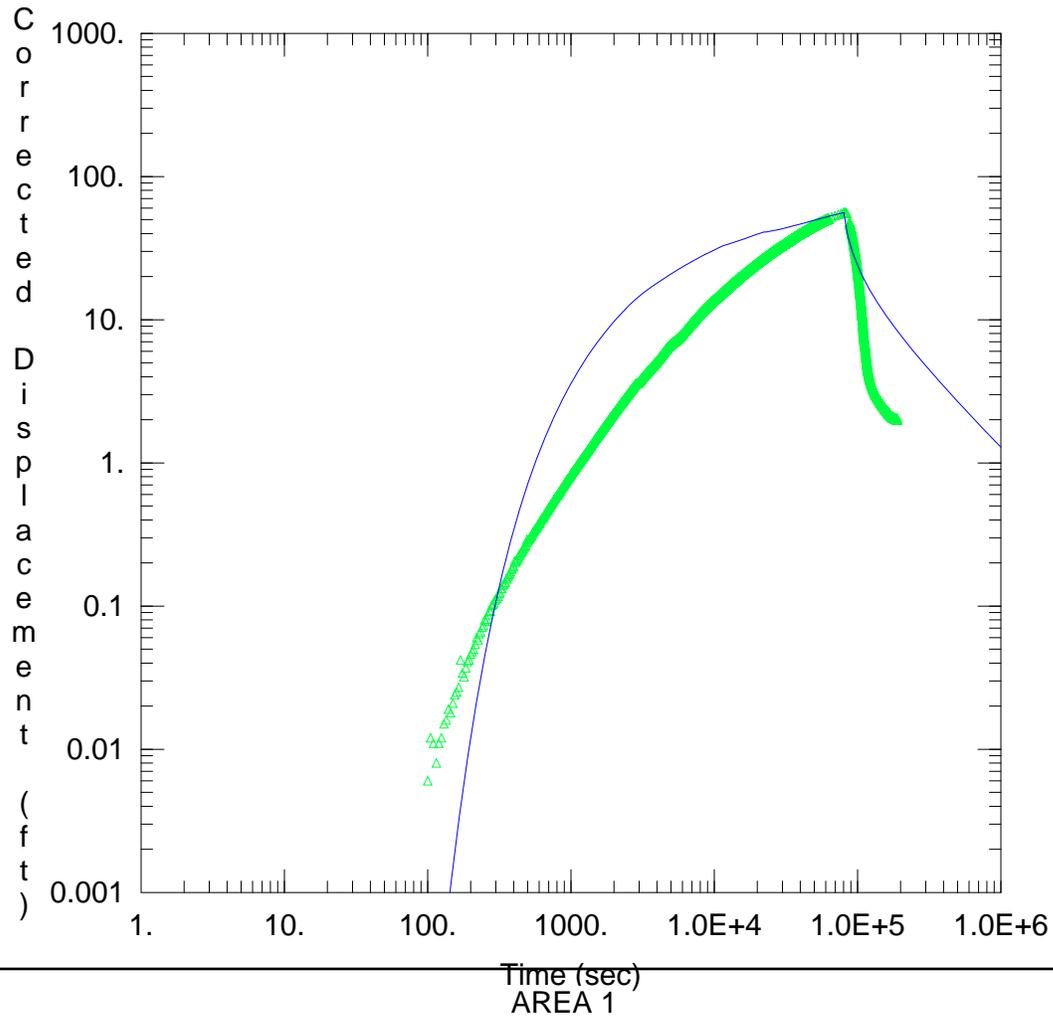
Kz/Kr = 41.3

***APPENDIX C-2***  
***AREA 1 AQTESOLV OUTPUTS***

## **Index of Area 1 AQTESOLV Outputs**

- 1.** Theis solution (OW1-1 only)
- 2.** Theis solution (OW1-2 only)
- 3.** Theis solution (OW1-3 only)
- 4.** Theis solution (All wells) – Mean of solutions for individual wells
- 5.** Theis solution (Distance-Drawdown) – Mean of solutions for individual wells
- 6.** Moench solution (OW1-1 only)
- 7.** Moench solution (OW1-2 only)
- 8.** Moench solution (OW1-3 only)
- 9.** Moench solution (All wells) – Mean of solutions for individual wells
- 10.** Moench solution (Distance-Drawdown) – Mean of solutions for individual wells

**Thisis solution (OW1-1 only)**



Time (sec)  
AREA 1

Data Set: S:\...\Area 1 - AQTESOLV.aqt  
Date: 07/03/19

Time: 13:18:24

PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-1  
Test Date: 5/7/19 - 5/9/19

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)
PW-1	0	0

Well Name	X (ft)	Y (ft)
△ <u>OW1-1</u>	292	0

SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

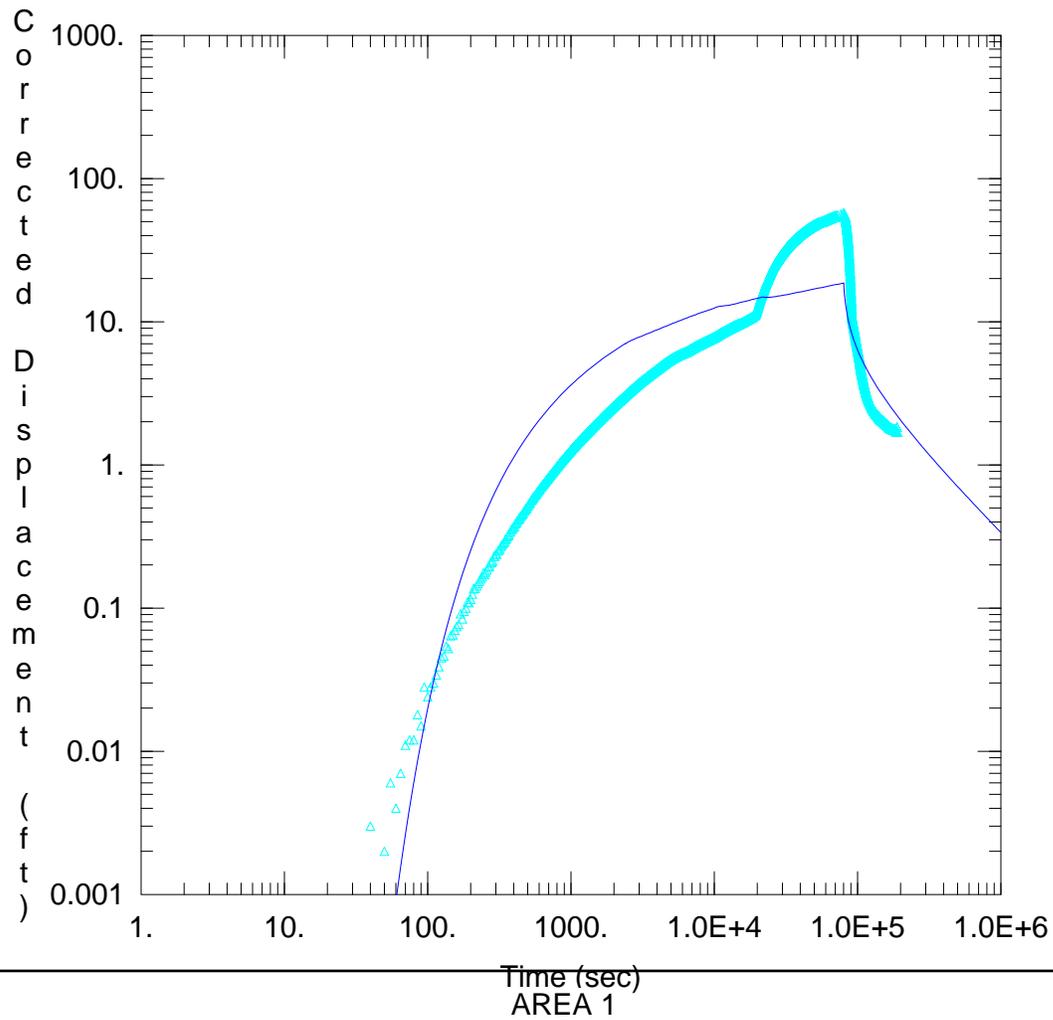
T = 23.71 ft<sup>2</sup>/day

S = 1.425E-5

Kz/Kr = 1.

b = 273. ft

**This solution (OW1-2 only)**



Time (sec)  
AREA 1

Data Set: S:\...\Area 1 - AQTESOLV.aqt  
Date: 07/02/19

Time: 16:23:08

PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-1  
Test Date: 5/7/19 - 5/9/19

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)
PW-1	0	0

Well Name	X (ft)	Y (ft)
△ <u>OW1-2</u>	99.5	0

SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

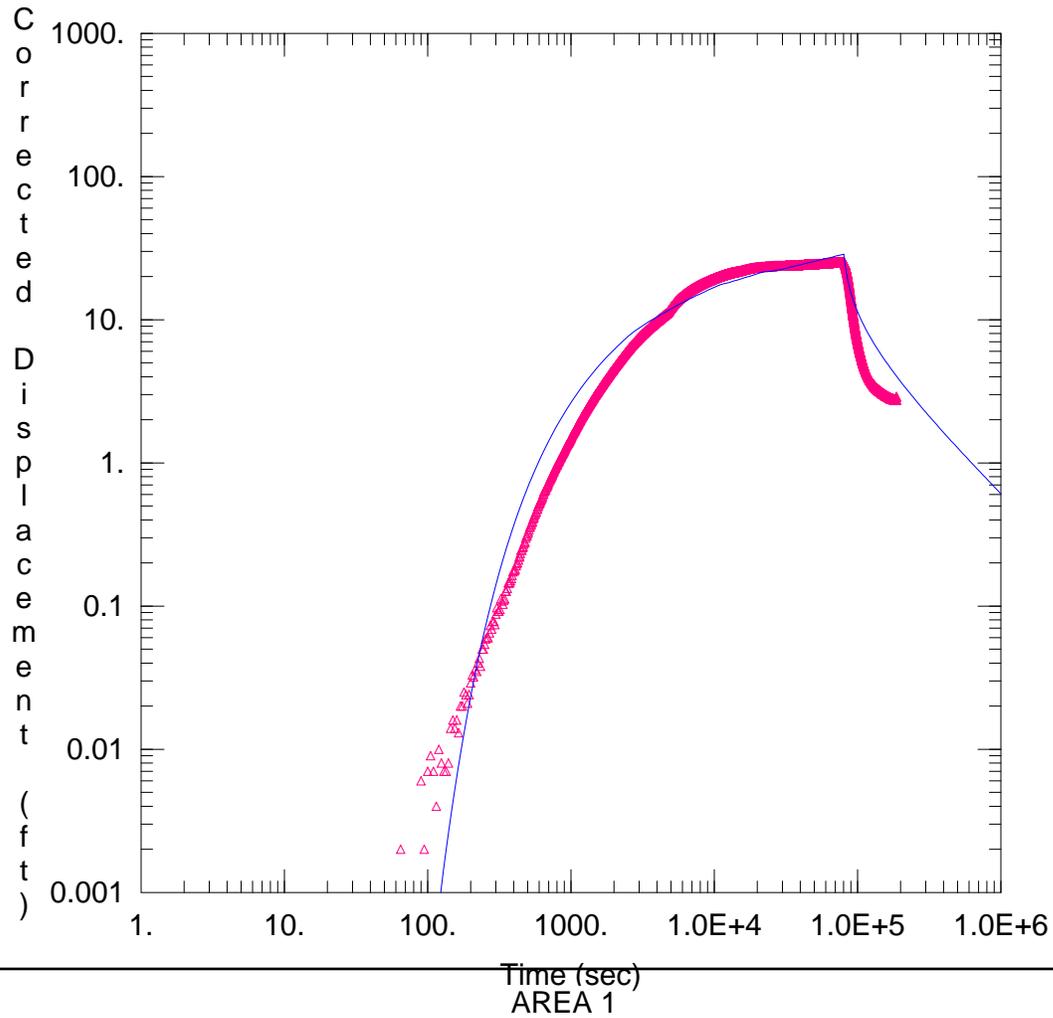
T = 90.46 ft<sup>2</sup>/day

S = 0.0001696

Kz/Kr = 1.

b = 273. ft

**Theis solution (OW1-3 only)**



Time (sec)  
AREA 1

Data Set: S:\...\Area 1 - AQTESOLV.aqt  
Date: 07/02/19

Time: 16:21:16

PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-1  
Test Date: 5/7/19 - 5/9/19

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)
PW-1	0	0

Well Name	X (ft)	Y (ft)
△ OW1-3	31	0

SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

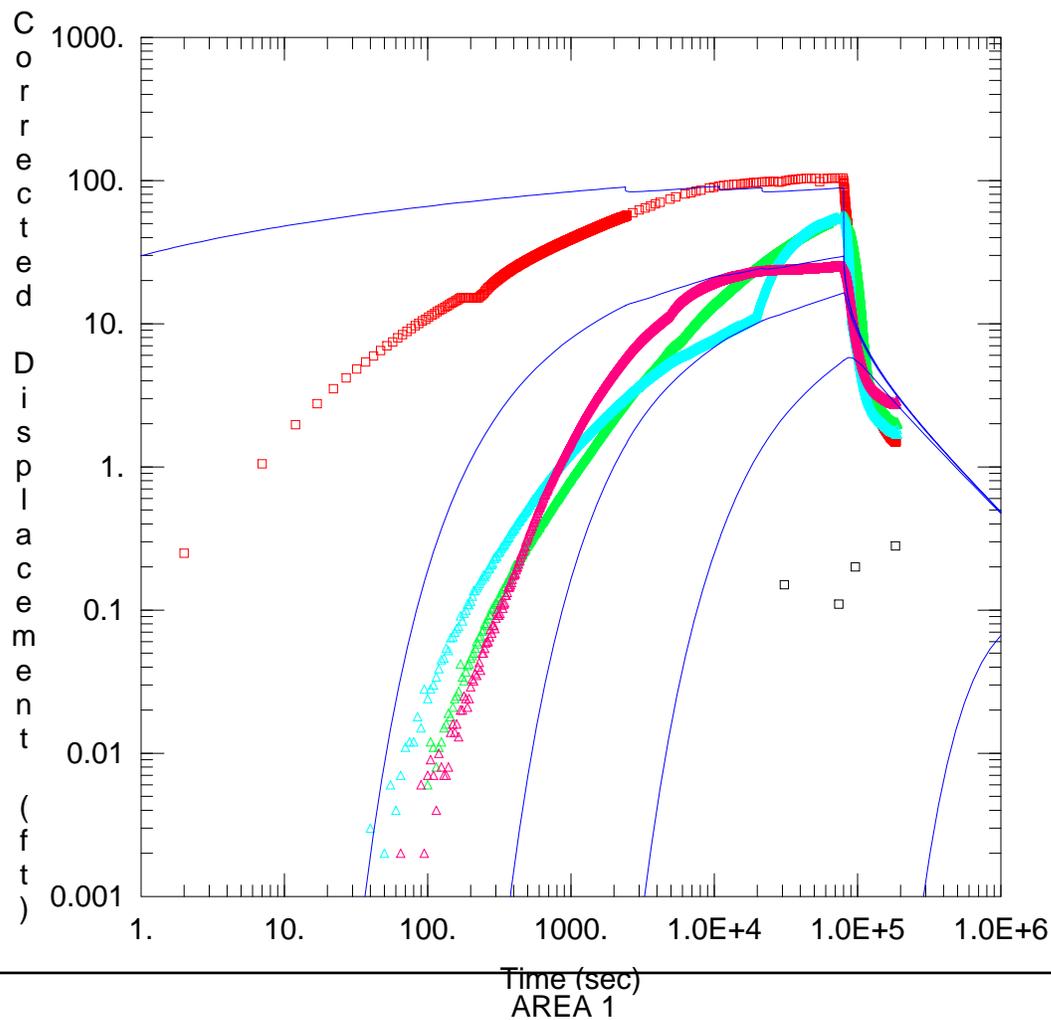
T = 50.08 ft<sup>2</sup>/day

S = 0.002119

Kz/Kr = 1.

b = 273. ft

**This solution (All wells) – Mean of solutions for individual wells**



Time (sec)  
AREA 1

Data Set: S:\...\Area 1 - AQTESOLV.aqt  
Date: 07/03/19

Time: 13:45:20

PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-1  
Test Date: 5/7/19 - 5/9/19

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW-1	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
□ PW-1	0	0
△ OW1-1	292	0
△ OW1-2	99.5	0
△ OW1-3	31	0
□ CD-12	2697	0

SOLUTION

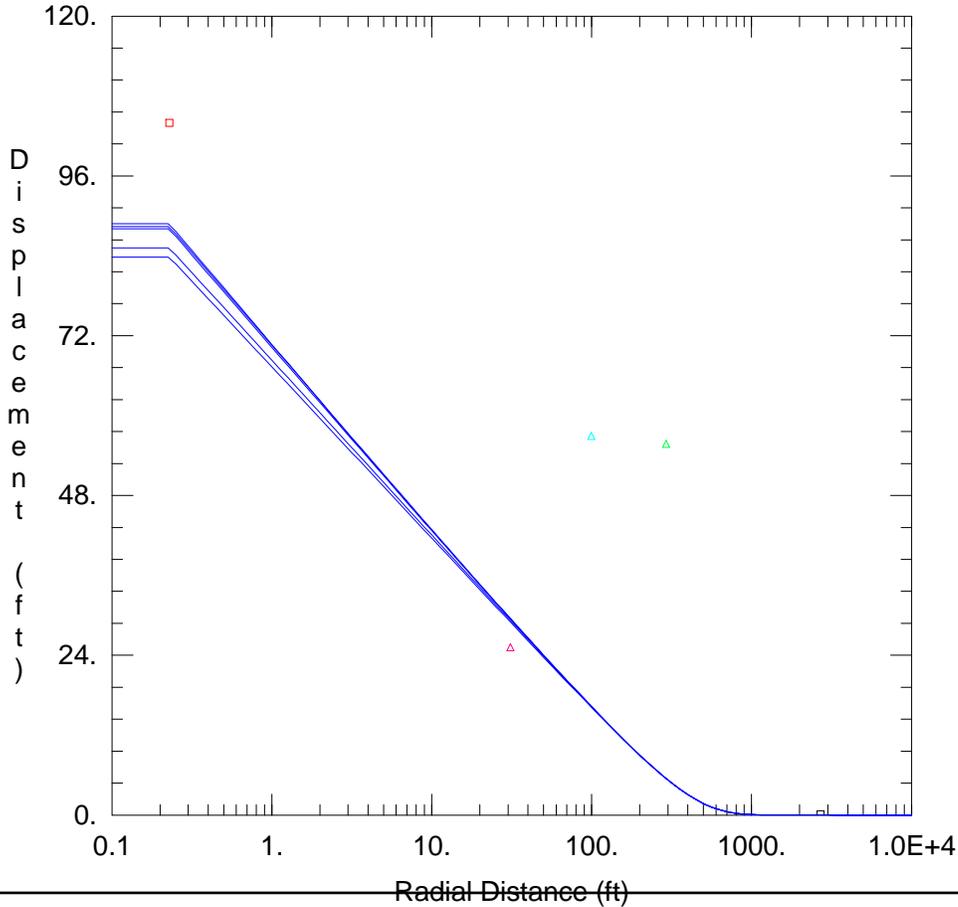
Aquifer Model: Unconfined

Solution Method: Thisis

T = 63.1 ft<sup>2</sup>/day  
Kz/Kr = 1.

S = 0.000768  
b = 273. ft

**This solution (Distance-Drawdown) – Mean of solutions for individual wells**



**AREA 1**

Data Set: S:\...\Area 1 - AQTESOLV.aqt  
 Date: 07/04/19

Time: 10:54:08

**PROJECT INFORMATION**

Company: Piedmont Geologic  
 Client: Carolina Sunrock  
 Project: 1925  
 Location: Caswell County, NC  
 Test Well: PW-1  
 Test Date: 5/7/19 - 5/9/19

**WELL DATA**

**Pumping Wells**

Well Name	X (ft)	Y (ft)
PW-1	0	0

**Observation Wells**

Well Name	X (ft)	Y (ft)
□ PW-1	0	0
△ OW1-1	292	0
△ OW1-2	99.5	0
△ OW1-3	31	0
□ CD-12	2697	0

**SOLUTION**

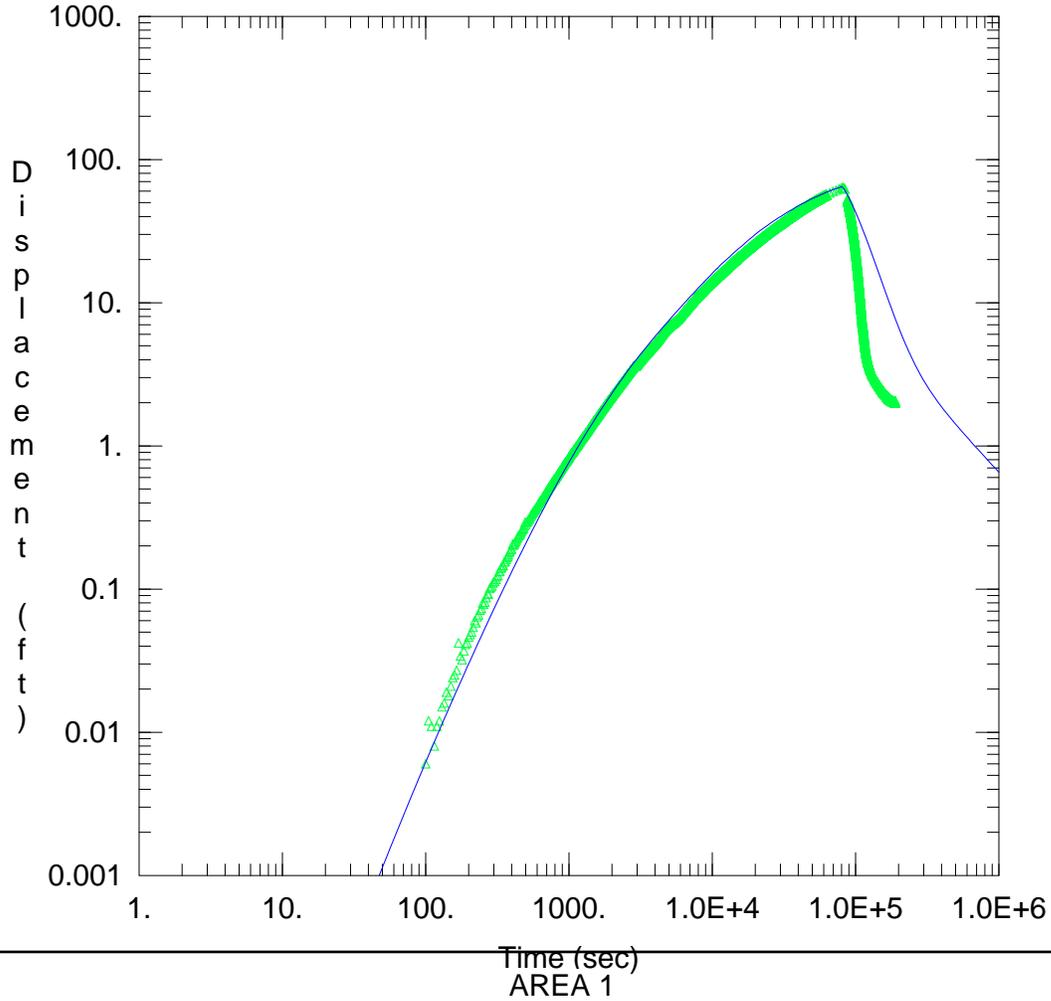
Aquifer Model: Unconfined

Solution Method: Theis

T = 63.1 ft<sup>2</sup>/day  
 Kz/Kr = 1.

S = 0.000768  
 b = 273. ft

**Moench solution (OW1-1 only)**



Time (sec)  
AREA 1

Data Set: S:\...\Area 1 - AQTESOLV.aqt  
Date: 07/02/19 Time: 16:57:35

PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-1  
Test Date: 5/7/19 - 5/9/19

AQUIFER DATA

Saturated Thickness: 273. ft Slab Block Thickness: 15. ft

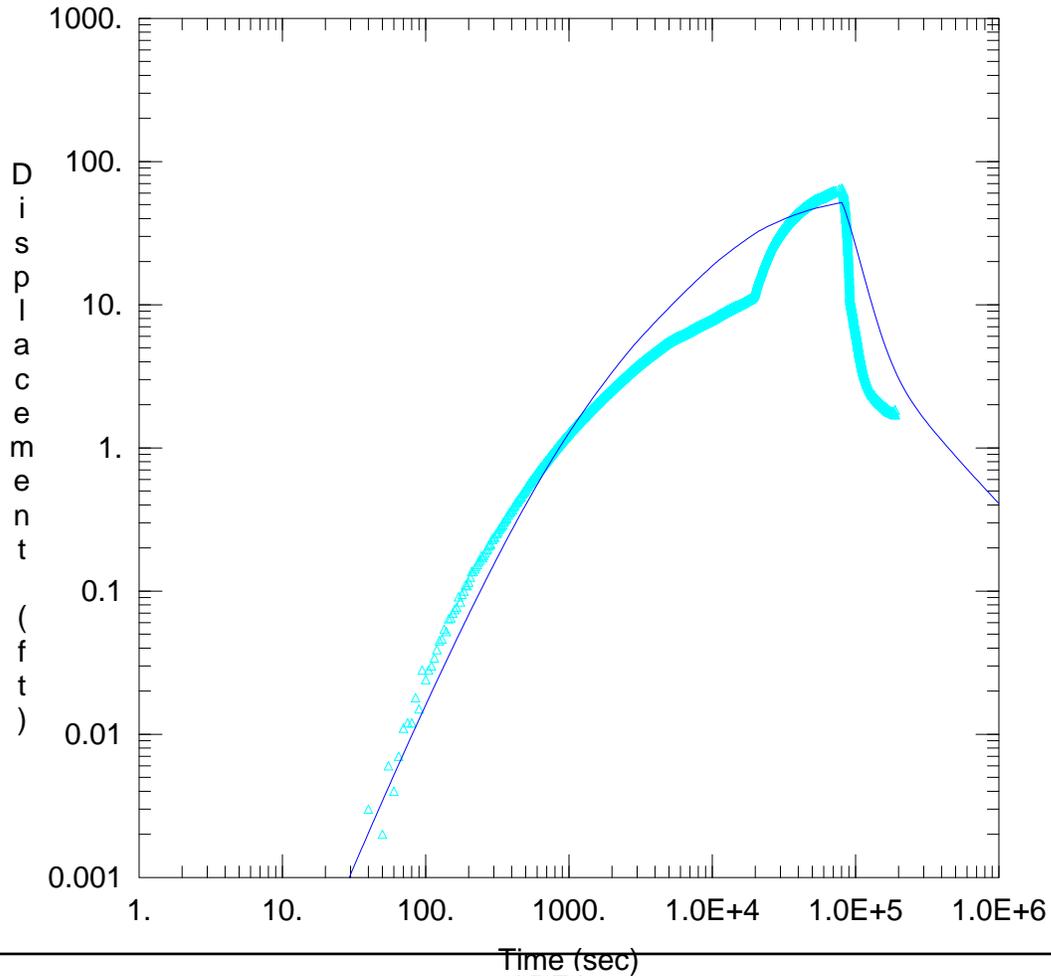
WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
PW-1	0	0	△ OW1-1	292	0

SOLUTION

Aquifer Model: <u>Fractured</u>	Solution Method: <u>Moench w/slab blocks</u>
K = <u>0.1766 ft/day</u>	Ss = <u>2.008E-10 ft<sup>-1</sup></u>
K' = <u>0.04229 ft/day</u>	Ss' = <u>2.04E-12 ft<sup>-1</sup></u>
Sw = <u>500.</u>	Sf = <u>5.</u>
r(w) = <u>0.229 ft</u>	r(c) = <u>0.255 ft</u>

**Moench solution (OW1-2 only)**



Time (sec)  
AREA 1

Data Set: S:\...\Area 1 - AQTESOLV.aqt  
Date: 07/02/19

Time: 16:58:47

PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-1  
Test Date: 5/7/19 - 5/9/19

AQUIFER DATA

Saturated Thickness: 273. ft                      Slab Block Thickness: 15. ft

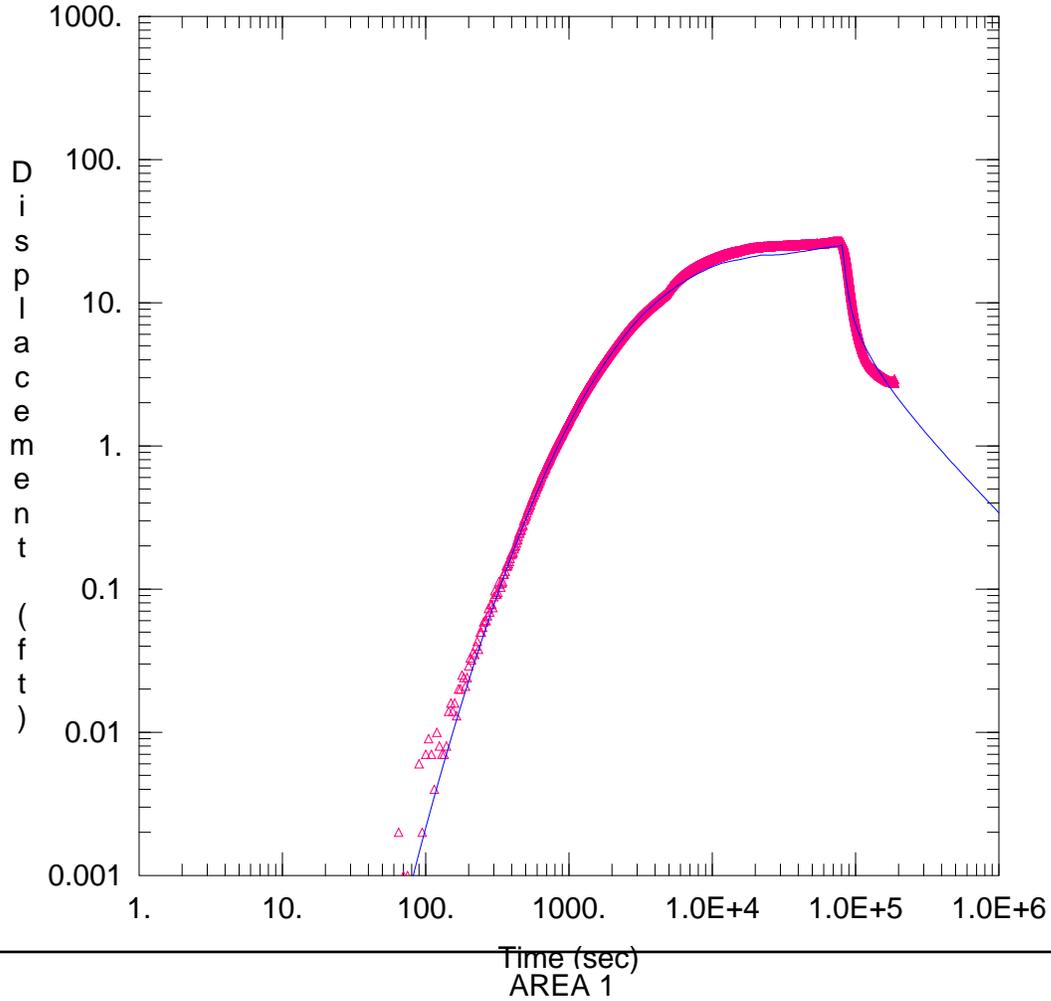
WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
PW-1	0	0	△ <u>OW1-2</u>	99.5	0

SOLUTION

Aquifer Model: <u>Fractured</u>	Solution Method: <u>Moench w/slab blocks</u>
K = <u>0.2799 ft/day</u>	Ss = <u>5.222E-10 ft<sup>-1</sup></u>
K' = <u>0.04229 ft/day</u>	Ss' = <u>2.04E-12 ft<sup>-1</sup></u>
Sw = <u>500.</u>	Sf = <u>5.</u>
r(w) = <u>0.229 ft</u>	r(c) = <u>0.255 ft</u>

### Moench solution (OW1-3 only)



Data Set: S:\...\Area 1 - AQTESOLV.aqt  
Date: 07/02/19

Time: 16:51:54

#### PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-1  
Test Date: 5/7/19 - 5/9/19

#### AQUIFER DATA

Saturated Thickness: 273. ft

Slab Block Thickness: 15. ft

#### WELL DATA

##### Pumping Wells

##### Observation Wells

Well Name	X (ft)	Y (ft)
PW-1	0	0

Well Name	X (ft)	Y (ft)
△ <u>OW1-3</u>	31	0

#### SOLUTION

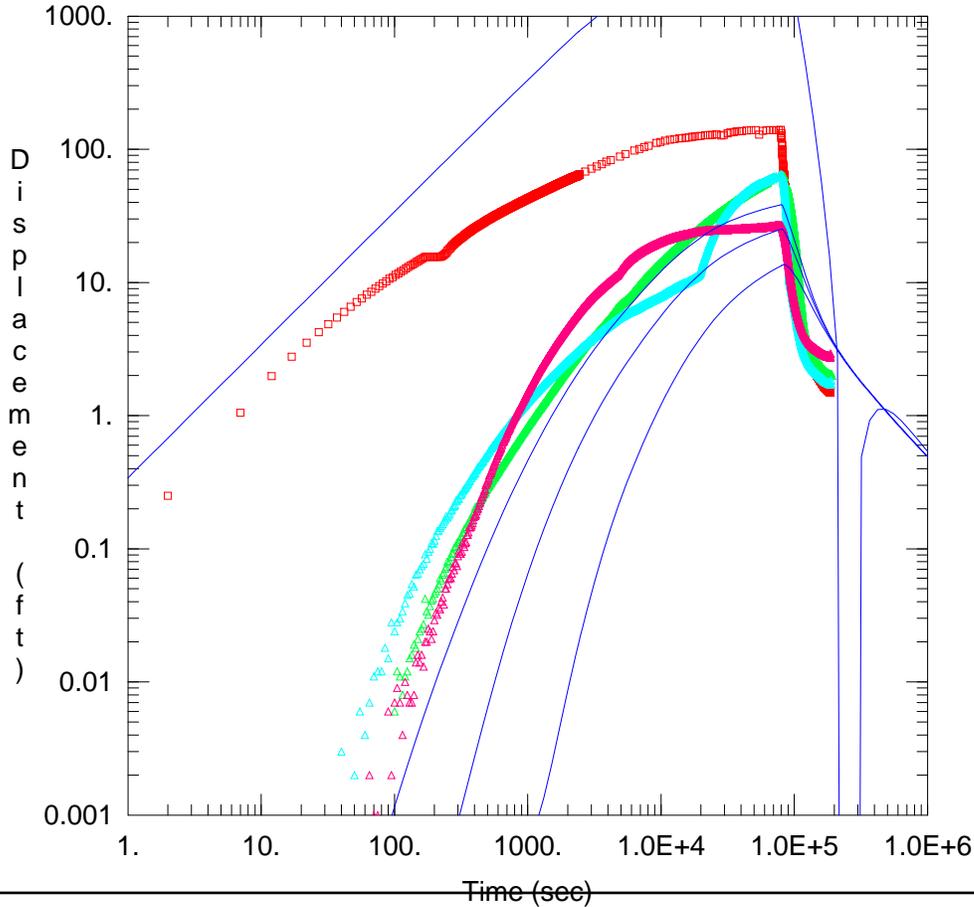
Aquifer Model: Fractured

Solution Method: Moench w/slab blocks

$K = 0.3287$  ft/day  
 $K' = 1.889E-5$  ft/day  
 $Sw = 78.33$   
 $r(w) = 0.229$  ft

$Ss = 1.272E-6$  ft<sup>-1</sup>  
 $Ss' = 4.838E-12$  ft<sup>-1</sup>  
 $Sf = 5.$   
 $r(c) = 0.255$  ft

## Moench solution (All wells) – Mean of solutions for individual wells



Time (sec)  
AREA 1

Data Set: S:\...\Area 1 - AQTESOLV.aqt  
Date: 07/04/19

Time: 10:58:27

### PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-1  
Test Date: 5/7/19 - 5/9/19

### AQUIFER DATA

Saturated Thickness: 273. ft

Slab Block Thickness: 15. ft

### WELL DATA

#### Pumping Wells

Well Name	X (ft)	Y (ft)
PW-1	0	0

#### Observation Wells

Well Name	X (ft)	Y (ft)
□ PW-1	0	0
△ OW1-1	292	0
△ OW1-2	99.5	0
△ OW1-3	31	0

### SOLUTION

Aquifer Model: Fractured

Solution Method: Moench w/slab blocks

K = 0.2311 ft/day

Ss = 4.242E-7 ft<sup>-1</sup>

K' = 0.0282 ft/day

Ss' = 2.97E-12 ft<sup>-1</sup>

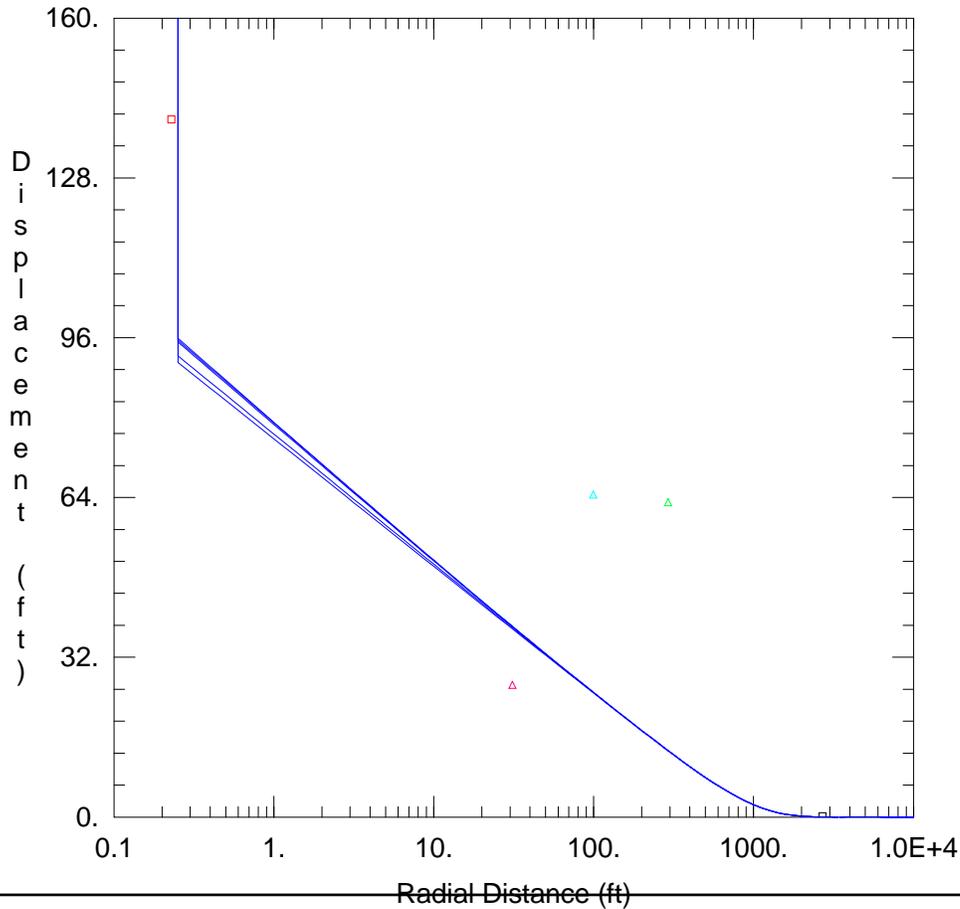
Sw = 359.

Sf = 5.

r(w) = 0.229 ft

r(c) = 0.255 ft

# Moench solution (Distance-Drawdown) – Mean of solutions for individual wells



Radial Distance (ft)  
AREA 1

Data Set: S:\...\Area 1 - AQTESOLV.aqt  
Date: 07/04/19

Time: 10:59:56

PROJECT INFORMATION

Company: Piedmont Geologic  
Client: Carolina Sunrock  
Project: 1925  
Location: Caswell County, NC  
Test Well: PW-1  
Test Date: 5/7/19 - 5/9/19

AQUIFER DATA

Saturated Thickness: 273. ft

Slab Block Thickness: 15. ft

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW-1	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
□ PW-1	0	0
△ OW1-1	292	0
△ OW1-2	99.5	0
△ OW1-3	31	0
□ CD-12	2697	0

SOLUTION

Aquifer Model: Fractured

Solution Method: Moench w/slab blocks

K = 0.2311 ft/day

Ss = 4.242E-7 ft<sup>-1</sup>

K' = 0.0282 ft/day

Ss' = 2.97E-12 ft<sup>-1</sup>

Sw = 359.

Sf = 5.

**APPENDIX D**

**LABORATORY RESULTS**

## Piedmont Geologic

Sample Delivery Group: L1098025  
Samples Received: 05/11/2019  
Project Number: 1925  
Description: Sunrock-Caswell Co Hydro

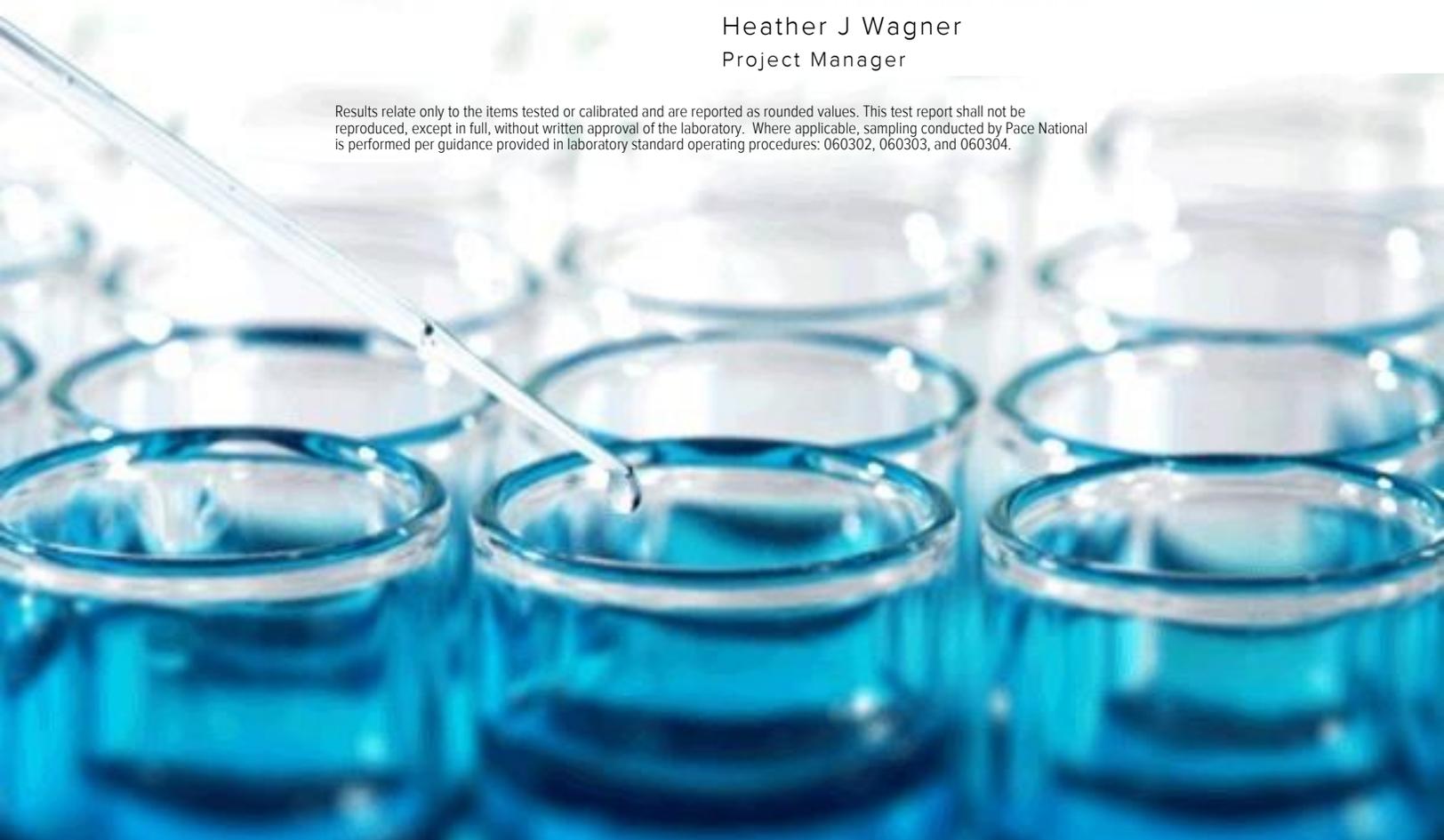
Report To: Jonathan Murphrey  
6003 Chapel Hill Road Suite 145  
Raleigh, NC 27607

Entire Report Reviewed By:



Heather J Wagner  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.





<b>Cp: Cover Page</b>	<b>1</b>	
<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	
<b>Cn: Case Narrative</b>	<b>4</b>	
<b>Sr: Sample Results</b>	<b>5</b>	
<b>PW-1 EFFLUENT L1098025-01</b>	<b>5</b>	
<b>Qc: Quality Control Summary</b>	<b>6</b>	
<b>Mercury by Method 245.1</b>	<b>6</b>	
<b>Metals (ICP) by Method 200.7</b>	<b>7</b>	
<b>Gl: Glossary of Terms</b>	<b>10</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>11</b>	
<b>Sc: Sample Chain of Custody</b>	<b>12</b>	

# SAMPLE SUMMARY



PW-1 EFFLUENT L1098025-01 WW

Collected by: Jon Murphrey  
 Collected date/time: 05/08/19 08:50  
 Received date/time: 05/11/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 245.1	WG1280498	1	05/14/19 15:05	05/15/19 09:14	ABL	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1280960	1	05/18/19 13:47	05/20/19 23:12	TRB	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Heather J Wagner  
Project Manager

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Mercury by Method 245.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	05/15/2019 09:14	<a href="#">WG1280498</a>

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Aluminum	ND		200	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Antimony	ND		10.0	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Arsenic	ND		10.0	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Barium	14.9		5.00	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Beryllium	ND		2.00	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Cadmium	ND		2.00	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Calcium	35100		1000	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Chromium	ND		10.0	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Cobalt	ND		10.0	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Copper	ND		10.0	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Iron	ND		100	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Lead	ND		5.00	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Magnesium	8640		1000	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Manganese	134		10.0	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Nickel	ND		10.0	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Potassium	2580	B	1000	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Selenium	ND		10.0	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Silver	ND		5.00	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Sodium	16200		1000	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Sulfur	7000		1000	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Thallium	ND		10.0	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Vanadium	ND		20.0	1	05/20/2019 23:12	<a href="#">WG1280960</a>
Zinc	ND		50.0	1	05/20/2019 23:12	<a href="#">WG1280960</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3411313-1 05/15/19 08:43

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Mercury	U		0.0490	0.200

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3411313-2 05/15/19 08:45 • (LCSD) R3411313-3 05/15/19 08:47

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Mercury	3.00	3.23	2.75	108	91.6	85.0-115			16.3	20

L1097670-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1097670-01 05/15/19 08:50 • (MS) R3411313-4 05/15/19 08:52 • (MSD) R3411313-5 05/15/19 09:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	3.00	U	2.64	2.57	88.0	85.7	1	70.0-130			2.73	20

<sup>7</sup> Gl

<sup>8</sup> Al

L1098562-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1098562-01 05/15/19 09:02 • (MS) R3411313-6 05/15/19 09:05 • (MSD) R3411313-7 05/15/19 09:07

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Mercury	3.00	U	3.34	3.25	111	108	1	70.0-130			2.81	20

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3413070-1 05/20/19 22:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Aluminum	43.5	U	27.3	200
Antimony	U		7.70	10.0
Arsenic	U		6.40	10.0
Barium	U		1.00	5.00
Beryllium	U		0.700	2.00
Cadmium	U		0.700	2.00
Calcium	U		100	1000
Chromium	U		1.80	10.0
Cobalt	U		3.00	10.0
Copper	U		7.00	10.0
Iron	U		28.2	100
Lead	3.95	U	2.00	5.00
Magnesium	U		16.8	1000
Manganese	U		2.00	10.0
Nickel	U		5.80	10.0
Potassium	530	U	107	1000
Selenium	U		7.60	10.0
Silver	U		2.70	5.00
Sodium	747	U	93.9	1000
Sulfur	U		220	1000
Thallium	U		6.70	10.0
Vanadium	U		2.60	20.0
Zinc	14.6	U	3.40	50.0

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3413070-2 05/20/19 22:27 • (LCSD) R3413070-3 05/20/19 22:29

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aluminum	10000	9910	9780	99.1	97.8	85.0-115			1.30	20
Antimony	1000	1050	1030	105	103	85.0-115			1.53	20
Arsenic	1000	1020	991	102	99.1	85.0-115			2.93	20
Barium	1000	1060	1040	106	104	85.0-115			1.93	20
Beryllium	1000	1040	1020	104	102	85.0-115			2.02	20
Cadmium	1000	1040	1020	104	102	85.0-115			1.99	20
Calcium	10000	10300	10100	103	101	85.0-115			1.40	20
Chromium	1000	997	991	99.7	99.1	85.0-115			0.636	20
Cobalt	1000	1020	1000	102	100	85.0-115			2.17	20
Copper	1000	991	983	99.1	98.3	85.0-115			0.851	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3413070-2 05/20/19 22:27 • (LCSD) R3413070-3 05/20/19 22:29

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Iron	10000	10000	9900	100	99.0	85.0-115			1.38	20
Lead	1000	1010	992	101	99.2	85.0-115			1.96	20
Magnesium	10000	10200	9930	102	99.3	85.0-115			2.31	20
Manganese	1000	990	981	99.0	98.1	85.0-115			0.901	20
Nickel	1000	1010	995	101	99.5	85.0-115			1.92	20
Potassium	10000	9900	9750	99.0	97.5	85.0-115			1.50	20
Selenium	1000	1090	1080	109	108	85.0-115			0.831	20
Silver	200	193	191	96.4	95.3	85.0-115			1.16	20
Sodium	10000	10600	10400	106	104	85.0-115			1.83	20
Sulfur	10000	10900	10700	109	107	85.0-115			2.11	20
Thallium	1000	1010	993	101	99.3	85.0-115			1.58	20
Vanadium	1000	1030	1010	103	101	85.0-115			1.63	20
Zinc	1000	1020	1000	102	100	85.0-115			2.13	20

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

L1097929-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1097929-07 05/20/19 22:32 • (MS) R3413070-5 05/20/19 22:37 • (MSD) R3413070-6 05/20/19 22:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Aluminum	10000	253	10100	10200	98.2	99.9	1	70.0-130			1.67	20
Antimony	1000	U	1050	1070	105	107	1	70.0-130			2.17	20
Arsenic	1000	U	1010	1030	101	103	1	70.0-130			1.87	20
Barium	1000	20.0	1060	1080	104	106	1	70.0-130			2.35	20
Beryllium	1000	U	1020	1040	102	104	1	70.0-130			2.48	20
Cadmium	1000	U	1030	1060	103	106	1	70.0-130			2.22	20
Calcium	10000	59700	72000	72300	123	126	1	70.0-130			0.388	20
Chromium	1000	U	975	998	97.5	99.8	1	70.0-130			2.30	20
Cobalt	1000	U	990	1010	99.0	101	1	70.0-130			2.15	20
Copper	1000	U	998	1020	99.8	102	1	70.0-130			2.62	20
Iron	10000	273	10000	10300	97.5	100	1	70.0-130			2.86	20
Lead	1000	U	998	1020	99.8	102	1	70.0-130			2.04	20
Magnesium	10000	37100	48200	48400	112	114	1	70.0-130			0.419	20
Manganese	1000	35.1	998	1020	96.3	98.8	1	70.0-130			2.47	20
Nickel	1000	U	981	1000	98.1	100	1	70.0-130			2.12	20
Potassium	10000	1890	11300	11500	93.9	96.4	1	70.0-130			2.17	20
Selenium	1000	U	1090	1110	109	111	1	70.0-130			1.62	20
Silver	200	U	192	198	96.2	98.8	1	70.0-130			2.72	20
Sodium	10000	8340	18200	18500	98.9	102	1	70.0-130			1.54	20
Sulfur	10000	14600	26200	26200	116	116	1	70.0-130			0.108	20



[L1098025-01](#)

L1097929-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1097929-07 05/20/19 22:32 • (MS) R3413070-5 05/20/19 22:37 • (MSD) R3413070-6 05/20/19 22:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Thallium	1000	U	1030	1030	103	103	1	70.0-130			0.0966	20
Vanadium	1000	3.23	1020	1030	101	103	1	70.0-130			1.68	20
Zinc	1000	4.37	981	1000	97.7	99.8	1	70.0-130			2.18	20

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

L1098040-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1098040-06 05/20/19 22:42 • (MS) R3413070-7 05/20/19 22:45 • (MSD) R3413070-8 05/20/19 22:47

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10000	ND	9650	9930	96.0	98.8	1	70.0-130			2.89	20
Antimony	1000	ND	1060	1060	106	106	1	70.0-130			0.517	20
Arsenic	1000	ND	1020	1030	102	103	1	70.0-130			0.193	20
Barium	1000	56.8	1100	1110	104	105	1	70.0-130			1.18	20
Beryllium	1000	ND	1020	1030	102	103	1	70.0-130			1.68	20
Cadmium	1000	4.66	1040	1050	104	105	1	70.0-130			1.02	20
Calcium	10000	64700	76700	78200	119	135	1	70.0-130		V	2.05	20
Chromium	1000	ND	963	980	96.3	98.0	1	70.0-130			1.75	20
Cobalt	1000	ND	993	1000	99.3	100	1	70.0-130			0.746	20
Copper	1000	ND	995	1010	99.5	101	1	70.0-130			1.72	20
Iron	10000	ND	9680	9970	96.8	99.7	1	70.0-130			2.90	20
Lead	1000	ND	986	1000	98.2	100	1	70.0-130			1.74	20
Magnesium	10000	11400	21300	21700	99.5	103	1	70.0-130			1.72	20
Manganese	1000	ND	966	984	95.7	97.5	1	70.0-130			1.80	20
Nickel	1000	ND	980	990	98.0	99.0	1	70.0-130			1.06	20
Potassium	10000	1360	10700	10900	93.2	95.3	1	70.0-130			2.00	20
Selenium	1000	ND	1080	1090	108	109	1	70.0-130			0.840	20
Silver	200	ND	192	194	96.2	96.8	1	70.0-130			0.683	20
Sodium	10000	11400	21400	21900	100	105	1	70.0-130			2.23	20
Sulfur	10000	21100	32900	33100	117	120	1	70.0-130			0.825	20
Thallium	1000	ND	1000	1010	100	101	1	70.0-130			0.721	20
Vanadium	1000	ND	1010	1030	101	103	1	70.0-130			1.71	20
Zinc	1000	269	1260	1280	98.9	101	1	70.0-130			1.57	20

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

## Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
V	The sample concentration is too high to evaluate accurate spike recoveries.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.  
 \* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

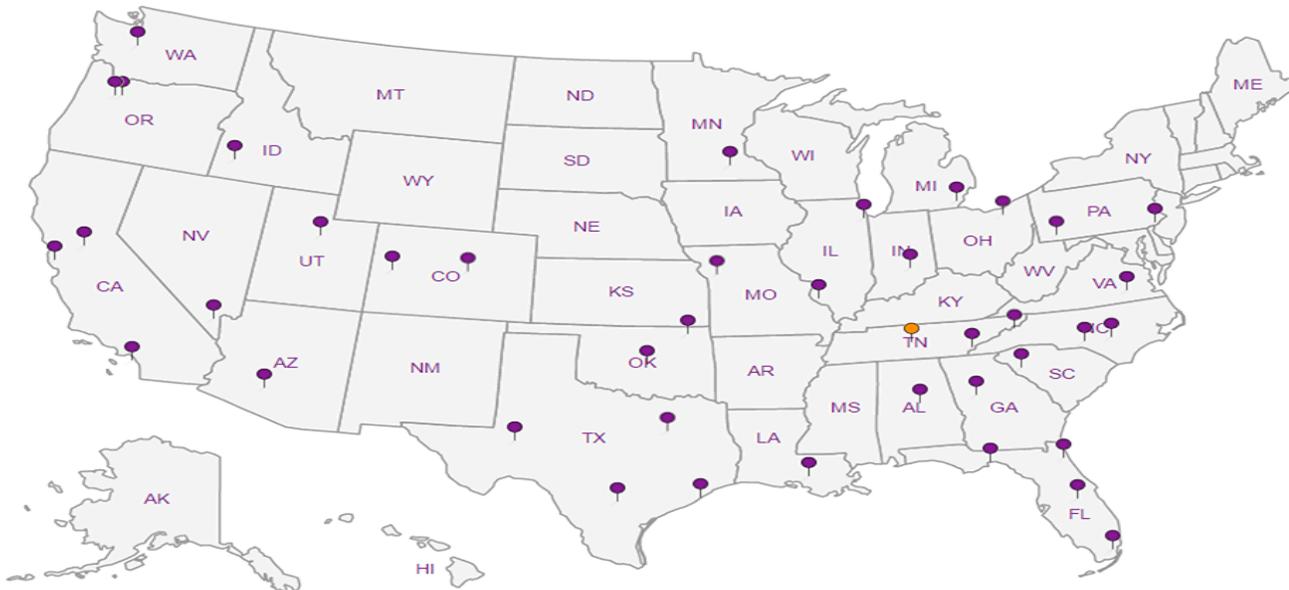
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



May 15, 2019

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Piedmont Geologic

Sample Delivery Group: L1096383  
Samples Received: 05/07/2019  
Project Number: 1925  
Description: Sunrock-Caswell County Hydro

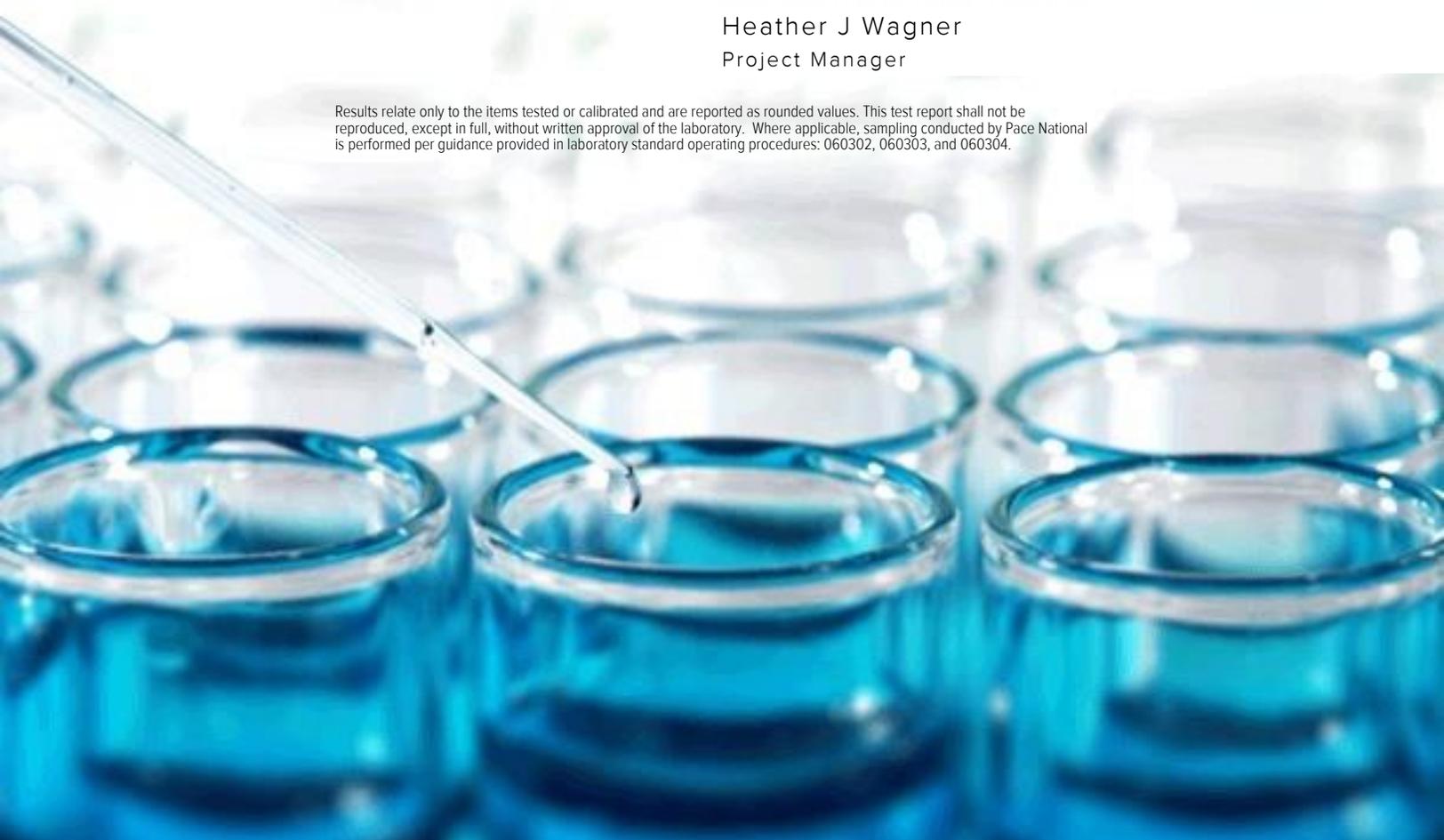
Report To: Pete Dressel  
6003 Chapel Hill Rd  
Ste 145  
Raleigh, NC 27607

Entire Report Reviewed By:



Heather J Wagner  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.





<b>Cp: Cover Page</b>	<b>1</b>	<b><sup>1</sup>Cp</b>
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# SAMPLE SUMMARY



PW-2 EFFLUENT L1096383-01 WW

Collected by Jonathan Murphey  
 Collected date/time 05/03/19 06:15  
 Received date/time 05/07/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 245.1	WG1278249	1	05/09/19 12:11	05/09/19 20:24	TCT	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG1280123	1	05/13/19 11:01	05/14/19 08:05	CCE	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Heather J Wagner  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Collected date/time: 05/03/19 06:15

L1096383

Mercury by Method 245.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	0.461	B	0.200	1	05/09/2019 20:24	<a href="#">WG1278249</a>

1 Cp

2 Tc

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Aluminum	ND		200	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Antimony	ND		10.0	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Arsenic	ND		10.0	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Barium	11.5		5.00	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Beryllium	ND		2.00	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Cadmium	ND		2.00	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Calcium	45800		1000	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Chromium	ND		10.0	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Cobalt	ND		10.0	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Copper	ND		10.0	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Iron	ND		100	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Lead	ND		5.00	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Magnesium	16100		1000	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Manganese	317		10.0	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Nickel	ND		10.0	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Potassium	2660		1000	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Selenium	ND		10.0	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Silver	ND		5.00	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Sodium	13500		1000	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Sulfur	4090		1000	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Thallium	ND		10.0	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Vanadium	ND		20.0	1	05/14/2019 08:05	<a href="#">WG1280123</a>
Zinc	ND		50.0	1	05/14/2019 08:05	<a href="#">WG1280123</a>

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3409894-1 05/09/19 19:35

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	0.0733	<u>J</u>	0.0490	0.200

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3409894-2 05/09/19 19:37 • (LCSD) R3409894-3 05/09/19 19:40

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	3.09	3.01	103	100	85.0-115			2.56	20

L1092728-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1092728-01 05/09/19 19:42 • (MS) R3409894-4 05/09/19 19:44 • (MSD) R3409894-5 05/09/19 19:54

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	0.690	2.55	2.54	62.1	61.6	1	70.0-130	<u>J6</u>	<u>J6</u>	0.617	20

L1096703-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1096703-01 05/09/19 19:57 • (MS) R3409894-6 05/09/19 19:59 • (MSD) R3409894-7 05/09/19 20:02

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	0.374	2.71	2.65	77.8	75.9	1	70.0-130			2.16	20



Method Blank (MB)

(MB) R3411087-1 05/14/19 07:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Aluminum	27.4	U	27.3	200
Antimony	U		7.70	10.0
Arsenic	U		6.40	10.0
Barium	U		1.00	5.00
Beryllium	U		0.700	2.00
Cadmium	U		0.700	2.00
Calcium	U		100	1000
Chromium	U		1.80	10.0
Cobalt	U		3.00	10.0
Copper	U		7.00	10.0
Iron	U		28.2	100
Lead	U		2.00	5.00
Magnesium	43.2	U	16.8	1000
Manganese	U		2.00	10.0
Nickel	U		5.80	10.0
Potassium	110	U	107	1000
Selenium	U		7.60	10.0
Silver	U		2.70	5.00
Sodium	272	U	93.9	1000
Thallium	U		6.70	10.0
Vanadium	3.26	U	2.60	20.0
Zinc	U		3.40	50.0
Sulfur	U		220	1000

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

L1095478-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095478-04 05/14/19 07:55 • (MS) R3411087-5 05/14/19 08:00 • (MSD) R3411087-6 05/14/19 08:02

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10000	393	10500	10100	101	97.1	1	70.0-130			4.16	20
Antimony	1000	ND	1050	1020	105	102	1	70.0-130			2.34	20
Arsenic	1000	ND	1040	1020	104	102	1	70.0-130			1.89	20
Barium	1000	66.4	1140	1110	107	104	1	70.0-130			2.88	20
Beryllium	1000	ND	1050	1010	105	101	1	70.0-130			4.35	20
Cadmium	1000	ND	1060	1030	106	103	1	70.0-130			3.19	20
Calcium	10000	78800	90200	88400	113	95.5	1	70.0-130			1.99	20
Chromium	1000	ND	1010	967	101	96.4	1	70.0-130			4.24	20
Cobalt	1000	ND	1030	1000	103	100	1	70.0-130			2.87	20
Copper	1000	37.3	1090	1050	105	101	1	70.0-130			4.03	20



[L1096383-01](#)

L1095478-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095478-04 05/14/19 07:55 • (MS) R3411087-5 05/14/19 08:00 • (MSD) R3411087-6 05/14/19 08:02

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Iron	10000	1070	11200	10800	102	97.5	1	70.0-130			3.83	20
Lead	1000	ND	1040	1010	104	101	1	70.0-130			2.24	20
Magnesium	10000	14700	24900	24200	103	95.3	1	70.0-130			3.00	20
Manganese	1000	27.4	1030	992	101	96.5	1	70.0-130			4.07	20
Nickel	1000	ND	1030	1000	102	99.7	1	70.0-130			2.44	20
Potassium	10000	6960	17200	16900	103	99.4	1	70.0-130			1.86	20
Selenium	1000	ND	1110	1090	111	109	1	70.0-130			2.58	20
Silver	200	ND	207	198	103	98.9	1	70.0-130			4.35	20
Sodium	10000	64300	74200	73100	99.7	88.6	1	70.0-130			1.51	20
Thallium	1000	ND	1050	1020	105	102	1	70.0-130			3.66	20
Vanadium	1000	ND	1030	991	103	98.8	1	70.0-130			4.18	20
Zinc	1000	ND	1050	1030	100	97.9	1	70.0-130			2.50	20

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

L1096383-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1096383-01 05/14/19 08:05 • (MS) R3411087-7 05/14/19 08:07 • (MSD) R3411087-8 05/14/19 08:10

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10000	ND	9450	9420	94.5	94.2	1	70.0-130			0.346	20
Antimony	1000	ND	1030	1030	103	103	1	70.0-130			0.166	20
Arsenic	1000	ND	990	977	99.0	97.7	1	70.0-130			1.24	20
Barium	1000	11.5	1050	1040	103	102	1	70.0-130			0.946	20
Beryllium	1000	ND	979	986	97.9	98.6	1	70.0-130			0.675	20
Cadmium	1000	ND	1010	999	101	99.9	1	70.0-130			1.12	20
Calcium	10000	45800	57600	56100	117	102	1	70.0-130			2.68	20
Chromium	1000	ND	958	956	95.8	95.6	1	70.0-130			0.171	20
Cobalt	1000	ND	979	971	97.9	97.1	1	70.0-130			0.889	20
Copper	1000	ND	992	987	99.2	98.7	1	70.0-130			0.531	20
Iron	10000	ND	9580	9610	95.1	95.4	1	70.0-130			0.320	20
Lead	1000	ND	995	983	99.5	98.3	1	70.0-130			1.23	20
Magnesium	10000	16100	26100	25600	99.7	95.1	1	70.0-130			1.81	20
Manganese	1000	317	1290	1270	97.0	95.8	1	70.0-130			0.933	20
Nickel	1000	ND	977	967	97.7	96.7	1	70.0-130			1.02	20
Potassium	10000	2660	12300	12300	96.9	96.0	1	70.0-130			0.691	20
Selenium	1000	ND	1050	1040	105	104	1	70.0-130			1.50	20
Silver	200	ND	194	194	97.1	96.9	1	70.0-130			0.183	20
Sodium	10000	13500	23900	23400	103	98.9	1	70.0-130			1.93	20
Thallium	1000	ND	1010	1000	101	100	1	70.0-130			0.694	20
Vanadium	1000	ND	964	964	96.4	96.4	1	70.0-130			0.0135	20

<sup>8</sup> Al

<sup>9</sup> Sc



[L1096383-01](#)

L1096383-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1096383-01 05/14/19 08:05 • (MS) R3411087-7 05/14/19 08:07 • (MSD) R3411087-8 05/14/19 08:10

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Zinc	1000	ND	967	957	96.7	95.7	1	70.0-130			1.05	20
Sulfur	10000	4090	15200	14900	111	108	1	70.0-130			2.26	20

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Ai
- 9 Sc

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.  
 \* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

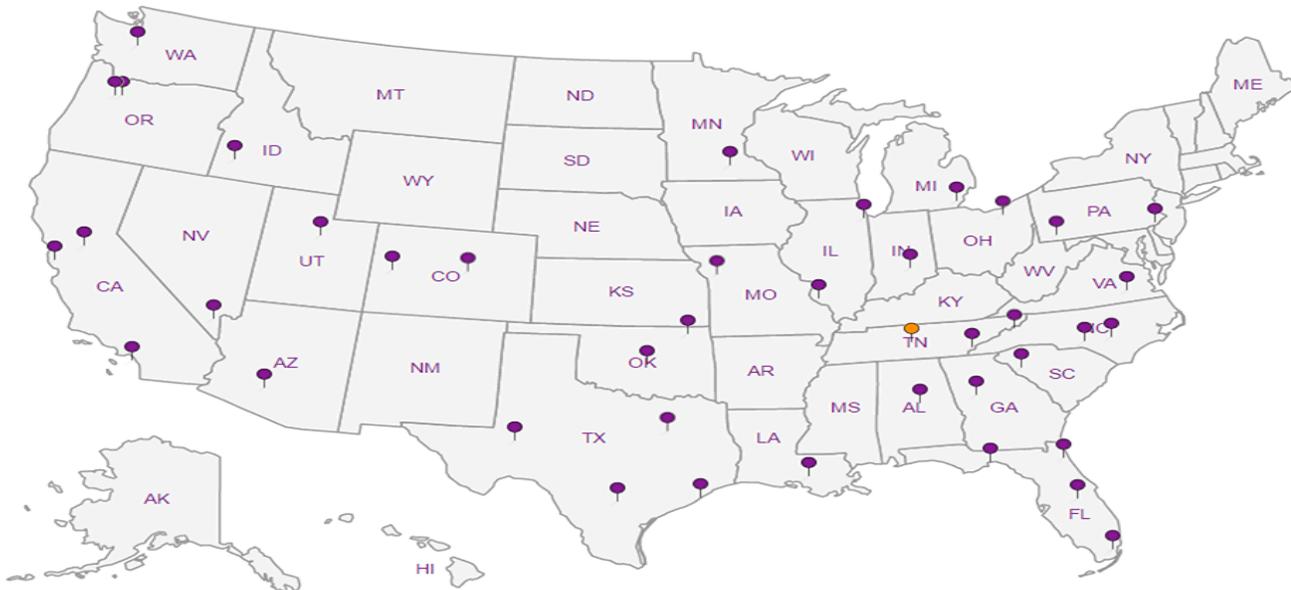
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Company Name/Address:  
**Piedmont Geologic**  
 6003-145 Chapel Hill Road  
 Raleigh, NC 27607

Billing Information:

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



ESC  
 L.A.B S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

12065 Lebanon Rd  
 Mount Juliet, TN 37122  
 Phone: 615-758-5858  
 Phone: 800-767-5859  
 Fax: 615-758-5859



Report to:  
**Pete Dressel**

Email To:  
**pjdressel@piedmontgeologic.com**

Project Description:  
**Sunrock-Caswell County Hydro**

City/State Collected:  
**Prospect Hill, NC**

Phone: **(919) 854-9700**  
 Fax:

Client Project #  
**1925**

Lab Project #

Collected by (print):  
*Jonathan Murphy*

Site/Facility ID #

P.O. #

Collected by (signature):  
*Jonathan Murphy*  
 Immediately Packed on Ice N  Y

**Rush?** (Lab MUST Be Notified)  
 \_\_\_ Same Day .....200%  
 \_\_\_ Next Day .....100%  
 \_\_\_ Two Day .....50%  
 \_\_\_ Three Day .....25%

Date Results Needed  
 Email? \_\_\_ No \_\_\_ Yes  
 FAX? \_\_\_ No \_\_\_ Yes

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

No. of Cntrs

**PW-2 Effluent**

**GRAB**

**WT**

**—**

**5/3/19**

**615**

**1 X**

Metals - 250ml HDPE HNO3 (plus sulfur)

L# **1096383**  
 Table # **F118**  
 Acctnum: **PIEGEO**  
 Template:  
 Prelogin:  
 TSR: **Wagner**  
 Cooler:  
 Shipped Via:  
 Rem./Contaminant Sample # (lab only)  
**-01**

\* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other \_\_\_\_\_

Remarks:  
 Relinquished by (Signature): *[Signature]*  
 Relinquished by (Signature): *[Signature]*  
 Relinquished by (Signature): *[Signature]*

Date: **5/16/19** Time: **820**  
 Date: **5/14/19** Time: **1535**

Received by: (Signature) *[Signature]*  
 Received by: (Signature) *[Signature]*  
 Received for lab by: (Signature) **Kwillis**

pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_  
 Samples returned via:  UPS  
 FedEx  Courier  \_\_\_\_\_  
 Temp: \_\_\_\_\_ °C Bottles Received: **2.550 = 2.682 1**  
 Date: **5/17/19** Time: **845**

Hold # \_\_\_\_\_  
 Condition: (lab use only) \_\_\_\_\_  
 COC Seal Intact: \_\_\_ Y \_\_\_ N  NA  
 pH Checked: \_\_\_\_\_ NCF: \_\_\_\_\_

RAD SCREEN: <0.5 mR/hr

**Pace Analytical National Center for Testing & Innovation  
Cooler Receipt Form**

Client: <b>PIEGEO</b>	SDG#: <b>L1096383</b>
Cooler Received/Opened On: <del>5/8/19</del> <sup>mm</sup> <b>5/7/19</b>	Temperature: <b>2.6</b>
Received By: <b>Kristin Willis</b>	
Signature: <b>KWillis</b>	

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?		✓	

Alexandra S. Murtaugh



Login #:11096383	Client:PIEGEO	Date:05/07/19	Evaluated by:AM
------------------	---------------	---------------	-----------------

Non-Conformance (check applicable items)			
Sample Integrity	Chain of Custody Clarification		If Broken Container:
Parameter(s) past holding time	Login Clarification Needed		Insufficient packing material around container
Temperature not in range	Chain of custody is incomplete		Insufficient packing material inside cooler
Improper container type	Please specify Metals requested.		Improper handling by carrier (FedEx / UPS / Courier)
x pH not in range.	Please specify TCLP requested.		Sample was frozen
Insufficient sample volume.	Received additional samples not listed on coc.		Container lid not intact
Sample is biphasic.	Sample ids on containers do not match ids on coc		<b>If no Chain of Custody:</b>
Viials received with headspace.	Trip Blank not received.		Received by:
Broken container	Client did not "X" analysis.		Date/Time:
Broken container:	Chain of Custody is missing		Temp./Cont. Rec./pH:
Sufficient sample remains			Carrier:
			Tracking#

**Login Comments: Received Metals container for ID PW-2 Effluent not preserved.**

Client informed by:	Call	<input checked="" type="checkbox"/>	Email	<input type="checkbox"/>	Voice Mail	<input type="checkbox"/>	Date: 5/8/19	Time:
TSR Initials: hw	Client Contact: Jonathan Murphrey							
<b>Login Instructions: preserve the container and log for M200.7TAL, SICP</b>								

**APPENDIX E**

**HYDRAULIC INFLUENCE AND INFLOW  
CALCULATIONS**

Radius of influence calculations using the Sichardt (1928) formula.

$$R_0 = 3000*(H - h)*\sqrt{K}$$

where, H = initial head of the aquifer, prior to dewatering (meters)

h = final head of the dewatered aquifer (meters)

K = hydraulic conductivity (meters/sec)

$R_0$  = radius of influence (meters)

$$K (\text{Area 1}) = 0.2311 \text{ ft/day} = \sqrt{8.15E - 07} \text{ meters/sec}$$

$$K (\text{Area 2}) = 0.1528 \text{ ft/day} = \sqrt{5.39E - 07} \text{ meters/sec}$$

H - h = 82 meters for Areas 1 and 2 based on quarry depth of 300 feet

H - h = 143 meters for Areas 1 and 2 based on quarry depth of 500 feet

**Area 1 (quarry depth of 300 feet)**

$$R_0 = 3000*(82)*\sqrt{8.15E - 07}$$

$$= \underline{222 \text{ meters}}$$

**Area 1 (quarry depth of 500 feet)**

$$R_0 = 3000*(143)*\sqrt{8.15E - 07}$$

$$= \underline{387 \text{ meters}}$$

**Area 2 (quarry depth of 300 feet)**

$$R_0 = 3000*(82)*\sqrt{5.39E - 07}$$

$$= \underline{181 \text{ meters}}$$

**Area 2 (quarry depth of 500 feet)**

$$R_0 = 3000*(143)*\sqrt{5.39E - 07}$$

$$= \underline{315 \text{ meters}}$$

# Steady groundwater inflows into open excavations

Christopher J. Neville and Xiaomin Wang

S.S. Papadopoulos & Associates, Inc.

Last update: 2014/04/27

Questions? [cneville@sspa.com](mailto:cneville@sspa.com)

## Part 1: Linear flow into trenches

- [Model 1](#)      Linear confined flow into a trench (flow both sides)
- [Model 2](#)      Linear unconfined flow into a trench (flow both sides)
- [Model 3](#)      Linear confined/unconfined flow into a trench (flow both sides)
- [Model 4](#)      Linear unconfined flow into a trench, with recharge (flow both sides)
- [Model 5](#)      Linear groundwater flow into a slot with a leaky confining layer (Flow both sides)

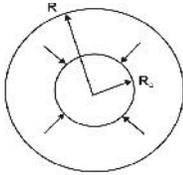
## Part 2. Radial flow into circular excavations

- [Model 6](#)      Radial confined flow into a circular excavation
- [Model 7](#)      Radial unconfined flow into a circular excavation
- [Model 8](#)      Radial confined/unconfined flow into a circular excavation
- [Model 9](#)      Radial unconfined flow into a circular excavation, with recharge
- [Model 10](#)     Radial flow into a circular excavation in an aquifer overlain by a leaky aquitard

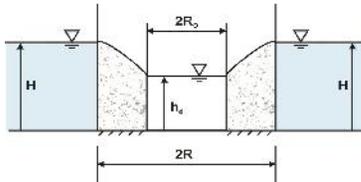
## Part 3. Flow into the bottom of a circular excavation

- [Models 11-12](#)    Flow into the base of a circular excavation

**Model 7**  
**Radial unconfined flow into a circular excavation**



**\*\*\* ASSUMED PIT DEPTH = 300 FEET\*\*\***



Units are labels only; the user must specify consistent units

**Caswell County Hydro Study - Area 1**

Parameter	Units	Value	User-specified units
Hydraulic conductivity, K	L/T	8.15E-07	m/s
Elevation of base of aquifer, $z_{bot}$	L	0.0	m
Thickness of aquifer where confined, D	L	N/A	m
Distance from centre of excavation to constant-head boundary, R	L	672.0	m
Distance from centre to boundary of excavation, $R_o$	L	450.0	m
Head at the constant-head boundary, H	L	82.0	m
Head in the excavation, $h_d$	L	0.0	m

$K = 0.2311 \text{ feet/day} = 8.15E-07 \text{ m/s}$

<---222 m (calculated from Sichardt formula; based on quarry depth of 300 ft) + 450 m (assumed radius of quarry pit)  
 <---assumed radius of quarry pit  
 <---saturated thickness to be dewatered

Result	Units	Value	Units
Calculated inflow, Q	$L^3/T$	4.293E-02	$m^3/s$

**Q = 0.04293  $m^3/s$**   
**= 680 gal/min**  
**= 979,896 gal/day**

**Caswell County Hydro Study - Area 2**

Parameter	Units	Value	User-specified units
Hydraulic conductivity, K	L/T	5.39E-07	m/s
Elevation of base of aquifer, $z_{bot}$	L	0.0	m
Thickness of aquifer where confined, D	L	N/A	m
Distance from centre of excavation to constant-head boundary, R	L	631.0	m
Distance from centre to boundary of excavation, $R_o$	L	450.0	m
Head at the constant-head boundary, H	L	82.0	m
Head in the excavation, $h_d$	L	0.0	m

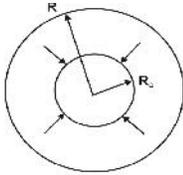
$K = 0.1528 \text{ feet/day} = 5.39E-07 \text{ m/s}$

<---181 m (calculated from Sichardt formula; based on quarry depth of 300 ft) + 450 m (assumed radius of quarry pit)  
 <---assumed radius of quarry pit  
 <---saturated thickness to be dewatered

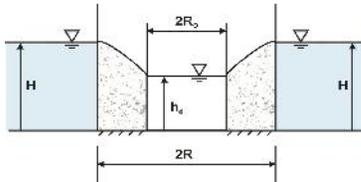
Result	Units	Value	Units
Calculated inflow, Q	$L^3/T$	3.368E-02	$m^3/s$

**Q = 0.03368  $m^3/s$**   
**= 534 gal/min**  
**= 768,733 gal/day**

**Model 7**  
**Radial unconfined flow into a circular excavation**



**\*\*\* ASSUMED PIT DEPTH = 500 FEET\*\*\***



Units are labels only; the user must specify consistent units

**Caswell County Hydro Study - Area 1**

Parameter	Units	Value	User-specified units
Hydraulic conductivity, K	L/T	8.15E-07	m/s
Elevation of base of aquifer, $z_{bot}$	L	0.0	m
Thickness of aquifer where confined, D	L	N/A	m
Distance from centre of excavation to constant-head boundary, R	L	837.0	m
Distance from centre to boundary of excavation, $R_o$	L	450.0	m
Head at the constant-head boundary, H	L	143.0	m
Head in the excavation, $h_d$	L	0.0	m

$K = 0.2311 \text{ feet/day} = 8.15E-07 \text{ m/s}$

<---387 m (calculated from Sichardt formula; based on quarry depth of 500 ft) + 450 m (assumed radius of quarry pit)  
 <---assumed radius of quarry pit  
 <---saturated thickness to be dewatered

Result	Units	Value	Units
Calculated inflow, Q	$L^3/T$	8.437E-02	$m^3/s$

**Q = 0.08437  $m^3/s$**   
**= 1,337 gal/min**  
**= 1,925,683 gal/day**

**Caswell County Hydro Study - Area 2**

Parameter	Units	Value	User-specified units
Hydraulic conductivity, K	L/T	5.39E-07	m/s
Elevation of base of aquifer, $z_{bot}$	L	0.0	m
Thickness of aquifer where confined, D	L	N/A	m
Distance from centre of excavation to constant-head boundary, R	L	765.0	m
Distance from centre to boundary of excavation, $R_o$	L	450.0	m
Head at the constant-head boundary, H	L	143.0	m
Head in the excavation, $h_d$	L	0.0	m

$K = 0.1528 \text{ feet/day} = 5.39E-07 \text{ m/s}$

<---315 m (calculated from Sichardt formula; based on quarry depth of 500 ft) + 450 m (assumed radius of quarry pit)  
 <---assumed radius of quarry pit  
 <---saturated thickness to be dewatered

Result	Units	Value	Units
Calculated inflow, Q	$L^3/T$	6.526E-02	$m^3/s$

**Q = 0.06526  $m^3/s$**   
**= 1,034 gal/min**  
**= 1,489,433 gal/day**

## **APPENDIX F**

### **WATER-SUPPLY WELL SURVEY RECORDS**

**Location #1 – Wrenn Road**

PID R 0133.00.00.0005.0000 ETREE LLC 2019 1,002,594 MKT CARD 001  
 1,002,594 PY Val 164,127 USE 1,002,594 LAND 016  
 P O BOX 850 838,467 DEF BLDG 000  
 BURLINGTON NC 27216 488.710 ACRES XFOB 000  
 LISTER 11/19/2015 MW CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER LOT BLK PL BK/PG PLAT ADDRESS 0000000 WRENN RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000200 AGRICULTURE DEED 604 816 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: WRENN ROAD & RIDGEVILLE RD ALSO GOOSE CREEK RD

SALES BUILDING PERMITS  
 IN Q RC M V Sale Date Sale Price Number Type Description Issued Schd Complt Revisit Act Complt Amount  
 WD U 0A V 1/08/2018

LAND																	
Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff Rate	Value
1		020LAC	N	HS W/UTIL	1.000	AC	15,000.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		15,000.000	15,000
3		280NAC		OPEN ON PAVED ROAD	30.000	AC	2,000.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		2,000.000	60,000
4		660AUV	U	USE VALUE OPEN	30.000	AC	590.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		590.000	17,700
5		280AAC		OPEN ON PAVED ROAD	50.000	AC	1,800.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		1,800.000	90,000
6		660AUV	U	USE VALUE OPEN	50.000	AC	590.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		590.000	29,500
7		400LAC		WOOD ON PAVED RD	10.000	AC	1,600.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		1,600.000	16,000
8		640AUV	U	USE VALUE WOOD	10.000	AC	250.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		250.000	2,500
9		400KAC		WOOD ON PAVED RD	151.710	AC	1,400.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		1,400.000	212,394
10		640AUV	U	USE VALUE WOOD	151.710	AC	250.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		250.000	37,927
11		400AAC		WOOD ON PAVED RD	180.000	AC	1,200.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		1,200.000	216,000
12		640AUV	U	USE VALUE WOOD	180.000	AC	250.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		250.000	45,000
13		400EAC		WOOD ON PAVED RD	20.000	AC	800.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		800.000	16,000
14		640AUV	U	USE VALUE WOOD	20.000	AC	250.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		250.000	5,000
15		460LAC		ROAD FRONT WOODLAND	46.000	AC	8,200.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		8,200.000	377,200
16		640AUV	U	USE VALUE WOOD	46.000	AC	250.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		250.000	11,500

**Location #2 – 1238 Wrenn Road**

PID R 0133.00.00.0045.0000  
 LISTER 11/19/2015 MW  
 TWP HIGHTOWER  
 LOT BLK  
 NBHD 00000000  
 LEGAL: WRENN RD

ETREE LLC  
 P O BOX 850  
 BURLINGTON NC 27216  
 CITY  
 FIRE  
 PL BK/PG  
 DEED 604  
 816  
 AICUZ

2019  
 680,120 PY Val

680,120 MKT  
 127,832 USE  
 552,288 DEF  
 280.450 ACRES

CARD 001  
 658,950 LAND 016  
 21,055 BLDG 001  
 115 XFOB 001

RESCUE  
 ADDRESS 0001238 WRENN RD PROSPECT HILL 27314  
 PRINTED 6/07/2019 BY THOMAS

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001BF	SNG FAMILY	ARCH	N/A	QUAL C3	GRADE C	STYS		SIZE 0B	GRADE B
FNDN 06	STONE	FRME 01	WOOD FRAME	WNDO	N/A	EXW1 02	DBL SIDING	EXW2	N/A	EXW2%	
HEAT 04	NONE	A/C	N/A	RSTR 02	HIP	RCV1 02	METAL	RCV2	N/A	RCV2%	
INT1 05	PLASTER	INT2	N/A	INT2%		FLR1 06	PINE	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 04		BATH		BDRM		ROOM		SPCD VP	VERY POOR
UD-1	N/A	FRPL 1B	FIREPLACE	CHMN 1B	FP CHIMNEY	HBTH	N/A	BATH B1 1	BATH	FUEL	N/A
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 1950	EYB 1950

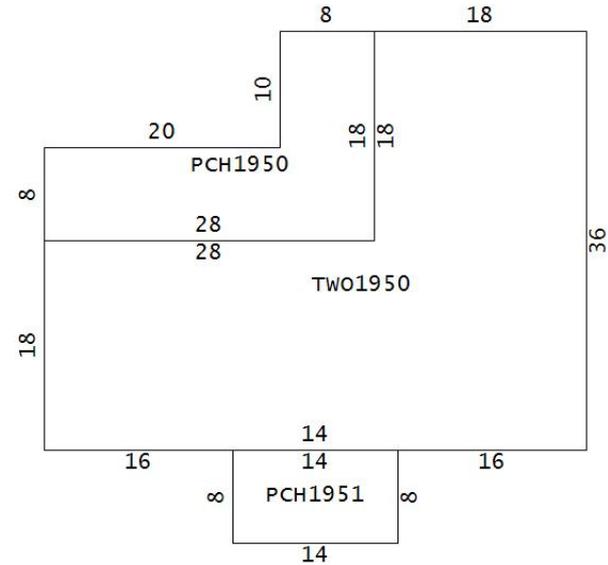
AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
TWO STO	1152	2235	2304	1152			10.00
PORCH	304	85					10.00
PORCH	112	31					10.00

LUMP						210551	10.00	21,055
TOTAL	1568		2304		91.38		10.00	
TOTAL		2351	1152			210551		21,055

TRAVERSE

RCNLD TWO1950= N18 PCH1950= N8 E20 N10 E8 S18 W28\$ E28 N18 E18  
 S36 W16 PCH1951= S8 W14 N8 E14\$ W14 W16\$.



PID R 0133.00.00.0045.0000 ETREE LLC 2019 680,120 MKT CARD 002  
 680,120 PY Val 127,832 USE 658,950 LAND 016  
 P O BOX 850 552,288 DEF 21,055 BLDG 001  
 BURLINGTON NC 27216 280.450 ACRES 115 XFOB 001  
 LISTER 11/19/2015 MW CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER LOT BLK PL BK/PG PLAT ADDRESS 0001238 WRENN RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000200 AGRICULTURE DEED 604 816 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: WRENN RD

SALES BUILDING PERMITS  
 IN Q RC M V Sale Date Sale Price Number Type Description Issued Schd Compl Revisit Act Compl Amount  
 WD U 0A V 1/08/2018

EXTRA FEATURES  
 Seq Bldg Code Description Length Width Height #Units UT Qty Qual UTPrice Year Adj1 Adj2 Adj3 Adj4 %Good Value  
 004 STRGFR 50-STORAGFR 24 16 384.000 SF 1 0E 6.000 0000 .05 1.00 1.00 1.00 100.00 115

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1		020JAC	N	HS W/UTIL	1.000	AC	13,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		13,000.000	13,000
3		280NAC		OPEN ON PAVED ROAD	25.000	AC	2,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		2,000.000	50,000
4		660AUV	U	USE VALUE OPEN	25.000	AC	590.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		590.000	14,750
5		280AAC		OPEN ON PAVED ROAD	40.000	AC	1,800.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		1,800.000	72,000
6		660AUV	U	USE VALUE OPEN	40.000	AC	590.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		590.000	23,600
7		340DAC		PSTRE ON PAVED ROAD	5.000	AC	1,500.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		1,500.000	7,500
8		660AUV	U	USE VALUE OPEN	5.000	AC	590.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		590.000	2,950
9		400AAC		WOOD ON PAVED RD	79.000	AC	1,200.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		1,200.000	94,800
10		640AUV	U	USE VALUE WOOD	79.000	AC	250.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		250.000	19,750
11		400DAC		WOOD ON PAVED RD	69.450	AC	1,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		1,000.000	69,450
12		640AUV	U	USE VALUE WOOD	69.450	AC	250.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		250.000	17,362
13		400EAC		WOOD ON PAVED RD	20.000	AC	800.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		800.000	16,000
14		640AUV	U	USE VALUE WOOD	20.000	AC	250.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		250.000	5,000
15		460LAC		ROAD FRONT WOODLAND	41.000	AC	8,200.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		8,200.000	336,200
16		640AUV	U	USE VALUE WOOD	41.000	AC	250.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		250.000	10,250

**Location #3 – 523 Russell Loop Road**

PID R 0132.00.00.0058.0000 BULLOCK, JANICE RIMMER 2019 78,603 MKT 78,603 MKT CARD 001  
 523 RUSSELL LOOP RD 78,603 PY Val USE 14,810 LAND 002  
 PROSPECT HILL NC 27314 DEF 63,793 BLDG 001  
 LISTER 11/14/2015 MW CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER LOT BLK PL BK/PG 14 341 PLAT ADDRESS 0000513 RUSSELL LOOP RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 389 905 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: OFF RUSSELL LOOP RD DEEDS 176-505;183-310 DECL TO AFFIX DB 602-537

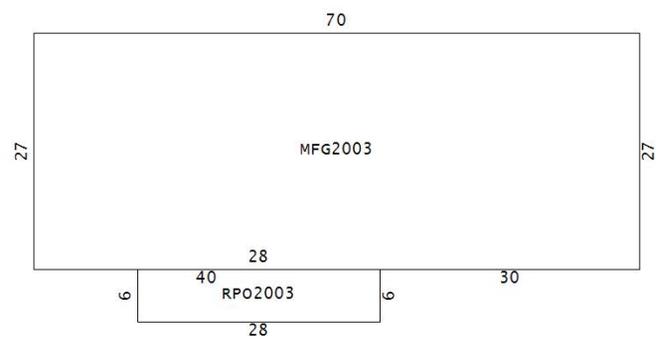
BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 05	MFG HOUSE	BVAL 0005C6	MFG HSE/DW	ARCH 01	D/W	QUAL C3	GRADE C	STYS		SIZE	N/A
FNDN 01	BRICK	FRME 02	STEELFRAME	WINDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 02	HEAT PUMP	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 08	CARP/VVNL	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 06		BATH		BDRM	3	ROOM	5	SPCD	N/A
UD-1	N/A	FRPL 1C	FIREPLACE	CHMN	N/A	HBTH	N/A	BATH C3	3 BATHS	FUEL	N/A
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 2001	EYB 2003

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good	RCNLD
D/W M/H	1890	1890	1890	1890			74.00	TRVERSE MFG2003=N27E70S27W30 RPO2003= S6W28N6E28\$W40\$.
RAIPATI	168	35					74.00	

LUMP TOTAL	2058	1890			45.61	86208	74.00	63,793
TOTAL		1925	1890	1890		86208	74.00	63,793



PID R 0132.00.00.0058.0000 BULLOCK, JANICE RIMMER 2019 78,603 MKT CARD 002  
 78,603 PY Val USE 14,810 LAND 002  
 523 RUSSELL LOOP RD DEF 63,793 BLDG 001  
 PROSPECT HILL NC 27314 1.300 ACRES XFOB 000  
 LISTER 11/14/2015 MW CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER PL BK/PG 14 341 PLAT ADDRESS 0000513 RUSSELL LOOP RD PROSPECT HILL 27314  
 LOT BLK DEED 389 905 AICUZ PRINTED 6/07/2019 BY THOMAS  
 NBHD 00000000 USE 000100 RESIDENTIAL  
 LEGAL: OFF RUSSELL LOOP RD DEEDS 176-505;183-310 DECL TO AFFIX DB 602-537  
 SALES BUILDING PERMITS

IN	Q	RC	M	V	Sale Date	Sale Price	Number	Type	Description	Issued	Schd	Complt	Revisit	Act	Complt	Amount
WD	U	12	V		7/20/2001											

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff Rate	Value
1		020KAC	HS	W/UTIL	1.000	AC	14,000.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		14,000.000	14,000
2		080KAC	2-4	ACRE	.300	AC	2,700.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		2,700.000	810

**Location #4 – 719 Russell Loop Road**

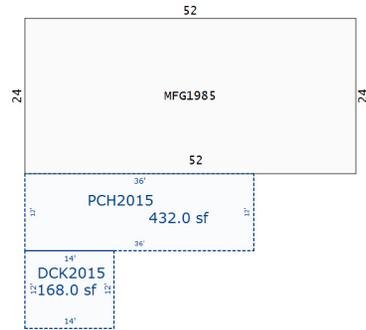
PID R 0147.00.00.0018.0000 OAKES, JOE BILLY 2019 111,350 MKT 111,350 PY Val 73,904 LAND 005  
 719 RUSSELL LP RD 15.690 ACRES 37,046 BLDG 001  
 LISTER 11/23/2015 GP PROSPECT HILL NC 27314 400 XFOB 001  
 TWP HIGHTOWER CITY FIRE RESCUE OTHER  
 LOT BLK PL BK/PG 11 79 PLAT ADDRESS 0000719 RUSSELL LP RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000200 AGRICULTURE DEED 290 72 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: RUSSELL LOOP ROAD

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 05	MFG HOUSE	BVAL 0005C6	MFG HSE/DW	ARCH 01	D/W	QUAL C3	GRADE C	STYS	SIZE N/A
FNDN 04	PIER	FRME 02	STEELFRAME	WINDO	N/A	EXW1 18	T-111/PLYW	EXW2	N/A
HEAT 08	CENT H&AC	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 05	CARPET	FLR2	N/A
KTCH	N/A	DPRT 06		BATH		BDRM	3	ROOM	6
UD-1	N/A	FRPL	N/A	CHMN	N/A	HBTH	N/A	BATH C2	2 BATHS
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%	AYB 1985
									EYB 1985

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good	RCNLD	TRAVERSE
D/W M/H	1248	1248	1248	1248			55.00	MFG1985=1248\$	PCH2015=432\$
PORCH	432	186					55.00		DCK2015=168\$.
DECK	168	44					55.00		
LUMP						67357	55.00	37,046	
TOTAL	1848		1248		53.97		55.00		
TOTAL		1478		1248		67357		37,046	



Sketch by Apex Sketch

PID R 0147.00.00.0018.0000 OAKES,JOE BILLY 2019 111,350 MKT 111,350 CARD 002  
 719 RUSSELL LP RD 111,350 PY Val USE 73,904 LAND 005  
 PROSPECT HILL NC 27314 DEF 37,046 BLDG 001  
 LISTER 11/23/2015 GP CITY FIRE 15.690 ACRES 400 XFOB 001  
 TWP HIGHTOWER PL BK/PG 11 79 PLAT RESCUE ADDRESS 0000719 RUSSELL LP RD PROSPECT HILL 27314  
 LOT BLK DEED 290 72 AICUZ PRINTED 6/07/2019 BY THOMAS  
 NBHD 00000000 USE 000200 AGRICULTURE  
 LEGAL: RUSSELL LOOP ROAD

EXTRA FEATURES  
 Seq Bldg Code Description Length Width Height #Units UT Qty Qual UTPrice Year Adj1 Adj2 Adj3 Adj4 %Good Value  
 001 000051 METAL STORAGE 1.000 UT 1 0E 400.000 0000 1.00 1.00 1.00 1.00 100.00 400

LAND  
 Seq Zone Code Use Description #Units UT UTPrice Adj1 Adj2 Adj3 Adj4 Fadj Dadj Nbhd Adj Eff Rate Value  
 1 020JAC HS W/UTIL 1.000 AC 13,000.000 1.00 1.00 1.00 1.00 1.00 1.00 1.000 13,000.000 13,000  
 2 280NAC OPEN ON PAVED ROAD 1.000 AC 2,000.000 1.00 1.00 1.00 1.00 1.00 1.00 1.000 2,000.000 2,000  
 3 400LAC WOOD ON PAVED RD 8.690 AC 1,600.000 1.00 1.00 1.00 1.00 1.00 1.00 1.000 1,600.000 13,904  
 4 460MAC ROAD FRONT WOODLAND 2.000 AC 9,000.000 1.00 1.00 1.00 1.00 1.00 1.00 1.000 9,000.000 18,000  
 5 260MAC ROAD FRONTAGE OPEN 3.000 AC 9,000.000 1.00 1.00 1.00 1.00 1.00 1.00 1.000 9,000.000 27,000



**Location #5 – 1063 Russell Loop Road**

PID R 0147.00.00.0010.0000  
 BIG ACORN FARM LLC  
 2019 100,106 MKT CARD 001  
 173,900 PY Val USE 87,520 LAND 006  
 2104 TURNER RD DEF BLDG 000  
 MEbane NC 27302 30.800 ACRES 12,586 XFOB 003  
 LISTER 11/23/2015 GP CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER PL BK/PG 17 141 PLAT ADDRESS 0001063 RUSSELL LOOP RD PROSPECT HILL 27314  
 LOT 5 BLK DEED 579 89 AICUZ PRINTED 6/07/2019 BY THOMAS  
 NBHD 00000000 USE 000200 AGRICULTURE X 2/18/19 SUBD BY PLT 17/141.  
 LEGAL: RUSSELL LOOP RD PLAT 4-194&195 DB 220-641 BUILDING PERMITS

SALES  
 IN Q RC M V Sale Date Sale Price Number Type Description Issued Schd Complt Revisit Act Complt Amount  
 QC U 0C V 6/23/2014  
 NW U 10 V 7/12/2001

EXTRA FEATURES

Seq	Bldg	Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001		SHELTR	41-SHELTER	76	64		4864.000	SF	1	0E	3.000	0000	.80	1.00	1.00	1.00	100.00	11,674
002		WDDECK	62-WOODDECK	8	10		80.000	SF	1	0D	5.000	0000	1.00	1.00	1.00	1.00	100.00	400
003		STRGFR	50-STORAGFR	8	8		64.000	SF	1	0D	8.000	0000	1.00	1.00	1.00	1.00	100.00	512

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1		020LAC		HS W/UTIL	1.000	AC	15,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		15,000.000	15,000
3		2800AC		OPEN ON PAVED ROAD	2.000	AC	2,200.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		2,200.000	4,400
4		280NAC		OPEN ON PAVED ROAD	4.000	AC	2,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		2,000.000	8,000
5		400LAC		WOOD ON PAVED RD	5.000	AC	1,600.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		1,600.000	8,000
6		400KAC		WOOD ON PAVED RD	15.800	AC	1,400.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		1,400.000	22,120
7		260NAC		ROAD FRONTAGE OPEN	3.000	AC	10,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		10,000.000	30,000

**Location #6 – 1101 Russell Loop Road**

PID R 0147.00.00.0002.0000      LANGLEY, CHRISTOPHER B & JERRI      2019      184,131 MKT      CARD 001  
 THOMPSON JERRI N      184,131 PY Val      USE      52,500 LAND 004  
 1102 RUSSELL LOOP RD      PROSPECT HILL NC 27314      DEF      100,848 BLDG 001  
 LISTER 11/22/2015 GP      CITY      FIRE      RESCUE      OTHER      30,783 XFOB 009  
 TWP HIGHTOWER      PL BK/PG 11 925      PLAT      ADDRESS 0001102 RUSSELL LOOP RD PROSPECT HILL 27314  
 LOT A&B BLK      DEED 306 545      AICUZ      PRINTED 6/07/2019 BY THOMAS  
 NBHD 00000000      USE 000100 RESIDENTIAL  
 LEGAL: RUSSELL LOOP RD

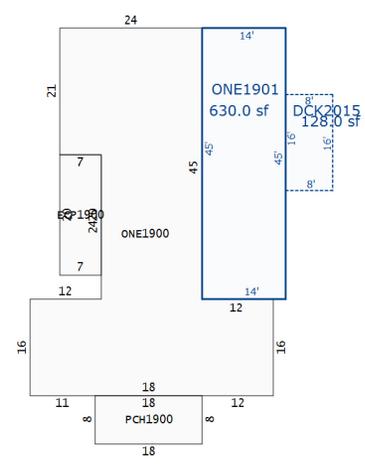
BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001CA	SNG FAMILY	ARCH	N/A	QUAL C4	GRADE C-5	STYS	SIZE 0C GRADE C
FNDN 01	BRICK	FRME 01	WOOD FRAME	WINDO	N/A	EXW1 01	FACE BRICK	EXW2	N/A
HEAT 11	CNTRLHT&AC	A/C	N/A	RSTR 01	GABLE	RCV1 02	METAL	RCV2	N/A
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 05	CARPET	FLR2	N/A
KTCH	N/A	DPRT 03		BATH		BDRM	3	ROOM	5
UD-1	N/A	FRPL 1C	FIREPLACE	CHMN 1C	FP CHIMNEY	HBTH	N/A	BATH C1	1 BATH
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%	AYB 1904 EYB 1980

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
ONE STO	1568	1568	1568	1568			60.00
ENCL PO	140	53					60.00
PORCH	144	40					60.00
ONE STO	630	630	630	630			60.00
DECK	128	26					60.00
LUMP						168080	60.00
TOTAL	2610		2198		76.46		60.00
TOTAL		2317		2198		168080	

TRaverse  
 RCNLD ONE1900=1568\$ ECP1900=140\$ PCH1900=144\$ ONE1901=630\$  
 DCK2015=128\$.



Sketch by Aspen Sketch

PID R 0147.00.00.0002.0000      LANGLEY,CHRISTOPHER B & JERRI      2019      184,131 MKT      CARD 002  
 THOMPSON JERRI N      184,131 PY Val      USE      52,500 LAND 004  
 1102 RUSSELL LOOP RD      PROSPECT HILL NC 27314      DEF      100,848 BLDG 001  
 LISTER 11/22/2015 GP      CITY      FIRE      RESCUE      OTHER      30,783 XFOB 009  
 TWP HIGHTOWER      PL BK/PG 11 925      PLAT      ADDRESS 0001102 RUSSELL LOOP RD PROSPECT HILL 27314  
 LOT A&B BLK      DEED 306 545      AICUZ      PRINTED 6/07/2019 BY THOMAS  
 NBHD 00000000      USE 000100 RESIDENTIAL  
 LEGAL: RUSSELL LOOP RD

EXTRA FEATURES																		
Seq	Bldg	Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001		PACKHS	35 PACK HSE	36	24		864.000	SF	1	0D	10.000	0000	.20	1.00	1.00	1.00	100.00	1,728
002		CARPRT	6-CARPORT	32	22		704.000	SF	1	0D	2.990	0000	.80	1.00	1.00	1.00	100.00	1,684
003		STRGFR	50-STORAGFR	12	22		264.000	SF	1	0D	8.000	0000	1.00	1.00	1.00	1.00	100.00	2,112
004		SHELTR	41-SHELTER	12	20		1.000	SF	1	0E	3.000	2003	1.00	1.00	1.00	1.00	100.00	3
005		000062	WOOD DECK	1	1		1.000	UT	1	0E	1,500.000	2003	1.00	1.00	1.00	1.00	100.00	1,500
006		SHELTR	41-SHELTER	12	20		240.000	SF	1	0D	3.500	0000	1.00	1.00	1.00	1.00	100.00	840
007		STRGFR	50-STORAGFR	12	12		144.000	SF	1	0D	8.000	0000	.80	1.00	1.00	1.00	100.00	922
008		SHPF/M	43-SHOP FRAME/M	56	28		1568.000	SF	1	0C	25.000	0000	.50	1.00	1.00	1.00	100.00	19,600
009		LEANTO	LEANTO	56	18		1008.000	SF	1	0C	2.500	0000	.95	1.00	1.00	1.00	100.00	2,394

LAND																		
Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1		020LAC		HS W/UTIL	1.660	AC	15,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		15,000.000	24,900
2		280BAC		OPEN ON PAVED ROAD	7.000	AC	1,600.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		1,600.000	11,200
3		400LAC		WOOD ON PAVED RD	4.000	AC	1,600.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		1,600.000	6,400
4		260NAC		ROAD FRONTAGE OPEN	1.000	AC	10,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		10,000.000	10,000

#4

(0147 010)

CASWELL COUNTY ENVIRONMENTAL HEALTH

P.O. Box 1238 - 144 Main Street
Yanceyville, NC 27379
336-694-9731

WELL COMPLETION REPORT

Name: Langley Chris

Address: Box 102 Russell Loop Rd Prospect Hill

Location:

Distance From Nearest Property Line 10 Ft. Water Bearing Zones Depth 140 Ft.

Distance From nearest Source of Pollution 100 Ft. Casing Depth From 0 to 84 Ft.

Total Depth of Well 160 Ft. GPM 15 Casing Diameter 6 1/4 In.

Static Water Level 25 Ft.

Casing Type: PVC (SDR-21) Galvanized Steel Thickness In.

If PVC Is Consent Form Attached? Yes [X] No [ ]

Drive Shoe: Yes [X] No [ ] Height of Casing Above Ground In.

Problems in Setting Casing: Yes [ ] No [X] Explain:

Grout Type: Bentonite [ ] Neat [ ] Sand/Cement [X] Concrete [ ] Annular Space: Width In.

Water in Annular Space: Yes [ ] No [X] Method of Grout: Pump [ ] Pressure [ ] Poured [X]

If Yes, was water removed? (Explain)

No. Bags of Portland Cement Depth From 0 to 20 Ft.

Weight of 1 Bag Lbs. ID Plate

DRILLING LOG

Table with 3 columns: From, To, Formation Description. Rows include 0-7, 7-30, 30-70, 70-160 with descriptions like Oxidation, Saprolite, Shale, gray loam.

I hereby certify that the above information is correct and that this well was constructed in accordance with the Caswell County Well Ordinance

Douglas E Jones Name of Contractor

Signature of Contractor

2498 Certification #

6-6-05 Date

Inspection Completed By Lennie Powell

Date 6/6/05

**Location #7 – 523 Russell Loop Road**

PID R 0132.00.00.0032.0000 WADE, HARVEY B 2019 95,969 MKT CARD 001  
 523 RUSSELL LOOP RD 95,969 PY Val USE 18,455 LAND 002  
 PROSPECT HILL NC 27314 DEF 76,070 BLDG 001  
 LISTER 11/14/2015 MW CITY FIRE RESCUE OTHER 2.650 ACRES 1,444 XFOB 003  
 TWP HIGHTOWER  
 LOT 1 BLK PL BK/PG 183 311 PLAT ADDRESS 0000523 RUSSELL LOOP RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 183 310 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: RUSSELL LOOP RD PLAT 176 PG 505

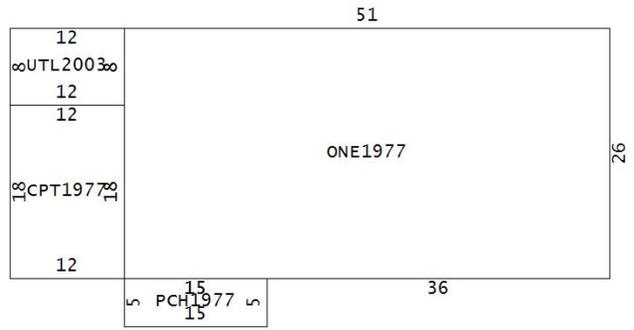
BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001CA	SNG FAMILY	ARCH	N/A	QUAL C4	GRADE C-5	STYS	SIZE 0C GRADE C
FNDN 01	BRICK	FRME 01	WOOD FRAME	WINDO	N/A	EXW1 01	FACE BRICK	EXW2	N/A EXW2%
HEAT 01	CENT HEAT	A/C	N/A	RSTR 01	GABLE	RCV1 02	METAL	RCV2	N/A RCV2%
INT1 03	MIXED	INT2	N/A	INT2%		FLR1 10	VINYL	FLR2	N/A FLR2%
KTCH	N/A	DPRT 03		BATH		BDRM	3	ROOM	5 SPCD N/A
UD-1	N/A	FRPL 1C	FIREPLACE	CHMN 1C	FP CHIMNEY	HBTH	N/A	BATH C1	1 BATH FUEL 02 OIL
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%	AYB 1977 EYB 1986

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good	RCNLD
ONE STO	1326	1326	1326	1326		110247	69.00	ONE1977= N18 CPT1977= W12 S18 E12 N18\$ UTL2003= N8 W12S8E
CARPOR	216	54					69.00	12\$N8 E51 S26 W36 PCH1977= W15 S5E15 N5\$ W15\$.
UTILITY	96	24					69.00	
PORCH	75	21					69.00	

LUMP TOTAL	1713	1326	83.14	110247	69.00	76,070
TOTAL TOTAL	1425	1326		110247	69.00	76,070



PID R 0132.00.00.0032.0000 WADE, HARVEY B 2019 95,969 MKT 95,969 MKT CARD 002  
 95,969 PY Val USE 18,455 LAND 002  
 523 RUSSELL LOOP RD DEF 76,070 BLDG 001  
 PROSPECT HILL NC 27314 2.650 ACRES 1,444 XFOB 003  
 LISTER 11/14/2015 MW CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER LOT 1 BLK PL BK/PG 183 311 PLAT ADDRESS 0000523 RUSSELL LOOP RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 183 310 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: RUSSELL LOOP RD PLAT 176 PG 505

Seq	Bldg	Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
002		000041	SHELTER	20	12		240.000	SF	1	0E	3.000	0000	.20	1.00	1.00	1.00	100.00	144
003		000006	CARPORT/INEXPEN	21	18		1.000	UT	1		600.000	0000	1.00	1.00	1.00	1.00	100.00	600
004		CHNFN4	75-CHNFENC4	400	1		400.000	SF	1	0D	3.500	0000	.50	1.00	1.00	1.00	100.00	700

EXTRA FEATURES

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value	
LAND																			
1	Front	020KAC		HS W/UTIL	1.000	AC	14,000.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		14,000.000		14,000	
2		080KAC		2-4 ACRE	1.650	AC	2,700.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		2,700.000		4,455	

**Location #8 – 595 Russell Loop Road**

PID R 0132.00.00.0031.0000 MURRAY, DENNIS & DISHMAN, LESSIE 2019 156,604 MKT CARD 001  
 L/E & CHRISTINE MURRAY(1/3) 80,978 PY Val USE 27,284 LAND 002  
 PO BOX 10 DEF 123,912 BLDG 001  
 LISTER 11/14/2015 MW PROSPECT HILL NC 27314 5.920 ACRES OTHER 5,408 XFOB 004  
 TWP HIGHTOWER CITY FIRE RESCUE ADDRESS 0000595 RUSSELL LOOP RD PROSPECT HILL 27314  
 LOT 3&4 BLK PL BK/PG PLAT ADDRESS 0000595 RUSSELL LOOP RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 607 745 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: 595 RUSSELL LOOP RD DB220-597

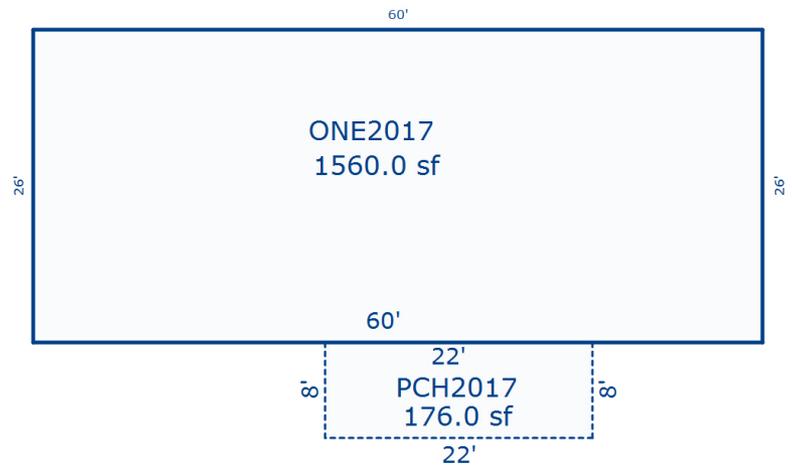
BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001CG	SNG FAMILY	ARCH 23	OFFMODULAR	QUAL C3	GRADE C	STYS		SIZE 0C	GRADE C
FNDN 02	CONC BLOCK	FRME 01	WOOD FRAME	WNDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 02	HEAT PUMP	A/C 01	CENTRALA/C	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 14	CPT/VNYL	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 02		BATH		BDRM	3	ROOM		SPCD	N/A
UD-1	N/A	FRPL	N/A	CHMN	N/A	HBTH	N/A	BATH C2	2 BATHS	FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 2017	EYB 2017

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good	RCNLD
ONE STO	1560	1560	1560	1560			100.00	ONE2017=1560\$ PCH2017=176\$.
PORCH	176	49					100.00	
LUMP						123912	100.00	123,912
TOTAL	1736		1560		79.43		100.00	
TOTAL		1609		1560		123912		123,912

TRAVERSE



PID R 0132.00.00.0031.0000 MURRAY, DENNIS & DISHMAN, LESSIE 2019 156,604 MKT CARD 002  
 L/E & CHRISTINE MURRAY(1/3) 80,978 PY Val USE 27,284 LAND 002  
 PO BOX 10 DEF 123,912 BLDG 001  
 LISTER 11/14/2015 MW PROSPECT HILL NC 27314 5.920 ACRES 5,408 XFOB 004  
 TWP HIGHTOWER CITY FIRE RESCUE OTHER  
 LOT 3&4 BLK PL BK/PG PLAT ADDRESS 0000595 RUSSELL LOOP RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 607 745 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: 595 RUSSELL LOOP RD DB220-597

SALES

IN	Q	RC	M	V	Sale Date	Sale Price	Number	Type	Description	Issued	Schd	Complt	Revisit	Act	Complt	Amount
WD	U	0G	I		6/25/2018		16315	PORC	PORCH	7/09/2018					7/19/2018	
WL	U	12	I		9/30/2002		16187	MODU	MODULAR	10/26/2017					3/02/2018	

BUILDING PERMITS

Seq	Bldg	Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
002		MHSPAC	33-M/H SPAC				1.000	UT	1	0D	3,100.000	0000	1.00	1.00	1.00	1.00	100.00	3,100
004		000041	SHELTER				1.000	SF	1	0D	100.000	0000	1.00	1.00	1.00	1.00	100.00	100
005		SHELTR	41-SHELTER	20	14		280.000	SF	1	0D	3.500	2017	.95	1.00	1.00	1.00	100.00	931
006		STRGFR	50-STORAGFR	14	12		168.000	SF	1	0D	8.000	2017	.95	1.00	1.00	1.00	100.00	1,277

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1	Front	020KAC	Back	HS W/UTIL	1.000	AC	14,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		14,000.000	14,000
2		080KAC		2-4 ACRE	4.920	AC	2,700.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		2,700.000	13,284

**Location #9 – 115 Beaver Falls Drive**

PID R 0147.00.00.0021.0000  
 LISTER 11/23/2015 GP  
 TWP HIGHTOWER  
 LOT 5 BLK  
 NBHD 00000000  
 LEGAL: BEAVER FALLS DR OFF RUSSELL LP

HEBERT, GENE M & SYLVIA C  
 PO BOX 171  
 PROSPECT HILL NC 27314 0171  
 CITY  
 FIRE  
 PL BK/PG 11 184 PLAT  
 DEED 256 534 AICUZ

2019  
 109,563 PY Val

109,563 MKT  
 USE  
 DEF  
 12.940 ACRES

CARD 001  
 55,704 LAND 003  
 53,859 BLDG 001  
 XFOB 001

OTHER  
 ADDRESS 0000115 BEAVER FALLS DR PROSPECT HILL 27314  
 PRINTED 6/07/2019 BY THOMAS

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 05	MFG HOUSE	BVAL 0005C6	MFG HSE/DW	ARCH	N/A	QUAL C2	GRADE C+5	STYS		SIZE	N/A
FNDN 01	BRICK	FRME 02	STEELFRAME	WNDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 08	CENT H&AC	A/C	N/A	RSTR 01	GABLE	RCV1 02	METAL	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 08	CARPT/VYNL	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 06		BATH		BDRM	4	ROOM	7	SPCD	N/A
UD-1	N/A	FRPL 1C	FIREPLACE	CHMN	N/A	HBTH	N/A	BATH C3	3 BATHS	FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 1991	EYB 1995

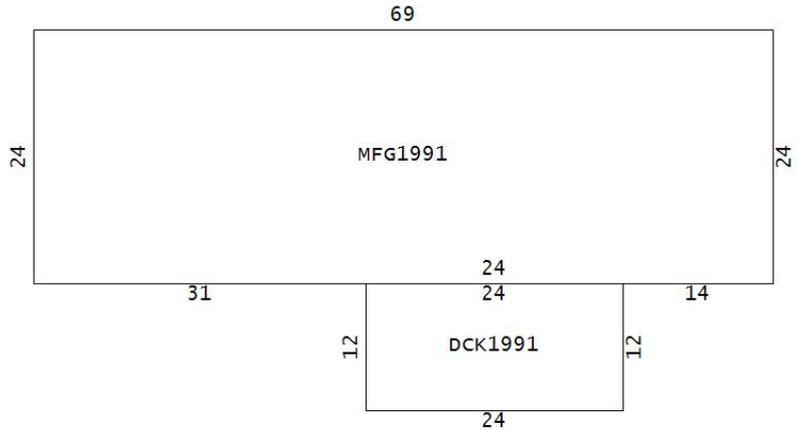
AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
D/W M/H	1656	1656	1656	1656		82860	65.00
DECK	288	75				82860	65.00

TRAVERSE

RCNLD MFG1991= N24 E69 S24 W14 DCK1991= S12 W24 N12 E24\$ W  
 24 W31\$.

LUMP TOTAL	1944	1656	50.03	82860	65.00	53,859
TOTAL TOTAL	1731	1656		82860	65.00	53,859



PID R 0147.00.00.0021.0000  
 HEBERT, GENE M & SYLVIA C 2019 109,563 MKT CARD 002  
 109,563 PY Val USE 55,704 LAND 003  
 PO BOX 171 DEF 53,859 BLDG 001  
 LISTER 11/23/2015 GP PROSPECT HILL NC 27314 0171 12.940 ACRES XFOB 001  
 TWP HIGHTOWER CITY FIRE RESCUE OTHER  
 LOT 5 BLK PL BK/PG 11 184 PLAT ADDRESS 0000115 BEAVER FALLS DR PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 256 534 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: BEAVER FALLS DR OFF RUSSELL LP

EXTRA FEATURES

Seq	Bldg Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001	000099	MISC BUILDING				1.000	UT	1		.000	0000	1.00	1.00	1.00	1.00	100.00	

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff Rate	Value
1		020JAC		HS W/UTIL	1.000	AC	13,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000	13,000.000	13,000
2		400LAC		WOOD ON PAVED RD	7.940	AC	1,600.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000	1,600.000	12,704
3		460KAC		ROAD FRONT WOODLAND	4.000	AC	7,500.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000	7,500.000	30,000

115 Beaver Falls

## #4 Caswell County Health Department Well Permit

Date: 5-13-91 This Permit Void After 4 Years  
 Owner: TOM & SUE BRUNO SR# Russell Loop  
 Location/Directions: Russ. Loop + 2 mi. to 1st Drive on RT  
 Subdivision Name: BEAVER FALLS Lot # J  
 Drilling Contractor: Evans Well Co.

### WELL CONSTRUCTION

Distance from Nearest Property Line 15 plus Distance from Source of Pollution: 100 plus  
 Total Depth: 157 Ft. Yield: 15 GPM Static Water Level 14 Ft.  
 Water Bearing Zones: Depth 65 Ft. 97 Ft. 152 Ft. \_\_\_\_\_ Ft.  
 Casing: Depth: From 0 to 37 Ft. Diameter: 6 1/2 Inches  
 TYPE: Steel \_\_\_\_\_ Galvanized Steel \_\_\_\_\_  
 If Steel, does owner approve: Yes \_\_\_\_\_ No \_\_\_\_\_  
 Weight: 13 Thickness: 188 Height Above Ground: 7 Inches  
 Drive Shoe: Yes  No \_\_\_\_\_  
 Were Problems Encountered in Setting the Casing? Yes \_\_\_\_\_ No   
 If "yes" give reason: \_\_\_\_\_  
 Grout: Type: Neat  Sand/Cement \_\_\_\_\_ Concrete \_\_\_\_\_  
 Annular Space Width 3 Inches  
 Water in Annular Space: Yes \_\_\_\_\_ No   
 Method: Pumped \_\_\_\_\_ Pressure \_\_\_\_\_ Poured   
 Depth: From 0 to 20 Ft.  
 Materials Used: No. Bags Portland Cement 4 Weight of 1 bag 94 lbs.  
 If mixture (sand, gravel, cuttings) - Ratio: 2 to 1  
 ID Plates: Yes  No \_\_\_\_\_  
~~4 x 4~~ slab Yes  No \_\_\_\_\_  
4 1/2 x 4 1/2 \_\_\_\_\_

### DRILLING LOG

Depth		Formation Description
From	To	
0	3	Clay
3	8	Sandy Soil
8	27	Sand
27	35	Sand Rock
35	157	Granite

HEREBY CERTIFY THAT THE ABOVE INFORMATION IS CORRECT AND THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH REGULATIONS SET FORTH BY THE CASWELL COUNTY HEALTH DEPARTMENT.

Evans Well Co 6-18-91  
 Signature of Contractor Date  
Jim Allison RD 5-13-91  
 Sanitarian's Signature Date Issued  
Jim Allison 6-18-91  
 Sanitarian's Signature Date Completed

Sketch well location on reverse side.

Tax Map# \_\_\_\_\_ Parcel# \_\_\_\_\_ PIN \_\_\_\_\_ Permit# A-051391-2

**Location #10 – 206 Beaver Falls Drive**

PID R 0147.00.00.0001.0000

COOK, SARA CHRISTINE

2019  
93,585 PY Val

93,585 MKT  
USE  
DEF  
17.020 ACRES

CARD 001  
45,040 LAND 002  
44,945 BLDG 001  
3,600 XFOB 002

LISTER 11/22/2015 GP  
TWP HIGHTOWER

CITY

312 MASON ROAD  
DURHAM NC 27712

FIRE

RESCUE

OTHER

LOT 4 BLK A

PL BK/PG 11 184

PLAT

ADDRESS

0000206 BEAVER FALLS DR PROSPECT HILL 27314

NBHD 00000000

USE 000100 RESIDENTIAL

DEED 545

1264 AICUZ

PRINTED 6/07/2019 BY THOMAS

LEGAL: BEAVER FALLS DRIVE OFF RUSSELL LOOP RD PLAT 11 PG 135

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

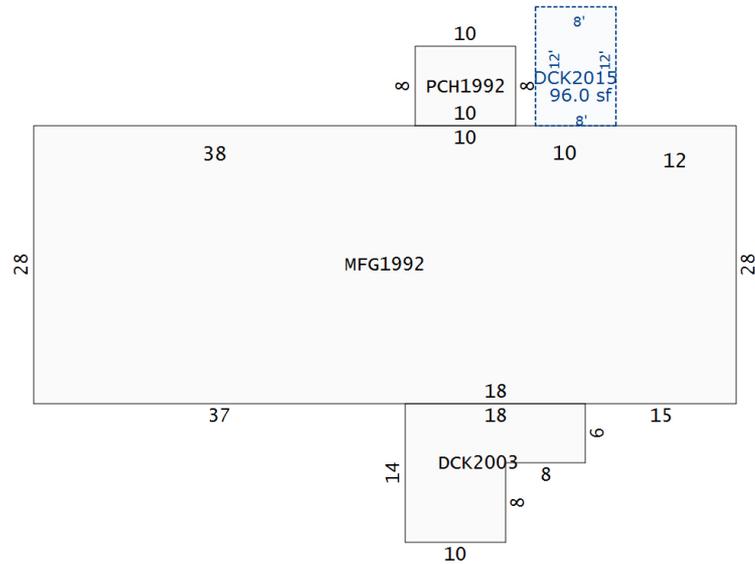
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 05	MFG HOUSE	BVAL 0005D6	MFG HSE/DW	ARCH 01	D/W	QUAL D2	GRADE D+5	STYS		SIZE	N/A
FNDN 04	PIER	FRME 02	STEELFRAME	WNDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 08	CENT H&AC	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 02	WOODPANEL	INT2	N/A	INT2%		FLR1 05	CARPET	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 06		BATH		BDRM	3	ROOM	5	SPCD	N/A
UD-1	N/A	FRPL	N/A	CHMN	N/A	HBTH	N/A	BATH D2	2 BATHS	FUEL 01	NONE
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 1992	EYB 1992

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
D/W M/H	1960	1960	1960	1960			62.00
PORCH	80	34					62.00
DECK	188	49					62.00
DECK	96	25					62.00
LUMP						72493	62.00
TOTAL	2324		1960		36.98		62.00
TOTAL		2068		1960		72493	

TRAVERSE

RCNLD MFG1992=1960\$ PCH1992=80\$ DCK2003=188\$ DCK2015=96\$.



Sketch by Apex Sketch

COOK,SARA CHRISTINE 2019 93,585 MKT CARD 002  
 PID R 0147.00.00.0001.0000 93,585 PY Val USE 45,040 LAND 002  
 312 MASON ROAD DEF 44,945 BLDG 001  
 DURHAM NC 27712 17.020 ACRES 3,600 XFOB 002  
 LISTER 11/22/2015 GP CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER LOT 4 BLK A PL BK/PG 11 184 PLAT ADDRESS 0000206 BEAVER FALLS DR PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 545 1264 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: BEAVER FALLS DRIVE OFF RUSSELL LOOP RD PLAT 11 PG 135

SALES BUILDING PERMITS  
 IN Q RC M V Sale Date Sale Price Number Type Description Issued Schd Complt Revisit Act Complt Amount  
 WD U 0E I 2/16/2010

EXTRA FEATURES

Seq	Bldg	Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001		000027	DETACHED FR GAR				1.000	SF	1	0D	3,000.000	0000	.40	1.00	1.00	1.00	100.00	1,200
002		FRMBRN	1-FRAME BARN	30	40		1200.000	SF	1	0E	5.000	0000	.40	1.00	1.00	1.00	100.00	2,400

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1	Front	020JAC	Back FT	HS W/UTIL	1.000	AC	13,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.00		13,000.000	13,000
2		280NAC		OPEN ON PAVED ROAD	16.020	AC	2,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.00		2,000.000	32,040

(This permit expires five years from date of issue.)

#5

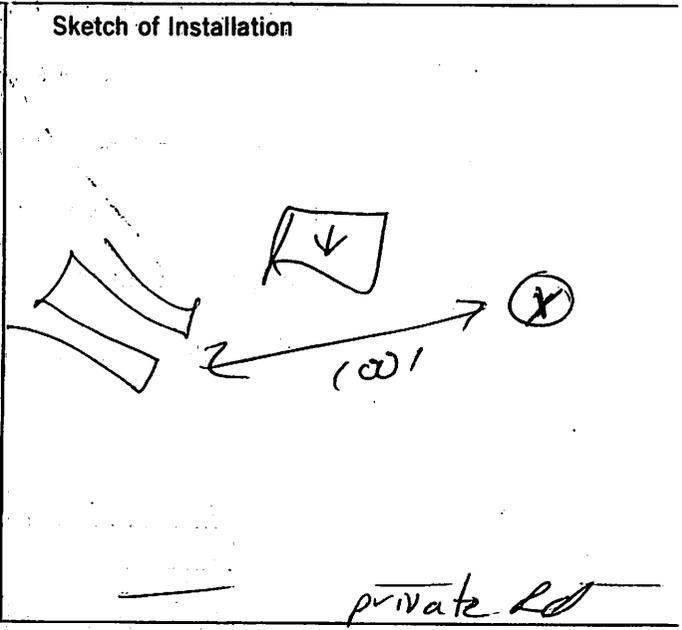
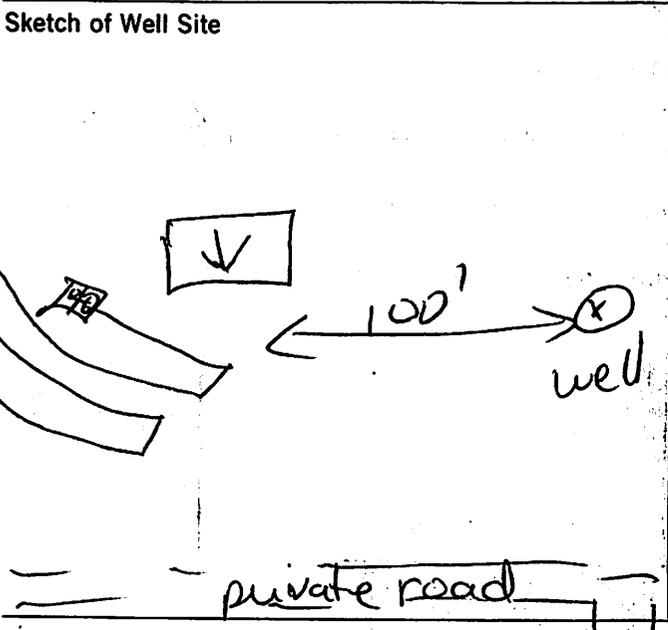
WELL PERMIT

New Well  
 Replacement Well

NAME Cody Cook ADDRESS 912 Camden Ave Durham

Directions to Site 70 S. John Oakley Rd. Ridgeville Kassel  
Loop - 1st gravel on R

Well to Serve:  Residence  Mobile Home Park  Other



WELL CONSTRUCTION

Distance from nearest property line 15 plus  
Distance from source of pollution 100 plus  
Total depth of well 14.5 ft. GPM 7-8

Water bearing Zones: Depth 90 Ft 115 Ft  
Casing: Depth: From 0 to 83 Ft  
Diameter 6 1/4

Static Water Level 21 Ft  
Thickness 188

Casing Type: Steel  Galvanized Steel  Thickness 188  
If steel, does owner approve:  Yes  No  
Drive Shoe  Yes  No Height of casing above ground 12 inches  
Problems in setting casing  Yes  No. Explain \_\_\_\_\_

Grout Type:  Neat  Sand/Cement  Concrete. Annular space width 3 in.  
Water in Annular space  Yes  No. Method of Grout  Pump  Pressure  Poured  
No. Bags of Portland Cement 4 Depth: From 0 to 20 Ft  
Weight of 1 bag 94 lbs. Proper Slab Constructed  ID Plate

DRILLING LOG

Depth		Formation Description
From	To	
0	78	Sandy Soil
78	81	SAND
81	145	Hard Rock

I hereby certify that the above information is correct and that this well was constructed in accordance with the Caswell County Well Ordinance.

Wern Wille 8-25-93  
Signature of Contractor Date

Permit Issued By Jenni Nelson EHSF Date 5-7-93  
Inspection Completed By Jenni Nelson EHSF Date 8-25-93

**Location #11 – 258 Beaver Falls Drive**

PID R 0147.00.00.0026.0000  
 WORSHAM, LORA  
 2019 163,529 MKT CARD 001  
 163,529 PY Val USE 35,250 LAND 003  
 258 BEAVER FALLS DR DEF 126,661 BLDG 001  
 PROSPECT HILL NC 27314 15.750 ACRES OTHER 1,618 XFOB 003  
 LISTER 11/23/2015 GP  
 TWP HIGHTOWER CITY FIRE RESCUE  
 LOT 4 BLK PL BK/PG 11 184 PLAT ADDRESS 0000258 BEAVER FALLS DR PROSPECT HILL 27314  
 NBHD 00000000 USE 000200 AGRICULTURE DEED 451 556 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: BEAVER FALLS DRIVE

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001CG	SNG FAMILY	ARCH	N/A	QUAL C3	GRADE C	STYS		SIZE 0C	GRADE C
FNDN 01	BRICK	FRME 01	WOOD FRAME	WNDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 02	HEAT PUMP	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 20	MIXED	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 02		BATH		BDRM	4	ROOM	10	SPCD	N/A
UD-1	N/A	FRPL	N/A	CHMN	N/A	HBTH	N/A	BATH C3	3 BATHS	FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 1994	EYB 1994

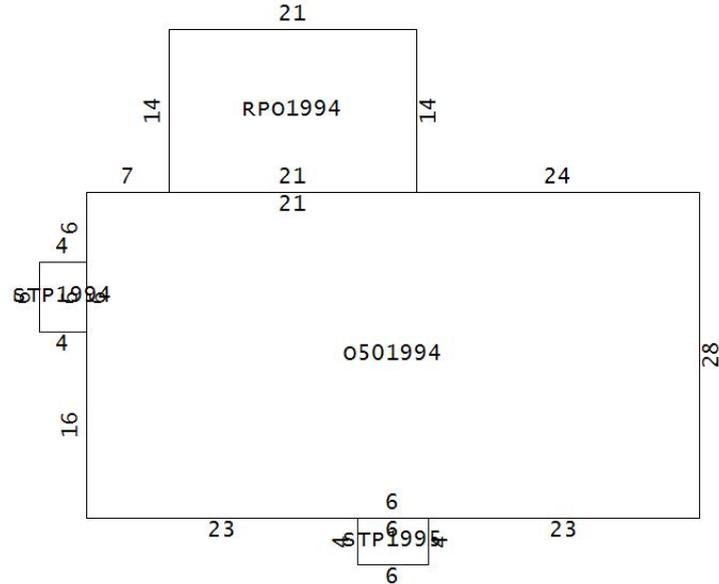
AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
1.50 ST	1456	2038	2184	1456			83.00
STOOP	24	5					83.00
RAIPATI	294	35					83.00
STOOP	24	5					83.00

LUMP TOTAL	1798		2184		69.87	152604	83.00	126,661
TOTAL		2083		1456		152604	83.00	126,661

TRAVERSE

RCNLD 0501994= W4 N6 E4S6\$ N6 N6 E7 RPO1994= N14 E  
 21 S14 W21\$ E21 E24 S28 W23 STP1995= S4 W6 N4 E6\$ W6  
 W23\$.





#6 **Caswell County Health Department**  
**Well Permit** 258 Beaver Falls

Date: 3-20-92 This Permit Void After 5 Years  
 Owner: Richard M. Evans  
 Location/Directions: Rural Lot (B) of 2 Hrs. N.W. of TOWN WOOD  
 Subdivision Name: \_\_\_\_\_ Lot # \_\_\_\_\_  
 Drilling Contractor: Evans Well Co

**WELL CONSTRUCTION**

Distance from Nearest Property Line 15 plus Distance from Source of Pollution 100 plus  
 Total Depth: 105 Ft. Yield: 30 GPM Static Water Level 16 Ft.  
 Water Bearing Zones: Depth 80 Ft. 95 Ft. \_\_\_\_\_ Ft. \_\_\_\_\_ Ft.  
 Casing: Depth: From 0 to 67 Ft. Diameter: 6 1/2 Inches  
 TYPE: Steel \_\_\_\_\_ Galvanized Steel   
 If Steel, does owner approve: Yes \_\_\_\_\_ No \_\_\_\_\_  
 Weight: 13 Thickness: 18 1/2 Height Above Ground: 12 Inches  
 Drive Shoe: Yes  No \_\_\_\_\_  
 Were Problems Encountered in Setting the Casing? Yes \_\_\_\_\_ No \_\_\_\_\_  
 If "yes" give reason: \_\_\_\_\_  
 Grout: Type: Neat \_\_\_\_\_ Sand/Cement \_\_\_\_\_ Concrete \_\_\_\_\_  
 Annular Space Width 3 Inches  
 Water in Annular Space: Yes \_\_\_\_\_ No   
 Method: Pumped \_\_\_\_\_ Pressure \_\_\_\_\_ Poured   
 Depth: From 0 to 20 Ft.  
 Materials Used: No. Bags Portland Cement 4 Weight of 1 bag 94 lbs.  
 If mixture (sand, gravel, cuttings) - Ratio: 2 to 1  
 ID Plates: Yes  No \_\_\_\_\_  
 4 1/2" x 4 1/2" slab Yes  No \_\_\_\_\_

**DRILLING LOG**

Depth		Formation Description
From	To	
0	3	Red Soil
3	15	Sandy Soil
15	60	SAND
60	65	SHAD ROCK
65	105	HARD ROCK

I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS CORRECT AND THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH REGULATIONS SET FORTH BY THE CASWELL COUNTY HEALTH DEPARTMENT.

Evans Well Co. 2-22-92  
 Signature of Contractor Date  
Jim Althoff 3-20-92  
 Sanitarian's Signature Date Issued  
Jeniffer Nelson 2-22-93  
 Sanitarian's Signature Date Completed

Sketch well location on reverse side.

MAP# \_\_\_\_\_ Parcel# \_\_\_\_\_ PIN \_\_\_\_\_ Permit# A-032092-1

**Location #12 – 802 Russell Loop Road**

PID R 0147.00.00.0031.0000

KEMPER, DALE R TRUSTEE

2019  
71,988 PY Val

299,255 MKT  
USE  
DEF  
19.180 ACRES

CARD 001  
78,488 LAND 003  
217,796 BLDG 001  
2,971 XFOB 003

LISTER  
TWP HIGHTOWER  
LOT 1 BLK

CITY

28 HENRY DANIELS RD  
PROSPECT HILL NC 27314

FIRE

RESCUE

OTHER

PL BK/PG 11 184 PLAT  
NBHD 00000000 USE 000100 RESIDENTIAL DEED 596 972 AICUZ

ADDRESS 0000802 RUSSELL LOOP RD PROSPECT HILL 27314  
PRINTED 6/07/2019 BY THOMAS

LEGAL: RUSSELL LOOP & HENRY DANIELS X X X

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

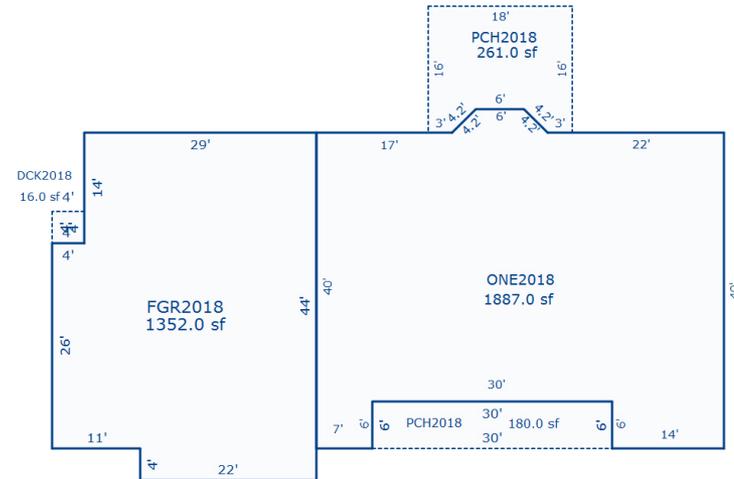
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001CG	SNG FAMILY	ARCH 10	CONVENTL	QUAL C1	GRADE C+10	STYS		SIZE 0C	GRADE C
FNDN 06	STONE	FRME 01	WOOD FRAME	WNDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 02	HEAT PUMP	A/C 01	CENTRALA/C	RSTR 02	HIP	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 17	LAMINATED	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 02		BATH		BDRM	3	ROOM		SPCD	N/A
UD-1	N/A	FRPL 1C	FIREPLACE	CHMN	N/A	HBTH	N/A	BATH C2	2 BATHS	FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 2018	EYB 2018

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
ONE STO	1887	1887	1887	1887			100.00
PORCH	441	123					100.00
FIN GAR	1352	635					100.00
DECK	16	3					100.00
LUMP						217796	100.00
TOTAL	3696		1887		115.41		100.00
TOTAL		2648		1887		217796	

TRAVERSE

RCNLD ONE2018=1887\$ PCH2018=441\$ FGR2018=1352\$ DCK2018=16\$.



Sketch by Apex Sketch

PID R 0147.00.00.0031.0000  
 KEMPER, DALE R TRUSTEE 2019 299,255 MKT CARD 002  
 71,988 PY Val USE 78,488 LAND 003  
 28 HENRY DANIELS RD DEF 217,796 BLDG 001  
 PROSPECT HILL NC 27314 19.180 ACRES 2,971 XFOB 003  
 LISTER CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER  
 LOT 1 BLK PL BK/PG 11 184 PLAT ADDRESS 0000802 RUSSELL LOOP RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 596 972 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: RUSSELL LOOP & HENRY DANIELS X X X

16202 SFD SING FAML 12/07/2017 4/06/2018  
 EXTRA FEATURES

Seq	Bldg	Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001		STRGML	51-STORAGML	20	8		160.000	SF	1	0C	10.000	2018	.97	1.00	1.00	1.00	100.00	1,552
002		CNCPAV	82-CONCPAVE	32	25		800.000	SF	1	0C	1.500	2018	.95	1.00	1.00	1.00	100.00	1,140
003		CHNFN4	75-CHNFENC4	72	1		72.000	SF	1	0C	4.000	2018	.97	1.00	1.00	1.00	100.00	279

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1	Front	020KAC	Back	HS W/UTIL	1.000	AC	14,000.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		14,000.000		14,000
2		460KAC		ROAD FRONT WOODLAND	6.000	AC	7,500.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		7,500.000		45,000
3		400LAC		WOOD ON PAVED RD	12.180	AC	1,600.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		1,600.000		19,488

**Location #13 – 915 Russell Loop Road**

PID R 0147.00.00.0013.0000      DIX,DOROTHY W &      2019      75,191 MKT      CARD 001  
 RICHARD E WILBORNE (JTRS)      75,191 PY Val      USE      19,400 LAND 002  
 2386 RED MARSHALL RD      DEF      55,503 BLDG 001  
 PELHAM NC 27311      3.000 ACRES      288 XFOB 002

LISTER 11/23/2015 GP      CITY      FIRE      RESCUE      OTHER  
 TWP HIGHTOWER      LOT      BLK      PL BK/PG 12      126      PLAT      ADDRESS 0000915 RUSSELL LP RD PROSPECT HILL 27314  
 NBHD 00000000      USE 000100 RESIDENTIAL      DEED 610      1377      AICUZ      PRINTED 6/07/2019 BY THOMAS  
 LEGAL: RUSSELL LOOP RD DEED 241-756 X 6/18/13 REMOVED ROBERT L KIRBY

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

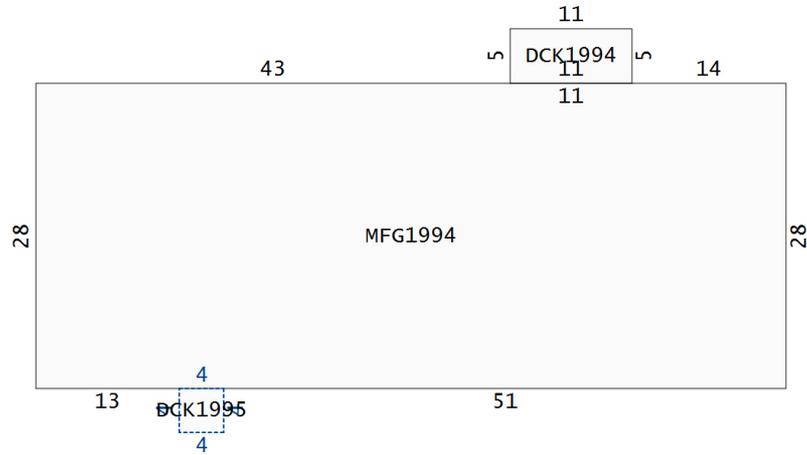
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 05	MFG HOUSE	BVAL 0005C6	MFG HSE/DW	ARCH	N/A	QUAL C2	GRADE C+5	STYS		SIZE	N/A
FNDN 01	BRICK	FRME 02	STEELFRAME	WINDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 03	ELEC BB	A/C 01	CENTRALA/C	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 05	CARPET	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 06		BATH		BDRM 3		ROOM 6		SPCD	N/A
UD-1	N/A	FRPL 1C	FIREPLACE	CHMN	N/A	HBTH	N/A	BATH C2 2 BATHS		FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 1994	EYB 1994

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
D/W M/H	1904	1904	1904	1904			64.00
DECK	55	14					64.00
DECK	16	4					64.00
LUMP						86724	64.00
TOTAL	1975		1904		45.54		64.00
TOTAL		1922		1904		86724	

TRAVERSE

RCNLD MFG1994=1904\$ DCK1994=55\$ DCK1995=16\$.



PID R 0147.00.00.0013.0000 DIX,DOROTHY W & 2019 75,191 MKT CARD 002  
 RICHARD E WILBORNE (JTRS) 75,191 PY Val USE 19,400 LAND 002  
 2386 RED MARSHALL RD DEF 55,503 BLDG 001  
 PELHAM NC 27311 3.000 ACRES 288 XFOB 002

LISTER 11/23/2015 GP CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER CITY FIRE RESCUE OTHER  
 LOT BLK PL BK/PG 12 126 PLAT ADDRESS 0000915 RUSSELL LP RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 610 1377 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: RUSSELL LOOP RD DEED 241-756 X 6/18/13 REMOVED ROBERT L KIRBY

SALES BUILDING PERMITS  
 IN Q RC M V Sale Date Sale Price Number Type Description Issued Schd Complt Revisit Act Complt Amount  
 WD Q I 12/04/2018 80,000

EXTRA FEATURES

Seq	Bldg	Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001		STRGFR	50-STORAGFR	12	10		120.000	SF	1	0E	.000	0000	.60	1.00	1.00	1.00	100.00	
003		STRGML	51-STORAGML	12	12		144.000	SF	1	0E	5.000	0000	.40	1.00	1.00	1.00	100.00	288

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1	Front	020KAC	Back	HS W/UTIL	1.000	AC	14,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.00		14,000.000	14,000
2		080KAC		2-4 ACRE	2.000	AC	2,700.000	1.00	1.00	1.00	1.00	1.00	1.00		1.00		2,700.000	5,400

**Location #14 – 28 Henry Daniels Road**

PID R 0147.00.00.0025.0000  
 LISTER 11/23/2015 GP  
 TWP HIGHTOWER CITY  
 LOT 2 BLK  
 NBHD 00000000 USE 000200 AGRICULTURE  
 LEGAL: HENRY DANIELS RD & RUSSELL LP DB 263-41 X X

KEMPER, DALE R TRUSTEE  
 28 HENRY DANIELS RD  
 PROSPECT HILL NC 27314  
 FIRE  
 PL BK/PG 11 184 PLAT  
 DEED 596 972 AICUZ

2019 483,396 MKT  
 483,396 PY Val  
 USE  
 DEF  
 33.050 ACRES

CARD 001  
 62,675 LAND 004  
 378,973 BLDG 001  
 41,748 XFOB 004

RESCUE OTHER  
 ADDRESS 000028 HENRY DANIELS RD PROSPECT HILL 2731  
 PRINTED 6/07/2019 BY THOMAS

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001)

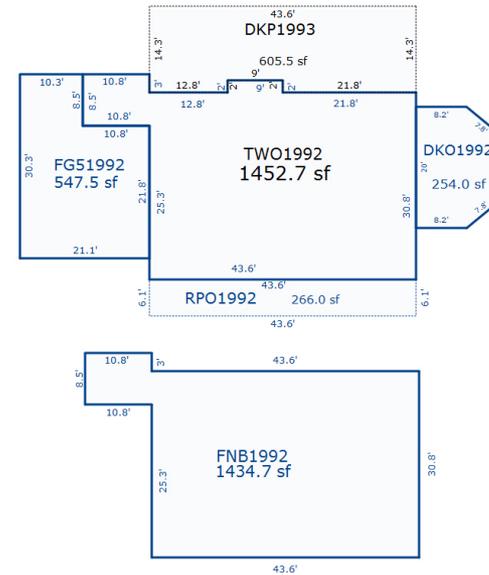
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001AA	SNG FAMILY	ARCH	N/A	QUAL A5	GRADE A-10	STYS		SIZE 0A	GRADE A
FNDN 01	BRICK	FRME 01	WOOD FRAME	WNDO	N/A	EXW1 01	FACE BRICK	EXW2	N/A	EXW2%	
HEAT 11	CNTRLHT&AC	A/C	N/A	RSTR 02	HIP	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 12	HARDWOOD	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 03		BATH		BDRM 4		ROOM 11		SPCD	N/A
UD-1	N/A	FRPL 3A	FIREPLACE	CHMN 2A	FP CHIMNEY	HBTH A1	1 HALFBATH	BATH A2	2 BATHS	FUEL 03	GAS
FXTR	N/A	UD-8	N/A	RMYSR	N/A	RMYSR	N/A	UD-9%		AYB 1992	EYB 1992

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
TWO STO	1453	2819	2906	1453			75.25
.5STY/F	548	630	630	548			75.25
DECK/PA	605	127					75.25
RAIPATI	266	32					75.25
DECK/ON	254	305	254				75.25
FINSH B	1435	804					75.25
LUMP						503619	75.25
TOTAL	4561		3790		132.88		75.25
TOTAL		4717		2001		503619	

TRAVERSE

RCNLD TWO1992=1453\$ FG51992=548\$ DKP1993=605\$ RPO1992=266\$  
 DKO1992=254\$ FNB1992=1435\$.



Sketch by Apex Sketch

PID R 0147.00.00.0025.0000  
 KEMPER, DALE R TRUSTEE 2019 483,396 MKT CARD 002  
 483,396 PY Val USE 62,675 LAND 004  
 28 HENRY DANIELS RD DEF 378,973 BLDG 001  
 PROSPECT HILL NC 27314 33.050 ACRES 41,748 XFOB 004  
 LISTER 11/23/2015 GP CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER LOT 2 BLK PL BK/PG 11 184 PLAT ADDRESS 0000028 HENRY DANIELS RD PROSPECT HILL 2731  
 NBHD 00000000 USE 000200 AGRICULTURE DEED 596 972 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: HENRY DANIELS RD & RUSSELL LP DB 263-41 X X

SALES BUILDING PERMITS

IN Q RC M V	Sale Date	Sale Price	Number	Type	Description	Issued	Schd	Complt	Revisit	Act	Complt	Amount
WD U 0P I	12/13/2016	390,000	16041	ASBL	ASSOR BLDG	2/01/2017						
WD Q I	11/02/2006	650,000	13988	RENO	RENOVATION	11/08/2010						

EXTRA FEATURES

Seq Bldg Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001	CNCSLB 74-CONCSLAB	30	24		720.000	SF	1	0C	2.000	0000	.70	1.00	1.00	1.00	100.00	1,008
002	ADRIIVE 7-ASPDRIVE	1600	8		12800.000	SF	1	0B	2.250	2002	.80	1.00	1.00	1.00	100.00	23,040
003	000006 CARPORT/INEXPEN	21	18		1.000	UT	1		600.000	2017	1.00	1.00	1.00	1.00	100.00	600
004	MTLGAR METAL GARAGE	40	30		1200.000	SF	1	0C	15.000	2017	.95	1.00	1.00	1.00	100.00	17,100

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1	Front	020LAC	Back	HS W/UTIL	1.000	AC	15,000.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		15,000.000		15,000
2		300NAC		OPEN ON DIRT ROAD	2.000	AC	1,750.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		1,750.000		3,500
3		420LAC		WOOD ON DIRT ROAD	21.050	AC	1,500.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		1,500.000		31,575
4		420KAC		WOOD ON DIRT ROAD	9.000	AC	1,400.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		1,400.000		12,600

#9

28 Henry Daniels

# Caswell County Health Department Well Permit

Date: 5-14-91 This Permit Void After 3 Years  
 Owner: Jim R. DODLEY SR# HENRY DANIEL  
 Location/Directions: RUSSELL LOOP 718 H. DANIEL RD  
1ST DRIVE TO RT  
 Subdivision Name: WESTENDORF - BEAVER LAKE Lot # 58 AC  
 Drilling Contractor: \_\_\_\_\_

### WELL CONSTRUCTION

Distance from Nearest Property Line 207 Distance from Source of Pollution 100  
 Total Depth: 165 Ft. Yield: 9 GPM Static Water Level 22 Ft.  
 Water Bearing Zones: Depth 2038 Ft. 70 Ft. \_\_\_\_\_ Ft. \_\_\_\_\_ Ft.  
 Casing: Depth: From 0 to 33 Ft. Diameter: 6 Inches  
 TYPE: Steel \_\_\_\_\_ Galvanized Steel 188 WALL  
 If Steel, does owner approve: Yes  No \_\_\_\_\_  
 Weight: 1316 Thickness: 188 Height Above Ground: 18 Inches  
 Drive Shoe: Yes  No \_\_\_\_\_  
 Were Problems Encountered in Setting the Casing? Yes \_\_\_\_\_ No   
 If "yes" give reason: \_\_\_\_\_  
 Grout: Type: Neat \_\_\_\_\_ Sand/Cement  Concrete \_\_\_\_\_  
 Annular Space Width 11 Inches  
 Water in Annular Space: Yes  No \_\_\_\_\_  
 Method: Pumped \_\_\_\_\_ Pressure \_\_\_\_\_ Poured   
 Depth: From 0 to 33 Ft.  
 Materials Used: No. Bags Portland Cement 6 Weight of 1 bag 94 lbs.  
 If mixture (sand, gravel, cuttings) - Ratio: 2 to 1  
 ID Plates: Yes  No \_\_\_\_\_  
 4x4 slab Yes  No \_\_\_\_\_

5x5

**DRILLING LOG**

Depth		Formation Description
From	To	
0	20	SOIL
20	26	OVERBURDEN
26	28	BROKEN ROCK
28	165	BLUE GRANITE

HEREBY CERTIFY THAT THE ABOVE INFORMATION IS CORRECT AND THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH REGULATIONS SET FORTH BY THE CASWELL COUNTY HEALTH DEPARTMENT.

Craig Hutson  
 Signature of Contractor Date

Jim Allison 5-14-91  
 Sanitarian's Signature Date Issued

Joe 5-17-91  
 Sanitarian's Signature Date Completed

Sketch well location on reverse side.

Tax Map#

Parcel#

PIN

Permit#

A-05491-3

**Location #15 – 200 Henry Daniels Road**

PID R 0147.00.00.0019.0000      OESTREICHER,KAREN ETAL      2019      200,832 MKT      CARD 001  
 228 CACTUS DR      200,832 PY Val      USE      47,565 LAND 003  
 PROSPECT HILL NC 27314      FIRE      DEF      140,864 BLDG 001  
 LISTER 11/23/2015 GP      CITY      RESCUE      18.010 ACRES      OTHER  
 TWP HIGHTOWER      PL BK/PG 15 871      PLAT      ADDRESS 0000200 HENRY DANIELS RD PROSPECT HILL 2731  
 LOT B BLK      DEED 503 835      AICUZ      PRINTED 6/07/2019 BY THOMAS  
 NBHD 00000000      USE 000200 AGRICULTURE      LEGAL: HENRY DANIELS RD REF DEEDS 318-857;352-95 PLAT 11/135 8/6/07 AC INCREASE P/P 15/871`

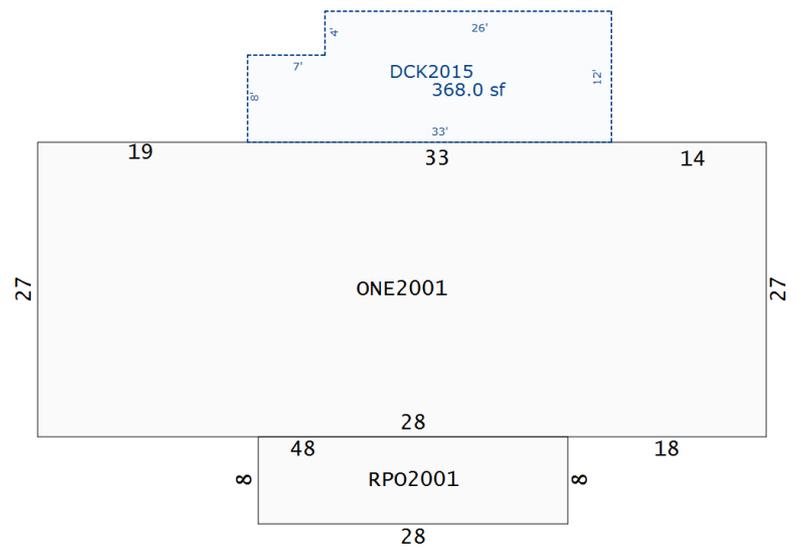
BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001CG	SNG FAMILY	ARCH 18	MODULAR	QUAL C1	GRADE C+10	STYS	SIZE 0C	GRADE C	
FNDN 01	BRICK	FRME 01	WOOD FRAME	WNDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 02	HEAT PUMP	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 04	HARDW/CRPT	FLR2 10	VINYL	FLR2% 20	
KTCH	N/A	DPRT 02		BATH		BDRM	3	ROOM	7	SPCD	N/A
UD-1	N/A	FRPL 1C	FIREPLACE	CHMN 1C	FP CHIMNEY	HBTH	N/A	BATH C2	2 BATHS	FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYP	N/A	RMYP	N/A	UD-9%		AYB 2001	EYB 2001

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
ONE STO	1782	1782	1782	1782			89.00
RAIPATI	224	27					89.00
DECK	368	74					89.00
LUMP						158275	89.00
TOTAL	2374		1782		88.81	158275	89.00
TOTAL		1883		1782		158275	

TRAVERSE  
 RCNLD ONE2001=1782\$ RPO2001=224\$ DCK2015=368\$.  
 140,864  
 140,864



Sketch by Apex Sketch

OESTREICHER,KAREN ETAL 2019 200,832 MKT CARD 002  
 PID R 0147.00.00.0019.0000 200,832 PY Val USE 47,565 LAND 003  
 228 CACTUS DR DEF 140,864 BLDG 001  
 LISTER 11/23/2015 GP PROSPECT HILL NC 27314 18.010 ACRES OTHER 12,403 XFOB 001  
 TWP HIGHTOWER CITY FIRE RESCUE  
 LOT B BLK PL BK/PG 15 871 PLAT ADDRESS 0000200 HENRY DANIELS RD PROSPECT HILL 2731  
 NBHD 00000000 USE 000200 AGRICULTURE DEED 503 835 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: HENRY DANIELS RD REF DEEDS 318-857;352-95 PLAT 11/135 8/6/07 AC INCREASE P/P 15/871`  
 SALES BUILDING PERMITS

IN	Q	RC	M	V	Sale Date	Sale Price	Number	Type	Description	Issued	Schd	Complt	Revisit	Act	Complt	Amount
WD	Q			I	9/29/2006	156,000										
WD	U	12		I	6/19/2002											

Seq	Bldg	Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001		DFRGAR	27-DETRGAR	24	32		768.000	SF	1	00	17.000	0000	.95	1.00	1.00	1.00	100.00	12,403

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value	
LAND																			
1	Front	020KAC	Back	HS W/UTIL	1.000	AC	14,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		14,000.000	14,000	
2		100LAC		5-9 ACRE	7.000	AC	2,650.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		2,650.000	18,550	
3		420LAC		WOOD ON DIRT ROAD	10.010	AC	1,500.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		1,500.000	15,015	

#10

# Caswell County Environmental Health

P.O. Drawer H • Yanceyville, NC 27379  
(336) 694-9731

## Well Completion Report

Name: Kenny Kirby

Address: \_\_\_\_\_

Location: Henry Daniel

Distance From Nearest Property Line 15 plus Ft. Water Bearing Zones Depth 102 Ft. 121 Ft. 168

Distance From Nearest Source of Pollution 100 ft. Casing Depth From 0 to 64 Ft.

Total Depth of Well 186 Ft. GPM 8 Diameter 6 1/4 In.

Static Water Level 35 Ft.

Casing Type: Steel \_\_\_\_\_ Galvanized Steel  Thickness 188 In.

If Steel, Does Owner Approve \_\_\_\_\_ Yes \_\_\_\_\_ No

Drive Shoe  Yes \_\_\_\_\_ No Height of Casing Above Ground 12 In.

Problems in Setting Casing \_\_\_\_\_ Yes \_\_\_\_\_ No Explain \_\_\_\_\_

Grout Type: \_\_\_\_\_ Neat  Sand/Cement \_\_\_\_\_ Concrete Annular Space Width  In.

Water in Annular Space \_\_\_\_\_ Yes  No Method of Grout \_\_\_\_\_ Pump \_\_\_\_\_ Pressure  Poured

No. Bags of Portland Cement \_\_\_\_\_ Depth From 0 to 2 Ft.

Weight of 1 Bag 94 Lbs. Proper Slab Constructed  ID Plate

### DRILLING LOG

Depth		Formation Description
From	To	
0	21	Sandy Soil
21	62	Soft sand Rock
62	138	Hard Brown Rock
138	186	Gray Granite

I hereby certify that the above information is correct and that this well was constructed in accordance with the Caswell County Well Ordinance

Ruthie Fowler  
Signature of Contractor

2031  
Certification #

10-26-01  
Date

Inspection Completed By

[Signature]

Date:

10-26-01

**Location #16 – 152 Henry Daniels Road**

PID R 0147.00.00.0029.0000  
 GAMMON, OSCAR & TERESA III  
 152 HENRY DANIELS RD  
 PROSPECT HILL NC 27314  
 LISTER 11/23/2015 GP  
 TWP HIGHTOWER CITY  
 LOT BLK  
 NBHD 00000000 USE 000100 RESIDENTIAL  
 LEGAL: HENRY DANIELS RD  
 2019 71,840 MKT  
 71,840 PY Val  
 2.000 ACRES  
 CARD 001  
 16,700 LAND 002  
 51,097 BLDG 001  
 4,043 XFOB 003  
 FIRE RESCUE OTHER  
 PL BK/PG 14 205 PLAT ADDRESS 0000152 HENRY DANIELS RD PROSPECT HILL 2731  
 DEED 378 890 AICUZ PRINTED 6/07/2019 BY THOMAS

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

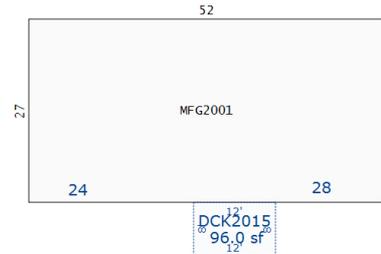
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 05	MFG HOUSE	BVAL 0005C6	MFG HSE/DW	ARCH 01	D/W	QUAL C1	GRADE C+10	STYS		SIZE	N/A
FNDN 01	BRICK	FRME 02	STEELFRAME	WNDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 02	HEAT PUMP	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 08	CARPT/VYNL	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 06		BATH		BDRM	3	ROOM	5	SPCD	N/A
UD-1	N/A	FRPL 1C	FIREPLACE	CHMN	N/A	HBTH	N/A	BATH C2	2 BATHS	FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 2001	EYB 2001

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
D/W M/H	1404	1404	1404	1404			71.00
DECK	96	25					71.00
LUMP						71968	71.00
TOTAL	1500		1404		51.25		71.00
TOTAL		1429		1404		71968	

TRAVERSE

RCNLD	MFG2001=1404\$	DCK2015=96\$.
	51,097	
	51,097	



PID R 0147.00.00.0029.0000  
 LISTER 11/23/2015 GP  
 TWP HIGHTOWER CITY  
 LOT BLK  
 NBHD 00000000 USE 000100 RESIDENTIAL  
 LEGAL: HENRY DANIELS RD  
 SALES  
 IN Q RC M V Sale Date Sale Price Number Type Description Issued Schd Complt Revisit Act Complt Amount  
 WD U V 12/05/2000 16,000

GAMMON, OSCAR & TERESA III  
 152 HENRY DANIELS RD  
 PROSPECT HILL NC 27314  
 FIRE  
 PL BK/PG 14 205 PLAT  
 DEED 378 890 AICUZ  
 ADDRESS 0000152 HENRY DANIELS RD PROSPECT HILL 2731  
 PRINTED 6/07/2019 BY THOMAS

BUILDING PERMITS

Seq	Bldg Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001	CARPRT	6-CARPORT	21	18		378.000	SF	1	0E	4.000	2003	.40	1.00	1.00	1.00	100.00	605
002	STRGFR	50-STORAGFR	20	12		240.000	SF	1	0C	12.000	0000	.95	1.00	1.00	1.00	100.00	2,736
003	STRGML	51-STORAGML	12	10		120.000	SF	1	0D	6.500	0000	.90	1.00	1.00	1.00	100.00	702

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1	Front	020KAC	Back	HS W/UTIL	1.000	AC	14,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		14,000.000	14,000
2		080KAC		2-4 ACRE	1.000	AC	2,700.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		2,700.000	2,700

**Location #17 – Henry Daniels Road**

PID R 0147.00.00.0015.0000  
 LISTER 11/23/2015 GP  
 TWP HIGHTOWER CITY  
 LOT BLK  
 NBHD 00000000 USE 000100 RESIDENTIAL  
 LEGAL: OFF HENRY DANIELS RD PLAT 10/289;11/955 DEEDS 216-235;261-481;310-776

NICHOLAIS, TOM & DONNA  
 3813 CLOEE CIRCLE  
 HILLSBOROUGH NC 27278  
 FIRE  
 PL BK/PG 11 414 PLAT  
 DEED 508 265 AICUZ  
 ADDRESS 0000000 HENRY DANIELS RD PROSPECT HILL 2731  
 PRINTED 6/07/2019 BY THOMAS

2019 135,974 MKT  
 135,974 PY Val  
 USE 68,780 LAND 002  
 DEF 38,575 BLDG 001  
 1.160 ACRES 28,619 XFOB 004  
 RESCUE OTHER

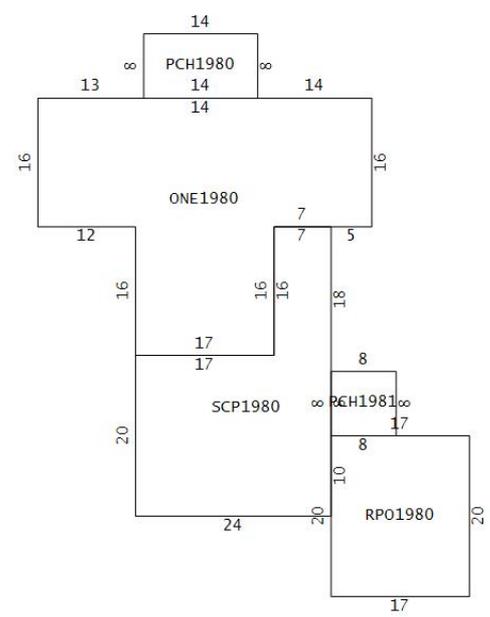
BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001EA	SNG FAMILY	ARCH	N/A	QUAL E1	GRADE E+10	STYS	SIZE 0E	GRADE E	
FNDN 02	CONC BLOCK	FRME 01	WOOD FRAME	WNDO	N/A	EXW1 05	LOG	EXW2	N/A	EXW2%	
HEAT 11	CNTRLHT&AC	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 10	LOG	INT2	N/A	INT2%		FLR1 05	CARPET	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 03		BATH		BDRM	2	ROOM	4	SPCD	N/A
UD-1	N/A	FRPL	N/A	CHMN	N/A	HBTH	N/A	BATH E1	1 BATH	FUEL 03	GAS
FXTR	N/A	UD-8	N/A	RMYSR	N/A	RMYSR	N/A	UD-9%		AYB 1980	EYB 1985

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
ONE STO	928	928	928	928		57576	67.00
PORCH	112	31					67.00
SCREEN	592	178					67.00
PORCH	64	18					67.00
RAIPATI	340	41					67.00
LUMP TOTAL	2036		928		62.04	57576	67.00
TOTAL		1196		928		57576	67.00

TRVERSE  
 RCNLD ONE1980= N16 W12 N16 E13 PCH1980= N8 E14 S8 W14\$ E14  
 E14S16 W5 SCP1980= S18 PCH1981= E8 S8 W8 N8\$ S8 RP01980=  
 E17 S20 W17 N20\$ S10 W24 N20 E17 N16 E7\$ W7 S16 W17\$.



PID R 0147.00.00.0015.0000  
 NICHOLAIS,TOM & DONNA  
 2019 135,974 MKT CARD 002  
 135,974 PY Val USE 68,780 LAND 002  
 3813 CLOEE CIRCLE DEF 38,575 BLDG 001  
 HILLSBOROUGH NC 27278 1.160 ACRES 28,619 XFOB 004  
 LISTER 11/23/2015 GP  
 TWP HIGHTOWER CITY FIRE RESCUE OTHER  
 LOT BLK PL BK/PG 11 414 PLAT ADDRESS 000000 HENRY DANIELS RD PROSPECT HILL 2731  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 508 265 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: OFF HENRY DANIELS RD PLAT 10/289;11/955 DEEDS 216-235;261-481;310-776

SALES BUILDING PERMITS  
 IN Q RC M V Sale Date Sale Price Number Type Description Issued Schd Complt Revisit Act Complt Amount  
 WD Q I 12/20/2006 190,000

EXTRA FEATURES

Seq	Bldg Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001	WDPR/D	37-WOOD PEIR/DO	24	24		576.000	SF	1	0C	15.000	0000	.85	1.00	1.00	1.00	100.00	7,344
002	CNCSLB	74-CONCSLAB	60	12		720.000	SF	1	0D	1.500	0000	.91	1.00	1.00	1.00	100.00	983
003	CARPRT	6-CARPORT	24	20		480.000	SF	1	0D	6.000	0000	.95	1.00	1.00	1.00	100.00	2,736
004	DFRGAR	27-DETRFRGAR	30	28		840.000	SF	1	0C	22.000	0000	.95	1.00	1.00	1.00	100.00	17,556

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1	Front	120KAC	Back	WTRFRONT W/ UTIL	1.000	AC	67,500.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		67,500.000	67,500
2		080XAC		2-4 ACRE	.160	AC	8,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		8,000.000	1,280

**Location #18 – 1262 Tom Bowes Road**

<b>07/31/2019 04:23 OWNERSHIP 51979301</b>	<b>PROPERTY DESCRIPTION</b>	<b>TAX DESCRIPTION</b>	<b>MAP NUMBER</b>	<b>CARD#</b>
MCCAULEY AMY C 1262 TOM BOWES RD HURDLE MILLS, NC 27541 DEED: 801 345 3/30/2012 \$161,250	2 & 94/100 ACRES/MODULAR PLATBOOK/PAGE/DATE: 138 76 NB: 00000 00000 TOM BOWES RD 1262	BUSHY FORK BOAT DOCK #: 7000	A10 33 RECORD NUMBER: 6977 ROUTE: BF 109 013 LISTER: DTB 3/26/2012 REVIEWER: DTB 4/12/2012	1 / 1

	<b>TOPO</b>	<b>STREET</b>	<b>UTILITIES</b>	<b>NOTES</b>	<b>AC</b>				
	ROLLING	PAVED	WELL SEPTIC ELECTRIC	WATERVIEW	2.9400				
	<b>#</b>	<b>LAND CLASS</b>	<b>SIZE</b>	<b>BASERATE</b> *	<b>ACF</b> *	<b>ADJ</b> =	<b>ADJ RATE</b> *	<b>UNITS</b> =	<b>LNDVALUE</b>
	1	51UWTRVIEW1	1.000	26000	1.00	1.00	26000	1.000	26000
	2	41WRESID 1	0.940	2835	0.84	1.00	2381	0.940	2238
	3	11WBLDGSIT1	1.000	14000	0.84	1.00	11760	1.000	11760
	<b>ACREAGE FACTOR:</b>		6	<b>FRONTAGE FACTOR:</b>		0	<b>LAND VALUE</b>		<b>39998</b>
	<b>#</b>	<b>OTHER FEATURES</b>	<b>SIZE</b>	<b>BASERATE</b>	<b>COND</b>	<b>ADJ RATE</b>	<b>UNITS</b>	<b>VALUE</b>	
	1	04 D STG.SHED	10 * 20		9.61 0.90	8.65	200	1730	
	2	19 PIERS	1 * 1	500.00	0.00	500.00	1	500	

<b>IMPROVEMENT TYPE:</b>	Dwelling	<b>GRADE:</b> C-10	<b>AYB:</b> 2005	<b>EYB:</b> 2005	<b>CONDITION:</b> A	<b>DEPR TABLE:</b> 00	<b>SQ FT TABLE:</b>
<b>DIMENSIONS:</b>	07=N30E60S30W60Area:1800;88=S5E5N5W5Area:25;88=N5E5N3E8S8W13Area:89;TotalArea:1914						

STRUCTURE	SKETCH-SF *	STHT	AREA	RATE *	GRDE +	HEAT +	EXWL *	WLHT	ADJRATE *	AREA	RPCN *	DEPF *	CNDF	STR-VALUE
07 07 MODULAR HOME	1800	1.00	1800	70.15	C 0.90	2.50		1.00	65.64	1800	118152	0.92	0.9000	97830
1 FIREPLACE	0		0						4000.00	0	4000	0.92	0.9000	3312
2 BATHS	0		0						4000.00	0	8000	0.92	0.9000	6624
88 88 DECK	25	1.00	25	12.82	0.90		1.00		11.54	25	289	0.92	0.9000	239
88 88 DECK	89	1.00	89	12.68	0.90		1.00		11.41	89	1015	0.92	0.9000	840
1800 HSF		1914 TSF		RPCN- 73.03/HSF		131456 VALU- 60.47/HSF		108845						
<b>STRUCTURE VALUE</b>													<b>108845</b>	
<b>CARD 1 VALUE</b>													<b>151073</b>	

VALUATION	THIS CARD	+	OTHER CARD	=	VALUE	PREV-VAL	P-N%	OTHER CARDS VALUE	
LAND	39998				39998	21700	0.54		
OTHER FEAT	2230				2230	2230	0.93		
STRUCTURE	108845				108845	112777	1.04		
<b>TOTAL</b>	<b>151073</b>				<b>151073</b>	<b>136549</b>	<b>1.11</b>		
<b>NBHD ADJUSTMENT: 1.000 * 151073 = 151073</b>									
<b>TAX YEAR: 2020</b>							<b>(767030) Group:0</b>	<b>APPRAISED VALUE</b>	151073
<b>Person County, NC</b>							<b>REVAL YEAR: 2013</b>	<b>DEFERRED VALUE</b>	0
								<b>TAXABLE VALUE</b>	151073



PERSON COUNTY ENVIRONMENTAL HEALTH

WELL LOG

Date: 4-9-98  
 Owner: Henry Cockerham  
 Location/Directions: Bowen Rd. off Hester Store Rd SR# \_\_\_\_\_

Subdivision Name: \_\_\_\_\_  
 Drilling Contractor: Evans Well Drilling Co. Inc Lot # \_\_\_\_\_

WELL CONSTRUCTION

Distance from Nearest Property Line 15 plus Distance from Source of Pollution 100 plus  
 Total Depth: 562 Ft. Yield: 1/2 GPM GPM Static Water Level 29 Ft.  
 Water Bearing Zones: Depth 450 Ft. \_\_\_\_\_ Ft. \_\_\_\_\_ Ft. \_\_\_\_\_ Ft.

Casing: Depth: From 0 to 43 Ft. Diameter: 6 1/2 Inches  
 TYPE: Steel \_\_\_\_\_ Galvanized Steel

If Steel, does owner approve: Yes \_\_\_\_\_ No \_\_\_\_\_  
 Weight: 13 Thickness: 188 Height Above Ground: 12 Inches  
 Drive Shoe: Yes  No \_\_\_\_\_

Were Problems Encountered in Setting the Casing? Yes \_\_\_\_\_ No   
 If "yes" give reason: \_\_\_\_\_

Grout: Type: Neat \_\_\_\_\_ Sand/Cement  Concrete \_\_\_\_\_  
 Annular Space Width 3 Inches

Water in Annular Space: Yes \_\_\_\_\_ No   
 Method: Pumped \_\_\_\_\_ Pressure \_\_\_\_\_ Poured   
 Depth: From 0 to 20 Ft.

Materials Used: No. Bags Portland Cement \_\_\_\_\_ Weight of 1 bag 94 lbs.  
 If mixture (sand, gravel, cuttings) - Ratio: 2 to 1

ID Plates: Yes  No \_\_\_\_\_  
 4 x 4 slab Yes  No \_\_\_\_\_

DRILLING LOG

Depth		Formation Description
From	To	
<u>0</u>	<u>3</u>	<u>Yellow Clay</u>
<u>3</u>	<u>10</u>	<u>Sandy Soil</u>
<u>10</u>	<u>40</u>	<u>Sand Rock</u>
<u>40</u>	<u>562</u>	<u>Brown, Green, White Granite</u>

I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS CORRECT AND THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH REGULATIONS SET FORTH BY THE PERSON COUNTY HEALTH DEPARTMENT.

Evans Well Co 4-14-98  
 Signature of Contractor Date

**Location #19 – Goose Creek Road**

PID R 0147.00.00.0023.0000      LEWIS,GEORGIA T      2019      121,792 MKT      CARD 001  
 GRAVITTE JEFFREY GATES      121,792 PY Val      USE      117,600 LAND 002  
 708 OAKDALE DRIVE      DEF      BLDG 000  
 HILLSBOROUGH NC 27278      10.000 ACRES      4,192 XFOB 002  
 LISTER 11/23/2015 GP      FIRE      RESCUE      OTHER  
 TWP HIGHTOWER      CITY      PL BK/PG 11 329      PLAT      ADDRESS 0000000 GOOSE CREEK RD PROSPECT HILL 27314  
 LOT      BLK      DEED 259      104      AICUZ      PRINTED 6/07/2019 BY THOMAS  
 NBHD 00000000      USE 000100 RESIDENTIAL  
 LEGAL: OFF HENRY DANIELS RD

14927      POLE BARN      1/07/2016      2/06/2017  
 EXTRA FEATURES

Seq	Bldg Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001	WDDECK	62-WOODDECK	20	16		320.000	SF	1	0E	5.000	0000	.70	1.00	1.00	1.00	100.00	1,120
002	POLBRN	POLE BARN	24	16		384.000	SF	1	0B	8.000	2016	1.00	1.00	1.00	1.00	100.00	3,072

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1	Front	140JAC	Back	WTRFRONT N/UTIL	2.000	AC	48,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		48,000.000	96,000
2		440PAC		WOOD ON PVT/DIRT RD	8.000	AC	2,700.000	1.00	1.00	1.00	1.00	1.00	1.00		1.000		2,700.000	21,600

**Location #20 – 971 Goose Creek Road**

PID R 0147.00.00.0008.0000 BROWN,WILLIAM N & DONNA H 2019 104,579 MKT CARD 001  
 104,579 PY Val USE 101,179 LAND 003  
 971 GOOSE CREEK RD DEF BLDG 000  
 PROSPECT HILL NC 27214 10.370 ACRES 3,400 XFOB 004  
 LISTER 11/23/2015 GP CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER LOT A BLK PL BK/PG 11 443 PLAT ADDRESS 0000971 GOOSE CREEK RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 374 614 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: OFF HENRY DANIELS RD PLAT 11 PG 252

SALES BUILDING PERMITS  
 IN Q RC M V Sale Date Sale Price Number Type Description Issued Schd Complt Revisit Act Complt Amount  
 WD U I 8/23/2000 35,000

EXTRA FEATURES

Seq	Bldg	Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001		000013	CABIN				1.000	UT	1	0D	3,000.000	0000	1.00	1.00	1.00	1.00	100.00	3,000
002		000051	METAL STORAGE				1.000	UT	1	0D	100.000	0000	1.00	1.00	1.00	1.00	100.00	100
003		000041	SHELTER				1.000	UT	1	0D	100.000	0000	1.00	1.00	1.00	1.00	100.00	100
004		000062	WOOD DECK				1.000	UT	1	0E	200.000	0000	1.00	1.00	1.00	1.00	100.00	200

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value	
1	Front		Depth	Back	FT														
1			120GFF				WTRFRONT W/ UTIL	1.000	AC	280.000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	280
2			440PAC				WOOD ON PVT/DIRT RD	7.370	AC	2,700.000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2,700.000	19,899
3			140IAC				WTRFRONT N/UTIL	2.000	AC	40,500.000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	40,500.000	81,000

**Location #21 – 950 Goose Creek Road**

PID R 0147.00.00.0024.0000      PRUITT,PARKER & RITA HUDGINS      2019      147,761 MKT      CARD 001  
 (1/2 INT EACH)      147,761 PY Val      USE      118,381 LAND 003  
 603 SEYMOR STREET      DEF      BLDG 000  
 GRAHAM NC 27253      13.030 ACRES      29,380 XFOB 006  
 LISTER 11/23/2015 GP      CITY      FIRE      RESCUE      OTHER  
 TWP HIGHTOWER      LOT B BLK      PL BK/PG 11 443      PLAT      ADDRESS 0000950 GOOSE CREEK RD PROSPECT HILL 27314  
 NBHD 00000000      USE 000200 AGRICULTURE      DEED 608 1      AICUZ      PRINTED 6/07/2019 BY THOMAS  
 LEGAL: GOOSE CRK RD OFF HENRY DANIELS DB 262-440;543-1538

SALES

IN	Q	RC	M	V	Sale Date	Sale Price	Number	Type	Description	Issued	Schd	Complt	Revisit	Act	Complt	Amount
WD	U	0C	I		7/16/2018	2,000										
WD	U	0E	I		7/14/2016											
WD	U	0E	I		11/16/2009	35,000										

BUILDING PERMITS

Seq	Bldg	Code	Description	Length	Width	Height	#Units	UT	Qty	Qual	UTPrice	Year	Adj1	Adj2	Adj3	Adj4	%Good	Value
001		000050	FRAME STORAGE				1.000	UT	1	0D	500.000	0000	1.00	1.00	1.00	1.00	100.00	500
002		000013	CABIN				1.000	UT	1	0D	2,500.000	0000	1.00	1.00	1.00	1.00	100.00	2,500
003		000041	SHELTER				1.000	UT	1	0D	500.000	0000	1.00	1.00	1.00	1.00	100.00	500
004		SHPF/M	43-SHOP FRAME/M	36	32		1152.000	SF	1	0C	25.000	0000	.85	1.00	1.00	1.00	100.00	24,480
005		000050	FRAME STORAGE				1.000	UT	1	0D	600.000	0000	1.00	1.00	1.00	1.00	100.00	600
006		000050	FRAME STORAGE				1.000	UT	1		800.000	0000	1.00	1.00	1.00	1.00	100.00	800

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1	Front	120IAC	Back	WTRFRONT W/ UTIL	1.000	AC	46,000.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		46,000.000		46,000
2		440PAC		WOOD ON PVT/DIRT RD	9.030	AC	2,700.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		2,700.000		24,381
3		140EAC		WTRFRONT N/UTIL	3.000	AC	16,000.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		16,000.000		48,000

**Location #22 – Tom Bowes Road**

<b>07/31/2019 04:32 OWNERSHIP 9580302</b>	<b>PROPERTY DESCRIPTION</b>	<b>TAX DESCRIPTION</b>	<b>MAP NUMBER</b>	<b>CARD#</b>
HOWERTON JOANNE 191 LEWIS WINSTEAD LOOP RD ROXBORO, NC 27574 DEED: 112 605 11/30/1967 \$0	HOUSE & LOT PLATBOOK/PAGE/DATE: NB: 00000 00000 TOM BOWES RD	BUSHY FORK	A10 22A RECORD NUMBER: 6972 ROUTE: BF 109 012 LISTER: DTB 3/26/2012 REVIEWER: DTB 4/12/2012	1 / 1

	TOPO	STREET	UTILITIES	NOTES	LT					
	ROLLING	PAVED	WELL SEPTIC ELECTRIC		1.0000					
	#	LAND CLASS	SIZE	BASERATE *	ACF *	ADJ =	ADJ RATE *	UNITS =	LNDVALUE	
	1	11WBLDGSIT1	1.000	14000	1.00	1.00	14000	1.000	14000	
	<b>ACREAGE FACTOR:</b>		6	<b>FRONTAGE FACTOR:</b>		0	<b>LAND VALUE</b>			14000
	#	OTHER FEATURES	SIZE	BASERATE	COND	ADJ RATE	UNITS	VALUE		
	1	04 STG.SHED	1 * 1	100.00	0.00	100.00	1	100		

<b>OTHER FEATURES VALUE:</b>								<b>100</b>
FOUNDATION	XTR_FINISH	ROOF TYPE	ROOF MTRL	SIZE/QTY				
CONCBLCK	AL/VYN	GABLE	METAL	1.0000 SHTT 0 BDRM				
WALL FINSH	FLOORS	HEAT&AIR	HEAT FUEL	BLDING #				
UNFINISH	CONCRETE SOFTWOOD TILE	CENTRAL CENT-A/C	GAS ELECTRIC	1				

<b>IMPROVEMENT TYPE:</b>	Dwelling	GRADE:	C	AYB:	1967	EYB:	1975	CONDITION:	F	DEPR TABLE:	03	SQ FT TABLE:	
<b>DIMENSIONS:</b>	01=N32E44S32W44Area:1408;81=E8N32W8S32Area:256;TotalArea:1664												

STRUCTURE	SKETCH-SF *	STHT =	AREA	RATE *	GRDE +	HEAT +	EXWL *	WLHT =	ADJRATE *	AREA =	RPCN *	DEPF *	CNDF =	STR-VALUE
01 01 SNG FAML	1408	1.00	1408	73.65	C	2.50		1.00	76.15	1408	107219	0.52		55754
1 BATHS	0		0						4000.00	0	4000	0.52		2080
100%UNF-BSMT	0		1408	19.89					19.89	1408	28005	0.52		14563
81 81 ENCPORCH	256	1.00	256	23.98				1.00	23.98	256	6139	0.52		3192
1408 HSF 3072 TSF RPCN- 103.24/HSF 145363 VALU- 53.69/HSF 75589														
<b>STRUCTURE VALUE 75589</b>														

<b>CARD 1 VALUE 89689</b>													
VALUATION	THIS CARD	+	OTHER CARD	=	VALUE	PREV-VAL	P-N%	OTHER CARDS VALUE					
LAND	14000				14000	10000	0.71	<b>TOTAL VALUE 89689</b>					
OTHER FEAT	100				100	100	1.00						
STRUCTURE	75589				75589	70231	0.93						
<b>TOTAL</b>	<b>89689</b>				<b>89689</b>	<b>80331</b>	<b>1.12</b>						
<b>NBHD ADJUSTMENT: 1.000 * 89689 = 89689</b>													

<b>Person County, NC</b>	<b>TAX YEAR: 2020</b>	<b>(745641) Group:0</b>	<b>APPRAISED VALUE</b>	89689
	<b>REVAL YEAR: 2013</b>	<b>DEFERRED VALUE</b>	<b>TAXABLE VALUE</b>	89689

**Location #23 – Tom Bowes Road**

<b>08/07/2019 04:01 OWNERSHIP 9580306</b>	<b>PROPERTY DESCRIPTION</b>	<b>TAX DESCRIPTION</b>	<b>MAP NUMBER</b>	<b>CARD#</b>
HOWERTON JOANNE 191 LEWIS WINSTEAD LOOP RD ROXBORO, NC 27574 DEED: 170 69 11/30/1981 \$0	DEF/T 74 & 39/100 ACRES  PLATBOOK/PAGE/DATE: NB: 00000 00000 TOM BOWES RD HURDLE MILLS	BUSHY FORK  PUV DATE: 01/01/2002 BOAT DOCK #: 7000	A10 22 RECORD NUMBER: 6973 ROUTE: BF 109 010 LISTER: DTB 3/26/2012 REVIEWER: DTB 4/12/2012	1 / 1

TOPO	STREET	UTILITIES	NOTES				AC			
ROLLING	PAVED	WELL SEPTIC ELECTRIC	ORG USE CHARLIE & JOANNE 84				74.3900			
#	LAND CLASS	SIZE	BASERATE *	ACF *	ADJ	=	ADJ RATE *	UNITS	=	LNDVALUE
1	51TWTRVIEW1	1.000	24000	1.00	0.80		19200	1.000		19200
2	21WCLEARED1	23.260	3150	1.10	1.00		3465	23.260		80596
3	31WWOODED 1	50.130	1575	1.10	1.00		1733	50.130		86875
<b>ACREAGE FACTOR:</b>		2	<b>FRONTAGE FACTOR:</b>		0	<b>LAND VALUE</b>			<b>186671</b>	
#	OTHER FEATURES	SIZE	BASERATE	COND	ADJ RATE	UNITS	VALUE			
1	17 BULKBARN	1 * 3	300.00	0.00	300.00	3	300			
2	24 TENANTHS	16 * 20	1500.00	0.00	1500.00	320	1500			
3	24 TENANTHS	1 * 1		0.00	0.00	1	0			
4	21 BARN	18 * 40		0.00	0.00	720	0			
5	33 OFB/DECK	8 * 8		0.00	0.00	64	0			
6	33 OFB/DECK	8 * 8		0.00	0.00	64	0			
7	29 OFB/OPF	8 * 47	200.00	0.00	200.00	376	200			
8	25 D MH HKUP	1 * 2	2050.00	0.80	1640.00	2	3280			
9	29 OFB/OPF	12 * 54	500.00	0.00	500.00	648	500			
10	36 OFB/FRAD	12 * 19	500.00	0.00	500.00	228	500			
11	33 OFB/DECK	12 * 14		0.00	0.00	168	0			
<b>OTHER FEATURES VALUE:</b>							<b>6280</b>			
FOUNDATION	XTR_FINISH	ROOF TYPE	ROOF MTRL	SIZE/QTY						
				STHT BDRM						
WALL FINISH	FLOORS	HEAT&AIR	HEAT FUEL	BLDING #						

<b>IMPROVEMENT TYPE:</b>	GRADE:	AYB:	EYB:	CONDITION:	DEPR TABLE:	SQ FT TABLE:
--------------------------	--------	------	------	------------	-------------	--------------

<b>DIMENSIONS:</b>	
--------------------	--

STRUCTURE	SKETCH-SF *	STHT =	AREA	RATE *	GRDE +	HEAT +	EXWL *	WLHT =	ADJRATE *	AREA =	RPCN *	DEPF *	CNDF =	STR-VALUE
0														

HSF	TSF	RPCN- /HSF	VALU- /HSF	<b>0</b>
<b>STRUCTURE VALUE</b>				<b>0</b>

VALUATION	THIS CARD	+	OTHER CARD	=	VALUE	PREV-VAL	P-N%	OTHER CARDS VALUE
-----------	-----------	---	------------	---	-------	----------	------	-------------------

LAND	186671				186671	173051	0.93	
OTHER FEAT	6280				6280	6280	1.99	
STRUCTURE	0				0	0	0.00	
<b>TOTAL</b>	<b>192951</b>				<b>192951</b>	<b>185531</b>	<b>1.04</b>	

				<b>TAX YEAR: 2020</b>	<b>(756864) Group:0</b>	<b>APPRAISED VALUE</b>	192951
<b>Person County, NC</b>				<b>REVAL YEAR: 2013</b>	<b>DEFERRED VALUE</b>	144981	<b>TAXABLE VALUE</b>

**NBHD ADJUSTMENT: 1.000 \* 192951 = 192951**

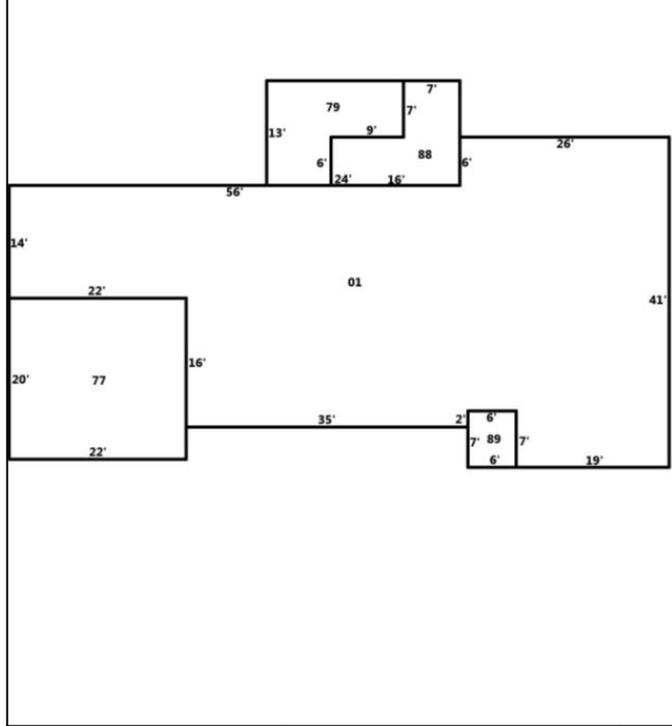
<b>08/07/2019 04:01 OWNERSHIP 9580306</b>	<b>PROPERTY DESCRIPTION</b>	<b>TAX DESCRIPTION</b>	<b>MAP NUMBER</b>	<b>CARD #</b>
HOWERTON JOANNE  191 LEWIS WINSTEAD LOOP RD ROXBORO, NC 27574 DEED: 170 69 11/30/1981 \$0	DEF/T 74 & 39/100 ACRES  PLATBOOK/PAGE/DATE: NB: 00000 00000 TOM BOWES RD HURDLE MILLS	BUSHY FORK	A10 22 RECORD NUMBER: 6973 ROUTE: BF 109 010 LISTER: DTB 3/26/2012 REVIEWER: DTB 4/12/2012	1 / 1

#	LAND CLASS	SIZE	BASERATE	*	ACF	*	ADJ	=	ADJRATE	*	UNITS	=	LNDVALUE	USE-CLASS	ACREAGE	*	RATE	=	USE-VALUE
1	51TWTRVIEW1	1.000AC	24000		1.00		0.80		19200		1.000		19200	INELIGIBLE					19200
2	21WCLEARED1	23.260AC	3150		1.10		1.00		3465		23.260		80596	TL03	23.260		385.00		8955
3	31WWOODED 1	50.130AC	1575		1.10		1.00		1733		50.130		86875	WD02	50.130		270.00		13535

<b>TOTALS</b>													186671				41690	
<b>LAND VALUE:</b>		186671																
<b>LAND USE VALUE:</b>		41690																
<b>DEFERRED VALUE:</b>		144981																

**Location #24 – Tom Bowes Road**

08/07/2019 04:04 OWNERSHIP 390301 PROPERTY DESCRIPTION TAX DESCRIPTION MAP NUMBER CARD#  
 WARREN RALPH B DEF/T216&46AC/PARC A/HSE BUSHY FORK A10 36  
 7324 GORDONTON RD PLATBOOK/PAGE/DATE: 16 665 PUV DATE: 01/01/2015 RECORD NUMBER: 7390  
 HURDLE MILLS, NC 27541-9218 NB: 00000 00000 ROUTE: BF 109 023  
 DEED: GORDONTON RD 7324 REVIEWER: PLC 12/4/2014  
 1 / 1



TOPO	STREET	UTILITIES	NOTES	AC
ROLLING	PAVED	WELL SEPTIC ELECTRIC	PUV/EXPANSION UNIT F15 FRM4672/LND/OFB1 6938 F15	216.4600

#	LAND CLASS	SIZE	BASERATE	* ACF	* ADJ	=	ADJ RATE	* UNITS	= LNDVALUE
1	12ABLDGSIT2	1.000	16000	1.00	1.00		16000	1.000	16000
2	22ACLEARED2	29.200	3600	0.88	1.00		3168	29.200	92506
3	32AWOODED 2	183.260	1800	0.88	1.00		1584	183.260	290284
4	92APOND 2	3.000	3600	0.88	1.00		3168	3.000	9504

ACREAGE FACTOR: 0 FRONTAGE FACTOR: 0 LAND VALUE 408294

#	OTHER FEATURES	SIZE	BASERATE	COND	ADJ RATE	UNITS	VALUE
1	18 TOB.BARN	1 * 4	0.00	0.00	0.00	4	0
2	24 TENANTHS	1 * 1	300.00	0.00	300.00	1	300
3	04 STG.SHED	1 * 1	350.00	0.00	350.00	1	350
4	24 TENANTHS	1 * 1	1500.00	0.00	1500.00	1	1500

OTHER FEATURES VALUE: 2150

FOUNDATION	XTR_FINISH	ROOF TYPE	ROOF MTRL	SIZE/QTY
BRICK	BRICK	GABLE	ASPHSHNG	1.0000 STHT 0 BDRM
WALL FINISH	FLOORS	HEAT&AIR	HEAT FUEL	BLDING #
DRY WALL PANEL UNFINISH	CONCRETE TILE CARPET	HT PUMP	ELECTRIC WOOD	1

IMPROVEMENT TYPE: Dwelling GRADE: C+10 AYB: 1977 EYB: 1977 CONDITION: A DEPR TABLE: 00 SQ FT TABLE:

DIMENSIONS: 01=N16W22N14E56N6E26S41W19N7W6S2W35Area:2347;89=E6S7W6N7Area:42;77=W22S20E22N20Area:440;79=N13W24S13E24Area:312;88=Area:312;88=N6E9N7E7S13W16Area:145;TotalArea:3598

STRUCTURE	SKETCH-SF	* STHT	= AREA	RATE	* GRDE	+ HEAT	+ EXWL	* WLHT	= ADJRATE	* AREA	= RPCN	* DEPF	* CNDF	= STR-VALUE
01 01 SNG FAML	2347	1.00	2347	66.84	C 1.10	2.50	2.75	1.00	78.77	2347	184873	0.64		118319
2 FIREPLACE	0		0						4000.00	0	8000	0.64		5120
3 BATHS	0		0						4000.00	0	12000	0.64		7680
75%UNF-BSMT	0		1760	18.05	1.10				19.86	1760	34954	0.64		22371
88 88 DECK	312	1.00	312	11.57	1.10			1.00	12.73	312	3972	0.64		2542
88 88 DECK	145	1.00	145	12.48	1.10			1.00	13.73	145	1991	0.64		1274
89 89 OM-PORCH	42	1.00	42	29.11	1.10			1.00	32.02	42	1345	0.64		861
79 79 PATIO	312	1.00	312	3.25	1.10			1.00	3.58	312	1117	0.64		715
77 77 ATGARAGE	440	1.00	440	17.74	1.10			1.00	19.51	440	8584	0.64		5494

2347 HSF 5358 TSF RPCN- 109.43/HSF 256836 VALU- 70.04/HSF 164376  
**STRUCTURE VALUE 164376**

**CARD 1 VALUE 574820**

VALUATION	THIS CARD	+ OTHER CARD	= VALUE	PREV-VAL	P-N%	OTHER CARDS VALUE
LAND	408294		408294	271794	0.67	
OTHER FEAT	2150		2150	2150	0.30	
STRUCTURE	164376		164376	146470	0.89	
<b>TOTAL</b>	<b>574820</b>		<b>574820</b>	<b>418914</b>	<b>1.37</b>	

**NBHD ADJUSTMENT: 1.000 \* 574820 = 574820**

Person County, NC TAX YEAR: 2020 (745547) Group:0 APPRAISED VALUE 574820  
 REVAL YEAR: 2013 DEFERRED VALUE 330417 TAXABLE VALUE 244403

<b>08/07/2019 04:04 OWNERSHIP 390301</b>	<b>PROPERTY DESCRIPTION</b>	<b>TAX DESCRIPTION</b>	<b>MAP NUMBER</b>	<b>CARD #</b>
WARREN RALPH B  7324 GORDONTON RD HURDLE MILLS, NC 27541-9218 DEED:	DEF/T216&46AC/PARC A/HSE  PLATBOOK/PAGE/DATE: 16 665 NB: 00000 00000 GORDONTON RD 7324	BUSHY FORK	A10 36 RECORD NUMBER: 7390 ROUTE: BF 109 023 LISTER: PLC 12/4/2014 REVIEWER: PLC 2/6/2015	1 / 1

#	LAND CLASS	SIZE	BASERATE	*	ACF	*	ADJ	=	ADJRATE	*	UNITS	=	LNDVALUE	USE-CLASS	ACREAGE	*	RATE	=	USE-VALUE
1	12ABLDGSIT2	1.000AC	16000		1.00		1.00		16000		1.000		16000	INELIGIBLE					16000
2	22ACCLEARED2	29.200AC	3600		0.88		1.00		3168		29.200		92506	TL03	29.200		385.00		11242
3	32AWOODDED 2	183.260AC	1800		0.88		1.00		1584		183.260		290284	WD02	183.260		270.00		49480
4	92APOND 2	3.000AC	3600		0.88		1.00		3168		3.000		9504	TL03	3.000		385.00		1155
<b>TOTALS</b>													408294					77877	
<b>LAND VALUE:</b>		408294																	
<b>LAND USE VALUE:</b>		77877																	
<b>DEFERRED VALUE:</b>		<u>330417</u>																	

**Location #25 – 2101 Wrenn Road**



PID R 0148.00.00.0031.0000  
 LISTER 11/21/2015 GP  
 TWP HIGHTOWER  
 LOT 1 BLK  
 NBHD 00000000  
 LEGAL: WRENN ROAD X X  
 TALLEY, NATHANIEL C & JESSE D  
 2101 WRENN RD  
 PROSPECT HILL NC 27314  
 CITY  
 FIRE  
 PL BK/PG 16 167  
 DEED 532 1333 AICUZ  
 2019  
 271,094 PY Val  
 271,094 MKT  
 USE  
 DEF  
 4.720 ACRES  
 RESCUE  
 ADDRESS 0002101 WRENN RD PROSPECT HILL 27314  
 PRINTED 6/07/2019 BY THOMAS  
 CARD 002  
 LAND 002  
 BLDG 001  
 XFOB 000  
 OTHER

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001CG	SNG FAMILY	ARCH 18	MODULAR	QUAL C2	GRADE C+5	STYS		SIZE 0C	GRADE C
FNDN 06	STONE	FRME 01	WOOD FRAME	WNDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 02	HEAT PUMP	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 20	MIXED	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 02		BATH		BDRM	3	ROOM	5	SPCD	N/A
UD-1	N/A	FRPL	N/A	CHMN	N/A	HBTH	N/A	BATH C2	2 BATHS	FUEL 03	GAS
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 2008	EYB 2008

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good	RCNLD	***SEE PAGE ONE FOR SKETCH***
LUMP						264091	95.00	250,886	
TOTAL	4349		3591		73.54	264091	95.00	250,886	
TOTAL		3654		2639		264091		250,886	

PID R 0148.00.00.0031.0000  
 TALLEY,NATHANIEL C & JESSE D 2019 271,094 MKT CARD 003  
 271,094 PY Val USE 20,208 LAND 002  
 2101 WRENN RD DEF 250,886 BLDG 001  
 PROSPECT HILL NC 27314 4.720 ACRES XFOB 000  
 LISTER 11/21/2015 GP  
 TWP HIGHTOWER CITY FIRE RESCUE OTHER  
 LOT 1 BLK PL BK/PG 16 167 PLAT ADDRESS 0002101 WRENN RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 532 1333 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: WRENN ROAD X X

SALES BUILDING PERMITS  
 IN Q RC M V Sale Date Sale Price Number Type Description Issued Schd Complt Revisit Act Complt Amount  
 WD U 0E V 7/29/2008 13578 MODU MODULAR 10/13/2008 3/08/2010 238,622  
 LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1	Front	020LAC	Back FT	HS W/UTIL	1.000	AC	15,000.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		15,000.000		15,000
2		400KAC		WOOD ON PAVED RD	3.720	AC	1,400.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		1,400.000		5,208

#18



# RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources - Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2030

### 1. WELL CONTRACTOR:

Well Contractor (Individual) Name Michael K. Evans

Well Contractor Company Name Evans Well Drilling Co. Inc.

STREET ADDRESS 4408 Shady Grove Rd  
City or Town Providence NC State NC Zip Code 27315

Area code - Phone number \_\_\_\_\_

### 2. WELL INFORMATION:

SITE WELL ID # (if applicable)

WELL CONSTRUCTION PERMITS

OTHER ASSOCIATED PERMITS (if applicable) \_\_\_\_\_

### 3. WELL USE (Check Applicable Box):

Residential Water Supply

DATE DRILLED 11-17-08

TIME COMPLETED 5 HRS AM  PM

### 4. WELL LOCATION:

CITY Prospect Hill COUNTY Carr

Wren Rd  
(Street Name, Number, Community, Subdivision, Lot No., Parcel, E.P. Code)

TOPOGRAPHIC / LAND SETTING:

1 Slope  Valley  Flat  Ridge  Other \_\_\_\_\_

(check appropriate box)

LATITUDE \_\_\_\_\_

LONGITUDE \_\_\_\_\_

Latitude/longitude source:  GPS  Topographic map

(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

### 5. WELL OWNER

OWNER'S NAME Nathan Talley

STREET ADDRESS Wren Rd

Prospect Hill NC  
City or Town State Zip Code

Area code - Phone number \_\_\_\_\_

### 6. WELL DETAILS

a. TOTAL DEPTH: 180

b. DOES WELL REPLACE EXISTING WELL? YES  NO

c. WATER LEVEL Below Top of Casing: 40 FT.

(Use "+" if Above Top of Casing)

d. TOP OF CASING IS 1 FT. Above Land Surface\*

\*Top of casing terminated over below land surface may require a variance in accordance with 15A NCAC 2C 0118.

e. YIELD (gpm) 40 METHOD OF TEST Air

### 4. DISINFECTED: Type \_\_\_\_\_ Amount \_\_\_\_\_

### 5. WATER ZONES (depth)

From 70 To 75 From 135 To 140

From 176 To 180 From \_\_\_\_\_ To \_\_\_\_\_

From \_\_\_\_\_ To \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

From \_\_\_\_\_ To \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

### 7. CASING:

From 0 Depth 30 ft Diameter 6 in Thickness/Weight 50R31 Material PVC

From \_\_\_\_\_ To \_\_\_\_\_ Ft. \_\_\_\_\_

From \_\_\_\_\_ To \_\_\_\_\_ Ft. \_\_\_\_\_

From \_\_\_\_\_ To \_\_\_\_\_ Ft. \_\_\_\_\_

### 8. GROUT: Depth \_\_\_\_\_ Material \_\_\_\_\_ Method \_\_\_\_\_

From 0 To \_\_\_\_\_ Ft. Sand-Cement packed

From \_\_\_\_\_ To \_\_\_\_\_ Ft. \_\_\_\_\_

From \_\_\_\_\_ To \_\_\_\_\_ Ft. \_\_\_\_\_

### 9. SCREEN: Depth \_\_\_\_\_ Diameter \_\_\_\_\_ Slot Size \_\_\_\_\_ Material \_\_\_\_\_

From \_\_\_\_\_ To \_\_\_\_\_ Ft. \_\_\_\_\_ in. \_\_\_\_\_ in.

From \_\_\_\_\_ To \_\_\_\_\_ Ft. \_\_\_\_\_ in. \_\_\_\_\_ in.

From \_\_\_\_\_ To \_\_\_\_\_ Ft. \_\_\_\_\_ in. \_\_\_\_\_ in.

### 10. SAND/GRAVEL PACK:

Depth \_\_\_\_\_ Size \_\_\_\_\_ Material \_\_\_\_\_

From \_\_\_\_\_ To \_\_\_\_\_ Ft. \_\_\_\_\_

From \_\_\_\_\_ To \_\_\_\_\_ Ft. \_\_\_\_\_

From \_\_\_\_\_ To \_\_\_\_\_ Ft. \_\_\_\_\_

### 11. DRILLING LOG

From \_\_\_\_\_ To \_\_\_\_\_ Formation Description

0-3 Red Clay

3-10 Soft Sand Rock

10-12 Grey Granite

12-180 Grey, Spotted Granite

\_\_\_\_\_

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Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1817 Mail Service Center - Raleigh, NC 27608-1817 Phone No. (919) 733-7016 ext 888.

Form GW-1a Rev 3/07

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C WELL CONSTRUCTION STANDARDS AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Michael K. Evans 11-17-08  
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Michael K Evans  
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

**Location #26 – 2592 Wrenn Road**

PID R 0148.00.00.0006.0000  
 LISTER 11/21/2015 GP  
 TWP HIGHTOWER  
 LOT BLK  
 NBHD 00000000 USE 000200 AGRICULTURE  
 LEGAL: WRENN RD X X X

WOERDEMAN, CHRISTOPHER & JULIE  
 2592 WRENN RD  
 PROSPECT HILL NC 27314  
 FIRE  
 PL BK/PG 10 517 PLAT  
 DEED 592 1037 AICUZ

2019  
 272,185 PY Val  
 272,185 MKT  
 16.550 ACRES

CARD 001  
 56,770 LAND 004  
 211,559 BLDG 001  
 3,856 XFOB 002

RESCUE  
 ADDRESS 0002592 WRENN RD PROSPECT HILL 27314  
 PRINTED 6/07/2019 BY THOMAS

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

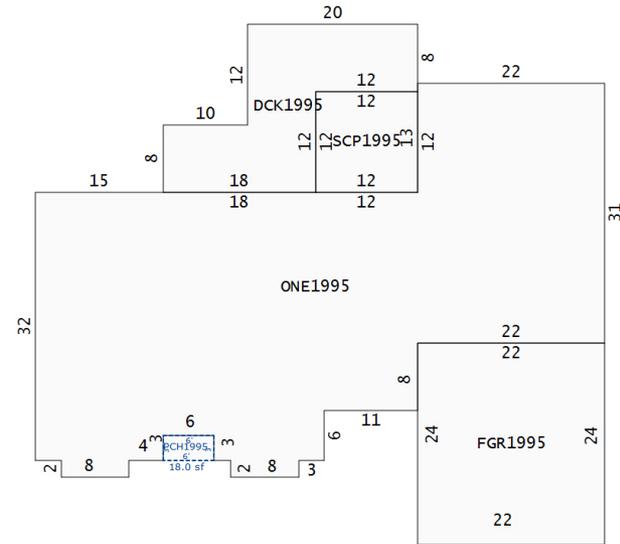
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001BG	SNG FAMILY	ARCH	N/A	QUAL B2	GRADE B+5	STYS		SIZE 0B	GRADE B
FNDN 01	BRICK	FRME 01	WOOD FRAME	WNDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 02	HEAT PUMP	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 20	MIXED	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 02		BATH		BDRM		ROOM		SPCD	N/A
UD-1	N/A	FRPL	N/A	CHMN	N/A	HBTH	N/A	BATH B2	2 BATHS	FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYS	N/A	RMYS	N/A	UD-9%		AYB 1995	EYB 2002

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
ONE STO	2070	2070	2070	2070			90.00
DECK	336	67					90.00
SCREEN	144	43					90.00
FIN GAR	528	248					90.00
PORCH	18	5					90.00
LUMP						235066	90.00
TOTAL	3096		2070		113.55		90.00
TOTAL		2433		2070		235066	

TRAVERSE

RCNLD ONE1995=2070\$ DCK1995=336\$ SCP1995=144\$ FGR1995=528\$  
 PCH1995=18\$.





(This permit expires five years from date of issue.)

WELL PERMIT

New Well  
 Replacement Well

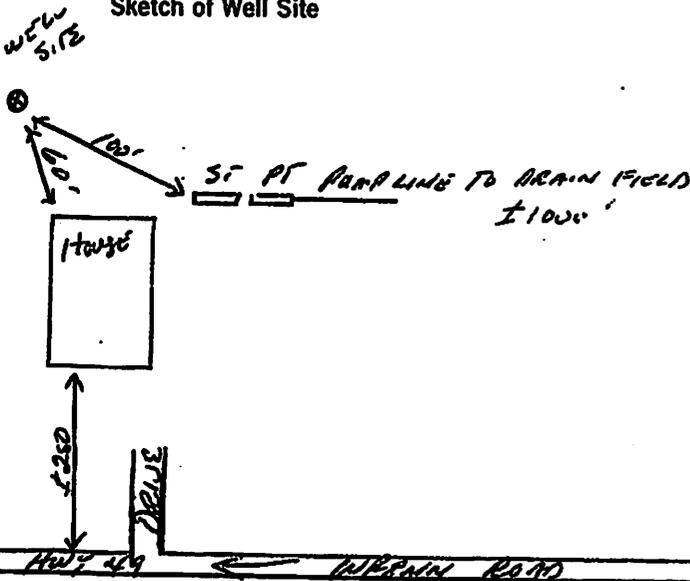
NAME JAMES P. CATLETT ADDRESS 947 RIDGEVILLE Rd. Poplar Hill, NC

Directions to Site 865 TO RIDGEVILLE RD - L - TO PAINTER RD - R - TO WREN RD  
L - Site is about 1/2 mile ON LEFT

Well to Serve:  Residence  Mobile Home Park  Other

Sketch of Well Site

Sketch of Installation



WELL CONSTRUCTION

Distance from nearest property line 15 plus  
Distance from source of pollution 100 plus  
Total depth of well 160 ft. GPM 8

Water-bearing Zones: Depth 91 Ft. to 360 Ft.  
Casing: Depth: From 0 to 360 Ft.  
Diameter 6 1/4

Casing Type: Steel  Galvanized Steel  Thickness 188

If steel, does owner approve:  Yes  No  
Drive Shoe  Yes  No Height of casing above ground 12 inches

Problems in setting casing  Yes  No. Explain \_\_\_\_\_

Grout Type:  Neat  Sand/Cement  Concrete. Annular space width 3 in.  
Water in Annular space  Yes  No. Method of Grout  Pump  Pressure  Poured

No. Bags of Portland Cement 4 Depth: From 0 to 30 Ft.  
Weight of 1 bag 94 lbs. Proper Slab Constructed  ID Plate

DRILLING LOG

Depth		Formation Description
From	To	
0	5	Red Soil
5	30	Brown Sand
30	160	Gray Granite

I hereby certify that the above information is correct and that this well was constructed in accordance with the Caswell County Well Ordinance

Thomas Willco 12-6-95  
Signature of Contractor Date

Permit Issued By Thomas Davis JRS Date 9-16-94

Inspection Completed By Thomas Davis JRS Date 12-8-95

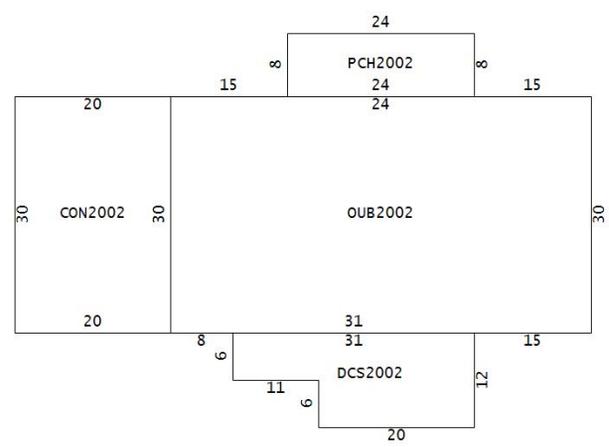
**Location #27 – 1275 Carver Road**

PID R 0148.00.00.0007.0000 CARVER,JOHN W & PAMELA H 2019 171,734 MKT 171,734 PY Val 19,900 LAND 002  
 1275 CARVER RD 171,734 PY Val USE DEF 151,834 BLDG 001  
 PROSPECT HILL NC 27314 FIRE 5.000 ACRES XFOB 000  
 LISTER 11/21/2015 GP CITY RESCUE OTHER  
 TWP HIGHTOWER BLK PL BK/PAGE 15 56 PLAT ADDRESS 0001151 CARVER RD PROSPECT HILL 27314  
 LOT NBHD 00000000 USE 000100 RESIDENTIAL DEED 411 103 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: CARVER RD (OFF)

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )											
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 01	SNG FAMILY	BVAL 0001CG	SNG FAMILY	ARCH 18	MODULAR	QUAL C1	GRADE C+10	STYS 1.0		SIZE 0C	GRADE C
FNDN 01	BRICK	FRME 01	WOOD FRAME	WINDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 02	HEAT PUMP	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 20	MIXED	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 02		BATH		BDRM	3	ROOM		SPCD	N/A
UD-1	N/A	FRPL	N/A	CHMN	N/A	HBTH	N/A	BATH C2	2 BATHS	FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 2002	EYB 2002

AREA CALCULATION						
Subarea	Actual	Adj	Heated	Prime	Rate	Value %Good
ONE/UNF	1620	1895	1620			90.00
CONC SL	600	30				90.00
PORCH	192	54				90.00
DK/CONS	306	77				90.00
LUMP TOTAL	2718		1620		104.13	168705 90.00
TOTAL		2056				168705 90.00

TRaverse  
 RCNLD OUB2002=N30CON2002=W20S30E20 N30\$E15PCH2002=N8E24S8W24\$E  
 24 E15S30W15DCS2002=S12W20N6W11N6E31\$W31W8\$.



PID R 0148.00.00.0007.0000  
 CARVER,JOHN W & PAMELA H  
 2019 171,734 MKT  
 171,734 PY Val USE 19,900 LAND 002  
 1275 CARVER RD DEF 151,834 BLDG 001  
 PROSPECT HILL NC 27314 5.000 ACRES XFOB 000  
 LISTER 11/21/2015 GP  
 TWP HIGHTOWER CITY  
 LOT BLK PL BK/PG 15 56 PLAT RESCUE OTHER  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 411 103 AICUZ ADDRESS 0001151 CARVER RD PROSPECT HILL 27314  
 LEGAL: CARVER RD (OFF) PRINTED 6/07/2019 BY THOMAS

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff Rate	Value
1		020HAC		HS W/UTIL	1.000	AC	11,500.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		11,500.000	11,500
2		080IAC		2-4 ACRE	4.000	AC	2,100.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		2,100.000	8,400

#6.  
0148 007

ATI  
Donnie Powell

### Caswell County Environmental Health

P.O. Drawer H • Yanceyville, NC 27379  
(338) 694-8731

### Well Completion Report

Name: John W Carver

Address: Carver Rd Prospect Hill nc 27314

Location: 8 1/2 to Ridgewille Rd To Egypt Rd To End Take point Rd 1/4 mile to prop

Distance From Nearest Property Line 20 Ft.

Water Bearing Zones Depth 360 Ft. 380 Ft.

Distance From Nearest Source of Pollution 100 Ft.

Casing Depth From 12 to 42 Ft.

Total Depth of Well 400 Ft. GPM 15

Diameter 6 5/8 in.

Static Water Level 30 Ft.

Casing Type: Steel  Galvanized Steel Thickness 188 in.

If Steel, Does Owner Approve.  Yes  No

Drive Shoe  Yes  No Height of Casing Above Ground 12 in.

Problems in Setting Casing  Yes  No Explain \_\_\_\_\_

Grout Type:  Neat  Sand/Cement Rock Concrete Annular Space Width 3 in.

Water in Annular Space  Yes  No Method of Grout  Pump  Pressure  Poured

No. Bags of Portland Cement 4 Depth From 0 to 22 Ft.

Weight of 1 Bag 94 Lbs. Proper Slab Constructed yes ID Plate yes

#### DRILLING LOG

Depth		Formation Description
From	To	
1	20	Sand Rock
20	42	Hard Rock

I hereby certify that the above information is correct and that this well was constructed in accordance with the Caswell County Well Ordinance

[Signature]  
Signature of Contractor

2240

Certification #

8-1-02

Date

Inspection Completed By Donnie Powell

Date: 8/1/02

**Location #28 – 1209 Carver Road**

PID R 0134.00.00.0104.0000 ANDREWS, CHRISTOPHER M & CARRIE 2019 58,659 MKT 58,659 MKT CARD 001  
 TWP HIGHTOWER 58,659 PY Val USE 18,374 LAND 002  
 LISTER 11/21/2015 MW 1273 CARVER RD PROSPECT HILL NC 27314 DEF 40,285 BLDG 001  
 CITY FIRE RESCUE OTHER XFOB 000  
 LOT BLK PL BK/PG 15 248 PLAT ADDRESS 0001209 CARVER RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000102 RESIDENTIAL VAC DEED 439 462 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: OFF CARVER RD ~9999 ESMT 596-1119

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 05	MFG HOUSE	BVAL 0005C6	MFG HSE/DW	ARCH 01	D/W	QUAL C4	GRADE C-5	STYS		SIZE	N/A
FNDN 01	BRICK	FRME 02	STEELFRAME	WINDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 02	HEAT PUMP	A/C 01	CENTRALA/C	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 08	CARPT/VYNL	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 06		BATH		BDRM	3	ROOM	5	SPCD	N/A
UD-1	N/A	FRPL	N/A	CHMN	N/A	HBTH	N/A	BATH C2	2 BATHS	FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 2003	EYB 2003

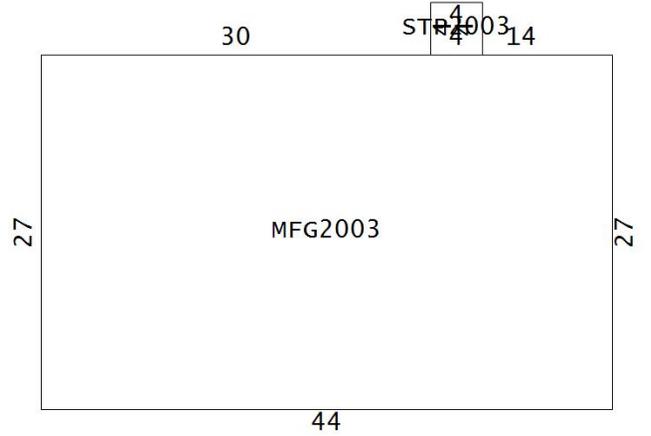
AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good
D/W M/H	1188	1188	1188	1188			74.00
STOOP	16	3					74.00

TRAVERSE

RCNLD MFG2003=N27E30 STP2003=E4N4W4 S4\$ E14S27W44\$.

LUMP						54440	74.00	40,285
TOTAL	1204		1188		45.82	54440	74.00	40,285
TOTAL		1191	1188	1188		54440		40,285



PID R 0134.00.00.0104.0000      ANDREWS,CHRISTOPHER M & CARRIE      2019      58,659 MKT      CARD 002  
 LISTER 11/21/2015 MW      58,659 PY Val      USE      18,374 LAND 002  
 TWP HIGHTOWER      1273 CARVER RD      DEF      40,285 BLDG 001  
 LOT      BLK      CITY      PROSPECT HILL NC 27314      2.620 ACRES      XFOB 000  
 NBHD 00000000      USE 000102 RESIDENTIAL VAC      PL BK/PG 15 248      PLAT      RESCUE      OTHER  
 LEGAL: OFF CARVER RD ~9999 ESMT 596-1119      DEED 439 462      AICUZ      ADDRESS 0001209 CARVER RD PROSPECT HILL 27314  
 SALES      BUILDING PERMITS      PRINTED 6/07/2019 BY THOMAS

IN Q RC M V Sale Date      Sale Price      Number      Type      Description      Issued      Schd Complt      Revisit      Act Complt      Amount  
 WD U 0E V 9/11/2003

LAND

Seq	Zone	Code	Use	Description	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd Adj	Eff Rate	Value
1		020KAC		HS W/UTIL	1.000 AC	14,000.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000	14,000.000	14,000
2		080KAC		2-4 ACRE	1.620 AC	2,700.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000	2,700.000	4,374

#1

(0134 104)

# Caswell County Health Department Well Permit

Date: 11-19-90 This Permit Void After 5 Years  
 Owner: Dornie Carver SR# 1721  
 Location/Directions: 565 (L) Ridgeway Rd (R) on Carver Rd at end of Carver Rd  
 Subdivision Name: \_\_\_\_\_ Lot # \_\_\_\_\_  
 Drilling Contractor: EVANS Well Co.

### WELL CONSTRUCTION

Distance from Nearest Property Line 15 p/w/s Distance from Source of Pollution 160 p/w/s  
 Total Depth: 145 Ft. Yield: 20 GPM Static Water Level \_\_\_\_\_ Ft.  
 Water Bearing Zones: Depth 90 Ft. 110 Ft. 130 Ft. \_\_\_\_\_ Ft.  
 Casing: Depth: From 0 to 64 Ft. Diameter: 6 1/4 Inches  
 TYPE: Steel \_\_\_\_\_ Galvanized Steel   
 If Steel, does owner approve: Yes  No \_\_\_\_\_  
 Weight: 13 Thickness: 18 Height Above Ground: 12 Inches  
 Drive Shoe: Yes  No \_\_\_\_\_  
 Were Problems Encountered in Setting the Casing? Yes \_\_\_\_\_ No

If "yes" give reason: \_\_\_\_\_  
 Grout: Type: Neat  Sand/Cement \_\_\_\_\_ Concrete \_\_\_\_\_  
 Annular Space Width 3 Inches  
 Water in Annular Space: Yes \_\_\_\_\_ No   
 Method: Pumped \_\_\_\_\_ Pressure \_\_\_\_\_ Poured   
 Depth: From 0 to 20 Ft.  
 Materials Used: No. Bags Portland Cement 4 Weight of 1 bag 94 lbs.  
 If mixture (sand, gravel, cuttings) - Ratio: 2 to 1  
 ID Plates: Yes  No \_\_\_\_\_  
 4 x 4 slab: Yes  No \_\_\_\_\_

### DRILLING LOG

Depth		Formation Description
From	To	
0	5	Red Soil
5	20	Sandy Soil
20	50	SAND
50	62	SAND ROCK
62	145	Granite

I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS CORRECT AND THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH REGULATIONS SET FORTH BY THE CASWELL COUNTY HEALTH DEPARTMENT.

Evans Well Co. 11-27-90  
 Signature of Contractor Date

Bob Jordan 11-19-90  
 Sanitarian's Signature Date Issued

Bob Jordan 11-27-90  
 Sanitarian's Signature Date Completed

Sketch well location on reverse side.

Map#

Parcel#

PIN

Permit#

TC 11-19-90-1

**Location #29 – 989 Carver Road**

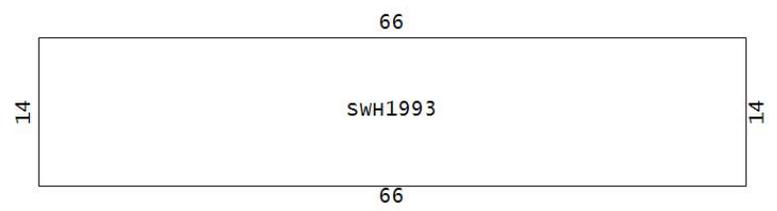
PID R 0134.00.00.0077.0000 CARVER, JOHN T & PATRICIA JR 2019 98,274 MKT CARD 001  
 981 CARVER RD 98,274 PY Val 73,898 USE 84,126 LAND 011  
 PROSPECT HILL NC 27314 24,376 DEF 13,548 BLDG 001  
 LISTER 11/21/2015 MW CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER LOT 2 BLK PL BK/PG 16 558 PLAT ADDRESS 0000989 CARVER RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000200 AGRICULTURE DEED 564 632 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: 1043 CARVER RD DEEDS:265-521 ESMT 596-1117 X 8/3/12 -32.87AC TO TM 134-113  
 30.870 ACRES 600 XFOB 001

BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 05	MFG HOUSE	BVAL 0005C7	MFG HSE/SW	ARCH 02	S/W	QUAL D3	GRADE D	STYS		SIZE	N/A
FNDN 04	PIER	FRME 02	STEELFRAME	WNDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	
HEAT 08	CENT H&AC	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1 05	CARPET	FLR2	N/A	FLR2%	
KTCH	N/A	DPRT 07		BATH		BDRM	3	ROOM	4	SPCD	N/A
UD-1	N/A	FRPL	N/A	CHMN	N/A	HBTH	N/A	BATH C2	2 BATHS	FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYS	N/A	RMYS	N/A	UD-9%		AYB 1993	EYB 1993

AREA CALCULATION							TRAVERSE	
Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good	RCNLD
S/W M/H	924	924	924	924			30.00	SWH1993=N14E66S14W66\$.

LUMP						45162	30.00	13,548
TOTAL	924		924		48.87		30.00	
TOTAL		924		924		45162		13,548



PID R 0134.00.00.0077.0000 CARVER, JOHN T & PATRICIA JR 2019 98,274 MKT CARD 002  
 98,274 PY Val 73,898 USE 84,126 LAND 011  
 24,376 DEF 13,548 BLDG 001  
 30.870 ACRES 600 XFOB 001

LISTER 11/21/2015 MW CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER LOT 2 BLK PL BK/PG 16 558 PLAT ADDRESS 0000989 CARVER RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000200 AGRICULTURE DEED 564 632 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: 1043 CARVER RD DEEDS:265-521 ESMT 596-1117 X 8/3/12 -32.87AC TO TM 134-113  
 SALES BUILDING PERMITS

IN	Q	RC	M	V	Sale Date	Sale Price	Number	Type	Description	Issued	Schd	Complt	Revisit	Act	Complt	Amount
WD	U	0E	I		8/14/2012		14983	COMM	COMMBUILD	4/28/2016						
WD	U	0E	V		8/03/2012											

EXTRA FEATURES  
 Seq Bldg Code Description Length Width Height #Units UT Qty Qual UTPrice Year Adj1 Adj2 Adj3 Adj4 %Good Value  
 001 000006 CARPORT/INEXPEN 21 18 1.000 UT 1 600.000 0000 1.00 1.00 1.00 1.00 100.00 600

LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff	Rate	Value
1		020KAC	N	HS W/UTIL	2.000	AC	14,000.000	1.00	1.00	1.00	1.00	1.00	1.00		1.00		14,000.000	28,000
2		280BAC		OPEN ON PAVED ROAD	18.300	AC	1,600.000	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1,600.000	29,280
3		660AUV	U	USE VALUE OPEN	18.300	AC	590.000	1.00	1.00	1.00	1.00	1.00	1.00		1.00		590.000	10,797
4		420KAC	N	WOOD ON DIRT ROAD	4.700	AC	1,400.000	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1,400.000	6,580
8		280AAC		OPEN ON PAVED ROAD	4.870	AC	1,800.000	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1,800.000	8,766
9		660AUV	U	USE VALUE OPEN	4.870	AC	590.000	1.00	1.00	1.00	1.00	1.00	1.00		1.00		590.000	2,873
10		520KAC	N	COMMERCIAL LAND	1.000	AC	11,500.000	1.00	1.00	1.00	1.00	1.00	1.00		1.00		11,500.000	11,500

**Location #30 – 981 Carver Road**

PID R 0134.00.00.0114.0000 CARVER, JONATHON B 2019 101,993 MKT CARD 001  
 101,993 PY Val USE 16,700 LAND 002  
 981 CARVER ROAD PROSPECT HILL NC 27314 DEF 85,293 BLDG 001  
 LISTER 11/21/2015 MW CITY FIRE RESCUE OTHER XFOB 000  
 TWP HIGHTOWER LOT BLK PL BK/PG 16 689 PLAT ADDRESS 0001095 CARVER RD PROSPECT HILL 27314  
 NBHD 00000000 USE 000100 RESIDENTIAL DEED 567 1544 AICUZ PRINTED 6/07/2019 BY THOMAS  
 LEGAL: OFF CARVER ROAD X X 1/18/13 DB 567-1544 PB 16-689

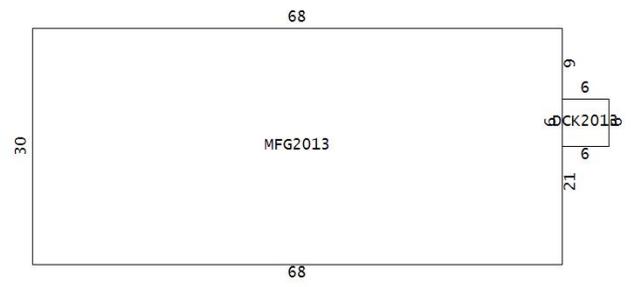
BUILDING CHARACTERISTICS for BldgSeq# 001 (Item# 001 )

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
MODL 05	MFG HOUSE	BVAL 0005C6	MFG HSE/DW	ARCH 01	D/W	QUAL C2	GRADE C+5	STYS		SIZE	N/A
FNDN 01	BRICK	FRME 01	WOOD FRAME	WINDO	N/A	EXW1 03	VINYL	EXW2	N/A	EXW2%	N/A
HEAT 02	HEAT PUMP	A/C	N/A	RSTR 01	GABLE	RCV1 01	ASPSHINGLE	RCV2	N/A	RCV2%	N/A
INT1 01	SHEETROCK	INT2	N/A	INT2%		FLR1	N/A	FLR2	N/A	FLR2%	N/A
KTCH	N/A	DPRT 06		BATH		BDRM		ROOM		SPCD	N/A
UD-1	N/A	FRPL	N/A	CHMN	N/A	HBTH	N/A	BATH C2	2 BATHS	FUEL 04	ELECTRIC
FXTR	N/A	UD-8	N/A	RMYR	N/A	RMYR	N/A	UD-9%		AYB 2013	EYB 2013

AREA CALCULATION

Subarea	Actual	Adj	Heated	Prime	Rate	Value	%Good	RCNLD
D/W M/H	2040	2040	2040	2040			94.00	TRVERSE MFG2013=W68N30E68S9 DCK2013=E6S6W6N6\$ S21\$.
DECK	36	9					94.00	

LUMP						90738	94.00	85,293
TOTAL	2076		2040		44.47	90738	94.00	85,293
TOTAL		2049	2040	2040				



PID R 0134.00.00.0114.0000 CARVER, JONATHON B 2019 101,993 MKT CARD 002  
 101,993 PY Val USE 16,700 LAND 002  
 981 CARVER ROAD DEF 85,293 BLDG 001  
 PROSPECT HILL NC 27314 2.000 ACRES XFOB 000  
 LISTER 11/21/2015 MW CITY FIRE RESCUE OTHER  
 TWP HIGHTOWER PL BK/PG 16 689 PLAT ADDRESS 0001095 CARVER RD PROSPECT HILL 27314  
 LOT BLK DEED 567 1544 AICUZ PRINTED 6/07/2019 BY THOMAS  
 NBHD 00000000 USE 000100 RESIDENTIAL  
 LEGAL: OFF CARVER ROAD X X 1/18/13 DB 567-1544 PB 16-689  
 14383 DOUB DOUBLEWIDE 1/16/2013 2/18/2013 82,583  
 LAND

Seq	Zone	Code	Use	Description	#Units	UT	UTPrice	Adj1	Adj2	Adj3	Adj4	Fadj	Dadj	Nbhd	Adj	Eff Rate	Value
1	Front	020KAC	Back	HS W/UTIL	1.000	AC	14,000.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		14,000.000	14,000
2		080KAC		2-4 ACRE	1.000	AC	2,700.000	1.00	1.00	1.00	1.00	1.00	1.00	1.000		2,700.000	2,700

#8

(0134 114)

**WELL CONSTRUCTION RECORD**

This form can be used for single or multiple wells

**1. Well Contractor Information:**

**Dennis Cummings**

Well Contractor Name

**2537A**

NC Well Contractor Certification Number

**Cummings Developments, Inc.**

Company Name

2. Well Construction Permit #: **P11201501**

List all applicable well permits (i.e. County, State, Variance, Injection, etc.)

**3. Well Use (check well use):**

**Water Supply Well:**

- Agricultural
- Geothermal (Heating/Cooling Supply)
- Industrial/Commercial
- Irrigation
- Municipal/Public
- Residential Water Supply (single)
- Residential Water Supply (shared)

**Non-Water Supply Well:**

- Monitoring
- Recovery

**Injection Well:**

- Aquifer Recharge
- Aquifer Storage and Recovery
- Aquifer Test
- Experimental Technology
- Geothermal (Closed Loop)
- Geothermal (Heating/Cooling Return)
- Groundwater Remediation
- Salinity Barrier
- Stormwater Drainage
- Subsidence Control
- Tracer
- Other (explain under #21 Remarks)

4. Date Well(s) Completed: **8-1-16** Well ID# \_\_\_\_\_

**5a. Well Location:**

**John Carver**

Facility/Owner Name

Facility ID# (if applicable)

**981 Carver Rd Prospect Hill 27314**

Physical Address, City, and Zip

**Caswell**

County

Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees: (if well field, one lat/long is sufficient)

**36° 17.273' N 79° 10.110' W**

6. Is (are) the well(s):  Permanent or  Temporary

7. Is this a repair to an existing well:  Yes or  No  
If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: **One**  
For multiple injection or non-water supply wells ONLY with the same construction, you can submit one form.

9. Total well depth below land surface: **200** (ft.)  
For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: **23** (ft.)  
If water level is above casing, use "+"

11. Borehole diameter: **6** (in.)

12. Well construction method: **Rotary**  
(i.e. auger, rotary, cable, direct push, etc.)

**FOR WATER SUPPLY WELLS ONLY:**

13a. Yield (gpm) **43** Method of test: **Air Rotary**

13b. Disinfection type: **HTH** Amount: **18oz.**

For Internal Use ONLY:

FROM	TO	DESCRIPTION
220 ft.	184 ft.	
210 ft.	194 ft.	

FROM	TO	DIAMETER	THICKNESS	MATERIAL
71 ft.	87 ft.	6 in.		PVC

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		
ft.	ft.	in.		

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
ft.	ft.	in.			
ft.	ft.	in.			

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0 ft.	20 ft.	Port Cement	Rock
ft.	ft.		
ft.	ft.		

FROM	TO	MATERIAL	EMPLACEMENT METHOD
ft.	ft.		
ft.	ft.		

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0 ft.	79 ft.	Soils
ft.	ft.	
79 ft.	200 ft.	Rock
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

22. Certification: **[Signature]** 8-1-16  
Signature of Certified Well Contractor Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details: You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

**SUBMITTAL INSTRUCTIONS**

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Resources, Information Processing Unit,  
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells ONLY: In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Resources, Underground Injection Control Program,  
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Injection Wells: Also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.