APPLICATION PACKAGE
NYSDEC WATER WITHDRAWAL PERMIT

CLOVEWOOD WATER SYSTEM
BLAGGS CLOVE
VILLAGE OF SOUTH BLOOMING GROVE
ORANGE COUNTY, NEW YORK

PROJECT NO.: 31404120.000
DATE: APRIL 2018
(REVISED: JULY 2023)
(REVISED: SEPTEMBER 2023)
(REVISED: OCTOBER 2023)

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TABLE OF CONTENTS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICANT CHECKLIST FOR WATER WITHDRAWAL PERMIT

Complete this form and include with application

Applicant Name: Keen Equities, LLC **Facility Name:** Clovewood Water System
Facility Address: 505 Clove Road, Village of South Blooming Grove, NY **DEC Region:** 3
Project Type (From WW-1): Water Withdrawal
Water Use (From WW-1): Public Water Supply **For Department Use: WWA #:**

Item No.	Requirement (*see*, 6 NYCRR § 601.10) http://www.dec.ny.gov/regs/4445.html http://www.dec.ny.gov/lands/94327.html) **	Included or N/A?	Location of Item In Application Package
1	Electronic Copy of Application Package (Recommended)	Included	Package was electronically submitted
2	Application Transmittal Letter	Included	Exhibit II
3	Joint Application Form – signed **	Included	Attached
4	WW-1 Form **	Included	Attached
5	Project Authorization for public water supply (PWS) systems, include legal certification form and proof of transportation corporation formation if applicable **	Included	Exhibit III
6	General Map - Include location of project and other pertinent features.	Included	Exhibit I
7	Watershed Maps – if applicable	Included	Exhibit I
8	Contract plans for non-public water supply systems. Plans for PWS systems should be sent directly to NYS Department of Health (DOH)	N/A	Plans to be submitted to DOH.
9	Engineering Report - PE signed and sealed **See Note 1	Included	Exhibit I
10	Water Conservation Program Form – signed **	Included	Exhibit I
11	Latest Annual Water Withdrawal Reporting Form (for projects involving existing withdrawals)	N/A	
12	Land Acquisition Maps - if applicable	N/A	
13	Water Analysis - sent directly to DOH if new PWS source	N/A	Submitted to DOH
14	Project Justification - 8 questions answered	Included	Exhibit I
15	Canal withdrawal approvals - if applicable	N/A	
16	Great Lakes Basin Diversion - if proposed	N/A	
17	SEQR Form, include Determination if available	Included	Exhibit IV
18	State Historic Preservation Office (SHPO) submission or No Effect Letter from SHPO	Included	Exhibit V

Note 1: Engineering Report must include hydrologic or hydrogeologic evaluation of water source

Reset Form

NEW YORK STATE | Department of Environmental Conservation | Office of General Services | Department of State | US Army Corps of Engineers

MAR 02 2022

JOINT APPLICATION FORM

For Permits for activities activities affecting streams, waterways, waterbodies, wetlands, coastal areas, sources of water, and endangered and threatened species.

You must separately apply for and obtain Permits from each involved agency before starting work. Please read all instructions.

1. **Applications To:**

>NYS Department of Environmental Conservation ☑ Check here to confirm you sent this form to NYSDEC.

Check all permits that apply:
☐ Stream Disturbance
☐ Excavation and Fill in Navigable Waters
☐ Docks, Moorings or Platforms
☐ Dams and Impoundment Structures
☐ 401 Water Quality Certification
☐ Freshwater Wetlands
☐ Tidal Wetlands
☐ Wild, Scenic and Recreational Rivers
☐ Coastal Erosion Management
☑ Water Withdrawal
☐ Long Island Well
☑ Incidental Take of Endangered / Threatened Species

>US Army Corps of Engineers ☑ Check here to confirm you sent this form to USACE.

Check all permits that apply: ☐ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

Is the project Federally funded? ☐ Yes ☑ No

If yes, name of Federal Agency:

General Permit Type(s), if known: Nationwide Permit 29

Preconstruction Notification: ☑ Yes ☐ No

>NYS Office of General Services ☐ Check here to confirm you sent this form to NYSOGS.

Check all permits that apply:
☐ State Owned Lands Under Water
☐ Utility Easement (pipelines, conduits, cables, etc.)
☐ Docks, Moorings or Platforms

>NYS Department of State ☐ Check here to confirm you sent this form to NYSDOS.

Check if this applies: ☐ Coastal Consistency Concurrence

2. **Name of Applicant**: Keen Equities, LLC

Taxpayer ID (if applicant is NOT an individual): 20-3410737

Mailing Address: 4922 11th Avenue

Post Office / City: Brooklyn

State: NY

Zip: 11219

Telephone: (949) 769-9478

Email: YCR@Windsorglobal.com

Applicant Must be (check all that apply): ☑ Owner ☐ Operator ☐ Lessee

3. **Name of Property Owner (if different than Applicant)**: Same as Applicant

Mailing Address:

Post Office / City:

State:

Zip:

Telephone:

Email:

For Agency Use Only	Agency Application Number:

4. **Name of Contact / Agent**
CPC c/o Simon Gelb

Mailing Address: PO Box 2020
Post Office / City: Monroe
State: NY
Zip: 10949
Telephone: 845-774-8000
Email: gelbsimon@gmail.com

5. **Project / Facility Name**
Clovewood

Property Tax Map Section / Block / Lot Number: 208-1-2 & 208-1-3

Project Street Address, if applicable: 505 Clove Road
Post Office / City: Monroe
State: NY
Zip: 10950

Provide directions and distances to roads, intersections, bridges and bodies of water
On the east side of NYS Route 208 at the intersection with Clove Road

☐ Town ☑ Village ☐ City
South Blooming Grove

County: Orange

Stream/Waterbody Name: Tributary of Satterly Creek

Project Location Coordinates: Enter Latitude and Longitude in degrees, minutes, seconds:
Latitude: 41 ° 22 ' 36 "   Longitude: 74 ° 9 ' 42.3 "

6. **Project Description:** Provide the following information about your project. Continue each response and provide any additional information on other pages. **Attach plans on separate pages.**

a. Purpose of the proposed project:
Proposed 600 lot conservation type residential subdivision on approximately 708 acres of land to serve local housing needs. Project to be served by new central water and sewer facilities.

b. Description of current site conditions:
Mix of woodlands and wetland and remains of former golf course with approximately 60 structures associated with the former Lake Anne Country Club.

c. Proposed site changes:
Demolition of existing structures and addition of roads, utilities and 600 fee simple dwelling units.

d. Type of structures and fill materials to be installed, and quantity of materials to be used (e.g., square feet of coverage, cubic yards of fill material, structures below ordinary/mean high water, etc.):
600 residential structures with associated improvements. Improvements will result in the addition of approximately 68.5 acres of impervious area. There will be no fill imported to the site nor will existing wetlands or surface waters be filled. There is no structures below mean high water mark.

e. Area of excavation or dredging, volume of material to be removed, location of dredged material placement:
Total area of disturbance = 252 +/- acres. Area of temporary disturbance = 4.7 +/- acres. Area of permanent disturbance = 247.3 +/- . There will be no material removed from the site.

f. Is tree cutting or clearing proposed? ☑ Yes If Yes, explain below. ☐ No
Timing of the proposed cutting or clearing (month/year): November through March
Number of trees to be cut: >1,000
Acreage of trees to be cleared: 199 +/-

g. Work methods and type of equipment to be used:

Standard excavation and construction methods used for residential development.

h. Describe the planned sequence of activities:

Obtain necessary permits; delineation of limits of disturbance; installation of erosion control; clearing and grubbing; mass earth work; installation of utilities; installation of roads and drainage; construction of dwelling structures.

i. Pollution control methods and other actions proposed to mitigate environmental impacts:

Standard erosion and sediment controls in accordance with NYS Standards. The project is designed as a conservation subdivision leaving 50% open space and would include 270 acres (61.88 off site) permanently preserved through deed restriction. Steep slopes are avoided to the greatest extent possible and a voluntary 100 buffer to surface waters is provided where possible.

j. Erosion and silt control methods that will be used to prevent water quality impacts:

Full erosion and sediment control plan prepared and included in the design drawings and SWPPP. Plan includes temporary and permanent measures in accordance with NYS DEC Standards.

k. Alternatives considered to avoid regulated areas. If no feasible alternatives exist, explain how the project will minimize impacts:

Regulated areas avoided to the greatest extent practical by use of a conservation type subdivision which proposes approx 50% of the parcel preserved as open space. Wetland areas avoided and the only area of proposed disturbance to a portion of the 100-foot wetland buffer area is temporary and for the installation of a sewer-force main to an already disturbed area. Open bottom structures for stream or drainage crossings.

l. Proposed use: ☑ Private ☐ Public ☐ Commercial

m. Proposed Start Date: February 2022 Estimated Completion Date: December 2025

n. Has work begun on project? ☑ Yes If Yes, explain below. ☐ No

Test wells have been drilled.

o. Will project occupy Federal, State, or Municipal Land? ☐ Yes If Yes, explain below. ☑ No

p. List any previous DEC, USACE, OGS or DOS Permit / Application numbers for activities at this location:

DEC Application ID No. 3-3320-00150/00001,2,3

q. Will this project require additional Federal, State, or Local authorizations, including zoning changes?

☑ Yes If Yes, list below. ☐ No

State - DEC - Stormwater SPDES; Sanitary SPDES; Water Taking. DOT - Highway work permit
County - DPW - Highway Work Permit; County Planning 239; County Health - Realty Subdivision & Water Main Ext.
V. South Blooming Grove - Realty Subdivision.

7. **Signatures.**

Applicant and Owner (If different) must sign the application. If the applicant is the landowner, the **landowner attestation form** can be used as an electronic signature as an alternative to the signature below, if necessary. Append additional pages of this Signature section if there are multiple Applicants, Owners or Contact/Agents.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief.

Permission to Inspect - I hereby consent to Agency inspection of the project site and adjacent property areas. Agency staff may enter the property without notice between 7:00 am and 7:00 pm, Monday - Friday. Inspection may occur without the owner, applicant or agent present. If the property is posted with "keep out" signs or fenced with an unlocked gate, Agency staff may still enter the property. Agency staff may take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the site. I understand that failure to give this consent may result in denial of the permit(s) sought by this application.

False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the NYS Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant: YC. Rubin

Date: Dec. 6, 2021

Applicant Must be (check all that apply): ☑ Owner ☐ Operator ☐ Lessee

Printed Name: Yehoshua Rubin

Title: Manager

Signature of Owner (if different than Applicant):

Date:

Printed Name:

Title:

Signature of Contact / Agent: Simon Gelb

Date: 12/06/21

Printed Name: Simon Gelb, CPC

Title: Agent

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Application Number:

______ (Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative:

Printed Name:

Title:

Signature:

Date:

New York State
Department of Environmental Conservation

PERMISSION TO INSPECT PROPERTY

By signing this permission form for submission with an application for a permit(s) to the Department of Environmental Conservation ("DEC"), the signer consents to inspection by DEC staff of the project site or facility for which a permit is sought and, to the extent necessary, areas adjacent to the project site or facility. This consent allows DEC staff to enter upon and pass through such property in order to inspect the project site or facility, without prior notice, between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday. If DEC staff should wish to conduct an inspection at any other times, DEC staff will so notify the applicant and will obtain a separate consent for such an inspection.

Inspections may take place as part of the application review prior to a decision to grant or deny the permit(s) sought. By signing this consent form, the signer agrees that this consent remains in effect as long as the application is pending, and is effective regardless of whether the signer, applicant or an agent is present at the time of the inspection. In the event that the project site or facility is posted with any form of "posted" or "keep out" notices, or fenced in with an unlocked gate, this permission authorizes DEC staff to disregard such notices or unlocked gates at the time of inspection.

The signer further agrees that during an inspection, DEC staff may, among other things, take measurements, may analyze physical characteristics of the site including, but not limited to, soils and vegetation (taking samples for analysis), and may make drawings and take photographs.

Failure to grant consent for an inspection is grounds for, and may result in, denial of the permit(s) sought by the application.

Permission is granted for inspection of property located at the following address(es):

505 Clove Road, South Blooming Grove, NY 10914

*By signing this form, I affirm under penalty of perjury that I am authorized to give consent to entry by DEC staff as described above. I understand that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.**

Yehoshua (YC) Rubin, Managing Member	Y C. Rubin	Apr 17 '18
Print Name and Title	Signature	Date

*The signer of this form must be an individual or authorized representative of a legal entity that:

- owns fee title and is in possession of the property identified above;
- maintains possessory interest in the property through a lease, rental agreement or other legally binding agreement; or
- is provided permission to act on behalf of an individual or legal entity possessing fee title or other possessory interest in the property for the purpose of consenting to inspection of such property.

New York State Department of Environmental Conservation

Water Withdrawal Application Supplement WW-1

Pursuant to 6 NYCRR Part 601: http://www.dec.ny.gov/regs/4445.html

READ THE INSTRUCTIONS ON PAGE 2 BEFORE COMPLETING THIS FORM

May 2013

FOR DEPARTMENT USE ONLY
Application No.
WWA Number

1. APPLICANT NAME Keen Transportation Corporation

2. FACILITY NAME Clovewood Water System

3. PROJECT TYPE
☑ Water Withdrawal
☐ Land Acquisition for Public Water Supply
☐ New Public Water Supply Service Area or Extension
☐ Change in Use of Existing Water Withdrawal

4. WATER USE TYPE
☑ Public Water Supply ☐ Bottled/Bulk Water ☐ Commercial ☐ Cooling ☐ Industrial
☐ Institutional ☐ Mine Dewatering ☐ Oil/Gas Production ☐ Power Production ☐ Recreational
☐ Other:

5. WITHDRAWAL TYPE ☐ Existing ☑ New
If this is an existing public water supply, provide the most recent WSA or WWA Number:
If other than public water supply, list other existiing or pending related DEC permits (e.g., SPDES, Mining, Dam):

6. WATER WITHDRAWAL SOURCE
☐ Surface Water Water Body Name(s)
☑ Groundwater Nearest Surface Water Body: Tributary to Satterly Creek Distance From Well (in feet): ~50

7. WATER SUPPLY TO OTHER STATES Does this project involve the transport of any fresh water of NYS through pipes, conduits, ditches or canals to any other state?
☑ No ☐ Yes, describe:

8. TRANSPORTATION OF WATER BY VESSEL Does this project involve the transport by vessel of more than 10,000 gallons per day of surface water? (Excludes ballast water necessary for normal vessel activity. A vessel is defined as any floating craft propelled by mechanical power.) ☐ Yes ☑ No

9. WATER WITHDRAWAL AMOUNTS This project involves the withdrawal of up to: 507,600 gallons per day Source Name: Wells C-6. C-12. C-14. C-16. C-21. C-23
Does the project include a MAJOR DRAINAGE BASIN TRANSFER of water? See map at http://www.dec.ny.gov/lands/56800.html ☑ No ☐ Yes
If yes, ☐ Existing ☐ New From Basin To Basin

10. *REQUIRED EXHIBITS (6 NYCRR Part 601.10)* *Provide the names of the required exhibits applicable to this withdrawal:*

601.10(a) *PROJECT AUTHORIZATION FOR PUBLIC WATER SUPPLY SYSTEMS (e.g. Resolutions, Ordinances)*	N/A
601.10(b) *GENERAL MAP (e.g. Project Location, For Public Water Supplies - water service area boundary)*	Exhibit I
601.10(c) *WATERSHED MAPS (Topographic map with location of withdrawal and any return flow or interbasin diversions).*	Exhibit I
601.10(d) *CONTRACT PLANS (Public Water Supplies should submit directly to NYSDOH for review and approval)*	to be submitted to DOH
601.10(e) *ENGINEER'S REPORT (Signed by NYS PE, includes project description, water source yields and demands, etc.)*	Exhibit I
601.10(f) *WATER CONSERVATION PROGRAM (Completed Water Conservation Program Form)*	Exhibit I
601.10(g) *ANNUAL REPORTING FORM FOR EXISTING WITHDRAWALS (Most recent submitted annual report)*	N/A
601.10(h) *ACQUISITION MAPS (Map of any lands to be acquired as part of project)*	N/A
601.10(i) *WATER ANALYSES (Public Water Supplies should submit chemical & bacterial analysis directly to NYSDOH)*	to be submitted to DOH
601.10(j) *TREATMENT METHODS (Public Water Supplies - proposed methods to meet NYSDOH standards)*	to be submitted to DOH
601.10(k) *PROJECT JUSTIFICATION (Provide summary statement of answers to the eight justification questions)*	Exhibit I
601.10(l) *CANAL WITHDRAWAL APPROVALS (If applicable, provide adequate proof of approval from Canal Authority)*	N/A
601.10(m) *TRANSMITTAL LETTER (Include all contact information for applicant, attorney, engineer, etc.)*	Exhibit II
601.10(n) *GREAT LAKES-ST. LAWRENCE RIVER WATER RESOURCES COMPACT PROCESS REQUIREMENTS (Only applicable to Public Water Supply diversions from Great Lakes Basin - no other diversion types are allowed).*	N/A

Clear Form

Applicant Signature: Simon Gelb

Name: Simon Gelb, CPC
Date: 12/7/22
Title: Representative, Keen Transportation Corporation

EXHIBIT I

ENGINEER’S REPORT

WSP USA INC.

ENGINEER'S REPORT NYSDEC WATER WITHDRAWAL PERMIT APPLICATION

CLOVEWOOD WATER SYSTEM
BLAGGS CLOVE
VILLAGE OF SOUTH BLOOMING GROVE
ORANGE COUNTY, NEW YORK

PROJECT NO.: 31404120.000
DATE: APRIL 2018
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AND

KIRK ROTHER, P.E.
CONSULTING ENGINEER, PLLC
5 SAINT STEPHENS LANE
WARWICK, NY 10990

SIGNATURES

PREPARED BY:

Stacy Stieber

Stacy Stieber, CPG, PG(NY)
Assistant Vice President

REVIEWED BY:

STATE OF NEW YORK
KIRK ROTHER
#079053
LICENSED PROFESSIONAL ENGINEER

Kirk Rother, P.E.
Consulting Engineer, PLLC

TABLE OF CONTENTS

Page

TABLES

PAGE

FIGURE

APPENDICES

I LBG Hydrogeologic & Engineering Services, P.C., "Pumping Test Report, Clovewood Property, Blaggs Clove, Village of South Blooming Grove, Orange County, New York", March 2018 (Revised January 2019)

II Veolia, Actiflo Pack ACP2, High Performance Packaged Clarifiers

III Water Conservation Program Form

WSP USA Inc., and related company Hydrogeologic Architecture, Land Surveying, Landscape Architecture Services, P.C. (WSP) and Kirk Rother, P.E. Consulting Engineer, PLLC have prepared this Engineer's Report on behalf of Keen Equities, LLC for inclusion with the Water Withdrawal Permit (WWP) Application for the Clovewood water system. This Engineer's Report satisfies the applicable requirements for application for a permit under NYCRR 601.10 (a through n) and follows the New York State Department of Environmental Conservation (NYSDEC) Recommended Engineer's Report Format (RERF) for NYSDEC Water Withdrawal Permit Applications.

1.0 GENERAL DESCRIPTION AND HISTORY OF PROPOSED PROJECT; PROJECT AUTHORIZATION

The Clovewood property is located on Clove Road in the Village of South Blooming Grove, New York (Figure 1) between the cross streets of Route 208 to the south and Round Hill Road to the north. The site was formerly occupied by the Lake Anne Golf Course which closed in the 1990's and the Lake Anne Country Club cottage residences, both of which are no longer in use and will be razed as part of the proposed development. A single-family residential home located to the south of the former bungalow colony is currently occupied by the property caretaker. The balance of the site is undeveloped and vacant at this time.

Four wells are present on the project site that are associated with former uses on the property. Wells C-Well 1, C-Well 2, and C-Well 3 were the supply wells for the Lake Anne property and Well C-13 was an irrigation well for the former golf course. Wells C-4 through C-7 were drilled on the project site during a groundwater exploration program completed in 2007 for a prior project.

Wells C-7A, 7B, 8 through 12, and 14 through 23 were drilled as part of the current groundwater exploration program for the Clovewood project after well drilling permits were obtained from the Village of South Blooming Grove. The goal of the groundwater exploration program was to develop sufficient water to supply the proposed 600 residential units on the project site.

The groundwater exploration program drilling was conducted in stages. Preliminary yield testing on the initial wells drilled demonstrated that several of the wells in the valley setting paralleling Clove Road were high-yielding, but had the potential to cause individual and/or cumulative environmental impacts. Therefore, those wells were removed from consideration as potential supply wells for the project and additional well locations were drilled farther into the project site in the upland setting.

2.0 GENERAL MAPS OF PROJECT

A topographic map showing the Clovewood property boundary and the location of proposed water-supply Wells C-6, C-12, C-14, C-16, C-21 and C-23 are shown on Figure 1. The local watershed delineation is also depicted on Figure 1. The planned service area for the Clovewood water system corresponds with the project site boundary shown on Figure 1.

The wastewater treatment for the project is proposed to be constructed on the Clovewood property and the discharge of wastewater will occur on the project site.

3.0 WATER SOURCE CAPACITIES AND SYSTEM DEMAND CALCULATIONS

This section of the Engineer's Report presents a detailed description of the existing sources of water supply.

3.1 Water Sources and Capacities

A simultaneous 72-hour pumping test was conducted on proposed bedrock water-supply Wells C-6, 12, 14, 16 and 23 from July 10 through July 16, 2017. The wells were pumped concurrently and demonstrated stabilized yields of 45 gpm (gallons per minute), 40.5 gpm, 157 gpm, 50 gpm and 90 gpm, respectively, for a combined total yield of 382.5 gpm or 550,800 gpd (gallons per day). Well C-21 was tested individually as the best well between July 25 and 28, 2017. The well demonstrated a stabilized yield of 163 gpm during its pumping test. A detailed description of the 72-hour pumping test conducted on the proposed supply wells is provided in the pumping test report in Appendix I.

Table 1 - Well Yields for the Proposed Clovewood Supply Wells

Well Number	Source Type	Tested Yield (gpm)
C-6	BW	45
C-12	BW	40.5
C-14	BW	157
C-16	BW	50
C-21	BW	163
C-23	BW	90

gpm gallons per minute
BW Bedrock Well

3.2 Wellhead Protection Radius

The layout of the planned development will provide the necessary wellhead protection radius for proposed supply Wells C-6, C-12, C-14, C-16, C-21 and C-23. The 100-foot radius of ownership and 200-foot radius of sanitary control for all wells are within the boundary of the Clovewood property. Sanitary control minimum separation distance requirements listed in the New York State Department of Health (NYSDOH) Sanitary Code Part 5, Subpart 5-1, Appendix 5-D for public water-supply wells will be followed.

3.3 Description of Groundwater Sources

See Section 3.1 above for a summary of the yield capacity of the proposed supply wells.

Copies of the well logs for Wells C-6, C-12, C-14, C-16, C-21 and C-23 and figures and a Plate depicting the well locations are included in WSP's (formerly LBGHES) pumping test report in Appendix I.

Well C-6 was drilled by Northern Drilling, Inc. in May 2007 as part of a prior groundwater investigation program on the project site. The well was constructed with 8-inch diameter casing set to a depth of 61 feet, and the well was drilled to a total depth of 600 feet.

Well C-12 was drilled by Northern Drilling, Inc. in June 2014 as part of the groundwater investigation program conducted for the Clovewood project. The well was constructed with 8-inch diameter casing set to 70 feet, and the well was drilled to a total depth of 580 feet.

Well C-14 was drilled by Northern Drilling, Inc. in July 2015 as part of the groundwater investigation program conducted for the Clovewood project. The well was constructed with 8-inch diameter casing set to 50 feet, and the well was drilled to a total depth of 750 feet.

Well C-16 was drilled by Northern Drilling, Inc. in October 2015 as part of the groundwater investigation program conducted for the Clovewood project. The well was constructed with 8-inch diameter casing set to 50 feet, and the well was drilled to a total depth of 670 feet.

Well C-21 was drilled by Frey Well Drilling in April 2016 as part of the groundwater investigation program conducted for the Clovewood project. The well was constructed with 8-inch diameter casing set to 101 feet, and the well was drilled to a total depth of 1,010 feet.

Well C-23 was drilled by Frey Well Drilling in August 2016 as part of the groundwater investigation program conducted for the Clovewood project. The well was constructed with 8-inch diameter casing set to 101 feet, and the well was drilled to a total depth of 1,000 feet.

A 72-hour pumping test event was completed on the proposed supply wells in July 2017. The test demonstrated a combined yield from wells C-6, C-12, C-14, C-16 and C-23 of 382.5 gpm or 550,800 gpd. Well C-21 was tested separately from the other wells at a rate of 163 gpm or 234,720 gpd to demonstrate it as the system’s best well.

3.4 Description of Surface-Water Sources

The Clovewood water system does not propose to use surface-water sources for water supply.

3.5 Dams, Water Regulating and Intake Structures

The Clovewood water system does not proposed to utilize dams or water regulating and intake structures for surface-water sources for water supply.

3.6 Water Demands and Withdrawal Rate Calculations

3.6.1 Proposed Instantaneous and Maximum Daily Rates of Withdrawal

The proposed instantaneous withdrawal rate and the calculated maximum daily withdrawal rate for each well and for the combined system are provided in the table below. The instantaneous withdrawal rates for the wells are the respective tested rates demonstrated during the 72-hour pumping tests. The maximum daily withdrawal rates were calculated based on the wells pumping at the instantaneous withdrawal rate continuously throughout one day. The 72-hour pumping test program conducted on the wells in July 2017 demonstrated that the wells can meet the instantaneous and maximum daily withdrawal rates.

Table 2 – Instantaneous and Maximum Daily Withdrawal Rate

Well Number	Instantaneous Withdrawal Rate (gpm)	Maximum Daily Withdrawal Rate (gpd)
C-6	45	64,800
C-12	40.5	58,320
C-14	157	226,080
C-16	50	72,000
C-21	163	234,720
C-23	90	129,600

gpm	gallons per minute
gpd	gallons per day

Following submission of the January 2019 version of this Engineer's Report, correspondence from the NYSDEC was received (August 5, 2022, DEC Application ID No. 3-3320-00150/00001, 2, 3; Notice of Incomplete Application (NOIA)) stating that department staff reviewed the WWP application and determined that a maximum daily withdrawal of 507,600 gpd would be sustainable and adequate for the proposed development assuming that no accessory apartments were proposed to be included with the 600 residential units. The 507,600 gpd value was derived from the following excerpt from WSP 72-Hour Pumping Test Report for the Clovewood project:

> "Groundwater recharge to the bedrock aquifer underlying the study property was calculated using a recharge rate for metasedimentary bedrock of 625 gpd/acre and an estimated area of potential recharge to the bedrock aquifer underlying the Clovewood site of about 1,177 acres. Based on these values, the recharge to bedrock under normal precipitation conditions is approximately 735,600 gpd. Under one-year-in-30 drought conditions, the estimated average recharge rate would decrease about 31% to approximately 507,600 gpd or 352.5 gpm."

This desktop recharge evaluation was completed as part of the scoping document SEQRA requirements for the project. The evaluation required that assumptions be made regarding the size of the contributing recharge area for the bedrock fracture system and potential recharge reduction during extreme, long-term drought conditions. This was a desktop evaluation only and should not be used to replace actual well yield testing results which demonstrate the true aquifer conditions, which can be more or less than what is anticipated from a desktop evaluation.

The actual well yield testing program that was conducted was completed in accordance with regulatory guidelines. Five wells of the proposed Clovewood supply wells were pumped concurrently for 5.5 days and demonstrated pumping rates of 45 gpm, 40.5 gpm, 157 gpm, 50 gpm, and 90 gpm, respectively, for a combined yield from the five wells of 382.5 gpm or 550,800 gpd. The pumping test was conducted following an extended, below normal precipitation period and the extended, simultaneous pumping of multiple wells put stress on the wells and aquifer to assess long-term sustainable capacity.

However, to comply with the NYSDEC NOIA, a revised WW-1 form was submitted to the NYSDEC modifying the requested maximum withdrawal amount for the project to 507,600 gpd. Below is a summary table of the current requested withdrawal amounts for the Clovewood project.

Table 3 – Requested Groundwater Withdrawal Amounts

Well Number	Instantaneous Withdrawal Rate (gpm)	Maximum Daily Withdrawal Rate (gpd)	Combined Maximum Well Field Withdrawal (gpd)
C-6	45	64,800	507,600
C-12	40.5	58,320	
C-14	157	226,080	
C-16	50	72,000	
C-21	163	234,720	
C-23	90	129,600	

gpm	gallons per minute
gpd	gallons per day

3.6.2 Existing Average and Daily Maximum Demand

The Clovewood water system is a proposed water system; therefore, there is no existing average or daily maximum demand information.

An average daily water demand for the Clovewood project has been calculated based on the March 2014 New York State Design Standards for Intermediate Sized Wastewater Treatment Systems water usage rate of 110 gpd/bedroom. For the planned 600residential units with a total of 2,056 bedrooms, the average daily demand is 226,160 gpd. The maximum daily demand has been calculated based on the NYSDOH requirement that a new water system demonstrate twice the average water demand. Therefore, the calculated maximum daily demand for the 600 residential units is 452,320 gpd.

The applicant may also consider the inclusion of Community Center/bath houses in the proposed development. The water usage rate for a Community Center/bath house has been calculated based on 10 gpd per person with an allowed 20% reduction for the use of water saving fixtures. Assuming two users per residential unit, the additional average daily water demand for the Community Center/bath house would be 9,600 gpd and the maximum daily demand would be 19,200 gpd.

In addition to these potable water uses, greensand water filtration equipment is proposed for installation on all water supply wells, with the exception of Well C-12, and pre-treatment clarification is also planned for Wells C-21 and C-23 to reduce the iron, manganese, turbidity and suspended solids concentrations prior to the water entering the greensand water filtration equipment. The pre-treatment clarification for Well C-21 and C-23 will be completed using an Actiflo clarification treatment process, that is manufactured by Veolia. The Actiflo treatment utilizes oxidants and coagulants to create a floc that will settle within treatment unit that would then be discharged to the sanitary sewer. The concentrations of iron, manganese, turbidity and suspended solids for Wells C-21 and C-23 are thereby reduced before entering the greensand filtration treatment equipment. A product brochure for the Actiflo unit is attached at Appendix II.

Backwash water will be generated as part of the routine operation of the proposed greensand water filtration equipment to be installed for all water supply wells, except for Well C-12. A maximum water demand for the greensand water treatment assuming that all greensand filter units backwash on the same day is approximately 21,000 gpd. In addition, the pre-treatment clarification of the water from Wells C-21 and C-23 to remove turbidity, iron, manganese and suspended solids prior to the water entering the greensand water filtration equipment will require a total of approximately 15,000 gpd. Therefore, the combined maximum daily demand for the greensand filtration and Well C-21 and C-23 Actiflo pre-treatment is 36,000 gpd.

Under normal system operating conditions, the greensand filters are not all backwash on the same day. Therefore, the average day demand for the greensand filtration equipment has been calculated based on a seven-day period (one week average). The average volume of water needed for backwashing the greensand filtration equipment assuming a typical backwash cycle for greensand filter units of twice per week would be approximately 6,000 gpd. The Actiflo pre-treatment water needed for Wells C-21 and C-23 prior to the greensand filtration is based on the wells' yield capacity and would remain unchanged under average conditions. Therefore, the seven-day average demand for the greensand filtration backwash plus the pre-treatment water for Wells C-21 and C-23 combine to be an estimated average demand of 21,000 gpd. The table below is a summary of the average and maximum daily water treatment demand calculations.

Table 4 – Water Treatment Average and Maximum Daily Demand

Water Usage	Average Daily Demand (gpd)	Maximum Daily Demand (gpd)
Pre-Treatment Turbidity, Iron, Manganese and Suspended Solids Removal (C-21 and C-23 only)	15,000	15,000
Greensand Filtration (all wells except C-12)	6,000[1/]	21,000
Total Water Usage (gallons)	21,000	36,000

[1/] Volume calculated based on a seven-day period (one week average) assuming a typical backwash cycle for greensand filter units of twice per week.

gpd gallons per day

To determine the combined average daily and maximum daily water demand for the system, the calculated residential water usage, Community Center/bath houses, and water treatment usage have been summed. The table below shows the calculation of the average and maximum daily water demand for the project.

Table 5 – Project Total Average and Maximum Daily Water Demand

Water Usage	Number of Units	Usage Multiplier	Average Daily Demand (gpd)	Maximum Daily Demand (gpd)
Bedroom Count[1/]	2,056	110 gpd/bedroom	226,160	452,320
Community Center/Bath House	1,200	8[2/] gpd/person	9,600	19,200
Water Treatment	--	--	21,000[3/]	36,000[3/]
Total Water Usage (gallons)			256,760	507,520

[1/] Bedroom count will be divided among 600 residential dwelling units.

[2/] A 20% reduction in water usage multiplier has been applied for the use of water-saving fixtures.

[3/] The average daily demand assumes the greensand filters are backwashing twice per week and continuous use of pre-treatment clarification for Wells C-21 and C-23. The maximum daily demand includes the greensand filter units backwashing all on the same day combined with the pre-treatment clarification for Wells C-21 and C-23.

gpd gallons per day

3.6.3 Existing Monthly Maximum Demand

The Clovewood water system is a proposed water system; therefore, there is no data available to provide an existing monthly maximum demand.

3.7 Annual Water Withdrawal Reporting Forms

The Clovewood water system is a proposed water system. No annual water withdrawal reporting forms are available.

4.0 EVALUATION OF ALTERNATIVES AND PROJECT JUSTIFICATION

4.1 Evaluated Alternatives

Alternate water sources that were considered to supply the planned Clovewood development were connection to the existing Village of South Blooming Grove public water supply or connection to the existing Village of Kiryas Joel public water supply. An evaluation of these alternatives indicated that neither existing system had sufficient surplus capacity to supply the Clovewood project.

4.2 Water Conservation and Efficiency Measurements

Water saving fixtures will be utilized in all residential units for efficiency and to reduce water usage. In addition, the planned layout for the project is a cluster development with limited outdoor space for each residential property. A planned 80 percent of the property is to remain open space. This planned layout will conserve water by reducing the outdoor water usage within the development and reduces impervious surface area compared to a conventional subdivision layout thereby allowing for increased groundwater recharge.

4.3 Water Withdrawal Quantity is Reasonable for the Proposed Use

The requested permitted rates for Wells C-6, C-12, C-14, C-16, C-21 and C-23 of 45 gpm (64,800 gpd), 40.5 gpm (58,320 gpd), 157 gpm (226,080 gpd), 50 gpm (72,000 gpd), 163 gpm (234,720 gpd), and 90 gpm (129,600 gpd) are reasonable to meet the Clovewood project's potable water needs.

As described above, the calculated average daily demand of the 600 residential units is 226,160 gpd, for the Community Center/bath houses is 9,600 gpd, and for the water treatment is 21,000 gpd for combined calculated average day demand of 256,760 gpd. The combined capacity of the Clovewood supply wells is reasonable to supply these potable demands.

4.4 Proposed Conservation Measures are Environmentally Sound and Economically Feasible

The cluster type residential development, which promotes conservation by limiting the need for outdoor water use, is more economically feasible than the conventional residential development that have large lot sizes. The planned stormwater management and green infrastructure that will be included as part of the cluster development are also environmentally sound and economically feasible.

4.5 Proposed Water Supply is Adequate

The 72-hour pumping test program completed on the wells in July 2017 demonstrated a combined yield from Wells C-6, C-12, C-14, C-16 and C-23 of 382.5 gpm or 550,800 gpd. Well C-21 was tested separately from the other wells at a rate of 163 gpm or 234,720 gpd to demonstrate it as the system's best well in accordance with NYSDOH requirements.

The calculated average daily demand of the 600 residential units is 226,160 gpd, for the Community Center/bath houses is 9,600 gpd, and for the water treatment is 21,000 gpd for combined calculated average day demand of 256,760 gpd.

4.6 Project is Just and Equitable to Other Municipalities

The proposed bedrock water-supply wells for the Clovewood project are all located within the Clovewood site property boundaries.

During the July 2017 72-hour pumping test event, an offsite well monitoring program was conducted to assess potential pumping-related effects to nearby wells, including individual residential wells and municipal public water-supply wells. The locations of the 16 offsite wells measured during the pumping test program are provide on figures in the pumping test report included in Appendix I.

No discernible pumping-related impacts were measured in any of the offsite wells monitored that were attributed to pumping Wells C-6, C-12, C-14, C-16, C-21 or C-23 during the pumping test. This data indicates that pumping the proposed Clovewood wells should have no discernible effect on other nearby municipalities.

4.7 Individual or Cumulative Adverse Environmental Impacts

An extensive water-level data collection program was conducted to assess potential pumping-related drawdown in the bedrock aquifer and surface-water features during the July 2017 pumping test event. Water-level data was collected from 24 onsite bedrock wells, 16 offsite wells, 1 offsite spring and 7 onsite piezometer locations. In addition to the water-level data, stream flow measurements were collected from nine gaging locations during the test period.

The water-level data collected from the onsite and offsite wells demonstrated that all pumping-related water-level drawdown effects that were attributed to pumping of Wells C-6, C-12, C-14, C-16, C-21 and C-23 were limited to the onsite bedrock monitoring wells on the Clovewood property. No discernible water-level drawdown that was attributed to the pumping of Wells C-6, C-12, C-14, C-16, C-21 and C-23 was measured in the offsite wells monitored.

Water-level data was collected from eight piezometer locations that were set in surface-water features near the onsite wells where groundwater withdrawals occurred. The locations for the onsite piezometers are shown on the Plate in the pumping test report in Appendix I. The water-level data collected from seven of the piezometers (PZ-1, PZ-5, PZ-6, PZ-9, PZ-16, PZ-Pond and PZ-22) showed no discernible pumping-related water-level drawdown in the groundwater and/or surface water during the pumping test event. There was no discernible effect on the surface-water level at the last piezometer location, PZ-8. However, a change in the groundwater level was observed during the pumping test which was unclear whether the change was related to the pumping event or a naturally occurring condition.

Stream-flow measurements were also collected from nine gaging locations during the pumping test period. The stream-flow data showed variation as a result of precipitation received during the background, testing and recovery periods, but no discernible change in flow was measured that was attributed to pumping in the onsite wells.

Groundwater recharge to the bedrock aquifer for the study property was calculated using a recharge rate for metasedimentary bedrock of 625 gpd/acre and a local recharge to the bedrock aquifer of about 1,177 acres. The recharge contribution area is provided on a figure in the pumping test report in Appendix I. Using on these values, the recharge to bedrock under normal precipitation conditions was calculated to be approximately 735,600 gpd. Under one-year-in-30 drought conditions, the estimated average recharge rate would decrease approximately 31 percent to approximately 507,600 gpd or 352.5 gpm. Both the normal and drought recharge rates exceed the average water demand of the proposed 600 units of 226,160 gpd. The recharge rates also exceed the average water demand of 256,760 gpd with the potential inclusion of Community Center/bath houses within the development.

Based on the above information, no individual or cumulative adverse environmental impacts are anticipated from the use of the proposed Clovewood water-supply wells.

4.8 Consistent with Applicable Laws

The withdrawal of water from the proposed supply Wells C-6, C-12, C-14, C-16, C-21 and C-23 will be consistent with all applicable laws.

5.0 WATER CONSERVATION

A completed and signed Water Conservation Form is included in Appendix III.

The Clovewood project plans to meter all sources of supply to document the water system's groundwater withdrawal quantities. All customer connections will also be metered to track water consumption within the system. Annual water audits will be conducted to track potential water loss in the system and leak detection will be implemented to address water losses should they occur.

The development will be new construction; therefore, water-saving fixtures are planned for use in the onsite construction.

6.0 OTHER APPROVALS AND REQUIREMENTS

6.1 Water Analysis Results and Project Plans

Water analysis results and engineering plans for treatment and water-supply system design for the proposed supply wells and water system will be submitted to the OCDH for approval.

6.2 New York State Canal System Withdrawal

Clovewood is not requesting a water withdrawal from the NYS Canal system, therefore, the requirement for approval from the NYS Canal Corporation is not applicable.

6.3 Great Lakes – St. Lawrence River (GL-SLR) Basin Compact

Clovewood is not requesting a diversion of water from the GL-SLR, therefore, proof of an exception or exemption for this withdrawal from the GL-SLR Compact is not applicable.

cmm
October 16, 2023
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FIGURE

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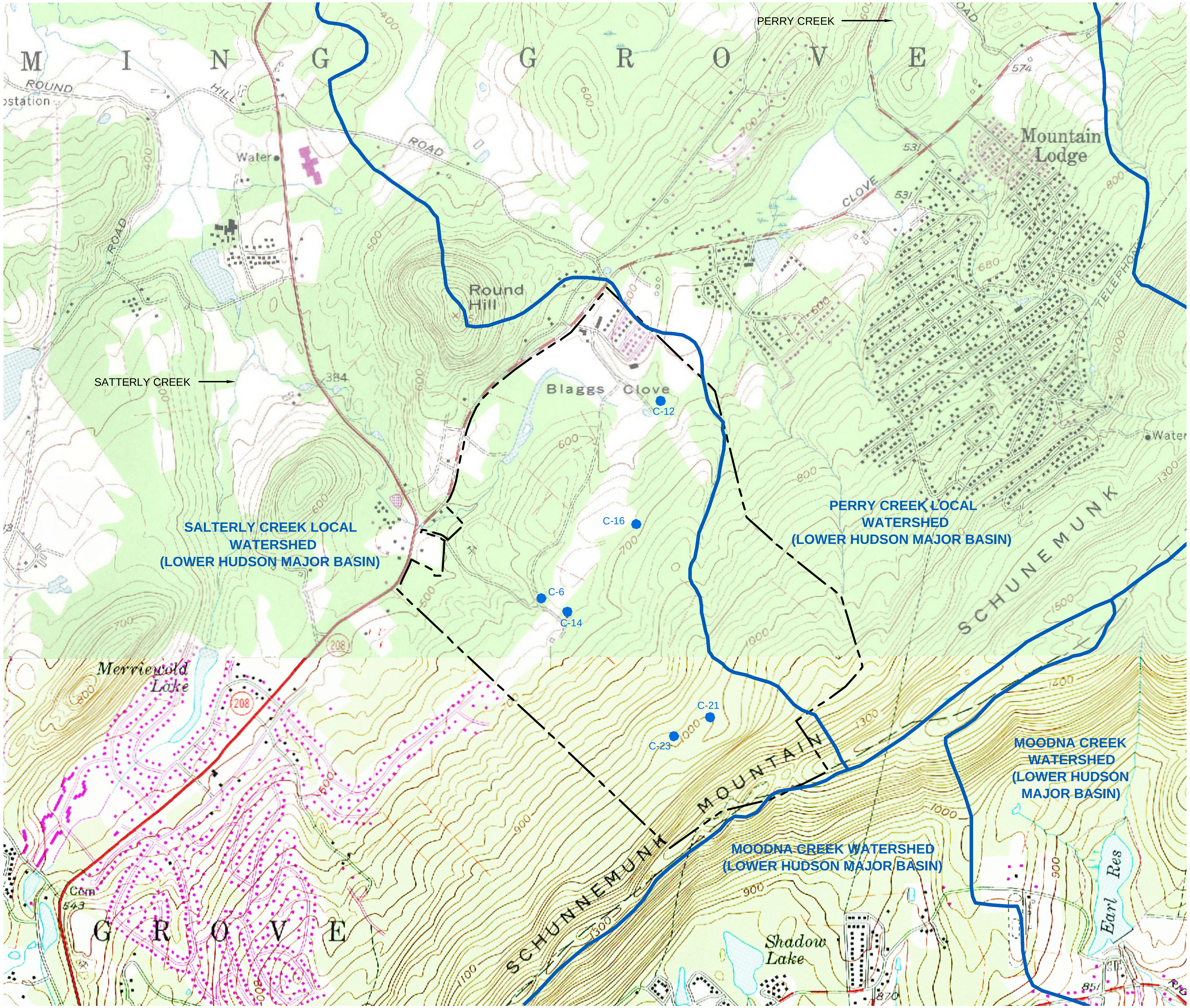

LEGEND

— —	PROPERTY BOUNDARY/FUTURE SERVICE AREA
●	PROPOSED WATER-SUPPLY WELL LOCATION
—	LOCAL WATERSHED BOUNDARY

SOURCE:
USGS TOPOGRAPHIC QUADRANGLES MAYBROOK (1957) AND
MONROE (PHOTOREVISED 1984) NEW YORK.

0 1500
SCALE IN FEET

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

SITE LOCATION AND WATERSHED MAP

DATE	REVISED

PREPARED BY:
LBG HYDROGEOLOGIC & ENGINEERING SERVICES, P.C.
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DRAWN: RAC | CHECKED: SS | DATE: 04/12/18 | FIGURE: 1

APPENDIX I

PUMPING TEST PROGRAM
CLOVEWOOD PROPERTY
BLAGGS CLOVE,
VILLAGE OF SOUTH
BLOOMING GROVE,
ORANGE COUNTY, NEW YORK

PROJECT NO.: 770113.LAKANN.00
DATE: MARCH 2018 (REVISED: JANUARY 2019)

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Senior Supervising Hydrogeologist

TABLE OF CONTENTS

Page

TABLE OF CONTENTS (continued)

TABLES PAGE

FIGURES (AT END OF REPORT)

PLATE (IN POCKET AT END OF REPORT)

WATER-LEVEL DATA CD, JULY 2017 PUMPING TEST
(IN POCKET AT END OF REPORT)

APPENDICES (AT END OF REPORT)

EXECUTIVE SUMMARY

LBG Hydrogeologic & Engineering Services, P.C. (LBGHES), member of WSP, conducted a pumping test program on the Clovewood property on Clove Road in the Village of South Blooming Grove, Orange County, New York in July 2017. The goal of the Clovewood pumping test program was to demonstrate a minimum yield of twice the average water demand of the project with the best well out of service from the new community, public water-supply source. To achieve this goal, a simultaneous pumping test was conducted on wells C-6, C-12, C-14, C-16 and C-23 between July 10 and July 16, 2017. The five wells were pumped concurrently for 5.5 days and demonstrated pumping rates of 45 gpm (gallons per minute), 40.5 gpm, 157 gpm, 50 gpm, and 90 gpm, respectively, for a combined yield from the five wells of 382.5 gpm or 550,800 gpd (gallons per day). This combined yield can support an average water demand of 191.3 gpm or 275,400 gpm. An individual pumping test was then conducted on Well C-21. Well C-21 was pumped individually as the best well between July 25 and July 28, 2017 for 72.5 hours. The well demonstrated a pumping rate of 163 gpm or 234,720 gpd.

The average water demand for the Clovewood project calculated based on the March 2014 New York State Design Standards for Intermediate Sized Wastewater Treatment Systems water usage rate of 110 gpd/bedroom for 600, 4-bedroom residential units is 264,000 gpd or 183.3 gpm. The New York State Department of Health (NYSDOH) requires that a new water system demonstrate twice the average water demand of a proposed development with the best well out of service. Therefore, to meet this NYSDOH requirement, the water system must be capable of pumping 528,000 gpd or 366.7 gpm with the best well out of service. In addition, the applicant may also consider the inclusion of swimming pools/bath houses in the proposed development. The water usage rate for a swimming pool/bath house is based on 10 gpd per swimmer with an allowed 20% reduction for the use of water saving fixtures. Assuming 2 swimmers per residential unit, the additional water demand would be 9,600 gpd or 6.7 gpm. Adding this demand to the proposed 600 units, the combined average water demand with the bath houses is 273,600 gpd or 190 gpm and twice the demand is 547,200 gpd or 380 gpm.

Prior to completion of the pumping tests, a testing and monitoring protocol dated September 30, 2016 (aka Pumping Test Plan), designed in accordance with the NYSDEC February 2015 “Pumping Test Procedures for Water Withdrawal Applications”, was submitted to the Village of South Blooming Grove (VoSBG), New York State Department of Environmental Conservation (NYSDEC), Orange County Department of Health (OCDH) and NYSDOH for review. Comments received from the VoSBG’s Consultant, Louis Berger Group, the NYSDOH, and the NYSDEC were incorporated into the Pumping Test Plan.

Initially, the pumping scheme proposed to include wells C-7B and C-21 in the simultaneous pumping test and well C-7A during the individual test. However, offsite water-level drawdown was observed during the early portion of the simultaneous pumping test that was attributed to pumping in well C-7B. As a result of the offsite drawdown the pumping scheme was changed, wells C-7B and C-7A were removed as pumping wells and well C-21 was assigned the role of the best well to be tested during the individual pumping test. Pumping in wells C-7B and C-21 was ended on July 12 and the simultaneous pumping test continued without these wells. Well C-21 was subsequently yield tested during the individual test conducted July 25 through July 28. VoSBG’s Consultant Louis Berger Group was notified of the change in the planned pumping scheme during the test period.

During the pumping test program, water-level measurements were collected from a total of 24 onsite wells, including 17 onsite bedrock monitoring wells and the 7 wells pumped during the testing program (C-6, 7B, 12, 14, 16, 21 and 23). Drawdown was measured in 16 of the onsite bedrock monitoring wells from pumping in wells C-6, 12, 14, 16 and 23 that ranged from 0.6 foot to 120.7 feet. During the individual pumping test conducted on well C-21, water-level drawdown was measured in three onsite monitoring wells that ranged from 15.8 feet to 93.5 feet. Water-level measurements were also collected from 16 offsite wells and a flowing spring on Route 208 during the pumping test program. No discernible water-level impacts were measured in any off the offsite monitoring locations that were attributed to pumping in wells C-6, 12, 14, 16 and 23 during the simultaneous pumping test or to pumping well C-21 during the individual pumping test.

Onsite monitoring of surface-water features was also completed during the pumping test program. Water-level measurements were collected from eight piezometer locations and stream-flow measurements were collected from nine gaging locations on the project site. The stream-flow data collected showed no discernible change in flow that was attributed to pumping in the onsite wells. The water-level data collected from seven piezometers showed no discernible pumping-related water-level drawdown in the groundwater and/or surface water during either pumping test. One piezometer, PZ-8, had a change in the groundwater level during the pumping tests that could potentially be pumping related; however, there was no discernible effect on the surface water at PZ-8 from onsite pumping. Additional monitoring of the shallow groundwater at PZ-8 may be warranted to conduct an assessment of whether the change observed was naturally occurring or a result of onsite pumping.

Water samples were collected from the onsite wells during their respective pumping periods and analyzed for the parameters required by the NYSDOH Sanitary Code Part 5, Subpart 5-1 for community water-supply wells and for the extra compounds of dioxin, endothall, diquat and glyphosate. In addition, microscopic particulate analysis (MPA), giardia and cryptosporidium samples were collected from all of the wells. The results of the water samples collected from the six proposed supply wells met all NYSDOH drinking water standards with the exception of iron, manganese, color and turbidity concentrations in wells C-6, 14, 16, 21 and 23; the presence of total coliform and E. coli bacteria in well C-12; and a slightly elevated sodium concentration in well C-16. Following the completion of the pumping test program, well C-12 was disinfected and resampled for total coliform and E.coli. The results from the resampling event were absent for total coliform. Overall, the elevated iron, manganese and color concentrations reported are likely the result of the elevated turbidity concentrations. Dissolved iron and manganese samples were analyzed from the wells and showed significantly lower concentrations. Additional pumping to further develop the wells and reduce turbidity concentrations will likely be successful in reducing the iron, manganese and color values reported. The sodium concentration in well C-16 was 21.1 mg/L, which was slightly above the reporting limit of 20.0 mg/L. No treatment to reduce the sodium concentration will be required, as the exceedance of a notification level only.

The results for the MPA samples collected from all of the wells were reported to be low risk for potential GWUDI and all of the samples reported none detected for giardia and cryptosporidium. The physical parameters measurements of temperature, pH and conductivity collected from the pumping wells and nearby surface-water features (where surface water was present) during their respective pumping tests as part of an assessment for potential GWUDI also did not indicate a high risk of potential GWUDI in any of the onsite pumping wells.

1.0 INTRODUCTION

The following are the results of the pumping test program conducted in July 2017 by LBG Hydrogeologic & Engineering Services, P.C. (LBGHES), member of WSP USA, on the proposed bedrock water-supply wells located on the Clovewood property on Clove Road in the Village of South Blooming Grove, Orange County, New York (figure 1).

Prior to completion of the pumping tests, a testing and monitoring protocol (aka Pumping Test Plan) was prepared. The Pumping Test Plan, dated September 30, 2016, was submitted to the Village of South Blooming Grove (VoSBG), NYSDEC, Orange County Department of Health (OCDH) and New York State Department of Health (NYSDOH) for review prior to completion of the pumping test program. The protocol was designed in accordance with the New York State Department of Environmental Conservation (NYSDEC) February 2015 "Pumping Test Procedures for Water Withdrawal Applications".

Comments were received from the VoSBG's Consultant, Louis Berger Group, in a letter dated November 2, 2016. Responses to those comments and incorporation of the comments into the Pumping Test Plan were noted in the responses provided to VoSBG by LBG in a letter dated February 28, 2017. Comments were also received from the NYSDOH recommending that all pumping wells be tested for groundwater under the direct influence of surface water (GWUDI), and from the NYSDEC regarding conducting the pumping tests during dry conditions and potentially pushing the test start time to the drier summer months. No comments beyond those provided by the NYSDOH were received from the OCDH.

The comments from the NYSDOH and NYSDEC were also incorporated into the planned well testing protocol. Copies of the e-mail correspondence from the NYSDOH, OCDH, and NYSDEC pertaining to the review of the Pumping Test Plan are included in Appendix I.

2.0 WATER DEMAND

An average water demand for the Clovewood project has been calculated based on the March 2014 New York State Design Standards for Intermediate Sized Wastewater Treatment Systems water usage rate of 110 gpd/bedroom. For the planned 600, 4-bedroom residential units the average daily demand is 264,000 gpd or 183.3 gpm. The NYSDOH requires that a new water system demonstrate twice the average water demand of a proposed development with the best well out of service. Therefore, to meet this NYSDOH requirement, the water system must be able to pumping 528,000 gpd or 366.7 gpm with the best well out of service.

The applicant may also consider the inclusion of swimming pools/bath houses in the proposed development. The water usage rate for a swimming pool/bath house has been calculated based on 10 gpd per swimmer with an allowed 20% reduction for the use of water saving fixtures. A water demand requirement for the potential swimming pools/bath houses have been calculated assuming 2 swimmers per residential unit, which results in a water demand of 9,600 gpd or 6.7 gpm (2 swimmers x 600 units x 10 gpd/swimmer x 20% reduction for use of water saving fixture = 9,600 gpd).

Inclusion of the water demand for the swimming pool/bath houses with the residential water demand from above, results in an average water demand of 273,600 gpd or 190 gpm and twice this demand, to meet the NYSDOH requirement described above, is 547,200 gpd or 380 gpm.

3.0 HYDROGEOLOGIC SETTING

The Clovewood property is located on Clove Road in the Village of South Blooming Grove, New York (figure 1). The hydrogeologic features at the site are shown on figure 2 and Plate 1. The topographic high elevations on the property are located along the southern property boundary, with the highest elevations at the site around 1,360 feet. The topography slopes down from southeast to northwest toward Clove Road. The low topography on the site is located in the valley setting along Clove Road, with the lowest topographic elevation around 480 feet.

There are two small stream channels that flow off from the project site. They both exit the site along the western property boundary near the intersection of Clove Road and Route 208. The headwaters for both streams originate on the Clovewood property. The more northerly stream flows near pumping wells C-12 and C-7B and collects runoff from the northern and central portions of the project site. A dam was built by a prior property owner on this stream channel near onsite monitoring wells C-5 and C-9. There is ponded water behind the dam and some wetland areas around and upstream of the pond. The stream channel re-forms downstream of the dam and the stream flows west and off the site. The southerly stream passes near pumping wells C-6, 14, 21 and 23 and receives runoff from the southern and western portions of the project site. In addition to the wetlands near the valley pond formed by the dam, there are several other small-scale wetland areas also located around the project site (Plate 1).

3.1 Surficial Geology

The surficial material underlying the project site is mapped as mainly glacial till. Glacial till consists of non-sorted, non-stratified sediments deposited by glacial activity. The sediments contain varying proportions of clay, silt, sand, gravel and boulders. Till is generally not suitable for well development because, as a result of the unsorted character of the material, it does not transmit water in sufficient quantities to support high-yielding wells. There is also a small area of sand and gravel mapped in the valley setting on the northwestern portion of the project site along Clove Road. This sand and gravel was encountered during the drilling of wells C-7A and C-7B. However, the material was not of suitable composition or saturated thickness to attempt the development of a sand and gravel water-supply production well.

3.2 Bedrock Geology

The bedrock units mapped underlying the project site include the Martinsburg Formation (On), Undifferentiated Lower Devonian and Silurian Rocks (DS), and Undifferentiated Hamilton Group (Dh); and to the northeast of the site is mapped the Wappinger Group (OEw) and to the west and northwest some Undifferentiated Gneiss (mu). The bedrock units, geologic contacts, fracture-trace lineations and mapped faults underlying the property are shown on figure 2.

The bedrock in this area is sedimentary rock, with the exception of the undifferentiated gneiss which is metamorphic. The Martinsburg Formation contains shale, siltstone, sandstone and greywacke; the Undifferentiated Lower Devonian and Silurian Rocks are comprised of shale, sandstone and conglomerates; the Undifferentiated Hamilton Group contains shale, siltstone, sandstone, conglomerate and greywacke and the Wappinger Group is comprised of limestone dolomite and shale.

4.0 WELL INFORMATION

Well Completion Reports with the drilling logs for onsite wells C-4, 5, 6, 7, 7A, 7B (aka C-24), 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23 are provided in Appendix II. Wells C-Well 1, C-Well 2, C-Well 3 and C-13 were original to the property and well logs for those four wells are not available.

Wells C-6, 7A, 7B, C-12, C14, C-16, C-21 and C-23 were listed in the Pumping Test Plan as the wells that would be tested during the pumping test program. A summary of the well completion information and the temporary pump settings used in these wells during the pumping tests are provided in the table below.

Table 1: Pumping Well Completion Information

Well ID	Well Casing Diameter (inches)	Well Casing Length (feet)	Well Total Depth (feet)	Pump Setting During Pumping Test Program (feet)	Depth of Reported Water-Bearing Fractures (feet) and Estimated Yield from Driller's Well Log (gpm)
C-6	8	61	600	300	80 (25 gpm); 320 (50 gpm)
C-7A[1/]	8	80	300	200	250 (200 gpm); 256 (100 gpm); 265 (100 gpm); 280 (100 gpm)
C-7B[1/]	8	100	280	200	176-190 (10 gpm); 193-194 (20 gpm); 210 (20 gpm); 230-231 (150 gpm); 247-260 (300 gpm); 274-290 (200 gpm)
C-12	8	70	580	230	560 (125 gpm)
C-14	8	50	750	180	110 (35 gpm); 125 (90 gpm); 610-615 (50 gpm)
C-16	8	50	690	240	245 (45 gpm); 330 (15 gpm); 600 (50 gpm)
C-21	8	101	1,010	400	150 (30 gpm); 160-180 (50 gpm); 490 (120 gpm);
C-23	8	101	1,000	400	120 (5 gpm); 160 (5 gpm); 215 (30 gpm); 600 (40 gpm); 645 (20 gpm)

[1/] The pumping test on well C-7B was terminated early because of offsite water-level effects observed that were attributed to pumping in this well. Because of the effects observed from pumping of C-7B, well C-7A was not tested.

gpm gallons per minute

5.0 PRECIPITATION

As part of the pumping test program, precipitation information was monitored at the nearby Port Jervis weather station, a local weather station (KNYWASHI9) that publishes daily weather data on the internet, and a manual rain gage installed on the project site. Precipitation values for the test period from these three locations are provided in the tables below. The precipitation totals from the KNYWASHI9 station have been used on the hydrographs for reference and the precipitation's effect, if any, are discussed in the sections below for the wells and surface-water monitoring locations. The data from KNYWASHI9 was used on the hydrographs because of the measurement frequency (every 5 minutes), the data consistency with the measurements collected from the onsite manual rain gage, and because of the station's close proximity to the project site.

Table 2: Daily Precipitation Totals for the Port Jervis Weather Station and Local Station KNYWASHI9

Date	Port Jervis Precipitation (inches)	KNYWASHI9 Precipitation (inches)
7/3/2017	0	0
7/4/2017	0	0
7/5/2017	0	0
7/6/2017	0	0
7/7/2017	0.12	0.57
7/8/2017	0.7	0.14
7/9/2017	0	0
7/10/2017	0	0
7/11/2017	0.03	0.07
7/12/2017	0	0
7/13/2017	0	0.30
7/14/2017	0.75	0.80
7/15/2017	0.37	0.01
7/16/2017	0	0
7/17/2017	0	0.06
7/18/2017	0	0
7/19/2017	0.52	0
7/20/2017	0	0.34
7/21/2017	0.58	0
7/22/2017	0	0
7/23/2017	0	0
7/24/2017	0.20	0.79
7/25/2017	0.89	0
7/26/2017	0.28	0
7/27/2017	0	0
7/28/2017	0	0
7/29/2017	0	0
7/30/2017	0	0
7/31/2017	0	0

Date	Port Jervis Precipitation (inches)	KNYWASHI9 Precipitation (inches)
8/1/2017	0	0
8/2/2017	0	0.21
8/3/2017	0.20	0

Table 3: Precipitation Readings from Manual Rain Gage Installed on Clovewood Property

Date	Time of Reading	Precipitation (inches)
6/30/2017	13:00	Rain gage installed
7/3/2017	14:00	0
7/5/2017	14:30	0
7/6/2017	14:30	0
7/7/2017	7:45	1.03
7/8/2017	16:45	0.35
7/9/2017	16:20	0
7/10/2017	7:00	0
7/11/2017	4:45	0.01
7/12/2017	7:30	0
7/12/2017	19:30	0
7/13/2017	12:00	0
7/13/2017	14:45	0.80
7/14/2017	7:45	0.70
7/15/2017	12:00	0
7/16/2017	11:00	0.01
7/17/2017	9:30	0
7/24/2017	8:00	0.90
7/25/2017	12:00	0
7/26/2017	12:00	0
7/27/2017	7:00	0
7/28/2017	7:00	0
7/28/2017	18:00	0

During the background data collection period from July 3 through July 9, a total of 0.71 inch of rain was measured at the nearby station KNYWASHI9 and 1.38 inches in the manual gage on the Clovewood property. The rain during the background data collection period mainly occurred on July 7 and 8. During the simultaneous pumping test period from July 10 through July 16, a total of 1.18 inches of rain was measured at the KNYWASHI9 station and 1.51 inches in the onsite manual rain gage. The majority of the rain measured during the simultaneous pumping test occurred in the middle of the test period on July 13 and 14. Following the end of the simultaneous pumping test during the recovery period and pre-test period for the individual pumping test, a total of 1.19 inches of rain was recorded at the KNYWASHI9 station and 0.91 inch in the onsite manual rain gage. The larger rain events during this period occurred on July 20 and July 24.

No precipitation was recorded at either the onsite manual rain gage or at KNYWASHI9 station during the individual pumping test conducted on well C-21 between July 25 and 28, or during the post-test recovery period until a rain event on August 2. The rain event on August 2 totaled 0.21 inch and occurred five days after the test was ended.

In addition to daily precipitation values, monthly climate normals from 1981 through 2010 for the Port Jervis weather station were used for comparison to recent monthly precipitation totals to assess the regional precipitation conditions (i.e. dry, normal or above normal precipitation) at the time the pumping test program was conducted. Copies of this precipitation information for the Port Jervis weather station are provided in the table below and in Appendix III.

Table 4: Monthly Precipitation Values for the Port Jervis Weather Station July 2016 Through June 2017

Month	Total Precipitation (inches)	Precipitation Normals 1981-2010 (inches)	Difference Between Monthly Total and Normal (inches)
July 2016	5.53	3.92	1.61
Aug 2016	4.68	3.89	0.79
September 2016	1.07	4.54	-3.47
October 2016	2.20	4.41	-2.21
November 2016	2.66	3.59	-0.93
December 2016	3.09	3.78	-0.69
January 2017	2.85	3.22	-0.37
February 2017	2.43	2.93	-0.50
March 2017	4.06	3.66	0.40
April 2017	4.49	4.04	0.45
May 2017	4.06	4.01	0.05
June 2017	3.26	4.39	-1.13
Total	**40.38**	**46.38**	**-6.00**

Based on the monthly normals from the Port Jervis station (Appendix III), the total precipitation in the 12 months prior to the test period (July 2016 through June 2017) was 40.38 inches which is -6.0 inches or -13% below the typical annual precipitation received in the region.

Table 5: Precipitation Values for the Port Jervis Weather Station

Year	Total Precipitation (inches)	Precipitation Normals 1981-2010 (inches)	Difference Between Annual Total and Normal (inches)	Percent Difference Between Annual Total and Normal
2012	40.17	46.38	-6.21	-13%
2013	42.91	46.38	-3.47	-7%
2014	39.71	46.38	-6.67	-14%
2015	43.86	46.38	-2.52	-5%
2016	33.65	46.38	-12.73	-27%
2017 (Through June 2017)	21.15	22.25	-1.10	-5%
Total	**221.45**	**254.15**	**-32.70**	**-13%**

Data from the five years preceding the test are also provided on the table above. The combined precipitation total beginning in 2012 (5.5 years prior to the Clovewood pumping tests) show a long-duration period of dry conditions that were a combined -13% below normal. The dry conditions prompted the NYSDEC to declare a drought watch which lasted from July 2016 to May 2017.

When evaluating drought conditions in New York State, the drought years of the 1960's are typically used as a benchmark to assess potential effects. The driest years occurred over a five-year span from 1962 through 1966. Over that five-year period, the regional precipitation was a combined 29% below normal based on a comparison to the 30-year normals from 1981 through 2010 for the Port Jervis station. The precipitation for Port Jervis from 1961 through 1970 is provided below for reference. An assessment of potential effects of prolonged drought conditions on the onsite pumping wells based on the 1960's drought data is provided in a separate section below.

Table 6: Annual Precipitation Values from the 1960's for Port Jervis and West Point Weather Stations

Year	Port Jervis Total Precipitation (inches)	30 year Port Jervis Precipitation Normal 1981-2010 (inches)	Difference Between Annual Total and Normal (inches)	Percent Difference Between Annual Total and Normal
1961	42.22	46.38	-4.16	-9%
1962	32.97	46.38	-13.41	-29%
1963	35.56	46.38	-10.82	-23%
1964	32.75	46.38	-13.63	-29%
1965	29.97	46.38	-16.41	-35%
1966	33.09	46.38	-13.29	-29%
1967	41.45	46.38	-4.93	-11%
1968	37.38	46.38	-9.00	-19%
1969	43.15	46.38	-3.23	-7%
1970	36.76	46.38	-9.62	-21%

6.0 JULY 2017 PUMPING TEST PROGRAM

A pumping test program was conducted on the proposed bedrock water-supply wells for the Clovewood project in July 2017. A simultaneous pumping test was conducted on wells C-6, 12, 14, 16 and 23 between July 10 and July 16 and an individual pumping test was conducted on well C-21 between July 25 and July 28. Initially, the Pumping Test Plan proposed to include wells C-7B and C-21 in the simultaneous pumping test and well C-7A during the individual test. However, offsite water-level drawdown was observed during the early portion of the simultaneous pumping test that was attributed to pumping in well C-7B. As a result of the offsite drawdown the pumping scheme was changed, wells C-7B and C-7A were removed as pumping wells and well C-21 was assigned the role of the best well to be tested during the individual pumping test. Pumping in wells C-7B and C-21 was ended on July 12 and the simultaneous pumping test continued without these wells. Well C-21 was subsequently yield tested during the individual test conducted July 25 through July 28.

During the pumping test program, LBG was in communication with Louis Berger and representatives from Louis Berger conducted periodic site visits to review the progress of the pumping tests. Louis Berger was notified of the change to the pumping scheme, which deviated from the September 2016 Pumping Test Plan, at the time the change was made.

As part of the pumping test program, water-level measurements were collected from a total of 24 onsite wells, including 17 onsite bedrock monitoring wells and the 7 wells pumped during the testing program (C-6, 7B, 12, 14, 16, 21 and 23). Water-level data was collected using manual water-level meters and pressure transducers, both vented and unvented type units. In wells where unvented transducer units were utilized, the data was corrected for barometric pressure changes using data recorded on a barotroll installed on the Clovewood site. The onsite monitoring well locations are shown on Plate 1.

Hydrographs, 180-day water-level drawdown projection graphs for wells C-6, 12, 14, 16 21 and 23, and summary tables of pressure transducer water-level measurements collected from the pumping wells are included in Appendix IV. All of the water-level data collected from the pressure transducers installed in the pumping wells are included on the attached CD. An assessment of potential severe drought effects on the water levels in the onsite pumping wells has also been conducted using information from the 1960’s drought in New York State and correlating water-level data with a historical USGS well RO-18. The correlation graphs for this assessment are included in Appendix V.

Hydrographs and a table of the manual water-level measurements collected from the onsite monitoring wells are included in Appendix IV. Water-level measurements were also collected from 16 offsite wells and a flowing spring on Route 208 during the pumping test program. Water-level data was collected using manual water-level meters and vented pressure transducers installed in the wells; and a 5-gallon volume calibrated bucket was used to measure the flow at the spring. The offsite monitoring locations are shown on figure 1. The hydrographs and tables of the manual water-level measurements collected from the offsite wells are included in Appendix VII. The water-level data collected from the pressure transducers installed in the onsite and offsite monitoring wells are also included on the attached CD.

Surface-water monitoring was also conducted on the project site during the pumping test program. Water-level measurements were collected from piezometers installed in surface-water features at eight locations on the site. Manual water-level measurements were collected from the piezometers and vented pressure transducers installed at select locations. The piezometer monitoring locations were selected in surface-water features that parallel the fracture-trace lineations on the project site and were placed close to the seven pumping wells where drawdown (if any were to occur) would most likely be measurable. An additional eighth piezometer monitoring location was installed near onsite monitoring well C-22 as proposed in the Pumping Test Plan. Where surface water was present, a single piezometer was installed and groundwater level measurements were collected from the interior and surface-water height measurements from the exterior to assess potential water-level drawdown and changes in vertical head. At locations where no surface water was present or the presence of surface water was sporadic, a nested pair of piezometers was installed, with one shallower screen and one deeper screen setting. Groundwater level measurements were collected from the interior of both nested piezometers, and when present, surface-water height on the exterior was measured to assess potential water-level drawdown and changes in vertical head. The piezometer locations are shown on Plate 1. Hydrographs for the piezometers along with tables of the manual water-level measurements collected are included in Appendix VIII. The water-level data collected from the pressure transducers are included on the attached CD.

Stream-flow measurements were also collected in the surface water at nine locations. The measurements were collected manually during the pumping test program using a Marsh McBirney Flow meter. At each gaging location the channel was divided into equal sections and the flow in each section measured. The flows from the sections in the channel were summed to calculate the total flow at each location for each gaging event conducted. The surface-water monitoring locations are shown on Plate 1. Graphs and a table of the stream flow measurements are included in Appendix IX.

The simultaneous pumping test was started on July 10. A staggered startup of the wells was conducted to allow for potential differentiation of drawdown impacts to other pumping wells and the monitoring wells being measured. The order of the well pump startups were C-21, 23, 14, 16, 6, 12 and 7B. As described above, the pumps in wells C-7B and C-21 were turned off on July 12 and the simultaneous pumping test continued without these wells. During the simultaneous pumping test, several of the wells experienced generator failures. These failures were addressed with Louis Berger during the test period since they caused a deviation from the Pumping Test Plan. The consensus was that in wells that experienced generator issues, the water-level trend in the well at a minimum should return to its pre-shutdown trend and then from that point a judgement should be made whether the well had achieved the required benchmarks for test stabilization and shutdown. In total, the simultaneous pumping test lasted 5.5 days as a result of the change in pumping scheme on July 12 with the shutdown of wells C-7B and C-21 and several generator failures later in the test which are described below.

After shut down of the simultaneous pumping test on July 16, water-level recovery measurements were collected until the start of the individual test on well C-21 on July 25. The test on well C-21 lasted 72.5 hours and was ended on July 28. Water-level recovery measurements were collected from the onsite and offsite monitoring locations following shutdown and equipment removal began on July 31.

The discharge locations used during the pumping tests are shown on Plate 1. The discharge locations were downstream/downgradient of all of the onsite monitoring wells and surface-water monitoring locations. The well discharge rates were measured using totalizing meters attached to the discharge lines near the wellheads and also with a calibrated bucket and stop watch from the discharge pipes.

Water samples were collected from wells C-6, 12, 14, 16, 21 and 23 during their respective pumping test periods for analysis for all parameters required by the NYSDOH Sanitary Code Part 5, Subpart 5-1, as well as the extra synthetic organic compounds (SOCs) dioxin, endothall, glyphosate, and diquat. Microscopic particulate analysis (MPA) and giardia and cryptosporidium samples were also collected from the wells to assess for potential GWUDI. The MPA samples were collected from the wells using the EPA Consensus Method which requires the flow of discharge water through a filter at 1 gpm for a time period ranging from 8 to 24 hours. The water samples were taken to Envirotest Laboratories, Inc. located in Newburgh, New York for analysis. Copies of the laboratory reports from the samples collected are included in Appendix X. Additional samples were collected from wells C-12 and C-23 in September 23 to address detections reported in the Part 5 analyses. Copies of the laboratory reports from this resampling event are included in Appendix XI.

In addition to the MPA samples, physical parameter measurements of pH, conductivity and temperature were also collected from the pumping wells and nearby surface-water features during the pumping tests as part of the GWUDI assessment. Conductivity and pH measurements were collected using a HORIBA water-quality meter. Temperature measurements were recorded using the pressure transducers. For the surface-water features, temperature measurements used in the comparison were taken from the pressure transducers installed on the exterior of the closest piezometer or, if insufficient surface water was present, from the interior of the nearest shallow-screened piezometer. Tables of the physical parameter measurements and graphs of the data collected are included in Appendix XII.

6.1 WELL C-6

Throughout the background data collection period, the water in well C-6 was flowing slightly artesian over the top of the casing. During the staggered start-up period of the simultaneous pumping test on July 10, the pumps in wells C-21, C-23, C-14 and C-16 were started prior to the start of the pump in well C-6. The artesian flow in well C-6 stopped at approximately 17:03 on July 10, approximately 1.5 hours before the pump in well C-6 was turned on.

The pump in well C-6 was started at 18:35 on July 10. The water level in well C-6 prior to the start of pumping in any of the onsite wells was 0.00 feet below top of casing (ft btoc). Just prior to the start of the pump in the well at 18:34, the water level in well C-6 was 3.87 ft btoc. Based on the end of artesian flow at 17:03, the drawdown observed is attributed to pumping in nearby well C-14 whose pumping start occurred at 16:24.

Upon startup of well C-6, the pumping rate was adjusted to 50 gpm using a valve on the discharge line. The pumping rate in well C-6 remained at 50 gpm until a manual rate reduction to 45 gpm was completed at 18:54

on July 12. The rate reduction on well C-6 was completed to reduce the slope of the water-level drawdown trend observed in well.

Following the manual rate reduction completed on July 12, the pumping rate in well C-6 remained at 45 gpm with the exception of three occurrences of generator malfunctions which caused the pump in well C-6 to shut down. The shut downs occurred on July 13 between 4:03 and 5:26, on July 13 from 20:06 to 21:12, and on July 15 from 00:35 to 00:56.

During the final 24 hours of the pumping period, the pumping rate in well C-6 remained at 45 gpm and no generator or pump failures occurred. At 1:09 on July 16 the simultaneous pumping test was ended with the shutdown of the pump in well C-14. This was followed by the shutdown of the pump in well C-6 at 1:11. The final water level in well C-6 at the end of the test was 122.92 ft btoc. Based on a static water level of 0.00 ft btoc, the total drawdown in well C-6 was 122.92 feet at the end of the simultaneous pumping test period.

The drawdown in well C-6 over the final 6 hours of pumping between 19:09 on July 15 to 1:09 on July 16 was 1.19 feet. This value meets the criteria of demonstrating less than 0.5 feet per 100 feet of available drawdown in the well over the final 6 hours of the test period. However, the trend in the water level was downward during this time, so a 180-day water-level drawdown analysis has been conducted. Based on the projection, after 180 days of continuous pumping in well C-6, the total drawdown is 209.77 feet which corresponds to a water level of 209.77 ft btoc. This leaves approximately 90 feet of available drawdown above the pump setting in the well that used during the pumping test period, which meets the requirement of maintaining a margin of 5% of the pre-test water column (minimum 30 feet) above the pump setting in the well.

The water level in well C-6 recovered following shut down of the pump in the well. The water level reached 90% of the pre-test level approximately 57 hours after the end of the test and continued to rise. Well C-6 began to flow artesian again at approximately 15:30 on July 20.

On July 12, during the simultaneous pumping test, the pumps in wells C-7B and C-21 were turned off at 11:28 and 11:56, respectively, and the tests on those wells were ended. There was no discernible disruption of the water-level drawdown trend in well C-6 that coincides with the shutdown of either well. In addition, during the individual pumping test on well C-21 from July 25 through July 28, no discernible water-level drawdown was measured in well C-6 that is attributed to pumping in well C-21.

6.2 WELL C-7B

The water level in well C-7B showed some oscillation during the background data collection period, with a slight drawdown trend of 0.5 feet over the seven days preceding the start of the simultaneous pumping test. During the staggered start-up period of the simultaneous pumping test on July 10, the pumps in wells C-21, 23, 14, 16, 6 and 12 were started prior to the start of the pump in well C-7B.

The pump in well C-7B was started at 21:03 on July 10. The water level in well C-7B prior to the start of pumping in any of the onsite wells was 32.66 ft btoc. During the staggered start-up period of the other onsite pumping wells, no discernible drawdown was measured in well C-7B. At 20:40 prior to the start on well C-7B, the water level was 32.57 ft btoc which was a rise of 0.09 feet over the nine hour staggered start-up period.

Upon startup of well C-7B, the pumping rate was adjusted to 220 gpm using a valve on the discharge line. The pumping rate in well C-7B declined slightly as a result of the loss of pressure head over the pump and was 215 gpm by 15:00 on July 11. The pumping rate in well C-7B remained at 215 gpm until the end of the test on this well on July 12 with the exception of two occurrences of pump shut down on July 12 between 1:00 and 1:17 and again on July 12 from 10:04 to 10:27.

On July 12, LBG determined that the water-level drawdown that was occurring in several of the offsite monitoring locations was attributed to pumping in well C-7B. Because of this interference, it was decided to shut down well C-7B and continue the simultaneous test without this well. The pump in well C-7B was turned off at 11:28 on July 12. The pumping water level in well C-7B prior to shut down was 76.37 ft btoc. Based on a static water level of 32.66 ft btoc, the total drawdown in well C-7B was 43.71 feet. However, a lower water level was observed at 10:03 on July 12, prior to the generator malfunction earlier that morning. At 10:03 the pumping water-level was 77.94 ft btoc and the drawdown was 45.28 feet.

The water level in well C-7B recovered following shut down of the pump in the well. The water level reached 90% of the pre-test level approximately 69.5 hours after the shut down on July 12 and continued to rise.

On July 16 at the end of the simultaneous pumping test on wells C-6, 12, 14, 16 and 23, no discernible inflection in the recovery trend in well C-7B was observed which would indicate a pumping-related effect on well C-7B from pumping in the other onsite wells. In addition, during the individual pumping test on well C-21 from July 25 through July 28, no discernible water-level drawdown was measured in well C-7B that is attributed to pumping in well C-21.

6.3 WELL C-12

The water level in well C-12 showed some oscillation during the background data collection period, but no overall increasing or decreasing trends were observed. During the staggered start-up period of the simultaneous pumping test on July 10, the pumps in wells C-21, C-23, C-14, C-16, and C-6 were started prior to the start of the pump in well C-12.

The pump in well C-12 was started at 19:48 on July 10. The water level in well C-12 prior to the start of pumping in any of the onsite wells was 102.98 ft btoc. Just prior to the start of the pump in the well at 19:47, the water level in well C-12 was 102.77 ft btoc. Based on the slight rise in water level observed during the staggered start up period, there was no discernible drawdown in well C-12 as a result of the start of pumping in the other onsite wells listed.

Upon startup of the pump in well C-12, the pumping rate was adjusted to 50 gpm using a valve on the discharge line. The pumping rate in well C-12 declined slightly as a result of the loss of pressure head over the pump and by 9:00 on July 12, the pumping rate was 42 gpm.

The MPA filtration apparatus was placed on well C-12 on July 11 and was removed on July 12. During the filtration period, the water level in well C-12 showed a sporadic oscillating pattern. This pattern continued after the filtration unit was removed from the well, so the pumping rate in well C-12 was manually reduced to 40.5 gpm at 13:04 on July 12 in an attempt to end the oscillation. After the rate reduction, the water level in well C-12 showed less fluctuation and the pumping rate remained at 40.5 gpm for the duration of the pumping test period.

At 1:09 on July 16 the simultaneous pumping test was ended with the shutdown of the pump in well C-14. This was followed by the shutdown of the pump in well C-12 at 1:21. The final water level in well C-12 just prior to turning the pump off at 1:20 was 191.33 ft btoc. Based on a static water level of 102.98 ft btoc from before the start of any of the pumping wells on July 10, the total drawdown in well C-12 was 88.35 feet at the end of the simultaneous pumping test period.

The water-level change in well C-12 over the final 6 hours of pumping between 19:09 on July 15 to 1:09 on July 16 was +1.05 feet. This value meets the criteria of demonstrating less than 0.5 foot per 100 feet of available drawdown in the well over the final 6 hours of the test period and there was no overall drawdown trend measured in the well.

Although there was no drawdown trend observed during the final six hours of the test period, a 180-day water-level drawdown analysis has been conducted for well C-12. The water-level project was completed using the final 24 hours of drawdown measurements because projections using the final 6 hours and final 12 hours both showed a significant increase in water level after 180 days which was not a realistic result. Based on the projection conducted, the water level drawdown after 180 days in well C-12 is 93.34 feet corresponding to a water level of 196.32 ft btoc. This leaves approximately 34 feet above the pump setting that was used during the pumping test period, which meets the requirement of maintaining a margin of 5% of the pre-test water column (minimum 23.85 feet) above the pump setting in the well.

The water level in well C-12 recovered following shut down of the pump in the well. The water level reached 90% of the pre-test level approximately 13 hours after the end of the test and continued to rise.

On July 12 during the simultaneous pumping test, the pumps in well C-7B was turned off at 11:28 and in well C-21 at 11:57 and the tests on those wells were ended. There was no discernible disruption of the water-level drawdown trend in well C-12 that coincides with the shutdown of either well. In addition, during the individual pumping test on well C-21 from July 25 through July 28, no discernible water-level drawdown was measured in well C-12 that is attributed to pumping in well C-21.

6.4 WELL C-14

The water level in well C-14 showed some oscillation during the background data collection period, but no overall increasing or decreasing trends were observed. During the staggered start-up period of the simultaneous pumping test on July 10, the pumps in wells C-21 and C-23 were started prior to the start of the pump in well C-14.

The pump in well C-14 was started at 16:24 on July 10, 2017. The water level in well C-14 prior to the start of pumping in any of the onsite wells was 0.25 ft btoc. Just prior to the start of the pump in the well, the water level in well C-14 was 0.36 ft btoc. The slightly lower water level measured at 16:23 appears to be the result of a slight normal oscillation in the daily water level. However, for the following analysis the water level measured at 11:54 of 0.25 ft btoc has been used as the static water level.

Upon startup of well C-14, the pumping was running slow so the rotation at the generator was corrected. Following the correction, the pumping rate in well C-14 was 152 gpm. A manual rate increase was conducted at 17:00 which brought the rate up to 168 gpm. From that point the pumping rate in well C-14 declined slightly as a result of the loss of pressure head over the pump and by 17:00 on July 11, the pumping rate was 157 gpm. The pumping rate in well C-14 remained at 157 gpm with the exception of three occurrences of generator malfunctions which caused the pump in well C-14 to shut down. The shut downs occurred on July 13 between 3.58 and 5:24, on July 13 from 20:02 to 21:10, and on July 15 from 00:33 to 00:53.

During the final 24 hours of the pumping period, the pumping rate in well C-14 remained at 157 gpm and no generator or pump failures occurred. At 1:09 on July 16 the simultaneous pumping test was ended with the shutdown of the pump in well C-14. The final water level in well C-14 just prior to turning the pump off was 121.67 ft btoc for a total drawdown of 121.42 feet at the end of the simultaneous pumping test period.

The drawdown in well C-14 over the final 6 hours of the pumping test between 19:09 on July 15 to 1:09 on July 16 was 0.61 feet. This value meets the criteria of demonstrating less than 0.5 feet per 100 feet of available drawdown in the well over the final 6 hours of the test period. However, the trend in the water level was downward during this time, so a 180-day water-level drawdown analysis has been conducted. Based on the projection, after 180 days of continuous pumping in well C-14, the total drawdown is 167.20 feet which corresponds to a water level of 167.45 ft btoc. This leaves approximately 12.5 feet above the pump setting in the well of 180 feet that was used during the pumping test period. In order to achieve the 5% water column above the pump setting (minimum 37.5 feet), the permanent pump setting when the design for well C-14 is completed should be at least 210 feet, which will also account for potential fluctuations in water level which may occur during extended drought periods discussed in further detail below.

The water level in well C-14 recovered following shut down of the pump in the well. The water level reached 90% of the pre-test level approximately 62 hours after the end of the test and continued to rise.

On July 12 during the simultaneous pumping test, the pumps in well C-7B was turned off at 11:28 and in well C-21 at 11:56 and the tests on those wells were ended. There was no discernible disruption of the water-level drawdown trend in well C-14 that coincides with the shutdown of either well. In addition, during the individual pumping test on well C-21 from July 25 through July 28, no discernible water-level drawdown was measured in well C-14 that is attributed to pumping in well C-21.

6.5 WELL C-16

During the background data collection period, the water level in well C-16 showed a pattern of a slight daily oscillation with an overall drawdown trend of about 0.5 feet over three days. As part of the staggered start-up period of the simultaneous pumping test on July 10, the pumps in wells C-21, C-23 and C-14 were started prior to the start of the pump in well C-16.

The pump in well C-16 was started at 17:31 on July 10. The water level in well C-16 prior to the start of pumping in any of the onsite wells was 15.19 ft btoc. Just prior to the start of the pump in the well at 16:22, the water level in well C-16 was 15.25 ft btoc. For the following analysis, the water level measured at 11:54 of 15.19 ft btoc has been used as the static water level.

Upon startup of well C-16, the pumping rate was adjusted to 55 gpm using a valve on the discharge line. The pumping rate declined slightly to 53.5 gpm as a result of the loss of pressure head over the pump, so a manual rate increase to 56.5 gpm was completed at 17:57 on July 10. The pumping rate again declined as a result of the loss of pressure head over the pump and at approximately 23:00 on July 10 had reached 50 gpm. The pumping rate in well C-16 remained at 50 gpm for the duration of the test period.

At 1:09 on July 16 the simultaneous pumping test was ended with the shutdown of the pump in well C-14. This was followed by the shutdown of the pump in well C-16 at 1:41. The final water level in well C-16 just prior to turning the pump off at 1:40 was 177.23 ft btoc for a total drawdown of 162.04 feet at the end of the simultaneous pumping test period.

The drawdown in well C-16 over the final 6 hours of the pumping test between 19:09 on July 15 to 1:09 on July 16 was 0.44 feet. This value meets the criteria of demonstrating less than 0.5 foot per 100 feet of available drawdown in the well over the final 6 hours of the test period. However, the trend in the water level was downward during this time, so a 180-day water-level drawdown analysis has been conducted. Based on the projection, after 180 days of continuous pumping in well C-16, the total drawdown is 174.36 feet which corresponds to a water level of 189.55 ft btoc. This leaves approximately 50 feet above the pump setting in the well used during the pumping test period, which meets the requirement of maintaining a margin of 5% of the pre-test water column (minimum 33.7 feet) above the pump setting in the well.

The water level in well C-16 recovered following shut down of the pump in the well. The water level reached 90% of the pre-test level approximately 70 hours after the end of the test and continued to rise.

On July 12 during the simultaneous pumping test, the pumps in well C-7B and C-21 were turned off at 11:28 and 11:56, respectively, and the tests on those wells were ended. There was no discernible disruption of the water-level drawdown trend in well C-16 that coincides with the shutdown of either well. In addition, during the individual pumping test on well C-21 from July 25 through July 28, no discernible water-level drawdown was measured in well C-16 that is attributed to pumping in well C-21.

6.6 WELL C-21

The water level in well C-21 showed some oscillation during the background data collection period, but there was no significant upward or downward trend in water level in the days preceding the start of the simultaneous pumping test. Well C-21 was the first well started as part of the simultaneous pumping test at 11:55 on July 10. The water level in well C-21 prior to the start of pumping was 49.30 ft btoc.

Upon startup of well C-21, the pumping rate was adjusted to 138 gpm using a valve on the discharge line. The pumping rate in well C-21 declined slightly as a result of the loss of pressure head over the pump and was 137 gpm by 23:00 on July 10. On the morning of July 11, a generator malfunction caused well C-21 to shut down at 1:37. The pump in well C-21 was restarted at 2:53, and the pumping rate in well C-21 was 142 gpm following the restart of the pump, then declined to 140 gpm by 8:00 on July 11. The generator in well C-21 malfunctioned several more times on July 11 and 12, causing the pump in the well to shut down. The times for these shut downs are provided in the table for well C-21 in Appendix IV.

On July 12, based on LBG's determined that offsite water-level drawdown was being caused by pumping in well C-7B, it was also determined that well C-7A would likely cause offsite water level drawdown effects when pumped during the planned individual pumping test. Therefore, with the shutdown of well C-7B and the determination that well C-7A should not be pumped, a new best well was needed in order to complete the pumping test program as intended. Based on a yield and available drawdown assessment of the pumping wells, well C-21 was determined to be the suitable replacement for well C-7A as the best well. Therefore, on July 28 at 11:56 pumping in well C-21 was ended and the simultaneous well test continued without further pumping of this well.

The pumping water level in well C-21 just before the end of the test on July 12 was 160.22 ft btoc. Based on a static water level of 49.30 ft btoc, the total drawdown in well C-21 was 110.92 feet.

The water level in well C-21 recovered following shut down of the pump in the well. However, because of interference from nearby well C-23 which continued pumping, the rising water-level trend flattened out on July 14. On July 16 at the end of the simultaneous pumping test on wells C-6, 12, 14, 16 and 23, the water level in well C-21 was 98.89 ft btoc. Based on this water level and the static water level of 49.30, the drawdown in well C-21 that is attributed to pumping in well C-23 is 49.6 feet.

The individual pumping test on well C-21 was started at 11:44 on July 25. The water level in well C-21 just prior to the start of pumping at 11:43 was 52.11 ft btoc. Upon startup of the test, the pumping rate in well C-21 was adjusted to 173 gpm. As a result of the loss of pressure head over the pump, the pumping rate declined to 163 gpm by 18:00 on July 25. The pumping rate in well C-21 remained at 163 gpm for the duration of the test period with the exception of a brief generator shut down between 13:18 and 13:19 on July 26.

The test on well C-21 was ended at 12:15 on July 28. The pumping water level in well C-21 just prior to the end of the test was 147.85 ft btoc for a total drawdown of 95.74 feet.

The drawdown in well C-21 over the final 6 hours of the pumping test between 6:14 and 12:14 on July 28 was 1.35 feet. This value meets the criteria of demonstrating less than 0.5 foot per 100 feet of available drawdown in the well over the final 6 hours of the test period. However, the trend in the water level was downward during this time, so a 180-day water-level drawdown analysis has been conducted. Based on the projection, after 180 days of continuous pumping in well C-21, the total drawdown is 162.94 feet which corresponds to a water level of 215.04 ft btoc. This leaves approximately 185 feet above the pump setting in the well that was used during the pumping test period, which meets the requirement of maintaining a margin of 5% of the pre-test water column (minimum 47.9 feet) above the pump setting in the well.

The water level in well C-21 recovered following shut down of the pump in the well. The water level reached 90% of the pre-test level approximately 98.5 hours after the end of the test and continued to rise.

6.7 WELL C-23

The water level in well C-23 showed some oscillation during the background data collection period, with a very slight drawdown trend of 0.2 feet over the final two days preceding the start of the simultaneous pumping test. During the staggered start-up period of the simultaneous pumping test on July 10, the pump in well C-21 was started before the start of the pump in well C-23.

The pump in well C-23 was started at 12:59 on July 10, 2017. The water level in well C-23 prior to the start of pumping in any of the onsite wells was 43.15 ft btoc. Just prior to the start of the pump in C-23, the water level in the well was 49.27 ft btoc at 12:58. The decline in water level measured between 11:54 and the start of the pump in well C-23 at 12:59 is the result of pumping in well C-21.

At the start of the test on well C-23, the pumping rate in the well was set at 96 gpm. The pumping rate in well C-23 declined slightly as a result of the loss of pressure head over the pump and by 10:00 on July 11, the pumping rate was 88 gpm. A manual rate increase in well C-23 was conducted at 12:45 on July 12 to increase the rate back to 90 gpm. The pumping rate in well C-23 remained at 90 gpm for the duration of the pumping test period.

During the early portion of the test period, the water-level trend in well C-23 was affected by the pump shutdowns in nearby well C-21, which can be seen in the hydrograph for the well in Appendix IV. After the test on well C-21 was ended on July 12, the water level in well C-23 showed a recovery trend. This trend continued until the evening of July 14 when a slight decline in the water-level trend was observed. The total rise in water level between the shut down in well C-21 on July 12 and the crest of the recovery trend in well C-23 on July 14 was approximately 26.5 feet.

At 1:09 on July 16 the simultaneous pumping test was ended with the shutdown of the pump in well C-14. The pump in well C-23 was shut down at 1:49 on July 16. The final water level in well C-23 just prior to turning the pump off was 136.65 ft btoc at 1:48. Based on a static water level of 43.15 ft btoc from just before the start of the simultaneous pumping test, the total drawdown in well C-23 was 93.50 feet at the end of the test.

The drawdown in well C-23 over the final 6 hours of the pumping test between 19:09 on July 15 to 1:09 on July 16 was 0.51 foot. This value meets the criteria of demonstrating less than 0.5 foot per 100 feet of available drawdown in the well over the final 6 hours of the test period. However, the trend in the water level was downward during this time, so a 180-day water-level drawdown analysis has been conducted. Based on the projection, after 180 days of continuous pumping in well C-23, the total drawdown is 110.59 feet which corresponds to a water level of 153.74 ft btoc. This leaves approximately 246 feet above the pump setting that was used during the pumping test period, which meets the requirement of maintaining a margin of 5% of the pre-test water column (minimum 47.8 feet) above the pump setting in the well.

The water level in well C-23 recovered following shut down of the pump in the well. The water level reached 90% of the pre-test level approximately 103 hours after the end of the test and continued to rise.

During the individual pumping test on well C-21 from July 25 through July 28, water-level drawdown was again observed in well C-23. The total drawdown in well C-23 at the end of the test on July 28 was 62.6 feet.

7.0 PUMPING TEST YIELD RESULTS

The goal of the Clovewood pumping test program was to demonstrate a minimum yield of twice the average water demand of the project with the best well out of service from the new community, public water-supply source. To achieve this goal, a simultaneous pumping test was conducted on wells C-6, C-12, C-14, C-16 and C-23 between July 10 and July 16, 2017. The five wells were pumped concurrently for 5.5 days and demonstrated pumping rates of 45 gpm, 40.5 gpm, 157 gpm, 50 gpm, and 90 gpm, respectively, for a combined yield from the five wells of 382.5 gpm or 550,800 gallons per day (gpd). This combined yield can support an average water demand of 275,400 gpd.

8.0 DROUGHT CONSIDERATIONS AND GROUNDWATER RECHARGE

An additional assessment of potential severe drought effects on the water levels in the onsite pumping wells has been conducted using information from the 1960's drought in New York State. Based on the precipitation record from the Port Jervis weather station, between 1962 and 1966 the precipitation deficit ranged from 23% to 35% below the long-term normal for the region and cumulatively over the five year period there was a 29% deficit in precipitation.

Below average precipitation conditions have also occurred in New York State over the last five years. The cumulative deficit in precipitation since 2012 has been 13% below the long-term normal, with 2016 being the most severe at 27% below the long-term normal. Therefore, regional conditions were dry when the pumping tests were conducted in July 2017 and pumping test data and the 180-day water-level drawdown projections completed using that data are reflective of the aquifer's response under below-normal, dry conditions.

To assess the effect the 1960's drought had on bedrock groundwater levels, historical information was located for the USGS well RO-18 (411802073593001) near Bear Mountain State Park. This well was selected for comparison because the measurement record encompasses the 1960's drought period, the well has current data for direct comparison to existing conditions, it is within reasonable proximity to the project site, and the well is completed in bedrock. The monthly average depth to water values for RO-18 for 1961 through 1967 and for 2012 through 2017 are provided in the table below.

Table 7: Monthly Average Depth to Water in USGS Well RO-18

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1961	17.68	16.71	10.55	13.90	14.99	16.63	18.87	20.07	21.05	21.71	22.72	21.92
1962	18.87	18.13	13.83	14.15	16.04	17.74	20.07	20.77	21.63	20.63	20.15	18.77
1963	19.71	18.58	13.55	14.62	17.09	18.38	19.3	20.5	23.28	23.74	23.26	21.15
1964	19.96	15.33	14.90	14.37	15.15	17.00	18.45	20.79	23.75	25.19	27.81	26.56
1965	24.37	20.52	16.69	16.13	15.87	17.20	19.65	20.78	21.69	20.96	22.65	22.72
1966	21.34	21.25	14.12	15.68	16.57	16.84	19.15	21.91	23.08	21.01	18.92	18.31
1967	15.89	15.29	14.46	14.38	15.41	16.59	17.48	19.00	19.79	20.87	19.95	15.39
2012	16.67	17.43	18.80	20.13	20.00	18.91	21.82	23.65	24.49	21.05	19.51	20.02
2013	16.35	15.97	14.69	16.67	17.68	14.60	17.81	20.95	23.58	25.72	27.60	27.44
2014	22.59	20.05	17.01	14.45	14.34	17.22	19.27	21.63	24.22	25.97	26.54	23.70
2015	21.12	20.47	17.75	14.68	16.47	17.75	19.62	22.59	24.87	25.87	25.94	23.95
2016	19.41	16.51	15.29	17.85	18.69	19.85	22.36	23.65	25.91	28.04	28.59	26.26
2017	23.86	19.31	16.90	13.97	15.45	17.38	19.17	20.82	22.44	24.38	--	--

Current water-level data from well RO-18 has been correlated with water-level data from several onsite monitoring wells (C-7, 10, 11, 17, 19 and 22) collected during the background monitoring period from June 21 through July 9 prior to the start of the pumping tests. These onsite monitoring wells were the first to have the pressure transducers installed and, therefore, had the longest data record for use in comparison. The water levels used in the comparison are provided in the table below.

Table 8: Water Level Data From USGS Well and Onsite Monitoring Wells Used in Comparison

Date	RO-18 Average Daily DTW (ft btoc)	C-7 Average Daily DTW (ft btoc)	C-10 Average Daily DTW (ft btoc)	C-11 Average Daily DTW (ft btoc)	C-17 Average Daily DTW (ft btoc)	C-19 Average Daily DTW (ft btoc)	C-22 Average Daily DTW (ft btoc)
6/21/17	17.77	33.07	20.41	86.48	45.45	22.82	29.57
6/22/17	17.85	33.12	20.43	86.52	45.51	22.86	29.59
6/23/17	17.88	33.01	20.42	86.48	45.39	22.82	29.55
6/24/17	17.98	33.00	20.37	86.44	45.29	22.81	29.55
6/25/17	18.08	33.19	20.47	86.56	45.44	22.91	29.61
6/26/17	18.15	33.27	20.53	86.60	45.51	22.95	29.62
6/27/17	18.21	33.38	20.55	86.68	45.52	22.99	29.64
6/28/17	18.31	33.53	20.60	86.84	45.59	23.05	29.68
6/29/17	18.37	33.55	20.64	86.97	45.62	23.09	29.70
6/30/17	18.42	33.57	20.62	87.01	45.58	23.10	29.71
7/1/17	18.49	33.64	20.62	87.07	45.58	23.12	29.72
7/2/17	18.55	33.70	20.65	87.18	45.65	23.20	29.76
7/3/17	18.62	33.88	20.70	87.38	45.73	23.27	29.79
7/4/17	18.71	34.10	20.78	87.62	45.84	23.35	29.84
7/5/17	18.80	34.30	20.86	87.82	45.96	23.44	29.87
7/6/17	18.85	34.32	20.91	87.91	46.04	23.40	29.88
7/7/17	18.87	34.25	20.84	87.86	45.96	23.24	29.85
7/8/17	18.88	34.25	20.75	87.78	45.90	23.22	29.86
7/9/17	18.97	34.47	20.82	87.79	46.07	23.34	29.94

DTW	depth to water
ft btoc	feet below top of casing

The correlation using the water levels from these six wells with USGS well RO-18 was good, with r-squared values ranging from 0.86 to 0.96. Monitoring wells C-7 and C-22 demonstrated the best correlation with the USGS well, and these two onsite monitoring wells were used in the subsequent calculations to assess water-level change during extreme drought conditions. Copies of the correlation graphs are included in Appendix V.

Using the equations generated from the correlation graphs between RO-18 and the onsite monitoring wells C-7 and C-22, the lowest water-level depths that occurred in RO-18 between 1961 and 1967 were used to calculate the corresponding water-level height that would occur in the two onsite wells. Additionally, present day water-level heights for the onsite monitoring wells were also calculated using the equations for the correlation graphs. The difference between the 1960's values and the 2017 values is a measure of the decline in onsite bedrock groundwater levels that would be expected during drought conditions similar to the 1960's drought. These calculated values are provided in the table below.

Table 9: Analysis of Decrease in Water Level During Drought Conditions

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Lowest Average Monthly Water Level, RO-18 1961-1967											
24.37 (1965)	21.25 (1966)	16.69 (1965)	16.13 (1965)	17.09 (1963)	18.38 (1963)	20.07 (1962)	21.91 (1966)	23.75 (1964)	25.19 (1964)	27.81 (1964)	25.56 (1964)
1960's Average Monthly Water Level For C-7 Calculated Using Correlation Equation											
41.17	37.24	31.50	30.80	32.01	33.63	35.76	38.07	40.39	42.20	45.49	43.92
2017 Average Monthly Water Level For C-7 Calculated Using Correlation Equation											
40.52	34.79	31.76	28.08	29.94	32.37	34.62	36.70	38.74	41.18	NM	NM
Difference Between 2017 and 1960's Water Levels in C-7											
-0.65	-2.45	0.26	-2.72	-2.07	-1.26	-1.14	-1.37	-1.65	-1.01	NM	NM
1960's Average Monthly Water Level For C-22 Calculated Using Correlation Equation											
31.62	30.63	29.18	29.00	29.31	29.72	30.25	30.84	31.42	31.88	32.71	32.32
2017 Average Monthly Water Level For C-22 Calculated Using Correlation Equation											
31.46	30.01	29.24	28.31	28.78	29.40	29.97	30.49	31.01	31.63	NM	NM
Difference Between 2017 and 1960's Water Levels in C-22											
-0.16	-0.62	0.07	-0.69	-0.52	-0.32	-0.29	-0.35	-0.42	-0.26	NM	NM

NM Water-level data for RO-18 from November and December 2017 not yet available, calculation could not be completed.

Based on the above assessment, the difference between 2017 water levels in the month of July when the testing program was conducted and the projected water-level heights from a 1960's magnitude drought in July would be in the range of -0.29 foot to -1.14 feet in the wells at the site. This decline is not anticipated to have a significant impact on the onsite pumping wells.

8.1 GROUNDWATER RECHARGE

Groundwater in a bedrock aquifer is continually being replenished by precipitation on the local watershed. The local recharge area for the Clovewood property has been approximated using the surficial drainage area, the hydrogeologic features and the fracture-trace assessment of the property (figure 2). The size of the local recharge area for the Clovewood property is approximately 1,177 acres.

Some of the precipitation that falls within a watershed infiltrates through the soil zone and percolates downward to recharge the bedrock. Recharge to till-covered metasedimentary bedrock is approximately 400,000 gpd/sq. mi. or about 8 inches annually based on the U.S. Geological Survey open file report 80-437. This is equal to about 625 gpd/acre (gallons per day per acre) of precipitation recharge. For the 1,177 acre watershed for the Clovewood property, the total recharge would be approximately 735,600 gpd (gallons per day) or about 510.8 gpm.

During drought periods groundwater recharge and available water supply would be reduced. The one-year-in-30 low precipitation (3.33% chance of recurrence) for Orange County is 29.5 inches (Appendix III). This precipitation amount is 69% of the annual average precipitation rate of 43 inches or a reduction in precipitation of 31%. This value is similar to the drought values from 1962 to 1966 when the precipitation deficit ranged from 23% to 35% below the long-term normal and cumulatively over the five year period with a deficit of 29%.

Assuming groundwater recharge decreases at the same rate as precipitation during periods of diminished rainfall, the estimated average recharge rate would decrease about 31% to approximately 507,600 gpd during a 1 year-in-30 drought or 352.5 gpm. This drought recharge rate exceeds the average water demand of the proposed 600, four-bedroom units of 183.3 gpm. The drought recharge also exceeds the average water demand of the project with the potential inclusion of swimming pools/bath houses within the development of 190 gpm.

9.0 ONSITE MONITORING WELLS

Water-level measurements were collected from 17 onsite bedrock monitoring wells during the pumping test program conducted on the Clovewood property. In addition, the seven wells pumped during the testing program (C-6, 7B, 12, 14, 16, 21 and 23) were also used as monitoring locations when they were not actively pumping. Water-level data was collected using manual water-level meters and pressure transducers, both vented and unvented type units. In wells where unvented units were utilized, the data was corrected for barometric pressure changes using data recorded on a barotroll installed on the Clovewood site. Occasional spikes in the unvented unit data occur where the transducers were pulled from the wells to be downloaded. These spikes have been removed from the hydrographs to avoid confusion in the data interpretation.

The table below shows an assessment of the distance and drawdown values for the onsite wells measured.

Table 10: Drawdown Measured in the Onsite Monitoring Wells During the 72-Hour Pumping Tests

Well ID	Approximate Distance to Well C-7B (feet)	Drawdown Attributed to Pumping Well C-7B During Simultaneous Pumping Test (feet)	Approximate Distance to Closest Pumping Well (C-6, 12, 14, 16, or 23) During Simultaneous Pumping Test (feet)	Drawdown Attributed to Pumping in Wells C-6, 12, 14, 16, and 23 at End of Simultaneous Pumping Test (feet)	Approximate Distance to Well C-21 (feet)	Drawdown Attributed to Pumping Well C-21 During Simultaneous Pumping Test (feet)
C-6	3,160	ND	--	121.7	3,060	ND
C-7B	--	45.0	1,590 (12)	ND	5,430	ND
C-12	1,590	ND	--	88.4	4,740	ND
C-14	3,360	ND	--	121.4	2,630	ND
C-16	2,390	ND	--	177.2	3,060	ND
C-21	5,430	ND	600 (23)	49.6	--	93.5
C-23	5,490	ND	--	93.5	600	62.6
C-1	1,320	1/	690 (12)	4.8	5,400	ND
C-4	970	1/	680 (12)	3.2	4,770	ND
C-5	1,420	1/	2,040 (6)	3.6	4,820	ND
C-7	280	33.0	1,300 (12)	ND	5,340	ND
C-7A	40	44.5	1,620 (12)	ND	5,440	ND
C-8	2,060	1/	1,750 (6)	3.7	4,730	ND
C-9	1,420	1/	2,020 (6)	3.6	4,820	ND
C-10	3,130	0.7	870 (6)	0.8	3,880	ND
C-11	2,470	0.6	1,100 (6)	0.6	4,130	ND
C-13	1,310	1/	330 (12)	5.7	4,980	ND
C-14A	3,360	ND	10 (14)	120.7	2,620	ND
C-15	3,720	ND	1,010 (14)	30.8	1,790	ND
C-17	2,880	ND	940 (16)	29.9	2,990	ND
C-18	3,740	ND	970 (14)	20.9	1,780	ND
C-19	2,740	ND	1,350 (12)	22.3	3,640	ND
C-20	4,520	ND	1,390 (23)	11.7	1,020	15.8

Well ID	Approximate Distance to Well C-7B (feet)	Drawdown Attributed to Pumping Well C-7B During Simultaneous Pumping Test (feet)	Approximate Distance to Closest Pumping Well (C-6, 12, 14, 16, or 23) During Simultaneous Pumping Test (feet)	Drawdown Attributed to Pumping in Wells C-6, 12, 14, 16, and 23 at End of Simultaneous Pumping Test (feet)	Approximate Distance to Well C-21 (feet)	Drawdown Attributed to Pumping Well C-21 During Simultaneous Pumping Test (feet)
C-22	4,390	ND	1,260 (6)	44.4	2,940	ND

ND none discernible

1/ Level of drawdown effect from well C-7B could not be quantified from available data.

During the simultaneous pumping test conducted July 10 through July 16, water-level drawdown was measured to varying degrees in all of the onsite monitoring wells. Because of water-level drawdown that was also observed in several offsite monitoring locations, well C-7B was shut down on July 12, and well C-21 was also shut down so that it could be tested as the best well during the individual pumping test as described above. Following the shutdown of wells, water-level recovery was observed in several of the onsite wells and all of the effected offsite monitoring locations.

Using additional water-level information collected during the individual test conducted on well C-21 (July 25 through July 28), the recovery in water level observed in several of the onsite monitoring wells on July 12 can be assigned to either effects from pumping in well C-7B or C-21. The drawdown that has been attributed to C-7B is provided in the table above. In instances where only an inflection occurred in the water level at the time of the well pump shutdown in C-7B, the occurrence of the inflection is noted but the amount of drawdown attributed to well C-7B pumping has not been quantified. The drawdown values observed as result of pumping well C-7B and an approximated area of influence for the well is also shown on figure 4.

After the shutdown of wells C-7B and C-21 on July 12, the simultaneous test continued with wells C-6, 12, 14, 16 and 23 pumping until the morning of July 16. The drawdown caused by these five wells pumping simultaneously measured at the end of the test period on July 16 in the onsite monitoring wells ranged from none discernible in wells C-7, 7A and 7B to 120.7 feet in monitoring well C-14A. The drawdown values measured at the end of the simultaneous test on July 16 and an approximated area of influence for the wells pumping simultaneously is shown on figure 5.

The individual pumping test on well C-21 was conducted from July 25 through July 28. Water-level drawdown was observed in only two onsite monitoring wells, wells C-20 and C-23. The drawdown measured onsite ranged from none discernible to 62.6 feet in well C-23. The drawdown values measured at the end of the individual test on July 28 and an approximated area of influence for well C-21 is shown on figure 6.

10.0 OFFSITE MONITORING WELLS AND SPRING ON ROUTE 208

Prior to the initiation of the pumping tests, permission to conduct well monitoring was requested from nine residential property owners, one business, four community water-supply systems and one school near the Clovewood property. The table below summarizes the responses received.

Table 11: Summary of Offsite Well Monitoring Program Solicitation

Property	Response
556 Clove Road	Declined Participation in Well Monitoring Program
562 Clove Road	Agreed to Participation in Well Monitoring Program
564 Clove Road	Agreed to Participation in Well Monitoring Program
568 Clove Road	Agreed to Participation in Well Monitoring Program
443 Clove Road	Declined Participation in Well Monitoring Program
479 Clove Road	Agreed to Participation in Well Monitoring Program
481 Clove Road	Agreed to Participation in Well Monitoring Program
1235 Route 208	Agreed to Participation in Well Monitoring Program
35 Round Hill Road	Agreed to Participation in Well Monitoring Program
1195 Route 208	Agreed to Participation in Well Monitoring Program
Mountain Lodge Water System	Agreed to Participation in Well Monitoring Program
Woodbury Heights Water System	Agreed to Participation in Well Monitoring Program
Village of South Blooming Grove Water System	Agreed to Participation in Well Monitoring Program
Braeside Water System	Did Not Provide LBG Authorization to Access Wells
Round Hill Elementary School	No Response Was Provided to Inquiry

In total, water-level measurements were collected from 16 offsite wells (where permission from the owner was granted) and a flowing spring located on Route 208 during the pumping test program conducted on the Clovewood property in July 2017. Water-level data was collected using dedicated, vented pressure transducers installed in the wells and a 5-gallon volume calibrated bucket was used to measure the flow at the spring. Copies of the hydrographs for the offsite wells and spring are included in Appendix VII along with tables containing the manual measurements collected at each monitoring location.

During the simultaneous pumping test, water-level drawdown was observed in four of the residential wells that were being measured on Clove Road, in Mountain Lodge Well 2, and a decrease in flow was measured in the spring located on Route 208. Because of the staggered start of the pumping wells on the first day of the test, the cause of the drawdown was attributed to pumping in well C-7B. Based on this assessment, wells C-7B and C-21 were shut down on July 21, as described above. The water levels in the effected offsite wells began to rise following shut down of well C-7B and the flow at the spring returned.

The remaining test wells C-6, 12, 14, 16, and 23 continued to pump as part of the simultaneous pumping test until the morning of July 16 when the test was ended. Following shut down of these wells, no change in the rising trends in the recovering offsite wells or in the spring were observed that would indicate any further pumping-related effects from the balance of the wells being tested.

No discernible water-level drawdown was observed in the other offsite wells being measured as a result of pumping well C-7B or the remaining tested wells C-6, 12, 14, 16, 21 and 23, which included all of the Village of South Blooming Grove wells, the Woodbury Heights wells, Mountain Lodge Well 1, the residence and business on Route 208, the residence on Round Hill Road, and the residence at 479 Clove Road.

The table below contains a summary of the drawdown observed as a result of pumping well C-7B and the distance of the offsite monitoring locations from well C-7B. Additionally, the table shows the distance from the offsite monitoring locations to the next closest onsite well included in the simultaneous test (C-6, 12, 14, 16 or 23).

Table 12: Distance and Drawdown Measurements for Offsite Wells for Simultaneous Pumping Test

Well Location	Approximate Distance to Well C-7B (feet)	Drawdown Attributed to Pumping Well C-7B During Simultaneous Pumping Test (feet)	Approximate Distance to Closest Pumping Well (C-6, 12, 14, 16, or 23) From Simultaneous Pumping Test (feet)	Drawdown Attributed to Pumping in Wells C-6, 12, 14, 16, and 23 at End of Simultaneous Pumping Test (feet)
562 Clove Road	1,600	24.5	2,850 (6)	ND
564 Clove Road	1,700	24.0	2,700 (6)	ND
568 Clove Road	1,850	5.7	2,500 (6)	ND
479 Clove Road	2,150	ND	1,900 (12)	ND
481 Clove Road	2,050	6.8	1,650 (12)	ND
1195 Route 208	3,750	ND	2,350 (6)	ND
1235 Route 208	3,550	ND	4,500 (6)	ND
Spring on Route 208	2,650	Dry	2,600 (6)	ND
35 Round Hill Road	3,000	ND	4,000 (12)	ND
Mountain Lodge Well 1	7,100	ND	6,000 (12)	ND
Mountain Lodge Well 2	6,850	4.5	5,750 (12)	ND
Woodbury Heights North Well	8,250	ND	3,100 (23)	ND
Woodbury Heights East Well	8,600	ND	3,450 (23)	ND
Village of South Blooming Grove Merriewold Well Field Well 1	6,900	ND	4,850 (6)	ND
Village of South Blooming Grove Merriewold Well Field Well 3	6,700	ND	4,700 (6)	ND
Village of South Blooming Grove Well 8	9,000	ND	7,050 (6)	ND
Village of South Blooming Grove Baseball Field Well	9,000	ND	7,150 (6)	ND

ND none discernible

Following the completion of the simultaneous pumping test, the water-levels in the aquifer were allowed to recovery for approximately nine days before the start of pumping in well C-21 for the individual pumping test. The water-level recovery in the offsite wells and spring that were influenced by pumping of well C-7B continued during this recovery period until approximately July 23-24 when the rising trends ended.

The measurement of the offsite monitoring locations continued during the pumping test conducted on well C-21. During the pumping test on C-21, no discernible drawdown effects were observed in any of the offsite monitoring locations that is attributed to pumping in well C-21. The absence of discernible drawdown in the offsite monitoring locations during the test on C-21 confirms that the drawdown measured during the first testing period was related to pumping in well C-7B. The table below contains a summary of the distance of the offsite monitoring locations from C-21 and that no discernible drawdown was observed.

Table 13: Distance and Drawdown Measurements for Offsite Wells for Simultaneous Pumping Test

Well Location	Approximate Distance to Well C-21 (feet)	Drawdown Attributed to Pumping in Well C-21 at End of Individual Pumping Test (feet)
562 Clove Road	5,750	ND
564 Clove Road	5,600	ND
568 Clove Road	5,450	ND
479 Clove Road	6,650	ND
481 Clove Road	6,400	ND
1195 Route 208	5,250	ND
1235 Route 208	7,550	ND
Spring on Route 208	5,650	ND
35 Round Hill Road	8,400	ND
Mountain Lodge Well 1	9,450	ND
Mountain Lodge Well 2	9,150	ND
Woodbury Heights North Well	2,900	ND
Woodbury Heights East Well	3,250	ND
Village of South Blooming Grove Merriewold Well Field Well 1	7,000	ND
Village of South Blooming Grove Merriewold Well Field Well 3	6,900	ND
Village of South Blooming Grove Well 8	8,950	ND
Village of South Blooming Grove Baseball Field Well	9,150	ND

ND none discernible

11.0 PIEZOMETERS

Water-level measurements were collected from piezometers installed in surface-water features at eight locations on the site. The piezometer locations are shown on Plate 1. Manual water-level measurements were collected from the piezometers and vented pressure transducers installed at select locations. The piezometer monitoring locations were placed in surface-water features that parallel the fracture-trace lineations near the pumping wells on the project site. The locations were selected close to the seven pumping wells where drawdown (if any were to occur) would most likely be measureable. An additional eighth piezometer monitoring location was installed near monitoring well C-22.

Where surface water was present, a single piezometer was installed. Groundwater level measurements were collected from the interior of the piezometer and surface-water height measurements from the exterior to assess potential water-level drawdown and changes in vertical head. At locations where no surface water was present or the presence of surface water was sporadic, a nested pair of piezometers was installed, with one shallower screen and one deeper screen setting. Groundwater level measurements were collected from the interior of both nested piezometers, and when present, surface water on the exterior was measured to assess potential water-level drawdown and changes in vertical head. Hydrographs for the piezometers along with tables of the manual water-level measurements collected are included in Appendix VIII.

The piezometers were constructed with 5-foot lengths of galvanized steel pipe; 3-inch long couplings; and 1-foot long, 10-slot screened, stainless steel drive points. The piezometers were driven to varying depths based on the height of the surface water, the depth to groundwater at each location, and the composition of the overburden soils and sediment (i.e. whether large cobbles were present). The depths to the top of the screen for the piezometers are provided in the table below.

Table 14: Piezometer Screen Settings

Piezometer ID	Depth to Top of Screen (feet below grade)
PZ-1	Shallow: 3.07; Deep: 4.65
PZ-5	Single Piezometer: 1.48
PZ-6	Shallow: 2.10; Deep: 3.30
PZ-8	Single Piezometer: 2.12
PZ-9	Shallow: 1.77; Deep: 3.93
PZ-16	Shallow: 2.44 ; Deep: 4.25
PZ-Pond	Single Piezometer: 1.66
PZ-22	Shallow: 0.85; Deep: 1.95

11.1 PIEZOMETER LOCATION PZ-1

A nested pair of piezometers was installed at location PZ-1 in the stream channel near pumping well C-12. Surface water on the exterior of the piezometers was present only sporadically during the data collection period, after the rain event on July 13 and again after the rain event on July 24. Groundwater level measurements were collected from the interior of both piezometers to assess potential drawdown and changes in vertical head as a result of pumping in the onsite wells.

In general, the water levels in the piezometer had a declining trend during the test period. However, the water level in the shallow screened piezometer increased following rain events on July 7, July 8, July 13, July 14 and July 24. The rain events on July 11 and July 20 also appear to have temporarily reduced the rate of decline in the groundwater level in the shallow piezometer. The groundwater in the deeper screened piezometer also rose in response the rain events on July 7, July 13 and July 24; however, the rising response was more muted compared to the shallow screened piezometer.

The vertical head direction between the shallow and deeper screen piezometers was upward with the exception of during and immediately following the rain events when the direction head reversed to downward. The downward head lasted approximately one to two days, and then reverted to an upward head. When surface water was present on the exterior of the PZ-1 piezometers after rain events, the head direction between surface water and groundwater was downwards.

PZ-1 Simultaneous Pumping Test

Prior to the start of the simultaneous pumping test, the water levels in the shallow and deeper screened piezometers had a declining trend beginning on July 9. This declining water-level trend continued into the pumping period until the July 13 rain event. This rain event caused a rise in water level in both piezometers and a change in head direction from upward to downward. After the rain event, the water-level trends in the piezometers leveled out and then resumed a declining trend on July 16 after the end of the simultaneous pumping test.

Prior to the rain event on July 13, the water levels and vertical head between the shallow and deeper screened piezometers did not appear to be affected as a result of pumping in the onsite wells. Additionally, although the precipitation caused an increase in the water levels in both piezometers during the second half of the simultaneous pumping test, there was no significant rise or rebound in water level resulting from the shutdown of the pumping wells on the morning of July 16.

Based on the data collected, there does not appear to be impact to the piezometers at PZ-1 as a result of pumping during the simultaneous pumping test.

PZ-1 Individual Pumping Test

The declining trend observed in the water levels in both piezometers which started on July 16 continued until the rain event on July 20 which caused a decrease in the declining trend. The subsequent rain event on July 24 caused the water levels in both the shallow and deeper screened piezometers to rise. The rain event on July 24 also caused a temporary change in head direction from upward to downward. The water-level rise in the shallow piezometer was steep but brief and the declining trend in this piezometer resumed the same day. The vertical head direction reverted back to upward late in the day on July 25. The rising trend in the deeper screened piezometer was slightly more muted and took longer to crest than in the shallow screened piezometer. The water level in the deeper screened piezometer crested on July 25, near the start of the individual test on well C-21 and then resumed a declining trend.

The water levels in both piezometers continued their declining trends throughout the remainder of the test period on well C-21 and into the recovery period following the end of the test. There was no rise in water level in either piezometer that coincided with the shutdown of the pump in well C-21.

Based on the data collected, there does not appear to be impact to the piezometers at PZ-1 as a result of pumping during the individual pumping test.

11.2 PIEZOMETER LOCATION PZ-5

A single piezometer was installed at the location PZ-5 in the stream channel pumping well C-6. Surface water was present on the exterior of the piezometer throughout the data collection period. The groundwater level was measured in the interior of the piezometer and surface-water height on the exterior.

The water levels at piezometer PZ-5 remained relatively consistent throughout the data collection period in both the surface water and groundwater with the exception of brief rises in response to rain events on July 7, July 13, July 14, July 20 and July 24.

PZ-5 Simultaneous Pumping Test

The water levels in the groundwater and surface water had a very slight declining trend which began on July 7 after the end of the rain event, prior to the start of the simultaneous pumping test. This declining water-level trend continued into the pumping period until the July 13 rain event. This rain event caused a rise in water level in both the surface water and groundwater levels. On July 14 after the rain event, the water-level trends at the piezometer resumed a decline which continued into the post-test period.

The vertical head direction between the interior and exterior water levels changed between upward, neutral and downward frequently throughout the background, pumping and recovery periods. Head values ranged from -0.05 to 0.08, therefore, very small changes in water level had an effect on the vertical head direction. The head changes were variable and occurred during all portions of the data collection period and do not appear to be related to pumping in the onsite wells.

Prior to the rain event on July 13, the water levels showed no discernible change in trend as a result of pumping in the onsite wells or when the pumps in wells C-7B and C-21 were shut down on July 12. Additionally, there was no discernible rebound in water level accompanying the shutdown of the pumping wells on the morning of July 16.

Based on the data collected, there does not appear to be impact to the piezometer at PZ-5 as a result of pumping during the simultaneous pumping test.

PZ-5 Individual Pumping Test

The declining trend in the water levels at PZ-5 continued until July 17 when the trend leveled out. A rain event on July 20 caused a slight rise in water level and the rain event on July 24 caused a larger water-level rise in both the groundwater and surface water.

The slight declining trend in the groundwater and surface water levels resumed after the rain event ended on July 24 and continued throughout the test period on well C-21 and into the recovery period following the end of the test. There were no changes in the water-level trends in the surface water or groundwater at PZ-5 that coincided with the shutdown of the pump on well C-21 that would indicate pumping-related effect. Similar to the simultaneous pumping test period, the vertical head direction between the interior and exterior water levels changed between upward, neutral and downward frequently throughout the background, pumping and recovery periods. The range in head values was very small from -0.02 to 0.02; therefore, very small changes in water level had an effect on the vertical head direction. The head changes were variable and occurred during all portions of the data collection period and do not appear to be related to pumping in well C-21.

Based on the data collected, there does not appear to be impact to the piezometers at PZ-5 as a result of pumping during the individual pumping test.

11.3 PIEZOMETER LOCATION PZ-6

A nested pair of piezometers was installed at location PZ-6 in the stream channel near pumping well C-14. Surface water was also present on the exterior of the piezometers during the data collection period. Groundwater level measurements were collected from the interior of both piezometers and the surface-water height was measured on the exterior.

In general, the groundwater level in the shallow piezometer and the surface water had declining trends during the testing period. The water levels in the shallow screened piezometer and surface water increased following rain events on July 7, July 13, July 14, and July 24. After each rain event, the groundwater level in the shallow screened piezometer and surface water resumed a declining trend. The groundwater in the deeper screened piezometer was on a rising trend throughout the data collection period, and was not notably affected by the individual rain events that occurred.

The vertical head directions between the shallow and deeper screen piezometers and the surface water and deeper screened piezometer were downward through most the data collection period, but steadily decreased because of the consistent upward trend in the groundwater level in the deeper screened piezometer. On July 29, the vertical head direction between the shallow and deeper screened piezometer became neutral and then upward as the deeper groundwater level continued to rise. The vertical head between the deeper groundwater and surface water remained downward during this timeframe.

The vertical head between the groundwater level in the shallow screened piezometer and the surface water was mainly downward, with the exception of a period following the rain event on July 14 when the head direction changed to upward as the shallow groundwater took longer to resume a downward trend than the surface water.

PZ-6 Simultaneous Pumping Test

The groundwater level in the shallow piezometer and surface water had slight declining trends which began prior to the start of the simultaneous pumping test. These declining water-level trends continued into the pumping period until the July 13 rain event. This rain event caused a rise in water level in both the surface water and shallow groundwater and a brief change in head direction from downward to upward. On July 14 after the rain event, the water-level trends in the shallow groundwater and surface water resumed a declining trend which continued into the post-test period and the vertical head returned to downward.

Prior to the rain event on July 13, the groundwater levels in both piezometers and the surface water, as well as the vertical head between the groundwater and surface water showed no discernible change in trend as a result of pumping in the onsite wells or when the pumps in wells C-7B and C-21 were shut down on July 12. Additionally, although the precipitation caused an increase in the water levels in the shallow groundwater and surface water during the second half of the simultaneous pumping test, there was no discernible rebound in water level accompanying the shutdown of the pumping wells on the morning of July 16. The water level in the deeper screened piezometer was on a slight rising trend, and showed no response to rain events or the start and stop of pumping.

Based on the data collected, there does not appear to be impact to the piezometers at PZ-6 as a result of pumping during the simultaneous pumping test.

PZ-6 Individual Pumping Test

The declining trend in the water levels in the shallow groundwater and surface water continued until the rain event on July 24 caused the water levels to rise. Immediately after the rain event, the surface-water level trend resumed a decline on July 24. In the shallow groundwater, the trend was level until the decline resumed on July 26. The slight declining trends in both the shallow groundwater and surface water continued into the post-test period.

The vertical head between the surface water and shallow groundwater remained downward throughout the pumping test and recovery period. The vertical head direction between the shallow groundwater and the deeper groundwater became neutral on July 29 and then upward as the deeper groundwater continued its steady upward trend.

No rebound in water level in either piezometer or in the surface water coinciding with the shutdown of the pump on well C-21 occurred that would indicate pumping-related effects.

Based on the data collected, there does not appear to be impact to the piezometers at PZ-6 as a result of pumping during the individual pumping test.

11.4 PIEZOMETER LOCATION PZ-8

A single piezometer was installed at the location PZ-8 in surface water near pumping well C-21. Surface water was present on the exterior of the piezometer throughout the data collection period. The groundwater level was measured in the interior of the piezometer and surface-water height on the exterior.

The surface-water level at piezometer PZ-8 remained relatively consistent throughout the data collection period with the exception of brief rises in response to rain events on July 7, July 13, July 14, and July 24. Compared to other onsite surface-water locations that were measured, the increases in the height of the surface water at PZ-8 were muted and after the rain events ended, the surface-water level quickly returned to its prior elevation.

The groundwater level in the piezometer was on a general downward trend during the data collection period, which was also interrupted by the rain events listed above. The rise in groundwater level was generally small, but took approximately one to two days to re-equilibrate and return to its prior downward trend.

The surface data on the hydrograph for PZ-8 in Appendix VIII shows an anomaly in the pressure transducer readings starting on July 24 during the rain event. The pressure transducer recorded erroneous data showing a large decrease, then an increase in water level which did not actually occur. The anomalous data recording ended on July 25, and the transducer returned to recording reasonable values. The manual measurements collected on July 24 and 25 are reflective of the actual surface-water height on those days.

PZ-8 Simultaneous Pumping Test

After the rain event on July 7, there was little groundwater level change until July 9 when a slight declining trend started. This declining trend continued into the simultaneous test period and steepened slightly on July 12 as the test progressed. On July 13, the groundwater level rose in response to the rain event. Another rise occurred in July 14 because of rain and then the declining trend resumed.

The vertical head direction was upward between the surface water and groundwater throughout the background, pumping and recovery periods for the simultaneous pumping test. However, the decline in the groundwater level which started during the background period and the relatively unchanging height of the surface water resulted in decreasing vertical head values during this period.

The steepening of the declining trend in the groundwater level during the simultaneous pumping test was noteworthy. However, the steepening does not coincide with the start of pumping (it occurred approximately 48 hours into the test period) and when the pump in the nearby well C-21 was shut down (on July 12), no change in the trend occurred. Similarly, there was no notable rebound in water level accompanying the shutdown of the remaining pumping wells on July 16. Based on these data, the declining trend observed in PZ-8 may be naturally occurring, but additional monitoring of the shallow groundwater at this location may be warranted for further assessment. The steepening in groundwater declining trends was also observed in the piezometers at PZ-9, which were located in the same upland setting as PZ-8. The steepening at PZ-9 is attributed to natural groundwater trends because the phenomena took place under non-pumping and pumping conditions. The water-level response in PZ-9 is described in more detail below.

No discernible effect to surface water was measured during the simultaneous pumping test.

PZ-8 Individual Pumping Test

The decline in the groundwater level at PZ-8 continued into the post-test period until July 17 when the trend leveled. The rain event on July 24 caused a slight rise in both the groundwater and surface water. After the July 24 rain event, the surface water height stayed relatively steady. The groundwater level in the piezometer continued rising slightly until the morning of July 26, when a declining trend was observed. The downward trend in the groundwater level and the steady trend in the surface water level resulted in a change in vertical head direction on July 27 from upward to downward.

At the end of the pumping test on July 28, the declining trend in the groundwater in PZ-8 continued but decreased in intensity. Additional monitoring of the shallow groundwater at this location may be warranted to further assess whether the change in groundwater was the result of pumping or whether it was naturally occurring.

No discernible effect to the surface water at this location was measured during the individual pumping test.

11.5 PIEZOMETER LOCATION PZ-9

A nested pair of piezometers was installed at location PZ-9 in the stream channel that forms north of well C-23. No measurable surface water was present on the exterior of the piezometers during the data collection period. Groundwater level measurements were collected from the interior of both piezometers.

In general, the water levels in the piezometers had a declining trend throughout the testing period. The water level in the shallow screened piezometer increased following rain events on July 7, July 13, July 14, July 17, July 20 and July 24. After each rain event, the groundwater level in the shallow screened piezometer resumed a declining trend. The groundwater in the deeper screened piezometer also rose in response to the rain events; however, the rising response was more muted compared to the water-level response observed in the shallow screened piezometer. The vertical head direction between the shallow and deeper screen piezometers was downward throughout most of the data collection period with the exception of on July 5 and 6, before the rain event on July 7 that caused a change in vertical head direction; and again from July 28 through 31.

The water-level data for the shallow screened piezometer on the hydrograph for PZ-9 in Appendix VIII shows an anomaly in the pressure transducer readings on July 13 and 14 during the rain events. The pressure transducer recorded erroneous data that showed increases and decreases in water level which did not actually occur. The anomalous data recording stopped late in the day on July 14, and the transducer returned to recording reasonable values. The manual measurements collected during that time period are reflective of the actual water levels on those days.

PZ-9 Simultaneous Pumping Test

The water levels in the shallow and deeper screened piezometers had a declining trend which began during the background data collection period prior to the start of the simultaneous pumping test. This declining trend continued into the pumping period until the rain event occurred on July 13, causing a rise in both piezometer water levels.

A slight steepening of the declining water-level trend occurred on July 12; however, a similar steepening occurred on July 21 during a period of no onsite pumping indicating that this response may be a natural occurrence for groundwater levels at this location. After the rain events on July 13 and 14, the water-level trends in the piezometers leveled out and then resumed a decline on July 15.

Prior to the rain event on July 13, the water levels and vertical head between the piezometers did not appear to be affected as a result of pumping in the onsite wells or when the pumps in wells C-7B and C-21 were shut down on July 12. Additionally, although the precipitation caused an increase in the water levels in both piezometers during the second half of the simultaneous pumping test, there was no significant rebound or change in trend in the water levels accompanying the shutdown of the pumping wells on the morning of July 16.

Based on the data collected, there does not appear to be impact to the piezometers at PZ-9 as a result of pumping during the simultaneous pumping test.

PZ-9 Individual Pumping Test

The declining trend in the water levels in both piezometers resumed on July 15 and continued until the rain event on July 24, with the exception of a very small rise observed on July 20 from the rain received on that day. As described above, the declining trend in the piezometers steepened after the rain event on July 20 and continued until the larger rain event on July 24. The water level in the shallow piezometer rose rapidly and the rise in the deeper piezometer was slower. The rise in the shallow piezometer crested on July 24 and then the drawdown trend resumed. The rise in the groundwater level in the deeper piezometer crested on July 27 and then resumed declining. Because of this delay, the vertical head direction between the shallow groundwater and deeper groundwater changed from downward to upward on July 28.

The declining trend pattern observed during the individual pumping test period and the post-test period is similar to the pattern observed during the background period between July 20 and July 24, and the head change also appears to be precipitation related and not the result of pumping.

Based on the data collected, there does not appear to be impact to the piezometers at PZ-9 as a result of pumping during the individual pumping test. However, if additional monitoring at PZ-8 is conducted, additional data collection from PZ-9 may be warranted to provide supplemental information since both piezometer locations are in the same upland setting area.

11.6 PIEZOMETER LOCATION PZ-16

A nested pair of piezometers was installed at location PZ-16 in the wetland feature flagged near well C-16. There was no surface water present on the exterior of the piezometers throughout the data collection period. Groundwater level measurements were collected from the interior of both piezometers to assess potential drawdown and changes in vertical head as a result of pumping in the onsite wells.

The water levels in the piezometers rose in response to the rain events on July 13, July 14 and July 24. However, the rising responses had a slight delay and were more muted compared to other onsite piezometers measured during the test. The vertical head direction between the shallow and deeper screen piezometers was downward throughout the entire data collection period.

PZ-16 Simultaneous Pumping Test

The water levels in the shallow and deeper screened piezometers had declining trends which began on July 7, prior to the start of the simultaneous pumping test. These declining water-level trends continued into the pumping period until the July 13 rain event. This rain event caused a rise in water level in both piezometers. After the rain event, the water-level trends in the piezometers leveled out and then resumed a decline on July 17 after the end of the simultaneous pumping test.

Prior to the rain event on July 13, the water levels and vertical head between the piezometers did not appear to be affected as a result of pumping the onsite wells or when the pumps in wells C-7B and C-21 were shut down on July 12. Additionally, although the precipitation caused an increase in the water levels in both piezometers during the second half of the simultaneous pumping test, there was no significant rebound in water levels after the shutdown of the pumping wells on the morning of July 16. Based on the water-level data collected, there does not appear to be impact to the piezometers at PZ-16 as a result of pumping during the simultaneous pumping test.

PZ-16 Individual Pumping Test

The declining trend in the water levels in both piezometers which started on July 16 continued until the rain event on July 24. The rain event caused the water levels in both the shallow and deeper screened piezometers to rise briefly. The change in trend was short and the shallow and deeper screened piezometers resumed their declining trends which continued throughout the test period on well C-21 and into the recovery period following the end of the test. No rebound in water levels in either piezometer coinciding with the shutdown of the pump on well C-21 occurred. Based on the data collected, there does not appear to be impact to the piezometers at PZ-16 as a result of pumping during the individual pumping test.

11.7 PIEZOMETER LOCATION PZ-POND

A single piezometer was installed at the location PZ-Pond in the pond east of wells C-7B and C-7A. Surface water was present on the exterior of the piezometer throughout the data collection period. The groundwater level was measured in the interior of the piezometer and surface-water height on the exterior.

Overall, water levels at piezometer PZ-Pond were on a slight declining trend throughout the data collection period in both the surface water and groundwater with the exception of brief rises in response to rain events on July 7, July 11, July 13, July 14 and July 24. After the rain events ended, the water levels resumed their prior trends.

PZ-Pond Simultaneous Pumping Test

Prior to the start of the simultaneous pumping test, the water levels in the groundwater and surface water had a slight declining trend which began on July 8. This declining water-level trend continued into the pumping period until the morning of July 11. The water level in the surface water and groundwater in PZ-Pond began to rise slowly. A small rain event occurred on the morning of July 11 which may have contributed to this rise, but a leak in the well C-7B discharge hose along the edge of the pond was likely the main reason for the rise. The leak was repaired later that day and the declining water-level trends resumed. The rain events on July 13 and 14 also caused water level rises, followed by the resumption of the natural declining trend. No change in the declining trend was noted when the pump was shut down in well C-7B on July 12 or when the simultaneous pumping test was ended on July 16.

The vertical head difference between the interior and exterior water levels was small, ranging in value from -0.04 to 0.12 and changed direction between upward, neutral and downward relatively frequently. The head direction changes were variable and occurred during all portions of the data collection period and do not appear to be related to pumping the onsite wells.

Based on the data collected, there does not appear to be impact to the piezometer at PZ-Pond as a result of pumping during the simultaneous pumping test.

PZ-Pond Individual Pumping Test

The declining trend in the water levels at PZ-Pond continued into the post-test period until the rain event on July 24 caused a larger water-level rise in both the groundwater and surface water. The declining trend in the groundwater and surface water levels resumed after the rain event ended on July 24 and continued throughout the test period on well C-21 and into the recovery period following the end of that test. No change in the water-level declining trend was observed with the shutdown of the pump in well C-21.

The vertical head difference between the interior and exterior water levels was small, ranging in value from -0.03 to 0.10 and changed head direction relatively frequently. The head changes were variable and occurred during all portions of the data collection period and do not appear to be related to pumping in well C-21.

Based on the data collected, there does not appear to be impact to the piezometer at PZ-Pond as a result of pumping during the individual pumping test.

11.8 PIEZOMETER LOCATION PZ-22

A nested pair of piezometers was installed at location PZ-22 near the onsite monitoring well C-22. There was no surface water present on the exterior of the piezometers throughout the data collection period. Groundwater level measurements were collected from the interior of both piezometers.

The water level in the shallow screened piezometer was variable throughout the data collection period and appears to have responded to the rain events on July 7, July 13, July 14, July 17, July 20 and July 24. The water level in the deeper screened piezometer was less variable, and showed muted responses to the rain events on July 7, July 13, and July 14. The vertical head between the shallow and deeper screen piezometers was upward throughout the entire data collection period.

PZ-22 Simultaneous Pumping Test

The water levels in the shallow and deeper screened piezometers had declining trends which began on July 7, prior to the start of the simultaneous pumping test. These declining water-level trends continued into the pumping period until the July 13 rain event. This rain event caused a brief rise in water level in both piezometers. After the rain event, the water-level trends in the piezometers resumed a decline on July 14.

The water level in the deeper screened piezometer remained on a relatively consistent declining trend throughout the background, testing and recovery periods for the simultaneous pumping test. The water level in the shallow screened piezometer was much more variable, showing more dramatic changes in response to precipitation events, but there are no water-level changes that appear to coincide with the start and stop of pumping on the site.

Based on the data collected, there does not appear to be impact to the piezometers at PZ-22 as a result of pumping during the simultaneous pumping test.

PZ-22 Individual Pumping Test

The declining trend in the water level in the deeper screened piezometer, which started on July 14, continued into the test on well C-21 and through to the end of the data collection period without any further interruption from rain events. The water level in the shallow screened piezometer remained somewhat variable, rising on July 17 and July 24, and then declining through the test and recovery period for well C-21. Although, the water level in the shallow screened piezometer was variable, there were no water-level changes that appear to coincide with the start and stop of pumping in well C-21.

Based on the data collected, there does not appear to be impact to the piezometers at PZ-22 as a result of pumping during the individual pumping test.

12.0 STREAM GAGING

There are two tributary streams that flow from the project site. They both exit the site along the western property boundary close to the intersection of Clove Road and Route 208. The headwaters for both streams originate on the Clovewood property. The more northerly stream flows near pumping wells C-12 and C-7B and collects runoff from the northern and central portions of the project site. A dam was built by a prior property owner on this stream channel near onsite monitoring wells C-5 and C-9. As a result, there is ponded water behind this dam. The stream channel re-forms downstream of the dam and the stream flows west and off the project site. The more southerly stream passes near pumping wells C-6, 14, 21 and 23 and receives runoff from the southern and western portions of the project site.

Stream-flow measurements were collected from nine onsite gaging locations during the pumping test program between July 3 and July 31, 2017. The stream gaging locations SG-1 through SG-9 are shown on plate 1. Graphs and a table of the flow measurements collected are included in Appendix IX. On the graphs, the stream-flow measurements have been separated into two groups, the gaging locations that receive flow from the northern and central portions of the property (SG-1, 2 and 3), and the locations that receive flow from the southern portion of the site (SG-4, 5, 6, 7, 8 and 9).

12.1 STREAM GAGING LOCATIONS SG-1, SG-2 AND SG-3

Stream gaging locations SG-1, SG-2 and SG-3 are located along the stream that collects runoff from the northern and central regions of the property. The gaging locations are numbered in sequential order moving downstream. Location SG-1 is the farthest upstream location, east of well C-12. Location SG-2 is near monitoring well C-4, between pumping wells C-12 and C-7B. SG-3 is located downstream of well C-7B and the pond, near onsite monitoring well C-8. SG-3 was positioned upstream of the discharge locations for wells C-7B and 12.

SG-1

Stream gaging location SG-1 is located upstream of pumping well C-12. Overall, flow at SG-1 was very low during the data collection period, ranging from no measurable flow (0.000 cubic feet per second (cfs)) to 0.008 cfs. These flows are equal to a range of 0 gpm to 3.6 gpm. Slight increases in flow were measured following precipitation events. These flow increases were short-lived, after which the flow would again decrease to very low values. There were no discernible changes in flow that appear related to pumping of the onsite bedrock wells during the pumping test periods.

SG-2

SG-2 is located near onsite monitoring well C-4, downstream of C-12 and upstream of well C-7B. The flows at this location ranged from 0.011 cfs to 0.139 cfs, which are equal to a range of 4.9 gpm to 62.4 gpm. The higher flow values measured at SG-2 compared to SG-1 are reflective of the larger upstream watershed area that contributes more overland runoff and baseflow to SG-2. Similar to SG-1, increases in flow were observed at SG-2 following precipitation events, after which the flow would again decrease to very low values. There were no discernible changes in flow that appear related to pumping of the onsite bedrock wells during the pumping test periods.

SG-3

SG-3 is located near onsite monitoring well C-8, downstream of C-7B and the onsite pond, close to where the stream exits the property. The flows at this location ranged from 0.028 cfs to 0.209 cfs, which are equal to a range of 12.6 gpm to 93.4 gpm. The higher flows at SG-3 compared to SG-1 and SG-2 are reflective of the larger upstream watershed area that contributes more overland runoff and baseflow to SG-3. Similar to the other gaging locations, increases in flow were observed at SG-3 following precipitation events. After precipitation events, the flow at SG-3 would decrease, however the decrease in flow values took slightly longer at SG-3, potentially because of the storage and release of water from the upstream pond along the stream channel which controlled the runoff flow and caused the stream to be less flashy. A flashy stream is one that rapidly collects flows from the steep slopes within its watershed and produces flood peaks soon after a rain event. The flow quickly subsides after the rainfall stops. As noted above for PZ-Pond, there was a break in the discharge line alongside the pond on July 11 which caused a brief rise in water level until the break was repaired. This break in the discharge may have resulted in the high flow value at SG-3 measured on July 12 that was not directly associated with a precipitation event. This flow value decreased after the discharge line was repaired.

There were no discernible changes in flow that appear related to pumping of the onsite bedrock wells during either pumping test period.

SG-1 through SG-3 Flow Comparison

Overall, the stream flow at locations SG-1, 2 and 3 showed an increase in volume as the upstream watershed areas expanded and overland runoff and baseflow increased. The flows were generally low and increased as a result of rain events, after which the flow would again decrease to very low values. However, during the rain event on July 7, the flow at SG-2 was higher than anticipated compared to SG-3 (the downstream location). This change is attributed to the flashy nature of the runoff stream-flow in the channel, and the start and stop time of the rain event versus the time of day the channel was gaged.

The flow values measured at the three locations were similar during the background, pumping test and recovery periods. No discernible changes in flows were observed at SG-1, SG-2 or SG-3 that are attributed to pumping in the onsite wells during the simultaneous pumping test from July 10 through July 16, 1027 or for the individual pumping test on well C-21 from July 25 through July 28, 2017.

12.2 STREAM GAGING LOCATIONS SG-4, SG-5, SG-6, SG-7, SG-8 AND SG-9

Stream gaging locations SG-4 through SG-9 are located along the stream that flows through the southern and western portions of the property. Location SG-4 is the farthest downstream location, west of pumping wells C-6, C-14, C-21 and C-23. The gaging locations are numbered sequentially moving upstream, with SG-5 located near pumping well C-6, SG-6 near pumping well C-14, SG-7 near onsite monitoring wells C-15 and C-18, SG-8 near pumping well C-21 and SG-9 near pumping well C-23. There were no channels upstream of wells C-21 and C-23 where an upstream gaging location could be sited.

SG-4

Gaging location SG-4 is the farthest downstream of the gaging locations on the southern portion of the site. The flows at SG-4 ranged from 0.022 cfs to 0.374 cfs. These flows are equal to a range of 9.9 gpm to 167.9 gpm. Increases in flow were measured following precipitation events, most noticeably on July 7 during the background period prior to the simultaneous pumping test, July 14 during the simultaneous pumping test and on July 24 prior to the start of the individual pumping test. After the rain events, the flow decreased to very low values. There were no discernible changes in flow at SG-4 that appear related to pumping of the onsite bedrock wells during the pumping test periods.

SG-5

Gaging location SG-5 is located near pumping well C-6. The flows at SG-5 ranged from 0.008 cfs to 0.298 cfs. These flows are equal to a range of 3.6 gpm to 133.7 gpm. Increases in flow were measured following precipitation events. After the rain events, the flow would decrease to very low values. There were no discernible changes in flow at SG-5 that appear related to pumping of the onsite bedrock wells during the pumping test periods.

SG-6

Gaging location SG-6 is located near pumping well C-14. The flows at SG-6 ranged from 0.013 cfs to 0.422 cfs. These flows are equal to a range of 5.8 gpm to 198.4 gpm. Increases in flow were measured following precipitation events. After the rain events, the flow would decrease to very low values. There were no discernible changes in flow at SG-6 that appear related to pumping of the onsite bedrock wells during the pumping test periods.

SG-7

Gaging location SG-7 is located near onsite monitoring wells C-15 and C-18. The flows at SG-7 ranged from 0.002 cfs to 0.209 cfs. These flows are equal to a range of 0.9 gpm to 93.8 gpm. Increases in flow were measured following precipitation events. After the rain events, the flow would decrease to very low values. There were no discernible changes in flow at SG-7 that appear related to pumping of the onsite bedrock wells during the pumping test periods.

SG-8

Gaging location SG-8 is located near pumping wells C-21. The flows at SG-8 ranged from no measureable flow (0.000 cfs) to 0.262 cfs. These flows are equal to a range of 0.0 gpm to 117.6 gpm. Increases in flow were measured following precipitation events. After the rain events, the flow would decrease to very low values. There were no discernible changes in flow at SG-8 that appear related to pumping of the onsite bedrock wells during the pumping test periods.

SG-9

Gaging location SG-9 is located near pumping wells C-23. The flows at SG-9 ranged from no measureable flow (0.000 cfs) to 0.118 cfs. These flows are equal to a range of 0.0 gpm to 53.0 gpm. Increases in flow were measured following precipitation events. After the rain events, the flow would decrease to very low values. There were no discernible changes in flow at SG-9 that appear related to pumping of the onsite bedrock wells during the pumping test periods.

SG-4 Through SG-9 Flow Comparison

The stream flow at locations SG-4 through SG-9 generally increased in volume as the upstream watershed area expanded and overland runoff and baseflow increased. However, during rain events some of the more upstream locations would report slightly higher flow values than downstream locations. An example of this was observed during the background monitoring period on July 7 when the flows at SG-6 and SG-8 were higher than their more downstream counterparts. This change is attributed to the flashy nature of the runoff stream-flow in the channel, and the start and stop time of the rain event versus the time of day the channel was gaged.

Overall, the stream channel was gaged between each reach along its length, with the exception of the stretch of the channel between SG-5 and SG-6. During non-precipitation conditions, this section was losing throughout the background, testing and recovery periods. The losing/downward head may be attributed to leakage along the bedrock contact between the Dh and DS bedrock formations which is mapped between SG-6 and SG-5 (Figure 2).

An increase in the loss of water along this stretch of the stream was measured on July 25 and 26 during the early portion of the individual pumping test. However, that condition of increased losing was not sustained, and the values returned to normal by the end of the pumping test period, indicating that the brief increase in loss was not attributed to pumping and possibly related to post-precipitation recession in the flows. Further support of this conclusion was no drawdown was measured in the nearby bedrock wells or in the piezometers near these gaging locations, which would have also been observed if the change in stream flow was pumping-related impact.

In the absence of precipitation, the flows at all the gaging locations were generally very low (0.1 cfs or less). The flows would increase as a result of rain events, after which the flow would again decrease to very low values. No discernible changes in flows were observed at SG-4 through SG-9 that are attributed to pumping in the onsite wells during the simultaneous pumping test from July 10 through July 16, 1027 or during the individual pumping test on well C-21 from July 25 through July 28, 2017.

13.0 WATER-QUALITY RESULTS

Water samples were collected from wells C-6, C-12, C-14, C-16, C-21 and C-23 during the pumping test program conducted on the wells in July 2017. The samples were submitted to Envirotest Laboratories, Inc. in Newburgh, NY for analysis for all parameters listed in the NYSDOH Sanitary Code, Part 5, Subpart 5-1; for the SOCs dioxin, endothall, glyphosate, and diquat; and for MPA, giardia and cryptosporidium analyses. Copies of the laboratory reports for the samples collected are included in Appendix X.

Follow-up samples were collected from wells C-12 and C-23 in September 23 to address detections reported in the Part 5 samples collected. Copies of the laboratory reports from this sampling event are included in Appendix XI.

13.1 WELL C-6

The sample results from well C-6 met all NYSDOH drinking water standards with the exception of iron, manganese, color and turbidity. The turbidity result for well C-6 was 8.9 nephelometric turbidity units (NTU) which exceeds the NYSDOH drinking water standard maximum contaminant level (MCL) of 5 NTU for turbidity; the color result for C-6 was 20 units which exceeds the MCL of 15 units for color; the iron concentration was 1.21 micrograms per liter (mg/L) which exceeds the MCL of 0.3 mg/L for iron; and the manganese concentration was 0.201 mg/L which does not exceed the individual MCL for manganese of 0.3 mg/L, but does exceed the combined iron and manganese MCL of 0.5 mg/L.

The elevated color and iron concentrations are likely related to the elevated turbidity reported in the well. A dissolved iron analysis was included with the Part 5 analyses completed on C-6. The result of the dissolved iron analysis was not detected (ND) less than 0.06 mg/L. This data indicates that a decrease in turbidity in well C-6 would likely result in a decrease in the iron concentration in the well. Additional pumping to further develop the well is recommended to reduce the turbidity, color and iron concentrations.

The Langlier Index value, which is a measure of corrosivity, reported for well C-6 was -0.810. This value is outside of the desired range of -0.5 to 0.5; however, there is no MCL for this parameter. This value should be taken into consideration in the water treatment design for this well.

The results for the MPA sample from well C-6 reported a low risk for potential GWUDI and giardia and cryptosporidium were not detected.

13.2 WELL C-12

The sample results for well C-12 met all NYSDOH drinking water standards with the exception of the presence of total coliform and e. coli. The bacteria detection in this well is likely the result of the use of the temporary well appurtenance for the pumping test and the absence of a sanitary sealed well cap on the well during the test period.

Well C-12 was disinfected and resampled in September 2017. The results of the resampling event were absent for total coliform and e. coli.

The results for the MPA sample from well C-12 reported a low risk for potential GWUDI and giardia and cryptosporidium were not detected.

13.3 WELL C-14

The sample results for well C-14 met all NYSDOH drinking water standards with the exception of iron, manganese, color and turbidity. The turbidity result for C-14 was 11.6 nephelometric turbidity units (NTU) which exceeds the MCL of 5 NTU; the color result for C-14 was 20 units which exceeds the MCL of 15 units; the iron concentration was 1.19 mg/L which exceeds the MCL of 0.3 mg/L; and the manganese concentration was 0.285 mg/L which does not exceed the individual MCL for manganese of 0.3 mg/L, but does exceed the combined iron and manganese MCL of 0.5 mg/L.

The elevated color and iron concentrations are likely related to the elevated turbidity reported in the well. The result of the dissolved iron analysis completed on the well C-14 sample was not detected (ND) less than 0.06 mg/L. This data indicates that a decrease in turbidity in well C-14 would likely result in a decrease in the iron concentration. Additional pumping to further develop the well is recommended to reduce the turbidity, color and iron concentrations.

The Langlier Index value for the Part 5 samples collected from C-14 was -0.690. This value is outside of the desired range of -0.5 to 0.5; however, there is no MCL for this parameter. This value should be taken into consideration in the water treatment design for this well.

The results for the MPA sample from well C-14 reported a low risk for potential GWUDI and giardia and cryptosporidium were not detected.

13.4 WELL C-16

The sample results for well C-16 met all NYSDOH drinking water standards with the exception of iron, manganese, color and turbidity. The turbidity result for C-16 was 13.0 NTU which exceeds the MCL of 5 NTU; the color result for C-16 was 30 units which exceeds the MCL of 15 units; the iron concentration was 1.05 mg/L which exceeds the MCL of 0.3 mg/L; and the manganese concentration was 0.373 mg/L which exceeds the MCL for manganese of 0.3 mg/L and the combined iron and manganese MCL of 0.5 mg/L.

The elevated color and iron concentrations are likely related to the elevated turbidity reported in the well. The result of the dissolved iron analysis completed on the sample from C-16 was not detected (ND) less than 0.06

mg/L. This data indicates that a decrease in turbidity in well C-16 would likely result in a decrease in the iron concentration. Additional pumping to further develop the well is recommended to reduce the turbidity, color and iron concentrations.

The dissolved manganese result was 0.381 mg/L which was similar to the total manganese concentration. Treatment to reduce manganese may be warranted.

The sodium concentration reported in C-16 was 21.1 mg/L which is slightly above the reporting limit of 20 mg/L for people on sodium restricted diets, but below the recommended limit of 270 mg/L. The NYSDOH does not currently have an MCL for sodium.

The results for the MPA sample from well C-16 reported a low risk for potential GWUDI and giardia and cryptosporidium were not detected.

13.5 WELL C-21

The sample results for well C-21 met all NYSDOH drinking water standards with the exception of iron, manganese, color and turbidity. The turbidity result for C-21 was 17.6 NTU which exceeds the MCL of 5 NTU; the color result for C-21 was 75 units which exceeds the MCL of 15 units; the iron concentration was 7.74 mg/L which exceeds the MCL of 0.3 mg/L; and the manganese concentration was 1.79 mg/L which exceeds the MCL for manganese of 0.3 mg/L and the combined iron and manganese MCL of 0.5 mg/L.

The elevated color and iron concentrations are likely related to the elevated turbidity reported in the well. The result of the dissolved iron analysis conducted on the sample from C-21 was 1.09 mg/L, a significant reduction in concentration, but still above the MCL of 0.3 mg/L. This data indicates that a decrease in turbidity in well C-21 would likely result in a decrease in the iron concentration. The dissolved manganese result was 1.89 mg/L which was similar to the total manganese concentration reported. Additional pumping to further develop the well is recommended to reduce the turbidity, color and iron concentrations. However, treatment to reduce iron and manganese concentrations may still be warranted.

The Langlier Index value for the Part 5 samples collected from C-21 was -2.95. This value is outside of the desired range of -0.5 to 0.5; however, there is no MCL for this parameter. This value should be taken into consideration in the water treatment design for this well.

The results for the MPA sample from well C-21 reported a low risk for potential GWUDI and giardia and cryptosporidium were not detected.

13.6 WELL C-23

The sample results for well C-23 met all NYSDOH drinking water standards with the exception of iron, manganese, color and turbidity. The turbidity result for C-23 was 35.7 NTU which exceeds the MCL of 5 NTU;

the color result for C-23 was 75 units which exceeds the MCL of 15 units; the iron concentration was 6.70 mg/L which exceeds the MCL of 0.3 mg/L; and the manganese concentration was 1.73 mg/L which exceeds the MCL for manganese of 0.3 mg/L and the combined iron and manganese MCL of 0.5 mg/L.

The elevated color and iron concentrations are likely related to the elevated turbidity reported in the well. The result of the dissolved iron analysis completed on the sample from C-23 was 2.97 mg/L, a significant reduction in concentration, but still above the MCL of 0.3 mg/L. This data indicates that a decrease in turbidity in well C-23 would likely result in a decrease in the iron concentration.

The dissolved manganese result was 1.74 mg/L which was similar to the total manganese concentration reported. Additional pumping to further develop the well is recommended to reduce the turbidity, color and iron concentrations. However, treatment to reduce iron and manganese concentrations may still be warranted.

The Langlier Index value for the Part 5 samples collected from C-23 was -1.96. This value is outside of the desired range of -0.5 to 0.5; however, there is no MCL for this parameter. This value should be taken into consideration in the water treatment design for this well.

A very small detection of benzo(a)pyrene was reported in the sample from well C-23. The reported concentration was 0.032J micrograms per liter (ug/L). The qualifier "J" included in the reported concentration indicates that the value reported was below the practical quantitation limit but above the method detection limit for the analytical method. The reported concentration of 0.032J ug/L is below the MCL for benzo(a)pyrene of 0.2 ug/L.

Well C-23 was resampled for benzo(a)pyrene in September 2017 to confirm the presence of the detection. The September 2017 sample reported no detection of benzo(a)pyrene.

The results for the MPA sample from well C-23 reported a low risk for potential GWUDI and giardia and cryptosporidium were not detected.

14.0 PHYSICAL PARAMETER MEASUREMENTS

Physical parameter measurements of pH, conductivity and temperature were collected from the pumping wells and nearby surface-water features during the pumping tests. Conductivity and pH measurements were collected using a HORIBA water-quality meter. Temperature measurements were recorded using pressure transducers. For the surface-water features, temperature measurements used in the comparison were taken from the pressure transducers installed on the exterior of the closest piezometer or, if insufficient surface water was present, from the interior of the nearest shallow-screened piezometer. The parameters were measured as part of the assessment of potential GWUDI for the pumping wells. Tables of the physical parameter measurements and graphs of the data collected are included in Appendix XII.

14.1 WELL C-6

Conductivity measurements were collected from the well C-6 discharge water and from the surface water in the stream channel near the well at the location of PZ-5. The conductivity values measured in the well's discharge water were in the range of 0.32 milliSiemen per centimeter (mS/cm) to 0.27 mS/cm and in the surface water conductivity ranged from 0.15 mS/cm to 0.05 mS/cm. The conductivity values measured in the groundwater were consistently higher than the values measured in the nearby surface water.

The temperature values measured in the groundwater in well C-6 were consistently lower than the temperature values measured in the surface water. The surface-water temperature showed daily fluctuations, increasing and decreasing with changes in ambient air temperature. The groundwater in well C-6 did not show the same daily fluctuating pattern.

The pH measurements in the well's discharge water and nearby surface water were all in the range of approximately 6.75 to 8.25. Both measuring locations showed some variation during the monitoring period; however, no significant changes in values occurred which would indicate direct influence effects.

The physical parameter data collected from well C-6 and the nearby surface water do not indicate a high potential for GWUDI in well C-6.

14.2 WELL C-12

Conductivity measurements were collected from the well C-12 discharge water and from surface water in the stream channel near the location of PZ-1. The conductivity values measured in the well's discharge water were in the range of 0.32 mS/cm to 0.27 mS/cm and in the surface water ranged from 0.16 mS/cm to 0.06 mS/cm. The conductivity values measured in the groundwater were consistently higher than the values measured in the nearby surface water.

Temperature values from the groundwater in well C-12 and from the interior of the shallow-screened piezometer at PZ-1 have been compared. The temperature values were consistently lower in the well water compared to the temperatures measured in the shallow groundwater in PZ-1.

The pH measurements in the well's discharge water and nearby surface water were all in the range of approximately 7.0 to 8.0 during the data collection period. Both measuring locations showed some variation during the monitoring period; however, no significant changes in values occurred which would indicate direct influence effects.

The physical parameter data collected from well C-12 and the nearby surface water do not indicate a high potential for GWUDI in well C-12.

14.3 WELL C-14

Conductivity measurements were collected from the well C-14 discharge water and the surface water in the stream channel near the location of PZ-6. The conductivity values measured in the well's discharge water were in the range of 0.30 mS/cm to 0.22 mS/cm and in the surface water ranged from 0.10 mS/cm to 0.05 mS/cm. The conductivity values measured in the groundwater were consistently higher than the values measured in the nearby surface water.

The temperature values measured in the groundwater were lower in well C-14 than in the nearby surface water during the pumping test period. The surface-water temperature showed daily fluctuations, increasing and decreasing with changes in ambient air temperature. The groundwater in well C-14 did not show the same daily fluctuating pattern.

The pH measurements in the well discharge water and nearby surface water were all in the range of approximately 6.0 to 7.5 during the data collection period. Both measuring locations showed some variation during the monitoring period; however, no significant changes in values occurred which would indicate direct influence effects.

The physical parameter data collected from well C-14 and the nearby surface water do not indicate a high potential for GWUDI in well C-14.

14.4 WELL C-16

Physical parameter measurements of pH and conductivity were collected from the discharge water from well C-16, but there was no standing surface water within 200 feet of the well to measure during the test period. Therefore, no pH or conductivity measurements could be collected from surface water near well C-16 for comparison.

Although there was no surface water nearby for comparison, the pH and conductivity values measured in well C-16 were consistent with the values measured in other onsite pumping wells. The conductivity values in C-16 ranged from 0.40 mS/cm to 0.32 mS/cm and the pH ranged from 6.8 to 7.8.

Temperature values were collected from the interior of the shallow-screen piezometer at the PZ-16 location and from the pumping well. The temperature values in well C-16 were consistently lower than the temperatures measured in the piezometer.

The physical parameter data from well C-16 do not indicate a high potential for GWUDI in well C-16.

14.5 WELL C-21

Conductivity measurements were collected from the well C-21 discharge water and from surface water at the location of PZ-8. The conductivity values measured in the well's discharge water were in the range of 0.12 mS/cm to 0.11 mS/cm and in the surface water ranged from 0.06 mS/cm to 0.04 mS/cm. The conductivity values measured in the groundwater were consistently higher than the values measured in the nearby surface water.

The temperature values measured in the groundwater in well C-21 were lower than in the nearby surface water during the pumping test period. The surface-water temperature showed some daily fluctuations, increasing and decreasing with changes in ambient air temperature. The groundwater in well C-21 did not show the same daily fluctuating pattern.

The pH measurements in the well discharge water ranged from approximately 5.0 to 7.0 and nearby surface water were all in the range of approximately 4.0 to 6.25 during the data collection period. Both measuring locations showed some variation during the monitoring period; however, no significant changes in values occurred which would indicate direct influence effects.

The physical parameter data collected from well C-21 and the nearby surface water do not indicate a high potential for GWUDI in well C-21.

14.6 WELL C-23

Conductivity measurements were collected from the well C-23 discharge water and from surface water near the well. The conductivity values measured in the well's discharge water were in the range of 0.16 mS/cm to 0.12 mS/cm and in the surface water ranged from 0.13 mS/cm to 0.05 mS/cm. The conductivity values measured in the groundwater were consistently higher than the values measured in the nearby surface water with the exception of one measurement collected for the surface water on July 10.

Temperature values for the groundwater in well C-23 and from the interior of the shallow-screened piezometer at PZ-9 have been compared. The temperature values were consistently lower in the well compared to the temperatures measured in PZ-9.

The pH measurements in the well’s discharge water and nearby surface water were all in the range of approximately 5.5 to 7.5 during the data collection period. Both measuring locations showed some variation during the monitoring period; however, no significant changes in values occurred which would indicate direct influence effects.

The physical parameter data collected from well C-23 and the nearby surface water do not indicate a high potential for GWUDI in well C-23.

15.0 CONCLUSIONS

- The average water demand for the Clovewood project calculated based on the March 2014 New York State Design Standards for Intermediate Sized Wastewater Treatment Systems water usage rate of 110 gpd/bedroom for 600, 4-bedroom residential units is 264,000 gpd or 183.3 gpm. The NYSDOH requires that a new water system demonstrate twice the average water demand of a proposed development with the best well out of service. Therefore, to meet this NYSDOH requirement, the water system must be capable of pumping 528,000 gpd or 366.7 gpm with the best well out of service.

- The applicant may also consider the inclusion of swimming pools/bath houses in the proposed development. The water usage rate for a swimming pool/bath house is based on 10 gpd per swimmer with an allowed 20% reduction for the use of water saving fixtures. Assuming 2 swimmers per residential unit, the additional water demand would be 9,600 gpd or 6.7 gpm. Adding this demand to the proposed 600 units, the combined average water demand with the bath houses is 273,600 gpd or 190 gpm and twice the demand is 547,200 gpd or 380 gpm.

- A simultaneous pumping test was conducted on proposed bedrock water-supply wells C-6, 12, 14, 16 and 23 located on the Clovewood property. Well pumping was started on July 10, 2017. A staggered start up schedule of the wells was utilized to assess potential pumping-related interference effects between the wells. The pumping test was ended on the early morning of July 16, 2017. The wells were pumped concurrently for approximately 5.5 days and demonstrated stabilized yields of 45 gpm, 40.5 gpm, 157 gpm, 50 gpm and 90 gpm, respectively, for a combined total yield of 382.5 gpm or 550,800 gpd.

- Initially, wells C-7B and C-21 were also included in the simultaneous pumping test. The wells were started on July 10 along with the other five wells. However, offsite water-level impacts were observed which were attributed to pumping in well C-7B. Because of the impacts, it was determined that the test on well C-7B would be ended and that well C-7A, which was proposed to be tested as the best well during the follow up test, would also be excluded from the testing program to avoid further offsite impacts. Therefore, well C-21 was reassigned the role of the best well. As a result, the pumps in wells C-7B and C-21 were shut down on July 12 and the simultaneous pumping test continued without these wells.

- Wells C-6, 12, 14, 16 and 23 all demonstrated a water-level change of less than 0.5 per 100 feet of available drawdown in each well over the final 6 hours of the pumping test period per Section 3.a.i of the NYSDEC Pumping Test Procedures document. However, several of the wells did have a slight declining trend in water level at the end of the test period (Section 3.a.ii), therefore in accordance with Section 3.b of the NYSDEC Pumping Test Procedures guidance document, further analysis was conducted by completing 180-day water-level drawdown projections to further assess the pumping test data. The 180-day water-level drawdown projections show that the water level in wells C-6, 12, 16 and 23 remained above the pump settings used during the pumping test period with a margin of more than 5% of the available water column in the well in accordance with NYSDEC guidelines. The projected water-level drawdown in well C-14 did not meet the 5% requirement; therefore the pump in well C-14 will need to be set lower in the well to achieve the required 5%.

- Following shut down of the simultaneous pumping test on July 16, water-level recovery measurements were collected from the wells. The water levels in wells C-6, 12, 14, 16 and 23 reached 90% recovery to their pre-test levels in 57 hours, 13 hours, 62 hours, 70 hours and 103 hours, respectively, and continued to rise.

- Well C-21 was tested individually as the best well between July 25 and 28, 2017. The well was pumped for 72.5 hours. The pumping rate demonstrated during the test period was 163 gpm. The drawdown over the final 6 hours of the test period in the well was less than 0.5 foot per 100 feet of available drawdown in the well. However, there was a slight declining trend in the water level at the end of the test period, so a 180-day water-level drawdown projection was conducted in accordance with Section 3.b of the NYSDEC Pumping Test Procedures document. The 180-day water-level drawdown projection shows that the water level in well C-21 remained above the pump setting used during the pumping test period with a margin of more than 5% of the available water column in the well in accordance with NYSDEC guidelines.

- Water-level recovery data was collected from well C-21 following the end of the test on July 28. The water level in well C-21 reached 90% recovery to the pre-test static level 98.5 hours after shut down of the test and continued to rise.

- A drought assessment was conducted based on the precipitation and bedrock groundwater levels which occurred during the 1960's drought in the region. Precipitation information from the Port Jervis weather station and the USGS bedrock monitoring well RO-18 were utilized to assess the effect a long-term drought would have on the groundwater levels on the Clovewood property. The assessment indicated that under severe drought conditions, a decline in water level between -0.29 and -1.14 feet would occur in the Clovewood wells compared to the July 2017 water levels. It is also noteworthy that the regional conditions over the last 5 years (2012 to the present) have been dry, with a cumulative precipitation rate that was -13% below normal, and that regional water levels were already somewhat low because of the dry conditions when the pumping test program was conducted.

- Groundwater recharge to the bedrock aquifer underlying the study property was calculated using a recharge rate for metasedimentary bedrock of 625 gpd/acre and an estimated area of potential recharge to the bedrock aquifer underlying the Clovewood site of about 1,177 acres. Based on these values, the recharge to bedrock under normal precipitation conditions is approximately 735,600 gpd. Under one-year-in-30 drought conditions, the estimated average recharge rate would decrease about 31% to approximately 507,600 gpd or 352.5 gpm. This drought recharge rate exceeds the average water demand of the proposed 600, four-bedroom units of 183.3 gpm. The drought recharge also exceeds the average water demand of the project with the potential inclusion of swimming pools/bath houses within the development of 190 gpm.

- As part of the pumping test program, water-level measurements were collected from 17 onsite monitoring wells to assess drawdown in the aquifer. In addition, the seven wells pumped during the testing program (C-6, 7B, 12, 14, 16, 21 and 23) were also used as monitoring locations when they were not actively pumping. Water-level drawdown was measured in the all of the onsite wells during the simultaneous pumping test. The drawdown measured during this test has been separated into drawdown attributed to pumping in well C-7B and drawdown attributed to pumping in wells C-6, 12, 14, 16 and 23. Drawdown effects were measured in 10 of the onsite monitoring wells from pumping in well C-7B and ranged from none discernible in seven of the onsite wells to 44.5 feet in well C-7A. Drawdown was measured in 16 of the onsite wells from pumping in wells C-6, 12, 14, 16 and 23. In wells were drawdown was measured, the values ranged from 0.6 foot to 120.7 feet. During the individual pumping test conducted on well C-21, water-level drawdown was measured in three onsite wells. In the wells where drawdown was measured, the drawdown ranged from 15.8 feet to 93.5 feet.

- Water-level measurements were also collected from 16 offsite wells and a flowing spring on Route 208 during the pumping test program. No discernible water-level impacts were observed that were attributed to pumping in wells C-6, 12, 14, 16 and 23 during the simultaneous pumping test or to pumping well C-21 during the individual pumping test. Offsite water-level impacts were observed that were attributed to pumping in well C-7B. Drawdown was observed in five offsite wells and the spring on Route 208. The drawdown ranged from 4.5 feet to 24.5 feet. After the pumping of well C-7B was ended, the water levels in the impacts offsite wells and the flow at the spring recovered.
- Water-level measurements were collected from eight piezometer locations on the project site. A piezometer location was set up in surface-water features near each of the pumping wells and a location was also set up near onsite monitoring well C-22. The water-level data collected from the piezometers at PZ-1, PZ-5, PZ-6, PZ-9, PZ-16, PZ-Pond and PZ-22 did not appear to show pumping-related water-level drawdown in the groundwater and/or surface water during either test period.
- There was no discernible effect on the surface water at PZ-8 from onsite pumping. However, in the piezometer at PZ-8 a change in the groundwater level was observed during the pumping tests that could potentially be pumping related. Additional monitoring of the shallow groundwater at this location may be warranted to conduct an assessment of whether the change was naturally occurring or a result of onsite pumping. A similar change in the groundwater trend was also observed at PZ-9, which is located in the same upland setting as PZ-8. This change in trend at PZ-9 was attributed to natural groundwater conditions because the change took place under pumping and non-pumping conditions. However, if additional monitoring at PZ-8 is conducted, additional data collection from PZ-9 is recommended to provide supplemental information.
- Stream-flow measurements were collected from nine gaging locations during the pumping test period. The stream-flow data collected showed variation as a result of precipitation received during the background, testing and recovery periods, but no discernible change in flow was measured that is attributed to pumping in the onsite wells.
- Water samples were collected from the onsite wells during their respective pumping periods and analyzed for the parameters required by the NYSDOH Sanitary Code Part 5, Subpart 5-1 for community water-supply wells and for the extra compounds of dioxin, endothall, diquat and glyphosate. In addition, MPA, giardia and cryptosporidium samples were collected from all of the wells because they are located within 200 feet of surface-water bodies.
- The results of the water samples collected from the six proposed supply wells met all NYSDOH drinking water standards with the exception of iron, manganese, color and turbidity concentrations in wells C-6, 14, 16, 21 and 23; the presence of total coliform and e. coli bacteria in well C-12; and a slightly elevated sodium concentration in well C-16. Following the completion of the pumping test program, well C-12 was disinfected and resampled

for total coliform and E.coli. The results from the resampling event were absent for total coliform. Overall, the elevated iron, manganese and color concentrations reported are likely the result of the elevated turbidity concentrations reported in the wells. Dissolved iron and manganese samples were analyzed from the wells and showed significantly lower concentrations. Additional pumping to further develop the wells and reduce turbidity concentrations will likely be successful in reducing the iron, manganese and color values reported. However, in the case of wells C-21 and C-23, the dissolved iron and manganese concentrations remained above MCL values, therefore treatment options to reduce iron and manganese may still be needed for these wells. The sodium concentration in well C-16 was 21.1 mg/L, which was slightly above the reporting limit of 20.0 mg/L. No treatment to reduce the sodium concentration is required, as the exceedance of a notification level only.

- Langlier Index values in wells C-6, C-14, C-21 and C-23 were -0.810, -0.690, -2.95 and -1.96, respectively, which are outside of the desired range of -0.5 to 0.5; however, there is no MCL value for this parameter. These Langlier Index values should be taken into consideration in the water treatment design for this well.

- A trace detection of benzo(a)pyrene was reported in the sample from well C-23 at a concentration of 0.032J micrograms per liter (ug/L). The qualifier "J" included in the reported concentration indicates that the value reported was below the practical quantitation limit but above the method detection limit for the analytical method. The reported concentration of 0.032J ug/L is below the MCL for benzo(a)pyrene is 0.2 ug/L. Well C-23 was resampled for benzo(a)pyrene in September 2017 to confirm the presence of the detection. The September 2017 sample reported no detection of benzo(a)pyrene above the practical quantitation limit or the method detection limit.

- Physical parameters measurements of temperature, pH and conductivity were collected from the pumping wells and nearby surface-water features (where surface water was present) during their respective pumping tests as part of an assessment for potential GWUDI. The physical parameter data collected does not indicate a high risk of potential GWUDI in any of the onsite pumping wells.

- The results for the MPA samples collected from all of the wells were reported to be low risk for potential GWUDI and all of the samples reported none detected for giardia and cryptosporidium.

cmm
January 31, 2019
H:\Lake Anne\Clovewood\2019\July 2017 Pumping Test Rpt - Revised January\Revised Text.docx

FIGURES

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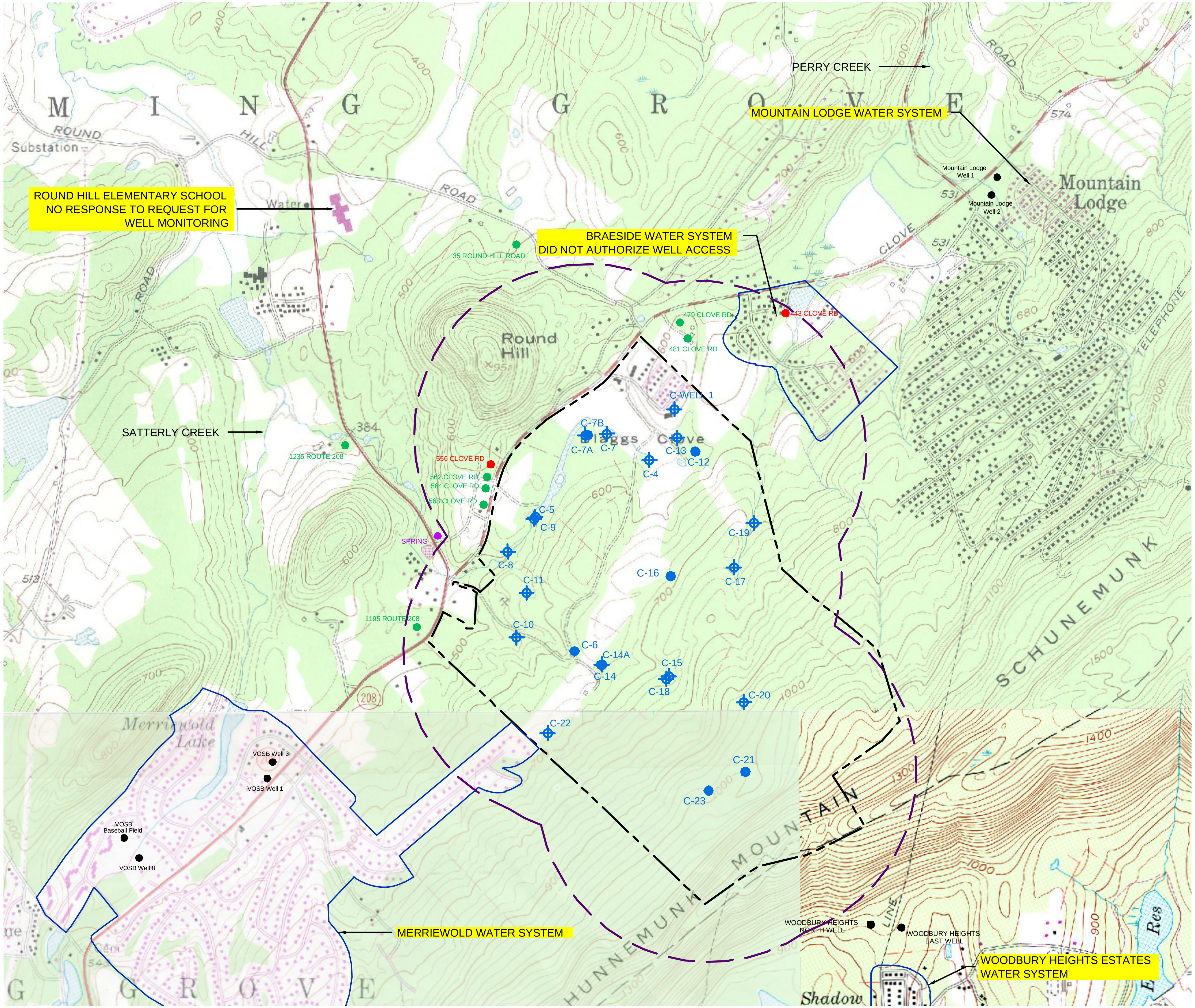

N

LEGEND

- ▬ ▬ ━ PROPERTY BOUNDARY
- ━ APPROXIMATE EXTENT OF PUBLIC WATER SUPPLY SYSTEMS
- ▬ ▬ 2,500-FOOT RADIUS AROUND PUMPING WELLS
- ● PUMPING WELL LOCATION
- ⊕ ONSITE MONITORING WELL LOCATION
- ● PROPERTY OWNER PROVIDED AUTHORIZATION FOR PARTICIPATION IN OFFSITE MONITORING PROGRAM
- 🔴 RESIDENTIAL PROPERTY DECLINED TO BE INCLUDED IN OFFSITE MONITORING PROGRAM
- 🟨 PUBLIC WATER SUPPLY THAT WAS SOLICITED FOR PARTICIPATION IN OFFSITE MONITORING PROGRAM
- ● APPROXIMATE LOCATION OF WELL MONITORED DURING PUMPING TEST EVENT
- 🟣 APPROXIMATE LOCATION OF THE SPRING ON ROUTE 208

0 1500
SCALE IN FEET

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

USGS MAP - OFFSITE MONITORING PROGRAM - JULY 2017

DATE	REVISED

PREPARED BY:
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DRAWN:	RAC	CHECKED:	SS	DATE:	10/26/17	FIGURE:	1

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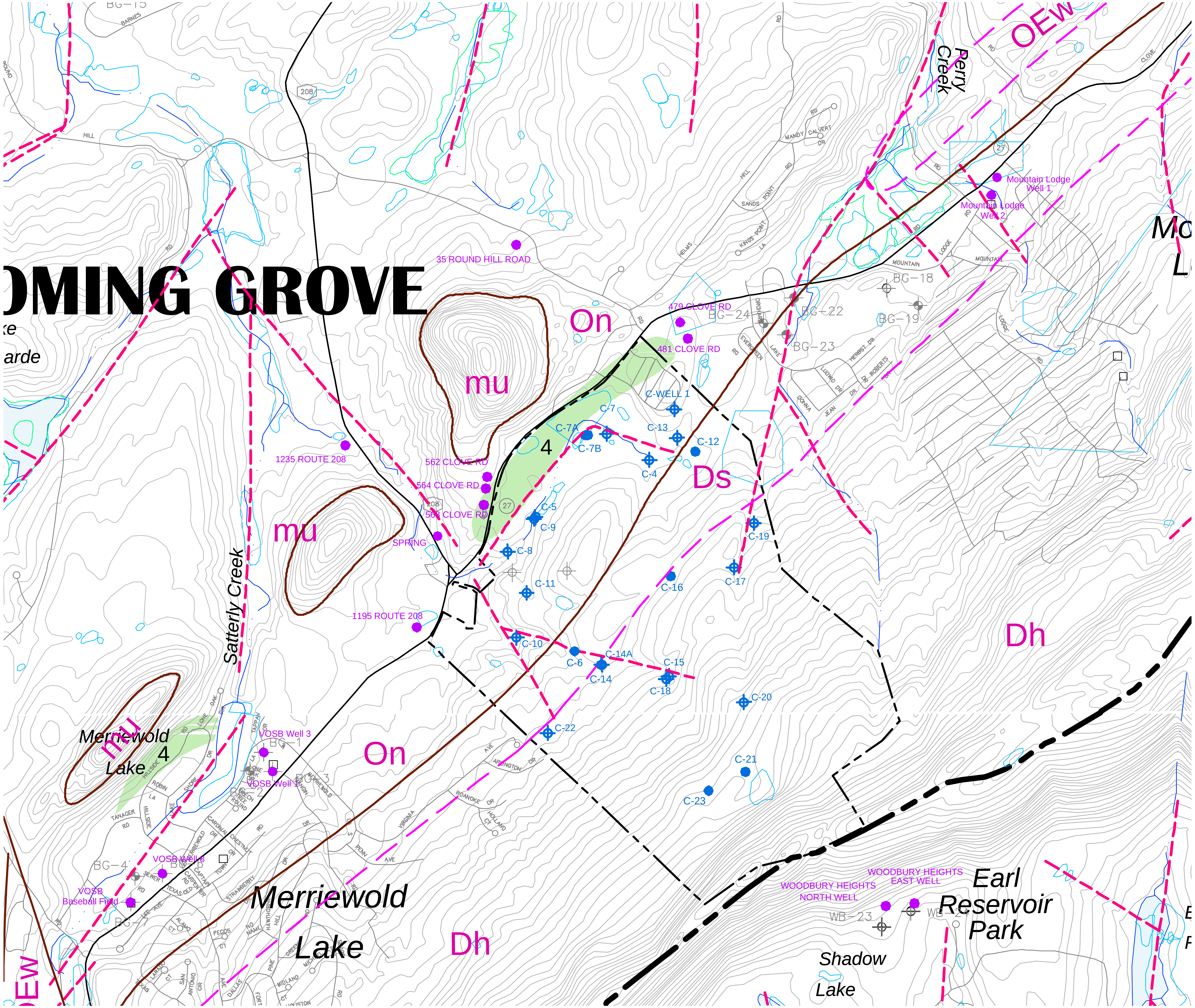

LEGEND

─ ─ · ─	PROPERTY BOUNDARY
●	PUMPING WELL LOCATION
⌖	ONSITE MONITORING WELL LOCATION
──	FAULT
— —	GEOLOGIC CONTACT
- - -	FRACTURE TRACE
🟩	WETLAND NYSDEC (STATE)
🟦	WETLAND FEDERAL
⌖ BG-3	MUNICIPAL/COMMUNITY BEDROCK SUPPLY WELL - IN SERVICE
⌖ WB-23	MUNICIPAL/COMMUNITY BEDROCK SUPPLY WELL - NOT IN SERVICE
On	MARTINSBURG FORMATION - SHALE, SILTSTONE, SANDSTONE AND GRAYWACKE
mu	UNDIFFERENTIATED GNEISS
Dh	UNDIFFERENTIATED HAMILTON GROUP - SHALE, SILTSTONE AND SANDSTONE IN EASTERN ORANGE COUNTY: SKUNEMUNK FORMATION - SANDSTONE, CONGLOMERATE; BELLVALE FORMATION - SHALE, SANDSTONE AND GRAYWACKE; CORNWALL SHALE
Ds	UNDIFFERENTIATED LOWER DEVONIAN AND SILURIAN ROCKS. IN ORANGE COUNTY: KANOUSE SANDSTONE; WOODBURY CREEK FORMATION - SHALE, SANDSTONE; ESOPUS SHALE; CONNELLY CONGLOMERATE; CENTRAL VALLEY SANDSTONE
OEw	WAPPINGER GROUP - LIMESTONE, DOLOMITE AND SHALE
● 481 CLOVE RD	OFFSITE MONITORING LOCATION
4	STRATIFIED SAND AND GRAVEL AT LAND SURFACE AND ABOVE THE WATER TABLE

0 1500
SCALE IN FEET

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

OCWA-HYDROGEOLOGIC FEATURES

DATE	REVISED

PREPARED BY:
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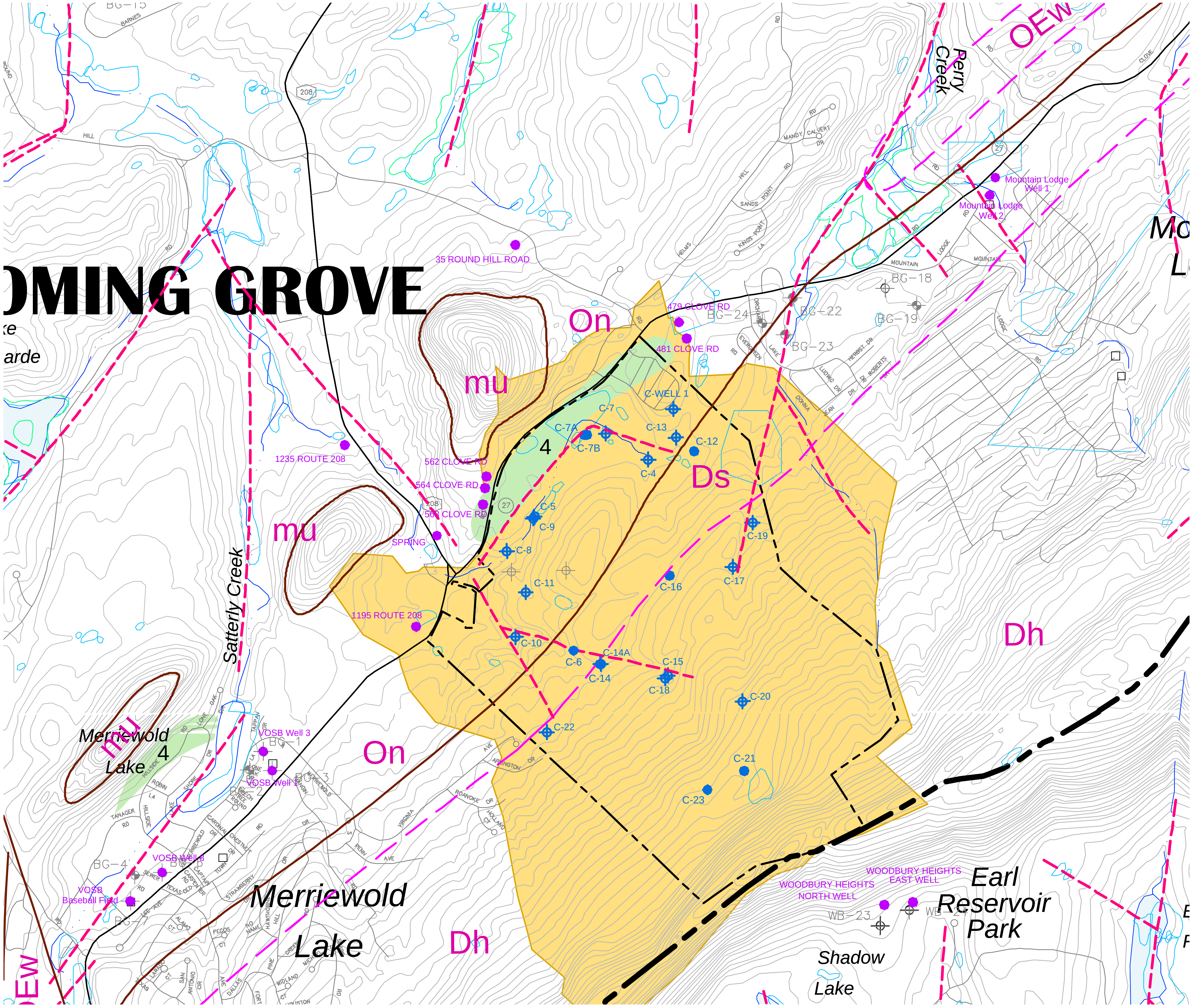

LEGEND

— · —	PROPERTY BOUNDARY
●	PUMPING WELL LOCATION
⊕	ONSITE MONITORING WELL LOCATION
—	FAULT
— —	GEOLOGIC CONTACT
- - -	FRACTURE TRACE
	WETLAND NYSDEC (STATE)
	WETLAND FEDERAL
BG-3	MUNICIPAL/COMMUNITY BEDROCK SUPPLY WELL - IN SERVICE
WB-23	MUNICIPAL/COMMUNITY BEDROCK SUPPLY WELL - NOT IN SERVICE
On	MARTINSBURG FORMATION - SHALE, SILTSTONE, SANDSTONE AND GRAYWACKE
mu	UNDIFFERENTIATED GNEISS
Dh	UNDIFFERENTIATED HAMILTON GROUP - SHALE, SILTSTONE AND SANDSTONE IN EASTERN ORANGE COUNTY: SKUNEMUNK FORMATION - SANDSTONE, CONGLOMERATE; BELLVALE FORMATION - SHALE, SANDSTONE AND GRAYWACKE; CORNWALL SHALE
Ds	UNDIFFERENTIATED LOWER DEVONIAN AND SILURIAN ROCKS. IN ORANGE COUNTY: KANOUSE SANDSTONE; WOODBURY CREEK FORMATION - SHALE, SANDSTONE; ESOPUS SHALE; CONNELLY CONGLOMERATE; CENTRAL VALLEY SANDSTONE
OEw	WAPPINGER GROUP - LIMESTONE, DOLOMITE AND SHALE
● 481 CLOVE RD	OFFSITE MONITORING LOCATION
🟧	LOCAL RECHARGE BOUNDARY
4	STRATIFIED SAND AND GRAVEL AT LAND SURFACE AND ABOVE THE WATER TABLE

0 1500
SCALE IN FEET

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

LOCAL RECHARGE AREA

DATE	REVISED

PREPARED BY:
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DRAWN:	RAC	CHECKED:	SS	DATE:	10/26/17	FIGURE:	3

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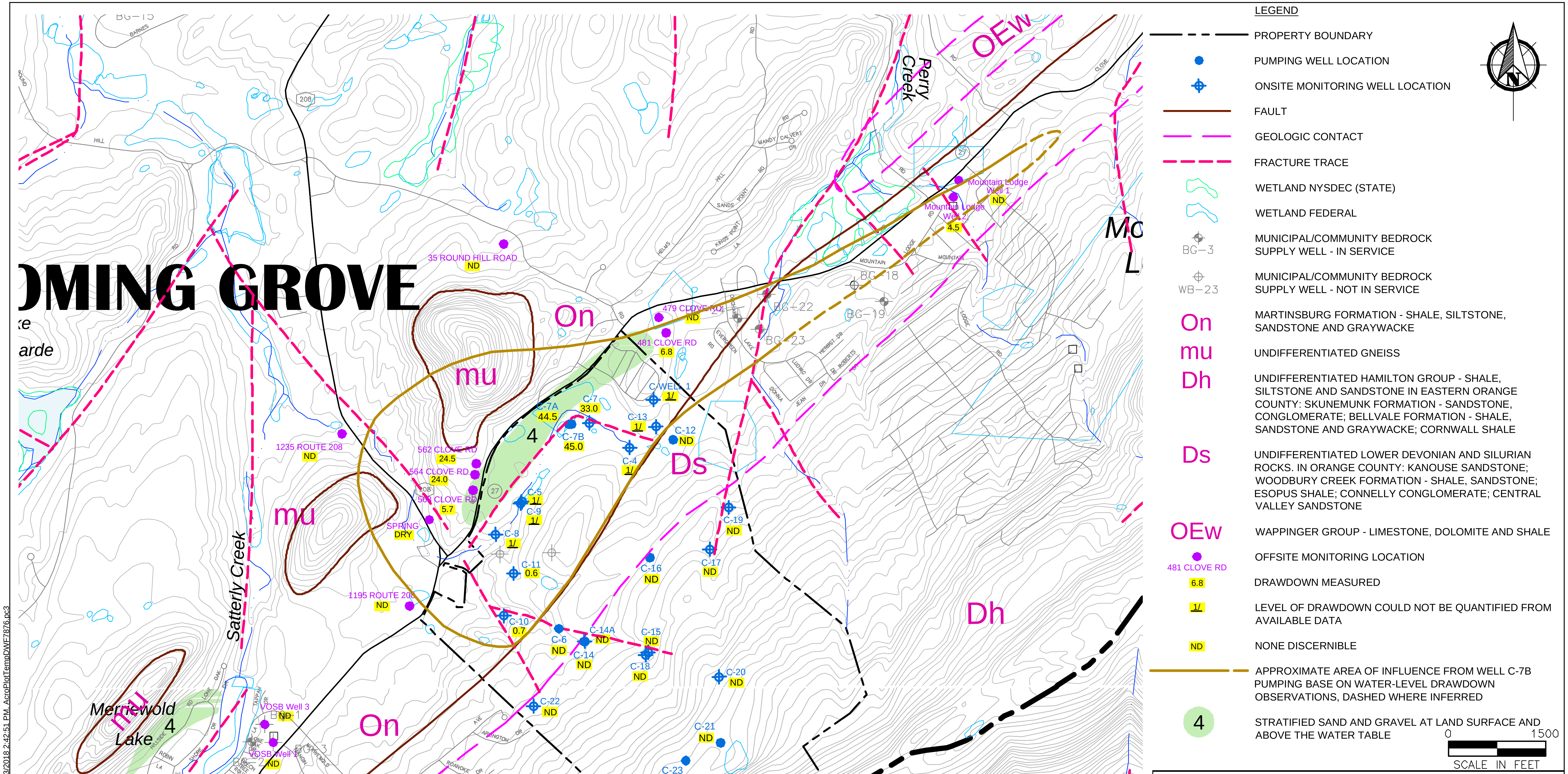

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

OCWA MAP - WATER-LEVEL DRAWDOWN ASSESSMENT FOR WELL C-7B

DATE	REVISED

PREPARED BY:
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DRAWN:	RAC	CHECKED:	SS	DATE:	10/26/17	FIGURE:	4

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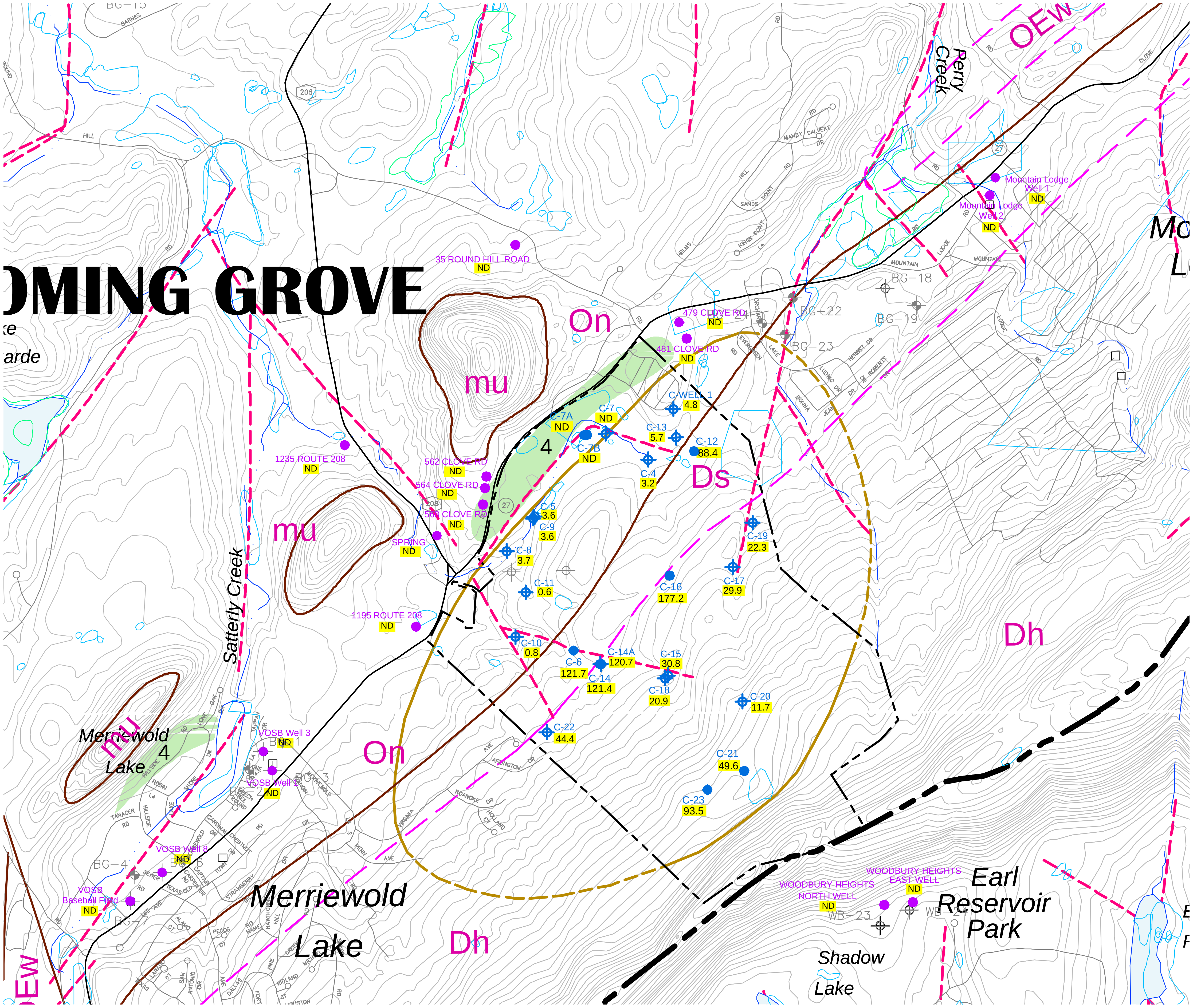

LEGEND

	PROPERTY BOUNDARY
●	PUMPING WELL LOCATION
⌖	ONSITE MONITORING WELL LOCATION
	FAULT
	GEOLOGIC CONTACT
	FRACTURE TRACE
	WETLAND NYSDEC (STATE)
	WETLAND FEDERAL
BG-3	MUNICIPAL/COMMUNITY BEDROCK SUPPLY WELL - IN SERVICE
WB-23	MUNICIPAL/COMMUNITY BEDROCK SUPPLY WELL - NOT IN SERVICE
On	MARTINSBURG FORMATION - SHALE, SILTSTONE, SANDSTONE AND GRAYWACKE
mu	UNDIFFERENTIATED GNEISS
Dh	UNDIFFERENTIATED HAMILTON GROUP - SHALE, SILTSTONE AND SANDSTONE IN EASTERN ORANGE COUNTY: SKUNEMUNK FORMATION - SANDSTONE, CONGLOMERATE; BELLVALE FORMATION - SHALE, SANDSTONE AND GRAYWACKE; CORNWALL SHALE
Ds	UNDIFFERENTIATED LOWER DEVONIAN AND SILURIAN ROCKS. IN ORANGE COUNTY: KANOUSE SANDSTONE; WOODBURY CREEK FORMATION - SHALE, SANDSTONE; ESOPUS SHALE; CONNELLY CONGLOMERATE; CENTRAL VALLEY SANDSTONE
OEw	WAPPINGER GROUP - LIMESTONE, DOLOMITE AND SHALE
● 481 CLOVE RD	OFFSITE MONITORING LOCATION
121.7	DRAWDOWN MEASURED
ND	NONE DISCERNIBLE
	APPROXIMATE AREA OF INFLUENCE FROM WELLS C-6, C-12, C-14, C-16 AND C-23 PUMPING BASE ON WATER-LEVEL DRAWDOWN OBSERVATIONS, DASHED WHERE INFERRED
4	STRATIFIED SAND AND GRAVEL AT LAND SURFACE AND ABOVE THE WATER TABLE

0 1500

SCALE IN FEET

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

OCWA MAP - WATER-LEVEL DRAWDOWN ASSESSMENT
FOR WELLS C-6, C-12, C-14, C-16 AND C-23

DATE	REVISED

PREPARED BY:
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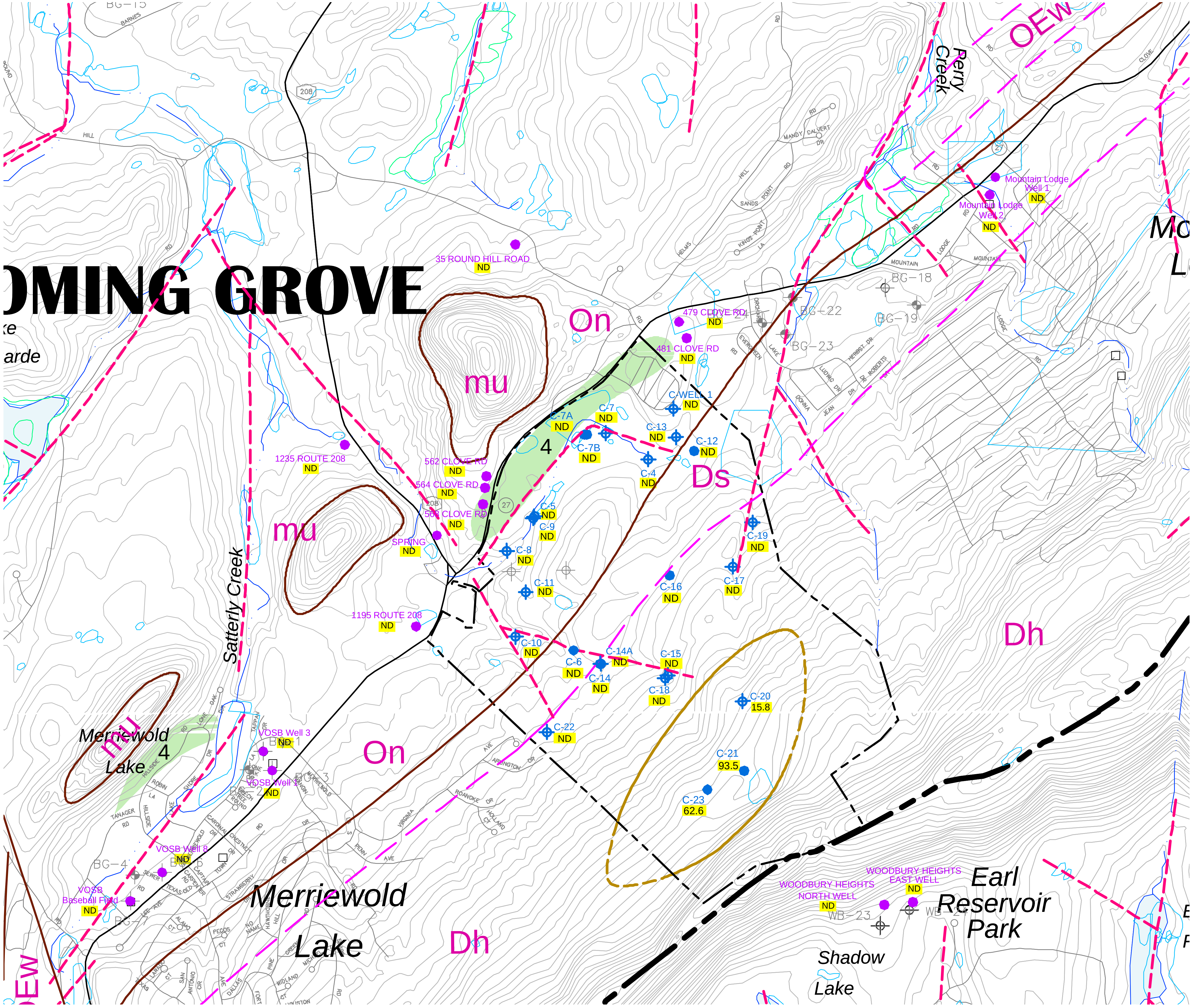

LEGEND

— - - —	PROPERTY BOUNDARY
●	PUMPING WELL LOCATION
⊕	ONSITE MONITORING WELL LOCATION
—	FAULT
— —	GEOLOGIC CONTACT
— —	FRACTURE TRACE
	WETLAND NYSDEC (STATE)
	WETLAND FEDERAL
BG-3	MUNICIPAL/COMMUNITY BEDROCK SUPPLY WELL - IN SERVICE
WB-23	MUNICIPAL/COMMUNITY BEDROCK SUPPLY WELL - NOT IN SERVICE
On	MARTINSBURG FORMATION - SHALE, SILTSTONE, SANDSTONE AND GRAYWACKE
mu	UNDIFFERENTIATED GNEISS
Dh	UNDIFFERENTIATED HAMILTON GROUP - SHALE, SILTSTONE AND SANDSTONE IN EASTERN ORANGE COUNTY: SKUNEMUNK FORMATION - SANDSTONE, CONGLOMERATE; BELLVALE FORMATION - SHALE, SANDSTONE AND GRAYWACKE; CORNWALL SHALE
Ds	UNDIFFERENTIATED LOWER DEVONIAN AND SILURIAN ROCKS. IN ORANGE COUNTY: KANOUSE SANDSTONE; WOODBURY CREEK FORMATION - SHALE, SANDSTONE; ESOPUS SHALE; CONNELLY CONGLOMERATE; CENTRAL VALLEY SANDSTONE
OEw	WAPPINGER GROUP - LIMESTONE, DOLOMITE AND SHALE
● 481 CLOVE RD	OFFSITE MONITORING LOCATION
121.7	DRAWDOWN MEASURED
ND	NONE DISCERNIBLE
— —	APPROXIMATE AREA OF INFLUENCE FROM WELL C-21 PUMPING BASE ON WATER-LEVEL DRAWDOWN OBSERVATIONS, DASHED WHERE INFERRED
4	STRATIFIED SAND AND GRAVEL AT LAND SURFACE AND ABOVE THE WATER TABLE

0 1500
SCALE IN FEET

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

OCWA MAP - WATER-LEVEL DRAWDOWN
ASSESSMENT FOR WELL C-21

DATE	REVISED

PREPARED BY:
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APPENDIX I

Stacy Stieber

From:	Miller, Keith <KMiller@orangecountygov.com>
Sent:	Wednesday, March 8, 2017 1:29 PM
To:	mayor@villageofsouthbloominggrove.com; Stacy Stieber
Cc:	Miller, Keith; Sims, Ed
Subject:	FW: Clovewood Pumping Test Plan_Village of South Blooming Grove
Attachments:	Pumping Test Plan_Sept 2016.pdf; Well Log_7A after deepening.pdf; Well Logs C-7A through C-12.pdf; Well Logs C-14 through 17.pdf; Well Logs C-4 through C-7.pdf; Well Logs C-18 through C-23 and C-7B.PDF

Dear Mayor Jeroloman & Ms. Stieber:

The NYSDOH has reviewed the attached materials and offers their comments below. OCHD has no comments beyond those of the NYSDOH.

Best regards,

km

Keith Miller, P.E.
Sr. Public Health Engineer
Orange County Health Dept.
124 Main St., Goshen, NY 10924
PH: 845-291-2331, FX: 845-291-4078
KMiller@OrangeCountyGov.com

From: Rogers, Brock (HEALTH) [mailto:brock.rogers@health.ny.gov]
Sent: Wednesday, March 08, 2017 11:33 AM
To: Pan, Minzi (HEALTH)
Cc: Miller, Keith
Subject: RE: Clovewood Pumping Test Plan_Village of South Blooming Grove

Minzi,

I have reviewed the proposed Clovewood pumping test plan. My only comment is that in addition to conducting GWUDI testing (i.e., MPA, giardia, crypto, pH, conductivity, temperature) for wells located within 200 feet of surface water, the same should be done for wells completed in a carbonite aquifer. Many of the well logs identify limestone; some logs do not indicate the rock type.

Feel free to forward this on to LBG and the Village.

Brock Rogers, P.E.
Professional Engineer 1
Bureau of Water Supply Protection

New York State Department of Health
Empire State Plaza, Corning Tower, Room 1135, Albany, NY 12237
518-402-7650 | brock.rogers@health.ny.gov
www.health.ny.gov/environmental/water/drinking/

From: Pan, Minzi (HEALTH)
Sent: Friday, February 17, 2017 3:55 PM
To: Rogers, Brock (HEALTH) <brock.rogers@health.ny.gov>
Cc: Miller, Keith <KMiller@orangecountygov.com>
Subject: RE: Clovewood Pumping Test Plan_Village of South Blooming Grove

Hi Brock,

LBG is targeting around the end of March/early April to start the well testing. It could be weather dependent.

Minzi

From: Rogers, Brock (HEALTH)
Sent: Friday, February 17, 2017 3:49 PM
To: Pan, Minzi (HEALTH) <Minzi.Pan@health.ny.gov>
Cc: Miller, Keith <KMiller@orangecountygov.com>
Subject: FW: Clovewood Pumping Test Plan_Village of South Blooming Grove

Minzi,

Has the pump test already been done? I'd be happy to take a look at the plan but I don't want to spend time reviewing it just to find out the test was already done.

Brock

From: Montysko, Michael J (HEALTH)
Sent: Thursday, February 16, 2017 3:47 PM
To: Rogers, Brock (HEALTH) <brock.rogers@health.ny.gov>
Subject: FW: Clovewood Pumping Test Plan_Village of South Blooming Grove

Please get back to Minzi

Michael J. Montysko, P.E.
Chief, Design Section
NYS DOH
Bureau of Water Supply Protection
Empire State Plaza
Corning Tower Rm. 1135
Albany, NY 12237
Ph. 518-402-7650
Fx. 518-402-7599
michael.montysko@health.ny.gov

NEW YORK STATE | Department of Health

From: Pan, Minzi (HEALTH)
Sent: Thursday, February 16, 2017 3:34 PM
To: Montysko, Michael J (HEALTH) <michael.montysko@health.ny.gov>
Subject: FW: Clovewood Pumping Test Plan_Village of South Blooming Grove

Hi Mike,
Just a FYI. Don't know if your section would like to be involved in the test pumping plan review.
Thank you,
Minzi

From: Miller, Keith [mailto:KMiller@orangecountygov.com]
Sent: Thursday, February 16, 2017 1:53 PM
To: sstieber@lbgct.com
Cc: Pan, Minzi (HEALTH) <Minzi.Pan@health.ny.gov>; Sims, Ed <ESims@orangecountygov.com>
Subject: FW: Clovewood Pumping Test Plan_Village of South Blooming Grove

Stacy,

Thanks for sending the plan.

What's your time frame for review of the pumping plan, please? I see that the date proposed for starting the pumping test given on page 8 of the Pumping Test Plan has come and gone.

My supervisor suggests that you concurrently involve NYSDOH in the test pumping plan review, since they will be asked to approve the resulting water supply (or modification to an existing water supply) should you have a successful conclusion. This is also reasonable since we're talking about adding 2,400 to 3,600 bedrooms, practically doubling the population of the Village of South Blooming Grove (NY3510641).

Best regards,

km

Keith Miller, P.E.
Sr. Public Health Engineer
Orange County Health Dept.
124 Main St., Goshen, NY 10924
PH: 845-291-2331, FX: 845-291-4078
KMiller@OrangeCountyGov.com

From: Stacy Stieber [mailto:SStieber@LBGct.com]
Sent: Thursday, February 16, 2017 11:57 AM
To: Miller, Keith
Cc: T. CUSACK
Subject: Clovewood Pumping Test Plan_Village of South Blooming Grove

Keith,

We are planning to conducted a new pumping test program for proposed supply wells on the Clovewood Property in the Village of South Blooming Grove. The Village of South Blooming Grove has requested that we have OCDH and NYSDEC review the plan prior to starting the test. Therefore, I am forwarding the Pumping Test Plan (dated September 2016) for this current proposed well test for your review and comment. They have also requested that we send copies of the well logs. I have included logs for all of the onsite wells that we have. Note, Wells C-1, C-2, C-3 and C-13 are original to the property and we do not have copies of the logs for these onsite monitoring wells.

Thank you in advance for your time. Let me know if you have any questions or need me to send you a hard copy of the attached plan.

Thanks,

Stacy Stieber, CPG
Associate/Hydrogeologist
Leggette, Brashears & Graham, Inc.

4 Research Drive, Suite 204
Shelton, CT 06484
Direct Dial: (475) 882-1723
Office Phone: (203) 929-8555 ext. 1723
Fax: (203) 926-9140
sstieber@lbgct.com
www.lbgweb.com

This communication may contain confidential information and is intended only for the individual or entity to whom it is addressed. Any review, dissemination, or copying of this communication by anyone other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender, and destroy all copies of the original message. No responsibility is accepted by Orange County Government for any loss or damage arising in any way from receiving this communication.

From:	Stacy Stieber
Sent:	Thursday, February 23, 2017 10:07 AM
To:	'Garry, James (DEC)'
Cc:	T. CUSACK
Subject:	RE: Clovewood Pumping Test Plan_Village of South Blooming Grove

Jim,

We are targeting around the end of March/early April to start the well testing. However, the start will be weather dependent. Precipitation is still below average in the area, even compared to summer conditions.

Stacy Stieber, CPG
Associate/Hydrogeologist
Leggette, Brashears & Graham, Inc.

4 Research Drive, Suite 204
Shelton, CT 06484
Direct Dial: (475) 882-1723
Office Phone: (203) 929-8555 ext. 1723
Fax: (203) 926-9140
sstieber@lbgct.com
www.lbgweb.com

From: Garry, James (DEC) [mailto:james.garry@dec.ny.gov]
Sent: Tuesday, February 21, 2017 4:30 PM
To: Stacy Stieber
Cc: T. CUSACK
Subject: RE: Clovewood Pumping Test Plan_Village of South Blooming Grove

Stacy,

The proposed pumping test for Clovewood is well conceived. Just one question. The report shows a December date for the test. When will the test be conducted? Is it possible to delay the test until the summer months? If not, how does the current winter precipitation compare to typical summer conditions?

Jim

From: Stacy Stieber [mailto:SStieber@LBGct.com]
Sent: Thursday, February 16, 2017 11:54 AM
To: Garry, James (DEC) <james.garry@dec.ny.gov>
Cc: T. CUSACK <TCUSACK@LBGct.com>
Subject: Clovewood Pumping Test Plan_Village of South Blooming Grove

Jim,

We are planning to conducted a new pumping test program for proposed supply wells on the Clovewood Property in the Village of South Blooming Grove. The Village of South Blooming Grove has requested that we have OCDH and NYSDEC review the plan prior to starting the test. Therefore, I am forwarding the Pumping Test Plan (dated September 2016) for this current proposed well test for your review and comment. They have also requested that we send copies of the well logs. I have included logs for all of the onsite wells that we have. Note, Wells C-1, C-2, C-3 and C-13 are original to the property and we do not have copies of the logs for these onsite monitoring wells.

Thank you in advance for your time. Let me know if you have any questions or need me to send you a hard copy of the attached plan.

Thanks,

Stacy Stieber, CPG
Associate/Hydrogeologist
Leggette, Brashears & Graham, Inc.

4 Research Drive, Suite 204
Shelton, CT 06484
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Fax: (203) 926-9140
sstieber@lbgct.com
www.lbgweb.com

APPENDIX II

C-4

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY ORANGE

(2) TOWN BLOOMING GROVE

(3) DEC Well Number 08207

WATER WELL COMPLETION REPORT

(4) OWNER KEENE EQUITIES

(5) ADDRESS 477 BEDFORD AVE BROOKLYN, NY 11211

(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: TEST #1 CLOVE RD. BLOOMING GROVE, NY

☐ GPS ☐ Map Interpolation 41.23.134N 074.09.831W

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 410'

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 60 DATE MEASURED 3-30-07

CASINGS

(9) DIAMETER 8 in. | in. | in. | in.

(10) LENGTH 70 ft. | ft. | ft. | in.

(11) GROUT TYPE / SEALING BEN SEAL

(12) GROUT / SEALING INTERVAL (Feet) FROM 0 TO 70'

SCREENS

(13) MAKE & MATERIAL

(14) OPENINGS

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

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

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

YIELD TEST

(18) DATE 3-30-07

(19) DURATION OF TEST 4

(20) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bail

(21) STABILIZED DISCHARGE (GPM) 150+

(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(24) RECOVERY (Time in hours/minutes)

(25) Was the water produced during the test discharged away from immediate area? Yes ✓ No____

PUMP INSTALLATION

(26) PUMP INSTALLED? YES ____ NO ____

(27) DATE

(28) PUMP INSTALLER

(29) TYPE

(30) MAKE

(31) MODEL

(32) MAXIMUM CAPACITY (GPM)

(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

(34) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☐ Other HAMMER

(35) USE OF WATER (See instructions for choices)

(36) DATE DRILLING WORK STARTED 3-29-07

(37) DATE DRILLING WORK COMPLETED 3-30-07

(38) DATE REPORT FILED 3-30-7

(39) REGISTERED COMPANY Northern Drilling TN.

(40) DEC REGISTRATION NO. NYRD 10199

(41) CERTIFIED DRILLER (Print name) MARK TURNBULL

(42) CERTIFIED DRILLER SIGNATURE* Mark Turnbull

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

(43) LOG

Ground Surface EL. 688 ft. above sea level

Top Of Casing Is located 1 ft. above (+) or below (-) ground surface

TOP OF WELL

0'		
20'		SAND GLOSE
60'		HARD NON SAND
70'		BEDROCK SET 8" CASING
8' DRIVE SHOE		
280'	8	FRACTURE 75 gpm
320'	ss	FRACTURE 40 gpm
325'	ss	Fracture 70' gpm
410'		

BOTTOM OF HOLE

DRILLER COPY

LOCATION SKETCH - Indicate north

DO NOT LOSE!

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

G5

(1) COUNTY ORANGE

(2) TOWN BLOOMINGGROVE

(3) DEC Well Number 08201

WATER WELL COMPLETION REPORT

(4) OWNER KEENE EQUITIES LLC

(5) ADDRESS 477 BEDFORD AVE BROOKLYN, NY 11211

(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: TEST # 2 CLOVE RD. BLOOMINGGROVE, NY TEST WELL # 2 8' DOWN

☐ GPS ☐ Map Interpolation 41·23·008'N 074·10·141'W

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 350'

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 80' DATE MEASURED 4-3-07

CASINGS

(9) DIAMETER 8" in. | in. | in. | in.

(10) LENGTH 100' ft. | ft. | ft. | in.

(11) GROUT TYPE / SEALING BEN SEAL

(12) GROUT / SEALING INTERVAL (feet) FROM 0' TO 100'

SCREENS

(13) MAKE & MATERIAL

(14) OPENINGS

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

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

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

YIELD TEST

(18) DATE 4-3-07

(19) DURATION OF TEST 4

(20) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bail

(21) STABILIZED DISCHARGE (GPM) 200+

(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(24) RECOVERY (Time in hours/minutes)

(25) Was the water produced during the test discharged away from immediate area? Yes ✓ No ____

PUMP INSTALLATION

(26) PUMP INSTALLED? YES ____ NO ____

(27) DATE

(28) PUMP INSTALLER

(29) TYPE

(30) MAKE

(31) MODEL

(32) MAXIMUM CAPACITY (GPM)

(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

(34) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☐ Other Hammer

(35) USE OF WATER (See instructions for choices)

(36) DATE DRILLING WORK STARTED 4-2-07

(37) DATE DRILLING WORK COMPLETED 4-3-07

(38) DATE REPORT FILED 4-2-07

(39) REGISTERED COMPANY NORTHERN DRILLING INC

(40) DEC REGISTRATION NO. NYRD 10177

(41) CERTIFIED DRILLER (Print name) MARK TURNBULL

(42) CERTIFIED DRILLER SIGNATURE * Mark Turnbull

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(43) LOG

Ground Surface EL. 630' ft. above sea level

Top Of Casing is located 1' ft. above (+) or below (-) ground surface

TOP OF WELL

0' – 80'	Hard pop & boulders to Rock
80' – 100'	Lime Stone Set 8 Casing
100' – 285'	8 DRIVE SHOE
285' – 298'	Large Fracture 200 gpm
298' – 360'	Broken up Limestone to Bottom

BOTTOM OF HOLE

DRILLER COPY

LOCATION SKETCH - Indicate north

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

C-6

(3) DEC Well Number 08202

(1) COUNTY ORANGE

(2) TOWN BLoomingGrove

WATER WELL COMPLETION REPORT

(4) OWNER KEENE EQUITIES LLC

(5) ADDRESS 477 BEDFORD AVE. BROOKLYN, NY 11211 LAKE AVE

(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: TEST Well #3 CLOVE R.D. BLOOMINGGROVE, NY

☐ GPS ☐ Map Interpolation 41·22·650' N 074·10·011' W

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 600'

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 15' DATE MEASURED 5-17-07

CASINGS

(9) DIAMETER 8" in. | in. | in. | in.

(10) LENGTH 61' ft. | ft. | ft. | in.

(11) GROUT TYPE / SEALING BEN SEAL

(12) GROUT / SEALING INTERVAL (feet) FROM 0' TO 61'

SCREENS

(13) MAKE & MATERIAL

(14) OPENINGS

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

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

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

YIELD TEST

(18) DATE 5-18-07

(19) DURATION OF TEST 4

(20) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bail

(21) STABILIZED DISCHARGE (GPM) 75

(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(24) RECOVERY (Time in hours/minutes)

(25) Was the water produced during the test discharged away from immediate area? Yes ✓ No____

PUMP INSTALLATION

(26) PUMP INSTALLED? YES____ NO____

(27) DATE

(28) PUMP INSTALLER

(29) TYPE

(30) MAKE

(31) MODEL

(32) MAXIMUM CAPACITY (GPM)

(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

(34) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☐ Other HAMMER

(35) USE OF WATER (See instructions for choices)

(36) DATE DRILLING WORK STARTED 5-16-07

(37) DATE DRILLING WORK COMPLETED 5-18-07

(38) DATE REPORT FILED 5-16-07

(39) REGISTERED COMPANY NORTHERN DRILLING INC

(40) DEC REGISTRATION NO. NYRD 10177

(41) CERTIFIED DRILLER (Print name) MARK TURNBULL

(42) CERTIFIED DRILLER SIGNATURE* Mark Turnbull

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

(43) LOG

Ground Surface EL. 674' ft. above sea level

Top Of Casing is located 18" ft. above (+) or below (-) ground surface

TOP OF WELL

0'		
15'		SAND GRAVEL B.ROCK
61'		GREY LIMESTONE SET 8" CASING
80' 8" DRIVE SHOE	SS	8" DRILLED HOLE to 440' FRACTURE 25 gpm
320'	SS	FRACTURE 50 gpm
440'		WENT TO 6" HAMMER
600'		

BOTTOM OF HOLE

DRILLER COPY

LOCATION SKETCH - Indicate north

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

C-7

(3) DEC Well Number 08203

(1) COUNTY Orange

(2) TOWN Blooming Grove

WATER WELL COMPLETION REPORT

(4) OWNER KEENE EQUITIES LLC

(5) ADDRESS 477 BEDFORD AVE. BROOKLYN, NY 11211 LAKE ANN

(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: CLOVE RD. BLOOMING GROVE, NY Test Well #4

☐ GPS ☐ Map Interpolation 41.23.175' N 074.09.929' W

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 525'

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 20' DATE MEASURED 5-21-07

CASINGS

(9) DIAMETER 8" in. | in. | in. | in.

(10) LENGTH 61 ft. | ft. | ft. | in.

(11) GROUT TYPE / SEALING BEN SEAL

(12) GROUT / SEALING INTERVAL (feet) FROM 0' TO 61'

SCREENS

(13) MAKE & MATERIAL

(14) OPENINGS

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

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

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

YIELD TEST

(18) DATE 5-21-07

(19) DURATION OF TEST 4

(20) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bail

(21) STABILIZED DISCHARGE (GPM) 200+

(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(24) RECOVERY (Time in hours/minutes)

(25) Was the water produced during the test discharged away from immediate area? Yes ✓ No____

PUMP INSTALLATION

(26) PUMP INSTALLED? YES____ NO____

(27) DATE

(28) PUMP INSTALLER

(29) TYPE

(30) MAKE

(31) MODEL

(32) MAXIMUM CAPACITY (GPM)

(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

(34) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☐ Other HAMMER

(35) USE OF WATER (See instructions for choices)

(36) DATE DRILLING WORK STARTED 5-19-07

(37) DATE DRILLING WORK COMPLETED 5-21-07

(38) DATE REPORT FILED 5-19-07

(39) REGISTERED COMPANY NORTHERN DRILLING INC

(40) DEC REGISTRATION NO. NYRD 10177

(41) CERTIFIED DRILLER (Print name) MARK TURNBULL

(42) CERTIFIED DRILLER SIGNATURE* Mark Turnbull

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

(43) LOG

Ground Surface EL. 560' ft. above sea level

Top Of Casing is located 1' ft. above (+) or below (-) ground surface

TOP OF WELL

0'		
40'		SAND GRAVEL SAND LOOSE to ROCK
61'		LIMESTONE SET 8" CASING
8' DRIVE SHOE		
90'	SS	FRACTURE 15 gpm
445'		NO fractures Stopped 8" went to 6' Hammer
510'		VERY BROKEN UP
200+ gpm 525'		YELLOW to ORANGE Limestone Stopped DRILLING

BOTTOM OF HOLE

DRILLER COPY

LOCATION SKETCH - Indicate north

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY Orange

(2) TOWN Bloomingrove

WATER WELL COMPLETION REPORT

(3) DEC Well Number 010251

(4) OWNER Simon Lea CPC, LLC

(5) ADDRESS P.O. BOX 2020 MONROE. NY 10949

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if address is same as above)
ROUTE 208 & CLOVE RD BLOOMING GROVE NY 7A

(7) LATITUDE/LONGITUDE AND METHOD USED ☒ GPS ☐ Map 41·23·242'N 074·08·854'W

(8) TAX MAP NO. /

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 265

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 60 DATE MEASURED

CASINGS

(11) DIAMETER 8" in. | in. | in. | in.

(12) LENGTH 80" ft. | ft. | ft. | in.

(13) GROUT TYPE / SEALING BEN SEAL

(14) GROUT / SEALING INTERVAL (feet) FROM 0' TO 80'

SCREENS

(15) MAKE & MATERIAL

(16) OPENINGS

(17) DIAMETER in. | in. | in. | in.

(18) LENGTH ft. | ft. | ft. | in.

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

YIELD TEST

(20) DATE 8/11/14

(21) DURATION OF TEST 4 HRS

(22) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 175+

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ____

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ____ NO ____

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool Other HAMMER

(37) USE OF WATER (See instructions for choices) TEST WELL

(38) DATE DRILLING WORK STARTED 8.5.14

(39) DATE DRILLING WORK COMPLETED 8.11.14

(40) DATE REPORT FILED 8.3.14

(41) REGISTERED COMPANY NORTHERN DRILLING INC

(42) DEC REGISTRATION NO. NYRD 10177

(43) CERTIFIED DRILLER (Print name) MARK TOMASI

(44) CERTIFIED DRILLER SIGNATURE* Mark Tomasi

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

10/2011

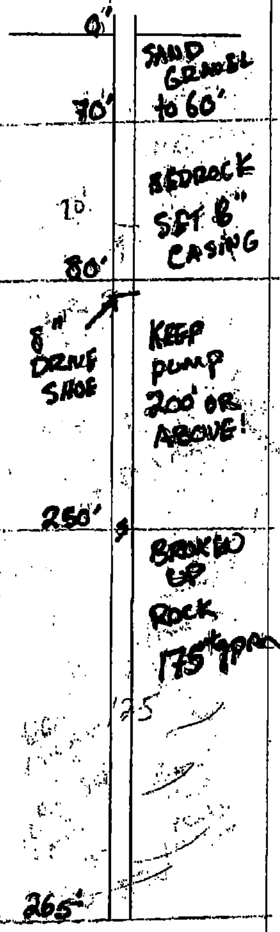
(45) WELL LOG

Depth to Bedrock 70' (ft. below land surface)

Ground Elevation 601' (ft. above sea level)

Top of Casing 18" (ft. above (+) or below (-) land surface)

TOP OF WELL



BOTTOM OF HOLE

OWNER

LOCATION SKETCH - Indicate north

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER WELL COMPLETION REPORT

(1) COUNTY Orange
TOWN Bloominggrove

(3) DEC Well Number 010251

OWNER Simon Gelb CPC, LLC Well # 7A

(5) ADDRESS PO Box 2020, Monroe, NY 10949

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if address is same as above) See first report # 010251

(7) LATITUDE/LONGITUDE AND METHOD USED ☐ GPS ☐ Map

(8) TAX MAP NO.

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 300

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) DATE MEASURED

CASINGS

(11) DIAMETER in. in. in. in.

(12) LENGTH ft. ft. ft. in.

(13) GROUT TYPE / SEALING Bentonite dry granular

(14) GROUT / SEALING INTERVAL (feet) FROM ______ TO ______

SCREENS

(15) MAKE & MATERIAL

(16) OPENINGS

(17) DIAMETER in. in. in. in.

(18) LENGTH ft. ft. ft. in.

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

YIELD TEST

(20) DATE 8-11-16

(21) DURATION OF TEST 1 hr.

(22) LIFT METHOD ☐ Pump ☑ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 500

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ____

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ____ NO ____

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(3 OD OF DRILLING otary ☐ Cable Tool ☒ Other dual rotary

(37) USE OF WATER (See instructions for choices) domestic

(38) DATE DRILLING WORK STARTED 8-11-16

(39) DATE DRILLING WORK COMPLETED 8-11-16

(40) DATE REPORT FILED

(41) REGISTERED COMPANY Frey Well Drilling

(42) DEC REGISTRATION NO. NYRD 10009

(43) CERTIFIED DRILLER (Print name) William Frey

(44) CERTIFIED DRILLER SIGNATURE* William Frey

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

09/2010

(45) WELL LOG

Depth to Bedrock ______ (ft. below land surface)

Ground Elevation ______ (ft. above sea level)

Top of Casing ______ (ft. above (+) or below (-) land surface)

TOP OF WELL

250	white brown black Metamorphic rock
*250	200 gpm
*256	+100 gpm
*265	+ 100 gpm
280	begin brown shale
*280	+ 100 gpm
300	brown shale
	500 gpm total

BOTTOM OF HOLE

NYSDEC

LOCATION SKETCH - Indicate north

well was driled by someone else, we only deepened the well
no additional casing put in

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

#7B,24

(1) COUNTY Orange

(2) TOWN Monroe

(3) DEC Well Number 010829

WATER WELL COMPLETION REPORT

(4) OWNER Simon Gelb CPC LLC

(5) ADDRESS PO Box 2000 Monroe NY. 10949

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if address is same as above) Clove Rd Rt 27 Monroe NY

(7) LATITUDE/LONGITUDE AND METHOD USED ☐ GPS ☑ Map

(8) TAX MAP NO.

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 280

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) DATE MEASURED

CASINGS

(11) DIAMETER	8 in.	12 in.	in.	in.
(12) LENGTH	100 ft.	21-pulled ft.	ft.	in.

(13) GROUT TYPE / SEALING Bentonite dry granular

(14) GROUT / SEALING INTERVAL (feet) FROM 20' to surface

SCREENS

(15) MAKE & MATERIAL N/A

(16) OPENINGS

(17) DIAMETER	in.	in.	in.	in.
(18) LENGTH	ft.	ft.	ft.	in.

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

YIELD TEST

(20) DATE 8-2-16

(21) DURATION OF TEST 1 hr.

(22) LIFT METHOD ☐ Pump ☑ Air Lift ☐ Bail

(23) STABILIZED DISCHARGE (GPM) 500

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (feet/inches) (Reported below top of casing)

(26) RECOVERY (Time in hours/min.)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ___

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ___ NO ✓

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) RATED CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL BELOW TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☒ Other Dual Rotary

(37) USE OF WATER (See instructions for choices) Domestic

(38) DATE DRILLER'S WORK STARTED 8-1-16

(39) DATE DRILLING WORK COMPLETED 8-2-16

(40) DATE REPORT FILED

(41) REGISTERED COMPANY Freywell Drilling

(42) DEC REGISTRATION NO. NYRD 10009

(43) CERTIFIED DRILLER (Print name) William Frey

(44) CERTIFIED DRILLER SIGNATURE William Frey

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

08/2010

(45) WELL LOG

Depth to Bedrock 68 (ft. below land surface)

Ground Elevation ______ (ft. above sea level)

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

TOP OF WELL

1-21	fine, coarse grey sand
21-45	soft, grey silty clay
45-68	dry gravel w/ clay
60-68	orange dry gravel
68'	gray black shale
*176-190	black shale 10 gpm
190-193	black shale
*193-194	black shale stained orange +20 gpm
210	black shale stained orange + 20 gpm
*210-225	brown/black shale 50 gpm total
225-230	granite +150 gpm
230-231	fracture + 200 gpm
231-247	granite
247-260	+ 300 gpm
260	brown stained granite
260-265	brown white granite
266	floods reddenmicker (?) thickness in 15 mins
266-274	brown white granite + 300 gpm
274-290	brown shale
274	muddy seam
290-300	brown shale caves in to 280'

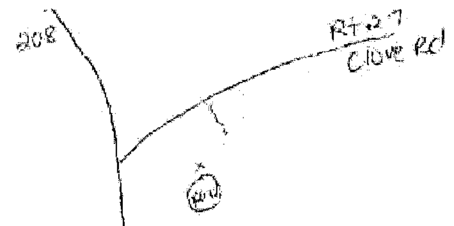
BOTTOM OF HOLE

~~290 total depth~~

500 gpm total

NYSDEC

LOCATION SKETCH - Indicate north



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY ORANGE

(2) TOWN BLOOMING GROVE

WATER WELL COMPLETION REPORT

(3) DEC Well Number 010250

(4) OWNER [illegible] CPC, LLC

(5) ADDRESS P.O. BOX 2020 MONROE, NY 10949 WELL #C-8

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if address is same as above)
ROUTE 208 + CLOVE RD BLOOMING GROVE, NY

(7) LATITUDE/LONGITUDE AND METHOD USED ☒ GPS ☐ Map 41-22.358 N 074-10.214 W

(8) TAX MAP NO. /

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 390'

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 40' DATE MEASURED 8/6/14

CASINGS

(11) DIAMETER 8" in.	in.	in.	in.
(12) LENGTH 60' ft.	ft.	ft.	in.

(13) GROUT TYPE / SEALING BEN SEAL

(14) GROUT / SEALING INTERVAL (feet) FROM 6 TO 60'

SCREENS

(15) MAKE & MATERIAL

(16) OPENINGS

(17) DIAMETER in.	in.	in.	in.
(18) LENGTH ft.	ft.	ft.	in.

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

YIELD TEST

(20) DATE 8/5/14

(21) DURATION OF TEST 4 HR

(22) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 300 +

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) 175

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ____

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ____ NO ✓

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool Other Hammer

(37) USE OF WATER (See instructions for choices) TEST WELL

(38) DATE DRILLING WORK STARTED 7-28-14

(39) DATE DRILLING WORK COMPLETED 8-6-14

(40) DATE REPORT FILED 8-1-14

(41) REGISTERED COMPANY NORTHERN DRILLING INC

(42) DEC REGISTRATION NO: NYRD 10147

(43) CERTIFIED DRILLER (Print name) MARK T[illegible]

(44) CERTIFIED DRILLER SIGNATURE *

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

10/2011

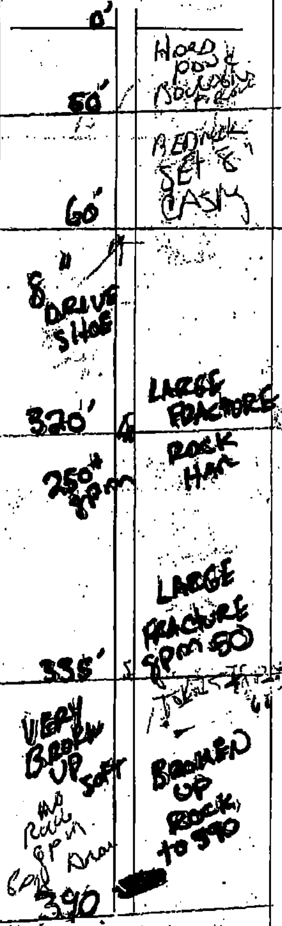
(45) WELL LOG

Depth to Bedrock 50' (ft. below land surface)

Ground Elevation 765 (ft. above sea level)

Top of Casing 18" (ft. above (+) or below (-) land surface)

TOP OF WELL



0'

50' HARD PAN & BOULDERS

60' BEDROCK SET 8" CASING

8" DRIVE SHOE

320' LARGE FRACTURE

ROCK HAR[illegible]

250 GPM

LARGE FRACTURE GPM 50

355'

[illegible]

VERY BROKEN UP SOFT

[illegible]

BROKEN UP ROCK to 390

390

BOTTOM OF HOLE

OWNER

LOCATION SKETCH - Indicate north

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY ORANGE

(2) TOWN BLOOMING GROVE

WATER WELL COMPLETION REPORT

(3) DEC Well Number 010195

(4) OWNER [illegible] CPC, LLC

(5) ADDRESS P.O. BOX 2020 MONROE, NY 10949

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if address is same as above) C-9 [illegible] C-9 ROUTE 208 + [illegible]

(7) LATITUDE/LONGITUDE AND METHOD USED ☒ GPS ☐ Map 41-22.974 N 074-10-119' W

(8) TAX MAP NO.

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 325'

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 40' DATE MEASURED 7-30-14

CASINGS

(11) DIAMETER 8" in. | in. | in. | in.

(12) LENGTH 104' ft. | ft. | ft. | in.

(13) GROUT TYPE / SEALING BEN SEAL

(14) GROUT / SEALING INTERVAL (feet) FROM 0' TO 104'

SCREENS

(15) MAKE & MATERIAL

(16) OPENINGS

(17) DIAMETER in. | in. | in. | in.

(18) LENGTH ft. | ft. | ft. | in.

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

YIELD TEST

(20) DATE 7/29/14

(21) DURATION OF TEST 8 HR

(22) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 300

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ____

PUMP INSTALLATION

(28) PUMP INSTALLED? YES____ NO____

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool Other HAMMER

(37) USE OF WATER (See instructions for choices) I, S TEST WATER

(38) DATE DRILLING WORK STARTED 7-28-14

(39) DATE DRILLING WORK COMPLETED 7-30-14

(40) DATE REPORT FILED 7-26-14

(41) REGISTERED COMPANY [illegible] Drilling Inc.

(42) DEC REGISTRATION NO. NYRD 10177

(43) CERTIFIED DRILLER (Print name) Mark Tenner

(44) CERTIFIED DRILLER SIGNATURE * Mark Tenner

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10/2011

(45) WELL LOG

Depth to Bedrock 90' (ft. below land surface)

Ground Elevation 1092 (ft. above sea level)

Top of Casing 8" (ft. above (+) or below (-) land surface)

TOP OF WELL

0'

Hard pan Boulders Sand to Gravel to Bedrock

90'

Bedrock BLUE LIMESTONE Set 8" Casing

104'

8" Drive Shoe

290' LARGE FRACTURE

BROKEN UP ROCK 300+ gpm

325'

BOTTOM OF HOLE

OWNER

LOCATION SKETCH - Indicate north

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY ORANGE

(2) TOWN Blooming Grove

WATER WELL COMPLETION REPORT

(3) DEC Well Number 010192

(4) OWNER Simon CPC, LLC

(5) ADDRESS P.O. BOX 2020 MONROE NY 10949

(6) LOCATION OF WELL (See Instructions On Reverse) RTE 208 + CLOVE [illegible] ☐ if address is same as above)
TEST WELL # C-10 10" well casing

(7) LATITUDE/LONGITUDE AND METHOD USED ☒ GPS ☐ Map 41.22.695 N 074.10.197 W

(8) TAX MAP NO.

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 620'

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 50' DATE MEASURED 6.23-14

CASINGS

(11) DIAMETER	14" in.	10" in.	in.	in.
(12) LENGTH	16' ft.	40' ft.	ft.	in.

(13) GROUT TYPE / SEALING BEN SEAL

(14) GROUT / SEALING INTERVAL (feet) FROM 0' TO 40'

SCREENS

(15) MAKE & MATERIAL

(16) OPENINGS

(17) DIAMETER	in.	in.	in.	in.
(18) LENGTH	ft.	ft.	ft.	in.

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

YIELD TEST

(20) DATE 6/20/14

(21) DURATION OF TEST 4 HR

(22) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 5

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No____

PUMP INSTALLATION

(28) PUMP INSTALLED? YES____ NO____

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☒ Other HAMMER

(37) USE OF WATER (See instructions for choices) TEST WELL

(38) DATE DRILLING WORK STARTED 6-18-14

(39) DATE DRILLING WORK COMPLETED 6.23.14

(40) DATE REPORT FILED 6.15.14

(41) REGISTERED COMPANY NORTHERN DRILLING

(42) DEC REGISTRATION NO. NYRD 10177

(43) CERTIFIED DRILLER (Print name) MARK Turnbull

(44) CERTIFIED DRILLER SIGNATURE* Mark Turnbull

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10/2011

(45) WELL LOG

Depth to Bedrock 25' (ft. below land surface)

Ground Elevation 555 (ft. above sea level)

Top of Casing 18" (ft. above (+) or below (-) land surface)

TOP OF WELL

0' COBBLES

16' 16' 14" Casing

BEDROCK SET 10" to 40'

40'

10" DRIVE SHOE

210' FRACTURE 5 gpm

NO FRACTURE

620'

BOTTOM OF HOLE

OWNER

LOCATION SKETCH - Indicate north

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY ORANGE

(2) TOWN BLOOMING GROVE

WATER WELL COMPLETION REPORT

(3) DEC Well Number 010194

(4) OWNER Simon [illegible] CPC LLC

(5) ADDRESS P.O. Box 2020 [illegible] MONROE, NY 10949

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if address is same as above)
C11
ROUTE 208 + CLOVE RD BLOOMING GROVE, NY

(7) LATITUDE/LONGITUDE AND METHOD USED ☒ GPS ☐ Map 41.22.774'N 074.10.185'W

(8) TAX MAP NO.

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 745'

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 80" DATE MEASURED 7-10-14

CASINGS

(11) DIAMETER 8" in.	in.	in.	in.
(12) LENGTH 100' ft.	ft.	ft.	in.

(13) GROUT TYPE / SEALING BEN SEAL

(14) GROUT / SEALING INTERVAL (feet) FROM 0' TO 100'

SCREENS

(15) MAKE & MATERIAL

(16) OPENINGS

(17) DIAMETER in.	in.	in.	in.
(18) LENGTH ft.	ft.	ft.	in.

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

YIELD TEST

(20) DATE 7-10-14

(21) DURATION OF TEST 4 HR

(22) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 8.5

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ____

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ____ NO ____

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☑ Other HAMMER

(37) USE OF WATER (See instructions for choices) TEST WELL

(38) DATE DRILLING WORK STARTED 7-8-14

(39) DATE DRILLING WORK COMPLETED 7-10-14

(40) DATE REPORT FILED 7-4-14

(41) REGISTERED COMPANY NORTHEN DRILL INC

(42) DEC REGISTRATION NO. NYRD 10177

(43) CERTIFIED DRILLER (Print name) MARK [illegible]

(44) CERTIFIED DRILLER SIGNATURE* Mark [illegible]

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10/2011

(45) WELL LOG

Depth to Bedrock 90' (ft. below land surface)

Ground Elevation 629 (ft. above sea level)

Top of Casing 18" (ft. above (+) or below (-) land surface)

TOP OF WELL

0'	
90'	HOLD AND CRUMBERS
101'	Stone set 8" Casing
8" DRIVE SHOE	
490'	FRACTURES 8 gpm
745'	

BOTTOM OF HOLE

OWNER

LOCATION SKETCH - Indicate north

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY ORANGE

(2) TOWN BloomingGrove

(3) DEC Well Number 010193

WATER WELL COMPLETION REPORT

(4) OWNER Simon LEeB CPC LLC

(5) ADDRESS P.O. BOX 2020 MONROE, NY 10949

(6) LOCATION OF WELL (See Instructions On Reverse) C-12 (Check here ☐ If address is same as above)
ROUTE 208 & GLOVE RD BLOOMING GROVE, NY

(7) LATITUDE/LONGITUDE AND METHOD USED ☒ GPS ☐ Map 41.20.139'N.074.09.682W

(8) TAX MAP NO.

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 580'

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 100' DATE MEASURED 7-1-14

CASINGS

(11) DIAMETER	8 in.	in.	in.	in.
(12) LENGTH	70' ft.	ft.	ft.	in.

(13) GROUT TYPE / SEALING BEN SEAL

(14) GROUT / SEALING INTERVAL (feet) FROM 0' TO 70'

SCREENS

(15) MAKE & MATERIAL

(16) OPENINGS

(17) DIAMETER	in.	in.	in.	in.
(18) LENGTH	ft.	ft.	ft.	in.

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

YIELD TEST

(20) DATE 7-1-14

(21) DURATION OF TEST 4 HRS

(22) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 125

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ____

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ____ NO ____

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool Other HAMMER

(37) USE OF WATER (See instructions for choices) TEST WELL

(38) DATE DRILLING WORK STARTED 6-28-14

(39) DATE DRILLING WORK COMPLETED 7-1-14

(40) DATE REPORT FILED 6-29-14

(41) REGISTERED COMPANY NORTHERN DRILLING INC

(42) DEC REGISTRATION NO. NYRD 10177

(43) CERTIFIED DRILLER (Print name) MARK TUMBULL

(44) CERTIFIED DRILLER SIGNATURE * Mark T

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10/2011

(45) WELL LOG

Depth to Bedrock 50' (ft. below land surface)

Ground Elevation 581' (ft. above sea level)

Top of Casing 18" (ft. above (+) or below (-) land surface)

TOP OF WELL

0'

HARDPAN & BOULDER to BEDROCK

50'

LIMESTONE SET 8" CASING

70'

8" DRIVE SHOE

FRACTURE ROCK 125 gpm

560'

VERY BROKEN UP ROCK

580'

BOTTOM OF HOLE

OWNER

LOCATION SKETCH - Indicate north

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER WELL COMPLETION REPORT

(3) DEC Well Number

OF SOUTH BLOOMING GROVE RECEIVED DEC

COUNTY ORANGE

TOWN BLOOMINGROVE

OWNER IPC LLC

ADDRESS CLOVER P.O. BOX 2020 MONROE, NY [illegible] (Check here ☐ if address is same as above) 1st TEST WELL

LOCATION OF WELL (See Instructions On Reverse) WELL #14C CLOVE RD

LATITUDE/LONGITUDE AND METHOD USED ☒ GPS ☐ Map 41.22.632'N 074.09.933 W

(8) TAX MAP NO.

DEPTH OF WELL BELOW LAND SURFACE (feet) 750'

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 10 DATE MEASURED 8-6-15

CASINGS

DIAMETER 8" in.	in.	in.	in.
LENGTH 50' ft.	ft.	ft.	ft.

GROUT TYPE SEALING BEN SEAL

(14) GROUT / SEALING INTERVAL (feet) FROM 0' TO 50'

SCREENS

MAKE & MATERIAL

(16) OPENINGS

DIAMETER in.	in.	in.	in.
LENGTH ft.	ft.	ft.	ft.

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

YIELD TEST

(20) DATE 8-5-15

(21) DURATION OF TEST 8 Hr

(22) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 150+

STATIC LEVEL PRIOR TO TEST (feet below top of casing)

MAXIMUM DRAW DOWN (feet below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No

PUMP INSTALLATION

(28) PUMP INSTALLED? YES NO

(29) DATE

(30) CERTIFIED PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☐ Other HAMMER

(37) USE OF WATER (See instructions for choices)

(38) DATE DRILLING WORK STARTED 7-29-15

DATE DRILLING WORK COMPLETED 8-6-15

DATE REPORT FILED 7-28-15

REGISTERED COMPANY NORTHERN DRILLING INC

DEC REGISTRATION NO. NYRD 10177

CERTIFIED DRILLER Print name MARK [illegible]

CERTIFIED DRILLER SIGNATURE* Mark [illegible]

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(45) WELL LOG

Depth to Bedrock 30' (ft. below land surface)

Ground Elevation 614 (ft. above sea level)

Top of Casing 18" (ft. above (+) or below (-) land surface)

TOP OF WELL

0'		
30' 50'		SAW GRAVEL TO BEDROCK BLUE LIMESTONE
8" DRIVE SHOE 110	S	SET GROUTED 8" CASING
		FRACTURE AT 110 35 gpm FRACTURE 125
125'	G	gpm at 90
NO FRACTURE		DOWN TO 440'
WATER INCREASE FROM FRACTURE AT 125' 610' to 615'		FLOW TO 125+ gpm
BROKEN UP ROCK gpm ABOUT 175+		
DRILL TO 750'		
NO FRACTURE TO BOTTOM 750'		

BOTTOM OF HOLE

NYSDEC

(1) COUNTY Orange

(2) TOWN Bloomingrove

WATER WELL COMPLETION REPORT

SOUTH BLOOMING GROVE 2015 DEC RECEIVED

(3) DEC Well Number

(4) OWNER CPC LLC

(5) ADDRESS P.O. BOX 2020 MONROE NY 10949

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if address is same as above)
2nd well up Hill from 1st #15 Station C6SC3 CLOVE RD.

(7) LATITUDE/LONGITUDE AND METHOD USED ☑ GPS ☐ Map 41.22.639'N 074.08.723'W

(8) TAX MAP NO

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 840'

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 20'

DATE MEASURED

CASINGS

(11) DIAMETER 8" in.	in.	in.	in.
(12) LENGTH 50' ft.	ft.	ft.	ft.

(13) GROUT TYPE / SEALING BEN SEAL

(14) GROUT / SEALING INTERVAL (feet) FROM 0' TO 40'

SCREENS

(15) MAKE & MATERIAL

(16) OPENINGS

(17) DIAMETER in.	in.	in.	in.
(18) LENGTH ft.	ft.	ft.	ft.

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

YIELD TEST

(20) DATE 8/26/15

(21) DURATION OF TEST 4 Hr

(22) LIFT METHOD ☐ Pump ☑ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 70

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(26) RECOVERY Time in hours/minutes

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ____

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ____ NO ____

(29) DATE

(30) CERTIFIED PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☐ Other Hammer

(37) USE OF WATER (See instructions for choices) —

(38) DATE DRILLING WORK STARTED 8-12-15

(39) DATE DRILLING WORK COMPLETED 8-27-15

(40) DATE REPORT FILED 8/16/15

(41) REGISTERED COMPANY NORTHERN DRILLING INC

(42) DEC REGISTRATION NO. NYRD 10177

(43) CERTIFIED DRILLER (Print name) Mark Turnbull

(44) CERTIFIED DRILLER SIGNATURE * Mark Turnbull

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

10/2013

(45) WELL LOG

Depth to Bedrock 28' (ft. below land surface)

Ground Elevation 775 (ft. above sea level)

Top of Casing 18" (ft. above (+) or below (-) land surface)

TOP OF WELL

0 28'		Sandy Loam Gravel
50'		Blue Limestone set 8" casing
8" Drive Shoe 130'	6	Fracture 25 gpm
720'	5	Fracture 720' 50 gpm
840'		no Fracture

BOTTOM OF HOLE

NYSDEC

LOCATION SKETCH - Indicate north

Berkshire Business Forms Inc. Hudson NY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER WELL COMPLETION REPORT

(1) COUNTY Orange

(2) TOWN Blooming Grove

(3) DEC Well Number

(4) OWNER CPC LLC

(5) ADDRESS P.O. BOX 2020 MONROE, NY

(Check here ☐ if address is same as above)

(6) LOCATION OF WELL (See Instructions On Reverse) Well #4 C#16

(7) LATITUDE/LONGITUDE AND METHOD USED ☒ GPS ☐ Map 41.22.669'N 074.09.704'W

(8) TAX MAP NO

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 670'

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 30' DATE MEASURED 11/3/15

CASINGS

(11) DIAMETER	8" in.	6" in.	in.	in.
(12) LENGTH	50 ft.	60' ft.	ft.	ft.

(13) GROUT TYPE SEALING BEN SEAL

(14) GROUT SEALING INTERVAL feet FROM 0 - 60

SCREENS

(15) MAKE & MATERIAL

(16) OPENINGS

(17) DIAMETER	in.	in.	in.	in.
(18) LENGTH	ft.	ft.	ft.	ft.

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

YIELD TEST

(20) DATE 11/4/15

(21) DURATION OF TEST 6 Hr

(22) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 120

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ____

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ____ NO ____

(29) DATE

(30) CERTIFIED PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☐ Other Hammer

(37) USE OF WATER (See instructions for choices)

(38) DATE DRILLING WORK STARTED 10/29/15

(39) DATE DRILLING WORK COMPLETED 11/5/15

(40) DATE REPORT FILED 10/10/16

(41) REGISTERED COMPANY Northern Drilling Inc

(42) DEC REGISTRATION NO. NYRD 10177

(43) CERTIFIED DRILLER (Print name) Mark Turnbull

(44) CERTIFIED DRILLER SIGNATURE * Mark Turnbull

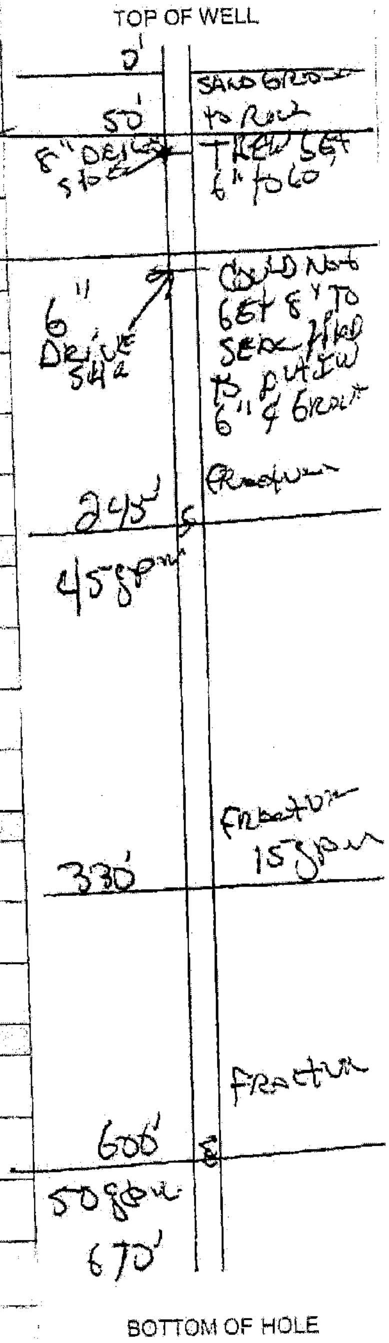
* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law 15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3)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

(45) WELL LOG

Depth to Bedrock 60' (ft. below land surface)

Ground Elevation 680 (ft. above sea level)

Top of Casing 18" (ft. above (+) or below (-) land surface)



NYSDEC

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER WELL COMPLETION REPORT

(1) COUNTY Orange

(2) TOWN Bloomingburgh

(3) DEC Well Number

(4) OWNER CPC, LLC

(5) ADDRESS P.O. BOX 2020 MONROE, NY
[redacted] Down the way by stream

(6) LOCATION OF WELL (See instructions On Reverse) (Check here ☐ if address is same as above)
WELL #17C CLOVE RD.

(7) LATITUDE/LONGITUDE AND METHOD USED ☒ GPS ☐ Map 41.22.913' N 074.09.541' W

(8) TAX MAP NO

(9) DEPTH OF WELL BELOW LAND SURFACE (feet)

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) DATE MEASURED

CASINGS

(11) DIAMETER 8" in. | in. | in. | in.

(12) LENGTH 50' ft. | ft. | ft. | ft.

(13) GROUT TYPE / SEALING BEN SEAL

(14) GROUT / SEALING INTERVAL (feet) FROM 0 TO 50

SCREENS

(15) MAKE & MATERIAL

(16) OPENINGS

(17) DIAMETER in. | in. | in. | in.

(18) LENGTH ft. | ft. | ft. | ft.

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

YIELD TEST

(20) DATE 10/17/15

(21) DURATION OF TEST 4 HR

(22) LIFT METHOD ☐ Pump ☒ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 50 to 60

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ____

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ____ NO ____

(29) DATE

(30) CERTIFIED PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☐ Other HAmmer

(37) USE OF WATER (See instructions for choices)

(38) DATE DRILLING WORK STARTED 10-14-15

(39) DATE DRILLING WORK COMPLETED 10-17-15

(40) DATE REPORT FILED 10/10/15

(41) REGISTERED COMPANY NORTHERN DRILLING

(42) DEC REGISTRATION NO. NYRD 10177

(43) CERTIFIED DRILLER (Print name) Mark Turnbull

(44) CERTIFIED DRILLER SIGNATURE Mark Turnbull

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(45) WELL LOG

Depth to Bedrock 30' (ft. below land surface)

Ground Elevation 988 (ft. above sea level)

Top of Casing 18" (ft. above (+) or below (-) land surface)

TOP OF WELL

0'

Hardpan Cobbles & some Gravel

30'

Limestone

Set 50' 8"

50'

8" Drive Shoe

Fracture 25 gpm

290'

430' 30 gpm

690'

BOTTOM OF HOLE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION # (18)

(1) COUNTY Orange

(2) TOWN Monroe

Revised

WATER WELL COMPLETION REPORT

(3) DEC Well Number 010710

(4) OWNER Simon Gelb CPC, LLC

(5) ADDRESS PO Box 2020 Monroe, NY 10949

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if address is same as above) Clove rd Rt 27 Monroe, NY

(7) LATITUDE/LONGITUDE AND METHOD USED ☐ GPS ☑ Map

(8) TAX MAP NO.

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 950

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) — DATE MEASURED —

CASINGS

(11) DIAMETER 8" in.	12 in.	in.	in.
(12) LENGTH 100' 8" ft.	21 - pulled ft.	ft.	in.

(13) GROUT TYPE / SEALING Bentonite dry granular

(14) GROUT / SEALING INTERVAL (feet) FROM 28' TO Surface

SCREENS

(15) MAKE & MATERIAL N/A

(16) OPENINGS

(17) DIAMETER in.	in.	in.	in.
(18) LENGTH ft.	ft.	ft.	in.

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

YIELD TEST

(20) DATE 3/24/16

(21) DURATION OF TEST 1 hr.

(22) LIFT METHOD ☐ Pump ☑ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 90

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ___

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ___ NO ✓

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING ☐ Rotary ☐ Cable Tool ☒ Other Dual Rotary

(37) USE OF WATER (See instructions for choices) domestic

(38) DATE DRILLING WORK STARTED 3/21/16

(39) DATE DRILLING WORK COMPLETED 3/24/16

(40) DATE REPORT FILED

(41) REGISTERED COMPANY Freywell Drilling

(42) DEC REGISTRATION NO. NYRD 10009

(43) CERTIFIED DRILLER (Print name) William Frey

(44) CERTIFIED DRILLER SIGNATURE* William Frey

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

6/2010

(45) WELL LOG

Depth to Bedrock 28 (ft. below land surface)

Ground Elevation ___ (ft. above sea level)

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

TOP OF WELL

28' shale rock

48 (15) gpm behind casing

Variations of gray & black shale

155 (60) gpm

Variations of gray & black shale

352

760 - 770 (30 gpm)

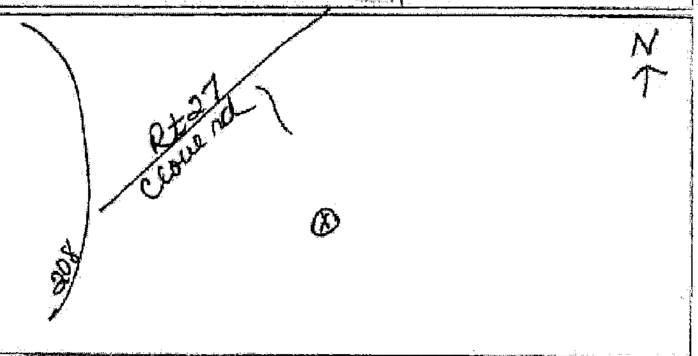
Variations of gray & black shale

950 Total depth

BOTTOM OF HOLE

NYSDEC

LOCATION SKETCH - Indicate north



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Well (19)

(3) DEC Well Number
010711

(1) COUNTY Orange

(2) TOWN Monroe

Revised

WATER WELL COMPLETION REPORT

(4) OWNER
Simon Gelb CPC LLC

(5) ADDRESS
PO Box 2030 Monroe NY 14949

(6) LOCATION OF WELL (See instructions on reverse) (Check here ☐ if address is same as above)
Clove Rd. Rt 27 Monroe NY

(7) LATITUDE/LONGITUDE AND METHOD USED
☐ GPS ☑ Map

(8) TAX MAP NO.

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 700

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet)

CASINGS

(11) DIAMETER 8 in. | 12 in. | in. | in.

(12) LENGTH 100.5 ft. | 21-pulled ft. | ft. | ft.

(13) GROUT TYPE / SEALING Bentonite dry granular

(14) GROUT / SEALING INTERVAL (feet) FROM 28 TO Surface

SCREENS

(15) MAKE & MATERIAL N/A

(16) OPENINGS

(17) DIAMETER in. | in. | in. | in.

(18) LENGTH ft. | ft. | ft. | ft.

(19) DEPTH TO TOP OF SCREEN FROM TOP OF CASING (Feet)

YIELD TEST

(20) DATE 4-15-16

(21) DURATION OF TEST 1 hr.

(22) LIFT METHOD ☐ Pump ☑ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 70

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(26) RECOVERY (Time in Hours/minutes)

(27) Was the water (in flow) during the test discharged away from the work area? Yes ✓ No

PUMP INSTALLATION

(28) PUMP INSTALLED? YES NO ✓

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING Rotary ☐ Cable Tool ☒ Other Dual Rotary

(37) USE OF WATER (See instructions on reverse) domestic

(38) DATE DRILLING WORK STARTED 4-14-16

(39) DATE DRILLING WORK COMPLETED 4-15-16

(40) DATE REPORT FILED

(41) REGISTERED COMPANY Frey Well Drilling

(42) DEC REGISTRATION NO. NYRD 10009

(43) CERTIFIED DRILLER (Print name) William Frey

(44) CERTIFIED DRILLER SIGNATURE* William Frey

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(45) WELL LOG

Depth to Bedrock 28 (ft. below land surface)

Ground Elevation (ft. above sea level)

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

TOP OF WELL

28' shale rock

* 92 (15 gpm)

* 127 (35 gpm)

variations of gray & black shale

* 480 (20 gpm)

70gpm total

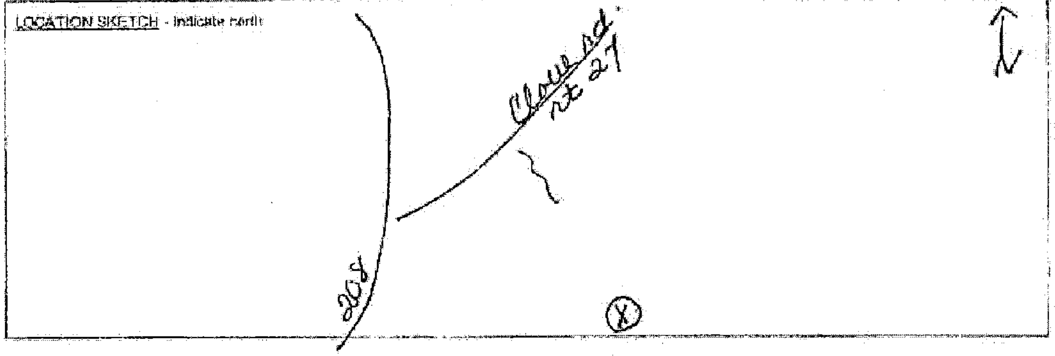
variations of gray & black shale

700 Total depth

BOTTOM OF HOLE

NYSDEC

LOCATION SKETCH - Indicate north



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

#(20)

(3) DEC Well Number 010737

(1) COUNTY Orange

(2) TOWN Monroe

Revised WATER WELL COMPLETION REPORT

(4) OWNER Simon Gelb CPC, LLC

(5) ADDRESS PO Box 2020 Monroe, NY 10949

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if address is same as above) Clove Rd., Rt27 Monroe, NY

(7) LATITUDE & LONGITUDE AND METHOD USED ☐ GPS ☑ Map

(8) TAX MAP NO.

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 800

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) DATE MEASURED

CASINGS

(11) DIAMETER 8 in. | 12 in. | in. | in.

(12) LENGTH 101 ft. | 21 - pulled ft. | ft. | in.

(13) GROUT TYPE / SEALING Bentonite dry granular

(14) GROUT / SEALING INTERVAL (feet) FROM 20' TO Surface

SCREENS

(15) MAKE & MATERIAL N/A

(16) OPENINGS

(17) DIAMETER in. | in. | in. | in.

(18) LENGTH ft. | ft. | ft. | in.

(19) DEPTH TO TOP OF SCREEN FROM TOP OF CASING (Feet)

YIELD TEST

(20) DATE 5/6/16

(21) DURATION OF TEST 1 hr.

(22) LIFT METHOD ☐ Pump ☑ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 50

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (feet/inches) (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from the immediate area? Yes ✓ No

PUMP INSTALLATION

(28) PUMP INSTALLED? YES NO ✓

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING Rotary ☐ Cable Tool ☒ Other Dual Rotary

(37) USE OF WATER (See instructions on reverse) domestic

(38) DATE DRILLING WORK STARTED 4/24/16.

(39) DATE DRILLING WORK COMPLETED 5/6/16

(40) DATE REPORT FILED

(41) REGISTERED COMPANY Freywell Drilling

(42) DEC REGISTRATION NO. NYRD 10009

(43) CERTIFIED DRILLER (Print name) William Frey

(44) CERTIFIED DRILLER SIGNATURE * William Frey

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(45) WELL LOG

Depth to Bedrock 81 (ft. below land surface)

Ground Elevation ____ (ft. above sea level)

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

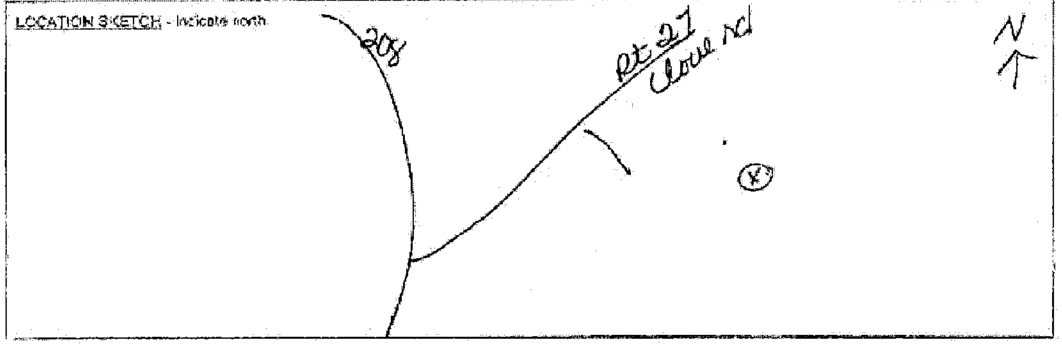
TOP OF WELL

0-6	brown soils
6-11	br. sandstone boulder
11-38	yellow tan clay & rocky.
38-39 shale	broken gray & clay
40'	2' shale rock slab.
42-81	gray clay & rocks
81	solid siltstone bedrock
* 110	⑤ gpm
145	Variations of soft shales
* 165	+10 gpm
* 190	+10 gpm
Variations of shales	
* 225	+10 gpm
* 480	+15 gpm
Variations of shales	50 gpm total
* 800	Total depth

BOTTOM OF HOLE

NYSDEC

LOCATION SKETCH - Indicate north.



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION #21

(1) COUNTY Orange

(2) TOWN Monroe

Revised ~~WATER~~ WELL COMPLETION REPORT

(3) DEC Well Number 010728

(4) OWNER Simon Gelb CPC, LLC

(5) ADDRESS PO Box 2020 Monroe, NY 10949

(6) LOCATION OF WELL (See instructions on Reverse) (Check here ☐ if address is same as above) Clove Rd., Rt 27 Monroe, NY

(7) LATITUDE/LONGITUDE AND METHOD USED ☐ GPS ☑ Map

(8) TAX MAP NO.

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 1010

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) — DATE MEASURED

CASING

(11) DIAMETER 8 in. | 12 in. | in. | in.

(12) LENGTH 101 ft. | 21-pulled ft. | ft. | ft.

(13) GROUT TYPE / SEALING Bentonite dry granular

(14) GROUT / SEALING INTERVAL (feet) FROM 20' TO surface

SCREENS

(15) MAKE & MATERIAL N/A

(16) OPENINGS

(17) DIAMETER in. | in. | in. | in.

(18) LENGTH ft. | ft. | ft. | ft.

(19) DEPTH TO TOP OF SCREEN FROM TOP OF CASING (feet)

YIELD TEST

(20) DATE

(21) DURATION OF TEST 1 hr.

(22) LIFT METHOD ☐ Pump ☑ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (gpm) 200+

(24) STATIC LEVEL PRIOR TO TEST (measured in feet below top of casing)

(25) MAXIMUM DRAWDOWN (Estimated) (measured in feet below top of casing)

(26) RECOVERY (Time in hours and minutes)

(27) Was the water discharged during the test discharged away from immediate area? Yes ✓ No

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ___ NO ✓

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (gpm)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING Rotary ☐ Cable Tool ☒ Other Dual Rotary

(37) USE OF WATER (See instructions on Reverse) domestic

(38) DATE DRILLING WORK STARTED 4/19/16

(39) DATE DRILLING WORK COMPLETED 4/23/16

(40) DATE REPORT FILED

(41) REGISTERED COMPANY FreyWell Drilling

(42) DEC REGISTRATION NO. NYRD 10009

(43) CERTIFIED DRILLER (Print name) William Frey

(44) CERTIFIED DRILLER SIGNATURE * William Frey

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3/2010

(45) WELL LOG

Depth to Bedrock 41 (ft. below land surface)

Ground Elevation ______ (ft. above sea level)

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

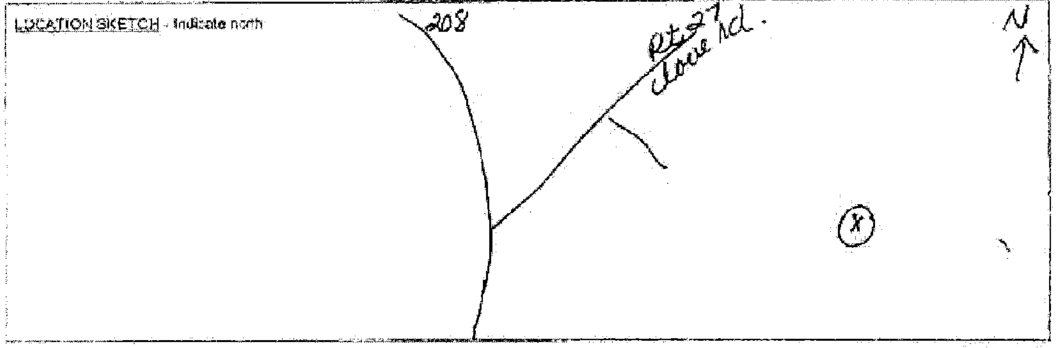
TOP OF WELL

0-40	brown fill, Clay.
41	rock.
Variations of gray & black shale	
150	(30) gpm
160-180	(50) gpm total
Variations of gray & black shale	
490	200 gpm total
Variations of gray & black shale	
985	200 gpm total
Variations of gray & black shale.	
1010	total depth

BOTTOM OF HOLE

NYSDEC

LOCATION SKETCH - Indicate north



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

~~#~~ (28)

(3) DEC Well Number 010729

(1) COUNTY Orange

(2) TOWN Monroe

Revised

WATER WELL COMPLETION REPORT

(4) OWNER Simon Gelb, CPC, LLC

(5) ADDRESS P.O. Box 2020 Monroe, NY 10950

(6) LOCATION OF WELL (See instructions On Reverse) (Check here ☐ If address is same as above) Clove Rd., Rt 27 Monroe, NY

(7) LATITUDE/LONGITUDE AND METHOD USED ☐ GPS ☑ Map

(8) TAX MAP NO

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 800

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) — DATE MEASURED —

CASING

(11) DIAMETER 8 in. | 12 in. | in. | in.

(12) LENGTH 101 ft. | 41 - pulled ft. | ft. | in.

(13) GROUT TYPE / SEALING Bentonite dry granular

(14) GROUT / SEALING INTERVAL (feet) FROM 101 TO surface

SCREENS

(15) MAKE & MATERIAL NA

(16) OPENINGS

(17) DIAMETER in. | in. | in. | in.

(18) LENGTH ft. | ft. | ft. | in.

(19) DEPTH TO TOP OF SCREEN FROM TOP OF CASING (Feet)

YIELD TEST

(20) DATE 5/3/16

(21) DURATION OF TEST 1 hr.

(22) LIFT METHOD ☐ Pump ☑ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 65

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during the test discharged away from immediate area? Yes ✓ No ___

PUMP INSTALLATION

(28) PUMP INSTALLED? YES ___ NO ✓

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

DRILLER'S INFORMATION

(36) METHOD OF DRILLING (Rotary) ☐ Cable Tool ☒ Other Dual Rotary

(37) USE OF WATER (See instructions for choices) Domestic

(38) DATE DRILLING WORK STARTED 4/27/16

(39) DATE DRILLING WORK COMPLETED 5/3/16

(40) DATE REPORT FILED

(41) REGISTERED COMPANY Frey Well Drilling

(42) DEC REGISTRATION NO. NYRD 10009

(43) CERTIFIED DRILLER (Print name) William Frey

(44) CERTIFIED DRILLER SIGNATURE * William Frey

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

9/2010

(45) WELL LOG

Depth to Bedrock 41 (ft. below land surface)

Ground Elevation ______ (ft. above sea level)

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

TOP OF WELL

0-24 brown bank run gravel

24-41 shale gravel

(50) gpm

Shutoff behind casing

Variations of gray & black shale

155-160 (15 gpm)

Variations of gray & black shale

405-415 20 gpm

white calcite section

440

30 gpm

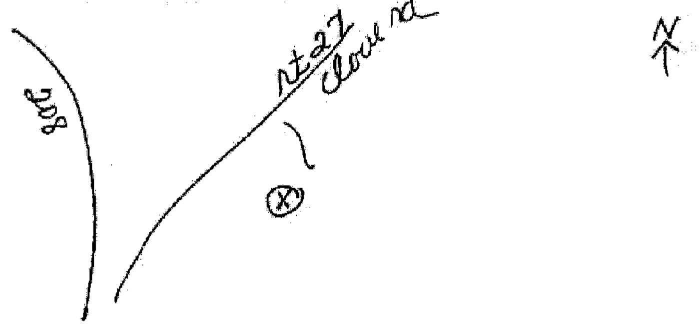
Variations of gray & black shale

800 Total depth

BOTTOM OF HOLE

NYSDEC

LOCATION SKETCH - Indicate north



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

*23

Revised WATER WELL COMPLETION REPORT

(1) COUNTY Orange

(2) TOWN Monroe

(3) DEC Well Number 010828

(4) OWNER Simon Gelb CPC, LLC

(5) ADDRESS PO Box 2020 Monroe NY 10949

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if address is same as above) Clove Rd. Rt 27, Monroe NY

(7) LATITUDE/LONGITUDE AND METHOD USED ☐ GPS ☑ Map

(8) TAX MAP NO.

(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 1000

(10) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) DATE MEASURED

CASINGS

(11) DIAMETER	8 in.	12 in.	in.	in.
(12) LENGTH	101 ft.	21 - pulled ft.	ft.	ft.

(13) GROUT TYPE / SEALING Bentonite, dry granular

(14) GROUT / SEALING INTERVAL (feet) FROM 20' TO surface

SCREENS

(15) MAKE & MATERIAL N/A

(16) OPENINGS

(17) DIAMETER in. in. in. in.

(18) LENGTH ft. ft. ft. ft.

(19) DEPTH TO TOP OF SCREEN FROM TOP OF CASING (feet)

YIELD TEST

(20) DATE 8/10/16

(21) DURATION OF TEST 1 hr.

(22) LIFT METHOD ☐ Pump ☑ Air Lift ☐ Bailer

(23) STABILIZED DISCHARGE (GPM) 100

(24) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)

(25) MAXIMUM DRAWDOWN (stabilized) (feet/inches below top of casing)

(26) RECOVERY (Time in hours/minutes)

(27) Was the water produced during this test reasonably free of sediment? Yes ✓ No ___

PUMP INSTALLATION

(28) PUMP INSTALLED? Yes ___ No ✓

(29) DATE

(30) PUMP INSTALLER

(31) TYPE

(32) MAKE

(33) MODEL

(34) MAXIMUM CAPACITY (GPM)

(35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (feet)

DRILLER INFORMATION

(36) METHOD OF DRILLING Rotary ☐ Cable Tool ☒ Other Dual Rotary

(37) USE OF WATER (See instructions for choices) domestic

(38) DATE DRILLING WORK STARTED 8/5.

(39) DATE DRILLING WORK ENDED 8/10/16.

(40) DATE REPORT FILED

(41) REGISTERED COMPANY Freywell Drilling

(42) DEC REGISTRATION NO. NYRD 10009

(43) CERTIFIED DRILLER (Print name) William Frey

(44) CERTIFIED DRILLER SIGNATURE* William Frey

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

(15) WELL LOG

Depth to Bedrock 16 (ft. below land surface)

Ground Elevation ___ (ft. above sea level)

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

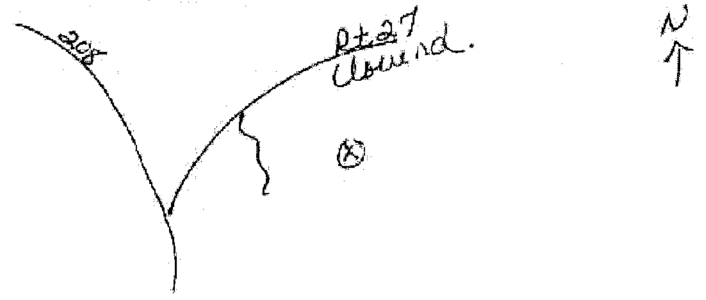
TOP OF WELL

16'	rock
*120	+(5) gpm
*160	+(5) gpm 10 total
*215	+(30) gpm 40 total
-460	Variations
of	shales
*600	40 gpm 80 total
*645	(20) gpm 100 total
16-1000	Variations Of Shales
1000	Total depth
	100 gpm total

BOTTOM OF HOLE

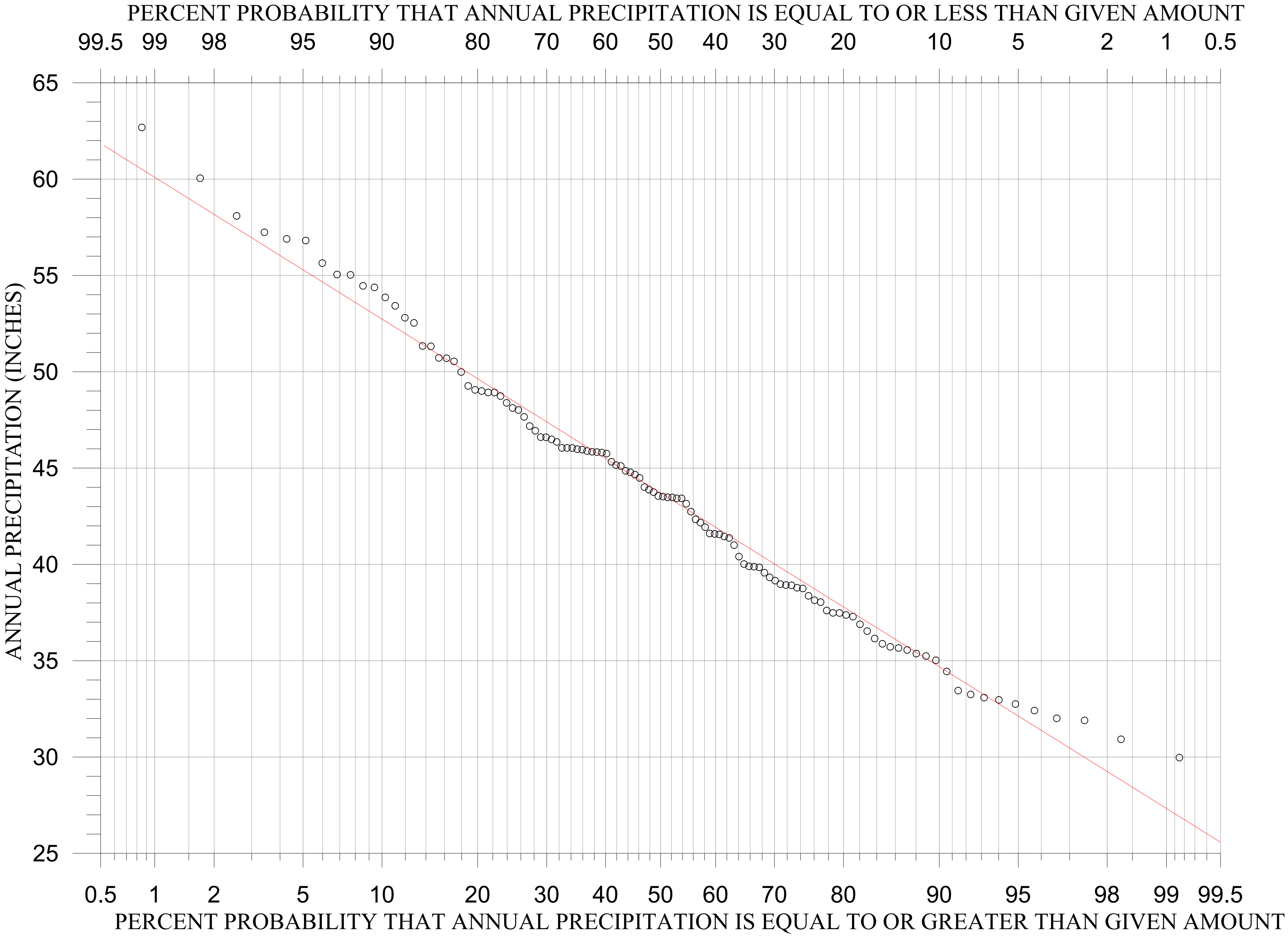
NYSDEC

LOCATION SKETCH - Indicate north



APPENDIX III

NORMAL PROBABILITY PRECIPITATION DISTRIBUTION
PORT JERVIS, NEW YORK (1880 - 1885/1890 - 2002)
(for years of complete record)



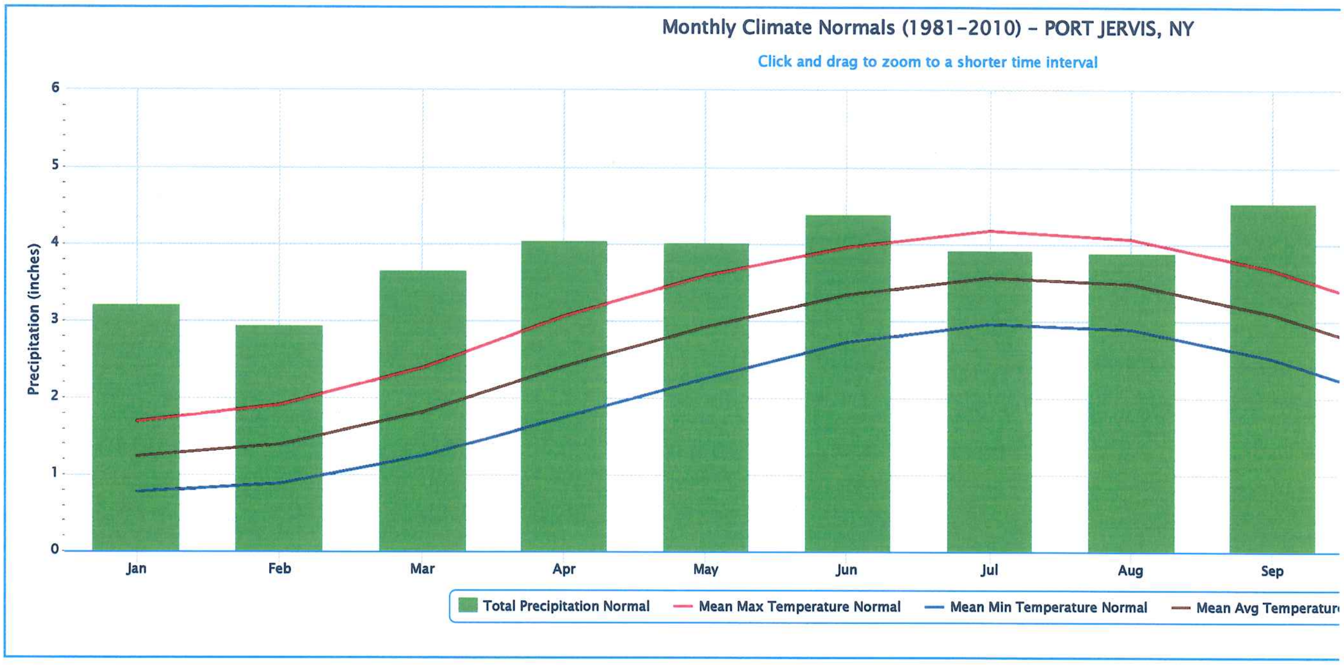
K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\2002Port Jervis_precipprob.grf

Monthly Total Precipitation for PORT JERVIS, NY

Each column contains monthly value and monthly number of missing days

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1893	3.57 0	5.54 2	3.80 0	3.61 0	8.44 1	3.79 0	3.33 0	5.63 0	1.93 0	3.67 0	3.47 0	3.92 0	50.70
1894	2.45 1	4.03 0	1.57 0	3.28 0	6.68 0	1.95 0	1.83 0	1.57 0	6.02 0	6.06 1	3.34 0	6.05 0	44.83
1895	3.77 0	1.45 0	1.69 0	4.67 0	3.04 0	2.71 0	3.20 1	8.14 0	1.48 0	5.79 0	2.90 0	3.33 0	42.17
1896	1.55 0	6.51 0	6.60 0	1.63 0	2.88 0	6.06 0	8.61 2	2.51 0	5.43 0	3.53 0	4.80 0	1.14 0	51.25
1897	2.91 0	3.00 0	2.74 0	3.11 0	5.57 0	M 22	9.53 1	3.65 0	2.22 0	1.18 0	5.71 0	M 17	M
1898	M 22	4.33 2	M 20	3.23 0	M 11	4.15 0	M 22	M 16	2.14 0	5.04 0	M 18	2.27 0	M
1899	M 22	4.04 0	5.83 0	2.23 0	2.30 0	M 19	M 19	M 23	M 15	1.00 0	2.22 0	2.01 0	M
1900	2.32 0	M 18	M 20	2.06 0	2.92 0	4.99 0	M 14	M 19	M 22	1.31 0	M 16	2.98 0	M
1901	1.59 0	M 21	5.19 0	6.73 0	6.73 0	2.65 0	7.33 0	M 15	M 15	1.44 0	M 18	7.99 0	M
1902	M 22	6.46 0	M 21	M 21	M 22	M 16	M 9	M 19	8.01 0	5.39 0	M 18	M 17	M
1903	3.00 0	M 18	3.68 0	3.52 0	1.00 0	13.76 0	4.50 0	8.25 0	1.52 0	10.60 0	1.99 0	3.86 0	M
1904	3.42 0	2.08 1	3.56 0	3.31 0	4.97 0	2.01 0	5.05 0	M 21	6.80 0	M 25	2.28 0	2.10 0	M
1905	5.26 1	2.00 0	3.60 0	1.85 0	2.04 0	M 17	M 18	6.39 0	5.51 0	M 24	M 22	3.49 0	M
1906	2.00 0	2.28 0	M 18	M 21	4.07 0	M 15	5.36 0	3.44 0	M 21	2.58 0	1.56 0	M 18	M
1907	3.26 0	1.72 0	2.24 0	2.37 0	2.72 0	2.99 0	2.95 0	M 18	7.01 0	5.30 0	M 17	4.81 0	M
1908	2.83 0	M 21	4.23 0	M 17	M 16	M 23	M 21	M 24	2.17 0	M 22	0.80 0	2.70 0	M
1909	M 15	5.21 0	4.04 0	5.98 0	2.83 1	3.54 0	1.37 0	2.39 0	2.83 0	1.20 0	2.13 0	3.88 2	M
1910	4.34 0	3.47 0	1.20 0	7.98 0	1.86 0	3.53 0	1.27 0	4.73 0	2.08 0	0.90 0	3.78 0	2.40 0	37.54
1911	2.03 0	2.16 0	3.49 0	3.48 0	1.11 0	7.69 0	4.14 0	6.69 0	M 18	5.89 0	2.78 0	3.10 0	M
1912	1.19 0	1.68 2	5.25 0	4.11 0	2.99 0	1.40 0	1.72 0	4.87 0	4.43 0	3.35 0	2.27 0	4.03 0	37.29
1913	3.57 0	1.89 0	6.09 0	4.44 0	3.03 0	1.57 0	6.92 0	4.07 0	2.54 0	5.46 0	3.79 0	3.57 0	46.94
1914	2.58 0	2.93 0	5.87 0	4.63 0	3.33 0	3.80 0	3.55 0	2.30 0	0.33 0	2.24 0	2.83 0	3.21 0	37.60
1915	5.12 0	4.14 0	0.63 0	2.24 0	3.77 0	2.70 0	5.96 0	6.17 0	2.54 0	3.33 0	2.32 0	6.41 0	45.33
1916	1.40 0	2.16 0	3.92 0	3.57 0	5.22 0	4.66 0	6.41 0	2.37 0	4.19 0	1.57 0	2.75 0	3.36 0	41.58
1917	2.93 0	1.51 0	3.49 0	1.49 0	3.54 0	5.57 0	2.56 0	1.36 0	0.97 0	5.99 0	0.70 0	3.14 0	33.25
1918	4.38 0	1.61 0	1.71 0	4.92 0	4.93 0	2.79 0	3.38 0	4.63 0	3.92 0	2.04 0	2.36 0	3.21 0	39.88
1919	2.54 0	2.28 0	4.77 0	2.60 0	3.79 0	4.01 0	5.83 0	4.06 0	3.57 0	3.70 0	4.82 0	1.91 0	43.88
1920	2.81 0	4.22 0	4.43 0	5.24 0	2.36 0	5.67 0	9.46 0	4.45 0	7.17 0	2.71 0	4.37 0	3.92 0	56.81
1921	2.31 0	3.90 0	3.67 0	2.97 0	2.55 0	3.88 0	2.17 0	3.21 0	3.11 0	1.61 0	5.01 0	2.15 0	36.54
1922	2.09 0	1.73 0	3.81 0	1.93 0	2.98 0	11.85 0	4.88 0	4.03 0	1.58 0	1.66 0	1.27 0	3.75 0	41.56
1923	6.42 0	1.95 0	2.29 0	1.89 0	3.46 0	4.45 0	4.25 0	1.64 0	3.28 0	3.25 0	3.10 0	3.59 0	39.57
1924	3.76 0	2.01 0	2.35 0	6.36 0	6.48 0	1.99 0	1.74 0	3.07 0	7.42 0	0.27 0	M 30	M 31	M
1925	M 31	M 25	3.12 0	1.39 0	1.12 0	3.34 0	9.66 0	2.83 0	3.10 0	3.28 0	4.74 0	2.47 0	M
1926	4.19 1	5.55 0	1.85 0	3.89 0	2.41 0	3.90 0	2.79 0	5.57 0	5.40 0	5.36 0	6.15 0	1.87 0	48.93
1927	3.31 0	3.46 0	3.24 0	2.97 0	6.20 0	4.29 0	6.97 0	7.38 0	2.68 0	6.41 0	6.04 0	2.43 3	55.38
1928	2.77 0	4.50 0	3.73 0	5.61 0	2.67 0	7.93 0	6.47 0	6.14 0	2.78 0	2.04 0	1.11 0	0.23 0	45.98
1929	2.88 0	3.40 0	2.23 0	7.24 0	3.29 0	4.94 0	1.91 0	2.75 0	5.22 0	3.97 0	2.42 0	3.23 0	43.48
1930	1.43 0	0.96 0	3.79 0	1.71 0	3.51 0	4.99 0	3.23 0	3.64 0	4.89 0	1.60 0	2.63 0	3.34 0	35.72
1931	1.75 0	2.34 0	2.61 0	4.45 0	4.74 0	5.11 0	7.60 0	3.94 0	2.77 0	1.89 0	0.89 0	2.31 0	40.40
1932	2.58 0	2.54 0	2.72 0	1.52 0	4.96 0	3.40 0	3.50 0	4.50 0	1.61 0	9.60 0	6.26 0	1.59 0	44.78
1933	1.37 0	3.41 0	4.56 0	3.39 1	2.25 0	1.55 0	2.68 0	10.13 0	6.63 0	2.83 0	0.83 0	2.76 0	42.39
1934	2.29 0	2.50 0	2.71 0	4.67 0	5.06 0	4.30 0	4.78 0	2.27 0	7.87 0	2.75 0	4.34 0	2.57 2	46.11
1935	3.05 0	1.80 1	1.76 0	1.63 0	2.78 0	4.35 0	7.30 0	1.73 0	3.92 0	7.19 0	4.56 0	1.71 0	41.78
1936	4.28 0	1.44 0	7.93 0	3.51 0	3.82 0	4.15 0	0.97 0	6.21 0	3.51 0	2.72 0	1.52 0	4.95 0	45.01
1937	5.17 0	2.76 0	2.79 0	3.94 0	3.59 0	5.66 0	4.70 0	4.97 0	3.16 0	5.24 0	3.82 0	2.22 0	48.02
1938	3.36 0	1.81 0	2.18 0	2.33 0	3.53 0	8.62 0	11.35 0	3.27 0	8.43 0	3.05 0	3.32 0	3.13 1	54.38
1939	2.55 0	4.85 0	3.45 0	4.52 0	1.48 0	3.76 0	2.04 0	4.27 0	4.08 0	5.25 0	2.04 0	1.56 0	39.85
1940	1.87 0	2.26 2	5.54 0	4.41 0	4.81 0	6.51 0	1.65 0	5.54 0	1.80 0	1.91 0	4.98 0	2.26 0	43.54
1941	2.02 0	2.00 0	1.83 0	1.49 0	1.87 0	4.10 0	7.30 0	3.36 0	0.40 0	1.69 0	1.77 0	3.09 0	30.92
1942	2.78 0	1.30 0	3.12 0	1.28 0	3.43 0	4.66 0	7.05 0	4.92 0	5.73 0	2.21 0	4.05 0	5.51 0	46.04
1943	3.04 0	2.24 0	1.46 0	1.73 0	5.40 0	2.79 0	3.35 0	2.27 0	0.54 0	6.15 0	2.68 0	0.36 0	32.01
1944	1.00 0	2.65 0	4.42 0	4.75 0	1.52 0	3.64 0	2.43 0	1.46 0	4.98 0	1.18 0	3.40 0	3.01 0	34.44
1945	4.77 0	3.61 0	1.90 0	3.65 0	6.01 0	5.90 0	6.54 0	4.30 0	3.24 0	2.10 0	6.16 0	4.62 0	52.80
1946	1.18 2	2.82 0	1.65 0	1.02 0	6.67 0	2.96 0	4.02 0	2.81 0	4.96 0	1.94 0	0.71 0	1.67 0	32.41
1947	3.01 0	2.30 0	2.35 0	6.40 0	8.76 0	3.05 0	9.17 0	0.79 0	2.32 0	1.60 1	5.73 0	3.88 0	49.36
1948	3.75 0	1.82 0	2.70 0	4.62 0	6.60 0	4.71 0	3.85 0	1.65 0	1.81 0	1.36 0	3.95 0	6.93 0	43.75
1949	4.38 0	1.55 0	1.19 0	4.78 0	5.52 0	1.69 0	3.31 0	1.99 0	2.76 0	1.96 0	1.11 0	3.21 0	33.45
1950	2.21 0	3.32 0	3.80 0	2.26 0	3.42 0	5.03 0	1.65 0	2.24 0	1.96 0	1.19 0	3.83 0	4.46 0	35.37
1951	4.12 0	4.46 0	5.77 0	2.50 0	3.98 0	4.03 0	3.64 0	3.57 0	1.62 0	3.34 0	5.94 0	2.78 0	45.75
1952	3.17 0	1.58 0	4.56 0	9.10 0	5.86 0	5.13 0	5.20 0	3.73 0	5.87 0	1.02 0	7.45 0	4.33 0	57.00
1953	5.50 0	0.80 0	5.15 0	7.05 0	3.88 0	3.48 0	3.45 0	1.87 0	3.38 0	6.43 0	2.52 0	4.15 0	47.66
1954	1.55 1	1.66 0	1.97 0	3.84 0	4.29 0	0.90 0	1.49 0	4.02 0	2.80 0	1.91 0	6.32 0	4.66 0	35.41
1955	1.05 0	2.06 0	3.54 0	3.24 0	1.44 0	2.62 0	1.89 0	17.34 0	3.05 0	9.21 0	3.35 0	1.23 0	50.02
1956	2.31 0	3.07 0	4.01 0	3.27 0	2.43 0	3.04 0	5.23 0	1.53 0	6.12 0	1.85 0	2.87 0	2.61 0	38.34
1957	2.45 0	1.64 0	2.00 0	3.65 0	1.87 0	2.52 0	4.35 0	1.41 0	3.33 0	3.26 0	2.68 0	6.08 0	35.24
1958	5.34 0	4.58 0	4.87 0	5.59 0	3.77 0	3.14 0	4.11 0	4.66 0	4.27 0	6.16 0	1.53 1	1.06 0	49.08
1959	0.98 0	1.48 0	M 31	M 30	M 31	M 30	M 31	M 31	M 30	M 31	M 30	M 31	M
1960	M 31	M 29	M 31	M 30	M 24	4.31 0	6.61 0	6.08 0	6.56 0	1.63 0	1.54 0	2.20 0	M
Mean	2.99	2.77	3.51	3.68	3.93	4.24	4.43	4.01	3.84	3.38	3.37	3.40	43.54
Max	8.91 1979	6.51 1896	8.58 1977	10.69 1983	11.11 1989	13.76 1903	11.35 1938	17.34 1955	10.51 2011	10.60 1903	9.46 1972	9.03 1973	71.77 2011
Min	0.52 1980	0.59 1968	0.43 1981	1.02 1946	0.87 1962	0.59 1966	0.96 1999	0.73 1964	0.33 1914	T 1963	0.70 1917	0.23 1928	29.97 1965

Year	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual
1961	3.13	0	3.65	0	4.84	1	5.27	0	4.56	0	2.66	0	3.45	0	2.90	0	2.48	0	1.17	0	5.22	0	2.89	1	42.22
1962	2.97	0	3.74	0	2.18	0	3.51	0	0.87	0	2.16	0	1.52	0	3.29	0	2.10	0	3.95	0	3.78	0	2.90	0	32.97
1963	2.93	0	3.23	0	2.91	0	1.36	0	3.04	0	2.75	0	6.28	0	1.81	0	3.00	0	T	0	5.99	0	2.26	0	35.56
1964	5.00	0	2.59	0	2.04	0	3.99	0	3.63	0	2.23	0	4.86	0	0.73	0	1.79	0	0.61	0	2.02	0	3.26	0	32.75
1965	2.97	0	2.33	0	1.92	0	2.21	0	2.14	0	1.82	0	3.47	0	4.47	0	2.63	0	2.34	0	1.91	0	1.76	0	29.97
1966	2.53	0	2.99	0	2.30	0	2.32	0	2.74	0	0.59	0	2.65	0	1.67	0	4.30	0	3.20	0	3.77	0	4.03	0	33.09
1967	1.26	0	1.98	0	6.17	0	2.82	0	3.29	0	2.97	0	6.00	0	6.15	0	1.97	0	1.98	0	2.51	0	4.35	0	41.45
1968	1.92	0	0.59	0	3.42	0	3.41	0	5.99	0	5.40	0	1.37	0	3.32	0	1.82	0	2.91	0	4.44	0	2.79	0	37.38
1969	2.17	0	1.51	0	3.20	0	3.84	0	1.55	0	3.75	0	7.33	0	4.41	0	2.96	0	1.94	0	4.47	0	6.02	0	43.15
1970	0.61	0	2.79	0	3.49	0	3.56	0	2.92	0	1.95	0	3.89	0	2.38	1	3.02	0	4.55	0	5.09	0	2.51	0	36.76
1971	2.55	0	5.31	0	2.61	0	1.96	0	6.61	0	2.28	0	3.78	0	6.74	0	4.42	0	3.20	0	4.44	0	2.70	0	46.60
1972	2.20	0	4.56	0	4.90	0	3.92	0	6.17	0	9.53	0	3.48	0	2.97	0	1.46	0	3.15	0	9.46	0	5.44	0	57.24
1973	3.35	0	2.47	0	2.78	0	6.99	0	6.83	0	6.96	0	4.38	0	2.45	0	3.60	0	3.34	0	1.68	0	9.03	0	53.86
1974	3.77	0	2.35	0	5.10	0	3.20	0	3.87	0	5.42	0	5.72	0	5.74	0	5.37	0	1.62	0	2.48	0	4.42	0	49.06
1975	5.24	0	4.20	0	3.88	0	2.36	0	3.72	0	5.07	0	4.70	0	4.32	0	4.88	0	3.26	0	4.33	0	2.43	0	48.39
1976	4.62	0	2.71	0	2.20	0	2.32	0	4.39	0	6.41	0	5.38	0	4.12	0	3.33	0	5.64	0	1.06	0	2.48	0	44.66
1977	1.39	0	2.85	0	8.58	0	4.27	0	1.37	0	2.21	0	3.20	0	3.14	0	6.02	0	3.87	0	4.52	0	5.19	0	46.61
1978	6.76	0	1.72	0	3.11	0	1.19	0	6.19	0	2.63	0	2.18	0	3.14	0	2.41	0	2.47	0	2.36	0	3.88	0	38.04
1979	8.91	0	3.23	0	2.60	0	3.99	0	5.46	0	2.92	0	4.85	0	3.83	0	6.78	0	4.05	0	3.22	0	1.48	0	51.32
1980	0.52	0	1.18	0	6.83	0	5.30	0	1.31	0	3.83	0	M	31	2.15	0	2.75	0	4.74	0	3.05	0	1.02	0	M
1981	0.61	0	5.61	0	0.43	0	3.95	0	4.95	0	4.36	0	4.53	0	1.08	0	3.72	0	4.55	0	1.41	0	3.55	0	38.75
1982	3.20	0	2.99	0	2.34	0	4.04	0	3.51	0	6.18	0	2.87	0	5.11	0	3.82	0	1.06	0	3.37	0	1.53	0	40.02
1983	3.13	0	3.69	0	6.28	0	10.69	0	4.49	0	4.42	0	1.73	0	3.22	0	4.03	0	3.59	0	5.78	0	7.04	0	58.09
1984	1.36	0	4.44	0	5.06	0	6.57	0	8.70	0	4.30	0	6.46	0	3.40	0	0.70	0	1.61	0	2.72	0	3.42	0	48.74
1985	0.91	0	2.48	0	2.30	0	1.37	0	7.63	0	4.52	0	3.98	0	2.32	0	9.09	0	1.65	0	6.73	0	2.91	0	45.89
1986	4.47	0	4.52	0	2.83	0	5.35	0	2.03	0	4.99	0	7.23	0	2.10	0	1.47	0	2.05	0	5.53	0	3.39	0	45.96
1987	4.30	0	0.60	0	2.18	0	5.87	0	1.96	0	1.17	0	3.94	0	3.86	0	7.52	0	4.93	0	3.94	0	1.66	0	41.93
1988	2.05	0	3.83	0	1.71	0	1.58	0	5.47	0	1.14	0	7.97	0	4.14	0	3.32	0	1.93	0	5.64	0	0.82	0	39.60
1989	1.47	0	1.80	0	2.99	0	1.70	0	11.11	0	6.28	0	2.04	0	4.41	0	8.15	0	6.07	0	1.60	0	1.31	0	48.93
1990	4.76	0	3.02	0	3.14	0	2.43	0	6.96	0	1.24	0	4.54	0	7.04	0	1.84	0	3.92	0	3.65	0	6.46	0	49.00
1991	2.59	0	1.50	0	4.22	0	3.76	0	1.80	0	2.34	0	1.80	0	3.07	0	4.16	0	3.69	0	3.40	0	2.69	0	35.02
1992	2.11	0	2.07	0	3.46	0	2.65	0	4.27	0	5.03	0	6.25	0	1.97	0	3.66	0	1.40	0	3.88	0	5.59	0	42.34
1993	2.59	0	3.40	0	5.97	0	6.89	0	1.15	0	3.28	0	1.82	0	1.76	0	6.40	0	4.69	0	3.38	0	3.82	0	45.15
1994	5.68	0	2.87	0	5.87	0	4.32	0	3.39	0	5.51	0	4.28	0	8.26	0	5.14	0	1.86	0	3.61	0	2.63	0	53.42
1995	3.54	0	2.32	0	3.05	0	2.43	0	2.15	0	1.64	0	3.18	0	1.65	0	2.89	0	8.25	0	4.98	0	2.06	0	38.14
1996	7.32	0	2.19	0	3.00	0	7.37	0	2.88	0	3.61	0	9.83	0	2.72	0	7.30	0	5.66	0	4.34	0	6.47	0	62.69
1997	2.50	0	1.77	0	5.13	0	2.70	0	2.39	0	2.00	0	3.25	0	6.14	0	3.85	0	1.67	0	4.48	0	3.70	0	39.58
1998	3.46	0	4.34	0	4.54	0	5.38	0	6.67	0	11.06	0	1.78	0	1.75	0	1.53	0	2.73	0	1.72	0	1.09	0	46.05
1999	6.07	0	2.48	0	4.82	0	2.27	0	2.39	0	1.23	0	0.96	0	3.46	0	10.43	0	3.02	0	1.91	0	2.34	0	41.38
2000	3.84	0	2.63	0	3.66	0	4.16	0	3.02	0	7.54	0	5.96	0	3.61	0	4.40	0	1.16	0	2.45	0	5.69	0	48.12
2001	1.79	0	2.72	0	5.15	0	1.57	0	M	31	3.44	0	1.92	0	2.25	0	4.33	0	0.84	0	1.06	0	1.80	1	M
2002	1.30	0	0.71	0	3.60	0	3.67	0	6.97	0	4.89	0	1.88	0	3.25	0	3.71	0	6.42	0	4.02	0	6.07	0	46.49
2003	2.37	1	3.67	2	3.44	1	1.56	0	4.23	0	M	11	M	20	5.40	0	M	17	M	20	M	19	M	18	M
2004	M	15	M	24	M	15	M	20	M	12	M	20	M	18	M	19	M	22	M	24	3.54	0	M	20	M
2005	M	13	2.54	0	M	19	M	19	M	19	3.11	1	M	18	7.85	0	M	25	M	19	M	19	M	21	M
2006	M	20	M	20	M	26	M	19	M	21	8.10	0	3.60	2	M	22	M	15	M	22	M	21	M	23	M
2007	M	21	1.90	0	2.52	0	5.35	0	M	26	3.85	0	5.06	0	4.61	0	1.19	0	M	22	4.03	1	M	14	M
2008	M	20	M	17	M	20	M	23	3.66	0	2.16	4	M	17	1.68	0	5.85	0	5.97	0	2.71	0	7.46	0	M
2009	1.32	1	0.77	0	2.19	0	2.70	0	3.91	0	8.79	0	5.47	0	3.66	0	0.54	3	4.90	0	1.90	0	4.83	0	40.98
2010	1.73	0	3.72	0	7.36	0	3.31	0	2.71	0	3.15	0	2.74	0	4.00	0	1.70	0	9.24	0	2.78	0	3.29	0	45.73
2011	2.01	0	2.24	0	6.62	0	5.38	2	5.45	0	8.55	0	5.95	0	13.79	0	10.51	2	3.84	0	3.17	0	4.26	0	71.77
2012	3.17	0	0.68	0	1.40	0	2.74	0	3.39	0	3.64	0	4.31	0	2.95	0	7.78	0	4.87	0	0.97	0	4.27	0	40.17
2013	3.15	0	1.69	0	2.06	0	2.77	0	3.32	0	9.95	0	3.17	0	7.11	0	1.44	0	1.48	0	2.96	0	3.81	0	42.91
2014	3.29	0	3.30	0	2.29	0	2.15	0	4.67	0	3.94	0	6.53	0	2.56	1	1.94	0	3.36	0	2.62	0	3.06	0	39.71
2015	2.73	0	1.33	0	2.68	0	2.62	0	1.60	0	8.29	0	7.86	0	3.54	0	4.75	0	3.20	0	1.61	0	3.65	0	43.86
2016	1.49	0	4.38	0	0.55	0	1.94	0	3.74	0	2.32	0	5.53	0	4.68	0	1.07	0	2.20	0	2.66	0	3.09	0	33.65
2017	2.85	0	2.43	0	4.06	0	4.49	0	4.06	0	3.26	0	4.56	0	3.93	0	2.27	0	M	15	M	30	M	31	M
Mean	2.99		2.77		3.51		3.68		3.93		4.24		4.43		4.01		3.84		3.38		3.37		3.40		43.54
Max	8.91 1979		6.51 1896		8.58 1977		10.69 1983		11.11 1989		13.76 1903		11.35 1938		17.34 1955		10.51 2011		10.60 1903		9.46 1972		9.03 1973		71.77 2011
Min	0.52 1980		0.59 1968		0.43 1981		1.02 1946		0.87 1962		0.59 1966		0.96 1999		0.73 1964		0.33 1914		T 1963		0.70 1917		0.23 1928		29.97 1965



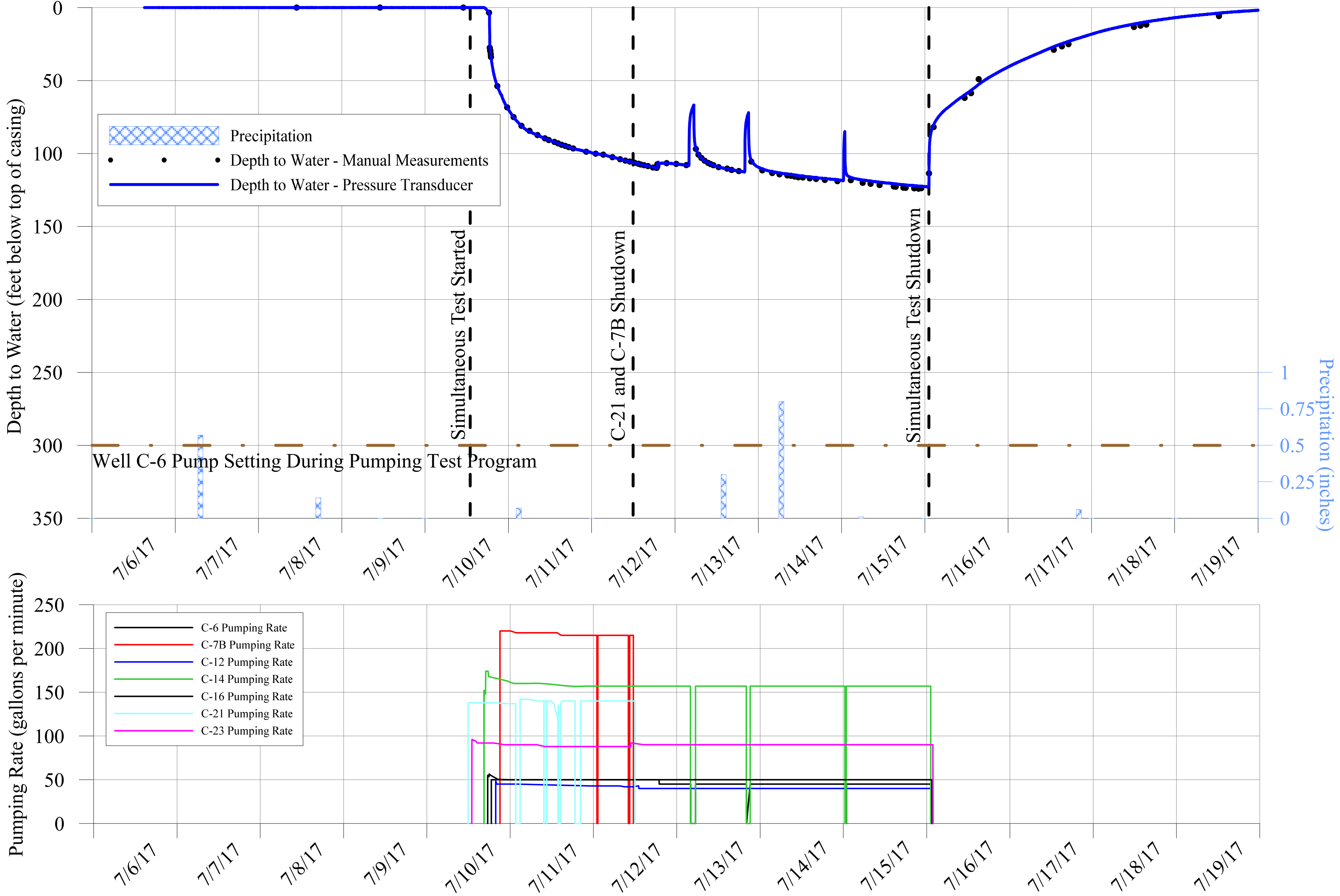
Month	Total Precipitation Normal (inches)	Mean Max Temperature Normal (°F)	Mean Min Temperature Normal (°F)	Mean Avg Tempera (°F)
January	3.22	33.7	15.4	24.6
February	2.93	38.0	17.5	27.7
March	3.66	47.6	24.7	36.1
April	4.04	61.1	34.8	48.0
May	4.01	71.7	44.9	58.3
June	4.39	79.1	54.4	66.7
July	3.92	83.4	59.1	71.2
August	3.89	81.2	57.7	69.5
September	4.54	73.3	50.1	61.7
October	4.41	61.5	38.4	50.0
November	3.59	49.9	30.2	40.0
December	3.78	37.9	20.8	29.4

APPENDIX IV

C-6

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Pumping Well C-6 During Simultanous Pumping Test Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Pumping Wells\C-6Simultaneous.grf

LBG Hydrogeologic & Engineering Services, P.C.

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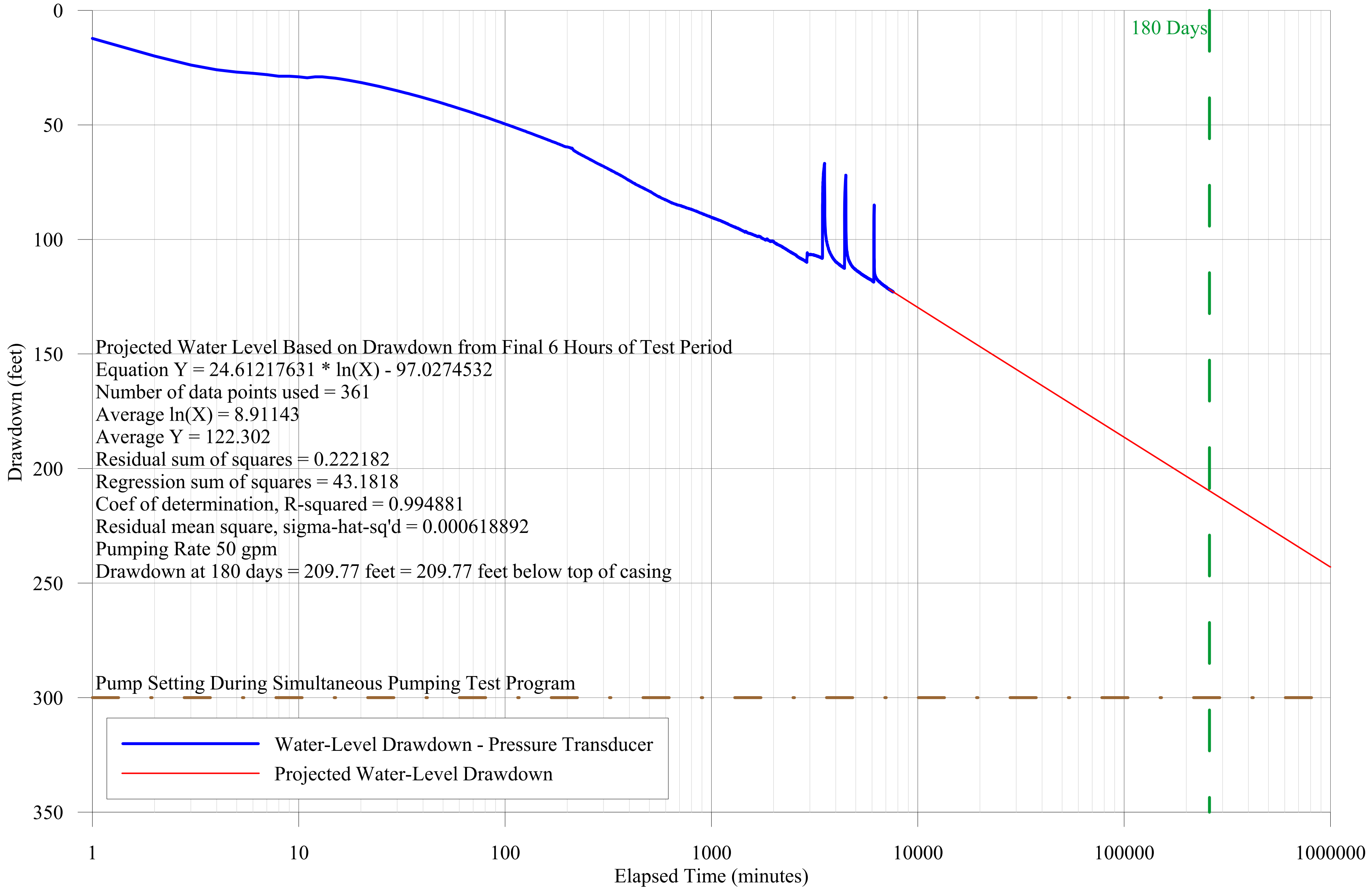
180-Day Water-Level Drawdown Projection on Pumping Well C-6 from Water-Level Measurements Collected from Pumping Well C-6 During Simultanous Pumping Test Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



Projected Water Level Based on Drawdown from Final 6 Hours of Test Period
Equation Y = 24.61217631 * ln(X) - 97.0274532
Number of data points used = 361
Average ln(X) = 8.91143
Average Y = 122.302
Residual sum of squares = 0.222182
Regression sum of squares = 43.1818
Coef of determination, R-squared = 0.994881
Residual mean square, sigma-hat-sq'd = 0.000618892
Pumping Rate 50 gpm
Drawdown at 180 days = 209.77 feet = 209.77 feet below top of casing

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LBG Hydrogeologic & Engineering Services, P.C.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/6/17	16:00	flowing	--	Pressure transducer installed in well.
7/6/17	17:00	flowing	--	
7/6/17	18:00	flowing	--	
7/6/17	19:00	flowing	--	
7/6/17	20:00	flowing	--	
7/6/17	21:00	flowing	--	
7/6/17	22:00	flowing	--	
7/6/17	23:00	flowing	--	
7/7/17	0:00	flowing	--	
7/7/17	1:00	flowing	--	
7/7/17	2:00	flowing	--	
7/7/17	3:00	flowing	--	
7/7/17	4:00	flowing	--	
7/7/17	5:00	flowing	--	
7/7/17	6:00	flowing	--	
7/7/17	7:00	flowing	--	
7/7/17	8:00	flowing	--	
7/7/17	9:00	flowing	--	
7/7/17	10:00	flowing	--	
7/7/17	11:00	flowing	--	
7/7/17	12:00	flowing	--	
7/7/17	13:00	flowing	--	
7/7/17	14:00	flowing	--	
7/7/17	15:00	flowing	--	
7/7/17	16:00	flowing	--	
7/7/17	17:00	flowing	--	
7/7/17	18:00	flowing	--	
7/7/17	19:00	flowing	--	
7/7/17	20:00	flowing	--	
7/7/17	21:00	flowing	--	
7/7/17	22:00	flowing	--	
7/7/17	23:00	flowing	--	
7/8/17	0:00	flowing	--	
7/8/17	1:00	flowing	--	
7/8/17	2:00	flowing	--	
7/8/17	3:00	flowing	--	
7/8/17	4:00	flowing	--	
7/8/17	5:00	flowing	--	
7/8/17	6:00	flowing	--	
7/8/17	7:00	flowing	--	
7/8/17	8:00	flowing	--	
7/8/17	9:00	flowing	--	
7/8/17	10:00	flowing	--	
7/8/17	11:00	flowing	--	
7/8/17	12:00	flowing	--	
7/8/17	13:00	flowing	--	
7/8/17	14:00	flowing	--	
7/8/17	15:00	flowing	--	
7/8/17	16:00	flowing	--	
7/8/17	17:00	flowing	--	
7/8/17	18:00	flowing	--	
7/8/17	19:00	flowing	--	
7/8/17	20:00	flowing	--	
7/8/17	21:00	flowing	--	

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/8/17	22:00	flowing	--	
7/8/17	23:00	flowing	--	
7/9/17	0:00	flowing	--	
7/9/17	1:00	flowing	--	
7/9/17	2:00	flowing	--	
7/9/17	3:00	flowing	--	
7/9/17	4:00	flowing	--	
7/9/17	5:00	flowing	--	
7/9/17	6:00	flowing	--	
7/9/17	7:00	flowing	--	
7/9/17	8:00	flowing	--	
7/9/17	9:00	flowing	--	
7/9/17	10:00	flowing	--	
7/9/17	11:00	flowing	--	
7/9/17	12:00	flowing	--	
7/9/17	13:00	flowing	--	
7/9/17	14:00	flowing	--	
7/9/17	15:00	flowing	--	
7/9/17	16:00	flowing	--	
7/9/17	17:00	flowing	--	
7/9/17	18:00	flowing	--	
7/9/17	19:00	flowing	--	
7/9/17	20:00	flowing	--	
7/9/17	21:00	flowing	--	
7/9/17	22:00	flowing	--	
7/9/17	23:00	flowing	--	
7/10/17	0:00	flowing	--	
7/10/17	1:00	flowing	--	
7/10/17	2:00	flowing	--	
7/10/17	3:00	flowing	--	
7/10/17	4:00	flowing	--	
7/10/17	5:00	flowing	--	
7/10/17	6:00	flowing	--	
7/10/17	7:00	flowing	--	
7/10/17	8:00	flowing	--	
7/10/17	9:00	flowing	--	
7/10/17	10:00	flowing	--	
7/10/17	11:00	flowing	--	
7/10/17	11:54	flowing	--	Static water level used from prior to the start of pumping in any onsite wells.
7/10/17	12:00	flowing	--	Pump in well C-21 started at 11:55.
7/10/17	13:00	flowing	--	Pump in well C-23 started 12:59.
7/10/17	14:00	flowing	--	
7/10/17	15:00	flowing	--	
7/10/17	16:00	flowing	--	
7/10/17	17:00	flowing	--	Pump in well C-14 started at 16:24.
7/10/17	17:03	0.05	--	Artesian flowing in well C-6 stopped.
7/10/17	18:00	2.20	--	Pump in well C-16 started at 17:31.
7/10/17	18:34	3.87	--	
7/10/17	18:35	12.25	1	Pump in well C-6 started.
7/10/17	18:36	19.95	2	Pumping rate adjusted to 50 gpm.
7/10/17	18:37	23.86	3	
7/10/17	18:38	25.95	4	
7/10/17	18:39	26.94	5	

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VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/10/17	18:40	27.51	6	Pumping rate in well C-6 50 gpm.
7/10/17	18:41	28.05	7	
7/10/17	18:42	28.75	8	
7/10/17	18:43	28.75	9	
7/10/17	18:44	29.02	10	
7/10/17	18:45	29.43	11	
7/10/17	18:46	29.02	12	
7/10/17	18:47	29.04	13	
7/10/17	18:48	29.32	14	
7/10/17	18:49	29.58	15	
7/10/17	18:50	29.98	16	Pumping rate in well C-6 50 gpm.
7/10/17	18:55	31.88	21	
7/10/17	19:00	33.72	26	Pumping rate in well C-6 50 gpm.
7/10/17	19:05	35.38	31	
7/10/17	19:10	36.95	36	Pumping rate in well C-6 50 gpm.
7/10/17	19:15	38.34	41	
7/10/17	19:20	39.60	46	Pumping rate in well C-6 50 gpm.
7/10/17	19:25	40.88	51	
7/10/17	19:30	42.01	56	Pumping rate in well C-6 50 gpm.
7/10/17	19:35	43.07	61	Pumping rate in well C-6 50 gpm.
7/10/17	20:00	47.52	86	Pump in well C-12 started at 19:48.
7/10/17	21:00	55.07	146	Pump in well C-7B started at 21:03.
7/10/17	22:00	59.91	206	Pumping rate in well C-6 50 gpm.
7/10/17	23:00	65.73	266	Pumping rate in well C-6 50 gpm.
7/11/17	0:00	69.84	326	Pumping rate in well C-6 50 gpm.
7/11/17	1:00	73.46	386	Pumping rate in well C-6 50 gpm.
7/11/17	2:00	76.65	446	Pumping rate in well C-6 50 gpm.
7/11/17	3:00	79.15	506	Pumping rate in well C-6 50 gpm.
7/11/17	4:00	81.71	566	Pumping rate in well C-6 50 gpm.
7/11/17	5:00	83.56	626	Pumping rate in well C-6 50 gpm.
7/11/17	6:00	84.94	686	Pumping rate in well C-6 50 gpm.
7/11/17	7:00	86.08	746	Pumping rate in well C-6 50 gpm.
7/11/17	8:00	86.99	806	Pumping rate in well C-6 50 gpm.
7/11/17	9:00	88.13	866	Pumping rate in well C-6 50 gpm.
7/11/17	10:00	89.15	926	Pumping rate in well C-6 50 gpm.
7/11/17	11:00	90.10	986	Pumping rate in well C-6 50 gpm.
7/11/17	12:00	90.99	1,046	Pumping rate in well C-6 50 gpm.
7/11/17	13:00	91.86	1,106	Pumping rate in well C-6 50 gpm.
7/11/17	14:00	92.74	1,166	Pumping rate in well C-6 50 gpm.
7/11/17	15:00	93.66	1,226	Pumping rate in well C-6 50 gpm.
7/11/17	16:00	94.47	1,286	Pumping rate in well C-6 50 gpm.
7/11/17	17:00	95.19	1,346	Pumping rate in well C-6 50 gpm.
7/11/17	18:00	96.06	1,406	Pumping rate in well C-6 50 gpm.
7/11/17	19:00	96.60	1,466	Pumping rate in well C-6 50 gpm.
7/11/17	20:00	97.31	1,526	Pumping rate in well C-6 50 gpm.
7/11/17	21:00	97.88	1,586	Pumping rate in well C-6 50 gpm.
7/11/17	22:00	98.47	1,646	Pumping rate in well C-6 50 gpm.
7/11/17	23:00	98.76	1,706	Pumping rate in well C-6 50 gpm.
7/12/17	0:00	99.51	1,766	Pumping rate in well C-6 50 gpm.
7/12/17	1:00	100.21	1,826	Pumping rate in well C-6 50 gpm.
7/12/17	2:00	100.38	1,886	Pumping rate in well C-6 50 gpm.
7/12/17	3:00	100.71	1,946	Pumping rate in well C-6 50 gpm.
7/12/17	4:00	101.18	2,006	Pumping rate in well C-6 50 gpm.
7/12/17	5:00	101.93	2,066	Pumping rate in well C-6 50 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/12/17	6:00	102.49	2,126	Pumping rate in well C-6 50 gpm.
7/12/17	7:00	103.03	2,186	Pumping rate in well C-6 50 gpm.
7/12/17	8:00	103.72	2,246	Pumping rate in well C-6 50 gpm.
7/12/17	9:00	104.33	2,306	Pumping rate in well C-6 50 gpm.
7/12/17	10:00	105.05	2,366	Pumping rate in well C-6 50 gpm.
7/12/17	11:00	105.59	2,426	Pumping rate in well C-6 50 gpm.
7/12/17	12:00	106.15	2,486	Pump in well C-7B shut down at 11:28 and pump in well C-21 shut down at 11:56.
7/12/17	13:00	106.65	2,546	Pumping rate in well C-6 50 gpm.
7/12/17	14:00	107.42	2,606	Pumping rate in well C-6 50 gpm.
7/12/17	15:00	107.99	2,666	Pumping rate in well C-6 50 gpm.
7/12/17	16:00	108.45	2,726	Pumping rate in well C-6 50 gpm.
7/12/17	17:00	108.88	2,786	Pumping rate in well C-6 50 gpm.
7/12/17	18:00	109.44	2,846	Pumping rate in well C-6 50 gpm.
7/12/17	18:54	109.94	2,900	Pumping rate in well C-6 manually decreased.
7/12/17	19:00	107.47	2,906	Pumping rate in well C-6 45 gpm.
7/12/17	20:00	106.60	2,966	Pumping rate in well C-6 45 gpm.
7/12/17	21:00	106.60	3,026	Pumping rate in well C-6 45 gpm.
7/12/17	22:00	106.67	3,086	Pumping rate in well C-6 45 gpm.
7/12/17	23:00	106.82	3,146	Pumping rate in well C-6 45 gpm.
7/13/17	0:00	107.11	3,206	Pumping rate in well C-6 45 gpm.
7/13/17	1:00	107.37	3,266	Pumping rate in well C-6 45 gpm.
7/13/17	2:00	107.61	3,326	Pumping rate in well C-6 45 gpm.
7/13/17	3:00	107.87	3,386	Pumping rate in well C-6 45 gpm.
7/13/17	4:00	108.13	3,446	Pumping rate in well C-6 45 gpm.
7/13/17	4:03	98.07	3,449	Generator shut down.
7/13/17	5:00	69.19	3,506	
7/13/17	5:26	74.34	3,532	Generator restarted.
7/13/17	6:00	96.59	3,566	Pumping rate in well C-6 45 gpm.
7/13/17	7:00	101.50	3,626	Pumping rate in well C-6 45 gpm.
7/13/17	8:00	103.99	3,686	Pumping rate in well C-6 45 gpm.
7/13/17	9:00	105.64	3,746	Pumping rate in well C-6 45 gpm.
7/13/17	10:00	106.90	3,806	Pumping rate in well C-6 45 gpm.
7/13/17	11:00	107.92	3,866	Pumping rate in well C-6 45 gpm.
7/13/17	12:00	108.80	3,926	Pumping rate in well C-6 45 gpm.
7/13/17	13:00	109.55	3,986	Pumping rate in well C-6 45 gpm.
7/13/17	14:00	110.09	4,046	Pumping rate in well C-6 45 gpm.
7/13/17	15:00	110.50	4,106	Pumping rate in well C-6 45 gpm.
7/13/17	16:00	111.00	4,166	Pumping rate in well C-6 45 gpm.
7/13/17	17:00	111.51	4,226	Pumping rate in well C-6 45 gpm.
7/13/17	18:00	111.81	4,286	Pumping rate in well C-6 45 gpm.
7/13/17	19:00	112.20	4,346	Pumping rate in well C-6 45 gpm.
7/13/17	20:00	112.54	4,406	Pumping rate in well C-6 45 gpm.
7/13/17	20:06	112.07	4,412	Generator shut down down.
7/13/17	21:00	73.23	4,466	
7/13/17	21:12	77.44	4,478	Generator restarted.
7/13/17	22:00	104.77	4,526	Pumping rate in well C-6 45 gpm.
7/13/17	23:00	107.76	4,586	Pumping rate in well C-6 45 gpm.
7/14/17	0:00	109.46	4,646	Pumping rate in well C-6 45 gpm.
7/14/17	1:00	110.36	4,706	Pumping rate in well C-6 45 gpm.
7/14/17	2:00	111.28	4,766	Pumping rate in well C-6 45 gpm.
7/14/17	3:00	111.95	4,826	Pumping rate in well C-6 45 gpm.
7/14/17	4:00	112.44	4,886	Pumping rate in well C-6 45 gpm.
7/14/17	5:00	112.87	4,946	Pumping rate in well C-6 45 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/14/17	6:00	113.24	5,006	Pumping rate in well C-6 45 gpm.
7/14/17	7:00	113.68	5,066	Pumping rate in well C-6 45 gpm.
7/14/17	8:00	113.97	5,126	Pumping rate in well C-6 45 gpm.
7/14/17	9:00	114.32	5,186	Pumping rate in well C-6 45 gpm.
7/14/17	10:00	114.64	5,246	Pumping rate in well C-6 45 gpm.
7/14/17	11:00	114.99	5,306	Pumping rate in well C-6 45 gpm.
7/14/17	12:00	115.29	5,366	Pumping rate in well C-6 45 gpm.
7/14/17	13:00	115.56	5,426	Pumping rate in well C-6 45 gpm.
7/14/17	14:00	115.84	5,486	Pumping rate in well C-6 45 gpm.
7/14/17	15:00	116.14	5,546	Pumping rate in well C-6 45 gpm.
7/14/17	16:00	116.37	5,606	Pumping rate in well C-6 45 gpm.
7/14/17	17:00	116.67	5,666	Pumping rate in well C-6 45 gpm.
7/14/17	18:00	116.89	5,726	Pumping rate in well C-6 45 gpm.
7/14/17	19:00	117.14	5,786	Pumping rate in well C-6 45 gpm.
7/14/17	20:00	117.39	5,846	Pumping rate in well C-6 45 gpm.
7/14/17	21:00	117.60	5,906	Pumping rate in well C-6 45 gpm.
7/14/17	22:00	117.75	5,966	Pumping rate in well C-6 45 gpm.
7/14/17	23:00	118.16	6,026	Pumping rate in well C-6 45 gpm.
7/15/17	0:00	118.48	6,086	Pumping rate in well C-6 45 gpm.
7/15/17	0:35	117.91	6,121	Generator shut down.
7/15/17	0:56	87.25	6,142	Generator restarted.
7/15/17	1:00	104.11	6,146	Pumping rate in well C-6 45 gpm.
7/15/17	2:00	115.65	6,206	Pumping rate in well C-6 45 gpm.
7/15/17	3:00	116.72	6,266	Pumping rate in well C-6 45 gpm.
7/15/17	4:00	117.27	6,326	Pumping rate in well C-6 45 gpm.
7/15/17	5:00	117.76	6,386	Pumping rate in well C-6 45 gpm.
7/15/17	6:00	118.13	6,446	Pumping rate in well C-6 45 gpm.
7/15/17	7:00	118.40	6,506	Pumping rate in well C-6 45 gpm.
7/15/17	8:00	118.71	6,566	Pumping rate in well C-6 45 gpm.
7/15/17	9:00	119.10	6,626	Pumping rate in well C-6 45 gpm.
7/15/17	10:00	119.40	6,686	Pumping rate in well C-6 45 gpm.
7/15/17	11:00	119.62	6,746	Pumping rate in well C-6 45 gpm.
7/15/17	12:00	119.93	6,806	Pumping rate in well C-6 45 gpm.
7/15/17	13:00	120.17	6,866	Pumping rate in well C-6 45 gpm.
7/15/17	14:00	120.43	6,926	Pumping rate in well C-6 45 gpm.
7/15/17	15:00	120.64	6,986	Pumping rate in well C-6 45 gpm.
7/15/17	16:00	120.99	7,046	Pumping rate in well C-6 45 gpm.
7/15/17	17:00	121.23	7,106	Pumping rate in well C-6 45 gpm.
7/15/17	18:00	121.43	7,166	Pumping rate in well C-6 45 gpm.
7/15/17	19:00	121.69	7,226	Pumping rate in well C-6 45 gpm.
7/15/17	19:09	121.73	7,235	Pumping rate in well C-6 45 gpm.
7/15/17	19:11	121.71	7,237	Pumping rate in well C-6 45 gpm.
7/15/17	20:00	121.88	7,286	Pumping rate in well C-6 45 gpm.
7/15/17	21:00	122.11	7,346	Pumping rate in well C-6 45 gpm.
7/15/17	22:00	122.27	7,406	Pumping rate in well C-6 45 gpm.
7/15/17	23:00	122.51	7,466	Pumping rate in well C-6 45 gpm.
7/16/17	0:00	122.68	7,526	Pumping rate in well C-6 45 gpm.
7/16/17	1:00	122.87	7,586	Pumping rate in well C-6 45 gpm.
7/16/17	1:09	122.92	7,595	Shut down of simultaneous pumping test (wells C-6, 12, 14, 16, and 23) started.
7/16/17	1:10	122.90	7,596	Pumping rate in well C-6 45 gpm.
7/16/17	1:11	122.87	7,597	Pump in well C-6 shut down.
7/16/17	1:12	115.90	-1	
7/16/17	1:13	108.73	-2	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/16/17	1:14	104.58	-3	
7/16/17	1:15	101.79	-4	
7/16/17	1:16	99.68	-5	
7/16/17	1:17	98.03	-6	
7/16/17	1:18	96.67	-7	
7/16/17	1:19	95.54	-8	
7/16/17	1:20	94.57	-9	
7/16/17	1:21	93.69	-10	
7/16/17	1:22	93.00	-11	
7/16/17	1:23	92.33	-12	
7/16/17	1:24	91.75	-13	
7/16/17	1:25	91.22	-14	
7/16/17	1:26	90.79	-15	
7/16/17	1:30	89.23	-19	
7/16/17	1:35	87.85	-24	
7/16/17	1:40	86.73	-29	
7/16/17	1:45	85.81	-34	
7/16/17	1:50	84.97	-39	
7/16/17	1:55	84.27	-44	
7/16/17	2:00	83.60	-49	
7/16/17	2:05	82.98	-54	
7/16/17	2:10	82.45	-59	
7/16/17	3:00	78.10	-109	
7/16/17	4:00	74.60	-169	
7/16/17	5:00	71.88	-229	
7/16/17	6:00	69.70	-289	
7/16/17	7:00	67.85	-349	
7/16/17	8:00	65.85	-409	
7/16/17	9:00	63.98	-469	
7/16/17	10:00	62.23	-529	
7/16/17	11:00	60.55	-589	
7/16/17	12:00	58.89	-649	
7/16/17	13:00	57.30	-709	
7/16/17	14:00	55.37	-769	
7/16/17	15:00	53.58	-829	
7/16/17	16:00	51.78	-889	
7/16/17	17:00	50.15	-949	
7/16/17	18:00	48.58	-1,009	
7/16/17	19:00	47.17	-1,069	
7/16/17	20:00	45.76	-1,129	
7/16/17	21:00	44.45	-1,189	
7/16/17	22:00	43.12	-1,249	
7/16/17	23:00	41.88	-1,309	
7/17/17	0:00	40.65	-1,369	
7/17/17	1:00	39.48	-1,429	
7/17/17	2:00	38.28	-1,489	
7/17/17	3:00	37.18	-1,549	
7/17/17	4:00	36.14	-1,609	
7/17/17	5:00	35.11	-1,669	
7/17/17	6:00	34.03	-1,729	
7/17/17	7:00	33.01	-1,789	
7/17/17	8:00	31.98	-1,849	
7/17/17	9:00	30.99	-1,909	
7/17/17	10:00	29.95	-1,969	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/17/17	11:00	28.89	-2,029	
7/17/17	12:00	27.92	-2,089	
7/17/17	13:00	26.94	-2,149	
7/17/17	14:00	26.00	-2,209	
7/17/17	15:00	25.11	-2,269	
7/17/17	16:00	24.26	-2,329	
7/17/17	17:00	23.46	-2,389	
7/17/17	18:00	22.67	-2,449	
7/17/17	19:00	21.91	-2,509	
7/17/17	20:00	21.18	-2,569	
7/17/17	21:00	20.41	-2,629	
7/17/17	22:00	19.69	-2,689	
7/17/17	23:00	18.93	-2,749	
7/18/17	0:00	18.21	-2,809	
7/18/17	1:00	17.49	-2,869	
7/18/17	2:00	16.81	-2,929	
7/18/17	3:00	16.14	-2,989	
7/18/17	4:00	15.54	-3,049	
7/18/17	5:00	14.92	-3,109	
7/18/17	6:00	14.34	-3,169	
7/18/17	7:00	13.83	-3,229	
7/18/17	8:00	13.28	-3,289	
7/18/17	9:00	12.80	-3,349	
7/18/17	10:00	12.30	-3,409	90% recovery achieved.
7/18/17	11:00	11.80	-3,469	
7/18/17	12:00	11.37	-3,529	
7/18/17	13:00	10.93	-3,589	
7/18/17	14:00	10.47	-3,649	
7/18/17	15:00	10.06	-3,709	
7/18/17	16:00	9.66	-3,769	
7/18/17	17:00	9.28	-3,829	
7/18/17	18:00	8.95	-3,889	
7/18/17	19:00	8.58	-3,949	
7/18/17	20:00	8.22	-4,009	
7/18/17	21:00	7.90	-4,069	
7/18/17	22:00	7.55	-4,129	
7/18/17	23:00	7.24	-4,189	
7/19/17	0:00	6.94	-4,249	
7/19/17	1:00	6.63	-4,309	
7/19/17	2:00	6.35	-4,369	
7/19/17	3:00	6.07	-4,429	
7/19/17	4:00	5.79	-4,489	
7/19/17	5:00	5.55	-4,549	
7/19/17	6:00	5.28	-4,609	
7/19/17	7:00	5.13	-4,669	
7/19/17	8:00	4.85	-4,729	
7/19/17	9:00	4.61	-4,789	
7/19/17	10:00	4.42	-4,849	
7/19/17	11:00	4.22	-4,909	
7/19/17	12:00	3.96	-4,969	
7/19/17	13:00	3.71	-5,029	
7/19/17	14:00	3.49	-5,089	
7/19/17	15:00	3.30	-5,149	
7/19/17	16:00	3.13	-5,209	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/19/17	17:00	2.92	-5,269	
7/19/17	18:00	2.80	-5,329	
7/19/17	19:00	2.60	-5,389	
7/19/17	20:00	2.43	-5,449	
7/19/17	21:00	2.28	-5,509	
7/19/17	22:00	2.15	-5,569	
7/19/17	23:00	1.96	-5,629	
7/20/17	0:00	1.83	-5,689	
7/20/17	1:00	1.68	-5,749	
7/20/17	2:00	1.55	-5,809	
7/20/17	3:00	1.40	-5,869	
7/20/17	4:00	1.31	-5,929	
7/20/17	5:00	1.17	-5,989	
7/20/17	6:00	1.06	-6,049	
7/20/17	7:00	0.95	-6,109	
7/20/17	8:00	0.86	-6,169	
7/20/17	9:00	0.74	-6,229	
7/20/17	10:00	0.65	-6,289	
7/20/17	11:00	0.51	-6,349	
7/20/17	12:00	0.39	-6,409	
7/20/17	13:00	0.27	-6,469	
7/20/17	14:00	0.16	-6,529	
7/20/17	15:00	0.06	-6,589	
7/20/17	16:00	flowing	-6,649	Well C-6 began to flow artesian again.
7/20/17	17:00	flowing	-6,709	
7/20/17	18:00	flowing	-6,769	
7/20/17	19:00	flowing	-6,829	
7/20/17	20:00	flowing	-6,889	
7/20/17	21:00	flowing	-6,949	
7/20/17	22:00	flowing	-7,009	
7/20/17	23:00	flowing	-7,069	
7/21/17	0:00	flowing	-7,129	
7/21/17	1:00	flowing	-7,189	
7/21/17	2:00	flowing	-7,249	
7/21/17	3:00	flowing	-7,309	
7/21/17	4:00	flowing	-7,369	
7/21/17	5:00	flowing	-7,429	
7/21/17	6:00	flowing	-7,489	
7/21/17	7:00	flowing	-7,549	
7/21/17	8:00	flowing	-7,609	
7/21/17	9:00	flowing	-7,669	
7/21/17	10:00	flowing	-7,729	
7/21/17	11:00	flowing	-7,789	
7/21/17	12:00	flowing	-7,849	
7/21/17	13:00	flowing	-7,909	
7/21/17	14:00	flowing	-7,969	
7/21/17	15:00	flowing	-8,029	
7/21/17	16:00	flowing	-8,089	
7/21/17	17:00	flowing	-8,149	
7/21/17	18:00	flowing	-8,209	
7/21/17	19:00	flowing	-8,269	
7/21/17	20:00	flowing	-8,329	
7/21/17	21:00	flowing	-8,389	
7/21/17	22:00	flowing	-8,449	

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/21/17	23:00	flowing	-8,509	
7/22/17	0:00	flowing	-8,569	
7/22/17	1:00	flowing	-8,629	
7/22/17	2:00	flowing	-8,689	
7/22/17	3:00	flowing	-8,749	
7/22/17	4:00	flowing	-8,809	
7/22/17	5:00	flowing	-8,869	
7/22/17	6:00	flowing	-8,929	
7/22/17	7:00	flowing	-8,989	
7/22/17	8:00	flowing	-9,049	
7/22/17	9:00	flowing	-9,109	
7/22/17	10:00	flowing	-9,169	
7/22/17	11:00	flowing	-9,229	
7/22/17	12:00	flowing	-9,289	
7/22/17	13:00	flowing	-9,349	
7/22/17	14:00	flowing	-9,409	
7/22/17	15:00	flowing	-9,469	
7/22/17	16:00	flowing	-9,529	
7/22/17	17:00	flowing	-9,589	
7/22/17	18:00	flowing	-9,649	
7/22/17	19:00	flowing	-9,709	
7/22/17	20:00	flowing	-9,769	
7/22/17	21:00	flowing	-9,829	
7/22/17	22:00	flowing	-9,889	
7/22/17	23:00	flowing	-9,949	
7/23/17	0:00	flowing	-10,009	
7/23/17	1:00	flowing	-10,069	
7/23/17	2:00	flowing	-10,129	
7/23/17	3:00	flowing	-10,189	
7/23/17	4:00	flowing	-10,249	
7/23/17	5:00	flowing	-10,309	
7/23/17	6:00	flowing	-10,369	
7/23/17	7:00	flowing	-10,429	
7/23/17	8:00	flowing	-10,489	
7/23/17	9:00	flowing	-10,549	
7/23/17	10:00	flowing	-10,609	
7/23/17	11:00	flowing	-10,669	
7/23/17	12:00	flowing	-10,729	
7/23/17	13:00	flowing	-10,789	
7/23/17	14:00	flowing	-10,849	
7/23/17	15:00	flowing	-10,909	
7/23/17	16:00	flowing	-10,969	
7/23/17	17:00	flowing	-11,029	
7/23/17	18:00	flowing	-11,089	
7/23/17	19:00	flowing	-11,149	
7/23/17	20:00	flowing	-11,209	
7/23/17	21:00	flowing	-11,269	
7/23/17	22:00	flowing	-11,329	
7/23/17	23:00	flowing	-11,389	
7/24/17	0:00	flowing	-11,449	
7/24/17	1:00	flowing	-11,509	
7/24/17	2:00	flowing	-11,569	
7/24/17	3:00	flowing	-11,629	
7/24/17	4:00	flowing	-11,689	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/24/17	5:00	flowing	-11,749	
7/24/17	6:00	flowing	-11,809	
7/24/17	7:00	flowing	-11,869	
7/24/17	8:00	flowing	-11,929	
7/24/17	9:00	flowing	-11,989	
7/24/17	10:00	flowing	-12,049	
7/24/17	11:00	flowing	-12,109	
7/24/17	12:00	flowing	-12,169	
7/24/17	13:00	flowing	-12,229	
7/24/17	14:00	flowing	-12,289	
7/24/17	15:00	flowing	-12,349	
7/24/17	16:00	flowing	-12,409	
7/24/17	17:00	flowing	-12,469	
7/24/17	18:00	flowing	-12,529	
7/24/17	19:00	flowing	-12,589	
7/24/17	20:00	flowing	-12,649	
7/24/17	21:00	flowing	-12,709	
7/24/17	22:00	flowing	-12,769	
7/24/17	23:00	flowing	-12,829	
7/25/17	0:00	flowing	-12,889	
7/25/17	1:00	flowing	-12,949	
7/25/17	2:00	flowing	-13,009	
7/25/17	3:00	flowing	-13,069	
7/25/17	4:00	flowing	-13,129	
7/25/17	5:00	flowing	-13,189	
7/25/17	6:00	flowing	-13,249	
7/25/17	7:00	flowing	-13,309	
7/25/17	8:00	flowing	-13,369	
7/25/17	9:00	flowing	-13,429	
7/25/17	10:00	flowing	-13,489	
7/25/17	11:00	flowing	-13,549	Pump in well C-21 started at 11:44.
7/25/17	12:00	flowing	-13,609	
7/25/17	13:00	flowing	-13,669	
7/25/17	14:00	flowing	-13,729	
7/25/17	15:00	flowing	-13,789	
7/25/17	16:00	flowing	-13,849	
7/25/17	17:00	flowing	-13,909	
7/25/17	18:00	flowing	-13,969	
7/25/17	19:00	flowing	-14,029	
7/25/17	20:00	flowing	-14,089	
7/25/17	21:00	flowing	-14,149	
7/25/17	22:00	flowing	-14,209	
7/25/17	23:00	flowing	-14,269	
7/26/17	0:00	flowing	-14,329	
7/26/17	1:00	flowing	-14,389	
7/26/17	2:00	flowing	-14,449	
7/26/17	3:00	flowing	-14,509	
7/26/17	4:00	flowing	-14,569	
7/26/17	5:00	flowing	-14,629	
7/26/17	6:00	flowing	-14,689	
7/26/17	7:00	flowing	-14,749	
7/26/17	8:00	flowing	-14,809	
7/26/17	9:00	flowing	-14,869	
7/26/17	10:00	flowing	-14,929	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/26/17	11:00	flowing	-14,989	
7/26/17	12:00	flowing	-15,049	
7/26/17	13:00	flowing	-15,109	
7/26/17	14:00	flowing	-15,169	
7/26/17	15:00	flowing	-15,229	
7/26/17	16:00	flowing	-15,289	
7/26/17	17:00	flowing	-15,349	
7/26/17	18:00	flowing	-15,409	
7/26/17	19:00	flowing	-15,469	
7/26/17	20:00	flowing	-15,529	
7/26/17	21:00	flowing	-15,589	
7/26/17	22:00	flowing	-15,649	
7/26/17	23:00	flowing	-15,709	
7/27/17	0:00	flowing	-15,769	
7/27/17	1:00	flowing	-15,829	
7/27/17	2:00	flowing	-15,889	
7/27/17	3:00	flowing	-15,949	
7/27/17	4:00	flowing	-16,009	
7/27/17	5:00	flowing	-16,069	
7/27/17	6:00	flowing	-16,129	
7/27/17	7:00	flowing	-16,189	
7/27/17	8:00	flowing	-16,249	
7/27/17	9:00	flowing	-16,309	
7/27/17	10:00	flowing	-16,369	
7/27/17	11:00	flowing	-16,429	
7/27/17	12:00	flowing	-16,489	
7/27/17	13:00	flowing	-16,549	
7/27/17	14:00	flowing	-16,609	
7/27/17	15:00	flowing	-16,669	
7/27/17	16:00	flowing	-16,729	
7/27/17	17:00	flowing	-16,789	
7/27/17	18:00	flowing	-16,849	
7/27/17	19:00	flowing	-16,909	
7/27/17	20:00	flowing	-16,969	
7/27/17	21:00	flowing	-17,029	
7/27/17	22:00	flowing	-17,089	
7/27/17	23:00	flowing	-17,149	
7/28/17	0:00	flowing	-17,209	
7/28/17	1:00	flowing	-17,269	
7/28/17	2:00	flowing	-17,329	
7/28/17	3:00	flowing	-17,389	
7/28/17	4:00	flowing	-17,449	
7/28/17	5:00	flowing	-17,509	
7/28/17	6:00	flowing	-17,569	
7/28/17	7:00	flowing	-17,629	
7/28/17	8:00	flowing	-17,689	
7/28/17	9:00	flowing	-17,749	
7/28/17	10:00	flowing	-17,809	
7/28/17	11:00	flowing	-17,869	
7/28/17	12:00	flowing	-17,929	Pump in well C-21 shut down at 12:15.
7/28/17	13:00	flowing	-17,989	
7/28/17	14:00	flowing	-18,049	
7/28/17	15:00	flowing	-18,109	
7/28/17	16:00	flowing	-18,169	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/28/17	17:00	flowing	-18,229	
7/28/17	18:00	flowing	-18,289	
7/28/17	19:00	flowing	-18,349	
7/28/17	20:00	flowing	-18,409	
7/28/17	21:00	flowing	-18,469	
7/28/17	22:00	flowing	-18,529	
7/28/17	23:00	flowing	-18,589	
7/29/17	0:00	flowing	-18,649	
7/29/17	1:00	flowing	-18,709	
7/29/17	2:00	flowing	-18,769	
7/29/17	3:00	flowing	-18,829	
7/29/17	4:00	flowing	-18,889	
7/29/17	5:00	flowing	-18,949	
7/29/17	6:00	flowing	-19,009	
7/29/17	7:00	flowing	-19,069	
7/29/17	8:00	flowing	-19,129	
7/29/17	9:00	flowing	-19,189	
7/29/17	10:00	flowing	-19,249	
7/29/17	11:00	flowing	-19,309	
7/29/17	12:00	flowing	-19,369	
7/29/17	13:00	flowing	-19,429	
7/29/17	14:00	flowing	-19,489	
7/29/17	15:00	flowing	-19,549	
7/29/17	16:00	flowing	-19,609	
7/29/17	17:00	flowing	-19,669	
7/29/17	18:00	flowing	-19,729	
7/29/17	19:00	flowing	-19,789	
7/29/17	20:00	flowing	-19,849	
7/29/17	21:00	flowing	-19,909	
7/29/17	22:00	flowing	-19,969	
7/29/17	23:00	flowing	-20,029	
7/30/17	0:00	flowing	-20,089	
7/30/17	1:00	flowing	-20,149	
7/30/17	2:00	flowing	-20,209	
7/30/17	3:00	flowing	-20,269	
7/30/17	4:00	flowing	-20,329	
7/30/17	5:00	flowing	-20,389	
7/30/17	6:00	flowing	-20,449	
7/30/17	7:00	flowing	-20,509	
7/30/17	8:00	flowing	-20,569	
7/30/17	9:00	flowing	-20,629	
7/30/17	10:00	flowing	-20,689	
7/30/17	11:00	flowing	-20,749	
7/30/17	12:00	flowing	-20,809	
7/30/17	13:00	flowing	-20,869	
7/30/17	14:00	flowing	-20,929	
7/30/17	15:00	flowing	-20,989	
7/30/17	16:00	flowing	-21,049	
7/30/17	17:00	flowing	-21,109	
7/30/17	18:00	flowing	-21,169	
7/30/17	19:00	flowing	-21,229	
7/30/17	20:00	flowing	-21,289	
7/30/17	21:00	flowing	-21,349	
7/30/17	22:00	flowing	-21,409	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
7/30/17	23:00	flowing	-21,469	
7/31/17	0:00	flowing	-21,529	
7/31/17	1:00	flowing	-21,589	
7/31/17	2:00	flowing	-21,649	
7/31/17	3:00	flowing	-21,709	
7/31/17	4:00	flowing	-21,769	
7/31/17	5:00	flowing	-21,829	
7/31/17	6:00	flowing	-21,889	
7/31/17	7:00	flowing	-21,949	
7/31/17	8:00	flowing	-22,009	
7/31/17	9:00	flowing	-22,069	
7/31/17	10:00	flowing	-22,129	
7/31/17	11:00	flowing	-22,189	
7/31/17	12:00	flowing	-22,249	
7/31/17	13:00	flowing	-22,309	
7/31/17	14:00	flowing	-22,369	
7/31/17	15:00	flowing	-22,429	
7/31/17	16:00	flowing	-22,489	
7/31/17	17:00	flowing	-22,549	
7/31/17	18:00	flowing	-22,609	
7/31/17	19:00	flowing	-22,669	
7/31/17	20:00	flowing	-22,729	
7/31/17	21:00	flowing	-22,789	
7/31/17	22:00	flowing	-22,849	
7/31/17	23:00	flowing	-22,909	
8/1/17	0:00	flowing	-22,969	
8/1/17	1:00	flowing	-23,029	
8/1/17	2:00	flowing	-23,089	
8/1/17	3:00	flowing	-23,149	
8/1/17	4:00	flowing	-23,209	
8/1/17	5:00	flowing	-23,269	
8/1/17	6:00	flowing	-23,329	
8/1/17	7:00	flowing	-23,389	
8/1/17	8:00	flowing	-23,449	
8/1/17	9:00	flowing	-23,509	
8/1/17	10:00	flowing	-23,569	
8/1/17	11:00	flowing	-23,629	
8/1/17	12:00	flowing	-23,689	
8/1/17	13:00	flowing	-23,749	
8/1/17	14:00	flowing	-23,809	
8/1/17	15:00	flowing	-23,869	
8/1/17	16:00	flowing	-23,929	
8/1/17	17:00	flowing	-23,989	
8/1/17	18:00	flowing	-24,049	
8/1/17	19:00	flowing	-24,109	
8/1/17	20:00	flowing	-24,169	
8/1/17	21:00	flowing	-24,229	
8/1/17	22:00	flowing	-24,289	
8/1/17	23:00	flowing	-24,349	
8/2/17	0:00	flowing	-24,409	
8/2/17	1:00	flowing	-24,469	
8/2/17	2:00	flowing	-24,529	
8/2/17	3:00	flowing	-24,589	
8/2/17	4:00	flowing	-24,649	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-6 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

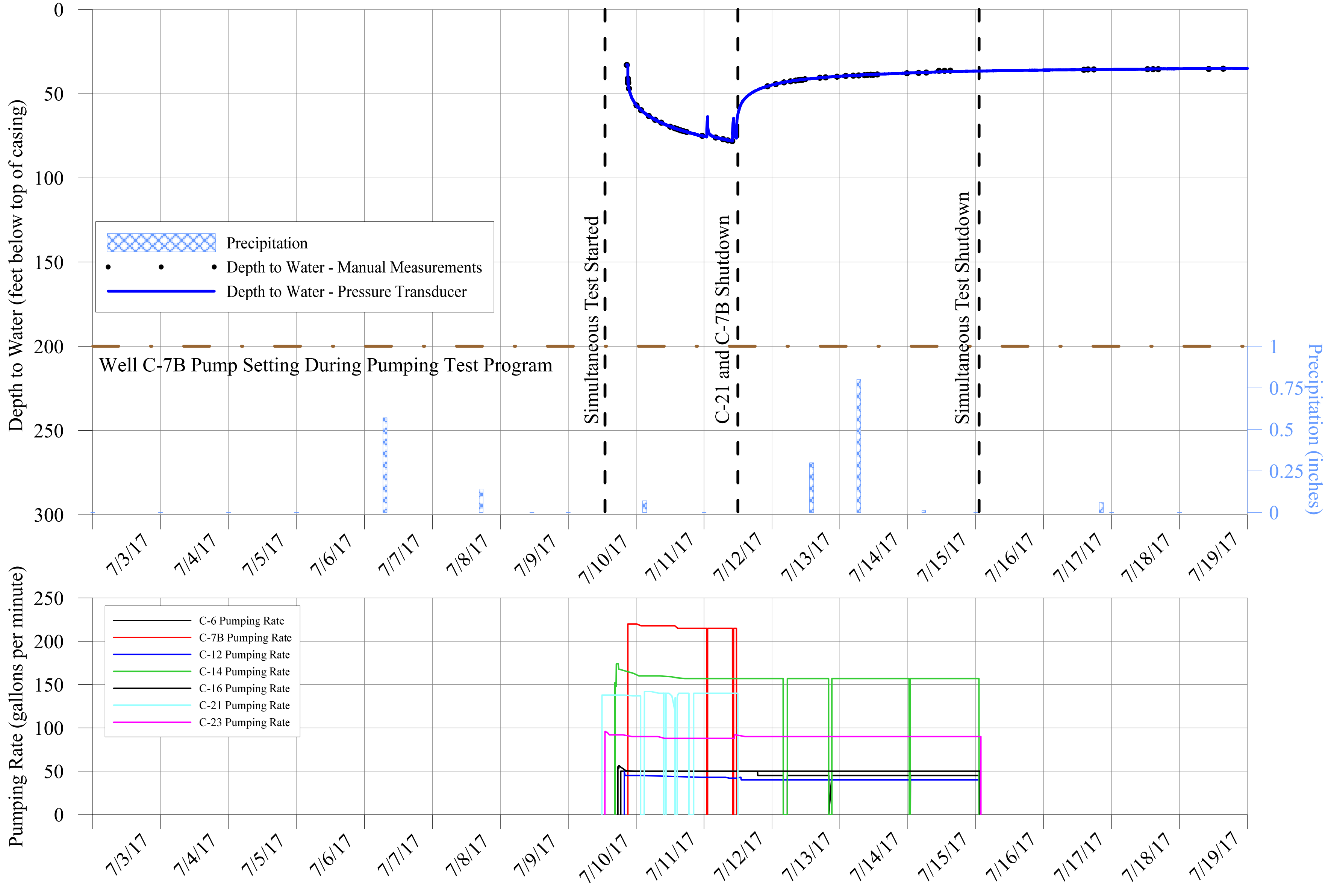
Date	Time	Depth to Water/Drawdown (ft btoc/feet)	Elapsed Time/Recovery (minutes)	Comments
8/2/17	5:00	flowing	-24,709	
8/2/17	6:00	flowing	-24,769	
8/2/17	7:00	flowing	-24,829	
8/2/17	8:00	flowing	-24,889	
8/2/17	9:00	flowing	-24,949	
8/2/17	10:00	flowing	-25,009	
8/2/17	11:00	flowing	-25,069	
8/2/17	12:00	flowing	-25,129	
8/2/17	13:00	flowing	-25,189	
8/2/17	14:00	flowing	-25,249	
8/2/17	15:00	flowing	-25,309	
8/2/17	16:00	flowing	-25,369	
8/2/17	17:00	flowing	-25,429	
8/2/17	18:00	flowing	-25,489	
8/2/17	19:00	flowing	-25,549	
8/2/17	20:00	flowing	-25,609	
8/2/17	21:00	flowing	-25,669	
8/2/17	22:00	flowing	-25,729	
8/2/17	23:00	flowing	-25,789	
8/3/17	0:00	flowing	-25,849	
8/3/17	1:00	flowing	-25,909	
8/3/17	2:00	flowing	-25,969	
8/3/17	3:00	flowing	-26,029	
8/3/17	4:00	flowing	-26,089	
8/3/17	5:00	flowing	-26,149	
8/3/17	6:00	flowing	-26,209	
8/3/17	7:00	flowing	-26,269	
8/3/17	8:00	flowing	-26,329	
8/3/17	9:00	flowing	-26,389	
8/3/17	10:00	flowing	-26,449	
8/3/17	11:00	flowing	-26,509	
8/3/17	12:00	flowing	-26,569	
8/3/17	13:00	flowing	-26,629	
8/3/17	14:00	flowing	-26,689	
8/3/17	15:00	flowing	-26,749	
8/3/17	16:00	flowing	-26,809	
8/3/17	17:00	flowing	-26,869	
8/3/17	18:00	flowing	-26,929	
8/3/17	19:00	flowing	-26,989	
8/3/17	20:00	flowing	-27,049	
8/3/17	21:00	flowing	-27,109	
8/3/17	22:00	flowing	-27,169	
8/3/17	23:00	flowing	-27,229	

ft btoc	feet below top of casing
gpm	gallons per minute

C-7B

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Pumping Well C-7B During Simultaneous Pumping Test Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Pumping Wells\C-7BSimultaneous.grf

LBG Hydrogeologic & Engineering Services, P.C.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/3/17	0:00	32.10	--	--	
7/3/17	1:00	32.08	--	--	
7/3/17	2:00	32.12	--	--	
7/3/17	3:00	32.09	--	--	
7/3/17	4:00	32.10	--	--	
7/3/17	5:00	32.11	--	--	
7/3/17	6:00	32.15	--	--	
7/3/17	7:00	32.17	--	--	
7/3/17	8:00	32.19	--	--	
7/3/17	9:00	32.23	--	--	
7/3/17	10:00	32.25	--	--	
7/3/17	11:00	32.26	--	--	
7/3/17	12:00	32.27	--	--	
7/3/17	13:00	32.32	--	--	
7/3/17	14:00	32.26	--	--	
7/3/17	15:00	32.28	--	--	
7/3/17	16:00	32.31	--	--	
7/3/17	17:00	32.32	--	--	
7/3/17	18:00	32.39	--	--	
7/3/17	19:00	32.37	--	--	
7/3/17	20:00	32.40	--	--	
7/3/17	21:00	32.42	--	--	
7/3/17	22:00	32.43	--	--	
7/3/17	23:00	32.46	--	--	
7/4/17	0:00	32.41	--	--	
7/4/17	1:00	32.43	--	--	
7/4/17	2:00	32.37	--	--	
7/4/17	3:00	32.40	--	--	
7/4/17	4:00	32.36	--	--	
7/4/17	5:00	32.34	--	--	
7/4/17	6:00	32.36	--	--	
7/4/17	7:00	32.37	--	--	
7/4/17	8:00	32.42	--	--	
7/4/17	9:00	32.41	--	--	
7/4/17	10:00	32.41	--	--	
7/4/17	11:00	32.44	--	--	
7/4/17	12:00	32.49	--	--	
7/4/17	13:00	32.82	--	--	
7/4/17	14:00	32.33	--	--	
7/4/17	15:00	32.37	--	--	
7/4/17	16:00	32.35	--	--	
7/4/17	17:00	32.41	--	--	
7/4/17	18:00	32.39	--	--	
7/4/17	19:00	32.42	--	--	
7/4/17	20:00	32.48	--	--	
7/4/17	21:00	32.50	--	--	
7/4/17	22:00	32.52	--	--	
7/4/17	23:00	32.53	--	--	
7/5/17	0:00	32.51	--	--	
7/5/17	1:00	32.51	--	--	
7/5/17	2:00	32.50	--	--	
7/5/17	3:00	32.48	--	--	
7/5/17	4:00	32.48	--	--	
7/5/17	5:00	32.47	--	--	
7/5/17	6:00	32.47	--	--	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/5/17	7:00	32.49	--	--	
7/5/17	8:00	32.52	--	--	
7/5/17	9:00	32.52	--	--	
7/5/17	10:00	32.52	--	--	
7/5/17	11:00	32.53	--	--	
7/5/17	12:00	32.52	--	--	
7/5/17	13:00	32.50	--	--	
7/5/17	14:00	32.49	--	--	
7/5/17	15:00	32.48	--	--	
7/5/17	16:00	32.47	--	--	
7/5/17	17:00	32.46	--	--	
7/5/17	18:00	32.46	--	--	
7/5/17	19:00	32.46	--	--	
7/5/17	20:00	32.50	--	--	
7/5/17	21:00	32.51	--	--	
7/5/17	22:00	32.53	--	--	
7/5/17	23:00	32.53	--	--	
7/6/17	0:00	32.52	--	--	
7/6/17	1:00	32.50	--	--	
7/6/17	2:00	32.49	--	--	
7/6/17	3:00	32.47	--	--	
7/6/17	4:00	32.45	--	--	
7/6/17	5:00	32.46	--	--	
7/6/17	6:00	32.46	--	--	
7/6/17	7:00	32.49	--	--	
7/6/17	8:00	32.52	--	--	
7/6/17	9:00	32.55	--	--	
7/6/17	10:00	32.56	--	--	
7/6/17	11:00	32.57	--	--	
7/6/17	12:00	32.56	--	--	
7/6/17	13:00	32.56	--	--	
7/6/17	14:00	32.54	--	--	
7/6/17	15:00	32.52	--	--	
7/6/17	16:00	32.50	--	--	
7/6/17	17:00	32.49	--	--	
7/6/17	18:00	32.48	--	--	
7/6/17	19:00	32.48	--	--	
7/6/17	20:00	32.53	--	--	
7/6/17	21:00	32.51	--	--	
7/6/17	22:00	32.51	--	--	
7/6/17	23:00	32.52	--	--	
7/7/17	0:00	32.52	--	--	
7/7/17	1:00	32.49	--	--	
7/7/17	2:00	32.47	--	--	
7/7/17	3:00	32.45	--	--	
7/7/17	4:00	32.43	--	--	
7/7/17	5:00	32.41	--	--	
7/7/17	6:00	32.41	--	--	
7/7/17	7:00	32.41	--	--	
7/7/17	8:00	32.42	--	--	
7/7/17	9:00	32.42	--	--	
7/7/17	10:00	32.41	--	--	
7/7/17	11:00	32.41	--	--	
7/7/17	12:00	32.41	--	--	
7/7/17	13:00	32.40	--	--	

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/7/17	14:00	32.38	--	--	
7/7/17	15:00	32.34	--	--	
7/7/17	16:00	32.32	--	--	
7/7/17	17:00	32.31	--	--	
7/7/17	18:00	32.30	--	--	
7/7/17	19:00	32.30	--	--	
7/7/17	20:00	32.33	--	--	
7/7/17	21:00	32.38	--	--	
7/7/17	22:00	32.35	--	--	
7/7/17	23:00	32.37	--	--	
7/8/17	0:00	32.35	--	--	
7/8/17	1:00	32.35	--	--	
7/8/17	2:00	32.32	--	--	
7/8/17	3:00	32.31	--	--	
7/8/17	4:00	32.28	--	--	
7/8/17	5:00	32.28	--	--	
7/8/17	6:00	32.30	--	--	
7/8/17	7:00	32.28	--	--	
7/8/17	8:00	32.29	--	--	
7/8/17	9:00	32.31	--	--	
7/8/17	10:00	32.32	--	--	
7/8/17	11:00	32.34	--	--	
7/8/17	12:00	32.34	--	--	
7/8/17	13:00	32.36	--	--	
7/8/17	14:00	32.37	--	--	
7/8/17	15:00	32.35	--	--	
7/8/17	16:00	32.35	--	--	
7/8/17	17:00	32.38	--	--	
7/8/17	18:00	32.37	--	--	
7/8/17	19:00	32.36	--	--	
7/8/17	20:00	32.45	--	--	
7/8/17	21:00	32.42	--	--	
7/8/17	22:00	32.46	--	--	
7/8/17	23:00	32.47	--	--	
7/9/17	0:00	32.48	--	--	
7/9/17	1:00	32.49	--	--	
7/9/17	2:00	32.48	--	--	
7/9/17	3:00	32.47	--	--	
7/9/17	4:00	32.47	--	--	
7/9/17	5:00	32.46	--	--	
7/9/17	6:00	32.45	--	--	
7/9/17	7:00	32.49	--	--	
7/9/17	8:00	32.51	--	--	
7/9/17	9:00	32.54	--	--	
7/9/17	10:00	32.57	--	--	
7/9/17	11:00	32.60	--	--	
7/9/17	12:00	32.62	--	--	
7/9/17	13:00	32.62	--	--	
7/9/17	14:00	32.61	--	--	
7/9/17	15:00	32.62	--	--	
7/9/17	16:00	32.61	--	--	
7/9/17	17:00	32.59	--	--	
7/9/17	18:00	32.57	--	--	
7/9/17	19:00	32.58	--	--	
7/9/17	20:00	32.59	--	--	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/9/17	21:00	32.62	--	--	
7/9/17	22:00	32.63	--	--	
7/9/17	23:00	32.66	--	--	
7/10/17	0:00	32.66	--	--	
7/10/17	1:00	32.66	--	--	
7/10/17	2:00	32.66	--	--	
7/10/17	3:00	32.64	--	--	
7/10/17	4:00	32.62	--	--	
7/10/17	5:00	32.61	--	--	
7/10/17	6:00	32.59	--	--	
7/10/17	7:00	32.59	--	--	
7/10/17	8:00	32.60	--	--	
7/10/17	9:00	32.63	--	--	
7/10/17	10:00	32.65	--	--	
7/10/17	11:00	32.65	--	--	
7/10/17	11:54	32.66	--	--	Static water level used from prior to the start of pumping in any onsite wells.
7/10/17	12:00	32.66	--	--	Pump in well C-21 started at 11:55.
7/10/17	13:00	32.67	--	--	Pump in well C-23 started at 12:59.
7/10/17	14:00	32.65	--	--	
7/10/17	15:00	32.64	--	--	
7/10/17	16:00	32.60	--	--	
7/10/17	17:00	32.59	--	--	Pump in well C-14 started at 16:24.
7/10/17	18:00	32.58	--	--	Pump in well C-16 started at 17:31.
7/10/17	19:00	32.58	--	--	Pump in well C-6 started at 18:35.
7/10/17	20:00	32.56	--	--	Pump in well C-12 started at 19:48.
7/10/17	20:40	32.57	--	--	
7/10/17	21:00	32.88	--	--	Reset test on pressure transducer.
7/10/17	21:03	32.92	--	--	Pump in well C-7B started.
7/10/17	21:04	39.18	1	6.52	Pump rate in well C-7B adjusted to 220 gpm.
7/10/17	21:05	43.10	2	10.44	
7/10/17	21:06	43.67	3	11.01	
7/10/17	21:07	42.84	4	10.18	
7/10/17	21:08	41.17	5	8.51	
7/10/17	21:09	42.62	6	9.96	
7/10/17	21:10	43.05	7	10.39	Pumping rate in well C-7B 220 gpm.
7/10/17	21:11	43.20	8	10.54	
7/10/17	21:12	43.54	9	10.88	
7/10/17	21:13	43.89	10	11.23	
7/10/17	21:14	44.11	11	11.45	
7/10/17	21:15	44.36	12	11.70	Pumping rate in well C-7B 220 gpm.
7/10/17	21:16	44.59	13	11.93	
7/10/17	21:17	44.98	14	12.32	
7/10/17	21:18	45.05	15	12.39	
7/10/17	21:19	45.28	16	12.62	
7/10/17	21:20	45.44	17	12.78	Pumping rate in well C-7B 220 gpm.
7/10/17	21:25	46.35	22	13.69	
7/10/17	21:30	47.30	27	14.64	Pumping rate in well C-7B 220 gpm.
7/10/17	21:35	47.78	32	15.12	
7/10/17	21:40	48.69	37	16.03	Pumping rate in well C-7B 220 gpm.
7/10/17	21:45	49.04	42	16.38	
7/10/17	21:50	49.41	47	16.75	Pumping rate in well C-7B 220 gpm.
7/10/17	21:55	49.98	52	17.32	
7/10/17	22:00	50.40	57	17.74	Pumping rate in well C-7B 220 gpm.
7/10/17	23:00	54.11	117	21.45	Pumping rate in well C-7B 220 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/11/17	0:00	56.72	177	24.06	Pumping rate in well C-7B 220 gpm.
7/11/17	1:00	58.52	237	25.86	Pumping rate in well C-7B 220 gpm.
7/11/17	2:00	60.10	297	27.44	Pumping rate in well C-7B 220 gpm.
7/11/17	3:00	61.42	357	28.76	Pumping rate in well C-7B 220 gpm.
7/11/17	4:00	62.60	417	29.94	Pumping rate in well C-7B 220 gpm.
7/11/17	5:00	63.68	477	31.02	Pumping rate in well C-7B 220 gpm.
7/11/17	6:00	64.82	537	32.16	Pumping rate in well C-7B 220 gpm.
7/11/17	7:00	65.65	597	32.99	Pumping rate in well C-7B 218 gpm.
7/11/17	8:00	66.67	657	34.01	Pumping rate in well C-7B 218 gpm.
7/11/17	9:00	67.23	717	34.57	Pumping rate in well C-7B 218 gpm.
7/11/17	10:00	68.19	777	35.53	Pumping rate in well C-7B 218 gpm.
7/11/17	11:00	68.79	837	36.13	Pumping rate in well C-7B 218 gpm.
7/11/17	12:00	69.51	897	36.85	Pumping rate in well C-7B 218 gpm.
7/11/17	13:00	70.09	957	37.43	Pumping rate in well C-7B 218 gpm.
7/11/17	14:00	70.66	1,017	38.00	Pumping rate in well C-7B 218 gpm.
7/11/17	15:00	71.29	1,077	38.63	Pumping rate in well C-7B 215 gpm.
7/11/17	16:00	71.78	1,137	39.12	Pumping rate in well C-7B 215 gpm.
7/11/17	17:00	72.27	1,197	39.61	Pumping rate in well C-7B 215 gpm.
7/11/17	18:00	72.64	1,257	39.98	Pumping rate in well C-7B 215 gpm.
7/11/17	19:00	73.26	1,317	40.60	Pumping rate in well C-7B 215 gpm.
7/11/17	20:00	73.74	1,377	41.08	Pumping rate in well C-7B 215 gpm.
7/11/17	21:00	74.16	1,437	41.50	Pumping rate in well C-7B 215 gpm.
7/11/17	22:00	74.68	1,497	42.02	Pumping rate in well C-7B 215 gpm.
7/11/17	23:00	74.76	1,557	42.10	Pumping rate in well C-7B 215 gpm.
7/12/17	0:00	75.39	1,617	42.73	Pumping rate in well C-7B 215 gpm.
7/12/17	1:00	71.97	1,677	39.31	Generator shut down.
7/12/17	1:17	67.12	1,694	34.46	Generator restarted.
7/12/17	2:00	74.07	1,737	41.41	Pumping rate in well C-7B 215 gpm.
7/12/17	3:00	75.28	1,797	42.62	Pumping rate in well C-7B 215 gpm.
7/12/17	4:00	75.89	1,857	43.23	Pumping rate in well C-7B 215 gpm.
7/12/17	5:00	76.30	1,917	43.64	Pumping rate in well C-7B 215 gpm.
7/12/17	6:00	76.76	1,977	44.10	Pumping rate in well C-7B 215 gpm.
7/12/17	7:00	77.00	2,037	44.34	Pumping rate in well C-7B 215 gpm.
7/12/17	8:00	77.38	2,097	44.72	Pumping rate in well C-7B 215 gpm.
7/12/17	9:00	77.67	2,157	45.01	Pumping rate in well C-7B 215 gpm.
7/12/17	10:00	77.88	2,217	45.22	Pumping rate in well C-7B 215 gpm.
7/12/17	10:03	77.94	2,220	45.28	Pumping rate in well C-7B 215 gpm.
7/12/17	10:04	74.52	2,221	41.86	Generator shut down.
7/12/17	10:27	67.85	2,244	35.19	Generator restarted.
7/12/17	11:00	75.55	2,277	42.89	Pumping rate in well C-7B 215 gpm.
7/12/17	11:27	76.37	2,304	43.71	Pumping rate in well C-7B 215 gpm.
7/12/17	11:28	71.17	-1	38.51	Pump in well C-7B shut down. End of test on well C-7B.
7/12/17	11:29	69.96	-2	37.30	
7/12/17	11:30	69.17	-3	36.51	
7/12/17	11:31	68.55	-4	35.89	
7/12/17	11:32	68.00	-5	35.34	
7/12/17	11:33	67.55	-6	34.89	
7/12/17	11:34	67.14	-7	34.48	
7/12/17	11:35	66.78	-8	34.12	
7/12/17	11:36	66.44	-9	33.78	
7/12/17	11:37	66.13	-10	33.47	
7/12/17	11:38	65.85	-11	33.19	
7/12/17	11:39	65.57	-12	32.91	
7/12/17	11:40	65.32	-13	32.66	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/12/17	11:41	65.09	-14	32.43	
7/12/17	11:42	64.85	-15	32.19	
7/12/17	11:43	64.65	-16	31.99	
7/12/17	11:44	64.43	-17	31.77	
7/12/17	11:45	64.24	-18	31.58	
7/12/17	11:50	63.35	-23	30.69	
7/12/17	11:55	62.56	-28	29.90	
7/12/17	12:00	61.86	-33	29.20	Shut down pump in well C-21 at 11:56.
7/12/17	12:05	61.22	-38	28.56	
7/12/17	12:10	60.65	-43	27.99	
7/12/17	12:15	60.12	-48	27.46	
7/12/17	12:20	59.64	-53	26.98	
7/12/17	12:25	59.15	-58	26.49	
7/12/17	12:30	58.71	-63	26.05	
7/12/17	13:00	56.51	-93	23.85	
7/12/17	14:00	53.79	-153	21.13	
7/12/17	15:00	51.92	-213	19.26	
7/12/17	16:00	50.51	-273	17.85	
7/12/17	17:00	49.36	-333	16.70	
7/12/17	18:00	48.44	-393	15.78	
7/12/17	19:00	47.62	-453	14.96	
7/12/17	20:00	46.90	-513	14.24	
7/12/17	21:00	46.27	-573	13.61	
7/12/17	22:00	45.77	-633	13.11	
7/12/17	23:00	45.25	-693	12.59	
7/13/17	0:00	44.82	-753	12.16	
7/13/17	1:00	44.38	-813	11.72	
7/13/17	2:00	44.02	-873	11.36	
7/13/17	3:00	43.66	-933	11.00	
7/13/17	4:00	43.29	-993	10.63	
7/13/17	5:00	42.99	-1,053	10.33	
7/13/17	6:00	42.69	-1,113	10.03	
7/13/17	7:00	42.40	-1,173	9.74	
7/13/17	8:00	42.14	-1,233	9.48	
7/13/17	9:00	41.91	-1,293	9.25	
7/13/17	10:00	41.73	-1,353	9.07	
7/13/17	11:00	41.54	-1,413	8.88	
7/13/17	12:00	41.35	-1,473	8.69	
7/13/17	13:00	41.18	-1,533	8.52	
7/13/17	14:00	41.01	-1,593	8.35	
7/13/17	15:00	40.83	-1,653	8.17	
7/13/17	16:00	40.67	-1,713	8.01	
7/13/17	17:00	40.50	-1,773	7.84	
7/13/17	18:00	40.37	-1,833	7.71	
7/13/17	19:00	40.23	-1,893	7.57	
7/13/17	20:00	40.09	-1,953	7.43	
7/13/17	21:00	39.96	-2,013	7.30	
7/13/17	22:00	39.85	-2,073	7.19	
7/13/17	23:00	39.74	-2,133	7.08	
7/14/17	0:00	39.64	-2,193	6.98	
7/14/17	1:00	39.53	-2,253	6.87	
7/14/17	2:00	39.44	-2,313	6.78	
7/14/17	3:00	39.34	-2,373	6.68	
7/14/17	4:00	39.25	-2,433	6.59	
7/14/17	5:00	39.15	-2,493	6.49	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/14/17	6:00	39.08	-2,553	6.42	
7/14/17	7:00	38.95	-2,613	6.29	
7/14/17	8:00	38.84	-2,673	6.18	
7/14/17	9:00	38.82	-2,733	6.16	
7/14/17	10:00	38.71	-2,793	6.05	
7/14/17	11:00	38.59	-2,853	5.93	
7/14/17	12:00	38.58	-2,913	5.92	
7/14/17	13:00	38.50	-2,973	5.84	
7/14/17	14:00	38.42	-3,033	5.76	
7/14/17	15:00	38.35	-3,093	5.69	
7/14/17	16:00	38.27	-3,153	5.61	
7/14/17	17:00	38.20	-3,213	5.54	
7/14/17	18:00	38.12	-3,273	5.46	
7/14/17	19:00	38.03	-3,333	5.37	
7/14/17	20:00	37.97	-3,393	5.31	
7/14/17	21:00	37.89	-3,453	5.23	
7/14/17	22:00	37.85	-3,513	5.19	
7/14/17	23:00	37.77	-3,573	5.11	
7/15/17	0:00	37.70	-3,633	5.04	
7/15/17	1:00	37.67	-3,693	5.01	
7/15/17	2:00	37.59	-3,753	4.93	
7/15/17	3:00	37.54	-3,813	4.88	
7/15/17	4:00	37.48	-3,873	4.82	
7/15/17	5:00	37.42	-3,933	4.76	
7/15/17	6:00	37.35	-3,993	4.69	
7/15/17	7:00	37.30	-4,053	4.64	
7/15/17	8:00	37.24	-4,113	4.58	
7/15/17	9:00	37.19	-4,173	4.53	90% recovery achieved.
7/15/17	10:00	37.12	-4,233	4.46	
7/15/17	11:00	37.08	-4,293	4.42	
7/15/17	12:00	37.05	-4,353	4.39	
7/15/17	13:00	37.02	-4,413	4.36	
7/15/17	14:00	36.98	-4,473	4.32	
7/15/17	15:00	36.95	-4,533	4.29	
7/15/17	16:00	36.90	-4,593	4.24	
7/15/17	17:00	36.87	-4,653	4.21	
7/15/17	18:00	36.83	-4,713	4.17	
7/15/17	19:00	36.78	-4,773	4.12	
7/15/17	20:00	36.74	-4,833	4.08	
7/15/17	21:00	36.72	-4,893	4.06	
7/15/17	22:00	36.67	-4,953	4.01	
7/15/17	23:00	36.63	-5,013	3.97	
7/16/17	0:00	36.62	-5,073	3.96	
7/16/17	1:00	36.59	-5,133	3.93	
7/16/17	1:09	36.56	-5,142	3.90	Shut down of simultaneous pumping test (wells C-6, 12, 14, 16, and 23).
7/16/17	2:00	36.54	-5,193	3.88	
7/16/17	3:00	36.50	-5,253	3.84	
7/16/17	4:00	36.45	-5,313	3.79	
7/16/17	5:00	36.42	-5,373	3.76	
7/16/17	6:00	36.37	-5,433	3.71	
7/16/17	7:00	36.34	-5,493	3.68	
7/16/17	8:00	36.30	-5,553	3.64	
7/16/17	9:00	36.26	-5,613	3.60	
7/16/17	10:00	36.24	-5,673	3.58	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/16/17	11:00	36.20	-5,733	3.54	
7/16/17	12:00	36.17	-5,793	3.51	
7/16/17	13:00	36.18	-5,853	3.52	
7/16/17	14:00	36.16	-5,913	3.50	
7/16/17	15:00	36.15	-5,973	3.49	
7/16/17	16:00	36.10	-6,033	3.44	
7/16/17	17:00	36.06	-6,093	3.40	
7/16/17	18:00	36.05	-6,153	3.39	
7/16/17	19:00	36.03	-6,213	3.37	
7/16/17	20:00	36.03	-6,273	3.37	
7/16/17	21:00	36.05	-6,333	3.39	
7/16/17	22:00	35.99	-6,393	3.33	
7/16/17	23:00	35.97	-6,453	3.31	
7/17/17	0:00	35.99	-6,513	3.33	
7/17/17	1:00	35.97	-6,573	3.31	
7/17/17	2:00	35.95	-6,633	3.29	
7/17/17	3:00	35.89	-6,693	3.23	
7/17/17	4:00	35.88	-6,753	3.22	
7/17/17	5:00	35.89	-6,813	3.23	
7/17/17	6:00	35.85	-6,873	3.19	
7/17/17	7:00	35.82	-6,933	3.16	
7/17/17	8:00	35.82	-6,993	3.16	
7/17/17	9:00	35.84	-7,053	3.18	
7/17/17	10:00	35.77	-7,113	3.11	
7/17/17	11:00	35.73	-7,173	3.07	
7/17/17	12:00	35.76	-7,233	3.10	
7/17/17	13:00	35.73	-7,293	3.07	
7/17/17	14:00	35.70	-7,353	3.04	
7/17/17	15:00	35.68	-7,413	3.02	
7/17/17	16:00	35.68	-7,473	3.02	
7/17/17	17:00	35.66	-7,533	3.00	
7/17/17	18:00	35.66	-7,593	3.00	
7/17/17	19:00	35.64	-7,653	2.98	
7/17/17	20:00	35.67	-7,713	3.01	
7/17/17	21:00	35.62	-7,773	2.96	
7/17/17	22:00	35.60	-7,833	2.94	
7/17/17	23:00	35.60	-7,893	2.94	
7/18/17	0:00	35.57	-7,953	2.91	
7/18/17	1:00	35.55	-8,013	2.89	
7/18/17	2:00	35.54	-8,073	2.88	
7/18/17	3:00	35.53	-8,133	2.87	
7/18/17	4:00	35.53	-8,193	2.87	
7/18/17	5:00	35.51	-8,253	2.85	
7/18/17	6:00	35.51	-8,313	2.85	
7/18/17	7:00	35.50	-8,373	2.84	
7/18/17	8:00	35.50	-8,433	2.84	
7/18/17	9:00	35.51	-8,493	2.85	
7/18/17	10:00	35.48	-8,553	2.82	
7/18/17	11:00	35.45	-8,613	2.79	
7/18/17	12:00	35.41	-8,673	2.75	
7/18/17	13:00	35.37	-8,733	2.71	
7/18/17	14:00	35.34	-8,793	2.68	
7/18/17	15:00	35.32	-8,853	2.66	
7/18/17	16:00	35.30	-8,913	2.64	
7/18/17	17:00	35.29	-8,973	2.63	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/18/17	18:00	35.28	-9,033	2.62	
7/18/17	19:00	35.29	-9,093	2.63	
7/18/17	20:00	35.28	-9,153	2.62	
7/18/17	21:00	35.27	-9,213	2.61	
7/18/17	22:00	35.27	-9,273	2.61	
7/18/17	23:00	35.26	-9,333	2.60	
7/19/17	0:00	35.23	-9,393	2.57	
7/19/17	1:00	35.22	-9,453	2.56	
7/19/17	2:00	35.20	-9,513	2.54	
7/19/17	3:00	35.19	-9,573	2.53	
7/19/17	4:00	35.17	-9,633	2.51	
7/19/17	5:00	35.18	-9,693	2.52	
7/19/17	6:00	35.16	-9,753	2.50	
7/19/17	7:00	35.17	-9,813	2.51	
7/19/17	8:00	35.18	-9,873	2.52	
7/19/17	9:00	35.19	-9,933	2.53	
7/19/17	10:00	35.16	-9,993	2.50	
7/19/17	11:00	35.18	-10,053	2.52	
7/19/17	12:00	35.11	-10,113	2.45	
7/19/17	13:00	35.10	-10,173	2.44	
7/19/17	14:00	35.06	-10,233	2.40	
7/19/17	15:00	35.04	-10,293	2.38	
7/19/17	16:00	35.01	-10,353	2.35	
7/19/17	17:00	34.99	-10,413	2.33	
7/19/17	18:00	34.99	-10,473	2.33	
7/19/17	19:00	34.94	-10,533	2.28	
7/19/17	20:00	35.01	-10,593	2.35	
7/19/17	21:00	35.01	-10,653	2.35	
7/19/17	22:00	35.02	-10,713	2.36	
7/19/17	23:00	35.01	-10,773	2.35	
7/20/17	0:00	34.99	-10,833	2.33	
7/20/17	1:00	34.98	-10,893	2.32	
7/20/17	2:00	34.96	-10,953	2.30	
7/20/17	3:00	34.94	-11,013	2.28	
7/20/17	4:00	34.93	-11,073	2.27	
7/20/17	5:00	34.91	-11,133	2.25	
7/20/17	6:00	34.93	-11,193	2.27	
7/20/17	7:00	34.96	-11,253	2.30	
7/20/17	8:00	34.97	-11,313	2.31	
7/20/17	9:00	34.97	-11,373	2.31	
7/20/17	10:00	34.98	-11,433	2.32	
7/20/17	11:00	34.95	-11,493	2.29	
7/20/17	12:00	34.94	-11,553	2.28	
7/20/17	13:00	34.90	-11,613	2.24	
7/20/17	14:00	34.86	-11,673	2.20	
7/20/17	15:00	34.83	-11,733	2.17	
7/20/17	16:00	34.81	-11,793	2.15	
7/20/17	17:00	34.79	-11,853	2.13	
7/20/17	18:00	34.79	-11,913	2.13	
7/20/17	19:00	34.81	-11,973	2.15	
7/20/17	20:00	34.79	-12,033	2.13	
7/20/17	21:00	34.81	-12,093	2.15	
7/20/17	22:00	34.81	-12,153	2.15	
7/20/17	23:00	34.81	-12,213	2.15	
7/21/17	0:00	34.80	-12,273	2.14	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/21/17	1:00	34.79	-12,333	2.13	
7/21/17	2:00	34.75	-12,393	2.09	
7/21/17	3:00	34.74	-12,453	2.08	
7/21/17	4:00	34.73	-12,513	2.07	
7/21/17	5:00	34.72	-12,573	2.06	
7/21/17	6:00	34.73	-12,633	2.07	
7/21/17	7:00	34.73	-12,693	2.07	
7/21/17	8:00	34.77	-12,753	2.11	
7/21/17	9:00	34.78	-12,813	2.12	
7/21/17	10:00	34.77	-12,873	2.11	
7/21/17	11:00	34.77	-12,933	2.11	
7/21/17	12:00	34.76	-12,993	2.10	
7/21/17	13:00	34.72	-13,053	2.06	
7/21/17	14:00	34.69	-13,113	2.03	
7/21/17	15:00	34.67	-13,173	2.01	
7/21/17	16:00	34.64	-13,233	1.98	
7/21/17	17:00	34.62	-13,293	1.96	
7/21/17	18:00	34.61	-13,353	1.95	
7/21/17	19:00	34.62	-13,413	1.96	
7/21/17	20:00	34.62	-13,473	1.96	
7/21/17	21:00	34.64	-13,533	1.98	
7/21/17	22:00	34.66	-13,593	2.00	
7/21/17	23:00	34.66	-13,653	2.00	
7/22/17	0:00	34.65	-13,713	1.99	
7/22/17	1:00	34.62	-13,773	1.96	
7/22/17	2:00	34.63	-13,833	1.97	
7/22/17	3:00	34.61	-13,893	1.95	
7/22/17	4:00	34.58	-13,953	1.92	
7/22/17	5:00	34.55	-14,013	1.89	
7/22/17	6:00	34.56	-14,073	1.90	
7/22/17	7:00	34.56	-14,133	1.90	
7/22/17	8:00	34.57	-14,193	1.91	
7/22/17	9:00	34.60	-14,253	1.94	
7/22/17	10:00	34.62	-14,313	1.96	
7/22/17	11:00	34.63	-14,373	1.97	
7/22/17	12:00	34.65	-14,433	1.99	
7/22/17	13:00	34.64	-14,493	1.98	
7/22/17	14:00	34.62	-14,553	1.96	
7/22/17	15:00	34.58	-14,613	1.92	
7/22/17	16:00	34.55	-14,673	1.89	
7/22/17	17:00	34.53	-14,733	1.87	
7/22/17	18:00	34.51	-14,793	1.85	
7/22/17	19:00	34.51	-14,853	1.85	
7/22/17	20:00	34.50	-14,913	1.84	
7/22/17	21:00	34.51	-14,973	1.85	
7/22/17	22:00	34.53	-15,033	1.87	
7/22/17	23:00	34.52	-15,093	1.86	
7/23/17	0:00	34.51	-15,153	1.85	
7/23/17	1:00	34.51	-15,213	1.85	
7/23/17	2:00	34.48	-15,273	1.82	
7/23/17	3:00	34.45	-15,333	1.79	
7/23/17	4:00	34.42	-15,393	1.76	
7/23/17	5:00	34.42	-15,453	1.76	
7/23/17	6:00	34.43	-15,513	1.77	
7/23/17	7:00	34.41	-15,573	1.75	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/23/17	8:00	34.44	-15,633	1.78	
7/23/17	9:00	34.46	-15,693	1.80	
7/23/17	10:00	34.49	-15,753	1.83	
7/23/17	11:00	34.52	-15,813	1.86	
7/23/17	12:00	34.52	-15,873	1.86	
7/23/17	13:00	34.54	-15,933	1.88	
7/23/17	14:00	34.55	-15,993	1.89	
7/23/17	15:00	34.53	-16,053	1.87	
7/23/17	16:00	34.53	-16,113	1.87	
7/23/17	17:00	34.52	-16,173	1.86	
7/23/17	18:00	34.51	-16,233	1.85	
7/23/17	19:00	34.50	-16,293	1.84	
7/23/17	20:00	34.52	-16,353	1.86	
7/23/17	21:00	34.53	-16,413	1.87	
7/23/17	22:00	34.55	-16,473	1.89	
7/23/17	23:00	34.55	-16,533	1.89	
7/24/17	0:00	34.59	-16,593	1.93	
7/24/17	1:00	34.56	-16,653	1.90	
7/24/17	2:00	34.53	-16,713	1.87	
7/24/17	3:00	34.52	-16,773	1.86	
7/24/17	4:00	34.48	-16,833	1.82	
7/24/17	5:00	34.46	-16,893	1.80	
7/24/17	6:00	34.44	-16,953	1.78	
7/24/17	7:00	34.44	-17,013	1.78	
7/24/17	8:00	34.45	-17,073	1.79	
7/24/17	9:00	34.48	-17,133	1.82	
7/24/17	10:00	34.48	-17,193	1.82	
7/24/17	11:00	34.49	-17,253	1.83	
7/24/17	12:00	34.53	-17,313	1.87	
7/24/17	13:00	34.52	-17,373	1.86	
7/24/17	14:00	34.51	-17,433	1.85	
7/24/17	15:00	34.49	-17,493	1.83	
7/24/17	16:00	34.47	-17,553	1.81	
7/24/17	17:00	34.44	-17,613	1.78	
7/24/17	18:00	34.45	-17,673	1.79	
7/24/17	19:00	34.42	-17,733	1.76	
7/24/17	20:00	34.43	-17,793	1.77	
7/24/17	21:00	34.45	-17,853	1.79	
7/24/17	22:00	34.47	-17,913	1.81	
7/24/17	23:00	34.50	-17,973	1.84	
7/25/17	0:00	34.53	-18,033	1.87	
7/25/17	1:00	34.53	-18,093	1.87	
7/25/17	2:00	34.52	-18,153	1.86	
7/25/17	3:00	34.50	-18,213	1.84	
7/25/17	4:00	34.48	-18,273	1.82	
7/25/17	5:00	34.47	-18,333	1.81	
7/25/17	6:00	34.47	-18,393	1.81	
7/25/17	7:00	34.47	-18,453	1.81	
7/25/17	8:00	34.47	-18,513	1.81	
7/25/17	9:00	34.50	-18,573	1.84	
7/25/17	10:00	34.51	-18,633	1.85	
7/25/17	11:00	34.52	-18,693	1.86	
7/25/17	12:00	34.56	-18,753	1.90	Pump in well C-21 started at 11:44.
7/25/17	13:00	34.57	-18,813	1.91	
7/25/17	14:00	34.58	-18,873	1.92	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/25/17	15:00	34.55	-18,933	1.89	
7/25/17	16:00	34.55	-18,993	1.89	
7/25/17	17:00	34.53	-19,053	1.87	
7/25/17	18:00	34.53	-19,113	1.87	
7/25/17	19:00	34.51	-19,173	1.85	
7/25/17	20:00	34.53	-19,233	1.87	
7/25/17	21:00	34.53	-19,293	1.87	
7/25/17	22:00	34.55	-19,353	1.89	
7/25/17	23:00	34.58	-19,413	1.92	
7/26/17	0:00	34.58	-19,473	1.92	
7/26/17	1:00	34.59	-19,533	1.93	
7/26/17	2:00	34.59	-19,593	1.93	
7/26/17	3:00	34.57	-19,653	1.91	
7/26/17	4:00	34.54	-19,713	1.88	
7/26/17	5:00	34.52	-19,773	1.86	
7/26/17	6:00	34.52	-19,833	1.86	
7/26/17	7:00	34.50	-19,893	1.84	
7/26/17	8:00	34.50	-19,953	1.84	
7/26/17	9:00	34.49	-20,013	1.83	
7/26/17	10:00	34.51	-20,073	1.85	
7/26/17	11:00	34.51	-20,133	1.85	
7/26/17	12:00	34.51	-20,193	1.85	
7/26/17	13:00	34.51	-20,253	1.85	
7/26/17	14:00	34.52	-20,313	1.86	
7/26/17	15:00	34.50	-20,373	1.84	
7/26/17	16:00	34.49	-20,433	1.83	
7/26/17	17:00	34.47	-20,493	1.81	
7/26/17	18:00	34.44	-20,553	1.78	
7/26/17	19:00	34.43	-20,613	1.77	
7/26/17	20:00	34.41	-20,673	1.75	
7/26/17	21:00	34.41	-20,733	1.75	
7/26/17	22:00	34.43	-20,793	1.77	
7/26/17	23:00	34.43	-20,853	1.77	
7/27/17	0:00	34.43	-20,913	1.77	
7/27/17	1:00	34.43	-20,973	1.77	
7/27/17	2:00	34.42	-21,033	1.76	
7/27/17	3:00	34.40	-21,093	1.74	
7/27/17	4:00	34.38	-21,153	1.72	
7/27/17	5:00	34.37	-21,213	1.71	
7/27/17	6:00	34.35	-21,273	1.69	
7/27/17	7:00	34.31	-21,333	1.65	
7/27/17	8:00	34.33	-21,393	1.67	
7/27/17	9:00	34.33	-21,453	1.67	
7/27/17	10:00	34.32	-21,513	1.66	
7/27/17	11:00	34.35	-21,573	1.69	
7/27/17	12:00	34.34	-21,633	1.68	
7/27/17	13:00	34.34	-21,693	1.68	
7/27/17	14:00	34.32	-21,753	1.66	
7/27/17	15:00	34.33	-21,813	1.67	
7/27/17	16:00	34.31	-21,873	1.65	
7/27/17	17:00	34.31	-21,933	1.65	
7/27/17	18:00	34.27	-21,993	1.61	
7/27/17	19:00	34.26	-22,053	1.60	
7/27/17	20:00	34.25	-22,113	1.59	
7/27/17	21:00	34.26	-22,173	1.60	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/27/17	22:00	34.25	-22,233	1.59	
7/27/17	23:00	34.26	-22,293	1.60	
7/28/17	0:00	34.28	-22,353	1.62	
7/28/17	1:00	34.27	-22,413	1.61	
7/28/17	2:00	34.27	-22,473	1.61	
7/28/17	3:00	34.27	-22,533	1.61	
7/28/17	4:00	34.26	-22,593	1.60	
7/28/17	5:00	34.26	-22,653	1.60	
7/28/17	6:00	34.25	-22,713	1.59	
7/28/17	7:00	34.23	-22,773	1.57	
7/28/17	8:00	34.25	-22,833	1.59	
7/28/17	9:00	34.27	-22,893	1.61	
7/28/17	10:00	34.26	-22,953	1.60	
7/28/17	11:00	34.26	-23,013	1.60	
7/28/17	12:00	34.27	-23,073	1.61	Pump in well C-21 shut down at 12:15.
7/28/17	13:00	34.29	-23,133	1.63	
7/28/17	14:00	34.28	-23,193	1.62	
7/28/17	15:00	34.28	-23,253	1.62	
7/28/17	16:00	34.30	-23,313	1.64	
7/28/17	17:00	34.28	-23,373	1.62	
7/28/17	18:00	34.29	-23,433	1.63	
7/28/17	19:00	34.30	-23,493	1.64	
7/28/17	20:00	34.31	-23,553	1.65	
7/28/17	21:00	34.32	-23,613	1.66	
7/28/17	22:00	34.31	-23,673	1.65	
7/28/17	23:00	34.31	-23,733	1.65	
7/29/17	0:00	34.32	-23,793	1.66	
7/29/17	1:00	34.32	-23,853	1.66	
7/29/17	2:00	34.33	-23,913	1.67	
7/29/17	3:00	34.32	-23,973	1.66	
7/29/17	4:00	34.32	-24,033	1.66	
7/29/17	5:00	34.31	-24,093	1.65	
7/29/17	6:00	34.28	-24,153	1.62	
7/29/17	7:00	34.28	-24,213	1.62	
7/29/17	8:00	34.28	-24,273	1.62	
7/29/17	9:00	34.25	-24,333	1.59	
7/29/17	10:00	34.26	-24,393	1.60	
7/29/17	11:00	34.25	-24,453	1.59	
7/29/17	12:00	34.26	-24,513	1.60	
7/29/17	13:00	34.27	-24,573	1.61	
7/29/17	14:00	34.31	-24,633	1.65	
7/29/17	15:00	34.31	-24,693	1.65	
7/29/17	16:00	34.32	-24,753	1.66	
7/29/17	17:00	34.33	-24,813	1.67	
7/29/17	18:00	34.34	-24,873	1.68	
7/29/17	19:00	34.34	-24,933	1.68	
7/29/17	20:00	34.34	-24,993	1.68	
7/29/17	21:00	34.35	-25,053	1.69	
7/29/17	22:00	34.34	-25,113	1.68	
7/29/17	23:00	34.35	-25,173	1.69	
7/30/17	0:00	34.35	-25,233	1.69	
7/30/17	1:00	34.36	-25,293	1.70	
7/30/17	2:00	34.36	-25,353	1.70	
7/30/17	3:00	34.38	-25,413	1.72	
7/30/17	4:00	34.38	-25,473	1.72	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-7B Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/Recovery (minutes)	Drawdown (feet)	Comments
7/30/17	5:00	34.38	-25,533	1.72	
7/30/17	6:00	34.43	-25,593	1.77	
7/30/17	7:00	34.39	-25,653	1.73	
7/30/17	8:00	34.40	-25,713	1.74	
7/30/17	9:00	34.44	-25,773	1.78	
7/30/17	10:00	34.40	-25,833	1.74	
7/30/17	11:00	34.43	-25,893	1.77	
7/30/17	12:00	34.43	-25,953	1.77	
7/30/17	13:00	34.44	-26,013	1.78	
7/30/17	14:00	34.44	-26,073	1.78	
7/30/17	15:00	34.46	-26,133	1.80	
7/30/17	16:00	34.45	-26,193	1.79	
7/30/17	17:00	34.45	-26,253	1.79	
7/30/17	18:00	34.45	-26,313	1.79	
7/30/17	19:00	34.45	-26,373	1.79	
7/30/17	20:00	34.46	-26,433	1.80	
7/30/17	21:00	34.47	-26,493	1.81	
7/30/17	22:00	34.51	-26,553	1.85	
7/30/17	23:00	34.49	-26,613	1.83	
7/31/17	0:00	34.48	-26,673	1.82	
7/31/17	1:00	34.47	-26,733	1.81	
7/31/17	2:00	34.50	-26,793	1.84	
7/31/17	3:00	34.48	-26,853	1.82	
7/31/17	4:00	34.46	-26,913	1.80	
7/31/17	5:00	34.46	-26,973	1.80	
7/31/17	6:00	34.47	-27,033	1.81	
7/31/17	7:00	34.50	-27,093	1.84	
7/31/17	8:00	34.49	-27,153	1.83	
7/31/17	9:00	34.49	-27,213	1.83	
7/31/17	10:00	34.47	-27,273	1.81	
7/31/17	11:00	34.48	-27,333	1.82	
7/31/17	12:00	34.45	-27,393	1.79	
7/31/17	13:00	34.46	-27,453	1.80	

ft btoc	feet below top of casing
gpm	gallons per minute

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C-12

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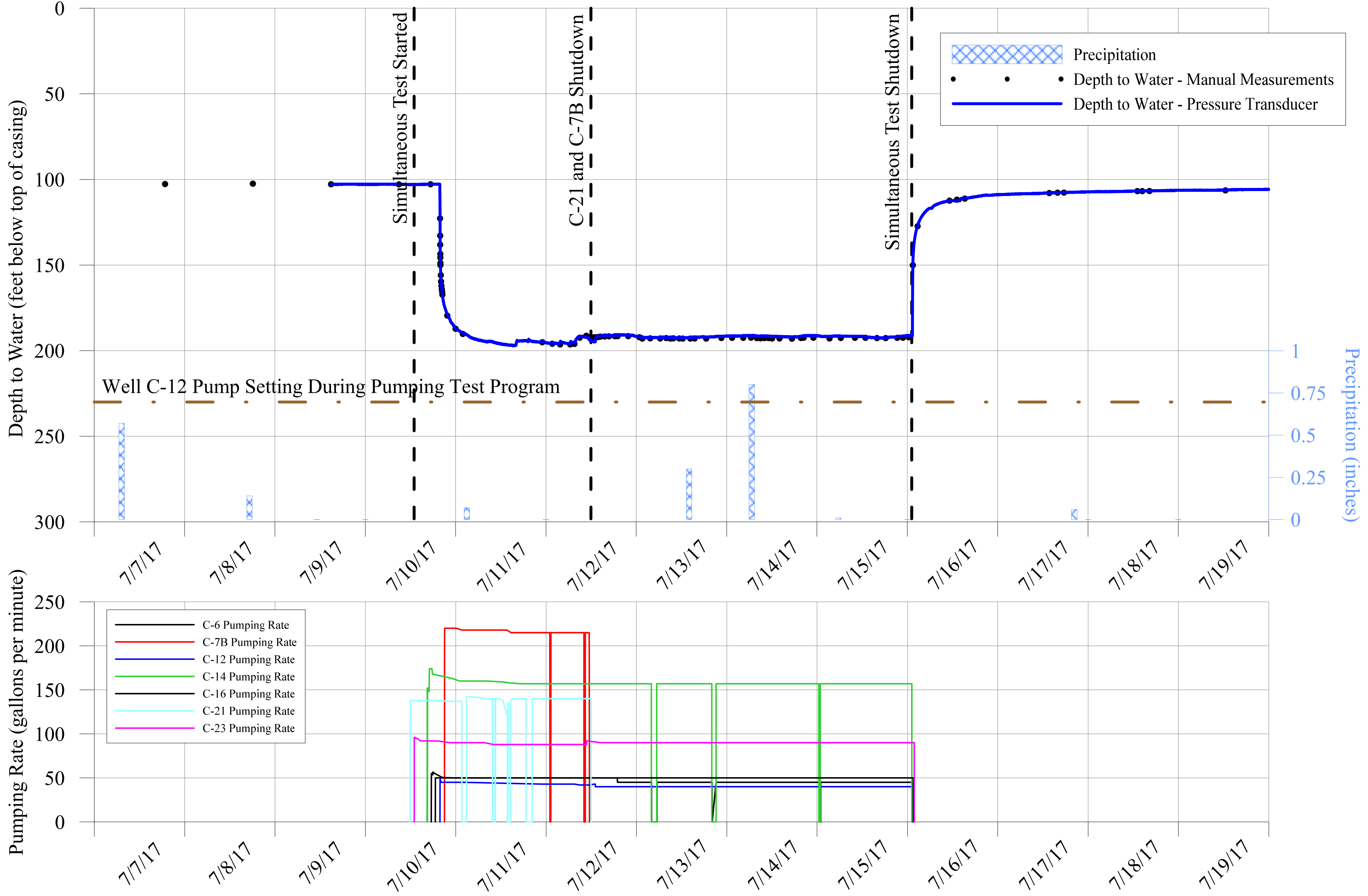
Hydrograph of Water-Level Measurements Collected from Pumping Well C-12 During Simultaneous Pumping Test Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Pumping Wells\C-12Simultaneous.grf

LBG Hydrogeologic & Engineering Services, P.C.

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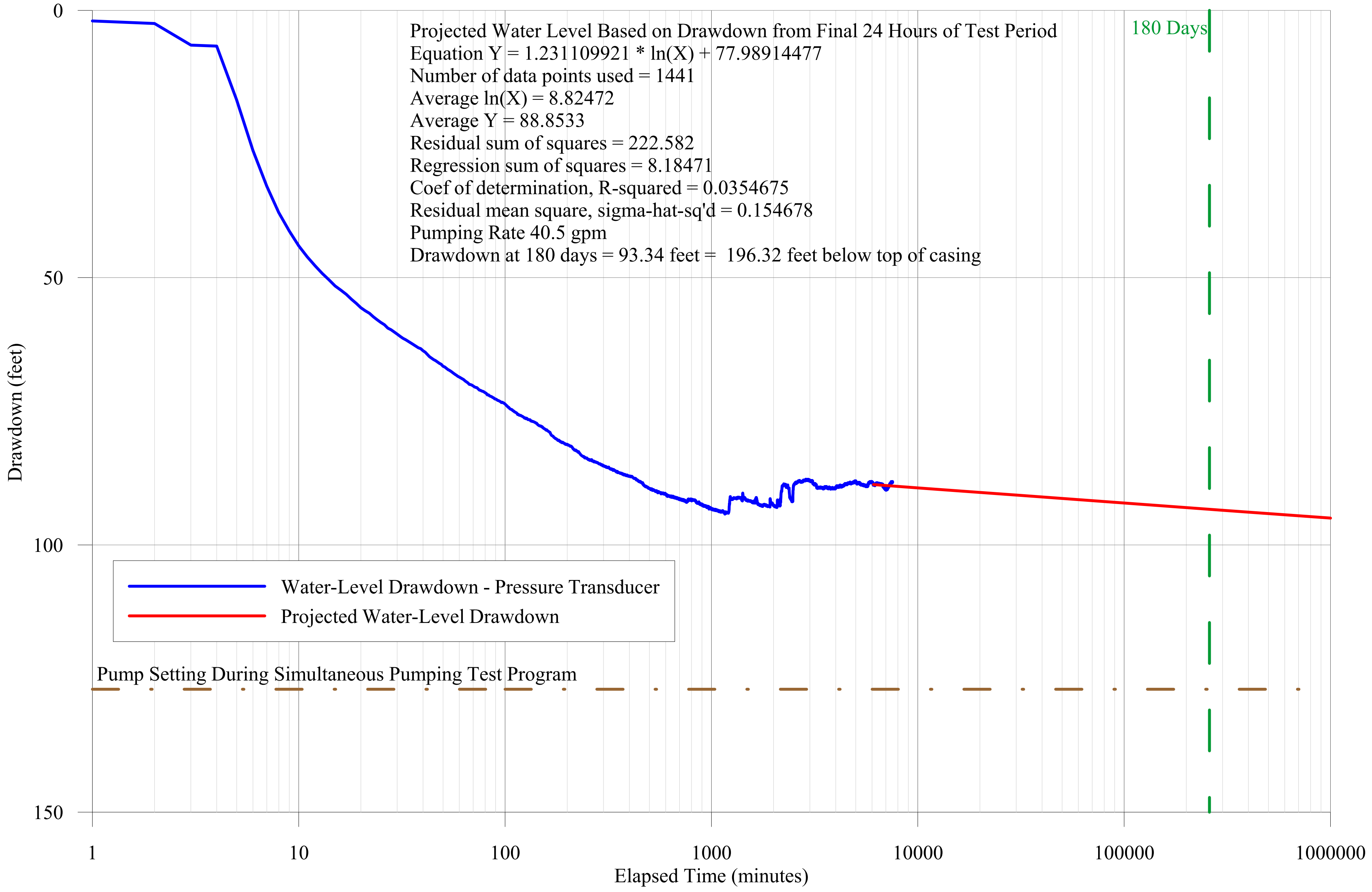
180-Day Water-Level Drawdown Projection on Pumping Well C-12 from Water-Level Measurements Collected from Pumping Well C-12 During Simultanous Pumping Test Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



Projected Water Level Based on Drawdown from Final 24 Hours of Test Period
Equation Y = 1.231109921 * ln(X) + 77.98914477
Number of data points used = 1441
Average ln(X) = 8.82472
Average Y = 88.8533
Residual sum of squares = 222.582
Regression sum of squares = 8.18471
Coef of determination, R-squared = 0.0354675
Residual mean square, sigma-hat-sq'd = 0.154678
Pumping Rate 40.5 gpm
Drawdown at 180 days = 93.34 feet = 196.32 feet below top of casing

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Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/9/17	15:00	102.88	--	--	Pressure transducer installed in well.
7/9/17	16:00	102.87	--	--	
7/9/17	17:00	102.83	--	--	
7/9/17	18:00	102.82	--	--	
7/9/17	19:00	102.81	--	--	
7/9/17	20:00	102.75	--	--	
7/9/17	21:00	102.79	--	--	
7/9/17	22:00	102.79	--	--	
7/9/17	23:00	102.82	--	--	
7/10/17	0:00	102.92	--	--	
7/10/17	1:00	102.83	--	--	
7/10/17	2:00	102.86	--	--	
7/10/17	3:00	102.83	--	--	
7/10/17	4:00	102.80	--	--	
7/10/17	5:00	102.80	--	--	
7/10/17	6:00	102.76	--	--	
7/10/17	7:00	102.81	--	--	
7/10/17	8:00	102.85	--	--	
7/10/17	9:00	102.90	--	--	
7/10/17	10:00	102.93	--	--	
7/10/17	11:00	102.95	--	--	
7/10/17	11:54	102.98	--	--	Static water level used from prior to the start of pumping in any onsite wells.
7/10/17	12:00	102.98	--	--	Pump in well C-21 started at 11:55.
7/10/17	13:00	102.94	--	--	Pump in well C-23 started at 12:59.
7/10/17	14:00	102.91	--	--	
7/10/17	15:00	102.97	--	--	
7/10/17	16:00	102.83	--	--	
7/10/17	17:00	102.81	--	--	Pump in well C-14 started at 16:24.
7/10/17	18:00	102.77	--	--	Pump in well C-16 started at 17:31.
7/10/17	19:00	102.75	--	--	Pump in well C-6 started at 18:35.
7/10/17	19:47	102.77	--	--	
7/10/17	19:48	104.98	1	2.00	Pump in well C-12 started.
7/10/17	19:49	105.42	2	2.44	Pumping rate in well C-12 adjusted to 50 gpm.
7/10/17	19:50	109.51	3	6.53	
7/10/17	19:51	109.67	4	6.69	
7/10/17	19:52	119.72	5	16.74	Pumping rate in well C-12 47 gpm.
7/10/17	19:53	129.21	6	26.23	
7/10/17	19:54	135.88	7	32.90	
7/10/17	19:55	140.81	8	37.83	
7/10/17	19:56	144.29	9	41.31	
7/10/17	19:57	147.07	10	44.09	
7/10/17	19:58	149.09	11	46.11	
7/10/17	19:59	150.78	12	47.80	
7/10/17	20:00	152.20	13	49.22	
7/10/17	20:01	153.40	14	50.42	
7/10/17	20:02	154.53	15	51.55	Pumping rate in well C-12 45 gpm.
7/10/17	20:03	155.32	16	52.34	
7/10/17	20:04	156.12	17	53.14	
7/10/17	20:05	157.03	18	54.05	
7/10/17	20:10	160.32	23	57.34	
7/10/17	20:15	162.73	28	59.75	Pumping rate in well C-12 45 gpm.
7/10/17	20:20	164.61	33	61.63	
7/10/17	20:25	166.09	38	63.11	Pumping rate in well C-12 45 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/10/17	20:30	167.77	43	64.79	
7/10/17	20:35	169.01	48	66.03	Pumping rate in well C-12 45 gpm.
7/10/17	20:40	170.23	53	67.25	
7/10/17	20:45	171.24	58	68.26	Pumping rate in well C-12 45 gpm.
7/10/17	20:50	172.08	63	69.10	
7/10/17	20:55	173.00	68	70.02	Pumping rate in well C-12 45 gpm.
7/10/17	21:00	173.59	73	70.61	Pump in well C-7B started at 21:03.
7/10/17	22:00	179.78	133	76.80	Pumping rate in well C-12 45 gpm.
7/10/17	23:00	183.95	193	80.97	Pumping rate in well C-12 45 gpm.
7/11/17	0:00	187.05	253	84.07	Pumping rate in well C-12 45 gpm.
7/11/17	1:00	188.53	313	85.55	Pumping rate in well C-12 45 gpm.
7/11/17	2:00	189.83	373	86.85	Pumping rate in well C-12 45 gpm.
7/11/17	3:00	190.75	433	87.77	Pumping rate in well C-12 45 gpm.
7/11/17	4:00	192.25	493	89.27	Pumping rate in well C-12 45 gpm.
7/11/17	5:00	192.98	553	90.00	Pumping rate in well C-12 45 gpm.
7/11/17	6:00	193.68	613	90.70	Pumping rate in well C-12 45 gpm.
7/11/17	7:00	194.13	673	91.15	Pumping rate in well C-12 45 gpm.
7/11/17	8:00	194.52	733	91.54	Pumping rate in well C-12 45 gpm.
7/11/17	9:00	194.54	793	91.56	Pumping rate in well C-12 45 gpm.
7/11/17	10:00	195.20	853	92.22	Pumping rate in well C-12 45 gpm.
7/11/17	11:00	195.63	913	92.65	Pumping rate in well C-12 45 gpm.
7/11/17	12:00	196.25	973	93.27	Pumping rate in well C-12 45 gpm.
7/11/17	13:00	196.43	1,033	93.45	Pumping rate in well C-12 45 gpm.
7/11/17	14:00	196.76	1,093	93.78	Pumping rate in well C-12 45 gpm.
7/11/17	15:00	196.99	1,153	94.01	Pumping rate in well C-12 45 gpm.
7/11/17	16:00	196.78	1,213	93.80	Pumping rate in well C-12 45 gpm.
7/11/17	17:00	194.26	1,273	91.28	Pumping rate in well C-12 45 gpm.
7/11/17	18:00	194.12	1,333	91.14	Pumping rate in well C-12 45 gpm.
7/11/17	19:00	194.34	1,393	91.36	Pumping rate in well C-12 45 gpm.
7/11/17	20:00	194.18	1,453	91.20	Pumping rate in well C-12 45 gpm.
7/11/17	21:00	194.71	1,513	91.73	Pumping rate in well C-12 45 gpm.
7/11/17	22:00	194.93	1,573	91.95	Pumping rate in well C-12 44 gpm.
7/11/17	23:00	194.52	1,633	91.54	Pumping rate in well C-12 43 gpm.
7/12/17	0:00	195.48	1,693	92.50	Pumping rate in well C-12 43 gpm.
7/12/17	1:00	195.63	1,753	92.65	Pumping rate in well C-12 43 gpm.
7/12/17	2:00	195.52	1,813	92.54	Pumping rate in well C-12 43 gpm.
7/12/17	3:00	195.72	1,873	92.74	Pumping rate in well C-12 43 gpm.
7/12/17	4:00	194.79	1,933	91.81	Pumping rate in well C-12 43 gpm.
7/12/17	5:00	195.53	1,993	92.55	Pumping rate in well C-12 43 gpm.
7/12/17	6:00	195.84	2,053	92.86	Pumping rate in well C-12 43 gpm.
7/12/17	7:00	195.25	2,113	92.27	Pumping rate in well C-12 43 gpm.
7/12/17	8:00	193.42	2,173	90.44	Pumping rate in well C-12 43 gpm.
7/12/17	9:00	191.84	2,233	88.86	Pumping rate in well C-12 42 gpm.
7/12/17	10:00	191.79	2,293	88.81	Pumping rate in well C-12 42 gpm.
7/12/17	11:00	192.31	2,353	89.33	Pumping rate in well C-12 42 gpm.
7/12/17	12:00	194.31	2,413	91.33	Pump in well C-7B shut down at 11:28 and pump in well C-21 shut down at 11:56.
7/12/17	13:00	194.86	2,473	91.88	Pumping rate in well C-12 42 gpm.
7/12/17	13:04	194.78	2,477	91.80	Pumping rate in well C-12 manually decreased to 40.5 gpm.
7/12/17	14:00	191.54	2,533	88.56	Pumping rate in well C-12 40.5 gpm.
7/12/17	15:00	191.21	2,593	88.23	Pumping rate in well C-12 40.5 gpm.
7/12/17	16:00	191.14	2,653	88.16	Pumping rate in well C-12 40.5 gpm.
7/12/17	17:00	191.17	2,713	88.19	Pumping rate in well C-12 40.5 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/12/17	18:00	191.05	2,773	88.07	Pumping rate in well C-12 40.5 gpm.
7/12/17	19:00	190.91	2,833	87.93	Pumping rate in well C-12 40.5 gpm.
7/12/17	20:00	190.94	2,893	87.96	Pumping rate in well C-12 40.5 gpm.
7/12/17	21:00	190.83	2,953	87.85	Pumping rate in well C-12 40.5 gpm.
7/12/17	22:00	191.02	3,013	88.04	Pumping rate in well C-12 40.5 gpm.
7/12/17	23:00	190.92	3,073	87.94	Pumping rate in well C-12 40.5 gpm.
7/13/17	0:00	191.66	3,133	88.68	Pumping rate in well C-12 40.5 gpm.
7/13/17	1:00	191.71	3,193	88.73	Pumping rate in well C-12 40.5 gpm.
7/13/17	2:00	192.25	3,253	89.27	Pumping rate in well C-12 40.5 gpm.
7/13/17	3:00	192.20	3,313	89.22	Pumping rate in well C-12 40.5 gpm.
7/13/17	4:00	192.33	3,373	89.35	Pumping rate in well C-12 40.5 gpm.
7/13/17	5:00	192.26	3,433	89.28	Pumping rate in well C-12 40.5 gpm.
7/13/17	6:00	192.41	3,493	89.43	Pumping rate in well C-12 40.5 gpm.
7/13/17	7:00	192.18	3,553	89.20	Pumping rate in well C-12 40.5 gpm.
7/13/17	8:00	192.19	3,613	89.21	Pumping rate in well C-12 40.5 gpm.
7/13/17	9:00	192.34	3,673	89.36	Pumping rate in well C-12 40.5 gpm.
7/13/17	10:00	192.37	3,733	89.39	Pumping rate in well C-12 40.5 gpm.
7/13/17	11:00	192.33	3,793	89.35	Pumping rate in well C-12 40.5 gpm.
7/13/17	12:00	192.42	3,853	89.44	Pumping rate in well C-12 40.5 gpm.
7/13/17	13:00	192.40	3,913	89.42	Pumping rate in well C-12 40.5 gpm.
7/13/17	14:00	192.43	3,973	89.45	Pumping rate in well C-12 40.5 gpm.
7/13/17	15:00	192.04	4,033	89.06	Pumping rate in well C-12 40.5 gpm.
7/13/17	16:00	192.03	4,093	89.05	Pumping rate in well C-12 40.5 gpm.
7/13/17	17:00	191.92	4,153	88.94	Pumping rate in well C-12 40.5 gpm.
7/13/17	18:00	191.85	4,213	88.87	Pumping rate in well C-12 40.5 gpm.
7/13/17	19:00	192.06	4,273	89.08	Pumping rate in well C-12 40.5 gpm.
7/13/17	20:00	192.03	4,333	89.05	Pumping rate in well C-12 40.5 gpm.
7/13/17	21:00	191.65	4,393	88.67	Pumping rate in well C-12 40.5 gpm.
7/13/17	22:00	191.64	4,453	88.66	Pumping rate in well C-12 40.5 gpm.
7/13/17	23:00	191.55	4,513	88.57	Pumping rate in well C-12 40.5 gpm.
7/14/17	0:00	191.50	4,573	88.52	Pumping rate in well C-12 40.5 gpm.
7/14/17	1:00	191.45	4,633	88.47	Pumping rate in well C-12 40.5 gpm.
7/14/17	2:00	191.25	4,693	88.27	Pumping rate in well C-12 40.5 gpm.
7/14/17	3:00	191.44	4,753	88.46	Pumping rate in well C-12 40.5 gpm.
7/14/17	4:00	191.35	4,813	88.37	Pumping rate in well C-12 40.5 gpm.
7/14/17	5:00	191.24	4,873	88.26	Pumping rate in well C-12 40.5 gpm.
7/14/17	6:00	191.21	4,933	88.23	Pumping rate in well C-12 40.5 gpm.
7/14/17	7:00	191.11	4,993	88.13	Pumping rate in well C-12 40.5 gpm.
7/14/17	8:00	191.37	5,053	88.39	Pumping rate in well C-12 40.5 gpm.
7/14/17	9:00	191.42	5,113	88.44	Pumping rate in well C-12 40.5 gpm.
7/14/17	10:00	191.41	5,173	88.43	Pumping rate in well C-12 40.5 gpm.
7/14/17	11:00	191.43	5,233	88.45	Pumping rate in well C-12 40.5 gpm.
7/14/17	12:00	191.70	5,293	88.72	Pumping rate in well C-12 40.5 gpm.
7/14/17	13:00	191.76	5,353	88.78	Pumping rate in well C-12 40.5 gpm.
7/14/17	14:00	191.81	5,413	88.83	Pumping rate in well C-12 40.5 gpm.
7/14/17	15:00	191.91	5,473	88.93	Pumping rate in well C-12 40.5 gpm.
7/14/17	16:00	191.83	5,533	88.85	Pumping rate in well C-12 40.5 gpm.
7/14/17	17:00	191.99	5,593	89.01	Pumping rate in well C-12 40.5 gpm.
7/14/17	18:00	191.93	5,653	88.95	Pumping rate in well C-12 40.5 gpm.
7/14/17	19:00	191.90	5,713	88.92	Pumping rate in well C-12 40.5 gpm.
7/14/17	20:00	191.46	5,773	88.48	Pumping rate in well C-12 40.5 gpm.
7/14/17	21:00	191.23	5,833	88.25	Pumping rate in well C-12 40.5 gpm.
7/14/17	22:00	191.19	5,893	88.21	Pumping rate in well C-12 40.5 gpm.
7/14/17	23:00	191.26	5,953	88.28	Pumping rate in well C-12 40.5 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/15/17	0:00	191.36	6,013	88.38	Pumping rate in well C-12 40.5 gpm.
7/15/17	1:00	191.59	6,073	88.61	Pumping rate in well C-12 40.5 gpm.
7/15/17	2:00	191.78	6,133	88.80	Pumping rate in well C-12 40.5 gpm.
7/15/17	3:00	191.85	6,193	88.87	Pumping rate in well C-12 40.5 gpm.
7/15/17	4:00	191.55	6,253	88.57	Pumping rate in well C-12 40.5 gpm.
7/15/17	5:00	191.47	6,313	88.49	Pumping rate in well C-12 40.5 gpm.
7/15/17	6:00	191.37	6,373	88.39	Pumping rate in well C-12 40.5 gpm.
7/15/17	7:00	191.62	6,433	88.64	Pumping rate in well C-12 40.5 gpm.
7/15/17	8:00	191.58	6,493	88.60	Pumping rate in well C-12 40.5 gpm.
7/15/17	9:00	191.65	6,553	88.67	Pumping rate in well C-12 40.5 gpm.
7/15/17	10:00	191.59	6,613	88.61	Pumping rate in well C-12 40.5 gpm.
7/15/17	11:00	191.70	6,673	88.72	Pumping rate in well C-12 40.5 gpm.
7/15/17	12:00	191.71	6,733	88.73	Pumping rate in well C-12 40.5 gpm.
7/15/17	13:00	192.06	6,793	89.08	Pumping rate in well C-12 40.5 gpm.
7/15/17	14:00	192.17	6,853	89.19	Pumping rate in well C-12 40.5 gpm.
7/15/17	15:00	192.35	6,913	89.37	Pumping rate in well C-12 40.5 gpm.
7/15/17	16:00	192.55	6,973	89.57	Pumping rate in well C-12 40.5 gpm.
7/15/17	17:00	192.61	7,033	89.63	Pumping rate in well C-12 40.5 gpm.
7/15/17	18:00	192.57	7,093	89.59	Pumping rate in well C-12 40.5 gpm.
7/15/17	19:00	192.31	7,153	89.33	Pumping rate in well C-12 40.5 gpm.
7/15/17	19:09	192.29	7,162	89.31	Pumping rate in well C-12 40.5 gpm.
7/15/17	20:00	192.05	7,213	89.07	Pumping rate in well C-12 40.5 gpm.
7/15/17	21:00	191.90	7,273	88.92	Pumping rate in well C-12 40.5 gpm.
7/15/17	22:00	191.69	7,333	88.71	Pumping rate in well C-12 40.5 gpm.
7/15/17	23:00	191.36	7,393	88.38	Pumping rate in well C-12 40.5 gpm.
7/16/17	0:00	191.26	7,453	88.28	Pumping rate in well C-12 40.5 gpm.
7/16/17	1:00	191.22	7,513	88.24	Pumping rate in well C-12 40.5 gpm.
7/16/17	1:09	191.24	7,522	88.26	Shut down of simultaneous pumping test (wells C-6, 12, 14, 16, and 23) started.
7/16/17	1:20	191.33	7,533	88.35	Pumping rate in well C-12 40.5 gpm.
7/16/17	1:21	183.11	-1	80.13	Pump in well C-12 shut down.
7/16/17	1:22	167.24	-2	64.26	
7/16/17	1:23	160.87	-3	57.89	
7/16/17	1:24	157.52	-4	54.54	
7/16/17	1:25	154.82	-5	51.84	
7/16/17	1:26	152.58	-6	49.60	
7/16/17	1:27	150.82	-7	47.84	
7/16/17	1:28	149.28	-8	46.30	
7/16/17	1:29	148.00	-9	45.02	
7/16/17	1:30	146.86	-10	43.88	
7/16/17	1:31	145.89	-11	42.91	
7/16/17	1:32	145.03	-12	42.05	
7/16/17	1:33	144.26	-13	41.28	
7/16/17	1:34	143.52	-14	40.54	
7/16/17	1:35	142.86	-15	39.88	
7/16/17	1:40	140.12	-20	37.14	
7/16/17	1:45	138.18	-25	35.20	
7/16/17	1:50	136.48	-30	33.50	
7/16/17	1:55	135.13	-35	32.15	
7/16/17	2:00	133.92	-40	30.94	
7/16/17	2:05	132.78	-45	29.80	
7/16/17	2:10	131.86	-50	28.88	
7/16/17	2:15	130.93	-55	27.95	
7/16/17	2:20	130.09	-60	27.11	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/16/17	3:00	125.25	-100	22.27	
7/16/17	4:00	121.01	-160	18.03	
7/16/17	5:00	118.35	-220	15.37	
7/16/17	6:00	116.89	-280	13.91	
7/16/17	7:00	115.49	-340	12.51	
7/16/17	8:00	114.37	-400	11.39	
7/16/17	9:00	113.64	-460	10.66	
7/16/17	10:00	112.99	-520	10.01	
7/16/17	11:00	112.53	-580	9.55	
7/16/17	12:00	112.38	-640	9.40	
7/16/17	13:00	112.38	-700	9.40	
7/16/17	14:00	112.30	-760	9.32	
7/16/17	15:00	110.97	-820	7.99	90% recovery achieved.
7/16/17	16:00	110.80	-880	7.82	
7/16/17	17:00	110.48	-940	7.50	
7/16/17	18:00	110.10	-1,000	7.11	
7/16/17	19:00	109.80	-1,060	6.82	
7/16/17	20:00	109.45	-1,120	6.47	
7/16/17	21:00	109.01	-1,180	6.03	
7/16/17	22:00	109.23	-1,240	6.25	
7/16/17	23:00	109.02	-1,300	6.04	
7/17/17	0:00	108.91	-1,360	5.93	
7/17/17	1:00	108.91	-1,420	5.93	
7/17/17	2:00	108.77	-1,480	5.79	
7/17/17	3:00	108.67	-1,540	5.69	
7/17/17	4:00	108.62	-1,600	5.64	
7/17/17	5:00	108.50	-1,660	5.52	
7/17/17	6:00	108.42	-1,720	5.44	
7/17/17	7:00	108.38	-1,780	5.40	
7/17/17	8:00	108.26	-1,840	5.28	
7/17/17	9:00	108.29	-1,900	5.31	
7/17/17	10:00	108.20	-1,960	5.21	
7/17/17	11:00	108.18	-2,020	5.20	
7/17/17	12:00	108.06	-2,080	5.08	
7/17/17	13:00	107.94	-2,140	4.96	
7/17/17	14:00	107.86	-2,200	4.88	
7/17/17	15:00	107.76	-2,260	4.78	
7/17/17	16:00	107.70	-2,320	4.72	
7/17/17	17:00	107.64	-2,380	4.66	
7/17/17	18:00	107.57	-2,440	4.58	
7/17/17	19:00	107.52	-2,500	4.54	
7/17/17	20:00	107.58	-2,560	4.60	
7/17/17	21:00	107.45	-2,620	4.47	
7/17/17	22:00	107.40	-2,680	4.42	
7/17/17	23:00	107.34	-2,740	4.36	
7/18/17	0:00	107.27	-2,800	4.29	
7/18/17	1:00	107.22	-2,860	4.24	
7/18/17	2:00	107.18	-2,920	4.20	
7/18/17	3:00	107.18	-2,980	4.20	
7/18/17	4:00	107.17	-3,040	4.19	
7/18/17	5:00	107.13	-3,100	4.15	
7/18/17	6:00	107.02	-3,160	4.04	
7/18/17	7:00	107.04	-3,220	4.06	
7/18/17	8:00	107.06	-3,280	4.08	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/18/17	9:00	107.01	-3,340	4.03	
7/18/17	10:00	106.96	-3,400	3.98	
7/18/17	11:00	106.87	-3,460	3.89	
7/18/17	12:00	106.80	-3,520	3.82	
7/18/17	13:00	106.82	-3,580	3.84	
7/18/17	14:00	106.77	-3,640	3.79	
7/18/17	15:00	106.63	-3,700	3.65	
7/18/17	16:00	106.65	-3,760	3.67	
7/18/17	17:00	106.68	-3,820	3.70	
7/18/17	18:00	106.54	-3,880	3.56	
7/18/17	19:00	106.52	-3,940	3.54	
7/18/17	20:00	106.49	-4,000	3.51	
7/18/17	21:00	106.46	-4,060	3.48	
7/18/17	22:00	106.44	-4,120	3.46	
7/18/17	23:00	106.40	-4,180	3.41	
7/19/17	0:00	106.30	-4,240	3.32	
7/19/17	1:00	106.30	-4,300	3.32	
7/19/17	2:00	106.29	-4,360	3.31	
7/19/17	3:00	106.26	-4,420	3.28	
7/19/17	4:00	106.27	-4,480	3.29	
7/19/17	5:00	106.28	-4,540	3.30	
7/19/17	6:00	106.28	-4,600	3.30	
7/19/17	7:00	106.34	-4,660	3.36	
7/19/17	8:00	106.33	-4,720	3.35	
7/19/17	9:00	106.28	-4,780	3.30	
7/19/17	10:00	106.27	-4,840	3.29	
7/19/17	11:00	106.26	-4,900	3.28	
7/19/17	12:00	106.20	-4,960	3.22	
7/19/17	13:00	106.10	-5,020	3.12	
7/19/17	14:00	106.03	-5,080	3.05	
7/19/17	15:00	106.08	-5,140	3.10	
7/19/17	16:00	105.97	-5,200	2.99	
7/19/17	17:00	105.93	-5,260	2.95	
7/19/17	18:00	105.96	-5,320	2.97	
7/19/17	19:00	105.87	-5,380	2.89	
7/19/17	20:00	105.87	-5,440	2.89	
7/19/17	21:00	105.81	-5,500	2.83	
7/19/17	22:00	105.82	-5,560	2.84	
7/19/17	23:00	105.77	-5,620	2.79	
7/20/17	0:00	105.80	-5,680	2.82	
7/20/17	1:00	105.74	-5,740	2.76	
7/20/17	2:00	105.77	-5,800	2.79	
7/20/17	3:00	105.67	-5,860	2.68	
7/20/17	4:00	105.79	-5,920	2.81	
7/20/17	5:00	105.76	-5,980	2.78	
7/20/17	6:00	105.77	-6,040	2.79	
7/20/17	7:00	105.80	-6,100	2.82	
7/20/17	8:00	105.80	-6,160	2.82	
7/20/17	9:00	105.81	-6,220	2.83	
7/20/17	10:00	105.84	-6,280	2.86	
7/20/17	11:00	105.72	-6,340	2.74	
7/20/17	12:00	105.73	-6,400	2.75	
7/20/17	13:00	105.67	-6,460	2.69	
7/20/17	14:00	105.57	-6,520	2.59	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/20/17	15:00	105.56	-6,580	2.57	
7/20/17	16:00	105.48	-6,640	2.49	
7/20/17	17:00	105.38	-6,700	2.40	
7/20/17	18:00	105.44	-6,760	2.46	
7/20/17	19:00	105.42	-6,820	2.44	
7/20/17	20:00	105.34	-6,880	2.36	
7/20/17	21:00	105.39	-6,940	2.41	
7/20/17	22:00	105.39	-7,000	2.41	
7/20/17	23:00	105.34	-7,060	2.35	
7/21/17	0:00	105.37	-7,120	2.39	
7/21/17	1:00	105.27	-7,180	2.29	
7/21/17	2:00	105.32	-7,240	2.34	
7/21/17	3:00	105.31	-7,300	2.33	
7/21/17	4:00	105.24	-7,360	2.26	
7/21/17	5:00	105.25	-7,420	2.26	
7/21/17	6:00	105.31	-7,480	2.33	
7/21/17	7:00	105.36	-7,540	2.38	
7/21/17	8:00	105.38	-7,600	2.40	
7/21/17	9:00	105.40	-7,660	2.41	
7/21/17	10:00	105.41	-7,720	2.43	
7/21/17	11:00	105.36	-7,780	2.38	
7/21/17	12:00	105.28	-7,840	2.30	
7/21/17	13:00	105.27	-7,900	2.29	
7/21/17	14:00	105.19	-7,960	2.21	
7/21/17	15:00	105.23	-8,020	2.25	
7/21/17	16:00	105.14	-8,080	2.16	
7/21/17	17:00	105.08	-8,140	2.10	
7/21/17	18:00	105.07	-8,200	2.09	
7/21/17	19:00	105.07	-8,260	2.09	
7/21/17	20:00	105.02	-8,320	2.04	
7/21/17	21:00	105.07	-8,380	2.09	
7/21/17	22:00	105.09	-8,440	2.10	
7/21/17	23:00	105.04	-8,500	2.06	
7/22/17	0:00	105.07	-8,560	2.08	
7/22/17	1:00	105.04	-8,620	2.06	
7/22/17	2:00	105.01	-8,680	2.02	
7/22/17	3:00	104.98	-8,740	1.99	
7/22/17	4:00	104.92	-8,800	1.94	
7/22/17	5:00	104.91	-8,860	1.93	
7/22/17	6:00	104.97	-8,920	1.99	
7/22/17	7:00	105.04	-8,980	2.06	
7/22/17	8:00	105.02	-9,040	2.04	
7/22/17	9:00	105.09	-9,100	2.11	
7/22/17	10:00	105.12	-9,160	2.13	
7/22/17	11:00	105.06	-9,220	2.08	
7/22/17	12:00	105.10	-9,280	2.12	
7/22/17	13:00	105.03	-9,340	2.05	
7/22/17	14:00	104.97	-9,400	1.99	
7/22/17	15:00	104.94	-9,460	1.96	
7/22/17	16:00	104.88	-9,520	1.90	
7/22/17	17:00	104.77	-9,580	1.79	
7/22/17	18:00	104.77	-9,640	1.79	
7/22/17	19:00	104.74	-9,700	1.76	
7/22/17	20:00	104.81	-9,760	1.83	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/22/17	21:00	104.78	-9,820	1.80	
7/22/17	22:00	104.80	-9,880	1.82	
7/22/17	23:00	104.79	-9,940	1.81	
7/23/17	0:00	104.76	-10,000	1.78	
7/23/17	1:00	104.70	-10,060	1.72	
7/23/17	2:00	104.69	-10,120	1.71	
7/23/17	3:00	104.63	-10,180	1.65	
7/23/17	4:00	104.64	-10,240	1.66	
7/23/17	5:00	104.57	-10,300	1.59	
7/23/17	6:00	104.62	-10,360	1.64	
7/23/17	7:00	104.63	-10,420	1.65	
7/23/17	8:00	104.70	-10,480	1.72	
7/23/17	9:00	104.76	-10,540	1.78	
7/23/17	10:00	104.81	-10,600	1.83	
7/23/17	11:00	104.84	-10,660	1.86	
7/23/17	12:00	104.79	-10,720	1.81	
7/23/17	13:00	104.80	-10,780	1.82	
7/23/17	14:00	104.82	-10,840	1.84	
7/23/17	15:00	104.73	-10,900	1.75	
7/23/17	16:00	104.59	-10,960	1.61	
7/23/17	17:00	104.64	-11,020	1.66	
7/23/17	18:00	104.55	-11,080	1.57	
7/23/17	19:00	104.57	-11,140	1.59	
7/23/17	20:00	104.57	-11,200	1.59	
7/23/17	21:00	104.61	-11,260	1.63	
7/23/17	22:00	104.69	-11,320	1.71	
7/23/17	23:00	104.66	-11,380	1.68	
7/24/17	0:00	104.66	-11,440	1.68	
7/24/17	1:00	104.67	-11,500	1.69	
7/24/17	2:00	104.68	-11,560	1.70	
7/24/17	3:00	104.60	-11,620	1.62	
7/24/17	4:00	104.55	-11,680	1.57	
7/24/17	5:00	104.55	-11,740	1.57	
7/24/17	6:00	104.48	-11,800	1.50	
7/24/17	7:00	104.50	-11,860	1.52	
7/24/17	8:00	104.50	-11,920	1.52	
7/24/17	9:00	104.59	-11,980	1.61	
7/24/17	10:00	104.56	-12,040	1.58	
7/24/17	11:00	104.57	-12,100	1.59	
7/24/17	12:00	104.69	-12,160	1.71	
7/24/17	13:00	104.64	-12,220	1.65	
7/24/17	14:00	104.65	-12,280	1.67	
7/24/17	15:00	104.68	-12,340	1.70	
7/24/17	16:00	104.57	-12,400	1.59	
7/24/17	17:00	104.59	-12,460	1.61	
7/24/17	18:00	104.50	-12,520	1.52	
7/24/17	19:00	104.65	-12,580	1.66	
7/24/17	20:00	104.62	-12,640	1.64	
7/24/17	21:00	104.67	-12,700	1.69	
7/24/17	22:00	104.70	-12,760	1.72	
7/24/17	23:00	104.83	-12,820	1.85	
7/25/17	0:00	104.74	-12,880	1.76	
7/25/17	1:00	104.87	-12,940	1.89	
7/25/17	2:00	104.93	-13,000	1.95	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/25/17	3:00	104.92	-13,060	1.94	
7/25/17	4:00	104.93	-13,120	1.95	
7/25/17	5:00	104.98	-13,180	2.00	
7/25/17	6:00	105.00	-13,240	2.02	
7/25/17	7:00	105.03	-13,300	2.05	
7/25/17	8:00	105.02	-13,360	2.04	
7/25/17	9:00	105.18	-13,420	2.20	
7/25/17	10:00	105.24	-13,480	2.26	
7/25/17	11:00	105.33	-13,540	2.35	
7/25/17	12:00	105.35	-13,600	2.37	Pump in well C-21 started at 11:44.
7/25/17	13:00	105.43	-13,660	2.45	
7/25/17	14:00	105.51	-13,720	2.53	
7/25/17	15:00	105.58	-13,780	2.60	
7/25/17	16:00	105.54	-13,840	2.56	
7/25/17	17:00	105.62	-13,900	2.64	
7/25/17	18:00	105.50	-13,960	2.51	
7/25/17	19:00	105.48	-14,020	2.50	
7/25/17	20:00	105.57	-14,080	2.59	
7/25/17	21:00	105.53	-14,140	2.55	
7/25/17	22:00	105.62	-14,200	2.64	
7/25/17	23:00	105.60	-14,260	2.62	
7/26/17	0:00	105.59	-14,320	2.61	
7/26/17	1:00	105.68	-14,380	2.70	
7/26/17	2:00	105.72	-14,440	2.74	
7/26/17	3:00	105.76	-14,500	2.78	
7/26/17	4:00	105.76	-14,560	2.78	
7/26/17	5:00	105.73	-14,620	2.75	
7/26/17	6:00	105.81	-14,680	2.83	
7/26/17	7:00	105.83	-14,740	2.85	
7/26/17	8:00	105.85	-14,800	2.87	
7/26/17	9:00	105.91	-14,860	2.93	
7/26/17	10:00	105.97	-14,920	2.99	
7/26/17	11:00	106.02	-14,980	3.04	
7/26/17	12:00	106.05	-15,040	3.07	
7/26/17	13:00	106.14	-15,100	3.16	
7/26/17	14:00	106.09	-15,160	3.11	
7/26/17	15:00	106.10	-15,220	3.12	
7/26/17	16:00	106.06	-15,280	3.08	
7/26/17	17:00	106.02	-15,340	3.04	
7/26/17	18:00	106.02	-15,400	3.04	
7/26/17	19:00	105.94	-15,460	2.96	
7/26/17	20:00	105.91	-15,520	2.93	
7/26/17	21:00	105.86	-15,580	2.88	
7/26/17	22:00	105.88	-15,640	2.90	
7/26/17	23:00	105.85	-15,700	2.87	
7/27/17	0:00	105.79	-15,760	2.81	
7/27/17	1:00	105.79	-15,820	2.81	
7/27/17	2:00	105.82	-15,880	2.84	
7/27/17	3:00	105.80	-15,940	2.82	
7/27/17	4:00	105.73	-16,000	2.75	
7/27/17	5:00	105.65	-16,060	2.67	
7/27/17	6:00	105.68	-16,120	2.70	
7/27/17	7:00	105.66	-16,180	2.68	
7/27/17	8:00	105.50	-16,240	2.52	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/27/17	9:00	105.55	-16,300	2.57	
7/27/17	10:00	105.55	-16,360	2.57	
7/27/17	11:00	105.61	-16,420	2.63	
7/27/17	12:00	105.56	-16,480	2.58	
7/27/17	13:00	105.63	-16,540	2.65	
7/27/17	14:00	105.51	-16,600	2.53	
7/27/17	15:00	105.38	-16,660	2.40	
7/27/17	16:00	105.45	-16,720	2.47	
7/27/17	17:00	105.41	-16,780	2.43	
7/27/17	18:00	105.32	-16,840	2.34	
7/27/17	19:00	105.29	-16,900	2.31	
7/27/17	20:00	105.23	-16,960	2.25	
7/27/17	21:00	105.23	-17,020	2.25	
7/27/17	22:00	105.19	-17,080	2.21	
7/27/17	23:00	105.25	-17,140	2.27	
7/28/17	0:00	105.18	-17,200	2.20	
7/28/17	1:00	105.19	-17,260	2.21	
7/28/17	2:00	105.28	-17,320	2.30	
7/28/17	3:00	105.16	-17,380	2.18	
7/28/17	4:00	105.26	-17,440	2.28	
7/28/17	5:00	105.22	-17,500	2.24	
7/28/17	6:00	105.11	-17,560	2.13	
7/28/17	7:00	105.12	-17,620	2.13	
7/28/17	8:00	105.14	-17,680	2.16	
7/28/17	9:00	105.14	-17,740	2.16	
7/28/17	10:00	105.09	-17,800	2.11	
7/28/17	11:00	105.18	-17,860	2.20	
7/28/17	12:00	105.11	-17,920	2.13	
7/28/17	13:00	105.04	-17,980	2.06	Pump in well C-21 shut down at 12:15.
7/28/17	14:00	105.08	-18,040	2.10	
7/28/17	15:00	105.11	-18,100	2.13	
7/28/17	16:00	105.05	-18,160	2.07	
7/28/17	17:00	105.03	-18,220	2.05	
7/28/17	18:00	104.93	-18,280	1.95	
7/28/17	19:00	104.93	-18,340	1.95	
7/28/17	20:00	104.91	-18,400	1.93	
7/28/17	21:00	104.92	-18,460	1.94	
7/28/17	22:00	104.89	-18,520	1.91	
7/28/17	23:00	104.87	-18,580	1.89	
7/29/17	0:00	104.94	-18,640	1.96	
7/29/17	1:00	104.95	-18,700	1.97	
7/29/17	2:00	104.98	-18,760	1.99	
7/29/17	3:00	104.94	-18,820	1.96	
7/29/17	4:00	104.96	-18,880	1.98	
7/29/17	5:00	104.92	-18,940	1.93	
7/29/17	6:00	104.87	-19,000	1.89	
7/29/17	7:00	104.93	-19,060	1.95	
7/29/17	8:00	104.88	-19,120	1.90	
7/29/17	9:00	104.86	-19,180	1.88	
7/29/17	10:00	104.90	-19,240	1.91	
7/29/17	11:00	104.94	-19,300	1.96	
7/29/17	12:00	104.94	-19,360	1.96	
7/29/17	13:00	104.85	-19,420	1.87	
7/29/17	14:00	104.89	-19,480	1.91	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/29/17	15:00	104.84	-19,540	1.85	
7/29/17	16:00	104.86	-19,600	1.88	
7/29/17	17:00	104.86	-19,660	1.88	
7/29/17	18:00	104.90	-19,720	1.92	
7/29/17	19:00	104.85	-19,780	1.87	
7/29/17	20:00	104.85	-19,840	1.87	
7/29/17	21:00	104.84	-19,900	1.86	
7/29/17	22:00	104.75	-19,960	1.77	
7/29/17	23:00	104.87	-20,020	1.89	
7/30/17	0:00	104.91	-20,080	1.93	
7/30/17	1:00	104.86	-20,140	1.88	
7/30/17	2:00	104.80	-20,200	1.82	
7/30/17	3:00	104.93	-20,260	1.95	
7/30/17	4:00	104.85	-20,320	1.87	
7/30/17	5:00	104.93	-20,380	1.95	
7/30/17	6:00	104.97	-20,440	1.99	
7/30/17	7:00	104.98	-20,500	1.99	
7/30/17	8:00	104.94	-20,560	1.96	
7/30/17	9:00	104.94	-20,620	1.96	
7/30/17	10:00	104.92	-20,680	1.93	
7/30/17	11:00	104.96	-20,740	1.98	
7/30/17	12:00	104.92	-20,800	1.93	
7/30/17	13:00	104.90	-20,860	1.92	
7/30/17	14:00	104.92	-20,920	1.94	
7/30/17	15:00	104.84	-20,980	1.86	
7/30/17	16:00	104.84	-21,040	1.86	
7/30/17	17:00	104.97	-21,100	1.99	
7/30/17	18:00	104.90	-21,160	1.92	
7/30/17	19:00	104.82	-21,220	1.84	
7/30/17	20:00	104.91	-21,280	1.93	
7/30/17	21:00	104.91	-21,340	1.93	
7/30/17	22:00	104.89	-21,400	1.91	
7/30/17	23:00	104.93	-21,460	1.95	
7/31/17	0:00	104.90	-21,520	1.92	
7/31/17	1:00	104.89	-21,580	1.91	
7/31/17	2:00	104.85	-21,640	1.87	
7/31/17	3:00	104.94	-21,700	1.96	
7/31/17	4:00	104.96	-21,760	1.98	
7/31/17	5:00	104.96	-21,820	1.98	
7/31/17	6:00	104.96	-21,880	1.98	
7/31/17	7:00	104.95	-21,940	1.97	
7/31/17	8:00	104.90	-22,000	1.92	
7/31/17	9:00	104.89	-22,060	1.91	
7/31/17	10:00	104.90	-22,120	1.92	
7/31/17	11:00	104.90	-22,180	1.92	
7/31/17	12:00	104.98	-22,240	2.00	
7/31/17	13:00	104.87	-22,300	1.88	
7/31/17	14:00	104.85	-22,360	1.86	
7/31/17	15:00	104.91	-22,420	1.93	
7/31/17	16:00	104.81	-22,480	1.83	
7/31/17	17:00	104.89	-22,540	1.91	
7/31/17	18:00	104.85	-22,600	1.87	
7/31/17	19:00	104.81	-22,660	1.83	
7/31/17	20:00	104.79	-22,720	1.81	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
7/31/17	21:00	104.73	-22,780	1.75	
7/31/17	22:00	104.77	-22,840	1.79	
7/31/17	23:00	104.73	-22,900	1.74	
8/1/17	0:00	104.78	-22,960	1.80	
8/1/17	1:00	104.72	-23,020	1.74	
8/1/17	2:00	104.81	-23,080	1.83	
8/1/17	3:00	104.79	-23,140	1.81	
8/1/17	4:00	104.81	-23,200	1.83	
8/1/17	5:00	104.80	-23,260	1.82	
8/1/17	6:00	104.88	-23,320	1.90	
8/1/17	7:00	104.84	-23,380	1.86	
8/1/17	8:00	104.86	-23,440	1.88	
8/1/17	9:00	104.87	-23,500	1.89	
8/1/17	10:00	104.92	-23,560	1.94	
8/1/17	11:00	104.86	-23,620	1.88	
8/1/17	12:00	104.80	-23,680	1.82	
8/1/17	13:00	104.78	-23,740	1.80	
8/1/17	14:00	104.78	-23,800	1.80	
8/1/17	15:00	104.72	-23,860	1.74	
8/1/17	16:00	104.80	-23,920	1.82	
8/1/17	17:00	104.75	-23,980	1.77	
8/1/17	18:00	104.77	-24,040	1.79	
8/1/17	19:00	104.76	-24,100	1.78	
8/1/17	20:00	104.67	-24,160	1.69	
8/1/17	21:00	104.70	-24,220	1.72	
8/1/17	22:00	104.68	-24,280	1.70	
8/1/17	23:00	104.71	-24,340	1.73	
8/2/17	0:00	104.68	-24,400	1.70	
8/2/17	1:00	104.68	-24,460	1.70	
8/2/17	2:00	104.80	-24,520	1.82	
8/2/17	3:00	104.76	-24,580	1.78	
8/2/17	4:00	104.75	-24,640	1.77	
8/2/17	5:00	104.77	-24,700	1.79	
8/2/17	6:00	104.75	-24,760	1.77	
8/2/17	7:00	104.71	-24,820	1.73	
8/2/17	8:00	104.77	-24,880	1.79	
8/2/17	9:00	104.87	-24,940	1.89	
8/2/17	10:00	104.73	-25,000	1.75	
8/2/17	11:00	104.75	-25,060	1.77	
8/2/17	12:00	104.79	-25,120	1.81	
8/2/17	13:00	104.65	-25,180	1.67	
8/2/17	14:00	104.60	-25,240	1.62	
8/2/17	15:00	104.63	-25,300	1.65	
8/2/17	16:00	104.70	-25,360	1.72	
8/2/17	17:00	104.69	-25,420	1.71	
8/2/17	18:00	104.69	-25,480	1.71	
8/2/17	19:00	104.72	-25,540	1.74	
8/2/17	20:00	104.69	-25,600	1.71	
8/2/17	21:00	104.65	-25,660	1.67	
8/2/17	22:00	104.70	-25,720	1.71	
8/2/17	23:00	104.68	-25,780	1.70	
8/3/17	0:00	104.64	-25,840	1.66	
8/3/17	1:00	104.73	-25,900	1.75	
8/3/17	2:00	104.64	-25,960	1.66	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-12 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time\ Recovery (minutes)	Drawdown (feet)	Comments
8/3/17	3:00	104.70	-26,020	1.72	
8/3/17	4:00	104.65	-26,080	1.67	
8/3/17	5:00	104.65	-26,140	1.67	
8/3/17	6:00	104.71	-26,200	1.73	
8/3/17	7:00	104.72	-26,260	1.74	
8/3/17	8:00	104.74	-26,320	1.76	
8/3/17	9:00	104.85	-26,380	1.87	
8/3/17	10:00	104.80	-26,440	1.82	
8/3/17	11:00	104.72	-26,500	1.74	
8/3/17	12:00	104.73	-26,560	1.75	
8/3/17	13:00	104.64	-26,620	1.66	
8/3/17	14:00	104.61	-26,680	1.63	
8/3/17	15:00	104.56	-26,740	1.58	
8/3/17	16:00	104.55	-26,800	1.57	
8/3/17	17:00	104.56	-26,860	1.57	
8/3/17	18:00	104.55	-26,920	1.57	
8/3/17	19:00	104.63	-26,980	1.65	
8/3/17	20:00	104.64	-27,040	1.66	
8/3/17	21:00	104.63	-27,100	1.65	
8/3/17	22:00	104.72	-27,160	1.74	
8/3/17	23:00	104.70	-27,220	1.72	

ft btoc	feet below top of casing
gpm	gallons per minute

C-14

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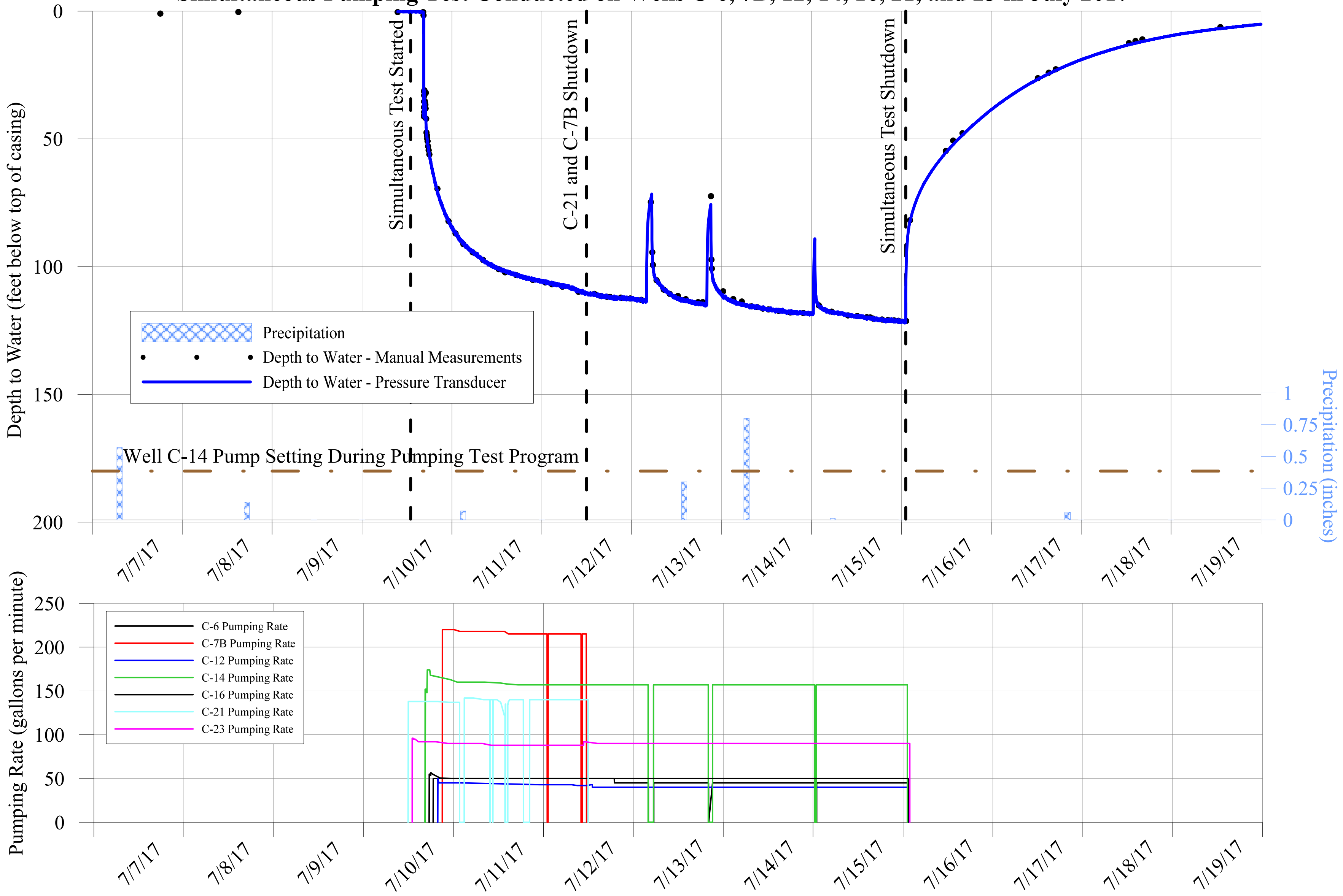
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Pumping Well C-14 During Simultaneous Pumping Test Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Pumping Wells\C-14Simultaneous.grf

LBG Hydrogeologic & Engineering Services, P.C.

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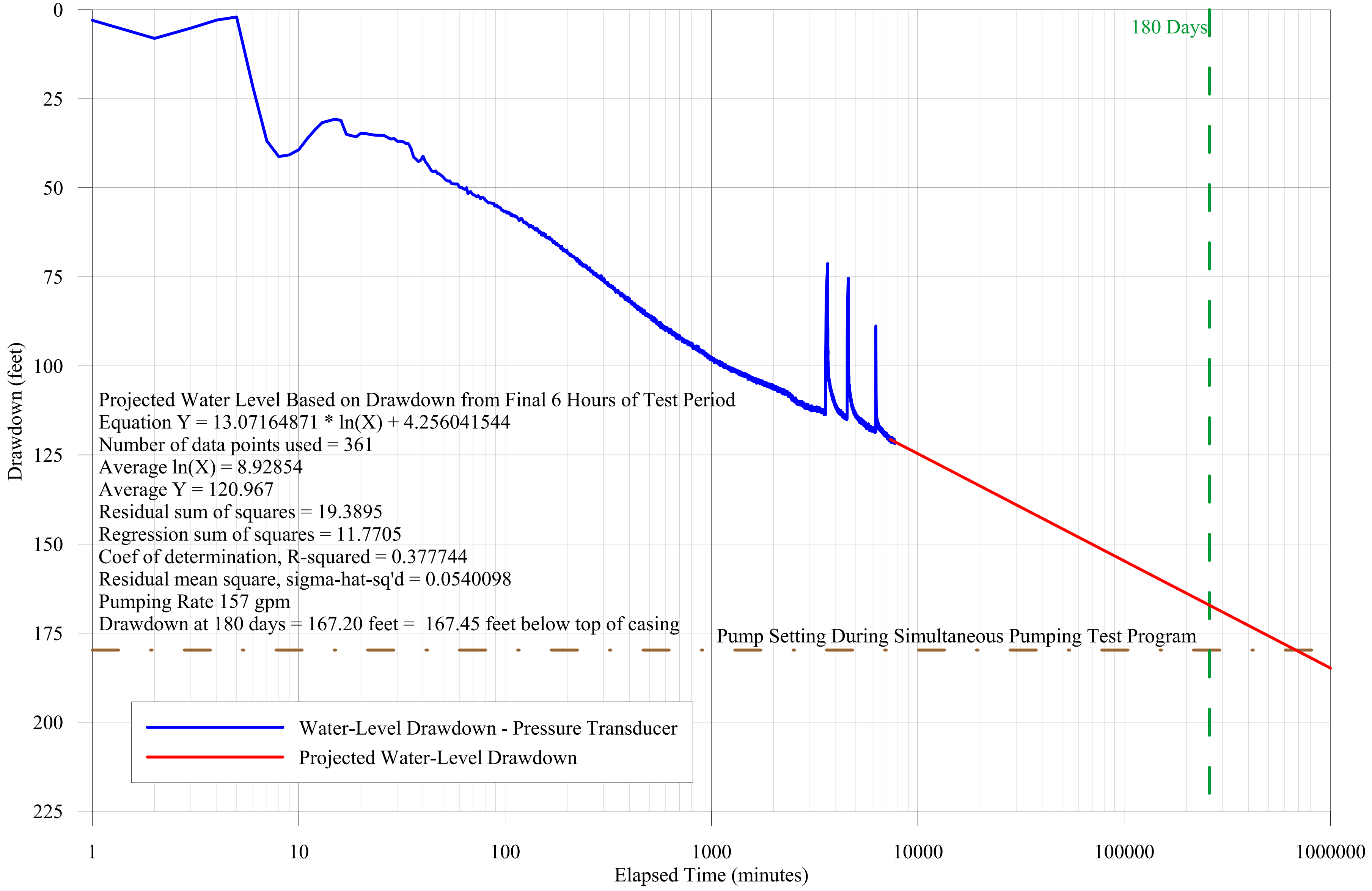
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

180-Day Water-Level Drawdown Projection on Pumping Well C-14 from Water-Level Measurements Collected from Pumping Well C-14 During Simultanous Pumping Test Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Pumping Wells\C-14180Day.grf

LBG Hydrogeologic & Engineering Services, P.C.

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VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/10/17	10:00	0.33	--	--	Pressure transducer installed in well.
7/10/17	11:00	0.30	--	--	
7/10/17	11:54	0.25	--	--	Static water level used from prior to the start of pumping in any onsite wells.
7/10/17	12:00	0.29	--	--	Pump in well C-21 started at 11:55.
7/10/17	13:00	0.30	--	--	Pump in well C-23 started at 12:59.
7/10/17	14:00	0.30	--	--	
7/10/17	15:00	0.26	--	--	
7/10/17	16:00	0.36	--	--	
7/10/17	16:23	0.36	--	--	
7/10/17	16:24	3.27	1	3.02	Pump in well C-14 started.
7/10/17	16:25	8.36	2	8.11	
7/10/17	16:26	5.46	3	5.21	
7/10/17	16:27	3.18	4	2.93	
7/10/17	16:28	2.32	5	2.07	Pump was running slow, corrected rotation.
7/10/17	16:29	22.08	6	21.83	Pumping rate in well C-14 152 gpm.
7/10/17	16:30	37.10	7	36.85	
7/10/17	16:31	41.52	8	41.27	
7/10/17	16:32	41.01	9	40.76	
7/10/17	16:33	39.54	10	39.29	
7/10/17	16:34	36.47	11	36.22	
7/10/17	16:35	33.94	12	33.69	Pumping rate in well C-14 152 gpm.
7/10/17	16:36	31.95	13	31.70	
7/10/17	16:37	31.44	14	31.19	
7/10/17	16:38	31.00	15	30.75	
7/10/17	16:39	31.39	16	31.14	
7/10/17	16:40	35.23	17	34.98	Pumping rate in well C-14 152 gpm.
7/10/17	16:45	35.27	22	35.02	
7/10/17	16:50	36.20	27	35.95	
7/10/17	16:55	37.29	32	37.04	Pumping rate in well C-14 152 gpm.
7/10/17	17:00	42.26	37	42.01	Pumping rate in well C-14 manually increased.
7/10/17	17:05	43.67	42	43.42	
7/10/17	17:10	46.25	47	46.00	
7/10/17	17:15	48.26	52	48.01	
7/10/17	17:20	49.22	57	48.97	
7/10/17	17:25	50.26	62	50.01	Pumping rate in well C-14 168 gpm.
7/10/17	18:00	56.47	97	56.22	Pump in well C-16 started at 17:31.
7/10/17	19:00	63.39	157	63.14	Pump in well C-6 started at 18:35.
7/10/17	20:00	69.89	217	69.64	Pump in well C-12 started at 19:48.
7/10/17	21:00	74.57	277	74.32	Pump in well C-7B started at 21:03.
7/10/17	22:00	78.37	337	78.12	Pumping rate in well C-14 168 gpm.
7/10/17	23:00	82.21	397	81.96	Pumping rate in well C-14 163 gpm.
7/11/17	0:00	84.45	457	84.20	Pumping rate in well C-14 163 gpm.
7/11/17	1:00	87.16	517	86.91	Pumping rate in well C-14 160 gpm.
7/11/17	2:00	89.11	577	88.86	Pumping rate in well C-14 160 gpm.
7/11/17	3:00	90.89	637	90.64	Pumping rate in well C-14 160 gpm.
7/11/17	4:00	92.77	697	92.52	Pumping rate in well C-14 160 gpm.
7/11/17	5:00	93.41	757	93.16	Pumping rate in well C-14 160 gpm.
7/11/17	6:00	94.84	817	94.59	Pumping rate in well C-14 160 gpm.
7/11/17	7:00	96.05	877	95.80	Pumping rate in well C-14 160 gpm.
7/11/17	8:00	97.08	937	96.83	Pumping rate in well C-14 160 gpm.
7/11/17	9:00	97.91	997	97.66	Pumping rate in well C-14 160 gpm.
7/11/17	10:00	98.95	1,057	98.70	Pumping rate in well C-14 160 gpm.
7/11/17	11:00	99.80	1,117	99.55	Pumping rate in well C-14 160 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/11/17	12:00	100.73	1,177	100.48	Pumping rate in well C-14 160 gpm.
7/11/17	13:00	101.39	1,237	101.14	Pumping rate in well C-14 159 gpm.
7/11/17	14:00	101.29	1,297	101.04	Pumping rate in well C-14 158 gpm.
7/11/17	15:00	102.30	1,357	102.05	Pumping rate in well C-14 158 gpm.
7/11/17	16:00	102.75	1,417	102.50	Pumping rate in well C-14 158 gpm.
7/11/17	17:00	102.53	1,477	102.28	Pumping rate in well C-14 157 gpm.
7/11/17	18:00	103.28	1,537	103.03	Pumping rate in well C-14 157 gpm.
7/11/17	19:00	103.70	1,597	103.45	Pumping rate in well C-14 157 gpm.
7/11/17	20:00	104.32	1,657	104.07	Pumping rate in well C-14 157 gpm.
7/11/17	21:00	104.61	1,717	104.36	Pumping rate in well C-14 157 gpm.
7/11/17	22:00	105.06	1,777	104.81	Pumping rate in well C-14 157 gpm.
7/11/17	23:00	105.33	1,837	105.08	Pumping rate in well C-14 157 gpm.
7/12/17	0:00	105.77	1,897	105.52	Pumping rate in well C-14 157 gpm.
7/12/17	1:00	105.97	1,957	105.72	Pumping rate in well C-14 157 gpm.
7/12/17	2:00	106.19	2,017	105.94	Pumping rate in well C-14 157 gpm.
7/12/17	3:00	106.66	2,077	106.41	Pumping rate in well C-14 157 gpm.
7/12/17	4:00	107.18	2,137	106.93	Pumping rate in well C-14 157 gpm.
7/12/17	5:00	107.73	2,197	107.48	Pumping rate in well C-14 157 gpm.
7/12/17	6:00	107.45	2,257	107.20	Pumping rate in well C-14 157 gpm.
7/12/17	7:00	107.89	2,317	107.64	Pumping rate in well C-14 157 gpm.
7/12/17	8:00	108.14	2,377	107.89	Pumping rate in well C-14 157 gpm.
7/12/17	9:00	109.08	2,437	108.83	Pumping rate in well C-14 157 gpm.
7/12/17	10:00	109.60	2,497	109.35	Pumping rate in well C-14 157 gpm.
7/12/17	11:00	109.89	2,557	109.64	Pumping rate in well C-14 157 gpm.
7/12/17	12:00	110.43	2,617	110.18	Pump in well C-7B shut down at 11:28 and pump in well C-21 shut down at 11:56.
7/12/17	13:00	110.43	2,677	110.18	Pumping rate in well C-14 157 gpm.
7/12/17	14:00	111.01	2,737	110.76	Pumping rate in well C-14 157 gpm.
7/12/17	15:00	110.98	2,797	110.73	Pumping rate in well C-14 157 gpm.
7/12/17	16:00	111.72	2,857	111.47	Pumping rate in well C-14 157 gpm.
7/12/17	17:00	111.86	2,917	111.61	Pumping rate in well C-14 157 gpm.
7/12/17	18:00	112.20	2,977	111.95	Pumping rate in well C-14 157 gpm.
7/12/17	19:00	112.31	3,037	112.06	Pumping rate in well C-14 157 gpm.
7/12/17	20:00	112.27	3,097	112.02	Pumping rate in well C-14 157 gpm.
7/12/17	21:00	112.43	3,157	112.18	Pumping rate in well C-14 157 gpm.
7/12/17	22:00	112.72	3,217	112.47	Pumping rate in well C-14 157 gpm.
7/12/17	23:00	112.41	3,277	112.16	Pumping rate in well C-14 157 gpm.
7/13/17	0:00	112.70	3,337	112.45	Pumping rate in well C-14 157 gpm.
7/13/17	1:00	112.60	3,397	112.35	Pumping rate in well C-14 157 gpm.
7/13/17	2:00	112.72	3,457	112.47	Pumping rate in well C-14 157 gpm.
7/13/17	3:00	113.01	3,517	112.76	Pumping rate in well C-14 157 gpm.
7/13/17	3:58	113.22	3,575	112.97	Generator shut down.
7/13/17	4:00	103.07	3,577	102.82	
7/13/17	5:00	74.12	3,637	73.87	
7/13/17	5:24	88.31	3,661	88.06	Generator restarted.
7/13/17	6:00	102.93	3,697	102.68	Pumping rate in well C-14 157 gpm.
7/13/17	7:00	106.13	3,757	105.88	Pumping rate in well C-14 157 gpm.
7/13/17	8:00	107.95	3,817	107.70	Pumping rate in well C-14 157 gpm.
7/13/17	9:00	109.42	3,877	109.17	Pumping rate in well C-14 157 gpm.
7/13/17	10:00	110.31	3,937	110.06	Pumping rate in well C-14 157 gpm.
7/13/17	11:00	111.51	3,997	111.26	Pumping rate in well C-14 157 gpm.
7/13/17	12:00	112.07	4,057	111.82	Pumping rate in well C-14 157 gpm.
7/13/17	13:00	112.79	4,117	112.54	Pumping rate in well C-14 157 gpm.
7/13/17	14:00	113.34	4,177	113.09	Pumping rate in well C-14 157 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/13/17	15:00	113.85	4,237	113.60	Pumping rate in well C-14 157 gpm.
7/13/17	16:00	114.00	4,297	113.75	Pumping rate in well C-14 157 gpm.
7/13/17	17:00	114.29	4,357	114.04	Pumping rate in well C-14 157 gpm.
7/13/17	18:00	114.76	4,417	114.51	Pumping rate in well C-14 157 gpm.
7/13/17	19:00	114.87	4,477	114.62	Pumping rate in well C-14 157 gpm.
7/13/17	20:00	115.17	4,537	114.92	Pumping rate in well C-14 157 gpm.
7/13/17	20:02	114.51	4,539	114.26	Generator shut down.
7/13/17	21:00	76.71	4,597	76.46	
7/13/17	21:10	89.56	4,607	89.31	Generator restarted.
7/13/17	22:00	106.71	4,657	106.46	Pumping rate in well C-14 157 gpm.
7/13/17	23:00	109.10	4,717	108.85	Pumping rate in well C-14 157 gpm.
7/14/17	0:00	111.33	4,777	111.08	Pumping rate in well C-14 157 gpm.
7/14/17	1:00	111.81	4,837	111.56	Pumping rate in well C-14 157 gpm.
7/14/17	2:00	113.37	4,897	113.12	Pumping rate in well C-14 157 gpm.
7/14/17	3:00	113.38	4,957	113.13	Pumping rate in well C-14 157 gpm.
7/14/17	4:00	114.02	5,017	113.77	Pumping rate in well C-14 157 gpm.
7/14/17	5:00	114.66	5,077	114.41	Pumping rate in well C-14 157 gpm.
7/14/17	6:00	114.97	5,137	114.72	Pumping rate in well C-14 157 gpm.
7/14/17	7:00	115.07	5,197	114.82	Pumping rate in well C-14 157 gpm.
7/14/17	8:00	115.70	5,257	115.45	Pumping rate in well C-14 157 gpm.
7/14/17	9:00	115.63	5,317	115.38	Pumping rate in well C-14 157 gpm.
7/14/17	10:00	116.50	5,377	116.25	Pumping rate in well C-14 157 gpm.
7/14/17	11:00	116.29	5,437	116.04	Pumping rate in well C-14 157 gpm.
7/14/17	12:00	116.45	5,497	116.20	Pumping rate in well C-14 157 gpm.
7/14/17	13:00	116.73	5,557	116.48	Pumping rate in well C-14 157 gpm.
7/14/17	14:00	117.05	5,617	116.80	Pumping rate in well C-14 157 gpm.
7/14/17	15:00	117.48	5,677	117.23	Pumping rate in well C-14 157 gpm.
7/14/17	16:00	117.24	5,737	116.99	Pumping rate in well C-14 157 gpm.
7/14/17	17:00	117.84	5,797	117.59	Pumping rate in well C-14 157 gpm.
7/14/17	18:00	117.77	5,857	117.52	Pumping rate in well C-14 157 gpm.
7/14/17	19:00	118.01	5,917	117.76	Pumping rate in well C-14 157 gpm.
7/14/17	20:00	117.80	5,977	117.55	Pumping rate in well C-14 157 gpm.
7/14/17	21:00	117.78	6,037	117.53	Pumping rate in well C-14 157 gpm.
7/14/17	22:00	118.37	6,097	118.12	Pumping rate in well C-14 157 gpm.
7/14/17	23:00	118.00	6,157	117.75	Pumping rate in well C-14 157 gpm.
7/15/17	0:00	118.34	6,217	118.09	Pumping rate in well C-14 157 gpm.
7/15/17	0:33	108.07	6,250	107.82	Generator shut down.
7/15/17	0:53	94.34	6,270	94.09	Generator restarted.
7/15/17	1:00	106.22	6,277	105.97	Pumping rate in well C-14 157 gpm.
7/15/17	2:00	115.63	6,337	115.38	Pumping rate in well C-14 157 gpm.
7/15/17	3:00	116.30	6,397	116.05	Pumping rate in well C-14 157 gpm.
7/15/17	4:00	117.08	6,457	116.83	Pumping rate in well C-14 157 gpm.
7/15/17	5:00	117.91	6,517	117.66	Pumping rate in well C-14 157 gpm.
7/15/17	6:00	118.10	6,577	117.85	Pumping rate in well C-14 157 gpm.
7/15/17	7:00	118.19	6,637	117.94	Pumping rate in well C-14 157 gpm.
7/15/17	8:00	118.54	6,697	118.29	Pumping rate in well C-14 157 gpm.
7/15/17	9:00	118.82	6,757	118.57	Pumping rate in well C-14 157 gpm.
7/15/17	10:00	118.91	6,817	118.66	Pumping rate in well C-14 157 gpm.
7/15/17	11:00	119.34	6,877	119.09	Pumping rate in well C-14 157 gpm.
7/15/17	12:00	119.69	6,937	119.44	Pumping rate in well C-14 157 gpm.
7/15/17	13:00	119.80	6,997	119.55	Pumping rate in well C-14 157 gpm.
7/15/17	14:00	120.20	7,057	119.95	Pumping rate in well C-14 157 gpm.
7/15/17	15:00	119.96	7,117	119.71	Pumping rate in well C-14 157 gpm.
7/15/17	16:00	120.71	7,177	120.46	Pumping rate in well C-14 157 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/15/17	17:00	120.43	7,237	120.18	Pumping rate in well C-14 157 gpm.
7/15/17	18:00	120.68	7,297	120.43	Pumping rate in well C-14 157 gpm.
7/15/17	19:00	121.01	7,357	120.76	Pumping rate in well C-14 157 gpm.
7/15/17	19:08	121.06	7,365	120.81	Pumping rate in well C-14 157 gpm.
7/15/17	20:00	121.27	7,417	121.02	Pumping rate in well C-14 157 gpm.
7/15/17	21:00	120.95	7,477	120.70	Pumping rate in well C-14 157 gpm.
7/15/17	22:00	121.29	7,537	121.04	Pumping rate in well C-14 157 gpm.
7/15/17	23:00	121.45	7,597	121.20	Pumping rate in well C-14 157 gpm.
7/16/17	0:00	121.51	7,657	121.26	Pumping rate in well C-14 157 gpm.
7/16/17	1:00	121.50	7,717	121.25	Pumping rate in well C-14 157 gpm.
7/16/17	1:08	121.67	7,725	121.42	Pumping rate in well C-14 157 gpm.
7/16/17	1:09	110.24	-1	109.99	Pump in well C-14 shut down. Shut down of simultaneous pumping test (wells C-6, 12, 14, 16, and 23).
7/16/17	1:10	107.57	-2	107.32	
7/16/17	1:11	106.06	-3	105.81	
7/16/17	1:12	104.70	-4	104.45	
7/16/17	1:13	103.52	-5	103.27	
7/16/17	1:14	102.45	-6	102.20	
7/16/17	1:15	101.23	-7	100.98	
7/16/17	1:16	100.19	-8	99.94	
7/16/17	1:17	99.13	-9	98.88	
7/16/17	1:18	98.28	-10	98.03	
7/16/17	1:19	97.42	-11	97.17	
7/16/17	1:20	96.66	-12	96.41	
7/16/17	1:21	95.99	-13	95.74	
7/16/17	1:22	95.44	-14	95.19	
7/16/17	1:23	94.76	-15	94.51	
7/16/17	1:24	94.11	-16	93.86	
7/16/17	1:25	93.62	-17	93.37	
7/16/17	1:30	91.53	-22	91.28	
7/16/17	1:35	89.79	-27	89.54	
7/16/17	1:40	88.25	-32	88.00	
7/16/17	1:45	87.05	-37	86.80	
7/16/17	1:50	86.08	-42	85.83	
7/16/17	1:55	85.27	-47	85.02	
7/16/17	2:00	84.44	-52	84.19	
7/16/17	2:05	83.70	-57	83.45	
7/16/17	2:10	83.03	-62	82.78	
7/16/17	3:00	78.37	-112	78.12	
7/16/17	4:00	74.02	-172	73.77	
7/16/17	5:00	70.51	-232	70.26	
7/16/17	6:00	67.54	-292	67.29	
7/16/17	7:00	65.12	-352	64.87	
7/16/17	8:00	62.75	-412	62.50	
7/16/17	9:00	60.68	-472	60.43	
7/16/17	10:00	58.78	-532	58.53	
7/16/17	11:00	56.86	-592	56.61	
7/16/17	12:00	55.08	-652	54.83	
7/16/17	13:00	53.47	-712	53.22	
7/16/17	14:00	51.90	-772	51.65	
7/16/17	15:00	50.41	-832	50.16	
7/16/17	16:00	48.92	-892	48.67	
7/16/17	17:00	47.47	-952	47.22	
7/16/17	18:00	46.09	-1,012	45.84	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/16/17	19:00	44.73	-1,072	44.48	
7/16/17	20:00	43.48	-1,132	43.23	
7/16/17	21:00	42.21	-1,192	41.96	
7/16/17	22:00	40.95	-1,252	40.70	
7/16/17	23:00	39.74	-1,312	39.49	
7/17/17	0:00	38.51	-1,372	38.26	
7/17/17	1:00	37.40	-1,432	37.15	
7/17/17	2:00	36.29	-1,492	36.04	
7/17/17	3:00	35.22	-1,552	34.97	
7/17/17	4:00	34.19	-1,612	33.94	
7/17/17	5:00	33.22	-1,672	32.97	
7/17/17	6:00	32.24	-1,732	31.99	
7/17/17	7:00	31.26	-1,792	31.01	
7/17/17	8:00	30.33	-1,852	30.08	
7/17/17	9:00	29.45	-1,912	29.20	
7/17/17	10:00	28.63	-1,972	28.38	
7/17/17	11:00	27.82	-2,032	27.57	
7/17/17	12:00	26.99	-2,092	26.74	
7/17/17	13:00	26.18	-2,152	25.93	
7/17/17	14:00	25.48	-2,212	25.23	
7/17/17	15:00	24.76	-2,272	24.51	
7/17/17	16:00	24.05	-2,332	23.80	
7/17/17	17:00	23.38	-2,392	23.13	
7/17/17	18:00	22.67	-2,452	22.42	
7/17/17	19:00	22.05	-2,512	21.80	
7/17/17	20:00	21.38	-2,572	21.13	
7/17/17	21:00	20.72	-2,632	20.47	
7/17/17	22:00	20.12	-2,692	19.87	
7/17/17	23:00	19.52	-2,752	19.27	
7/18/17	0:00	19.01	-2,812	18.76	
7/18/17	1:00	18.48	-2,872	18.23	
7/18/17	2:00	17.95	-2,932	17.70	
7/18/17	3:00	17.46	-2,992	17.21	
7/18/17	4:00	16.96	-3,052	16.71	
7/18/17	5:00	16.47	-3,112	16.22	
7/18/17	6:00	15.98	-3,172	15.73	
7/18/17	7:00	15.55	-3,232	15.30	
7/18/17	8:00	15.09	-3,292	14.84	
7/18/17	9:00	14.66	-3,352	14.41	
7/18/17	10:00	14.26	-3,412	14.01	
7/18/17	11:00	13.86	-3,472	13.61	
7/18/17	12:00	13.36	-3,532	13.11	
7/18/17	13:00	13.04	-3,592	12.79	
7/18/17	14:00	12.73	-3,652	12.48	
7/18/17	15:00	12.37	-3,712	12.12	90% recovery achieved.
7/18/17	16:00	12.04	-3,772	11.79	
7/18/17	17:00	11.66	-3,832	11.41	
7/18/17	18:00	11.34	-3,892	11.09	
7/18/17	19:00	11.06	-3,952	10.81	
7/18/17	20:00	10.74	-4,012	10.49	
7/18/17	21:00	10.48	-4,072	10.23	
7/18/17	22:00	10.15	-4,132	9.90	
7/18/17	23:00	9.87	-4,192	9.62	
7/19/17	0:00	9.60	-4,252	9.35	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/19/17	1:00	9.42	-4,312	9.17	
7/19/17	2:00	9.10	-4,372	8.85	
7/19/17	3:00	8.84	-4,432	8.59	
7/19/17	4:00	8.64	-4,492	8.39	
7/19/17	5:00	8.42	-4,552	8.17	
7/19/17	6:00	8.20	-4,612	7.95	
7/19/17	7:00	8.01	-4,672	7.76	
7/19/17	8:00	7.71	-4,732	7.46	
7/19/17	9:00	7.58	-4,792	7.33	
7/19/17	10:00	7.38	-4,852	7.13	
7/19/17	11:00	7.22	-4,912	6.97	
7/19/17	12:00	6.99	-4,972	6.74	
7/19/17	13:00	6.80	-5,032	6.55	
7/19/17	14:00	6.72	-5,092	6.47	
7/19/17	15:00	6.54	-5,152	6.29	
7/19/17	16:00	6.35	-5,212	6.10	
7/19/17	17:00	6.22	-5,272	5.97	
7/19/17	18:00	6.04	-5,332	5.79	
7/19/17	19:00	5.84	-5,392	5.59	
7/19/17	20:00	5.75	-5,452	5.50	
7/19/17	21:00	5.52	-5,512	5.27	
7/19/17	22:00	5.43	-5,572	5.18	
7/19/17	23:00	5.24	-5,632	4.99	
7/20/17	0:00	5.10	-5,692	4.85	
7/20/17	1:00	4.94	-5,752	4.69	
7/20/17	2:00	4.81	-5,812	4.56	
7/20/17	3:00	4.68	-5,872	4.43	
7/20/17	4:00	4.56	-5,932	4.31	
7/20/17	5:00	4.44	-5,992	4.19	
7/20/17	6:00	4.36	-6,052	4.11	
7/20/17	7:00	4.26	-6,112	4.01	
7/20/17	8:00	4.15	-6,172	3.90	
7/20/17	9:00	4.05	-6,232	3.80	
7/20/17	10:00	3.99	-6,292	3.74	
7/20/17	11:00	3.84	-6,352	3.59	
7/20/17	12:00	3.72	-6,412	3.47	
7/20/17	13:00	3.63	-6,472	3.38	
7/20/17	14:00	3.56	-6,532	3.31	
7/20/17	15:00	3.41	-6,592	3.16	
7/20/17	16:00	3.31	-6,652	3.06	
7/20/17	17:00	3.21	-6,712	2.96	
7/20/17	18:00	3.14	-6,772	2.89	
7/20/17	19:00	3.00	-6,832	2.75	
7/20/17	20:00	2.95	-6,892	2.70	
7/20/17	21:00	2.84	-6,952	2.59	
7/20/17	22:00	2.73	-7,012	2.48	
7/20/17	23:00	2.63	-7,072	2.38	
7/21/17	0:00	2.52	-7,132	2.27	
7/21/17	1:00	2.49	-7,192	2.24	
7/21/17	2:00	2.35	-7,252	2.10	
7/21/17	3:00	2.26	-7,312	2.01	
7/21/17	4:00	2.18	-7,372	1.93	
7/21/17	5:00	2.19	-7,432	1.94	
7/21/17	6:00	2.13	-7,492	1.88	

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/21/17	7:00	2.01	-7,552	1.76	
7/21/17	8:00	1.98	-7,612	1.73	
7/21/17	9:00	1.91	-7,672	1.66	
7/21/17	10:00	1.88	-7,732	1.63	
7/21/17	11:00	1.83	-7,792	1.58	
7/21/17	12:00	1.75	-7,852	1.50	
7/21/17	13:00	1.70	-7,912	1.45	
7/21/17	14:00	1.66	-7,972	1.41	
7/21/17	15:00	1.54	-8,032	1.29	
7/21/17	16:00	1.41	-8,092	1.16	
7/21/17	17:00	1.38	-8,152	1.13	
7/21/17	18:00	1.35	-8,212	1.10	
7/21/17	19:00	1.28	-8,272	1.03	
7/21/17	20:00	1.26	-8,332	1.01	
7/21/17	21:00	1.20	-8,392	0.95	
7/21/17	22:00	1.17	-8,452	0.92	
7/21/17	23:00	1.11	-8,512	0.86	
7/22/17	0:00	1.09	-8,572	0.84	
7/22/17	1:00	1.09	-8,632	0.84	
7/22/17	2:00	1.05	-8,692	0.80	
7/22/17	3:00	1.05	-8,752	0.80	
7/22/17	4:00	1.08	-8,812	0.83	
7/22/17	5:00	1.08	-8,872	0.83	
7/22/17	6:00	1.05	-8,932	0.80	
7/22/17	7:00	1.02	-8,992	0.77	
7/22/17	8:00	1.02	-9,052	0.77	
7/22/17	9:00	1.04	-9,112	0.79	
7/22/17	10:00	1.05	-9,172	0.80	
7/22/17	11:00	1.04	-9,232	0.79	
7/22/17	12:00	1.05	-9,292	0.80	
7/22/17	13:00	1.05	-9,352	0.80	
7/22/17	14:00	1.04	-9,412	0.79	
7/22/17	15:00	1.11	-9,472	0.86	
7/22/17	16:00	1.12	-9,532	0.87	
7/22/17	17:00	1.13	-9,592	0.88	
7/22/17	18:00	1.14	-9,652	0.89	
7/22/17	19:00	1.11	-9,712	0.86	
7/22/17	20:00	1.15	-9,772	0.90	
7/22/17	21:00	1.14	-9,832	0.89	
7/22/17	22:00	1.14	-9,892	0.89	
7/22/17	23:00	1.10	-9,952	0.85	
7/23/17	0:00	1.16	-10,012	0.91	
7/23/17	1:00	1.16	-10,072	0.91	
7/23/17	2:00	1.17	-10,132	0.92	
7/23/17	3:00	1.16	-10,192	0.91	
7/23/17	4:00	1.16	-10,252	0.91	
7/23/17	5:00	1.13	-10,312	0.88	
7/23/17	6:00	1.16	-10,372	0.91	
7/23/17	7:00	1.12	-10,432	0.87	
7/23/17	8:00	1.11	-10,492	0.86	
7/23/17	9:00	1.11	-10,552	0.86	
7/23/17	10:00	1.14	-10,612	0.89	
7/23/17	11:00	1.10	-10,672	0.85	
7/23/17	12:00	1.10	-10,732	0.85	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/23/17	13:00	1.08	-10,792	0.83	
7/23/17	14:00	1.05	-10,852	0.80	
7/23/17	15:00	1.08	-10,912	0.83	
7/23/17	16:00	1.06	-10,972	0.81	
7/23/17	17:00	1.10	-11,032	0.85	
7/23/17	18:00	1.07	-11,092	0.82	
7/23/17	19:00	1.01	-11,152	0.76	
7/23/17	20:00	1.05	-11,212	0.80	
7/23/17	21:00	1.08	-11,272	0.83	
7/23/17	22:00	1.03	-11,332	0.78	
7/23/17	23:00	1.04	-11,392	0.79	
7/24/17	0:00	1.02	-11,452	0.77	
7/24/17	1:00	1.02	-11,512	0.77	
7/24/17	2:00	1.05	-11,572	0.80	
7/24/17	3:00	1.03	-11,632	0.78	
7/24/17	4:00	1.08	-11,692	0.83	
7/24/17	5:00	1.08	-11,752	0.83	
7/24/17	6:00	1.05	-11,812	0.80	
7/24/17	7:00	1.06	-11,872	0.81	
7/24/17	8:00	1.10	-11,932	0.85	
7/24/17	9:00	1.09	-11,992	0.84	
7/24/17	10:00	1.07	-12,052	0.82	
7/24/17	11:00	1.06	-12,112	0.81	
7/24/17	12:00	1.01	-12,172	0.76	
7/24/17	13:00	1.05	-12,232	0.80	
7/24/17	14:00	0.98	-12,292	0.73	
7/24/17	15:00	1.02	-12,352	0.77	
7/24/17	16:00	0.97	-12,412	0.72	
7/24/17	17:00	0.98	-12,472	0.73	
7/24/17	18:00	0.97	-12,532	0.72	
7/24/17	19:00	0.92	-12,592	0.67	
7/24/17	20:00	0.95	-12,652	0.70	
7/24/17	21:00	0.94	-12,712	0.69	
7/24/17	22:00	0.94	-12,772	0.69	
7/24/17	23:00	0.90	-12,832	0.65	
7/25/17	0:00	0.84	-12,892	0.59	
7/25/17	1:00	0.88	-12,952	0.63	
7/25/17	2:00	0.85	-13,012	0.60	
7/25/17	3:00	0.87	-13,072	0.62	
7/25/17	4:00	0.83	-13,132	0.58	
7/25/17	5:00	0.80	-13,192	0.55	
7/25/17	6:00	0.83	-13,252	0.58	
7/25/17	7:00	0.76	-13,312	0.51	
7/25/17	8:00	0.79	-13,372	0.54	
7/25/17	9:00	0.77	-13,432	0.52	
7/25/17	10:00	0.74	-13,492	0.49	
7/25/17	11:00	0.70	-13,552	0.45	
7/25/17	12:00	0.66	-13,612	0.41	Pump in well C-21 started at 11:44.
7/25/17	13:00	0.71	-13,672	0.46	
7/25/17	14:00	0.68	-13,732	0.43	
7/25/17	15:00	0.71	-13,792	0.46	
7/25/17	16:00	0.67	-13,852	0.42	
7/25/17	17:00	0.66	-13,912	0.41	
7/25/17	18:00	0.65	-13,972	0.40	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/25/17	19:00	0.64	-14,032	0.39	
7/25/17	20:00	0.62	-14,092	0.37	
7/25/17	21:00	0.66	-14,152	0.41	
7/25/17	22:00	0.57	-14,212	0.32	
7/25/17	23:00	0.60	-14,272	0.35	
7/26/17	0:00	0.59	-14,332	0.34	
7/26/17	1:00	0.59	-14,392	0.34	
7/26/17	2:00	0.59	-14,452	0.34	
7/26/17	3:00	0.48	-14,512	0.23	
7/26/17	4:00	0.58	-14,572	0.33	
7/26/17	5:00	0.53	-14,632	0.28	
7/26/17	6:00	0.54	-14,692	0.29	
7/26/17	7:00	0.53	-14,752	0.28	
7/26/17	8:00	0.50	-14,812	0.25	
7/26/17	9:00	0.54	-14,872	0.29	
7/26/17	10:00	0.47	-14,932	0.22	
7/26/17	11:00	0.57	-14,992	0.32	
7/26/17	12:00	0.58	-15,052	0.33	
7/26/17	13:00	0.63	-15,112	0.38	
7/26/17	14:00	0.58	-15,172	0.33	
7/26/17	15:00	0.61	-15,232	0.36	
7/26/17	16:00	0.60	-15,292	0.35	
7/26/17	17:00	0.64	-15,352	0.39	
7/26/17	18:00	0.63	-15,412	0.38	
7/26/17	19:00	0.60	-15,472	0.35	
7/26/17	20:00	0.62	-15,532	0.37	
7/26/17	21:00	0.66	-15,592	0.41	
7/26/17	22:00	0.71	-15,652	0.46	
7/26/17	23:00	0.74	-15,712	0.49	
7/27/17	0:00	0.76	-15,772	0.51	
7/27/17	1:00	0.78	-15,832	0.53	
7/27/17	2:00	0.80	-15,892	0.55	
7/27/17	3:00	0.80	-15,952	0.55	
7/27/17	4:00	0.86	-16,012	0.61	
7/27/17	5:00	0.87	-16,072	0.62	
7/27/17	6:00	0.85	-16,132	0.60	
7/27/17	7:00	0.86	-16,192	0.61	
7/27/17	8:00	0.89	-16,252	0.64	
7/27/17	9:00	0.79	-16,312	0.54	
7/27/17	10:00	0.91	-16,372	0.66	
7/27/17	11:00	0.91	-16,432	0.66	
7/27/17	12:00	0.89	-16,492	0.64	
7/27/17	13:00	0.94	-16,552	0.69	
7/27/17	14:00	0.98	-16,612	0.73	
7/27/17	15:00	1.00	-16,672	0.75	
7/27/17	16:00	0.85	-16,732	0.60	
7/27/17	17:00	0.97	-16,792	0.72	
7/27/17	18:00	1.04	-16,852	0.79	
7/27/17	19:00	1.03	-16,912	0.78	
7/27/17	20:00	1.00	-16,972	0.75	
7/27/17	21:00	1.01	-17,032	0.76	
7/27/17	22:00	1.04	-17,092	0.79	
7/27/17	23:00	1.01	-17,152	0.76	
7/28/17	0:00	1.03	-17,212	0.78	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/28/17	1:00	1.04	-17,272	0.79	
7/28/17	2:00	1.04	-17,332	0.79	
7/28/17	3:00	1.05	-17,392	0.80	
7/28/17	4:00	1.06	-17,452	0.81	
7/28/17	5:00	1.04	-17,512	0.79	
7/28/17	6:00	1.01	-17,572	0.76	
7/28/17	7:00	1.02	-17,632	0.77	
7/28/17	8:00	1.01	-17,692	0.76	
7/28/17	9:00	1.04	-17,752	0.79	
7/28/17	10:00	1.02	-17,812	0.77	
7/28/17	11:00	1.00	-17,872	0.75	
7/28/17	12:00	1.05	-17,932	0.80	Pump in well C-21 shut down at 12:15.
7/28/17	13:00	1.01	-17,992	0.76	
7/28/17	14:00	1.05	-18,052	0.80	
7/28/17	15:00	1.04	-18,112	0.79	
7/28/17	16:00	0.97	-18,172	0.72	
7/28/17	17:00	1.09	-18,232	0.84	
7/28/17	18:00	1.11	-18,292	0.86	
7/28/17	19:00	1.08	-18,352	0.83	
7/28/17	20:00	1.08	-18,412	0.83	
7/28/17	21:00	1.04	-18,472	0.79	
7/28/17	22:00	1.01	-18,532	0.76	
7/28/17	23:00	1.04	-18,592	0.79	
7/29/17	0:00	1.07	-18,652	0.82	
7/29/17	1:00	1.07	-18,712	0.82	
7/29/17	2:00	1.09	-18,772	0.84	
7/29/17	3:00	1.10	-18,832	0.85	
7/29/17	4:00	1.08	-18,892	0.83	
7/29/17	5:00	1.10	-18,952	0.85	
7/29/17	6:00	1.01	-19,012	0.76	
7/29/17	7:00	1.08	-19,072	0.83	
7/29/17	8:00	1.02	-19,132	0.77	
7/29/17	9:00	1.03	-19,192	0.78	
7/29/17	10:00	1.03	-19,252	0.78	
7/29/17	11:00	1.02	-19,312	0.77	
7/29/17	12:00	1.03	-19,372	0.78	
7/29/17	13:00	1.05	-19,432	0.80	
7/29/17	14:00	1.05	-19,492	0.80	
7/29/17	15:00	1.08	-19,552	0.83	
7/29/17	16:00	1.08	-19,612	0.83	
7/29/17	17:00	1.01	-19,672	0.76	
7/29/17	18:00	1.01	-19,732	0.76	
7/29/17	19:00	1.01	-19,792	0.76	
7/29/17	20:00	0.97	-19,852	0.72	
7/29/17	21:00	0.98	-19,912	0.73	
7/29/17	22:00	0.99	-19,972	0.74	
7/29/17	23:00	0.99	-20,032	0.74	
7/30/17	0:00	0.96	-20,092	0.71	
7/30/17	1:00	0.97	-20,152	0.72	
7/30/17	2:00	0.93	-20,212	0.68	
7/30/17	3:00	0.95	-20,272	0.70	
7/30/17	4:00	0.95	-20,332	0.70	
7/30/17	5:00	0.96	-20,392	0.71	
7/30/17	6:00	0.89	-20,452	0.64	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/30/17	7:00	0.89	-20,512	0.64	
7/30/17	8:00	0.88	-20,572	0.63	
7/30/17	9:00	0.90	-20,632	0.65	
7/30/17	10:00	0.87	-20,692	0.62	
7/30/17	11:00	0.83	-20,752	0.58	
7/30/17	12:00	0.85	-20,812	0.60	
7/30/17	13:00	0.83	-20,872	0.58	
7/30/17	14:00	0.80	-20,932	0.55	
7/30/17	15:00	0.83	-20,992	0.58	
7/30/17	16:00	0.87	-21,052	0.62	
7/30/17	17:00	0.88	-21,112	0.63	
7/30/17	18:00	0.86	-21,172	0.61	
7/30/17	19:00	0.82	-21,232	0.57	
7/30/17	20:00	0.82	-21,292	0.57	
7/30/17	21:00	0.83	-21,352	0.58	
7/30/17	22:00	0.81	-21,412	0.56	
7/30/17	23:00	0.81	-21,472	0.56	
7/31/17	0:00	0.76	-21,532	0.51	
7/31/17	1:00	0.81	-21,592	0.56	
7/31/17	2:00	0.86	-21,652	0.61	
7/31/17	3:00	0.80	-21,712	0.55	
7/31/17	4:00	0.83	-21,772	0.58	
7/31/17	5:00	0.81	-21,832	0.56	
7/31/17	6:00	0.83	-21,892	0.58	
7/31/17	7:00	0.80	-21,952	0.55	
7/31/17	8:00	0.83	-22,012	0.58	
7/31/17	9:00	0.79	-22,072	0.54	
7/31/17	10:00	0.81	-22,132	0.56	
7/31/17	11:00	0.77	-22,192	0.52	
7/31/17	12:00	0.79	-22,252	0.54	
7/31/17	13:00	0.83	-22,312	0.58	
7/31/17	14:00	0.81	-22,372	0.56	
7/31/17	15:00	0.85	-22,432	0.60	
7/31/17	16:00	0.92	-22,492	0.67	
7/31/17	17:00	0.87	-22,552	0.62	
7/31/17	18:00	0.83	-22,612	0.58	
7/31/17	19:00	0.91	-22,672	0.66	
7/31/17	20:00	0.84	-22,732	0.59	
7/31/17	21:00	0.88	-22,792	0.63	
7/31/17	22:00	0.84	-22,852	0.59	
8/1/17	23:00	0.79	-24,352	0.54	
8/1/17	0:00	0.84	-22,972	0.59	
8/1/17	1:00	0.83	-23,032	0.58	
8/1/17	2:00	0.82	-23,092	0.57	
8/1/17	3:00	0.81	-23,152	0.56	
8/1/17	4:00	0.86	-23,212	0.61	
8/1/17	5:00	0.86	-23,272	0.61	
8/1/17	6:00	0.84	-23,332	0.59	
8/1/17	7:00	0.84	-23,392	0.59	
8/1/17	8:00	0.83	-23,452	0.58	
8/1/17	9:00	0.82	-23,512	0.57	
8/1/17	10:00	0.82	-23,572	0.57	
8/1/17	11:00	0.78	-23,632	0.53	
8/1/17	12:00	0.79	-23,692	0.54	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
8/1/17	13:00	0.83	-23,752	0.58	
8/1/17	14:00	0.86	-23,812	0.61	
8/1/17	15:00	0.84	-23,872	0.59	
8/1/17	16:00	0.82	-23,932	0.57	
8/1/17	17:00	0.84	-23,992	0.59	
8/1/17	18:00	0.82	-24,052	0.57	
8/1/17	19:00	0.84	-24,112	0.59	
8/1/17	20:00	0.85	-24,172	0.60	
8/1/17	21:00	0.84	-24,232	0.59	
8/1/17	22:00	0.80	-24,292	0.55	
8/1/17	23:00	0.79	-24,352	0.54	
8/2/17	0:00	0.82	-24,412	0.57	
8/2/17	1:00	0.83	-24,472	0.58	
8/2/17	2:00	0.81	-24,532	0.56	
8/2/17	3:00	0.81	-24,592	0.56	
8/2/17	4:00	0.81	-24,652	0.56	
8/2/17	5:00	0.82	-24,712	0.57	
8/2/17	6:00	0.84	-24,772	0.59	
8/2/17	7:00	0.80	-24,832	0.55	
8/2/17	8:00	0.79	-24,892	0.54	
8/2/17	9:00	0.79	-24,952	0.54	
8/2/17	10:00	0.82	-25,012	0.57	
8/2/17	11:00	0.81	-25,072	0.56	
8/2/17	12:00	0.81	-25,132	0.56	
8/2/17	13:00	0.84	-25,192	0.59	
8/2/17	14:00	0.85	-25,252	0.60	
8/2/17	15:00	0.85	-25,312	0.60	
8/2/17	16:00	0.74	-25,372	0.49	
8/2/17	17:00	0.77	-25,432	0.52	
8/2/17	18:00	0.81	-25,492	0.56	
8/2/17	19:00	0.82	-25,552	0.57	
8/2/17	20:00	0.80	-25,612	0.55	
8/2/17	21:00	0.76	-25,672	0.51	
8/2/17	22:00	0.79	-25,732	0.54	
8/2/17	23:00	0.76	-25,792	0.51	
8/3/17	0:00	0.78	-25,852	0.53	
8/3/17	1:00	0.77	-25,912	0.52	
8/3/17	2:00	0.79	-25,972	0.54	
8/3/17	3:00	0.81	-26,032	0.56	
8/3/17	4:00	0.73	-26,092	0.48	
8/3/17	5:00	0.78	-26,152	0.53	
8/3/17	6:00	0.73	-26,212	0.48	
8/3/17	7:00	0.74	-26,272	0.49	
8/3/17	8:00	0.79	-26,332	0.54	
8/3/17	9:00	0.77	-26,392	0.52	
8/3/17	10:00	0.74	-26,452	0.49	
8/3/17	11:00	0.73	-26,512	0.48	
8/3/17	12:00	0.76	-26,572	0.51	
8/3/17	13:00	0.76	-26,632	0.51	
8/3/17	14:00	0.75	-26,692	0.50	
8/3/17	15:00	0.79	-26,752	0.54	
8/3/17	16:00	0.79	-26,812	0.54	
8/3/17	17:00	0.86	-26,872	0.61	
8/3/17	18:00	0.85	-26,932	0.60	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-14 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
8/3/17	19:00	0.83	-26,992	0.58	
8/3/17	20:00	0.80	-27,052	0.55	
8/3/17	21:00	0.77	-27,112	0.52	
8/3/17	22:00	0.74	-27,172	0.49	
8/3/17	23:00	0.82	-27,232	0.57	

ft btoc	feet below top of casing
gpm	gallons per minute

H:\Lake Anne\Clovewood\2017\July Pumping Test Report\C-14 Table.docx

C-16

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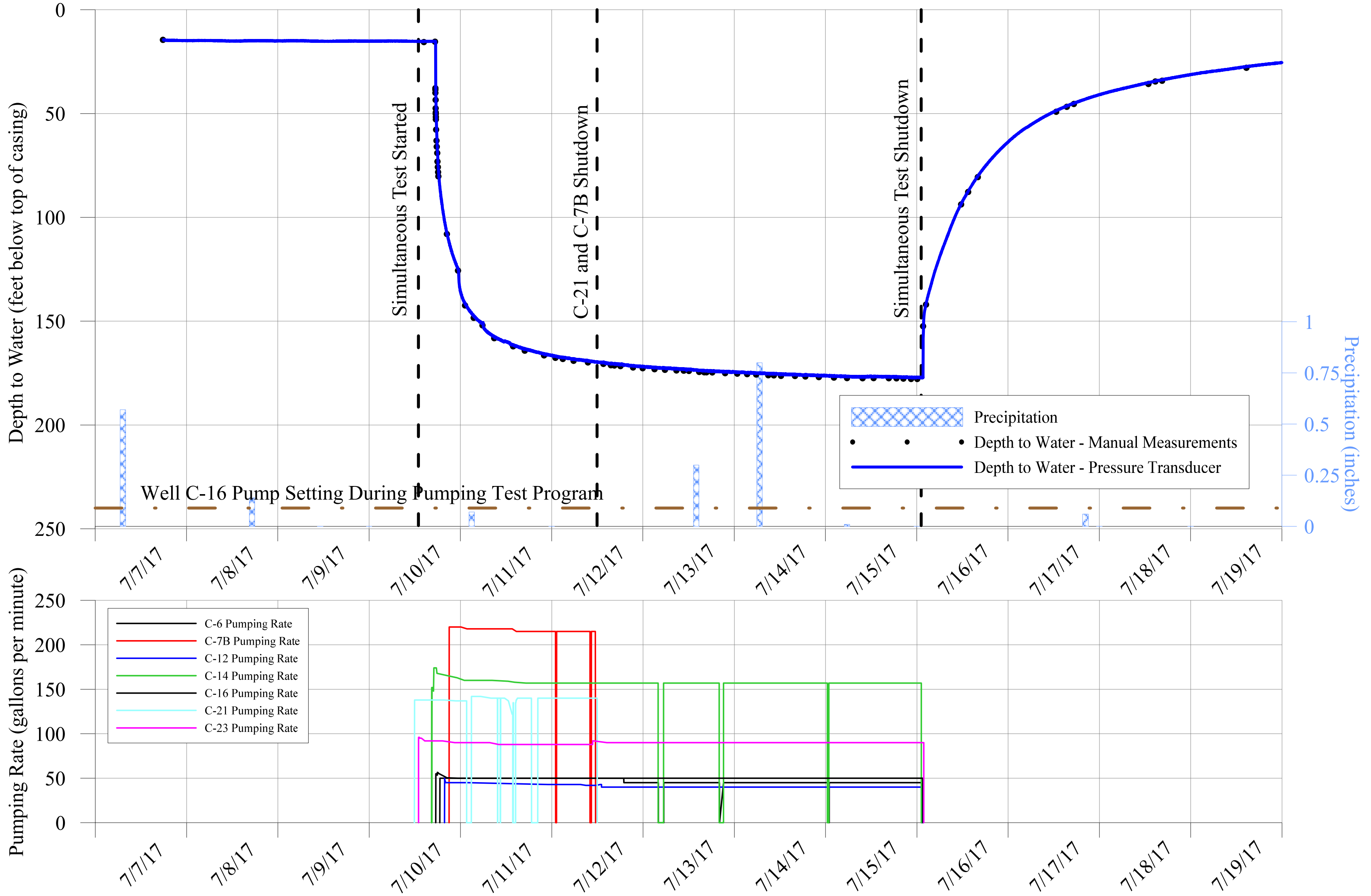
Hydrograph of Water-Level Measurements Collected from Pumping Well C-16 During Simultaneous Pumping Test Program on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Pumping Wells\C-16Simultaneous.grf

LBG Hydrogeologic & Engineering Services, P.C.

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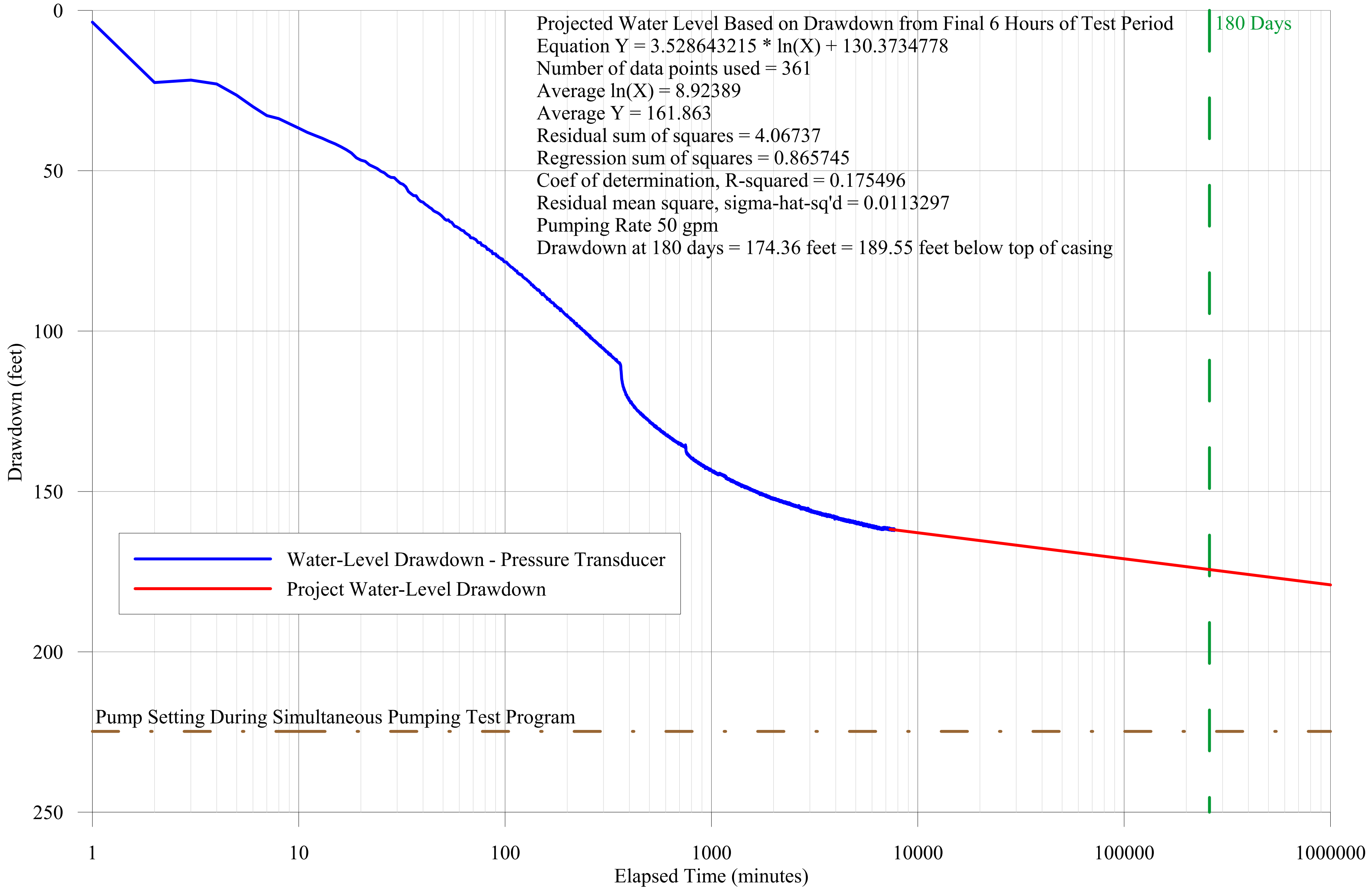
180-Day Water-Level Drawdown Projection on Pumping Well C-16 from Water-Level Measurements Collected from Pumping Well C-16 During Simultanous Pumping Test Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



Projected Water Level Based on Drawdown from Final 6 Hours of Test Period
Equation Y = 3.528643215 * ln(X) + 130.3734778
Number of data points used = 361
Average ln(X) = 8.92389
Average Y = 161.863
Residual sum of squares = 4.06737
Regression sum of squares = 0.865745
Coef of determination, R-squared = 0.175496
Residual mean square, sigma-hat-sq'd = 0.0113297
Pumping Rate 50 gpm
Drawdown at 180 days = 174.36 feet = 189.55 feet below top of casing

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LBG Hydrogeologic & Engineering Services, P.C.

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Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/7/17	18:00	14.53	--	--	Pressure transducer installed in well.
7/7/17	19:00	14.69	--	--	
7/7/17	20:00	14.80	--	--	
7/7/17	21:00	14.72	--	--	
7/7/17	22:00	14.80	--	--	
7/7/17	23:00	14.81	--	--	
7/8/17	0:00	14.89	--	--	
7/8/17	1:00	14.89	--	--	
7/8/17	2:00	14.84	--	--	
7/8/17	3:00	14.84	--	--	
7/8/17	4:00	14.86	--	--	
7/8/17	5:00	14.91	--	--	
7/8/17	6:00	14.79	--	--	
7/8/17	7:00	14.85	--	--	
7/8/17	8:00	14.89	--	--	
7/8/17	9:00	14.99	--	--	
7/8/17	10:00	14.95	--	--	
7/8/17	11:00	15.09	--	--	
7/8/17	12:00	15.08	--	--	
7/8/17	13:00	15.04	--	--	
7/8/17	14:00	15.01	--	--	
7/8/17	15:00	15.00	--	--	
7/8/17	16:00	14.95	--	--	
7/8/17	17:00	14.87	--	--	
7/8/17	18:00	14.84	--	--	
7/8/17	19:00	14.91	--	--	
7/8/17	20:00	14.87	--	--	
7/8/17	21:00	14.89	--	--	
7/8/17	22:00	14.94	--	--	
7/8/17	23:00	14.95	--	--	
7/9/17	0:00	15.00	--	--	
7/9/17	1:00	15.01	--	--	
7/9/17	2:00	14.99	--	--	
7/9/17	3:00	15.00	--	--	
7/9/17	4:00	14.88	--	--	
7/9/17	5:00	14.91	--	--	
7/9/17	6:00	14.90	--	--	
7/9/17	7:00	14.94	--	--	
7/9/17	8:00	14.97	--	--	
7/9/17	9:00	15.06	--	--	
7/9/17	10:00	15.12	--	--	
7/9/17	11:00	15.19	--	--	
7/9/17	12:00	15.16	--	--	
7/9/17	13:00	15.22	--	--	
7/9/17	14:00	15.17	--	--	
7/9/17	15:00	15.11	--	--	
7/9/17	16:00	15.08	--	--	
7/9/17	17:00	15.08	--	--	
7/9/17	18:00	15.11	--	--	
7/9/17	19:00	14.99	--	--	
7/9/17	20:00	15.05	--	--	
7/9/17	21:00	15.01	--	--	
7/9/17	22:00	15.08	--	--	
7/9/17	23:00	15.14	--	--	

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VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/10/17	0:00	15.04	--	--	
7/10/17	1:00	15.04	--	--	
7/10/17	2:00	15.13	--	--	
7/10/17	3:00	14.97	--	--	
7/10/17	4:00	15.01	--	--	
7/10/17	5:00	14.92	--	--	
7/10/17	6:00	15.06	--	--	
7/10/17	7:00	15.05	--	--	
7/10/17	8:00	15.03	--	--	
7/10/17	9:00	15.09	--	--	
7/10/17	10:00	15.13	--	--	
7/10/17	11:00	15.11	--	--	
7/10/17	11:54	15.19	--	--	Static water level used from prior to the start of pumping in any onsite wells.
7/10/17	12:00	15.19	--	--	Pump in well C-21 started at 11:55.
7/10/17	13:00	15.22	--	--	Pump in well C-23 started at 12:59
7/10/17	14:00	15.30	--	--	
7/10/17	15:00	15.26	--	--	
7/10/17	16:00	15.18	--	--	
7/10/17	17:00	15.20	--	--	Pump in well C-14 started at 16:24.
7/10/17	17:30	15.25	--	--	
7/10/17	17:31	18.87	1	3.68	Pump in well C-16 started.
7/10/17	17:32	37.68	2	22.49	Pumping rate in well C-16 55 gpm.
7/10/17	17:33	36.95	3	21.76	
7/10/17	17:34	38.13	4	22.94	
7/10/17	17:35	41.65	5	26.46	
7/10/17	17:36	45.25	6	30.06	
7/10/17	17:37	48.00	7	32.81	
7/10/17	17:38	48.94	8	33.75	
7/10/17	17:39	50.53	9	35.34	
7/10/17	17:40	51.95	10	36.76	Pumping rate in well C-16 55 gpm.
7/10/17	17:41	53.24	11	38.05	
7/10/17	17:42	54.22	12	39.03	
7/10/17	17:43	55.10	13	39.91	
7/10/17	17:44	56.05	14	40.86	
7/10/17	17:45	56.83	15	41.64	
7/10/17	17:46	57.71	16	42.52	
7/10/17	17:47	58.62	17	43.43	
7/10/17	17:48	59.69	18	44.50	
7/10/17	17:49	61.20	19	46.01	
7/10/17	17:50	61.92	20	46.73	
7/10/17	17:55	65.36	25	50.17	Pumping rate in well C-16 53.5 gpm.
7/10/17	17:57	66.77	27	51.58	Manual pumping rate increase in well C-16 to 56.5 gpm.
7/10/17	18:00	68.33	30	53.14	
7/10/17	18:05	72.37	35	57.18	
7/10/17	18:10	75.01	40	59.82	Pumping rate in well C-16 56 gpm.
7/10/17	18:15	77.68	45	62.49	
7/10/17	18:20	79.72	50	64.53	
7/10/17	18:25	81.28	55	66.09	Pumping rate in well C-16 56 gpm.
7/10/17	18:30	83.19	60	68.00	Pump in well C-6 started at 18:35.
7/10/17	19:00	91.11	90	75.92	Pumping rate in well C-16 55 gpm.
7/10/17	20:00	103.40	150	88.21	Pump in well C-12 started at 19:48.
7/10/17	21:00	111.54	210	96.35	Pump in well C-7B started at 21:03.
7/10/17	22:00	118.16	270	102.97	Pumping rate in well C-16 55 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/10/17	23:00	123.12	330	107.93	Pumping rate in well C-16 50 gpm.
7/11/17	0:00	135.74	390	120.55	Pumping rate in well C-16 50 gpm.
7/11/17	1:00	140.67	450	125.48	Pumping rate in well C-16 50 gpm.
7/11/17	2:00	143.74	510	128.55	Pumping rate in well C-16 50 gpm.
7/11/17	3:00	146.52	570	131.33	Pumping rate in well C-16 50 gpm.
7/11/17	4:00	148.35	630	133.16	Pumping rate in well C-16 50 gpm.
7/11/17	5:00	149.99	690	134.80	Pumping rate in well C-16 50 gpm.
7/11/17	6:00	151.36	750	136.17	Pumping rate in well C-16 50 gpm.
7/11/17	7:00	154.91	810	139.72	Pumping rate in well C-16 50 gpm.
7/11/17	8:00	156.49	870	141.30	Pumping rate in well C-16 50 gpm.
7/11/17	9:00	157.59	930	142.40	Pumping rate in well C-16 50 gpm.
7/11/17	10:00	158.51	990	143.32	Pumping rate in well C-16 50 gpm.
7/11/17	11:00	159.42	1,050	144.23	Pumping rate in well C-16 50 gpm.
7/11/17	12:00	159.82	1,110	144.63	Pumping rate in well C-16 50 gpm.
7/11/17	13:00	160.56	1,170	145.37	Pumping rate in well C-16 50 gpm.
7/11/17	14:00	161.60	1,230	146.41	Pumping rate in well C-16 50 gpm.
7/11/17	15:00	162.20	1,290	147.01	Pumping rate in well C-16 50 gpm.
7/11/17	16:00	162.73	1,350	147.54	Pumping rate in well C-16 50 gpm.
7/11/17	17:00	163.26	1,410	148.07	Pumping rate in well C-16 50 gpm.
7/11/17	18:00	164.11	1,470	148.92	Pumping rate in well C-16 50 gpm.
7/11/17	19:00	164.37	1,530	149.18	Pumping rate in well C-16 50 gpm.
7/11/17	20:00	164.90	1,590	149.71	Pumping rate in well C-16 50 gpm.
7/11/17	21:00	165.25	1,650	150.06	Pumping rate in well C-16 50 gpm.
7/11/17	22:00	165.60	1,710	150.41	Pumping rate in well C-16 50 gpm.
7/11/17	23:00	166.35	1,770	151.16	Pumping rate in well C-16 50 gpm.
7/12/17	0:00	166.69	1,830	151.50	Pumping rate in well C-16 50 gpm.
7/12/17	1:00	166.93	1,890	151.74	Pumping rate in well C-16 50 gpm.
7/12/17	2:00	167.18	1,950	151.99	Pumping rate in well C-16 50 gpm.
7/12/17	3:00	167.51	2,010	152.32	Pumping rate in well C-16 50 gpm.
7/12/17	4:00	167.88	2,070	152.69	Pumping rate in well C-16 50 gpm.
7/12/17	5:00	168.00	2,130	152.81	Pumping rate in well C-16 50 gpm.
7/12/17	6:00	168.22	2,190	153.03	Pumping rate in well C-16 50 gpm.
7/12/17	7:00	168.58	2,250	153.39	Pumping rate in well C-16 50 gpm.
7/12/17	8:00	168.72	2,310	153.53	Pumping rate in well C-16 50 gpm.
7/12/17	9:00	168.82	2,370	153.63	Pumping rate in well C-16 50 gpm.
7/12/17	10:00	169.39	2,430	154.20	Pumping rate in well C-16 50 gpm.
7/12/17	11:00	169.51	2,490	154.32	Pumping rate in well C-16 50 gpm.
7/12/17	12:00	169.73	2,550	154.54	Pump in well C-7B shut down at 11:28 and pump in well C-21 shut down at 11:56.
7/12/17	13:00	169.95	2,610	154.76	Pumping rate in well C-16 50 gpm.
7/12/17	14:00	169.87	2,670	154.68	Pumping rate in well C-16 50 gpm.
7/12/17	15:00	170.24	2,730	155.05	Pumping rate in well C-16 50 gpm.
7/12/17	16:00	170.34	2,790	155.15	Pumping rate in well C-16 50 gpm.
7/12/17	17:00	170.50	2,850	155.31	Pumping rate in well C-16 50 gpm.
7/12/17	18:00	170.79	2,910	155.60	Pumping rate in well C-16 50 gpm.
7/12/17	19:00	171.09	2,970	155.90	Pumping rate in well C-16 50 gpm.
7/12/17	20:00	171.41	3,030	156.22	Pumping rate in well C-16 50 gpm.
7/12/17	21:00	171.44	3,090	156.25	Pumping rate in well C-16 50 gpm.
7/12/17	22:00	171.74	3,150	156.55	Pumping rate in well C-16 50 gpm.
7/12/17	23:00	171.75	3,210	156.56	Pumping rate in well C-16 50 gpm.
7/13/17	0:00	171.88	3,270	156.69	Pumping rate in well C-16 50 gpm.
7/13/17	1:00	172.17	3,330	156.98	Pumping rate in well C-16 50 gpm.
7/13/17	2:00	172.36	3,390	157.17	Pumping rate in well C-16 50 gpm.
7/13/17	3:00	172.34	3,450	157.15	Pumping rate in well C-16 50 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/13/17	4:00	172.37	3,510	157.18	Pumping rate in well C-16 50 gpm.
7/13/17	5:00	172.64	3,570	157.45	Pumping rate in well C-16 50 gpm.
7/13/17	6:00	172.66	3,630	157.47	Pumping rate in well C-16 50 gpm.
7/13/17	7:00	172.80	3,690	157.61	Pumping rate in well C-16 50 gpm.
7/13/17	8:00	172.84	3,750	157.65	Pumping rate in well C-16 50 gpm.
7/13/17	9:00	172.92	3,810	157.73	Pumping rate in well C-16 50 gpm.
7/13/17	10:00	173.20	3,870	158.01	Pumping rate in well C-16 50 gpm.
7/13/17	11:00	173.22	3,930	158.03	Pumping rate in well C-16 50 gpm.
7/13/17	12:00	173.18	3,990	157.99	Pumping rate in well C-16 50 gpm.
7/13/17	13:00	173.43	4,050	158.24	Pumping rate in well C-16 50 gpm.
7/13/17	14:00	173.67	4,110	158.48	Pumping rate in well C-16 50 gpm.
7/13/17	15:00	173.58	4,170	158.39	Pumping rate in well C-16 50 gpm.
7/13/17	16:00	173.83	4,230	158.64	Pumping rate in well C-16 50 gpm.
7/13/17	17:00	173.99	4,290	158.80	Pumping rate in well C-16 50 gpm.
7/13/17	18:00	173.89	4,350	158.70	Pumping rate in well C-16 50 gpm.
7/13/17	19:00	174.36	4,410	159.17	Pumping rate in well C-16 50 gpm.
7/13/17	20:00	174.43	4,470	159.24	Pumping rate in well C-16 50 gpm.
7/13/17	21:00	174.35	4,530	159.16	Pumping rate in well C-16 50 gpm.
7/13/17	22:00	174.26	4,590	159.07	Pumping rate in well C-16 50 gpm.
7/13/17	23:00	174.46	4,650	159.27	Pumping rate in well C-16 50 gpm.
7/14/17	0:00	174.31	4,710	159.12	Pumping rate in well C-16 50 gpm.
7/14/17	1:00	174.56	4,770	159.37	Pumping rate in well C-16 50 gpm.
7/14/17	2:00	174.57	4,830	159.38	Pumping rate in well C-16 50 gpm.
7/14/17	3:00	174.83	4,890	159.64	Pumping rate in well C-16 50 gpm.
7/14/17	4:00	174.89	4,950	159.70	Pumping rate in well C-16 50 gpm.
7/14/17	5:00	174.79	5,010	159.60	Pumping rate in well C-16 50 gpm.
7/14/17	6:00	174.96	5,070	159.77	Pumping rate in well C-16 50 gpm.
7/14/17	7:00	174.78	5,130	159.59	Pumping rate in well C-16 50 gpm.
7/14/17	8:00	175.07	5,190	159.88	Pumping rate in well C-16 50 gpm.
7/14/17	9:00	175.17	5,250	159.98	Pumping rate in well C-16 50 gpm.
7/14/17	10:00	175.34	5,310	160.15	Pumping rate in well C-16 50 gpm.
7/14/17	11:00	175.35	5,370	160.16	Pumping rate in well C-16 50 gpm.
7/14/17	12:00	175.44	5,430	160.25	Pumping rate in well C-16 50 gpm.
7/14/17	13:00	175.56	5,490	160.37	Pumping rate in well C-16 50 gpm.
7/14/17	14:00	175.68	5,550	160.49	Pumping rate in well C-16 50 gpm.
7/14/17	15:00	175.47	5,610	160.28	Pumping rate in well C-16 50 gpm.
7/14/17	16:00	175.83	5,670	160.64	Pumping rate in well C-16 50 gpm.
7/14/17	17:00	175.62	5,730	160.43	Pumping rate in well C-16 50 gpm.
7/14/17	18:00	175.88	5,790	160.69	Pumping rate in well C-16 50 gpm.
7/14/17	19:00	175.91	5,850	160.72	Pumping rate in well C-16 50 gpm.
7/14/17	20:00	176.21	5,910	161.02	Pumping rate in well C-16 50 gpm.
7/14/17	21:00	176.08	5,970	160.89	Pumping rate in well C-16 50 gpm.
7/14/17	22:00	176.13	6,030	160.94	Pumping rate in well C-16 50 gpm.
7/14/17	23:00	176.14	6,090	160.95	Pumping rate in well C-16 50 gpm.
7/15/17	0:00	176.19	6,150	161.00	Pumping rate in well C-16 50 gpm.
7/15/17	1:00	176.37	6,210	161.18	Pumping rate in well C-16 50 gpm.
7/15/17	2:00	176.47	6,270	161.28	Pumping rate in well C-16 50 gpm.
7/15/17	3:00	176.52	6,330	161.33	Pumping rate in well C-16 50 gpm.
7/15/17	4:00	176.86	6,390	161.67	Pumping rate in well C-16 50 gpm.
7/15/17	5:00	176.68	6,450	161.49	Pumping rate in well C-16 50 gpm.
7/15/17	6:00	176.63	6,510	161.44	Pumping rate in well C-16 50 gpm.
7/15/17	7:00	176.81	6,570	161.62	Pumping rate in well C-16 50 gpm.
7/15/17	8:00	176.90	6,630	161.71	Pumping rate in well C-16 50 gpm.
7/15/17	9:00	176.70	6,690	161.51	Pumping rate in well C-16 50 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/15/17	10:00	176.59	6,750	161.40	Pumping rate in well C-16 50 gpm.
7/15/17	11:00	176.59	6,810	161.40	Pumping rate in well C-16 50 gpm.
7/15/17	12:00	176.64	6,870	161.45	Pumping rate in well C-16 50 gpm.
7/15/17	13:00	176.54	6,930	161.35	Pumping rate in well C-16 50 gpm.
7/15/17	14:00	176.57	6,990	161.38	Pumping rate in well C-16 50 gpm.
7/15/17	15:00	176.99	7,050	161.80	Pumping rate in well C-16 50 gpm.
7/15/17	16:00	176.82	7,110	161.63	Pumping rate in well C-16 50 gpm.
7/15/17	17:00	176.95	7,170	161.76	Pumping rate in well C-16 50 gpm.
7/15/17	18:00	176.80	7,230	161.61	Pumping rate in well C-16 50 gpm.
7/15/17	19:00	176.96	7,290	161.77	Pumping rate in well C-16 50 gpm.
7/15/17	19:09	176.71	7,299	161.52	Pumping rate in well C-16 50 gpm.
7/15/17	20:00	176.86	7,350	161.67	Pumping rate in well C-16 50 gpm.
7/15/17	21:00	176.98	7,410	161.79	Pumping rate in well C-16 50 gpm.
7/15/17	22:00	177.16	7,470	161.97	Pumping rate in well C-16 50 gpm.
7/15/17	23:00	177.00	7,530	161.81	Pumping rate in well C-16 50 gpm.
7/16/17	0:00	176.97	7,590	161.78	Pumping rate in well C-16 50 gpm.
7/16/17	1:00	176.97	7,650	161.78	Pumping rate in well C-16 50 gpm.
7/16/17	1:09	177.15	7,659	161.96	Shut down of simultaneous pumping test (wells C-6, 12, 14, 16, and 23) started.
7/16/17	1:39	176.94	7,689	161.75	Pumping rate in well C-16 50 gpm.
7/16/17	1:40	177.23	7,690	162.04	Pumping rate in well C-16 50 gpm.
7/16/17	1:41	163.04	-1	147.85	Pump in well C-16 shut down.
7/16/17	1:42	158.51	-2	143.32	
7/16/17	1:43	155.83	-3	140.64	
7/16/17	1:44	153.97	-4	138.78	
7/16/17	1:45	152.69	-5	137.50	
7/16/17	1:46	151.59	-6	136.40	
7/16/17	1:47	150.66	-7	135.47	
7/16/17	1:48	150.02	-8	134.83	
7/16/17	1:49	149.47	-9	134.28	
7/16/17	1:50	149.00	-10	133.81	
7/16/17	1:51	148.47	-11	133.28	
7/16/17	1:52	148.23	-12	133.04	
7/16/17	1:53	147.82	-13	132.63	
7/16/17	1:54	147.42	-14	132.23	
7/16/17	1:55	147.26	-15	132.07	
7/16/17	2:00	145.90	-20	130.71	
7/16/17	2:05	144.94	-25	129.75	
7/16/17	2:10	144.14	-30	128.95	
7/16/17	2:15	143.28	-35	128.09	
7/16/17	2:20	142.56	-40	127.37	
7/16/17	2:25	141.84	-45	126.65	
7/16/17	2:30	141.11	-50	125.92	
7/16/17	2:35	140.37	-55	125.18	
7/16/17	2:40	139.83	-60	124.64	
7/16/17	3:00	137.44	-80	122.25	
7/16/17	4:00	130.80	-140	115.61	
7/16/17	5:00	124.66	-200	109.47	
7/16/17	6:00	119.17	-260	103.98	
7/16/17	7:00	114.04	-320	98.85	
7/16/17	8:00	109.28	-380	94.09	
7/16/17	9:00	104.53	-440	89.34	
7/16/17	10:00	99.97	-500	84.78	
7/16/17	11:00	95.91	-560	80.72	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/16/17	12:00	92.30	-620	77.11	
7/16/17	13:00	89.03	-680	73.84	
7/16/17	14:00	85.98	-740	70.79	
7/16/17	15:00	82.94	-800	67.75	
7/16/17	16:00	80.20	-860	65.01	
7/16/17	17:00	77.73	-920	62.54	
7/16/17	18:00	75.39	-980	60.20	
7/16/17	19:00	73.17	-1,040	57.98	
7/16/17	20:00	71.04	-1,100	55.85	
7/16/17	21:00	69.03	-1,160	53.84	
7/16/17	22:00	67.19	-1,220	52.00	
7/16/17	23:00	65.36	-1,280	50.17	
7/17/17	0:00	63.76	-1,340	48.57	
7/17/17	1:00	62.09	-1,400	46.90	
7/17/17	2:00	60.47	-1,460	45.28	
7/17/17	3:00	59.08	-1,520	43.89	
7/17/17	4:00	57.72	-1,580	42.53	
7/17/17	5:00	56.58	-1,640	41.39	
7/17/17	6:00	55.40	-1,700	40.21	
7/17/17	7:00	54.24	-1,760	39.05	
7/17/17	8:00	53.24	-1,820	38.05	
7/17/17	9:00	52.06	-1,880	36.87	
7/17/17	10:00	51.05	-1,940	35.86	
7/17/17	11:00	50.07	-2,000	34.88	
7/17/17	12:00	49.11	-2,060	33.92	
7/17/17	13:00	48.36	-2,120	33.17	
7/17/17	14:00	47.50	-2,180	32.31	
7/17/17	15:00	46.63	-2,240	31.44	
7/17/17	16:00	45.94	-2,300	30.75	
7/17/17	17:00	45.25	-2,360	30.06	
7/17/17	18:00	44.55	-2,420	29.36	
7/17/17	19:00	43.85	-2,480	28.66	
7/17/17	20:00	43.28	-2,540	28.09	
7/17/17	21:00	42.56	-2,600	27.37	
7/17/17	22:00	42.04	-2,660	26.85	
7/17/17	23:00	41.49	-2,720	26.30	
7/18/17	0:00	40.87	-2,780	25.68	
7/18/17	1:00	40.39	-2,840	25.20	
7/18/17	2:00	39.86	-2,900	24.67	
7/18/17	3:00	39.31	-2,960	24.12	
7/18/17	4:00	38.86	-3,020	23.67	
7/18/17	5:00	38.49	-3,080	23.30	
7/18/17	6:00	38.02	-3,140	22.83	
7/18/17	7:00	37.55	-3,200	22.36	
7/18/17	8:00	37.12	-3,260	21.93	
7/18/17	9:00	36.81	-3,320	21.62	
7/18/17	10:00	36.29	-3,380	21.10	
7/18/17	11:00	35.88	-3,440	20.69	
7/18/17	12:00	35.48	-3,500	20.29	
7/18/17	13:00	35.13	-3,560	19.94	
7/18/17	14:00	34.65	-3,620	19.46	
7/18/17	15:00	34.33	-3,680	19.14	
7/18/17	16:00	33.89	-3,740	18.70	
7/18/17	17:00	33.53	-3,800	18.34	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/18/17	18:00	33.20	-3,860	18.01	
7/18/17	19:00	32.82	-3,920	17.63	
7/18/17	20:00	32.54	-3,980	17.35	
7/18/17	21:00	32.18	-4,040	16.99	
7/18/17	22:00	31.78	-4,100	16.59	
7/18/17	23:00	31.56	-4,160	16.37	
7/19/17	0:00	31.27	-4,220	16.08	90% recovery achieved.
7/19/17	1:00	30.89	-4,280	15.70	
7/19/17	2:00	30.67	-4,340	15.48	
7/19/17	3:00	30.33	-4,400	15.14	
7/19/17	4:00	30.10	-4,460	14.91	
7/19/17	5:00	29.80	-4,520	14.61	
7/19/17	6:00	29.61	-4,580	14.42	
7/19/17	7:00	29.34	-4,640	14.15	
7/19/17	8:00	29.06	-4,700	13.87	
7/19/17	9:00	28.87	-4,760	13.68	
7/19/17	10:00	28.61	-4,820	13.42	
7/19/17	11:00	28.31	-4,880	13.12	
7/19/17	12:00	28.10	-4,940	12.91	
7/19/17	13:00	27.87	-5,000	12.68	
7/19/17	14:00	27.61	-5,060	12.42	
7/19/17	15:00	27.24	-5,120	12.05	
7/19/17	16:00	27.06	-5,180	11.87	
7/19/17	17:00	26.88	-5,240	11.69	
7/19/17	18:00	26.61	-5,300	11.42	
7/19/17	19:00	26.44	-5,360	11.25	
7/19/17	20:00	26.21	-5,420	11.02	
7/19/17	21:00	26.04	-5,480	10.85	
7/19/17	22:00	25.84	-5,540	10.65	
7/19/17	23:00	25.53	-5,600	10.34	
7/20/17	0:00	25.43	-5,660	10.24	
7/20/17	1:00	25.21	-5,720	10.02	
7/20/17	2:00	25.03	-5,780	9.84	
7/20/17	3:00	24.79	-5,840	9.60	
7/20/17	4:00	24.69	-5,900	9.50	
7/20/17	5:00	24.55	-5,960	9.36	
7/20/17	6:00	24.34	-6,020	9.15	
7/20/17	7:00	24.28	-6,080	9.09	
7/20/17	8:00	24.17	-6,140	8.98	
7/20/17	9:00	24.05	-6,200	8.86	
7/20/17	10:00	23.92	-6,260	8.73	
7/20/17	11:00	23.61	-6,320	8.42	
7/20/17	12:00	23.50	-6,380	8.31	
7/20/17	13:00	23.33	-6,440	8.14	
7/20/17	14:00	23.14	-6,500	7.95	
7/20/17	15:00	22.98	-6,560	7.79	
7/20/17	16:00	22.86	-6,620	7.67	
7/20/17	17:00	22.61	-6,680	7.42	
7/20/17	18:00	22.47	-6,740	7.28	
7/20/17	19:00	22.40	-6,800	7.21	
7/20/17	20:00	22.31	-6,860	7.12	
7/20/17	21:00	22.21	-6,920	7.02	
7/20/17	22:00	22.03	-6,980	6.84	
7/20/17	23:00	21.92	-7,040	6.73	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/21/17	0:00	21.83	-7,100	6.64	
7/21/17	1:00	21.76	-7,160	6.57	
7/21/17	2:00	21.48	-7,220	6.29	
7/21/17	3:00	21.38	-7,280	6.19	
7/21/17	4:00	21.27	-7,340	6.08	
7/21/17	5:00	21.19	-7,400	6.00	
7/21/17	6:00	21.12	-7,460	5.93	
7/21/17	7:00	20.96	-7,520	5.77	
7/21/17	8:00	20.91	-7,580	5.72	
7/21/17	9:00	20.82	-7,640	5.63	
7/21/17	10:00	20.81	-7,700	5.62	
7/21/17	11:00	20.62	-7,760	5.43	
7/21/17	12:00	20.59	-7,820	5.40	
7/21/17	13:00	20.49	-7,880	5.30	
7/21/17	14:00	20.36	-7,940	5.17	
7/21/17	15:00	20.21	-8,000	5.02	
7/21/17	16:00	20.07	-8,060	4.88	
7/21/17	17:00	19.92	-8,120	4.73	
7/21/17	18:00	19.88	-8,180	4.69	
7/21/17	19:00	19.74	-8,240	4.55	
7/21/17	20:00	19.75	-8,300	4.56	
7/21/17	21:00	19.61	-8,360	4.42	
7/21/17	22:00	19.59	-8,420	4.40	
7/21/17	23:00	19.51	-8,480	4.32	
7/22/17	0:00	19.44	-8,540	4.25	
7/22/17	1:00	19.37	-8,600	4.18	
7/22/17	2:00	19.18	-8,660	3.99	
7/22/17	3:00	19.21	-8,720	4.02	
7/22/17	4:00	19.12	-8,780	3.93	
7/22/17	5:00	19.00	-8,840	3.81	
7/22/17	6:00	18.94	-8,900	3.75	
7/22/17	7:00	18.92	-8,960	3.73	
7/22/17	8:00	18.90	-9,020	3.71	
7/22/17	9:00	18.85	-9,080	3.66	
7/22/17	10:00	18.85	-9,140	3.66	
7/22/17	11:00	18.81	-9,200	3.62	
7/22/17	12:00	18.74	-9,260	3.55	
7/22/17	13:00	18.73	-9,320	3.54	
7/22/17	14:00	18.56	-9,380	3.37	
7/22/17	15:00	18.47	-9,440	3.28	
7/22/17	16:00	18.36	-9,500	3.17	
7/22/17	17:00	18.22	-9,560	3.03	
7/22/17	18:00	18.22	-9,620	3.03	
7/22/17	19:00	18.16	-9,680	2.97	
7/22/17	20:00	18.15	-9,740	2.96	
7/22/17	21:00	18.14	-9,800	2.95	
7/22/17	22:00	18.13	-9,860	2.94	
7/22/17	23:00	18.07	-9,920	2.88	
7/23/17	0:00	17.96	-9,980	2.77	
7/23/17	1:00	17.99	-10,040	2.80	
7/23/17	2:00	17.71	-10,100	2.52	
7/23/17	3:00	17.82	-10,160	2.63	
7/23/17	4:00	17.72	-10,220	2.53	
7/23/17	5:00	17.69	-10,280	2.50	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/23/17	6:00	17.64	-10,340	2.45	
7/23/17	7:00	17.66	-10,400	2.47	
7/23/17	8:00	17.57	-10,460	2.38	
7/23/17	9:00	17.66	-10,520	2.47	
7/23/17	10:00	17.65	-10,580	2.46	
7/23/17	11:00	17.68	-10,640	2.49	
7/23/17	12:00	17.67	-10,700	2.48	
7/23/17	13:00	17.62	-10,760	2.43	
7/23/17	14:00	17.61	-10,820	2.42	
7/23/17	15:00	17.53	-10,880	2.34	
7/23/17	16:00	17.42	-10,940	2.23	
7/23/17	17:00	17.40	-11,000	2.21	
7/23/17	18:00	17.31	-11,060	2.12	
7/23/17	19:00	17.24	-11,120	2.05	
7/23/17	20:00	17.25	-11,180	2.06	
7/23/17	21:00	17.25	-11,240	2.06	
7/23/17	22:00	17.24	-11,300	2.05	
7/23/17	23:00	17.28	-11,360	2.09	
7/24/17	0:00	17.12	-11,420	1.93	
7/24/17	1:00	17.10	-11,480	1.91	
7/24/17	2:00	17.15	-11,540	1.96	
7/24/17	3:00	17.03	-11,600	1.84	
7/24/17	4:00	16.97	-11,660	1.78	
7/24/17	5:00	16.96	-11,720	1.77	
7/24/17	6:00	16.98	-11,780	1.79	
7/24/17	7:00	16.88	-11,840	1.69	
7/24/17	8:00	16.86	-11,900	1.67	
7/24/17	9:00	16.83	-11,960	1.64	
7/24/17	10:00	16.86	-12,020	1.67	
7/24/17	11:00	16.89	-12,080	1.70	
7/24/17	12:00	16.88	-12,140	1.69	
7/24/17	13:00	16.92	-12,200	1.73	
7/24/17	14:00	16.82	-12,260	1.63	
7/24/17	15:00	16.82	-12,320	1.63	
7/24/17	16:00	16.83	-12,380	1.64	
7/24/17	17:00	16.75	-12,440	1.56	
7/24/17	18:00	16.66	-12,500	1.47	
7/24/17	19:00	16.62	-12,560	1.43	
7/24/17	20:00	16.61	-12,620	1.42	
7/24/17	21:00	16.66	-12,680	1.47	
7/24/17	22:00	16.69	-12,740	1.50	
7/24/17	23:00	16.55	-12,800	1.36	
7/25/17	0:00	16.64	-12,860	1.45	
7/25/17	1:00	16.58	-12,920	1.39	
7/25/17	2:00	16.60	-12,980	1.41	
7/25/17	3:00	16.57	-13,040	1.38	
7/25/17	4:00	16.58	-13,100	1.39	
7/25/17	5:00	16.55	-13,160	1.36	
7/25/17	6:00	16.52	-13,220	1.33	
7/25/17	7:00	16.47	-13,280	1.28	
7/25/17	8:00	16.43	-13,340	1.24	
7/25/17	9:00	16.52	-13,400	1.33	
7/25/17	10:00	16.47	-13,460	1.28	
7/25/17	11:00	16.45	-13,520	1.26	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/25/17	12:00	16.55	-13,580	1.36	Pump in well C-21 started at 11:44.
7/25/17	13:00	16.49	-13,640	1.30	
7/25/17	14:00	16.50	-13,700	1.31	
7/25/17	15:00	16.54	-13,760	1.35	
7/25/17	16:00	16.50	-13,820	1.31	
7/25/17	17:00	16.46	-13,880	1.27	
7/25/17	18:00	16.45	-13,940	1.26	
7/25/17	19:00	16.40	-14,000	1.21	
7/25/17	20:00	16.37	-14,060	1.18	
7/25/17	21:00	16.32	-14,120	1.13	
7/25/17	22:00	16.32	-14,180	1.13	
7/25/17	23:00	16.31	-14,240	1.12	
7/26/17	0:00	16.30	-14,300	1.11	
7/26/17	1:00	16.40	-14,360	1.21	
7/26/17	2:00	16.45	-14,420	1.26	
7/26/17	3:00	16.42	-14,480	1.23	
7/26/17	4:00	16.23	-14,540	1.04	
7/26/17	5:00	16.27	-14,600	1.08	
7/26/17	6:00	16.32	-14,660	1.13	
7/26/17	7:00	16.18	-14,720	0.99	
7/26/17	8:00	16.18	-14,780	0.99	
7/26/17	9:00	16.24	-14,840	1.05	
7/26/17	10:00	16.30	-14,900	1.11	
7/26/17	11:00	16.25	-14,960	1.06	
7/26/17	12:00	16.27	-15,020	1.08	
7/26/17	13:00	16.26	-15,080	1.07	
7/26/17	14:00	16.32	-15,140	1.13	
7/26/17	15:00	16.27	-15,200	1.08	
7/26/17	16:00	16.17	-15,260	0.98	
7/26/17	17:00	16.22	-15,320	1.03	
7/26/17	18:00	16.14	-15,380	0.95	
7/26/17	19:00	16.12	-15,440	0.93	
7/26/17	20:00	16.01	-15,500	0.82	
7/26/17	21:00	16.01	-15,560	0.82	
7/26/17	22:00	15.97	-15,620	0.78	
7/26/17	23:00	15.97	-15,680	0.78	
7/27/17	0:00	15.95	-15,740	0.75	
7/27/17	1:00	16.03	-15,800	0.84	
7/27/17	2:00	16.00	-15,860	0.81	
7/27/17	3:00	15.95	-15,920	0.76	
7/27/17	4:00	15.88	-15,980	0.69	
7/27/17	5:00	15.92	-16,040	0.73	
7/27/17	6:00	15.87	-16,100	0.68	
7/27/17	7:00	15.88	-16,160	0.69	
7/27/17	8:00	15.89	-16,220	0.70	
7/27/17	9:00	15.89	-16,280	0.70	
7/27/17	10:00	15.86	-16,340	0.67	
7/27/17	11:00	15.90	-16,400	0.71	
7/27/17	12:00	15.86	-16,460	0.67	
7/27/17	13:00	15.82	-16,520	0.63	
7/27/17	14:00	15.82	-16,580	0.63	
7/27/17	15:00	15.89	-16,640	0.70	
7/27/17	16:00	15.90	-16,700	0.71	
7/27/17	17:00	15.75	-16,760	0.56	

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/27/17	18:00	15.74	-16,820	0.54	
7/27/17	19:00	15.70	-16,880	0.51	
7/27/17	20:00	15.68	-16,940	0.49	
7/27/17	21:00	15.68	-17,000	0.49	
7/27/17	22:00	15.70	-17,060	0.51	
7/27/17	23:00	15.70	-17,120	0.51	
7/28/17	0:00	15.66	-17,180	0.47	
7/28/17	1:00	15.72	-17,240	0.53	
7/28/17	2:00	15.64	-17,300	0.45	
7/28/17	3:00	15.71	-17,360	0.52	
7/28/17	4:00	15.70	-17,420	0.51	
7/28/17	5:00	15.66	-17,480	0.47	
7/28/17	6:00	15.69	-17,540	0.50	
7/28/17	7:00	15.63	-17,600	0.44	
7/28/17	8:00	15.64	-17,660	0.45	
7/28/17	9:00	15.62	-17,720	0.43	
7/28/17	10:00	15.62	-17,780	0.43	
7/28/17	11:00	15.61	-17,840	0.42	
7/28/17	12:00	15.65	-17,900	0.46	Pump in well C-21 shut down at 12:15.
7/28/17	13:00	15.62	-17,960	0.43	
7/28/17	14:00	15.60	-18,020	0.41	
7/28/17	15:00	15.60	-18,080	0.41	
7/28/17	16:00	15.55	-18,140	0.36	
7/28/17	17:00	15.53	-18,200	0.34	
7/28/17	18:00	15.51	-18,260	0.32	
7/28/17	19:00	15.52	-18,320	0.33	
7/28/17	20:00	15.45	-18,380	0.25	
7/28/17	21:00	15.45	-18,440	0.26	
7/28/17	22:00	15.37	-18,500	0.18	
7/28/17	23:00	15.41	-18,560	0.22	
7/29/17	0:00	15.54	-18,620	0.35	
7/29/17	1:00	15.48	-18,680	0.29	
7/29/17	2:00	15.49	-18,740	0.30	
7/29/17	3:00	15.47	-18,800	0.28	
7/29/17	4:00	15.40	-18,860	0.20	
7/29/17	5:00	15.43	-18,920	0.24	
7/29/17	6:00	15.46	-18,980	0.27	
7/29/17	7:00	15.48	-19,040	0.29	
7/29/17	8:00	15.51	-19,100	0.32	
7/29/17	9:00	15.45	-19,160	0.26	
7/29/17	10:00	15.44	-19,220	0.25	
7/29/17	11:00	15.39	-19,280	0.20	
7/29/17	12:00	15.46	-19,340	0.27	
7/29/17	13:00	15.41	-19,400	0.22	
7/29/17	14:00	15.46	-19,460	0.27	
7/29/17	15:00	15.36	-19,520	0.17	
7/29/17	16:00	15.43	-19,580	0.24	
7/29/17	17:00	15.48	-19,640	0.29	
7/29/17	18:00	15.34	-19,700	0.15	
7/29/17	19:00	15.46	-19,760	0.27	
7/29/17	20:00	15.30	-19,820	0.11	
7/29/17	21:00	15.45	-19,880	0.26	
7/29/17	22:00	15.40	-19,940	0.21	
7/29/17	23:00	15.37	-20,000	0.18	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/30/17	0:00	15.41	-20,060	0.22	
7/30/17	1:00	15.33	-20,120	0.14	
7/30/17	2:00	15.39	-20,180	0.20	
7/30/17	3:00	15.36	-20,240	0.16	
7/30/17	4:00	15.40	-20,300	0.21	
7/30/17	5:00	15.49	-20,360	0.30	
7/30/17	6:00	15.50	-20,420	0.31	
7/30/17	7:00	15.42	-20,480	0.23	
7/30/17	8:00	15.41	-20,540	0.22	
7/30/17	9:00	15.48	-20,600	0.29	
7/30/17	10:00	15.34	-20,660	0.15	
7/30/17	11:00	15.42	-20,720	0.23	
7/30/17	12:00	15.40	-20,780	0.21	
7/30/17	13:00	15.40	-20,840	0.21	
7/30/17	14:00	15.40	-20,900	0.20	
7/30/17	15:00	15.42	-20,960	0.23	
7/30/17	16:00	15.38	-21,020	0.19	
7/30/17	17:00	15.51	-21,080	0.32	
7/30/17	18:00	15.37	-21,140	0.18	
7/30/17	19:00	15.39	-21,200	0.20	
7/30/17	20:00	15.38	-21,260	0.19	
7/30/17	21:00	15.33	-21,320	0.14	
7/30/17	22:00	15.39	-21,380	0.20	
7/30/17	23:00	15.39	-21,440	0.20	
7/31/17	0:00	15.35	-21,500	0.16	
7/31/17	1:00	15.38	-21,560	0.19	
7/31/17	2:00	15.38	-21,620	0.19	
7/31/17	3:00	15.39	-21,680	0.20	
7/31/17	4:00	15.39	-21,740	0.20	
7/31/17	5:00	15.39	-21,800	0.20	
7/31/17	6:00	15.46	-21,860	0.27	
7/31/17	7:00	15.45	-21,920	0.26	
7/31/17	8:00	15.38	-21,980	0.19	
7/31/17	9:00	15.42	-22,040	0.23	
7/31/17	10:00	15.35	-22,100	0.16	
7/31/17	11:00	15.34	-22,160	0.15	
7/31/17	12:00	15.32	-22,220	0.13	
7/31/17	13:00	15.35	-22,280	0.16	
7/31/17	14:00	15.30	-22,340	0.11	
7/31/17	15:00	15.27	-22,400	0.08	
7/31/17	16:00	15.40	-22,460	0.21	
7/31/17	17:00	15.30	-22,520	0.11	
7/31/17	18:00	15.21	-22,580	0.02	
7/31/17	19:00	15.29	-22,640	0.10	
7/31/17	20:00	15.40	-22,700	0.21	
7/31/17	21:00	15.32	-22,760	0.13	
7/31/17	22:00	15.22	-22,820	0.03	
7/31/17	23:00	15.20	-22,880	0.01	
8/1/17	0:00	15.22	-22,940	0.03	
8/1/17	1:00	15.27	-23,000	0.08	
8/1/17	2:00	15.38	-23,060	0.18	
8/1/17	3:00	15.26	-23,120	0.07	
8/1/17	4:00	15.28	-23,180	0.09	
8/1/17	5:00	15.28	-23,240	0.09	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
8/1/17	6:00	15.32	-23,300	0.13	
8/1/17	7:00	15.41	-23,360	0.22	
8/1/17	8:00	15.39	-23,420	0.20	
8/1/17	9:00	15.34	-23,480	0.15	
8/1/17	10:00	15.33	-23,540	0.14	
8/1/17	11:00	15.33	-23,600	0.14	
8/1/17	12:00	15.43	-23,660	0.24	
8/1/17	13:00	15.35	-23,720	0.16	
8/1/17	14:00	15.29	-23,780	0.10	
8/1/17	15:00	15.31	-23,840	0.12	
8/1/17	16:00	15.28	-23,900	0.09	
8/1/17	17:00	15.30	-23,960	0.11	
8/1/17	18:00	15.26	-24,020	0.07	
8/1/17	19:00	15.26	-24,080	0.07	
8/1/17	20:00	15.28	-24,140	0.09	
8/1/17	21:00	15.31	-24,200	0.12	
8/1/17	22:00	15.30	-24,260	0.11	
8/1/17	23:00	15.26	-24,320	0.07	
8/2/17	0:00	15.25	-24,380	0.06	
8/2/17	1:00	15.21	-24,440	0.02	
8/2/17	2:00	15.28	-24,500	0.09	
8/2/17	3:00	15.23	-24,560	0.04	
8/2/17	4:00	15.22	-24,620	0.03	
8/2/17	5:00	15.27	-24,680	0.08	
8/2/17	6:00	15.26	-24,740	0.07	
8/2/17	7:00	15.31	-24,800	0.11	
8/2/17	8:00	15.30	-24,860	0.11	
8/2/17	9:00	15.39	-24,920	0.20	
8/2/17	10:00	15.29	-24,980	0.10	
8/2/17	11:00	15.33	-25,040	0.14	
8/2/17	12:00	15.34	-25,100	0.15	
8/2/17	13:00	15.32	-25,160	0.13	
8/2/17	14:00	15.37	-25,220	0.18	
8/2/17	15:00	15.23	-25,280	0.04	
8/2/17	16:00	15.38	-25,340	0.19	
8/2/17	17:00	15.28	-25,400	0.09	
8/2/17	18:00	15.23	-25,460	0.04	
8/2/17	19:00	15.27	-25,520	0.08	
8/2/17	20:00	15.17	-25,580	-0.02	
8/2/17	21:00	15.26	-25,640	0.07	
8/2/17	22:00	15.27	-25,700	0.08	
8/2/17	23:00	15.27	-25,760	0.08	
8/3/17	0:00	15.21	-25,820	0.02	
8/3/17	1:00	15.19	-25,880	0.00	
8/3/17	2:00	15.15	-25,940	-0.04	
8/3/17	3:00	15.18	-26,000	-0.01	
8/3/17	4:00	15.24	-26,060	0.04	
8/3/17	5:00	15.21	-26,120	0.02	
8/3/17	6:00	15.29	-26,180	0.09	
8/3/17	7:00	15.32	-26,240	0.13	
8/3/17	8:00	15.36	-26,300	0.17	
8/3/17	9:00	15.38	-26,360	0.19	
8/3/17	10:00	15.29	-26,420	0.10	
8/3/17	11:00	15.37	-26,480	0.18	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-16 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
8/3/17	12:00	15.36	-26,540	0.17	
8/3/17	13:00	15.29	-26,600	0.09	
8/3/17	14:00	15.31	-26,660	0.12	
8/3/17	15:00	15.20	-26,720	0.01	
8/3/17	16:00	15.23	-26,780	0.04	
8/3/17	17:00	15.21	-26,840	0.02	
8/3/17	18:00	15.14	-26,900	-0.05	
8/3/17	19:00	15.21	-26,960	0.02	
8/3/17	20:00	15.18	-27,020	-0.01	
8/3/17	21:00	15.22	-27,080	0.03	
8/3/17	22:00	15.23	-27,140	0.04	
8/3/17	23:00	15.26	-27,200	0.07	

ft btoc	feet below top of casing
gpm	gallons per minute

C-21

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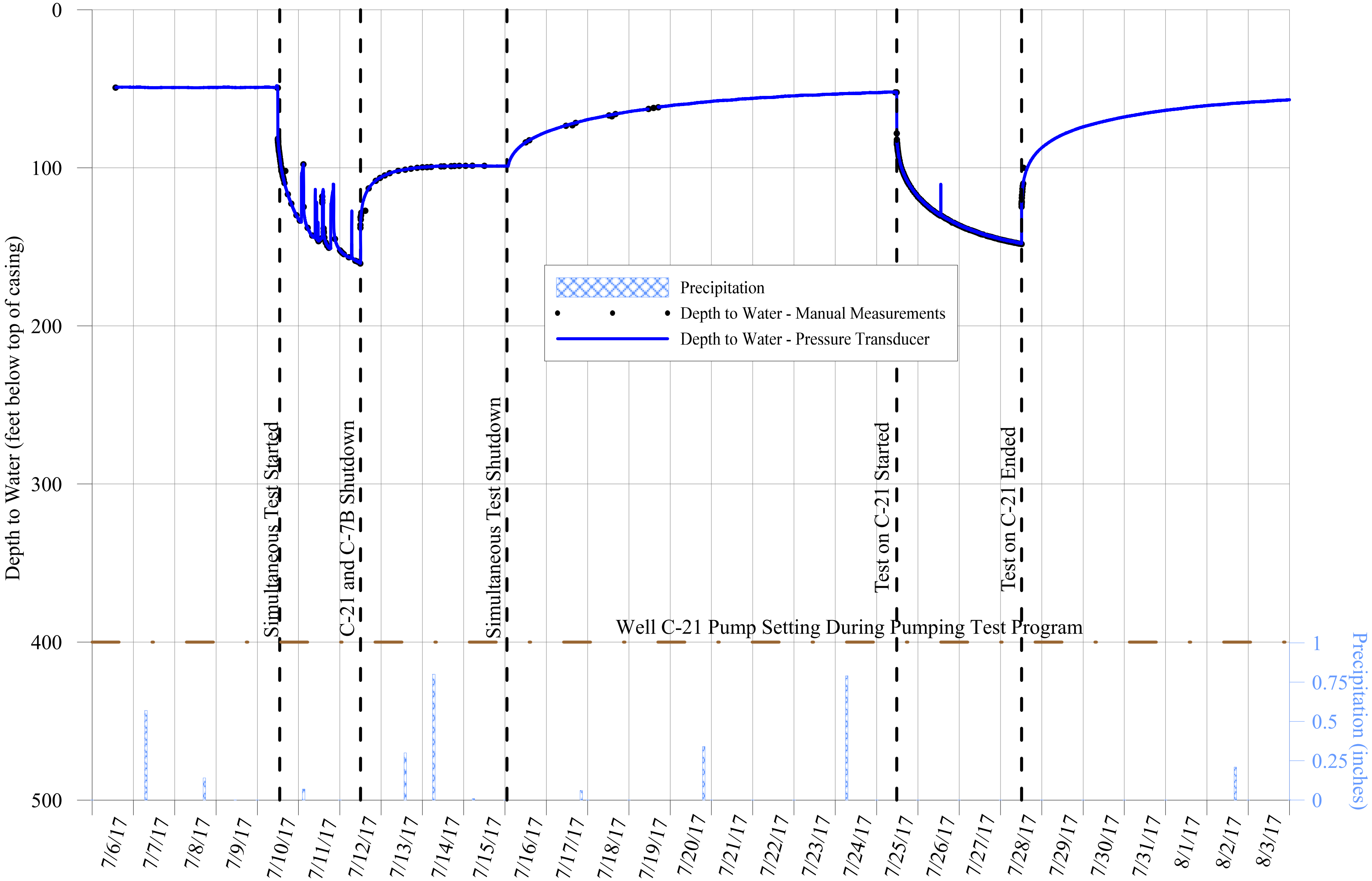
BLAGGS CLOVE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Pumping Well C-21 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Pumping Wells\C-21Comprehensive.grf

LBG Hydrogeologic & Engineering Services, P.C.

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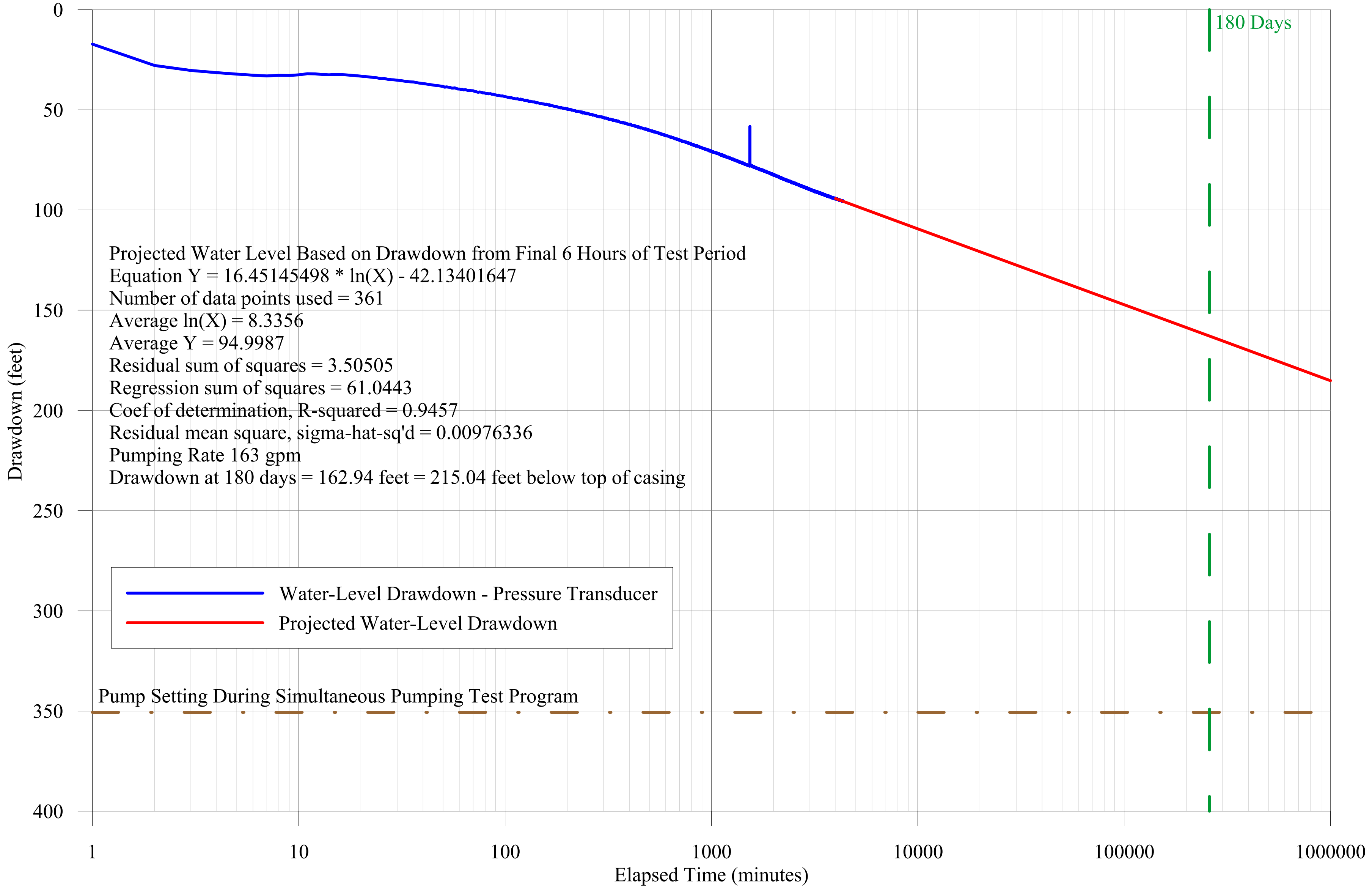
BLAGGS CLOVE, NEW YORK

180-Day Water-Level Drawdown Projection on Pumping Well C-21 from Water-Level Measurements Collected from Pumping Well C-21 During Individual Pumping Test Conducted on Well C-21 in July 2017



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BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/6/17	14:00	49.09	--	--	Pressure transducer installed in well.
7/6/17	15:00	49.00	--	--	
7/6/17	16:00	48.97	--	--	
7/6/17	17:00	48.95	--	--	
7/6/17	18:00	48.94	--	--	
7/6/17	19:00	48.95	--	--	
7/6/17	20:00	48.96	--	--	
7/6/17	21:00	48.99	--	--	
7/6/17	22:00	49.00	--	--	
7/6/17	23:00	49.02	--	--	
7/7/17	0:00	49.01	--	--	
7/7/17	1:00	49.02	--	--	
7/7/17	2:00	49.01	--	--	
7/7/17	3:00	49.02	--	--	
7/7/17	4:00	49.02	--	--	
7/7/17	5:00	49.04	--	--	
7/7/17	6:00	49.07	--	--	
7/7/17	7:00	49.12	--	--	
7/7/17	8:00	49.17	--	--	
7/7/17	9:00	49.22	--	--	
7/7/17	10:00	49.26	--	--	
7/7/17	11:00	49.29	--	--	
7/7/17	12:00	49.31	--	--	
7/7/17	13:00	49.36	--	--	
7/7/17	14:00	49.27	--	--	
7/7/17	15:00	49.23	--	--	
7/7/17	16:00	49.21	--	--	
7/7/17	17:00	49.17	--	--	
7/7/17	18:00	49.16	--	--	
7/7/17	19:00	49.14	--	--	
7/7/17	20:00	49.15	--	--	
7/7/17	21:00	49.18	--	--	
7/7/17	22:00	49.18	--	--	
7/7/17	23:00	49.18	--	--	
7/8/17	0:00	49.18	--	--	
7/8/17	1:00	49.18	--	--	
7/8/17	2:00	49.16	--	--	
7/8/17	3:00	49.13	--	--	
7/8/17	4:00	49.11	--	--	
7/8/17	5:00	49.11	--	--	
7/8/17	6:00	49.11	--	--	
7/8/17	7:00	49.15	--	--	
7/8/17	8:00	49.19	--	--	
7/8/17	9:00	49.24	--	--	
7/8/17	10:00	49.30	--	--	
7/8/17	11:00	49.33	--	--	
7/8/17	12:00	49.35	--	--	
7/8/17	13:00	49.34	--	--	
7/8/17	14:00	49.31	--	--	
7/8/17	15:00	49.28	--	--	
7/8/17	16:00	49.24	--	--	
7/8/17	17:00	49.18	--	--	
7/8/17	18:00	49.14	--	--	
7/8/17	19:00	49.12	--	--	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/8/17	20:00	49.10	--	--	
7/8/17	21:00	49.11	--	--	
7/8/17	22:00	49.11	--	--	
7/8/17	23:00	49.11	--	--	
7/9/17	0:00	49.11	--	--	
7/9/17	1:00	49.11	--	--	
7/9/17	2:00	49.07	--	--	
7/9/17	3:00	49.04	--	--	
7/9/17	4:00	49.02	--	--	
7/9/17	5:00	48.99	--	--	
7/9/17	6:00	48.99	--	--	
7/9/17	7:00	48.99	--	--	
7/9/17	8:00	49.01	--	--	
7/9/17	9:00	49.08	--	--	
7/9/17	10:00	49.14	--	--	
7/9/17	11:00	49.19	--	--	
7/9/17	12:00	49.21	--	--	
7/9/17	13:00	49.22	--	--	
7/9/17	14:00	49.21	--	--	
7/9/17	15:00	49.19	--	--	
7/9/17	16:00	49.14	--	--	
7/9/17	17:00	49.10	--	--	
7/9/17	18:00	49.08	--	--	
7/9/17	19:00	49.05	--	--	
7/9/17	20:00	49.07	--	--	
7/9/17	21:00	49.07	--	--	
7/9/17	22:00	49.09	--	--	
7/9/17	23:00	49.10	--	--	
7/10/17	0:00	49.10	--	--	
7/10/17	1:00	49.09	--	--	
7/10/17	2:00	49.07	--	--	
7/10/17	3:00	49.04	--	--	
7/10/17	4:00	49.03	--	--	
7/10/17	5:00	49.00	--	--	
7/10/17	6:00	49.00	--	--	
7/10/17	7:00	49.02	--	--	
7/10/17	8:00	49.04	--	--	
7/10/17	9:00	49.08	--	--	
7/10/17	10:00	49.13	--	--	
7/10/17	11:00	49.19	--	--	
7/10/17	11:54	49.30	--	--	
7/10/17	11:55	71.44	1	22.14	Pump in well C-21 started.
7/10/17	11:56	81.00	2	31.70	Pumping rate adjusted to 138 gpm.
7/10/17	11:57	82.80	3	33.50	
7/10/17	11:58	82.82	4	33.52	
7/10/17	11:59	83.08	5	33.78	Pumping rate in well C-21 138 gpm.
7/10/17	12:00	82.16	6	32.86	
7/10/17	12:01	81.71	7	32.41	
7/10/17	12:02	81.78	8	32.48	
7/10/17	12:03	81.94	9	32.64	
7/10/17	12:04	82.37	10	33.07	
7/10/17	12:05	82.45	11	33.15	Pumping rate in well C-21 138 gpm.
7/10/17	12:06	82.71	12	33.41	
7/10/17	12:07	83.36	13	34.06	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/10/17	12:08	83.57	14	34.27	
7/10/17	12:09	83.71	15	34.41	
7/10/17	12:10	84.08	16	34.78	Pumping rate in well C-21 138 gpm.
7/10/17	12:15	85.53	21	36.23	
7/10/17	12:20	86.53	26	37.23	Pumping rate in well C-21 138 gpm.
7/10/17	12:25	87.46	31	38.16	
7/10/17	12:30	88.20	36	38.90	Pumping rate in well C-21 138 gpm.
7/10/17	12:35	89.24	41	39.94	
7/10/17	12:40	89.72	46	40.42	Pumping rate in well C-21 138 gpm.
7/10/17	12:45	90.41	51	41.11	
7/10/17	12:50	90.95	56	41.65	Pumping rate in well C-21 138 gpm.
7/10/17	12:55	91.46	61	42.16	
7/10/17	13:00	92.29	66	42.99	Pump in well C-23 started at 12:59.
7/10/17	14:00	100.37	126	51.07	
7/10/17	15:00	105.87	186	56.57	Pumping rate in well C-21 138 gpm.
7/10/17	16:00	110.27	246	60.97	
7/10/17	17:00	114.33	306	65.03	Pump in well C-14 started at 16:24.
7/10/17	18:00	117.68	366	68.38	Pump in well C-16 started at 17:31.
7/10/17	19:00	120.76	426	71.46	Pump in well C-6 started at 18:35.
7/10/17	20:00	123.55	486	74.25	Pump in well C-12 started at 19:48.
7/10/17	21:00	126.23	546	76.93	Pump in well C-7B started at 21:03.
7/10/17	22:00	128.56	606	79.26	
7/10/17	23:00	130.77	666	81.47	Pumping rate in well C-21 137 gpm.
7/11/17	0:00	132.59	726	83.29	
7/11/17	1:00	133.85	786	84.55	Pumping rate in well C-21 137 gpm.
7/11/17	1:37	115.70	823	66.40	Generator shut down.
7/11/17	2:00	102.97	846	53.67	
7/11/17	2:53	111.62	899	62.32	Generator restarted.
7/11/17	3:00	125.31	906	76.01	Pumping rate in well C-21 142 gpm.
7/11/17	4:00	134.30	966	85.00	
7/11/17	5:00	137.74	1,026	88.44	Pumping rate in well C-21 142 gpm.
7/11/17	6:00	139.74	1,086	90.44	
7/11/17	7:00	141.87	1,146	92.57	
7/11/17	8:00	143.17	1,206	93.87	Pumping rate in well C-21 140 gpm.
7/11/17	9:00	143.82	1,266	94.52	Pumping rate in well C-21 140 gpm.
7/11/17	9:38	133.39	1,304	84.09	Generator shut down.
7/11/17	9:41	113.63	1,307	64.33	Generator restarted.
7/11/17	10:00	143.77	1,326	94.47	Pumping rate in well C-21 140 gpm.
7/11/17	10:31	121.74	1,357	72.44	Generator shut down.
7/11/17	10:32	139.56	1,358	90.26	Generator restarted.
7/11/17	11:00	145.41	1,386	96.11	Pumping rate in well C-21 140 gpm.
7/11/17	12:00	145.98	1,446	96.68	Pumping rate in well C-21 140 gpm.
7/11/17	13:00	144.95	1,506	95.65	Pumping rate in well C-21 140 gpm.
7/11/17	13:45	138.34	1,551	89.04	Generator shut down.
7/11/17	14:00	115.47	1,566	66.17	
7/11/17	14:29	130.79	1,595	81.49	Generator restarted.
7/11/17	15:00	143.98	1,626	94.68	Pumping rate in well C-21 140 gpm.
7/11/17	16:00	147.57	1,686	98.27	Pumping rate in well C-21 140 gpm.
7/11/17	17:00	149.69	1,746	100.39	Pumping rate in well C-21 140 gpm.
7/11/17	18:00	150.70	1,806	101.40	Pumping rate in well C-21 140 gpm.
7/11/17	18:42	132.95	1,848	83.65	Generator shut down.
7/11/17	19:00	122.07	1,866	72.77	
7/11/17	20:00	114.32	1,926	65.02	
7/11/17	20:20	110.44	1,946	61.14	Generator restarted.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/11/17	21:00	143.85	1,986	94.55	Pumping rate in well C-21 140 gpm.
7/11/17	22:00	148.24	2,046	98.94	Pumping rate in well C-21 140 gpm.
7/11/17	23:00	150.39	2,106	101.09	Pumping rate in well C-21 140 gpm.
7/12/17	0:00	152.06	2,166	102.76	Pumping rate in well C-21 140 gpm.
7/12/17	1:00	153.28	2,226	103.98	Pumping rate in well C-21 140 gpm.
7/12/17	2:00	154.27	2,286	104.97	Pumping rate in well C-21 140 gpm.
7/12/17	3:00	155.12	2,346	105.82	Pumping rate in well C-21 140 gpm.
7/12/17	4:00	155.85	2,406	106.55	Pumping rate in well C-21 140 gpm.
7/12/17	5:00	156.46	2,466	107.16	Pumping rate in well C-21 140 gpm.
7/12/17	6:00	156.83	2,526	107.53	Pumping rate in well C-21 140 gpm.
7/12/17	6:49	148.04	2,575	98.74	Generator shut down.
7/12/17	6:56	149.90	2,582	100.60	Generator restarted.
7/12/17	7:00	155.47	2,586	106.17	Pumping rate in well C-21 140 gpm.
7/12/17	8:00	157.72	2,646	108.42	Pumping rate in well C-21 140 gpm.
7/12/17	9:00	158.48	2,706	109.18	Pumping rate in well C-21 140 gpm.
7/12/17	10:00	158.96	2,766	109.66	Pumping rate in well C-21 140 gpm.
7/12/17	11:00	159.48	2,826	110.18	Pumping rate in well C-21 140 gpm.
7/12/17	11:56	160.22	2,882	110.92	Pump in well C-21 shut down, test on well C-21 ended.
7/12/17	11:57	143.46	-1	94.16	
7/12/17	11:58	136.90	-2	87.60	
7/12/17	11:59	136.68	-3	87.38	
7/12/17	12:00	136.67	-4	87.37	
7/12/17	12:01	136.12	-5	86.82	
7/12/17	12:02	135.54	-6	86.24	
7/12/17	12:03	135.00	-7	85.70	
7/12/17	12:04	134.52	-8	85.22	
7/12/17	12:05	134.14	-9	84.84	
7/12/17	12:06	133.75	-10	84.45	
7/12/17	12:07	133.36	-11	84.06	
7/12/17	12:08	133.02	-12	83.72	
7/12/17	12:09	132.68	-13	83.38	
7/12/17	12:10	132.39	-14	83.09	
7/12/17	12:11	132.08	-15	82.78	
7/12/17	12:12	131.79	-16	82.49	
7/12/17	12:13	131.58	-17	82.28	
7/12/17	12:14	131.26	-18	81.96	
7/12/17	12:15	131.02	-19	81.72	
7/12/17	12:20	129.94	-24	80.64	
7/12/17	12:25	128.90	-29	79.60	
7/12/17	12:30	128.07	-34	78.77	
7/12/17	12:35	127.28	-39	77.98	
7/12/17	12:40	126.56	-44	77.26	
7/12/17	12:45	125.89	-49	76.59	
7/12/17	12:50	125.26	-54	75.96	
7/12/17	12:55	124.69	-59	75.39	
7/12/17	13:00	124.14	-64	74.84	
7/12/17	14:00	119.48	-124	70.18	
7/12/17	15:00	116.53	-184	67.23	
7/12/17	16:00	114.36	-244	65.06	
7/12/17	17:00	112.63	-304	63.33	
7/12/17	18:00	111.18	-364	61.88	
7/12/17	19:00	109.94	-424	60.64	
7/12/17	20:00	108.89	-484	59.59	

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/12/17	21:00	107.97	-544	58.67	
7/12/17	22:00	107.16	-604	57.86	
7/12/17	23:00	106.48	-664	57.18	
7/13/17	0:00	105.85	-724	56.55	
7/13/17	1:00	105.29	-784	55.99	
7/13/17	2:00	104.78	-844	55.48	
7/13/17	3:00	104.29	-904	54.99	
7/13/17	4:00	103.85	-964	54.55	
7/13/17	5:00	103.41	-1,024	54.11	
7/13/17	6:00	103.01	-1,084	53.71	
7/13/17	7:00	102.67	-1,144	53.37	
7/13/17	8:00	102.36	-1,204	53.06	
7/13/17	9:00	102.08	-1,264	52.78	
7/13/17	10:00	101.85	-1,324	52.55	
7/13/17	11:00	101.65	-1,384	52.35	
7/13/17	12:00	101.46	-1,444	52.16	
7/13/17	13:00	101.28	-1,504	51.98	
7/13/17	14:00	101.08	-1,564	51.78	
7/13/17	15:00	100.90	-1,624	51.60	
7/13/17	16:00	100.70	-1,684	51.40	
7/13/17	17:00	100.52	-1,744	51.22	
7/13/17	18:00	100.36	-1,804	51.06	
7/13/17	19:00	100.20	-1,864	50.90	
7/13/17	20:00	100.05	-1,924	50.75	
7/13/17	21:00	99.88	-1,984	50.58	
7/13/17	22:00	99.77	-2,044	50.47	
7/13/17	23:00	99.70	-2,104	50.40	
7/14/17	0:00	99.62	-2,164	50.32	
7/14/17	1:00	99.56	-2,224	50.26	
7/14/17	2:00	99.51	-2,284	50.21	
7/14/17	3:00	99.42	-2,344	50.12	
7/14/17	4:00	99.33	-2,404	50.03	
7/14/17	5:00	99.25	-2,464	49.95	
7/14/17	6:00	99.17	-2,524	49.87	
7/14/17	7:00	99.04	-2,584	49.74	
7/14/17	8:00	98.98	-2,644	49.68	
7/14/17	9:00	98.92	-2,704	49.62	
7/14/17	10:00	98.90	-2,764	49.60	
7/14/17	11:00	98.88	-2,824	49.58	
7/14/17	12:00	98.88	-2,884	49.58	
7/14/17	13:00	98.87	-2,944	49.57	
7/14/17	14:00	98.87	-3,004	49.57	
7/14/17	15:00	98.85	-3,064	49.55	
7/14/17	16:00	98.83	-3,124	49.53	
7/14/17	17:00	98.80	-3,184	49.50	
7/14/17	18:00	98.74	-3,244	49.44	
7/14/17	19:00	98.71	-3,304	49.41	
7/14/17	20:00	98.66	-3,364	49.36	
7/14/17	21:00	98.65	-3,424	49.35	
7/14/17	22:00	98.60	-3,484	49.30	
7/14/17	23:00	98.61	-3,544	49.31	
7/15/17	0:00	98.65	-3,604	49.35	
7/15/17	1:00	98.64	-3,664	49.34	
7/15/17	2:00	98.67	-3,724	49.37	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/15/17	3:00	98.66	-3,784	49.36	
7/15/17	4:00	98.69	-3,844	49.39	
7/15/17	5:00	98.66	-3,904	49.36	
7/15/17	6:00	98.67	-3,964	49.37	
7/15/17	7:00	98.70	-4,024	49.40	
7/15/17	8:00	98.63	-4,084	49.33	
7/15/17	9:00	98.63	-4,144	49.33	
7/15/17	10:00	98.67	-4,204	49.37	
7/15/17	11:00	98.69	-4,264	49.39	
7/15/17	12:00	98.73	-4,324	49.43	
7/15/17	13:00	98.77	-4,384	49.47	
7/15/17	14:00	98.80	-4,444	49.50	
7/15/17	15:00	98.81	-4,504	49.51	
7/15/17	16:00	98.82	-4,564	49.52	
7/15/17	17:00	98.84	-4,624	49.54	
7/15/17	18:00	98.84	-4,684	49.54	
7/15/17	19:00	98.89	-4,744	49.59	
7/15/17	20:00	98.81	-4,804	49.51	
7/15/17	21:00	98.81	-4,864	49.51	
7/15/17	22:00	98.79	-4,924	49.49	
7/15/17	23:00	98.81	-4,984	49.51	
7/16/17	0:00	98.86	-5,044	49.56	
7/16/17	1:00	98.89	-5,104	49.59	
7/16/17	1:09	98.89	-5,113	49.59	Shut down of simultaneous pumping test (wells C-6, 12, 14,16, and 23).
7/16/17	2:00	98.28	-5,164	48.98	
7/16/17	3:00	94.74	-5,224	45.44	
7/16/17	4:00	92.58	-5,284	43.28	
7/16/17	5:00	90.93	-5,344	41.63	
7/16/17	6:00	89.54	-5,404	40.24	
7/16/17	7:00	88.32	-5,464	39.02	
7/16/17	8:00	87.26	-5,524	37.96	
7/16/17	9:00	86.30	-5,584	37.00	
7/16/17	10:00	85.43	-5,644	36.13	
7/16/17	11:00	84.67	-5,704	35.37	
7/16/17	12:00	83.89	-5,764	34.59	
7/16/17	13:00	83.18	-5,824	33.88	
7/16/17	14:00	82.55	-5,884	33.25	
7/16/17	15:00	81.93	-5,944	32.63	
7/16/17	16:00	81.40	-6,004	32.10	
7/16/17	17:00	80.83	-6,064	31.53	
7/16/17	18:00	80.28	-6,124	30.98	
7/16/17	19:00	79.75	-6,184	30.45	
7/16/17	20:00	79.22	-6,244	29.92	
7/16/17	21:00	78.72	-6,304	29.42	
7/16/17	22:00	78.23	-6,364	28.93	
7/16/17	23:00	77.77	-6,424	28.47	
7/17/17	0:00	77.34	-6,484	28.04	
7/17/17	1:00	76.92	-6,544	27.62	
7/17/17	2:00	76.53	-6,604	27.23	
7/17/17	3:00	76.15	-6,664	26.85	
7/17/17	4:00	75.80	-6,724	26.50	
7/17/17	5:00	75.44	-6,784	26.14	
7/17/17	6:00	75.07	-6,844	25.77	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/17/17	7:00	74.69	-6,904	25.39	
7/17/17	8:00	74.33	-6,964	25.03	
7/17/17	9:00	73.98	-7,024	24.68	
7/17/17	10:00	73.62	-7,084	24.32	
7/17/17	11:00	73.28	-7,144	23.98	
7/17/17	12:00	72.94	-7,204	23.64	
7/17/17	13:00	72.65	-7,264	23.35	
7/17/17	14:00	72.34	-7,324	23.04	
7/17/17	15:00	72.03	-7,384	22.73	
7/17/17	16:00	71.75	-7,444	22.45	
7/17/17	17:00	71.47	-7,504	22.17	
7/17/17	18:00	71.17	-7,564	21.87	
7/17/17	19:00	70.89	-7,624	21.59	
7/17/17	20:00	70.56	-7,684	21.26	
7/17/17	21:00	70.33	-7,744	21.03	
7/17/17	22:00	70.03	-7,804	20.73	
7/17/17	23:00	69.75	-7,864	20.45	
7/18/17	0:00	69.48	-7,924	20.18	
7/18/17	1:00	69.24	-7,984	19.94	
7/18/17	2:00	69.01	-8,044	19.71	
7/18/17	3:00	68.81	-8,104	19.51	
7/18/17	4:00	68.58	-8,164	19.28	
7/18/17	5:00	68.38	-8,224	19.08	
7/18/17	6:00	68.18	-8,284	18.88	
7/18/17	7:00	67.95	-8,344	18.65	
7/18/17	8:00	67.73	-8,404	18.43	
7/18/17	9:00	67.50	-8,464	18.20	
7/18/17	10:00	67.27	-8,524	17.97	
7/18/17	11:00	67.04	-8,584	17.74	
7/18/17	12:00	66.80	-8,644	17.50	
7/18/17	13:00	66.58	-8,704	17.28	
7/18/17	14:00	66.37	-8,764	17.07	
7/18/17	15:00	66.17	-8,824	16.87	
7/18/17	16:00	65.98	-8,884	16.68	
7/18/17	17:00	65.79	-8,944	16.49	
7/18/17	18:00	65.61	-9,004	16.31	
7/18/17	19:00	65.42	-9,064	16.12	
7/18/17	20:00	65.23	-9,124	15.93	
7/18/17	21:00	64.99	-9,184	15.69	
7/18/17	22:00	64.84	-9,244	15.54	
7/18/17	23:00	64.64	-9,304	15.34	
7/19/17	0:00	64.47	-9,364	15.17	
7/19/17	1:00	64.28	-9,424	14.98	
7/19/17	2:00	64.11	-9,484	14.81	
7/19/17	3:00	63.96	-9,544	14.66	
7/19/17	4:00	63.80	-9,604	14.50	
7/19/17	5:00	63.68	-9,664	14.38	
7/19/17	6:00	63.54	-9,724	14.24	
7/19/17	7:00	63.41	-9,784	14.11	
7/19/17	8:00	63.27	-9,844	13.97	
7/19/17	9:00	63.13	-9,904	13.83	
7/19/17	10:00	62.97	-9,964	13.67	
7/19/17	11:00	62.77	-10,024	13.47	
7/19/17	17:06	61.51	-10,036	12.21	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/19/17	18:00	61.45	-10,090	12.15	
7/19/17	19:00	61.35	-10,150	12.05	
7/19/17	20:00	61.21	-10,210	11.91	
7/19/17	21:00	61.08	-10,270	11.78	
7/19/17	22:00	60.90	-10,330	11.60	
7/19/17	23:00	60.78	-10,390	11.48	
7/20/17	0:00	60.62	-10,450	11.32	
7/20/17	1:00	60.48	-10,510	11.18	
7/20/17	2:00	60.34	-10,570	11.04	
7/20/17	3:00	60.23	-10,630	10.93	
7/20/17	4:00	60.11	-10,690	10.81	
7/20/17	5:00	60.05	-10,750	10.75	
7/20/17	6:00	59.91	-10,810	10.61	
7/20/17	7:00	59.87	-10,870	10.57	
7/20/17	8:00	59.79	-10,930	10.49	
7/20/17	9:00	59.70	-10,990	10.40	
7/20/17	10:00	59.60	-11,050	10.30	
7/20/17	11:00	59.47	-11,110	10.17	
7/20/17	12:00	59.38	-11,170	10.08	
7/20/17	13:00	59.21	-11,230	9.91	
7/20/17	14:00	59.06	-11,290	9.76	
7/20/17	15:00	58.91	-11,350	9.61	
7/20/17	16:00	58.78	-11,410	9.48	
7/20/17	17:00	58.64	-11,470	9.34	
7/20/17	18:00	58.54	-11,530	9.24	
7/20/17	19:00	58.45	-11,590	9.15	
7/20/17	20:00	58.40	-11,650	9.10	
7/20/17	21:00	58.28	-11,710	8.98	
7/20/17	22:00	58.17	-11,770	8.87	
7/20/17	23:00	58.11	-11,830	8.81	
7/21/17	0:00	57.93	-11,890	8.63	
7/21/17	1:00	57.82	-11,950	8.52	
7/21/17	2:00	57.73	-12,010	8.43	
7/21/17	3:00	57.61	-12,070	8.31	
7/21/17	4:00	57.51	-12,130	8.21	
7/21/17	5:00	57.42	-12,190	8.12	
7/21/17	6:00	57.39	-12,250	8.09	
7/21/17	7:00	57.32	-12,310	8.02	
7/21/17	8:00	57.27	-12,370	7.97	
7/21/17	9:00	57.26	-12,430	7.96	
7/21/17	10:00	57.20	-12,490	7.90	
7/21/17	11:00	57.16	-12,550	7.86	
7/21/17	12:00	57.05	-12,610	7.75	
7/21/17	13:00	56.96	-12,670	7.66	
7/21/17	14:00	56.80	-12,730	7.50	
7/21/17	15:00	56.75	-12,790	7.45	
7/21/17	16:00	56.56	-12,850	7.26	
7/21/17	17:00	56.43	-12,910	7.13	
7/21/17	18:00	56.37	-12,970	7.07	
7/21/17	19:00	56.31	-13,030	7.01	
7/21/17	20:00	56.31	-13,090	7.01	
7/21/17	21:00	56.22	-13,150	6.92	
7/21/17	22:00	56.18	-13,210	6.88	
7/21/17	23:00	56.09	-13,270	6.79	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/22/17	0:00	56.04	-13,330	6.74	
7/22/17	1:00	55.95	-13,390	6.65	
7/22/17	2:00	55.85	-13,450	6.55	
7/22/17	3:00	55.76	-13,510	6.46	
7/22/17	4:00	55.69	-13,570	6.39	
7/22/17	5:00	55.61	-13,630	6.31	
7/22/17	6:00	55.59	-13,690	6.29	
7/22/17	7:00	55.57	-13,750	6.27	
7/22/17	8:00	55.50	-13,810	6.20	
7/22/17	9:00	55.51	-13,870	6.21	
7/22/17	10:00	55.48	-13,930	6.18	
7/22/17	11:00	55.44	-13,990	6.14	
7/22/17	12:00	55.37	-14,050	6.07	
7/22/17	13:00	55.27	-14,110	5.97	
7/22/17	14:00	55.18	-14,170	5.88	
7/22/17	15:00	55.05	-14,230	5.75	
7/22/17	16:00	54.91	-14,290	5.61	
7/22/17	17:00	54.81	-14,350	5.51	
7/22/17	18:00	54.77	-14,410	5.47	
7/22/17	19:00	54.66	-14,470	5.36	
7/22/17	20:00	54.65	-14,530	5.35	
7/22/17	21:00	54.58	-14,590	5.28	
7/22/17	22:00	54.55	-14,650	5.25	
7/22/17	23:00	54.50	-14,710	5.20	
7/23/17	0:00	54.47	-14,770	5.17	
7/23/17	1:00	54.41	-14,830	5.11	
7/23/17	2:00	54.32	-14,890	5.02	
7/23/17	3:00	54.20	-14,950	4.90	
7/23/17	4:00	54.14	-15,010	4.84	
7/23/17	5:00	54.07	-15,070	4.77	
7/23/17	6:00	54.05	-15,130	4.75	
7/23/17	7:00	54.02	-15,190	4.72	
7/23/17	8:00	54.00	-15,250	4.70	
7/23/17	9:00	54.06	-15,310	4.76	
7/23/17	10:00	54.04	-15,370	4.74	
7/23/17	11:00	54.04	-15,430	4.74	
7/23/17	12:00	54.02	-15,490	4.72	
7/23/17	13:00	53.93	-15,550	4.63	
7/23/17	14:00	53.85	-15,610	4.55	
7/23/17	15:00	53.81	-15,670	4.51	
7/23/17	16:00	53.69	-15,730	4.39	
7/23/17	17:00	53.60	-15,790	4.30	
7/23/17	18:00	53.51	-15,850	4.21	
7/23/17	19:00	53.47	-15,910	4.17	
7/23/17	20:00	53.41	-15,970	4.11	
7/23/17	21:00	53.44	-16,030	4.14	
7/23/17	22:00	53.38	-16,090	4.08	
7/23/17	23:00	53.39	-16,150	4.09	
7/24/17	0:00	53.33	-16,210	4.03	
7/24/17	1:00	53.28	-16,270	3.98	
7/24/17	2:00	53.24	-16,330	3.94	
7/24/17	3:00	53.15	-16,390	3.85	
7/24/17	4:00	53.07	-16,450	3.77	
7/24/17	5:00	53.00	-16,510	3.70	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/24/17	6:00	52.99	-16,570	3.69	
7/24/17	7:00	52.92	-16,630	3.62	
7/24/17	8:00	52.89	-16,690	3.59	
7/24/17	9:00	52.91	-16,750	3.61	
7/24/17	10:00	52.95	-16,810	3.65	
7/24/17	11:00	52.98	-16,870	3.68	
7/24/17	12:00	52.92	-16,930	3.62	
7/24/17	13:00	52.96	-16,990	3.66	
7/24/17	14:00	52.84	-17,050	3.54	
7/24/17	15:00	52.72	-17,110	3.42	
7/24/17	16:00	52.68	-17,170	3.38	
7/24/17	17:00	52.62	-17,230	3.32	
7/24/17	18:00	52.53	-17,290	3.23	
7/24/17	19:00	52.46	-17,350	3.16	
7/24/17	20:00	52.43	-17,410	3.13	
7/24/17	21:00	52.36	-17,470	3.06	
7/24/17	22:00	52.38	-17,530	3.08	
7/24/17	23:00	52.35	-17,590	3.05	
7/25/17	0:00	52.36	-17,650	3.06	
7/25/17	1:00	52.34	-17,710	3.04	
7/25/17	2:00	52.28	-17,770	2.98	
7/25/17	3:00	52.24	-17,830	2.94	
7/25/17	4:00	52.19	-17,890	2.89	
7/25/17	5:00	52.14	-17,950	2.84	
7/25/17	6:00	52.09	-18,010	2.79	
7/25/17	7:00	52.07	-18,070	2.77	
7/25/17	8:00	52.07	-18,130	2.77	
7/25/17	9:00	52.05	-18,190	2.75	
7/25/17	10:00	52.09	-18,250	2.79	
7/25/17	11:00	52.07	-18,310	2.77	
7/25/17	11:43	52.11	-18,353	2.81	
7/25/17	11:44	69.35	1	17.24	Pump in well C-21 started.
7/25/17	11:45	80.04	2	27.93	Pumping rate adjusted to 173 gpm.
7/25/17	11:46	82.48	3	30.37	
7/25/17	11:47	83.62	4	31.51	
7/25/17	11:48	84.30	5	32.19	
7/25/17	11:49	84.85	6	32.74	
7/25/17	11:50	85.17	7	33.06	Pumping rate in well C-21 173 gpm.
7/25/17	11:51	84.91	8	32.80	
7/25/17	11:52	84.94	9	32.83	
7/25/17	11:53	84.65	10	32.54	
7/25/17	11:54	84.12	11	32.01	
7/25/17	11:55	84.14	12	32.03	Pumping rate in well C-21 173 gpm.
7/25/17	11:56	84.50	13	32.39	
7/25/17	11:57	84.71	14	32.60	
7/25/17	11:58	84.47	15	32.36	
7/25/17	11:59	84.52	16	32.41	
7/25/17	12:00	84.70	17	32.59	Pumping rate in well C-21 173 gpm.
7/25/17	12:05	85.74	22	33.63	
7/25/17	12:10	86.91	27	34.80	Pumping rate in well C-21 173 gpm.
7/25/17	12:15	87.73	32	35.62	
7/25/17	12:20	88.43	37	36.32	Pumping rate in well C-21 173 gpm.
7/25/17	12:25	89.27	42	37.16	
7/25/17	12:30	90.02	47	37.91	Pumping rate in well C-21 173 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/25/17	12:35	90.68	52	38.57	
7/25/17	12:40	91.15	57	39.04	Pumping rate in well C-21 173 gpm.
7/25/17	12:45	91.88	62	39.77	
7/25/17	13:00	93.45	77	41.34	Pumping rate in well C-21 173 gpm.
7/25/17	14:00	98.20	137	46.09	
7/25/17	15:00	101.56	197	49.45	Pumping rate in well C-21 173 gpm.
7/25/17	16:00	104.31	257	52.20	
7/25/17	17:00	106.75	317	54.64	Pumping rate in well C-21 173 gpm.
7/25/17	18:00	108.61	377	56.50	Pumping rate in well C-21 163 gpm.
7/25/17	19:00	110.57	437	58.46	Pumping rate in well C-21 163 gpm.
7/25/17	20:00	112.07	497	59.96	Pumping rate in well C-21 163 gpm.
7/25/17	21:00	113.80	557	61.69	Pumping rate in well C-21 163 gpm.
7/25/17	22:00	115.23	617	63.12	Pumping rate in well C-21 163 gpm.
7/25/17	23:00	116.63	677	64.52	Pumping rate in well C-21 163 gpm.
7/26/17	0:00	118.06	737	65.95	Pumping rate in well C-21 163 gpm.
7/26/17	1:00	119.15	797	67.04	Pumping rate in well C-21 163 gpm.
7/26/17	2:00	120.20	857	68.09	Pumping rate in well C-21 163 gpm.
7/26/17	3:00	121.52	917	69.41	Pumping rate in well C-21 163 gpm.
7/26/17	4:00	122.43	977	70.32	Pumping rate in well C-21 163 gpm.
7/26/17	5:00	123.48	1,037	71.37	Pumping rate in well C-21 163 gpm.
7/26/17	6:00	124.52	1,097	72.41	Pumping rate in well C-21 163 gpm.
7/26/17	7:00	125.23	1,157	73.12	Pumping rate in well C-21 163 gpm.
7/26/17	8:00	126.06	1,217	73.95	Pumping rate in well C-21 163 gpm.
7/26/17	9:00	127.14	1,277	75.03	Pumping rate in well C-21 163 gpm.
7/26/17	10:00	127.50	1,337	75.39	Pumping rate in well C-21 163 gpm.
7/26/17	11:00	128.49	1,397	76.38	Pumping rate in well C-21 163 gpm.
7/26/17	12:00	129.12	1,457	77.01	Pumping rate in well C-21 163 gpm.
7/26/17	13:00	129.83	1,517	77.72	Pumping rate in well C-21 163 gpm.
7/26/17	13:18	110.44	1,535	58.33	Generator shut down.
7/26/17	13:19	127.16	1,536	75.05	Generator restarted.
7/26/17	14:00	130.24	1,577	78.13	Pumping rate in well C-21 163 gpm.
7/26/17	15:00	131.05	1,637	78.94	Pumping rate in well C-21 163 gpm.
7/26/17	16:00	131.78	1,697	79.67	Pumping rate in well C-21 163 gpm.
7/26/17	17:00	132.28	1,757	80.17	Pumping rate in well C-21 163 gpm.
7/26/17	18:00	132.62	1,817	80.51	Pumping rate in well C-21 163 gpm.
7/26/17	19:00	133.27	1,877	81.16	Pumping rate in well C-21 163 gpm.
7/26/17	20:00	134.06	1,937	81.95	Pumping rate in well C-21 163 gpm.
7/26/17	21:00	134.51	1,997	82.40	Pumping rate in well C-21 163 gpm.
7/26/17	22:00	134.92	2,057	82.81	Pumping rate in well C-21 163 gpm.
7/26/17	23:00	135.56	2,117	83.45	Pumping rate in well C-21 163 gpm.
7/27/17	0:00	136.24	2,177	84.13	Pumping rate in well C-21 163 gpm.
7/27/17	1:00	136.72	2,237	84.61	Pumping rate in well C-21 163 gpm.
7/27/17	2:00	137.14	2,297	85.03	Pumping rate in well C-21 163 gpm.
7/27/17	3:00	137.33	2,357	85.22	Pumping rate in well C-21 163 gpm.
7/27/17	4:00	138.03	2,417	85.92	Pumping rate in well C-21 163 gpm.
7/27/17	5:00	138.48	2,477	86.37	Pumping rate in well C-21 163 gpm.
7/27/17	6:00	138.90	2,537	86.79	Pumping rate in well C-21 163 gpm.
7/27/17	7:00	139.32	2,597	87.21	Pumping rate in well C-21 163 gpm.
7/27/17	8:00	139.58	2,657	87.47	Pumping rate in well C-21 163 gpm.
7/27/17	9:00	140.14	2,717	88.03	Pumping rate in well C-21 163 gpm.
7/27/17	10:00	140.50	2,777	88.39	Pumping rate in well C-21 163 gpm.
7/27/17	11:00	141.00	2,837	88.89	Pumping rate in well C-21 163 gpm.
7/27/17	12:00	141.30	2,897	89.19	Pumping rate in well C-21 163 gpm.
7/27/17	13:00	141.67	2,957	89.56	Pumping rate in well C-21 163 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/27/17	14:00	141.96	3,017	89.85	Pumping rate in well C-21 163 gpm.
7/27/17	15:00	142.31	3,077	90.20	Pumping rate in well C-21 163 gpm.
7/27/17	16:00	142.52	3,137	90.41	Pumping rate in well C-21 163 gpm.
7/27/17	17:00	143.01	3,197	90.90	Pumping rate in well C-21 163 gpm.
7/27/17	18:00	143.19	3,257	91.08	Pumping rate in well C-21 163 gpm.
7/27/17	19:00	143.50	3,317	91.39	Pumping rate in well C-21 163 gpm.
7/27/17	20:00	143.78	3,377	91.67	Pumping rate in well C-21 163 gpm.
7/27/17	21:00	144.26	3,437	92.15	Pumping rate in well C-21 163 gpm.
7/27/17	22:00	144.36	3,497	92.25	Pumping rate in well C-21 163 gpm.
7/27/17	23:00	144.59	3,557	92.48	Pumping rate in well C-21 163 gpm.
7/28/17	0:00	145.04	3,617	92.93	Pumping rate in well C-21 163 gpm.
7/28/17	1:00	145.22	3,677	93.11	Pumping rate in well C-21 163 gpm.
7/28/17	2:00	145.60	3,737	93.49	Pumping rate in well C-21 163 gpm.
7/28/17	3:00	145.72	3,797	93.61	Pumping rate in well C-21 163 gpm.
7/28/17	4:00	146.02	3,857	93.91	Pumping rate in well C-21 163 gpm.
7/28/17	5:00	146.27	3,917	94.16	Pumping rate in well C-21 163 gpm.
7/28/17	6:00	146.37	3,977	94.26	Pumping rate in well C-21 163 gpm.
7/28/17	6:14	146.50	3,991	94.41	Pumping rate in well C-21 163 gpm.
7/28/17	7:00	146.46	4,037	94.35	Pumping rate in well C-21 163 gpm.
7/28/17	8:00	146.87	4,097	94.76	Pumping rate in well C-21 163 gpm.
7/28/17	9:00	147.44	4,157	95.33	Pumping rate in well C-21 163 gpm.
7/28/17	10:00	147.32	4,217	95.21	Pumping rate in well C-21 163 gpm.
7/28/17	11:00	147.52	4,277	95.41	Pumping rate in well C-21 163 gpm.
7/28/17	12:00	147.86	4,337	95.75	Pumping rate in well C-21 163 gpm.
7/28/17	12:14	147.85	4,351	95.74	Pumping rate in well C-21 163 gpm.
7/28/17	12:15	142.82	-1	90.71	Pump in well C-21 shut down, test on well C-21 ended.
7/28/17	12:16	124.13	-2	72.02	
7/28/17	12:17	122.84	-3	70.73	
7/28/17	12:18	122.62	-4	70.51	
7/28/17	12:19	122.02	-5	69.91	
7/28/17	12:20	121.33	-6	69.22	
7/28/17	12:21	120.77	-7	68.66	
7/28/17	12:22	120.22	-8	68.11	
7/28/17	12:23	119.88	-9	67.77	
7/28/17	12:24	119.40	-10	67.29	
7/28/17	12:25	118.97	-11	66.86	
7/28/17	12:26	118.58	-12	66.47	
7/28/17	12:27	118.24	-13	66.13	
7/28/17	12:28	117.98	-14	65.87	
7/28/17	12:29	117.64	-15	65.53	
7/28/17	12:30	117.36	-16	65.25	
7/28/17	12:35	115.99	-21	63.88	
7/28/17	12:40	114.84	-26	62.73	
7/28/17	12:45	113.85	-31	61.74	
7/28/17	12:50	112.95	-36	60.84	
7/28/17	12:55	112.14	-41	60.03	
7/28/17	13:00	111.41	-46	59.30	
7/28/17	13:05	110.69	-51	58.58	
7/28/17	13:10	110.02	-56	57.91	
7/28/17	13:15	109.41	-61	57.30	
7/28/17	14:00	105.53	-106	53.42	
7/28/17	15:00	101.67	-166	49.56	
7/28/17	16:00	98.98	-226	46.87	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/28/17	17:00	96.70	-286	44.59	
7/28/17	18:00	94.80	-346	42.69	
7/28/17	19:00	93.16	-406	41.05	
7/28/17	20:00	91.74	-466	39.63	
7/28/17	21:00	90.45	-526	38.34	
7/28/17	22:00	89.28	-586	37.17	
7/28/17	23:00	88.22	-646	36.11	
7/29/17	0:00	87.27	-706	35.16	
7/29/17	1:00	86.41	-766	34.30	
7/29/17	2:00	85.49	-826	33.38	
7/29/17	3:00	84.71	-886	32.60	
7/29/17	4:00	83.96	-946	31.85	
7/29/17	5:00	83.21	-1,006	31.10	
7/29/17	6:00	82.52	-1,066	30.41	
7/29/17	7:00	81.90	-1,126	29.79	
7/29/17	8:00	81.27	-1,186	29.16	
7/29/17	9:00	80.69	-1,246	28.58	
7/29/17	10:00	80.11	-1,306	28.00	
7/29/17	11:00	79.56	-1,366	27.45	
7/29/17	12:00	79.02	-1,426	26.91	
7/29/17	13:00	78.57	-1,486	26.46	
7/29/17	14:00	77.90	-1,546	25.79	
7/29/17	15:00	77.67	-1,606	25.56	
7/29/17	16:00	77.21	-1,666	25.10	
7/29/17	17:00	76.75	-1,726	24.64	
7/29/17	18:00	76.35	-1,786	24.24	
7/29/17	19:00	75.91	-1,846	23.80	
7/29/17	20:00	75.48	-1,906	23.37	
7/29/17	21:00	75.14	-1,966	23.03	
7/29/17	22:00	74.74	-2,026	22.63	
7/29/17	23:00	74.42	-2,086	22.31	
7/30/17	0:00	74.12	-2,146	22.01	
7/30/17	1:00	73.75	-2,206	21.64	
7/30/17	2:00	73.47	-2,266	21.36	
7/30/17	3:00	73.15	-2,326	21.04	
7/30/17	4:00	72.86	-2,386	20.75	
7/30/17	5:00	72.59	-2,446	20.48	
7/30/17	6:00	72.30	-2,506	20.19	
7/30/17	7:00	71.97	-2,566	19.86	
7/30/17	8:00	71.72	-2,626	19.61	
7/30/17	9:00	71.42	-2,686	19.31	
7/30/17	10:00	71.15	-2,746	19.04	
7/30/17	11:00	70.90	-2,806	18.79	
7/30/17	12:00	70.61	-2,866	18.50	
7/30/17	13:00	70.36	-2,926	18.25	
7/30/17	14:00	70.12	-2,986	18.01	
7/30/17	15:00	69.86	-3,046	17.75	
7/30/17	16:00	69.62	-3,106	17.51	
7/30/17	17:00	69.39	-3,166	17.28	
7/30/17	18:00	69.14	-3,226	17.03	
7/30/17	19:00	68.90	-3,286	16.79	
7/30/17	20:00	68.71	-3,346	16.60	
7/30/17	21:00	68.43	-3,406	16.32	
7/30/17	22:00	68.21	-3,466	16.10	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
7/30/17	23:00	67.96	-3,526	15.85	
7/31/17	0:00	67.77	-3,586	15.66	
7/31/17	1:00	67.60	-3,646	15.49	
7/31/17	2:00	67.35	-3,706	15.24	
7/31/17	3:00	67.19	-3,766	15.08	
7/31/17	4:00	67.00	-3,826	14.89	
7/31/17	5:00	66.90	-3,886	14.79	
7/31/17	6:00	66.67	-3,946	14.56	
7/31/17	7:00	66.50	-4,006	14.39	
7/31/17	8:00	66.25	-4,066	14.14	
7/31/17	9:00	66.10	-4,126	13.99	
7/31/17	10:00	65.93	-4,186	13.82	
7/31/17	11:00	65.70	-4,246	13.59	
7/31/17	12:00	65.31	-4,306	13.20	
7/31/17	13:00	65.36	-4,366	13.25	
7/31/17	14:00	65.17	-4,426	13.06	
7/31/17	15:00	65.01	-4,486	12.90	
7/31/17	16:00	64.81	-4,546	12.70	
7/31/17	17:00	64.66	-4,606	12.55	
7/31/17	18:00	64.50	-4,666	12.39	
7/31/17	19:00	64.37	-4,726	12.26	
7/31/17	20:00	64.21	-4,786	12.10	
7/31/17	21:00	64.04	-4,846	11.93	
7/31/17	22:00	63.91	-4,906	11.80	
7/31/17	23:00	63.74	-4,966	11.63	
8/1/17	0:00	63.59	-5,026	11.48	
8/1/17	1:00	63.43	-5,086	11.32	
8/1/17	2:00	63.32	-5,146	11.21	
8/1/17	3:00	63.21	-5,206	11.10	
8/1/17	4:00	63.10	-5,266	10.99	
8/1/17	5:00	62.95	-5,326	10.84	
8/1/17	6:00	62.86	-5,386	10.75	
8/1/17	7:00	62.75	-5,446	10.64	
8/1/17	8:00	62.63	-5,506	10.52	
8/1/17	9:00	62.48	-5,566	10.37	
8/1/17	10:00	62.34	-5,626	10.23	
8/1/17	11:00	62.20	-5,686	10.09	
8/1/17	12:00	62.03	-5,746	9.92	
8/1/17	13:00	61.93	-5,806	9.82	
8/1/17	14:00	61.75	-5,866	9.64	
8/1/17	15:00	61.64	-5,926	9.53	90% recovery achieved.
8/1/17	16:00	61.54	-5,986	9.43	
8/1/17	17:00	61.42	-6,046	9.31	
8/1/17	18:00	61.31	-6,106	9.20	
8/1/17	19:00	61.22	-6,166	9.11	
8/1/17	20:00	61.08	-6,226	8.97	
8/1/17	21:00	60.95	-6,286	8.84	
8/1/17	22:00	60.85	-6,346	8.74	
8/1/17	23:00	60.75	-6,406	8.64	
8/2/17	0:00	60.64	-6,466	8.53	
8/2/17	1:00	60.51	-6,526	8.40	
8/2/17	2:00	60.43	-6,586	8.32	
8/2/17	3:00	60.34	-6,646	8.23	
8/2/17	4:00	60.27	-6,706	8.15	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-21 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time/ Recovery (minutes)	Drawdown (feet)	Comments
8/2/17	5:00	60.18	-6,766	8.07	
8/2/17	6:00	60.14	-6,826	8.03	
8/2/17	7:00	59.99	-6,886	7.88	
8/2/17	8:00	59.96	-6,946	7.85	
8/2/17	9:00	59.86	-7,006	7.75	
8/2/17	10:00	59.80	-7,066	7.69	
8/2/17	11:00	59.68	-7,126	7.57	
8/2/17	12:00	59.55	-7,186	7.44	
8/2/17	13:00	59.45	-7,246	7.34	
8/2/17	14:00	59.37	-7,306	7.26	
8/2/17	15:00	59.20	-7,366	7.09	
8/2/17	16:00	59.16	-7,426	7.05	
8/2/17	17:00	59.13	-7,486	7.02	
8/2/17	18:00	59.00	-7,546	6.89	
8/2/17	19:00	58.94	-7,606	6.83	
8/2/17	20:00	58.90	-7,666	6.79	
8/2/17	21:00	58.75	-7,726	6.64	
8/2/17	22:00	58.70	-7,786	6.59	
8/2/17	23:00	58.66	-7,846	6.55	
8/3/17	0:00	58.55	-7,906	6.44	
8/3/17	1:00	58.47	-7,966	6.36	
8/3/17	2:00	58.36	-8,026	6.25	
8/3/17	3:00	58.27	-8,086	6.16	
8/3/17	4:00	58.27	-8,146	6.16	
8/3/17	5:00	58.19	-8,206	6.08	
8/3/17	6:00	58.12	-8,266	6.01	
8/3/17	7:00	58.14	-8,326	6.03	
8/3/17	8:00	58.05	-8,386	5.94	
8/3/17	9:00	58.00	-8,446	5.89	
8/3/17	10:00	57.99	-8,506	5.88	
8/3/17	11:00	57.90	-8,566	5.79	
8/3/17	12:00	57.81	-8,626	5.70	
8/3/17	13:00	57.70	-8,686	5.59	
8/3/17	14:00	57.59	-8,746	5.47	
8/3/17	15:00	57.46	-8,806	5.35	
8/3/17	16:00	57.43	-8,866	5.32	
8/3/17	17:00	57.34	-8,926	5.23	
8/3/17	18:00	57.26	-8,986	5.15	
8/3/17	19:00	57.25	-9,046	5.14	
8/3/17	20:00	57.16	-9,106	5.05	
8/3/17	21:00	57.14	-9,166	5.03	
8/3/17	22:00	57.07	-9,226	4.96	
8/3/17	23:00	57.01	-9,286	4.90	

ft btoc	feet below top of casing
gpm	gallons per minute

C-23

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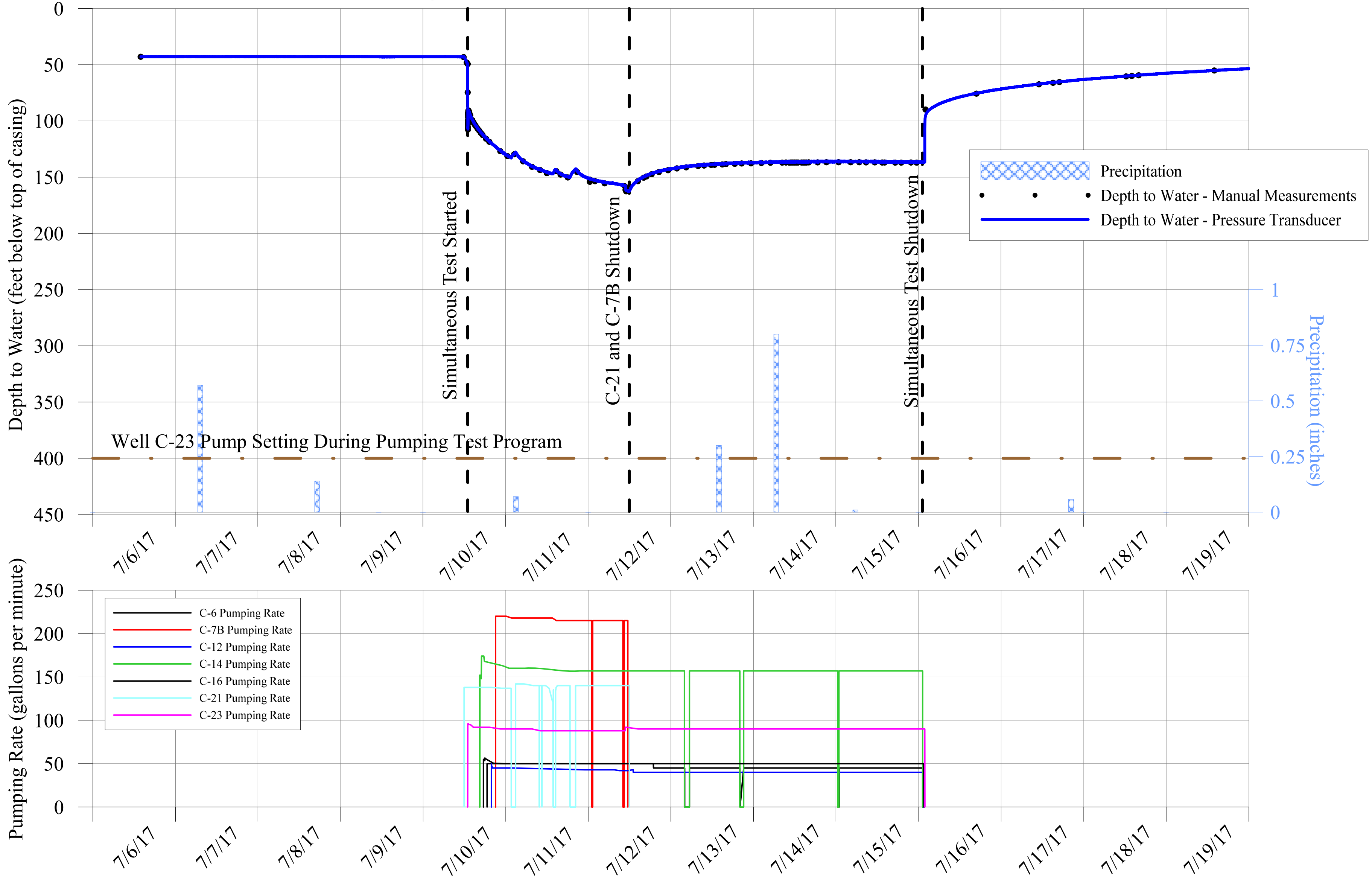
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Pumping Well C-23 During Simultaneous Pumping Test Conducted on Wells 6, 7B, 12, 14, 16, 21, and 23 in July 2017

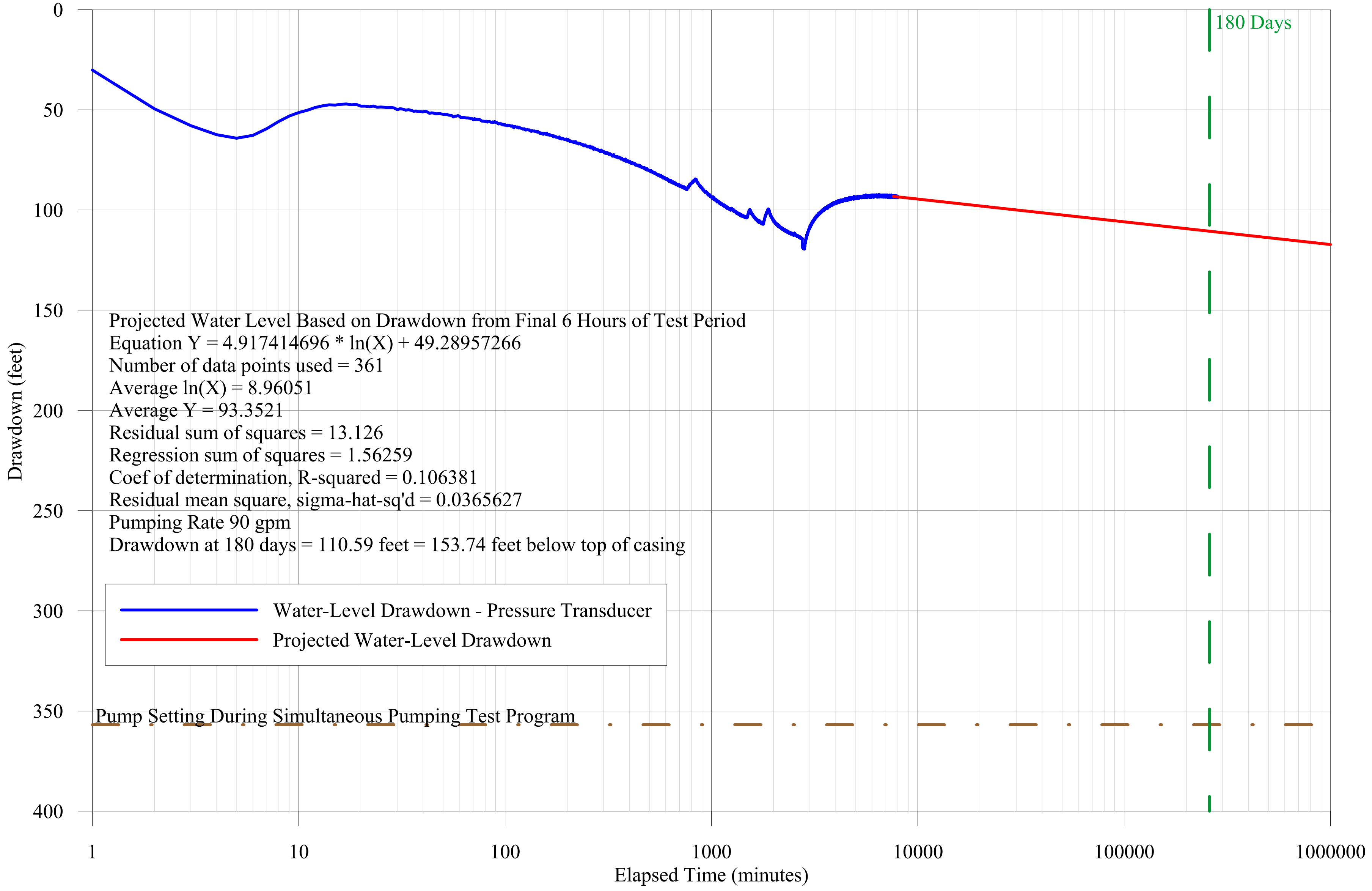


K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Pumping Wells\C-23Simultaneous.grf

LBG Hydrogeologic & Engineering Services, P.C.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

180-Day Water-Level Drawdown Projection on Pumping Well C-23 from Water-Level Measurements Collected from Pumping Well C-23 During Simultanous Pumping Test Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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LBG Hydrogeologic & Engineering Services, P.C.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/6/17	14:00	43.16	--	--	Pressure transducer installed in well.
7/6/17	15:00	42.96	--	--	
7/6/17	16:00	42.99	--	--	
7/6/17	17:00	42.85	--	--	
7/6/17	18:00	42.83	--	--	
7/6/17	19:00	42.88	--	--	
7/6/17	20:00	42.86	--	--	
7/6/17	21:00	42.87	--	--	
7/6/17	22:00	42.91	--	--	
7/6/17	23:00	42.86	--	--	
7/7/17	0:00	42.90	--	--	
7/7/17	1:00	42.91	--	--	
7/7/17	2:00	42.83	--	--	
7/7/17	3:00	42.83	--	--	
7/7/17	4:00	42.80	--	--	
7/7/17	5:00	42.80	--	--	
7/7/17	6:00	42.91	--	--	
7/7/17	7:00	42.80	--	--	
7/7/17	8:00	42.92	--	--	
7/7/17	9:00	42.96	--	--	
7/7/17	10:00	42.90	--	--	
7/7/17	11:00	42.99	--	--	
7/7/17	12:00	42.93	--	--	
7/7/17	13:00	42.92	--	--	
7/7/17	14:00	42.94	--	--	
7/7/17	15:00	42.90	--	--	
7/7/17	16:00	42.78	--	--	
7/7/17	17:00	42.83	--	--	
7/7/17	18:00	42.72	--	--	
7/7/17	19:00	42.73	--	--	
7/7/17	20:00	42.75	--	--	
7/7/17	21:00	42.77	--	--	
7/7/17	22:00	42.76	--	--	
7/7/17	23:00	42.86	--	--	
7/8/17	0:00	42.81	--	--	
7/8/17	1:00	42.82	--	--	
7/8/17	2:00	42.68	--	--	
7/8/17	3:00	42.72	--	--	
7/8/17	4:00	42.69	--	--	
7/8/17	5:00	42.72	--	--	
7/8/17	6:00	42.75	--	--	
7/8/17	7:00	42.71	--	--	
7/8/17	8:00	42.81	--	--	
7/8/17	9:00	42.85	--	--	
7/8/17	10:00	42.86	--	--	
7/8/17	11:00	42.86	--	--	
7/8/17	12:00	42.97	--	--	
7/8/17	13:00	42.86	--	--	
7/8/17	14:00	42.91	--	--	
7/8/17	15:00	42.89	--	--	
7/8/17	16:00	42.85	--	--	
7/8/17	17:00	42.81	--	--	
7/8/17	18:00	42.73	--	--	
7/8/17	19:00	42.75	--	--	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/8/17	20:00	42.80	--	--	
7/8/17	21:00	42.76	--	--	
7/8/17	22:00	42.81	--	--	
7/8/17	23:00	42.85	--	--	
7/9/17	0:00	42.83	--	--	
7/9/17	1:00	42.85	--	--	
7/9/17	2:00	42.89	--	--	
7/9/17	3:00	42.84	--	--	
7/9/17	4:00	42.82	--	--	
7/9/17	5:00	42.77	--	--	
7/9/17	6:00	42.81	--	--	
7/9/17	7:00	42.90	--	--	
7/9/17	8:00	42.90	--	--	
7/9/17	9:00	42.92	--	--	
7/9/17	10:00	43.04	--	--	
7/9/17	11:00	43.06	--	--	
7/9/17	12:00	43.15	--	--	
7/9/17	13:00	43.17	--	--	
7/9/17	14:00	43.04	--	--	
7/9/17	15:00	43.12	--	--	
7/9/17	16:00	43.02	--	--	
7/9/17	17:00	43.02	--	--	
7/9/17	18:00	42.97	--	--	
7/9/17	19:00	42.96	--	--	
7/9/17	20:00	43.01	--	--	
7/9/17	21:00	42.96	--	--	
7/9/17	22:00	42.95	--	--	
7/9/17	23:00	43.06	--	--	
7/10/17	0:00	43.00	--	--	
7/10/17	1:00	43.07	--	--	
7/10/17	2:00	43.02	--	--	
7/10/17	3:00	43.03	--	--	
7/10/17	4:00	43.00	--	--	
7/10/17	5:00	43.03	--	--	
7/10/17	6:00	42.96	--	--	
7/10/17	7:00	42.97	--	--	
7/10/17	8:00	42.90	--	--	
7/10/17	9:00	43.01	--	--	
7/10/17	10:00	42.98	--	--	
7/10/17	11:00	43.12	--	--	
7/10/17	11:54	43.15	--	--	Static water level used from prior to the start of pumping in any onsite wells.
7/10/17	12:00	43.20	--	--	Pump in well C-21 started at 11:55.
7/10/17	12:58	49.27	--	--	
7/10/17	12:59	73.35	1	30.20	Pump in well C-23 started.
7/10/17	13:00	92.67	2	49.52	
7/10/17	13:01	101.07	3	57.92	Pumping rate in well C-23 96 gpm.
7/10/17	13:02	105.60	4	62.45	
7/10/17	13:03	107.33	5	64.18	
7/10/17	13:04	105.90	6	62.75	
7/10/17	13:05	102.58	7	59.43	Pumping rate in well C-23 96 gpm.
7/10/17	13:06	98.96	8	55.81	
7/10/17	13:07	96.21	9	53.06	
7/10/17	13:08	94.47	10	51.32	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/10/17	13:09	93.42	11	50.27	Pumping rate in well C-23 96 gpm.
7/10/17	13:10	92.03	12	48.88	
7/10/17	13:11	91.22	13	48.07	
7/10/17	13:12	90.70	14	47.55	
7/10/17	13:13	90.77	15	47.62	
7/10/17	13:14	90.44	16	47.29	Pumping rate in well C-23 95 gpm.
7/10/17	13:15	90.29	17	47.14	
7/10/17	13:20	91.64	22	48.49	Pumping rate in well C-23 95 gpm.
7/10/17	13:25	92.15	27	49.00	
7/10/17	13:30	92.86	32	49.71	
7/10/17	13:35	93.78	37	50.63	Pumping rate in well C-23 95 gpm.
7/10/17	13:40	94.27	42	51.12	
7/10/17	13:45	95.11	47	51.96	
7/10/17	13:50	95.38	52	52.23	Pumping rate in well C-23 95 gpm.
7/10/17	13:55	96.45	57	53.30	
7/10/17	14:00	96.95	62	53.80	Pumping rate in well C-23 93 gpm.
7/10/17	15:00	102.84	122	59.69	Pumping rate in well C-23 92 gpm.
7/10/17	16:00	107.27	182	64.12	Pumping rate in well C-23 92 gpm.
7/10/17	17:00	110.97	242	67.82	Pump in well C-14 started at 16:24.
7/10/17	18:00	114.07	302	70.92	Pump in well C-16 started at 17:31.
7/10/17	19:00	117.36	362	74.21	Pump in well C-6 started at 18:35.
7/10/17	20:00	120.01	422	76.86	Pump in well C-12 started at 19:48.
7/10/17	21:00	122.48	482	79.33	Pump in well C-7B started at 21:03.
7/10/17	22:00	125.40	542	82.25	Pumping rate in well C-23 90 gpm.
7/10/17	23:00	127.53	602	84.38	Pumping rate in well C-23 90 gpm.
7/11/17	0:00	129.81	662	86.66	Pumping rate in well C-23 90 gpm.
7/11/17	1:00	131.54	722	88.39	Pumping rate in well C-23 90 gpm.
7/11/17	2:00	130.89	782	87.74	Pumping rate in well C-23 90 gpm.
7/11/17	3:00	128.45	842	85.30	Pumping rate in well C-23 90 gpm.
7/11/17	4:00	132.43	902	89.28	Pumping rate in well C-23 90 gpm.
7/11/17	5:00	134.95	962	91.80	Pumping rate in well C-23 90 gpm.
7/11/17	6:00	137.59	1,022	94.44	Pumping rate in well C-23 90 gpm.
7/11/17	7:00	139.27	1,082	96.12	Pumping rate in well C-23 90 gpm.
7/11/17	8:00	140.59	1,142	97.44	Pumping rate in well C-23 90 gpm.
7/11/17	9:00	142.42	1,202	99.27	Pumping rate in well C-23 90 gpm.
7/11/17	10:00	143.06	1,262	99.91	Pumping rate in well C-23 88 gpm.
7/11/17	11:00	144.58	1,322	101.43	Pumping rate in well C-23 88 gpm.
7/11/17	12:00	145.86	1,382	102.71	Pumping rate in well C-23 88 gpm.
7/11/17	13:00	146.72	1,442	103.57	Pumping rate in well C-23 88 gpm.
7/11/17	14:00	145.40	1,502	102.25	Pumping rate in well C-23 88 gpm.
7/11/17	15:00	144.63	1,562	101.48	Pumping rate in well C-23 88 gpm.
7/11/17	16:00	147.26	1,622	104.11	Pumping rate in well C-23 88 gpm.
7/11/17	17:00	148.33	1,682	105.18	Pumping rate in well C-23 88 gpm.
7/11/17	18:00	149.85	1,742	106.70	Pumping rate in well C-23 88 gpm.
7/11/17	19:00	148.35	1,802	105.20	Pumping rate in well C-23 88 gpm.
7/11/17	20:00	143.76	1,862	100.61	Pumping rate in well C-23 88 gpm.
7/11/17	21:00	145.26	1,922	102.11	Pumping rate in well C-23 88 gpm.
7/11/17	22:00	147.79	1,982	104.64	Pumping rate in well C-23 88 gpm.
7/11/17	23:00	149.80	2,042	106.65	Pumping rate in well C-23 88 gpm.
7/12/17	0:00	150.88	2,102	107.73	Pumping rate in well C-23 88 gpm.
7/12/17	1:00	151.90	2,162	108.75	Pumping rate in well C-23 88 gpm.
7/12/17	2:00	153.04	2,222	109.89	Pumping rate in well C-23 88 gpm.
7/12/17	3:00	153.85	2,282	110.70	Pumping rate in well C-23 88 gpm.
7/12/17	4:00	154.14	2,342	110.99	Pumping rate in well C-23 88 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/12/17	5:00	154.53	2,402	111.38	Pumping rate in well C-23 88 gpm.
7/12/17	6:00	155.15	2,462	112.00	Pumping rate in well C-23 88 gpm.
7/12/17	7:00	154.98	2,522	111.83	Pumping rate in well C-23 88 gpm.
7/12/17	8:00	155.77	2,582	112.62	Pumping rate in well C-23 88 gpm.
7/12/17	9:00	156.29	2,642	113.14	Pumping rate in well C-23 88 gpm.
7/12/17	10:00	156.85	2,702	113.70	Pumping rate in well C-23 88 gpm.
7/12/17	10:45	153.37	2,747	114.22	Manually increased pumping rate in well C-23.
7/12/17	11:00	161.74	2,762	118.59	Pumping rate in well C-23 88 gpm.
7/12/17	12:00	162.50	2,822	119.35	Pump in well C-7B shut down at 11:28 and pump in well C-21 shut down at 11:56.
7/12/17	13:00	156.82	2,882	113.67	Pumping rate in well C-23 92 gpm.
7/12/17	14:00	153.97	2,942	110.82	Pumping rate in well C-23 90 gpm.
7/12/17	15:00	151.53	3,002	108.38	Pumping rate in well C-23 90 gpm.
7/12/17	16:00	150.02	3,062	106.87	Pumping rate in well C-23 90 gpm.
7/12/17	17:00	148.19	3,122	105.04	Pumping rate in well C-23 90 gpm.
7/12/17	18:00	147.24	3,182	104.09	Pumping rate in well C-23 90 gpm.
7/12/17	19:00	145.97	3,242	102.82	Pumping rate in well C-23 90 gpm.
7/12/17	20:00	145.01	3,302	101.86	Pumping rate in well C-23 90 gpm.
7/12/17	21:00	144.30	3,362	101.15	Pumping rate in well C-23 90 gpm.
7/12/17	22:00	143.58	3,422	100.43	Pumping rate in well C-23 90 gpm.
7/12/17	23:00	143.28	3,482	100.13	Pumping rate in well C-23 90 gpm.
7/13/17	0:00	142.73	3,542	99.58	Pumping rate in well C-23 90 gpm.
7/13/17	1:00	142.26	3,602	99.11	Pumping rate in well C-23 90 gpm.
7/13/17	2:00	141.53	3,662	98.38	Pumping rate in well C-23 90 gpm.
7/13/17	3:00	141.22	3,722	98.07	Pumping rate in well C-23 90 gpm.
7/13/17	4:00	140.92	3,782	97.77	Pumping rate in well C-23 90 gpm.
7/13/17	5:00	140.13	3,842	96.98	Pumping rate in well C-23 90 gpm.
7/13/17	6:00	139.96	3,902	96.81	Pumping rate in well C-23 90 gpm.
7/13/17	7:00	139.26	3,962	96.11	Pumping rate in well C-23 90 gpm.
7/13/17	8:00	139.50	4,022	96.35	Pumping rate in well C-23 90 gpm.
7/13/17	9:00	139.15	4,082	96.00	Pumping rate in well C-23 90 gpm.
7/13/17	10:00	139.08	4,142	95.93	Pumping rate in well C-23 90 gpm.
7/13/17	11:00	138.38	4,202	95.23	Pumping rate in well C-23 90 gpm.
7/13/17	12:00	138.49	4,262	95.34	Pumping rate in well C-23 90 gpm.
7/13/17	13:00	138.26	4,322	95.11	Pumping rate in well C-23 90 gpm.
7/13/17	14:00	138.64	4,382	95.49	Pumping rate in well C-23 90 gpm.
7/13/17	15:00	138.16	4,442	95.01	Pumping rate in well C-23 90 gpm.
7/13/17	16:00	137.78	4,502	94.63	Pumping rate in well C-23 90 gpm.
7/13/17	17:00	137.78	4,562	94.63	Pumping rate in well C-23 90 gpm.
7/13/17	18:00	137.80	4,622	94.65	Pumping rate in well C-23 90 gpm.
7/13/17	19:00	137.63	4,682	94.48	Pumping rate in well C-23 90 gpm.
7/13/17	20:00	137.38	4,742	94.23	Pumping rate in well C-23 90 gpm.
7/13/17	21:00	137.24	4,802	94.09	Pumping rate in well C-23 90 gpm.
7/13/17	22:00	137.20	4,862	94.05	Pumping rate in well C-23 90 gpm.
7/13/17	23:00	137.32	4,922	94.17	Pumping rate in well C-23 90 gpm.
7/14/17	0:00	136.67	4,982	93.52	Pumping rate in well C-23 90 gpm.
7/14/17	1:00	136.91	5,042	93.76	Pumping rate in well C-23 90 gpm.
7/14/17	2:00	137.14	5,102	93.99	Pumping rate in well C-23 90 gpm.
7/14/17	3:00	136.73	5,162	93.58	Pumping rate in well C-23 90 gpm.
7/14/17	4:00	136.92	5,222	93.77	Pumping rate in well C-23 90 gpm.
7/14/17	5:00	136.67	5,282	93.52	Pumping rate in well C-23 90 gpm.
7/14/17	6:00	136.77	5,342	93.62	Pumping rate in well C-23 90 gpm.
7/14/17	7:00	136.84	5,402	93.69	Pumping rate in well C-23 90 gpm.
7/14/17	8:00	136.61	5,462	93.46	Pumping rate in well C-23 90 gpm.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/14/17	9:00	136.16	5,522	93.01	Pumping rate in well C-23 90 gpm.
7/14/17	10:00	136.35	5,582	93.20	Pumping rate in well C-23 90 gpm.
7/14/17	11:00	136.01	5,642	92.86	Pumping rate in well C-23 90 gpm.
7/14/17	12:00	136.33	5,702	93.18	Pumping rate in well C-23 90 gpm.
7/14/17	13:00	136.41	5,762	93.26	Pumping rate in well C-23 90 gpm.
7/14/17	14:00	136.46	5,822	93.31	Pumping rate in well C-23 90 gpm.
7/14/17	15:00	136.41	5,882	93.26	Pumping rate in well C-23 90 gpm.
7/14/17	16:00	136.50	5,942	93.35	Pumping rate in well C-23 90 gpm.
7/14/17	17:00	136.32	6,002	93.17	Pumping rate in well C-23 90 gpm.
7/14/17	18:00	136.32	6,062	93.17	Pumping rate in well C-23 90 gpm.
7/14/17	19:00	136.24	6,122	93.09	Pumping rate in well C-23 90 gpm.
7/14/17	20:00	135.92	6,182	92.77	Pumping rate in well C-23 90 gpm.
7/14/17	21:00	136.15	6,242	93.00	Pumping rate in well C-23 90 gpm.
7/14/17	22:00	136.32	6,302	93.17	Pumping rate in well C-23 90 gpm.
7/14/17	23:00	136.15	6,362	93.00	Pumping rate in well C-23 90 gpm.
7/15/17	0:00	136.02	6,422	92.87	Pumping rate in well C-23 90 gpm.
7/15/17	1:00	136.17	6,482	93.02	Pumping rate in well C-23 90 gpm.
7/15/17	2:00	135.99	6,542	92.84	Pumping rate in well C-23 90 gpm.
7/15/17	3:00	136.23	6,602	93.08	Pumping rate in well C-23 90 gpm.
7/15/17	4:00	136.13	6,662	92.98	Pumping rate in well C-23 90 gpm.
7/15/17	5:00	136.55	6,722	93.40	Pumping rate in well C-23 90 gpm.
7/15/17	6:00	136.26	6,782	93.11	Pumping rate in well C-23 90 gpm.
7/15/17	7:00	136.30	6,842	93.15	Pumping rate in well C-23 90 gpm.
7/15/17	8:00	136.16	6,902	93.01	Pumping rate in well C-23 90 gpm.
7/15/17	9:00	135.71	6,962	92.56	Pumping rate in well C-23 90 gpm.
7/15/17	10:00	135.92	7,022	92.77	Pumping rate in well C-23 90 gpm.
7/15/17	11:00	136.66	7,082	93.51	Pumping rate in well C-23 90 gpm.
7/15/17	12:00	136.20	7,142	93.05	Pumping rate in well C-23 90 gpm.
7/15/17	13:00	136.43	7,202	93.28	Pumping rate in well C-23 90 gpm.
7/15/17	14:00	136.37	7,262	93.22	Pumping rate in well C-23 90 gpm.
7/15/17	15:00	136.33	7,322	93.18	Pumping rate in well C-23 90 gpm.
7/15/17	16:00	136.25	7,382	93.10	Pumping rate in well C-23 90 gpm.
7/15/17	17:00	136.29	7,442	93.14	Pumping rate in well C-23 90 gpm.
7/15/17	18:00	136.28	7,502	93.13	Pumping rate in well C-23 90 gpm.
7/15/17	19:00	136.14	7,562	92.99	Pumping rate in well C-23 90 gpm.
7/15/17	19:09	136.24	7,571	93.09	Pumping rate in well C-23 90 gpm.
7/15/17	20:00	136.50	7,622	93.35	Pumping rate in well C-23 90 gpm.
7/15/17	21:00	136.35	7,682	93.20	Pumping rate in well C-23 90 gpm.
7/15/17	22:00	136.84	7,742	93.69	Pumping rate in well C-23 90 gpm.
7/15/17	23:00	136.34	7,802	93.19	Pumping rate in well C-23 90 gpm.
7/16/17	0:00	136.00	7,862	92.85	Pumping rate in well C-23 90 gpm.
7/16/17	1:00	136.70	7,922	93.55	Pumping rate in well C-23 90 gpm.
7/16/17	1:09	136.75	7,931	93.60	Shut down of simultaneous pumping test (wells C-6, 12, 14, 16, and 23) started.
7/16/17	1:47	136.59	7,969	93.44	Pumping rate in well C-23 90 gpm.
7/16/17	1:48	136.65	7,970	93.50	Pumping rate in well C-23 90 gpm.
7/16/17	1:49	118.36	-1	75.21	Pump in well C-23 shut down.
7/16/17	1:50	107.15	-2	64.00	
7/16/17	1:51	102.66	-3	59.51	
7/16/17	1:52	100.80	-4	57.65	
7/16/17	1:53	99.55	-5	56.40	
7/16/17	1:54	98.61	-6	55.46	
7/16/17	1:55	97.92	-7	54.77	
7/16/17	1:56	97.47	-8	54.32	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/16/17	1:57	97.09	-9	53.94	
7/16/17	1:58	96.56	-10	53.41	
7/16/17	1:59	96.22	-11	53.07	
7/16/17	2:00	96.03	-12	52.88	
7/16/17	2:01	95.89	-13	52.74	
7/16/17	2:02	95.46	-14	52.31	
7/16/17	2:03	95.34	-15	52.19	
7/16/17	2:04	95.26	-16	52.11	
7/16/17	2:05	94.99	-17	51.84	
7/16/17	2:10	94.21	-22	51.06	
7/16/17	2:15	93.80	-27	50.65	
7/16/17	2:20	93.16	-32	50.01	
7/16/17	2:25	92.77	-37	49.62	
7/16/17	2:30	92.29	-42	49.14	
7/16/17	2:35	91.99	-47	48.84	
7/16/17	2:40	91.77	-52	48.62	
7/16/17	3:00	90.65	-72	47.50	
7/16/17	4:00	88.22	-132	45.07	
7/16/17	5:00	86.34	-192	43.19	
7/16/17	6:00	84.93	-252	41.78	
7/16/17	7:00	83.52	-312	40.37	
7/16/17	8:00	82.38	-372	39.23	
7/16/17	9:00	81.36	-432	38.21	
7/16/17	10:00	80.36	-492	37.21	
7/16/17	11:00	79.51	-552	36.36	
7/16/17	12:00	78.68	-612	35.53	
7/16/17	13:00	78.01	-672	34.86	
7/16/17	14:00	77.25	-732	34.10	
7/16/17	15:00	76.48	-792	33.33	
7/16/17	16:00	75.87	-852	32.72	
7/16/17	17:00	75.30	-912	32.15	
7/16/17	18:00	74.72	-972	31.57	
7/16/17	19:00	74.29	-1,032	31.14	
7/16/17	20:00	73.54	-1,092	30.39	
7/16/17	21:00	72.97	-1,152	29.82	
7/16/17	22:00	72.50	-1,212	29.35	
7/16/17	23:00	72.08	-1,272	28.93	
7/17/17	0:00	71.52	-1,332	28.37	
7/17/17	1:00	71.03	-1,392	27.88	
7/17/17	2:00	70.69	-1,452	27.54	
7/17/17	3:00	70.40	-1,512	27.25	
7/17/17	4:00	69.83	-1,572	26.68	
7/17/17	5:00	69.49	-1,632	26.34	
7/17/17	6:00	69.12	-1,692	25.97	
7/17/17	7:00	68.66	-1,752	25.51	
7/17/17	8:00	68.29	-1,812	25.14	
7/17/17	9:00	67.97	-1,872	24.82	
7/17/17	10:00	67.64	-1,932	24.49	
7/17/17	11:00	67.24	-1,992	24.09	
7/17/17	12:00	66.86	-2,052	23.71	
7/17/17	13:00	66.53	-2,112	23.38	
7/17/17	14:00	66.05	-2,172	22.90	
7/17/17	15:00	65.91	-2,232	22.76	
7/17/17	16:00	65.47	-2,292	22.32	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/17/17	17:00	65.20	-2,352	22.05	
7/17/17	18:00	64.84	-2,412	21.69	
7/17/17	19:00	64.71	-2,472	21.56	
7/17/17	20:00	64.33	-2,532	21.18	
7/17/17	21:00	64.05	-2,592	20.90	
7/17/17	22:00	63.60	-2,652	20.45	
7/17/17	23:00	63.42	-2,712	20.27	
7/18/17	0:00	63.15	-2,772	20.00	
7/18/17	1:00	62.86	-2,832	19.71	
7/18/17	2:00	62.61	-2,892	19.46	
7/18/17	3:00	62.36	-2,952	19.21	
7/18/17	4:00	62.11	-3,012	18.96	
7/18/17	5:00	61.92	-3,072	18.77	
7/18/17	6:00	61.64	-3,132	18.49	
7/18/17	7:00	61.44	-3,192	18.29	
7/18/17	8:00	61.19	-3,252	18.04	
7/18/17	9:00	60.94	-3,312	17.79	
7/18/17	10:00	60.69	-3,372	17.54	
7/18/17	11:00	60.42	-3,432	17.27	
7/18/17	12:00	60.16	-3,492	17.01	
7/18/17	13:00	59.91	-3,552	16.76	
7/18/17	14:00	59.58	-3,612	16.43	
7/18/17	15:00	59.49	-3,672	16.34	
7/18/17	16:00	59.25	-3,732	16.10	
7/18/17	17:00	59.03	-3,792	15.88	
7/18/17	18:00	58.80	-3,852	15.65	
7/18/17	19:00	58.66	-3,912	15.51	
7/18/17	20:00	58.36	-3,972	15.21	
7/18/17	21:00	58.14	-4,032	14.99	
7/18/17	22:00	58.04	-4,092	14.89	
7/18/17	23:00	57.80	-4,152	14.65	
7/19/17	0:00	57.65	-4,212	14.50	
7/19/17	1:00	57.47	-4,272	14.32	
7/19/17	2:00	57.22	-4,332	14.07	
7/19/17	3:00	56.98	-4,392	13.83	
7/19/17	4:00	56.80	-4,452	13.65	
7/19/17	5:00	56.72	-4,512	13.57	
7/19/17	6:00	56.55	-4,572	13.40	
7/19/17	7:00	56.44	-4,632	13.29	
7/19/17	8:00	56.25	-4,692	13.10	
7/19/17	9:00	55.95	-4,752	12.80	
7/19/17	10:00	55.91	-4,812	12.76	
7/19/17	11:00	55.81	-4,872	12.66	
7/19/17	12:00	55.39	-4,932	12.24	
7/19/17	13:00	55.28	-4,992	12.13	
7/19/17	14:00	55.14	-5,052	11.99	
7/19/17	15:00	54.89	-5,112	11.74	
7/19/17	16:00	54.69	-5,172	11.54	
7/19/17	17:00	54.61	-5,232	11.46	
7/19/17	18:00	54.43	-5,292	11.28	
7/19/17	19:00	54.24	-5,352	11.09	
7/19/17	20:00	54.11	-5,412	10.96	
7/19/17	21:00	53.97	-5,472	10.82	
7/19/17	22:00	53.81	-5,532	10.66	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/19/17	23:00	53.72	-5,592	10.57	
7/20/17	0:00	53.49	-5,652	10.34	
7/20/17	1:00	53.35	-5,712	10.20	
7/20/17	2:00	53.18	-5,772	10.03	
7/20/17	3:00	53.02	-5,832	9.87	
7/20/17	4:00	53.00	-5,892	9.85	
7/20/17	5:00	52.87	-5,952	9.72	
7/20/17	6:00	52.70	-6,012	9.55	
7/20/17	7:00	52.62	-6,072	9.47	
7/20/17	8:00	52.56	-6,132	9.41	
7/20/17	9:00	52.41	-6,192	9.26	90% recovery achieved.
7/20/17	10:00	52.27	-6,252	9.12	
7/20/17	11:00	52.20	-6,312	9.05	
7/20/17	12:00	52.06	-6,372	8.91	
7/20/17	13:00	51.97	-6,432	8.82	
7/20/17	14:00	51.80	-6,492	8.65	
7/20/17	15:00	51.49	-6,552	8.34	
7/20/17	16:00	51.53	-6,612	8.38	
7/20/17	17:00	51.31	-6,672	8.16	
7/20/17	18:00	51.20	-6,732	8.05	
7/20/17	19:00	51.25	-6,792	8.10	
7/20/17	20:00	51.03	-6,852	7.88	
7/20/17	21:00	50.96	-6,912	7.81	
7/20/17	22:00	50.82	-6,972	7.67	
7/20/17	23:00	50.71	-7,032	7.56	
7/21/17	0:00	50.63	-7,092	7.48	
7/21/17	1:00	50.48	-7,152	7.33	
7/21/17	2:00	50.39	-7,212	7.24	
7/21/17	3:00	50.24	-7,272	7.09	
7/21/17	4:00	50.19	-7,332	7.04	
7/21/17	5:00	50.12	-7,392	6.97	
7/21/17	6:00	50.08	-7,452	6.93	
7/21/17	7:00	49.97	-7,512	6.82	
7/21/17	8:00	49.88	-7,572	6.73	
7/21/17	9:00	49.84	-7,632	6.69	
7/21/17	10:00	49.76	-7,692	6.61	
7/21/17	11:00	49.68	-7,752	6.53	
7/21/17	12:00	49.65	-7,812	6.50	
7/21/17	13:00	49.49	-7,872	6.34	
7/21/17	14:00	49.32	-7,932	6.17	
7/21/17	15:00	49.05	-7,992	5.90	
7/21/17	16:00	49.09	-8,052	5.94	
7/21/17	17:00	48.93	-8,112	5.78	
7/21/17	18:00	48.83	-8,172	5.68	
7/21/17	19:00	48.84	-8,232	5.69	
7/21/17	20:00	48.79	-8,292	5.64	
7/21/17	21:00	48.63	-8,352	5.48	
7/21/17	22:00	48.62	-8,412	5.47	
7/21/17	23:00	48.46	-8,472	5.31	
7/22/17	0:00	48.51	-8,532	5.36	
7/22/17	1:00	48.39	-8,592	5.24	
7/22/17	2:00	48.31	-8,652	5.16	
7/22/17	3:00	48.22	-8,712	5.07	
7/22/17	4:00	48.13	-8,772	4.98	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/22/17	5:00	47.99	-8,832	4.84	
7/22/17	6:00	47.95	-8,892	4.80	
7/22/17	7:00	47.94	-8,952	4.79	
7/22/17	8:00	47.89	-9,012	4.74	
7/22/17	9:00	47.81	-9,072	4.66	
7/22/17	10:00	47.88	-9,132	4.73	
7/22/17	11:00	47.75	-9,192	4.60	
7/22/17	12:00	47.72	-9,252	4.57	
7/22/17	13:00	47.59	-9,312	4.44	
7/22/17	14:00	47.46	-9,372	4.31	
7/22/17	15:00	47.31	-9,432	4.16	
7/22/17	16:00	47.25	-9,492	4.10	
7/22/17	17:00	47.21	-9,552	4.06	
7/22/17	18:00	47.07	-9,612	3.92	
7/22/17	19:00	47.06	-9,672	3.91	
7/22/17	20:00	47.02	-9,732	3.87	
7/22/17	21:00	46.89	-9,792	3.74	
7/22/17	22:00	46.90	-9,852	3.75	
7/22/17	23:00	46.88	-9,912	3.73	
7/23/17	0:00	46.71	-9,972	3.56	
7/23/17	1:00	46.57	-10,032	3.42	
7/23/17	2:00	46.67	-10,092	3.52	
7/23/17	3:00	46.49	-10,152	3.34	
7/23/17	4:00	46.50	-10,212	3.35	
7/23/17	5:00	46.43	-10,272	3.28	
7/23/17	6:00	46.37	-10,332	3.22	
7/23/17	7:00	46.22	-10,392	3.07	
7/23/17	8:00	46.31	-10,452	3.16	
7/23/17	9:00	46.32	-10,512	3.17	
7/23/17	10:00	46.26	-10,572	3.11	
7/23/17	11:00	46.25	-10,632	3.10	
7/23/17	12:00	46.11	-10,692	2.96	
7/23/17	13:00	46.25	-10,752	3.10	
7/23/17	14:00	46.12	-10,812	2.97	
7/23/17	15:00	46.02	-10,872	2.87	
7/23/17	16:00	45.89	-10,932	2.74	
7/23/17	17:00	45.70	-10,992	2.55	
7/23/17	18:00	45.71	-11,052	2.56	
7/23/17	19:00	45.62	-11,112	2.47	
7/23/17	20:00	45.53	-11,172	2.38	
7/23/17	21:00	45.57	-11,232	2.42	
7/23/17	22:00	45.50	-11,292	2.35	
7/23/17	23:00	45.58	-11,352	2.43	
7/24/17	0:00	45.47	-11,412	2.32	
7/24/17	1:00	45.45	-11,472	2.30	
7/24/17	2:00	45.40	-11,532	2.25	
7/24/17	3:00	45.28	-11,592	2.13	
7/24/17	4:00	45.31	-11,652	2.16	
7/24/17	5:00	45.21	-11,712	2.06	
7/24/17	6:00	45.08	-11,772	1.93	
7/24/17	7:00	45.03	-11,832	1.88	
7/24/17	8:00	45.10	-11,892	1.95	
7/24/17	9:00	45.09	-11,952	1.94	
7/24/17	10:00	45.06	-12,012	1.91	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/24/17	11:00	44.95	-12,072	1.80	
7/24/17	12:00	44.95	-12,132	1.80	
7/24/17	13:00	45.02	-12,192	1.87	
7/24/17	14:00	44.93	-12,252	1.78	
7/24/17	15:00	44.91	-12,312	1.76	
7/24/17	16:00	44.68	-12,372	1.53	
7/24/17	17:00	44.75	-12,432	1.60	
7/24/17	18:00	44.64	-12,492	1.49	
7/24/17	19:00	44.54	-12,552	1.39	
7/24/17	20:00	44.43	-12,612	1.28	
7/24/17	21:00	44.43	-12,672	1.28	
7/24/17	22:00	44.29	-12,732	1.14	
7/24/17	23:00	44.32	-12,792	1.17	
7/25/17	0:00	44.27	-12,852	1.12	
7/25/17	1:00	44.22	-12,912	1.07	
7/25/17	2:00	44.27	-12,972	1.12	
7/25/17	3:00	44.17	-13,032	1.02	
7/25/17	4:00	44.09	-13,092	0.94	
7/25/17	5:00	44.14	-13,152	0.98	
7/25/17	6:00	44.04	-13,212	0.89	
7/25/17	7:00	44.01	-13,272	0.86	
7/25/17	8:00	44.01	-13,332	0.86	
7/25/17	9:00	44.02	-13,392	0.87	
7/25/17	10:00	44.09	-13,452	0.94	
7/25/17	11:00	44.02	-13,512	0.87	
7/25/17	11:44	44.03	-13,556	0.88	Pump in well C-21 started at 11:44.
7/25/17	12:00	46.30	-13,572	3.15	
7/25/17	13:00	51.99	-13,632	8.84	
7/25/17	14:00	55.79	-13,692	12.64	
7/25/17	15:00	58.85	-13,752	15.70	
7/25/17	16:00	61.40	-13,812	18.25	
7/25/17	17:00	63.61	-13,872	20.46	
7/25/17	18:00	65.71	-13,932	22.56	
7/25/17	19:00	67.62	-13,992	24.47	
7/25/17	20:00	69.37	-14,052	26.22	
7/25/17	21:00	70.85	-14,112	27.70	
7/25/17	22:00	72.33	-14,172	29.18	
7/25/17	23:00	73.79	-14,232	30.64	
7/26/17	0:00	75.05	-14,292	31.90	
7/26/17	1:00	76.27	-14,352	33.12	
7/26/17	2:00	77.45	-14,412	34.30	
7/26/17	3:00	78.61	-14,472	35.46	
7/26/17	4:00	79.59	-14,532	36.44	
7/26/17	5:00	80.61	-14,592	37.46	
7/26/17	6:00	81.43	-14,652	38.28	
7/26/17	7:00	82.51	-14,712	39.36	
7/26/17	8:00	83.27	-14,772	40.12	
7/26/17	9:00	84.18	-14,832	41.03	
7/26/17	10:00	84.99	-14,892	41.84	
7/26/17	11:00	85.91	-14,952	42.76	
7/26/17	12:00	86.57	-15,012	43.42	
7/26/17	13:00	87.32	-15,072	44.17	
7/26/17	14:00	88.00	-15,132	44.85	
7/26/17	15:00	88.65	-15,192	45.50	

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/26/17	16:00	89.30	-15,252	46.15	
7/26/17	17:00	89.90	-15,312	46.75	
7/26/17	18:00	90.37	-15,372	47.22	
7/26/17	19:00	91.05	-15,432	47.90	
7/26/17	20:00	91.69	-15,492	48.54	
7/26/17	21:00	92.22	-15,552	49.07	
7/26/17	22:00	92.80	-15,612	49.65	
7/26/17	23:00	93.35	-15,672	50.20	
7/27/17	0:00	93.92	-15,732	50.77	
7/27/17	1:00	94.38	-15,792	51.23	
7/27/17	2:00	95.00	-15,852	51.85	
7/27/17	3:00	95.38	-15,912	52.23	
7/27/17	4:00	95.86	-15,972	52.71	
7/27/17	5:00	96.23	-16,032	53.08	
7/27/17	6:00	96.60	-16,092	53.45	
7/27/17	7:00	97.06	-16,152	53.91	
7/27/17	8:00	97.43	-16,212	54.28	
7/27/17	9:00	97.87	-16,272	54.72	
7/27/17	10:00	98.25	-16,332	55.10	
7/27/17	11:00	98.82	-16,392	55.67	
7/27/17	12:00	99.15	-16,452	56.00	
7/27/17	13:00	99.58	-16,512	56.43	
7/27/17	14:00	99.83	-16,572	56.68	
7/27/17	15:00	100.30	-16,632	57.15	
7/27/17	16:00	100.58	-16,692	57.43	
7/27/17	17:00	101.00	-16,752	57.85	
7/27/17	18:00	101.12	-16,812	57.97	
7/27/17	19:00	101.43	-16,872	58.28	
7/27/17	20:00	101.80	-16,932	58.65	
7/27/17	21:00	102.09	-16,992	58.94	
7/27/17	22:00	102.34	-17,052	59.19	
7/27/17	23:00	102.70	-17,112	59.55	
7/28/17	0:00	102.89	-17,172	59.74	
7/28/17	1:00	103.23	-17,232	60.08	
7/28/17	2:00	103.45	-17,292	60.30	
7/28/17	3:00	103.80	-17,352	60.65	
7/28/17	4:00	103.95	-17,412	60.80	
7/28/17	5:00	104.26	-17,472	61.11	
7/28/17	6:00	104.40	-17,532	61.25	
7/28/17	7:00	104.71	-17,592	61.56	
7/28/17	8:00	104.79	-17,652	61.64	
7/28/17	9:00	105.02	-17,712	61.87	
7/28/17	10:00	105.27	-17,772	62.12	
7/28/17	11:00	105.46	-17,832	62.31	
7/28/17	12:00	105.68	-17,892	62.53	
7/28/17	12:15	105.75	-17,907	62.60	Pump in well C-21 shut down at 12:15.
7/28/17	13:00	100.90	-17,952	57.75	
7/28/17	14:00	96.66	-18,012	53.51	
7/28/17	15:00	93.80	-18,072	50.65	
7/28/17	16:00	91.36	-18,132	48.21	
7/28/17	17:00	89.42	-18,192	46.27	
7/28/17	18:00	87.71	-18,252	44.56	
7/28/17	19:00	86.27	-18,312	43.12	
7/28/17	20:00	84.92	-18,372	41.77	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/28/17	21:00	83.62	-18,432	40.47	
7/28/17	22:00	82.68	-18,492	39.53	
7/28/17	23:00	81.65	-18,552	38.50	
7/29/17	0:00	80.56	-18,612	37.41	
7/29/17	1:00	79.69	-18,672	36.54	
7/29/17	2:00	78.94	-18,732	35.79	
7/29/17	3:00	78.12	-18,792	34.97	
7/29/17	4:00	77.47	-18,852	34.32	
7/29/17	5:00	76.67	-18,912	33.52	
7/29/17	6:00	75.92	-18,972	32.77	
7/29/17	7:00	75.33	-19,032	32.18	
7/29/17	8:00	74.77	-19,092	31.62	
7/29/17	9:00	74.02	-19,152	30.87	
7/29/17	10:00	73.56	-19,212	30.41	
7/29/17	11:00	72.93	-19,272	29.78	
7/29/17	12:00	72.47	-19,332	29.32	
7/29/17	13:00	71.98	-19,392	28.83	
7/29/17	14:00	71.52	-19,452	28.37	
7/29/17	15:00	71.17	-19,512	28.02	
7/29/17	16:00	70.59	-19,572	27.44	
7/29/17	17:00	70.14	-19,632	26.99	
7/29/17	18:00	69.76	-19,692	26.61	
7/29/17	19:00	69.39	-19,752	26.24	
7/29/17	20:00	68.97	-19,812	25.82	
7/29/17	21:00	68.57	-19,872	25.42	
7/29/17	22:00	68.15	-19,932	25.00	
7/29/17	23:00	67.78	-19,992	24.63	
7/30/17	0:00	67.45	-20,052	24.30	
7/30/17	1:00	67.04	-20,112	23.89	
7/30/17	2:00	66.85	-20,172	23.70	
7/30/17	3:00	66.45	-20,232	23.30	
7/30/17	4:00	66.16	-20,292	23.01	
7/30/17	5:00	65.85	-20,352	22.70	
7/30/17	6:00	65.62	-20,412	22.47	
7/30/17	7:00	65.42	-20,472	22.27	
7/30/17	8:00	65.00	-20,532	21.85	
7/30/17	9:00	64.69	-20,592	21.54	
7/30/17	10:00	64.38	-20,652	21.23	
7/30/17	11:00	64.13	-20,712	20.98	
7/30/17	12:00	63.91	-20,772	20.76	
7/30/17	13:00	63.65	-20,832	20.50	
7/30/17	14:00	63.45	-20,892	20.30	
7/30/17	15:00	63.10	-20,952	19.95	
7/30/17	16:00	62.80	-21,012	19.65	
7/30/17	17:00	62.58	-21,072	19.43	
7/30/17	18:00	62.35	-21,132	19.20	
7/30/17	19:00	62.04	-21,192	18.89	
7/30/17	20:00	61.86	-21,252	18.71	
7/30/17	21:00	61.64	-21,312	18.49	
7/30/17	22:00	61.39	-21,372	18.24	
7/30/17	23:00	61.05	-21,432	17.90	
7/31/17	0:00	60.81	-21,492	17.66	
7/31/17	1:00	60.64	-21,552	17.49	
7/31/17	2:00	60.39	-21,612	17.24	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
7/31/17	3:00	60.30	-21,672	17.15	
7/31/17	4:00	60.03	-21,732	16.88	
7/31/17	5:00	59.94	-21,792	16.79	
7/31/17	6:00	59.76	-21,852	16.61	
7/31/17	7:00	59.47	-21,912	16.32	
7/31/17	8:00	59.34	-21,972	16.19	
7/31/17	9:00	59.08	-22,032	15.93	
7/31/17	10:00	58.86	-22,092	15.71	
7/31/17	11:00	58.67	-22,152	15.52	
7/31/17	12:00	58.47	-22,212	15.32	
7/31/17	13:00	58.32	-22,272	15.17	
7/31/17	14:00	58.17	-22,332	15.02	
7/31/17	15:00	57.89	-22,392	14.74	
7/31/17	16:00	57.68	-22,452	14.53	
7/31/17	17:00	57.61	-22,512	14.46	
7/31/17	18:00	57.39	-22,572	14.24	
7/31/17	19:00	57.24	-22,632	14.09	
7/31/17	20:00	57.07	-22,692	13.92	
7/31/17	21:00	56.87	-22,752	13.72	
7/31/17	22:00	56.74	-22,812	13.59	
7/31/17	23:00	56.62	-22,872	13.47	
8/1/17	0:00	56.50	-22,932	13.35	
8/1/17	1:00	56.21	-22,992	13.06	
8/1/17	2:00	56.14	-23,052	12.99	
8/1/17	3:00	55.85	-23,112	12.70	
8/1/17	4:00	55.92	-23,172	12.77	
8/1/17	5:00	55.76	-23,232	12.61	
8/1/17	6:00	55.58	-23,292	12.43	
8/1/17	7:00	55.40	-23,352	12.25	
8/1/17	8:00	55.42	-23,412	12.27	
8/1/17	9:00	55.17	-23,472	12.02	
8/1/17	10:00	55.10	-23,532	11.95	
8/1/17	11:00	55.00	-23,592	11.85	
8/1/17	12:00	54.80	-23,652	11.65	
8/1/17	13:00	54.59	-23,712	11.44	
8/1/17	14:00	54.47	-23,772	11.32	
8/1/17	15:00	54.38	-23,832	11.23	
8/1/17	16:00	54.31	-23,892	11.16	
8/1/17	17:00	54.10	-23,952	10.95	
8/1/17	18:00	54.00	-24,012	10.85	
8/1/17	19:00	53.96	-24,072	10.81	
8/1/17	20:00	53.73	-24,132	10.58	
8/1/17	21:00	53.58	-24,192	10.43	
8/1/17	22:00	53.50	-24,252	10.35	
8/1/17	23:00	53.42	-24,312	10.27	
8/2/17	0:00	53.27	-24,372	10.12	
8/2/17	1:00	53.18	-24,432	10.03	
8/2/17	2:00	53.03	-24,492	9.88	
8/2/17	3:00	52.95	-24,552	9.80	
8/2/17	4:00	52.80	-24,612	9.65	
8/2/17	5:00	52.90	-24,672	9.75	
8/2/17	6:00	52.71	-24,732	9.56	
8/2/17	7:00	52.60	-24,792	9.45	
8/2/17	8:00	52.49	-24,852	9.34	

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Summary of Water-Level Measurements from Pressure Transducer Installed in Well C-23 Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

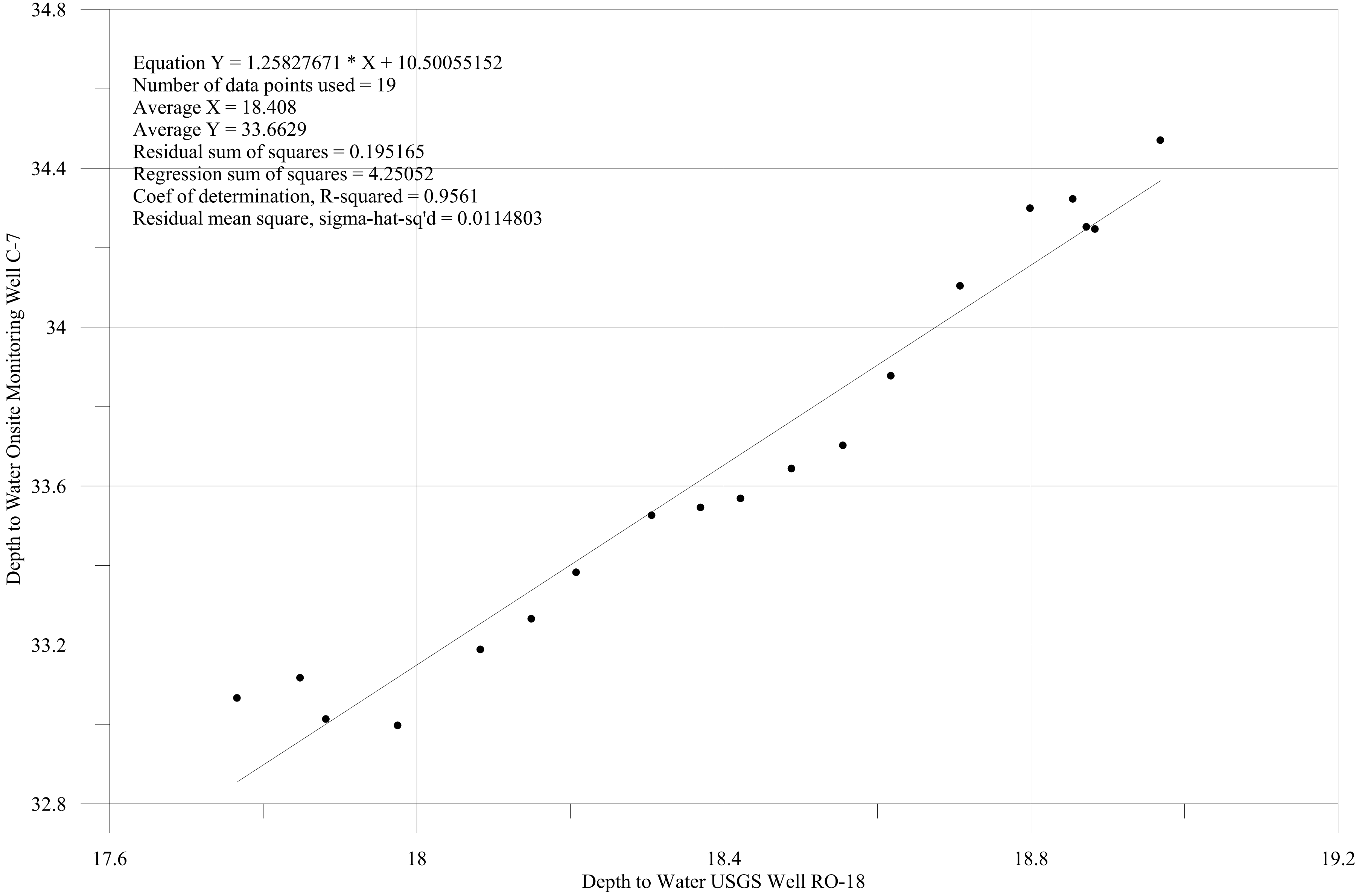
Date	Time	Depth to Water (ft btoc)	Elapsed Time /Recovery (minutes)	Drawdown (feet)	Comments
8/2/17	9:00	52.36	-24,912	9.21	
8/2/17	10:00	52.37	-24,972	9.22	
8/2/17	11:00	52.31	-25,032	9.16	
8/2/17	12:00	52.07	-25,092	8.92	
8/2/17	13:00	51.93	-25,152	8.78	
8/2/17	14:00	51.79	-25,212	8.64	
8/2/17	15:00	51.73	-25,272	8.58	
8/2/17	16:00	51.64	-25,332	8.49	
8/2/17	17:00	51.61	-25,392	8.46	
8/2/17	18:00	51.54	-25,452	8.39	
8/2/17	19:00	51.44	-25,512	8.29	
8/2/17	20:00	51.36	-25,572	8.21	
8/2/17	21:00	51.27	-25,632	8.12	
8/2/17	22:00	51.14	-25,692	7.99	
8/2/17	23:00	51.11	-25,752	7.96	
8/3/17	0:00	51.02	-25,812	7.87	
8/3/17	1:00	50.93	-25,872	7.78	
8/3/17	2:00	50.89	-25,932	7.74	
8/3/17	3:00	50.72	-25,992	7.57	
8/3/17	4:00	50.75	-26,052	7.60	
8/3/17	5:00	50.71	-26,112	7.56	
8/3/17	6:00	50.56	-26,172	7.41	
8/3/17	7:00	50.41	-26,232	7.26	
8/3/17	8:00	50.43	-26,292	7.28	
8/3/17	9:00	50.34	-26,352	7.19	
8/3/17	10:00	50.42	-26,412	7.27	
8/3/17	11:00	50.36	-26,472	7.21	
8/3/17	12:00	50.16	-26,532	7.01	
8/3/17	13:00	50.17	-26,592	7.02	
8/3/17	14:00	49.88	-26,652	6.73	
8/3/17	15:00	49.85	-26,712	6.70	
8/3/17	16:00	49.83	-26,772	6.68	
8/3/17	17:00	49.69	-26,832	6.54	
8/3/17	18:00	49.68	-26,892	6.53	
8/3/17	19:00	49.56	-26,952	6.41	
8/3/17	20:00	49.65	-27,012	6.50	
8/3/17	21:00	49.49	-27,072	6.34	
8/3/17	22:00	49.44	-27,132	6.29	
8/3/17	23:00	49.34	-27,192	6.19	

ft btoc	feet below top of casing
gpm	gallons per minute

APPENDIX V

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Correlation of Water-Level Measurements Between USGS Well RO-18 and Onsite Monitoring Well C-7



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Drought\RO-18vsC-7.grf

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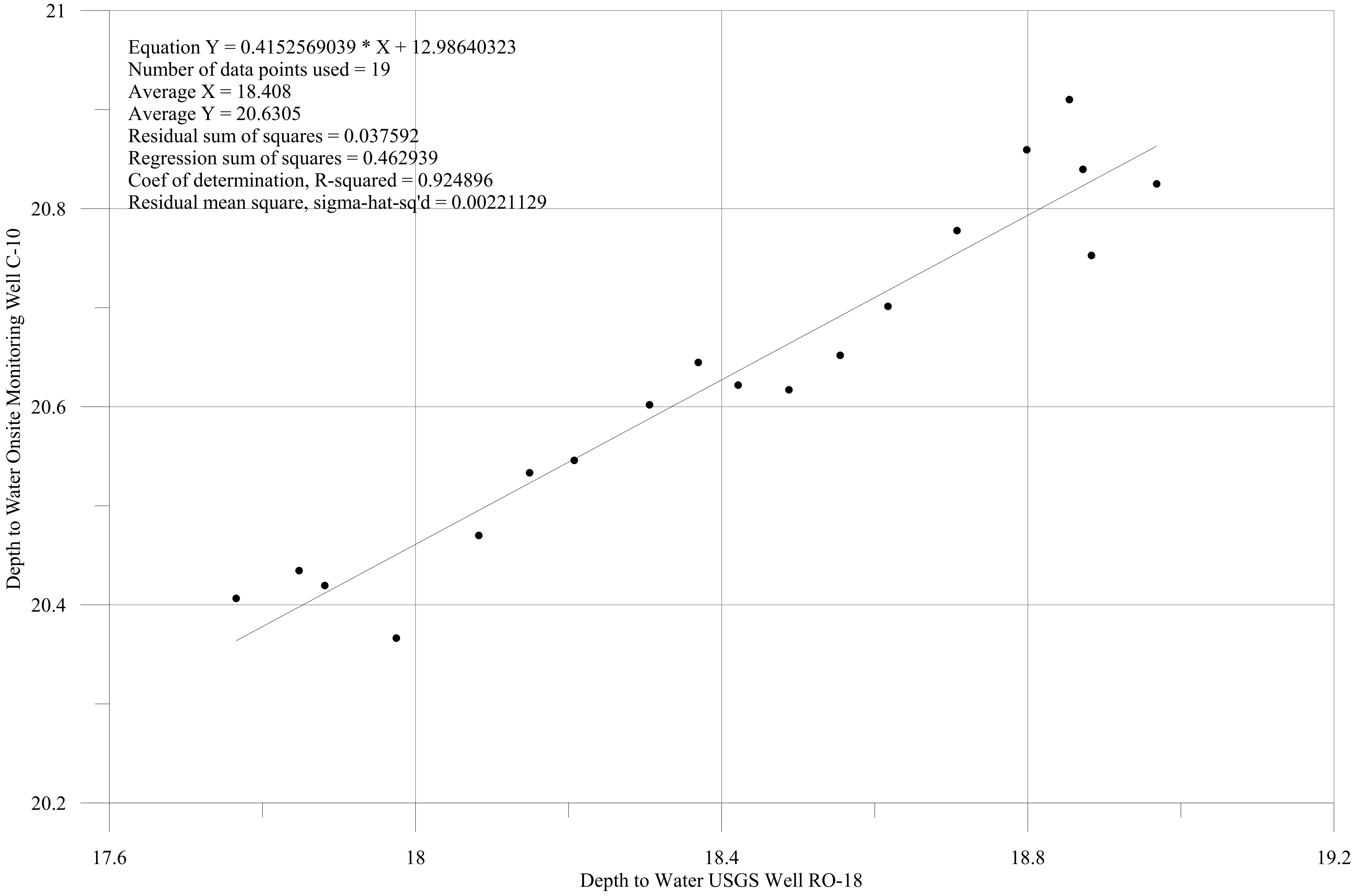
Correlation of Water-Level Measurements Between USGS Well RO-18 and Onsite Monitoring Well C-10



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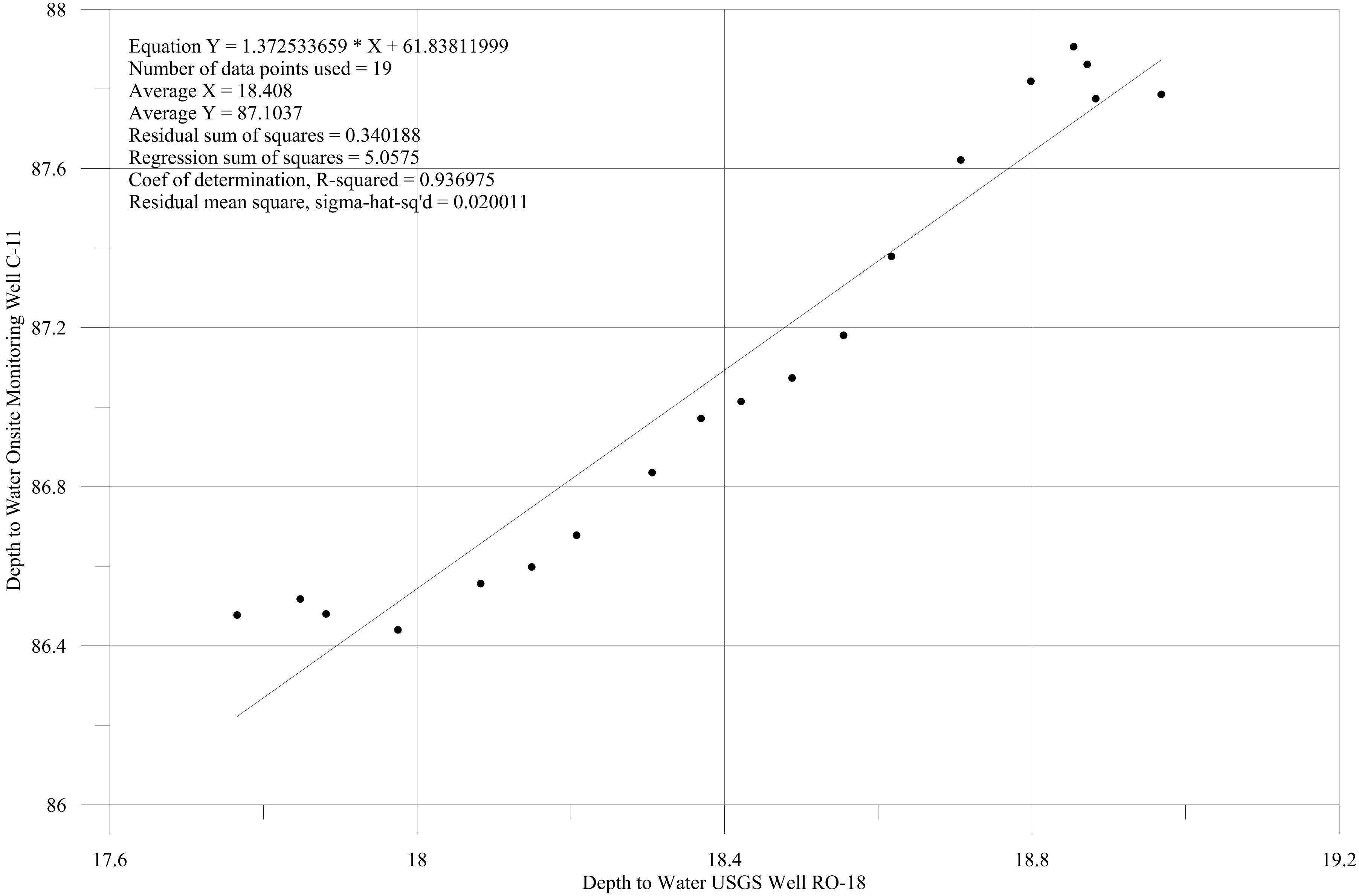
Correlation of Water-Level Measurements Between USGS Well RO-18 and Onsite Monitoring Well C-11



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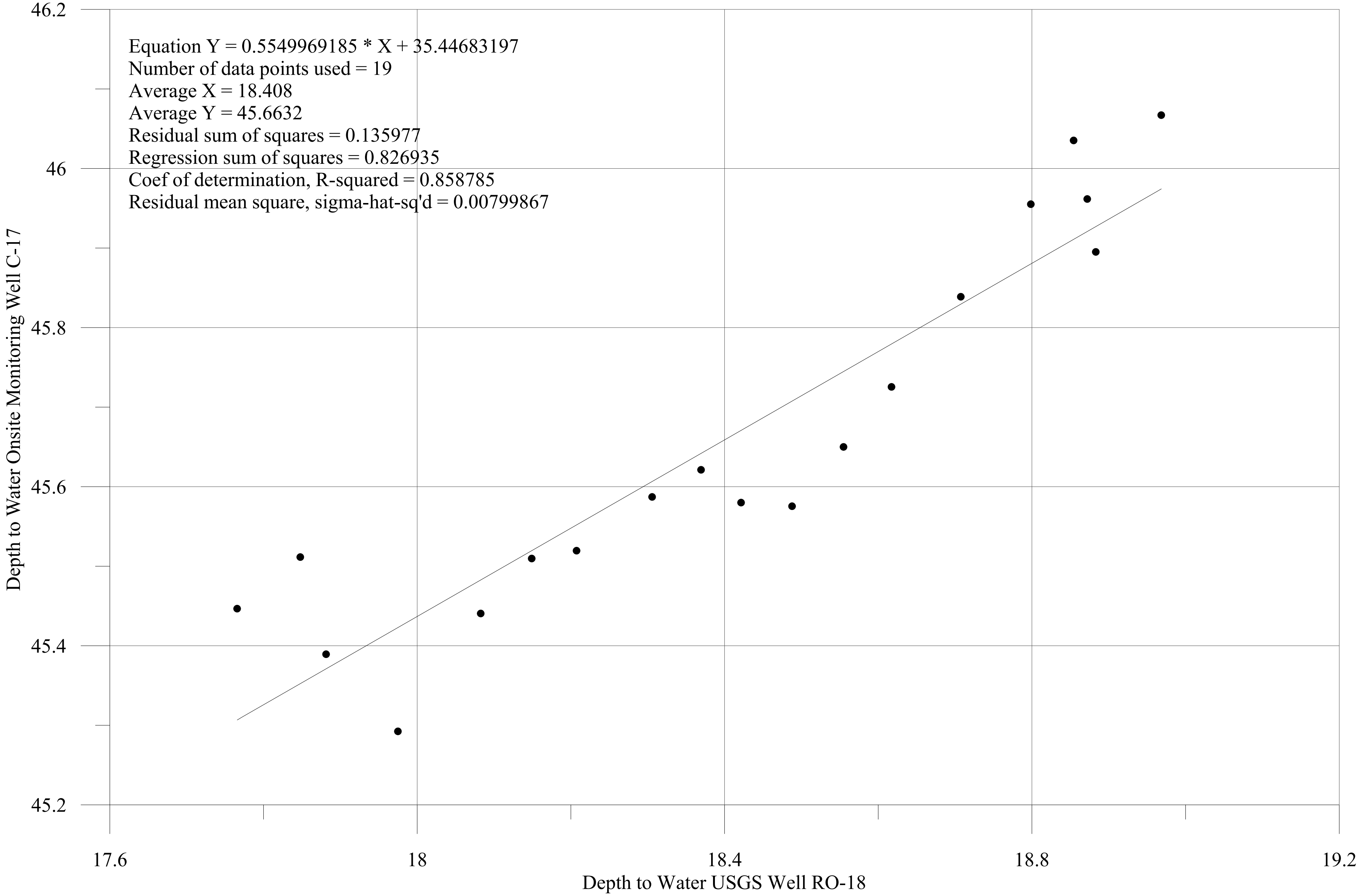
Correlation of Water-Level Measurements Between USGS Well RO-18 and Onsite Monitoring Well C-17



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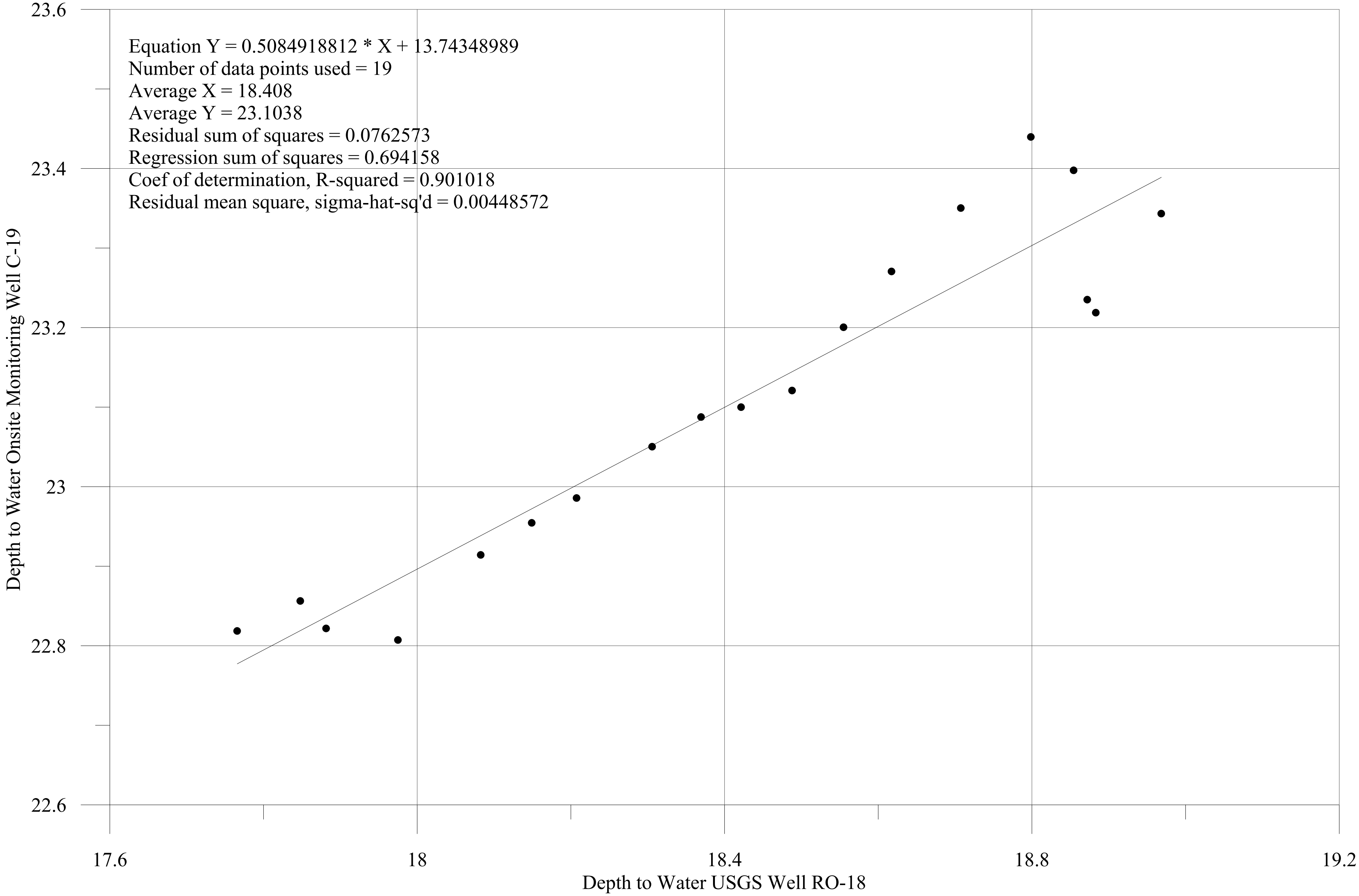
Correlation of Water-Level Measurements Between USGS Well RO-18 and Onsite Monitoring Well C-19



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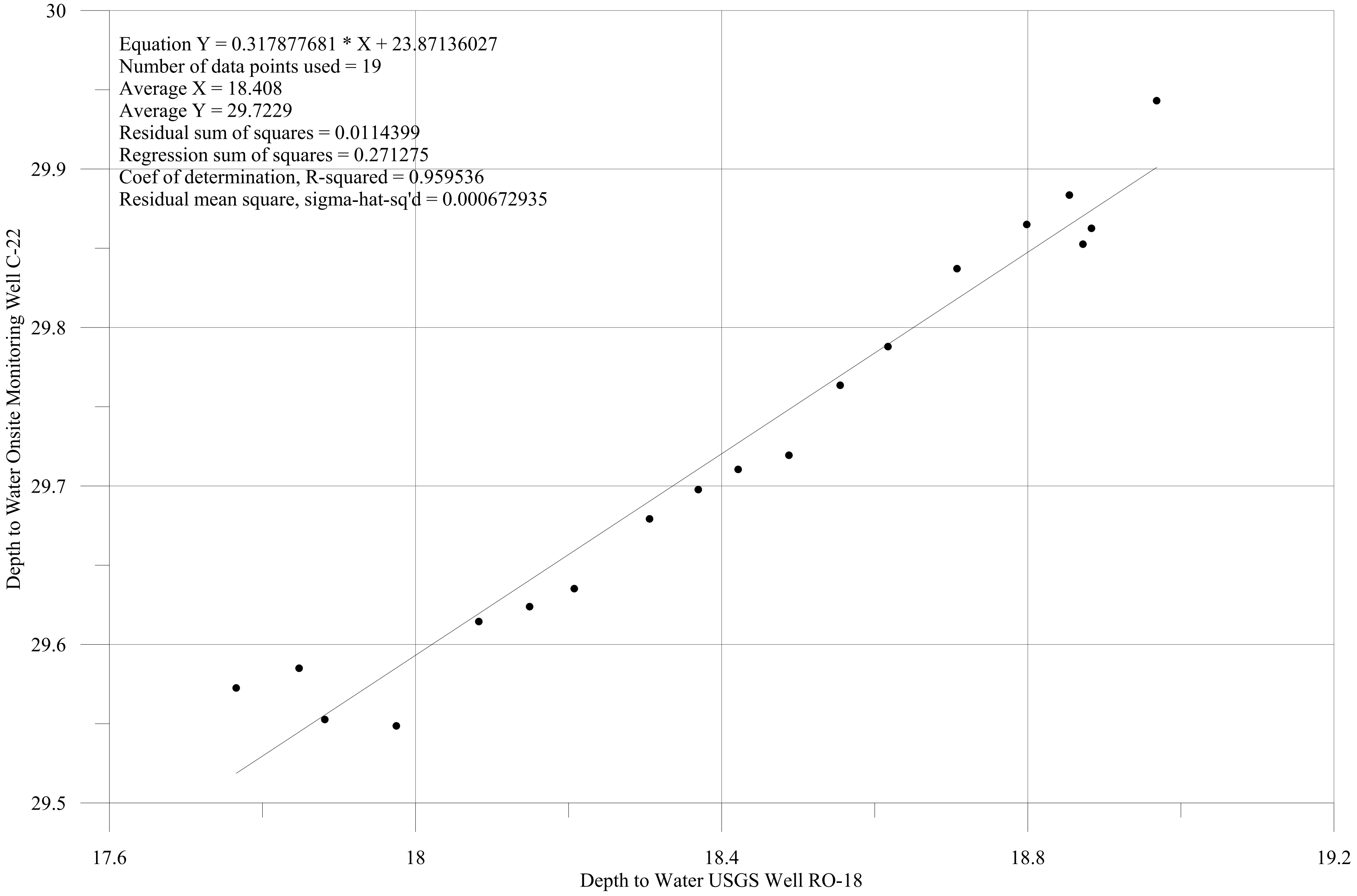
Correlation of Water-Level Measurements Between USGS Well RO-18 and Onsite Monitoring Well C-22



Equation Y = 0.317877681 * X + 23.87136027
Number of data points used = 19
Average X = 18.408
Average Y = 29.7229
Residual sum of squares = 0.0114399
Regression sum of squares = 0.271275
Coef of determination, R-squared = 0.959536
Residual mean square, sigma-hat-sq'd = 0.000672935

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APPENDIX VI

PUMPING WELLS

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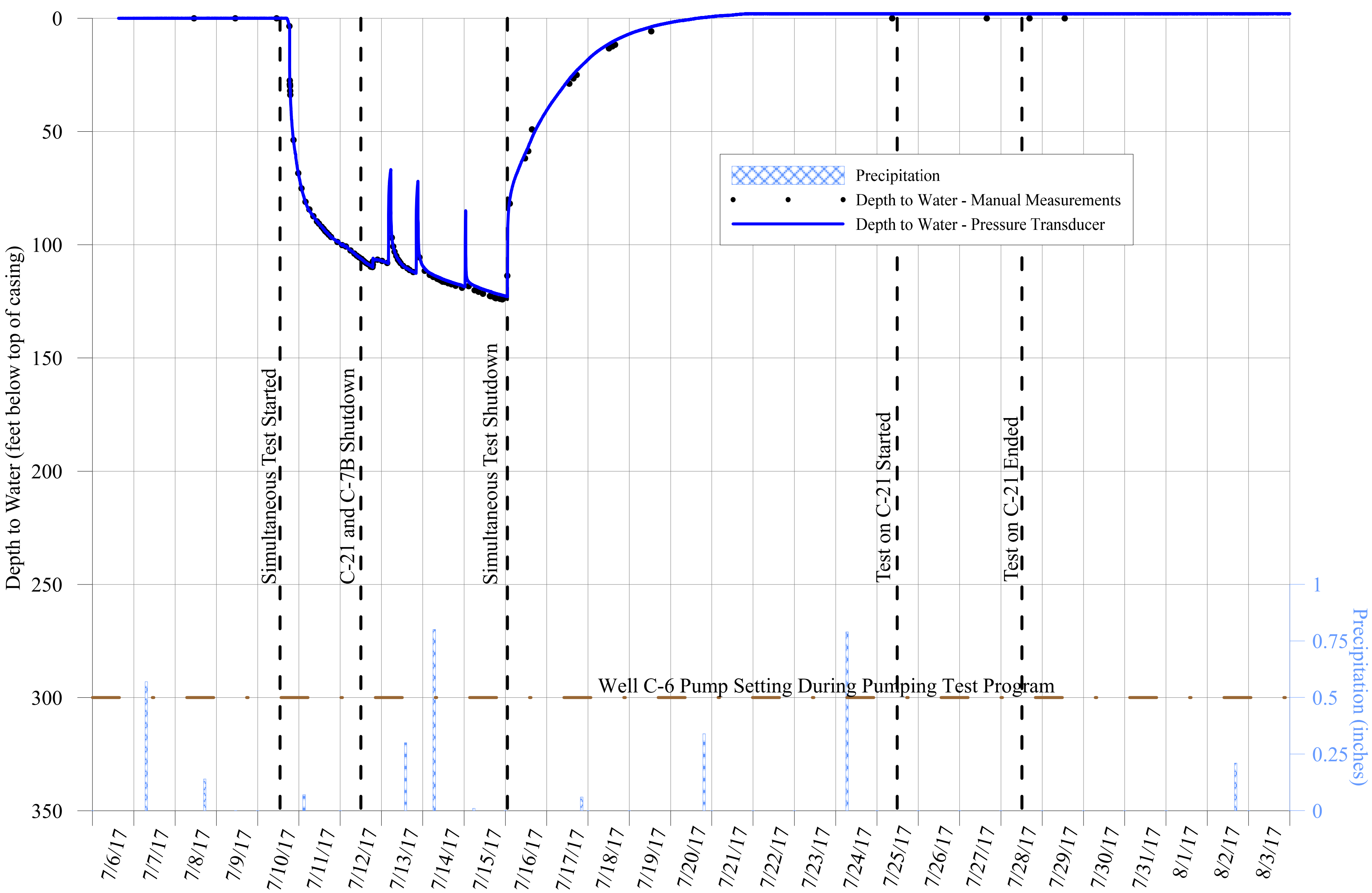
Hydrograph of Water-Level Measurements Collected from Pumping Well C-6 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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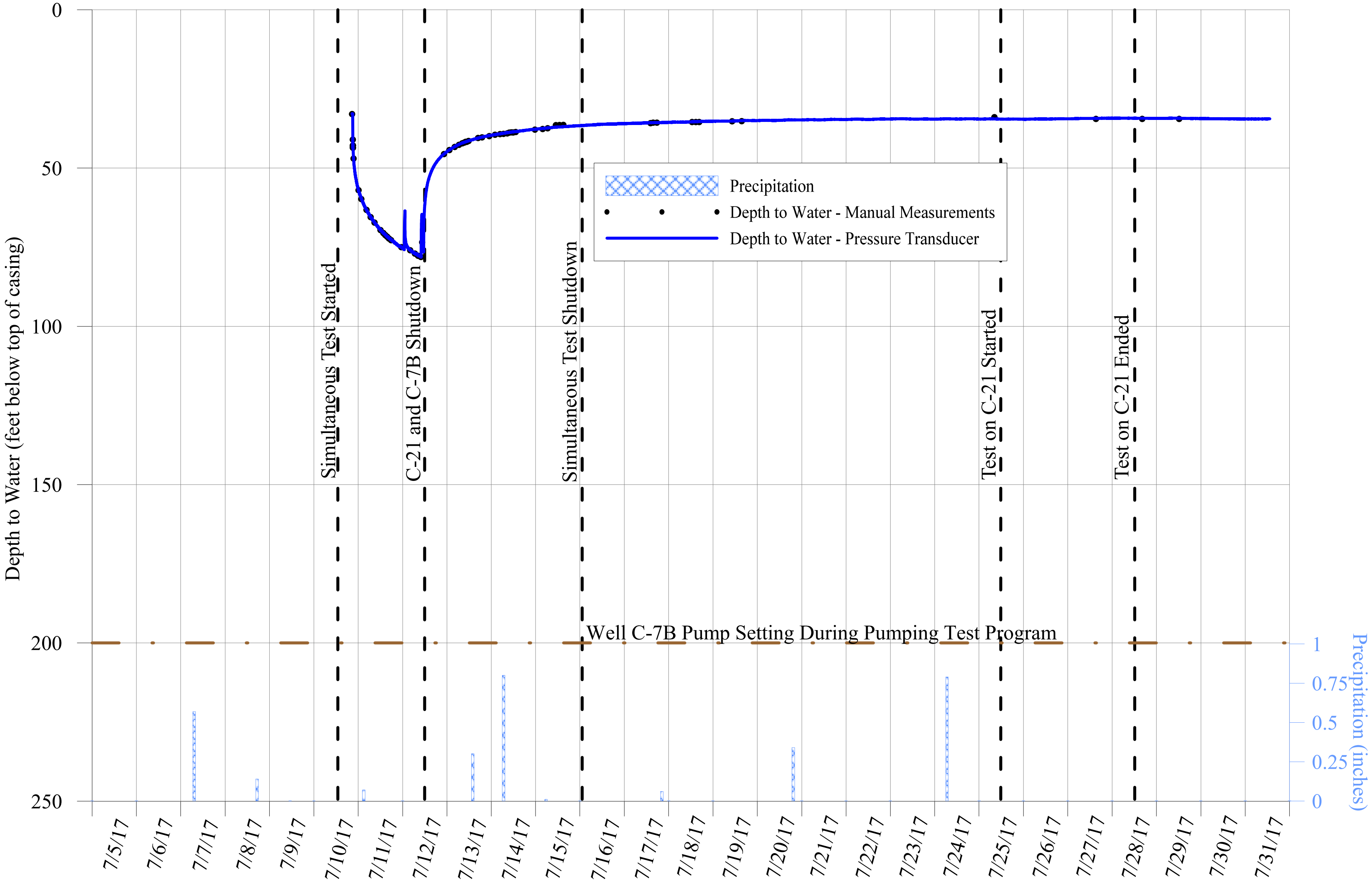
Hydrograph of Water-Level Measurements Collected from Pumping Well C-7B During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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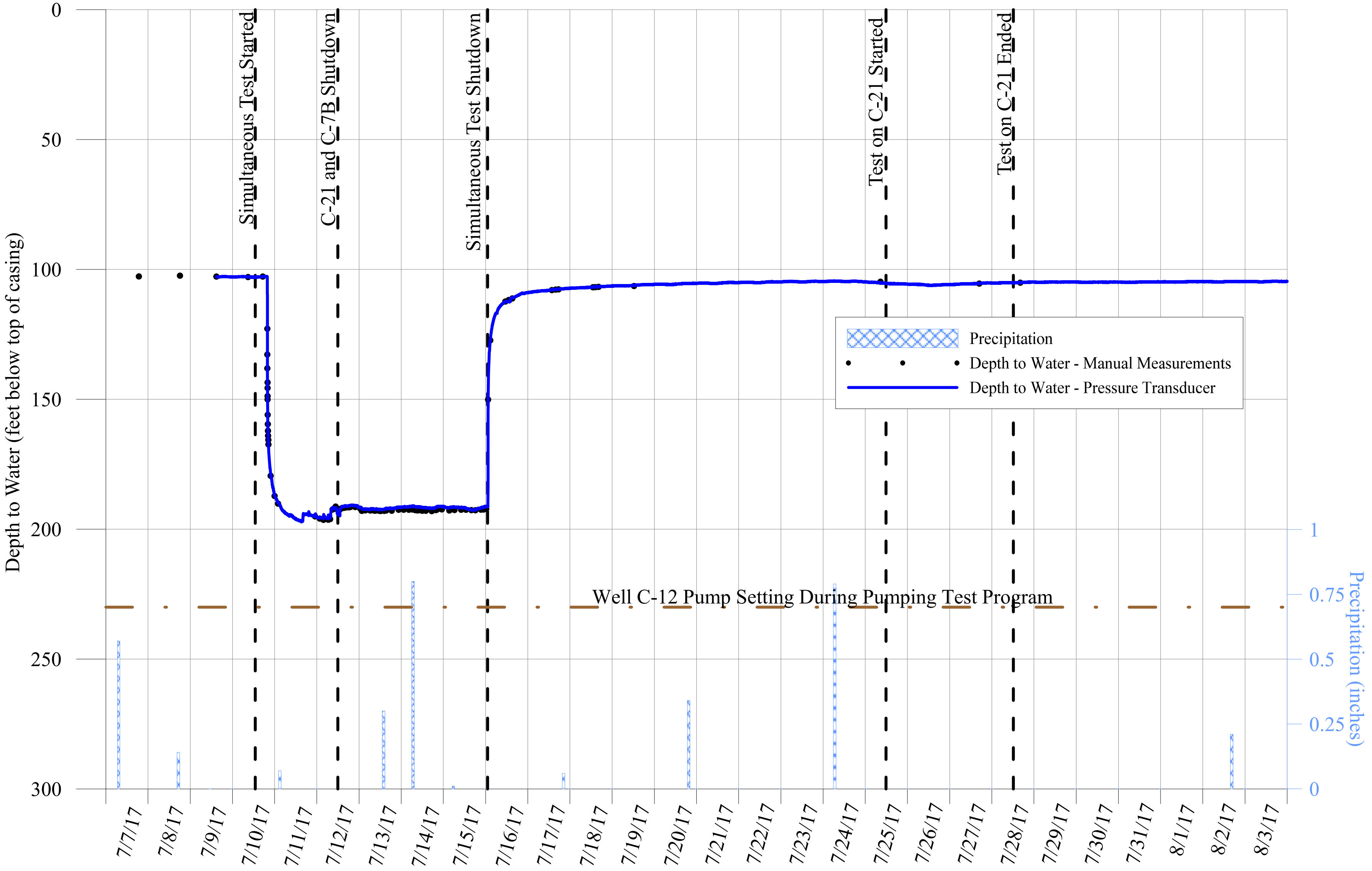
Hydrograph of Water-Level Measurements Collected from Pumping Well C-12 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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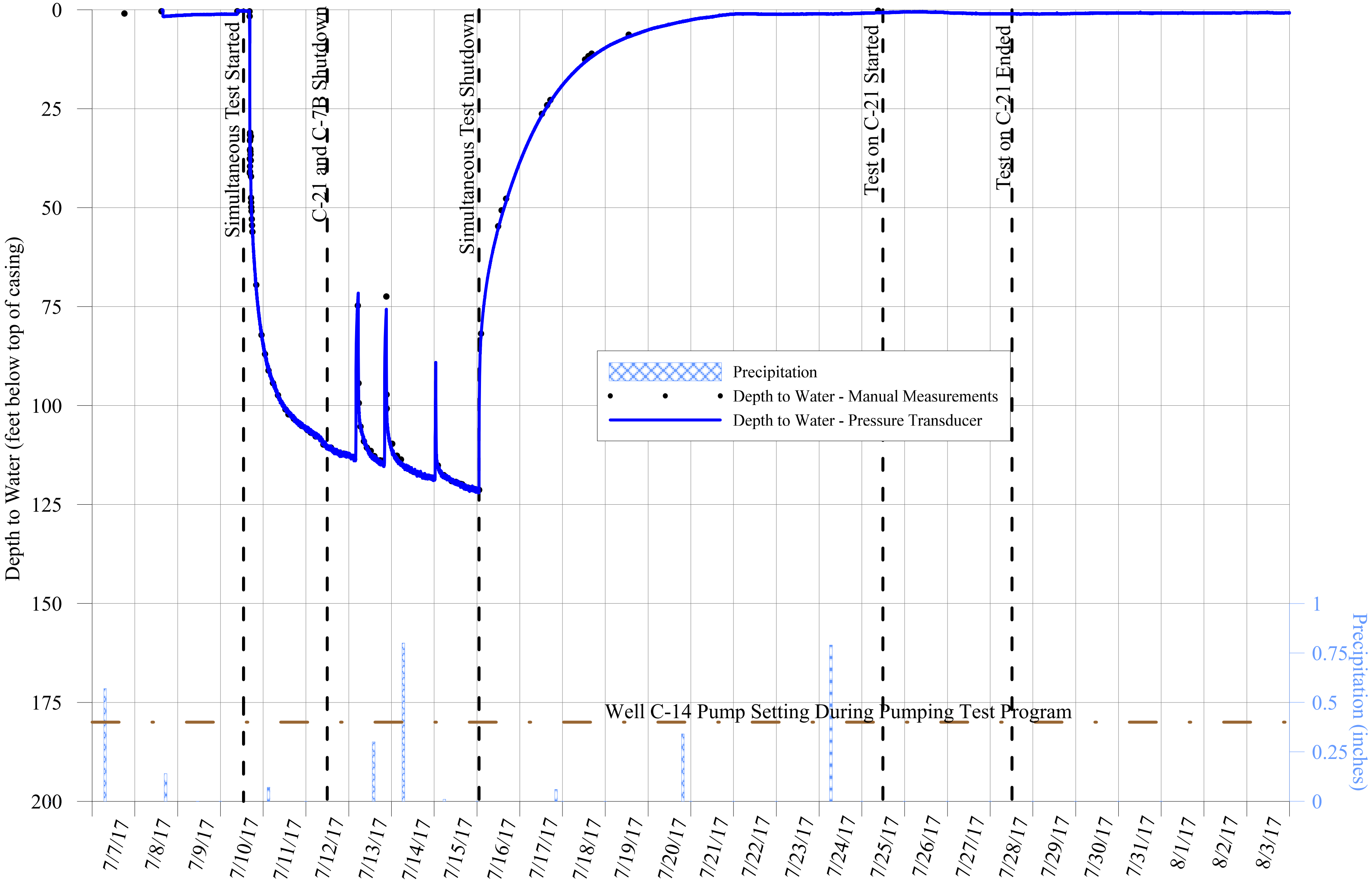
Hydrograph of Water-Level Measurements Collected from Pumping Well C-14 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Pumping Wells\C-14Comprehensive.grf

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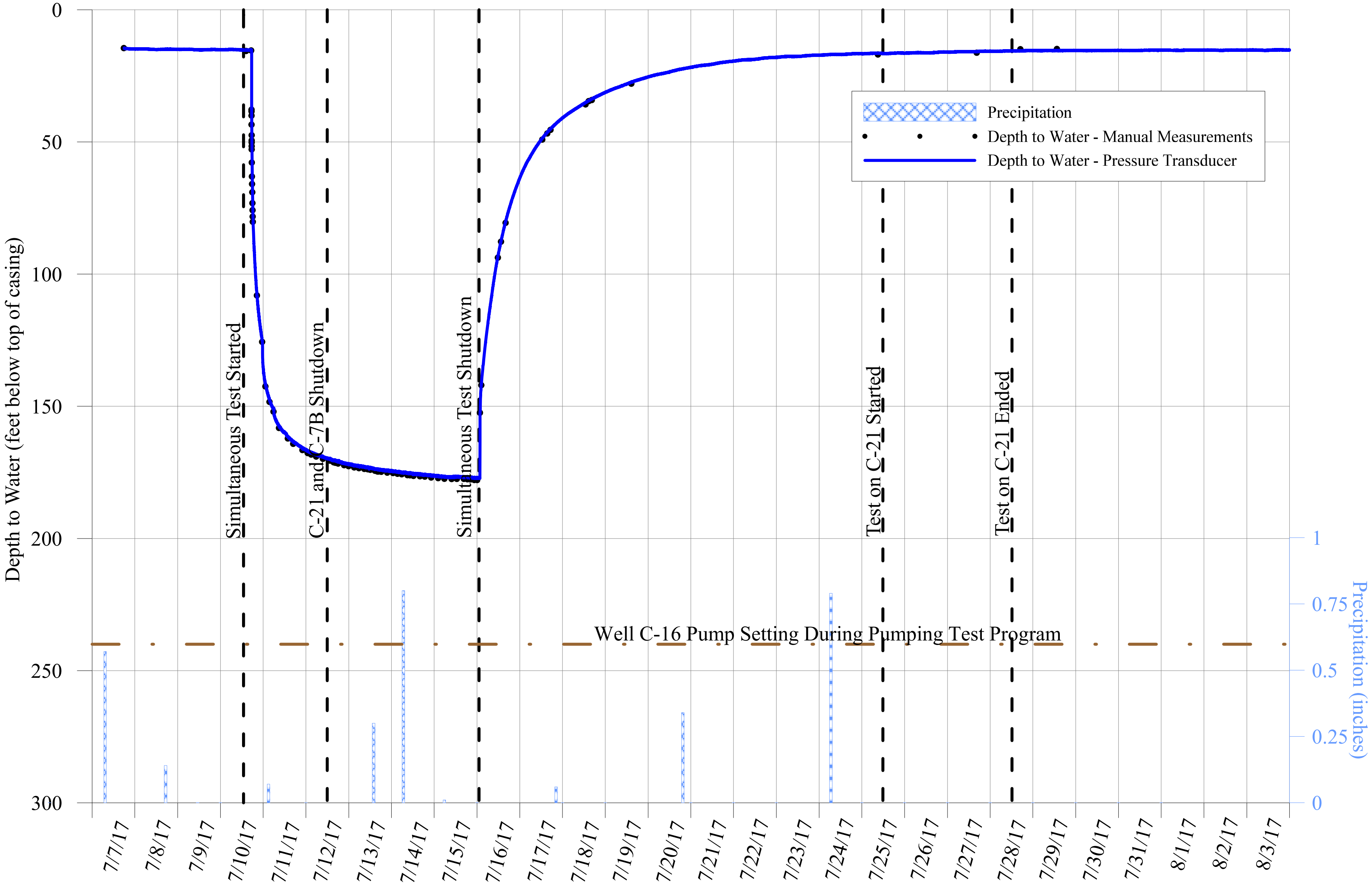
Hydrograph of Water-Level Measurements Collected from Pumping Well C-16 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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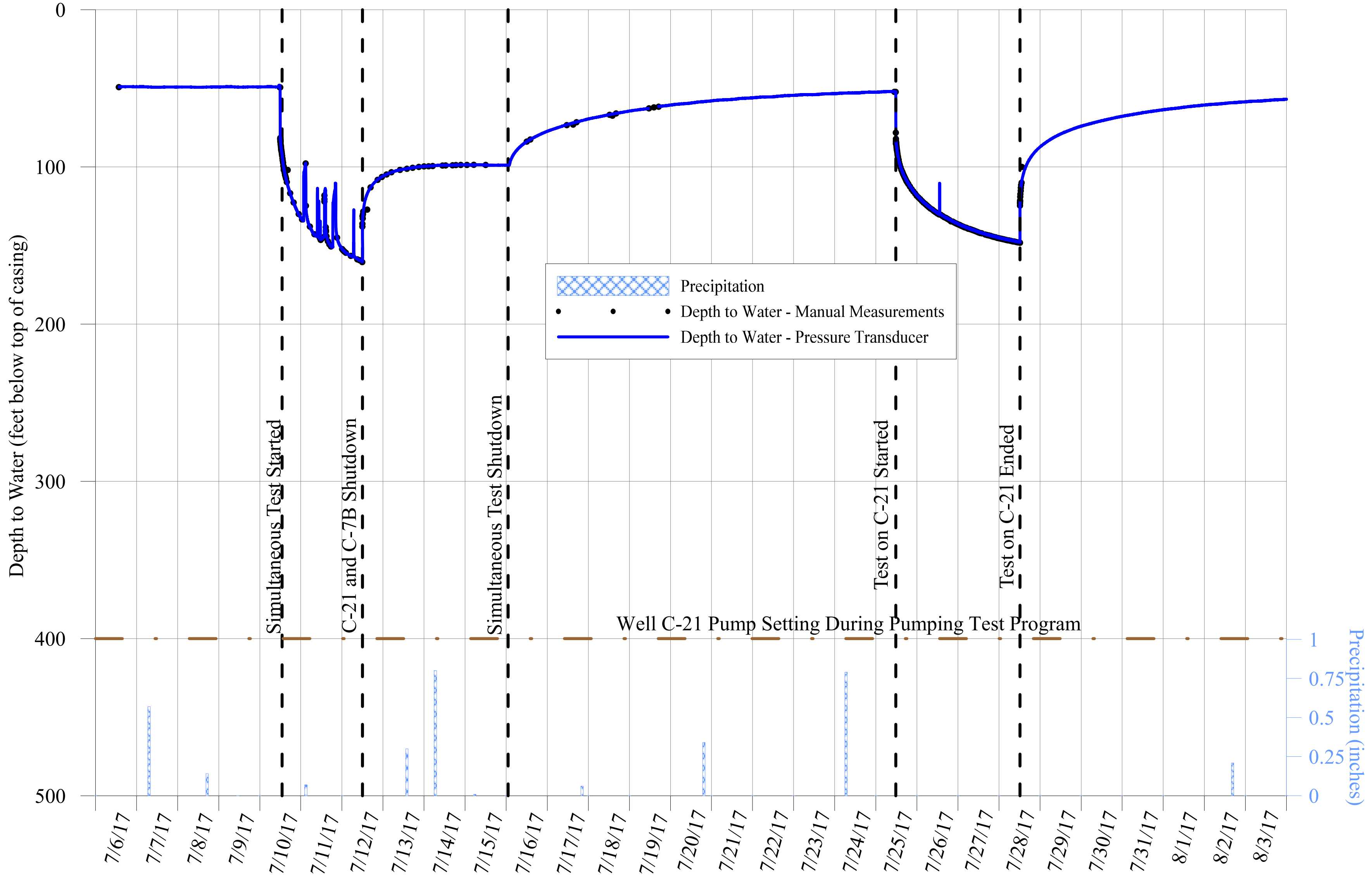
BLAGGS CLOVE, NEW YORK

Hydrograph of Water-Level Measurements Collected from Pumping Well C-21 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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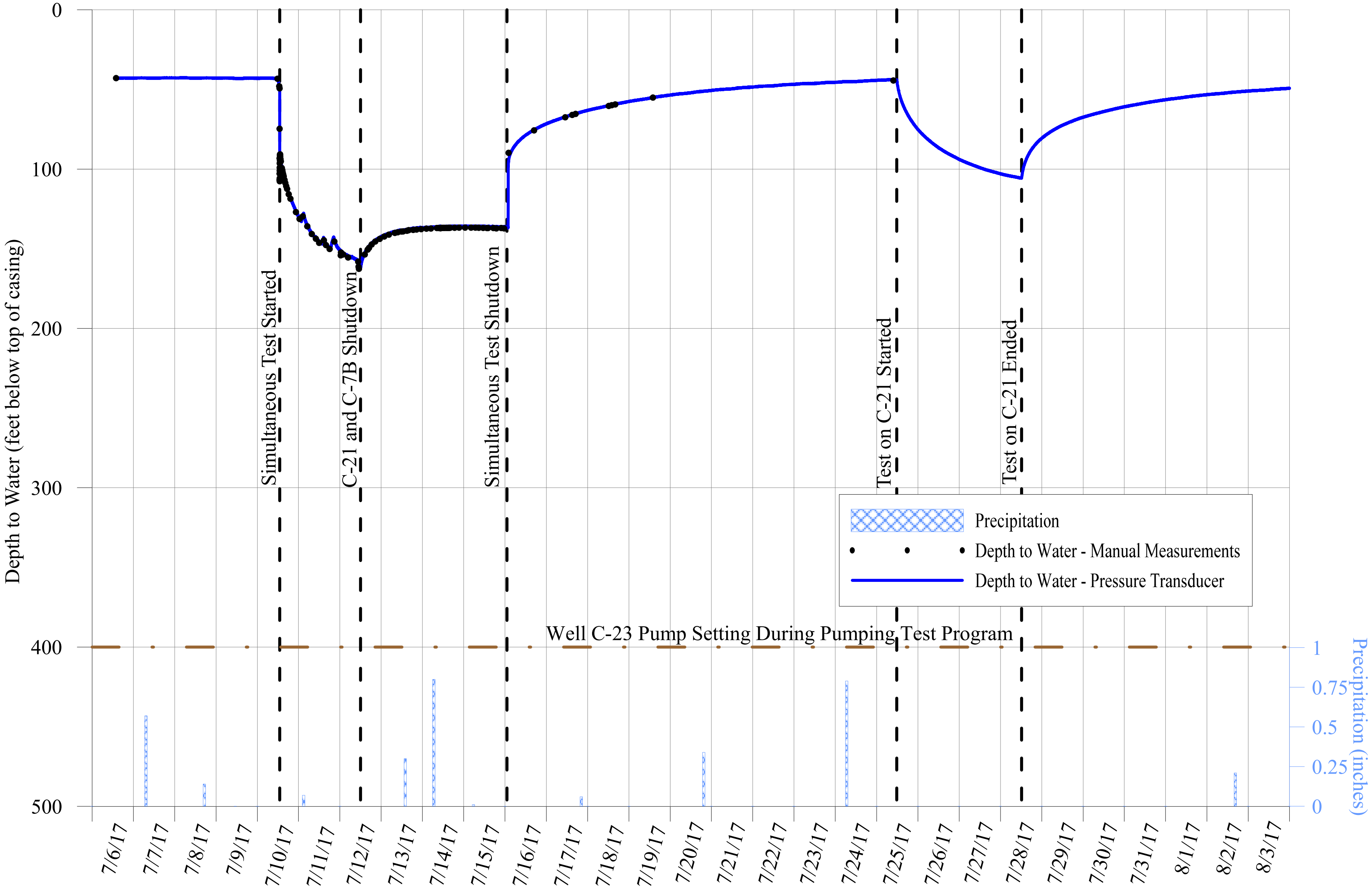
Hydrograph of Water-Level Measurements Collected from Pumping Well C-23 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Onsite Pumping Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)	Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)
		C-6				**C-7B**	
7/8/2017	10:00	Flowing	--	6/30/2017	17:10	32.09	--
7/8/2017	11:00	Flowing	--	7/10/2017	20:41	32.95	33.70
7/9/2017	11:00	Flowing	--	7/10/2017	21:06	42.95	43.70
7/10/2017	11:00	Flowing	--	7/10/2017	21:07	43.50	44.25
7/10/2017	18:28	3.48	3.78	7/10/2017	21:08	41.05	41.80
7/10/2017	18:40	27.50	27.80	7/10/2017	21:10	42.90	43.65
7/10/2017	18:44	29.42	29.72	7/10/2017	21:12	43.65	44.40
7/10/2017	18:45	29.05	29.35	7/10/2017	21:29	46.98	47.73
7/10/2017	18:48	29.55	29.85	7/11/2017	0:09	57.00	57.75
7/10/2017	18:50	30.02	30.32	7/11/2017	1:44	59.81	60.56
7/10/2017	18:55	32.03	32.33	7/11/2017	4:31	63.26	64.01
7/10/2017	19:00	33.85	34.15	7/11/2017	6:46	65.53	66.28
7/10/2017	20:49	53.79	54.09	7/11/2017	8:52	67.27	68.02
7/10/2017	23:40	68.39	68.69	7/11/2017	12:03	69.61	70.36
7/11/2017	1:30	75.12	75.42	7/11/2017	13:37	70.56	71.31
7/11/2017	3:46	81.08	81.38	7/11/2017	14:42	71.20	71.95
7/11/2017	6:05	84.44	84.74	7/11/2017	15:40	71.71	72.46
7/11/2017	8:23	87.41	87.71	7/11/2017	16:40	72.26	73.01
7/11/2017	10:32	89.72	90.02	7/11/2017	17:50	72.78	73.53
7/11/2017	11:39	90.73	91.03	7/11/2017	23:22	75.03	75.78
7/11/2017	13:15	92.09	92.39	7/12/2017	4:07	76.02	76.77
7/11/2017	14:20	93.06	93.36	7/12/2017	6:42	77.02	77.77
7/11/2017	15:19	94.04	94.34	7/12/2017	8:23	77.69	78.44
7/11/2017	16:22	94.74	95.04	7/12/2017	9:59	78.12	78.87
7/11/2017	17:23	95.62	95.92	7/12/2017	10:35	73.43	74.18
7/11/2017	18:40	96.58	96.88	7/12/2017	22:25	45.60	46.35
7/11/2017	22:25	98.76	99.06	7/13/2017	1:22	44.33	45.08
7/12/2017	1:08	100.20	100.50	7/13/2017	4:14	43.36	44.11
7/12/2017	3:20	100.78	101.08	7/13/2017	6:31	42.69	43.44
7/12/2017	5:59	102.53	102.83	7/13/2017	8:19	42.24	42.99
7/12/2017	8:13	103.93	104.23	7/13/2017	9:20	42.01	42.76
7/12/2017	9:42	104.86	105.16	7/13/2017	10:04	41.74	42.49
7/12/2017	11:00	105.57	105.87	7/13/2017	10:47	41.75	42.50
7/12/2017	12:23	106.32	106.62	7/13/2017	11:42	41.49	42.24
7/12/2017	13:29	107.03	107.33	7/13/2017	16:55	40.51	41.26
7/12/2017	14:08	107.58	107.88	7/13/2017	18:58	40.32	41.07
7/12/2017	15:06	108.08	108.38	7/13/2017	23:00	39.89	40.64
7/12/2017	16:15	108.66	108.96	7/14/2017	2:03	39.51	40.26
7/12/2017	17:42	109.66	109.96	7/14/2017	4:43	39.29	40.04
7/12/2017	18:45	109.88	110.18	7/14/2017	6:38	39.19	39.94
7/12/2017	18:55	108.81	109.11	7/14/2017	8:42	39.04	39.79
7/12/2017	18:57	107.36	107.66	7/14/2017	9:47	38.83	39.58
7/12/2017	21:37	106.63	106.93	7/14/2017	10:54	38.73	39.48
7/13/2017	0:22	107.15	107.45	7/14/2017	11:49	38.78	39.53
7/13/2017	3:17	108.01	108.31	7/14/2017	13:14	38.64	39.39
7/13/2017	6:02	96.87	97.17	7/14/2017	23:41	37.89	38.64
7/13/2017	6:46	100.77	101.07	7/15/2017	3:48	37.70	38.45
7/13/2017	7:35	103.07	103.37	7/15/2017	6:32	37.48	38.23
7/13/2017	8:35	105.01	105.31	7/15/2017	11:00	36.45	37.20
7/13/2017	9:35	106.51	106.81	7/15/2017	13:00	36.41	37.16

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VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Onsite Pumping Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)	Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)
C-6 (continued)				**C-7B (continued)**			
7/13/2017	10:18	107.22	107.52	7/15/2017	15:02	36.35	37.10
7/13/2017	11:05	108.11	108.41	7/17/2017	14:14	35.83	36.58
7/13/2017	12:35	109.35	109.65	7/17/2017	15:41	35.65	36.40
7/13/2017	15:01	110.41	110.71	7/17/2017	17:43	35.67	36.42
7/13/2017	16:21	111.23	111.53	7/18/2017	12:44	35.48	36.23
7/13/2017	18:25	112.09	112.39	7/18/2017	14:43	35.48	36.23
7/13/2017	22:00	105.57	105.87	7/18/2017	16:32	35.46	36.21
7/14/2017	1:10	111.53	111.83	7/19/2017	10:22	35.26	36.01
7/14/2017	4:02	113.35	113.65	7/19/2017	15:30	35.21	35.96
7/14/2017	6:07	114.25	114.55	7/25/2017	8:23	33.95	34.70
7/14/2017	8:22	115.05	115.35	7/27/2017	15:18	34.50	35.25
7/14/2017	9:26	115.31	115.61	7/28/2017	16:20	34.50	--
7/14/2017	10:29	115.77	116.07	7/29/2017	12:20	34.50	--
7/14/2017	11:31	116.28	116.58	--	--	--	--
7/14/2017	12:50	116.45	116.75	--	--	--	--
7/14/2017	14:50	117.05	117.35	--	--	--	--
7/14/2017	16:40	117.49	117.79	--	--	--	--
7/14/2017	19:10	118.12	118.42	--	--	--	--
7/14/2017	22:50	118.99	119.29	--	--	--	--
7/15/2017	2:38	118.30	118.60	--	--	--	--
7/15/2017	6:05	120.12	120.42	--	--	--	--
7/15/2017	8:22	120.77	121.07	--	--	--	--
7/15/2017	10:59	121.67	121.97	--	--	--	--
7/15/2017	15:02	122.65	122.95	--	--	--	--
7/15/2017	15:38	122.76	123.06	--	--	--	--
7/15/2017	17:50	123.45	123.75	--	--	--	--
7/15/2017	18:30	123.60	123.90	--	--	--	--
7/15/2017	20:55	123.90	124.20	--	--	--	--
7/15/2017	22:10	124.15	124.45	--	--	--	--
7/15/2017	23:00	123.75	124.05	--	--	--	--
7/16/2017	1:12	113.70	114.00	--	--	--	--
7/16/2017	2:34	81.85	82.15	--	--	--	--
7/16/2017	11:28	61.88	62.18	--	--	--	--
7/16/2017	13:19	58.65	58.95	--	--	--	--
7/16/2017	15:31	49.09	49.39	--	--	--	--
7/17/2017	13:10	28.86	29.16	--	--	--	--
7/17/2017	15:31	26.59	26.89	--	--	--	--
7/17/2017	17:25	25.05	25.35	--	--	--	--
7/18/2017	12:16	13.26	13.56	--	--	--	--
7/18/2017	14:09	12.42	12.72	--	--	--	--
7/18/2017	15:50	11.67	11.97	--	--	--	--
7/19/2017	12:45	5.75	6.05	--	--	--	--
7/25/2017	8:50	Flowing	--	--	--	--	--
7/27/2017	15:47	Flowing	--	--	--	--	--
7/28/2017	16:45	Flowing	--	--	--	--	--
7/29/2017	13:10	Flowing	--	--	--	--	--

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Onsite Pumping Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)	Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)
C-12				C-14			
7/7/2017	18:50	102.71	--	7/7/2017	18:10	0.95	1.85
7/8/2017	18:10	102.45	--	7/8/2017	15:00	0.37	1.27
7/9/2017	14:56	102.80	103.00	7/10/2017	9:30	0.39	1.29
7/10/2017	8:55	102.95	103.15	7/10/2017	16:20	0.42	1.32
7/10/2017	17:20	102.80	103.00	7/10/2017	16:27	1.65	2.55
7/10/2017	19:54	122.83	123.03	7/10/2017	16:33	37.65	38.55
7/10/2017	19:55	132.80	133.00	7/10/2017	16:34	41.30	42.20
7/10/2017	19:56	138.10	138.30	7/10/2017	16:35	40.90	41.80
7/10/2017	19:57	143.55	143.75	7/10/2017	16:36	39.55	40.45
7/10/2017	19:58	145.70	145.90	7/10/2017	16:37	35.40	36.30
7/10/2017	19:59	148.80	149.00	7/10/2017	16:38	33.10	34.00
7/10/2017	20:00	150.05	150.25	7/10/2017	16:39	31.60	32.50
7/10/2017	20:05	155.95	156.15	7/10/2017	16:40	31.10	32.00
7/10/2017	20:10	159.60	159.80	7/10/2017	16:41	31.10	32.00
7/10/2017	20:15	162.15	162.35	7/10/2017	16:42	32.85	33.75
7/10/2017	20:20	164.05	164.25	7/10/2017	16:43	35.60	36.50
7/10/2017	20:25	165.65	165.85	7/10/2017	16:46	35.20	36.10
7/10/2017	20:30	167.37	167.57	7/10/2017	16:50	35.80	36.70
7/10/2017	21:47	179.52	179.72	7/10/2017	16:55	36.60	37.50
7/11/2017	0:02	187.24	187.44	7/10/2017	17:00	38.10	39.00
7/11/2017	1:56	190.18	190.38	7/10/2017	17:05	32.00	32.90
7/11/2017	23:02	195.10	195.30	7/10/2017	17:10	42.12	43.02
7/12/2017	1:41	195.96	196.16	7/10/2017	17:15	47.53	48.43
7/12/2017	3:48	196.41	196.61	7/10/2017	17:20	48.69	49.59
7/12/2017	6:28	196.38	196.58	7/10/2017	17:25	49.86	50.76
7/12/2017	7:35	196.14	196.34	7/10/2017	17:30	50.88	51.78
7/12/2017	8:58	192.44	192.64	7/10/2017	17:40	52.91	53.81
7/12/2017	10:44	191.34	191.54	7/10/2017	17:50	54.48	55.38
7/12/2017	11:38	192.41	192.61	7/10/2017	18:00	56.12	57.02
7/12/2017	12:46	192.30	192.50	7/10/2017	20:10	69.51	70.41
7/12/2017	13:05	192.32	192.52	7/10/2017	23:07	82.18	83.08
7/12/2017	13:07	192.32	192.52	7/11/2017	1:00	87.02	87.92
7/12/2017	13:11	192.32	192.52	7/11/2017	3:04	91.16	92.06
7/12/2017	13:50	192.12	192.32	7/11/2017	5:33	94.35	95.25
7/12/2017	14:28	191.83	192.03	7/11/2017	8:20	97.40	98.30
7/12/2017	15:33	191.75	191.95	7/11/2017	12:30	101.00	101.90
7/12/2017	16:43	191.68	191.88	7/11/2017	14:12	102.24	103.14
7/12/2017	18:17	191.58	191.78	7/11/2017	17:13	103.33	104.23
7/12/2017	19:01	191.50	191.70	7/11/2017	21:36	105.15	106.05
7/12/2017	21:52	191.51	191.71	7/12/2017	0:53	106.21	107.11
7/13/2017	0:51	192.19	192.39	7/12/2017	2:42	106.87	107.77
7/13/2017	3:42	192.81	193.01	7/12/2017	5:32	107.84	108.74
7/13/2017	6:20	192.87	193.07	7/12/2017	9:47	109.86	110.76
7/13/2017	7:58	192.75	192.95	7/12/2017	14:02	110.66	111.56
7/13/2017	9:05	192.93	193.13	7/12/2017	15:47	111.44	112.34
7/13/2017	9:51	192.80	193.00	7/12/2017	17:25	111.78	112.68
7/13/2017	1:38	192.97	193.17	7/12/2017	18:12	111.86	112.76
7/13/2017	11:25	192.92	193.12	7/12/2017	21:05	112.16	113.06
7/13/2017	12:20	193.00	193.20	7/12/2017	23:38	112.46	113.36
7/13/2017	14:20	192.98	193.18	7/13/2017	2:37	113.00	113.90

Manual Water-Level Measurements Collected from Onsite Pumping Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)	Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)
C-12 (continued)				**C-14 (continued)**			
7/13/2017	15:31	192.85	193.05	7/13/2017	5:07	74.77	75.67
7/13/2017	18:36	192.93	193.13	7/13/2017	5:32	94.37	95.27
7/13/2017	22:36	192.58	192.78	7/13/2017	5:41	99.35	100.25
7/14/2017	1:28	192.55	192.75	7/13/2017	6:40	105.35	106.25
7/14/2017	4:24	192.56	192.76	7/13/2017	8:35	109.02	109.92
7/14/2017	6:30	192.48	192.68	7/13/2017	10:11	110.65	111.55
7/14/2017	8:03	192.68	192.88	7/13/2017	12:22	111.45	112.35
7/14/2017	9:02	192.77	192.97	7/13/2017	14:27	112.76	113.66
7/14/2017	10:02	192.74	192.94	7/13/2017	17:43	113.88	114.78
7/14/2017	11:09	192.73	192.93	7/13/2017	19:00	113.93	114.83
7/14/2017	12:07	192.89	193.09	7/13/2017	21:11	72.45	73.35
7/14/2017	14:02	192.92	193.12	7/13/2017	21:19	97.26	98.16
7/14/2017	17:22	193.08	193.28	7/13/2017	21:24	100.77	101.67
7/14/2017	19:44	192.66	192.86	7/14/2017	0:26	109.69	110.59
7/14/2017	20:30	192.47	192.67	7/14/2017	3:07	112.68	113.58
7/14/2017	23:04	192.41	192.61	7/14/2017	5:24	113.66	114.56
7/15/2017	3:22	192.87	193.07	7/14/2017	8:00	115.55	116.45
7/15/2017	6:19	192.64	192.84	7/14/2017	9:30	115.85	116.75
7/15/2017	10:06	192.55	192.75	7/14/2017	11:01	116.43	117.33
7/15/2017	12:54	192.55	192.75	7/14/2017	12:32	116.78	117.68
7/15/2017	15:56	192.70	192.90	7/14/2017	15:16	117.32	118.22
7/15/2017	18:15	192.75	192.95	7/14/2017	18:22	117.96	118.86
7/15/2017	21:20	192.50	192.70	7/14/2017	21:49	118.15	119.05
7/15/2017	22:50	192.45	192.65	7/15/2017	2:00	115.17	116.07
7/16/2017	0:22	192.22	192.42	7/15/2017	5:23	117.62	118.52
7/16/2017	1:29	150.10	150.30	7/15/2017	9:44	119.08	119.98
7/16/2017	2:45	127.30	127.50	7/15/2017	12:12	119.32	120.22
7/16/2017	11:12	112.40	112.60	7/15/2017	14:47	119.81	120.71
7/16/2017	13:09	111.85	112.05	7/15/2017	15:44	119.92	120.82
7/16/2017	15:16	111.20	111.40	7/15/2017	16:30	120.35	121.25
7/17/2017	13:41	107.98	108.18	7/15/2017	18:50	120.70	121.60
7/17/2017	15:54	107.80	108.00	7/15/2017	20:24	120.90	121.80
7/17/2017	17:35	107.67	107.87	7/15/2017	22:05	121.04	121.94
7/18/2017	13:05	106.88	107.08	7/15/2017	23:15	121.15	122.05
7/18/2017	14:26	106.81	107.01	7/16/2017	1:15	121.30	122.20
7/18/2017	16:19	106.76	106.96	7/16/2017	2:20	81.85	82.75
7/19/2017	12:30	106.40	106.60	7/16/2017	11:52	54.70	55.60
7/25/2017	8:40	104.80	--	7/16/2017	13:50	50.65	51.55
7/27/2017	16:50	105.47	105.67	7/16/2017	16:20	47.75	48.65
7/28/2017	16:13	105.14	105.34	7/17/2017	12:26	26.30	27.20
--	--	--	--	7/17/2017	15:21	24.10	25.00
--	--	--	--	7/17/2017	17:13	22.81	23.71
--	--	--	--	7/18/2017	12:44	12.59	13.49
--	--	--	--	7/18/2017	14:31	11.70	12.60
--	--	--	--	7/18/2017	16:21	11.09	11.99
--	--	--	--	7/19/2017	13:10	6.30	7.20
--	--	--	--	7/25/2017	9:10	0.26	1.16

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Onsite Pumping Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)	Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)
C-16				**C-23**			
7/7/2017	17:50	14.48	15.45	7/6/2017	13:57	42.95	43.35
7/10/2017	14:26	15.58	16.55	7/10/2017	11:50	43.32	43.72
7/10/2017	17:20	15.43	16.40	7/10/2017	12:45	48.02	48.42
7/10/2017	17:27	38.48	39.45	7/10/2017	13:00	49.35	49.75
7/10/2017	17:28	37.78	38.75	7/10/2017	13:00	74.65	75.05
7/10/2017	17:29	40.03	41.00	7/10/2017	13:01	93.30	93.70
7/10/2017	17:30	43.43	44.40	7/10/2017	13:02	102.85	103.25
7/10/2017	17:31	47.48	48.45	7/10/2017	13:03	106.83	107.23
7/10/2017	17:32	49.47	50.44	7/10/2017	13:04	107.65	108.05
7/10/2017	17:33	50.20	51.17	7/10/2017	13:05	105.80	106.20
7/10/2017	17:34	51.60	52.57	7/10/2017	13:06	100.95	101.35
7/10/2017	17:35	52.83	53.80	7/10/2017	13:07	99.10	99.50
7/10/2017	17:40	57.78	58.75	7/10/2017	13:08	96.35	96.75
7/10/2017	17:45	63.08	64.05	7/10/2017	13:09	94.60	95.00
7/10/2017	17:50	65.95	66.92	7/10/2017	13:10	92.90	93.30
7/10/2017	17:55	69.03	70.00	7/10/2017	13:11	91.50	91.90
7/10/2017	18:00	73.13	74.10	7/10/2017	13:13	90.93	91.33
7/10/2017	18:05	75.83	76.80	7/10/2017	13:14	90.75	91.15
7/10/2017	18:10	78.23	79.20	7/10/2017	13:24	92.10	92.50
7/10/2017	18:15	80.23	81.20	7/10/2017	13:34	93.70	94.10
7/10/2017	20:28	108.07	109.04	7/10/2017	13:44	95.15	95.55
7/10/2017	23:23	125.65	126.62	7/10/2017	14:21	99.35	99.75
7/11/2017	1:17	142.46	143.43	7/10/2017	14:36	100.76	101.16
7/11/2017	3:32	148.35	149.32	7/10/2017	14:51	102.24	102.64
7/11/2017	5:50	152.04	153.01	7/10/2017	15:06	103.41	103.81
7/11/2017	8:55	158.23	159.20	7/10/2017	15:21	104.60	105.00
7/11/2017	13:54	162.16	163.13	7/10/2017	15:54	106.90	107.30
7/11/2017	16:56	164.24	165.21	7/10/2017	16:20	108.77	109.17
7/11/2017	22:02	166.55	167.52	7/10/2017	16:50	110.73	111.13
7/12/2017	1:00	167.69	168.66	7/10/2017	17:20	112.45	112.85
7/12/2017	2:59	168.26	169.23	7/10/2017	18:20	115.80	116.20
7/12/2017	5:46	169.06	170.03	7/10/2017	19:18	118.63	119.03
7/12/2017	9:33	169.87	170.84	7/10/2017	22:30	126.97	127.37
7/12/2017	13:36	170.58	171.55	7/11/2017	0:33	131.31	131.71
7/12/2017	15:37	171.21	172.18	7/11/2017	2:32	129.64	130.04
7/12/2017	16:29	171.39	172.36	7/11/2017	5:06	135.94	136.34
7/12/2017	18:05	171.64	172.61	7/11/2017	7:42	140.85	141.25
7/12/2017	21:25	172.28	173.25	7/11/2017	10:02	143.70	144.10
7/12/2017	23:58	172.65	173.62	7/11/2017	12:01	146.37	146.77
7/13/2017	3:03	173.14	174.11	7/11/2017	14:47	144.70	145.10
7/13/2017	5:48	173.41	174.38	7/11/2017	16:00	147.74	148.14
7/13/2017	8:50	173.70	174.67	7/11/2017	18:05	150.25	150.65
7/13/2017	10:45	173.88	174.85	7/11/2017	20:50	145.50	145.90
7/13/2017	12:07	174.02	174.99	7/12/2017	0:29	154.13	154.53
7/13/2017	14:48	174.44	175.41	7/12/2017	0:39	152.37	152.77
7/13/2017	16:09	174.68	175.65	7/12/2017	2:00	153.58	153.98
7/13/2017	16:44	174.68	175.65	7/12/2017	4:48	155.48	155.88
7/13/2017	18:15	174.74	175.71	7/12/2017	10:43	158.20	158.60
7/13/2017	21:37	175.10	176.07	7/12/2017	10:53	161.31	161.71
7/14/2017	0:49	175.29	176.26	7/12/2017	11:05	162.61	163.01

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Onsite Pumping Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)	Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)
C-16 (continued)				**C-23 (continued)**			
7/14/2017	3:24	175.53	176.50	7/12/2017	14:29	153.55	153.95
7/14/2017	5:48	175.75	176.72	7/12/2017	16:09	150.57	150.97
7/14/2017	9:00	176.08	177.05	7/12/2017	16:56	149.48	149.88
7/14/2017	10:26	176.13	177.10	7/12/2017	18:29	147.41	147.81
7/14/2017	12:20	176.34	177.31	7/12/2017	20:37	145.52	145.92
7/14/2017	15:59	176.46	177.43	7/12/2017	23:15	143.78	144.18
7/14/2017	18:45	176.66	177.63	7/13/2017	1:48	142.31	142.71
7/14/2017	22:18	176.95	177.92	7/13/2017	4:33	141.19	141.59
7/15/2017	2:14	177.20	178.17	7/13/2017	7:58	140.07	140.47
7/15/2017	5:42	177.45	178.42	7/13/2017	9:41	139.68	140.08
7/15/2017	9:47	177.54	178.51	7/13/2017	11:48	139.17	139.57
7/15/2017	12:40	177.47	178.44	7/13/2017	12:45	139.10	139.50
7/15/2017	16:40	177.48	178.45	7/13/2017	15:01	138.73	139.13
7/15/2017	18:40	177.58	178.55	7/13/2017	16:02	138.41	138.81
7/15/2017	20:30	177.68	178.65	7/13/2017	18:38	138.18	138.58
7/15/2017	22:30	177.88	178.85	7/13/2017	20:38	137.96	138.36
7/16/2017	0:09	177.90	178.87	7/13/2017	23:20	137.73	138.13
7/16/2017	1:40	152.43	153.40	7/14/2017	2:23	137.46	137.86
7/16/2017	2:26	142.03	143.00	7/14/2017	5:00	137.32	137.72
7/16/2017	11:41	93.78	94.75	7/14/2017	8:25	137.09	137.49
7/16/2017	13:30	87.74	88.71	7/14/2017	9:30	137.04	137.44
7/16/2017	16:04	80.63	81.60	7/14/2017	10:30	137.11	137.51
7/17/2017	12:42	49.11	50.08	7/14/2017	11:00	136.99	137.39
7/17/2017	15:28	46.78	47.75	7/14/2017	11:30	136.95	137.35
7/17/2017	17:20	45.43	46.40	7/14/2017	12:00	136.99	137.39
7/18/2017	12:55	35.78	36.75	7/14/2017	12:30	136.99	137.39
7/18/2017	14:43	34.54	35.51	7/14/2017	13:00	136.99	137.39
7/18/2017	16:31	34.18	35.15	7/14/2017	14:00	136.95	137.35
7/19/2017	14:40	27.96	28.93	7/14/2017	14:30	136.98	137.38
7/25/2017	9:00	16.93	17.90	7/14/2017	15:00	136.95	137.35
7/27/2017	16:24	16.25	17.22	7/14/2017	15:30	136.95	137.35
7/28/2017	17:00	14.98	15.95	7/14/2017	16:06	136.84	137.24
7/29/2017	13:30	14.83	15.80	7/14/2017	18:44	136.85	137.25
--	--	--	--	7/14/2017	21:17	136.80	137.20
--	--	--	--	7/15/2017	0:48	136.75	137.15
--	--	--	--	7/15/2017	4:18	136.78	137.18
--	--	--	--	7/15/2017	6:49	136.79	137.19
--	--	--	--	7/15/2017	8:46	136.87	137.27
--	--	--	--	7/15/2017	11:18	136.93	137.33
--	--	--	--	7/15/2017	13:30	137.05	137.45
--	--	--	--	7/15/2017	14:09	137.05	137.45
--	--	--	--	7/15/2017	17:15	137.10	137.50
--	--	--	--	7/15/2017	19:00	137.20	137.60
--	--	--	--	7/15/2017	21:50	137.05	137.45
--	--	--	--	7/15/2017	23:30	137.20	137.60
--	--	--	--	7/16/2017	2:05	89.85	90.25
--	--	--	--	7/16/2017	16:53	75.70	76.10
--	--	--	--	7/17/2017	11:03	67.53	67.93
--	--	--	--	7/17/2017	15:08	66.00	66.40
--	--	--	--	7/17/2017	17:00	65.42	65.82

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VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Onsite Pumping Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)	Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)
--	--	--	--	**C-23 (continued)**			
--	--	--	--	7/18/2017	12:22	60.40	60.80
--	--	--	--	7/18/2017	14:02	59.96	60.36
--	--	--	--	7/18/2017	16:03	59.48	59.88
--	--	--	--	7/19/2017	14:00	55.17	55.57
--	--	--	--	7/25/2017	9:50	44.40	44.80
C-21				**C-21 (continued)**			
7/6/2017	13:42	49.20	49.54	7/25/2017	11:48	83.86	84.20
7/10/2017	11:42	49.36	49.70	7/25/2017	11:49	84.93	85.27
7/10/2017	11:56	49.41	49.75	7/25/2017	11:50	85.16	85.50
7/10/2017	11:57	81.81	82.15	7/25/2017	11:51	85.13	85.47
7/10/2017	12:00	82.49	82.83	7/25/2017	11:52	85.31	85.65
7/10/2017	12:03	81.54	81.88	7/25/2017	11:53	84.66	85.00
7/10/2017	12:06	82.77	83.11	7/25/2017	11:54	84.23	84.57
7/10/2017	12:08	83.35	83.69	7/25/2017	12:00	84.86	85.20
7/10/2017	12:09	83.62	83.96	7/25/2017	12:06	86.31	86.65
7/10/2017	12:10	84.00	84.34	7/25/2017	12:11	87.41	87.75
7/10/2017	12:11	84.23	84.57	7/25/2017	12:16	88.26	88.60
7/10/2017	12:15	85.44	85.78	7/25/2017	12:20	88.81	89.15
7/10/2017	12:20	86.37	86.71	7/25/2017	12:25	89.49	89.83
7/10/2017	12:25	87.28	87.62	7/25/2017	12:30	90.36	90.70
7/10/2017	12:30	88.17	88.51	7/25/2017	12:40	91.51	91.85
7/10/2017	12:35	89.00	89.34	7/25/2017	12:50	92.69	93.03
7/10/2017	12:40	89.58	89.92	7/25/2017	13:00	93.76	94.10
7/10/2017	12:45	90.32	90.66	7/25/2017	13:20	95.53	95.87
7/10/2017	12:55	91.59	91.93	7/25/2017	13:40	97.11	97.45
7/10/2017	13:05	92.77	93.11	7/25/2017	14:00	98.51	98.85
7/10/2017	13:15	94.63	94.97	7/25/2017	14:30	100.31	100.65
7/10/2017	13:25	95.92	96.26	7/25/2017	15:00	101.81	102.15
7/10/2017	13:35	97.31	97.65	7/25/2017	15:30	103.24	103.58
7/10/2017	13:50	99.38	99.72	7/25/2017	16:00	104.56	104.90
7/10/2017	14:05	99.90	100.24	7/25/2017	16:30	105.71	106.05
7/10/2017	14:20	102.46	102.80	7/25/2017	17:00	106.91	107.25
7/10/2017	14:35	103.67	104.01	7/25/2017	17:30	107.96	108.30
7/10/2017	14:50	105.13	105.47	7/25/2017	18:00	108.96	109.30
7/10/2017	15:05	106.21	106.55	7/25/2017	18:30	109.89	110.23
7/10/2017	15:20	107.47	107.81	7/25/2017	19:00	110.94	111.28
7/10/2017	15:50	109.62	109.96	7/25/2017	20:00	112.55	112.89
7/10/2017	16:20	102.02	102.36	7/25/2017	21:00	114.21	114.55
7/10/2017	17:48	116.81	117.15	7/25/2017	22:00	115.56	115.90
7/10/2017	19:47	122.68	123.02	7/25/2017	23:00	116.97	117.31
7/10/2017	22:47	130.00	130.34	7/26/2017	0:00	118.33	118.67
7/11/2017	0:46	133.43	133.77	7/26/2017	1:00	119.52	119.86
7/11/2017	2:49	97.81	98.15	7/26/2017	2:00	120.56	120.90
7/11/2017	3:00	124.75	125.09	7/26/2017	3:00	121.69	122.03
7/11/2017	5:18	138.01	138.35	7/26/2017	4:00	122.71	123.05
7/11/2017	8:00	142.86	143.20	7/26/2017	5:00	123.67	124.01
7/11/2017	9:50	142.76	143.10	7/26/2017	6:00	124.62	124.96
7/11/2017	10:30	143.91	144.25	7/26/2017	7:00	125.56	125.90
7/11/2017	11:04	145.21	145.55	7/26/2017	8:00	126.41	126.75

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VILLAGE OF SOUTH BLOOMING GROVE
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Manual Water-Level Measurements Collected from Onsite Pumping Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)	Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)
C-21 (continued)				**C-21 (continued)**			
7/11/2017	11:36	146.39	146.73	7/26/2017	9:00	127.21	127.55
7/11/2017	12:36	145.41	145.75	7/26/2017	10:00	128.06	128.40
7/11/2017	13:36	144.46	144.80	7/26/2017	11:00	128.76	129.10
7/11/2017	13:46	122.06	122.40	7/26/2017	12:00	129.61	129.95
7/11/2017	13:48	120.60	120.94	7/26/2017	13:00	130.19	130.53
7/11/2017	13:50	118.21	118.55	7/26/2017	14:00	130.51	130.85
7/11/2017	14:33	138.39	138.73	7/26/2017	15:00	131.26	131.60
7/11/2017	14:38	140.22	140.56	7/26/2017	16:00	132.06	132.40
7/11/2017	14:43	141.15	141.49	7/26/2017	17:00	132.53	132.87
7/11/2017	15:00	144.18	144.52	7/26/2017	18:00	133.06	133.40
7/11/2017	15:46	147.28	147.62	7/26/2017	19:00	133.79	134.13
7/11/2017	16:43	149.25	149.59	7/26/2017	20:00	134.63	134.97
7/11/2017	17:39	150.57	150.91	7/26/2017	21:00	134.81	135.15
7/11/2017	21:12	144.95	145.29	7/26/2017	22:00	135.44	135.78
7/12/2017	0:07	152.27	152.61	7/26/2017	23:00	136.01	136.35
7/12/2017	0:45	153.08	153.42	7/27/2017	0:00	136.51	136.85
7/12/2017	1:23	153.82	154.16	7/27/2017	1:00	136.94	137.28
7/12/2017	2:19	154.69	155.03	7/27/2017	2:00	137.50	137.84
7/12/2017	5:13	156.67	157.01	7/27/2017	3:00	138.02	138.36
7/12/2017	9:01	158.80	159.14	7/27/2017	4:00	138.48	138.82
7/12/2017	10:19	159.40	159.74	7/27/2017	5:00	138.71	139.05
7/12/2017	11:56	160.53	160.87	7/27/2017	6:00	139.28	139.62
7/12/2017	11:57	137.99	138.33	7/27/2017	7:00	139.63	139.97
7/12/2017	12:02	136.22	136.56	7/27/2017	8:00	139.98	140.32
7/12/2017	12:05	131.22	131.56	7/27/2017	9:00	140.39	140.73
7/12/2017	12:11	132.74	133.08	7/27/2017	10:00	140.72	141.06
7/12/2017	12:20	130.15	130.49	7/27/2017	11:00	141.20	141.54
7/12/2017	12:29	128.37	128.71	7/27/2017	12:00	141.66	142.00
7/12/2017	14:44	127.20	127.54	7/27/2017	13:00	142.04	142.38
7/12/2017	16:44	113.10	113.44	7/27/2017	14:00	142.26	142.60
7/12/2017	20:53	108.23	108.57	7/27/2017	16:00	143.03	143.37
7/12/2017	23:25	106.40	106.74	7/27/2017	17:00	143.34	143.68
7/13/2017	2:07	104.85	105.19	7/27/2017	18:00	143.61	143.95
7/13/2017	4:57	103.46	103.80	7/27/2017	19:00	143.86	144.20
7/13/2017	9:56	101.91	102.25	7/27/2017	20:00	144.19	144.53
7/13/2017	13:59	101.28	101.62	7/27/2017	21:00	144.53	144.87
7/13/2017	17:19	100.56	100.90	7/27/2017	22:00	144.79	145.13
7/13/2017	20:56	100.04	100.38	7/27/2017	23:00	145.14	145.48
7/13/2017	23:58	99.75	100.09	7/28/2017	0:00	145.36	145.70
7/14/2017	2:43	99.59	99.93	7/28/2017	1:00	145.67	146.01
7/14/2017	5:05	99.47	99.81	7/28/2017	2:00	145.82	146.16
7/14/2017	10:47	99.11	99.45	7/28/2017	3:00	146.16	146.50
7/14/2017	12:35	99.05	99.39	7/28/2017	4:00	146.40	146.74
7/14/2017	16:44	98.94	99.28	7/28/2017	5:00	146.65	146.99
7/14/2017	18:39	98.86	99.20	7/28/2017	6:00	146.76	147.10
7/14/2017	21:31	98.79	99.13	7/28/2017	7:00	147.05	147.39
7/15/2017	1:05	98.73	99.07	7/28/2017	8:00	147.31	147.65
7/15/2017	5:02	98.70	99.04	7/28/2017	9:00	147.46	147.80
7/15/2017	12:02	98.78	99.12	7/28/2017	10:00	147.73	148.07

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Manual Water-Level Measurements Collected from Onsite Pumping Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)	Date	Time	Depth to Water (feet below top of casing)	Depth to Water (feet below top of dip tube)
C-21 (continued)				**C-21 (continued)**			
7/16/2017	12:04	83.87	84.21	7/28/2017	11:00	148.01	148.35
7/16/2017	14:10	82.55	82.89	7/28/2017	12:00	148.11	148.45
7/17/2017	11:25	73.36	73.70	7/28/2017	12:14	148.21	148.55
7/17/2017	15:13	73.07	73.41	7/28/2017	12:16	124.59	124.93
7/17/2017	17:06	71.56	71.90	7/28/2017	12:17	123.11	123.45
7/18/2017	12:30	66.82	67.16	7/28/2017	12:18	122.66	123.00
7/18/2017	14:08	67.46	67.80	7/28/2017	12:19	121.96	122.30
7/18/2017	16:13	66.05	66.39	7/28/2017	12:20	121.31	121.65
7/19/2017	11:30	62.79	63.13	7/28/2017	12:25	119.06	119.40
7/19/2017	14:20	62.16	62.50	7/28/2017	12:30	117.36	117.70
7/19/2017	17:05	61.71	62.05	7/28/2017	12:40	115.14	115.48
7/25/2017	10:50	52.24	52.58	7/28/2017	12:50	113.26	113.60
7/25/2017	11:40	52.31	52.65	7/28/2017	13:00	111.53	111.87
7/25/2017	11:45	78.19	78.53	7/28/2017	13:12	110.01	110.35
7/25/2017	11:46	82.21	82.55	7/28/2017	13:22	100.04	100.38
7/25/2017	11:47	83.64	83.98	--	--	--	--

ONSITE MONITORING WELLS

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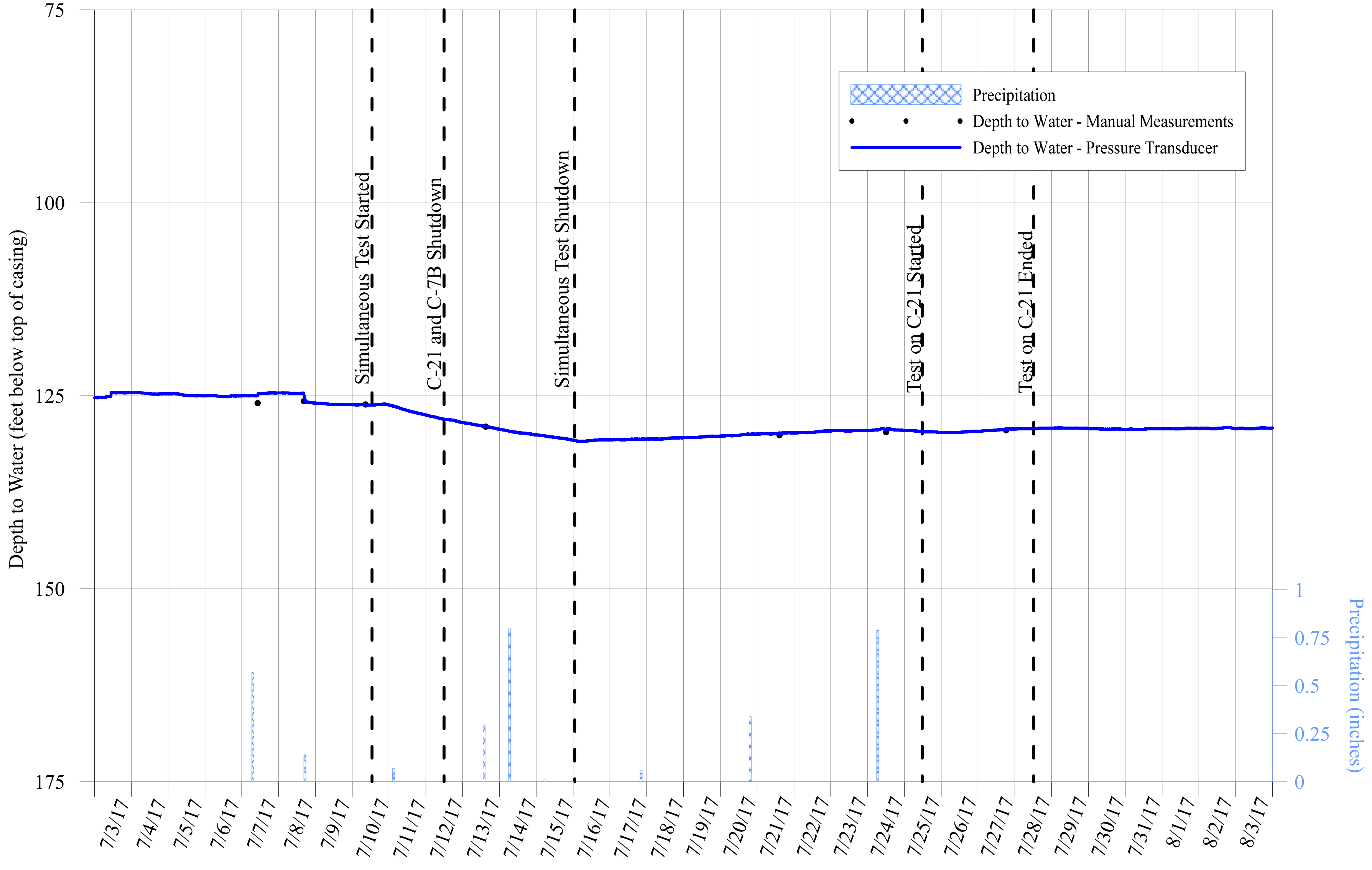
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-1 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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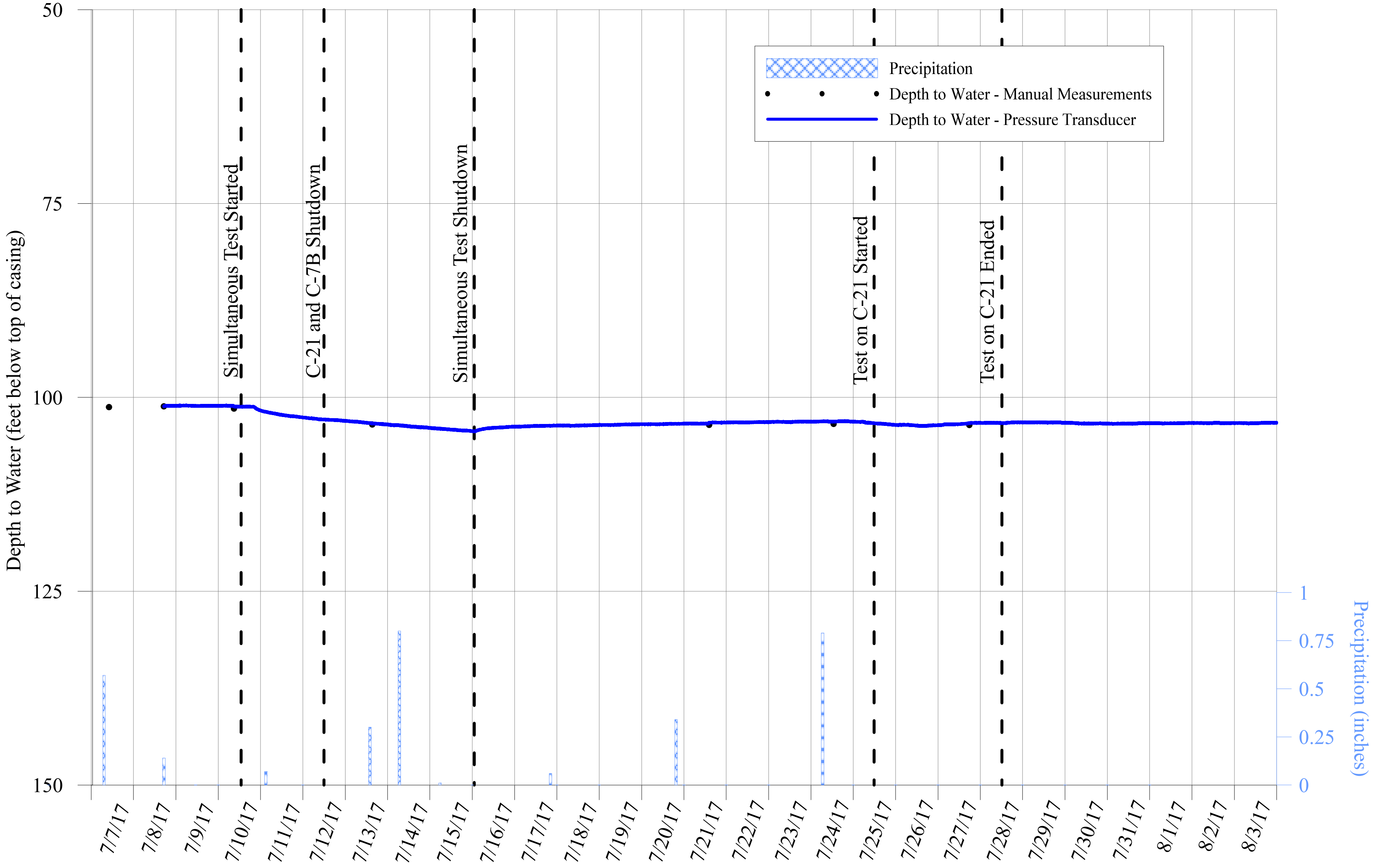
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-4 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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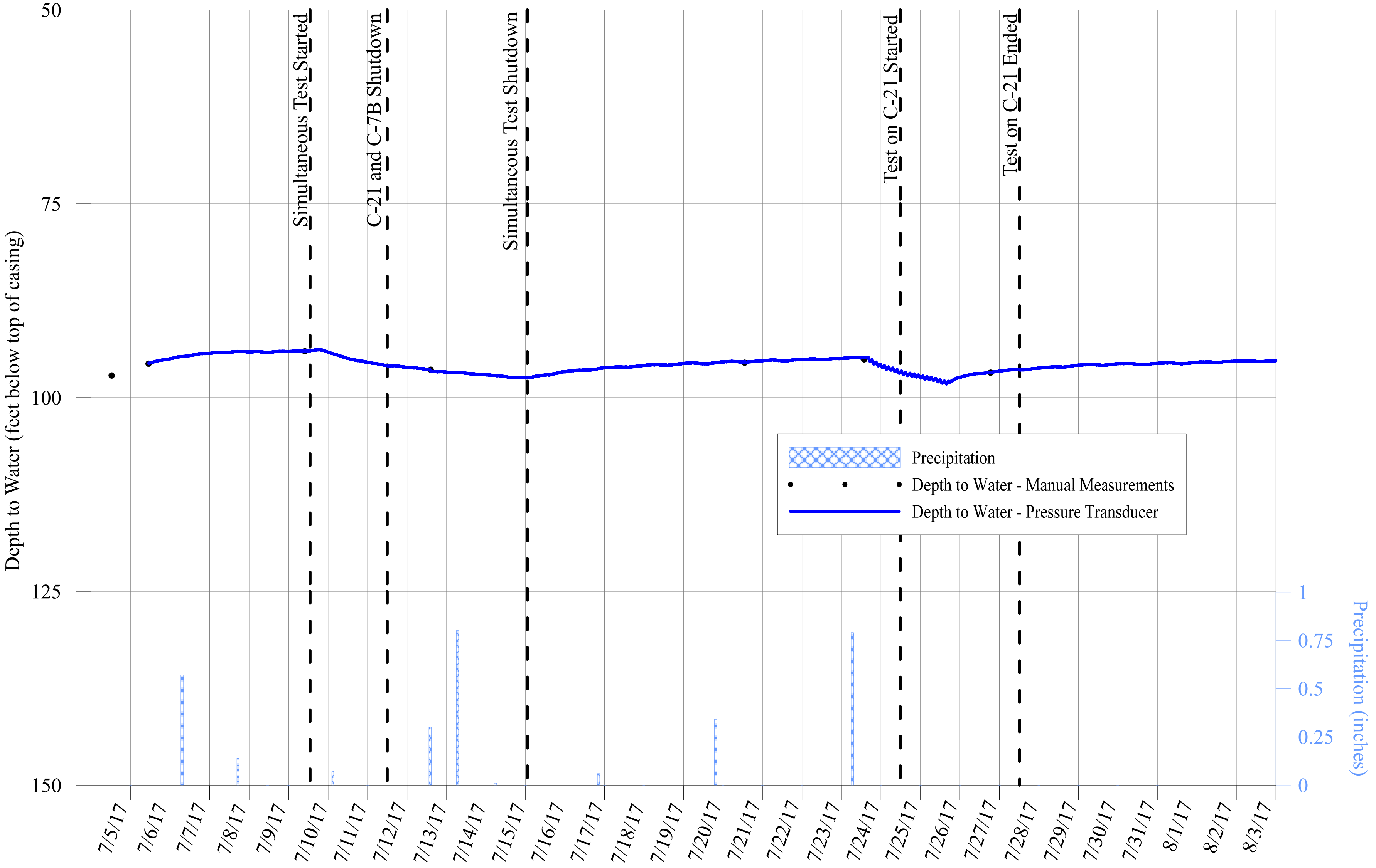
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-5 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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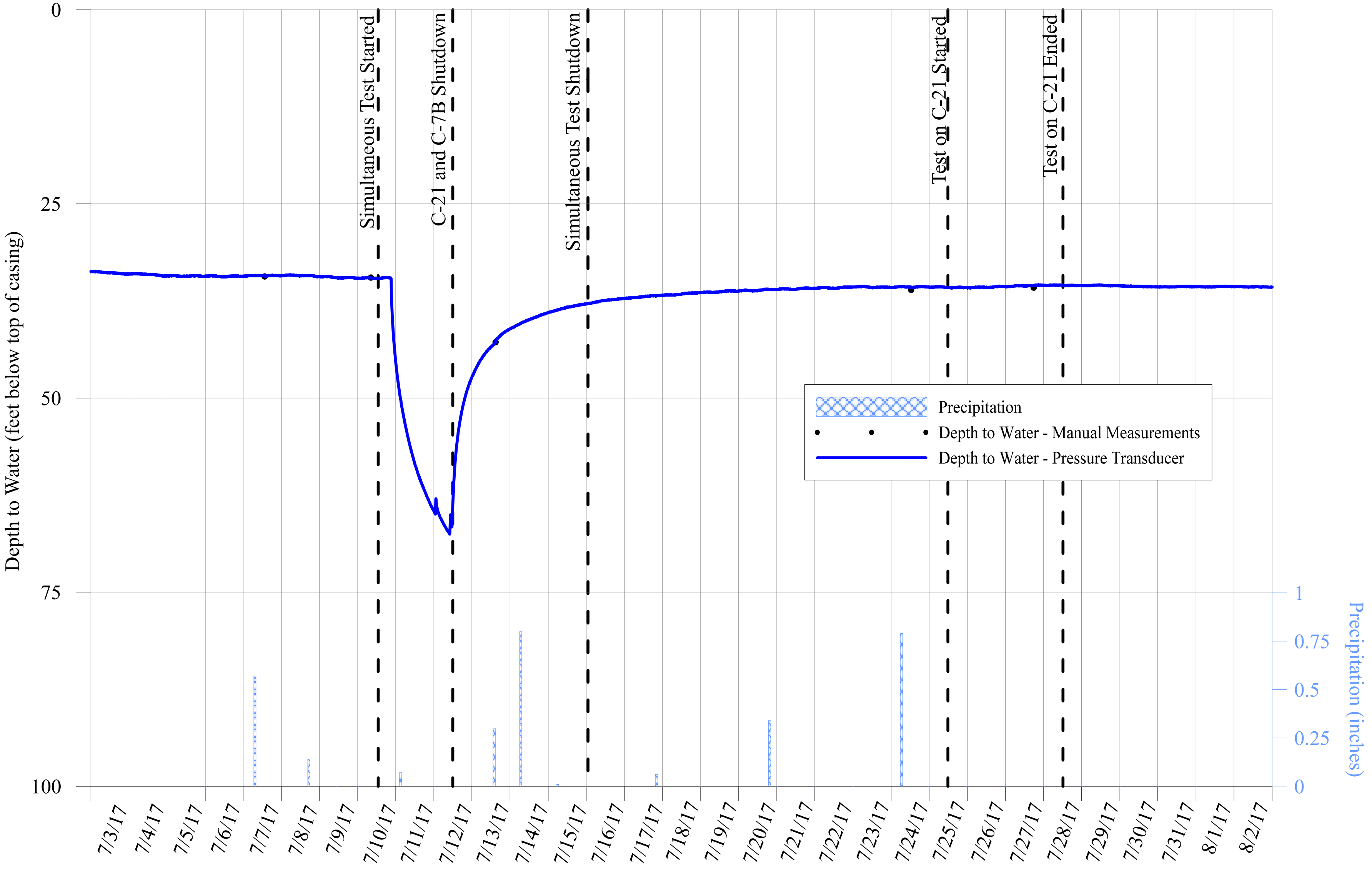
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-7 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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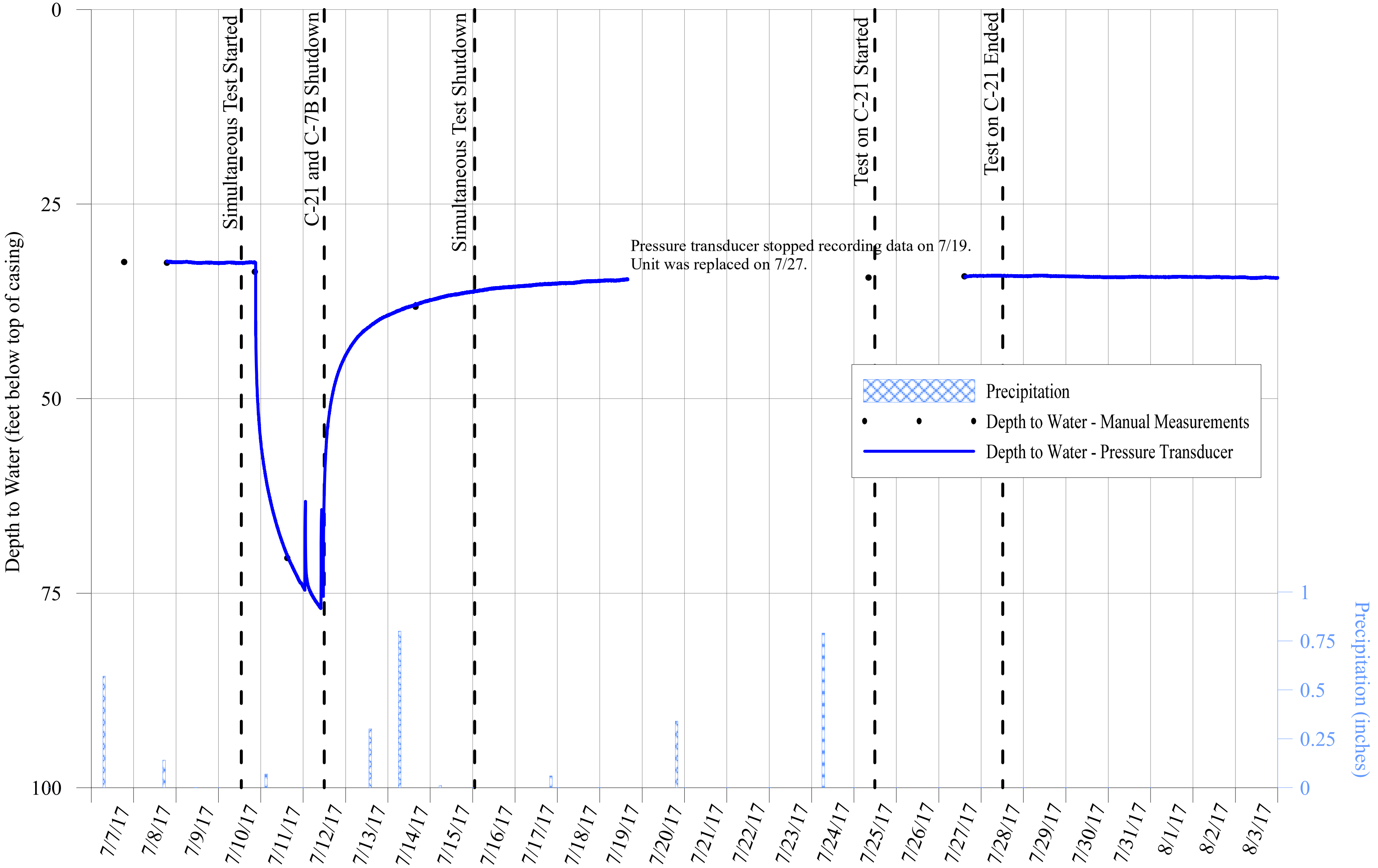
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-7A During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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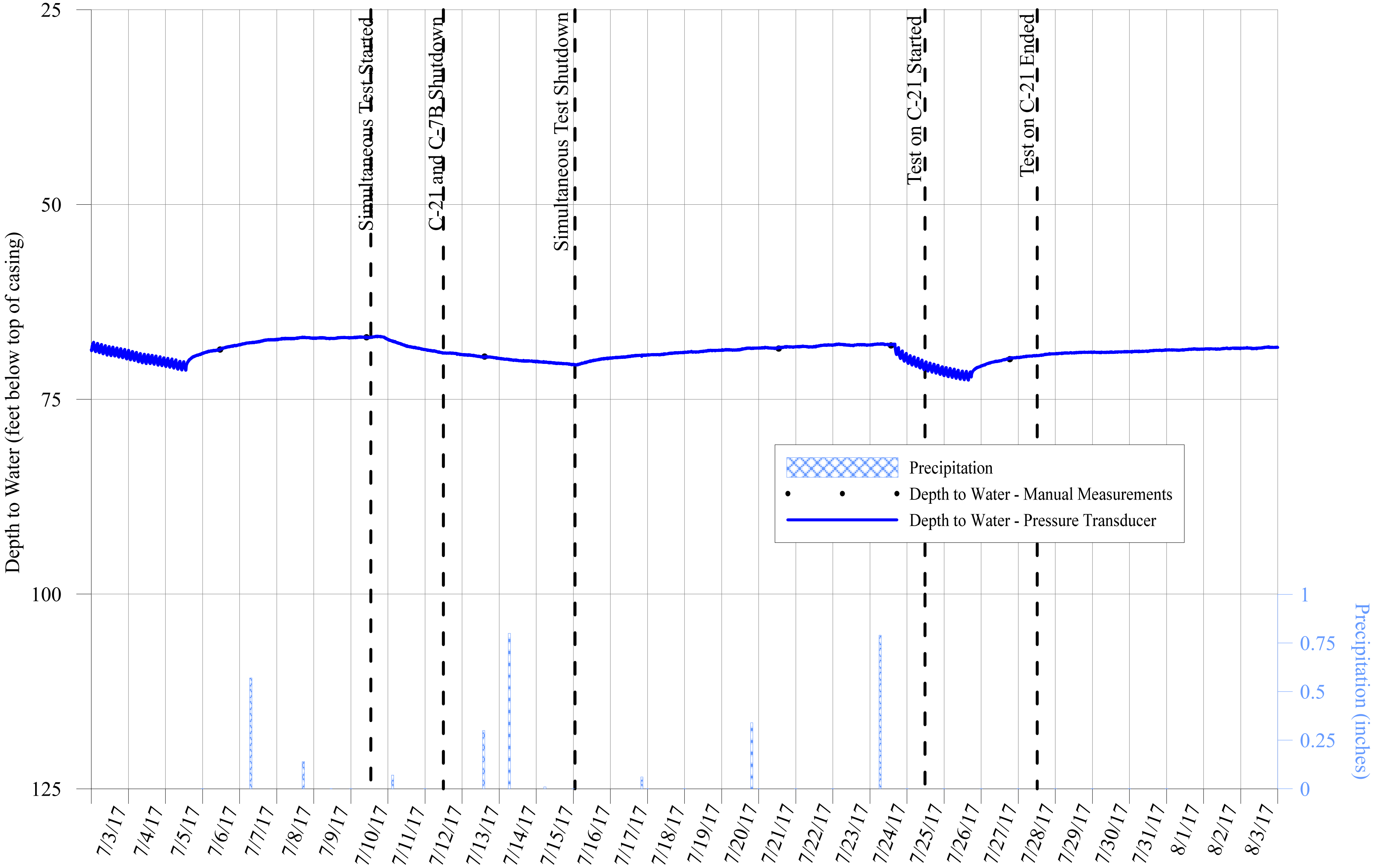
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-8 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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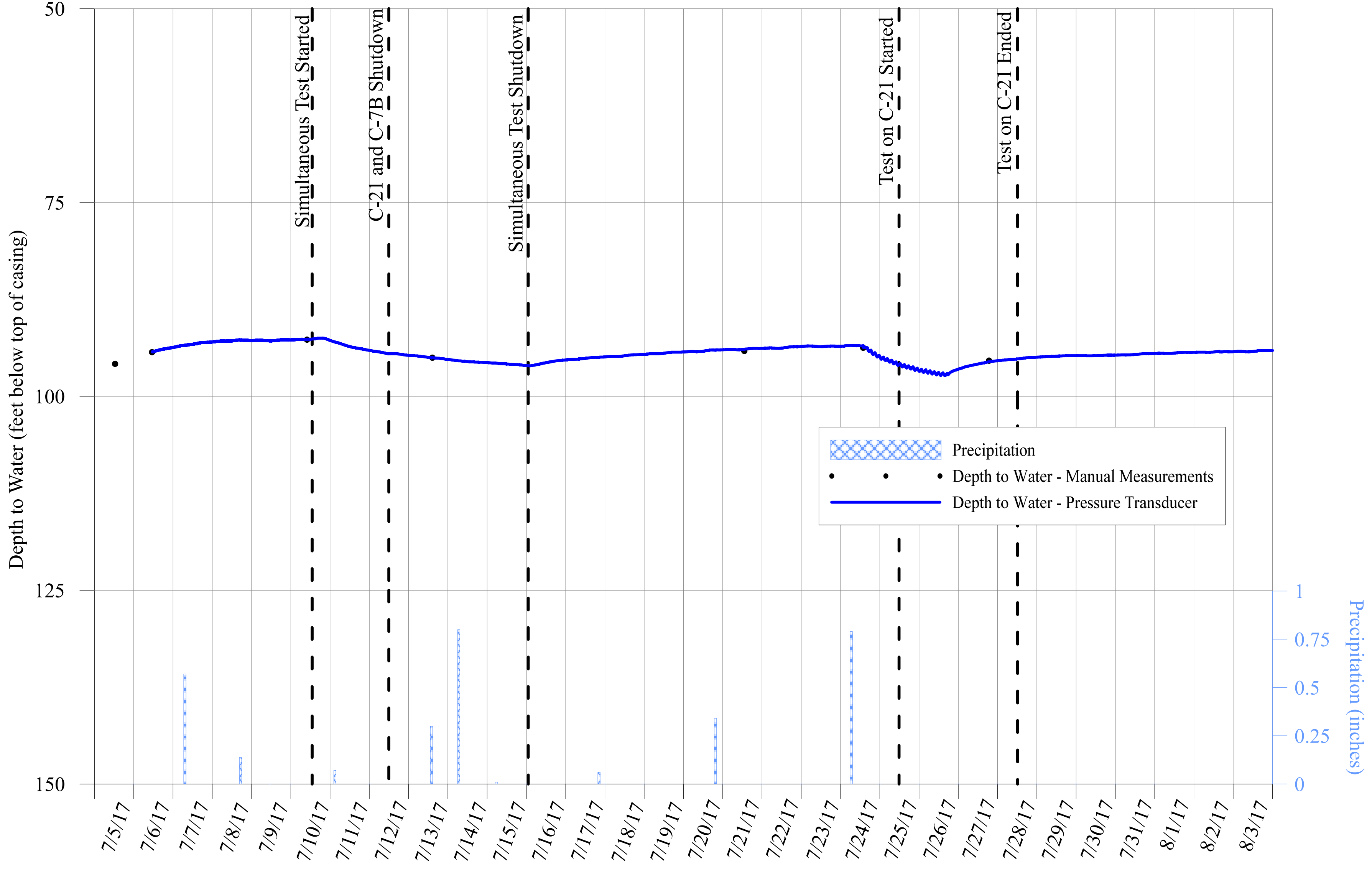
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-9 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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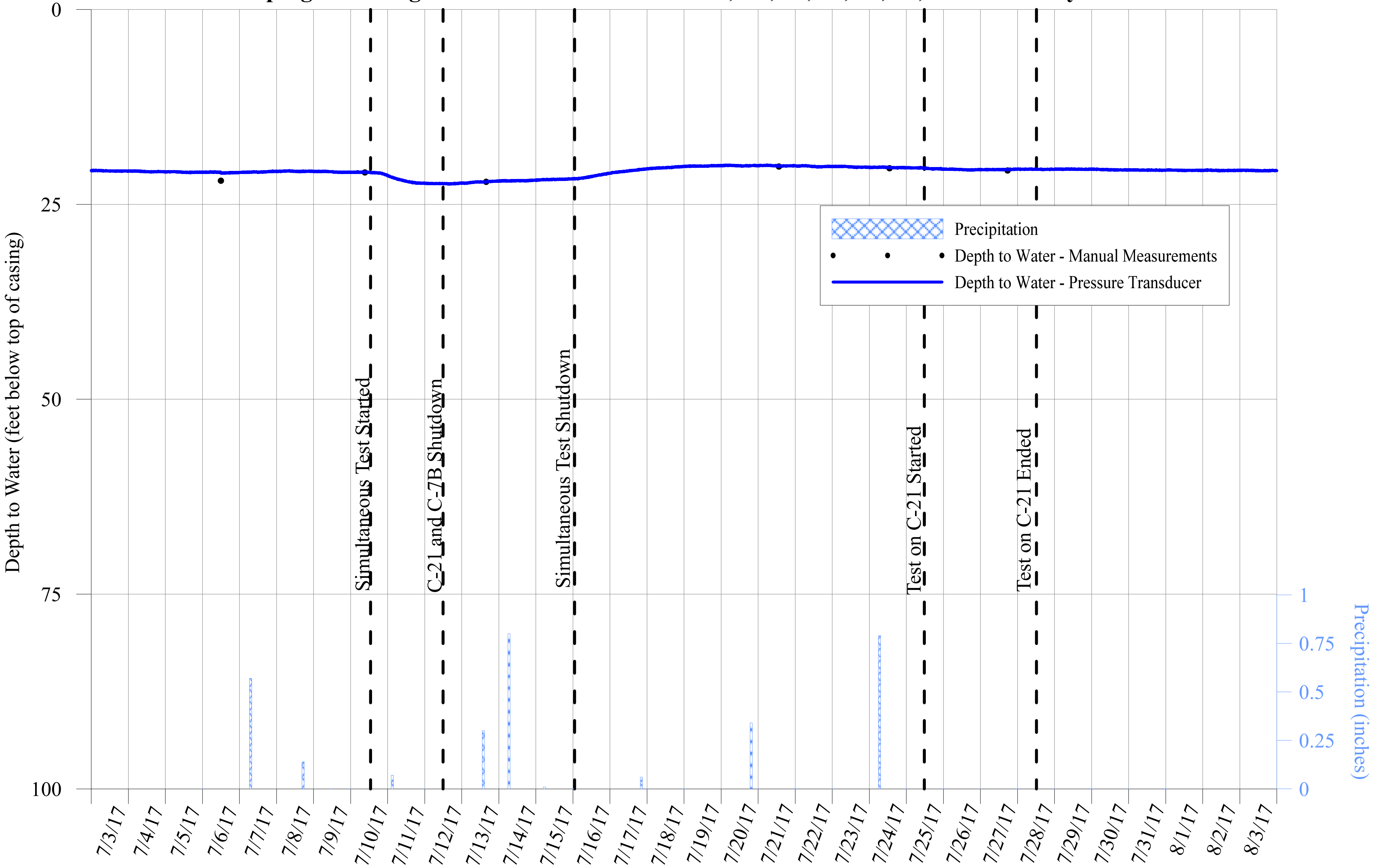
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-10 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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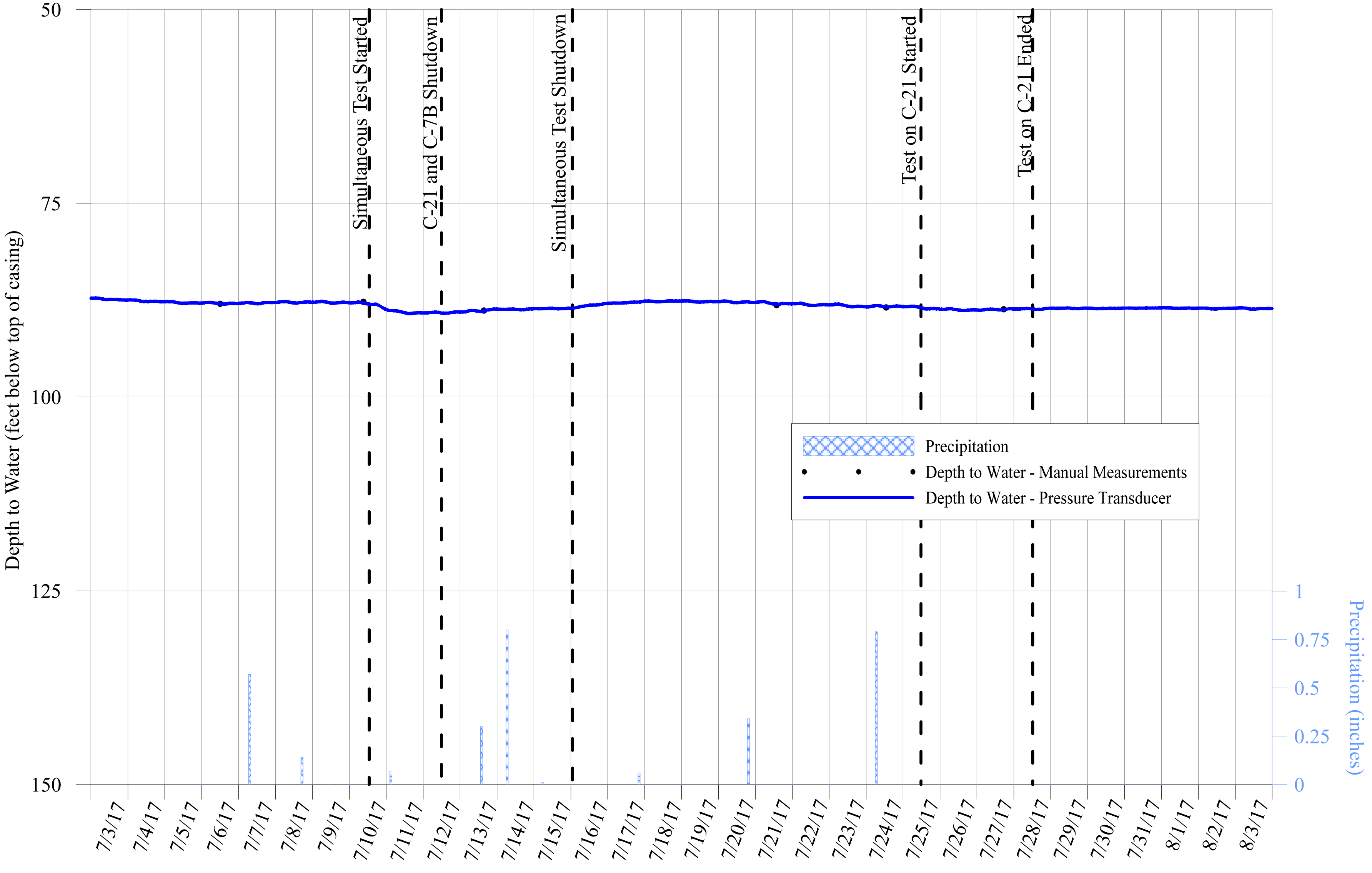
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-11 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Onsite\MWs\C-11Comprehensive.grf

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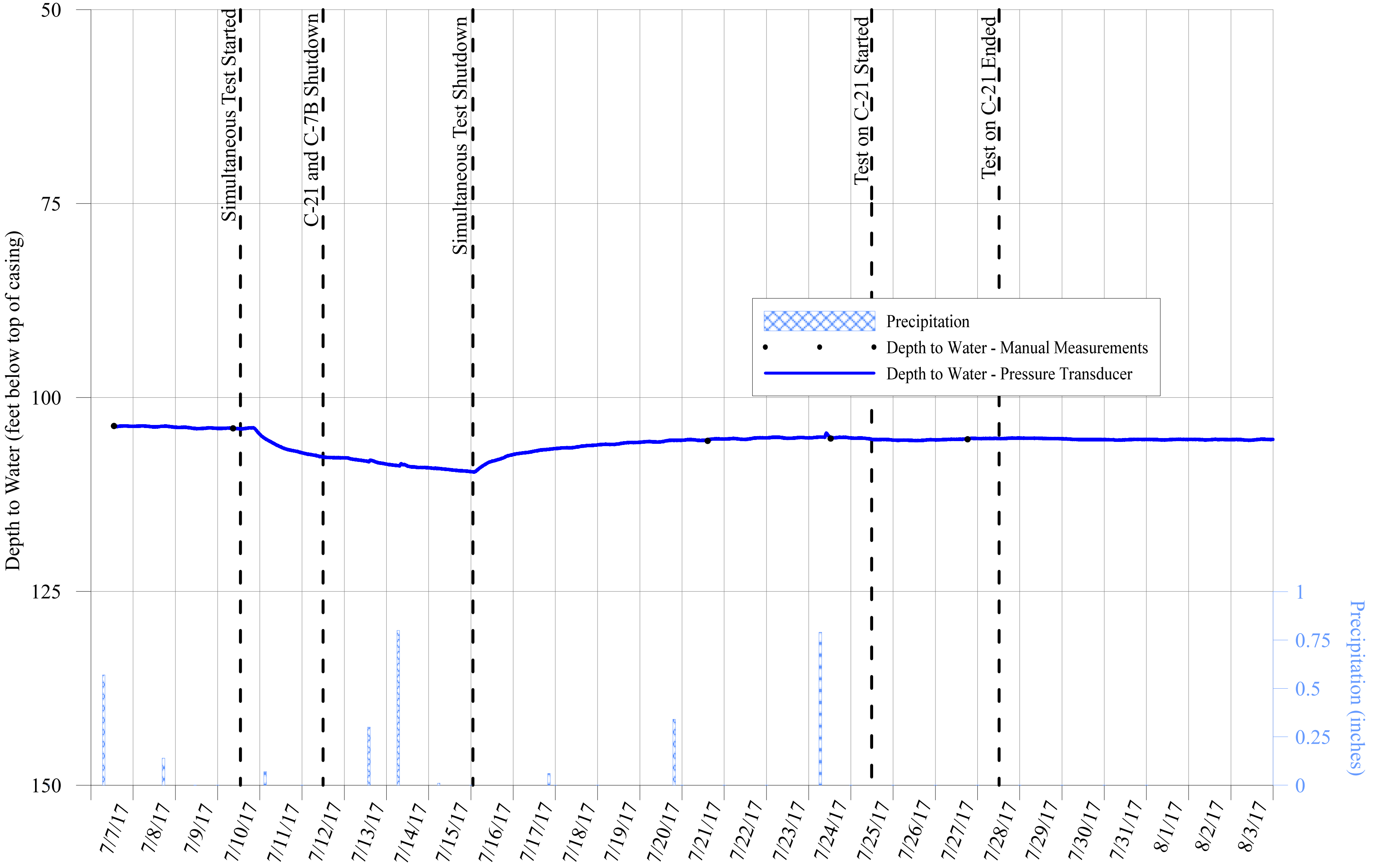
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-13 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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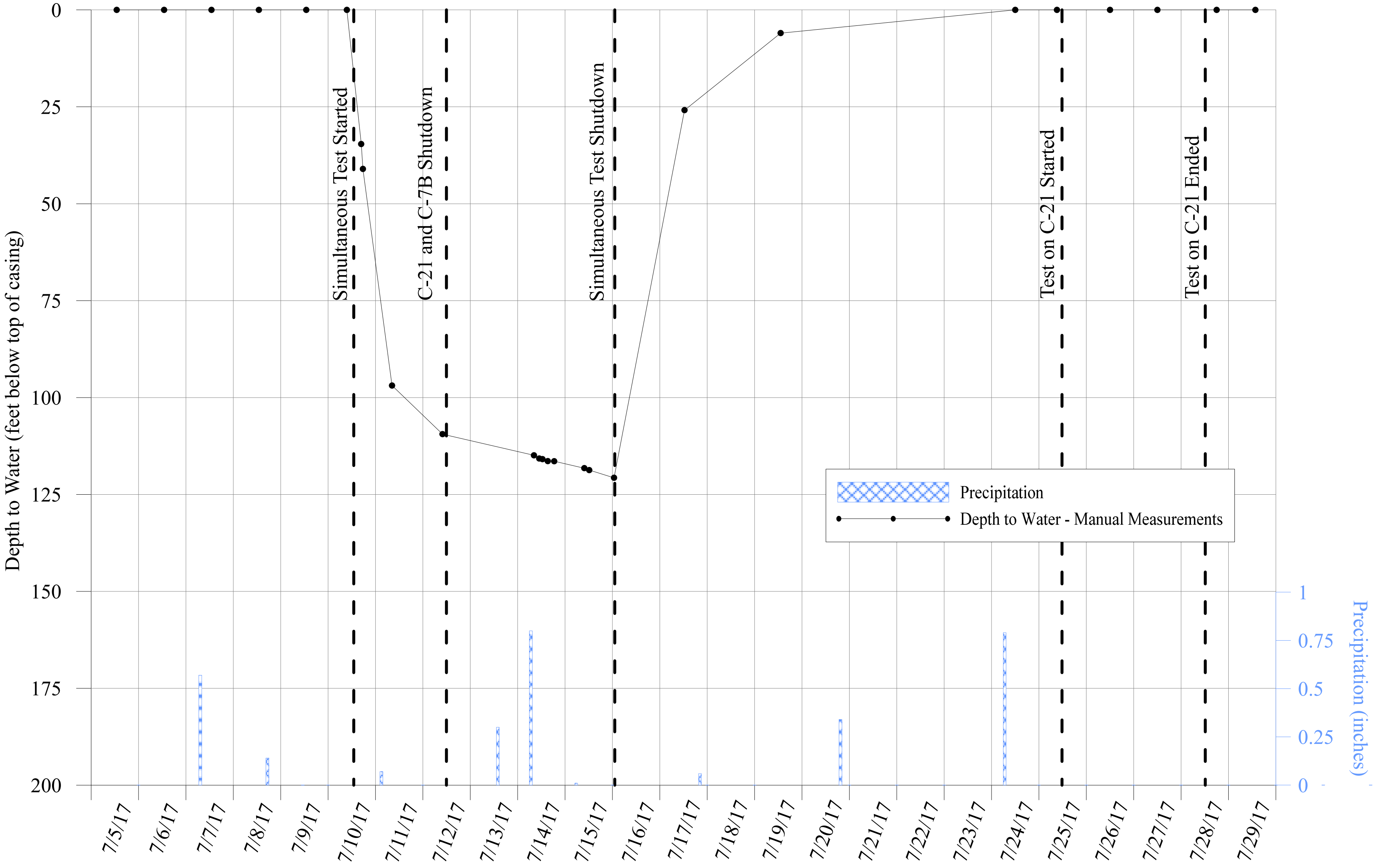
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-14A During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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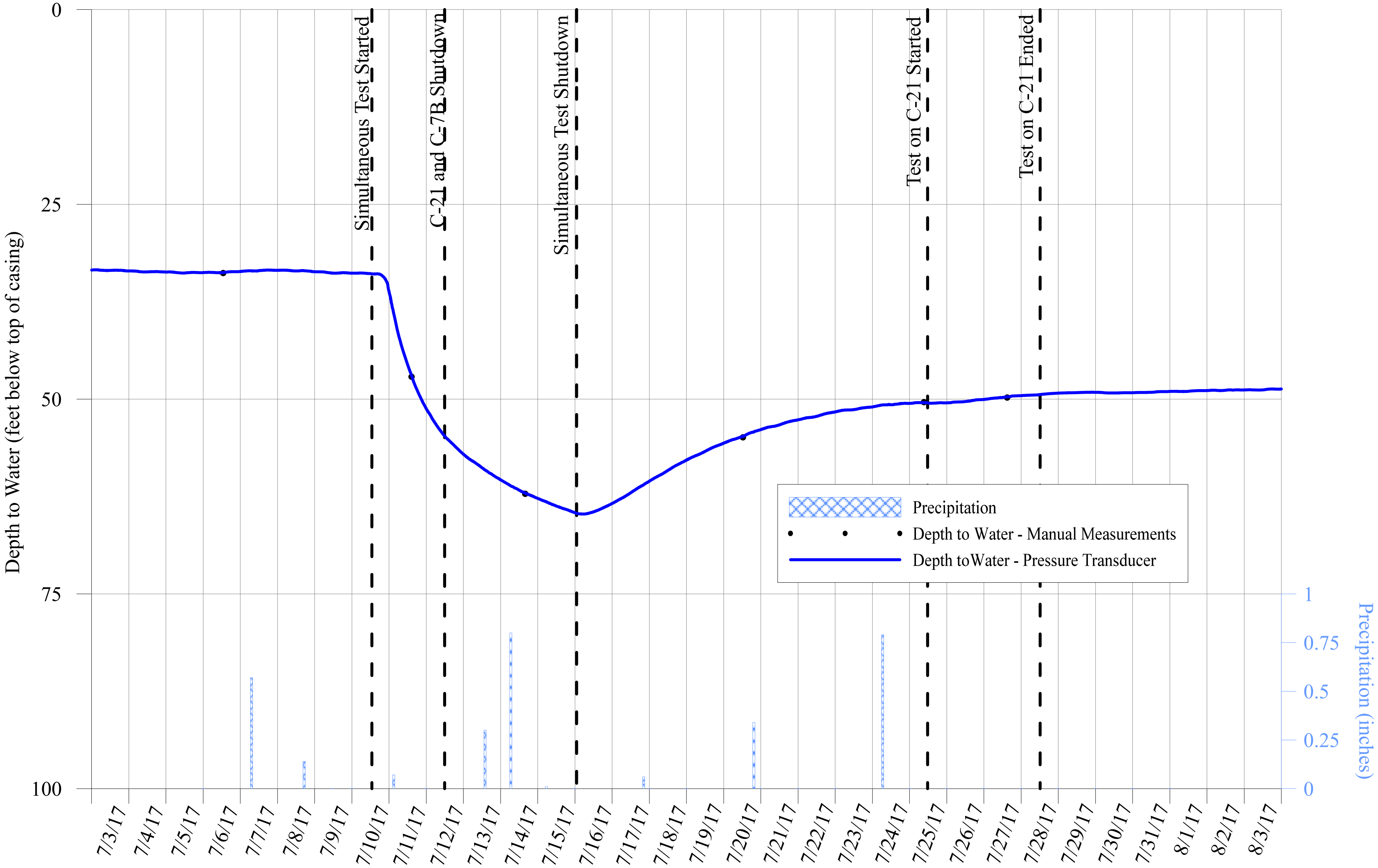
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-15 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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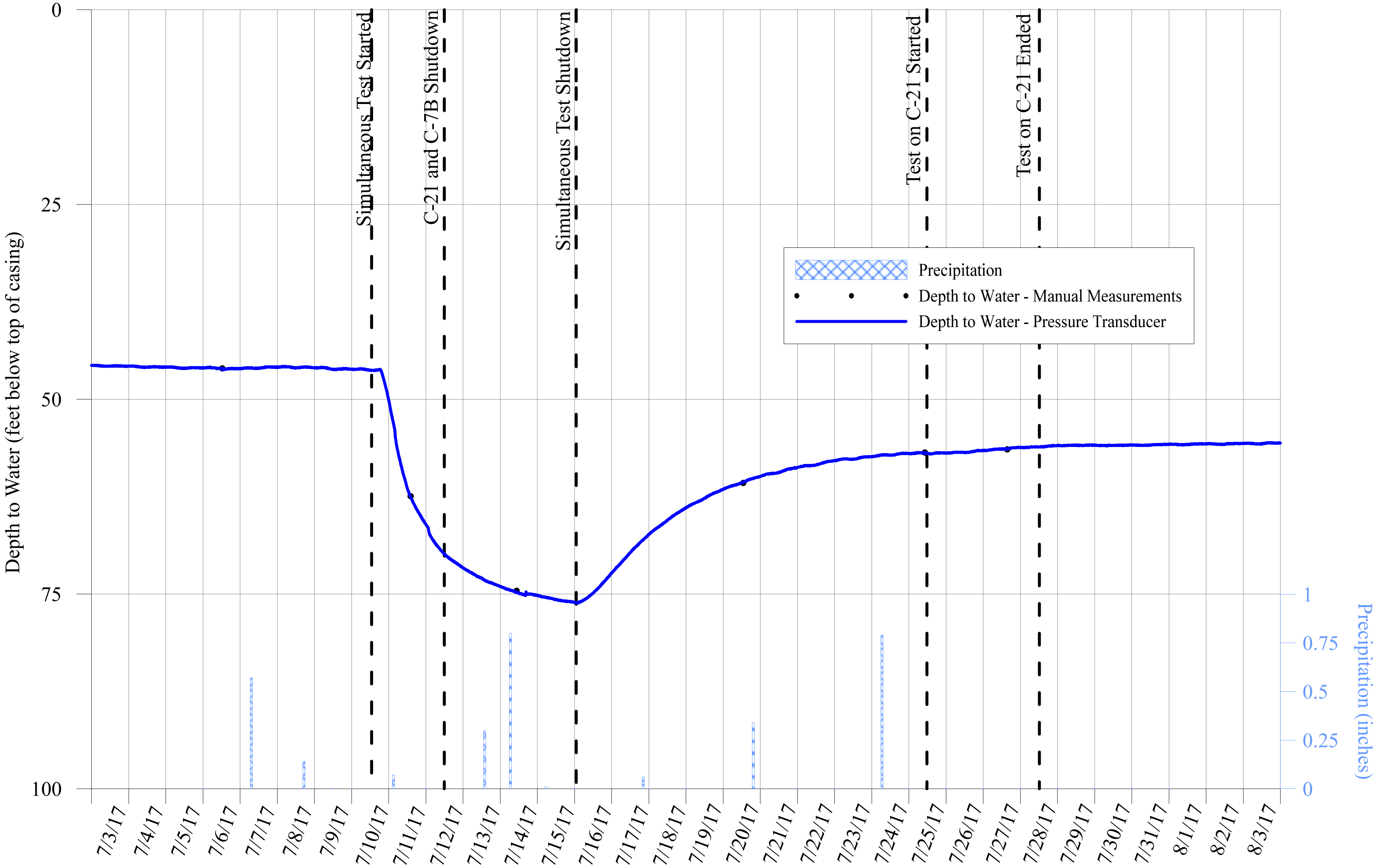
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-17 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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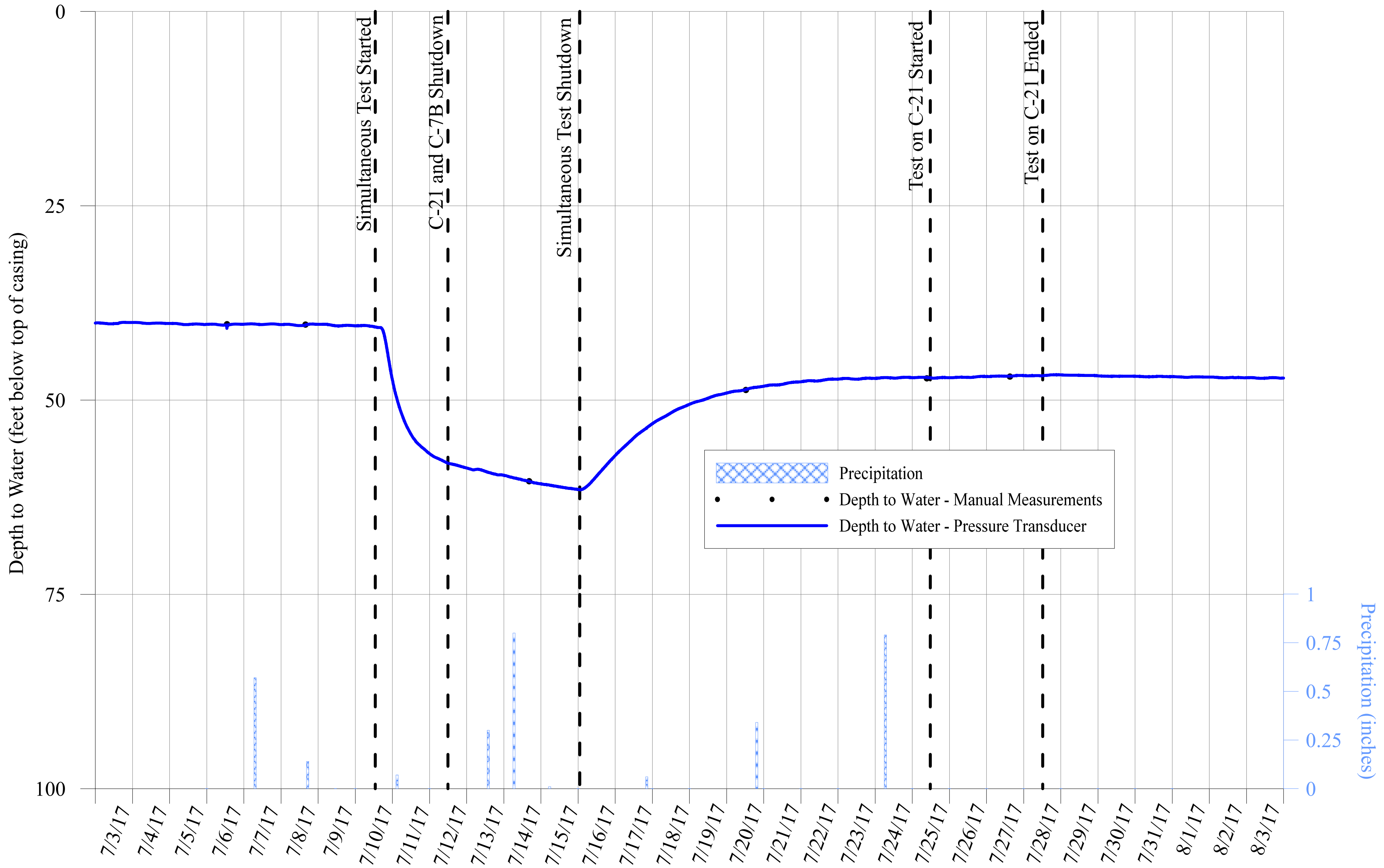
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-18 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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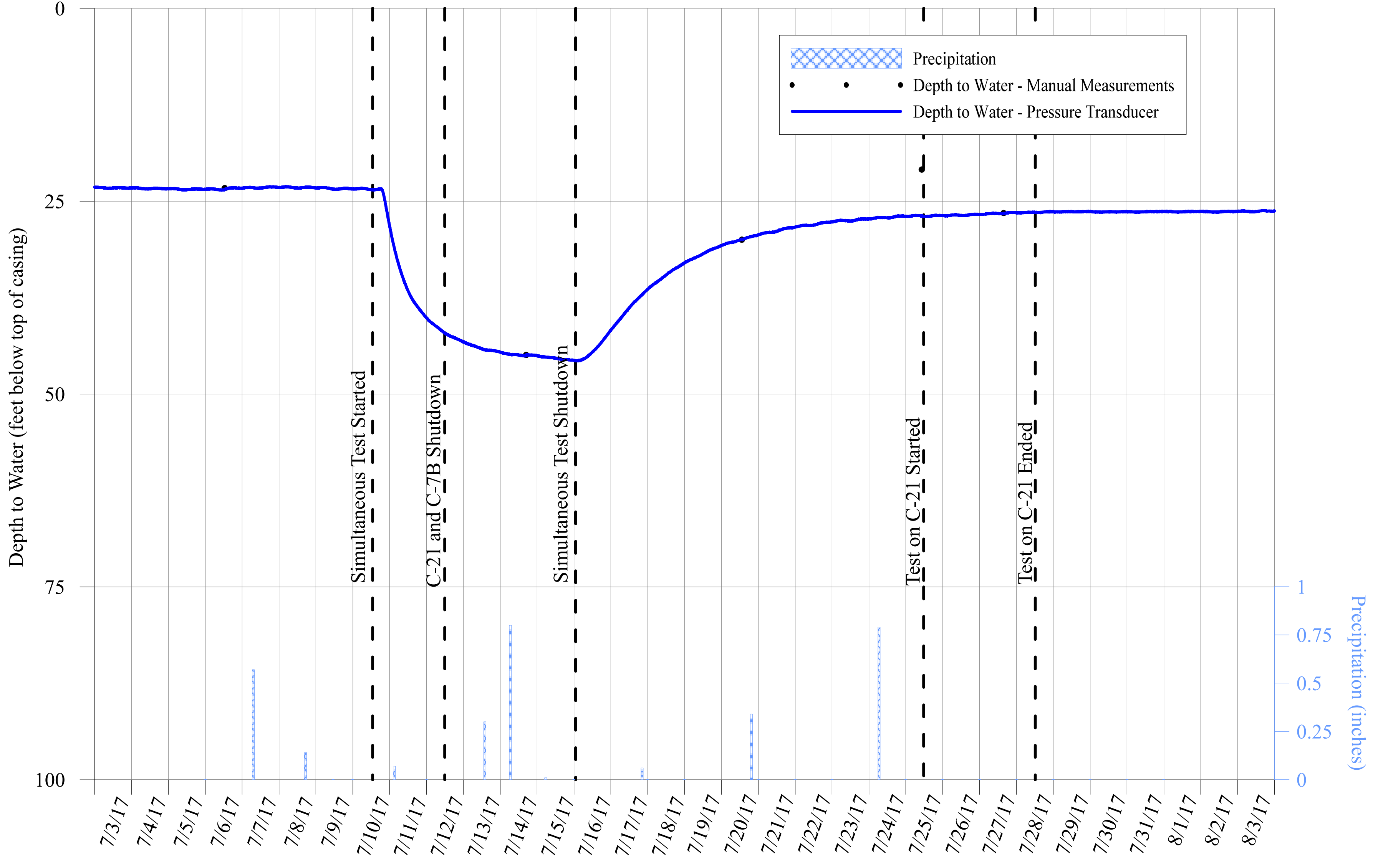
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-19 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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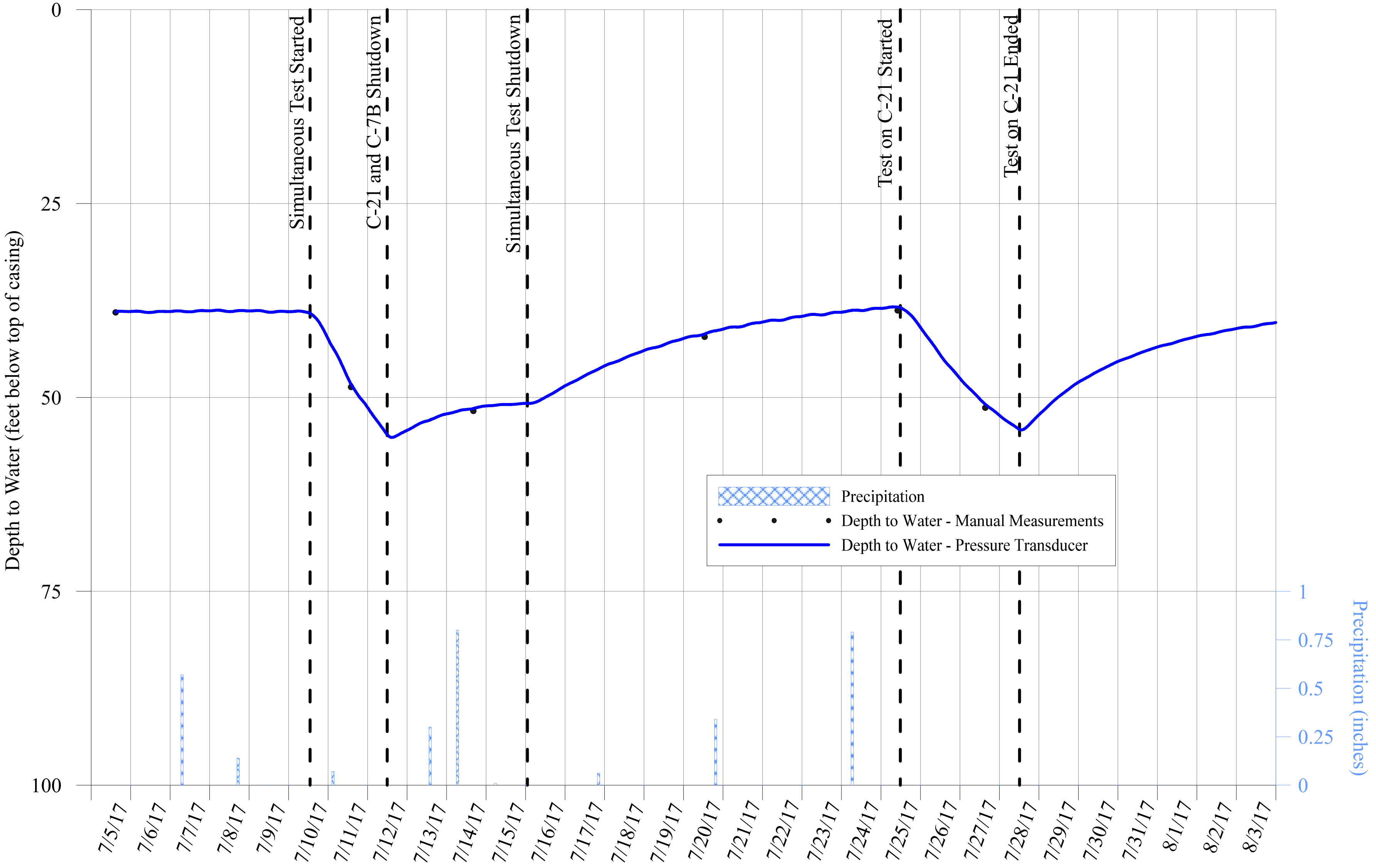
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-20 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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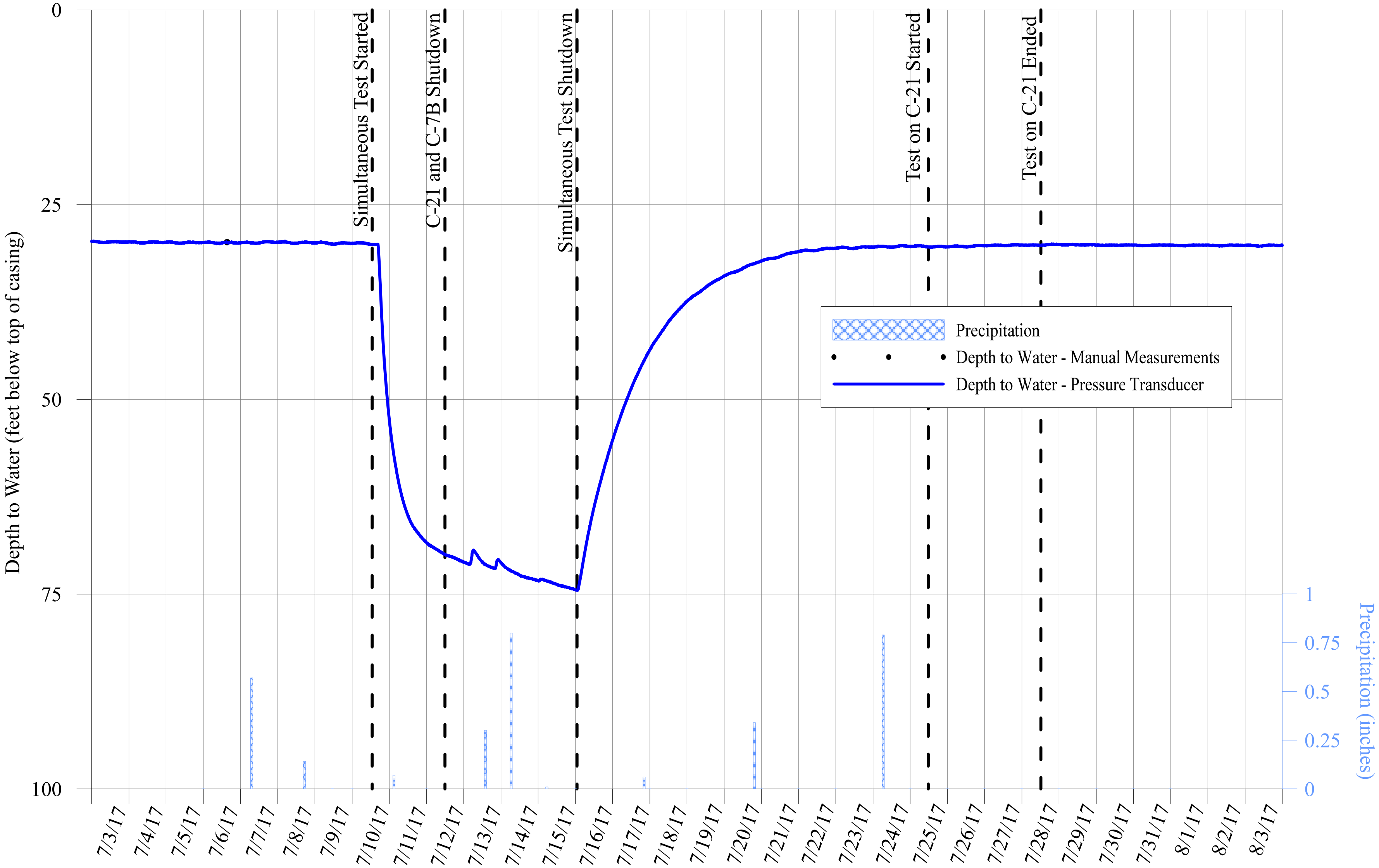
Hydrograph of Water-Level Measurements Collected from Onsite Monitoring Well C-22 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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Manual Water-Level Measurements Collected from Onsite Monitoring Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Date	Time	Depth to Water (feet below top of casing)
C-1			**C-4**		
6/29/2017	13:30	125.68	7/7/2017	10:05	101.25
7/7/2017	10:25	125.95	7/8/2017	17:10	101.15
7/8/2017	16:30	125.70	7/10/2017	9:00	101.45
7/10/2017	8:43	126.12	7/13/2017	15:20	103.50
7/13/2017	15:08	129.00	7/21/2017	14:15	103.55
7/21/2017	14:43	130.10	7/24/2017	12:50	103.43
7/24/2017	12:10	129.70	7/27/2017	17:45	103.56
7/27/2017	18:25	129.45	8/14/2017	16:57	103.15
8/14/2017	17:05	128.80	--	--	--
C-5			**C-7**		
6/29/2017	15:05	91.89	6/21/2017	17:10	33.00
7/5/2017	12:30	97.16	7/7/2017	13:30	34.35
7/6/2017	10:56	95.65	7/10/2017	8:20	34.50
7/10/2017	9:50	94.03	7/13/2017	14:52	42.82
7/13/2017	14:23	96.43	7/24/2017	12:35	36.08
7/21/2017	13:10	95.50	7/27/2017	17:50	35.80
7/24/2017	13:50	95.08	--	--	--
7/27/2017	18:40	96.80	--	--	--
8/14/2017	17:47	94.55	--	--	--
C-7A			**C-8**		
6/30/2017	17:10	32.09	6/21/2017	13:13	65.44
7/7/2017	18:37	32.45	7/6/2017	11:25	68.62
7/8/2017	18:48	32.55	7/10/2017	10:10	67.05
7/10/2017	20:41	33.70	7/13/2017	14:38	69.52
7/11/2017	15:04	70.50	7/21/2017	12:58	68.50
7/14/2017	15:40	38.20	7/24/2017	13:43	68.10
7/25/2017	8:17	34.45	7/27/2017	18:35	69.85
7/27/2017	14:36	34.30	8/14/2017	17:35	67.55
8/8/2017	13:03	34.68	--	--	--
C-9			**C-10**		
6/29/2017	15:10	90.51	6/21/2017	13:58	20.75
7/5/2017	12:34	95.81	7/6/2017	11:59	21.97
7/6/2017	11:12	94.30	7/10/2017	9:20	20.90
7/10/2017	9:57	92.68	7/13/2017	15:50	22.12
7/13/2017	14:32	95.03	7/21/2017	13:26	20.15
7/21/2017	13:15	94.15	7/24/2017	13:10	20.37
7/24/2017	13:52	93.73	7/27/2017	17:38	20.65
7/27/2017	18:45	95.40	8/8/2017	16:35	20.85
8/14/2017	17:57	93.15	8/14/2017	16:40	20.70
C-11			**C-13**		
6/21/2017	14:17	87.10	7/7/2017	13:05	103.68
7/6/2017	12:06	87.97	7/10/2017	8:50	103.98
7/10/2017	9:15	87.72	7/1/2017	15:15	108.03
7/13/2017	15:35	88.85	7/21/2017	14:35	105.60
7/21/2017	13:47	88.15	7/24/2017	12:30	105.30
7/24/2017	13:03	88.45	7/27/2017	18:20	105.40
7/27/2017	17:30	88.70	8/14/2017	17:15	105.25
8/8/2017	16:20	88.80	--	--	--
8/14/2017	16:39	88.50	--	--	--

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Onsite Monitoring Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Date	Time	Depth to Water (feet below top of casing)
C-14A			**C-15**		
6/29/2017	13:00	Flowing	6/30/2017	17:30	33.37
7/3/2017	13:00	Flowing	7/6/2017	12:58	33.84
7/5/2017	13:00	Flowing	7/11/2017	14:38	47.13
7/6/2017	13:00	Flowing	7/14/2017	15:58	62.17
7/7/2017	13:00	Flowing	7/20/2017	12:30	54.92
7/8/2017	13:00	Flowing	7/25/2017	9:20	50.40
7/9/2017	13:00	Flowing	7/27/2017	15:03	49.80
7/10/2017	9:30	Flowing	8/8/2017	14:00	48.60
7/10/2017	16:50	34.60	8/14/2017	13:32	48.20
7/10/2017	17:36	41.02	--	--	--
7/11/2017	8:22	96.90	--	--	--
7/12/2017	10:00	109.45	--	--	--
7/12/2007	18:13	111.62	--	--	--
7/14/2017	8:13	114.90	--	--	--
7/14/2017	10:58	115.76	--	--	--
7/14/2017	12:37	115.89	--	--	--
7/14/2017	15:19	116.38	--	--	--
7/14/2017	18:30	116.43	--	--	--
7/15/2017	9:46	118.23	--	--	--
7/15/2017	12:20	118.73	--	--	--
7/16/2017	0:50	120.70	--	--	--
7/17/2017	12:33	25.86	--	--	--
7/19/2017	13:10	6.00	--	--	--
7/24/2017	12:00	Flowing	--	--	--
7/25/2017	9:10	Flowing	--	--	--
7/26/2017	12:00	Flowing	--	--	--
7/27/2017	12:00	Flowing	--	--	--
7/28/2017	18:00	Flowing	--	--	--
7/29/2017	13:40	Flowing	--	--	--
8/8/2017	13:20	Flowing	--	--	--
C-17			**C-18**		
7/6/2017	12:30	46.04	7/6/2017	13:07	40.25
7/11/2017	14:10	62.45	7/8/2017	15:50	40.30
7/14/2017	10:40	74.60	7/14/2017	16:25	60.45
7/20/2017	13:03	60.75	7/20/2017	12:30	48.72
7/25/2017	10:20	56.85	7/25/2017	9:30	47.20
7/27/2017	15:32	56.45	7/27/2017	15:12	47.00
8/8/2017	15:15	55.60	8/8/2017	14:07	47.60
8/14/2017	15:24	55.90	8/14/2017	13:40	47.70
C-19			**C-20**		
7/6/2017	12:40	23.32	7/5/2017	14:50	39.05
7/14/2017	16:54	44.93	7/11/2017	13:57	48.65
7/20/2017	13:20	30.00	7/14/2017	16:20	51.75
7/25/2017	10:30	20.90	7/20/2017	12:50	42.20
7/27/2017	15:44	26.55	7/25/2017	10:10	38.80
8/8/2017	15:25	26.30	7/27/2017	15:25	51.32
8/14/2017	15:31	26.20	8/8/2017	15:05	39.00
--	--	--	8/14/2017	15:10	47.95

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BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Onsite Monitoring Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (feet below top of casing)	Date	Time	Depth to Water (feet below top of casing)
C-22					
6/21/2017	16:39	45.00	--	--	--
7/6/2017	15:20	29.82	--	--	--
8/8/2017	13:43	30.35	--	--	--
8/14/2017	13:17	30.22	--	--	--

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APPENDIX VII

OFFSITE MONITORING WELLS

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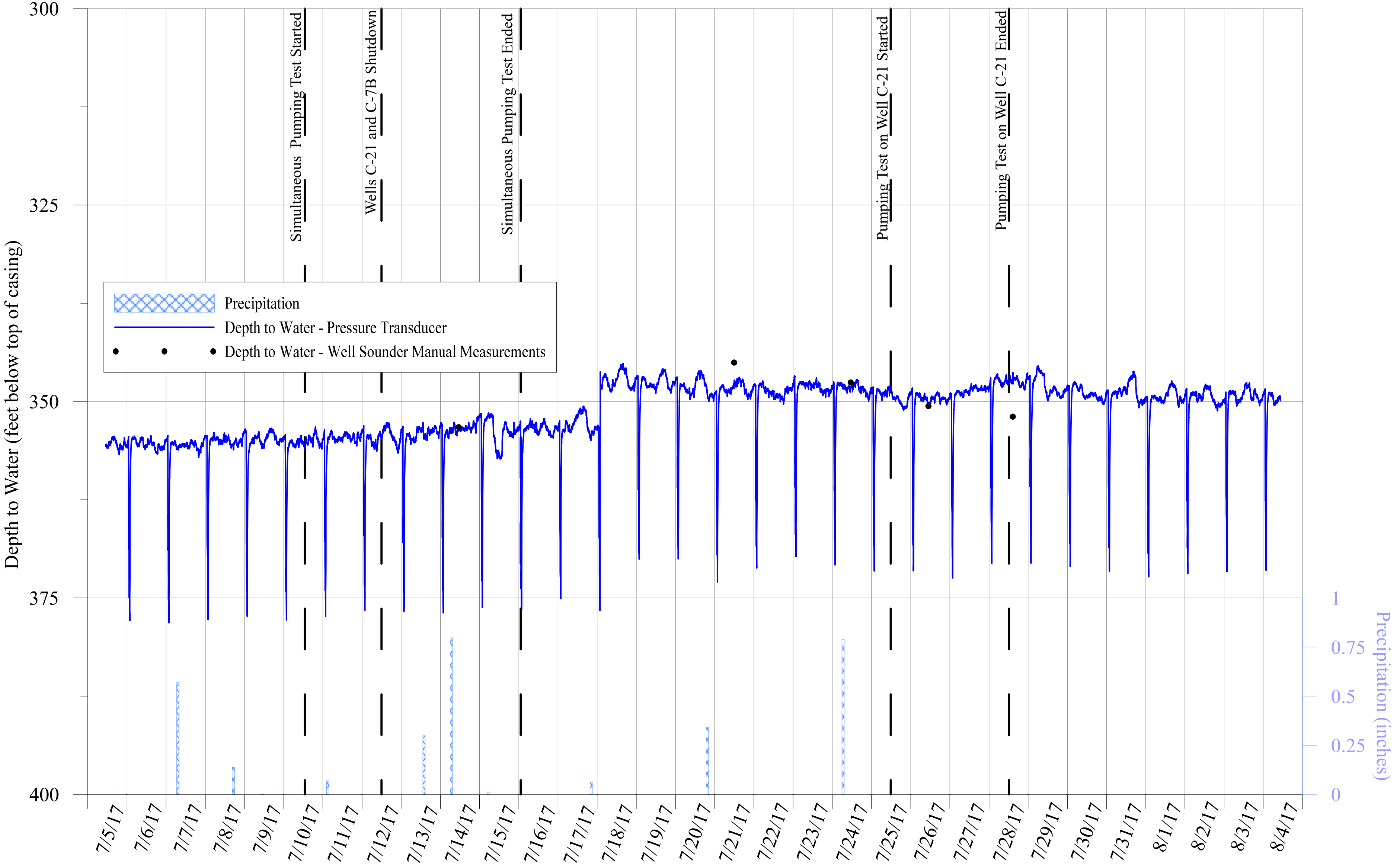
Hydrograph of Water-Level Measurements Collected from Merrieworld Baseball Field Well During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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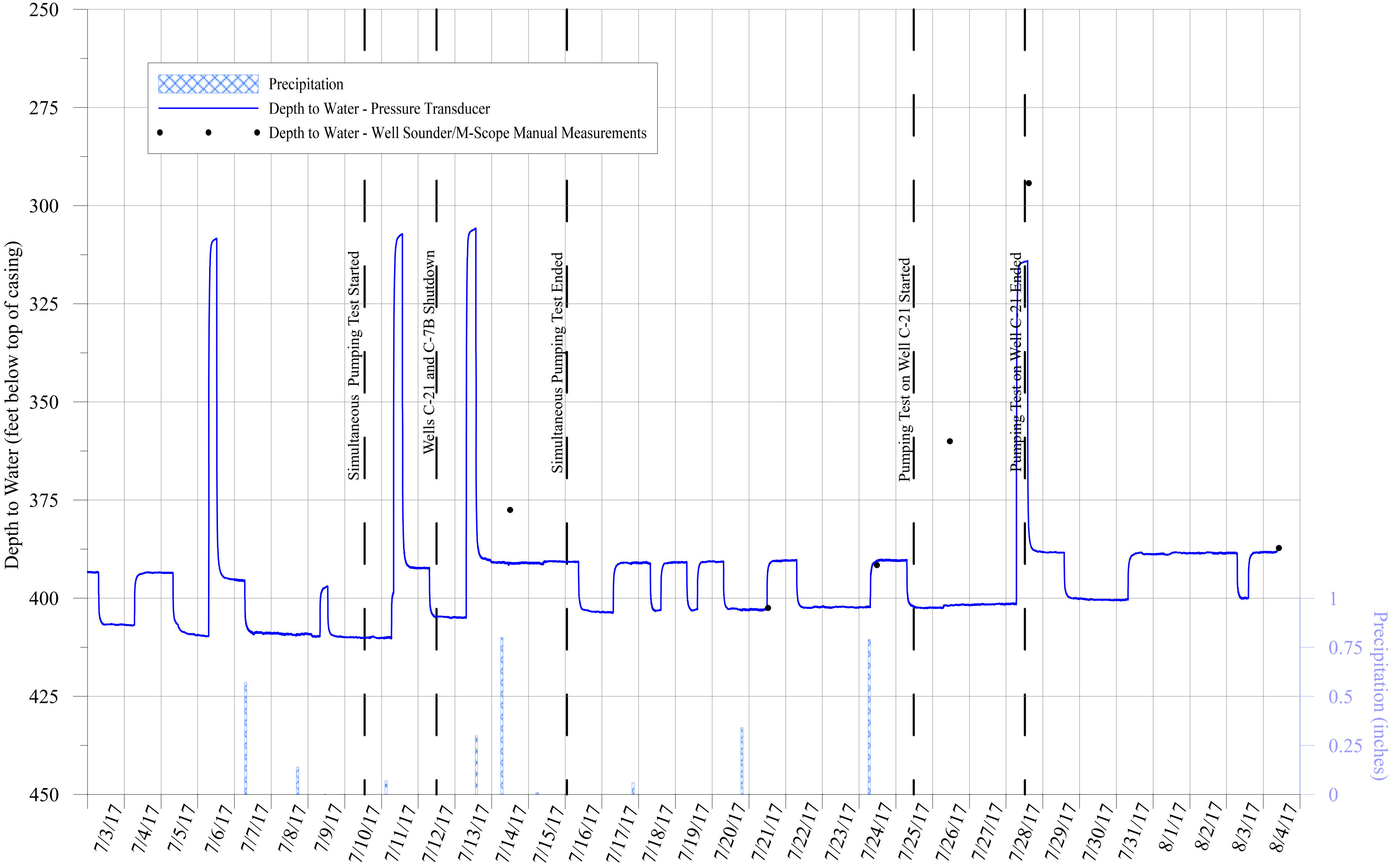
Hydrograph of Water-Level Measurements Collected from Merrieworld Well 1 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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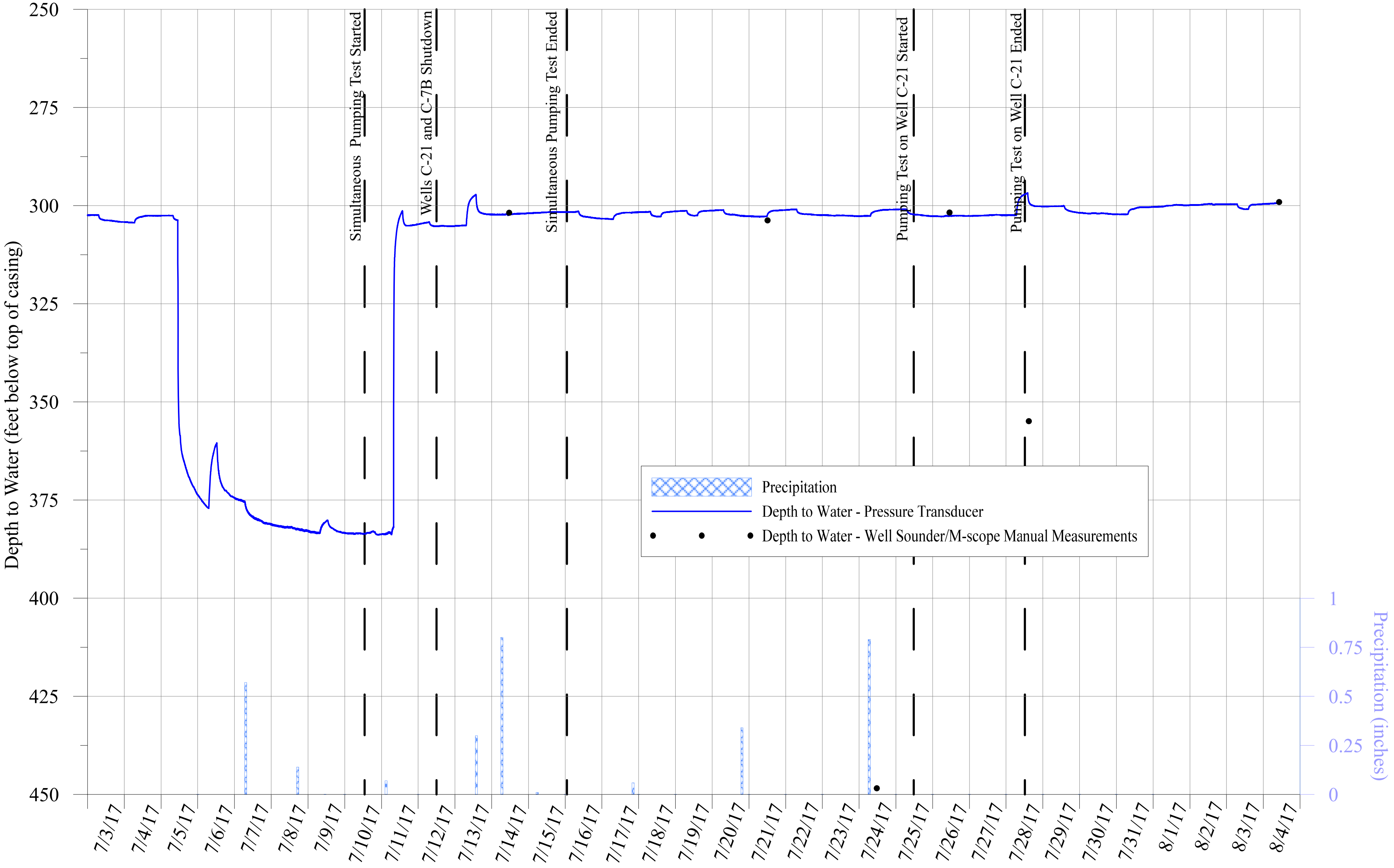
Hydrograph of Water-Level Measurements Collected from Merrieworld Well 3
During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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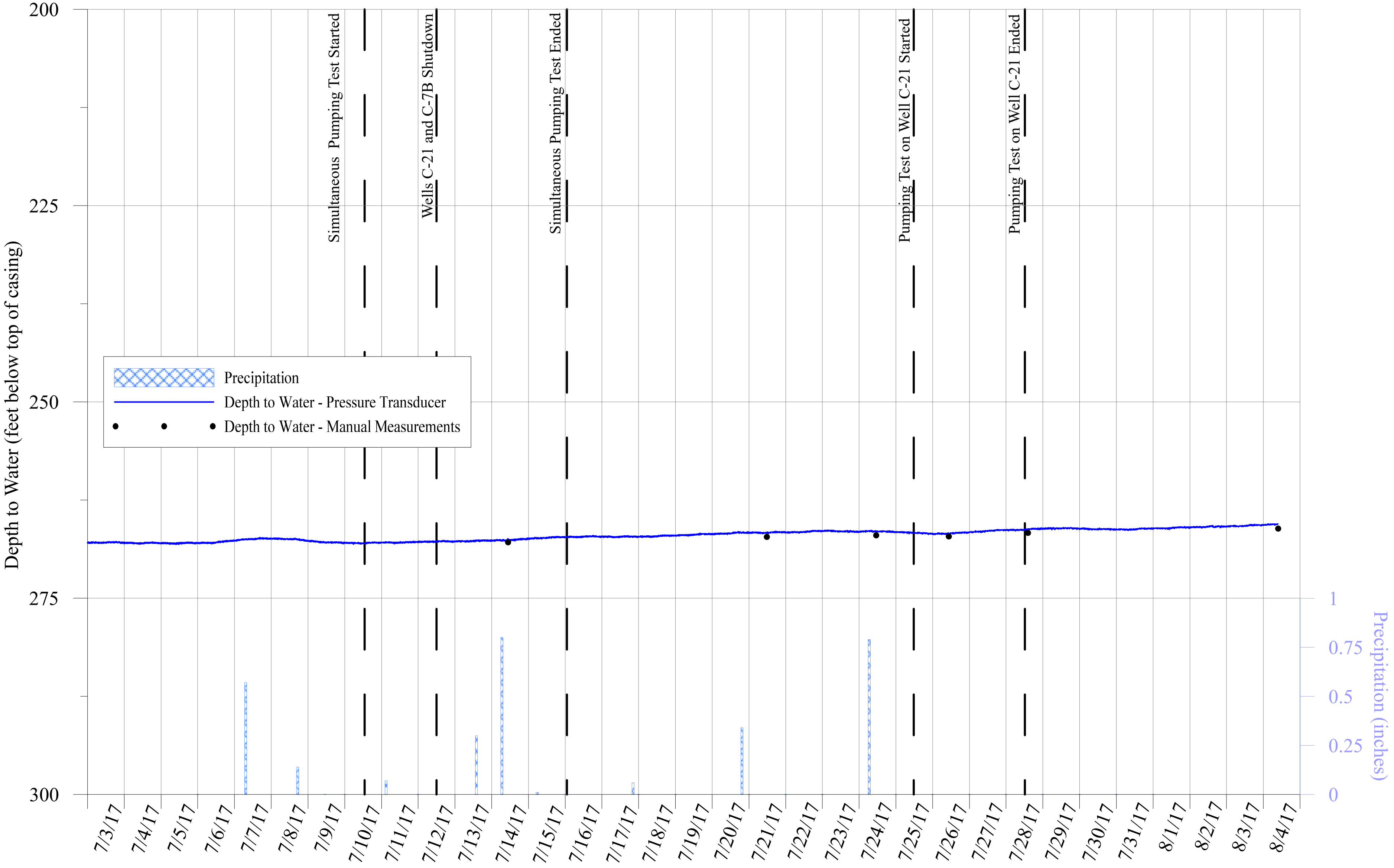
Hydrograph of Water-Level Measurements Collected from Village of South Blooming Grove Well 8 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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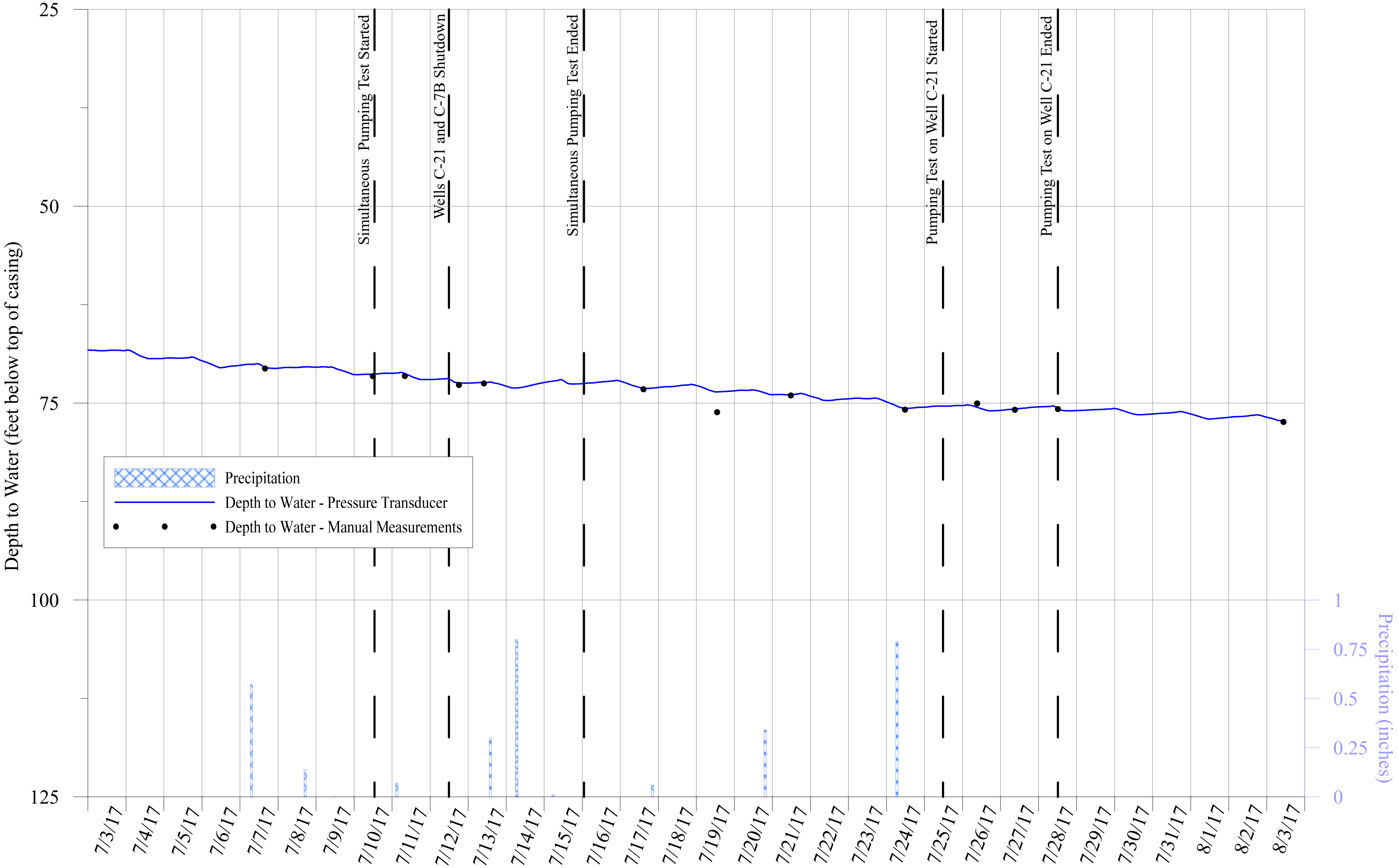
Hydrograph of Water-Level Measurements Collected from Woodbury Heights North Well During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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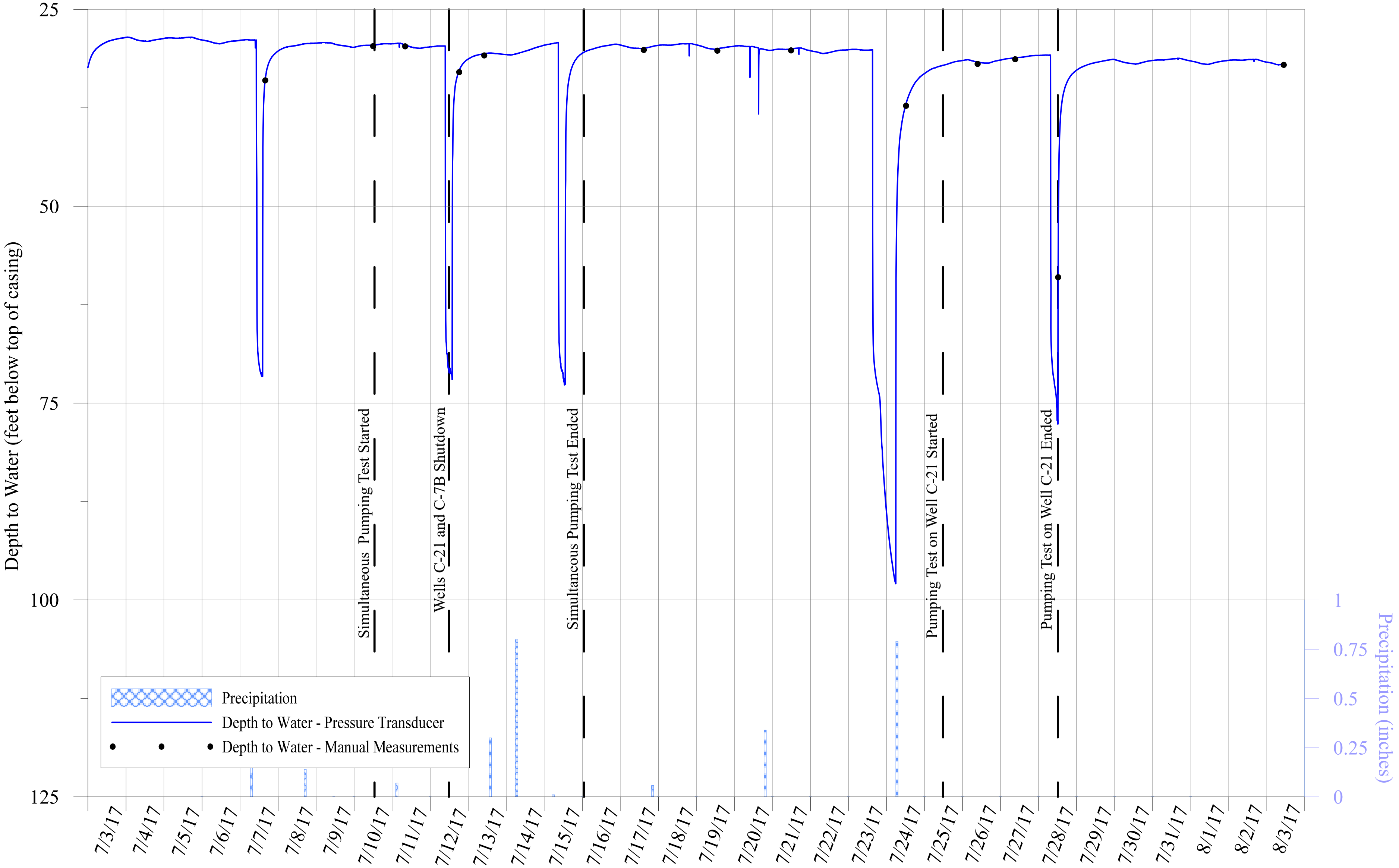
Hydrograph of Water-Level Measurements Collected from Woodbury Heights East Well During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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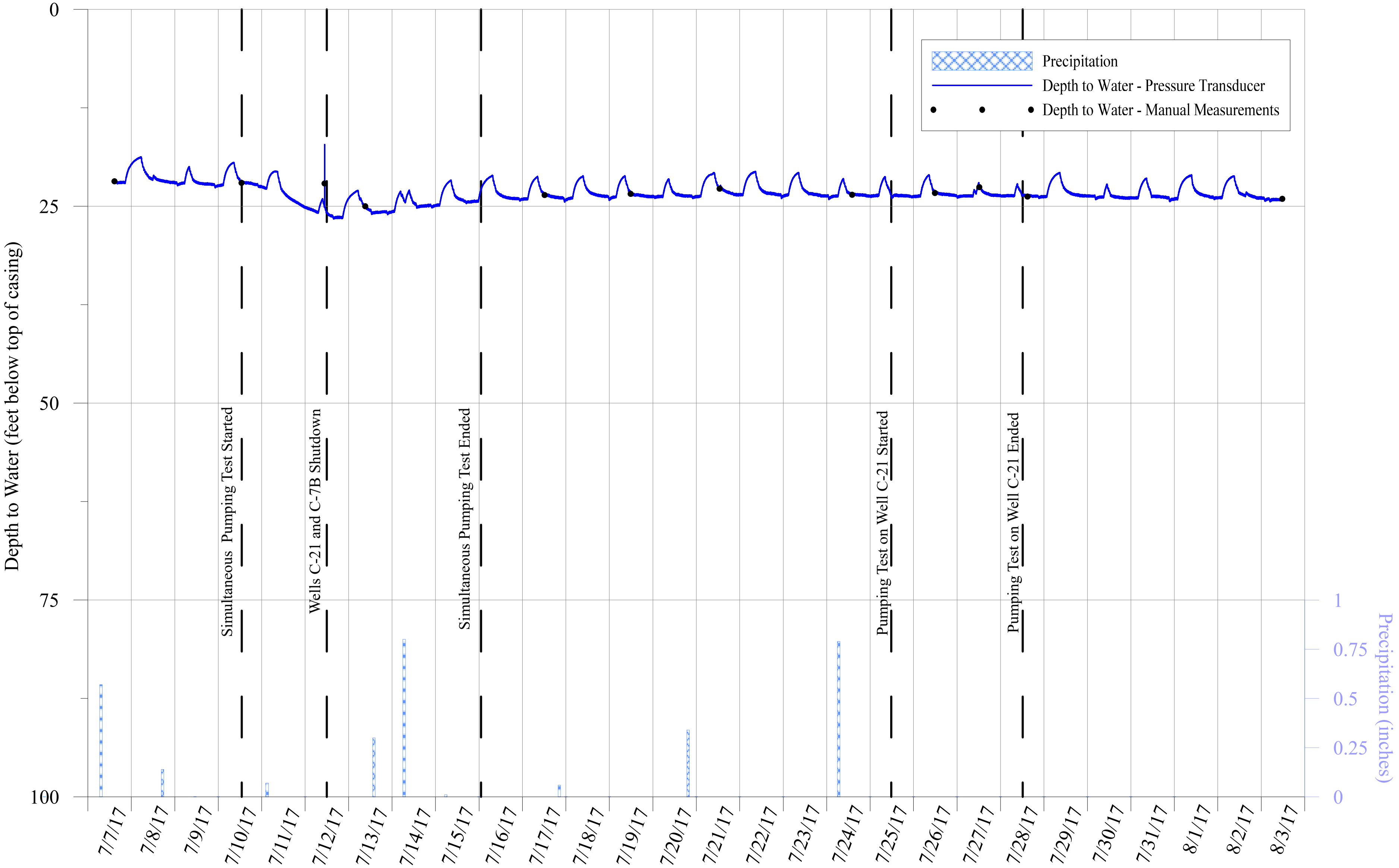
Hydrograph of Water-Level Measurements Collected from Mountain Lodge Well 2 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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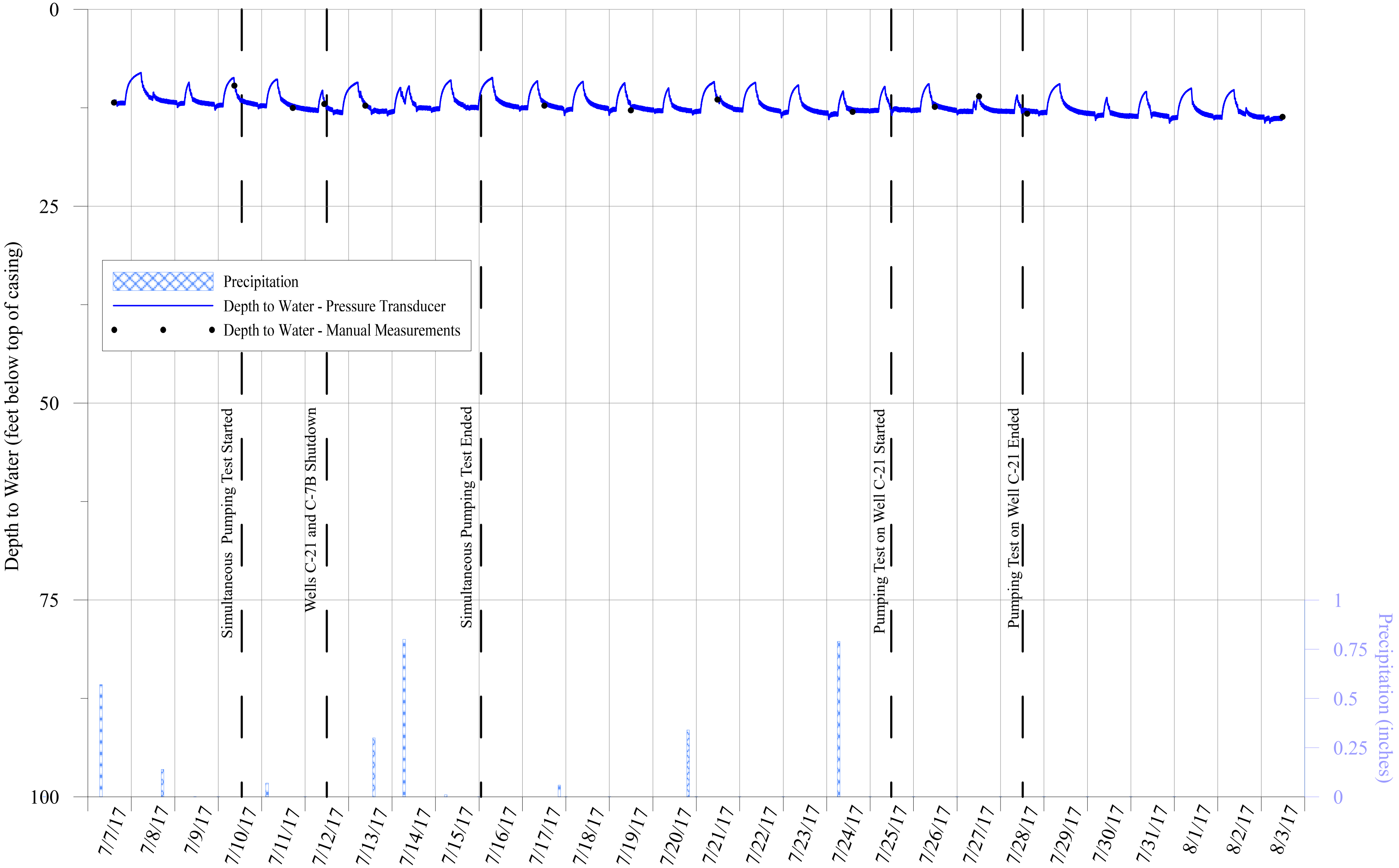
Hydrograph of Water-Level Measurements Collected from Mountain Lodge Well 1 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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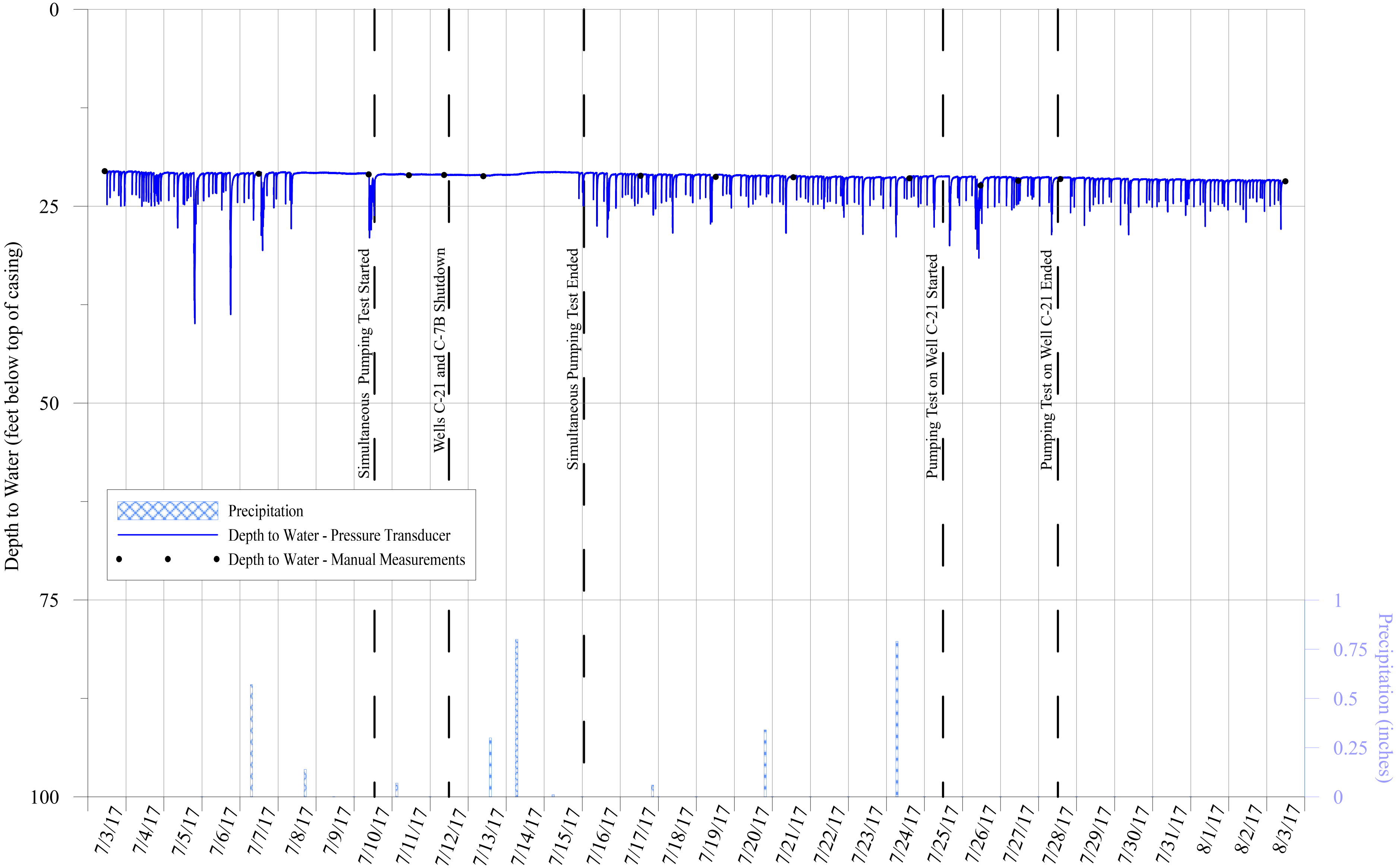
Hydrograph of Water-Level Measurements Collected from Well Located at 35 Round Hill Road During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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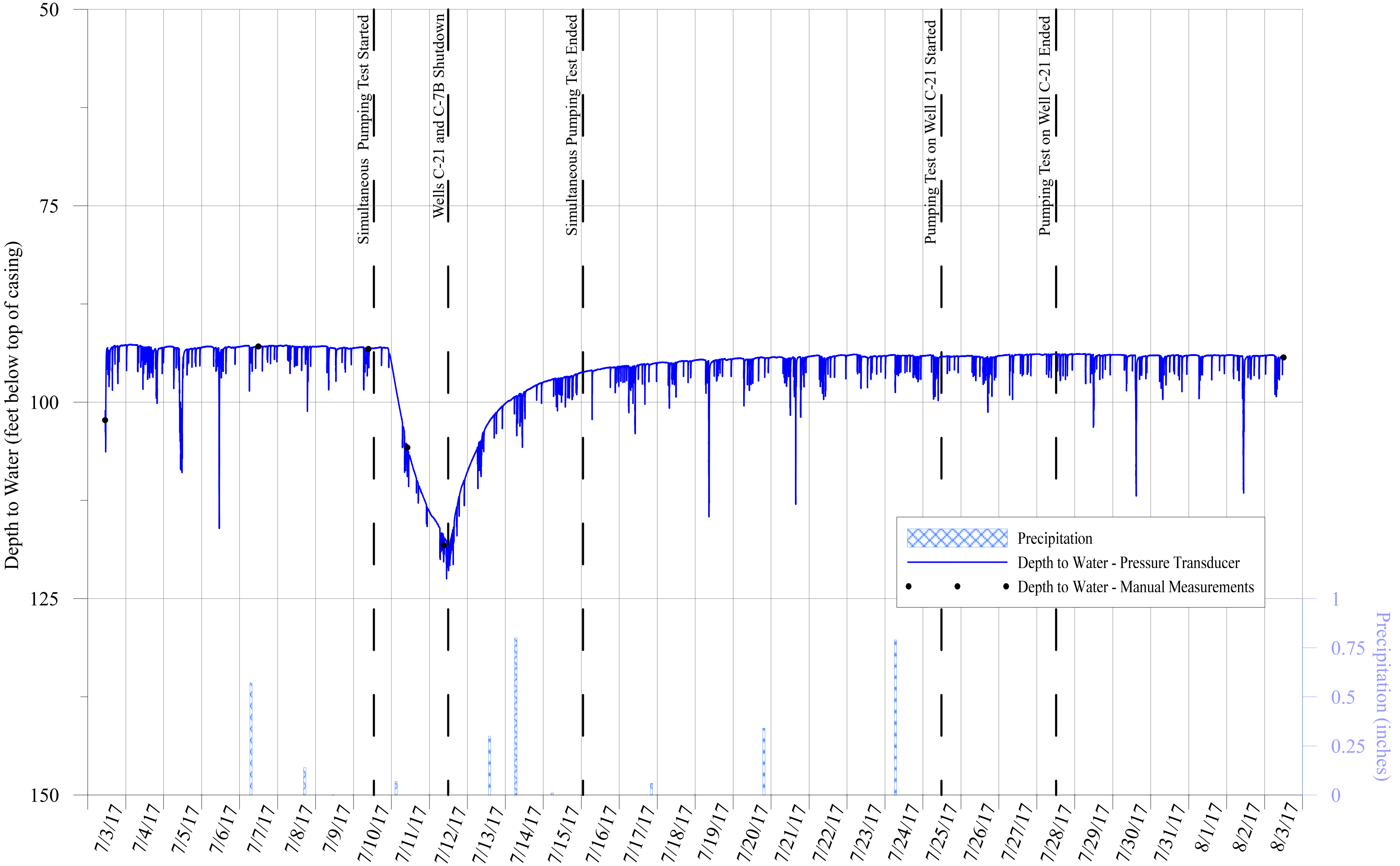
Hydrograph of Water-Level Measurements Collected from Well Located at 562 Clove Road During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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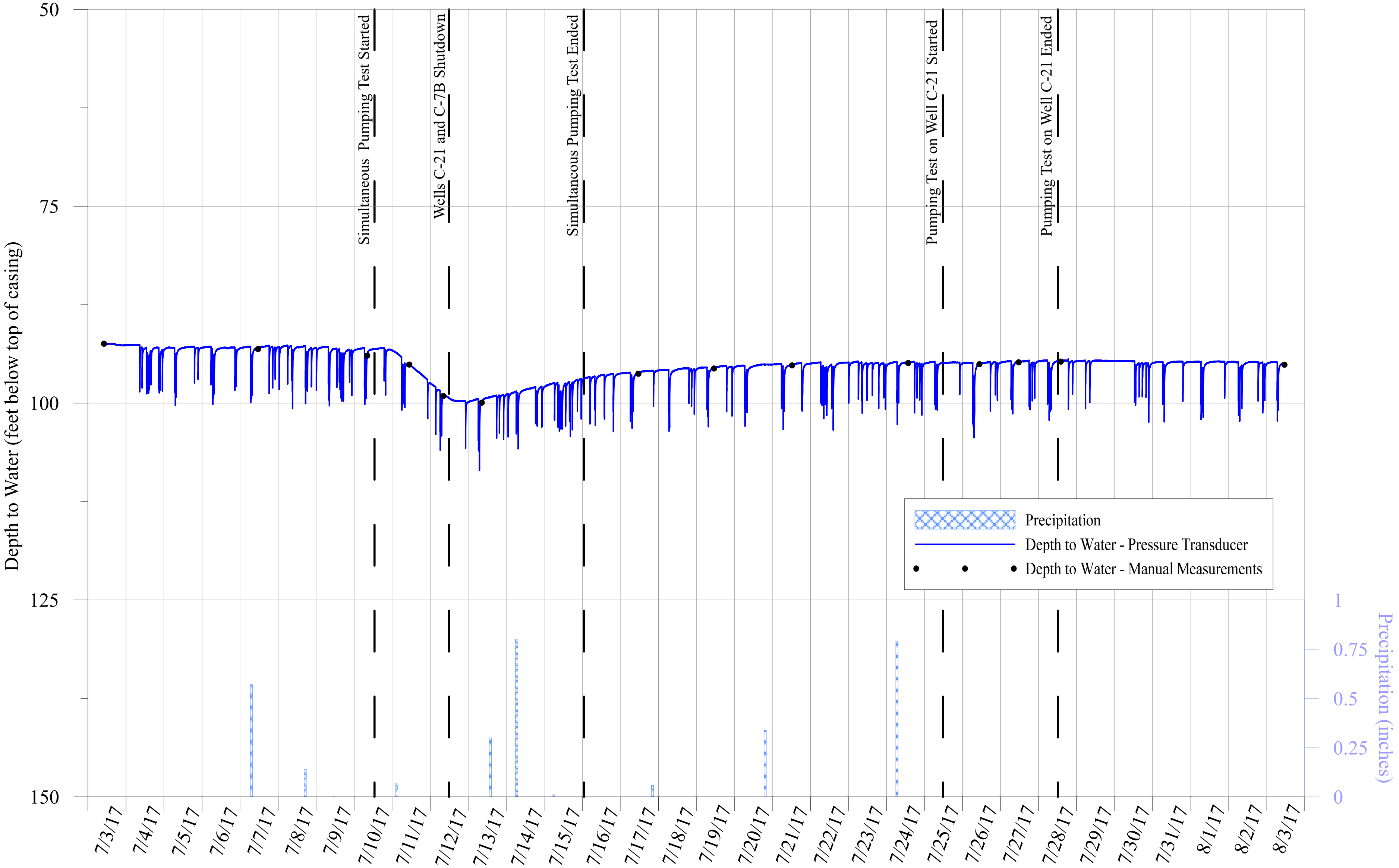
Hydrograph of Water-Level Measurements Collected from Well Located at 481 Clove Road During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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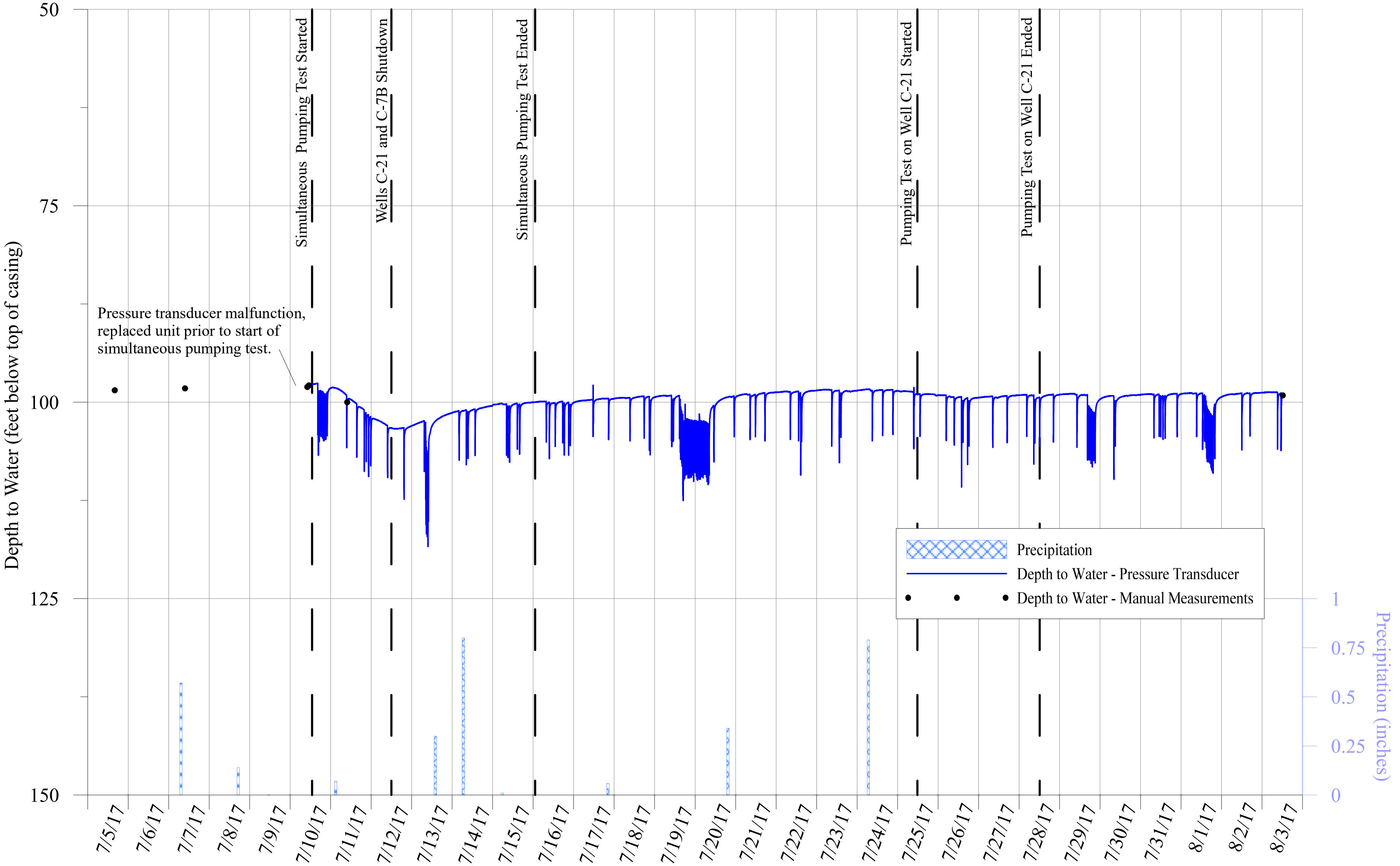
Hydrograph of Water-Level Measurements Collected from Well Located at 568 Clove Road During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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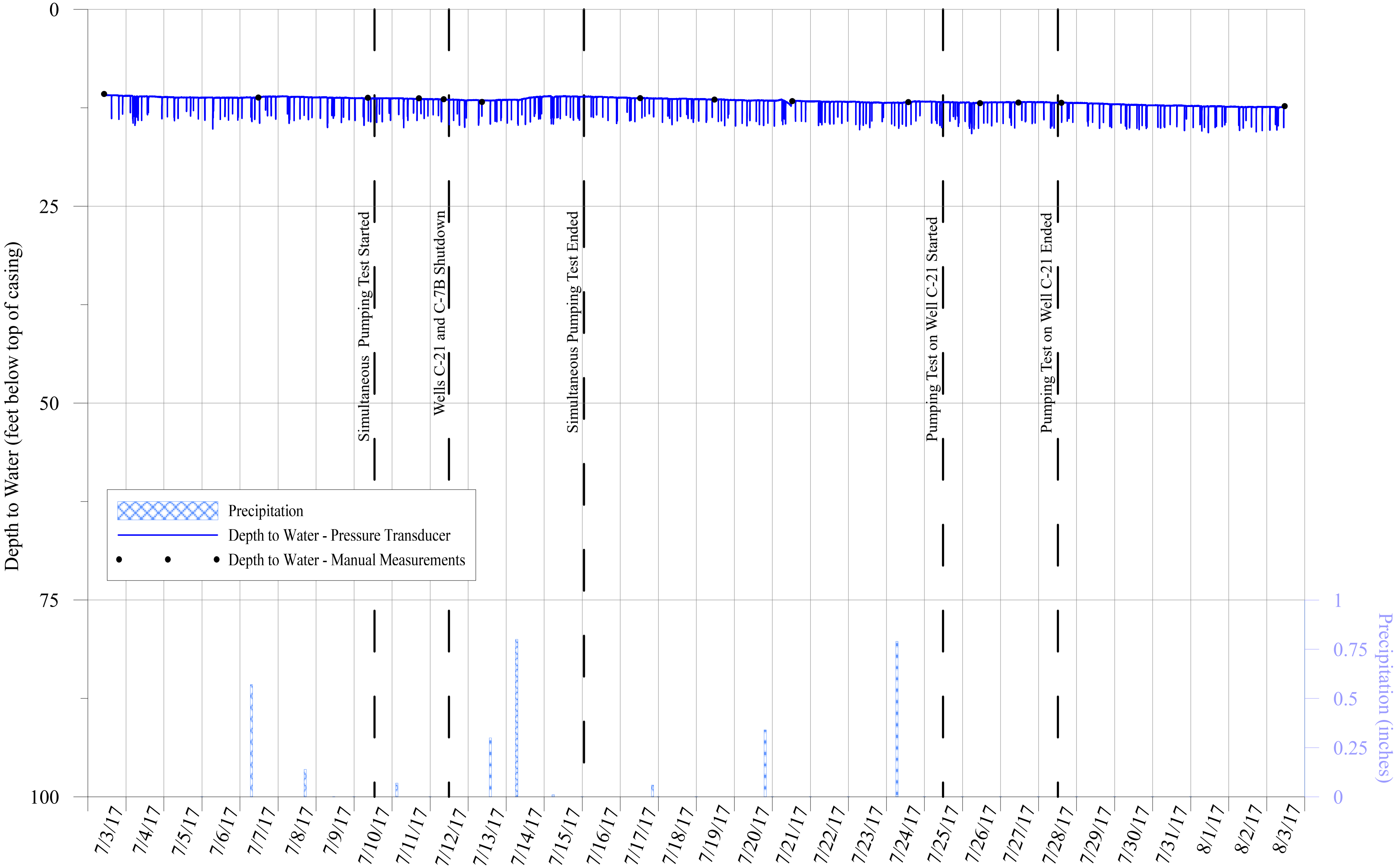
Hydrograph of Water-Level Measurements Collected from Well Located at 479 Clove Road During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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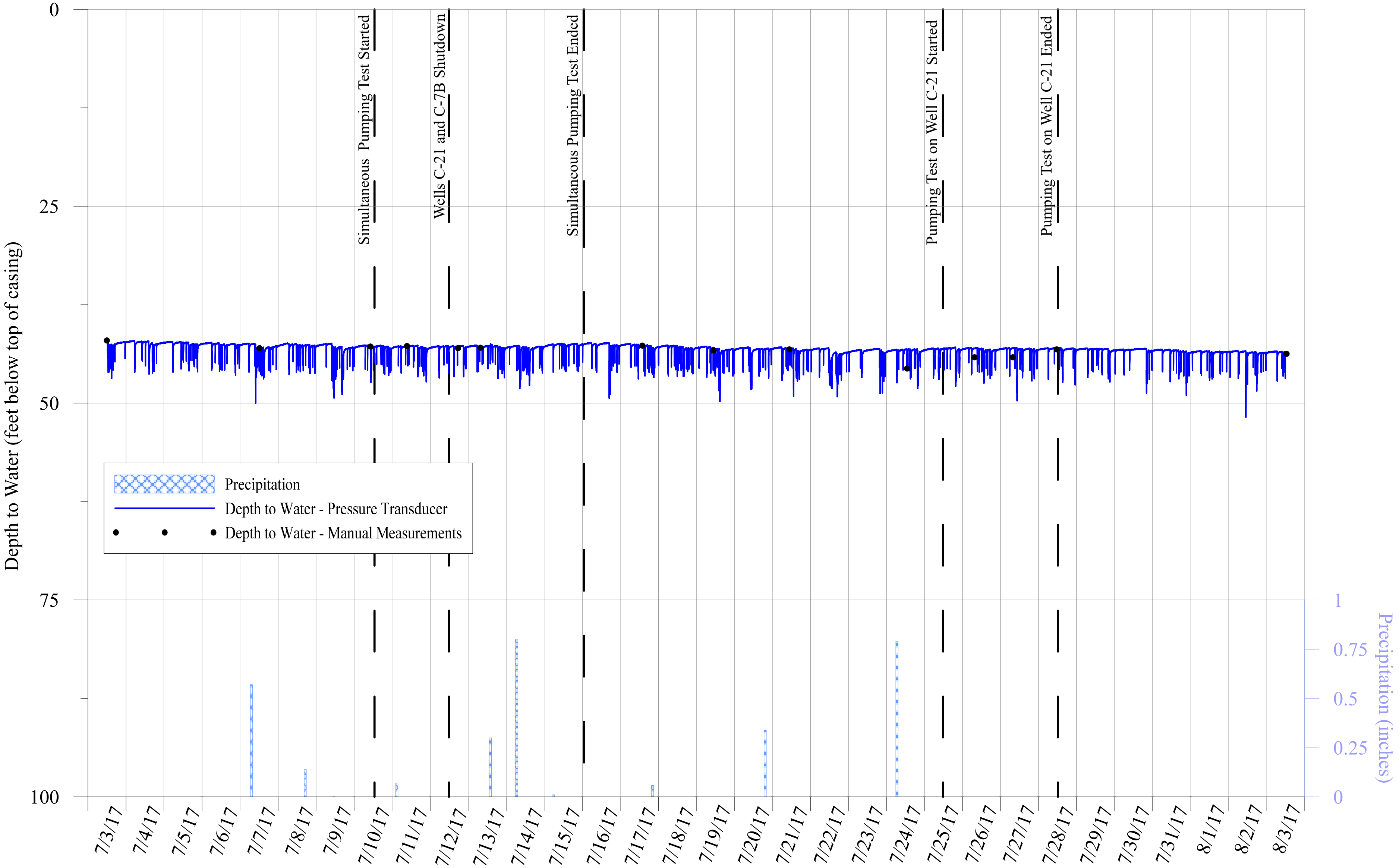
Hydrograph of Water-Level Measurements Collected from Well Located at 1235 Route 208 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Homeowners\1235 Route 208.grf

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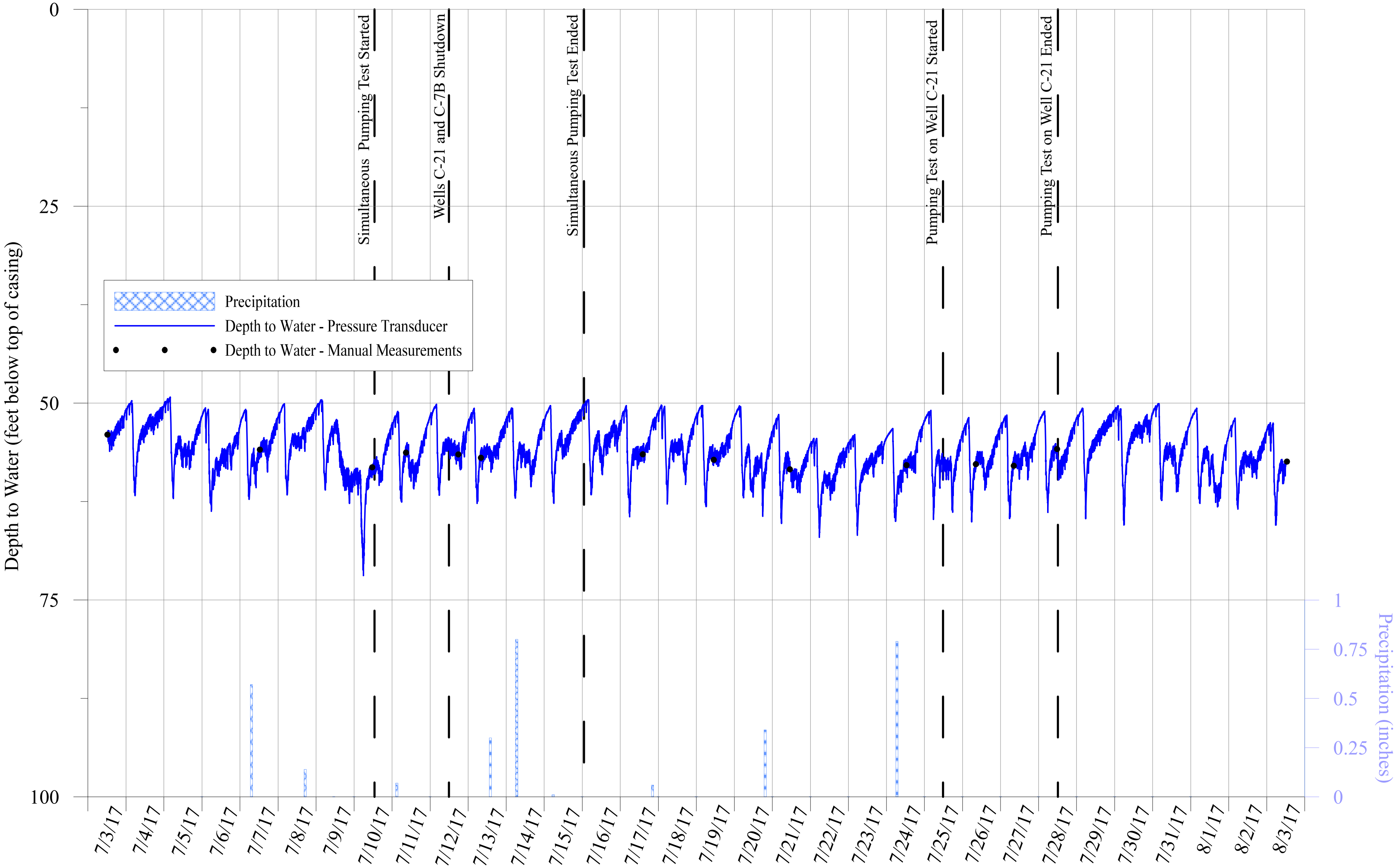
Hydrograph of Water-Level Measurements Collected from Well Located at 1195 Route 208
During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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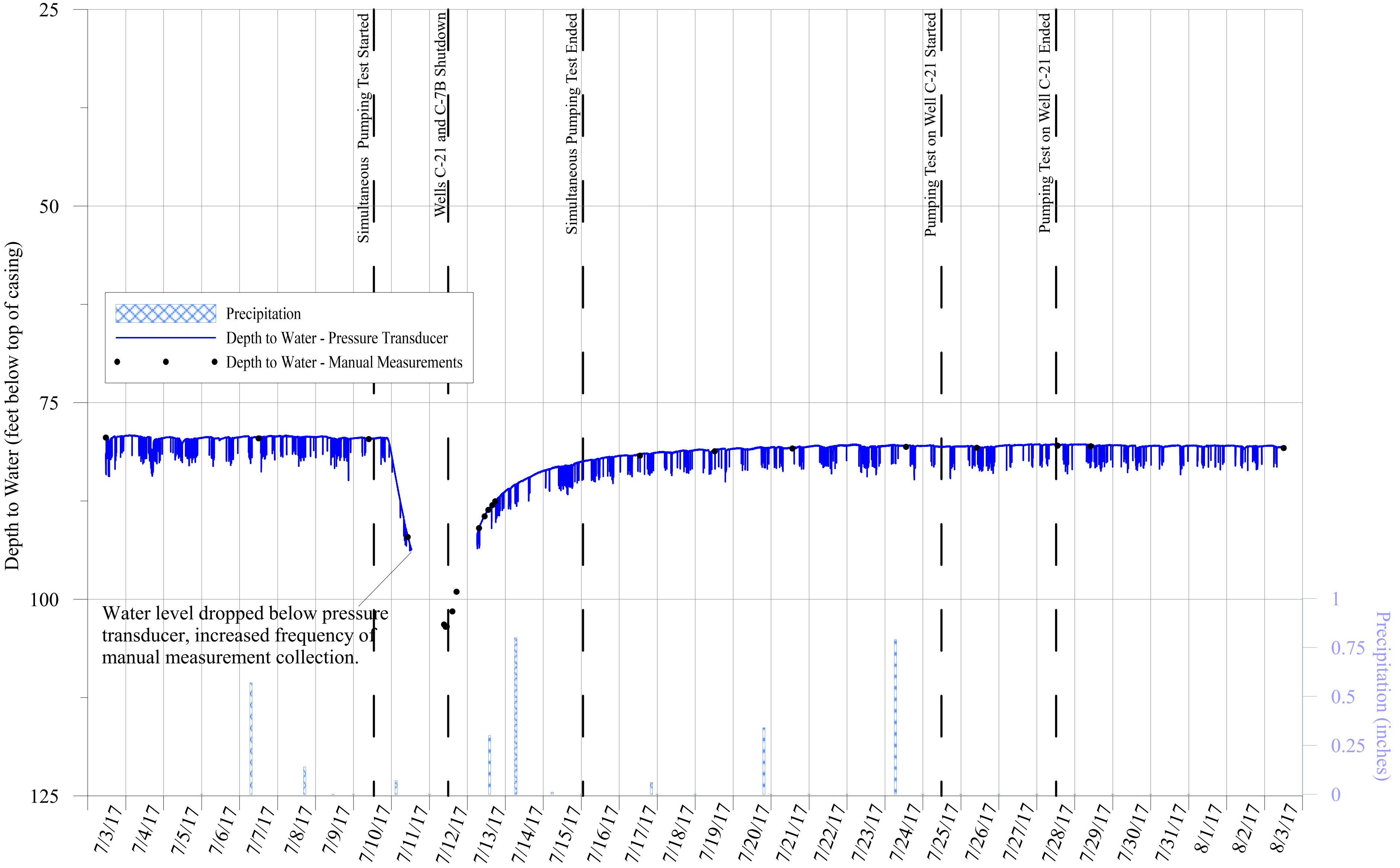
Hydrograph of Water-Level Measurements Collected from Well Located at 564 Clove Road During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Homeowners\564 Clove Road.grf

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VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Offsite Monitoring Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Date	Time	Depth to Water (ft btoc)	Date	Time	Depth to Water (ft btoc)
481 Clove Road			**35 Round Hill Road**			**564 Clove Road**		
7/3/2017	10:10	92.45	7/3/2017	10:38	20.55	7/3/2017	11:28	79.43
7/7/2017	11:30	93.15	7/7/2017	11:50	20.89	7/7/2017	12:05	79.54
7/10/2017	8:23	93.99	7/10/2017	9:15	20.96	7/10/2017	9:43	79.63
7/11/2017	10:56	95.11	7/11/2017	10:40	21.08	7/11/2017	10:20	92.09
7/12/2017	8:24	99.09	7/12/2017	8:50	21.04	7/12/2017	9:20	103.22
7/13/2017	8:38	99.94	7/13/2017	9:35	21.19	7/12/2017	10:18	103.50
7/17/2017	11:29	96.28	7/17/2017	12:47	21.15	7/12/2017	11:01	103.47
7/19/2017	11:15	95.61	7/19/2017	12:13	21.28	7/12/2017	14:35	101.55
7/21/2017	12:27	95.21	7/21/2017	13:16	21.32	7/12/2017	17:13	99.06
7/24/2017	13:43	94.91	7/24/2017	14:32	21.45	7/13/2017	7:28	90.97
7/26/2017	10:46	95.07	7/26/2017	11:22	22.36	7/13/2017	11:00	89.46
7/27/2017	11:27	94.82	7/27/2017	11:12	21.78	7/13/2017	13:21	88.64
7/28/2017	14:01	94.72	7/28/2017	13:46	21.54	7/13/2017	15:50	88.03
8/3/2017	11:14	95.13	8/3/2017	11:50	21.83	7/13/2017	17:40	87.55
--	--	--	--	--	--	7/17/2017	13:08	81.74
--	--	--	--	--	--	7/19/2017	12:27	81.18
--	--	--	--	--	--	7/21/2017	13:30	80.84
--	--	--	--	--	--	7/24/2017	13:24	80.61
--	--	--	--	--	--	7/26/2017	10:08	80.74
--	--	--	--	--	--	7/29/2017	10:04	80.54
--	--	--	--	--	--	7/28/2017	13:09	80.47
--	--	--	--	--	--	8/3/2017	12:10	80.78
1195 Route 208			**1235 Route 208**			**479 Clove Road**		
7/3/2017	12:20	54.00	7/3/2017	12:03	42.05	7/3/2017	10:20	10.75
7/7/2017	12:35	55.91	7/7/2017	12:25	43.04	7/7/2017	11:35	11.20
7/10/2017	11:29	58.17	7/10/2017	10:26	42.81	7/10/2017	8:44	11.24
7/11/2017	8:48	56.29	7/11/2017	9:30	42.77	7/11/2017	17:00	11.30
7/12/2017	17:53	56.53	7/12/2017	17:38	43.01	7/12/2017	8:38	11.42
7/13/2017	8:06	56.94	7/13/2017	7:51	42.99	7/13/2017	8:46	11.76
7/17/2017	14:15	56.51	7/17/2017	13:58	42.71	7/17/2017	12:37	11.27
7/19/2017	11:05	57.20	7/19/2017	10:51	43.32	7/19/2017	11:33	11.46
7/21/2017	11:09	58.41	7/21/2017	10:48	43.19	7/21/2017	12:35	11.66
7/24/2017	12:45	57.90	7/24/2017	13:03	45.61	7/24/2017	13:52	11.79
7/26/2017	8:28	57.76	7/26/2017	7:40	44.19	7/26/2017	11:08	11.91
7/27/2017	8:26	57.97	7/27/2017	7:45	44.19	7/27/2017	11:20	11.84
7/28/2017	11:42	55.83	7/28/2017	11:25	43.18	7/28/2017	14:23	11.88
8/3/2017	12:48	57.44	8/3/2017	12:35	43.74	8/3/2017	11:20	12.30

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Offsite Monitoring Wells During Pumping Test Program
Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Date	Time	Depth to Water (ft btoc)	Date	Time	Depth to Water (ft btoc)
562 Clove Road			**568 Clove Road**			**Woodbury Heights Water System - East Well**		
7/3/2017	10:59	102.30	7/5/2017	16:05	98.50	7/7/2017	16:00	34.01
7/7/2017	12:00	92.90	7/7/2017	9:41	98.26	7/10/2017	12:01	29.68
7/10/2017	9:32	93.23	7/10/2017	10:11	98.07	7/11/2017	8:15	29.71
7/11/2017	10:05	105.78	7/10/2017	11:09	97.88	7/12/2017	18:28	32.98
7/12/2017	9:13	118.23	7/11/2017	9:48	100.00	7/13/2017	10:14	30.85
8/3/2017	12:05	94.31	8/3/2017	12:18	99.15	7/17/2017	14:51	30.16
--	--	--	--	--	--	7/19/2017	13:17	30.25
--	--	--	--	--	--	7/21/2017	11:52	30.22
--	--	--	--	--	--	7/24/2017	12:25	37.25
--	--	--	--	--	--	7/26/2017	9:34	31.93
--	--	--	--	--	--	7/27/2017	9:21	31.35
--	--	--	--	--	--	7/28/2017	12:25	59.02
--	--	--	--	--	--	8/3/2017	10:50	32.05
Mountain Lodge Well 1			**Mountain Lodge Well 2**			**Woodbury Heights Water System - North Well**		
7/7/2017	14:30	11.84	7/7/2017	14:40	21.84	7/7/2017	15:50	70.62
7/10/2017	8:59	9.69	7/10/2017	12:55	22.03	7/10/2017	11:53	71.59
7/11/2017	17:13	12.52	7/12/2017	10:43	22.11	7/11/2017	8:05	71.56
7/12/2017	10:37	12.01	7/13/2017	9:10	25.00	7/12/2017	18:17	72.71
7/13/2017	9:18	12.23	7/17/2017	12:14	23.59	7/13/2017	10:01	72.51
7/17/2017	12:10	12.23	7/19/2017	11:47	23.43	7/17/2017	14:41	73.25
7/19/2017	11:56	12.81	7/21/2017	12:57	22.78	7/19/2017	13:09	76.17
7/21/2017	11:46	11.46	7/24/2017	14:08	23.54	7/21/2017	11:41	74.03
7/24/2017	14:20	13.01	7/26/2017	11:50	23.33	7/24/2017	11:46	75.83
7/26/2017	11:42	12.39	7/27/2017	12:18	22.59	7/26/2017	9:19	75.05
7/27/2017	12:09	11.06	7/28/2017	14:57	23.78	7/27/2017	9:05	75.86
7/28/2017	14:43	13.25	8/3/2017	11:40	24.07	7/28/2017	12:15	75.76
8/3/2017	11:44	13.65	--	--	--	8/3/2017	10:38	77.40
Village of South Blooming Grove Merriewold Well Field Well 1			**Village of South Blooming Grove Merriewold Well Field Well 3**			**Village of South Blooming Grove Baseball Field Well**		
7/14/2017	12:03	377.53[1/]	7/14/2017	11:25	301.83[1/]	7/14/2017	11:13	353.27[1/]
7/21/2017	12:30	402.51[1/]	7/21/2017	12:10	303.80[1/]	7/21/2017	11:56	345.05[1/]
7/24/2017	11:40	391.61[1/]	7/24/2017	11:32	448.42[1/]	7/24/2017	11:20	347.59[1/]
7/26/2017	11:15	360.03[1/]	7/26/2017	11:05	301.80[1/]	7/26/2017	10:55	350.60[1/]
7/28/2017	14:55	294.29[1/]	7/28/2017	14:55	354.91[1/]	7/28/2017	14:35	351.92[1/]
8/4/2017	10:15	387.25	8/4/2017	10:25	299.10	--	--	--

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Offsite Monitoring Wells During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Depth to Water (ft btoc)	Date	Time	Depth to Water (ft btoc)	Date	Time	Depth to Water (ft btoc)
Village of South Blooming Grove Well 8			--	--	--	--	--	--
7/14/2017	10:42	267.90	--	--	--	--	--	--
7/21/2017	11:45	267.20	--	--	--	--	--	--
7/24/2017	11:10	267.00	--	--	--	--	--	--
7/26/2017	10:40	267.15	--	--	--	--	--	--
7/28/2017	14:20	266.70	--	--	--	--	--	--
8/4/2017	9:45	266.15	--	--	--	--	--	--

ft btoc feet below top of casing

1/ Water-level measurement collected using well sounder.

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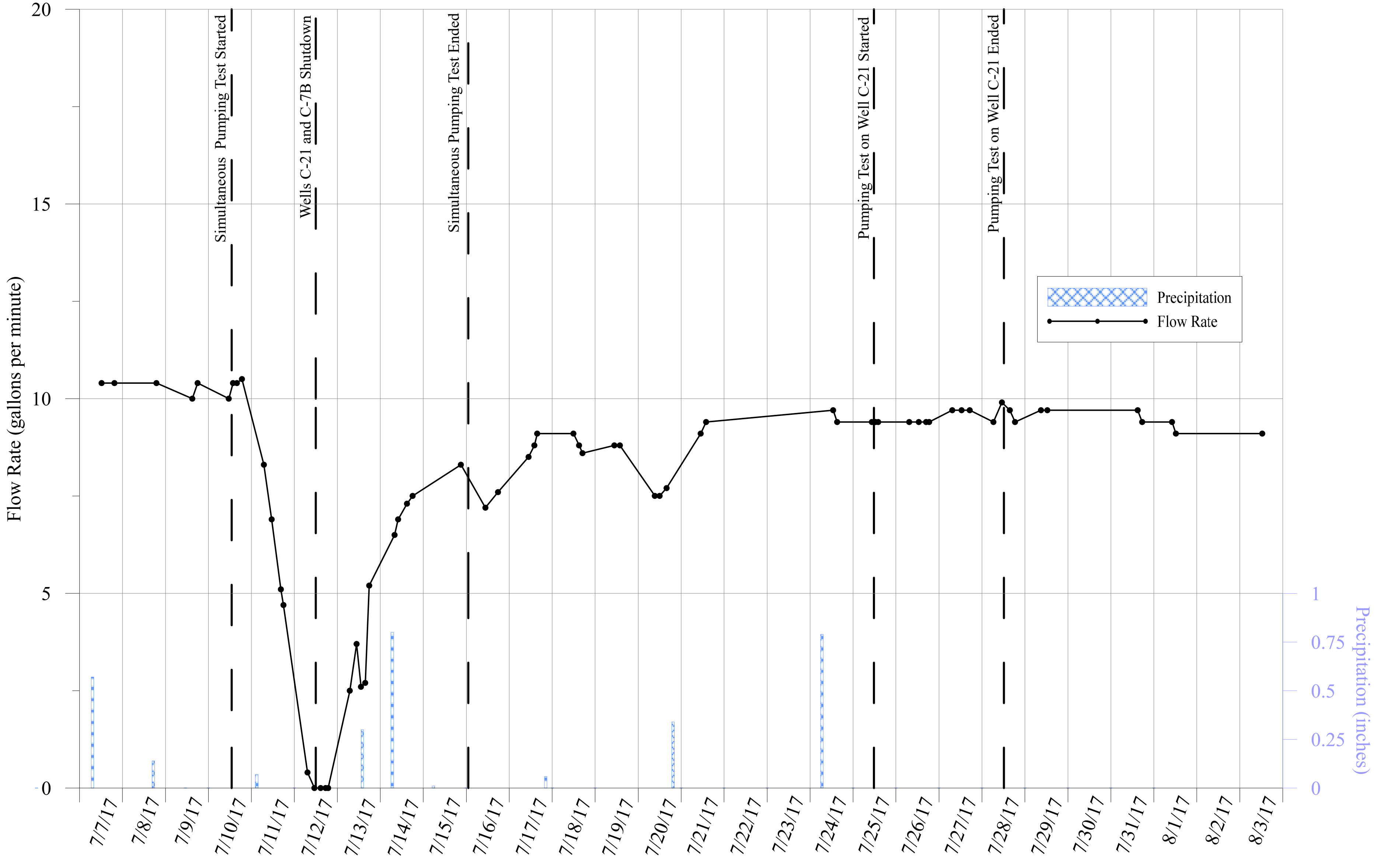
SPRING ON ROUTE 208

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS COVE, NEW YORK

Graph of Flow Rate Measurements Collected from the Spring on Route 208
During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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LBG Hydrogeologic & Engineering Services, P.C.

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Flow Rate Measurements Collected from the Spring on Route 208 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Measured Rate (gallons per minute)
6/29/2017	13:00	10.4
7/3/2017	11:45	10.4
7/5/2017	12:00	10.7
7/6/2017	12:00	10.4
7/7/2017	12:20	10.4
7/7/2017	19:30	10.4
7/8/2017	19:00	10.4
7/9/2017	15:00	10.0
7/9/2017	18:00	10.4
7/10/2017	11:22	10.0
7/10/2017	13:44	10.4
7/10/2017	15:53	10.4
7/10/2017	18:46	10.5
7/11/2017	7:00	8.3
7/11/2017	11:20	6.9
7/11/2017	16:31	5.1
7/11/2017	17:55	4.7
7/12/2017	7:20	0.4
7/12/2017	11:13	0
7/12/2017	14:40	0
7/12/2017	17:27	0
7/12/2017	18:53	0
7/13/2017	6:58	2.5
7/13/2017	10:49	3.7
7/13/2017	13:13	2.6
7/13/2017	15:34	2.7
7/13/2017	17:50	5.2
7/14/2017	7:58	6.5
7/14/2017	9:56	6.9
7/14/2017	14:54	7.3
7/14/2017	18:05	7.5
7/15/2017	21:00	8.3
7/16/2017	10:42	7.2
7/16/2017	17:45	7.6
7/17/2017	10:48	8.5
7/17/2017	14:05	8.8
7/17/2017	15:41	9.1
7/18/2017	11:52	9.1
7/18/2017	15:01	8.8
7/18/2017	16:55	8.6
7/19/2017	10:43	8.8
7/19/2017	13:50	8.8
7/20/2017	9:19	7.5
7/20/2017	12:00	7.5
7/20/2017	15:55	7.7
7/21/2017	10:58	9.1
7/21/2017	13:55	9.4
7/24/2017	12:55	9.7
7/24/2017	15:10	9.4
7/25/2017	10:30	9.4
7/25/2017	12:38	9.4
7/25/2017	14:03	9.4
7/26/2017	7:24	9.4

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Flow Rate Measurements Collected from the Spring on Route 208 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Measured Rate (gallons per minute)
7/26/2017	12:46	9.4
7/26/2017	16:47	9.4
7/26/2017	18:30	9.4
7/27/2017	7:26	9.7
7/27/2017	12:40	9.7
7/27/2017	17:14	9.7
7/28/2017	6:25	9.4
7/28/2017	11:11	9.9
7/28/2017	15:33	9.7
7/28/2017	18:30	9.4
7/29/2017	9:00	9.7
7/29/2017	12:30	9.7
7/31/2017	15:00	9.7
7/31/2017	17:30	9.4
8/1/2017	10:13	9.4
8/1/2017	12:18	9.1
8/3/2017	12:30	9.1

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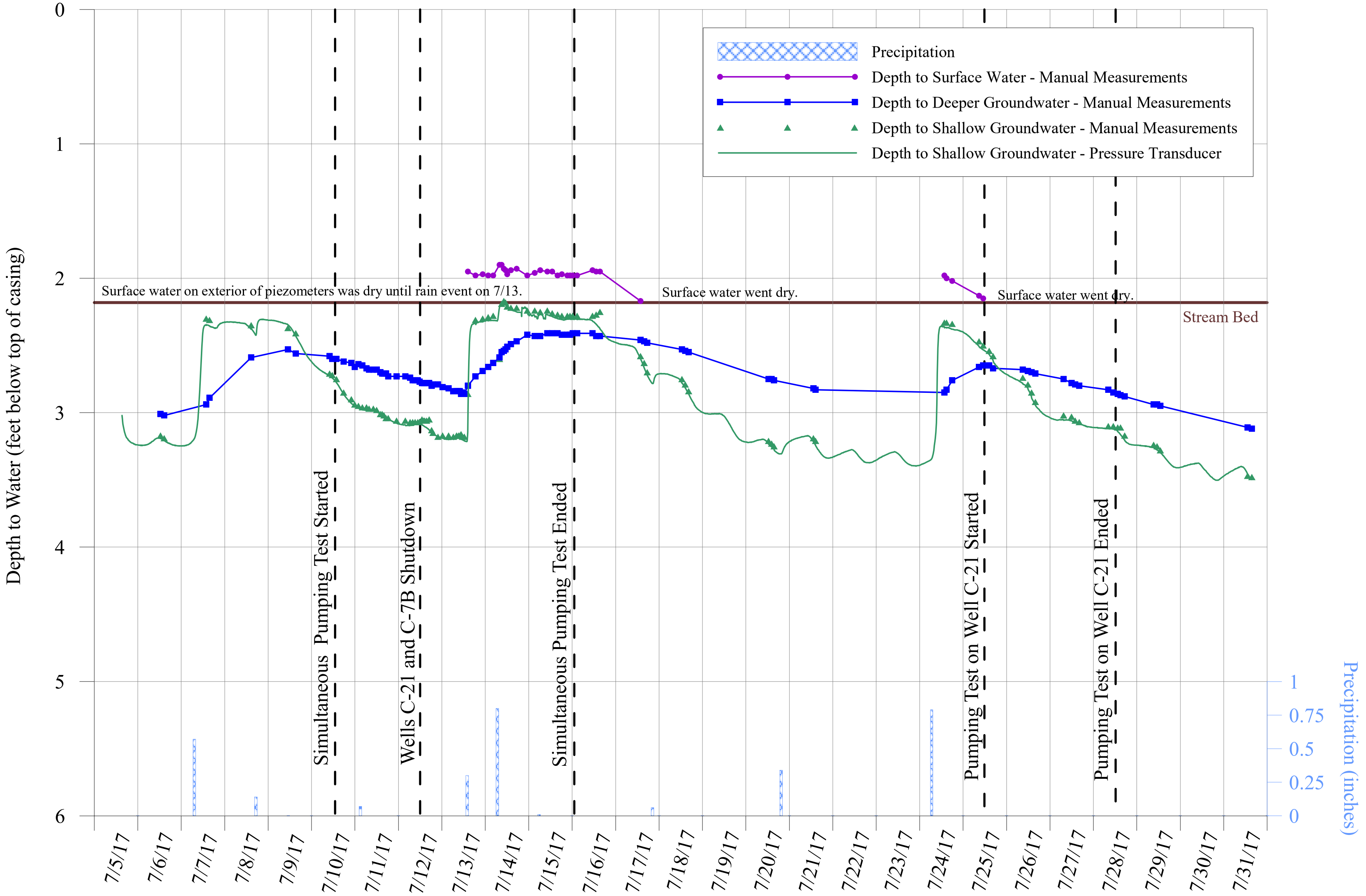
APPENDIX VIII

CLOVEWOOD PROPERTY
BLAGGS CLOVE, NEW YORK
VILLAGE OF SOUTH BLOOMING GROVE

Hydrograph of Water-Level Measurements Collected from Piezometers at Location PZ-1 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\PZs\New\PZ-1Comprehensive.grf

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CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-1 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Shallow Screened Piezometer Depth to Water (ft btoc)	Deeper Screened Piezometer Depth to Water[1/] (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Shallow Groundwater- Deeper Groundwater)	Vertical Head Direction (Shallow Groundwater- Deeper Groundwater)	Vertical Head (Surface Water- Shallow Groundwater)	Vertical Head Direction (Surface Water- Shallow Groundwater)
PZ-1								
7/6/2017	12:35	3.17	3.01	Dry	0.16	Upward	--	--
7/6/2017	14:37	3.19	3.02	Dry	0.17	Upward	--	--
7/7/2017	13:46	2.30	2.94	Dry	-0.64	Downward	--	--
7/7/2017	15:38	2.31	2.89	Dry	-0.58	Downward	--	--
7/8/2017	14:40	2.35	2.59	Dry	-0.24	Downward	--	--
7/9/2017	11:00	2.37	2.53	Dry	-0.16	Downward	--	--
7/9/2017	15:20	2.41	2.56	Dry	-0.15	Downward	--	--
7/10/2017	10:00	2.71	2.58	Dry	0.13	Upward	--	--
7/10/2017	11:27	2.72	2.60	Dry	0.12	Upward	--	--
7/10/2017	13:48	2.75	2.60	Dry	0.15	Upward	--	--
7/10/2017	17:47	2.85	2.62	Dry	0.23	Upward	--	--
7/10/2017	21:58	2.90	2.63	Dry	0.27	Upward	--	--
7/10/2017	23:58	2.94	2.66	Dry	0.28	Upward	--	--
7/11/2017	1:57	2.95	2.64	Dry	0.31	Upward	--	--
7/11/2017	4:05	2.96	2.65	Dry	0.31	Upward	--	--
7/11/2017	6:27	2.96	2.67	Dry	0.29	Upward	--	--
7/11/2017	7:50	2.97	2.68	Dry	0.29	Upward	--	--
7/11/2017	10:09	2.97	2.68	Dry	0.29	Upward	--	--
7/11/2017	12:00	2.98	2.68	Dry	0.30	Upward	--	--
7/11/2017	14:05	3.01	2.70	Dry	0.31	Upward	--	--
7/11/2017	15:00	3.01	2.71	Dry	0.30	Upward	--	--
7/11/2017	16:02	3.02	2.71	Dry	0.31	Upward	--	--
7/11/2017	17:11	3.04	2.71	Dry	0.33	Upward	--	--
7/11/2017	18:25	3.04	2.73	Dry	0.31	Upward	--	--
7/11/2017	23:01	3.06	2.73	Dry	0.33	Upward	--	--
7/12/2017	3:51	3.06	2.73	Dry	0.33	Upward	--	--
7/12/2017	6:30	3.07	2.74	Dry	0.33	Upward	--	--
7/12/2017	7:58	3.07	2.76	Dry	0.31	Upward	--	--
7/12/2017	9:16	3.07	2.76	Dry	0.31	Upward	--	--
7/12/2017	10:46	3.07	2.76	Dry	0.31	Upward	--	--
7/12/2017	11:45	3.07	2.77	Dry	0.30	Upward	--	--
7/12/2017	13:02	3.05	2.78	Dry	0.27	Upward	--	--
7/12/2017	13:55	3.06	2.78	Dry	0.28	Upward	--	--
7/12/2017	14:32	3.06	2.78	Dry	0.28	Upward	--	--
7/12/2017	15:40	3.06	2.78	Dry	0.28	Upward	--	--
7/12/2017	17:00	3.05	2.78	Dry	0.27	Upward	--	--
7/12/2017	18:21	3.13	2.80	Dry	0.33	Upward	--	--
7/12/2017	19:07	3.15	2.79	Dry	0.36	Upward	--	--
7/12/2017	21:53	3.18	2.79	Dry	0.39	Upward	--	--
7/13/2017	0:27	3.17	2.81	Dry	0.36	Upward	--	--
7/13/2017	3:47	3.17	2.82	Dry	0.35	Upward	--	--
7/13/2017	6:20	3.18	2.84	Dry	0.34	Upward	--	--
7/13/2017	8:10	3.17	2.84	Dry	0.33	Upward	--	--
7/13/2017	9:11	3.17	2.84	Dry	0.33	Upward	--	--
7/13/2017	9:55	3.17	2.84	Dry	0.33	Upward	--	--
7/13/2017	10:41	3.16	2.86	Dry	0.30	Upward	--	--
7/13/2017	11:30	3.18	2.85	Dry	0.33	Upward	--	--
7/13/2017	12:25	3.18	2.86	Dry	0.32	Upward	--	--
7/13/2017	14:25	2.86	2.80	1.95	0.06	Upward	-0.91	Downward
7/13/2017	18:38	2.31	2.73	1.98	-0.42	Downward	-0.33	Downward

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-1 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Shallow Screened Piezometer Depth to Water (ft btoc)	Deeper Screened Piezometer Depth to Water[1/] (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Shallow Groundwater-Deeper Groundwater)	Vertical Head Direction (Shallow Groundwater-Deeper Groundwater)	Vertical Head (Surface Water-Shallow Groundwater)	Vertical Head Direction (Surface Water-Shallow Groundwater)
7/13/2017	22:33	2.30	2.69	1.97	-0.39	Downward	-0.33	Downward
7/14/2017	1:38	2.29	2.66	1.98	-0.37	Downward	-0.31	Downward
7/14/2017	4:26	2.28	2.63	1.98	-0.35	Downward	-0.30	Downward
7/14/2017	7:55	2.18	2.59	1.90	-0.41	Downward	-0.28	Downward
7/14/2017	9:02	2.19	2.55	1.90	-0.36	Downward	-0.29	Downward
7/14/2017	10:12	2.17	2.54	1.93	-0.37	Downward	-0.24	Downward
7/14/2017	11:12	2.18	2.53	1.94	-0.35	Downward	-0.24	Downward
7/14/2017	12:10	2.21	2.51	1.97	-0.30	Downward	-0.24	Downward
7/14/2017	14:10	2.22	2.49	1.94	-0.27	Downward	-0.28	Downward
7/14/2017	17:20	2.22	2.47	1.93	-0.25	Downward	-0.29	Downward
7/14/2017	23:12	2.24	2.42	1.98	-0.18	Downward	-0.26	Downward
7/15/2017	3:21	2.24	2.43	1.96	-0.19	Downward	-0.28	Downward
7/15/2017	6:22	2.25	2.43	1.94	-0.18	Downward	-0.31	Downward
7/15/2017	10:17	2.24	2.41	1.95	-0.17	Downward	-0.29	Downward
7/15/2017	12:58	2.26	2.41	1.95	-0.15	Downward	-0.31	Downward
7/15/2017	15:57	2.27	2.41	1.98	-0.14	Downward	-0.29	Downward
7/15/2017	18:20	2.28	2.42	1.97	-0.14	Downward	-0.31	Downward
7/15/2017	21:25	2.28	2.42	1.98	-0.14	Downward	-0.30	Downward
7/15/2017	22:50	2.28	2.42	1.98	-0.14	Downward	-0.30	Downward
7/16/2017	0:20	2.28	2.41	1.98	-0.13	Downward	-0.30	Downward
7/16/2017	2:43	2.28	2.41	1.98	-0.13	Downward	-0.30	Downward
7/16/2017	11:14	2.28	2.41	1.94	-0.13	Downward	-0.34	Downward
7/16/2017	13:15	2.27	2.43	1.95	-0.16	Downward	-0.32	Downward
7/16/2017	15:23	2.25	2.43	1.95	-0.18	Downward	-0.30	Downward
7/17/2017	13:47	2.58	2.46	2.17	0.12	Upward	-0.41	Downward
7/17/2017	15:48	2.63	2.47	Dry	0.16	Upward	--	--
7/17/2017	17:34	2.70	2.48	Dry	0.22	Upward	--	--
7/18/2017	12:38	2.75	2.53	Dry	0.22	Upward	--	--
7/18/2017	14:31	2.79	2.54	Dry	0.25	Upward	--	--
7/18/2017	16:23	2.84	2.55	Dry	0.29	Upward	--	--
7/20/2017	12:30	3.21	2.75	Dry	0.46	Upward	--	--
7/20/2017	14:12	3.23	2.75	Dry	0.48	Upward	--	--
7/20/2017	15:37	3.25	2.76	Dry	0.49	Upward	--	--
7/21/2017	13:19	3.19	2.82	Dry	0.37	Upward	--	--
7/21/2017	14:31	3.21	2.83	Dry	0.38	Upward	--	--
7/24/2017	13:38	2.33	2.85	1.98	-0.52	Downward	1.98	Downward
7/24/2017	14:51	2.33	2.83	2.00	-0.50	Downward	2.00	Downward
7/24/2017	18:02	2.34	2.76	2.02	-0.42	Downward	2.02	Downward
7/25/2017	8:50	2.47	2.66	2.13	-0.19	Downward	2.13	Downward
7/25/2017	11:05	2.50	2.65	2.15	-0.15	Downward	2.15	Downward
7/25/2017	14:26	2.54	2.65	Dry	-0.11	Downward	--	--
7/25/2017	16:38	2.58	2.67	Dry	-0.09	Downward	--	--
7/26/2017	8:57	2.74	2.68	Dry	0.06	Upward	--	--
7/26/2017	11:47	2.79	2.69	Dry	0.10	Upward	--	--
7/26/2017	13:49	2.85	2.70	Dry	0.15	Upward	--	--
7/26/2017	15:54	2.92	2.71	Dry	0.21	Upward	--	--
7/27/2017	7:33	3.02	2.75	Dry	0.27	Upward	--	--
7/27/2017	11:57	3.03	2.78	Dry	0.25	Upward	--	--
7/27/2017	13:59	3.06	2.79	Dry	0.27	Upward	--	--
7/27/2017	16:10	3.07	2.80	Dry	0.27	Upward	--	--
7/28/2017	8:15	3.10	2.83	Dry	0.27	Upward	--	--

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VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-1 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Shallow Screened Piezometer Depth to Water (ft btoc)	Deeper Screened Piezometer Depth to Water[1/] (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Shallow Groundwater-Deeper Groundwater)	Vertical Head Direction (Shallow Groundwater-Deeper Groundwater)	Vertical Head (Surface Water-Shallow Groundwater)	Vertical Head Direction (Surface Water-Shallow Groundwater)
7/28/2017	11:00	3.10	2.85	Dry	0.25	Upward	--	--
7/28/2017	13:29	3.11	2.86	Dry	0.25	Upward	--	--
7/28/2017	14:59	3.11	2.87	Dry	0.24	Upward	--	--
7/28/2017	17:17	3.17	2.88	Dry	0.29	Upward	--	--
7/29/2017	9:20	3.24	2.94	Dry	0.30	Upward	--	--
7/29/2017	11:10	3.25	2.94	Dry	0.31	Upward	--	--
7/29/2017	13:00	3.28	2.95	Dry	0.33	Upward	--	--
7/31/2017	13:15	3.47	3.11	Dry	0.36	Upward	--	--
7/31/2017	15:33	3.48	3.12	Dry	0.36	Upward	--	--

ft btoc feet below top of casing

[1/] Water-level measurements for deeper screened piezometer have been corrected based on a difference in casing height of 1.58 feet between the shallow screened and deeper screened piezometers in order to conduct a comparison of vertical head changes.

K:\Jobs\Lake Anne\Clovewood\2017\Report\PZ-1 table.doc

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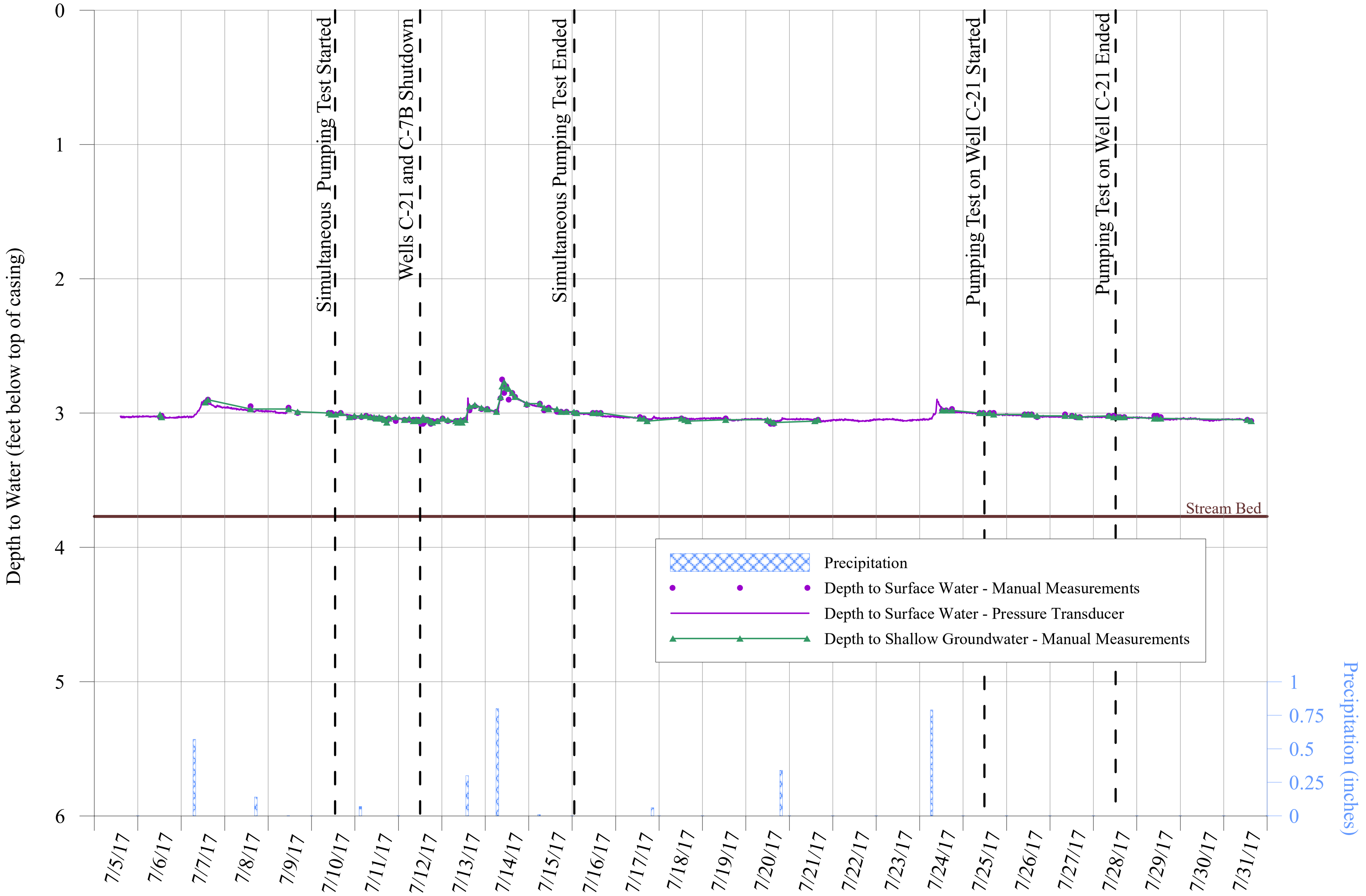
Hydrograph of Water-Level Measurements Collected from Piezometers at Location PZ-5 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\PZs\New\PZ-5Comprehensive.grf

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Manual Water-Level Measurements Collected from Piezometer Location PZ-5 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Interior Piezometer Depth to Groundwater (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Surface Water-Shallow Groundwater)	Vertical Head Direction (Surface Water-Shallow Groundwater)
PZ-5					
7/6/2017	12:15	3.01	3.03	0.02	Upward
7/6/2017	13:10	3.03	3.02	-0.01	Downward
7/7/2017	13:18	2.92	2.92	0.00	Neutral
7/7/2017	14:45	2.90	2.90	0.00	Neutral
7/8/2017	14:20	2.97	2.95	-0.02	Downward
7/9/2017	11:20	2.97	2.96	-0.01	Downward
7/9/2017	16:20	2.99	3.00	0.01	Upward
7/10/2017	9:30	3.00	3.00	0.00	Neutral
7/10/2017	10:58	3.01	3.00	-0.01	Downward
7/10/2017	13:19	3.01	3.01	0.00	Neutral
7/10/2017	16:08	3.00	3.00	0.00	Neutral
7/10/2017	20:58	3.03	3.03	0.00	Neutral
7/10/2017	23:44	3.02	3.03	0.01	Upward
7/11/2017	3:34	3.02	3.03	0.01	Upward
7/11/2017	6:09	3.02	3.02	0.00	Neutral
7/11/2017	8:29	3.03	3.03	0.00	Neutral
7/11/2017	10:31	3.03	3.04	0.01	Upward
7/11/2017	11:50	3.04	3.04	0.00	Neutral
7/11/2017	13:22	3.03	3.04	0.01	Upward
7/11/2017	14:27	3.04	3.04	0.00	Neutral
7/11/2017	15:24	3.04	3.05	0.01	Upward
7/11/2017	16:27	3.05	3.05	0.00	Neutral
7/11/2017	17:38	3.07	3.06	-0.01	Downward
7/11/2017	18:46	3.04	3.04	0.00	Neutral
7/11/2017	22:30	3.03	3.06	0.03	Upward
7/12/2017	3:25	3.05	3.05	0.00	Neutral
7/12/2017	6:01	3.04	3.05	0.01	Upward
7/12/2017	8:18	3.06	3.05	-0.01	Downward
7/12/2017	9:47	3.05	3.05	0.00	Neutral
7/12/2017	11:06	3.06	3.05	-0.01	Downward
7/12/2017	12:31	3.05	3.08	0.03	Upward
7/12/2017	13:34	3.03	3.08	0.05	Upward
7/12/2017	14:15	3.04	3.07	0.03	Upward
7/12/2017	15:18	3.05	3.05	0.00	Neutral
7/12/2017	16:23	3.05	3.05	0.00	Neutral
7/12/2017	17:55	3.06	3.08	0.02	Upward
7/12/2017	18:49	3.07	3.06	-0.01	Downward
7/12/2017	21:36	3.06	3.06	0.00	Neutral
7/13/2017	0:25	3.04	3.04	0.00	Neutral
7/13/2017	3:20	3.05	3.06	0.01	Upward
7/13/2017	7:43	3.06	3.06	0.00	Neutral
7/13/2017	8:46	3.07	3.06	-0.01	Downward
7/13/2017	9:40	3.06	3.07	0.01	Upward
7/13/2017	10:23	3.05	3.06	0.01	Upward
7/13/2017	11:10	3.07	3.06	-0.01	Downward
7/13/2017	12:50	3.05	3.05	0.00	Neutral
7/13/2017	15:15	2.95	2.98	0.03	Upward
7/13/2017	18:15	2.94	2.95	0.01	Upward
7/13/2017	21:57	2.96	2.97	0.01	Upward
7/14/2017	1:12	2.97	2.97	0.00	Neutral
7/14/2017	1:03	2.97	2.97	0.00	Neutral
7/14/2017	6:09	2.99	2.99	0.00	Neutral
7/14/2017	8:27	2.88	2.89	0.01	Upward
7/14/2017	9:20	2.80	2.75	-0.05	Downward
7/14/2017	10:30	2.77	2.85	0.08	Upward
7/14/2017	11:35	2.81	2.80	-0.01	Downward

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BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-5 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Interior Piezometer Depth to Groundwater (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Surface Water-Shallow Groundwater)	Vertical Head Direction (Surface Water-Shallow Groundwater)
7/14/2017	12:58	2.82	2.90	0.08	Upward
7/14/2017	14:57	2.85	2.85	0.00	Neutral
7/14/2017	16:27	2.88	2.88	0.00	Neutral
7/14/2017	22:57	2.93	2.94	0.01	Upward
7/15/2017	6:08	2.93	2.93	0.00	Neutral
7/15/2017	8:29	2.96	2.98	0.02	Upward
7/15/2017	11:02	2.97	2.96	-0.01	Downward
7/15/2017	15:38	2.97	2.99	0.02	Upward
7/15/2017	17:55	2.99	2.99	0.00	Neutral
7/15/2017	20:55	2.99	2.99	0.00	Neutral
7/16/2017	1:00	2.99	3.00	0.01	Upward
7/16/2017	2:35	3.00	3.00	0.00	Neutral
7/16/2017	11:30	3.00	3.00	0.00	Neutral
7/16/2017	13:30	3.00	3.00	0.00	Neutral
7/16/2017	15:48	3.00	3.00	0.00	Neutral
7/17/2017	13:29	3.04	3.03	-0.01	Downward
7/17/2017	15:33	3.04	3.04	0.00	Neutral
7/17/2017	17:27	3.06	3.06	0.00	Neutral
7/18/2017	12:24	3.04	3.04	0.00	Neutral
7/18/2017	14:15	3.05	3.05	0.00	Neutral
7/18/2017	16:06	3.06	3.06	0.00	Neutral
7/19/2017	12:50	3.05	3.04	-0.01	Downward
7/20/2017	11:57	3.05	3.06	0.01	Upward
7/20/2017	13:39	3.06	3.08	0.02	Upward
7/20/2017	15:28	3.07	3.08	0.01	Upward
7/21/2017	14:08	3.06	3.06	0.00	Neutral
7/21/2017	15:56	3.05	3.05	0.00	Neutral
7/24/2017	12:25	2.98	2.98	0.00	Neutral
7/24/2017	14:43	2.98	2.98	0.00	Neutral
7/24/2017	17:53	2.98	2.97	-0.01	Downward
7/25/2017	9:07	3.00	3.00	0.00	Neutral
7/25/2017	11:15	3.00	3.00	0.00	Neutral
7/25/2017	14:46	3.00	3.00	0.00	Neutral
7/25/2017	16:55	3.01	3.00	-0.01	Downward
7/26/2017	10:03	3.01	3.01	0.00	Neutral
7/26/2017	11:59	3.01	3.01	0.00	Neutral
7/26/2017	13:56	3.01	3.01	0.00	Neutral
7/26/2017	16:56	3.02	3.03	0.01	Upward
7/27/2017	8:22	3.02	3.01	-0.01	Downward
7/27/2017	12:06	3.02	3.02	0.00	Neutral
7/27/2017	14:08	3.02	3.03	0.01	Upward
7/27/2017	16:28	3.03	3.03	0.00	Neutral
7/28/2017	8:30	3.02	3.02	0.00	Neutral
7/28/2017	11:10	3.03	3.02	-0.01	Downward
7/28/2017	13:21	3.03	3.03	0.00	Neutral
7/28/2017	14:43	3.03	3.03	0.00	Neutral
7/28/2017	17:06	3.03	3.03	0.00	Neutral
7/29/2017	9:45	3.04	3.02	-0.02	Downward
7/29/2017	11:10	3.04	3.02	-0.02	Downward
7/29/2017	13:10	3.04	3.03	-0.01	Downward
7/31/2017	13:02	3.05	3.05	0.00	Neutral
7/31/2017	15:14	3.06	3.06	0.00	Neutral

ft btoc feet below top of casing

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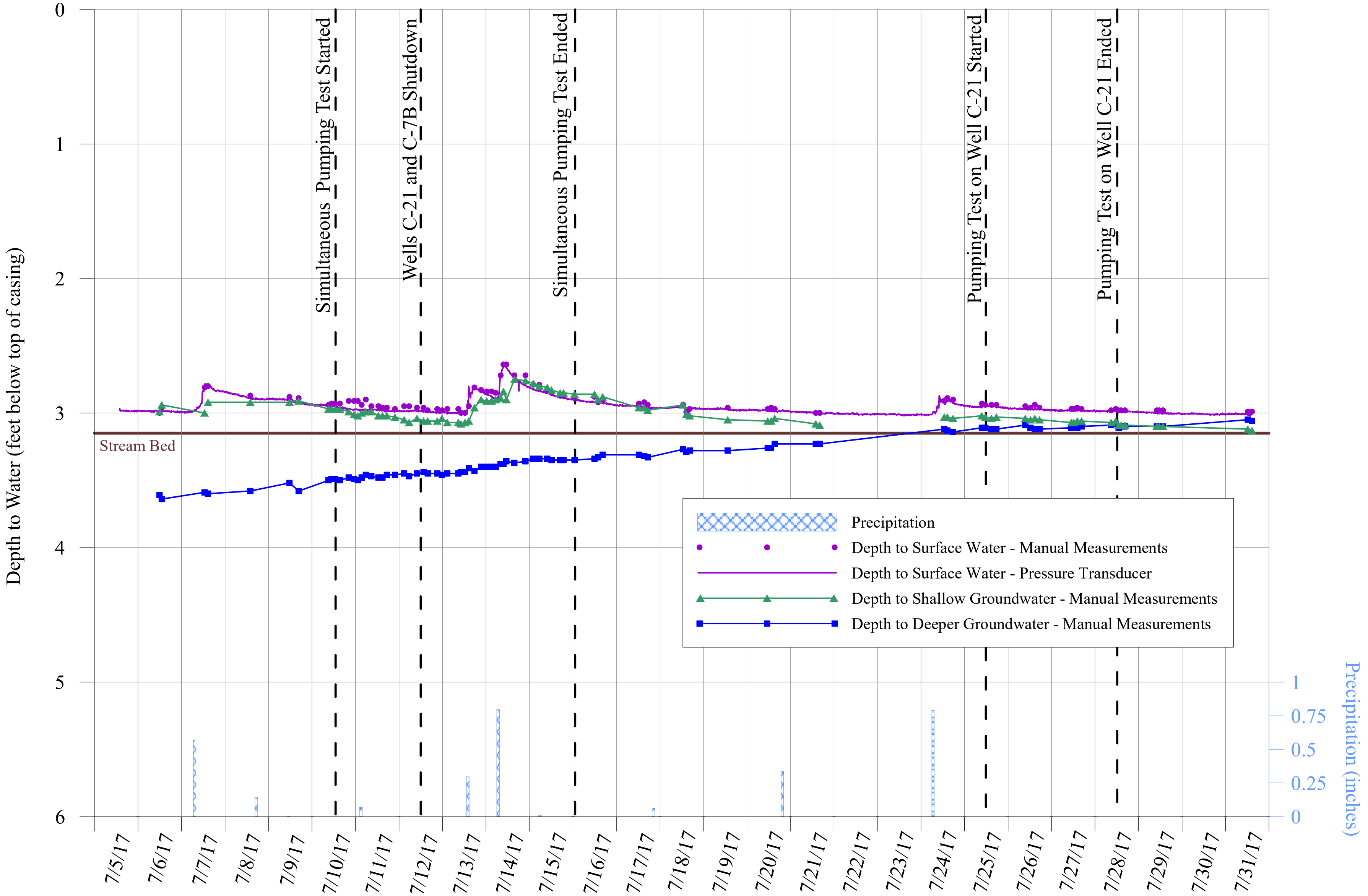
Hydrograph of Water-Level Measurements Collected from Piezometers at Location PZ-6 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\PZs\New\PZ-6Comprehensive.grf

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BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-6 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Shallow Screened Piezometer Depth to Water (ft btoc)	Deeper Screened Piezometer Depth to Water[1/] (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Shallow Groundwater-Deeper Groundwater)	Vertical Head Direction (Shallow Groundwater-Deeper Groundwater)	Vertical Head (Surface Water-Shallow Groundwater)	Vertical Head Direction (Surface Water-Shallow Groundwater)
PZ-6								
7/6/2017	11:51	2.99	3.61	3.00	-0.62	Downward	0.01	Upward
7/6/2017	13:05	2.94	3.64	2.96	-0.70	Downward	0.02	Upward
7/7/2017	12:46	3.00	3.59	2.81	-0.59	Downward	-0.19	Downward
7/7/2017	14:36	2.92	3.60	2.80	-0.68	Downward	-0.12	Downward
7/8/2017	14:00	2.92	3.58	2.87	-0.66	Downward	-0.05	Downward
7/9/2017	11:35	2.92	3.52	2.88	-0.60	Downward	-0.04	Downward
7/9/2017	16:40	2.91	3.58	2.89	-0.67	Downward	-0.02	Downward
7/10/2017	9:10	2.97	3.50	2.94	-0.53	Downward	-0.03	Downward
7/10/2017	10:48	2.97	3.49	2.93	-0.52	Downward	-0.04	Downward
7/10/2017	12:52	2.97	3.49	2.93	-0.52	Downward	-0.04	Downward
7/10/2017	15:28	2.97	3.50	2.93	-0.53	Downward	-0.04	Downward
7/10/2017	20:17	2.99	3.48	2.91	-0.49	Downward	-0.08	Downward
7/10/2017	23:14	3.01	3.49	2.91	-0.48	Downward	-0.10	Downward
7/11/2017	1:13	3.02	3.50	2.91	-0.48	Downward	-0.11	Downward
7/11/2017	3:24	3.00	3.48	2.94	-0.48	Downward	-0.06	Downward
7/11/2017	5:39	2.99	3.46	2.90	-0.47	Downward	-0.09	Downward
7/11/2017	8:45	2.99	3.47	2.95	-0.48	Downward	-0.04	Downward
7/11/2017	12:38	3.02	3.48	2.95	-0.46	Downward	-0.07	Downward
7/11/2017	14:56	3.02	3.48	2.96	-0.46	Downward	-0.06	Downward
7/11/2017	17:22	3.02	3.46	2.96	-0.44	Downward	-0.06	Downward
7/11/2017	21:46	3.03	3.46	2.97	-0.43	Downward	-0.06	Downward
7/12/2017	2:48	3.05	3.45	2.95	-0.40	Downward	-0.10	Downward
7/12/2017	5:35	3.07	3.47	2.95	-0.40	Downward	-0.12	Downward
7/12/2017	9:55	3.04	3.45	2.96	-0.41	Downward	-0.08	Downward
7/12/2017	13:35	3.06	3.44	2.96	-0.38	Downward	-0.10	Downward
7/12/2017	15:54	3.06	3.45	2.98	-0.39	Downward	-0.08	Downward
7/12/2017	21:10	3.06	3.45	2.97	-0.39	Downward	-0.09	Downward
7/12/2017	23:42	3.04	3.46	2.98	-0.42	Downward	-0.06	Downward
7/13/2017	2:39	3.07	3.45	2.97	-0.38	Downward	-0.10	Downward
7/13/2017	8:41	3.07	3.45	2.97	-0.38	Downward	-0.10	Downward
7/13/2017	10:13	3.08	3.44	3.00	-0.36	Downward	-0.08	Downward
7/13/2017	12:27	3.07	3.44	3.00	-0.37	Downward	-0.07	Downward
7/13/2017	14:35	3.06	3.41	2.95	-0.35	Downward	-0.11	Downward
7/13/2017	17:40	2.96	3.43	2.81	-0.47	Downward	-0.15	Downward
7/13/2017	21:16	2.90	3.40	2.83	-0.50	Downward	-0.07	Downward
7/14/2017	0:26	2.91	3.40	2.84	-0.49	Downward	-0.07	Downward
7/14/2017	3:08	2.91	3.40	2.84	-0.49	Downward	-0.07	Downward
7/14/2017	5:21	2.90	3.40	2.85	-0.50	Downward	-0.05	Downward
7/14/2017	8:10	2.89	3.38	2.72	-0.49	Downward	-0.17	Downward
7/14/2017	9:40	2.84	3.38	2.64	-0.54	Downward	-0.20	Downward
7/14/2017	11:15	2.90	3.36	2.64	-0.46	Downward	-0.26	Downward
7/14/2017	15:39	2.75	3.37	2.72	-0.62	Downward	-0.03	Downward
7/14/2017	21:50	2.76	3.36	2.72	-0.60	Downward	-0.04	Downward
7/15/2017	2:07	2.78	3.34	2.79	-0.56	Downward	0.01	Upward
7/15/2017	5:28	2.80	3.34	2.79	-0.54	Downward	-0.01	Downward
7/15/2017	9:50	2.81	3.34	2.84	-0.53	Downward	0.03	Upward
7/15/2017	12:10	2.83	3.35	2.85	-0.52	Downward	0.02	Upward
7/15/2017	16:55	2.85	3.35	2.86	-0.50	Downward	0.01	Upward
7/15/2017	18:50	2.85	3.35	2.87	-0.50	Downward	0.02	Upward
7/16/2017	0:50	2.86	3.35	2.88	-0.49	Downward	0.02	Upward

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VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-6 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Shallow Screened Piezometer Depth to Water (ft btoc)	Deeper Screened Piezometer Depth to Water[1/] (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Shallow Groundwater-Deeper Groundwater)	Vertical Head Direction (Shallow Groundwater-Deeper Groundwater)	Vertical Head (Surface Water-Shallow Groundwater)	Vertical Head Direction (Surface Water-Shallow Groundwater)
7/16/2017	11:54	2.86	3.34	2.88	-0.48	Downward	0.02	Upward
7/16/2017	13:53	2.90	3.33	2.92	-0.43	Downward	0.02	Upward
7/16/2017	16:24	2.88	3.31	2.91	-0.43	Downward	0.03	Upward
7/17/2017	12:22	2.96	3.31	2.93	-0.35	Downward	-0.03	Downward
7/17/2017	15:23	2.96	3.32	2.92	-0.36	Downward	-0.04	Downward
7/17/2017	17:14	2.98	3.33	2.94	-0.35	Downward	-0.04	Downward
7/18/2017	12:48	2.94	3.27	2.94	-0.33	Downward	0.00	Upward
7/18/2017	14:37	3.01	3.29	2.99	-0.28	Downward	-0.02	Downward
7/18/2017	16:23	3.02	3.28	2.97	-0.26	Downward	-0.05	Downward
7/19/2017	13:20	3.05	3.28	2.96	-0.23	Downward	-0.09	Downward
7/20/2017	11:28	3.06	3.26	2.97	-0.20	Downward	-0.09	Downward
7/20/2017	13:20	3.06	3.26	2.96	-0.20	Downward	-0.10	Downward
7/20/2017	15:15	3.04	3.23	2.97	-0.19	Downward	-0.07	Downward
7/21/2017	13:55	3.08	3.23	3.00	-0.15	Downward	-0.08	Downward
7/21/2017	16:08	3.09	3.23	3.00	-0.14	Downward	-0.09	Downward
7/24/2017	12:51	3.03	3.12	2.91	-0.09	Downward	-0.12	Downward
7/24/2017	14:30	3.03	3.13	2.89	-0.10	Downward	-0.14	Downward
7/24/2017	17:39	3.04	3.14	2.90	-0.10	Downward	-0.14	Downward
7/25/2017	9:36	3.02	3.11	2.93	-0.09	Downward	-0.09	Downward
7/25/2017	11:31	3.03	3.11	2.94	-0.08	Downward	-0.09	Downward
7/25/2017	14:57	3.04	3.12	2.94	-0.08	Downward	-0.10	Downward
7/25/2017	17:36	3.03	3.12	2.94	-0.09	Downward	-0.09	Downward
7/26/2017	9:31	3.04	3.09	2.95	-0.05	Downward	-0.09	Downward
7/26/2017	12:25	3.05	3.11	2.96	-0.06	Downward	-0.09	Downward
7/26/2017	14:50	3.04	3.12	2.94	-0.08	Downward	-0.10	Downward
7/26/2017	17:24	3.05	3.12	2.96	-0.07	Downward	-0.09	Downward
7/27/2017	11:00	3.07	3.11	2.97	-0.04	Downward	-0.10	Downward
7/27/2017	12:15	3.07	3.11	2.97	-0.04	Downward	-0.10	Downward
7/27/2017	14:14	3.06	3.11	2.96	-0.05	Downward	-0.10	Downward
7/27/2017	16:35	3.06	3.10	2.97	-0.04	Downward	-0.09	Downward
7/28/2017	8:56	3.07	3.09	2.98	-0.02	Downward	-0.09	Downward
7/28/2017	11:31	3.06	3.08	2.97	-0.02	Downward	-0.09	Downward
7/28/2017	13:05	3.09	3.11	2.98	-0.02	Downward	-0.11	Downward
7/28/2017	14:24	3.09	3.10	2.98	-0.01	Downward	-0.11	Downward
7/28/2017	16:34	3.09	3.10	2.98	-0.01	Downward	-0.11	Downward
7/29/2017	10:05	3.10	3.10	2.98	0.00	Neutral	-0.12	Downward
7/29/2017	11:30	3.10	3.10	2.98	0.00	Neutral	-0.12	Downward
7/29/2017	13:30	3.10	3.10	2.98	0.00	Neutral	-0.12	Downward
7/31/2017	12:18	3.12	3.05	2.99	0.07	Upward	-0.13	Downward
7/31/2017	14:35	3.13	3.06	2.99	0.07	Upward	-0.14	Downward

ft btoc feet below top of casing

[1/] Water-level measurements for deeper screened piezometer have been corrected based on a difference in casing height of 1.20 feet between the shallow screened and deeper screened piezometers in order to conduct a comparison of vertical head changes.

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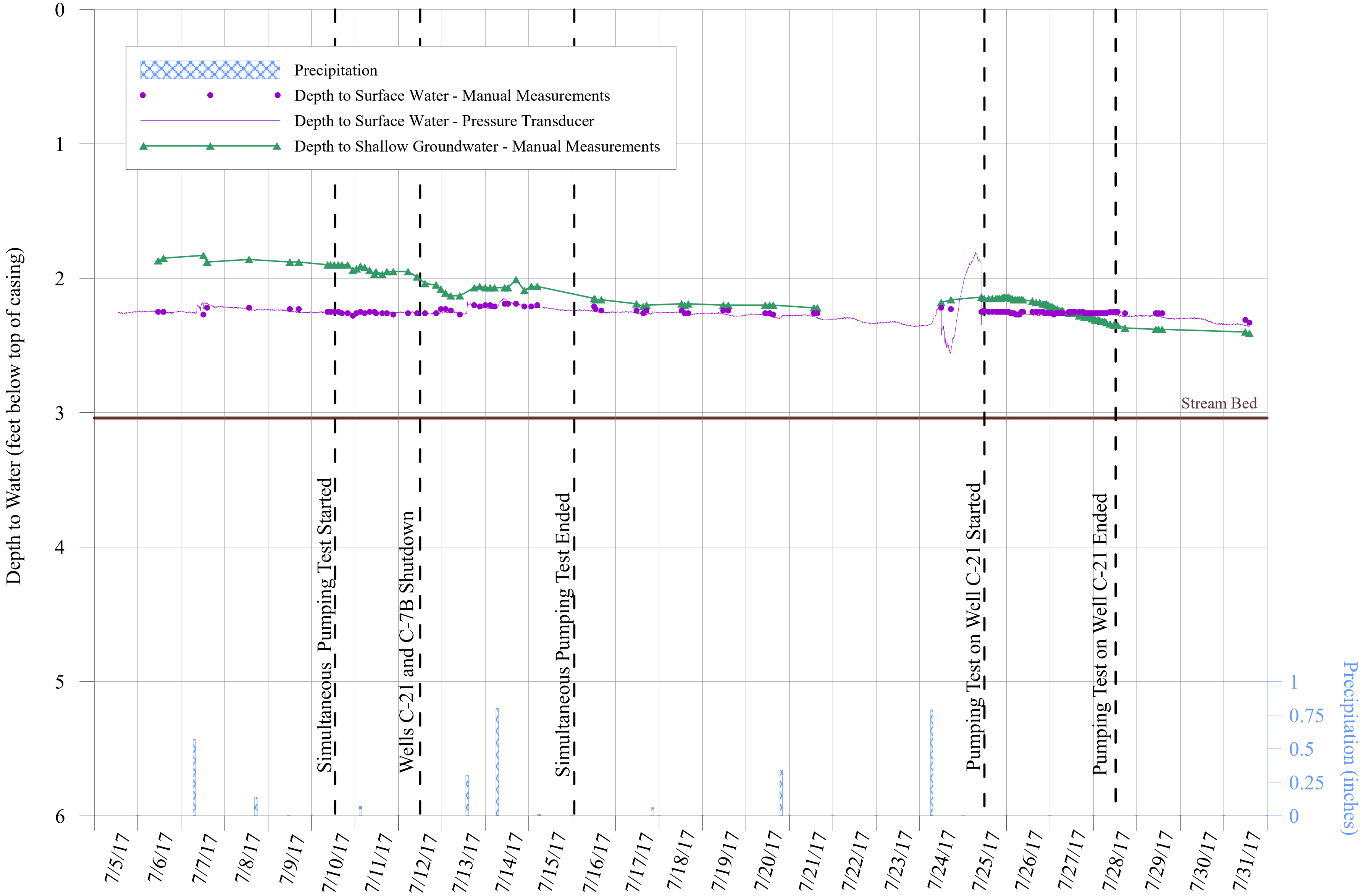
Hydrograph of Water-Level Measurements Collected from Piezometers at Location PZ-8 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-8 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Interior Piezometer Depth to Groundwater (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Surface Water-Shallow Groundwater)	Vertical Head Direction (Surface Water-Shallow Groundwater)
PZ-8					
7/6/2017	11:14	1.87	2.25	0.38	Upward
7/6/2017	14:12	1.85	2.25	0.40	Upward
7/7/2017	12:15	1.83	2.27	0.44	Upward
7/7/2017	14:19	1.88	2.22	0.34	Upward
7/8/2017	13:31	1.86	2.22	0.36	Upward
7/9/2017	12:05	1.88	2.23	0.35	Upward
7/9/2017	17:01	1.88	2.23	0.35	Upward
7/10/2017	8:57	1.90	2.25	0.35	Upward
7/10/2017	10:36	1.90	2.25	0.35	Upward
7/10/2017	12:33	1.90	2.25	0.35	Upward
7/10/2017	14:48	1.90	2.25	0.35	Upward
7/10/2017	16:50	1.90	2.26	0.36	Upward
7/10/2017	19:56	1.90	2.26	0.36	Upward
7/10/2017	22:52	1.94	2.28	0.34	Upward
7/11/2017	0:48	1.93	2.26	0.33	Upward
7/11/2017	3:02	1.91	2.25	0.34	Upward
7/11/2017	5:22	1.92	2.26	0.34	Upward
7/11/2017	8:05	1.94	2.25	0.31	Upward
7/11/2017	10:43	1.97	2.25	0.28	Upward
7/11/2017	11:41	1.95	2.26	0.31	Upward
7/11/2017	15:04	1.97	2.26	0.29	Upward
7/11/2017	17:39	1.95	2.26	0.31	Upward
7/11/2017	21:09	1.95	2.27	0.32	Upward
7/12/2017	5:18	1.95	2.26	0.31	Upward
7/12/2017	10:23	1.99	2.26	0.27	Upward
7/12/2017	14:45	2.04	2.26	0.22	Upward
7/12/2017	20:54	2.05	2.26	0.21	Upward
7/12/2017	23:27	2.08	2.23	0.15	Upward
7/13/2017	2:05	2.11	2.23	0.12	Upward
7/13/2017	4:59	2.13	2.24	0.11	Upward
7/13/2017	9:57	2.13	2.27	0.14	Upward
7/13/2017	17:54	2.07	2.20	0.13	Upward
7/13/2017	20:56	2.06	2.21	0.15	Upward
7/14/2017	0:01	2.07	2.20	0.13	Upward
7/14/2017	2:43	2.07	2.20	0.13	Upward
7/14/2017	5:10	2.07	2.21	0.14	Upward
7/14/2017	10:45	2.07	2.19	0.12	Upward
7/14/2017	12:35	2.07	2.19	0.12	Upward
7/14/2017	17:00	2.01	2.19	0.18	Upward
7/14/2017	21:35	2.09	2.21	0.12	Upward
7/15/2017	1:30	2.06	2.21	0.15	Upward
7/15/2017	4:45	2.06	2.20	0.14	Upward
7/16/2017	12:07	2.15	2.21	0.06	Upward
7/16/2017	12:50	2.16	2.23	0.07	Upward
7/16/2017	16:04	2.16	2.24	0.08	Upward
7/17/2017	11:30	2.19	2.24	0.05	Upward
7/17/2017	15:15	2.21	2.26	0.05	Upward
7/17/2017	17:08	2.20	2.24	0.04	Upward
7/18/2017	12:32	2.19	2.24	0.05	Upward
7/18/2017	14:11	2.20	2.26	0.06	Upward
7/18/2017	16:15	2.19	2.26	0.07	Upward
7/19/2017	11:30	2.20	2.24	0.04	Upward
7/19/2017	14:20	2.20	2.24	0.04	Upward

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Manual Water-Level Measurements Collected from Piezometer Location PZ-8 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Interior Piezometer Depth to Groundwater (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Surface Water-Shallow Groundwater)	Vertical Head Direction (Surface Water-Shallow Groundwater)
7/20/2017	10:43	2.20	2.26	0.06	Upward
7/20/2017	13:10	2.20	2.26	0.06	Upward
7/20/2017	15:07	2.20	2.27	0.07	Upward
7/21/2017	13:37	2.22	2.26	0.04	Upward
7/21/2017	15:31	2.22	2.26	0.04	Upward
7/24/2017	11:57	2.18	2.22	0.04	Upward
7/24/2017	17:18	2.16	2.23	0.07	Upward
7/25/2017	10:06	2.14	2.25	0.11	Upward
7/25/2017	11:40	2.15	2.24	0.09	Upward
7/25/2017	14:10	2.15	2.25	0.10	Upward
7/25/2017	16:10	2.15	2.25	0.10	Upward
7/25/2017	18:10	2.15	2.25	0.10	Upward
7/25/2017	19:10	2.15	2.25	0.10	Upward
7/25/2017	20:10	2.15	2.25	0.10	Upward
7/25/2017	21:10	2.15	2.25	0.10	Upward
7/25/2017	22:10	2.14	2.25	0.11	Upward
7/25/2017	23:10	2.14	2.25	0.11	Upward
7/26/2017	0:10	2.14	2.25	0.11	Upward
7/26/2017	1:10	2.14	2.25	0.11	Upward
7/26/2017	2:10	2.15	2.26	0.11	Upward
7/26/2017	3:10	2.15	2.26	0.11	Upward
7/26/2017	4:10	2.16	2.26	0.10	Upward
7/26/2017	5:10	2.16	2.27	0.11	Upward
7/26/2017	6:10	2.16	2.27	0.11	Upward
7/26/2017	7:10	2.16	2.27	0.11	Upward
7/26/2017	9:10	2.16	2.25	0.09	Upward
7/26/2017	12:10	2.16	2.25	0.09	Upward
7/26/2017	14:20	2.17	2.25	0.08	Upward
7/26/2017	16:20	2.18	2.25	0.07	Upward
7/26/2017	18:20	2.18	2.25	0.07	Upward
7/26/2017	20:10	2.19	2.25	0.06	Upward
7/26/2017	21:10	2.19	2.26	0.07	Upward
7/26/2017	22:10	2.19	2.26	0.07	Upward
7/26/2017	23:10	2.20	2.26	0.06	Upward
7/27/2017	0:10	2.21	2.26	0.05	Upward
7/27/2017	1:10	2.21	2.26	0.05	Upward
7/27/2017	2:10	2.22	2.27	0.05	Upward
7/27/2017	3:10	2.23	2.26	0.03	Upward
7/27/2017	4:10	2.23	2.26	0.03	Upward
7/27/2017	5:10	2.24	2.26	0.02	Upward
7/27/2017	6:10	2.24	2.26	0.02	Upward
7/27/2017	7:10	2.24	2.26	0.02	Upward
7/27/2017	10:30	2.26	2.25	-0.01	Downward
7/27/2017	12:10	2.26	2.25	-0.01	Downward
7/27/2017	13:50	2.26	2.25	-0.01	Downward
7/27/2017	16:10	2.28	2.25	-0.03	Downward
7/27/2017	18:10	2.28	2.25	-0.03	Downward
7/27/2017	19:10	2.29	2.26	-0.03	Downward
7/27/2017	20:10	2.29	2.26	-0.03	Downward
7/27/2017	21:10	2.29	2.26	-0.03	Downward
7/27/2017	22:10	2.29	2.26	-0.03	Downward
7/27/2017	23:10	2.30	2.26	-0.04	Downward
7/28/2017	0:10	2.30	2.26	-0.04	Downward
7/28/2017	1:10	2.31	2.26	-0.05	Downward

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VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-8 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Interior Piezometer Depth to Groundwater (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Surface Water-Shallow Groundwater)	Vertical Head Direction (Surface Water-Shallow Groundwater)
7/28/2017	2:18	2.31	2.26	-0.05	Downward
7/28/2017	3:10	2.31	2.26	-0.05	Downward
7/28/2017	4:10	2.32	2.26	-0.06	Downward
7/28/2017	5:10	2.32	2.26	-0.06	Downward
7/28/2017	6:10	2.32	2.26	-0.06	Downward
7/28/2017	7:10	2.33	2.26	-0.07	Downward
7/28/2017	9:10	2.34	2.25	-0.09	Downward
7/28/2017	11:10	2.35	2.25	-0.10	Downward
7/28/2017	12:10	2.35	2.25	-0.10	Downward
7/28/2017	13:30	2.35	2.25	-0.10	Downward
7/28/2017	17:30	2.37	2.26	-0.11	Downward
7/29/2017	10:30	2.38	2.26	-0.12	Downward
7/29/2017	12:00	2.38	2.26	-0.12	Downward
7/29/2017	14:00	2.38	2.26	-0.12	Downward
7/31/2017	12:00	2.40	2.31	-0.09	Downward
7/31/2017	14:12	2.41	2.33	-0.08	Downward

ft btoc feet below top of casing

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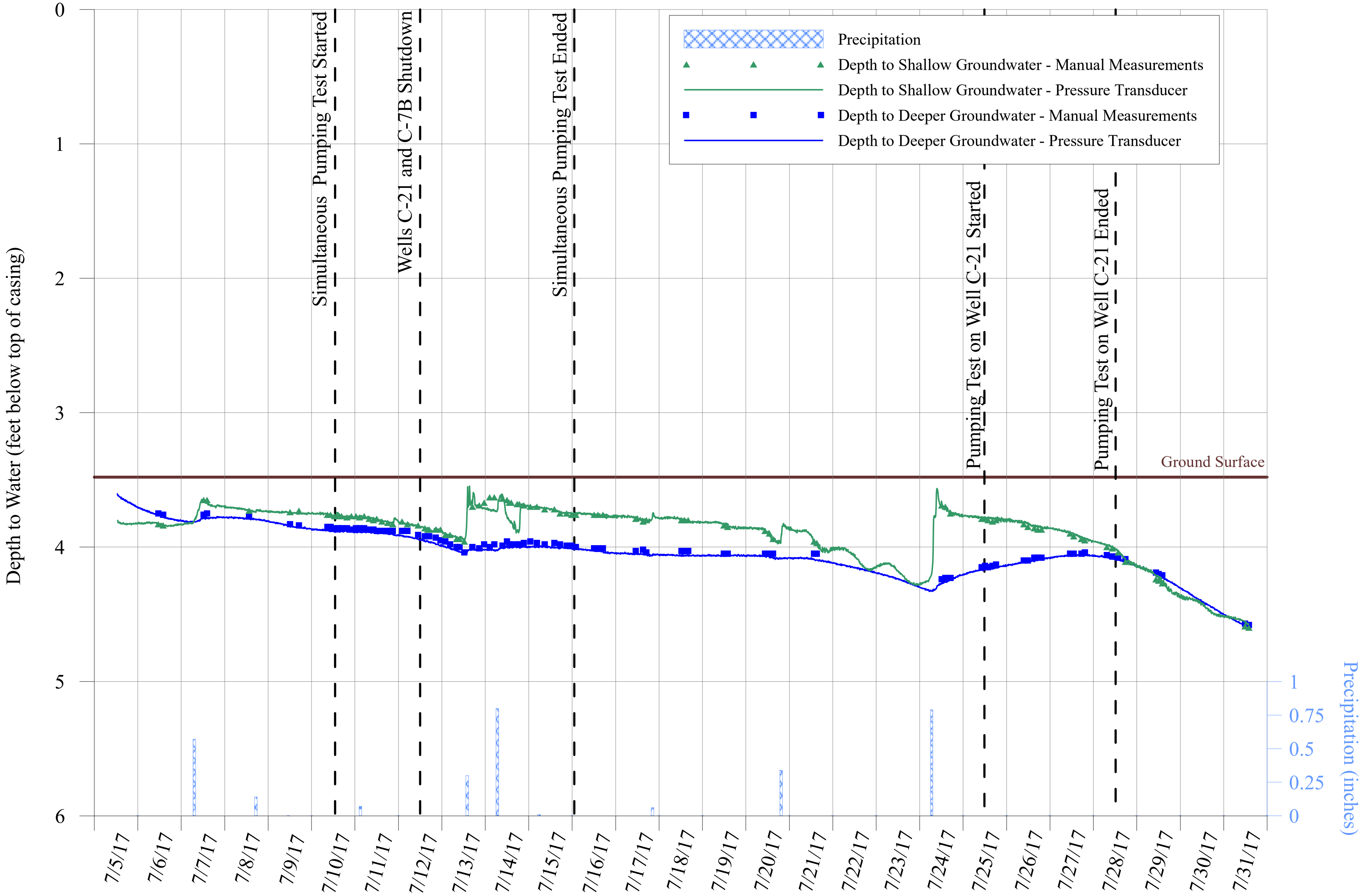
Hydrograph of Water-Level Measurements Collected from Piezometers at Location PZ-9 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\PZs\New\PZ-9Comprehensive.grf

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Manual Water-Level Measurements Collected from Piezometer Location PZ-9 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Shallow Screened Piezometer Depth to Water (ft btoc)	Deeper Screened Piezometer Depth to Water[1/] (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Shallow Groundwater-Deeper Groundwater)	Vertical Head Direction (Shallow Groundwater-Deeper Groundwater)
PZ-9						
7/6/2017	11:22	3.83	3.75	Dry	0.08	Upward
7/6/2017	14:03	3.84	3.76	Dry	0.08	Upward
7/7/2017	12:25	3.65	3.76	Dry	-0.11	Downward
7/7/2017	14:17	3.65	3.75	Dry	-0.10	Downward
7/8/2017	13:30	3.73	3.77	Dry	-0.04	Downward
7/9/2017	12:10	3.74	3.83	Dry	-0.09	Downward
7/9/2017	17:05	3.73	3.84	Dry	-0.11	Downward
7/10/2017	8:45	3.76	3.85	Dry	-0.09	Downward
7/10/2017	10:33	3.76	3.85	Dry	-0.09	Downward
7/10/2017	12:39	3.77	3.86	Dry	-0.09	Downward
7/10/2017	14:50	3.77	3.86	Dry	-0.09	Downward
7/10/2017	16:38	3.77	3.86	Dry	-0.09	Downward
7/10/2017	19:36	3.78	3.86	Dry	-0.08	Downward
7/10/2017	22:00	3.77	3.87	Dry	-0.10	Downward
7/11/2017	0:36	3.77	3.86	Dry	-0.09	Downward
7/11/2017	2:32	3.78	3.86	Dry	-0.08	Downward
7/11/2017	5:08	3.77	3.86	Dry	-0.09	Downward
7/11/2017	7:54	3.79	3.87	Dry	-0.08	Downward
7/11/2017	10:15	3.80	3.87	Dry	-0.07	Downward
7/11/2017	12:07	3.79	3.88	Dry	-0.09	Downward
7/11/2017	14:54	3.81	3.88	Dry	-0.07	Downward
7/11/2017	18:12	3.82	3.88	Dry	-0.06	Downward
7/11/2017	20:53	3.83	3.88	Dry	-0.05	Downward
7/12/2017	2:00	3.81	3.88	Dry	-0.07	Downward
7/12/2017	5:02	3.83	3.88	Dry	-0.05	Downward
7/12/2017	10:55	3.84	3.91	Dry	-0.07	Downward
7/12/2017	14:38	3.86	3.92	Dry	-0.06	Downward
7/12/2017	16:12	3.87	3.92	Dry	-0.05	Downward
7/12/2017	16:59	3.87	3.92	Dry	-0.05	Downward
7/12/2017	20:37	3.87	3.93	Dry	-0.06	Downward
7/12/2017	23:15	3.87	3.95	Dry	-0.08	Downward
7/13/2017	1:56	3.91	3.96	Dry	-0.05	Downward
7/13/2017	4:35	3.91	3.98	Dry	-0.07	Downward
7/13/2017	8:10	3.94	4.00	Dry	-0.06	Downward
7/13/2017	9:50	3.94	4.00	Dry	-0.06	Downward
7/13/2017	12:27	3.96	4.04	Dry	-0.08	Downward
7/13/2017	16:56	3.70	4.00	Dry	-0.30	Downward
7/13/2017	20:42	3.69	4.01	Dry	-0.32	Downward
7/13/2017	23:25	3.67	3.98	Dry	-0.31	Downward
7/14/2017	2:26	3.63	4.00	Dry	-0.37	Downward
7/14/2017	5:00	3.63	3.98	Dry	-0.35	Downward
7/14/2017	9:35	3.64	3.99	Dry	-0.35	Downward
7/14/2017	12:00	3.65	3.96	Dry	-0.31	Downward
7/14/2017	13:12	3.67	3.98	Dry	-0.31	Downward
7/14/2017	14:23	3.67	3.98	Dry	-0.31	Downward
7/14/2017	17:35	3.68	3.98	Dry	-0.30	Downward
7/14/2017	18:48	3.68	3.98	Dry	-0.30	Downward
7/14/2017	21:20	3.69	3.97	Dry	-0.28	Downward
7/15/2017	0:52	3.70	3.96	Dry	-0.26	Downward
7/15/2017	4:30	3.70	3.97	Dry	-0.27	Downward
7/15/2017	8:48	3.72	3.98	Dry	-0.26	Downward
7/15/2017	14:10	3.72	3.97	Dry	-0.25	Downward
7/15/2017	17:20	3.75	3.98	Dry	-0.23	Downward
7/15/2017	21:00	3.75	3.99	Dry	-0.24	Downward

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VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-9 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Shallow Screened Piezometer Depth to Water (ft btoc)	Deeper Screened Piezometer Depth to Water[1/] (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Shallow Groundwater-Deeper Groundwater)	Vertical Head Direction (Shallow Groundwater-Deeper Groundwater)
7/15/2017	23:45	3.76	3.99	Dry	-0.23	Downward
7/16/2017	2:05	3.76	4.00	Dry	-0.24	Downward
7/16/2017	12:13	3.76	4.01	Dry	-0.25	Downward
7/16/2017	14:19	3.76	4.01	Dry	-0.25	Downward
7/16/2017	17:00	3.76	4.01	Dry	-0.25	Downward
7/17/2017	11:10	3.79	4.03	Dry	-0.24	Downward
7/17/2017	15:09	3.81	4.02	Dry	-0.21	Downward
7/17/2017	17:01	3.80	4.04	Dry	-0.24	Downward
7/18/2017	12:24	3.80	4.03	Dry	-0.23	Downward
7/18/2017	14:06	3.80	4.03	Dry	-0.23	Downward
7/18/2017	16:07	3.80	4.03	Dry	-0.23	Downward
7/19/2017	11:50	3.84	4.05	Dry	-0.21	Downward
7/19/2017	14:00	3.85	4.05	Dry	-0.20	Downward
7/20/2017	10:34	3.88	4.05	Dry	-0.17	Downward
7/20/2017	13:00	3.90	4.05	Dry	-0.15	Downward
7/20/2017	15:00	3.94	4.05	Dry	-0.11	Downward
7/21/2017	13:39	3.96	4.05	Dry	-0.09	Downward
7/21/2017	15:09	3.97	4.05	Dry	-0.08	Downward
7/24/2017	12:10	3.69	4.24	Dry	-0.55	Downward
7/24/2017	14:13	3.70	4.23	Dry	-0.53	Downward
7/24/2017	17:00	3.75	4.23	Dry	-0.48	Downward
7/25/2017	10:17	3.79	4.15	Dry	-0.36	Downward
7/25/2017	12:10	3.79	4.14	Dry	-0.35	Downward
7/25/2017	13:50	3.80	4.15	Dry	-0.35	Downward
7/25/2017	16:15	3.81	4.14	Dry	-0.33	Downward
7/25/2017	18:15	3.80	4.13	Dry	-0.33	Downward
7/26/2017	9:30	3.83	4.10	Dry	-0.27	Downward
7/26/2017	11:50	3.85	4.10	Dry	-0.25	Downward
7/26/2017	15:20	3.86	4.08	Dry	-0.22	Downward
7/26/2017	17:20	3.87	4.08	Dry	-0.21	Downward
7/26/2017	19:20	3.87	4.08	Dry	-0.21	Downward
7/27/2017	11:10	3.90	4.05	Dry	-0.15	Downward
7/27/2017	13:10	3.92	4.05	Dry	-0.13	Downward
7/27/2017	17:20	3.94	4.05	Dry	-0.11	Downward
7/27/2017	19:20	3.95	4.04	Dry	-0.09	Downward
7/28/2017	7:30	4.00	4.06	Dry	-0.06	Downward
7/28/2017	10:30	4.01	4.07	Dry	-0.06	Downward
7/28/2017	13:40	4.04	4.08	Dry	-0.04	Downward
7/28/2017	17:40	4.11	4.09	Dry	0.02	Upward
7/29/2017	10:35	4.24	4.19	Dry	0.05	Upward
7/29/2017	12:05	4.25	4.20	Dry	0.05	Upward
7/29/2017	14:05	4.27	4.21	Dry	0.06	Upward
7/31/2017	11:45	4.59	4.57	Dry	0.02	Upward
7/31/2017	13:55	4.60	4.58	Dry	0.02	Upward

ft btoc feet below top of casing

1/ Water-level measurements for deeper screened piezometer have been corrected based on a difference in casing height of 2.16 feet between the shallow screened and deeper screened piezometers in order to conduct a comparison of vertical head changes.

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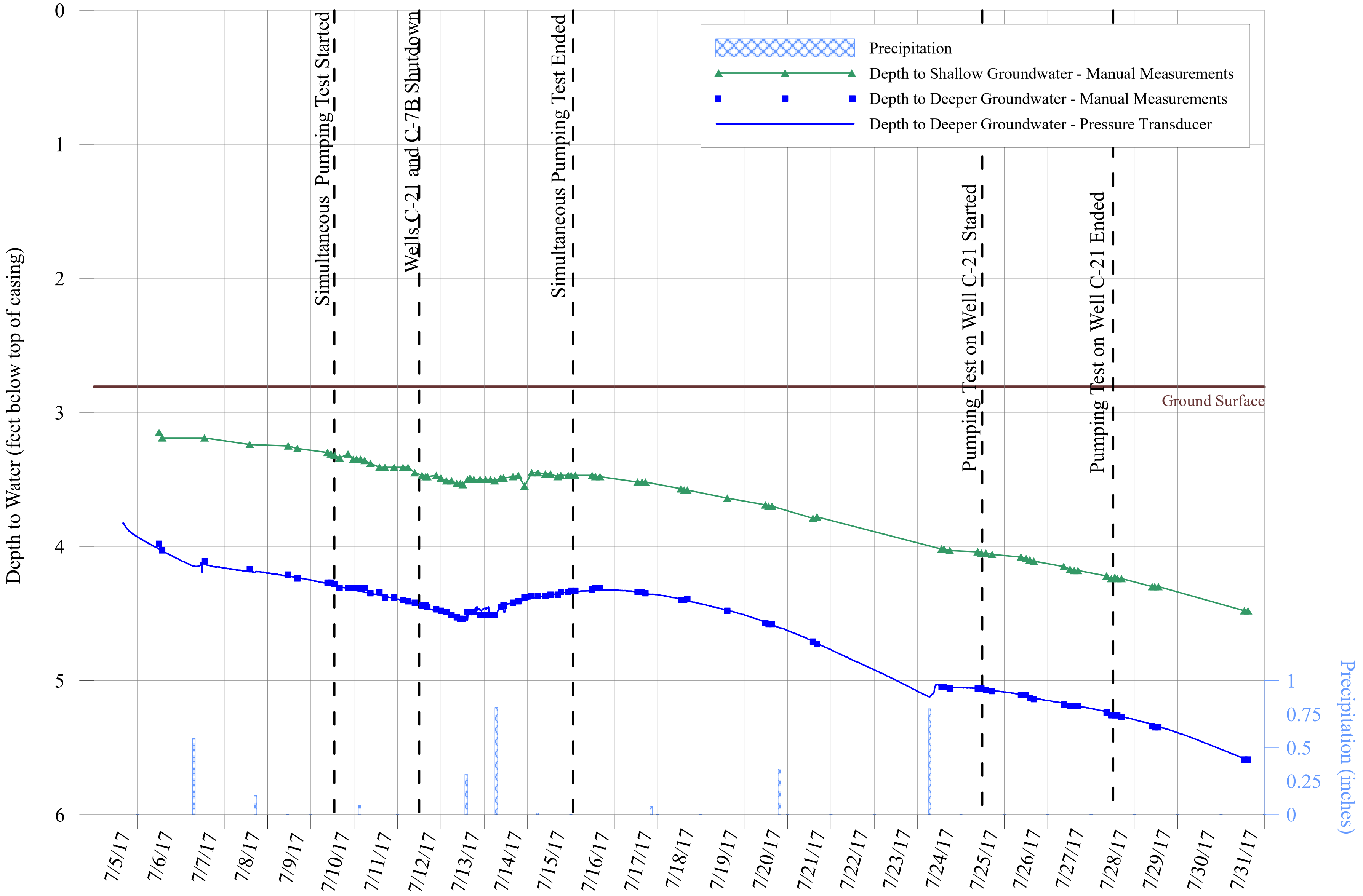
Hydrograph of Water-Level Measurements Collected from Piezometers at Location PZ-16 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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Manual Water-Level Measurements Collected from Piezometer Location PZ-16 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Shallow Screened Piezometer Depth to Water (ft btoc)	Deeper Screened Piezometer Depth to Water[1/] (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Shallow Groundwater-Deeper Groundwater)	Vertical Head Direction (Shallow Groundwater-Deeper Groundwater)
PZ-16						
7/6/2017	12:00	3.15	3.98	Dry	-0.83	Downward
7/6/2017	13:46	3.19	4.03	Dry	-0.84	Downward
7/7/2017	13:07	3.19	4.11	Dry	-0.92	Downward
7/8/2017	14:10	3.24	4.17	Dry	-0.93	Downward
7/9/2017	11:27	3.25	4.21	Dry	-0.96	Downward
7/9/2017	16:35	3.27	4.24	Dry	-0.97	Downward
7/10/2017	9:15	3.30	4.27	Dry	-0.97	Downward
7/10/2017	11:08	3.31	4.27	Dry	-0.96	Downward
7/10/2017	13:09	3.32	4.28	Dry	-0.96	Downward
7/10/2017	15:55	3.34	4.31	Dry	-0.97	Downward
7/10/2017	20:39	3.31	4.31	Dry	-1.00	Downward
7/10/2017	23:28	3.35	4.31	Dry	-0.96	Downward
7/11/2017	1:17	3.35	4.31	Dry	-0.96	Downward
7/11/2017	3:37	3.35	4.31	Dry	-0.96	Downward
7/11/2017	5:52	3.36	4.31	Dry	-0.95	Downward
7/11/2017	9:01	3.38	4.35	Dry	-0.97	Downward
7/11/2017	14:04	3.41	4.34	Dry	-0.93	Downward
7/11/2017	17:01	3.41	4.38	Dry	-0.97	Downward
7/11/2017	22:10	3.41	4.38	Dry	-0.97	Downward
7/12/2017	3:05	3.41	4.40	Dry	-0.99	Downward
7/12/2017	5:49	3.41	4.41	Dry	-1.00	Downward
7/12/2017	9:35	3.45	4.42	Dry	-0.97	Downward
7/12/2017	13:37	3.47	4.44	Dry	-0.97	Downward
7/12/2017	15:39	3.48	4.44	Dry	-0.96	Downward
7/12/2017	16:31	3.48	4.45	Dry	-0.97	Downward
7/12/2017	21:28	3.47	4.47	Dry	-1.00	Downward
7/13/2017	0:02	3.49	4.48	Dry	-0.99	Downward
7/13/2017	3:05	3.51	4.49	Dry	-0.98	Downward
7/13/2017	5:54	3.51	4.51	Dry	-1.00	Downward
7/13/2017	8:50	3.53	4.53	Dry	-1.00	Downward
7/13/2017	10:47	3.53	4.54	Dry	-1.01	Downward
7/13/2017	12:12	3.54	4.54	Dry	-1.00	Downward
7/13/2017	14:50	3.50	4.49	Dry	-0.99	Downward
7/13/2017	16:10	3.49	4.49	Dry	-1.00	Downward
7/13/2017	18:16	3.50	4.49	Dry	-0.99	Downward
7/13/2017	21:39	3.50	4.51	Dry	-1.01	Downward
7/14/2017	0:52	3.50	4.51	Dry	-1.01	Downward
7/14/2017	3:26	3.50	4.51	Dry	-1.01	Downward
7/14/2017	5:48	3.51	4.51	Dry	-1.00	Downward
7/14/2017	9:10	3.49	4.45	Dry	-0.96	Downward
7/14/2017	10:40	3.49	4.44	Dry	-0.95	Downward
7/14/2017	15:55	3.48	4.42	Dry	-0.94	Downward
7/14/2017	18:52	3.47	4.41	Dry	-0.94	Downward
7/14/2017	22:20	3.55	4.38	Dry	-0.83	Downward
7/15/2017	2:18	3.45	4.37	Dry	-0.92	Downward
7/15/2017	5:45	3.45	4.37	Dry	-0.92	Downward
7/15/2017	9:51	3.46	4.37	Dry	-0.91	Downward
7/15/2017	12:44	3.46	4.36	Dry	-0.90	Downward
7/15/2017	16:40	3.48	4.36	Dry	-0.88	Downward
7/15/2017	18:30	3.47	4.34	Dry	-0.87	Downward
7/15/2017	22:30	3.47	4.34	Dry	-0.87	Downward

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Manual Water-Level Measurements Collected from Piezometer Location PZ-16 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Shallow Screened Piezometer Depth to Water (ft btoc)	Deeper Screened Piezometer Depth to Water[1/] (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Shallow Groundwater-Deeper Groundwater)	Vertical Head Direction (Shallow Groundwater-Deeper Groundwater)
7/16/2017	0:10	3.47	4.33	Dry	-0.86	Downward
7/16/2017	2:30	3.47	4.33	Dry	-0.86	Downward
7/16/2017	11:43	3.47	4.32	Dry	-0.85	Downward
7/16/2017	13:35	3.48	4.31	Dry	-0.83	Downward
7/16/2017	16:08	3.48	4.31	Dry	-0.83	Downward
7/17/2017	12:56	3.52	4.34	Dry	-0.82	Downward
7/17/2017	15:26	3.52	4.34	Dry	-0.82	Downward
7/17/2017	17:19	3.52	4.35	Dry	-0.83	Downward
7/18/2017	12:59	3.57	4.40	Dry	-0.83	Downward
7/18/2017	14:44	3.58	4.40	Dry	-0.82	Downward
7/18/2017	16:33	3.58	4.39	Dry	-0.81	Downward
7/19/2017	14:40	3.64	4.48	Dry	-0.84	Downward
7/20/2017	11:43	3.69	4.57	Dry	-0.88	Downward
7/20/2017	13:30	3.70	4.58	Dry	-0.88	Downward
7/20/2017	15:22	3.70	4.58	Dry	-0.88	Downward
7/21/2017	14:00	3.79	4.71	Dry	-0.92	Downward
7/21/2017	16:18	3.78	4.73	Dry	-0.95	Downward
7/24/2017	13:12	4.02	5.05	Dry	-1.03	Downward
7/24/2017	14:37	4.02	5.05	Dry	-1.03	Downward
7/24/2017	17:45	4.03	5.06	Dry	-1.03	Downward
7/25/2017	9:20	4.04	5.06	Dry	-1.02	Downward
7/25/2017	11:23	4.05	5.06	Dry	-1.01	Downward
7/25/2017	13:52	4.05	5.07	Dry	-1.02	Downward
7/25/2017	17:15	4.06	5.08	Dry	-1.02	Downward
7/26/2017	9:13	4.08	5.11	Dry	-1.03	Downward
7/26/2017	12:08	4.09	5.11	Dry	-1.02	Downward
7/26/2017	14:08	4.10	5.13	Dry	-1.03	Downward
7/26/2017	16:22	4.11	5.14	Dry	-1.03	Downward
7/27/2017	8:50	4.15	5.18	Dry	-1.03	Downward
7/27/2017	12:25	4.17	5.19	Dry	-1.02	Downward
7/27/2017	14:43	4.18	5.19	Dry	-1.01	Downward
7/27/2017	16:50	4.18	5.19	Dry	-1.01	Downward
7/28/2017	8:42	4.22	5.24	Dry	-1.02	Downward
7/28/2017	11:17	4.24	5.26	Dry	-1.02	Downward
7/28/2017	13:13	4.23	5.26	Dry	-1.03	Downward
7/28/2017	14:35	4.24	5.26	Dry	-1.02	Downward
7/28/2017	16:51	4.24	5.27	Dry	-1.03	Downward
7/29/2017	9:50	4.30	5.34	Dry	-1.04	Downward
7/29/2017	11:20	4.30	5.35	Dry	-1.05	Downward
7/29/2017	13:20	4.30	5.35	Dry	-1.05	Downward
7/31/2017	12:55	4.48	5.59	Dry	-1.11	Downward
7/31/2017	14:58	4.48	5.59	Dry	-1.11	Downward

ft btoc feet below top of casing

[1/] Water-level measurements for deeper screened piezometer have been corrected based on a difference in casing height of 1.81 feet between the shallow screened and deeper screened piezometers in order to conduct a comparison of vertical head changes.

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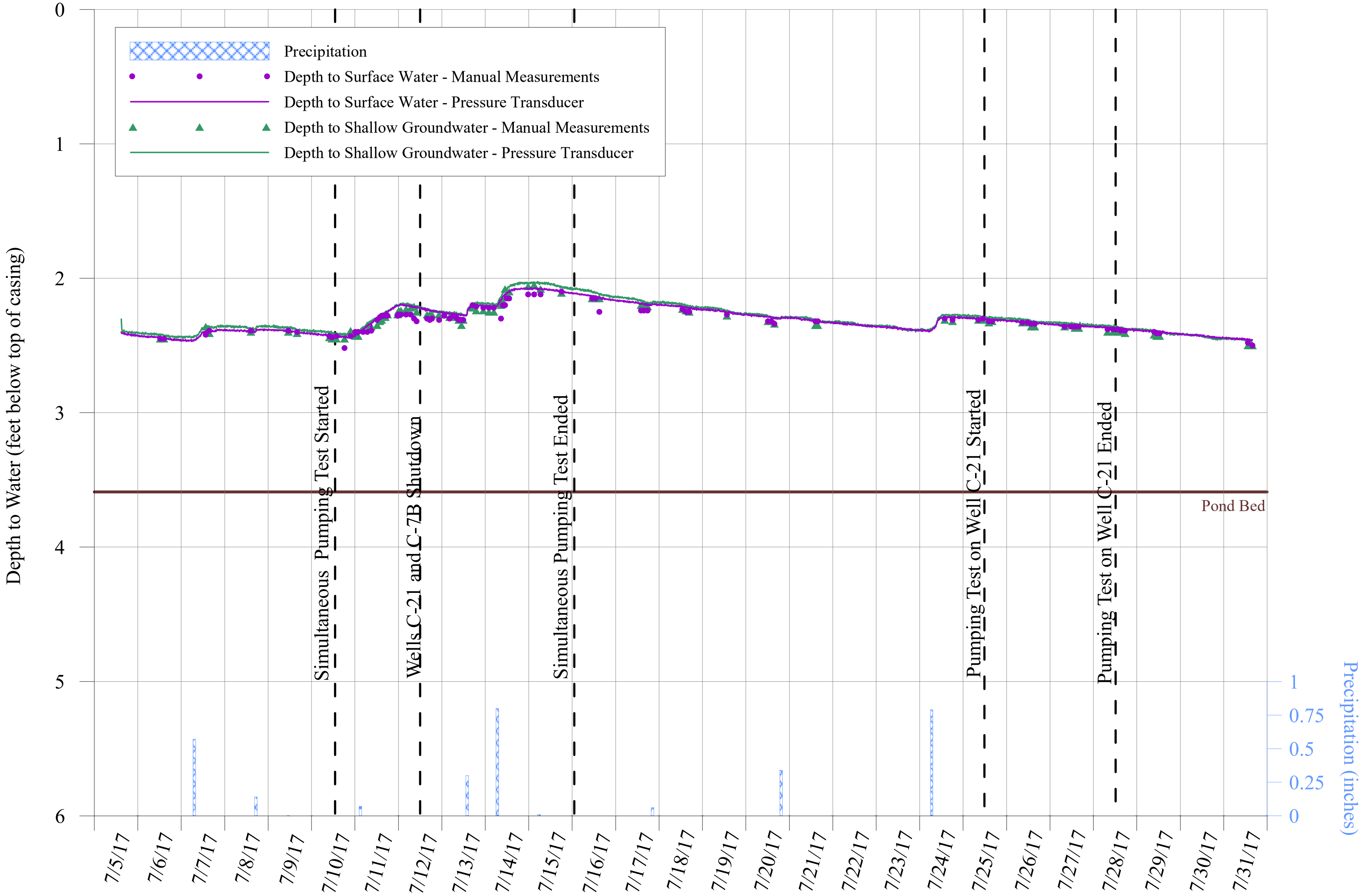
Hydrograph of Water-Level Measurements Collected from Piezometer near the Onsite Pond During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-Pond During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Interior Piezometer Depth to Groundwater (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Surface Water-Shallow Groundwater)	Vertical Head Direction (Surface Water-Shallow Groundwater)
PZ-Pond					
7/6/2017	12:27	2.45	2.45	0.00	Neutral
7/6/2017	14:30	2.45	2.45	0.00	Neutral
7/7/2017	13:36	2.36	2.42	0.06	Upward
7/7/2017	15:33	2.41	2.39	-0.02	Downward
7/8/2017	14:30	2.40	2.39	-0.01	Downward
7/9/2017	11:10	2.40	2.39	-0.01	Downward
7/9/2017	16:03	2.41	2.40	-0.01	Downward
7/10/2017	9:53	2.44	2.43	-0.01	Downward
7/10/2017	11:17	2.45	2.44	-0.01	Downward
7/10/2017	13:42	2.45	2.43	-0.02	Downward
7/10/2017	18:14	2.45	2.52	0.07	Upward
7/10/2017	21:34	2.39	2.43	0.04	Upward
7/11/2017	0:13	2.43	2.40	-0.03	Downward
7/11/2017	1:46	2.43	2.40	-0.03	Downward
7/11/2017	4:30	2.38	2.40	0.02	Upward
7/11/2017	6:49	2.35	2.40	0.05	Upward
7/11/2017	8:59	2.36	2.39	0.03	Upward
7/11/2017	12:15	2.35	2.31	-0.04	Downward
7/11/2017	13:45	2.32	2.29	-0.03	Downward
7/11/2017	14:47	2.31	2.28	-0.03	Downward
7/11/2017	15:43	2.29	2.28	-0.01	Downward
7/11/2017	16:46	2.29	2.28	-0.01	Downward
7/11/2017	18:01	2.27	2.28	0.01	Upward
7/11/2017	23:35	2.27	2.28	0.01	Upward
7/11/2017	23:55	2.25	2.27	0.02	Upward
7/12/2017	0:15	2.24	2.27	0.03	Upward
7/12/2017	1:29	2.24	2.27	0.03	Upward
7/12/2017	4:18	2.23	2.27	0.04	Upward
7/12/2017	6:49	2.22	2.27	0.05	Upward
7/12/2017	8:40	2.21	2.30	0.09	Upward
7/12/2017	10:03	2.25	2.32	0.07	Upward
7/12/2017	15:54	2.27	2.30	0.03	Upward
7/12/2017	17:19	2.27	2.31	0.04	Upward
7/12/2017	18:34	2.27	2.30	0.03	Upward
7/12/2017	22:30	2.27	2.31	0.04	Upward
7/13/2017	1:22	2.27	2.28	0.01	Upward
7/13/2017	4:14	2.29	2.30	0.01	Upward
7/13/2017	6:20	2.28	2.28	0.00	Neutral
7/13/2017	8:22	2.29	2.30	0.01	Upward
7/13/2017	9:22	2.31	2.31	0.00	Neutral
7/13/2017	10:06	2.31	2.31	0.00	Neutral
7/13/2017	10:50	2.35	2.31	-0.04	Downward
7/13/2017	11:54	2.31	2.31	0.00	Neutral
7/13/2017	16:58	2.22	2.20	-0.02	Downward
7/13/2017	19:00	2.24	2.21	-0.03	Downward
7/13/2017	22:56	2.24	2.22	-0.02	Downward
7/14/2017	2:04	2.25	2.22	-0.03	Downward
7/14/2017	4:44	2.25	2.22	-0.03	Downward
7/14/2017	8:42	2.20	2.30	0.10	Upward
7/14/2017	9:47	2.17	2.20	0.03	Upward
7/14/2017	10:57	2.08	2.20	0.12	Upward
7/14/2017	11:50	2.13	2.15	0.02	Upward
7/14/2017	13:16	2.10	2.15	0.05	Upward

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BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-Pond During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Interior Piezometer Depth to Groundwater (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Surface Water-Shallow Groundwater)	Vertical Head Direction (Surface Water-Shallow Groundwater)
7/14/2017	23:41	2.06	2.12	0.06	Upward
7/15/2017	3:00	2.05	2.12	0.07	Upward
7/15/2017	6:36	2.08	2.12	0.04	Upward
7/15/2017	18:07	2.11	2.10	-0.01	Downward
7/16/2017	11:03	2.15	2.15	0.00	Neutral
7/16/2017	13:05	2.15	2.15	0.00	Neutral
7/16/2017	15:05	2.15	2.25	0.10	Upward
7/17/2017	14:02	2.20	2.24	0.04	Upward
7/17/2017	15:41	2.21	2.24	0.03	Upward
7/17/2017	17:42	2.21	2.24	0.03	Upward
7/18/2017	12:56	2.23	2.23	0.00	Neutral
7/18/2017	14:53	2.24	2.25	0.01	Upward
7/18/2017	16:40	2.25	2.25	0.00	Neutral
7/19/2017	13:30	2.28	2.27	-0.01	Downward
7/20/2017	12:10	2.32	2.32	0.00	Neutral
7/20/2017	14:05	2.32	2.32	0.00	Neutral
7/20/2017	15:45	2.34	2.34	0.00	Neutral
7/21/2017	14:21	2.35	2.32	-0.03	Downward
7/21/2017	15:44	2.35	2.32	-0.03	Downward
7/24/2017	13:52	2.31	2.30	-0.01	Downward
7/24/2017	18:10	2.32	2.31	-0.01	Downward
7/25/2017	8:33	2.31	2.31	0.00	Neutral
7/25/2017	10:59	2.31	2.30	-0.01	Downward
7/25/2017	14:14	2.33	2.32	-0.01	Downward
7/25/2017	16:04	2.32	2.32	0.00	Neutral
7/26/2017	8:44	2.33	2.33	0.00	Neutral
7/26/2017	11:39	2.33	2.33	0.00	Neutral
7/26/2017	13:38	2.36	2.34	-0.02	Downward
7/26/2017	15:38	2.36	2.34	-0.02	Downward
7/27/2017	8:08	2.36	2.36	0.00	Neutral
7/27/2017	11:49	2.35	2.36	0.01	Upward
7/27/2017	13:50	2.37	2.36	-0.01	Downward
7/27/2017	15:57	2.37	2.36	-0.01	Downward
7/28/2017	7:51	2.40	2.38	-0.02	Downward
7/28/2017	10:50	2.40	2.38	-0.02	Downward
7/28/2017	13:38	2.40	2.38	-0.02	Downward
7/28/2017	15:08	2.40	2.39	-0.01	Downward
7/28/2017	17:31	2.41	2.39	-0.02	Downward
7/29/2017	9:35	2.42	2.40	-0.02	Downward
7/29/2017	10:55	2.43	2.41	-0.02	Downward
7/29/2017	12:40	2.43	2.41	-0.02	Downward
7/31/2017	13:21	2.50	2.48	-0.02	Downward
7/31/2017	15:56	2.50	2.50	0.00	Neutral

ft btoc feet below top of casing

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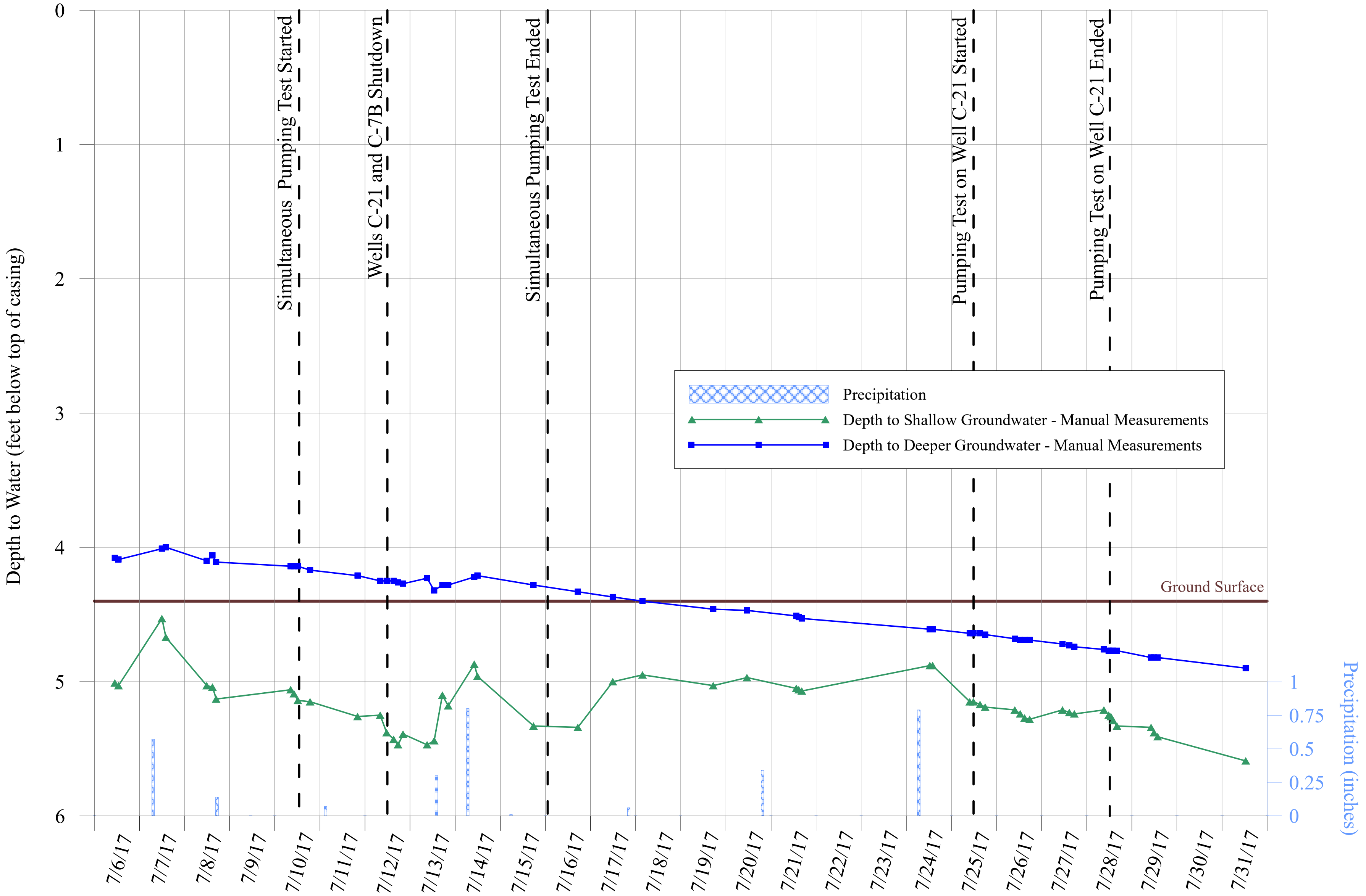
Hydrograph of Water-Level Measurements Collected from Piezometer at Location PZ-22 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



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Manual Water-Level Measurements Collected from Piezometer Location PZ-22 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Shallow Screened Piezometer Depth to Water (ft btoc)	Deeper Screened Piezometer Depth to Water[1/] (ft btoc)	Exterior Depth to Surface Water (ft btoc)	Vertical Head (Shallow Groundwater-Deeper Groundwater)	Vertical Head Direction (Shallow Groundwater-Deeper Groundwater)
PZ-22						
7/6/2017	10:57	5.01	4.08	Dry	0.93	Upward
7/6/2017	12:52	5.03	4.09	Dry	0.94	Upward
7/7/2017	11:57	4.53	4.01	Dry	0.52	Upward
7/7/2017	14:02	4.67	4.00	Dry	0.67	Upward
7/8/2017	11:50	5.03	4.10	Dry	0.93	Upward
7/8/2017	14:50	5.04	4.06	Dry	0.98	Upward
7/8/2017	16:48	5.13	4.11	Dry	1.02	Upward
7/10/2017	8:25	5.06	4.14	Dry	0.92	Upward
7/10/2017	10:12	5.09	4.14	Dry	0.95	Upward
7/10/2017	12:16	5.14	4.14	Dry	1.00	Upward
7/10/2017	18:51	5.15	4.17	Dry	0.98	Upward
7/11/2017	20:05	5.26	4.21	Dry	1.05	Upward
7/12/2017	8:05	5.25	4.25	Dry	1.00	Upward
7/12/2017	11:30	5.38	4.25	Dry	1.13	Upward
7/12/2017	15:16	5.43	4.25	Dry	1.18	Upward
7/12/2017	17:36	5.47	4.26	Dry	1.21	Upward
7/12/2017	20:14	5.39	4.27	Dry	1.12	Upward
7/13/2017	9:02	5.47	4.23	Dry	1.24	Upward
7/13/2017	12:48	5.44	4.32	Dry	1.12	Upward
7/13/2017	17:09	5.10	4.28	Dry	0.82	Upward
7/13/2017	20:16	5.18	4.28	Dry	0.90	Upward
7/14/2017	10:10	4.87	4.22	Dry	0.65	Upward
7/14/2017	11:49	4.96	4.21	Dry	0.75	Upward
7/15/2017	17:40	5.33	4.28	Dry	1.05	Upward
7/16/2017	17:15	5.34	4.33	Dry	1.01	Upward
7/17/2017	11:55	5.00	4.37	Dry	0.63	Upward
7/18/2017	3:39	4.95	4.40	Dry	0.55	Upward
7/19/2017	17:20	5.03	4.46	Dry	0.57	Upward
7/20/2017	11:16	4.97	4.47	Dry	0.50	Upward
7/21/2017	13:29	5.05	4.51	Dry	0.54	Upward
7/21/2017	14:47	5.06	4.52	Dry	0.54	Upward
7/21/2017	16:28	5.07	4.53	Dry	0.54	Upward
7/24/2017	12:31	4.88	4.61	Dry	0.27	Upward
7/24/2017	14:01	4.88	4.61	Dry	0.27	Upward
7/25/2017	9:48	5.15	4.64	Dry	0.51	Upward
7/25/2017	11:47	5.15	4.64	Dry	0.51	Upward
7/25/2017	15:15	5.17	4.64	Dry	0.53	Upward
7/25/2017	17:59	5.19	4.65	Dry	0.54	Upward
7/26/2017	9:48	5.21	4.68	Dry	0.53	Upward
7/26/2017	12:38	5.24	4.69	Dry	0.55	Upward
7/26/2017	15:00	5.27	4.69	Dry	0.58	Upward
7/26/2017	17:38	5.28	4.69	Dry	0.59	Upward
7/27/2017	11:07	5.21	4.72	Dry	0.49	Upward
7/27/2017	14:46	5.23	4.73	Dry	0.50	Upward
7/27/2017	17:24	5.24	4.74	Dry	0.50	Upward
7/28/2017	9:13	5.21	4.76	Dry	0.45	Upward
7/28/2017	11:43	5.25	4.77	Dry	0.48	Upward
7/28/2017	12:51	5.26	4.77	Dry	0.49	Upward
7/28/2017	14:05	5.29	4.77	Dry	0.52	Upward
7/28/2017	16:07	5.33	4.77	Dry	0.56	Upward
7/29/2017	10:15	5.34	4.82	Dry	0.52	Upward

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Manual Water-Level Measurements Collected from Piezometer Location PZ-22 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	**Time**	**Shallow Screened Piezometer Depth to Water (ft btoc)**	**Deeper Screened Piezometer Depth to Water[1/] (ft btoc)**	**Exterior Depth to Surface Water (ft btoc)**	**Vertical Head (Shallow Groundwater-Deeper Groundwater)**	**Vertical Head Direction (Shallow Groundwater-Deeper Groundwater)**
7/29/2017	11:45	5.38	4.82	Dry	0.56	Upward
7/29/2017	13:45	5.41	4.82	Dry	0.59	Upward
7/31/2017	12:35	5.59	4.90	Dry	0.69	Upward

ft btoc feet below top of casing

1/ Water-level measurements for deeper screened piezometer have been corrected based on a difference in casing height of 1.10 feet between the shallow screened and deeper screened piezometers in order to conduct a comparison of vertical head changes.

K:\Jobs\Lake Anne\Clovewood\2017\Report\PZ-22 table.doc

APPENDIX IX

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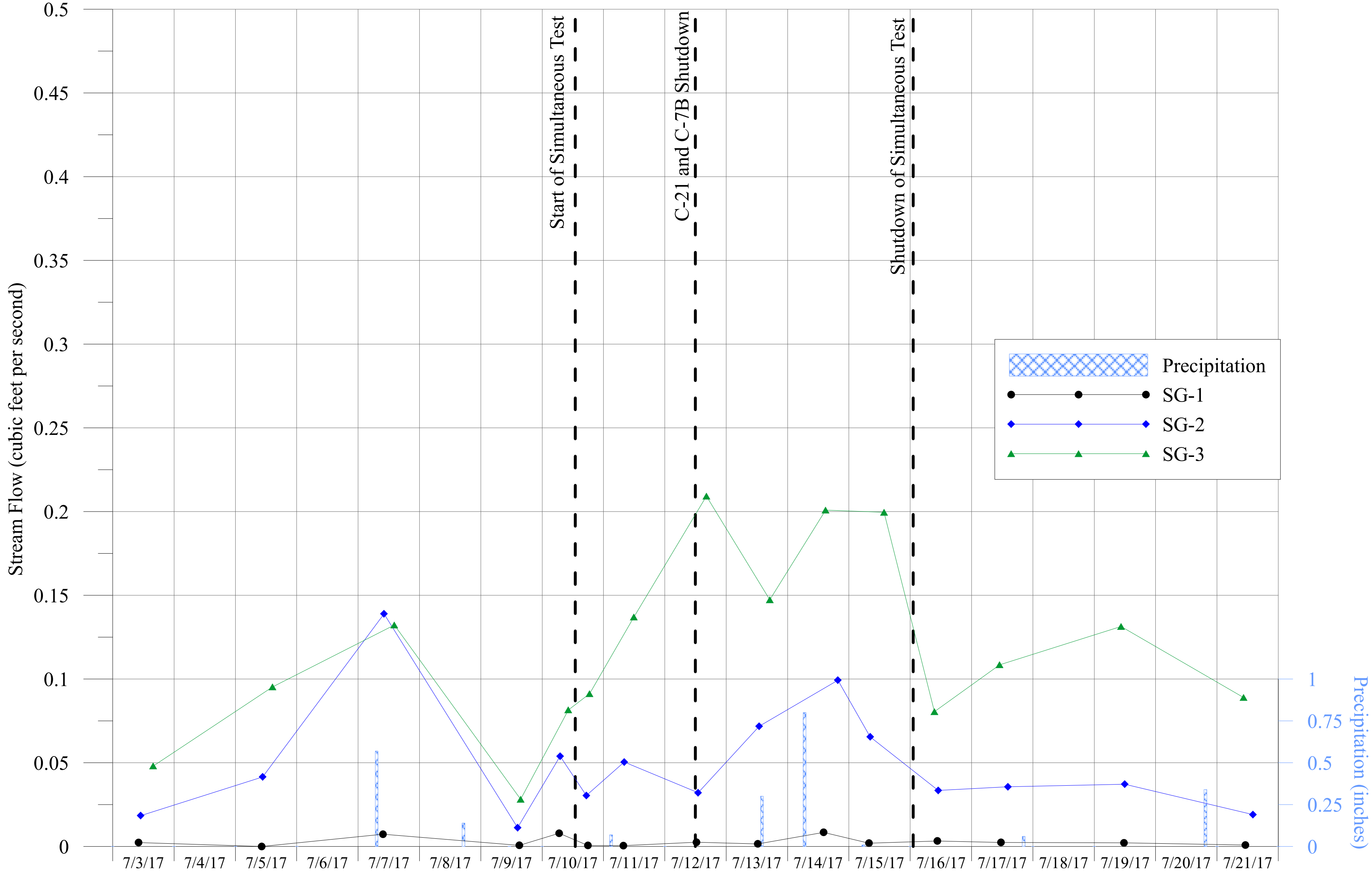
Graph of Stream Gaging Measurements Collected from Gaging Locations SG-1, 2 and 3 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\SG data\Stream Gaging_simultaneous123.grf

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VILLAGE OF SOUTH BLOOMING GROVE
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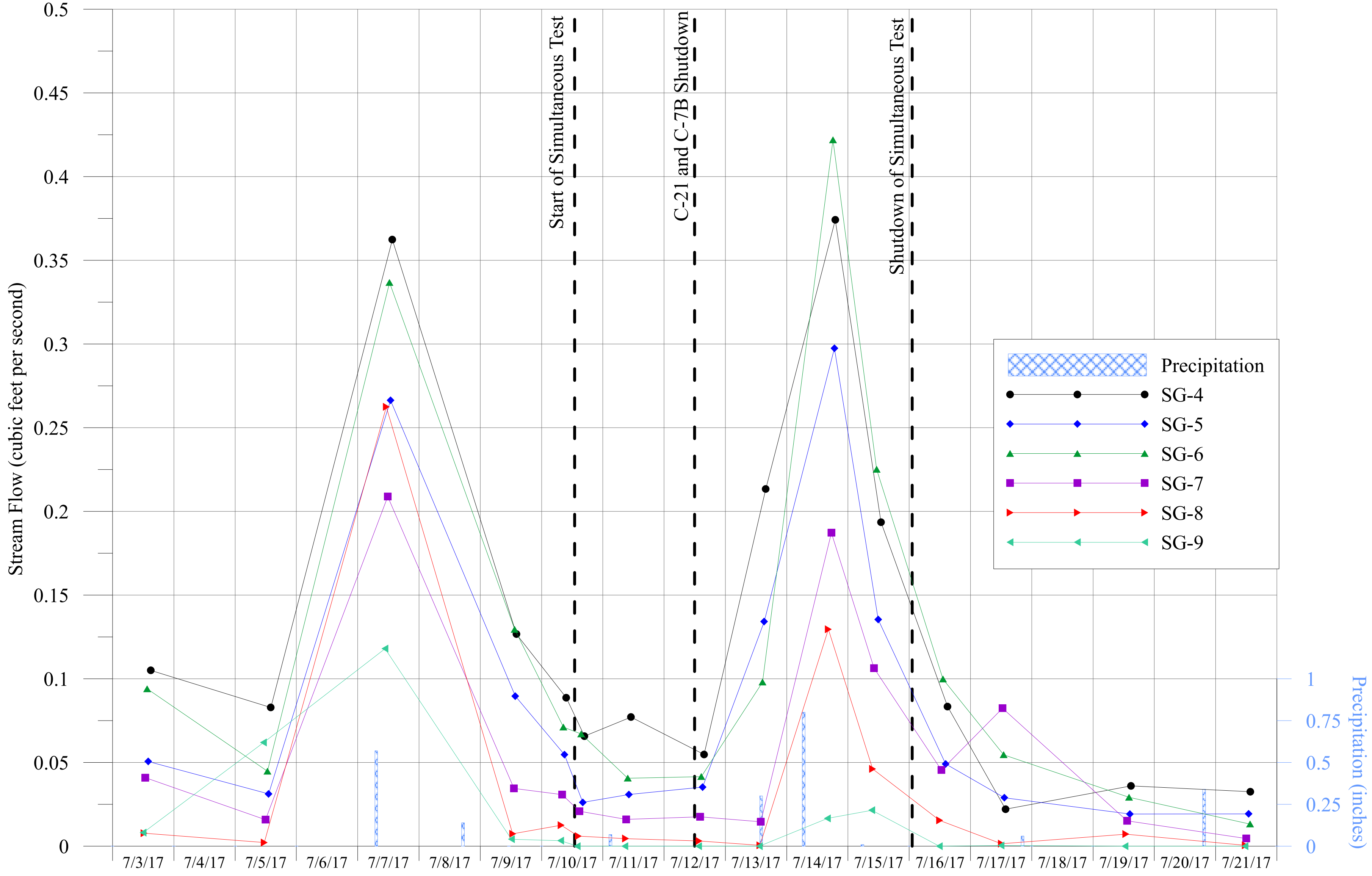
Graph of Stream Gaging Measurements Collected from Gaging Locations SG-4, 5, 6, 7, 8 and 9 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\SG data\Stream Gaging_simultaneous.grf

LBG Hydrogeologic & Engineering Services, P.C.

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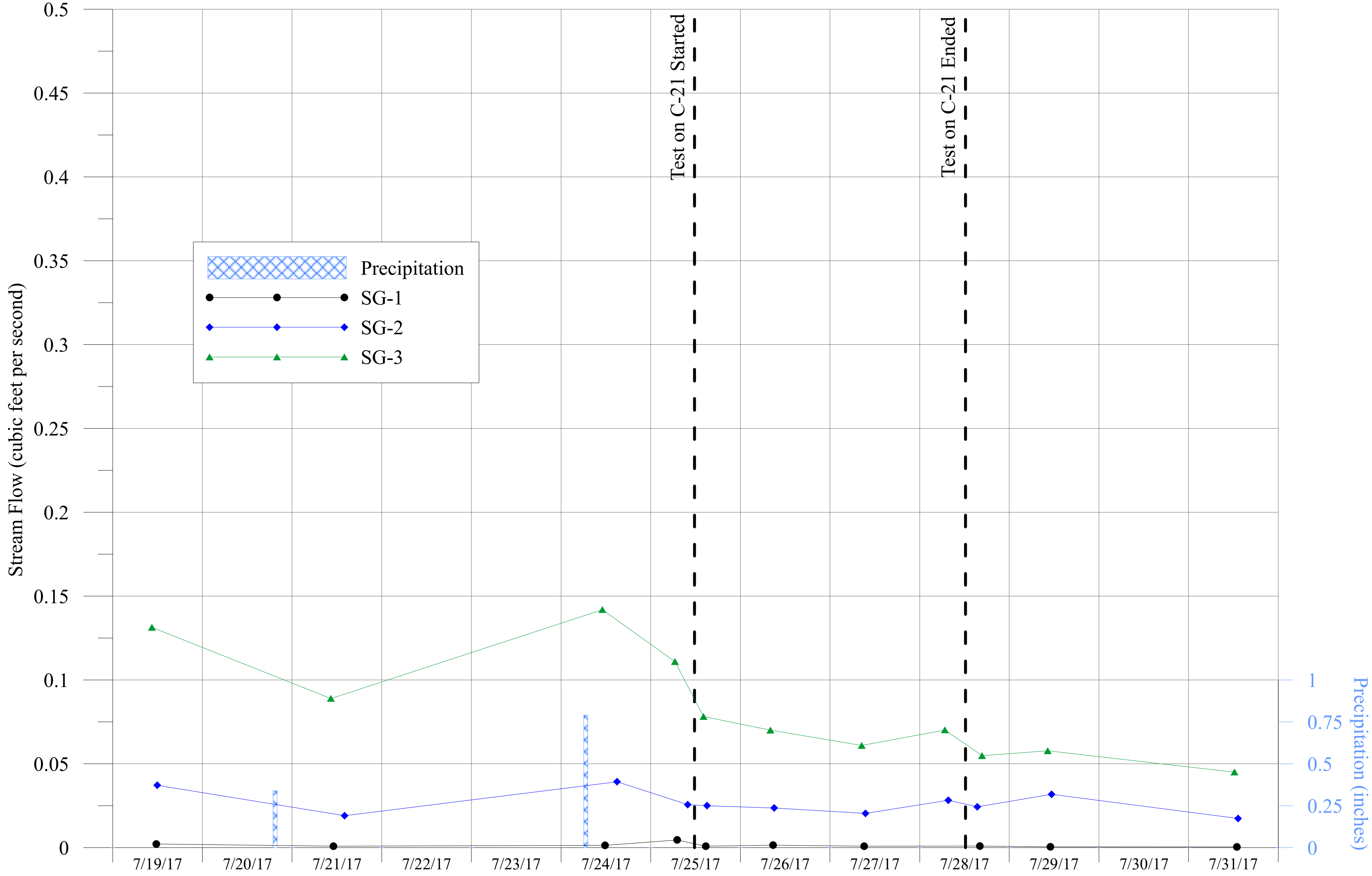
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Graph of Stream Gaging Measurements Collected from Gaging Locations SG-1, 2 and 3 During Pumping Test Program Conducted on Well C-21 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\SG data\Stream Gaging_individual123.grf

LBG Hydrogeologic & Engineering Services, P.C.

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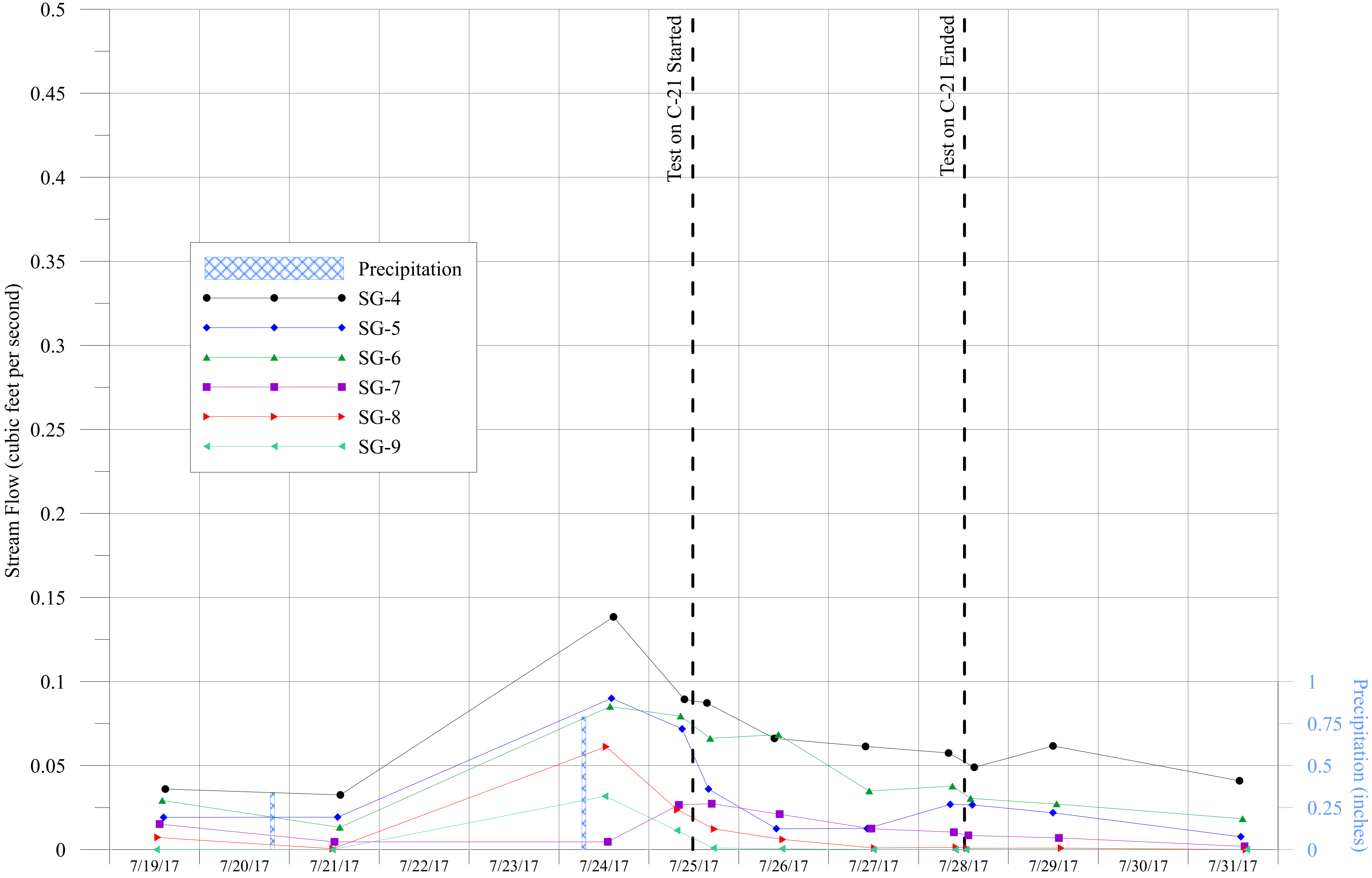
BLAGGS CLOVE, NEW YORK

Graph of Stream Gaging Measurements Collected from Gaging Locations SG-4, 5, 6, 7, 8 and 9 During Pumping Test Program Conducted on Well C-21 in July 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\SG data\Stream Gaging_individual.grf

LBG Hydrogeologic & Engineering Services, P.C.

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VILLAGE OF SOUTH BLOOMING GROVE
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Stream Flow Measurements Collected During Pumping Test Program
Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Flow (cfs)	Date	Time	Flow (cfs)	Date	Time	Flow (cfs)
SG-1			**SG-2**			**SG-3**		
7/3/2017	10:08	0.002	7/3/2017	10:55	0.018	7/3/2017	15:51	0.048
7/5/2017	10:20	0.000	7/5/2017	10:38	0.042	7/5/2017	14:32	0.095
7/7/2017	9:45	0.007	7/7/2017	10:07	0.139	7/7/2017	14:10	0.132
7/9/2017	15:05	0.001	7/9/2017	14:25	0.011	7/9/2017	15:35	0.028
7/10/2017	6:38	0.008	7/10/2017	7:02	0.054	7/10/2017	10:15	0.082
7/10/2017	17:55	0.001	7/10/2017	17:17	0.030	7/10/2017	18:34	0.091
7/11/2017	7:48	0.000	7/11/2017	8:08	0.050	7/11/2017	11:55	0.137
7/12/2017	12:24	0.003	7/12/2017	13:01	0.032	7/12/2017	16:15	0.209
7/13/2017	12:25	0.002	7/13/2017	12:53	0.072	7/13/2017	17:03	0.147
7/14/2017	14:05	0.008	7/14/2017	19:41	0.099	7/14/2017	14:55	0.201
7/15/2017	7:53	0.002	7/15/2017	8:22	0.066	7/15/2017	13:45	0.200
7/16/2017	10:38	0.003	7/16/2017	10:59	0.033	7/16/2017	9:30	0.081
7/17/2017	11:33	0.002	7/17/2017	14:12	0.036	7/17/2017	10:59	0.109
7/19/2017	11:39	0.002	7/19/2017	11:57	0.037	7/19/2017	10:30	0.131
7/21/2017	11:06	0.001	7/21/2017	14:05	0.019	7/21/2017	10:25	0.089
7/24/2017	11:48	0.001	7/24/2017	15:00	0.039	7/24/2017	11:04	0.142
7/25/2017	7:05	0.005	7/25/2017	9:55	0.026	7/25/2017	6:29	0.111
7/25/2017	14:46	0.001	7/25/2017	15:05	0.025	7/25/2017	14:08	0.078
7/26/2017	8:47	0.001	7/26/2017	9:04	0.024	7/26/2017	8:02	0.070
7/27/2017	9:09	0.001	7/27/2017	9:31	0.020	7/27/2017	8:31	0.061
7/28/2017	723	0.001	7/28/2017	7:40	0.028	7/28/2017	6:46	0.070
7/28/2017	16:08	0.001	7/28/2017	15:25	0.024	7/28/2017	16:42	0.055
7/29/2017	11:01	0.000	7/29/2017	11:20	0.032	7/29/2017	10:19	0.058
7/31/2017	12:56	0.000	7/31/2017	13:14	0.017	7/31/2017	12:15	0.045
SG-4			**SG-5**			**SG-6**		
7/3/2017	15:00	0.105	7/3/2017	13:57	0.051	7/3/2017	13:35	0.094
7/5/2017	13:58	0.083	7/5/2017	13:07	0.031	7/5/2017	12:38	0.045
7/7/2017	13:33	0.362	7/7/2017	12:51	0.266	7/7/2017	12:28	0.337
7/9/2017	14:10	0.127	7/9/2017	13:42	0.090	7/9/2017	13:30	0.129
7/10/2017	9:39	0.089	7/10/2017	9:00	0.055	7/10/2017	8:34	0.071
7/10/2017	16:47	0.066	7/10/2017	16:09	0.026	7/10/2017	15:31	0.067
7/11/2017	11:03	0.077	7/11/2017	10:14	0.031	7/11/2017	9:48	0.041
7/12/2017	15:40	0.055	7/12/2017	15:03	0.035	7/12/2017	14:35	0.042
7/13/2017	15:50	0.213	7/13/2017	15:10	0.134	7/13/2017	14:35	0.098
7/14/2017	19:05	0.374	7/14/2017	18:42	0.298	7/14/2017	18:10	0.422
7/15/2017	12:57	0.194	7/15/2017	11:54	0.135	7/15/2017	11:15	0.225
7/16/2017	15:00	0.083	7/16/2017	14:15	0.049	7/16/2017	13:15	0.100
7/17/2017	13:46	0.022	7/17/2017	13:17	0.029	7/17/2017	12:59	0.055
7/19/2017	14:54	0.036	7/19/2017	14:26	0.019	7/19/2017	14:04	0.029
7/21/2017	13:37	0.033	7/21/2017	12:56	0.019	7/21/2017	13:31	0.013
7/24/2017	14:32	0.138	7/24/2017	14:03	0.090	7/24/2017	13:42	0.085
7/25/2017	9:30	0.089	7/25/2017	8:52	0.072	7/25/2017	8:30	0.079
7/25/2017	15:31	0.087	7/25/2017	15:56	0.036	7/25/2017	16:25	0.066
7/26/2017	9:32	0.066	7/26/2017	10:01	0.012	7/26/2017	10:34	0.068
7/27/2017	9:53	0.061	7/27/2017	10:18	0.013	7/27/2017	10:50	0.035
7/28/2017	8:02	0.057	7/28/2017	8:29	0.027	7/28/2017	9:05	0.038
7/28/2017	14:52	0.049	7/28/2017	14:22	0.027	7/28/2017	13:55	0.030
7/29/2017	11:53	0.062	7/29/2017	11:53	0.022	7/29/2017	12:52	0.027
7/31/2017	13:43	0.041	7/31/2017	14:03	0.008	7/31/2017	14:33	0.018

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Stream Flow Measurements Collected During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Flow (cfs)	Date	Time	Flow (cfs)	Date	Time	Flow (cfs)
SG-7			SG-8			SG-9		
7/3/2017	12:50	0.041	7/3/2017	12:18	0.008	7/3/2017	11:58	0.008
7/5/2017	11:56	0.016	7/5/2017	11:23	0.002	7/5/2017	11:07	0.062
7/7/2017	11:48	0.209	7/7/2017	11:13	0.262	7/7/2017	10:41	0.118
7/9/2017	13:13	0.035	7/9/2017	12:40	0.007	7/9/2017	12:15	0.004
7/10/2017	8:05	0.031	7/10/2017	7:41	0.013	7/10/2017	7:29	0.003
7/10/2017	14:52	0.021	7/10/2017	14:19	0.006	7/10/2017	14:00	0.000
7/11/2017	9:10	0.016	7/11/2017	8:51	0.004	7/11/2017	8:39	0.000
7/12/2017	14:09	0.018	7/12/2017	13:39	0.003	7/12/2017	13:31	0.000
7/13/2017	13:53	0.015	7/13/2017	13:31	0.001	7/13/2017	13:20	0.000
7/14/2017	17:33	0.187	7/14/2017	16:20	0.130	7/14/2017	15:58	0.017
7/15/2017	10:15	0.106	7/15/2017	9:40	0.046	7/15/2017	9:22	0.021
7/16/2017	12:38	0.045	7/16/2017	11:55	0.015	7/16/2017	11:48	0.000
7/17/2017	12:32	0.082	7/17/2017	12:07	0.001	7/17/2017	11:58	0.000
7/19/2017	13:22	0.015	7/19/2017	12:50	0.007	7/19/2017	12:33	0.000
7/21/2017	12:03	0.005	7/21/2017	11:38	0.000	7/21/2017	11:30	0.000
7/24/2017	13:02	0.005	7/24/2017	12:37	0.061	7/24/2017	12:17	0.032
7/25/2017	8:02	0.027	7/25/2017	7:39	0.024	7/25/2017	7:31	0.011
7/25/2017	16:48	0.027	7/25/2017	17:27	0.012	7/25/2017	17:16	0.001
7/26/2017	10:57	0.021	7/26/2017	11:44	0.006	7/26/2017	11:34	0.001
7/27/2017	11:22	0.012	7/27/2017	12:12	0.001	7/27/2017	11:59	0.000
7/28/2017	9:25	0.010	7/28/2017	10:01	0.001	7/28/2017	9:52	0.000
7/28/2017	13:20	0.008	7/28/2017	12:55	0.001	7/28/2017	12:45	0.000
7/29/2017	13:27	0.007	7/29/2017	14:05	0.001	7/31/2017	15:40	0.000
7/31/2017	15:04	0.002	7/31/2017	15:27	0.000	--	--	--

cfs cubic feet per second

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APPENDIX X

C-6

EnviroTest
Laboratories Inc.

ANALYTICAL REPORT

Job Number: 420-123595-1

SDG Number: Clovewood

Job Description: LBG, Inc.

For:
Leggette, Brashears & Graham, Inc.
4 Research Drive
Shelton, CT 06464

Attention: Stacy Stieber

Debra Bayer

Debra Bayer
Customer Service Manager
dbayer@envirotestlaboratories.com
08/24/2017

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554

Envirotest Laboratories, Inc.
315 Fullerton Avenue, Newburgh, NY 12550
Tel (845) 562-0890 Fax (845) 562-0841 www.envirotestlaboratories.com

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method
Matrix: Water			
ICP Metals by 200.7	EnvTest	EPA 200.7 Rev 4.4	
Sample Filtration	EnvTest		FILTRATION
Total Metals Digestion for 200.7	EnvTest		EPA 200.7
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
ICPMS Metals by 200.8	EnvTest	EPA 200.8 Rev.5.4	
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
Total Metals Digestion for 200.8	EnvTest		EPA 200.8
Mercury in Water by CVAA	EnvTest	EPA 245.1 Rev.3.0	
Digestion for CVAA Mercury in Waters	EnvTest		EPA 245.1
Anions by Ion Chromatography	EnvTest	MCAWW 300.0	
Anions by Ion Chromatography	EnvTest	EPA 300.0 Rev. 2.1	
EPA 504.1 EDB	Pace	EPA 504.1	
EPA 505 Pesticide/PCB	Pace	EPA 505	
EPA 515 Chlorinated Acids	Pace	EPA 515	
Purgeable Organic Compounds in Water by GC/MS	EnvTest	EPA-DW 524.2	
EPA 525.2 Semivolatile Organics	Pace	EPA 525.2	
EPA 531.1 Carbamate Pesticides in Drinki	Pace	EPA 531.1	
EPA 900 Series GA/GB/RA226/RA228/Gamma	Radios	EPA 900	
Uranium	Radios	STL-STL EPA	
Heterotropic Plate Count	EnvTest	IDEXX SIMPLATE	
Odor, Threshold Test	EnvTest	SM20 SM 2150B	
Alkalinity, Titration Method	EnvTest	SM21 SM 2320B-97,-11	
Corrosivity LSI Calculation	EnvTest	SM20 SM 2330B	
Hardness by Calculation	EnvTest	SM20 SM 2340B-97,-11	
pH	EnvTest	SM19 SM 4500 H+ B	
Nitrite by Colormetric	EnvTest	SM20 SM 4500 NO2 B	
Total Coliform and Escherichia coli by Colilert - Presence/Absence	EnvTest	SMWW SM 9223	
Apparent Color	EnvTest	SM21 SM2120B-01,11	
Turbidity	EnvTest	SM21 SM2130B-01,11	
Total Dissolved Solids (Dried at 180 °C)	EnvTest	SM21 SM2540C-97,11	
Cyanide, Total: Colorimetric Method	EnvTest	SM21 SM4500 CN E-99	
Cyanide: Distillation	EnvTest		SM21 SM 4500 CN C
General Sub Contract Method	Pace	Subcontract	
General Sub Contract Method	Radios	Subcontract	

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method

Lab References:

EnvTest = EnviroTest

Pace = Pace Analytical - Ormond Beach

Radios = Pace Analytical Services, Inc.

Method References:

EPA = US Environmental Protection Agency

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

IDEXX =

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

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

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

SM21 = "Standard Methods For The Examination Of Water And Wastewater", 21st Edition

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

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

METHOD / ANALYST SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
SDG Number: Clovewood

Method	Analyst	Analyst ID
EPA-DW 524.2	Andersen, Eric C	ECA
EPA 200.7 Rev 4.4	Sirico, Derek	DS
EPA 200.8 Rev.5.4	Sirico, Derek	DS
EPA 245.1 Rev.3.0	Sirico, Derek	DS
SM20 SM 2340B-97,-11	Sirico, Derek	DS
MCAWW 300.0	Luis, Carlos	CL
EPA 300.0 Rev. 2.1	Luis, Carlos	CL
IDEXX SIMPLATE	O'Driscoll, Kate	KO
SM20 SM 2150B	O'Driscoll, Kate	KO
SM21 SM 2320B-97,-11	Tramantano, Matt	MT
SM20 SM 2330B	Cusack, Renee	RC
SM19 SM 4500 H+ B	O'Driscoll, Kate	KO
SM20 SM 4500 NO2 B	Grant, Ameya	AG
SMWW SM 9223	Grant, Ameya	AG
SM21 SM2120B-01,11	O'Driscoll, Kate	KO
SM21 SM2130B-01,11	O'Driscoll, Kate	KO
SM21 SM2540C-97,11	O'Driscoll, Kate	KO
SM21 SM4500 CN E-99	Osborne, Amy	AO

SAMPLE SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
SDG Number: Clovewood

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
420-123595-1	C - 6	Drinking Water	07/13/2017 0950	07/13/2017 1000

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
Sdg Number: Clovewood

Client Sample ID: **C - 6**

Lab Sample ID:	420-123595-1		Date Sampled:	07/13/2017 0950
Client Matrix:	Drinking Water		Date Received:	07/13/2017 1000

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112453	Instrument ID:	Agilent 7890A/5975C
Preparation:	N/A		Lab File ID:	X071418.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/14/2017 1812		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
1,1,1,2-Tetrachloroethane	<0.500		0.500
1,1,1-Trichloroethane	<0.500		0.500
1,1,2,2-Tetrachloroethane	<0.500		0.500
1,1,2-Trichloroethane	<0.500		0.500
1,1-Dichloroethane	<0.500		0.500
1,1-Dichloroethene	<0.500		0.500
1,1-Dichloropropene	<0.500		0.500
1,2,3-Trichlorobenzene	<0.500		0.500
1,2,3-Trichloropropane	<0.500		0.500
1,2,4-Trichlorobenzene	<0.500		0.500
1,2,4-Trimethylbenzene	<0.500		0.500
1,2-Dichloroethane	<0.500		0.500
1,2-Dichlorobenzene	<0.500		0.500
1,2-Dichloropropane	<0.500		0.500
1,3-Dichloropropane	<0.500		0.500
1,4-Dichlorobenzene	<0.500		0.500
2,2-Dichloropropane	<0.500		0.500
Benzene	<0.500		0.500
Bromobenzene	<0.500		0.500
Bromochloromethane	<0.500		0.500
Bromomethane	<0.500		0.500
n-Butylbenzene	<0.500		0.500
cis-1,2-Dichloroethene	<0.500		0.500
cis-1,3-Dichloropropene	<0.500		0.500
Carbon tetrachloride	<0.500		0.500
Chlorobenzene	<0.500		0.500
Chloroethane	<0.500		0.500
Chloromethane	<0.500		0.500
Dibromomethane	<0.500		0.500
Ethylbenzene	<0.500		0.500
Dichlorodifluoromethane	<0.500		0.500
Hexachlorobutadiene	<0.500		0.500
Isopropylbenzene	<0.500		0.500
p-Isopropyltoluene	<0.500		0.500
Methylene Chloride	<0.500		0.500
m-Xylene & p-Xylene	<1.00		1.00
Methyl tert-butyl ether	<0.500		0.500
o-Xylene	<0.500		0.500
Tetrachloroethene	<0.500		0.500
Toluene	<0.500		0.500
trans-1,2-Dichloroethene	<0.500		0.500
trans-1,3-Dichloropropene	<0.500		0.500
Trichloroethene	<0.500		0.500
tert-Butylbenzene	<0.500		0.500

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
Sdg Number: Clovewood

Client Sample ID: **C - 6**

Lab Sample ID:	420-123595-1	Date Sampled:	07/13/2017 0950
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112453	Instrument ID:	Agilent 7890A/5975C
Preparation:	N/A		Lab File ID:	X071418.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/14/2017 1812		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
Trichlorofluoromethane	<0.500		0.500
Vinyl chloride	<0.500		0.500
Xylenes, Total	<1.50		1.50
Styrene	<0.500		0.500
sec-Butylbenzene	<0.500		0.500
1,3,5-Trimethylbenzene	<0.500		0.500
N-Propylbenzene	<0.500		0.500
1,3-Dichlorobenzene	<0.500		0.500
2-Chlorotoluene	<0.500		0.500
4-Chlorotoluene	<0.500		0.500

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	91	71 - 120
Toluene-d8 (Surr)	115	79 - 121
1,2-Dichloroethane-d4 (Surr)	116	70 - 128

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
Sdg Number: Clovewood

Client Sample ID: **C - 6**

Lab Sample ID: 420-123595-1
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 0950
Date Received: 07/13/2017 1000

200.7 Rev 4.4 ICP Metals by 200.7

Method:	200.7 Rev 4.4	Analysis Batch: 420-112479		Instrument ID:	Thermo ICP
Preparation:	200.7/200.8	Prep Batch: 420-112493		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	07/17/2017 1421			Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 0925				

Analyte	Result (ug/L)	Qualifier	RL
Iron	1210	g	60.0
Manganese	201		10.0
Sodium	19900		200
Zinc	<20.0		20.0

200.7 Rev 4.4 ICP Metals by 200.7-Dissolved

Method:	200.7 Rev 4.4	Analysis Batch: 420-112597		Instrument ID:	Thermo ICP
Preparation:	200.7	Prep Batch: 420-112501		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	07/19/2017 1821			Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 1505				

Analyte	Result (ug/L)	Qualifier	RL
Iron	<60.0		60.0
Manganese	209		10.0

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
Sdg Number: Clovewood

Client Sample ID: C - 6

Lab Sample ID:	420-123595-1	Date Sampled:	07/13/2017 0950
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

200.8 Rev.5.4 ICPMS Metals by 200.8

Method:	200.8 Rev.5.4	Analysis Batch: 420-112457	Instrument ID:	Perkin Elmer ELAN
Preparation:	200.7/200.8	Prep Batch: 420-112493	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/17/2017 1322		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 0925			

Analyte	Result (ug/L)	Qualifier	RL
Lead	<1.00		1.00
Arsenic	<1.40		1.40
Beryllium	<0.300		0.300
Cadmium	<1.00		1.00
Chromium	<7.00		7.00
Nickel	1.04		0.500
Antimony	<0.400		0.400
Thallium	<0.300		0.300
Barium	14.6		2.00
Selenium	<2.00		2.00

Method:	200.8 Rev.5.4	Analysis Batch: 420-112536	Instrument ID:	Perkin Elmer ELAN
Preparation:	200.8	Prep Batch: 420-112520	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/18/2017 1706		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 1800			

Analyte	Result (ug/L)	Qualifier	RL
Silver	<1.00		1.00

245.1 Rev.3.0 Mercury in Water by CVAA

Method:	245.1 Rev.3.0	Analysis Batch: 420-112511	Instrument ID:	Perkin Elmer FIMS
Preparation:	245.1	Prep Batch: 420-112451	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	25 mL
Date Analyzed:	07/18/2017 1209		Final Weight/Volume:	25 mL
Date Prepared:	07/17/2017 1115			

Analyte	Result (ug/L)	Qualifier	RL
Mercury	<0.200		0.200

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
Sdg Number: Clovewood

Client Sample ID: **C - 6**

Lab Sample ID:	420-123595-1	Date Sampled:	07/13/2017 0950
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

SM 2340B-97,-11 Hardness by Calculation

Method:	SM 2340B-97,-11	Analysis Batch: 420-112535	Instrument ID:	None
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	
Date Analyzed:	07/17/2017 1421		Final Weight/Volume:	
Date Prepared:	N/A			

Analyte	Result (mg/L)	Qualifier	RL
Calcium hardness as calcium carbonate	66.1		1.25

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
Sdg Number: Clovewood

Biology

Client Sample ID: **C - 6**

Lab Sample ID: 420-123595-1
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 0950
Date Received: 07/13/2017 1000

Analyte	Result	Qual	Units	Dil	Method
Coliform, Total	Absent		CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112380	Date Analyzed	07/13/2017 1510		
Escherichia coli	Absent		CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112380	Date Analyzed	07/13/2017 1510		

Analyte	Result	Qual	Units	RL	Dil	Method
Heterotrophic Plate Count	132		CFU/mL	2.00	1.0	SIMPLATE
	Anly Batch: 420-112413	Date Analyzed	07/13/2017 1550			

General Chemistry

General Chemistry

Client Sample ID: **C - 6**

Lab Sample ID: 420-123595-1
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 0950
Date Received: 07/13/2017 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Nitrate as N	<0.250		mg/L	0.250	1.0	300.0
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1618			

Analyte	Result	Qual	Units	Dil	Method
Langelier Index	-0.810		NONE	1.0	SM 2330B
	Anly Batch: 420-112765	Date Analyzed	07/26/2017 1302		

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
Sdg Number: Clovewood

General Chemistry

Client Sample ID: **C - 6**

Lab Sample ID: 420-123595-1
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 0950
Date Received: 07/13/2017 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Alkalinity	139		mg/L	5.00	1.0	SM 2320B-97,-11
	Anly Batch: 420-112669	Date Analyzed	07/21/2017 1730			
Total Dissolved Solids	172		mg/L	5.00	1.0	SM2540C-97,11
	Anly Batch: 420-112602	Date Analyzed	07/20/2016 1700			
Chloride	2.17		mg/L	1.50	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1618			
Sulfate	11.2		mg/L	5.00	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1618			
Fluoride	<0.500		mg/L	0.500	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1618			
Cyanide, Total	<0.00500		mg/L	0.00500	1.0	SM4500 CN E-99
	Anly Batch: 420-112524	Date Analyzed	07/18/2017 1400			
	Prep Batch:	Date Prepared:	07/14/2017 1300			
Apparent Color	20.0	g	Pt-Co	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112486	Date Analyzed	07/13/2017 1746			
pH@color measurement	6.99		SU	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112486	Date Analyzed	07/13/2017 1746			
Turbidity	8.90	g	NTU	0.100	1.0	SM2130B-01,11
	Anly Batch: 420-112420	Date Analyzed	07/13/2017 1809			
Odor	1.00		T.O.N.	1.00	1.0	SM 2150B
	Anly Batch: 420-112485	Date Analyzed	07/13/2017 1800			
Temp @ Odor Measurement	60.0		Degrees C	5.00	1.0	SM 2150B
	Anly Batch: 420-112485	Date Analyzed	07/13/2017 1800			
pH	6.99	H	SU	0.200	1.0	SM 4500 H+ B
	Anly Batch: 420-112487	Date Analyzed	07/13/2017 1741			
Temp @ pH Measurement	16.5		Degrees C	5.00	1.0	SM 4500 H+ B
	Anly Batch: 420-112487	Date Analyzed	07/13/2017 1741			
Nitrite as N	<0.0100		mg/L	0.0100	1.0	SM 4500 NO2 B
	Anly Batch: 420-112510	Date Analyzed	07/14/2017 1047			

DATA REPORTING QUALIFIERS

Client: Leggette, Brashears & Graham, Inc.

Job Number:
Sdg Number: Clovewood

Lab Section	Qualifier	Description
Metals		
	g	Result fails applicable NYS drinking water standards
General Chemistry		
	g	Result fails applicable NYS drinking water standards
	H	Sample was prepped or analyzed beyond the specified holding time

Certification Information

Client: Leggette, Brashears & Graham, Inc. Job Number:

Sdg Number: Clovewood

The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Silicon, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide, Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Phenolphthalein Alkalinity, Solids (Fixed), Solids (Percent), Solids (Percent Moisture) , Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, Volatile Acids as Acetic Acid, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, Iron Bacteria, Salmonella, & Sulfur Reducing Bacteria.

The following analytes are Not Part of ELAP Potable Water scope of accreditation:

Cobalt (200.7, 200.8), Tin (200.7), Strontium (200.7), Gold (200.7), Platinum (200.7), Palladium (200.7), Titanium (200.7), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), Naphthalene (502.2), o-Xylene (502.2, 524), & Fecal Coliform (9222D).

The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

The following analytes are Not Part of ELAP Non Potable Water scope of accreditation:

Dissolved Organic Carbon (5310C), Mecoprop (8151A), & MCPA (8151A).

Definitions and Glossary

Client: Leggette, Brashears & Graham, Inc.

Job Number:

Sdg Number: Clovewood

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points.

EnviroTest Laboratories, Inc.

CHAIN OF CUSTODY

123595-1

REPORT# (Lab Use Only)

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

PROJECT REFERENCE Clovewood	PROJECT NO.	PROJECT LOCATION	PAGE 1 of 1
ENVIROTEST PROJECT MANAGER Debra Bayer	P.O. NUMBER	TOWN	**TURNAROUND TIME**
CLIENT (SITE) PM LBG, Inc.	CLIENT PHONE 203-929-8555	CLIENT FAX	NORMAL X
CLIENT NAME Stacy Stieber			QUICK ____
CLIENT ADDRESS 4 Research Drive, Suite 204, Shelton, CT 06484			VERBAL ____
COMPANY CONTRACTING THIS WORK (if applicable): 1			#OF COOLERS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) *INDICATE*	AQUEOUS (WATER)	D (Drinking Water) or W (Waste Water) *Indicate*	SOLID OR SEMISOLID	OTHER *Specify*	MPA C/G kit	40ml Vials HCl	40ml Sodium Thio.	250ml Amber Sodium Thio.	Liter Amber HCl/Na2SO3	250ml Plastic Nitric Acid	40ml Mon/Sod.Thio(liquid)	Liter Plastic	250ml Plastic Sodium Hyd.	125ml Plastic Sterile	Liter Plastic Nitric	40ml Vials Unpres	**REMARKS**
								NUMBER OF CONTAINERS SUBMITTED												
7/13/17	950	C-6			D				3	2	1	2	1	2	4	1	2	5	2	**Table 8B (Sb,As,Ba,Be,Cd,Cr,Cn,Hg,Ni**
																				Se,Tl,F)
																				Table 8C (NO3,NO2)
								2-Liter Amber Unpres.												**Table 8D (Cl,Fe,Mn,Ag,Na,SO4,Zn,Odor,Color)**
								1-250ml Amber Unpres.												**524.2 (POC,MTBE,Vinyl Chloride)**
								3-250ml Plastic Unpres. (no air)												**SOCs (504,508,515,525,531,547,548,549,Dioxin)**
								2-40ml Amber Sodium Thio.												**Additional Tests (Total coliform**
								1-500ml Amber Sodium Thio.												**thru Zinc)**
								1-Liter Amber Plastic Sodium Thio.&H2SO4												**Radio(Gross Alpha/Beta,Radium-226/228,Uranium)**
								2-Liter Amber Sodium Thio.												**Radon**
																				Dissolved Fe, Mn

RELINQUISHED BY: (SIGNATURE)	COMPANY LBG	DATE 7/13/17	TIME 1143	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
SAMPLED BY: (SIGNATURE)	COMPANY LBG	DATE 7/13/17	TIME 950	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	COMPANY	DATE	TIME	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME

SUBCONTACT: PACE-SOCs, Radio, Radon; ASI-MPA/Crypto/Giardia

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE 7/13/17	TIME 1613	CUSTODY INTACT YES NO	Cooler Temp:. 3.5°C IR#5	LABORATORY REMARKS: ICE ✓ pH____ CL2____ Reviewed by________

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-1
SDG Number: Clovewood

Login Number: **123595**

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	3.5C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	False	pH
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

August 03, 2017

Ms. Debra Bayer
EnviroTest Laboratories, Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: 42001269
Pace Project No.: 30224102

Dear Ms. Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

cc: Janine Rader, EnviroTest Laboratories, Inc.

CERTIFICATIONS

Project: 42001269
Pace Project No.: 30224102

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

SAMPLE SUMMARY

Project: 42001269
Pace Project No.: 30224102

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30224102001	**C-6 (420-123595-1)**	Drinking Water	07/13/17 09:50	07/14/17 10:20

SAMPLE ANALYTE COUNT

Project: 42001269
Pace Project No.: 30224102

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30224102001	**C-6 (420-123595-1)**	SM7500RnB-07	NEG	1
		EPA 900.0	NEG	2
		EPA 903.1	WRR	1
		EPA 904.0	VAL	1
		ASTM D5174-97	RMK	1

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224102

Sample: C-6 (420-123595-1) **Lab ID: 30224102001** Collected: 07/13/17 09:50 Received: 07/14/17 10:20 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radon	SM7500RnB-07	**51.1 ± 28.9 (46.2)** **C:NA T:NA**	pCi/L	07/15/17 07:41	10043-92-2	
Gross Alpha	EPA 900.0	**0.079 ± 1.02 (2.67)** **C:NA T:NA**	pCi/L	07/24/17 08:37	12587-46-1	
Gross Beta	EPA 900.0	**0.099 ± 0.610 (1.45)** **C:NA T:NA**	pCi/L	07/24/17 08:37	12587-47-2	
Radium-226	EPA 903.1	**0.324 ± 0.335 (0.501)** **C:NA T:106%**	pCi/L	07/26/17 13:09	13982-63-3	
Radium-228	EPA 904.0	**0.549 ± 0.322 (0.624)** **C:76% T:90%**	pCi/L	07/27/17 11:17	15262-20-1	
Total Uranium	ASTM D5174-97	**0.210 ± 0.008 (0.193)** **C:NA T:NA**	ug/L	08/02/17 16:11	7440-61-1	

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224102

QC Batch: 265053
QC Batch Method: SM7500RnB-07
Analysis Method: SM7500RnB-07
Analysis Description: 7500Rn B Radon
Associated Lab Samples: 30224102001

METHOD BLANK: 1305441
Matrix: Water
Associated Lab Samples: 30224102001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radon	2.8 ± 18.8 (32.7) C:NA T:NA	pCi/L	07/15/17 02:40	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project:	42001269
Pace Project No.:	30224102

QC Batch:	265152	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226

Associated Lab Samples: 30224102001

METHOD BLANK: 1306510 Matrix: Water

Associated Lab Samples: 30224102001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.159 ± 0.312 (0.570) C:NA T:95%	pCi/L	07/26/17 12:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project:	42001269
Pace Project No.:	30224102

QC Batch:	265148	Analysis Method:	EPA 900.0
QC Batch Method:	EPA 900.0	Analysis Description:	900.0 Gross Alpha/Beta

Associated Lab Samples: 30224102001

METHOD BLANK: 1306505 Matrix: Water

Associated Lab Samples: 30224102001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	-0.333 ± 0.399 (1.52) C:NA T:NA	pCi/L	07/24/17 08:35	
Gross Beta	-0.362 ± 0.578 (1.62) C:NA T:NA	pCi/L	07/24/17 08:35	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224102

QC Batch: 265158
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Associated Lab Samples: 30224102001

METHOD BLANK: 1306521
Matrix: Water
Associated Lab Samples: 30224102001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0810 ± 0.316 (0.717) C:75% T:85%	pCi/L	07/27/17 11:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224102

QC Batch: 265552
QC Batch Method: ASTM D5174-97
Analysis Method: ASTM D5174-97
Analysis Description: D5174.97 Total Uranium KPA
Associated Lab Samples: 30224102001

METHOD BLANK: 1307891
Matrix: Water
Associated Lab Samples: 30224102001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Total Uranium	0.032 ± 0.001 (0.193) C:NA T:NA	ug/L	07/26/17 12:46	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project:	42001269
Pace Project No.:	30224102

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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

Chain of Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)
Client Contact: Shipping/Receiving
Company: Pace Analytical Services, Inc.
Address: 1638 Roseytown Rd,Suites 2,3,4, ,
City: Greensburg
State, Zip: PA, 15601
Phone:
Email:
Project Name: LBG, Inc.
Site:

Sampler: S. Streb of LBG 7/13/17 03
Phone:
Due Date Requested: 7/27/2017
TAT Requested (days):
PO #:
WO #:
Project #: 42001269
SSOW#:

Lab PM: Bayer, Debra
E-Mail: dbayer@envirotestlaboratories.com
Carrier Tracking No(s):

COC No: 420-9117.1
Page: Page 1 of 1
STL Job #: 420-123595-1

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 900 GA/GB/RA 226/RA 228	SUBCONTRACT/ Total Uranium	SUBCONTRACT/ Radon	Total Number of containers	Special Instructions/Note: MY Soles 7/13/17 03
				Preservation Code:	X	X				X	
C - 6 (420-123595-1)	7/13/17	9:50		Water			X	X	X	7	001

WO#: 30224102
30224102

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ________ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:
Date:
Time:
Method of Shipment:

Relinquished by:	Date/Time: 7/13/17 1425	Company ER	Received by:	Date/Time: 7/14/17 1020	Company Pace
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

Sample Condition Upon Receipt Pittsburgh

30224102

Pace Analytical

Client Name: Envirotest labs.　Project # ______

Label ZH.
LIMS Login AM

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other ______

Tracking #: 779625497330

Custody Seal on Cooler/Box Present: ☐ yes ☑ no　Seals intact: ☐ yes ☐ no

Thermometer Used 8　Type of Ice: [✓ Wet] Blue None

Cooler Temperature　Observed Temp 3.5 °C　Correction Factor: 0.0 °C　Final Temp: 3.5 °C

Temp should be above freezing to 6°C

Date and initials of person examining contents: ZH 7/14/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):	✓			7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Orthophosphate field filtered			▨	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ZH Date/time of preservation Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ZH Date: 7/14/17

Client Notification/ Resolution:

Person Contacted: ______ Date/Time: ______ Contacted By: ______

Comments/ Resolution: ______

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

J:\QAQC\Master\Document Management\Sample Mgt\Sample Condition Upon Receipt Pittsburgh (C056-5 5July2017)

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

August 07, 2017

Ron Bayer
EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: LBG,Inc 42001269
Pace Project No.: 35324052

Dear Ron Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Bo Garcia
bo.garcia@pacelabs.com
(386)672-5668
Project Manager

Enclosures

cc: Debra Bayer, EnviroTest Laboratories Inc.
Renee Cusack, EnviroTest Laboratories Inc.
Laura Marciano, EnviroTest Laboratories Inc.
Janine Rader, EnviroTest Laboratories Inc.
Meredith Ruthven, EnviroTest Laboratories Inc.

CERTIFICATIONS

Project: LBG,Inc 42001269
Pace Project No.: 35324052

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

SAMPLE SUMMARY

Project: LBG,Inc 42001269
Pace Project No.: 35324052

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35324052001	**C-6**	Drinking Water	07/13/17 09:50	07/14/17 11:10

SAMPLE ANALYTE COUNT

Project: LBG,Inc 42001269
Pace Project No.: 35324052

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35324052001	**C-6**	EPA 504.1	BP1	2	PASI-O
		EPA 505	MMR	3	
		EPA 508.1	NS1	18	PASI-O
		EPA 515.3	LJM	8	PASI-O
		EPA 531.1	WFH	9	PASI-O
		EPA 547	NMB	1	PASI-O
		EPA 549.2	NMB	1	PASI-O
		EPA 525.2	NS1	7	PASI-O
		EPA 548.1	JDT	1	PASI-O

ANALYTICAL RESULTS

Project: LBG,Inc 42001269
Pace Project No.: 35324052

Sample: C-6 **Lab ID: 35324052001** Collected: 07/13/17 09:50 Received: 07/14/17 11:10 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
504.1 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1								
1,2-Dibromo-3-chloropropane	**<0.0060**	ug/L	0.019	0.0060	1	07/16/17 14:45	07/17/17 02:23	96-12-8	
1,2-Dibromoethane (EDB)	**<0.0071**	ug/L	0.0094	0.0071	1	07/16/17 14:45	07/17/17 02:23	106-93-4	
505 GCS Pesticides/PCBs	Analytical Method: EPA 505 Preparation Method: EPA 505								
Aldrin	**<0.025**	ug/L	0.025	0.025	1	07/20/17 16:38	07/21/17 00:08	309-00-2	
Surrogates									
Tetrachloro-m-xylene (S)	95	%.	30-150		1	07/20/17 16:38	07/21/17 00:08	877-09-8	
Decachlorobiphenyl (S)	70	%.	30-150		1	07/20/17 16:38	07/21/17 00:08	2051-24-3	
508.1 GCS Pesticides	Analytical Method: EPA 508.1 Preparation Method: EPA 508.1								
Alachlor	**<0.038**	ug/L	0.22	0.038	1	07/21/17 15:45	07/28/17 03:24	15972-60-8	
Atrazine	**<0.068**	ug/L	0.11	0.068	1	07/21/17 15:45	07/28/17 03:24	1912-24-9	
gamma-BHC (Lindane)	**<0.0032**	ug/L	0.022	0.0032	1	07/21/17 15:45	07/28/17 03:24	58-89-9	
Butachlor	**<0.029**	ug/L	0.11	0.029	1	07/21/17 15:45	07/28/17 03:24	23184-66-9	
Chlordane (Technical)	**<0.051**	ug/L	0.22	0.051	1	07/21/17 15:45	07/28/17 03:24	57-74-9	
Dieldrin	**<0.021**	ug/L	0.11	0.021	1	07/21/17 15:45	07/28/17 03:24	60-57-1	
Endrin	**<0.0076**	ug/L	0.011	0.0076	1	07/21/17 15:45	07/28/17 03:24	72-20-8	
Heptachlor	**<0.013**	ug/L	0.043	0.013	1	07/21/17 15:45	07/28/17 03:24	76-44-8	
Heptachlor epoxide	**<0.0032**	ug/L	0.022	0.0032	1	07/21/17 15:45	07/28/17 03:24	1024-57-3	
Hexachlorobenzene	**<0.021**	ug/L	0.11	0.021	1	07/21/17 15:45	07/28/17 03:24	118-74-1	
Hexachlorocyclopentadiene	**<0.035**	ug/L	0.11	0.035	1	07/21/17 15:45	07/28/17 03:24	77-47-4	
Methoxychlor	**<0.055**	ug/L	0.11	0.055	1	07/21/17 15:45	07/28/17 03:24	72-43-5	
Metolachlor	**<0.051**	ug/L	0.11	0.051	1	07/21/17 15:45	07/28/17 03:24	51218-45-2	
PCB, Total	**<0.086**	ug/L	0.11	0.086	1	07/21/17 15:45	07/28/17 03:24	1336-36-3	
Propachlor	**<0.032**	ug/L	0.11	0.032	1	07/21/17 15:45	07/28/17 03:24	1918-16-7	
Simazine	**<0.075**	ug/L	0.076	0.075	1	07/21/17 15:45	07/28/17 03:24	122-34-9	
Toxaphene	**<0.66**	ug/L	1.1	0.66	1	07/21/17 15:45	07/28/17 03:24	8001-35-2	
Surrogates									
Decachlorobiphenyl (S)	88	%	70-130		1	07/21/17 15:45	07/28/17 03:24	2051-24-3	
515.3 Chlorinated Herbicides	Analytical Method: EPA 515.3 Preparation Method: EPA 515.3								
2,4-D	**<0.081**	ug/L	0.10	0.081	1	07/20/17 09:35	07/22/17 06:39	94-75-7	
Dalapon	**<0.89**	ug/L	1.0	0.89	1	07/20/17 09:35	07/22/17 06:39	75-99-0	
Dicamba	**<0.067**	ug/L	0.10	0.067	1	07/20/17 09:35	07/22/17 06:39	1918-00-9	L1
Dinoseb	**<0.16**	ug/L	0.20	0.16	1	07/20/17 09:35	07/22/17 06:39	88-85-7	
Pentachlorophenol	**<0.030**	ug/L	0.040	0.030	1	07/20/17 09:35	07/22/17 06:39	87-86-5	
Picloram	**<0.094**	ug/L	0.10	0.094	1	07/20/17 09:35	07/22/17 06:39	1918-02-1	
2,4,5-TP (Silvex)	**<0.16**	ug/L	0.20	0.16	1	07/20/17 09:35	07/22/17 06:39	93-72-1	
Surrogates									
2,4-DCAA (S)	92	%	70-130		1	07/20/17 09:35	07/22/17 06:39	19719-28-9	
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
Aldicarb	**<0.64**	ug/L	2.0	0.64	1		07/18/17 15:48	116-06-3	
Aldicarb sulfone	**<0.37**	ug/L	2.0	0.37	1		07/18/17 15:48	1646-88-4	
Aldicarb sulfoxide	**<0.59**	ug/L	2.0	0.59	1		07/18/17 15:48	1646-87-3	
Carbofuran	**<0.32**	ug/L	2.0	0.32	1		07/18/17 15:48	1563-66-2	

ANALYTICAL RESULTS

Project: LBG,Inc 42001269
Pace Project No.: 35324052

Sample: C-6 **Lab ID: 35324052001** Collected: 07/13/17 09:50 Received: 07/14/17 11:10 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
3-Hydroxycarbofuran	**<0.45**	ug/L	2.0	0.45	1		07/18/17 15:48	16655-82-6	
Methomyl	**<0.57**	ug/L	2.0	0.57	1		07/18/17 15:48	16752-77-5	
Oxamyl	**<0.55**	ug/L	2.0	0.55	1		07/18/17 15:48	23135-22-0	
Carbaryl	**<0.27**	ug/L	2.0	0.27	1		07/18/17 15:48	63-25-2	
Surrogates									
BDMC (S)	102	%	80-120		1		07/18/17 15:48		
547 HPLC Glyphosate	Analytical Method: EPA 547								
Glyphosate	**<4.2**	ug/L	6.0	4.2	1		07/20/17 04:41		
549.2 HPLC Paraquat Diquat	Analytical Method: EPA 549.2 Preparation Method: EPA 549.2								
Diquat	**<0.30**	ug/L	0.40	0.30	1	07/18/17 10:40	07/19/17 17:39	85-00-7	
525.2 Base Neutral Extractable	Analytical Method: EPA 525.2 Preparation Method: EPA 525.2								
Benzo(a)pyrene	**<0.012**	ug/L	0.096	0.012	1	07/25/17 10:30	07/26/17 14:20	50-32-8	L2
bis(2-Ethylhexyl)adipate	**<0.37**	ug/L	1.5	0.37	1	07/25/17 10:30	07/26/17 14:20	103-23-1	
bis(2-Ethylhexyl)phthalate	**<0.48**	ug/L	1.9	0.48	1	07/25/17 10:30	07/26/17 14:20	117-81-7	
Metribuzin	**<0.14**	ug/L	0.29	0.14	1	07/25/17 10:30	07/26/17 14:20	21087-64-9	
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	116	%	70-130		1	07/25/17 10:30	07/26/17 14:20	81209	
Perylene-d12 (S)	84	%	70-130		1	07/25/17 10:30	07/26/17 14:20	1520963	
Triphenylphosphate (S)	93	%	70-130		1	07/25/17 10:30	07/26/17 14:20	115-86-6	
548.1 GCS Endothall	Analytical Method: EPA 548.1 Preparation Method: EPA 548.1								
Endothall	**<4.3**	ug/L	9.0	4.3	1	07/19/17 17:00	07/24/17 23:24		L2,L5

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324052

QC Batch: 381535
QC Batch Method: EPA 531.1
Analysis Method: EPA 531.1
Analysis Description: 531.1 HPLC Carbamate
Associated Lab Samples: 35324052001

METHOD BLANK: 2070180
Matrix: Water
Associated Lab Samples: 35324052001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
3-Hydroxycarbofuran	ug/L	<0.45	2.0	0.45	07/18/17 12:36	
Aldicarb	ug/L	<0.64	2.0	0.64	07/18/17 12:36	
Aldicarb sulfone	ug/L	<0.37	2.0	0.37	07/18/17 12:36	
Aldicarb sulfoxide	ug/L	<0.59	2.0	0.59	07/18/17 12:36	
Carbaryl	ug/L	<0.27	2.0	0.27	07/18/17 12:36	
Carbofuran	ug/L	<0.32	2.0	0.32	07/18/17 12:36	
Methomyl	ug/L	<0.57	2.0	0.57	07/18/17 12:36	
Oxamyl	ug/L	<0.55	2.0	0.55	07/18/17 12:36	
BDMC (S)	%	120	80-120		07/18/17 12:36	

LABORATORY CONTROL SAMPLE: 2070181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
3-Hydroxycarbofuran	ug/L	10	10.3	103	80-120	
Aldicarb	ug/L	10	11.2	112	80-120	
Aldicarb sulfone	ug/L	10	10.9	109	80-120	
Aldicarb sulfoxide	ug/L	10	12.0	120	80-120	
Carbaryl	ug/L	10	12.0	120	80-120	
Carbofuran	ug/L	10	11.7	117	80-120	
Methomyl	ug/L	10	10.6	106	80-120	
Oxamyl	ug/L	10	11.8	118	80-120	
BDMC (S)	%			118	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070182 2070183

Parameter	Units	35323850001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
3-Hydroxycarbofuran	ug/L	0.45U	10	10	10	10.2	100	102	80-120	2	20	
Aldicarb	ug/L	0.64U	10	10	10.5	10.3	105	103	80-120	3	20	
Aldicarb sulfone	ug/L	0.37U	10	10	9.5	9.8	95	98	80-120	4	20	
Aldicarb sulfoxide	ug/L	0.59U	10	10	11.2	11.0	112	110	80-120	2	20	
Carbaryl	ug/L	0.27U	10	10	12.0	11.5	120	115	80-120	4	20	
Carbofuran	ug/L	0.32U	10	10	11.3	10.5	113	105	80-120	7	20	
Methomyl	ug/L	0.57U	10	10	10.5	11.1	105	111	80-120	6	20	
Oxamyl	ug/L	0.55U	10	10	10.2	10.0	102	100	80-120	2	20	
BDMC (S)	%						103	98	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324052

QC Batch: 382091
QC Batch Method: EPA 547
Analysis Method: EPA 547
Analysis Description: 547 HPLC Glyphosate
Associated Lab Samples: 35324052001

METHOD BLANK: 2073233
Matrix: Water
Associated Lab Samples: 35324052001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Glyphosate	ug/L	<4.2	6.0	4.2	07/20/17 02:06	

LABORATORY CONTROL SAMPLE: 2073234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Glyphosate	ug/L	50	52.3	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073235 2073236

Parameter	Units	35324897001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	0.0042U mg/L	50	50	48.2	48.4	96	97	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073237 2073238

Parameter	Units	35324066001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	<4.2	50	50	51.2	49.9	102	100	80-120	3	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324052

QC Batch: 381135
QC Batch Method: EPA 504.1
Analysis Method: EPA 504.1
Analysis Description: 504 EDB DBCP
Associated Lab Samples: 35324052001

METHOD BLANK: 2067594
Matrix: Water
Associated Lab Samples: 35324052001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	<0.0064	0.020	0.0064	07/16/17 20:27	
1,2-Dibromoethane (EDB)	ug/L	<0.0075	0.010	0.0075	07/16/17 20:27	

LABORATORY CONTROL SAMPLE & LCSD: 2067595 2068674

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	.25	0.24	0.26	98	104	70-130	6	40	
1,2-Dibromoethane (EDB)	ug/L	.25	0.22	0.24	88	94	70-130	6	40	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2068675 2068676

Parameter	Units	35323705002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromo-3-chloropropane	ug/L	0.0061U	.44	.44	0.63	0.65	144	149	65-135	3	40	M1
1,2-Dibromoethane (EDB)	ug/L	0.0072U	.44	.44	0.61	0.58	139	132	65-135	6	40	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324052

QC Batch: 32255
QC Batch Method: EPA 505
Analysis Method: EPA 505
Analysis Description: 505 GCS Pesticides
Associated Lab Samples: 35324052001

METHOD BLANK: 149103
Matrix: Water
Associated Lab Samples: 35324052001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aldrin	ug/L	<0.025	0.025	0.025	07/20/17 18:40	
Decachlorobiphenyl (S)	%.	75	30-150		07/20/17 18:40	
Tetrachloro-m-xylene (S)	%.	85	30-150		07/20/17 18:40	

LABORATORY CONTROL SAMPLE: 149104

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	.048	0.047	98	70-130	
Decachlorobiphenyl (S)	%.			95	30-150	
Tetrachloro-m-xylene (S)	%.			94	30-150	

LABORATORY CONTROL SAMPLE: 149105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	.0095	<0.025	97	70-130	
Decachlorobiphenyl (S)	%.			89	30-150	
Tetrachloro-m-xylene (S)	%.			95	30-150	

MATRIX SPIKE SAMPLE: 149106

Parameter	Units	7024421001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	<0.025	.095	0.092	96	65-135	
Decachlorobiphenyl (S)	%.				75	30-150	
Tetrachloro-m-xylene (S)	%.				97	30-150	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project:	LBG,Inc 42001269
Pace Project No.:	35324052

QC Batch:	382070	Analysis Method:	EPA 508.1
QC Batch Method:	EPA 508.1	Analysis Description:	508 GCS Pesticide
Associated Lab Samples:	35324052001		

METHOD BLANK: 2073167 Matrix: Water

Associated Lab Samples: 35324052001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alachlor	ug/L	<0.035	0.20	0.035	07/26/17 10:06	
Atrazine	ug/L	<0.063	0.10	0.063	07/26/17 10:06	
Butachlor	ug/L	<0.027	0.10	0.027	07/26/17 10:06	
Chlordane (Technical)	ug/L	<0.047	0.20	0.047	07/26/17 10:06	
Dieldrin	ug/L	<0.019	0.10	0.019	07/26/17 10:06	
Endrin	ug/L	<0.0070	0.010	0.0070	07/26/17 10:06	
gamma-BHC (Lindane)	ug/L	<0.0030	0.020	0.0030	07/26/17 10:06	
Heptachlor	ug/L	<0.012	0.040	0.012	07/26/17 10:06	
Heptachlor epoxide	ug/L	<0.0030	0.020	0.0030	07/26/17 10:06	
Hexachlorobenzene	ug/L	<0.019	0.10	0.019	07/26/17 10:06	
Hexachlorocyclopentadiene	ug/L	<0.032	0.10	0.032	07/26/17 10:06	
Methoxychlor	ug/L	<0.051	0.10	0.051	07/26/17 10:06	
Metolachlor	ug/L	<0.047	0.10	0.047	07/26/17 10:06	
Propachlor	ug/L	<0.030	0.10	0.030	07/26/17 10:06	
Simazine	ug/L	<0.069	0.070	0.069	07/26/17 10:06	
Toxaphene	ug/L	<0.61	1.0	0.61	07/26/17 10:06	
Decachlorobiphenyl (S)	%	103	70-130		07/26/17 10:06	

LABORATORY CONTROL SAMPLE: 2073168

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	ug/L	1	1.0	100	70-130	
Atrazine	ug/L	1.2	1.2	97	70-130	
Butachlor	ug/L	.5	0.48	96	70-130	
Dieldrin	ug/L	.5	0.51	103	70-130	
Endrin	ug/L	.05	0.053	106	70-130	
gamma-BHC (Lindane)	ug/L	.1	0.10	102	70-130	
Heptachlor	ug/L	.2	0.18	91	70-130	
Heptachlor epoxide	ug/L	.1	0.10	100	70-130	
Hexachlorobenzene	ug/L	.5	0.46	92	70-130	
Hexachlorocyclopentadiene	ug/L	.5	0.47	94	70-130	
Methoxychlor	ug/L	.5	0.53	107	70-130	
Metolachlor	ug/L	.5	0.48	96	70-130	
Propachlor	ug/L	.5	0.48	96	70-130	
Simazine	ug/L	.88	0.78	89	70-130	
Decachlorobiphenyl (S)	%			105	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324052

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2074971 2074972

Parameter	Units	35323850001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alachlor	ug/L	0.034U	2	2	2.0	1.9	100	97	65-135	3	40	
Atrazine	ug/L	0.061U	2.5	2.5	2.6	3.1	102	123	65-135	19	40	
Butachlor	ug/L	0.026U	1	1	0.93	0.89	93	89	65-135	4	40	
Chlordane (Technical)	ug/L	0.045U			<0.094	<0.094					40	
Dieldrin	ug/L	0.018U	1	1	1.0	1.0	104	104	65-135	0	40	
Endrin	ug/L	0.0067U	.1	.1	0.11	0.11	107	107	65-135	0	40	
gamma-BHC (Lindane)	ug/L	0.0029U	.2	.2	0.22	0.22	110	111	65-135	1	40	
Heptachlor	ug/L	0.012U	.4	.4	0.70	0.81	174	201	65-135	14	40	M1
Heptachlor epoxide	ug/L	0.0029U	.2	.2	0.21	0.21	104	103	65-135	0	40	
Hexachlorobenzene	ug/L	0.018U	1	1	1.0	1.1	102	111	65-135	8	40	
Hexachlorocyclopentadiene	ug/L	0.031U	1	1	1.2	1.0	116	105	65-135	10	40	
Methoxychlor	ug/L	0.049U	1	1	1.0	0.97	101	97	65-135	4	40	
Metolachlor	ug/L	0.045U	1	1	0.95	0.95	95	95	65-135	0	40	
Propachlor	ug/L	0.029U	1	1	1.0	1.2	103	123	65-135	17	40	
Simazine	ug/L	0.066U	1.8	1.8	0.62	0.68	36	39	65-135	9	40	M1
Toxaphene	ug/L	0.58U			<1.2	<1.2					40	
Decachlorobiphenyl (S)	%						94	94	70-130		40	

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QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324052

QC Batch:	382064	Analysis Method:	EPA 515.3
QC Batch Method:	EPA 515.3	Analysis Description:	5153 GCS Herbicides

Associated Lab Samples: 35324052001

METHOD BLANK: 2073155 Matrix: Water

Associated Lab Samples: 35324052001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4,5-TP (Silvex)	ug/L	<0.16	0.20	0.16	07/22/17 00:29	
2,4-D	ug/L	<0.081	0.10	0.081	07/22/17 00:29	
Dalapon	ug/L	<0.89	1.0	0.89	07/22/17 00:29	
Dicamba	ug/L	<0.067	0.10	0.067	07/22/17 00:29	
Dinoseb	ug/L	<0.16	0.20	0.16	07/22/17 00:29	
Pentachlorophenol	ug/L	<0.030	0.040	0.030	07/22/17 00:29	
Picloram	ug/L	<0.094	0.10	0.094	07/22/17 00:29	
2,4-DCAA (S)	%	88	70-130		07/22/17 00:29	

LABORATORY CONTROL SAMPLE: 2073156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	ug/L	1	1.0	103	70-130	
2,4-D	ug/L	.5	0.39	78	70-130	
Dalapon	ug/L	5	4.5	90	70-130	
Dicamba	ug/L	.5	0.66	132	70-130	L1
Dinoseb	ug/L	1	1.1	114	70-130	
Pentachlorophenol	ug/L	.2	0.20	98	70-130	
Picloram	ug/L	.5	0.50	99	70-130	
2,4-DCAA (S)	%			93	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073478 2073479

Parameter	Units	92347613003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	ND	1	1	1.1	1.1	108	111	70-130	3	40	
2,4-D	ug/L	ND	.5	.5	0.42	0.47	84	94	70-130	11	40	
Dalapon	ug/L	ND	5	5	5.7	6.0	115	120	70-130	5	40	
Dicamba	ug/L	ND	.5	.5	0.58	0.63	117	126	70-130	7	40	
Dinoseb	ug/L	ND	1	1	1.1	1.1	105	113	70-130	7	40	
Pentachlorophenol	ug/L	ND	.2	.2	0.18	0.19	91	95	70-130	4	40	
Picloram	ug/L	ND	.5	.5	0.65	0.70	130	140	70-130	7	40	M1
2,4-DCAA (S)	%						98	99	70-130			

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QUALITY CONTROL DATA

Project:	LBG,Inc 42001269
Pace Project No.:	35324052

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073480 2073481

Parameter	Units	35323949005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	<0.16	1	1	1.1	1.1	108	110	70-130	1	40	
2,4-D	ug/L	<0.081	.5	.5	0.40	0.41	79	82	70-130	3	40	
Dalapon	ug/L	<0.89	5	5	4.7	4.8	94	95	70-130	1	40	
Dicamba	ug/L	<0.067	.5	.5	0.51	0.63	103	127	70-130	21	40	
Dinoseb	ug/L	<0.16	1	1	1.1	1.1	110	111	70-130	1	40	
Pentachlorophenol	ug/L	<0.030	.2	.2	0.19	0.19	96	97	70-130	1	40	
Picloram	ug/L	<0.094	.5	.5	0.55	0.57	110	115	70-130	5	40	
2,4-DCAA (S)	%						95	93	70-130			

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QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324052

QC Batch: 382937
Analysis Method: EPA 525.2
QC Batch Method: EPA 525.2
Analysis Description: 525.2 Base Neutral Extractables
Associated Lab Samples: 35324052001

METHOD BLANK: 2078153
Matrix: Water
Associated Lab Samples: 35324052001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzo(a)pyrene	ug/L	<0.013	0.10	0.013	07/26/17 11:53	
bis(2-Ethylhexyl)adipate	ug/L	<0.38	1.6	0.38	07/26/17 11:53	
bis(2-Ethylhexyl)phthalate	ug/L	<0.50	2.0	0.50	07/26/17 11:53	
Metribuzin	ug/L	<0.15	0.30	0.15	07/26/17 11:53	
1,3-Dimethyl-2-nitrobenzene(S)	%	105	70-130		07/26/17 11:53	
Perylene-d12 (S)	%	84	70-130		07/26/17 11:53	
Triphenylphosphate (S)	%	83	70-130		07/26/17 11:53	

LABORATORY CONTROL SAMPLE: 2078154

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzo(a)pyrene	ug/L	.4	0.26	65	70-130	L2
bis(2-Ethylhexyl)adipate	ug/L	6.4	5.4	84	70-130	
bis(2-Ethylhexyl)phthalate	ug/L	8	6.8	85	70-130	
Metribuzin	ug/L	1.2	1.2	103	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			106	70-130	
Perylene-d12 (S)	%			75	70-130	
Triphenylphosphate (S)	%			83	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078476 2078477

Parameter	Units	92348121001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzo(a)pyrene	ug/L				0.092J	0.098J					40	M0
bis(2-Ethylhexyl)adipate	ug/L				10.9	10.3				6	40	
bis(2-Ethylhexyl)phthalate	ug/L				14.0	13.5				3	40	
Metribuzin	ug/L				2.2	<0.30					40	M1
1,3-Dimethyl-2-nitrobenzene(S)	%						110	120	70-130			
Perylene-d12 (S)	%						64	62	70-130			S0,S8
Triphenylphosphate (S)	%						83	84	70-130			

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QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324052

QC Batch: 381974
QC Batch Method: EPA 548.1
Analysis Method: EPA 548.1
Analysis Description: 548 GCS Endothall
Associated Lab Samples: 35324052001

METHOD BLANK: 2072291
Matrix: Water
Associated Lab Samples: 35324052001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Endothall	ug/L	<4.3	9.0	4.3	07/24/17 19:29	

LABORATORY CONTROL SAMPLE: 2072292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endothall	ug/L	50	39.6	79	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2072347 2072348

Parameter	Units	35324386001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	4.3U	50	50	45.0	44.4	90	89	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2072358 2072359

Parameter	Units	35324386002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	4.3U	50	50	34.3	41.0	69	82	80-120	18	30	M0

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QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324052

QC Batch: 381247
QC Batch Method: EPA 549.2
Analysis Method: EPA 549.2
Analysis Description: 549 HPLC Paraquat Diquat
Associated Lab Samples: 35324052001

METHOD BLANK: 2068888
Matrix: Water
Associated Lab Samples: 35324052001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diquat	ug/L	<0.30	0.40	0.30	07/19/17 13:34	

LABORATORY CONTROL SAMPLE: 2068889

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diquat	ug/L	2	1.6	80	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070241 2070242

Parameter	Units	35323937005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	<0.30	2	2	1.5	1.6	77	82	70-130	6	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070243 2070244

Parameter	Units	35323949005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	<0.30	2	2	1.7	1.6	85	82	70-130	4	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project:	LBG,Inc 42001269
Pace Project No.:	35324052

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
L5	LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S0	Surrogate recovery outside laboratory control limits.
S8	Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-extraction and/or re-analysis)

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LBG,Inc 42001269
Pace Project No.: 35324052

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35324052001	**C-6**	EPA 504.1	381135	EPA 504.1	381255
35324052001	**C-6**	EPA 505	32255	EPA 505	32334
35324052001	**C-6**	EPA 508.1	382070	EPA 508.1	382791
35324052001	**C-6**	EPA 515.3	382064	EPA 515.3	382572
35324052001	**C-6**	EPA 531.1	381535		
35324052001	**C-6**	EPA 547	382091		
35324052001	**C-6**	EPA 549.2	381247	EPA 549.2	381830
35324052001	**C-6**	EPA 525.2	382937	EPA 525.2	383335
35324052001	**C-6**	EPA 548.1	381974	EPA 548.1	382933

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

WO# : 35324052

35324052

Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)	)ebra	Carrier Tracking No(s):	COC No: 420-9122.1
Client Contact: Shipping/Receiving	dbayer@envirotestlaboratories.com		Page: Page 1 of 1
Company: Pace Analytical Ormond Beach	**Analysis Requested**		STL Job #: 420-123595-1

Address: 8 East Tower Circle, ,	**Due Date Requested:** 7/25/2017
City: Ormond Beach	**TAT Requested (days):** Std TAT 7/13/17 D3
State, Zip: FL, 32174	
Phone: 111-222-3333(Tel)	PO #:
Email:	WO #:
Project Name: LBG, Inc.	Project #: 42001269
Site:	SSOW#:

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 515 Chlorinated Acids	SUBCONTRACT/ 504 EPA 504.1 EDB/DBCP	SUBCONTRACT/ 531.1 Carbamate Pesticides in DW	SUBCONTRACT/ 525.2 Semivolatile Organics	SUBCONTRACT/ 508	SUBCONTRACT/ 547	SUBCONTRACT/ 548	SUBCONTRACT/ 549	SUBCONTRACT/ Dioxin					Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
C - 6 (420-123595-1)	7/13/17	9:50		Water			X	X	X	X	X	X	X	X	X					13	

Possible Hazard Identification

☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _________ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 7/13/17 1440	Company ETL	Received by: TDH pace	Date/Time: 7/14/17 1110	Company T286 10.4
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: February 6, 2017
	Document No.: F-FL-C-007 rev. 11	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # WO#:35324052 Due Date: 07/28/17
Project Manager: PM: VEG
Client: CLIENT: EVNTES

Date and Initials of person:
Examining contents:
Label:
Deliver:
pH:

Thermometer Used: T786 Date: 7/14/17 Time: 1110 Initials:

Cooler #1 Temp.°C 9.6 **(Visual)** +0.1 **(Correction Factor)** 9.7 **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #2 Temp.°C 10.3 **(Visual)** +0.1 **(Correction Factor)** 10.4 **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C 9.4 **(Visual)** +0.1 **(Correction Factor)** 9.5 **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C____ **(Visual)** ____ **(Correction Factor)** ____ **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C____ **(Visual)** ____ **(Correction Factor)** ____ **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C____ **(Visual)** ____ **(Correction Factor)** ____ **(Actual)** ☐ Samples on ice, cooling process has begun

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other____
Shipping Method: ☐ First Overnight ☐ Priority Overnight ☑ Standard Overnight ☐ Ground ☐ Other____
Billing: ☑ Recipient ☐ Sender ☐ Third Party ☐ Unknown
Tracking # 7796 2610 4340/7796 2609 3485/7796 2608 5178
Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☐ No **Ice:** [✓ Wet] Blue None
Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other____
Samples shorted to lab (If Yes, complete) Shorted Date:____ Shorted Time:____ Qty:____

		Comments:
Chain of Custody Present	☑ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☑ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☑ No ☐ N/A	
Sufficient Volume	☑ Yes ☐ No ☐ N/A	
Correct Containers Used	☑ Yes ☐ No ☐ N/A	
Containers Intact	☑ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☑ Yes ☐ No ☐ N/A	Preservation Information: Preservative:____ Lot #/Trace #:____ Date:____ Time:____ Initials:____
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☑ Yes ☐ No ☐ N/A	
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☑ N/A	
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	

Client Notification/ Resolution:
Person Contacted:____ Date/Time:____

Comments/ Resolution (use back for additional comments):
okay to Run OOT per PM

Project Manager Review:____ Date:____

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Bo Garcia
PASI Florida
8 East Tower Circle
Ormond Beach FL 32174

Report Information:

Pace Project #: 10396064
Sample Receipt Date: 07/18/2017
Client Project #: 35324052
Client Sub PO #: N/A
State Cert #: 11647

REPORT OF LABORATORY ANALYSIS FOR 2,3,7,8-TCDD

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 Drinking Water Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Sarah Platzer, your Pace Project Manager.

Report Summary:

This report contains results of one drinking water sample analyzed to determine 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613 by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

This report has been reviewed by:

Sarah Platzer

August 03, 2017

Sarah Platzer, Project Manager
612-607-6451
(612) 607-6444 (fax)
sarah.platzer@pacelabs.com

NELAP ACCREDITED TNI LABORATORY

Report Prepared Date:

August 3, 2017

Report of Laboratory Analysis

Minnesota Laboratory Certifications

Authority	Certificate #
A2LA	2926.01
Alabama	40770
Alaska	MN00064
Alaska	UST-078
Arizona	AZ0014
Arkansas	88-0680
CNMI Saipan	MP0003
California	MN00064
Colorado	MN00064
Connecticut	PH-0256
EPA Region 8	8TMS-L
Florida (NELAP	E87605
Georgia (EDP)	959
Guam EPA	959
Hawaii	MN00064
Idaho	MN00064
Illinois	200011
Indiana	C-MN-01
Iowa	368
Kansas	E-10167
Kentucky	90062
Louisiana	03086
Louisiana	MN00064
Maryland	322
Michigan	9909
Minnesota	027-053-137
Mississippi	MN00064
Montana	CERT0092
Nebraska	NE-OS-18-06
Nevada	MN00064
New Jersey (NE	MN002
New York (NEL	11647
New hampshire	2081
North Carolina	27700
North Carolina	530
North Dakota	R-036
Ohio	41244
Ohio VAP	CL101
Oklahoma	9507
Oregon (ELAP)	MN200001
Oregon (OREL	MN300001
Pennsylvania	68-00563
Puerto Rico	MN00064
South Carolina	74003001
Tennessee	TN02818
Texas	T104704192
Utah (NELAP)	MN00064
Virginia	460163
Washington	C486
West Virginia #	9952C
West Virginia D	382
Wisconsin	999407970
Wyoming	8TMS-L

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

10396064

Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: 35324052 **Workorder Name:** LBG,Inc 42001269 **Owner Received Date:** 7/14/2017 **Results Requested By:** 7/28/2017

Report To	Subcontract To
Bo Garcia Pace Analytical Ormond Beach 8 East Tower Circle Ormond Beach, FL 32174 Phone (386)672-5668	Pace Analytical Minnesota 1700 Elm Street SE Suite 200 Minneapolis, MN 55414 Phone (612)607-1700

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved					Requested Analysis: EPA 1613	LAB USE ONLY
1	C-6	PS	7/13/2017 09:50	35324052001	Drinking	2					X	001
2												
3												
4												
5												

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	7/17/17	1700	/PACE	7/18/17 9:50	
2					
3					

Cooler Temperature on Receipt 0.2 °C **Custody Seal** Y or [✓ N] **Received on Ice** [✓ Y] or N **Samples Intact** [✓ Y] or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 19Dec2016 Page 1 of 2
	Document No.: **F-MN-L-213-rev.20**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace Ormond Beach

Project #: WO# 10396064

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:______

Tracking Number: 7422-5599-7553

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other:______

Temp Blank? ☐ Yes ☒ No

Thermometer Used: ☒ 151401163 ☐ 151401164

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.2 **Cooler Temp Corrected (°C):** 0.2

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** True

Date and Initials of Person Examining Contents: 7/18/17 SD

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	☒ Yes ☐ No	1.
Chain of Custody Filled Out?	☒ Yes ☐ No	2.
Chain of Custody Relinquished?	☒ Yes ☐ No	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No	7.
Sufficient Volume?	☒ Yes ☐ No	8.
Correct Containers Used? -Pace Containers Used?	☒ Yes ☐ No ☒ Yes ☐ No	9.
Containers Intact?	☒ Yes ☐ No	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes ☐ No ☒ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes ☐ No	12.
All containers needing acid/base preservation have been checked?	☐ Yes ☐ No ☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH Positive for Res. Chlorine? Y N Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	☒ Yes ☐ No ☐ N/A	Initial when completed:______ Lot # of added preservative:______
Headspace in VOA Vials (>6mm)?	☐ Yes ☐ No ☒ N/A	14.
Trip Blank Present?	☐ Yes ☐ No ☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes ☐ No ☒ N/A	
Pace Trip Blank Lot # (if purchased):______		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: ______ Date/Time: ______

Comments/Resolution: ______

Project Manager Review: Sarah Parker **Date:** 7/18/2017

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN, 55414

Tel: 612-607-1700
Fax: 612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B

Sample ID...........C-6
Client................... PASI Florida
Lab Sample ID..... 35324052001-R

Date Collected.....07/13/2017
Date Received......07/18/2017
Date Extracted.....07/31/2017

	Sample C-6	**Method Blank**	**Lab Spike**	**Lab Spike Dup**
[2,3,7,8-TCDD]	**ND**	ND	--	--
EDL	1.8 pg/L	1.8 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	89%	82%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			7.9%	
IS Recovery	**105%**	97%	104%	98%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**103%**	94%	103%	96%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	F170801B_24	F170801B_23	F170801B_21	F170801B_22
Analysis Date	08/02/2017	08/02/2017	08/02/2017	08/02/2017
Analysis Time	10:20	09:37	08:12	08:54
Analyst	SMT	SMT	SMT	SMT
Volume	0.953L	1.027L	1.010L	1.020L
Dilution	NA	NA	NA	NA
ICAL Date	01/11/2017	01/11/2017	01/11/2017	01/11/2017
CCAL Filename	F170801B_17	F170801B_17	F170801B_17	F170801B_17

! = Outside the Control Limits
ND = Not Detected
EDL = Estimated Detection Limit
Limits = Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD = Relative Percent Difference of Lab Spike Recoveries
IS = Internal Standard [2,3,7,8-TCDD-$^{13}C_{12}$]
CS = Cleanup Standard [2,3,7,8-TCDD-$^{37}Cl_4$]

Analyst: ______________________

Project No.............10396064

C-12

EnviroTest
Laboratories Inc.

ANALYTICAL REPORT

Job Number: 420-123595-2

SDG Number: Clovewood

Job Description: LBG, Inc.

For:
Leggette, Brashears & Graham, Inc.
4 Research Drive
Shelton, CT 06464

Attention: Stacy Stieber

Debra Bayer

Debra Bayer
Customer Service Manager
dbayer@envirotestlaboratories.com
08/24/2017

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-2
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method
Matrix: Water			
ICP Metals by 200.7	EnvTest	EPA 200.7 Rev 4.4	
Sample Filtration	EnvTest		FILTRATION
Total Metals Digestion for 200.7	EnvTest		EPA 200.7
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
ICPMS Metals by 200.8	EnvTest	EPA 200.8 Rev.5.4	
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
Total Metals Digestion for 200.8	EnvTest		EPA 200.8
Mercury in Water by CVAA	EnvTest	EPA 245.1 Rev.3.0	
Digestion for CVAA Mercury in Waters	EnvTest		EPA 245.1
Anions by Ion Chromatography	EnvTest	MCAWW 300.0	
Anions by Ion Chromatography	EnvTest	EPA 300.0 Rev. 2.1	
EPA 504.1 EDB	Pace	EPA 504.1	
EPA 505 Pesticide/PCB	Pace	EPA 505	
EPA 515 Chlorinated Acids	Pace	EPA 515	
Purgeable Organic Compounds in Water by GC/MS	EnvTest	EPA-DW 524.2	
EPA 525.2 Semivolatile Organics	Pace	EPA 525.2	
EPA 531.1 Carbamate Pesticides in Drinki	Pace	EPA 531.1	
EPA 900 Series GA/GB/RA226/RA228/Gamma	Radios	EPA 900	
Uranium	Radios	STL-STL EPA	
Heterotropic Plate Count	EnvTest	IDEXX SIMPLATE	
Odor, Threshold Test	EnvTest	SM20 SM 2150B	
Alkalinity, Titration Method	EnvTest	SM21 SM 2320B-97,-11	
Corrosivity LSI Calculation	EnvTest	SM20 SM 2330B	
Hardness by Calculation	EnvTest	SM20 SM 2340B-97,-11	
pH	EnvTest	SM19 SM 4500 H+ B	
Nitrite by Colormetric	EnvTest	SM20 SM 4500 NO2 B	
Total Coliform and Escherichia coli by Colilert - Presence/Absence	EnvTest	SMWW SM 9223	
Apparent Color	EnvTest	SM21 SM2120B-01,11	
Turbidity	EnvTest	SM21 SM2130B-01,11	
Total Dissolved Solids (Dried at 180 °C)	EnvTest	SM21 SM2540C-97,11	
Cyanide, Total: Colorimetric Method	EnvTest	SM21 SM4500 CN E-99	
Cyanide: Distillation	EnvTest		SM21 SM 4500 CN C
General Sub Contract Method	Pace	Subcontract	
General Sub Contract Method	Radios	Subcontract	

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-2
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method

Lab References:

EnvTest = EnviroTest

Pace = Pace Analytical - Ormond Beach

Radios = Pace Analytical Services, Inc.

Method References:

EPA = US Environmental Protection Agency

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

IDEXX =

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

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

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

SM21 = "Standard Methods For The Examination Of Water And Wastewater", 21st Edition

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

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

METHOD / ANALYST SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-2
SDG Number: Clovewood

Method	Analyst	Analyst ID
EPA-DW 524.2	Andersen, Eric C	ECA
EPA 200.7 Rev 4.4	Sirico, Derek	DS
EPA 200.8 Rev.5.4	Sirico, Derek	DS
EPA 245.1 Rev.3.0	Sirico, Derek	DS
SM20 SM 2340B-97,-11	Sirico, Derek	DS
MCAWW 300.0	Luis, Carlos	CL
EPA 300.0 Rev. 2.1	Luis, Carlos	CL
IDEXX SIMPLATE	O'Driscoll, Kate	KO
SM20 SM 2150B	O'Driscoll, Kate	KO
SM21 SM 2320B-97,-11	Tramantano, Matt	MT
SM20 SM 2330B	Cusack, Renee	RC
SM19 SM 4500 H+ B	O'Driscoll, Kate	KO
SM20 SM 4500 NO2 B	Grant, Ameya	AG
SMWW SM 9223	Grant, Ameya	AG
SM21 SM2120B-01,11	O'Driscoll, Kate	KO
SM21 SM2130B-01,11	O'Driscoll, Kate	KO
SM21 SM2540C-97,11	O'Driscoll, Kate	KO
SM21 SM4500 CN E-99	Osborne, Amy	AO

SAMPLE SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-2
SDG Number: Clovewood

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
420-123595-2	C - 12	Drinking Water	07/13/2017 1020	07/13/2017 1000

Analytical Data

Client:	Leggette, Brashears & Graham, Inc.	Job Number:	420-123595-2
		Sdg Number:	Clovewood
Client Sample ID:	**C - 12**		
Lab Sample ID:	420-123595-2	Date Sampled:	07/13/2017 1020
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112453	Instrument ID:	Agilent 7890A/5975C
Preparation:	N/A		Lab File ID:	X071419.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/14/2017 1844		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
1,1,1,2-Tetrachloroethane	<0.500		0.500
1,1,1-Trichloroethane	<0.500		0.500
1,1,2,2-Tetrachloroethane	<0.500		0.500
1,1,2-Trichloroethane	<0.500		0.500
1,1-Dichloroethane	<0.500		0.500
1,1-Dichloroethene	<0.500		0.500
1,1-Dichloropropene	<0.500		0.500
1,2,3-Trichlorobenzene	<0.500		0.500
1,2,3-Trichloropropane	<0.500		0.500
1,2,4-Trichlorobenzene	<0.500		0.500
1,2,4-Trimethylbenzene	<0.500		0.500
1,2-Dichloroethane	<0.500		0.500
1,2-Dichlorobenzene	<0.500		0.500
1,2-Dichloropropane	<0.500		0.500
1,3-Dichloropropane	<0.500		0.500
1,4-Dichlorobenzene	<0.500		0.500
2,2-Dichloropropane	<0.500		0.500
Benzene	<0.500		0.500
Bromobenzene	<0.500		0.500
Bromochloromethane	<0.500		0.500
Bromomethane	<0.500		0.500
n-Butylbenzene	<0.500		0.500
cis-1,2-Dichloroethene	<0.500		0.500
cis-1,3-Dichloropropene	<0.500		0.500
Carbon tetrachloride	<0.500		0.500
Chlorobenzene	<0.500		0.500
Chloroethane	<0.500		0.500
Chloromethane	<0.500		0.500
Dibromomethane	<0.500		0.500
Ethylbenzene	<0.500		0.500
Dichlorodifluoromethane	<0.500		0.500
Hexachlorobutadiene	<0.500		0.500
Isopropylbenzene	<0.500		0.500
p-Isopropyltoluene	<0.500		0.500
Methylene Chloride	<0.500		0.500
m-Xylene & p-Xylene	<1.00		1.00
Methyl tert-butyl ether	<0.500		0.500
o-Xylene	<0.500		0.500
Tetrachloroethene	<0.500		0.500
Toluene	<0.500		0.500
trans-1,2-Dichloroethene	<0.500		0.500
trans-1,3-Dichloropropene	<0.500		0.500
Trichloroethene	<0.500		0.500
tert-Butylbenzene	<0.500		0.500

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-2
Sdg Number: Clovewood

Client Sample ID: C - 12

Lab Sample ID: 420-123595-2
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 1020
Date Received: 07/13/2017 1000

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112453	Instrument ID:	Agilent 7890A/5975C
Preparation:	N/A		Lab File ID:	X071419.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/14/2017 1844		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
Trichlorofluoromethane	<0.500		0.500
Vinyl chloride	<0.500		0.500
Xylenes, Total	<1.50		1.50
Styrene	<0.500		0.500
sec-Butylbenzene	<0.500		0.500
1,3,5-Trimethylbenzene	<0.500		0.500
N-Propylbenzene	<0.500		0.500
1,3-Dichlorobenzene	<0.500		0.500
2-Chlorotoluene	<0.500		0.500
4-Chlorotoluene	<0.500		0.500

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	101	71 - 120
Toluene-d8 (Surr)	119	79 - 121
1,2-Dichloroethane-d4 (Surr)	121	70 - 128

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-2
Sdg Number: Clovewood

Client Sample ID: **C - 12**

Lab Sample ID: 420-123595-2
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 1020
Date Received: 07/13/2017 1000

200.7 Rev 4.4 ICP Metals by 200.7

Method: 200.7 Rev 4.4
Preparation: 200.7/200.8
Dilution: 1.0
Date Analyzed: 07/17/2017 1440
Date Prepared: 07/17/2017 0925

Analysis Batch: 420-112479
Prep Batch: 420-112493

Instrument ID: Thermo ICP
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (ug/L)	Qualifier	RL
Iron	<60.0		60.0
Manganese	<10.0		10.0
Sodium	6870		200
Zinc	28.4		20.0

200.7 Rev 4.4 ICP Metals by 200.7-Dissolved

Method: 200.7 Rev 4.4
Preparation: 200.7
Dilution: 1.0
Date Analyzed: 07/19/2017 1801
Date Prepared: 07/17/2017 1505

Analysis Batch: 420-112597
Prep Batch: 420-112501

Instrument ID: Thermo ICP
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (ug/L)	Qualifier	RL
Iron	<60.0		60.0
Manganese	<10.0		10.0

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-2
Sdg Number: Clovewood

Client Sample ID: **C - 12**

Lab Sample ID:	420-123595-2	Date Sampled:	07/13/2017 1020
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

200.8 Rev.5.4 ICPMS Metals by 200.8

Method:	200.8 Rev.5.4	Analysis Batch: 420-112457	Instrument ID:	Perkin Elmer ELAN
Preparation:	200.7/200.8	Prep Batch: 420-112493	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/17/2017 1324		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 0925			

Analyte	Result (ug/L)	Qualifier	RL
Lead	<1.00		1.00
Arsenic	<1.40		1.40
Beryllium	<0.300		0.300
Cadmium	<1.00		1.00
Chromium	<7.00		7.00
Nickel	1.96		0.500
Antimony	<0.400		0.400
Thallium	<0.300		0.300
Barium	6.80		2.00
Selenium	<2.00		2.00

Method:	200.8 Rev.5.4	Analysis Batch: 420-112536	Instrument ID:	Perkin Elmer ELAN
Preparation:	200.8	Prep Batch: 420-112520	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/18/2017 1721		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 1800			

Analyte	Result (ug/L)	Qualifier	RL
Silver	<1.00		1.00

245.1 Rev.3.0 Mercury in Water by CVAA

Method:	245.1 Rev.3.0	Analysis Batch: 420-112511	Instrument ID:	Perkin Elmer FIMS
Preparation:	245.1	Prep Batch: 420-112451	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	25 mL
Date Analyzed:	07/18/2017 1211		Final Weight/Volume:	25 mL
Date Prepared:	07/17/2017 1115			

Analyte	Result (ug/L)	Qualifier	RL
Mercury	<0.200		0.200

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-2
Sdg Number: Clovewood

Client Sample ID: **C - 12**

Lab Sample ID:	420-123595-2	Date Sampled:	07/13/2017 1020
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

SM 2340B-97,-11 Hardness by Calculation

Method:	SM 2340B-97,-11	Analysis Batch: 420-112535	Instrument ID:	None
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	
Date Analyzed:	07/17/2017 1440		Final Weight/Volume:	
Date Prepared:	N/A			

Analyte	Result (mg/L)	Qualifier	RL
Calcium hardness as calcium carbonate	110		1.25

Biology

Client Sample ID: **C - 12**

Lab Sample ID: 420-123595-2
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 1020
Date Received: 07/13/2017 1000

Analyte	Result	Qual	Units	Dil	Method
Coliform, Total	Present	g	CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112380	Date Analyzed	07/13/2017 1510		
Escherichia coli	Present	g	CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112380	Date Analyzed	07/13/2017 1510		

Analyte	Result	Qual	Units	RL	Dil	Method
Heterotrophic Plate Count	28.0		CFU/mL	2.00	1.0	SIMPLATE
	Anly Batch: 420-112413	Date Analyzed	07/13/2017 1550			

General Chemistry

General Chemistry

Client Sample ID: **C - 12**

Lab Sample ID:	420-123595-2	Date Sampled:	07/13/2017 1020
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Nitrate as N	<0.250		mg/L	0.250	1.0	300.0
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1631			

Analyte	Result	Qual	Units	Dil	Method
Langelier Index	-0.0500		NONE	1.0	SM 2330B
	Anly Batch: 420-112765	Date Analyzed	07/26/2017 1302		

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-2
Sdg Number: Clovewood

General Chemistry

Client Sample ID: **C - 12**

Lab Sample ID:	420-123595-2	Date Sampled:	07/13/2017 1020
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Alkalinity	115		mg/L	5.00	1.0	SM 2320B-97,-11
	Anly Batch: 420-112669	Date Analyzed	07/21/2017 1730			
Total Dissolved Solids	168		mg/L	5.00	1.0	SM2540C-97,11
	Anly Batch: 420-112602	Date Analyzed	07/20/2016 1700			
Sulfate	20.0		mg/L	5.00	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1631			
Fluoride	<0.500		mg/L	0.500	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1631			
Chloride	9.06		mg/L	3.00	2.0	300.0 Rev. 2.1
	Anly Batch: 420-112447	Date Analyzed	07/14/2017 2321			
Cyanide, Total	<0.00500		mg/L	0.00500	1.0	SM4500 CN E-99
	Anly Batch: 420-112524	Date Analyzed	07/18/2017 1400			
	Prep Batch:	Date Prepared:	07/14/2017 1300			
Apparent Color	5.00		Pt-Co	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112486	Date Analyzed	07/13/2017 1747			
pH@color measurement	7.62		SU	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112486	Date Analyzed	07/13/2017 1747			
Turbidity	0.482		NTU	0.100	1.0	SM2130B-01,11
	Anly Batch: 420-112420	Date Analyzed	07/13/2017 1810			
Odor	1.00		T.O.N.	1.00	1.0	SM 2150B
	Anly Batch: 420-112485	Date Analyzed	07/13/2017 1800			
Temp @ Odor Measurement	60.0		Degrees C	5.00	1.0	SM 2150B
	Anly Batch: 420-112485	Date Analyzed	07/13/2017 1800			
pH	7.62	H	SU	0.200	1.0	SM 4500 H+ B
	Anly Batch: 420-112487	Date Analyzed	07/13/2017 1745			
Temp @ pH Measurement	17.3		Degrees C	5.00	1.0	SM 4500 H+ B
	Anly Batch: 420-112487	Date Analyzed	07/13/2017 1745			
Nitrite as N	<0.0100		mg/L	0.0100	1.0	SM 4500 NO2 B
	Anly Batch: 420-112510	Date Analyzed	07/14/2017 1047			

DATA REPORTING QUALIFIERS

Client: Leggette, Brashears & Graham, Inc.

Job Number:
Sdg Number: Clovewood

Lab Section	Qualifier	Description
General Chemistry		
	H	Sample was prepped or analyzed beyond the specified holding time
Biology		
	g	Result fails applicable NYS drinking water standards

The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Silicon, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide, Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Phenolphthalein Alkalinity, Solids (Fixed), Solids (Percent), Solids (Percent Moisture) , Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, Volatile Acids as Acetic Acid, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, Iron Bacteria, Salmonella, & Sulfur Reducing Bacteria.

The following analytes are Not Part of ELAP Potable Water scope of accreditation:

Cobalt (200.7, 200.8), Tin (200.7), Strontium (200.7), Gold (200.7), Platinum (200.7), Palladium (200.7), Titanium (200.7), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), Naphthalene (502.2), o-Xylene (502.2, 524), & Fecal Coliform (9222D).

The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

The following analytes are Not Part of ELAP Non Potable Water scope of accreditation:

Dissolved Organic Carbon (5310C), Mecoprop (8151A), & MCPA (8151A).

Definitions and Glossary

Client: Leggette, Brashears & Graham, Inc.

Job Number:

Sdg Number: Clovewood

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points.

EnviroTest Laboratories, Inc.

CHAIN OF CUSTODY

123595-2

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

REPORT# (Lab Use Only) [redacted]

PROJECT REFERENCE: Clovewood
PROJECT NO.:
PROJECT LOCATION:
ENVIROTEST PROJECT MANAGER: Debra Bayer
P.O. NUMBER:
TOWN:
CLIENT (SITE) PM: LBG, Inc.
CLIENT PHONE: 203-929-8555
CLIENT FAX:
CLIENT NAME: Stacy Stieber
CLIENT ADDRESS: 4 Research Drive, Suite 204, Shelton, CT 06484
COMPANY CONTRACTING THIS WORK (if applicable): 1

PAGE 1 of 1

TURNAROUND TIME
NORMAL X
QUICK ____
VERBAL ____

#OF COOLERS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX TYPE: COMPOSITE (C) OR GRAB (G) *Indicate*	AQUEOUS (WATER)	D (Drinking Water) or W (Waste Water) *Indicate*	SOLID OR SEMISOLID	OTHER *Specify*	**MPA C/G kit**	**40ml Vials HCl**	**40ml Sodium Thio.**	**250ml Amber Sodium Thio.**	**Liter Amber HCl/Na2SO3**	**250ml Plastic Nitric Acid**	**40ml Mon/Sod.Thio(liquid)**	**Liter Plastic**	**250ml Plastic Sodium Hyd.**	**125ml Plastic Sterile**	**Liter Plastic Nitric**	**40ml Vials Unpres**	**REMARKS**
7/13/14	1020	C-12			D				3	2	1	2	1	2	4	1	2	5	2	**Table 8B (Sb,As,Ba,Be,Cd,Cr,Cn,Hg,Ni**
																				Se,Tl,F)
																				Table 8C (NO3,NO2)
								2-Liter Amber Unpres.												**Table 8D (Cl,Fe,Mn,Ag,Na,SO4,Zn,Odor,Color)**
								1-250ml Amber Unpres.												**524.2 (POC,MTBE,Vinyl Chloride)**
								3-250ml Plastic Unpres. (no air)												**SOCs (504,508,515,525,531,547,548,549,Dioxin)**
								2-40ml Amber Sodium Thio.												**Additional Tests (Total coliform**
								1-500ml Amber Sodium Thio.												**thru Zinc)**
								1-Liter Amber Plastic Sodium Thio.&H2SO4												**Radio(Gross Alpha/Beta,Radium-226/228,Uranium)**
								2-Liter Amber Sodium Thio.												**Radon**
																				Dissolved Fe, Mn

NUMBER OF CONTAINERS SUBMITTED

RELINQUISHED BY: (SIGNATURE)	COMPANY LBG	DATE 7/13/17	TIME 1143	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
SAMPLED BY: (SIGNATURE)	COMPANY LBG	DATE 7/13/17	TIME 1020	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	COMPANY	DATE	TIME	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME

SUBCONTACT: PACE-SOCs, Radio, Radon; ASI-MPA/Crypto/Giardia

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE 7/13/17	TIME 1143	CUSTODY INTACT YES NO	Cooler Temp:. 3.5°C IR#3	LABORATORY REMARKS: ICE ✓ pH____ CL2____ Reveiwed by____________

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-2
SDG Number: Clovewood

Login Number: **123595**

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	3.5C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	False	pH
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

August 03, 2017

Ms. Debra Bayer
EnviroTest Laboratories, Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: 42001269
Pace Project No.: 30224100

Dear Ms. Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

cc: Janine Rader, EnviroTest Laboratories, Inc.

CERTIFICATIONS

Project:	42001269
Pace Project No.:	30224100

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

SAMPLE SUMMARY

Project: 42001269
Pace Project No.: 30224100

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30224100001	**C-12 (420-123595-2)**	Drinking Water	07/13/17 10:20	07/14/17 10:20

SAMPLE ANALYTE COUNT

Project: 42001269
Pace Project No.: 30224100

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30224100001	**C-12 (420-123595-2)**	SM7500RnB-07	NEG	1
		EPA 900.0	NEG	2
		EPA 903.1	WRR	1
		EPA 904.0	VAL	1
		ASTM D5174-97	RMK	1

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224100

Sample: C-12 (420-123595-2) **Lab ID: 30224100001** Collected: 07/13/17 10:20 Received: 07/14/17 10:20 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radon	SM7500RnB-07	**757 ± 51.4 (45.6)** **C:NA T:NA**	pCi/L	07/15/17 06:34	10043-92-2	
Gross Alpha	EPA 900.0	**0.718 ± 1.28 (2.89)** **C:NA T:NA**	pCi/L	07/24/17 08:37	12587-46-1	
Gross Beta	EPA 900.0	**0.949 ± 0.730 (1.47)** **C:NA T:NA**	pCi/L	07/24/17 08:37	12587-47-2	
Radium-226	EPA 903.1	**0.301 ± 0.391 (0.647)** **C:NA T:93%**	pCi/L	07/26/17 12:51	13982-63-3	
Radium-228	EPA 904.0	**0.459 ± 0.347 (0.703)** **C:77% T:82%**	pCi/L	07/27/17 11:16	15262-20-1	
Total Uranium	ASTM D5174-97	**0.717 ± 0.025 (0.193)** **C:NA T:NA**	ug/L	08/03/17 16:26	7440-61-1	

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224100

QC Batch: 265143
QC Batch Method: ASTM D5174-97
Analysis Method: ASTM D5174-97
Analysis Description: D5174.97 Total Uranium KPA
Associated Lab Samples: 30224100001

METHOD BLANK: 1306496
Matrix: Water
Associated Lab Samples: 30224100001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Total Uranium	0.064 ± 0.004 (0.193) C:NA T:NA	ug/L	08/03/17 11:33	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224100

QC Batch: 265053
QC Batch Method: SM7500RnB-07
Analysis Method: SM7500RnB-07
Analysis Description: 7500Rn B Radon
Associated Lab Samples: 30224100001

METHOD BLANK: 1305441
Matrix: Water
Associated Lab Samples: 30224100001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radon	2.8 ± 18.8 (32.7) C:NA T:NA	pCi/L	07/15/17 02:40	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224100

QC Batch: 265152
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Associated Lab Samples: 30224100001

METHOD BLANK: 1306510
Matrix: Water
Associated Lab Samples: 30224100001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.159 ± 0.312 (0.570) C:NA T:95%	pCi/L	07/26/17 12:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224100

QC Batch: 265148
QC Batch Method: EPA 900.0
Analysis Method: EPA 900.0
Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 30224100001

METHOD BLANK: 1306505
Matrix: Water
Associated Lab Samples: 30224100001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	-0.333 ± 0.399 (1.52) C:NA T:NA	pCi/L	07/24/17 08:35	
Gross Beta	-0.362 ± 0.578 (1.62) C:NA T:NA	pCi/L	07/24/17 08:35	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224100

QC Batch: 265158
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Associated Lab Samples: 30224100001

METHOD BLANK: 1306521
Matrix: Water
Associated Lab Samples: 30224100001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0810 ± 0.316 (0.717) C:75% T:85%	pCi/L	07/27/17 11:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project: 42001269
Pace Project No.: 30224100

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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

Chain of Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)	Sampler: S Stieber of LBG 7/13/17	Lab PM: Bayer, Debra	Carrier Tracking No(s):	COC No: 420-9118.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: dbayer@envirotestlaboratories.com		Page: Page 1 of 1
Company: Pace Analytical Services, Inc.		**Analysis Requested**		STL Job #: 420-123595-2
Address: 1638 Roseytown Rd,Suites 2,3,4, ,	**Due Date Requested:** 7/27/2017			
City: Greensburg	**TAT Requested (days):**			
State, Zip: PA, 15601				
Phone:	PO #:			
Email:	WO #:			
Project Name: LBG, Inc.	Project #: 42001269			
Site:	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 900 GA/GB/RA 226/RA 228	SUBCONTRACT/ Total Uranium	SUBCONTRACT/ Radon	Total Number of containers	Special Instructions/Note: MY Spkes 7/13/17 03
			Preservation Code:								
C - 12 (420-123595-2)	7/13/17	10:20		Water			X	X	X	7	001

WO#:30224100
30224100

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: RD	Date/Time: 7/13/17 1425	Company ETL	Received by:	Date/Time: 7/14/17 1020	Company PACE
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Sample Condition Upon Receipt Pittsburgh

30224100

Pace Analytical

Client Name: Envirotest labs. Project # ______

Label ZH
LIMS Login AINL

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other ______

Tracking #: 779625473330

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no

Thermometer Used 8 Type of Ice: [✓ Wet] Blue None

Cooler Temperature Observed Temp 3.5 °C Correction Factor: 0.0 °C Final Temp: 3.5 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ZH 7/14/17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:		/		4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):	/			7.
Rush Turn Around Time Requested:		/		8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:		/		
Containers Intact:	/			11.
Orthophosphate field filtered			▨	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ZH Date/time of preservation Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	16.
Trip Blank Present:			/	17.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr		/		Initial when completed: ZH Date: 7/14/17

Client Notification/ Resolution:

Person Contacted: ______ Date/Time: ______ Contacted By: ______

Comments/ Resolution: ______

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

J:\QAQC\Master\Document Management\Sample Mgt\Sample Condition Upon Receipt Pittsburgh (C056-5 5July2017)

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

August 07, 2017

Ron Bayer
EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: LBG, Inc 42001269
Pace Project No.: 35324054

Dear Ron Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Bo Garcia
bo.garcia@pacelabs.com
(386)672-5668
Project Manager

Enclosures

cc: Debra Bayer, EnviroTest Laboratories Inc.
Renee Cusack, EnviroTest Laboratories Inc.
Laura Marciano, EnviroTest Laboratories Inc.
Janine Rader, EnviroTest Laboratories Inc.
Meredith Ruthven, EnviroTest Laboratories Inc.

CERTIFICATIONS

Project:	LBG, Inc 42001269
Pace Project No.:	35324054

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

SAMPLE SUMMARY

Project: LBG, Inc 42001269
Pace Project No.: 35324054

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35324054001	**C-12**	Drinking Water	07/13/17 10:20	07/14/17 11:10

SAMPLE ANALYTE COUNT

Project: LBG, Inc 42001269
Pace Project No.: 35324054

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35324054001	**C-12**	EPA 504.1	BP1	2	PASI-O
		EPA 505	MMR	3	
		EPA 508.1	NS1	18	PASI-O
		EPA 515.3	LJM	8	PASI-O
		EPA 531.1	WFH	9	PASI-O
		EPA 547	NMB	1	PASI-O
		EPA 549.2	NMB	1	PASI-O
		EPA 525.2	NS1	7	PASI-O
		EPA 548.1	JDT	1	PASI-O

ANALYTICAL RESULTS

Project:	LBG, Inc 42001269
Pace Project No.:	35324054

Sample: C-12 **Lab ID: 35324054001** Collected: 07/13/17 10:20 Received: 07/14/17 11:10 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
504.1 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1								
1,2-Dibromo-3-chloropropane	**<0.0054**	ug/L	0.017	0.0054	1	07/18/17 07:15	07/18/17 18:08	96-12-8	
1,2-Dibromoethane (EDB)	**<0.0064**	ug/L	0.0085	0.0064	1	07/18/17 07:15	07/18/17 18:08	106-93-4	
505 GCS Pesticides/PCBs	Analytical Method: EPA 505 Preparation Method: EPA 505								
Aldrin	**<0.025**	ug/L	0.025	0.025	1	07/20/17 16:38	07/21/17 00:30	309-00-2	
Surrogates									
Tetrachloro-m-xylene (S)	67	%.	30-150		1	07/20/17 16:38	07/21/17 00:30	877-09-8	
Decachlorobiphenyl (S)	68	%.	30-150		1	07/20/17 16:38	07/21/17 00:30	2051-24-3	
508.1 GCS Pesticides	Analytical Method: EPA 508.1 Preparation Method: EPA 508.1								
Alachlor	**<0.037**	ug/L	0.21	0.037	1	07/21/17 15:45	07/28/17 03:50	15972-60-8	
Atrazine	**<0.066**	ug/L	0.11	0.066	1	07/21/17 15:45	07/28/17 03:50	1912-24-9	
gamma-BHC (Lindane)	**<0.0032**	ug/L	0.021	0.0032	1	07/21/17 15:45	07/28/17 03:50	58-89-9	
Butachlor	**<0.028**	ug/L	0.11	0.028	1	07/21/17 15:45	07/28/17 03:50	23184-66-9	
Chlordane (Technical)	**<0.050**	ug/L	0.21	0.050	1	07/21/17 15:45	07/28/17 03:50	57-74-9	
Dieldrin	**<0.020**	ug/L	0.11	0.020	1	07/21/17 15:45	07/28/17 03:50	60-57-1	
Endrin	**<0.0074**	ug/L	0.011	0.0074	1	07/21/17 15:45	07/28/17 03:50	72-20-8	
Heptachlor	**<0.013**	ug/L	0.042	0.013	1	07/21/17 15:45	07/28/17 03:50	76-44-8	
Heptachlor epoxide	**<0.0032**	ug/L	0.021	0.0032	1	07/21/17 15:45	07/28/17 03:50	1024-57-3	
Hexachlorobenzene	**<0.020**	ug/L	0.11	0.020	1	07/21/17 15:45	07/28/17 03:50	118-74-1	
Hexachlorocyclopentadiene	**<0.034**	ug/L	0.11	0.034	1	07/21/17 15:45	07/28/17 03:50	77-47-4	
Methoxychlor	**<0.054**	ug/L	0.11	0.054	1	07/21/17 15:45	07/28/17 03:50	72-43-5	
Metolachlor	**<0.050**	ug/L	0.11	0.050	1	07/21/17 15:45	07/28/17 03:50	51218-45-2	
PCB, Total	**<0.084**	ug/L	0.11	0.084	1	07/21/17 15:45	07/28/17 03:50	1336-36-3	
Propachlor	**<0.032**	ug/L	0.11	0.032	1	07/21/17 15:45	07/28/17 03:50	1918-16-7	
Simazine	**<0.073**	ug/L	0.074	0.073	1	07/21/17 15:45	07/28/17 03:50	122-34-9	
Toxaphene	**<0.64**	ug/L	1.1	0.64	1	07/21/17 15:45	07/28/17 03:50	8001-35-2	
Surrogates									
Decachlorobiphenyl (S)	94	%	70-130		1	07/21/17 15:45	07/28/17 03:50	2051-24-3	
515.3 Chlorinated Herbicides	Analytical Method: EPA 515.3 Preparation Method: EPA 515.3								
2,4-D	**<0.081**	ug/L	0.10	0.081	1	07/20/17 09:35	07/22/17 07:10	94-75-7	
Dalapon	**<0.89**	ug/L	1.0	0.89	1	07/20/17 09:35	07/22/17 07:10	75-99-0	
Dicamba	**<0.067**	ug/L	0.10	0.067	1	07/20/17 09:35	07/22/17 07:10	1918-00-9	L1
Dinoseb	**<0.16**	ug/L	0.20	0.16	1	07/20/17 09:35	07/22/17 07:10	88-85-7	
Pentachlorophenol	**<0.030**	ug/L	0.040	0.030	1	07/20/17 09:35	07/22/17 07:10	87-86-5	
Picloram	**<0.094**	ug/L	0.10	0.094	1	07/20/17 09:35	07/22/17 07:10	1918-02-1	
2,4,5-TP (Silvex)	**<0.16**	ug/L	0.20	0.16	1	07/20/17 09:35	07/22/17 07:10	93-72-1	
Surrogates									
2,4-DCAA (S)	94	%	70-130		1	07/20/17 09:35	07/22/17 07:10	19719-28-9	
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
Aldicarb	**<0.64**	ug/L	2.0	0.64	1		07/18/17 16:26	116-06-3	
Aldicarb sulfone	**<0.37**	ug/L	2.0	0.37	1		07/18/17 16:26	1646-88-4	
Aldicarb sulfoxide	**<0.59**	ug/L	2.0	0.59	1		07/18/17 16:26	1646-87-3	
Carbofuran	**<0.32**	ug/L	2.0	0.32	1		07/18/17 16:26	1563-66-2	

ANALYTICAL RESULTS

Project: LBG, Inc 42001269
Pace Project No.: 35324054

Sample: C-12 **Lab ID: 35324054001** Collected: 07/13/17 10:20 Received: 07/14/17 11:10 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
3-Hydroxycarbofuran	**<0.45**	ug/L	2.0	0.45	1		07/18/17 16:26	16655-82-6	
Methomyl	**<0.57**	ug/L	2.0	0.57	1		07/18/17 16:26	16752-77-5	
Oxamyl	**<0.55**	ug/L	2.0	0.55	1		07/18/17 16:26	23135-22-0	
Carbaryl	**<0.27**	ug/L	2.0	0.27	1		07/18/17 16:26	63-25-2	
Surrogates									
BDMC (S)	97	%	80-120		1		07/18/17 16:26		
547 HPLC Glyphosate	Analytical Method: EPA 547								
Glyphosate	**<4.2**	ug/L	6.0	4.2	1		07/20/17 04:57		
549.2 HPLC Paraquat Diquat	Analytical Method: EPA 549.2 Preparation Method: EPA 549.2								
Diquat	**<0.30**	ug/L	0.40	0.30	1	07/19/17 11:00	07/20/17 02:12	85-00-7	
525.2 Base Neutral Extractable	Analytical Method: EPA 525.2 Preparation Method: EPA 525.2								
Benzo(a)pyrene	**<0.013**	ug/L	0.097	0.013	1	07/25/17 10:30	07/26/17 14:41	50-32-8	L2
bis(2-Ethylhexyl)adipate	**<0.37**	ug/L	1.6	0.37	1	07/25/17 10:30	07/26/17 14:41	103-23-1	
bis(2-Ethylhexyl)phthalate	**<0.49**	ug/L	1.9	0.49	1	07/25/17 10:30	07/26/17 14:41	117-81-7	
Metribuzin	**<0.15**	ug/L	0.29	0.15	1	07/25/17 10:30	07/26/17 14:41	21087-64-9	
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	123	%	70-130		1	07/25/17 10:30	07/26/17 14:41	81209	
Perylene-d12 (S)	68	%	70-130		1	07/25/17 10:30	07/26/17 14:41	1520963	S0,S8
Triphenylphosphate (S)	96	%	70-130		1	07/25/17 10:30	07/26/17 14:41	115-86-6	
548.1 GCS Endothall	Analytical Method: EPA 548.1 Preparation Method: EPA 548.1								
Endothall	**<4.3**	ug/L	9.0	4.3	1	07/20/17 18:00	07/25/17 09:23		

QUALITY CONTROL DATA

Project: LBG, Inc 42001269
Pace Project No.: 35324054

QC Batch: 381535
Analysis Method: EPA 531.1
QC Batch Method: EPA 531.1
Analysis Description: 531.1 HPLC Carbamate
Associated Lab Samples: 35324054001

METHOD BLANK: 2070180
Matrix: Water
Associated Lab Samples: 35324054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
3-Hydroxycarbofuran	ug/L	<0.45	2.0	0.45	07/18/17 12:36	
Aldicarb	ug/L	<0.64	2.0	0.64	07/18/17 12:36	
Aldicarb sulfone	ug/L	<0.37	2.0	0.37	07/18/17 12:36	
Aldicarb sulfoxide	ug/L	<0.59	2.0	0.59	07/18/17 12:36	
Carbaryl	ug/L	<0.27	2.0	0.27	07/18/17 12:36	
Carbofuran	ug/L	<0.32	2.0	0.32	07/18/17 12:36	
Methomyl	ug/L	<0.57	2.0	0.57	07/18/17 12:36	
Oxamyl	ug/L	<0.55	2.0	0.55	07/18/17 12:36	
BDMC (S)	%	120	80-120		07/18/17 12:36	

LABORATORY CONTROL SAMPLE: 2070181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
3-Hydroxycarbofuran	ug/L	10	10.3	103	80-120	
Aldicarb	ug/L	10	11.2	112	80-120	
Aldicarb sulfone	ug/L	10	10.9	109	80-120	
Aldicarb sulfoxide	ug/L	10	12.0	120	80-120	
Carbaryl	ug/L	10	12.0	120	80-120	
Carbofuran	ug/L	10	11.7	117	80-120	
Methomyl	ug/L	10	10.6	106	80-120	
Oxamyl	ug/L	10	11.8	118	80-120	
BDMC (S)	%			118	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070182 2070183

Parameter	Units	35323850001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
3-Hydroxycarbofuran	ug/L	0.45U	10	10	10	10.2	100	102	80-120	2	20	
Aldicarb	ug/L	0.64U	10	10	10.5	10.3	105	103	80-120	3	20	
Aldicarb sulfone	ug/L	0.37U	10	10	9.5	9.8	95	98	80-120	4	20	
Aldicarb sulfoxide	ug/L	0.59U	10	10	11.2	11.0	112	110	80-120	2	20	
Carbaryl	ug/L	0.27U	10	10	12.0	11.5	120	115	80-120	4	20	
Carbofuran	ug/L	0.32U	10	10	11.3	10.5	113	105	80-120	7	20	
Methomyl	ug/L	0.57U	10	10	10.5	11.1	105	111	80-120	6	20	
Oxamyl	ug/L	0.55U	10	10	10.2	10.0	102	100	80-120	2	20	
BDMC (S)	%						103	98	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc 42001269
Pace Project No.: 35324054

QC Batch: 382091
QC Batch Method: EPA 547
Analysis Method: EPA 547
Analysis Description: 547 HPLC Glyphosate
Associated Lab Samples: 35324054001

METHOD BLANK: 2073233
Matrix: Water
Associated Lab Samples: 35324054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Glyphosate	ug/L	<4.2	6.0	4.2	07/20/17 02:06	

LABORATORY CONTROL SAMPLE: 2073234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Glyphosate	ug/L	50	52.3	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073235 2073236

Parameter	Units	35324897001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	0.0042U mg/L	50	50	48.2	48.4	96	97	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073237 2073238

Parameter	Units	35324066001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	<4.2	50	50	51.2	49.9	102	100	80-120	3	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc 42001269
Pace Project No.: 35324054

QC Batch: 381399
Analysis Method: EPA 504.1
QC Batch Method: EPA 504.1
Analysis Description: 504 EDB DBCP
Associated Lab Samples: 35324054001

METHOD BLANK: 2069376
Matrix: Water
Associated Lab Samples: 35324054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	<0.0064	0.020	0.0064	07/18/17 13:43	
1,2-Dibromoethane (EDB)	ug/L	<0.0075	0.010	0.0075	07/18/17 13:43	

LABORATORY CONTROL SAMPLE & LCSD: 2069377 2070238

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	.25	0.27	0.24	109	96	70-130	12	40	
1,2-Dibromoethane (EDB)	ug/L	.25	0.29	0.25	116	101	70-130	13	40	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070239 2070240

Parameter	Units	35324127010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromo-3-chloropropane	ug/L	<0.0055	.44	.44	0.64	0.63	146	143	65-135	2	40	M1
1,2-Dibromoethane (EDB)	ug/L	<0.0064	.44	.44	0.64	0.63	146	145	65-135	1	40	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc 42001269
Pace Project No.: 35324054

QC Batch: 32255
QC Batch Method: EPA 505
Analysis Method: EPA 505
Analysis Description: 505 GCS Pesticides
Associated Lab Samples: 35324054001

METHOD BLANK: 149103 Matrix: Water
Associated Lab Samples: 35324054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aldrin	ug/L	<0.025	0.025	0.025	07/20/17 18:40	
Decachlorobiphenyl (S)	%.	75	30-150		07/20/17 18:40	
Tetrachloro-m-xylene (S)	%.	85	30-150		07/20/17 18:40	

LABORATORY CONTROL SAMPLE: 149104

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	.048	0.047	98	70-130	
Decachlorobiphenyl (S)	%.			95	30-150	
Tetrachloro-m-xylene (S)	%.			94	30-150	

LABORATORY CONTROL SAMPLE: 149105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	.0095	<0.025	97	70-130	
Decachlorobiphenyl (S)	%.			89	30-150	
Tetrachloro-m-xylene (S)	%.			95	30-150	

MATRIX SPIKE SAMPLE: 149106

Parameter	Units	7024421001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	<0.025	.095	0.092	96	65-135	
Decachlorobiphenyl (S)	%.				75	30-150	
Tetrachloro-m-xylene (S)	%.				97	30-150	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc 42001269
Pace Project No.: 35324054

QC Batch: 382070 Analysis Method: EPA 508.1
QC Batch Method: EPA 508.1 Analysis Description: 508 GCS Pesticide
Associated Lab Samples: 35324054001

METHOD BLANK: 2073167 Matrix: Water
Associated Lab Samples: 35324054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alachlor	ug/L	<0.035	0.20	0.035	07/26/17 10:06	
Atrazine	ug/L	<0.063	0.10	0.063	07/26/17 10:06	
Butachlor	ug/L	<0.027	0.10	0.027	07/26/17 10:06	
Chlordane (Technical)	ug/L	<0.047	0.20	0.047	07/26/17 10:06	
Dieldrin	ug/L	<0.019	0.10	0.019	07/26/17 10:06	
Endrin	ug/L	<0.0070	0.010	0.0070	07/26/17 10:06	
gamma-BHC (Lindane)	ug/L	<0.0030	0.020	0.0030	07/26/17 10:06	
Heptachlor	ug/L	<0.012	0.040	0.012	07/26/17 10:06	
Heptachlor epoxide	ug/L	<0.0030	0.020	0.0030	07/26/17 10:06	
Hexachlorobenzene	ug/L	<0.019	0.10	0.019	07/26/17 10:06	
Hexachlorocyclopentadiene	ug/L	<0.032	0.10	0.032	07/26/17 10:06	
Methoxychlor	ug/L	<0.051	0.10	0.051	07/26/17 10:06	
Metolachlor	ug/L	<0.047	0.10	0.047	07/26/17 10:06	
Propachlor	ug/L	<0.030	0.10	0.030	07/26/17 10:06	
Simazine	ug/L	<0.069	0.070	0.069	07/26/17 10:06	
Toxaphene	ug/L	<0.61	1.0	0.61	07/26/17 10:06	
Decachlorobiphenyl (S)	%	103	70-130		07/26/17 10:06	

LABORATORY CONTROL SAMPLE: 2073168

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	ug/L	1	1.0	100	70-130	
Atrazine	ug/L	1.2	1.2	97	70-130	
Butachlor	ug/L	.5	0.48	96	70-130	
Dieldrin	ug/L	.5	0.51	103	70-130	
Endrin	ug/L	.05	0.053	106	70-130	
gamma-BHC (Lindane)	ug/L	.1	0.10	102	70-130	
Heptachlor	ug/L	.2	0.18	91	70-130	
Heptachlor epoxide	ug/L	.1	0.10	100	70-130	
Hexachlorobenzene	ug/L	.5	0.46	92	70-130	
Hexachlorocyclopentadiene	ug/L	.5	0.47	94	70-130	
Methoxychlor	ug/L	.5	0.53	107	70-130	
Metolachlor	ug/L	.5	0.48	96	70-130	
Propachlor	ug/L	.5	0.48	96	70-130	
Simazine	ug/L	.88	0.78	89	70-130	
Decachlorobiphenyl (S)	%			105	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc 42001269
Pace Project No.: 35324054

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2074971 2074972

Parameter	Units	35323850001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alachlor	ug/L	0.034U	2	2	2.0	1.9	100	97	65-135	3	40	
Atrazine	ug/L	0.061U	2.5	2.5	2.6	3.1	102	123	65-135	19	40	
Butachlor	ug/L	0.026U	1	1	0.93	0.89	93	89	65-135	4	40	
Chlordane (Technical)	ug/L	0.045U			<0.094	<0.094					40	
Dieldrin	ug/L	0.018U	1	1	1.0	1.0	104	104	65-135	0	40	
Endrin	ug/L	0.0067U	.1	.1	0.11	0.11	107	107	65-135	0	40	
gamma-BHC (Lindane)	ug/L	0.0029U	.2	.2	0.22	0.22	110	111	65-135	1	40	
Heptachlor	ug/L	0.012U	.4	.4	0.70	0.81	174	201	65-135	14	40	M1
Heptachlor epoxide	ug/L	0.0029U	.2	.2	0.21	0.21	104	103	65-135	0	40	
Hexachlorobenzene	ug/L	0.018U	1	1	1.0	1.1	102	111	65-135	8	40	
Hexachlorocyclopentadiene	ug/L	0.031U	1	1	1.2	1.0	116	105	65-135	10	40	
Methoxychlor	ug/L	0.049U	1	1	1.0	0.97	101	97	65-135	4	40	
Metolachlor	ug/L	0.045U	1	1	0.95	0.95	95	95	65-135	0	40	
Propachlor	ug/L	0.029U	1	1	1.0	1.2	103	123	65-135	17	40	
Simazine	ug/L	0.066U	1.8	1.8	0.62	0.68	36	39	65-135	9	40	M1
Toxaphene	ug/L	0.58U			<1.2	<1.2					40	
Decachlorobiphenyl (S)	%						94	94	70-130		40	

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QUALITY CONTROL DATA

Project: LBG, Inc 42001269
Pace Project No.: 35324054

QC Batch: 382064
QC Batch Method: EPA 515.3
Analysis Method: EPA 515.3
Analysis Description: 5153 GCS Herbicides
Associated Lab Samples: 35324054001

METHOD BLANK: 2073155
Matrix: Water
Associated Lab Samples: 35324054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4,5-TP (Silvex)	ug/L	<0.16	0.20	0.16	07/22/17 00:29	
2,4-D	ug/L	<0.081	0.10	0.081	07/22/17 00:29	
Dalapon	ug/L	<0.89	1.0	0.89	07/22/17 00:29	
Dicamba	ug/L	<0.067	0.10	0.067	07/22/17 00:29	
Dinoseb	ug/L	<0.16	0.20	0.16	07/22/17 00:29	
Pentachlorophenol	ug/L	<0.030	0.040	0.030	07/22/17 00:29	
Picloram	ug/L	<0.094	0.10	0.094	07/22/17 00:29	
2,4-DCAA (S)	%	88	70-130		07/22/17 00:29	

LABORATORY CONTROL SAMPLE: 2073156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	ug/L	1	1.0	103	70-130	
2,4-D	ug/L	.5	0.39	78	70-130	
Dalapon	ug/L	5	4.5	90	70-130	
Dicamba	ug/L	.5	0.66	132	70-130	L1
Dinoseb	ug/L	1	1.1	114	70-130	
Pentachlorophenol	ug/L	.2	0.20	98	70-130	
Picloram	ug/L	.5	0.50	99	70-130	
2,4-DCAA (S)	%			93	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073478 2073479

Parameter	Units	92347613003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	ND	1	1	1.1	1.1	108	111	70-130	3	40	
2,4-D	ug/L	ND	.5	.5	0.42	0.47	84	94	70-130	11	40	
Dalapon	ug/L	ND	5	5	5.7	6.0	115	120	70-130	5	40	
Dicamba	ug/L	ND	.5	.5	0.58	0.63	117	126	70-130	7	40	
Dinoseb	ug/L	ND	1	1	1.1	1.1	105	113	70-130	7	40	
Pentachlorophenol	ug/L	ND	.2	.2	0.18	0.19	91	95	70-130	4	40	
Picloram	ug/L	ND	.5	.5	0.65	0.70	130	140	70-130	7	40	M1
2,4-DCAA (S)	%						98	99	70-130			

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QUALITY CONTROL DATA

Project: LBG, Inc 42001269
Pace Project No.: 35324054

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073480 2073481

Parameter	Units	35323949005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	<0.16	1	1	1.1	1.1	108	110	70-130	1	40	
2,4-D	ug/L	<0.081	.5	.5	0.40	0.41	79	82	70-130	3	40	
Dalapon	ug/L	<0.89	5	5	4.7	4.8	94	95	70-130	1	40	
Dicamba	ug/L	<0.067	.5	.5	0.51	0.63	103	127	70-130	21	40	
Dinoseb	ug/L	<0.16	1	1	1.1	1.1	110	111	70-130	1	40	
Pentachlorophenol	ug/L	<0.030	.2	.2	0.19	0.19	96	97	70-130	1	40	
Picloram	ug/L	<0.094	.5	.5	0.55	0.57	110	115	70-130	5	40	
2,4-DCAA (S)	%						95	93	70-130			

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QUALITY CONTROL DATA

Project: LBG, Inc 42001269
Pace Project No.: 35324054

QC Batch: 382937
Analysis Method: EPA 525.2
QC Batch Method: EPA 525.2
Analysis Description: 525.2 Base Neutral Extractables
Associated Lab Samples: 35324054001

METHOD BLANK: 2078153
Matrix: Water
Associated Lab Samples: 35324054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzo(a)pyrene	ug/L	<0.013	0.10	0.013	07/26/17 11:53	
bis(2-Ethylhexyl)adipate	ug/L	<0.38	1.6	0.38	07/26/17 11:53	
bis(2-Ethylhexyl)phthalate	ug/L	<0.50	2.0	0.50	07/26/17 11:53	
Metribuzin	ug/L	<0.15	0.30	0.15	07/26/17 11:53	
1,3-Dimethyl-2-nitrobenzene(S)	%	105	70-130		07/26/17 11:53	
Perylene-d12 (S)	%	84	70-130		07/26/17 11:53	
Triphenylphosphate (S)	%	83	70-130		07/26/17 11:53	

LABORATORY CONTROL SAMPLE: 2078154

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzo(a)pyrene	ug/L	.4	0.26	65	70-130	L2
bis(2-Ethylhexyl)adipate	ug/L	6.4	5.4	84	70-130	
bis(2-Ethylhexyl)phthalate	ug/L	8	6.8	85	70-130	
Metribuzin	ug/L	1.2	1.2	103	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			106	70-130	
Perylene-d12 (S)	%			75	70-130	
Triphenylphosphate (S)	%			83	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078476 2078477

Parameter	Units	92348121001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzo(a)pyrene	ug/L				0.092J	0.098J					40	M0
bis(2-Ethylhexyl)adipate	ug/L				10.9	10.3				6	40	
bis(2-Ethylhexyl)phthalate	ug/L				14.0	13.5				3	40	
Metribuzin	ug/L				2.2	<0.30					40	M1
1,3-Dimethyl-2-nitrobenzene(S)	%						110	120	70-130			
Perylene-d12 (S)	%						64	62	70-130			S0,S8
Triphenylphosphate (S)	%						83	84	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc 42001269
Pace Project No.: 35324054

QC Batch: 382068
QC Batch Method: EPA 548.1
Analysis Method: EPA 548.1
Analysis Description: 548 GCS Endothall
Associated Lab Samples: 35324054001

METHOD BLANK: 2073163
Matrix: Water
Associated Lab Samples: 35324054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Endothall	ug/L	<4.3	9.0	4.3	07/25/17 03:47	

LABORATORY CONTROL SAMPLE: 2073164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endothall	ug/L	50	41.5	83	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2074052 2074053

Parameter	Units	35324366001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	4.3U	50	50	52.4	49.0	105	98	80-120	7	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2074054 2074055

Parameter	Units	35324454001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	0.0043U mg/L	50	50	<4.3	<4.3	0	0	80-120		30	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc 42001269
Pace Project No.: 35324054

QC Batch: 381794
QC Batch Method: EPA 549.2
Analysis Method: EPA 549.2
Analysis Description: 549 HPLC Paraquat Diquat
Associated Lab Samples: 35324054001

METHOD BLANK: 2071478 Matrix: Water
Associated Lab Samples: 35324054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diquat	ug/L	<0.30	0.40	0.30	07/20/17 00:32	

LABORATORY CONTROL SAMPLE: 2071479

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diquat	ug/L	2	1.6	82	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2071882 2071883

Parameter	Units	35324366001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	0.30U	2	2	1.7	1.7	84	84	70-130	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2071884 2071885

Parameter	Units	35324454001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	0.00030U mg/L	2	2	0.60	0.84	30	42	70-130	35	30	M1,R1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project: LBG, Inc 42001269
Pace Project No.: 35324054

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
S8	Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-extraction and/or re-analysis)

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LBG, Inc 42001269
Pace Project No.: 35324054

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35324054001	**C-12**	EPA 504.1	381399	EPA 504.1	381607
35324054001	**C-12**	EPA 505	32255	EPA 505	32334
35324054001	**C-12**	EPA 508.1	382070	EPA 508.1	382791
35324054001	**C-12**	EPA 515.3	382064	EPA 515.3	382572
35324054001	**C-12**	EPA 531.1	381535		
35324054001	**C-12**	EPA 547	382091		
35324054001	**C-12**	EPA 549.2	381794	EPA 549.2	382025
35324054001	**C-12**	EPA 525.2	382937	EPA 525.2	383335
35324054001	**C-12**	EPA 548.1	382068	EPA 548.1	382953

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

WO# : 35324054
35324054

Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)	Debra	Carrier Tracking No(s):	COC No: 420-9123.1
Client Contact: Shipping/Receiving	r@envirotestlaboratories.com		Page: Page 1 of 1
Company: Pace Analytical Ormond Beach	**Analysis Requested**		STL Job #: 420-123595-2

Address:
8 East Tower Circle, ,

Due Date Requested:
7/25/2017

City:
Ormond Beach

TAT Requested (days):
Std TAT 7/13/17 DB

State, Zip:
FL, 32174

Phone:
111-222-3333(Tel)

PO #:

Email:

WO #:

Project Name:
LBG, Inc.

Project #:
42001269

Site:

SSOW#:

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 515 Chlorinated Acids	SUBCONTRACT/ 504 EPA 504.1 EDB/DBCP	SUBCONTRACT/ 531.1 Carbamate Pesticides In DW	SUBCONTRACT/ 525.2 Semivolatile Organics	SUBCONTRACT/ 508	SUBCONTRACT/ 547	SUBCONTRACT/ 548	SUBCONTRACT/ 549	SUBCONTRACT/ Dioxin					Total Number of containers	Special Instructions/Note:
				Preservation Code:	☒	☒														☒	
C - 12 (420-123595-2)	7/13/17	10:20		Water			X	X	X	X	X	X	X	X	X					13	

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 7/13/17 1446	Company ER	Received by: TDH Pace	Date/Time: 7/14/17 1110	Company T-36 10.4
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:
Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form Document No.: F-FL-C-007 rev. 11	Document Revised: February 6, 2017 Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # WO#: 35324054
Project Manager: PM: VEG Due Date: 07/28/17
Client: CLIENT: EVNTES

Date and Initials of person:
Examining contents:
Label:
Deliver:
pH:

Thermometer Used: T2E6 Date: 7/14/17 Time: 1110 Initials:

Cooler #1 Temp.°C 9.6 (Visual) +0.1 (Correction Factor) 9.7 (Actual) ☐ Samples on ice, cooling process has begun
Cooler #2 Temp.°C 10.3 (Visual) +0.1 (Correction Factor) 10.4 (Actual) ☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C 9.4 (Visual) +0.1 (Correction Factor) 9.5 (Actual) ☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C ____ (Visual) ____ (Correction Factor) ____ (Actual) ☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C ____ (Visual) ____ (Correction Factor) ____ (Actual) ☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C ____ (Visual) ____ (Correction Factor) ____ (Actual) ☐ Samples on ice, cooling process has begun

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other
Shipping Method: ☐ First Overnight ☐ Priority Overnight ☑ Standard Overnight ☐ Ground ☐ Other
Billing: ☑ Recipient ☐ Sender ☐ Third Party ☐ Unknown
Tracking # 7796 2610 4340 / 7796 2609 3485 / 7796 2608 5178
Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☐ No **Ice:** [✓ Wet] Blue None
Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other
Samples shorted to lab (If Yes, complete) Shorted Date: Shorted Time: Qty:

		Comments:
Chain of Custody Present	☑ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☑ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☑ No ☐ N/A	
Sufficient Volume	☑ Yes ☐ No ☐ N/A	
Correct Containers Used	☑ Yes ☐ No ☐ N/A	
Containers Intact	☑ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☑ Yes ☐ No ☐ N/A	Preservation Information: Preservative: Lot #/Trace #: Date: Time: Initials:
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☑ Yes ☐ No ☐ N/A	
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☑ N/A	
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	

Client Notification/ Resolution:
Person Contacted: Date/Time:

Comments/ Resolution (use back for additional comments):
okay to run OOT per PM

Project Manager Review: Date:

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Bo Garcia
PASI Florida
8 East Tower Circle
Ormond Beach FL 32174

REPORT OF LABORATORY ANALYSIS FOR 2,3,7,8-TCDD

Report Summary:

This report contains results of one drinking water sample analyzed to determine 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613 by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

Report Prepared Date:

July 28, 2017

Report Information:

Pace Project #: 10396111
Sample Receipt Date: 07/18/2017
Client Project #: 35324054
Client Sub PO #: N/A
State Cert #: 11647

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 Drinking Water Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Sarah Platzer, your Pace Project Manager.

This report has been reviewed by:

Sarah Platzer

July 28, 2017
Sarah Platzer, Project Manager
612-607-6451
(612) 607-6444 (fax)
sarah.platzer@pacelabs.com

NELAP ACCREDITED TNI LABORATORY

Report of Laboratory Analysis

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Montana	CERT0092
Alabama	40770	Nebraska	NE-OS-18-06
Alaska	MN00064	Nevada	MN00064
Alaska	UST-078	New Jersey (NE	MN002
Arizona	AZ0014	New York (NEL	11647
Arkansas	88-0680	New hampshire	2081
CNMI Saipan	MP0003	North Carolina	27700
California	MN00064	North Carolina	530
Colorado	MN00064	North Dakota	R-036
Connecticut	PH-0256	Ohio	41244
EPA Region 8	8TMS-L	Ohio VAP	CL101
Florida (NELAP	E87605	Oklahoma	9507
Georgia (EDP)	959	Oregon (ELAP)	MN200001
Guam EPA	959	Oregon (OREL	MN300001
Hawaii	MN00064	Pennsylvania	68-00563
Idaho	MN00064	Puerto Rico	MN00064
Illinois	200011	South Carolina	74003001
Indiana	C-MN-01	Tennessee	TN02818
Iowa	368	Texas	T104704192
Kansas	E-10167	Utah (NELAP)	MN00064
Kentucky	90062	Virginia	460163
Louisiana	03086	Washington	C486
Louisiana	MN00064	West Virginia #	9952C
Maryland	322	West Virginia D	382
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-L
Mississippi	MN00064		

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

Chain of Custody

Pace Analytical®
www.pacelabs.com

10396111

Workorder: 35324054 **Workorder Name:** LBG, Inc 42001269 **Owner Received Date:** 7/14/2017 **Results Requested By:** 7/28/2017

Report To	Subcontract To
Bo Garcia Pace Analytical Ormond Beach 8 East Tower Circle Ormond Beach, FL 32174 Phone (386)672-5668	Pace Analytical Minnesota 1700 Elm Street SE Suite 200 Minneapolis, MN 55414 Phone (612)607-1700

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Requested Analysis: EPA 1613	LAB USE ONLY
1	C-12	PS	7/13/2017 10:20	35324054001	Drinking	2	X	001
2								
3								
4								
5								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M Glacy 7/17/17	17:00	/PACE	7/18/17 9:50	
2					
3					

Cooler Temperature on Receipt 2.5 °C **Custody Seal** Y or [✓ N] **Received on Ice** [✓ Y] or N **Samples Intact** [✓ Y] or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 19Dec2016 Page 1 of 2
	Document No.: **F-MN-L-213-rev.20**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace Ormond Beach

Project #:

WO#:10396111

10396111

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 7422-5599-7564

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☒ Other: PB **Temp Blank?** ☐ Yes ☒ No

Thermometer Used: ☒ 151401163 ☐ 151401164 **Type of Ice:** ☐ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.5 **Cooler Temp Corrected (°C):** 2.5 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** Tvree **Date and Initials of Person Examining Contents:** 7/18/17 SA

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☒ Yes	☐ No		1.
Chain of Custody Filled Out?	☒ Yes	☐ No		2.
Chain of Custody Relinquished?	☒ Yes	☐ No		3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No		5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		6.
Rush Turn Around Time Requested?	☐ Yes	☒ No		7.
Sufficient Volume?	☒ Yes	☐ No		8.
Correct Containers Used?	☒ Yes	☐ No		9.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No		12.
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	13. ☐ HNO₃ ☐ H₂SO₄ ☐ NaOH Positive for Res. Chlorine? Y N Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO₃, H₂SO₄, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	☒ Yes	☐ No	☐ N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: **Date:** 7/19/2017

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B

Sample ID...........C-12
Client.................. PASI Florida
Lab Sample ID..... 35324054001

Date Collected.....07/13/2017
Date Received......07/18/2017
Date Extracted.....07/25/2017

	Sample C-12	**Method Blank**	**Lab Spike**	**Lab Spike Dup**
[2,3,7,8-TCDD]	**ND**	ND	--	--
EDL	2.2 pg/L	3.1 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	102%	118%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			14.4%	
IS Recovery	**56%**	65%	68%	71%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**82%**	82%	74%	90%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	Y170727B_30	Y170727B_14	Y170727B_12	Y170727B_13
Analysis Date	07/28/2017	07/27/2017	07/27/2017	07/27/2017
Analysis Time	06:21	22:43	21:45	22:14
Analyst	SMT	SMT	SMT	SMT
Volume	0.941L	1.010L	1.048L	1.047L
Dilution	NA	NA	NA	NA
ICAL Date	07/27/2017	07/27/2017	07/27/2017	07/27/2017
CCAL Filename	Y170727B_11	Y170727B_11	Y170727B_11	Y170727B_11

! = Outside the Control Limits
ND = Not Detected
EDL = Estimated Detection Limit
Limits = Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD = Relative Percent Difference of Lab Spike Recoveries
IS = Internal Standard [2,3,7,8-TCDD-$^{13}C_{12}$]
CS = Cleanup Standard [2,3,7,8-TCDD-$^{37}Cl_4$]

Analyst:

Project No.............10396111

C-14

EnviroTest
Laboratories Inc.

ANALYTICAL REPORT

Job Number: 420-123595-3

SDG Number: Clovewood

Job Description: LBG, Inc.

For:
Leggette, Brashears & Graham, Inc.
4 Research Drive
Shelton, CT 06464

Attention: Stacy Stieber

Debra Bayer

Debra Bayer
Customer Service Manager
dbayer@envirotestlaboratories.com
08/24/2017

NYSDOH ELAP does not certify for all parameters. EnviroTest Laboratories does hold certification for all analytes where certification is offered by ELAP unless otherwise specified in the Certification Information section of this report. Pursuant to NELAP, this report may not be reproduced, except in full, without written approval of the laboratory. EnviroTest Laboratories Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our laboratory. All questions regarding this report should be directed to the EnviroTest Customer Service Representative.

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554

ACCREDITED IN ACCORDANCE WITH nelac

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-3
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method
Matrix: Water			
ICP Metals by 200.7	EnvTest	EPA 200.7 Rev 4.4	
Sample Filtration	EnvTest		FILTRATION
Total Metals Digestion for 200.7	EnvTest		EPA 200.7
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
ICPMS Metals by 200.8	EnvTest	EPA 200.8 Rev.5.4	
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
Total Metals Digestion for 200.8	EnvTest		EPA 200.8
Mercury in Water by CVAA	EnvTest	EPA 245.1 Rev.3.0	
Digestion for CVAA Mercury in Waters	EnvTest		EPA 245.1
Anions by Ion Chromatography	EnvTest	MCAWW 300.0	
Anions by Ion Chromatography	EnvTest	EPA 300.0 Rev. 2.1	
EPA 504.1 EDB	Pace	EPA 504.1	
EPA 505 Pesticide/PCB	Pace	EPA 505	
EPA 515 Chlorinated Acids	Pace	EPA 515	
Purgeable Organic Compounds in Water by GC/MS	EnvTest	EPA-DW 524.2	
EPA 525.2 Semivolatile Organics	Pace	EPA 525.2	
EPA 531.1 Carbamate Pesticides in Drinki	Pace	EPA 531.1	
EPA 900 Series GA/GB/RA226/RA228/Gamma	Radios	EPA 900	
Uranium	Radios	STL-STL EPA	
Heterotropic Plate Count	EnvTest	IDEXX SIMPLATE	
Odor, Threshold Test	EnvTest	SM20 SM 2150B	
Alkalinity, Titration Method	EnvTest	SM21 SM 2320B-97,-11	
Corrosivity LSI Calculation	EnvTest	SM20 SM 2330B	
Hardness by Calculation	EnvTest	SM20 SM 2340B-97,-11	
pH	EnvTest	SM19 SM 4500 H+ B	
Nitrite by Colormetric	EnvTest	SM20 SM 4500 NO2 B	
Total Coliform and Escherichia coli by Colilert - Presence/Absence	EnvTest	SMWW SM 9223	
Apparent Color	EnvTest	SM21 SM2120B-01,11	
Turbidity	EnvTest	SM21 SM2130B-01,11	
Total Dissolved Solids (Dried at 180 °C)	EnvTest	SM21 SM2540C-97,11	
Cyanide, Total: Colorimetric Method	EnvTest	SM21 SM4500 CN E-99	
Cyanide: Distillation	EnvTest		SM21 SM 4500 CN C
General Sub Contract Method	Pace	Subcontract	
General Sub Contract Method	Radios	Subcontract	

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-3
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method

Lab References:

EnvTest = EnviroTest

Pace = Pace Analytical - Ormond Beach

Radios = Pace Analytical Services, Inc.

Method References:

EPA = US Environmental Protection Agency

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

IDEXX =

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

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

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

SM21 = "Standard Methods For The Examination Of Water And Wastewater", 21st Edition

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

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

METHOD / ANALYST SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-3
SDG Number: Clovewood

Method	Analyst	Analyst ID
EPA-DW 524.2	Andersen, Eric C	ECA
EPA 200.7 Rev 4.4	Sirico, Derek	DS
EPA 200.8 Rev.5.4	Sirico, Derek	DS
EPA 245.1 Rev.3.0	Sirico, Derek	DS
SM20 SM 2340B-97,-11	Sirico, Derek	DS
MCAWW 300.0	Luis, Carlos	CL
EPA 300.0 Rev. 2.1	Luis, Carlos	CL
IDEXX SIMPLATE	O'Driscoll, Kate	KO
SM20 SM 2150B	O'Driscoll, Kate	KO
SM21 SM 2320B-97,-11	Tramantano, Matt	MT
SM20 SM 2330B	Cusack, Renee	RC
SM19 SM 4500 H+ B	O'Driscoll, Kate	KO
SM20 SM 4500 NO2 B	Grant, Ameya	AG
SMWW SM 9223	Grant, Ameya	AG
SM21 SM2120B-01,11	O'Driscoll, Kate	KO
SM21 SM2130B-01,11	O'Driscoll, Kate	KO
SM21 SM2540C-97,11	O'Driscoll, Kate	KO
SM21 SM4500 CN E-99	Osborne, Amy	AO

SAMPLE SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-3
SDG Number: Clovewood

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
420-123595-3	C - 14	Drinking Water	07/13/2017 0840	07/13/2017 1000

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-3
Sdg Number: Clovewood

Client Sample ID: **C - 14**

Lab Sample ID:	420-123595-3	Date Sampled:	07/13/2017 0840
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112453	Instrument ID:	Agilent 7890A/5975C
Preparation:	N/A		Lab File ID:	X071420.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/14/2017 1916		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
1,1,1,2-Tetrachloroethane	<0.500		0.500
1,1,1-Trichloroethane	<0.500		0.500
1,1,2,2-Tetrachloroethane	<0.500		0.500
1,1,2-Trichloroethane	<0.500		0.500
1,1-Dichloroethane	<0.500		0.500
1,1-Dichloroethene	<0.500		0.500
1,1-Dichloropropene	<0.500		0.500
1,2,3-Trichlorobenzene	<0.500		0.500
1,2,3-Trichloropropane	<0.500		0.500
1,2,4-Trichlorobenzene	<0.500		0.500
1,2,4-Trimethylbenzene	<0.500		0.500
1,2-Dichloroethane	<0.500		0.500
1,2-Dichlorobenzene	<0.500		0.500
1,2-Dichloropropane	<0.500		0.500
1,3-Dichloropropane	<0.500		0.500
1,4-Dichlorobenzene	<0.500		0.500
2,2-Dichloropropane	<0.500		0.500
Benzene	<0.500		0.500
Bromobenzene	<0.500		0.500
Bromochloromethane	<0.500		0.500
Bromomethane	<0.500		0.500
n-Butylbenzene	<0.500		0.500
cis-1,2-Dichloroethene	<0.500		0.500
cis-1,3-Dichloropropene	<0.500		0.500
Carbon tetrachloride	<0.500		0.500
Chlorobenzene	<0.500		0.500
Chloroethane	<0.500		0.500
Chloromethane	<0.500		0.500
Dibromomethane	<0.500		0.500
Ethylbenzene	<0.500		0.500
Dichlorodifluoromethane	<0.500		0.500
Hexachlorobutadiene	<0.500		0.500
Isopropylbenzene	<0.500		0.500
p-Isopropyltoluene	<0.500		0.500
Methylene Chloride	<0.500		0.500
m-Xylene & p-Xylene	<1.00		1.00
Methyl tert-butyl ether	<0.500		0.500
o-Xylene	<0.500		0.500
Tetrachloroethene	<0.500		0.500
Toluene	<0.500		0.500
trans-1,2-Dichloroethene	<0.500		0.500
trans-1,3-Dichloropropene	<0.500		0.500
Trichloroethene	<0.500		0.500
tert-Butylbenzene	<0.500		0.500

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-3
Sdg Number: Clovewood

Client Sample ID: **C - 14**

Lab Sample ID:	420-123595-3	Date Sampled:	07/13/2017 0840
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112453	Instrument ID:	Agilent 7890A/5975C
Preparation:	N/A		Lab File ID:	X071420.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/14/2017 1916		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
Trichlorofluoromethane	<0.500		0.500
Vinyl chloride	<0.500		0.500
Xylenes, Total	<1.50		1.50
Styrene	<0.500		0.500
sec-Butylbenzene	<0.500		0.500
1,3,5-Trimethylbenzene	<0.500		0.500
N-Propylbenzene	<0.500		0.500
1,3-Dichlorobenzene	<0.500		0.500
2-Chlorotoluene	<0.500		0.500
4-Chlorotoluene	<0.500		0.500

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	94	71 - 120
Toluene-d8 (Surr)	110	79 - 121
1,2-Dichloroethane-d4 (Surr)	122	70 - 128

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-3
Sdg Number: Clovewood

Client Sample ID: **C - 14**

Lab Sample ID:	420-123595-3	Date Sampled:	07/13/2017 0840
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

200.7 Rev 4.4 ICP Metals by 200.7

Method:	200.7 Rev 4.4	Analysis Batch: 420-112534	Instrument ID:	Thermo ICP
Preparation:	200.7/200.8	Prep Batch: 420-112519	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/18/2017 1839		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 1800			

Analyte	Result (ug/L)	Qualifier	RL
Iron	1190	g	60.0
Manganese	281		10.0
Sodium	16500		200
Zinc	37.0		20.0

200.7 Rev 4.4 ICP Metals by 200.7-Dissolved

Method:	200.7 Rev 4.4	Analysis Batch: 420-112597	Instrument ID:	Thermo ICP
Preparation:	200.7	Prep Batch: 420-112501	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/19/2017 1841		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 1505			

Analyte	Result (ug/L)	Qualifier	RL
Iron	<60.0		60.0
Manganese	285		10.0

200.8 Rev.5.4 ICPMS Metals by 200.8

Method:	200.8 Rev.5.4	Analysis Batch: 420-112536	Instrument ID:	Perkin Elmer ELAN
Preparation:	200.7/200.8	Prep Batch: 420-112520	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/18/2017 1726		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 1800			

Analyte	Result (ug/L)	Qualifier	RL
Lead	<1.00		1.00
Silver	<1.00		1.00
Arsenic	<1.40		1.40
Beryllium	<0.300		0.300
Cadmium	<1.00		1.00
Chromium	<7.00		7.00
Nickel	0.871		0.500
Antimony	<0.400		0.400
Thallium	<0.300		0.300
Barium	13.7		2.00
Selenium	<2.00		2.00

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-3
Sdg Number: Clovewood

Client Sample ID: **C - 14**

Lab Sample ID:	420-123595-3	Date Sampled:	07/13/2017 0840
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

245.1 Rev.3.0 Mercury in Water by CVAA

Method:	245.1 Rev.3.0	Analysis Batch: 420-112511	Instrument ID:	Perkin Elmer FIMS
Preparation:	245.1	Prep Batch: 420-112451	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	25 mL
Date Analyzed:	07/18/2017 1213		Final Weight/Volume:	25 mL
Date Prepared:	07/17/2017 1115			

Analyte	Result (ug/L)	Qualifier	RL
Mercury	<0.200		0.200

SM 2340B-97,-11 Hardness by Calculation

Method:	SM 2340B-97,-11	Analysis Batch: 420-112542	Instrument ID:	None
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	
Date Analyzed:	07/18/2017 1839		Final Weight/Volume:	
Date Prepared:	N/A			

Analyte	Result (mg/L)	Qualifier	RL
Calcium hardness as calcium carbonate	60.5		1.25

Biology

Client Sample ID: **C - 14**

Lab Sample ID: 420-123595-3
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 0840
Date Received: 07/13/2017 1000

Analyte	Result	Qual	Units	Dil	Method
Coliform, Total	Absent		CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112380	Date Analyzed	07/13/2017 1510		
Escherichia coli	Absent		CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112380	Date Analyzed	07/13/2017 1510		

Analyte	Result	Qual	Units	RL	Dil	Method
Heterotrophic Plate Count	42.0		CFU/mL	2.00	1.0	SIMPLATE
	Anly Batch: 420-112413	Date Analyzed	07/13/2017 1550			

General Chemistry

General Chemistry

Client Sample ID: **C - 14**

Lab Sample ID: 420-123595-3
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 0840
Date Received: 07/13/2017 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Nitrate as N	<0.250		mg/L	0.250	1.0	300.0
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1644			

Analyte	Result	Qual	Units	Dil	Method
Langelier Index	-0.690		NONE	1.0	SM 2330B
	Anly Batch: 420-112765	Date Analyzed	07/26/2017 1302		

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-3
Sdg Number: Clovewood

General Chemistry

Client Sample ID: **C - 14**

Lab Sample ID: 420-123595-3
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 0840
Date Received: 07/13/2017 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Alkalinity	123		mg/L	5.00	1.0	SM 2320B-97,-11
	Anly Batch: 420-112669	Date Analyzed	07/21/2017 1730			
Total Dissolved Solids	152		mg/L	5.00	1.0	SM2540C-97,11
	Anly Batch: 420-112602	Date Analyzed	07/20/2016 1700			
Chloride	2.45		mg/L	1.50	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1644			
Sulfate	12.3		mg/L	5.00	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1644			
Fluoride	<0.500		mg/L	0.500	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1644			
Cyanide, Total	<0.00500		mg/L	0.00500	1.0	SM4500 CN E-99
	Anly Batch: 420-112524	Date Analyzed	07/18/2017 1400			
	Prep Batch:	Date Prepared:	07/14/2017 1300			
Apparent Color	20.0	g	Pt-Co	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112486	Date Analyzed	07/13/2017 1648			
pH@color measurement	7.19		SU	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112486	Date Analyzed	07/13/2017 1648			
Turbidity	11.6	g	NTU	0.100	1.0	SM2130B-01,11
	Anly Batch: 420-112420	Date Analyzed	07/13/2017 1812			
Odor	1.00		T.O.N.	1.00	1.0	SM 2150B
	Anly Batch: 420-112485	Date Analyzed	07/13/2017 1800			
Temp @ Odor Measurement	60.0		Degrees C	5.00	1.0	SM 2150B
	Anly Batch: 420-112485	Date Analyzed	07/13/2017 1800			
pH	7.19	H	SU	0.200	1.0	SM 4500 H+ B
	Anly Batch: 420-112487	Date Analyzed	07/13/2017 1747			
Temp @ pH Measurement	17.1		Degrees C	5.00	1.0	SM 4500 H+ B
	Anly Batch: 420-112487	Date Analyzed	07/13/2017 1747			
Nitrite as N	<0.0100		mg/L	0.0100	1.0	SM 4500 NO2 B
	Anly Batch: 420-112510	Date Analyzed	07/14/2017 1047			

DATA REPORTING QUALIFIERS

Client: Leggette, Brashears & Graham, Inc.	Job Number:
	Sdg Number: Clovewood

Lab Section	**Qualifier**	**Description**
Metals		
	g	Result fails applicable NYS drinking water standards
General Chemistry		
	g	Result fails applicable NYS drinking water standards
	H	Sample was prepped or analyzed beyond the specified holding time

Certification Information

Client: Leggette, Brashears & Graham, Inc.

Job Number:

Sdg Number: Clovewood

The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Silicon, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide, Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Phenolphthalein Alkalinity, Solids (Fixed), Solids (Percent), Solids (Percent Moisture) , Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, Volatile Acids as Acetic Acid, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, Iron Bacteria, Salmonella, & Sulfur Reducing Bacteria.

The following analytes are Not Part of ELAP Potable Water scope of accreditation:

Cobalt (200.7, 200.8), Tin (200.7), Strontium (200.7), Gold (200.7), Platinum (200.7), Palladium (200.7), Titanium (200.7), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), Naphthalene (502.2), o-Xylene (502.2, 524), & Fecal Coliform (9222D).

The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

The following analytes are Not Part of ELAP Non Potable Water scope of accreditation:

Dissolved Organic Carbon (5310C), Mecoprop (8151A), & MCPA (8151A).

Definitions and Glossary

Client: Leggette, Brashears & Graham, Inc.

Job Number:

Sdg Number: Clovewood

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points.

EnviroTest Laboratories, Inc.

CHAIN OF CUSTODY

123595 -3

REPORT# (Lab Use Only)

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

PROJECT REFERENCE Clovewood	PROJECT NO.	PROJECT LOCATION
ENVIROTEST PROJECT MANAGER Debra Bayer	P.O. NUMBER	TOWN
CLIENT (SITE) PM LBG, Inc.	CLIENT PHONE 203-929-8555	CLIENT FAX
CLIENT NAME Stacy Stieber		

CLIENT ADDRESS
4 Research Drive, Suite 204, Shelton, CT 06484

COMPANY CONTRACTING THIS WORK (if applicable): 1

PAGE 1 of 1

TURNAROUND TIME
NORMAL ✓
QUICK ____
VERBAL ____

#OF COOLERS

MATRIX TYPE / REQUIRED ANALYSES — NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	D (Drinking Water) or W (Waste Water) Indicate	SOLID OR SEMISOLID	OTHER Specify	MPA C/G kit	40ml Vials HCl	40ml Sodium Thio.	250ml Amber Sodium Thio.	Liter Amber HCl/Na2SO3	250ml Plastic Nitric Acid	40ml Mon/Sod.Thio(liquid)	Liter Plastic	250ml Plastic Sodium Hyd.	125ml Plastic Sterile	Liter Plastic Nitric	40ml Vials Unpres
7/13/17	840	C-14			D				3	2	1	2	1	2	4	1	2	5	2

2-Liter Amber Unpres.
1-250ml Amber Unpres.
3-250ml Plastic Unpres. (no air)
2-40ml Amber Sodium Thio.
1-500ml Amber Sodium Thio.
1-Liter Amber Plastic Sodium Thio.&H2SO4
2-Liter Amber Sodium Thio.

REMARKS

Table 8B (Sb,As,Ba,Be,Cd,Cr,Cn,Hg,Ni
Se,Tl,F)
Table 8C (NO3,NO2)
Table 8D (Cl,Fe,Mn,Ag,Na,SO4,Zn,Odor,Color)
524.2 (POC,MTBE,Vinyl Chloride)
SOCs (504,508,515,525,531,547,548,549,Dioxin)
Additional Tests (Total coliform
thru Zinc)
Radio(Gross Alpha/Beta,Radium-226/228,Uranium)
Radon
Dissolved Fe, Mn

RELINQUISHED BY: (SIGNATURE)	COMPANY LBG	DATE 7/13/17	TIME 1143	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
SAMPLED BY: (SIGNATURE)	COMPANY LBG	DATE 7/13/17	TIME 840	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	COMPANY	DATE	TIME	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME

SUBCONTACT: PACE-SOCs, Radio, Radon; ASI-MPA/Crypto/Giardia

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE 7/13/17	TIME 1143	CUSTODY INTACT YES NO	Cooler Temp: 3.5°C IR#3	LABORATORY REMARKS: ICE ✓ pH____ CL2____ Reviewed by________

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-3
SDG Number: Clovewood

Login Number: **123595**

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	3.5C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	False	pH
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

August 03, 2017

Ms. Debra Bayer
EnviroTest Laboratories, Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: 42001269
Pace Project No.: 30224098

Dear Ms. Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

cc: Janine Rader, EnviroTest Laboratories, Inc.

CERTIFICATIONS

Project: 42001269
Pace Project No.: 30224098

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

SAMPLE SUMMARY

Project: 42001269
Pace Project No.: 30224098

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30224098001	**C-14 (420-123595-3)**	Drinking Water	07/13/17 08:40	07/14/17 10:20

SAMPLE ANALYTE COUNT

Project:	42001269
Pace Project No.:	30224098

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30224098001	**C-14 (420-123595-3)**	SM7500RnB-07	NEG	1
		EPA 900.0	NEG	2
		EPA 903.1	WRR	1
		EPA 904.0	VAL	1
		ASTM D5174-97	RMK	1

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224098

Sample: C-14 (420-123595-3) **Lab ID: 30224098001** Collected: 07/13/17 08:40 Received: 07/14/17 10:20 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radon	SM7500RnB-07	**169.4 ± 33.7 (46.0)** **C:NA T:NA**	pCi/L	07/15/17 06:01	10043-92-2	
Gross Alpha	EPA 900.0	**1.75 ± 1.40 (2.53)** **C:NA T:NA**	pCi/L	07/24/17 08:36	12587-46-1	
Gross Beta	EPA 900.0	**1.77 ± 0.816 (1.42)** **C:NA T:NA**	pCi/L	07/24/17 08:36	12587-47-2	
Radium-226	EPA 903.1	**0.378 ± 0.494 (0.826)** **C:NA T:91%**	pCi/L	07/26/17 12:51	13982-63-3	
Radium-228	EPA 904.0	**0.624 ± 0.345 (0.665)** **C:73% T:90%**	pCi/L	07/27/17 11:16	15262-20-1	
Total Uranium	ASTM D5174-97	**0.258 ± 0.010 (0.193)** **C:NA T:NA**	ug/L	08/03/17 16:23	7440-61-1	

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224098

QC Batch: 265143
QC Batch Method: ASTM D5174-97
Analysis Method: ASTM D5174-97
Analysis Description: D5174.97 Total Uranium KPA
Associated Lab Samples: 30224098001

METHOD BLANK: 1306496
Matrix: Water
Associated Lab Samples: 30224098001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Total Uranium	0.064 ± 0.004 (0.193) C:NA T:NA	ug/L	08/03/17 11:33	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224098

QC Batch: 265053 Analysis Method: SM7500RnB-07
QC Batch Method: SM7500RnB-07 Analysis Description: 7500Rn B Radon
Associated Lab Samples: 30224098001

METHOD BLANK: 1305441 Matrix: Water
Associated Lab Samples: 30224098001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radon	2.8 ± 18.8 (32.7) C:NA T:NA	pCi/L	07/15/17 02:40	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project:	42001269
Pace Project No.:	30224098

QC Batch:	265152	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226

Associated Lab Samples: 30224098001

METHOD BLANK: 1306510 Matrix: Water

Associated Lab Samples: 30224098001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.159 ± 0.312 (0.570) C:NA T:95%	pCi/L	07/26/17 12:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224098

QC Batch: 265148
Analysis Method: EPA 900.0
QC Batch Method: EPA 900.0
Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 30224098001

METHOD BLANK: 1306505
Matrix: Water
Associated Lab Samples: 30224098001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	-0.333 ± 0.399 (1.52) C:NA T:NA	pCi/L	07/24/17 08:35	
Gross Beta	-0.362 ± 0.578 (1.62) C:NA T:NA	pCi/L	07/24/17 08:35	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project:	42001269
Pace Project No.:	30224098

QC Batch:	265158	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228

Associated Lab Samples: 30224098001

METHOD BLANK: 1306521 Matrix: Water

Associated Lab Samples: 30224098001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0810 ± 0.316 (0.717) C:75% T:85%	pCi/L	07/27/17 11:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project:	42001269
Pace Project No.:	30224098

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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

Chain of Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)	Sampler: S. Stieber of LBG 7/13/17 03	Lab PM: Bayer, Debra	Carrier Tracking No(s):	COC No: 420-9119.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: dbayer@envirotestlaboratories.com		Page: Page 1 of 1
Company: Pace Analytical Services, Inc.		**Analysis Requested**		STL Job #: 420-123595-3
Address: 1638 Roseytown Rd,Suites 2,3,4,	**Due Date Requested:** 7/27/2017			
City: Greensburg	**TAT Requested (days):**			
State, Zip: PA, 15601				
Phone:	PO #:			
Email:	WO #:			
Project Name: LBG, Inc.	Project #: 42001269			
Site:	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
~~D - Nitric Acid~~	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 900 GA/GB/RA 226/RA 228	SUBCONTRACT/ Total Uranium	SUBCONTRACT/ Radon	Total Number of containers	Special Instructions/Note: NY Sples 7/13/17 03
			Preservation Code:		☒	☒				☒	
C - 14 (420-123595-3)	7/13/17	8:40		Water			X	X	X	7	001

WO# : 30224098
30224098

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal *(A fee may be assessed if samples are retained longer than 1 month)*
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ________ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 7/13/17	Company ETL	Received by:	Date/Time: 7/14/17 1020	Company PACE
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Sample Condition Upon Receipt Pittsburgh

30224098

Pace Analytical

Client Name: Envirotest Labs. Project # ____

Label ZA.
LIMS Login AM

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other ____
Tracking #: 779625473330
Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no
Thermometer Used 8 Type of Ice: [✓ Wet] Blue None
Cooler Temperature Observed Temp 3.5 °C Correction Factor: 0.0 °C Final Temp: 3.5 °C
Temp should be above freezing to 6°C

Date and Initials of person examining contents: ZA 7/14/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):	✓			7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Orthophosphate field filtered			▨	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ZA Date/time of preservation Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ZA Date: 7/14/17

Client Notification/ Resolution:
Person Contacted: ____ Date/Time: ____ Contacted By: ____
Comments/ Resolution: ____

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

August 07, 2017

Ron Bayer
EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: LBG,Inc 42001269
Pace Project No.: 35324055

Dear Ron Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 15, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Bo Garcia
bo.garcia@pacelabs.com
(386)672-5668
Project Manager

Enclosures

cc: Debra Bayer, EnviroTest Laboratories Inc.
Renee Cusack, EnviroTest Laboratories Inc.
Laura Marciano, EnviroTest Laboratories Inc.
Janine Rader, EnviroTest Laboratories Inc.
Meredith Ruthven, EnviroTest Laboratories Inc.

CERTIFICATIONS

Project: LBG,Inc 42001269
Pace Project No.: 35324055

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

SAMPLE SUMMARY

Project: LBG,Inc 42001269
Pace Project No.: 35324055

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35324055001	**C-14**	Drinking Water	07/13/17 08:40	07/15/17 11:10

SAMPLE ANALYTE COUNT

Project: LBG,Inc 42001269
Pace Project No.: 35324055

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35324055001	**C-14**	EPA 504.1	BP1	2	PASI-O
		EPA 505	MMR	3	
		EPA 508.1	NS1	18	PASI-O
		EPA 515.3	LJM	8	PASI-O
		EPA 531.1	WFH	9	PASI-O
		EPA 547	NMB	1	PASI-O
		EPA 549.2	NMB	1	PASI-O
		EPA 525.2	NS1	7	PASI-O
		EPA 548.1	JDT	1	PASI-O

ANALYTICAL RESULTS

Project: LBG,Inc 42001269
Pace Project No.: 35324055

Sample: C-14 **Lab ID: 35324055001** Collected: 07/13/17 08:40 Received: 07/15/17 11:10 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
504.1 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1								
1,2-Dibromo-3-chloropropane	**<0.0055**	ug/L	0.017	0.0055	1	07/18/17 07:15	07/18/17 18:52	96-12-8	
1,2-Dibromoethane (EDB)	**<0.0065**	ug/L	0.0086	0.0065	1	07/18/17 07:15	07/18/17 18:52	106-93-4	
505 GCS Pesticides/PCBs	Analytical Method: EPA 505 Preparation Method: EPA 505								
Aldrin	**<0.025**	ug/L	0.025	0.025	1	07/20/17 16:38	07/20/17 23:46	309-00-2	
Surrogates									
Tetrachloro-m-xylene (S)	101	%.	30-150		1	07/20/17 16:38	07/20/17 23:46	877-09-8	
Decachlorobiphenyl (S)	75	%.	30-150		1	07/20/17 16:38	07/20/17 23:46	2051-24-3	
508.1 GCS Pesticides	Analytical Method: EPA 508.1 Preparation Method: EPA 508.1								
Alachlor	**<0.037**	ug/L	0.21	0.037	1	07/24/17 10:15	07/28/17 14:06	15972-60-8	
Atrazine	**<0.067**	ug/L	0.11	0.067	1	07/24/17 10:15	07/28/17 14:06	1912-24-9	L2
gamma-BHC (Lindane)	**<0.0032**	ug/L	0.021	0.0032	1	07/24/17 10:15	07/28/17 14:06	58-89-9	
Butachlor	**<0.029**	ug/L	0.11	0.029	1	07/24/17 10:15	07/28/17 14:06	23184-66-9	
Chlordane (Technical)	**<0.050**	ug/L	0.21	0.050	1	07/24/17 10:15	07/28/17 14:06	57-74-9	
Dieldrin	**<0.020**	ug/L	0.11	0.020	1	07/24/17 10:15	07/28/17 14:06	60-57-1	
Endrin	**<0.0074**	ug/L	0.011	0.0074	1	07/24/17 10:15	07/28/17 14:06	72-20-8	
Heptachlor	**<0.013**	ug/L	0.042	0.013	1	07/24/17 10:15	07/28/17 14:06	76-44-8	
Heptachlor epoxide	**<0.0032**	ug/L	0.021	0.0032	1	07/24/17 10:15	07/28/17 14:06	1024-57-3	
Hexachlorobenzene	**<0.020**	ug/L	0.11	0.020	1	07/24/17 10:15	07/28/17 14:06	118-74-1	
Hexachlorocyclopentadiene	**<0.034**	ug/L	0.11	0.034	1	07/24/17 10:15	07/28/17 14:06	77-47-4	
Methoxychlor	**<0.054**	ug/L	0.11	0.054	1	07/24/17 10:15	07/28/17 14:06	72-43-5	
Metolachlor	**<0.050**	ug/L	0.11	0.050	1	07/24/17 10:15	07/28/17 14:06	51218-45-2	
PCB, Total	**<0.085**	ug/L	0.11	0.085	1	07/24/17 10:15	07/28/17 14:06	1336-36-3	
Propachlor	**<0.032**	ug/L	0.11	0.032	1	07/24/17 10:15	07/28/17 14:06	1918-16-7	
Simazine	**<0.073**	ug/L	0.074	0.073	1	07/24/17 10:15	07/28/17 14:06	122-34-9	L2
Toxaphene	**<0.64**	ug/L	1.1	0.64	1	07/24/17 10:15	07/28/17 14:06	8001-35-2	
Surrogates									
Decachlorobiphenyl (S)	69	%	70-130		1	07/24/17 10:15	07/28/17 14:06	2051-24-3	S0
515.3 Chlorinated Herbicides	Analytical Method: EPA 515.3 Preparation Method: EPA 515.3								
2,4-D	**<0.081**	ug/L	0.10	0.081	1	07/20/17 09:35	07/22/17 10:46	94-75-7	
Dalapon	**<0.89**	ug/L	1.0	0.89	1	07/20/17 09:35	07/22/17 10:46	75-99-0	
Dicamba	**<0.067**	ug/L	0.10	0.067	1	07/20/17 09:35	07/22/17 10:46	1918-00-9	L1
Dinoseb	**<0.16**	ug/L	0.20	0.16	1	07/20/17 09:35	07/22/17 10:46	88-85-7	
Pentachlorophenol	**<0.030**	ug/L	0.040	0.030	1	07/20/17 09:35	07/22/17 10:46	87-86-5	
Picloram	**<0.094**	ug/L	0.10	0.094	1	07/20/17 09:35	07/22/17 10:46	1918-02-1	
2,4,5-TP (Silvex)	**<0.16**	ug/L	0.20	0.16	1	07/20/17 09:35	07/22/17 10:46	93-72-1	
Surrogates									
2,4-DCAA (S)	94	%	70-130		1	07/20/17 09:35	07/22/17 10:46	19719-28-9	
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
Aldicarb	**<0.64**	ug/L	2.0	0.64	1		07/18/17 18:21	116-06-3	
Aldicarb sulfone	**<0.37**	ug/L	2.0	0.37	1		07/18/17 18:21	1646-88-4	
Aldicarb sulfoxide	**<0.59**	ug/L	2.0	0.59	1		07/18/17 18:21	1646-87-3	
Carbofuran	**<0.32**	ug/L	2.0	0.32	1		07/18/17 18:21	1563-66-2	

ANALYTICAL RESULTS

Project: LBG,Inc 42001269
Pace Project No.: 35324055

Sample: C-14 **Lab ID: 35324055001** Collected: 07/13/17 08:40 Received: 07/15/17 11:10 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
3-Hydroxycarbofuran	**<0.45**	ug/L	2.0	0.45	1		07/18/17 18:21	16655-82-6	
Methomyl	**<0.57**	ug/L	2.0	0.57	1		07/18/17 18:21	16752-77-5	
Oxamyl	**<0.55**	ug/L	2.0	0.55	1		07/18/17 18:21	23135-22-0	
Carbaryl	**<0.27**	ug/L	2.0	0.27	1		07/18/17 18:21	63-25-2	
Surrogates									
BDMC (S)	107	%	80-120		1		07/18/17 18:21		
547 HPLC Glyphosate	Analytical Method: EPA 547								
Glyphosate	**<4.2**	ug/L	6.0	4.2	1		07/20/17 05:59		
549.2 HPLC Paraquat Diquat	Analytical Method: EPA 549.2 Preparation Method: EPA 549.2								
Diquat	**<0.30**	ug/L	0.40	0.30	1	07/19/17 11:00	07/20/17 02:23	85-00-7	
525.2 Base Neutral Extractable	Analytical Method: EPA 525.2 Preparation Method: EPA 525.2								
Benzo(a)pyrene	**<0.014**	ug/L	0.11	0.014	1	07/25/17 10:15	07/25/17 18:24	50-32-8	
bis(2-Ethylhexyl)adipate	**<0.41**	ug/L	1.7	0.41	1	07/25/17 10:15	07/25/17 18:24	103-23-1	
bis(2-Ethylhexyl)phthalate	**<0.53**	ug/L	2.1	0.53	1	07/25/17 10:15	07/25/17 18:24	117-81-7	
Metribuzin	**<0.16**	ug/L	0.32	0.16	1	07/25/17 10:15	07/25/17 18:24	21087-64-9	
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	100	%	70-130		1	07/25/17 10:15	07/25/17 18:24	81209	
Perylene-d12 (S)	85	%	70-130		1	07/25/17 10:15	07/25/17 18:24	1520963	
Triphenylphosphate (S)	90	%	70-130		1	07/25/17 10:15	07/25/17 18:24	115-86-6	
548.1 GCS Endothall	Analytical Method: EPA 548.1 Preparation Method: EPA 548.1								
Endothall	**<4.3**	ug/L	9.0	4.3	1	07/19/17 17:00	07/24/17 23:39		L2,L5

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324055

QC Batch: 381535
Analysis Method: EPA 531.1
QC Batch Method: EPA 531.1
Analysis Description: 531.1 HPLC Carbamate
Associated Lab Samples: 35324055001

METHOD BLANK: 2070180
Matrix: Water
Associated Lab Samples: 35324055001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
3-Hydroxycarbofuran	ug/L	<0.45	2.0	0.45	07/18/17 12:36	
Aldicarb	ug/L	<0.64	2.0	0.64	07/18/17 12:36	
Aldicarb sulfone	ug/L	<0.37	2.0	0.37	07/18/17 12:36	
Aldicarb sulfoxide	ug/L	<0.59	2.0	0.59	07/18/17 12:36	
Carbaryl	ug/L	<0.27	2.0	0.27	07/18/17 12:36	
Carbofuran	ug/L	<0.32	2.0	0.32	07/18/17 12:36	
Methomyl	ug/L	<0.57	2.0	0.57	07/18/17 12:36	
Oxamyl	ug/L	<0.55	2.0	0.55	07/18/17 12:36	
BDMC (S)	%	120	80-120		07/18/17 12:36	

LABORATORY CONTROL SAMPLE: 2070181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
3-Hydroxycarbofuran	ug/L	10	10.3	103	80-120	
Aldicarb	ug/L	10	11.2	112	80-120	
Aldicarb sulfone	ug/L	10	10.9	109	80-120	
Aldicarb sulfoxide	ug/L	10	12.0	120	80-120	
Carbaryl	ug/L	10	12.0	120	80-120	
Carbofuran	ug/L	10	11.7	117	80-120	
Methomyl	ug/L	10	10.6	106	80-120	
Oxamyl	ug/L	10	11.8	118	80-120	
BDMC (S)	%			118	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070182 2070183

Parameter	Units	35323850001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
3-Hydroxycarbofuran	ug/L	0.45U	10	10	10	10.2	100	102	80-120	2	20	
Aldicarb	ug/L	0.64U	10	10	10.5	10.3	105	103	80-120	3	20	
Aldicarb sulfone	ug/L	0.37U	10	10	9.5	9.8	95	98	80-120	4	20	
Aldicarb sulfoxide	ug/L	0.59U	10	10	11.2	11.0	112	110	80-120	2	20	
Carbaryl	ug/L	0.27U	10	10	12.0	11.5	120	115	80-120	4	20	
Carbofuran	ug/L	0.32U	10	10	11.3	10.5	113	105	80-120	7	20	
Methomyl	ug/L	0.57U	10	10	10.5	11.1	105	111	80-120	6	20	
Oxamyl	ug/L	0.55U	10	10	10.2	10.0	102	100	80-120	2	20	
BDMC (S)	%						103	98	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324055

QC Batch: 382091
Analysis Method: EPA 547
QC Batch Method: EPA 547
Analysis Description: 547 HPLC Glyphosate
Associated Lab Samples: 35324055001

METHOD BLANK: 2073233
Matrix: Water
Associated Lab Samples: 35324055001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Glyphosate	ug/L	<4.2	6.0	4.2	07/20/17 02:06	

LABORATORY CONTROL SAMPLE: 2073234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Glyphosate	ug/L	50	52.3	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073235 2073236

Parameter	Units	35324897001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	0.0042U mg/L	50	50	48.2	48.4	96	97	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073237 2073238

Parameter	Units	35324066001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	<4.2	50	50	51.2	49.9	102	100	80-120	3	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324055

QC Batch: 381399
Analysis Method: EPA 504.1
QC Batch Method: EPA 504.1
Analysis Description: 504 EDB DBCP
Associated Lab Samples: 35324055001

METHOD BLANK: 2069376
Matrix: Water
Associated Lab Samples: 35324055001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	<0.0064	0.020	0.0064	07/18/17 13:43	
1,2-Dibromoethane (EDB)	ug/L	<0.0075	0.010	0.0075	07/18/17 13:43	

LABORATORY CONTROL SAMPLE & LCSD: 2069377 2070238

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	.25	0.27	0.24	109	96	70-130	12	40	
1,2-Dibromoethane (EDB)	ug/L	.25	0.29	0.25	116	101	70-130	13	40	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070239 2070240

Parameter	Units	35324127010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromo-3-chloropropane	ug/L	<0.0055	.44	.44	0.64	0.63	146	143	65-135	2	40	M1
1,2-Dibromoethane (EDB)	ug/L	<0.0064	.44	.44	0.64	0.63	146	145	65-135	1	40	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324055

QC Batch: 32255
QC Batch Method: EPA 505
Analysis Method: EPA 505
Analysis Description: 505 GCS Pesticides
Associated Lab Samples: 35324055001

METHOD BLANK: 149103
Matrix: Water
Associated Lab Samples: 35324055001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aldrin	ug/L	<0.025	0.025	0.025	07/20/17 18:40	
Decachlorobiphenyl (S)	%.	75	30-150		07/20/17 18:40	
Tetrachloro-m-xylene (S)	%.	85	30-150		07/20/17 18:40	

LABORATORY CONTROL SAMPLE: 149104

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	.048	0.047	98	70-130	
Decachlorobiphenyl (S)	%.			95	30-150	
Tetrachloro-m-xylene (S)	%.			94	30-150	

LABORATORY CONTROL SAMPLE: 149105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	.0095	<0.025	97	70-130	
Decachlorobiphenyl (S)	%.			89	30-150	
Tetrachloro-m-xylene (S)	%.			95	30-150	

MATRIX SPIKE SAMPLE: 149106

Parameter	Units	7024421001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	<0.025	.095	0.092	96	65-135	
Decachlorobiphenyl (S)	%.				75	30-150	
Tetrachloro-m-xylene (S)	%.				97	30-150	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324055

QC Batch: 382602 Analysis Method: EPA 508.1
QC Batch Method: EPA 508.1 Analysis Description: 508 GCS Pesticide
Associated Lab Samples: 35324055001

METHOD BLANK: 2076395 Matrix: Water
Associated Lab Samples: 35324055001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alachlor	ug/L	<0.035	0.20	0.035	07/28/17 05:11	
Atrazine	ug/L	<0.063	0.10	0.063	07/28/17 05:11	
Butachlor	ug/L	<0.027	0.10	0.027	07/28/17 05:11	
Chlordane (Technical)	ug/L	<0.047	0.20	0.047	07/28/17 05:11	
Dieldrin	ug/L	<0.019	0.10	0.019	07/28/17 05:11	
Endrin	ug/L	<0.0070	0.010	0.0070	07/28/17 05:11	
gamma-BHC (Lindane)	ug/L	<0.0030	0.020	0.0030	07/28/17 05:11	
Heptachlor	ug/L	<0.012	0.040	0.012	07/28/17 05:11	
Heptachlor epoxide	ug/L	<0.0030	0.020	0.0030	07/28/17 05:11	
Hexachlorobenzene	ug/L	<0.019	0.10	0.019	07/28/17 05:11	
Hexachlorocyclopentadiene	ug/L	<0.032	0.10	0.032	07/28/17 05:11	
Methoxychlor	ug/L	<0.051	0.10	0.051	07/28/17 05:11	
Metolachlor	ug/L	<0.047	0.10	0.047	07/28/17 05:11	
Propachlor	ug/L	<0.030	0.10	0.030	07/28/17 05:11	
Simazine	ug/L	<0.069	0.070	0.069	07/28/17 05:11	
Toxaphene	ug/L	<0.61	1.0	0.61	07/28/17 05:11	
Decachlorobiphenyl (S)	%	93	70-130		07/28/17 05:11	

LABORATORY CONTROL SAMPLE: 2076396

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	ug/L	1	0.93	93	70-130	
Atrazine	ug/L	1.2	<0.063	0	70-130	L2
Butachlor	ug/L	.5	0.50	99	70-130	
Chlordane (Technical)	ug/L		<0.047			
Dieldrin	ug/L	.5	0.45	90	70-130	
Endrin	ug/L	.05	0.044	87	70-130	
gamma-BHC (Lindane)	ug/L	.1	0.090	90	70-130	
Heptachlor	ug/L	.2	0.17	86	70-130	
Heptachlor epoxide	ug/L	.1	0.10	100	70-130	
Hexachlorobenzene	ug/L	.5	0.63	125	70-130	
Hexachlorocyclopentadiene	ug/L	.5	0.78	155	70-130	
Methoxychlor	ug/L	.5	0.55	110	70-130	
Metolachlor	ug/L	.5	0.43	87	70-130	
Propachlor	ug/L	.5	0.48	97	70-130	
Simazine	ug/L	.88	0.43	49	70-130	L2
Toxaphene	ug/L		<0.61			
Decachlorobiphenyl (S)	%			96	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project:	LBG,Inc 42001269
Pace Project No.:	35324055

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2077205 2077206

Parameter	Units	35324367001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alachlor	ug/L				0.96	0.95				1	40	M1
Atrazine	ug/L				<0.13	<0.13					40	M0
Butachlor	ug/L				0.50	0.50				1	40	M1
Chlordane (Technical)	ug/L				<0.094	<0.094					40	
Dieldrin	ug/L				0.44	0.43				1	40	M1
Endrin	ug/L				0.043	0.043				0	40	M1
gamma-BHC (Lindane)	ug/L				0.092	0.091				1	40	M1
Heptachlor	ug/L				0.18	0.16				9	40	M1
Heptachlor epoxide	ug/L				0.098	0.097				2	40	M1
Hexachlorobenzene	ug/L				0.64	0.60				8	40	M1
Hexachlorocyclopentadiene	ug/L				0.80	0.69				15	40	
Methoxychlor	ug/L				0.52	0.52				1	40	
Metolachlor	ug/L				0.46	0.46				1	40	M1
Propachlor	ug/L				0.52	0.51				2	40	M1
Simazine	ug/L				1.1	1.2				8	40	
Toxaphene	ug/L				<1.2	<1.2					40	
Decachlorobiphenyl (S)	%						46	46	70-130		40	S0

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324055

QC Batch: 382064
QC Batch Method: EPA 515.3
Analysis Method: EPA 515.3
Analysis Description: 5153 GCS Herbicides
Associated Lab Samples: 35324055001

METHOD BLANK: 2073155
Matrix: Water
Associated Lab Samples: 35324055001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4,5-TP (Silvex)	ug/L	<0.16	0.20	0.16	07/22/17 00:29	
2,4-D	ug/L	<0.081	0.10	0.081	07/22/17 00:29	
Dalapon	ug/L	<0.89	1.0	0.89	07/22/17 00:29	
Dicamba	ug/L	<0.067	0.10	0.067	07/22/17 00:29	
Dinoseb	ug/L	<0.16	0.20	0.16	07/22/17 00:29	
Pentachlorophenol	ug/L	<0.030	0.040	0.030	07/22/17 00:29	
Picloram	ug/L	<0.094	0.10	0.094	07/22/17 00:29	
2,4-DCAA (S)	%	88	70-130		07/22/17 00:29	

LABORATORY CONTROL SAMPLE: 2073156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	ug/L	1	1.0	103	70-130	
2,4-D	ug/L	.5	0.39	78	70-130	
Dalapon	ug/L	5	4.5	90	70-130	
Dicamba	ug/L	.5	0.66	132	70-130	L1
Dinoseb	ug/L	1	1.1	114	70-130	
Pentachlorophenol	ug/L	.2	0.20	98	70-130	
Picloram	ug/L	.5	0.50	99	70-130	
2,4-DCAA (S)	%			93	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073478 2073479

Parameter	Units	92347613003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	ND	1	1	1.1	1.1	108	111	70-130	3	40	
2,4-D	ug/L	ND	.5	.5	0.42	0.47	84	94	70-130	11	40	
Dalapon	ug/L	ND	5	5	5.7	6.0	115	120	70-130	5	40	
Dicamba	ug/L	ND	.5	.5	0.58	0.63	117	126	70-130	7	40	
Dinoseb	ug/L	ND	1	1	1.1	1.1	105	113	70-130	7	40	
Pentachlorophenol	ug/L	ND	.2	.2	0.18	0.19	91	95	70-130	4	40	
Picloram	ug/L	ND	.5	.5	0.65	0.70	130	140	70-130	7	40	M1
2,4-DCAA (S)	%						98	99	70-130			

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QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324055

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073480 2073481

Parameter	Units	35323949005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	<0.16	1	1	1.1	1.1	108	110	70-130	1	40	
2,4-D	ug/L	<0.081	.5	.5	0.40	0.41	79	82	70-130	3	40	
Dalapon	ug/L	<0.89	5	5	4.7	4.8	94	95	70-130	1	40	
Dicamba	ug/L	<0.067	.5	.5	0.51	0.63	103	127	70-130	21	40	
Dinoseb	ug/L	<0.16	1	1	1.1	1.1	110	111	70-130	1	40	
Pentachlorophenol	ug/L	<0.030	.2	.2	0.19	0.19	96	97	70-130	1	40	
Picloram	ug/L	<0.094	.5	.5	0.55	0.57	110	115	70-130	5	40	
2,4-DCAA (S)	%						95	93	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324055

QC Batch: 382603
QC Batch Method: EPA 525.2
Analysis Method: EPA 525.2
Analysis Description: 525.2 Base Neutral Extractables
Associated Lab Samples: 35324055001

METHOD BLANK: 2076402
Matrix: Water
Associated Lab Samples: 35324055001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzo(a)pyrene	ug/L	<0.013	0.10	0.013	07/25/17 15:37	
bis(2-Ethylhexyl)adipate	ug/L	<0.38	1.6	0.38	07/25/17 15:37	
bis(2-Ethylhexyl)phthalate	ug/L	<0.50	2.0	0.50	07/25/17 15:37	
Metribuzin	ug/L	<0.15	0.30	0.15	07/25/17 15:37	
1,3-Dimethyl-2-nitrobenzene(S)	%	85	70-130		07/25/17 15:37	
Perylene-d12 (S)	%	109	70-130		07/25/17 15:37	
Triphenylphosphate (S)	%	85	70-130		07/25/17 15:37	

LABORATORY CONTROL SAMPLE: 2076403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzo(a)pyrene	ug/L	.4	0.30	76	70-130	
bis(2-Ethylhexyl)adipate	ug/L	6.4	4.9	77	70-130	
bis(2-Ethylhexyl)phthalate	ug/L	8	6.8	85	70-130	
Metribuzin	ug/L	1.2	1.0	83	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			101	70-130	
Perylene-d12 (S)	%			94	70-130	
Triphenylphosphate (S)	%			86	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2077203 2077204

Parameter	Units	35323929005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzo(a)pyrene	ug/L	<0.013	.8	.8	0.66	0.67	83	84	70-130	1	40	
bis(2-Ethylhexyl)adipate	ug/L	<0.37	12.8	12.8	9.7	10.4	76	81	70-130	6	40	
bis(2-Ethylhexyl)phthalate	ug/L	<0.49	16	16	12.6	13.7	79	86	70-130	9	40	
Metribuzin	ug/L	<0.15	2.4	2.4	1.7	1.7	71	72	70-130	2	40	
1,3-Dimethyl-2-nitrobenzene(S)	%						100	99	70-130			
Perylene-d12 (S)	%						88	93	70-130			
Triphenylphosphate (S)	%						80	87	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324055

QC Batch: 381974
QC Batch Method: EPA 548.1
Analysis Method: EPA 548.1
Analysis Description: 548 GCS Endothall
Associated Lab Samples: 35324055001

METHOD BLANK: 2072291
Matrix: Water
Associated Lab Samples: 35324055001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Endothall	ug/L	<4.3	9.0	4.3	07/24/17 19:29	

LABORATORY CONTROL SAMPLE: 2072292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endothall	ug/L	50	39.6	79	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2072347 2072348

Parameter	Units	35324386001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	4.3U	50	50	45.0	44.4	90	89	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2072358 2072359

Parameter	Units	35324386002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	4.3U	50	50	34.3	41.0	69	82	80-120	18	30	M0

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324055

QC Batch: 381794
Analysis Method: EPA 549.2
QC Batch Method: EPA 549.2
Analysis Description: 549 HPLC Paraquat Diquat
Associated Lab Samples: 35324055001

METHOD BLANK: 2071478
Matrix: Water
Associated Lab Samples: 35324055001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diquat	ug/L	<0.30	0.40	0.30	07/20/17 00:32	

LABORATORY CONTROL SAMPLE: 2071479

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diquat	ug/L	2	1.6	82	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2071882 2071883

Parameter	Units	35324366001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	0.30U	2	2	1.7	1.7	84	84	70-130	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2071884 2071885

Parameter	Units	35324454001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	0.00030U mg/L	2	2	0.60	0.84	30	42	70-130	35	30	M1,R1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project:	LBG,Inc 42001269
Pace Project No.:	35324055

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
L5	LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	LBG,Inc 42001269
Pace Project No.:	35324055

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35324055001	**C-14**	EPA 504.1	381399	EPA 504.1	381607
35324055001	**C-14**	EPA 505	32255	EPA 505	32334
35324055001	**C-14**	EPA 508.1	382602	EPA 508.1	383798
35324055001	**C-14**	EPA 515.3	382064	EPA 515.3	382572
35324055001	**C-14**	EPA 531.1	381535		
35324055001	**C-14**	EPA 547	382091		
35324055001	**C-14**	EPA 549.2	381794	EPA 549.2	382025
35324055001	**C-14**	EPA 525.2	382603	EPA 525.2	382996
35324055001	**C-14**	EPA 548.1	381974	EPA 548.1	382933

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

WO# : 35324055
35324055

f Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)	: r, Debra	Carrier Tracking No(s):	COC No: 420-9124.1
Client Contact: Shipping/Receiving	abayer@envirotestlaboratories.com		Page: Page 1 of 1
Company: Pace Analytical Ormond Beach			STL Job #: 420-123595-3
Address: 8 East Tower Circle, ,	Due Date Requested: 7/25/2017		
City: Ormond Beach	TAT Requested (days): Std TAT 7/13/17		
State, Zip: FL, 32174			
Phone: 111-222-3333(Tel)	PO #:		
Email:	WO #:		
Project Name: LBG, Inc.	Project #: 42001269		
Site:	SSOW#:		

Analysis Requested

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 515 Chlorinated Acids	SUBCONTRACT/ 504 EPA 504.1 EDB/DBCP	SUBCONTRACT/ 531.1 Carbamate Pesticides In DW	SUBCONTRACT/ 525.2 Semivolatile Organics	SUBCONTRACT/ 508	SUBCONTRACT/ 547	SUBCONTRACT/ 548	SUBCONTRACT/ 549	SUBCONTRACT/ Dioxin	Total Number of containers	Special Instructions/Note:
				Preservation Code:													
C - 14 (420-123595-3)	7/13/17	8:40		Water			X	X	X	X	X	X	X	X	X	13	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ________ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:		Time:	Method of Shipment:
Relinquished by:	Date/Time: 7/13/17 1440	Company ETL	Received by: TDH pace	Date/Time: 7/14/17 1110	Company T286 10.4
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:
Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form Document No.: F-FL-C-007 rev. 11	Document Revised: February 6, 2017 Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # WO#: 35324055
Project Manager: PM: VEG Due Date: 07/31/17
Client: CLIENT: EVNTES

Date and Initials of person:
Examining contents:
Label:
Deliver:
pH:

Thermometer Used: T286 Date: 7/14/17 Time: 1110 Initials:

Cooler #1 Temp.°C 9.6 **(Visual)** +0.1 **(Correction Factor)** 9.7 **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #2 Temp.°C 10.3 **(Visual)** +0.1 **(Correction Factor)** 10.4 **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C 9.4 **(Visual)** +0.1 **(Correction Factor)** 9.5 **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C____ **(Visual)** ____ **(Correction Factor)** ____ **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C____ **(Visual)** ____ **(Correction Factor)** ____ **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C____ **(Visual)** ____ **(Correction Factor)** ____ **(Actual)** ☐ Samples on ice, cooling process has begun

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other____
Shipping Method: ☐ First Overnight ☐ Priority Overnight ☑ Standard Overnight ☐ Ground ☐ Other____
Billing: ☑ Recipient ☐ Sender ☐ Third Party ☐ Unknown
Tracking # 7796 2610 4340/7796 2609 3485/7796 2608 5178
Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☐ No **Ice:** [✓ Wet] Blue None
Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other____
Samples shorted to lab (If Yes, complete) Shorted Date:____ Shorted Time:____ Qty:____

		Comments:
Chain of Custody Present	☑ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☑ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☑ No ☐ N/A	
Sufficient Volume	☑ Yes ☐ No ☐ N/A	
Correct Containers Used	☑ Yes ☐ No ☐ N/A	
Containers Intact	☑ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☑ Yes ☐ No ☐ N/A	Preservation Information: Preservative:____ Lot #/Trace #:____ Date:____ Time:____ Initials:____
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☑ Yes ☐ No ☐ N/A	
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☑ N/A	
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	

Client Notification/ Resolution:
Person Contacted:____ Date/Time:____

Comments/ Resolution (use back for additional comments):
okay to Run OOT per PM

Project Manager Review:____ Date:____

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Bo Garcia
PASI Florida
8 East Tower Circle
Ormond Beach FL 32174

Report Information:

Pace Project #: 10396061
Sample Receipt Date: 07/18/2017
Client Project #: 35324055
Client Sub PO #: N/A
State Cert #: 11647

REPORT OF LABORATORY ANALYSIS FOR 2,3,7,8-TCDD

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 Drinking Water Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Sarah Platzer, your Pace Project Manager.

Report Summary:

This report contains results of one drinking water sample analyzed to determine 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613 by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

This report has been reviewed by:

NELAP ACCREDITED TNI LABORATORY

Report of Laboratory Analysis

Report Prepared Date:

July 31, 2017

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Montana	CERT0092
Alabama	40770	Nebraska	NE-OS-18-06
Alaska	MN00064	Nevada	MN00064
Alaska	UST-078	New Jersey (NE	MN002
Arizona	AZ0014	New York (NEL	11647
Arkansas	88-0680	New hampshire	2081
CNMI Saipan	MP0003	North Carolina	27700
California	MN00064	North Carolina	530
Colorado	MN00064	North Dakota	R-036
Connecticut	PH-0256	Ohio	41244
EPA Region 8	8TMS-L	Ohio VAP	CL101
Florida (NELAP	E87605	Oklahoma	9507
Georgia (EDP)	959	Oregon (ELAP)	MN200001
Guam EPA	959	Oregon (OREL	MN300001
Hawaii	MN00064	Pennsylvania	68-00563
Idaho	MN00064	Puerto Rico	MN00064
Illinois	200011	South Carolina	74003001
Indiana	C-MN-01	Tennessee	TN02818
Iowa	368	Texas	T104704192
Kansas	E-10167	Utah (NELAP)	MN00064
Kentucky	90062	Virginia	460163
Louisiana	03086	Washington	C486
Louisiana	MN00064	West Virginia #	9952C
Maryland	322	West Virginia D	382
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-L
Mississippi	MN00064		

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

10396061

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: 35324055 **Workorder Name:** LBG,Inc 42001269 **Owner Received Date:** 7/15/2017 **Results Requested By:** 7/31/2017

Bo Garcia
Pace Analytical Ormond Beach
8 East Tower Circle
Ormond Beach, FL 32174
Phone (386)672-5668

Pace Analytical Minnesota
1700 Elm Street SE
Suite 200
Minneapolis, MN 55414
Phone (612)607-1700

						Preserved Containers						Requested Analysis												
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Unpreserved						EPA 1613												LAB USE ONLY
1	C-14	PS	7/13/2017 08:40	35324055001	Drinking	2						X												001
2																								
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1		7/17/17 1700	/PACE	7/18/17 950	
2					
3					

Cooler Temperature on Receipt 0.2 °C **Custody Seal** Y or [✓ N] **Received on Ice** [✓ Y] or N **Samples Intact** [✓ Y] or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 19Dec2016 Page 1 of 2
	Document No.: **F-MN-L-213-rev.20**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace Ormond Beach

Project #:

WO#: 10396061
10396061

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:______

Tracking Number: 7422-5599-7553

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other:______ **Temp Blank?** ☐ Yes ☒ No

Thermometer Used: ☒ 151401163 ☐ 151401164

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.2 **Cooler Temp Corrected (°C):** 0.2 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** True **Date and Initials of Person Examining Contents:** 7/18/17 SD

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☒ Yes	☐ No		1.
Chain of Custody Filled Out?	☒ Yes	☐ No		2.
Chain of Custody Relinquished?	☒ Yes	☐ No		3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No		5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		6.
Rush Turn Around Time Requested?	☐ Yes	☒ No		7.
Sufficient Volume?	☒ Yes	☐ No		8.
Correct Containers Used?	☒ Yes	☐ No		9.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No		12.
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH Positive for Res. Chlorine? Y N Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	☒ Yes	☐ No	☐ N/A	Initial when completed:______ Lot # of added preservative:______
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):______				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: ______ Date/Time: ______

Comments/Resolution: ______

Project Manager Review: ______ **Date:** 7/19/2017

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN, 55414

Tel: 612-607-1700
Fax: 612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B

Sample ID...........C-14
Client................... PASI Florida
Lab Sample ID..... 35324055001

Date Collected.....07/13/2017
Date Received......07/18/2017
Date Extracted.....07/27/2017

	Sample C-14	**Method Blank**	**Lab Spike**	**Lab Spike Dup**
[2,3,7,8-TCDD]	**ND**	ND	--	--
EDL	3.9 pg/L	4.8 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	132%	134%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			1.8%	
IS Recovery	**58%**	66%	54%	61%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**90%**	97%	81%	99%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	Y170728B_11	Y170728B_05	Y170728B_03	Y170728B_04
Analysis Date	07/28/2017	07/28/2017	07/28/2017	07/28/2017
Analysis Time	22:17	19:25	18:27	18:56
Analyst	BAL	BAL	BAL	BAL
Volume	1.041L	1.019L	1.054L	1.066L
Dilution	NA	NA	NA	NA
ICAL Date	07/27/2017	07/27/2017	07/27/2017	07/27/2017
CCAL Filename	Y170728B_02	Y170728B_02	Y170728B_02	Y170728B_02

! = Outside the Control Limits
ND = Not Detected
EDL = Estimated Detection Limit
Limits = Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD = Relative Percent Difference of Lab Spike Recoveries
IS = Internal Standard [2,3,7,8-TCDD- $^{13}C_{12}$]
CS = Cleanup Standard [2,3,7,8-TCDD- $^{37}Cl_4$]

Analyst:

Project No.............10396061

C-16

EnviroTest
Laboratories Inc.

ANALYTICAL REPORT

Job Number: 420-123595-4

SDG Number: Clovewood

Job Description: LBG, Inc.

For:
Leggette, Brashears & Graham, Inc.
4 Research Drive
Shelton, CT 06464

Attention: Stacy Stieber

Debra Bayer

Debra Bayer
Customer Service Manager
dbayer@envirotestlaboratories.com
08/24/2017

NYSDOH ELAP does not certify for all parameters. EnviroTest Laboratories does hold certification for all analytes where certification is offered by ELAP unless otherwise specified in the Certification Information section of this report. Pursuant to NELAP, this report may not be reproduced, except in full, without written approval of the laboratory. EnviroTest Laboratories Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our laboratory. All questions regarding this report should be directed to the EnviroTest Customer Service Representative.

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-4
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method
Matrix: Water			
ICP Metals by 200.7	EnvTest	EPA 200.7 Rev 4.4	
Sample Filtration	EnvTest		FILTRATION
Total Metals Digestion for 200.7	EnvTest		EPA 200.7
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
ICPMS Metals by 200.8	EnvTest	EPA 200.8 Rev.5.4	
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
Total Metals Digestion for 200.8	EnvTest		EPA 200.8
Mercury in Water by CVAA	EnvTest	EPA 245.1 Rev.3.0	
Digestion for CVAA Mercury in Waters	EnvTest		EPA 245.1
Anions by Ion Chromatography	EnvTest	MCAWW 300.0	
Anions by Ion Chromatography	EnvTest	EPA 300.0 Rev. 2.1	
EPA 504.1 EDB	Pace	EPA 504.1	
EPA 505 Pesticide/PCB	Pace	EPA 505	
EPA 515 Chlorinated Acids	Pace	EPA 515	
Purgeable Organic Compounds in Water by GC/MS	EnvTest	EPA-DW 524.2	
EPA 525.2 Semivolatile Organics	Pace	EPA 525.2	
EPA 531.1 Carbamate Pesticides in Drinki	Pace	EPA 531.1	
EPA 900 Series GA/GB/RA226/RA228/Gamma	Radios	EPA 900	
Uranium	Radios	STL-STL EPA	
Heterotropic Plate Count	EnvTest	IDEXX SIMPLATE	
Odor, Threshold Test	EnvTest	SM20 SM 2150B	
Alkalinity, Titration Method	EnvTest	SM21 SM 2320B-97,-11	
Corrosivity LSI Calculation	EnvTest	SM20 SM 2330B	
Hardness by Calculation	EnvTest	SM20 SM 2340B-97,-11	
pH	EnvTest	SM19 SM 4500 H+ B	
Nitrite by Colormetric	EnvTest	SM20 SM 4500 NO2 B	
Total Coliform and Escherichia coli by Colilert - Presence/Absence	EnvTest	SMWW SM 9223	
Apparent Color	EnvTest	SM21 SM2120B-01,11	
Turbidity	EnvTest	SM21 SM2130B-01,11	
Total Dissolved Solids (Dried at 180 °C)	EnvTest	SM21 SM2540C-97,11	
Cyanide, Total: Colorimetric Method	EnvTest	SM21 SM4500 CN E-99	
Cyanide: Distillation	EnvTest		SM21 SM 4500 CN C
General Sub Contract Method	Pace	Subcontract	
General Sub Contract Method	Radios	Subcontract	

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-4
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method

Lab References:

EnvTest = EnviroTest

Pace = Pace Analytical - Ormond Beach

Radios = Pace Analytical Services, Inc.

Method References:

EPA = US Environmental Protection Agency

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

IDEXX =

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

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

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

SM21 = "Standard Methods For The Examination Of Water And Wastewater", 21st Edition

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

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

METHOD / ANALYST SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-4
SDG Number: Clovewood

Method	Analyst	Analyst ID
EPA-DW 524.2	Andersen, Eric C	ECA
EPA 200.7 Rev 4.4	Sirico, Derek	DS
EPA 200.8 Rev.5.4	Sirico, Derek	DS
EPA 245.1 Rev.3.0	Sirico, Derek	DS
SM20 SM 2340B-97,-11	Sirico, Derek	DS
MCAWW 300.0	Luis, Carlos	CL
EPA 300.0 Rev. 2.1	Luis, Carlos	CL
IDEXX SIMPLATE	O'Driscoll, Kate	KO
SM20 SM 2150B	O'Driscoll, Kate	KO
SM21 SM 2320B-97,-11	Tramantano, Matt	MT
SM20 SM 2330B	Cusack, Renee	RC
SM19 SM 4500 H+ B	O'Driscoll, Kate	KO
SM20 SM 4500 NO2 B	Grant, Ameya	AG
SMWW SM 9223	Grant, Ameya	AG
SM21 SM2120B-01,11	O'Driscoll, Kate	KO
SM21 SM2130B-01,11	O'Driscoll, Kate	KO
SM21 SM2540C-97,11	O'Driscoll, Kate	KO
SM21 SM4500 CN E-99	Osborne, Amy	AO

SAMPLE SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-4
SDG Number: Clovewood

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
420-123595-4	C - 16	Drinking Water	07/13/2017 0915	07/13/2017 1000

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-4
Sdg Number: Clovewood

Client Sample ID: **C - 16**

Lab Sample ID:	420-123595-4	Date Sampled:	07/13/2017 0915
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112453	Instrument ID:	Agilent 7890A/5975C
Preparation:	N/A		Lab File ID:	X071421.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/14/2017 1948		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
1,1,1,2-Tetrachloroethane	<0.500		0.500
1,1,1-Trichloroethane	<0.500		0.500
1,1,2,2-Tetrachloroethane	<0.500		0.500
1,1,2-Trichloroethane	<0.500		0.500
1,1-Dichloroethane	<0.500		0.500
1,1-Dichloroethene	<0.500		0.500
1,1-Dichloropropene	<0.500		0.500
1,2,3-Trichlorobenzene	<0.500		0.500
1,2,3-Trichloropropane	<0.500		0.500
1,2,4-Trichlorobenzene	<0.500		0.500
1,2,4-Trimethylbenzene	<0.500		0.500
1,2-Dichloroethane	<0.500		0.500
1,2-Dichlorobenzene	<0.500		0.500
1,2-Dichloropropane	<0.500		0.500
1,3-Dichloropropane	<0.500		0.500
1,4-Dichlorobenzene	<0.500		0.500
2,2-Dichloropropane	<0.500		0.500
Benzene	<0.500		0.500
Bromobenzene	<0.500		0.500
Bromochloromethane	<0.500		0.500
Bromomethane	<0.500		0.500
n-Butylbenzene	<0.500		0.500
cis-1,2-Dichloroethene	<0.500		0.500
cis-1,3-Dichloropropene	<0.500		0.500
Carbon tetrachloride	<0.500		0.500
Chlorobenzene	<0.500		0.500
Chloroethane	<0.500		0.500
Chloromethane	<0.500		0.500
Dibromomethane	<0.500		0.500
Ethylbenzene	<0.500		0.500
Dichlorodifluoromethane	<0.500		0.500
Hexachlorobutadiene	<0.500		0.500
Isopropylbenzene	<0.500		0.500
p-Isopropyltoluene	<0.500		0.500
Methylene Chloride	<0.500		0.500
m-Xylene & p-Xylene	<1.00		1.00
Methyl tert-butyl ether	<0.500		0.500
o-Xylene	<0.500		0.500
Tetrachloroethene	<0.500		0.500
Toluene	<0.500		0.500
trans-1,2-Dichloroethene	<0.500		0.500
trans-1,3-Dichloropropene	<0.500		0.500
Trichloroethene	<0.500		0.500
tert-Butylbenzene	<0.500		0.500

Analytical Data

Client:	Leggette, Brashears & Graham, Inc.	Job Number:	420-123595-4
		Sdg Number:	Clovewood
Client Sample ID:	**C - 16**		
Lab Sample ID:	420-123595-4	Date Sampled:	07/13/2017 0915
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112453	Instrument ID:	Agilent 7890A/5975C
Preparation:	N/A		Lab File ID:	X071421.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/14/2017 1948		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
Trichlorofluoromethane	<0.500		0.500
Vinyl chloride	<0.500		0.500
Xylenes, Total	<1.50		1.50
Styrene	<0.500		0.500
sec-Butylbenzene	<0.500		0.500
1,3,5-Trimethylbenzene	<0.500		0.500
N-Propylbenzene	<0.500		0.500
1,3-Dichlorobenzene	<0.500		0.500
2-Chlorotoluene	<0.500		0.500
4-Chlorotoluene	<0.500		0.500

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	101	71 - 120
Toluene-d8 (Surr)	118	79 - 121
1,2-Dichloroethane-d4 (Surr)	124	70 - 128

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-4
Sdg Number: Clovewood

Client Sample ID: **C - 16**

Lab Sample ID:	420-123595-4	Date Sampled:	07/13/2017 0915
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

200.7 Rev 4.4 ICP Metals by 200.7

Method:	200.7 Rev 4.4	Analysis Batch: 420-112479	Instrument ID:	Thermo ICP
Preparation:	200.7/200.8	Prep Batch: 420-112493	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/17/2017 1445		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 0925			

Analyte	Result (ug/L)	Qualifier	RL
Iron	1050	g	60.0
Manganese	373	g	10.0
Sodium	21100		200
Zinc	35.0		20.0

200.7 Rev 4.4 ICP Metals by 200.7-Dissolved

Method:	200.7 Rev 4.4	Analysis Batch: 420-112597	Instrument ID:	Thermo ICP
Preparation:	200.7	Prep Batch: 420-112501	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/19/2017 1846		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 1505			

Analyte	Result (ug/L)	Qualifier	RL
Iron	<60.0		60.0
Manganese	381		10.0

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-4
Sdg Number: Clovewood

Client Sample ID: **C - 16**

Lab Sample ID:	420-123595-4	Date Sampled:	07/13/2017 0915
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

200.8 Rev.5.4 ICPMS Metals by 200.8

Method:	200.8 Rev.5.4	Analysis Batch: 420-112457	Instrument ID:	Perkin Elmer ELAN
Preparation:	200.7/200.8	Prep Batch: 420-112493	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/17/2017 1330		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 0925			

Analyte	Result (ug/L)	Qualifier	RL
Lead	<1.00		1.00
Arsenic	1.45		1.40
Beryllium	<0.300		0.300
Cadmium	<1.00		1.00
Chromium	<7.00		7.00
Nickel	1.32		0.500
Antimony	<0.400		0.400
Thallium	<0.300		0.300
Barium	17.7		2.00
Selenium	<2.00		2.00

Method:	200.8 Rev.5.4	Analysis Batch: 420-112536	Instrument ID:	Perkin Elmer ELAN
Preparation:	200.8	Prep Batch: 420-112520	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/18/2017 1732		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 1800			

Analyte	Result (ug/L)	Qualifier	RL
Silver	<1.00		1.00

245.1 Rev.3.0 Mercury in Water by CVAA

Method:	245.1 Rev.3.0	Analysis Batch: 420-112511	Instrument ID:	Perkin Elmer FIMS
Preparation:	245.1	Prep Batch: 420-112451	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	25 mL
Date Analyzed:	07/18/2017 1215		Final Weight/Volume:	25 mL
Date Prepared:	07/17/2017 1115			

Analyte	Result (ug/L)	Qualifier	RL
Mercury	<0.200		0.200

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-4
Sdg Number: Clovewood

Client Sample ID: **C - 16**

Lab Sample ID:	420-123595-4	Date Sampled:	07/13/2017 0915
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

SM 2340B-97,-11 Hardness by Calculation

Method:	SM 2340B-97,-11	Analysis Batch: 420-112535	Instrument ID:	None
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	
Date Analyzed:	07/17/2017 1445		Final Weight/Volume:	
Date Prepared:	N/A			

Analyte	Result (mg/L)	Qualifier	RL
Calcium hardness as calcium carbonate	88.2		1.25

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-4
Sdg Number: Clovewood

Biology

Client Sample ID: **C - 16**

Lab Sample ID:	420-123595-4	Date Sampled:	07/13/2017 0915
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

Analyte	Result	Qual	Units	Dil	Method
Coliform, Total	Absent		CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112380	Date Analyzed	07/13/2017 1510		
Escherichia coli	Absent		CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112380	Date Analyzed	07/13/2017 1510		

Analyte	Result	Qual	Units	RL	Dil	Method
Heterotrophic Plate Count	90.0		CFU/mL	2.00	1.0	SIMPLATE
	Anly Batch: 420-112413	Date Analyzed	07/13/2017 1550			

General Chemistry

General Chemistry

Client Sample ID: **C - 16**

Lab Sample ID: 420-123595-4
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 0915
Date Received: 07/13/2017 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Nitrate as N	<0.250		mg/L	0.250	1.0	300.0
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1658			

Analyte	Result	Qual	Units	Dil	Method
Langelier Index	-0.270		NONE	1.0	SM 2330B
	Anly Batch: 420-112765	Date Analyzed	07/26/2017 1302		

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-4
Sdg Number: Clovewood

General Chemistry

Client Sample ID: **C - 16**

Lab Sample ID: 420-123595-4
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 0915
Date Received: 07/13/2017 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Alkalinity	190		mg/L	5.00	1.0	SM 2320B-97,-11
	Anly Batch: 420-112669	Date Analyzed	07/21/2017 1730			
Total Dissolved Solids	192		mg/L	5.00	1.0	SM2540C-97,11
	Anly Batch: 420-112602	Date Analyzed	07/20/2016 1700			
Chloride	1.62		mg/L	1.50	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1658			
Sulfate	9.11		mg/L	5.00	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1658			
Fluoride	<0.500		mg/L	0.500	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1658			
Cyanide, Total	<0.00500		mg/L	0.00500	1.0	SM4500 CN E-99
	Anly Batch: 420-112524	Date Analyzed	07/18/2017 1400			
	Prep Batch:	Date Prepared:	07/14/2017 1300			
Apparent Color	30.0	g	Pt-Co	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112486	Date Analyzed	07/13/2017 1750			
pH@color measurement	7.29		SU	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112486	Date Analyzed	07/13/2017 1750			
Turbidity	13.0	g	NTU	0.100	1.0	SM2130B-01,11
	Anly Batch: 420-112420	Date Analyzed	07/13/2017 1813			
Odor	1.00		T.O.N.	1.00	1.0	SM 2150B
	Anly Batch: 420-112485	Date Analyzed	07/13/2017 1800			
Temp @ Odor Measurement	60.0		Degrees C	5.00	1.0	SM 2150B
	Anly Batch: 420-112485	Date Analyzed	07/13/2017 1800			
pH	7.29	H	SU	0.200	1.0	SM 4500 H+ B
	Anly Batch: 420-112487	Date Analyzed	07/13/2017 1749			
Temp @ pH Measurement	16.6		Degrees C	5.00	1.0	SM 4500 H+ B
	Anly Batch: 420-112487	Date Analyzed	07/13/2017 1749			
Nitrite as N	<0.0100		mg/L	0.0100	1.0	SM 4500 NO2 B
	Anly Batch: 420-112510	Date Analyzed	07/14/2017 1047			

DATA REPORTING QUALIFIERS

Client: Leggette, Brashears & Graham, Inc.

Job Number:
Sdg Number: Clovewood

Lab Section	Qualifier	Description
Metals		
	g	Result fails applicable NYS drinking water standards
General Chemistry		
	g	Result fails applicable NYS drinking water standards
	H	Sample was prepped or analyzed beyond the specified holding time

The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Silicon, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide, Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Phenolphthalein Alkalinity, Solids (Fixed), Solids (Percent), Solids (Percent Moisture) , Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, Volatile Acids as Acetic Acid, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, Iron Bacteria, Salmonella, & Sulfur Reducing Bacteria.

The following analytes are Not Part of ELAP Potable Water scope of accreditation:

Cobalt (200.7, 200.8), Tin (200.7), Strontium (200.7), Gold (200.7), Platinum (200.7), Palladium (200.7), Titanium (200.7), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), Naphthalene (502.2), o-Xylene (502.2, 524), & Fecal Coliform (9222D).

The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

The following analytes are Not Part of ELAP Non Potable Water scope of accreditation:

Dissolved Organic Carbon (5310C), Mecoprop (8151A), & MCPA (8151A).

Definitions and Glossary

Client: Leggette, Brashears & Graham, Inc. Job Number:

Sdg Number: Clovewood

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points.

EnviroTest Laboratories, Inc.

CHAIN OF CUSTODY

123595-4

REPORT# (Lab Use Only)

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

PROJECT REFERENCE Clovewood	PROJECT NO.	PROJECT LOCATION
ENVIROTEST PROJECT MANAGER Debra Bayer	P.O. NUMBER	TOWN
CLIENT (SITE) PM LBG, Inc.	CLIENT PHONE 203-929-8555	CLIENT FAX
CLIENT NAME Stacy Stieber		
CLIENT ADDRESS 4 Research Drive, Suite 204, Shelton, CT 06484		
COMPANY CONTRACTING THIS WORK (if applicable): 1		

PAGE 1 of 1

TURNAROUND TIME

NORMAL ✓
QUICK ____
VERBAL ____

#OF COOLERS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) *INDICATE*	AQUEOUS (WATER)	D (Drinking Water) or W (Waste Water) *Indicate*	SOLID OR SEMISOLID	OTHER *Specify*	**MPA C/G kit**	**40ml Vials HCl**	**40ml Sodium Thio.**	**250ml Amber Sodium Thio.**	**Liter Amber HCl/Na2SO3**	**250ml Plastic Nitric Acid**	**40ml Mon/Sod.Thio(liquid)**	**Liter Plastic**	**250ml Plastic Sodium Hyd.**	**125ml Plastic Sterile**	**Liter Plastic Nitric**	**40ml Vials Unpres**	**REMARKS**
7/13/17	9/15	C-16			D				3	2	1	2	1	2	4	1	2	5	2	**Table 8B (Sb,As,Ba,Be,Cd,Cr,Cn,Hg,Ni**
																				Se,Tl,F)
																				Table 8C (NO3,NO2)
								2-Liter Amber Unpres.												**Table 8D (Cl,Fe,Mn,Ag,Na,SO4,Zn,Odor,Color)**
								1-250ml Amber Unpres.												**524.2 (POC,MTBE,Vinyl Chloride)**
								3-250ml Plastic Unpres. (no air)												**SOCs (504,508,515,525,531,547,548,549,Dioxin)**
								2-40ml Amber Sodium Thio.												**Additional Tests (Total coliform**
								1-500ml Amber Sodium Thio.												**thru Zinc)**
								1-Liter Amber Plastic Sodium Thio.&H2SO4												**Radio(Gross Alpha/Beta,Radium-226/228,Uranium)**
								2-Liter Amber Sodium Thio.												**Radon**
																				Dissolved Fe, Mn

RELINQUISHED BY: (SIGNATURE)	COMPANY LBG	DATE 7/13/17	TIME 1143	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
SAMPLED BY: (SIGNATURE)	COMPANY LBG	DATE 7/13/17	TIME 9/5	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	COMPANY	DATE	TIME	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME

SUBCONTACT: PACE-SOCs, Radio, Radon; ASI-MPA/Crypto/Giardia

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE 7/13/17	TIME 1143	CUSTODY INTACT YES NO	Cooler Temp: 3.5°C IR#3	LABORATORY REMARKS: ICE ✓ pH____ CL2____ Reviewed by________

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-4
SDG Number: Clovewood

Login Number: 123595

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	3.5C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	False	pH
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

August 03, 2017

Ms. Debra Bayer
EnviroTest Laboratories, Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: 42001269
Pace Project No.: 30224101

Dear Ms. Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

cc: Janine Rader, EnviroTest Laboratories, Inc.

CERTIFICATIONS

Project: 42001269
Pace Project No.: 30224101

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

SAMPLE SUMMARY

Project: 42001269
Pace Project No.: 30224101

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30224101001	**C-16 (420-123595-4)**	Drinking Water	07/13/17 09:15	07/14/17 10:20

SAMPLE ANALYTE COUNT

Project: 42001269
Pace Project No.: 30224101

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30224101001	**C-16 (420-123595-4)**	SM7500RnB-07	NEG	1
		EPA 900.0	NEG	2
		EPA 903.1	WRR	1
		EPA 904.0	VAL	1
		ASTM D5174-97	RMK	1

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224101

Sample: C-16 (420-123595-4) **Lab ID: 30224101001** Collected: 07/13/17 09:15 Received: 07/14/17 10:20 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radon	SM7500RnB-07	**59.3 ± 29.2 (46.2)** **C:NA T:NA**	pCi/L	07/15/17 07:07	10043-92-2	
Gross Alpha	EPA 900.0	**1.85 ± 1.52 (2.65)** **C:NA T:NA**	pCi/L	07/24/17 08:50	12587-46-1	
Gross Beta	EPA 900.0	**1.01 ± 0.753 (1.47)** **C:NA T:NA**	pCi/L	07/24/17 08:50	12587-47-2	
Radium-226	EPA 903.1	**0.503 ± 0.364 (0.412)** **C:NA T:93%**	pCi/L	07/26/17 13:09	13982-63-3	
Radium-228	EPA 904.0	**0.372 ± 0.301 (0.613)** **C:75% T:91%**	pCi/L	07/27/17 11:16	15262-20-1	
Total Uranium	ASTM D5174-97	**0.558 ± 0.019 (0.193)** **C:NA T:NA**	ug/L	08/03/17 16:28	7440-61-1	

QUALITY CONTROL - RADIOCHEMISTRY

Project:	42001269
Pace Project No.:	30224101

QC Batch:	265143	Analysis Method:	ASTM D5174-97
QC Batch Method:	ASTM D5174-97	Analysis Description:	D5174.97 Total Uranium KPA
Associated Lab Samples:	30224101001		

METHOD BLANK: 1306496 Matrix: Water

Associated Lab Samples: 30224101001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Total Uranium	0.064 ± 0.004 (0.193) C:NA T:NA	ug/L	08/03/17 11:33	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224101

QC Batch: 265053
Analysis Method: SM7500RnB-07
QC Batch Method: SM7500RnB-07
Analysis Description: 7500Rn B Radon
Associated Lab Samples: 30224101001

METHOD BLANK: 1305441
Matrix: Water
Associated Lab Samples: 30224101001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radon	2.8 ± 18.8 (32.7) C:NA T:NA	pCi/L	07/15/17 02:40	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224101

QC Batch: 265152
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Associated Lab Samples: 30224101001

METHOD BLANK: 1306510
Matrix: Water
Associated Lab Samples: 30224101001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.159 ± 0.312 (0.570) C:NA T:95%	pCi/L	07/26/17 12:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project:	42001269
Pace Project No.:	30224101

QC Batch:	265148	Analysis Method:	EPA 900.0
QC Batch Method:	EPA 900.0	Analysis Description:	900.0 Gross Alpha/Beta

Associated Lab Samples: 30224101001

METHOD BLANK: 1306505 Matrix: Water

Associated Lab Samples: 30224101001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	-0.333 ± 0.399 (1.52) C:NA T:NA	pCi/L	07/24/17 08:35	
Gross Beta	-0.362 ± 0.578 (1.62) C:NA T:NA	pCi/L	07/24/17 08:35	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224101

QC Batch: 265158
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Associated Lab Samples: 30224101001

METHOD BLANK: 1306521
Matrix: Water
Associated Lab Samples: 30224101001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0810 ± 0.316 (0.717) C:75% T:85%	pCi/L	07/27/17 11:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project:	42001269
Pace Project No.:	30224101

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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

Chain of Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)	Sampler: S. Stiebe of LBG	Lab PM: Bayer, Debra	Carrier Tracking No(s):	COC No: 420-9120.1
Client Contact: Shipping/Receiving	Phone: 7/13/17 03	E-Mail: dbayer@envirotestlaboratories.com		Page: Page 1 of 1
Company: Pace Analytical Services, Inc.				STL Job #: 420-123595-4
Address: 1638 Roseytown Rd,Suites 2,3,4, ,	Due Date Requested: 7/27/2017			
City: Greensburg	TAT Requested (days):			
State, Zip: PA, 15601				
Phone:	PO #:			
Email:	WO #:			
Project Name: LBG, Inc.	Project #: 42001269			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
~~D - Nitric Acid~~	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 900 GA/GB/RA 226/RA 228	SUBCONTRACT/ Total Uranium	SUBCONTRACT/ Radon	Total Number of containers	Special Instructions/Note: NY Spikes 7/13/17 03
			Preservation Code:		☒	☒				☒	
C - 16 (420-123595-4)	7/13/17	9:15		Water			X	X	X	7	001

WO#: 30224101
30224101

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ________ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:
Relinquished By:	Date/Time: 7/13/17 1425	Company: ETL	Received by:	Date/Time: 7/14/17 1020	Company: PACE
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Sample Condition Upon Receipt Pittsburgh

30224101

Pace Analytical

Client Name: Envirotest Labs.

Project #:

Label ZH.

LIMS Login AM

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other ______

Tracking #: 779625473330

Custody Seal on Cooler/Box Present: ☐ yes ☑ no

Seals Intact: ☐ yes ☐ no

Thermometer Used 8

Type of Ice: [✓ Wet] Blue None

Cooler Temperature Observed Temp 3.5 °C Correction Factor: 0.0 °C Final Temp: 3.5 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ZH 7/14/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):	✓			7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Orthophosphate field filtered			▨	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ZH Date/time of preservation Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ZH Date: 7/14/17

Client Notification/ Resolution:

Person Contacted: ______ Date/Time: ______ Contacted By: ______

Comments/ Resolution: ______

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

J:\QAQC\Master\Document Management\Sample Mgt\Sample Condition Upon Receipt Pittsburgh (C056-5 5July2017)

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

August 15, 2017

Ron Bayer
EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: LBG,Inc 42001269
Pace Project No.: 35324056

Dear Ron Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Bo Garcia
bo.garcia@pacelabs.com
(386)672-5668
Project Manager

Enclosures

cc: Debra Bayer, EnviroTest Laboratories Inc.
Renee Cusack, EnviroTest Laboratories Inc.
Laura Marciano, EnviroTest Laboratories Inc.
Janine Rader, EnviroTest Laboratories Inc.
Meredith Ruthven, EnviroTest Laboratories Inc.

CERTIFICATIONS

Project: LBG,Inc 42001269
Pace Project No.: 35324056

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

SAMPLE SUMMARY

Project: LBG,Inc 42001269
Pace Project No.: 35324056

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35324056001	**C-16**	Drinking Water	07/13/17 09:15	07/14/17 11:10

SAMPLE ANALYTE COUNT

Project: LBG,Inc 42001269
Pace Project No.: 35324056

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35324056001	**C-16**	EPA 504.1	BP1	2	PASI-O
		EPA 505	MMR	3	
		EPA 508.1	NS1	18	PASI-O
		EPA 515.3	LJM	8	PASI-O
		EPA 531.1	WFH	9	PASI-O
		EPA 547	NMB	1	PASI-O
		EPA 549.2	NMB	1	PASI-O
		EPA 525.2	NS1	7	PASI-O
		EPA 548.1	JDT	1	PASI-O

ANALYTICAL RESULTS

Project: LBG,Inc 42001269
Pace Project No.: 35324056

Sample: C-16 **Lab ID: 35324056001** Collected: 07/13/17 09:15 Received: 07/14/17 11:10 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
504.1 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1								
1,2-Dibromo-3-chloropropane	**<0.0055**	ug/L	0.017	0.0055	1	07/18/17 07:15	07/18/17 18:23	96-12-8	
1,2-Dibromoethane (EDB)	**<0.0064**	ug/L	0.0086	0.0064	1	07/18/17 07:15	07/18/17 18:23	106-93-4	
505 GCS Pesticides/PCBs	Analytical Method: EPA 505 Preparation Method: EPA 505								
Aldrin	**<0.025**	ug/L	0.025	0.025	1	07/20/17 16:38	07/21/17 00:52	309-00-2	
Surrogates									
Tetrachloro-m-xylene (S)	88	%.	30-150		1	07/20/17 16:38	07/21/17 00:52	877-09-8	
Decachlorobiphenyl (S)	57	%.	30-150		1	07/20/17 16:38	07/21/17 00:52	2051-24-3	
508.1 GCS Pesticides	Analytical Method: EPA 508.1 Preparation Method: EPA 508.1								
Alachlor	**<0.037**	ug/L	0.21	0.037	1	07/21/17 15:45	07/28/17 04:17	15972-60-8	
Atrazine	**<0.067**	ug/L	0.11	0.067	1	07/21/17 15:45	07/28/17 04:17	1912-24-9	
gamma-BHC (Lindane)	**<0.0032**	ug/L	0.021	0.0032	1	07/21/17 15:45	07/28/17 04:17	58-89-9	
Butachlor	**<0.029**	ug/L	0.11	0.029	1	07/21/17 15:45	07/28/17 04:17	23184-66-9	
Chlordane (Technical)	**<0.050**	ug/L	0.21	0.050	1	07/21/17 15:45	07/28/17 04:17	57-74-9	
Dieldrin	**<0.020**	ug/L	0.11	0.020	1	07/21/17 15:45	07/28/17 04:17	60-57-1	
Endrin	**<0.0074**	ug/L	0.011	0.0074	1	07/21/17 15:45	07/28/17 04:17	72-20-8	
Heptachlor	**<0.013**	ug/L	0.042	0.013	1	07/21/17 15:45	07/28/17 04:17	76-44-8	
Heptachlor epoxide	**<0.0032**	ug/L	0.021	0.0032	1	07/21/17 15:45	07/28/17 04:17	1024-57-3	
Hexachlorobenzene	**<0.020**	ug/L	0.11	0.020	1	07/21/17 15:45	07/28/17 04:17	118-74-1	
Hexachlorocyclopentadiene	**<0.034**	ug/L	0.11	0.034	1	07/21/17 15:45	07/28/17 04:17	77-47-4	
Methoxychlor	**<0.054**	ug/L	0.11	0.054	1	07/21/17 15:45	07/28/17 04:17	72-43-5	
Metolachlor	**<0.050**	ug/L	0.11	0.050	1	07/21/17 15:45	07/28/17 04:17	51218-45-2	
PCB, Total	**<0.084**	ug/L	0.11	0.084	1	07/21/17 15:45	07/28/17 04:17	1336-36-3	
Propachlor	**<0.032**	ug/L	0.11	0.032	1	07/21/17 15:45	07/28/17 04:17	1918-16-7	
Simazine	**<0.073**	ug/L	0.074	0.073	1	07/21/17 15:45	07/28/17 04:17	122-34-9	
Toxaphene	**<0.64**	ug/L	1.1	0.64	1	07/21/17 15:45	07/28/17 04:17	8001-35-2	
Surrogates									
Decachlorobiphenyl (S)	106	%	70-130		1	07/21/17 15:45	07/28/17 04:17	2051-24-3	
515.3 Chlorinated Herbicides	Analytical Method: EPA 515.3 Preparation Method: EPA 515.3								
2,4-D	**<0.081**	ug/L	0.10	0.081	1	07/20/17 09:35	07/22/17 07:41	94-75-7	
Dalapon	**<0.89**	ug/L	1.0	0.89	1	07/20/17 09:35	07/22/17 07:41	75-99-0	
Dicamba	**<0.067**	ug/L	0.10	0.067	1	07/20/17 09:35	07/22/17 07:41	1918-00-9	L1
Dinoseb	**<0.16**	ug/L	0.20	0.16	1	07/20/17 09:35	07/22/17 07:41	88-85-7	
Pentachlorophenol	**<0.030**	ug/L	0.040	0.030	1	07/20/17 09:35	07/22/17 07:41	87-86-5	
Picloram	**<0.094**	ug/L	0.10	0.094	1	07/20/17 09:35	07/22/17 07:41	1918-02-1	
2,4,5-TP (Silvex)	**<0.16**	ug/L	0.20	0.16	1	07/20/17 09:35	07/22/17 07:41	93-72-1	
Surrogates									
2,4-DCAA (S)	97	%	70-130		1	07/20/17 09:35	07/22/17 07:41	19719-28-9	
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
Aldicarb	**<0.64**	ug/L	2.0	0.64	1		07/18/17 17:04	116-06-3	
Aldicarb sulfone	**<0.37**	ug/L	2.0	0.37	1		07/18/17 17:04	1646-88-4	
Aldicarb sulfoxide	**<0.59**	ug/L	2.0	0.59	1		07/18/17 17:04	1646-87-3	
Carbofuran	**<0.32**	ug/L	2.0	0.32	1		07/18/17 17:04	1563-66-2	

ANALYTICAL RESULTS

Project: LBG,Inc 42001269
Pace Project No.: 35324056

Sample: C-16 **Lab ID: 35324056001** Collected: 07/13/17 09:15 Received: 07/14/17 11:10 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
3-Hydroxycarbofuran	**<0.45**	ug/L	2.0	0.45	1		07/18/17 17:04	16655-82-6	
Methomyl	**<0.57**	ug/L	2.0	0.57	1		07/18/17 17:04	16752-77-5	
Oxamyl	**<0.55**	ug/L	2.0	0.55	1		07/18/17 17:04	23135-22-0	
Carbaryl	**<0.27**	ug/L	2.0	0.27	1		07/18/17 17:04	63-25-2	
Surrogates									
BDMC (S)	111	%	80-120		1		07/18/17 17:04		
547 HPLC Glyphosate	Analytical Method: EPA 547								
Glyphosate	**<4.2**	ug/L	6.0	4.2	1		07/20/17 05:13		
549.2 HPLC Paraquat Diquat	Analytical Method: EPA 549.2 Preparation Method: EPA 549.2								
Diquat	**<0.30**	ug/L	0.40	0.30	1	07/19/17 11:00	07/20/17 02:33	85-00-7	
525.2 Base Neutral Extractable	Analytical Method: EPA 525.2 Preparation Method: EPA 525.2								
Benzo(a)pyrene	**<0.013**	ug/L	0.096	0.013	1	07/25/17 10:30	07/26/17 15:02	50-32-8	L2
bis(2-Ethylhexyl)adipate	**<0.37**	ug/L	1.5	0.37	1	07/25/17 10:30	07/26/17 15:02	103-23-1	
bis(2-Ethylhexyl)phthalate	**<0.48**	ug/L	1.9	0.48	1	07/25/17 10:30	07/26/17 15:02	117-81-7	
Metribuzin	**<0.14**	ug/L	0.29	0.14	1	07/25/17 10:30	07/26/17 15:02	21087-64-9	
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	153	%	70-130		1	07/25/17 10:30	07/26/17 15:02	81209	S3
Perylene-d12 (S)	107	%	70-130		1	07/25/17 10:30	07/26/17 15:02	1520963	
Triphenylphosphate (S)	85	%	70-130		1	07/25/17 10:30	07/26/17 15:02	115-86-6	
548.1 GCS Endothall	Analytical Method: EPA 548.1 Preparation Method: EPA 548.1								
Endothall	**<4.3**	ug/L	9.0	4.3	1	07/19/17 17:00	07/24/17 23:53		L2,L5

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324056

QC Batch: 381535
Analysis Method: EPA 531.1
QC Batch Method: EPA 531.1
Analysis Description: 531.1 HPLC Carbamate
Associated Lab Samples: 35324056001

METHOD BLANK: 2070180
Matrix: Water
Associated Lab Samples: 35324056001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
3-Hydroxycarbofuran	ug/L	<0.45	2.0	0.45	07/18/17 12:36	
Aldicarb	ug/L	<0.64	2.0	0.64	07/18/17 12:36	
Aldicarb sulfone	ug/L	<0.37	2.0	0.37	07/18/17 12:36	
Aldicarb sulfoxide	ug/L	<0.59	2.0	0.59	07/18/17 12:36	
Carbaryl	ug/L	<0.27	2.0	0.27	07/18/17 12:36	
Carbofuran	ug/L	<0.32	2.0	0.32	07/18/17 12:36	
Methomyl	ug/L	<0.57	2.0	0.57	07/18/17 12:36	
Oxamyl	ug/L	<0.55	2.0	0.55	07/18/17 12:36	
BDMC (S)	%	120	80-120		07/18/17 12:36	

LABORATORY CONTROL SAMPLE: 2070181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
3-Hydroxycarbofuran	ug/L	10	10.3	103	80-120	
Aldicarb	ug/L	10	11.2	112	80-120	
Aldicarb sulfone	ug/L	10	10.9	109	80-120	
Aldicarb sulfoxide	ug/L	10	12.0	120	80-120	
Carbaryl	ug/L	10	12.0	120	80-120	
Carbofuran	ug/L	10	11.7	117	80-120	
Methomyl	ug/L	10	10.6	106	80-120	
Oxamyl	ug/L	10	11.8	118	80-120	
BDMC (S)	%			118	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070182 2070183

Parameter	Units	35323850001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
3-Hydroxycarbofuran	ug/L	0.45U	10	10	10	10.2	100	102	80-120	2	20	
Aldicarb	ug/L	0.64U	10	10	10.5	10.3	105	103	80-120	3	20	
Aldicarb sulfone	ug/L	0.37U	10	10	9.5	9.8	95	98	80-120	4	20	
Aldicarb sulfoxide	ug/L	0.59U	10	10	11.2	11.0	112	110	80-120	2	20	
Carbaryl	ug/L	0.27U	10	10	12.0	11.5	120	115	80-120	4	20	
Carbofuran	ug/L	0.32U	10	10	11.3	10.5	113	105	80-120	7	20	
Methomyl	ug/L	0.57U	10	10	10.5	11.1	105	111	80-120	6	20	
Oxamyl	ug/L	0.55U	10	10	10.2	10.0	102	100	80-120	2	20	
BDMC (S)	%						103	98	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324056

QC Batch: 382091
QC Batch Method: EPA 547
Analysis Method: EPA 547
Analysis Description: 547 HPLC Glyphosate
Associated Lab Samples: 35324056001

METHOD BLANK: 2073233
Matrix: Water
Associated Lab Samples: 35324056001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Glyphosate	ug/L	<4.2	6.0	4.2	07/20/17 02:06	

LABORATORY CONTROL SAMPLE: 2073234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Glyphosate	ug/L	50	52.3	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073235 2073236

Parameter	Units	35324897001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	0.0042U mg/L	50	50	48.2	48.4	96	97	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073237 2073238

Parameter	Units	35324066001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	<4.2	50	50	51.2	49.9	102	100	80-120	3	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324056

QC Batch: 381399
QC Batch Method: EPA 504.1
Analysis Method: EPA 504.1
Analysis Description: 504 EDB DBCP
Associated Lab Samples: 35324056001

METHOD BLANK: 2069376
Matrix: Water
Associated Lab Samples: 35324056001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	<0.0064	0.020	0.0064	07/18/17 13:43	
1,2-Dibromoethane (EDB)	ug/L	<0.0075	0.010	0.0075	07/18/17 13:43	

LABORATORY CONTROL SAMPLE & LCSD: 2069377 2070238

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	.25	0.27	0.24	109	96	70-130	12	40	
1,2-Dibromoethane (EDB)	ug/L	.25	0.29	0.25	116	101	70-130	13	40	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070239 2070240

Parameter	Units	35324127010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromo-3-chloropropane	ug/L	<0.0055	.44	.44	0.64	0.63	146	143	65-135	2	40	M1
1,2-Dibromoethane (EDB)	ug/L	<0.0064	.44	.44	0.64	0.63	146	145	65-135	1	40	M1

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324056

QC Batch: 32255
QC Batch Method: EPA 505
Analysis Method: EPA 505
Analysis Description: 505 GCS Pesticides
Associated Lab Samples: 35324056001

METHOD BLANK: 149103
Matrix: Water
Associated Lab Samples: 35324056001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aldrin	ug/L	<0.025	0.025	0.025	07/20/17 18:40	
Decachlorobiphenyl (S)	%.	75	30-150		07/20/17 18:40	
Tetrachloro-m-xylene (S)	%.	85	30-150		07/20/17 18:40	

LABORATORY CONTROL SAMPLE: 149104

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	.048	0.047	98	70-130	
Decachlorobiphenyl (S)	%.			95	30-150	
Tetrachloro-m-xylene (S)	%.			94	30-150	

LABORATORY CONTROL SAMPLE: 149105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	.0095	<0.025	97	70-130	
Decachlorobiphenyl (S)	%.			89	30-150	
Tetrachloro-m-xylene (S)	%.			95	30-150	

MATRIX SPIKE SAMPLE: 149106

Parameter	Units	7024421001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	<0.025	.095	0.092	96	65-135	
Decachlorobiphenyl (S)	%.				75	30-150	
Tetrachloro-m-xylene (S)	%.				97	30-150	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324056

QC Batch: 382070 Analysis Method: EPA 508.1
QC Batch Method: EPA 508.1 Analysis Description: 508 GCS Pesticide
Associated Lab Samples: 35324056001

METHOD BLANK: 2073167 Matrix: Water
Associated Lab Samples: 35324056001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alachlor	ug/L	<0.035	0.20	0.035	07/26/17 10:06	
Atrazine	ug/L	<0.063	0.10	0.063	07/26/17 10:06	
Butachlor	ug/L	<0.027	0.10	0.027	07/26/17 10:06	
Chlordane (Technical)	ug/L	<0.047	0.20	0.047	07/26/17 10:06	
Dieldrin	ug/L	<0.019	0.10	0.019	07/26/17 10:06	
Endrin	ug/L	<0.0070	0.010	0.0070	07/26/17 10:06	
gamma-BHC (Lindane)	ug/L	<0.0030	0.020	0.0030	07/26/17 10:06	
Heptachlor	ug/L	<0.012	0.040	0.012	07/26/17 10:06	
Heptachlor epoxide	ug/L	<0.0030	0.020	0.0030	07/26/17 10:06	
Hexachlorobenzene	ug/L	<0.019	0.10	0.019	07/26/17 10:06	
Hexachlorocyclopentadiene	ug/L	<0.032	0.10	0.032	07/26/17 10:06	
Methoxychlor	ug/L	<0.051	0.10	0.051	07/26/17 10:06	
Metolachlor	ug/L	<0.047	0.10	0.047	07/26/17 10:06	
Propachlor	ug/L	<0.030	0.10	0.030	07/26/17 10:06	
Simazine	ug/L	<0.069	0.070	0.069	07/26/17 10:06	
Toxaphene	ug/L	<0.61	1.0	0.61	07/26/17 10:06	
Decachlorobiphenyl (S)	%	103	70-130		07/26/17 10:06	

LABORATORY CONTROL SAMPLE: 2073168

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	ug/L	1	1.0	100	70-130	
Atrazine	ug/L	1.2	1.2	97	70-130	
Butachlor	ug/L	.5	0.48	96	70-130	
Dieldrin	ug/L	.5	0.51	103	70-130	
Endrin	ug/L	.05	0.053	106	70-130	
gamma-BHC (Lindane)	ug/L	.1	0.10	102	70-130	
Heptachlor	ug/L	.2	0.18	91	70-130	
Heptachlor epoxide	ug/L	.1	0.10	100	70-130	
Hexachlorobenzene	ug/L	.5	0.46	92	70-130	
Hexachlorocyclopentadiene	ug/L	.5	0.47	94	70-130	
Methoxychlor	ug/L	.5	0.53	107	70-130	
Metolachlor	ug/L	.5	0.48	96	70-130	
Propachlor	ug/L	.5	0.48	96	70-130	
Simazine	ug/L	.88	0.78	89	70-130	
Decachlorobiphenyl (S)	%			105	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324056

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2074971 2074972

Parameter	Units	35323850001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alachlor	ug/L	0.034U	2	2	2.0	1.9	100	97	65-135	3	40	
Atrazine	ug/L	0.061U	2.5	2.5	2.6	3.1	102	123	65-135	19	40	
Butachlor	ug/L	0.026U	1	1	0.93	0.89	93	89	65-135	4	40	
Chlordane (Technical)	ug/L	0.045U			<0.094	<0.094					40	
Dieldrin	ug/L	0.018U	1	1	1.0	1.0	104	104	65-135	0	40	
Endrin	ug/L	0.0067U	.1	.1	0.11	0.11	107	107	65-135	0	40	
gamma-BHC (Lindane)	ug/L	0.0029U	.2	.2	0.22	0.22	110	111	65-135	1	40	
Heptachlor	ug/L	0.012U	.4	.4	0.70	0.81	174	201	65-135	14	40	M1
Heptachlor epoxide	ug/L	0.0029U	.2	.2	0.21	0.21	104	103	65-135	0	40	
Hexachlorobenzene	ug/L	0.018U	1	1	1.0	1.1	102	111	65-135	8	40	
Hexachlorocyclopentadiene	ug/L	0.031U	1	1	1.2	1.0	116	105	65-135	10	40	
Methoxychlor	ug/L	0.049U	1	1	1.0	0.97	101	97	65-135	4	40	
Metolachlor	ug/L	0.045U	1	1	0.95	0.95	95	95	65-135	0	40	
Propachlor	ug/L	0.029U	1	1	1.0	1.2	103	123	65-135	17	40	
Simazine	ug/L	0.066U	1.8	1.8	0.62	0.68	36	39	65-135	9	40	M1
Toxaphene	ug/L	0.58U			<1.2	<1.2					40	
Decachlorobiphenyl (S)	%						94	94	70-130		40	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324056

QC Batch: 382064
Analysis Method: EPA 515.3
QC Batch Method: EPA 515.3
Analysis Description: 5153 GCS Herbicides
Associated Lab Samples: 35324056001

METHOD BLANK: 2073155
Matrix: Water
Associated Lab Samples: 35324056001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4,5-TP (Silvex)	ug/L	<0.16	0.20	0.16	07/22/17 00:29	
2,4-D	ug/L	<0.081	0.10	0.081	07/22/17 00:29	
Dalapon	ug/L	<0.89	1.0	0.89	07/22/17 00:29	
Dicamba	ug/L	<0.067	0.10	0.067	07/22/17 00:29	
Dinoseb	ug/L	<0.16	0.20	0.16	07/22/17 00:29	
Pentachlorophenol	ug/L	<0.030	0.040	0.030	07/22/17 00:29	
Picloram	ug/L	<0.094	0.10	0.094	07/22/17 00:29	
2,4-DCAA (S)	%	88	70-130		07/22/17 00:29	

LABORATORY CONTROL SAMPLE: 2073156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	ug/L	1	1.0	103	70-130	
2,4-D	ug/L	.5	0.39	78	70-130	
Dalapon	ug/L	5	4.5	90	70-130	
Dicamba	ug/L	.5	0.66	132	70-130	L1
Dinoseb	ug/L	1	1.1	114	70-130	
Pentachlorophenol	ug/L	.2	0.20	98	70-130	
Picloram	ug/L	.5	0.50	99	70-130	
2,4-DCAA (S)	%			93	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073478 2073479

Parameter	Units	92347613003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	ND	1	1	1.1	1.1	108	111	70-130	3	40	
2,4-D	ug/L	ND	.5	.5	0.42	0.47	84	94	70-130	11	40	
Dalapon	ug/L	ND	5	5	5.7	6.0	115	120	70-130	5	40	
Dicamba	ug/L	ND	.5	.5	0.58	0.63	117	126	70-130	7	40	
Dinoseb	ug/L	ND	1	1	1.1	1.1	105	113	70-130	7	40	
Pentachlorophenol	ug/L	ND	.2	.2	0.18	0.19	91	95	70-130	4	40	
Picloram	ug/L	ND	.5	.5	0.65	0.70	130	140	70-130	7	40	M1
2,4-DCAA (S)	%						98	99	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324056

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073480 2073481

Parameter	Units	35323949005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	<0.16	1	1	1.1	1.1	108	110	70-130	1	40	
2,4-D	ug/L	<0.081	.5	.5	0.40	0.41	79	82	70-130	3	40	
Dalapon	ug/L	<0.89	5	5	4.7	4.8	94	95	70-130	1	40	
Dicamba	ug/L	<0.067	.5	.5	0.51	0.63	103	127	70-130	21	40	
Dinoseb	ug/L	<0.16	1	1	1.1	1.1	110	111	70-130	1	40	
Pentachlorophenol	ug/L	<0.030	.2	.2	0.19	0.19	96	97	70-130	1	40	
Picloram	ug/L	<0.094	.5	.5	0.55	0.57	110	115	70-130	5	40	
2,4-DCAA (S)	%						95	93	70-130			

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324056

QC Batch: 382937
QC Batch Method: EPA 525.2
Analysis Method: EPA 525.2
Analysis Description: 525.2 Base Neutral Extractables
Associated Lab Samples: 35324056001

METHOD BLANK: 2078153
Matrix: Water
Associated Lab Samples: 35324056001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzo(a)pyrene	ug/L	<0.013	0.10	0.013	07/26/17 11:53	
bis(2-Ethylhexyl)adipate	ug/L	<0.38	1.6	0.38	07/26/17 11:53	
bis(2-Ethylhexyl)phthalate	ug/L	<0.50	2.0	0.50	07/26/17 11:53	
Metribuzin	ug/L	<0.15	0.30	0.15	07/26/17 11:53	
1,3-Dimethyl-2-nitrobenzene(S)	%	105	70-130		07/26/17 11:53	
Perylene-d12 (S)	%	84	70-130		07/26/17 11:53	
Triphenylphosphate (S)	%	83	70-130		07/26/17 11:53	

LABORATORY CONTROL SAMPLE: 2078154

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzo(a)pyrene	ug/L	.4	0.26	65	70-130	L2
bis(2-Ethylhexyl)adipate	ug/L	6.4	5.4	84	70-130	
bis(2-Ethylhexyl)phthalate	ug/L	8	6.8	85	70-130	
Metribuzin	ug/L	1.2	1.2	103	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			106	70-130	
Perylene-d12 (S)	%			75	70-130	
Triphenylphosphate (S)	%			83	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078476 2078477

Parameter	Units	92348121001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzo(a)pyrene	ug/L				0.092J	0.098J					40	M0
bis(2-Ethylhexyl)adipate	ug/L				10.9	10.3				6	40	
bis(2-Ethylhexyl)phthalate	ug/L				14.0	13.5				3	40	
Metribuzin	ug/L				2.2	<0.30					40	M1
1,3-Dimethyl-2-nitrobenzene(S)	%						110	120	70-130			
Perylene-d12 (S)	%						64	62	70-130			S0,S8
Triphenylphosphate (S)	%						83	84	70-130			

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324056

QC Batch: 381974
QC Batch Method: EPA 548.1
Analysis Method: EPA 548.1
Analysis Description: 548 GCS Endothall
Associated Lab Samples: 35324056001

METHOD BLANK: 2072291
Matrix: Water
Associated Lab Samples: 35324056001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Endothall	ug/L	<4.3	9.0	4.3	07/24/17 19:29	

LABORATORY CONTROL SAMPLE: 2072292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endothall	ug/L	50	39.6	79	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2072347 2072348

Parameter	Units	35324386001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	4.3U	50	50	45.0	44.4	90	89	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2072358 2072359

Parameter	Units	35324386002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	4.3U	50	50	34.3	41.0	69	82	80-120	18	30	M0

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324056

QC Batch: 381794
QC Batch Method: EPA 549.2
Analysis Method: EPA 549.2
Analysis Description: 549 HPLC Paraquat Diquat
Associated Lab Samples: 35324056001

METHOD BLANK: 2071478
Matrix: Water
Associated Lab Samples: 35324056001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diquat	ug/L	<0.30	0.40	0.30	07/20/17 00:32	

LABORATORY CONTROL SAMPLE: 2071479

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diquat	ug/L	2	1.6	82	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2071882 2071883

Parameter	Units	35324366001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	0.30U	2	2	1.7	1.7	84	84	70-130	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2071884 2071885

Parameter	Units	35324454001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	0.00030U mg/L	2	2	0.60	0.84	30	42	70-130	35	30	M1,R1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project:	LBG,Inc 42001269
Pace Project No.:	35324056

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
L5	LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated sample.
S8	Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-extraction and/or re-analysis)

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LBG,Inc 42001269
Pace Project No.: 35324056

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35324056001	**C-16**	EPA 504.1	381399	EPA 504.1	381607
35324056001	**C-16**	EPA 505	32255	EPA 505	32334
35324056001	**C-16**	EPA 508.1	382070	EPA 508.1	382791
35324056001	**C-16**	EPA 515.3	382064	EPA 515.3	382572
35324056001	**C-16**	EPA 531.1	381535		
35324056001	**C-16**	EPA 547	382091		
35324056001	**C-16**	EPA 549.2	381794	EPA 549.2	382025
35324056001	**C-16**	EPA 525.2	382937	EPA 525.2	383335
35324056001	**C-16**	EPA 548.1	381974	EPA 548.1	382933

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

WO# : 35324056
35324056

Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)	Debra	Carrier Tracking No(s):	COC No: 420-9125.1
Client Contact: Shipping/Receiving	dbayer@envirotestlaboratories.com		Page: Page 1 of 1
Company: Pace Analytical Ormond Beach			STL Job #: 420-123595-4

Address: 8 East Tower Circle, ,	Due Date Requested: 7/25/2017
City: Ormond Beach	TAT Requested (days): Std TAT 7/13/17 DS
State, Zip: FL, 32174	
Phone: 111-222-3333(Tel)	PO #:
Email:	WO #:
Project Name: LBG, Inc.	Project #: 42001269
Site:	SSOW#:

Analysis Requested

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 515 Chlorinated Acids	SUBCONTRACT/ 504 EPA 504.1 EDB/DBCP	SUBCONTRACT/ 531.1 Carbamate Pesticides In DW	SUBCONTRACT/ 525.2 Semivolatile Organics	SUBCONTRACT/ 508	SUBCONTRACT/ 547	SUBCONTRACT/ 548	SUBCONTRACT/ 549	SUBCONTRACT/ Dioxin					Total Number of containers	Special Instructions/Note:
			Preservation Code:		☒	☒														☒	
C - 16 (420-123595-4)	7/13/17	9:15		Water			X	X	X	X	X	X	X	X	X					13	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ________ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 7/13/17 1440	Company ETL	Received by: TDH Pace	Date/Time: 7/14/17 1110	Company T286 10.4
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: February 6, 2017
	Document No.: F-FL-C-007 rev. 11	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # WO#: 35324056

Project Manager: PM: VEG Due Date: 07/28/17

Client: CLIENT: EVNTES

Date and Initials of person:
Examining contents:
Label:
Deliver:
pH:

Thermometer Used: T286 Date: 7/14/17 Time: 1110 Initials:

Cooler #1 Temp.°C 9.6 (Visual) +0.1 (Correction Factor) 9.7 (Actual) ☐ Samples on ice, cooling process has begun
Cooler #2 Temp.°C 10.3 (Visual) +0.1 (Correction Factor) 10.4 (Actual) ☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C 9.4 (Visual) +0.1 (Correction Factor) 9.5 (Actual) ☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C ____ (Visual) ____ (Correction Factor) ____ (Actual) ☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C ____ (Visual) ____ (Correction Factor) ____ (Actual) ☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C ____ (Visual) ____ (Correction Factor) ____ (Actual) ☐ Samples on ice, cooling process has begun

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☑ Standard Overnight ☐ Ground ☐ Other

Billing: ☑ Recipient ☐ Sender ☐ Third Party ☐ Unknown

Tracking # 7796 2610 4340/7796 2609 3485/7796 2608 5178

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☐ No **Ice:** [✓ Wet] Blue None

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Samples shorted to lab (If Yes, complete) Shorted Date: Shorted Time: Qty:

		Comments:
Chain of Custody Present	☑ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☑ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☑ No ☐ N/A	
Sufficient Volume	☑ Yes ☐ No ☐ N/A	
Correct Containers Used	☑ Yes ☐ No ☐ N/A	
Containers Intact	☑ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☑ Yes ☐ No ☐ N/A	Preservation Information: Preservative: Lot #/Trace #: Date: Time: Initials:
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☑ Yes ☐ No ☐ N/A	
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☑ N/A	
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	

Client Notification/ Resolution:

Person Contacted: Date/Time:

Comments/ Resolution (use back for additional comments):

okay to run OOT per PM

Project Manager Review: Date:

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Bo Garcia
PASI Florida
8 East Tower Circle
Ormond Beach FL 32174

REPORT OF LABORATORY ANALYSIS FOR 2,3,7,8-TCDD

Report Summary:

This report contains results of one drinking water sample analyzed to determine 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613 by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

Report Prepared Date:

August 3, 2017

Report Information:

Pace Project #: 10396113
Sample Receipt Date: 07/18/2017
Client Project #: 35324056
Client Sub PO #: N/A
State Cert #: 11647

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 Drinking Water Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Sarah Platzer, your Pace Project Manager.

This report has been reviewed by:

Sarah Platzer

August 03, 2017

Sarah Platzer, Project Manager
612-607-6451
(612) 607-6444 (fax)
sarah.platzer@pacelabs.com

Report of Laboratory Analysis

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Montana	CERT0092
Alabama	40770	Nebraska	NE-OS-18-06
Alaska	MN00064	Nevada	MN00064
Alaska	UST-078	New Jersey (NE	MN002
Arizona	AZ0014	New York (NEL	11647
Arkansas	88-0680	New hampshire	2081
CNMI Saipan	MP0003	North Carolina	27700
California	MN00064	North Carolina	530
Colorado	MN00064	North Dakota	R-036
Connecticut	PH-0256	Ohio	41244
EPA Region 8	8TMS-L	Ohio VAP	CL101
Florida (NELAP	E87605	Oklahoma	9507
Georgia (EDP)	959	Oregon (ELAP)	MN200001
Guam EPA	959	Oregon (OREL	MN300001
Hawaii	MN00064	Pennsylvania	68-00563
Idaho	MN00064	Puerto Rico	MN00064
Illinois	200011	South Carolina	74003001
Indiana	C-MN-01	Tennessee	TN02818
Iowa	368	Texas	T104704192
Kansas	E-10167	Utah (NELAP)	MN00064
Kentucky	90062	Virginia	460163
Louisiana	03086	Washington	C486
Louisiana	MN00064	West Virginia #	9952C
Maryland	322	West Virginia D	382
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-L
Mississippi	MN00064		

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: 35324056 **Workorder Name:**LBG,Inc 42001269 **Owner Received Date:** 7/14/2017 **Results Requested By:** 7/28/2017

Report To	Subcontract To
Bo Garcia Pace Analytical Ormond Beach 8 East Tower Circle Ormond Beach, FL 32174 Phone (386)672-5668	Pace Analytical Minnesota 1700 Elm Street SE Suite 200 Minneapolis, MN 55414 Phone (612)607-1700

						Preserved Containers						Requested Analysis												
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Unpreserved						EPA 1613												LAB USE ONLY
1	C-16	PS	7/13/2017 09:15	35324056001	Drinking	1						X												001
2																								
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1		7/17/17 1700	/PACE	7/18/17 9:50	
2					
3					

Cooler Temperature on Receipt 2.5°C **Custody Seal** Y or [✓ N] **Received on Ice** [✓ Y] or N **Samples Intact** [✓ Y] or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 19Dec2016 Page 1 of 2
	Document No.: **F-MN-L-213-rev.20**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace Ormond Beach

Project #:

WO#: 10396113

10396113

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other: ________

Tracking Number: 7422-5599-7564

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☒ Other: PB **Temp Blank?** ☐ Yes ☒ No

Thermometer Used: ☒ 151401163 ☐ 151401164 **Type of Ice:** ☐ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.5 **Cooler Temp Corrected (°C):** 2.5 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** Tvee **Date and Initials of Person Examining Contents:** 7/18/17

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☒ Yes	☐ No		1.
Chain of Custody Filled Out?	☒ Yes	☐ No		2.
Chain of Custody Relinquished?	☒ Yes	☐ No		3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No		5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		6.
Rush Turn Around Time Requested?	☐ Yes	☒ No		7.
Sufficient Volume?	☒ Yes	☐ No		8.
Correct Containers Used?	☒ Yes	☐ No		9.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No		12.
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	13. ☐ HNO₃ ☐ H₂SO₄ ☐ NaOH Positive for Res. Chlorine? Y N Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO₃, H₂SO₄, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and ~~Dioxin~~.	☒ Yes	☐ No	☐ N/A	Initial when completed: ________ Lot # of added preservative: ________
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):________				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: ________________ Date/Time: ________________

Comments/Resolution: ________________

Project Manager Review: **Date:** 7/19/2017

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN, 55414

Tel: 612-607-1700
Fax: 612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B

Sample ID...........C-16
Client.................. PASI Florida
Lab Sample ID..... 35324056001-R

Date Collected.....07/13/2017
Date Received......07/18/2017
Date Extracted.....07/31/2017

	Sample C-16	**Method Blank**	**Lab Spike**	**Lab Spike Dup**
[2,3,7,8-TCDD]	**ND**	ND	--	--
EDL	1.5 pg/L	1.8 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	89%	82%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			7.9%	
IS Recovery	**94%**	97%	104%	98%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**98%**	94%	103%	96%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	F170801B_25	F170801B_23	F170801B_21	F170801B_22
Analysis Date	08/02/2017	08/02/2017	08/02/2017	08/02/2017
Analysis Time	11:03	09:37	08:12	08:54
Analyst	SMT	SMT	SMT	SMT
Volume	0.950L	1.027L	1.010L	1.020L
Dilution	NA	NA	NA	NA
ICAL Date	01/11/2017	01/11/2017	01/11/2017	01/11/2017
CCAL Filename	F170801B_17	F170801B_17	F170801B_17	F170801B_17

! = Outside the Control Limits
ND = Not Detected
EDL = Estimated Detection Limit
Limits = Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD = Relative Percent Difference of Lab Spike Recoveries
IS = Internal Standard [2,3,7,8-TCDD-$^{13}C_{12}$]
CS = Cleanup Standard [2,3,7,8-TCDD-$^{37}Cl_4$]

Analyst: ______________

Project No.............10396113

C-21

EnviroTest
Laboratories Inc.

ANALYTICAL REPORT

Job Number: 420-124221-1

SDG Number: Clovewood, LakAnn, Monroe, NY

Job Description: LBG, Inc.

For:
Leggette, Brashears & Graham, Inc.
4 Research Drive
Shelton, CT 06464

Attention: Stacy Stieber

Debra Bayer

Debra Bayer
Customer Service Manager
dbayer@envirotestlaboratories.com
08/24/2017

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-124221-1
SDG Number: Clovewood, LakAnn, Monroe, NY

Description	Lab Location	Method	Preparation Method
Matrix: Water			
ICP Metals by 200.7	EnvTest	EPA 200.7 Rev 4.4	
Sample Filtration	EnvTest		FILTRATION
Total Metals Digestion for 200.7	EnvTest		EPA 200.7
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
ICPMS Metals by 200.8	EnvTest	EPA 200.8 Rev.5.4	
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
Total Metals Digestion for 200.8	EnvTest		EPA 200.8
Mercury in Water by CVAA	EnvTest	EPA 245.1 Rev.3.0	
Digestion for CVAA Mercury in Waters	EnvTest		EPA 245.1
Anions by Ion Chromatography	EnvTest	MCAWW 300.0	
Anions by Ion Chromatography	EnvTest	EPA 300.0 Rev. 2.1	
EPA 504.1 EDB	Pace	EPA 504.1	
EPA 505 Pesticide/PCB	Pace	EPA 505	
EPA 515 Chlorinated Acids	Pace	EPA 515	
Purgeable Organic Compounds in Water by GC/MS	EnvTest	EPA-DW 524.2	
EPA 525.2 Semivolatile Organics	Pace	EPA 525.2	
EPA 531.1 Carbamate Pesticides in Drinki	Pace	EPA 531.1	
EPA 900 Series GA/GB/RA226/RA228/Gamma	Pace	EPA 900	
Uranium	Radios	STL-STL EPA	
Heterotropic Plate Count	EnvTest	IDEXX SIMPLATE	
Odor, Threshold Test	EnvTest	SM20 SM 2150B	
Alkalinity, Titration Method	EnvTest	SM21 SM 2320B-97,-11	
Corrosivity LSI Calculation	EnvTest	SM20 SM 2330B	
Hardness by Calculation	EnvTest	SM20 SM 2340B-97,-11	
pH	EnvTest	SM19 SM 4500 H+ B	
Nitrite by Colormetric	EnvTest	SM20 SM 4500 NO2 B	
Total Coliform and Escherichia coli by Colilert - Presence/Absence	EnvTest	SMWW SM 9223	
Apparent Color	EnvTest	SM21 SM2120B-01,11	
Turbidity	EnvTest	SM21 SM2130B-01,11	
Total Dissolved Solids (Dried at 180 °C)	EnvTest	SM21 SM2540C-97,11	
Cyanide, Total: Colorimetric Method	EnvTest	SM21 SM4500 CN E-99	
Cyanide: Distillation	EnvTest		SM21 SM 4500 CN C
General Sub Contract Method	Pace	Subcontract	
General Sub Contract Method	Radios	Subcontract	

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-124221-1
SDG Number: Clovewood, LakAnn, Monroe, NY

Description	Lab Location	Method	Preparation Method

Lab References:

EnvTest = EnviroTest

Pace = Pace Analytical - Ormond Beach

Radios = Pace Analytical Services, Inc.

Method References:

EPA = US Environmental Protection Agency

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

IDEXX =

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

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

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

SM21 = "Standard Methods For The Examination Of Water And Wastewater", 21st Edition

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

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

METHOD / ANALYST SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-124221-1
SDG Number: Clovewood, LakAnn, Monroe, NY

Method	Analyst	Analyst ID
EPA-DW 524.2	Andersen, Eric C	ECA
EPA 200.7 Rev 4.4	Sirico, Derek	DS
EPA 200.8 Rev.5.4	Sirico, Derek	DS
EPA 245.1 Rev.3.0	Sirico, Derek	DS
SM20 SM 2340B-97,-11	Sirico, Derek	DS
MCAWW 300.0	Luis, Carlos	CL
EPA 300.0 Rev. 2.1	Luis, Carlos	CL
IDEXX SIMPLATE	O'Driscoll, Kate	KO
SM20 SM 2150B	O'Driscoll, Kate	KO
SM21 SM 2320B-97,-11	Luis, Carlos	CL
SM20 SM 2330B	Cusack, Renee	RC
SM19 SM 4500 H+ B	O'Driscoll, Kate	KO
SM20 SM 4500 NO2 B	Molchon, Renee	RM
SMWW SM 9223	Grant, Ameya	AG
SM21 SM2120B-01,11	O'Driscoll, Kate	KO
SM21 SM2130B-01,11	O'Driscoll, Kate	KO
SM21 SM2540C-97,11	O'Driscoll, Kate	KO
SM21 SM4500 CN E-99	Molchon, Renee	RM

SAMPLE SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-124221-1
SDG Number: Clovewood, LakAnn, Monroe, NY

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
420-124221-1	C-21	Drinking Water	07/27/2017 0830	07/27/2017 0945

Analytical Data

Client: Leggette, Brashears & Graham, Inc.	Job Number: 420-124221-1
	Sdg Number: Clovewood, LakAnn, Monroe, NY
Client Sample ID: **C-21**	
Lab Sample ID: 420-124221-1	Date Sampled: 07/27/2017 0830
Client Matrix: Drinking Water	Date Received: 07/27/2017 0945

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112881	Instrument ID:	HP
Preparation:	N/A		Lab File ID:	V072809.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/28/2017 1443		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
1,1,1,2-Tetrachloroethane	<0.500		0.500
1,1,1-Trichloroethane	<0.500		0.500
1,1,2,2-Tetrachloroethane	<0.500		0.500
1,1,2-Trichloroethane	<0.500		0.500
1,1-Dichloroethane	<0.500		0.500
1,1-Dichloroethene	<0.500		0.500
1,1-Dichloropropene	<0.500		0.500
1,2,3-Trichlorobenzene	<0.500		0.500
1,2,3-Trichloropropane	<0.500		0.500
1,2,4-Trichlorobenzene	<0.500		0.500
1,2,4-Trimethylbenzene	<0.500		0.500
1,2-Dichloroethane	<0.500		0.500
1,2-Dichlorobenzene	<0.500		0.500
1,2-Dichloropropane	<0.500		0.500
1,3-Dichloropropane	<0.500		0.500
1,4-Dichlorobenzene	<0.500		0.500
2,2-Dichloropropane	<0.500		0.500
Benzene	<0.500		0.500
Bromobenzene	<0.500		0.500
Bromochloromethane	<0.500		0.500
Bromomethane	<0.500		0.500
n-Butylbenzene	<0.500		0.500
cis-1,2-Dichloroethene	<0.500		0.500
cis-1,3-Dichloropropene	<0.500		0.500
Carbon tetrachloride	<0.500		0.500
Chlorobenzene	<0.500		0.500
Chloroethane	<0.500		0.500
Chloromethane	<0.500		0.500
Dibromomethane	<0.500		0.500
Ethylbenzene	<0.500		0.500
Dichlorodifluoromethane	<0.500		0.500
Hexachlorobutadiene	<0.500		0.500
Isopropylbenzene	<0.500		0.500
p-Isopropyltoluene	<0.500		0.500
Methylene Chloride	<0.500		0.500
m-Xylene & p-Xylene	<1.00		1.00
Methyl tert-butyl ether	<0.500		0.500
o-Xylene	<0.500		0.500
Tetrachloroethene	<0.500		0.500
Toluene	<0.500		0.500
trans-1,2-Dichloroethene	<0.500		0.500
trans-1,3-Dichloropropene	<0.500		0.500
Trichloroethene	<0.500		0.500
tert-Butylbenzene	<0.500		0.500

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-124221-1
Sdg Number: Clovewood, LakAnn, Monroe, NY

Client Sample ID: **C-21**

Lab Sample ID:	420-124221-1		Date Sampled:	07/27/2017 0830
Client Matrix:	Drinking Water		Date Received:	07/27/2017 0945

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112881	Instrument ID:	HP
Preparation:	N/A		Lab File ID:	V072809.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/28/2017 1443		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
Trichlorofluoromethane	<0.500		0.500
Vinyl chloride	<0.500		0.500
Xylenes, Total	<1.50		1.50
Styrene	<0.500		0.500
sec-Butylbenzene	<0.500		0.500
1,3,5-Trimethylbenzene	<0.500		0.500
N-Propylbenzene	<0.500		0.500
1,3-Dichlorobenzene	<0.500		0.500
2-Chlorotoluene	<0.500		0.500
4-Chlorotoluene	<0.500		0.500

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	95	71 - 120
Toluene-d8 (Surr)	95	79 - 121
1,2-Dichloroethane-d4 (Surr)	97	70 - 128

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-124221-1
Sdg Number: Clovewood, LakAnn, Monroe, NY

Client Sample ID: C-21

Lab Sample ID:	420-124221-1	Date Sampled:	07/27/2017 0830
Client Matrix:	Drinking Water	Date Received:	07/27/2017 0945

200.7 Rev 4.4 ICP Metals by 200.7

Method:	200.7 Rev 4.4	Analysis Batch: 420-112958	Instrument ID:	Thermo ICP
Preparation:	200.7/200.8	Prep Batch: 420-112921	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	08/01/2017 1516		Final Weight/Volume:	50 mL
Date Prepared:	08/01/2017 0916			

Analyte	Result (ug/L)	Qualifier	RL
Iron	7740	g	60.0
Manganese	1790	g	10.0
Sodium	2340		200
Zinc	96.1		20.0

200.7 Rev 4.4 ICP Metals by 200.7-Dissolved

Method:	200.7 Rev 4.4	Analysis Batch: 420-113070	Instrument ID:	Thermo ICP
Preparation:	200.7	Prep Batch: 420-113055	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	08/03/2017 2307		Final Weight/Volume:	50 mL
Date Prepared:	08/02/2017 1530			

Analyte	Result (ug/L)	Qualifier	RL
Iron	1090		60.0
Manganese	1890		10.0

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-124221-1
Sdg Number: Clovewood, LakAnn, Monroe, NY

Client Sample ID: **C-21**

Lab Sample ID:	420-124221-1	Date Sampled:	07/27/2017 0830
Client Matrix:	Drinking Water	Date Received:	07/27/2017 0945

200.8 Rev.5.4 ICPMS Metals by 200.8

Method:	200.8 Rev.5.4	Analysis Batch: 420-112950	Instrument ID:	Perkin Elmer ELAN
Preparation:	200.7/200.8	Prep Batch: 420-112921	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	08/01/2017 1239		Final Weight/Volume:	50 mL
Date Prepared:	08/01/2017 0916			

Analyte	Result (ug/L)	Qualifier	RL
Lead	<1.00		1.00
Arsenic	1.61		1.40
Beryllium	<0.300		0.300
Cadmium	<1.00		1.00
Chromium	<7.00		7.00
Nickel	0.949		0.500
Antimony	<0.400		0.400
Thallium	<0.300		0.300
Barium	22.7		2.00
Selenium	<2.00		2.00

Method:	200.8 Rev.5.4	Analysis Batch: 420-112949	Instrument ID:	Perkin Elmer ELAN
Preparation:	200.8	Prep Batch: 420-112942	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	08/01/2017 1459		Final Weight/Volume:	50 mL
Date Prepared:	07/31/2017 1400			

Analyte	Result (ug/L)	Qualifier	RL
Silver	<1.00		1.00

245.1 Rev.3.0 Mercury in Water by CVAA

Method:	245.1 Rev.3.0	Analysis Batch: 420-113021	Instrument ID:	Perkin Elmer FIMS
Preparation:	245.1	Prep Batch: 420-112999	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	25 mL
Date Analyzed:	08/03/2017 1528		Final Weight/Volume:	25 mL
Date Prepared:	08/03/2017 0945			

Analyte	Result (ug/L)	Qualifier	RL
Mercury	<0.200		0.200

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-124221-1
Sdg Number: Clovewood, LakAnn, Monroe, NY

Client Sample ID: **C-21**

Lab Sample ID:	420-124221-1	Date Sampled:	07/27/2017 0830
Client Matrix:	Drinking Water	Date Received:	07/27/2017 0945

SM 2340B-97,-11 Hardness by Calculation

Method:	SM 2340B-97,-11	Analysis Batch: 420-112962	Instrument ID:	None
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	
Date Analyzed:	08/01/2017 1516		Final Weight/Volume:	
Date Prepared:	N/A			

Analyte	Result (mg/L)	Qualifier	RL
Calcium hardness as calcium carbonate	12.0		1.25

Biology

Client Sample ID: **C-21**

Lab Sample ID: 420-124221-1
Client Matrix: Drinking Water

Date Sampled: 07/27/2017 0830
Date Received: 07/27/2017 0945

Analyte	Result	Qual	Units	Dil	Method
Coliform, Total	Absent		CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112815	Date Analyzed	07/27/2017 1358		
Escherichia coli	Absent		CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112815	Date Analyzed	07/27/2017 1358		

Analyte	Result	Qual	Units	RL	Dil	Method
Heterotrophic Plate Count	8.00		CFU/mL	2.00	1.0	SIMPLATE
	Anly Batch: 420-112867	Date Analyzed	07/27/2017 1317			

General Chemistry

General Chemistry

Client Sample ID: C-21

Lab Sample ID: 420-124221-1
Client Matrix: Drinking Water
Date Sampled: 07/27/2017 0830
Date Received: 07/27/2017 0945

Analyte	Result	Qual	Units	RL	Dil	Method
Nitrate as N	<0.250		mg/L	0.250	1.0	300.0
	Anly Batch: 420-112838	Date Analyzed	07/27/2017 1851			

Analyte	Result	Qual	Units	Dil	Method
Langelier Index	-2.95		NONE	1.0	SM 2330B
	Anly Batch: 420-113039	Date Analyzed	08/04/2017 0903		

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-124221-1
Sdg Number: Clovewood, LakAnn, Monroe, NY

General Chemistry

Client Sample ID: **C-21**

Lab Sample ID: 420-124221-1
Client Matrix: Drinking Water

Date Sampled: 07/27/2017 0830
Date Received: 07/27/2017 0945

Analyte	Result	Qual	Units	RL	Dil	Method
Alkalinity	34.4		mg/L	5.00	1.0	SM 2320B-97,-11
	Anly Batch: 420-112920	Date Analyzed	07/31/2017 1700			
Total Dissolved Solids	34.0		mg/L	5.00	1.0	SM2540C-97,11
	Anly Batch: 420-112952	Date Analyzed	08/01/2017 1722			
Chloride	<1.50		mg/L	1.50	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112838	Date Analyzed	07/27/2017 1851			
Sulfate	11.4		mg/L	5.00	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112838	Date Analyzed	07/27/2017 1851			
Fluoride	<0.500		mg/L	0.500	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112838	Date Analyzed	07/27/2017 1851			
Cyanide, Total	<0.00500		mg/L	0.00500	1.0	SM4500 CN E-99
	Anly Batch: 420-112916	Date Analyzed	07/28/2017 1600			
	Prep Batch:	Date Prepared:	07/28/2017 1100			
Apparent Color	75.0		Pt-Co	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112863	Date Analyzed	07/27/2017 1626			
pH@color measurement	6.12		SU	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112863	Date Analyzed	07/27/2017 1626			
Turbidity	17.6		NTU	0.100	1.0	SM2130B-01,11
	Anly Batch: 420-112861	Date Analyzed	07/27/2017 1611			
Odor	1.00		T.O.N.	1.00	1.0	SM 2150B
	Anly Batch: 420-112862	Date Analyzed	07/27/2017 1625			
Temp @ Odor Measurement	60.0		Degrees C	5.00	1.0	SM 2150B
	Anly Batch: 420-112862	Date Analyzed	07/27/2017 1625			
pH	6.12	H	SU	0.200	1.0	SM 4500 H+ B
	Anly Batch: 420-112864	Date Analyzed	07/27/2017 1538			
Temp @ pH Measurement	18.2		Degrees C	5.00	1.0	SM 4500 H+ B
	Anly Batch: 420-112864	Date Analyzed	07/27/2017 1538			
Nitrite as N	<0.0100		mg/L	0.0100	1.0	SM 4500 NO2 B
	Anly Batch: 420-112809	Date Analyzed	07/27/2017 1145			

DATA REPORTING QUALIFIERS

Client: Leggette, Brashears & Graham, Inc.

Job Number:
Sdg Number: Clovewood, LakAnn, Monroe, NY

Lab Section	Qualifier	Description
Metals		
	g	Result fails applicable NYS drinking water standards
General Chemistry		
	H	Sample was prepped or analyzed beyond the specified holding time

Certification Information

Client: Leggette, Brashears & Graham, Inc. Job Number:

Sdg Number: Clovewood, LakAnn, Monroe, NY

The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Silicon, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide, Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Phenolphthalein Alkalinity, Solids (Fixed), Solids (Percent), Solids (Percent Moisture) , Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, Volatile Acids as Acetic Acid, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, Iron Bacteria, Salmonella, & Sulfur Reducing Bacteria.

The following analytes are Not Part of ELAP Potable Water scope of accreditation:

Cobalt (200.7, 200.8), Tin (200.7), Strontium (200.7), Gold (200.7), Platinum (200.7), Palladium (200.7), Titanium (200.7), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), Naphthalene (502.2), o-Xylene (502.2, 524), & Fecal Coliform (9222D).

The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

The following analytes are Not Part of ELAP Non Potable Water scope of accreditation:

Dissolved Organic Carbon (5310C), Mecoprop (8151A), & MCPA (8151A).

Definitions and Glossary

Client: Leggette, Brashears & Graham, Inc.

Job Number:

Sdg Number: Clovewood, LakAnn, Monroe, NY

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points.

124221

EnviroTest Laboratories, Inc.

CHAIN OF CUSTODY

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

REPORT# (Lab Use Only)

PROJECT REFERENCE Clovewood	PROJECT NO. LakAnn	PROJECT LOCATION , NY
ENVIROTEST PROJECT MANAGER Debra Bayer	P.O. NUMBER	TOWN Monroe.
CLIENT (SITE) PM LBG, Inc.	CLIENT PHONE 203-929-8555	CLIENT FAX
CLIENT NAME Stacy Stieber		
CLIENT ADDRESS 4 Research Drive, Suite 204, Shelton, CT 06484		
COMPANY CONTRACTING THIS WORK (if applicable):		1

PAGE 1 of 1

TURNAROUND TIME
NORMAL ✓
QUICK ____
VERBAL ____

#OF COOLERS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) *INDICATE*	AQUEOUS (WATER)	D (Drinking Water) or W (Waste Water) *Indicate*	SOLID OR SEMISOLID	OTHER *Specify*	MPA C/G kit	40ml Vials HCl	40ml Sodium Thio.	250ml Amber Sodium Thio.	Liter Amber HCl/Na2SO3	250ml Plastic Nitric Acid	40ml Mon/Sod.Thio(liquid)	Liter Plastic	250ml Plastic Sodium Hyd.	125ml Plastic Sterile	Liter Plastic Nitric	40ml Vials Unpres	REMARKS
1 7.27.17	0830	C-21			D			1	3	2	1	2	1	2	~~3~~4	1	2	5	2	Table 8B (Sb,As,Ba,Be,Cd,Cr,Cn,Hg,Ni
															QE 7-27-17					Se,Tl,F)
																				Table 8C (NO3,NO2)
								2-Liter Amber Unpres.												Table 8D (Cl,Fe,Mn,Ag,Na,SO4,Zn,Odor,Color)
								1-250ml Amber Unpres.												524.2 (POC,MTBE,Vinyl Chloride)
								3-250ml Plastic Unpres. (no air)												SOCs (504,508,515,525,531,547,548,549,Dioxin)
								2-40ml Amber Sodium Thio.												Additional Tests (Total coliform
								1-500ml Amber Sodium Thio.												thru Zinc)
								1-Liter Amber Plastic Sodium Thio.&H2SO4												Radio(Gross Alpha/Beta,Radium-226/228,Uranium)
								2-Liter Amber Sodium Thio.												Radon
																				Dissolved Fe, Mn

RELINQUISHED BY: (SIGNATURE)	COMPANY LBG	DATE 7.27.17	TIME 0945	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
SAMPLED BY: (SIGNATURE)	COMPANY LBG	DATE 7.27.17	TIME 0830	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	COMPANY	DATE	TIME	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME

SUBCONTACT: PACE-SOCs, Radio, Radon; ASI-MPA/Crypto/Giardia

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE 7/27/17	TIME 0945	CUSTODY INTACT YES NO	Cooler Temp: 2.5°C #3	LABORATORY REMARKS: ICE ✓ pH ____ CL2 ____ Reviewed by ________

420-124221-A-1
C-21

Date Sampled 7/27/2017 420-1087975

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-124221-1

SDG Number: Clovewood, LakAnn, Monroe, NY

Login Number: **124221**

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	2.5 C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	False	pH
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

July 31, 2017

Ms. Debra Bayer
EnviroTest Laboratories, Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: LBG, Inc.
Pace Project No.: 30225535

Dear Ms. Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

cc: Janine Rader, EnviroTest Laboratories, Inc.

CERTIFICATIONS

Project: LBG, Inc.
Pace Project No.: 30225535

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

SAMPLE SUMMARY

Project: LBG, Inc.
Pace Project No.: 30225535

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30225535001	**C-21 (420-124221-1)**	Drinking Water	07/27/17 08:30	07/28/17 10:00

SAMPLE ANALYTE COUNT

Project: LBG, Inc.
Pace Project No.: 30225535

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30225535001	**C-21 (420-124221-1)**	SM7500RnB-07	NEG	1

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LBG, Inc.
Pace Project No.: 30225535

Sample: C-21 (420-124221-1) **Lab ID: 30225535001** Collected: 07/27/17 08:30 Received: 07/28/17 10:00 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Comments: • Sample collection times were not present on the sample containers.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radon	SM7500RnB-07	**55.4 ± 29.3 (46.8)** **C:NA T:NA**	pCi/L	07/28/17 21:50	10043-92-2	

QUALITY CONTROL - RADIOCHEMISTRY

Project: LBG, Inc.
Pace Project No.: 30225535

QC Batch: 266626
Analysis Method: SM7500RnB-07
QC Batch Method: SM7500RnB-07
Analysis Description: 7500Rn B Radon
Associated Lab Samples: 30225535001

METHOD BLANK: 1312837
Matrix: Water
Associated Lab Samples: 30225535001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radon	-21.0 ± 19.6 (35.3) C:NA T:NA	pCi/L	07/28/17 17:37	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project:	LBG, Inc.
Pace Project No.:	30225535

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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

Chain of Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)

Client Contact: Shipping/Receiving
Sampler:
Lab PM: Bayer, Debra
Carrier Tracking No(s):
COC No: 420-9161.1
Phone:
E-Mail: dbayer@envirotestlaboratories.com
Page: Page 1 of 1
Company: Pace Analytical Services, Inc.
STL Job #: 420-124221-1
Address: 1638 Roseytown Rd,Suites 2,3,4,
Due Date Requested: ~~8/10/2017~~ Standard
City: Greensburg
TAT Requested (days):
State, Zip: PA, 15601
Phone:
PO #:
Email:
WO #:
Project Name: LBG, Inc.
Project #: 42001269
Site:
SSOW#:

Analysis Requested

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	~~SUBCONTRACT/ Total Uranium~~ mwd	SUBCONTRACT/ Radon 7/27/17	Total Number of containers	Special Instructions/Note:
				Preservation Code:	☒	☒			☒	
C-21 (420-124221-1)	7/27/17	8:30		Water			X	X	3	001

WO#: 30225535
30225535

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ________ Months*

Deliverable Requested: I, II, III, IV, Other (specify)
Special Instructions/QC Requirements:

Empty Kit Relinquished by:
Date:
Time:
Method of Shipment:

Relinquished by:	Date/Time: 7/27/17 1100	Company ETL	Received by:	Date/Time: 7/28/17 1000	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

Sample Condition Upon Receipt Pittsburgh

30225535

Pace Analytical

Client Name: EnviroTest

Project #:

Label AML
LIMS Login AML

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other ______

Tracking #: 7799747694434

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ no

Thermometer Used 8 Type of Ice: [✓ Wet] Blue None

Cooler Temperature Observed Temp 2.6 °C Correction Factor: 0.0 °C Final Temp: 2.6 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: JH 7/28/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT		✓		5. no time on Samples
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):	✓			7.
Rush Turn Around Time Requested:	/	X		8. AML
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Orthophosphate field filtered			▨	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.			✓	15.
All containers needing preservation are found to be in compliance with EPA recommendation.			✓	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed JH Date/time of preservation Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: JH Date: 7/28/17

Client Notification/ Resolution:

Person Contacted: ______ Date/Time: ______ Contacted By: ______

Comments/ Resolution: ______

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

August 10, 2017

Ron Bayer
EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: LBG, Inc.
Pace Project No.: 35326821

Dear Ron Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Bo Garcia
bo.garcia@pacelabs.com
(386)672-5668
Project Manager

Enclosures

cc: Debra Bayer, EnviroTest Laboratories Inc.
Renee Cusack, EnviroTest Laboratories Inc.
Laura Marciano, EnviroTest Laboratories Inc.
Janine Rader, EnviroTest Laboratories Inc.
Meredith Ruthven, EnviroTest Laboratories Inc.

CERTIFICATIONS

Project: LBG, Inc.
Pace Project No.: 35326821

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208

CERTIFICATIONS

Project:	LBG, Inc.
Pace Project No.:	35326821

Long Island Certification IDs

Rhode Island Certification #: LAO00340

New Hampshire Certification #: 2987

Massachusetts Certification #: M-NY026

SAMPLE SUMMARY

Project: LBG, Inc.
Pace Project No.: 35326821

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35326821001	**C-21**	Drinking Water	07/27/17 08:30	07/28/17 10:20

SAMPLE ANALYTE COUNT

Project: LBG, Inc.
Pace Project No.: 35326821

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35326821001	**C-21**	EPA 504.1	BP1	2	PASI-O
		EPA 505	MMR	15	
		EPA 508.1	NS1	18	PASI-O
		EPA 515.3	LJM	8	PASI-O
		EPA 531.1	NMB	9	PASI-O
		EPA 547	NMB	1	PASI-O
		EPA 549.2	NMB	1	PASI-O
		EPA 525.2	NS1	7	PASI-O
		EPA 548.1	JDT	1	PASI-O
		EPA 900.0	NEG	2	PASI-PA
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		ASTM D5174-97	RMK	1	PASI-PA

ANALYTICAL RESULTS

Project:	LBG, Inc.
Pace Project No.:	35326821

Sample: C-21 **Lab ID: 35326821001** Collected: 07/27/17 08:30 Received: 07/28/17 10:20 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
504.1 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1								
1,2-Dibromo-3-chloropropane	**<0.0060**	ug/L	0.019	0.0060	1	08/02/17 14:30	08/02/17 22:55	96-12-8	
1,2-Dibromoethane (EDB)	**<0.0070**	ug/L	0.0094	0.0070	1	08/02/17 14:30	08/02/17 22:55	106-93-4	
505 GCS Pesticides/PCBs	Analytical Method: EPA 505 Preparation Method: EPA 505								
Alachlor	**<0.20**	ug/L	0.20	0.20	1	08/03/17 12:51	08/03/17 16:39	15972-60-8	
Aldrin	**<0.025**	ug/L	0.025	0.025	1	08/03/17 12:51	08/03/17 16:39	309-00-2	
gamma-BHC (Lindane)	**<0.020**	ug/L	0.020	0.020	1	08/03/17 12:51	08/03/17 16:39	58-89-9	
Chlordane (Technical)	**<0.20**	ug/L	0.20	0.20	1	08/03/17 12:51	08/03/17 16:39	57-74-9	
Dieldrin	**<0.050**	ug/L	0.050	0.050	1	08/03/17 12:51	08/03/17 16:39	60-57-1	
Endrin	**<0.010**	ug/L	0.010	0.010	1	08/03/17 12:51	08/03/17 16:39	72-20-8	
Heptachlor	**<0.025**	ug/L	0.025	0.025	1	08/03/17 12:51	08/03/17 16:39	76-44-8	
Heptachlor epoxide	**<0.020**	ug/L	0.020	0.020	1	08/03/17 12:51	08/03/17 16:39	1024-57-3	
Hexachlorobenzene	**<0.10**	ug/L	0.10	0.10	1	08/03/17 12:51	08/03/17 16:39	118-74-1	
Hexachlorocyclopentadiene	**<0.10**	ug/L	0.10	0.10	1	08/03/17 12:51	08/03/17 16:39	77-47-4	
Methoxychlor	**<0.10**	ug/L	0.10	0.10	1	08/03/17 12:51	08/03/17 16:39	72-43-5	
PCB Screen	**<0.40**	ug/L	0.40	0.40	1	08/03/17 12:51	08/03/17 16:39		
Toxaphene	**<1.0**	ug/L	1.0	1.0	1	08/03/17 12:51	08/03/17 16:39	8001-35-2	
Surrogates									
Tetrachloro-m-xylene (S)	98	%.	30-150		1	08/03/17 12:51	08/03/17 16:39	877-09-8	
Decachlorobiphenyl (S)	67	%.	30-150		1	08/03/17 12:51	08/03/17 16:39	2051-24-3	
508.1 GCS Pesticides	Analytical Method: EPA 508.1 Preparation Method: EPA 508.1								
Alachlor	**<0.037**	ug/L	0.21	0.037	1	08/03/17 17:00	08/06/17 02:18	15972-60-8	
Atrazine	**<0.066**	ug/L	0.10	0.066	1	08/03/17 17:00	08/06/17 02:18	1912-24-9	
gamma-BHC (Lindane)	**<0.0031**	ug/L	0.021	0.0031	1	08/03/17 17:00	08/06/17 02:18	58-89-9	
Butachlor	**<0.028**	ug/L	0.10	0.028	1	08/03/17 17:00	08/06/17 02:18	23184-66-9	
Chlordane (Technical)	**<0.049**	ug/L	0.21	0.049	1	08/03/17 17:00	08/06/17 02:18	57-74-9	
Dieldrin	**<0.020**	ug/L	0.10	0.020	1	08/03/17 17:00	08/06/17 02:18	60-57-1	
Endrin	**<0.0073**	ug/L	0.010	0.0073	1	08/03/17 17:00	08/06/17 02:18	72-20-8	
Heptachlor	**<0.013**	ug/L	0.042	0.013	1	08/03/17 17:00	08/06/17 02:18	76-44-8	
Heptachlor epoxide	**<0.0031**	ug/L	0.021	0.0031	1	08/03/17 17:00	08/06/17 02:18	1024-57-3	
Hexachlorobenzene	**<0.020**	ug/L	0.10	0.020	1	08/03/17 17:00	08/06/17 02:18	118-74-1	
Hexachlorocyclopentadiene	**<0.034**	ug/L	0.10	0.034	1	08/03/17 17:00	08/06/17 02:18	77-47-4	
Methoxychlor	**<0.053**	ug/L	0.10	0.053	1	08/03/17 17:00	08/06/17 02:18	72-43-5	
Metolachlor	**<0.049**	ug/L	0.10	0.049	1	08/03/17 17:00	08/06/17 02:18	51218-45-2	
PCB, Total	**<0.084**	ug/L	0.10	0.084	1	08/03/17 17:00	08/06/17 02:18	1336-36-3	
Propachlor	**<0.031**	ug/L	0.10	0.031	1	08/03/17 17:00	08/06/17 02:18	1918-16-7	
Simazine	**<0.072**	ug/L	0.073	0.072	1	08/03/17 17:00	08/06/17 02:18	122-34-9	
Toxaphene	**<0.64**	ug/L	1.0	0.64	1	08/03/17 17:00	08/06/17 02:18	8001-35-2	
Surrogates									
Decachlorobiphenyl (S)	106	%	70-130		1	08/03/17 17:00	08/06/17 02:18	2051-24-3	
515.3 Chlorinated Herbicides	Analytical Method: EPA 515.3 Preparation Method: EPA 515.3								
2,4-D	**<0.081**	ug/L	0.10	0.081	1	08/01/17 09:25	08/04/17 18:26	94-75-7	
Dalapon	**<0.89**	ug/L	1.0	0.89	1	08/01/17 09:25	08/04/17 18:26	75-99-0	
Dicamba	**<0.067**	ug/L	0.10	0.067	1	08/01/17 09:25	08/04/17 18:26	1918-00-9	

ANALYTICAL RESULTS

Project: LBG, Inc.
Pace Project No.: 35326821

Sample: C-21 **Lab ID: 35326821001** Collected: 07/27/17 08:30 Received: 07/28/17 10:20 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
515.3 Chlorinated Herbicides	Analytical Method: EPA 515.3 Preparation Method: EPA 515.3								
Dinoseb	**<0.16**	ug/L	0.20	0.16	1	08/01/17 09:25	08/04/17 18:26	88-85-7	
Pentachlorophenol	**<0.030**	ug/L	0.040	0.030	1	08/01/17 09:25	08/04/17 18:26	87-86-5	
Picloram	**<0.094**	ug/L	0.10	0.094	1	08/01/17 09:25	08/04/17 18:26	1918-02-1	
2,4,5-TP (Silvex)	**<0.16**	ug/L	0.20	0.16	1	08/01/17 09:25	08/04/17 18:26	93-72-1	
Surrogates									
2,4-DCAA (S)	93	%	70-130		1	08/01/17 09:25	08/04/17 18:26	19719-28-9	
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
Aldicarb	**<0.64**	ug/L	2.0	0.64	1		07/29/17 03:50	116-06-3	P4
Aldicarb sulfone	**<0.37**	ug/L	2.0	0.37	1		07/29/17 03:50	1646-88-4	P4
Aldicarb sulfoxide	**<0.59**	ug/L	2.0	0.59	1		07/29/17 03:50	1646-87-3	P4
Carbofuran	**<0.32**	ug/L	2.0	0.32	1		07/29/17 03:50	1563-66-2	P4
3-Hydroxycarbofuran	**<0.45**	ug/L	2.0	0.45	1		07/29/17 03:50	16655-82-6	P4
Methomyl	**<0.57**	ug/L	2.0	0.57	1		07/29/17 03:50	16752-77-5	
Oxamyl	**<0.55**	ug/L	2.0	0.55	1		07/29/17 03:50	23135-22-0	P4
Carbaryl	**<0.27**	ug/L	2.0	0.27	1		07/29/17 03:50	63-25-2	P4
Surrogates									
BDMC (S)	114	%	80-120		1		07/29/17 03:50		P4
547 HPLC Glyphosate	Analytical Method: EPA 547								
Glyphosate	**<4.2**	ug/L	6.0	4.2	1		07/29/17 08:34		
549.2 HPLC Paraquat Diquat	Analytical Method: EPA 549.2 Preparation Method: EPA 549.2								
Diquat	**<0.30**	ug/L	0.40	0.30	1	08/02/17 21:30	08/03/17 08:12	85-00-7	
525.2 Base Neutral Extractable	Analytical Method: EPA 525.2 Preparation Method: EPA 525.2								
Benzo(a)pyrene	**<0.013**	ug/L	0.099	0.013	1	08/02/17 21:00	08/03/17 18:56	50-32-8	
bis(2-Ethylhexyl)adipate	**<0.38**	ug/L	1.6	0.38	1	08/02/17 21:00	08/03/17 18:56	103-23-1	
bis(2-Ethylhexyl)phthalate	**<0.49**	ug/L	2.0	0.49	1	08/02/17 21:00	08/03/17 18:56	117-81-7	
Metribuzin	**<0.15**	ug/L	0.30	0.15	1	08/02/17 21:00	08/03/17 18:56	21087-64-9	
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	100	%	70-130		1	08/02/17 21:00	08/03/17 18:56	81209	
Perylene-d12 (S)	98	%	70-130		1	08/02/17 21:00	08/03/17 18:56	1520963	
Triphenylphosphate (S)	117	%	70-130		1	08/02/17 21:00	08/03/17 18:56	115-86-6	
548.1 GCS Endothall	Analytical Method: EPA 548.1 Preparation Method: EPA 548.1								
Endothall	**<4.3**	ug/L	9.0	4.3	1	08/02/17 00:20	08/08/17 07:03		

QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch: 384072
QC Batch Method: EPA 531.1
Analysis Method: EPA 531.1
Analysis Description: 531.1 HPLC Carbamate
Associated Lab Samples: 35326821001

METHOD BLANK: 2085431
Matrix: Water
Associated Lab Samples: 35326821001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
3-Hydroxycarbofuran	ug/L	<0.45	2.0	0.45	07/29/17 00:00	
Aldicarb	ug/L	<0.64	2.0	0.64	07/29/17 00:00	
Aldicarb sulfone	ug/L	<0.37	2.0	0.37	07/29/17 00:00	
Aldicarb sulfoxide	ug/L	<0.59	2.0	0.59	07/29/17 00:00	
Carbaryl	ug/L	<0.27	2.0	0.27	07/29/17 00:00	
Carbofuran	ug/L	<0.32	2.0	0.32	07/29/17 00:00	
Methomyl	ug/L	<0.57	2.0	0.57	07/29/17 00:00	
Oxamyl	ug/L	<0.55	2.0	0.55	07/29/17 00:00	
BDMC (S)	%	114	80-120		07/29/17 00:00	

LABORATORY CONTROL SAMPLE: 2085432

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
3-Hydroxycarbofuran	ug/L	10	10.8	108	80-120	
Aldicarb	ug/L	10	11.1	111	80-120	
Aldicarb sulfone	ug/L	10	11.0	110	80-120	
Aldicarb sulfoxide	ug/L	10	9.4	94	80-120	
Carbaryl	ug/L	10	10.2	102	80-120	
Carbofuran	ug/L	10	11.1	111	80-120	
Methomyl	ug/L	10	10.4	104	80-120	
Oxamyl	ug/L	10	10.5	105	80-120	
BDMC (S)	%			104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2085433 2085434

Parameter	Units	50176222002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
3-Hydroxycarbofuran	ug/L	ND	10	10	10.5	11.6	105	116	80-120	10	20	
Aldicarb	ug/L	ND	10	10	11.1	11.8	111	118	80-120	6	20	
Aldicarb sulfone	ug/L	ND	10	10	11.0	11.8	110	118	80-120	7	20	
Aldicarb sulfoxide	ug/L	ND	10	10	9.4	9.9	94	99	80-120	6	20	
Carbaryl	ug/L	ND	10	10	10.2	11.0	102	110	80-120	7	20	
Carbofuran	ug/L	ND	10	10	10.7	11.8	107	118	80-120	9	20	
Methomyl	ug/L	ND	10	10	10.3	11.0	103	110	80-120	6	20	
Oxamyl	ug/L	ND	10	10	10.6	10.8	106	108	80-120	2	20	
BDMC (S)	%						109	112	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch: 384078
QC Batch Method: EPA 547
Analysis Method: EPA 547
Analysis Description: 547 HPLC Glyphosate
Associated Lab Samples: 35326821001

METHOD BLANK: 2085508
Matrix: Water
Associated Lab Samples: 35326821001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Glyphosate	ug/L	<4.2	6.0	4.2	07/29/17 04:09	

LABORATORY CONTROL SAMPLE: 2085509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Glyphosate	ug/L	50	47.2	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2085510 2085511

Parameter	Units	50176222002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	ND	50	50	49.2	48.5	98	97	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2085512 2085513

Parameter	Units	35326734008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	<4.2	50	50	52.8	48.9	106	98	80-120	8	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch: 384637
QC Batch Method: EPA 504.1
Analysis Method: EPA 504.1
Analysis Description: 504 EDB DBCP
Associated Lab Samples: 35326821001

METHOD BLANK: 2088603
Matrix: Water
Associated Lab Samples: 35326821001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	<0.0064	0.020	0.0064	08/02/17 21:41	
1,2-Dibromoethane (EDB)	ug/L	<0.0075	0.010	0.0075	08/02/17 21:41	

LABORATORY CONTROL SAMPLE & LCSD: 2088604 2089408

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	.25	0.27	0.28	108	110	70-130	2	40	
1,2-Dibromoethane (EDB)	ug/L	.25	0.26	0.27	104	110	70-130	5	40	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2089242 2089243

Parameter	Units	35327041001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromo-3-chloropropane	ug/L	0.0063U	.44	.44	0.58	0.62	134	141	65-135	5	40	M1
1,2-Dibromoethane (EDB)	ug/L	0.0074U	.44	.44	0.52	0.57	119	130	65-135	9	40	

QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch: 33932 Analysis Method: EPA 505
QC Batch Method: EPA 505 Analysis Description: 505 GCS Pesticides
Associated Lab Samples: 35326821001

METHOD BLANK: 157655 Matrix: Water
Associated Lab Samples: 35326821001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alachlor	ug/L	<0.20	0.20	0.20	08/03/17 15:11	
Aldrin	ug/L	<0.025	0.025	0.025	08/03/17 15:11	
Chlordane (Technical)	ug/L	<0.20	0.20	0.20	08/03/17 15:11	
Dieldrin	ug/L	<0.050	0.050	0.050	08/03/17 15:11	
Endrin	ug/L	<0.010	0.010	0.010	08/03/17 15:11	
gamma-BHC (Lindane)	ug/L	<0.020	0.020	0.020	08/03/17 15:11	
Heptachlor	ug/L	<0.025	0.025	0.025	08/03/17 15:11	
Heptachlor epoxide	ug/L	<0.020	0.020	0.020	08/03/17 15:11	
Hexachlorobenzene	ug/L	<0.10	0.10	0.10	08/03/17 15:11	
Hexachlorocyclopentadiene	ug/L	<0.10	0.10	0.10	08/03/17 15:11	
Methoxychlor	ug/L	<0.10	0.10	0.10	08/03/17 15:11	
PCB Screen	ug/L	<0.40	0.40	0.40	08/03/17 15:11	
Toxaphene	ug/L	<1.0	1.0	1.0	08/03/17 15:11	
Decachlorobiphenyl (S)	%.	90	30-150		08/03/17 15:11	
Tetrachloro-m-xylene (S)	%.	100	30-150		08/03/17 15:11	

LABORATORY CONTROL SAMPLE: 157656

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	ug/L	.48	0.45	94	70-130	
Aldrin	ug/L	.048	0.045	93	70-130	
Chlordane (Technical)	ug/L		<0.20			
Dieldrin	ug/L	.048	<0.050	87	70-130	
Endrin	ug/L	.048	0.038	80	70-130	
gamma-BHC (Lindane)	ug/L	.048	0.048	101	70-130	
Heptachlor	ug/L	.048	0.044	92	70-130	
Heptachlor epoxide	ug/L	.048	0.043	89	70-130	
Hexachlorobenzene	ug/L	.048	<0.10	90	70-130	
Hexachlorocyclopentadiene	ug/L	.048	<0.10	91	70-130	
Methoxychlor	ug/L	.24	0.21	89	70-130	
PCB Screen	ug/L		<0.40			
Toxaphene	ug/L		<1.0			
Decachlorobiphenyl (S)	%.			97	30-150	
Tetrachloro-m-xylene (S)	%.			105	30-150	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

LABORATORY CONTROL SAMPLE: 157657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	ug/L		<0.20			
Aldrin	ug/L		<0.025			
Chlordane (Technical)	ug/L		<0.20			
Dieldrin	ug/L		<0.050			
Endrin	ug/L		<0.010			
gamma-BHC (Lindane)	ug/L		<0.020			
Heptachlor	ug/L		<0.025			
Heptachlor epoxide	ug/L		<0.020			
Hexachlorobenzene	ug/L		<0.10			
Hexachlorocyclopentadiene	ug/L		<0.10			
Methoxychlor	ug/L		<0.10			
PCB Screen	ug/L		<0.40			
Toxaphene	ug/L	18.3	17.8	98	70-130	
Decachlorobiphenyl (S)	%.			115	30-150	
Tetrachloro-m-xylene (S)	%.			99	30-150	

LABORATORY CONTROL SAMPLE: 157658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	ug/L	.095	<0.20	109	70-130	
Aldrin	ug/L	.0095	<0.025	109	70-130	
Chlordane (Technical)	ug/L		<0.20			
Dieldrin	ug/L	.0095	<0.050	98	70-130	
Endrin	ug/L	.0095	<0.010	95	70-130	
gamma-BHC (Lindane)	ug/L	.0095	<0.020	96	70-130	
Heptachlor	ug/L	.0095	<0.025	100	70-130	
Heptachlor epoxide	ug/L	.0095	<0.020	98	70-130	
Hexachlorobenzene	ug/L	.0095	<0.10	100	70-130	
Hexachlorocyclopentadiene	ug/L	.0095	<0.10	87	70-130	
Methoxychlor	ug/L	.048	<0.10	95	70-130	
PCB Screen	ug/L		<0.40			
Toxaphene	ug/L		<1.0			
Decachlorobiphenyl (S)	%.			87	30-150	
Tetrachloro-m-xylene (S)	%.			97	30-150	

MATRIX SPIKE SAMPLE: 157659

Parameter	Units	7025913001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Alachlor	ug/L	<0.20		<0.20			
Aldrin	ug/L	<0.025		<0.025			
Chlordane (Technical)	ug/L	<0.20		<0.20			
Dieldrin	ug/L	<0.050		<0.050			
Endrin	ug/L	<0.010		<0.010			
gamma-BHC (Lindane)	ug/L	<0.020		<0.020			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

MATRIX SPIKE SAMPLE: 157659

Parameter	Units	7025913001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Heptachlor	ug/L	<0.025		<0.025			
Heptachlor epoxide	ug/L	<0.020		<0.020			
Hexachlorobenzene	ug/L	<0.10		<0.10			
Hexachlorocyclopentadiene	ug/L	<0.10		<0.10			
Methoxychlor	ug/L	<0.10		0.55			
PCB Screen	ug/L	<0.40		<0.40			
Toxaphene	ug/L	<1.0	18.3	15.8	86	65-135	
Decachlorobiphenyl (S)	%.				117	30-150	
Tetrachloro-m-xylene (S)	%.				101	30-150	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch: 384956
QC Batch Method: EPA 508.1
Analysis Method: EPA 508.1
Analysis Description: 508 GCS Pesticide
Associated Lab Samples: 35326821001

METHOD BLANK: 2090536
Matrix: Water
Associated Lab Samples: 35326821001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alachlor	ug/L	<0.035	0.20	0.035	08/06/17 00:04	
Atrazine	ug/L	<0.063	0.10	0.063	08/06/17 00:04	
Butachlor	ug/L	<0.027	0.10	0.027	08/06/17 00:04	
Chlordane (Technical)	ug/L	<0.047	0.20	0.047	08/06/17 00:04	
Dieldrin	ug/L	<0.019	0.10	0.019	08/06/17 00:04	
Endrin	ug/L	<0.0070	0.010	0.0070	08/06/17 00:04	
gamma-BHC (Lindane)	ug/L	<0.0030	0.020	0.0030	08/06/17 00:04	
Heptachlor	ug/L	<0.012	0.040	0.012	08/06/17 00:04	
Heptachlor epoxide	ug/L	<0.0030	0.020	0.0030	08/06/17 00:04	
Hexachlorobenzene	ug/L	<0.019	0.10	0.019	08/06/17 00:04	
Hexachlorocyclopentadiene	ug/L	<0.032	0.10	0.032	08/06/17 00:04	
Methoxychlor	ug/L	<0.051	0.10	0.051	08/06/17 00:04	
Metolachlor	ug/L	<0.047	0.10	0.047	08/06/17 00:04	
Propachlor	ug/L	<0.030	0.10	0.030	08/06/17 00:04	
Simazine	ug/L	<0.069	0.070	0.069	08/06/17 00:04	
Toxaphene	ug/L	<0.61	1.0	0.61	08/06/17 00:04	
Decachlorobiphenyl (S)	%	88	70-130		08/06/17 00:04	

LABORATORY CONTROL SAMPLE: 2090537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	ug/L	1	0.92	92	70-130	
Atrazine	ug/L	1.2	1.2	95	70-130	
Butachlor	ug/L	.5	0.46	93	70-130	
Chlordane (Technical)	ug/L		<0.047			
Dieldrin	ug/L	.5	0.46	91	70-130	
Endrin	ug/L	.05	0.047	94	70-130	
gamma-BHC (Lindane)	ug/L	.1	0.097	97	70-130	
Heptachlor	ug/L	.2	0.16	78	70-130	
Heptachlor epoxide	ug/L	.1	0.092	92	70-130	
Hexachlorobenzene	ug/L	.5	0.42	85	70-130	
Hexachlorocyclopentadiene	ug/L	.5	0.41	82	70-130	
Methoxychlor	ug/L	.5	0.50	100	70-130	
Metolachlor	ug/L	.5	0.47	94	70-130	
Propachlor	ug/L	.5	0.46	91	70-130	
Simazine	ug/L	.88	1.0	117	70-130	
Toxaphene	ug/L		<0.61			
Decachlorobiphenyl (S)	%			93	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2091331 2091332

Parameter	Units	35327017001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alachlor	ug/L	0.033U	2	2	2.6	2.6	131	129	65-135	2	40	
Atrazine	ug/L	0.060U	2.5	2.5	3.0	2.4	122	98	65-135	22	40	
Butachlor	ug/L	0.026U	1	1	1.3	1.2	131	119	65-135	9	40	
Chlordane (Technical)	ug/L	0.045U			<0.094	<0.094					40	
Dieldrin	ug/L	0.018U	1	1	0.99	0.94	99	94	65-135	5	40	
Endrin	ug/L	0.0067U	.1	.1	0.071	0.20	71	201	65-135	95	40	M1,R1
gamma-BHC (Lindane)	ug/L	0.0029U	.2	.2	0.22	0.22	108	110	65-135	2	40	
Heptachlor	ug/L	0.011U	.4	.4	0.44	0.44	110	109	65-135	1	40	
Heptachlor epoxide	ug/L	0.0029U	.2	.2	0.17	0.17	85	85	65-135	1	40	
Hexachlorobenzene	ug/L	0.018U	1	1	0.92	0.89	92	89	65-135	3	40	
Hexachlorocyclopentadiene	ug/L	0.030U	1	1	1.1	1.1	107	105	65-135	1	40	
Methoxychlor	ug/L	0.049U	1	1	1.3	1.4	135	137	65-135	1	40	M1
Metolachlor	ug/L	0.045U	1	1	1.0	1.3	100	132	65-135	28	40	
Propachlor	ug/L	0.029U	1	1	2.5	2.7	253	268	65-135	6	40	M1
Simazine	ug/L	0.066U	1.8	1.8	3.4	3.3	192	188	65-135	2	40	M1
Toxaphene	ug/L	0.58U			<1.2	<1.2					40	
Decachlorobiphenyl (S)	%						100	99	70-130		40	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch: 384402
QC Batch Method: EPA 515.3
Analysis Method: EPA 515.3
Analysis Description: 5153 GCS Herbicides
Associated Lab Samples: 35326821001

METHOD BLANK: 2086953
Matrix: Water
Associated Lab Samples: 35326821001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4,5-TP (Silvex)	ug/L	<0.16	0.20	0.16	08/04/17 14:32	
2,4-D	ug/L	<0.081	0.10	0.081	08/04/17 14:32	
Dalapon	ug/L	<0.89	1.0	0.89	08/04/17 14:32	
Dicamba	ug/L	<0.067	0.10	0.067	08/04/17 14:32	
Dinoseb	ug/L	<0.16	0.20	0.16	08/04/17 14:32	
Pentachlorophenol	ug/L	<0.030	0.040	0.030	08/04/17 14:32	
Picloram	ug/L	<0.094	0.10	0.094	08/04/17 14:32	
2,4-DCAA (S)	%	96	70-130		08/04/17 14:32	

LABORATORY CONTROL SAMPLE: 2086954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	ug/L	1	1.0	104	70-130	
2,4-D	ug/L	.5	0.55	110	70-130	
Dalapon	ug/L	5	5.1	102	70-130	
Dicamba	ug/L	.5	0.48	97	70-130	
Dinoseb	ug/L	1	1.0	100	70-130	
Pentachlorophenol	ug/L	.2	0.20	99	70-130	
Picloram	ug/L	.5	0.60	120	70-130	
2,4-DCAA (S)	%			91	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2087342 2087343

Parameter	Units	35326789001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	0.00016U mg/L	1	1	1.1	1.1	111	112	70-130	1	40	
2,4-D	ug/L	0.000081 U mg/L	.5	.5	0.69	0.47	138	95	70-130	37	40	M1
Dalapon	ug/L	0.00089U mg/L	5	5	6.5	6.1	130	122	70-130	6	40	
Dicamba	ug/L	0.067U	.5	.5	0.49	0.47	98	93	70-130	5	40	
Dinoseb	ug/L	0.00016U mg/L	1	1	1.0	0.97	100	97	70-130	3	40	
Pentachlorophenol	ug/L	0.000030 U mg/L	.2	.2	0.20	0.20	100	98	70-130	2	40	
Picloram	ug/L	0.000094 U mg/L	.5	.5	0.71	0.73	142	146	70-130	3	40	M1
2,4-DCAA (S)	%						103	101	70-130			

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QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2088993 2088994

Parameter	Units	35327041001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	0.16U	1	1	1.2	1.2	117	119	70-130	2	40	
2,4-D	ug/L	0.081U	.5	.5	0.63	0.64	126	128	70-130	2	40	
Dalapon	ug/L	0.89U	5	5	5.8	5.7	116	114	70-130	2	40	
Dicamba	ug/L	0.067U	.5	.5	0.51	0.50	102	101	70-130	1	40	
Dinoseb	ug/L	0.16U	1	1	1.1	1.1	108	107	70-130	0	40	
Pentachlorophenol	ug/L	0.030U	.2	.2	0.21	0.21	106	107	70-130	1	40	
Picloram	ug/L	0.094U	.5	.5	0.61	0.73	121	145	70-130	18	40	M1
2,4-DCAA (S)	%						108	105	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch:	384645	Analysis Method:	EPA 525.2
QC Batch Method:	EPA 525.2	Analysis Description:	525.2 Base Neutral Extractables

Associated Lab Samples: 35326821001

METHOD BLANK: 2088620 Matrix: Water
Associated Lab Samples: 35326821001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzo(a)pyrene	ug/L	<0.013	0.10	0.013	08/03/17 16:09	
bis(2-Ethylhexyl)adipate	ug/L	<0.38	1.6	0.38	08/03/17 16:09	
bis(2-Ethylhexyl)phthalate	ug/L	<0.50	2.0	0.50	08/03/17 16:09	
Metribuzin	ug/L	<0.15	0.30	0.15	08/03/17 16:09	
1,3-Dimethyl-2-nitrobenzene(S)	%	100	70-130		08/03/17 16:09	
Perylene-d12 (S)	%	79	70-130		08/03/17 16:09	
Triphenylphosphate (S)	%	106	70-130		08/03/17 16:09	

LABORATORY CONTROL SAMPLE: 2088621

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzo(a)pyrene	ug/L	.4	0.32	80	70-130	
bis(2-Ethylhexyl)adipate	ug/L	6.4	7.9	123	70-130	
bis(2-Ethylhexyl)phthalate	ug/L	8	9.0	112	70-130	
Metribuzin	ug/L	1.2	1.0	85	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			97	70-130	
Perylene-d12 (S)	%			83	70-130	
Triphenylphosphate (S)	%			104	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2090365 2090366

Parameter	Units	35326706001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzo(a)pyrene	ug/L	0.013U	.8	.8	0.80	0.89	100	111	70-130	11	40	
bis(2-Ethylhexyl)adipate	ug/L	0.39U	12.8	12.8	13.6	13.8	106	108	70-130	2	40	
bis(2-Ethylhexyl)phthalate	ug/L	0.51U	16	16	16.2	16.5	102	103	70-130	1	40	
Metribuzin	ug/L	0.15U	2.4	2.4	<0.30	<0.30	0	11	70-130		40	M1
1,3-Dimethyl-2-nitrobenzene(S)	%						97	97	70-130			
Perylene-d12 (S)	%						97	99	70-130			
Triphenylphosphate (S)	%						93	99	70-130			

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QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch: 384603
QC Batch Method: EPA 548.1
Analysis Method: EPA 548.1
Analysis Description: 548 GCS Endothall
Associated Lab Samples: 35326821001

METHOD BLANK: 2088244
Matrix: Water
Associated Lab Samples: 35326821001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Endothall	ug/L	<4.3	9.0	4.3	08/08/17 03:25	

LABORATORY CONTROL SAMPLE: 2088245

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endothall	ug/L	50	43.3	87	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2088667 2088668

Parameter	Units	35326771004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	<4.3	50	50	32.6	28.2	65	56	80-120	14	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2088669 2088670

Parameter	Units	35326771005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	<4.3	50	50	31.8	37.6	64	75	80-120	17	30	M1

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QUALITY CONTROL DATA

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch: 384638
Analysis Method: EPA 549.2
QC Batch Method: EPA 549.2
Analysis Description: 549 HPLC Paraquat Diquat
Associated Lab Samples: 35326821001

METHOD BLANK: 2088605
Matrix: Water
Associated Lab Samples: 35326821001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diquat	ug/L	<0.30	0.40	0.30	08/03/17 06:02	

LABORATORY CONTROL SAMPLE: 2088606

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diquat	ug/L	2	1.4	72	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2090355 2090356

Parameter	Units	35326734004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	<0.30	2	2	1.5	1.4	77	68	70-130	12	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2090357 2090358

Parameter	Units	35326734005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	<0.30	2	2	1.4	1.5	70	74	70-130	5	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LBG, Inc.
Pace Project No.: 35326821

Sample: C-21 **Lab ID: 35326821001** Collected: 07/27/17 08:30 Received: 07/28/17 10:20 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	**1.64U ± 0.631 (1.64)** **C:NA T:NA**	pCi/L	08/08/17 08:12	12587-46-1	
Gross Beta	EPA 900.0	**1.70U ± 0.644 (1.70)** **C:NA T:NA**	pCi/L	08/08/17 08:12	12587-47-2	
Radium-226	EPA 903.1	**0.812U ± 0.513 (0.812)** **C:NA T:97%**	pCi/L	08/08/17 11:37	13982-63-3	
Radium-228	EPA 904.0	**0.729U ± 0.341 (0.729)** **C:77% T:81%**	pCi/L	08/07/17 11:38	15262-20-1	
Total Uranium	ASTM D5174-97	**0.130 ± 0.006 (0.193)** **C:NA T:NA**	ug/L	08/10/17 13:11	7440-61-1	

QUALITY CONTROL - RADIOCHEMISTRY

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch:	267061	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228

Associated Lab Samples: 35326821001

METHOD BLANK: 1314773 Matrix: Water

Associated Lab Samples: 35326821001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.470 ± 0.374 (0.743) C:79% T:78%	pCi/L	08/07/17 11:37	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch: 267622
QC Batch Method: ASTM D5174-97
Analysis Method: ASTM D5174-97
Analysis Description: D5174.97 Total Uranium KPA
Associated Lab Samples: 35326821001

METHOD BLANK: 1317375
Matrix: Water
Associated Lab Samples: 35326821001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Total Uranium	0.274 ± 0.012 (0.193) C:NA T:NA	ug/L	08/09/17 17:24	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project: LBG, Inc.
Pace Project No.: 35326821

QC Batch: 267063
QC Batch Method: EPA 900.0
Analysis Method: EPA 900.0
Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 35326821001

METHOD BLANK: 1314775
Matrix: Water
Associated Lab Samples: 35326821001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	0.281 ± 0.459 (0.989) C:NA T:NA	pCi/L	08/08/17 08:11	
Gross Beta	0.578 ± 0.807 (1.77) C:NA T:NA	pCi/L	08/08/17 08:11	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project:	LBG, Inc.
Pace Project No.:	35326821

QC Batch:	267059	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
Associated Lab Samples:	35326821001		

METHOD BLANK: 1314770 Matrix: Water

Associated Lab Samples: 35326821001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0690 ± 0.315 (0.641) C:NA T:99%	pCi/L	08/08/17 11:21	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project:	LBG, Inc.
Pace Project No.:	35326821

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach
PASI-PA	Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P4	Sample field preservation does not meet EPA or method recommendations for this analysis.
R1	RPD value was outside control limits.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LBG, Inc.
Pace Project No.: 35326821

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35326821001	**C-21**	EPA 504.1	384637	EPA 504.1	384898
35326821001	**C-21**	EPA 505	33932	EPA 505	33984
35326821001	**C-21**	EPA 508.1	384956	EPA 508.1	385484
35326821001	**C-21**	EPA 515.3	384402	EPA 515.3	384691
35326821001	**C-21**	EPA 531.1	384072		
35326821001	**C-21**	EPA 547	384078		
35326821001	**C-21**	EPA 549.2	384638	EPA 549.2	384971
35326821001	**C-21**	EPA 525.2	384645	EPA 525.2	385020
35326821001	**C-21**	EPA 548.1	384603	EPA 548.1	385377
35326821001	**C-21**	EPA 900.0	267063		
35326821001	**C-21**	EPA 903.1	267059		
35326821001	**C-21**	EPA 904.0	267061		
35326821001	**C-21**	ASTM D5174-97	267622		

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

Chain of Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)

Sampler:

Phone:

Lab PM: Bayer, Debra

E-Mail: dbayer@envirotestlaboratories.com

Carrier Tracking No(s):

COC No: 420-9160.1

Page: Page 1 of 1

STL Job #: 420-124221-1

Client Contact: Shipping/Receiving

Company: Pace Analytical Ormond Beach

Address: 8 East Tower Circle, ,

City: Ormond Beach

State, Zip: FL, 32174

Phone: 111-222-3333(Tel)

Email:

Project Name: LBG, Inc.

Site:

Due Date Requested: ~~8/8/2017~~ Standard

TAT Requested (days):

PO #:

WO #:

Project #: 42001269

SSOW#:

Analysis Requested

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 515 Chlorinated Acids	SUBCONTRACT/ 504 EPA 504.1 EDB/DBCP	SUBCONTRACT/ 531.1 Carbamate Pesticides in DW	SUBCONTRACT/ 525.2 Semivolatile Organics	SUBCONTRACT/ 900 GA/GB/RA 226/RA 228 /Total Uranium	SUBCONTRACT/ 508	SUBCONTRACT/ 547	SUBCONTRACT/ 548	SUBCONTRACT/ 549	SUBCONTRACT/ Dioxin				Total Number of containers	Special Instructions/Note:
				Preservation Code:																	
C-21 (420-124221-1)	7/27/17	8:30		Water			X	X	X	X	X	X	X	X	X	X				8	

WO# : 35326821

35326821

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification

☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:

Date:

Time:

Method of Shipment:

Relinquished by: KD. Moyer	Date/Time: 7/27/17 1050	Company ER	Received by: MKE 10.0 T-286	Date/Time: 7/28/17 1030	Company PACE
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 10.0 T 286

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: February 6, 2017
	Document No.: F-FL-C-007 rev. 11	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # WO#:35326821

Project Manager: PM: VEG **Due Date:** 08/11/17

Client: CLIENT: EVNTES

Date and Initials of person:
Examining contents:
Label:
Deliver:
pH:

Thermometer Used: T286 Date: 7/28/17 Time: 1020 Initials: SS

Cooler #1 Temp.°C 9.9 (Visual) +0.1 (Correction Factor) 10.0 (Actual) ☐ Samples on ice, cooling process has begun
Cooler #2 Temp.°C ____ (Visual) ____ (Correction Factor) ____ (Actual) ☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C ____ (Visual) ____ (Correction Factor) ____ (Actual) ☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C ____ (Visual) ____ (Correction Factor) ____ (Actual) ☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C ____ (Visual) ____ (Correction Factor) ____ (Actual) ☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C ____ (Visual) ____ (Correction Factor) ____ (Actual) ☐ Samples on ice, cooling process has begun

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ____
Shipping Method: ☐ First Overnight ☐ Priority Overnight ☒ Standard Overnight ☐ Ground ☐ Other ____
Billing: ☐ Recipient ☐ Sender ☐ Third Party ☒ Unknown
Tracking # 7797 4760 6623

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No **Seals intact:** ☐ Yes ☒ No **Ice:** [✓ Wet] Blue None
Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other ____
Samples shorted to lab (If Yes, complete) Shorted Date: ____ Shorted Time: ____ Qty: ____

		Comments:
Chain of Custody Present	☒ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☒ No ☐ N/A	
Sufficient Volume	☒ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☒ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☒ Yes ☐ No ☐ N/A	Preservation Information: Preservative: ____ Lot #/Trace #: ____ Date: ____ Time: ____ Initials: ____
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☒ Yes ☐ No ☐ N/A	
Headspace in VOA Vials? (>6mm):	☐ Yes ☒ No ☐ N/A	
Trip Blank Present:	☐ Yes ☒ No ☐ N/A	

Client Notification/ Resolution:
Person Contacted: ____ Date/Time: ____

Comments/ Resolution (use back for additional comments): 7/28/17 – Client notified of rcpt temp and requested lab proceed w/ analysis – ImH

Project Manager Review: ____ Date: ____

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Bo Garcia
PASI Florida
8 East Tower Circle
Ormond Beach FL 32174

Report Information:

Pace Project #: 10397651
Sample Receipt Date: 08/01/2017
Client Project #: 35326821
Client Sub PO #: N/A
State Cert #: 11647

REPORT OF LABORATORY ANALYSIS FOR 2,3,7,8-TCDD

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 Drinking Water Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Sarah Platzer, your Pace Project Manager.

Report Summary:

This report contains results of one drinking water sample analyzed to determine 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613 by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

This report has been reviewed by:

Sarah Platzer

August 07, 2017

Sarah Platzer, Project Manager
612-607-6451
(612) 607-6444 (fax)
sarah.platzer@pacelabs.com

NELAP ACCREDITED TNI LABORATORY

Report of Laboratory Analysis

Report Prepared Date:

August 7, 2017

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Montana	CERT0092
Alabama	40770	Nebraska	NE-OS-18-06
Alaska	MN00064	Nevada	MN00064
Alaska	UST-078	New Jersey (NE	MN002
Arizona	AZ0014	New York (NEL	11647
Arkansas	88-0680	New hampshire	2081
CNMI Saipan	MP0003	North Carolina	27700
California	MN00064	North Carolina	530
Colorado	MN00064	North Dakota	R-036
Connecticut	PH-0256	Ohio	41244
EPA Region 8	8TMS-L	Ohio VAP	CL101
Florida (NELAP	E87605	Oklahoma	9507
Georgia (EDP)	959	Oregon (ELAP)	MN200001
Guam EPA	959	Oregon (OREL	MN300001
Hawaii	MN00064	Pennsylvania	68-00563
Idaho	MN00064	Puerto Rico	MN00064
Illinois	200011	South Carolina	74003001
Indiana	C-MN-01	Tennessee	TN02818
Iowa	368	Texas	T104704192
Kansas	E-10167	Utah (NELAP)	MN00064
Kentucky	90062	Virginia	460163
Louisiana	03086	Washington	C486
Louisiana	MN00064	West Virginia #	9952C
Maryland	322	West Virginia D	382
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-L
Mississippi	MN00064		

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

10397651

Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: 35326821 **Workorder Name:** LBG, Inc. **Owner Received Date:** 7/28/2017 **Results Requested By:** 8/11/2017

Report To

Bo Garcia
Pace Analytical Ormond Beach
8 East Tower Circle
Ormond Beach, FL 32174
Phone (386)672-5668

Subcontract To

Pace Analytical Minnesota
1700 Elm Street SE
Suite 200
Minneapolis, MN 55414
Phone (612)607-1700

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers						Requested Analysis												
						Unpreserved						EPA 1613												LAB USE ONLY
1	C-21	PS	7/27/2017 08:30	35326821001	Drinking	2						X												001
2																								
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	MalloryDuffy/Pace	7/31/17 1700		8/1/17 945	
2					
3					

Cooler Temperature on Receipt 26 °C **Custody Seal** Y or [✓ N] **Received on Ice** [✓ Y] or N **Samples Intact** [✓ Y] or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 19Dec2016 Page 1 of 2
	Document No.: **F-MN-L-213-rev.20**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: PACE FL

Project #:

WO# : 10397651

10397651

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 7422 5600 3746

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other:

Temp Blank? ☐ Yes ☒ No

Thermometer Used: ☒ 151401163 ☐ 151401164

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.7 **Cooler Temp Corrected (°C):** 2.6

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** -0.1

Date and Initials of Person Examining Contents: 8/1/17

USDA Regulated Soil ☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☒ Yes	☐ No		1.
Chain of Custody Filled Out?	☒ Yes	☐ No		2.
Chain of Custody Relinquished?	☒ Yes	☐ No		3.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☒ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No		5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		6.
Rush Turn Around Time Requested?	☒ Yes	☐ No		7.
Sufficient Volume?	☒ Yes	☐ No		8.
Correct Containers Used?	☒ Yes	☐ No		9.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No		12.
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	13. ☐ HNO$_3$ ☐ H$_2$SO$_4$ ☐ NaOH Positive for Res. Chlorine? Y N Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO$_3$, H$_2$SO$_4$, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	☒ Yes	☐ No	☐ N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted:

Date/Time:

Comments/Resolution:

Project Manager Review:

Date: 8/1/2017

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical™

Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN, 55414

Tel: 612-607-1700
Fax: 612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B

Sample ID...........C-21
Client.................. PASI Florida
Lab Sample ID..... 35326821001

Date Collected.....07/27/2017
Date Received......08/01/2017
Date Extracted.....08/02/2017

	Sample C-21	**Method Blank**	**Lab Spike**	**Lab Spike Dup**
[2,3,7,8-TCDD]	**ND**	ND	--	--
EDL	4.3 pg/L	3.8 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	111%	113%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			2.0%	
IS Recovery	**52%**	59%	65%	55%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**73%**	72%	86%	81%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	F170803B_15	F170803B_02	F170803A_09	F170803A_10
Analysis Date	08/04/2017	08/03/2017	08/03/2017	08/03/2017
Analysis Time	03:56	18:42	15:10	15:51
Analyst	SMT	SMT	SMT	SMT
Volume	0.946L	1.019L	1.047L	1.054L
Dilution	NA	NA	NA	NA
ICAL Date	01/11/2017	01/11/2017	01/11/2017	01/11/2017
CCAL Filename	F170803B_01	F170803B_01	F170803A_01	F170803A_01

! = Outside the Control Limits
ND = Not Detected
EDL = Estimated Detection Limit
Limits = Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD = Relative Percent Difference of Lab Spike Recoveries
IS = Internal Standard [2,3,7,8-TCDD-$^{13}C_{12}$]
CS = Cleanup Standard [2,3,7,8-TCDD-$^{37}Cl_4$]

Analyst: Suzanne M. Thorson

Project No.............10397651

C-23

EnviroTest Laboratories Inc.

ANALYTICAL REPORT

Job Number: 420-123595-5

SDG Number: Clovewood

Job Description: LBG, Inc.

For:
Leggette, Brashears & Graham, Inc.
4 Research Drive
Shelton, CT 06464

Attention: Stacy Stieber

Debra Bayer

Debra Bayer
Customer Service Manager
dbayer@envirotestlaboratories.com
08/24/2017

NYSDOH ELAP does not certify for all parameters. EnviroTest Laboratories does hold certification for all analytes where certification is offered by ELAP unless otherwise specified in the Certification Information section of this report. Pursuant to NELAP, this report may not be reproduced, except in full, without written approval of the laboratory. EnviroTest Laboratories Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our laboratory. All questions regarding this report should be directed to the EnviroTest Customer Service Representative.

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-5
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method
Matrix: Water			
ICP Metals by 200.7	EnvTest	EPA 200.7 Rev 4.4	
Sample Filtration	EnvTest		FILTRATION
Total Metals Digestion for 200.7	EnvTest		EPA 200.7
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
ICPMS Metals by 200.8	EnvTest	EPA 200.8 Rev.5.4	
200 Series Drinking Water Prep Determination Step	EnvTest		EPA 200.7/200.8
Total Metals Digestion for 200.8	EnvTest		EPA 200.8
Mercury in Water by CVAA	EnvTest	EPA 245.1 Rev.3.0	
Digestion for CVAA Mercury in Waters	EnvTest		EPA 245.1
Anions by Ion Chromatography	EnvTest	MCAWW 300.0	
Anions by Ion Chromatography	EnvTest	EPA 300.0 Rev. 2.1	
EPA 504.1 EDB	Pace	EPA 504.1	
EPA 505 Pesticide/PCB	Pace	EPA 505	
EPA 515 Chlorinated Acids	Pace	EPA 515	
Purgeable Organic Compounds in Water by GC/MS	EnvTest	EPA-DW 524.2	
EPA 525.2 Semivolatile Organics	Pace	EPA 525.2	
EPA 531.1 Carbamate Pesticides in Drinki	Pace	EPA 531.1	
EPA 900 Series GA/GB/RA226/RA228/Gamma	Radios	EPA 900	
Uranium	Radios	STL-STL EPA	
Heterotropic Plate Count	EnvTest	IDEXX SIMPLATE	
Odor, Threshold Test	EnvTest	SM20 SM 2150B	
Alkalinity, Titration Method	EnvTest	SM21 SM 2320B-97,-11	
Corrosivity LSI Calculation	EnvTest	SM20 SM 2330B	
Hardness by Calculation	EnvTest	SM20 SM 2340B-97,-11	
pH	EnvTest	SM19 SM 4500 H+ B	
Nitrite by Colormetric	EnvTest	SM20 SM 4500 NO2 B	
Total Coliform and Escherichia coli by Colilert - Presence/Absence	EnvTest	SMWW SM 9223	
Apparent Color	EnvTest	SM21 SM2120B-01,11	
Turbidity	EnvTest	SM21 SM2130B-01,11	
Total Dissolved Solids (Dried at 180 °C)	EnvTest	SM21 SM2540C-97,11	
Cyanide, Total: Colorimetric Method	EnvTest	SM21 SM4500 CN E-99	
Cyanide: Distillation	EnvTest		SM21 SM 4500 CN C
General Sub Contract Method	Pace	Subcontract	
General Sub Contract Method	Radios	Subcontract	

EnviroTest Laboratories, Inc.

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-5
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method

Lab References:

EnvTest = EnviroTest

Pace = Pace Analytical - Ormond Beach

Radios = Pace Analytical Services, Inc.

Method References:

EPA = US Environmental Protection Agency

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

IDEXX =

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

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

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

SM21 = "Standard Methods For The Examination Of Water And Wastewater", 21st Edition

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

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

METHOD / ANALYST SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-5
SDG Number: Clovewood

Method	Analyst	Analyst ID
EPA-DW 524.2	Andersen, Eric C	ECA
EPA 200.7 Rev 4.4	Sirico, Derek	DS
EPA 200.8 Rev.5.4	Sirico, Derek	DS
EPA 245.1 Rev.3.0	Sirico, Derek	DS
SM20 SM 2340B-97,-11	Sirico, Derek	DS
MCAWW 300.0	Luis, Carlos	CL
EPA 300.0 Rev. 2.1	Luis, Carlos	CL
IDEXX SIMPLATE	O'Driscoll, Kate	KO
SM20 SM 2150B	O'Driscoll, Kate	KO
SM21 SM 2320B-97,-11	Tramantano, Matt	MT
SM20 SM 2330B	Cusack, Renee	RC
SM19 SM 4500 H+ B	O'Driscoll, Kate	KO
SM20 SM 4500 NO2 B	Grant, Ameya	AG
SMWW SM 9223	Grant, Ameya	AG
SM21 SM2120B-01,11	O'Driscoll, Kate	KO
SM21 SM2130B-01,11	O'Driscoll, Kate	KO
SM21 SM2540C-97,11	O'Driscoll, Kate	KO
SM21 SM4500 CN E-99	Osborne, Amy	AO

SAMPLE SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-5
SDG Number: Clovewood

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
420-123595-5	C - 23	Drinking Water	07/13/2017 0800	07/13/2017 1000

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-5
Sdg Number: Clovewood

Client Sample ID: **C - 23**

Lab Sample ID:	420-123595-5	Date Sampled:	07/13/2017 0800
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112453	Instrument ID:	Agilent 7890A/5975C
Preparation:	N/A		Lab File ID:	X071422.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/14/2017 2020		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
1,1,1,2-Tetrachloroethane	<0.500		0.500
1,1,1-Trichloroethane	<0.500		0.500
1,1,2,2-Tetrachloroethane	<0.500		0.500
1,1,2-Trichloroethane	<0.500		0.500
1,1-Dichloroethane	<0.500		0.500
1,1-Dichloroethene	<0.500		0.500
1,1-Dichloropropene	<0.500		0.500
1,2,3-Trichlorobenzene	<0.500		0.500
1,2,3-Trichloropropane	<0.500		0.500
1,2,4-Trichlorobenzene	<0.500		0.500
1,2,4-Trimethylbenzene	<0.500		0.500
1,2-Dichloroethane	<0.500		0.500
1,2-Dichlorobenzene	<0.500		0.500
1,2-Dichloropropane	<0.500		0.500
1,3-Dichloropropane	<0.500		0.500
1,4-Dichlorobenzene	<0.500		0.500
2,2-Dichloropropane	<0.500		0.500
Benzene	<0.500		0.500
Bromobenzene	<0.500		0.500
Bromochloromethane	<0.500		0.500
Bromomethane	<0.500		0.500
n-Butylbenzene	<0.500		0.500
cis-1,2-Dichloroethene	<0.500		0.500
cis-1,3-Dichloropropene	<0.500		0.500
Carbon tetrachloride	<0.500		0.500
Chlorobenzene	<0.500		0.500
Chloroethane	<0.500		0.500
Chloromethane	<0.500		0.500
Dibromomethane	<0.500		0.500
Ethylbenzene	<0.500		0.500
Dichlorodifluoromethane	<0.500		0.500
Hexachlorobutadiene	<0.500		0.500
Isopropylbenzene	<0.500		0.500
p-Isopropyltoluene	<0.500		0.500
Methylene Chloride	<0.500		0.500
m-Xylene & p-Xylene	<1.00		1.00
Methyl tert-butyl ether	<0.500		0.500
o-Xylene	<0.500		0.500
Tetrachloroethene	<0.500		0.500
Toluene	<0.500		0.500
trans-1,2-Dichloroethene	<0.500		0.500
trans-1,3-Dichloropropene	<0.500		0.500
Trichloroethene	<0.500		0.500
tert-Butylbenzene	<0.500		0.500

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-5
Sdg Number: Clovewood

Client Sample ID: **C - 23**

Lab Sample ID:	420-123595-5	Date Sampled:	07/13/2017 0800
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

524.2 Purgeable Organic Compounds in Water by GC/MS

Method:	524.2	Analysis Batch: 420-112453	Instrument ID:	Agilent 7890A/5975C
Preparation:	N/A		Lab File ID:	X071422.D
Dilution:	1.0		Initial Weight/Volume:	5 mL
Date Analyzed:	07/14/2017 2020		Final Weight/Volume:	5 mL
Date Prepared:	N/A			

Analyte	Result (ug/L)	Qualifier	RL
Trichlorofluoromethane	<0.500		0.500
Vinyl chloride	<0.500		0.500
Xylenes, Total	<1.50		1.50
Styrene	<0.500		0.500
sec-Butylbenzene	<0.500		0.500
1,3,5-Trimethylbenzene	<0.500		0.500
N-Propylbenzene	<0.500		0.500
1,3-Dichlorobenzene	<0.500		0.500
2-Chlorotoluene	<0.500		0.500
4-Chlorotoluene	<0.500		0.500

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	97	71 - 120
Toluene-d8 (Surr)	118	79 - 121
1,2-Dichloroethane-d4 (Surr)	124	70 - 128

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-5
Sdg Number: Clovewood

Client Sample ID: **C - 23**

Lab Sample ID:	420-123595-5	Date Sampled:	07/13/2017 0800
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

200.7 Rev 4.4 ICP Metals by 200.7

Method:	200.7 Rev 4.4	Analysis Batch: 420-112479		Instrument ID:	Thermo ICP
Preparation:	200.7/200.8	Prep Batch: 420-112493		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	07/17/2017 1450			Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 0925				

Analyte	Result (ug/L)	Qualifier	RL
Iron	6700	g	60.0
Manganese	1730	g	10.0
Sodium	4130		200
Zinc	<20.0		20.0

200.7 Rev 4.4 ICP Metals by 200.7-Dissolved

Method:	200.7 Rev 4.4	Analysis Batch: 420-112597		Instrument ID:	Thermo ICP
Preparation:	200.7	Prep Batch: 420-112501		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	07/19/2017 1851			Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 1505				

Analyte	Result (ug/L)	Qualifier	RL
Iron	2970	g	60.0
Manganese	1740	g	10.0

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-5
Sdg Number: Clovewood

Client Sample ID: **C - 23**

Lab Sample ID:	420-123595-5	Date Sampled:	07/13/2017 0800
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

200.8 Rev.5.4 ICPMS Metals by 200.8

Method:	200.8 Rev.5.4	Analysis Batch: 420-112457	Instrument ID:	Perkin Elmer ELAN
Preparation:	200.7/200.8	Prep Batch: 420-112493	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/17/2017 1332		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 0925			

Analyte	Result (ug/L)	Qualifier	RL
Lead	<1.00		1.00
Arsenic	2.03		1.40
Beryllium	<0.300		0.300
Cadmium	<1.00		1.00
Chromium	<7.00		7.00
Nickel	0.621		0.500
Antimony	<0.400		0.400
Thallium	<0.300		0.300
Barium	33.3		2.00
Selenium	<2.00		2.00

Method:	200.8 Rev.5.4	Analysis Batch: 420-112536	Instrument ID:	Perkin Elmer ELAN
Preparation:	200.8	Prep Batch: 420-112520	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	07/18/2017 1737		Final Weight/Volume:	50 mL
Date Prepared:	07/17/2017 1800			

Analyte	Result (ug/L)	Qualifier	RL
Silver	<1.00		1.00

245.1 Rev.3.0 Mercury in Water by CVAA

Method:	245.1 Rev.3.0	Analysis Batch: 420-112511	Instrument ID:	Perkin Elmer FIMS
Preparation:	245.1	Prep Batch: 420-112451	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	25 mL
Date Analyzed:	07/18/2017 1217		Final Weight/Volume:	25 mL
Date Prepared:	07/17/2017 1115			

Analyte	Result (ug/L)	Qualifier	RL
Mercury	<0.200		0.200

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-5
Sdg Number: Clovewood

Client Sample ID: **C - 23**

Lab Sample ID:	420-123595-5	Date Sampled:	07/13/2017 0800
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

SM 2340B-97,-11 Hardness by Calculation

Method:	SM 2340B-97,-11	Analysis Batch: 420-112535	Instrument ID:	None
Preparation:	N/A		Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	
Date Analyzed:	07/17/2017 1450		Final Weight/Volume:	
Date Prepared:	N/A			

Analyte	Result (mg/L)	Qualifier	RL
Calcium hardness as calcium carbonate	23.6		1.25

Biology

Client Sample ID: **C - 23**

Lab Sample ID: 420-123595-5
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 0800
Date Received: 07/13/2017 1000

Analyte	Result	Qual	Units	Dil	Method
Coliform, Total	Absent		CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112380	Date Analyzed	07/13/2017 1510		
Escherichia coli	Absent		CFU/100mL	1.0	SM 9223
	Anly Batch: 420-112380	Date Analyzed	07/13/2017 1510		

Analyte	Result	Qual	Units	RL	Dil	Method
Heterotrophic Plate Count	<2.00		CFU/mL	2.00	1.0	SIMPLATE
	Anly Batch: 420-112413	Date Analyzed	07/13/2017 1550			

General Chemistry

General Chemistry

Client Sample ID: **C - 23**

Lab Sample ID: 420-123595-5
Client Matrix: Drinking Water

Date Sampled: 07/13/2017 0800
Date Received: 07/13/2017 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Nitrate as N	<0.250		mg/L	0.250	1.0	300.0
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1737			

Analyte	Result	Qual	Units	Dil	Method
Langelier Index	-1.96		NONE	1.0	SM 2330B
	Anly Batch: 420-112765	Date Analyzed	07/26/2017 1302		

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-5
Sdg Number: Clovewood

General Chemistry

Client Sample ID: **C - 23**

Lab Sample ID:	420-123595-5	Date Sampled:	07/13/2017 0800
Client Matrix:	Drinking Water	Date Received:	07/13/2017 1000

Analyte	Result	Qual	Units	RL	Dil	Method
Alkalinity	43.2		mg/L	5.00	1.0	SM 2320B-97,-11
	Anly Batch: 420-112669	Date Analyzed	07/21/2017 1730			
Total Dissolved Solids	82.0		mg/L	5.00	1.0	SM2540C-97,11
	Anly Batch: 420-112602	Date Analyzed	07/20/2016 1700			
Chloride	<1.50		mg/L	1.50	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1737			
Sulfate	11.2		mg/L	5.00	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1737			
Fluoride	<0.500		mg/L	0.500	1.0	300.0 Rev. 2.1
	Anly Batch: 420-112412	Date Analyzed	07/13/2017 1737			
Cyanide, Total	<0.00500		mg/L	0.00500	1.0	SM4500 CN E-99
	Anly Batch: 420-112524	Date Analyzed	07/18/2017 1400			
	Prep Batch:	Date Prepared:	07/15/2017 1130			
Apparent Color	75.0	g	Pt-Co	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112486	Date Analyzed	07/13/2017 1749			
pH@color measurement	6.74		SU	2.00	1.0	SM2120B-01,11
	Anly Batch: 420-112486	Date Analyzed	07/13/2017 1749			
Turbidity	35.7	g	NTU	0.100	1.0	SM2130B-01,11
	Anly Batch: 420-112420	Date Analyzed	07/13/2017 1814			
Odor	1.00		T.O.N.	1.00	1.0	SM 2150B
	Anly Batch: 420-112485	Date Analyzed	07/13/2017 1800			
Temp @ Odor Measurement	60.0		Degrees C	5.00	1.0	SM 2150B
	Anly Batch: 420-112485	Date Analyzed	07/13/2017 1800			
pH	6.74	H	SU	0.200	1.0	SM 4500 H+ B
	Anly Batch: 420-112487	Date Analyzed	07/13/2017 1751			
Temp @ pH Measurement	17.6		Degrees C	5.00	1.0	SM 4500 H+ B
	Anly Batch: 420-112487	Date Analyzed	07/13/2017 1751			
Nitrite as N	<0.0100		mg/L	0.0100	1.0	SM 4500 NO2 B
	Anly Batch: 420-112510	Date Analyzed	07/14/2017 1047			

DATA REPORTING QUALIFIERS

Client: Leggette, Brashears & Graham, Inc.

Job Number:
Sdg Number: Clovewood

Lab Section	Qualifier	Description
Metals		
	g	Result fails applicable NYS drinking water standards
General Chemistry		
	g	Result fails applicable NYS drinking water standards
	H	Sample was prepped or analyzed beyond the specified holding time

Certification Information

Client: Leggette, Brashears & Graham, Inc.

Job Number:

Sdg Number: Clovewood

The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Silicon, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide, Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Phenolphthalein Alkalinity, Solids (Fixed), Solids (Percent), Solids (Percent Moisture) , Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, Volatile Acids as Acetic Acid, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, Iron Bacteria, Salmonella, & Sulfur Reducing Bacteria.

The following analytes are Not Part of ELAP Potable Water scope of accreditation:

Cobalt (200.7, 200.8), Tin (200.7), Strontium (200.7), Gold (200.7), Platinum (200.7), Palladium (200.7), Titanium (200.7), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), Naphthalene (502.2), o-Xylene (502.2, 524), & Fecal Coliform (9222D).

The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

The following analytes are Not Part of ELAP Non Potable Water scope of accreditation:

Dissolved Organic Carbon (5310C), Mecoprop (8151A), & MCPA (8151A).

Definitions and Glossary

Client: Leggette, Brashears & Graham, Inc.

Job Number:

Sdg Number: Clovewood

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points.

EnviroTest Laboratories, Inc.

CHAIN OF CUSTODY

123595-5

REPORT# (Lab Use Only)

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

PROJECT REFERENCE Clovewood	PROJECT NO.	PROJECT LOCATION
ENVIROTEST PROJECT MANAGER Debra Bayer	P.O. NUMBER	TOWN
CLIENT (SITE) PM LBG, Inc.	CLIENT PHONE 203-929-8555	CLIENT FAX
CLIENT NAME Stacy Stieber		
CLIENT ADDRESS 4 Research Drive, Suite 204, Shelton, CT 06484		
COMPANY CONTRACTING THIS WORK (if applicable):		

PAGE 1 of 1

TURNAROUND TIME
NORMAL ✓
QUICK ____
VERBAL ____

#OF COOLERS 1

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) *INDICATE*	AQUEOUS (WATER)	D (Drinking Water) or W (Waste Water) *Indicate*	SOLID OR SEMISOLID	OTHER *Specify*	MPA C/G kit	40ml Vials HCl	40ml Sodium Thio.	250ml Amber Sodium Thio.	Liter Amber HCl/Na2SO3	250ml Plastic Nitric Acid	40ml Mon/Sod.Thio(liquid)	Liter Plastic	250ml Plastic Sodium Hyd.	125ml Plastic Sterile	Liter Plastic Nitric	40ml Vials Unpres
7/13/17	800	C23			D				3	2	1	2	1	2	4	1	2	5	2

NUMBER OF CONTAINERS SUBMITTED

2-Liter Amber Unpres.
1-250ml Amber Unpres.
3-250ml Plastic Unpres. (no air)
2-40ml Amber Sodium Thio.
1-500ml Amber Sodium Thio.
1-Liter Amber Plastic Sodium Thio.&H2SO4
2-Liter Amber Sodium Thio.

REMARKS

Table 8B (Sb,As,Ba,Be,Cd,Cr,Cn,Hg,Ni Se,Tl,F)
Table 8C (NO3,NO2)
Table 8D (Cl,Fe,Mn,Ag,Na,SO4,Zn,Odor,Color)
524.2 (POC,MTBE,Vinyl Chloride)
SOCs (504,508,515,525,531,547,548,549,Dioxin)
Additional Tests (Total coliform thru Zinc)
Radio(Gross Alpha/Beta,Radium-226/228,Uranium)
Radon
Dissolved Fe, Mn

RELINQUISHED BY: (SIGNATURE)	COMPANY LBG	DATE 7/13/17	TIME 1143	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
SAMPLED BY: (SIGNATURE)	COMPANY LBG	DATE 7/13/17	TIME 800	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	COMPANY	DATE	TIME	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME

SUBCONTACT: PACE-SOCs, Radio, Radon; ASI-MPA/Crypto/Giardia

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE 7/13/17	TIME 1143	CUSTODY INTACT YES NO	Cooler Temp:. 3.5°C	LABORATORY REMARKS: ICE ✓ pH____ CL2____ Reviewed by________ -TC#3

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-123595-5
SDG Number: Clovewood

Login Number: **123595**

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	3.5C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	False	pH
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

August 03, 2017

Ms. Debra Bayer
EnviroTest Laboratories, Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: 42001269
Pace Project No.: 30224097

Dear Ms. Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

cc: Janine Rader, EnviroTest Laboratories, Inc.

CERTIFICATIONS

Project: 42001269
Pace Project No.: 30224097

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

SAMPLE SUMMARY

Project: 42001269
Pace Project No.: 30224097

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30224097001	**C-23 (420-123595-5)**	Drinking Water	07/13/17 08:00	07/14/17 10:20

SAMPLE ANALYTE COUNT

Project:	42001269
Pace Project No.:	30224097

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30224097001	**C-23 (420-123595-5)**	SM7500RnB-07	NEG	1
		EPA 900.0	NEG	2
		EPA 903.1	WRR	1
		EPA 904.0	VAL	1
		ASTM D5174-97	RMK	1

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224097

Sample: C-23 (420-123595-5) **Lab ID: 30224097001** Collected: 07/13/17 08:00 Received: 07/14/17 10:20 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radon	SM7500RnB-07	**78.3 ± 30.0 (46.0)** **C:NA T:NA**	pCi/L	07/15/17 05:27	10043-92-2	
Gross Alpha	EPA 900.0	**0.246 ± 0.830 (2.08)** **C:NA T:NA**	pCi/L	07/24/17 08:36	12587-46-1	
Gross Beta	EPA 900.0	**-0.028 ± 0.682 (1.70)** **C:NA T:NA**	pCi/L	07/24/17 08:36	12587-47-2	
Radium-226	EPA 903.1	**0.439 ± 0.317 (0.359)** **C:NA T:106%**	pCi/L	07/26/17 12:51	13982-63-3	
Radium-228	EPA 904.0	**0.249 ± 0.281 (0.596)** **C:78% T:91%**	pCi/L	07/27/17 11:15	15262-20-1	
Total Uranium	ASTM D5174-97	**0.084 ± 0.005 (0.193)** **C:NA T:NA**	ug/L	08/03/17 16:21	7440-61-1	

QUALITY CONTROL - RADIOCHEMISTRY

Project: 42001269
Pace Project No.: 30224097

QC Batch: 265143
Analysis Method: ASTM D5174-97
QC Batch Method: ASTM D5174-97
Analysis Description: D5174.97 Total Uranium KPA
Associated Lab Samples: 30224097001

METHOD BLANK: 1306496
Matrix: Water
Associated Lab Samples: 30224097001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Total Uranium	0.064 ± 0.004 (0.193) C:NA T:NA	ug/L	08/03/17 11:33	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project:	42001269
Pace Project No.:	30224097

QC Batch:	265053	Analysis Method:	SM7500RnB-07
QC Batch Method:	SM7500RnB-07	Analysis Description:	7500Rn B Radon
Associated Lab Samples:	30224097001		

METHOD BLANK: 1305441 Matrix: Water

Associated Lab Samples: 30224097001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radon	2.8 ± 18.8 (32.7) C:NA T:NA	pCi/L	07/15/17 02:40	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project:	42001269
Pace Project No.:	30224097

QC Batch:	265152	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226

Associated Lab Samples: 30224097001

METHOD BLANK: 1306510 Matrix: Water

Associated Lab Samples: 30224097001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.159 ± 0.312 (0.570) C:NA T:95%	pCi/L	07/26/17 12:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project:	42001269
Pace Project No.:	30224097

QC Batch:	265148	Analysis Method:	EPA 900.0
QC Batch Method:	EPA 900.0	Analysis Description:	900.0 Gross Alpha/Beta

Associated Lab Samples: 30224097001

METHOD BLANK: 1306505 Matrix: Water

Associated Lab Samples: 30224097001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	-0.333 ± 0.399 (1.52) C:NA T:NA	pCi/L	07/24/17 08:35	
Gross Beta	-0.362 ± 0.578 (1.62) C:NA T:NA	pCi/L	07/24/17 08:35	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL - RADIOCHEMISTRY

Project:	42001269
Pace Project No.:	30224097

QC Batch:	265158	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228

Associated Lab Samples: 30224097001

METHOD BLANK: 1306521 Matrix: Water

Associated Lab Samples: 30224097001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0810 ± 0.316 (0.717) C:75% T:85%	pCi/L	07/27/17 11:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project:	42001269
Pace Project No.:	30224097

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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

Chain of Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)	Sampler: S. Strieber of LBG	Lab PM: Bayer, Debra	Carrier Tracking No(s):	COC No: 420-9121.1
Client Contact: Shipping/Receiving	Phone: 7/31/203	E-Mail: dbayer@envirotestlaboratories.com		Page: Page 1 of 1
Company: Pace Analytical Services, Inc.				STL Job #: 420-123595-5

Address: 1638 Roseytown Rd,Suites 2,3,4, ,	**Due Date Requested:** 7/27/2017
City: Greensburg	**TAT Requested (days):**
State, Zip: PA, 15601	
Phone:	PO #:
Email:	WO #:
Project Name: LBG, Inc.	Project #: 42001269
Site:	SSOW#:

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
~~D - Nitric Acid~~	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification Client ID (Lab ID)	**Sample Date**	**Sample Time**	**Sample Type** (C=comp, G=grab)	**Matrix** (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 900 GA/GB/RA 226/RA 228	SUBCONTRACT/ Total Uranium	SUBCONTRACT/ Radon	Total Number of containers	**Special Instructions/Note:** NM Sples 7/31/203
				Preservation Code:	X	X				X	
C - 23 (420-123595-5)	7/13/17	8:00		Water			X	X	X	7	001

WO#:30224097
30224097

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ________ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: RDittz	Date/Time: 7/13/17 1425	Company ER	Received by:	Date/Time: 7/14/17 1020	Company PACE
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Sample Condition Upon Receipt Pittsburgh

30224097

Pace Analytical

Client Name: Envirotest Labs.

Project #

Label ZH.

LIMS Login AM

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 779625473330

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no

Thermometer Used 8 Type of Ice: [✓ Wet] Blue None

Cooler Temperature Observed Temp 3.5 °C Correction Factor: 0.0 °C Final Temp: 3.5 °C

Temp should be above freezing to 6°C

Date and initials of person examining contents: ZH 7/14/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):	✓			7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Orthophosphate field filtered			▨	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ZH Date/time of preservation Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ZH Date: 7/14/17

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS, The review is in the Status section of the Workorder Edit Screen.

J:\QAQC\Master\Document Management\Sample Mgt\Sample Condition Upon Receipt Pittsburgh (C056-5 5July2017)

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

August 07, 2017

Ron Bayer
EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: LBG,Inc 42001269
Pace Project No.: 35324057

Dear Ron Bayer:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Bo Garcia
bo.garcia@pacelabs.com
(386)672-5668
Project Manager

Enclosures

cc: Debra Bayer, EnviroTest Laboratories Inc.
Renee Cusack, EnviroTest Laboratories Inc.
Laura Marciano, EnviroTest Laboratories Inc.
Janine Rader, EnviroTest Laboratories Inc.
Meredith Ruthven, EnviroTest Laboratories Inc.

CERTIFICATIONS

Project:	LBG,Inc 42001269
Pace Project No.:	35324057

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

SAMPLE SUMMARY

Project: LBG,Inc 42001269
Pace Project No.: 35324057

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35324057001	**C-23**	Drinking Water	07/13/17 08:00	07/14/17 11:10

SAMPLE ANALYTE COUNT

Project:	LBG,Inc 42001269
Pace Project No.:	35324057

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35324057001	**C-23**	EPA 504.1	BP1	2	PASI-O
		EPA 505	MMR	3	
		EPA 508.1	LJM	18	PASI-O
		EPA 515.3	LJM	8	PASI-O
		EPA 531.1	WFH	9	PASI-O
		EPA 547	NMB	1	PASI-O
		EPA 549.2	NMB	1	PASI-O
		EPA 525.2	NS1	7	PASI-O
		EPA 548.1	JDT	1	PASI-O

ANALYTICAL RESULTS

Project: LBG,Inc 42001269
Pace Project No.: 35324057

Sample: C-23 **Lab ID: 35324057001** Collected: 07/13/17 08:00 Received: 07/14/17 11:10 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
504.1 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1								
1,2-Dibromo-3-chloropropane	**<0.0055**	ug/L	0.017	0.0055	1	07/18/17 07:15	07/18/17 18:37	96-12-8	
1,2-Dibromoethane (EDB)	**<0.0064**	ug/L	0.0086	0.0064	1	07/18/17 07:15	07/18/17 18:37	106-93-4	
505 GCS Pesticides/PCBs	Analytical Method: EPA 505 Preparation Method: EPA 505								
Aldrin	**<0.025**	ug/L	0.025	0.025	1	07/20/17 16:38	07/20/17 23:03	309-00-2	
Surrogates									
Tetrachloro-m-xylene (S)	105	%.	30-150		1	07/20/17 16:38	07/20/17 23:03	877-09-8	
Decachlorobiphenyl (S)	83	%.	30-150		1	07/20/17 16:38	07/20/17 23:03	2051-24-3	
508.1 GCS Pesticides	Analytical Method: EPA 508.1 Preparation Method: EPA 508.1								
Alachlor	**<0.034**	ug/L	0.19	0.034	1	07/24/17 10:15	07/28/17 10:58	15972-60-8	
Atrazine	**<0.061**	ug/L	0.096	0.061	1	07/24/17 10:15	07/28/17 10:58	1912-24-9	L2
gamma-BHC (Lindane)	**<0.0029**	ug/L	0.019	0.0029	1	07/24/17 10:15	07/28/17 10:58	58-89-9	
Butachlor	**<0.026**	ug/L	0.096	0.026	1	07/24/17 10:15	07/28/17 10:58	23184-66-9	
Chlordane (Technical)	**<0.045**	ug/L	0.19	0.045	1	07/24/17 10:15	07/28/17 10:58	57-74-9	
Dieldrin	**<0.018**	ug/L	0.096	0.018	1	07/24/17 10:15	07/28/17 10:58	60-57-1	
Endrin	**<0.0067**	ug/L	0.0096	0.0067	1	07/24/17 10:15	07/28/17 10:58	72-20-8	
Heptachlor	**<0.012**	ug/L	0.039	0.012	1	07/24/17 10:15	07/28/17 10:58	76-44-8	
Heptachlor epoxide	**<0.0029**	ug/L	0.019	0.0029	1	07/24/17 10:15	07/28/17 10:58	1024-57-3	
Hexachlorobenzene	**<0.018**	ug/L	0.096	0.018	1	07/24/17 10:15	07/28/17 10:58	118-74-1	
Hexachlorocyclopentadiene	**<0.031**	ug/L	0.096	0.031	1	07/24/17 10:15	07/28/17 10:58	77-47-4	
Methoxychlor	**<0.049**	ug/L	0.096	0.049	1	07/24/17 10:15	07/28/17 10:58	72-43-5	
Metolachlor	**<0.045**	ug/L	0.096	0.045	1	07/24/17 10:15	07/28/17 10:58	51218-45-2	
PCB, Total	**<0.077**	ug/L	0.096	0.077	1	07/24/17 10:15	07/28/17 10:58	1336-36-3	
Propachlor	**<0.029**	ug/L	0.096	0.029	1	07/24/17 10:15	07/28/17 10:58	1918-16-7	
Simazine	**<0.066**	ug/L	0.067	0.066	1	07/24/17 10:15	07/28/17 10:58	122-34-9	L2
Toxaphene	**<0.59**	ug/L	0.96	0.59	1	07/24/17 10:15	07/28/17 10:58	8001-35-2	
Surrogates									
Decachlorobiphenyl (S)	83	%	70-130		1	07/24/17 10:15	07/28/17 10:58	2051-24-3	
515.3 Chlorinated Herbicides	Analytical Method: EPA 515.3 Preparation Method: EPA 515.3								
2,4-D	**<0.081**	ug/L	0.10	0.081	1	07/20/17 09:35	07/22/17 08:11	94-75-7	
Dalapon	**<0.89**	ug/L	1.0	0.89	1	07/20/17 09:35	07/22/17 08:11	75-99-0	
Dicamba	**<0.067**	ug/L	0.10	0.067	1	07/20/17 09:35	07/22/17 08:11	1918-00-9	L1
Dinoseb	**<0.16**	ug/L	0.20	0.16	1	07/20/17 09:35	07/22/17 08:11	88-85-7	
Pentachlorophenol	**<0.030**	ug/L	0.040	0.030	1	07/20/17 09:35	07/22/17 08:11	87-86-5	
Picloram	**<0.094**	ug/L	0.10	0.094	1	07/20/17 09:35	07/22/17 08:11	1918-02-1	
2,4,5-TP (Silvex)	**<0.16**	ug/L	0.20	0.16	1	07/20/17 09:35	07/22/17 08:11	93-72-1	
Surrogates									
2,4-DCAA (S)	95	%	70-130		1	07/20/17 09:35	07/22/17 08:11	19719-28-9	
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
Aldicarb	**<0.64**	ug/L	2.0	0.64	1		07/18/17 17:42	116-06-3	
Aldicarb sulfone	**<0.37**	ug/L	2.0	0.37	1		07/18/17 17:42	1646-88-4	
Aldicarb sulfoxide	**<0.59**	ug/L	2.0	0.59	1		07/18/17 17:42	1646-87-3	
Carbofuran	**<0.32**	ug/L	2.0	0.32	1		07/18/17 17:42	1563-66-2	

ANALYTICAL RESULTS

Project: LBG,Inc 42001269
Pace Project No.: 35324057

Sample: C-23 **Lab ID: 35324057001** Collected: 07/13/17 08:00 Received: 07/14/17 11:10 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
3-Hydroxycarbofuran	**<0.45**	ug/L	2.0	0.45	1		07/18/17 17:42	16655-82-6	
Methomyl	**<0.57**	ug/L	2.0	0.57	1		07/18/17 17:42	16752-77-5	
Oxamyl	**<0.55**	ug/L	2.0	0.55	1		07/18/17 17:42	23135-22-0	
Carbaryl	**<0.27**	ug/L	2.0	0.27	1		07/18/17 17:42	63-25-2	
Surrogates									
BDMC (S)	103	%	80-120		1		07/18/17 17:42		
547 HPLC Glyphosate	Analytical Method: EPA 547								
Glyphosate	**<4.2**	ug/L	6.0	4.2	1		07/20/17 05:28		
549.2 HPLC Paraquat Diquat	Analytical Method: EPA 549.2 Preparation Method: EPA 549.2								
Diquat	**<0.30**	ug/L	0.40	0.30	1	07/19/17 11:00	07/20/17 02:43	85-00-7	
525.2 Base Neutral Extractable	Analytical Method: EPA 525.2 Preparation Method: EPA 525.2								
Benzo(a)pyrene	**0.032J**	ug/L	0.096	0.013	1	07/25/17 10:15	07/25/17 17:21	50-32-8	
bis(2-Ethylhexyl)adipate	**<0.37**	ug/L	1.5	0.37	1	07/25/17 10:15	07/25/17 17:21	103-23-1	
bis(2-Ethylhexyl)phthalate	**<0.48**	ug/L	1.9	0.48	1	07/25/17 10:15	07/25/17 17:21	117-81-7	
Metribuzin	**<0.14**	ug/L	0.29	0.14	1	07/25/17 10:15	07/25/17 17:21	21087-64-9	
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	106	%	70-130		1	07/25/17 10:15	07/25/17 17:21	81209	
Perylene-d12 (S)	101	%	70-130		1	07/25/17 10:15	07/25/17 17:21	1520963	
Triphenylphosphate (S)	93	%	70-130		1	07/25/17 10:15	07/25/17 17:21	115-86-6	
548.1 GCS Endothall	Analytical Method: EPA 548.1 Preparation Method: EPA 548.1								
Endothall	**<4.3**	ug/L	9.0	4.3	1	07/19/17 17:00	07/25/17 00:08		L2,L5

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324057

QC Batch: 381535
QC Batch Method: EPA 531.1
Analysis Method: EPA 531.1
Analysis Description: 531.1 HPLC Carbamate
Associated Lab Samples: 35324057001

METHOD BLANK: 2070180
Matrix: Water
Associated Lab Samples: 35324057001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
3-Hydroxycarbofuran	ug/L	<0.45	2.0	0.45	07/18/17 12:36	
Aldicarb	ug/L	<0.64	2.0	0.64	07/18/17 12:36	
Aldicarb sulfone	ug/L	<0.37	2.0	0.37	07/18/17 12:36	
Aldicarb sulfoxide	ug/L	<0.59	2.0	0.59	07/18/17 12:36	
Carbaryl	ug/L	<0.27	2.0	0.27	07/18/17 12:36	
Carbofuran	ug/L	<0.32	2.0	0.32	07/18/17 12:36	
Methomyl	ug/L	<0.57	2.0	0.57	07/18/17 12:36	
Oxamyl	ug/L	<0.55	2.0	0.55	07/18/17 12:36	
BDMC (S)	%	120	80-120		07/18/17 12:36	

LABORATORY CONTROL SAMPLE: 2070181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
3-Hydroxycarbofuran	ug/L	10	10.3	103	80-120	
Aldicarb	ug/L	10	11.2	112	80-120	
Aldicarb sulfone	ug/L	10	10.9	109	80-120	
Aldicarb sulfoxide	ug/L	10	12.0	120	80-120	
Carbaryl	ug/L	10	12.0	120	80-120	
Carbofuran	ug/L	10	11.7	117	80-120	
Methomyl	ug/L	10	10.6	106	80-120	
Oxamyl	ug/L	10	11.8	118	80-120	
BDMC (S)	%			118	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070182 2070183

Parameter	Units	35323850001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
3-Hydroxycarbofuran	ug/L	0.45U	10	10	10	10.2	100	102	80-120	2	20	
Aldicarb	ug/L	0.64U	10	10	10.5	10.3	105	103	80-120	3	20	
Aldicarb sulfone	ug/L	0.37U	10	10	9.5	9.8	95	98	80-120	4	20	
Aldicarb sulfoxide	ug/L	0.59U	10	10	11.2	11.0	112	110	80-120	2	20	
Carbaryl	ug/L	0.27U	10	10	12.0	11.5	120	115	80-120	4	20	
Carbofuran	ug/L	0.32U	10	10	11.3	10.5	113	105	80-120	7	20	
Methomyl	ug/L	0.57U	10	10	10.5	11.1	105	111	80-120	6	20	
Oxamyl	ug/L	0.55U	10	10	10.2	10.0	102	100	80-120	2	20	
BDMC (S)	%						103	98	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324057

QC Batch: 382091
Analysis Method: EPA 547
QC Batch Method: EPA 547
Analysis Description: 547 HPLC Glyphosate
Associated Lab Samples: 35324057001

METHOD BLANK: 2073233
Matrix: Water
Associated Lab Samples: 35324057001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Glyphosate	ug/L	<4.2	6.0	4.2	07/20/17 02:06	

LABORATORY CONTROL SAMPLE: 2073234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Glyphosate	ug/L	50	52.3	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073235 2073236

Parameter	Units	35324897001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	0.0042U mg/L	50	50	48.2	48.4	96	97	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073237 2073238

Parameter	Units	35324066001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Glyphosate	ug/L	<4.2	50	50	51.2	49.9	102	100	80-120	3	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324057

QC Batch: 381399
QC Batch Method: EPA 504.1
Analysis Method: EPA 504.1
Analysis Description: 504 EDB DBCP
Associated Lab Samples: 35324057001

METHOD BLANK: 2069376
Matrix: Water
Associated Lab Samples: 35324057001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	<0.0064	0.020	0.0064	07/18/17 13:43	
1,2-Dibromoethane (EDB)	ug/L	<0.0075	0.010	0.0075	07/18/17 13:43	

LABORATORY CONTROL SAMPLE & LCSD: 2069377 2070238

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	.25	0.27	0.24	109	96	70-130	12	40	
1,2-Dibromoethane (EDB)	ug/L	.25	0.29	0.25	116	101	70-130	13	40	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070239 2070240

Parameter	Units	35324127010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromo-3-chloropropane	ug/L	<0.0055	.44	.44	0.64	0.63	146	143	65-135	2	40	M1
1,2-Dibromoethane (EDB)	ug/L	<0.0064	.44	.44	0.64	0.63	146	145	65-135	1	40	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324057

QC Batch: 32255
Analysis Method: EPA 505
QC Batch Method: EPA 505
Analysis Description: 505 GCS Pesticides
Associated Lab Samples: 35324057001

METHOD BLANK: 149103
Matrix: Water
Associated Lab Samples: 35324057001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aldrin	ug/L	<0.025	0.025	0.025	07/20/17 18:40	
Decachlorobiphenyl (S)	%.	75	30-150		07/20/17 18:40	
Tetrachloro-m-xylene (S)	%.	85	30-150		07/20/17 18:40	

LABORATORY CONTROL SAMPLE: 149104

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	.048	0.047	98	70-130	
Decachlorobiphenyl (S)	%.			95	30-150	
Tetrachloro-m-xylene (S)	%.			94	30-150	

LABORATORY CONTROL SAMPLE: 149105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	.0095	<0.025	97	70-130	
Decachlorobiphenyl (S)	%.			89	30-150	
Tetrachloro-m-xylene (S)	%.			95	30-150	

MATRIX SPIKE SAMPLE: 149106

Parameter	Units	7024421001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aldrin	ug/L	<0.025	.095	0.092	96	65-135	
Decachlorobiphenyl (S)	%.				75	30-150	
Tetrachloro-m-xylene (S)	%.				97	30-150	

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QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324057

QC Batch: 382602
QC Batch Method: EPA 508.1
Analysis Method: EPA 508.1
Analysis Description: 508 GCS Pesticide
Associated Lab Samples: 35324057001

METHOD BLANK: 2076395
Matrix: Water
Associated Lab Samples: 35324057001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alachlor	ug/L	<0.035	0.20	0.035	07/28/17 05:11	
Atrazine	ug/L	<0.063	0.10	0.063	07/28/17 05:11	
Butachlor	ug/L	<0.027	0.10	0.027	07/28/17 05:11	
Chlordane (Technical)	ug/L	<0.047	0.20	0.047	07/28/17 05:11	
Dieldrin	ug/L	<0.019	0.10	0.019	07/28/17 05:11	
Endrin	ug/L	<0.0070	0.010	0.0070	07/28/17 05:11	
gamma-BHC (Lindane)	ug/L	<0.0030	0.020	0.0030	07/28/17 05:11	
Heptachlor	ug/L	<0.012	0.040	0.012	07/28/17 05:11	
Heptachlor epoxide	ug/L	<0.0030	0.020	0.0030	07/28/17 05:11	
Hexachlorobenzene	ug/L	<0.019	0.10	0.019	07/28/17 05:11	
Hexachlorocyclopentadiene	ug/L	<0.032	0.10	0.032	07/28/17 05:11	
Methoxychlor	ug/L	<0.051	0.10	0.051	07/28/17 05:11	
Metolachlor	ug/L	<0.047	0.10	0.047	07/28/17 05:11	
Propachlor	ug/L	<0.030	0.10	0.030	07/28/17 05:11	
Simazine	ug/L	<0.069	0.070	0.069	07/28/17 05:11	
Toxaphene	ug/L	<0.61	1.0	0.61	07/28/17 05:11	
Decachlorobiphenyl (S)	%	93	70-130		07/28/17 05:11	

LABORATORY CONTROL SAMPLE: 2076396

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	ug/L	1	0.93	93	70-130	
Atrazine	ug/L	1.2	<0.063	0	70-130	L2
Butachlor	ug/L	.5	0.50	99	70-130	
Chlordane (Technical)	ug/L		<0.047			
Dieldrin	ug/L	.5	0.45	90	70-130	
Endrin	ug/L	.05	0.044	87	70-130	
gamma-BHC (Lindane)	ug/L	.1	0.090	90	70-130	
Heptachlor	ug/L	.2	0.17	86	70-130	
Heptachlor epoxide	ug/L	.1	0.10	100	70-130	
Hexachlorobenzene	ug/L	.5	0.63	125	70-130	
Hexachlorocyclopentadiene	ug/L	.5	0.78	155	70-130	
Methoxychlor	ug/L	.5	0.55	110	70-130	
Metolachlor	ug/L	.5	0.43	87	70-130	
Propachlor	ug/L	.5	0.48	97	70-130	
Simazine	ug/L	.88	0.43	49	70-130	L2
Toxaphene	ug/L		<0.61			
Decachlorobiphenyl (S)	%			96	70-130	

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QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324057

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2077205 2077206

Parameter	Units	35324367001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alachlor	ug/L				0.96	0.95				1	40	M1
Atrazine	ug/L				<0.13	<0.13					40	M0
Butachlor	ug/L				0.50	0.50				1	40	M1
Chlordane (Technical)	ug/L				<0.094	<0.094					40	
Dieldrin	ug/L				0.44	0.43				1	40	M1
Endrin	ug/L				0.043	0.043				0	40	M1
gamma-BHC (Lindane)	ug/L				0.092	0.091				1	40	M1
Heptachlor	ug/L				0.18	0.16				9	40	M1
Heptachlor epoxide	ug/L				0.098	0.097				2	40	M1
Hexachlorobenzene	ug/L				0.64	0.60				8	40	M1
Hexachlorocyclopentadiene	ug/L				0.80	0.69				15	40	
Methoxychlor	ug/L				0.52	0.52				1	40	
Metolachlor	ug/L				0.46	0.46				1	40	M1
Propachlor	ug/L				0.52	0.51				2	40	M1
Simazine	ug/L				1.1	1.2				8	40	
Toxaphene	ug/L				<1.2	<1.2					40	
Decachlorobiphenyl (S)	%						46	46	70-130		40	S0

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QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324057

QC Batch: 382064
QC Batch Method: EPA 515.3
Analysis Method: EPA 515.3
Analysis Description: 5153 GCS Herbicides
Associated Lab Samples: 35324057001

METHOD BLANK: 2073155
Matrix: Water
Associated Lab Samples: 35324057001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4,5-TP (Silvex)	ug/L	<0.16	0.20	0.16	07/22/17 00:29	
2,4-D	ug/L	<0.081	0.10	0.081	07/22/17 00:29	
Dalapon	ug/L	<0.89	1.0	0.89	07/22/17 00:29	
Dicamba	ug/L	<0.067	0.10	0.067	07/22/17 00:29	
Dinoseb	ug/L	<0.16	0.20	0.16	07/22/17 00:29	
Pentachlorophenol	ug/L	<0.030	0.040	0.030	07/22/17 00:29	
Picloram	ug/L	<0.094	0.10	0.094	07/22/17 00:29	
2,4-DCAA (S)	%	88	70-130		07/22/17 00:29	

LABORATORY CONTROL SAMPLE: 2073156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	ug/L	1	1.0	103	70-130	
2,4-D	ug/L	.5	0.39	78	70-130	
Dalapon	ug/L	5	4.5	90	70-130	
Dicamba	ug/L	.5	0.66	132	70-130	L1
Dinoseb	ug/L	1	1.1	114	70-130	
Pentachlorophenol	ug/L	.2	0.20	98	70-130	
Picloram	ug/L	.5	0.50	99	70-130	
2,4-DCAA (S)	%			93	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073478 2073479

Parameter	Units	92347613003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	ND	1	1	1.1	1.1	108	111	70-130	3	40	
2,4-D	ug/L	ND	.5	.5	0.42	0.47	84	94	70-130	11	40	
Dalapon	ug/L	ND	5	5	5.7	6.0	115	120	70-130	5	40	
Dicamba	ug/L	ND	.5	.5	0.58	0.63	117	126	70-130	7	40	
Dinoseb	ug/L	ND	1	1	1.1	1.1	105	113	70-130	7	40	
Pentachlorophenol	ug/L	ND	.2	.2	0.18	0.19	91	95	70-130	4	40	
Picloram	ug/L	ND	.5	.5	0.65	0.70	130	140	70-130	7	40	M1
2,4-DCAA (S)	%						98	99	70-130			

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QUALITY CONTROL DATA

Project:	LBG,Inc 42001269
Pace Project No.:	35324057

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073480 2073481

Parameter	Units	35323949005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	ug/L	<0.16	1	1	1.1	1.1	108	110	70-130	1	40	
2,4-D	ug/L	<0.081	.5	.5	0.40	0.41	79	82	70-130	3	40	
Dalapon	ug/L	<0.89	5	5	4.7	4.8	94	95	70-130	1	40	
Dicamba	ug/L	<0.067	.5	.5	0.51	0.63	103	127	70-130	21	40	
Dinoseb	ug/L	<0.16	1	1	1.1	1.1	110	111	70-130	1	40	
Pentachlorophenol	ug/L	<0.030	.2	.2	0.19	0.19	96	97	70-130	1	40	
Picloram	ug/L	<0.094	.5	.5	0.55	0.57	110	115	70-130	5	40	
2,4-DCAA (S)	%						95	93	70-130			

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QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324057

QC Batch: 382603
QC Batch Method: EPA 525.2
Analysis Method: EPA 525.2
Analysis Description: 525.2 Base Neutral Extractables
Associated Lab Samples: 35324057001

METHOD BLANK: 2076402
Matrix: Water
Associated Lab Samples: 35324057001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzo(a)pyrene	ug/L	<0.013	0.10	0.013	07/25/17 15:37	
bis(2-Ethylhexyl)adipate	ug/L	<0.38	1.6	0.38	07/25/17 15:37	
bis(2-Ethylhexyl)phthalate	ug/L	<0.50	2.0	0.50	07/25/17 15:37	
Metribuzin	ug/L	<0.15	0.30	0.15	07/25/17 15:37	
1,3-Dimethyl-2-nitrobenzene(S)	%	85	70-130		07/25/17 15:37	
Perylene-d12 (S)	%	109	70-130		07/25/17 15:37	
Triphenylphosphate (S)	%	85	70-130		07/25/17 15:37	

LABORATORY CONTROL SAMPLE: 2076403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzo(a)pyrene	ug/L	.4	0.30	76	70-130	
bis(2-Ethylhexyl)adipate	ug/L	6.4	4.9	77	70-130	
bis(2-Ethylhexyl)phthalate	ug/L	8	6.8	85	70-130	
Metribuzin	ug/L	1.2	1.0	83	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			101	70-130	
Perylene-d12 (S)	%			94	70-130	
Triphenylphosphate (S)	%			86	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2077203 2077204

Parameter	Units	35323929005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzo(a)pyrene	ug/L	<0.013	.8	.8	0.66	0.67	83	84	70-130	1	40	
bis(2-Ethylhexyl)adipate	ug/L	<0.37	12.8	12.8	9.7	10.4	76	81	70-130	6	40	
bis(2-Ethylhexyl)phthalate	ug/L	<0.49	16	16	12.6	13.7	79	86	70-130	9	40	
Metribuzin	ug/L	<0.15	2.4	2.4	1.7	1.7	71	72	70-130	2	40	
1,3-Dimethyl-2-nitrobenzene(S)	%						100	99	70-130			
Perylene-d12 (S)	%						88	93	70-130			
Triphenylphosphate (S)	%						80	87	70-130			

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QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324057

QC Batch: 381974
QC Batch Method: EPA 548.1
Analysis Method: EPA 548.1
Analysis Description: 548 GCS Endothall
Associated Lab Samples: 35324057001

METHOD BLANK: 2072291
Matrix: Water
Associated Lab Samples: 35324057001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Endothall	ug/L	<4.3	9.0	4.3	07/24/17 19:29	

LABORATORY CONTROL SAMPLE: 2072292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endothall	ug/L	50	39.6	79	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2072347 2072348

Parameter	Units	35324386001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	4.3U	50	50	45.0	44.4	90	89	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2072358 2072359

Parameter	Units	35324386002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endothall	ug/L	4.3U	50	50	34.3	41.0	69	82	80-120	18	30	M0

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QUALITY CONTROL DATA

Project: LBG,Inc 42001269
Pace Project No.: 35324057

QC Batch: 381794
QC Batch Method: EPA 549.2
Analysis Method: EPA 549.2
Analysis Description: 549 HPLC Paraquat Diquat
Associated Lab Samples: 35324057001

METHOD BLANK: 2071478
Matrix: Water
Associated Lab Samples: 35324057001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diquat	ug/L	<0.30	0.40	0.30	07/20/17 00:32	

LABORATORY CONTROL SAMPLE: 2071479

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diquat	ug/L	2	1.6	82	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2071882 2071883

Parameter	Units	35324366001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	0.30U	2	2	1.7	1.7	84	84	70-130	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2071884 2071885

Parameter	Units	35324454001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diquat	ug/L	0.00030U mg/L	2	2	0.60	0.84	30	42	70-130	35	30	M1,R1

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QUALIFIERS

Project:	LBG,Inc 42001269
Pace Project No.:	35324057

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
L5	LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LBG,Inc 42001269
Pace Project No.: 35324057

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35324057001	**C-23**	EPA 504.1	381399	EPA 504.1	381607
35324057001	**C-23**	EPA 505	32255	EPA 505	32334
35324057001	**C-23**	EPA 508.1	382602	EPA 508.1	383798
35324057001	**C-23**	EPA 515.3	382064	EPA 515.3	382572
35324057001	**C-23**	EPA 531.1	381535		
35324057001	**C-23**	EPA 547	382091		
35324057001	**C-23**	EPA 549.2	381794	EPA 549.2	382025
35324057001	**C-23**	EPA 525.2	382603	EPA 525.2	382996
35324057001	**C-23**	EPA 548.1	381974	EPA 548.1	382933

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

WO# : 35324057
35324057

Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)

ebra

Carrier Tracking No(s):

COC No: 420-9126.1

Client Contact: Shipping/Receiving

Phone:

E-Mail: dbayer@envirotestlaboratories.com

Page: Page 1 of 1

Company: Pace Analytical Ormond Beach

STL Job #: 420-123595-5

Address: 8 East Tower Circle, ,

City: Ormond Beach

State, Zip: FL, 32174

Phone: 111-222-3333(Tel)

Email:

Project Name: LBG, Inc.

Site:

Due Date Requested: 7/25/2017

TAT Requested (days): Std TAT 7/13/17 03

PO #:

WO #:

Project #: 42001269

SSOW#:

Analysis Requested

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ 515 Chlorinated Acids	SUBCONTRACT/ 504 EPA 504.1 EDB/DBCP	SUBCONTRACT/ 531.1 Carbamate Pesticides in DW	SUBCONTRACT/ 525.2 Semivolatile Organics	SUBCONTRACT/ 508	SUBCONTRACT/ 547	SUBCONTRACT/ 548	SUBCONTRACT/ 549	SUBCONTRACT/ Dioxin	Total Number of containers	Special Instructions/Note:
				Preservation Code:													
C - 23 (420-123595-5)	7/13/17	8:00		Water			X	X	X	X	X	X	X	X	X	13	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ________ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time: 7/13/17 1440	Company ETL	Received by: TDH Pace	Date/Time: 7/14/17 1110	Company TB86 10.4
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: February 6, 2017
	Document No.: F-FL-C-007 rev. 11	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # WO#: 35324057

Project Manager: PM: VEG Due Date: 07/28/17

Client: CLIENT: EVNTES

Date and Initials of person:
Examining contents:
Label: NA
Deliver:
pH:

Thermometer Used: T286 Date: 7/14/17 Time: 1110 Initials: r

Cooler #1 Temp.°C 9.6 **(Visual)** +0.1 **(Correction Factor)** 9.7 **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #2 Temp.°C 10.3 **(Visual)** +0.1 **(Correction Factor)** 10.4 **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C 9.4 **(Visual)** +0.1 **(Correction Factor)** 9.5 **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C____ **(Visual)** ____ **(Correction Factor)** ____ **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C____ **(Visual)** ____ **(Correction Factor)** ____ **(Actual)** ☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C____ **(Visual)** ____ **(Correction Factor)** ____ **(Actual)** ☐ Samples on ice, cooling process has begun

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☑ Standard Overnight ☐ Ground ☐ Other____

Billing: ☑ Recipient ☐ Sender ☐ Third Party ☐ Unknown

Tracking # 7796 2610 4340/7796 2609 3485/7796 2608 5178

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☐ No **Ice:** [✓ Wet] Blue None

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other____

Samples shorted to lab (If Yes, complete) Shorted Date:____ Shorted Time:____ Qty:____

		Comments:
Chain of Custody Present	☑ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☑ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☑ No ☐ N/A	
Sufficient Volume	☑ Yes ☐ No ☐ N/A	
Correct Containers Used	☑ Yes ☐ No ☐ N/A	
Containers Intact	☑ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☑ Yes ☐ No ☐ N/A	Preservation Information: Preservative:____ Lot #/Trace #:____ Date:____ Time:____ Initials:____
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☑ Yes ☐ No ☐ N/A	
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☑ N/A	
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	

Client Notification/ Resolution:

Person Contacted:____ Date/Time:____

Comments/ Resolution (use back for additional comments):

okay to run OOT per PM

Project Manager Review:____ Date:____

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Jeff Baylor
PASI Florida
8 East Tower Circle
Ormond Beach FL 32174

REPORT OF LABORATORY ANALYSIS FOR 2,3,7,8-TCDD

Report Summary:

This report contains results of one drinking water sample analyzed to determine 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613 by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

Report Prepared Date:

July 28, 2017

Report Information:

Pace Project #: 10396096
Sample Receipt Date: 07/18/2017
Client Project #: 35324057
Client Sub PO #: N/A
State Cert #: 11647

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 Drinking Water Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Sarah Platzer, your Pace Project Manager.

This report has been reviewed by:

Sarah Platzer
July 28, 2017
Sarah Platzer, Project Manager
612-607-6451
(612) 607-6444 (fax)
sarah.platzer@pacelabs.com

NELAP ACCREDITED TNI LABORATORY

Report of Laboratory Analysis

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Montana	CERT0092
Alabama	40770	Nebraska	NE-OS-18-06
Alaska	MN00064	Nevada	MN00064
Alaska	UST-078	New Jersey (NE	MN002
Arizona	AZ0014	New York (NEL	11647
Arkansas	88-0680	New hampshire	2081
CNMI Saipan	MP0003	North Carolina	27700
California	MN00064	North Carolina	530
Colorado	MN00064	North Dakota	R-036
Connecticut	PH-0256	Ohio	41244
EPA Region 8	8TMS-L	Ohio VAP	CL101
Florida (NELAP	E87605	Oklahoma	9507
Georgia (EDP)	959	Oregon (ELAP)	MN200001
Guam EPA	959	Oregon (OREL	MN300001
Hawaii	MN00064	Pennsylvania	68-00563
Idaho	MN00064	Puerto Rico	MN00064
Illinois	200011	South Carolina	74003001
Indiana	C-MN-01	Tennessee	TN02818
Iowa	368	Texas	T104704192
Kansas	E-10167	Utah (NELAP)	MN00064
Kentucky	90062	Virginia	460163
Louisiana	03086	Washington	C486
Louisiana	MN00064	West Virginia #	9952C
Maryland	322	West Virginia D	382
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-L
Mississippi	MN00064		

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

Chain of Custody

10396096

Pace Analytical®
www.pacelabs.com

Report No....10396096_1613DW

Workorder: 35324057 **Workorder Name:** LBG,Inc 42001269 **Owner Received Date:** 7/14/2017 **Results Requested By:** 7/28/2017

Report To	Subcontract To
Bo Garcia Pace Analytical Ormond Beach 8 East Tower Circle Ormond Beach, FL 32174 Phone (386)672-5668	Pace Analytical Minnesota 1700 Elm Street SE Suite 200 Minneapolis, MN 55414 Phone (612)607-1700

						Preserved Containers						Requested Analysis												
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Unpreserved						EPA 1613												LAB USE ONLY
1	C-23	PS	7/13/2017 08:00	35324057001	Drinking	1						X												001
2																								
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1		7/17/17 1700	/PACE	7/18/17 9:50
2				
3				

Comments

Cooler Temperature on Receipt 2.5 °C **Custody Seal** Y or [✓ N] **Received on Ice** [✓ Y] or N **Samples Intact** [✓ Y] or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Page 4 of 6

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 19Dec2016 Page 1 of 2
	Document No.: **F-MN-L-213-rev.20**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace Ormond Beach

Project #: WO#:10396096

10396096

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 7422-5599-7564

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☒ Other: PB **Temp Blank?** ☐ Yes ☒ No

Thermometer Used: ☒ 151401163 ☐ 151401164

Type of Ice: ☐ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.5 **Cooler Temp Corrected (°C):** 2.5 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** True **Date and Initials of Person Examining Contents:** 7/18/17

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	☒ Yes ☐ No	1.
Chain of Custody Filled Out?	☒ Yes ☐ No	2.
Chain of Custody Relinquished?	☒ Yes ☐ No	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No	7.
Sufficient Volume?	☒ Yes ☐ No	8.
Correct Containers Used? -Pace Containers Used?	☒ Yes ☐ No ☒ Yes ☐ No	9.
Containers Intact?	☒ Yes ☐ No	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes ☐ No ☒ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes ☐ No	12.
All containers needing acid/base preservation have been checked?	☐ Yes ☐ No ☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH Positive for Res. Chlorine? Y N Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	☒ Yes ☐ No ☐ N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes ☐ No ☒ N/A	14.
Trip Blank Present? Trip Blank Custody Seals Present? Pace Trip Blank Lot # (if purchased):	☐ Yes ☐ No ☒ N/A ☐ Yes ☐ No ☒ N/A	15.

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: **Date:** 7/19/2017

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical™

Pace Analytical Services, LLC.
1700 Elm Street - Suite 200
Minneapolis, MN, 55414

Tel: 612-607-1700
Fax: 612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B

Sample ID...........C-23
Client................... PASI Florida
Lab Sample ID..... 35324057001

Date Collected.....07/13/2017
Date Received......07/18/2017
Date Extracted.....07/25/2017

	Sample C-23	**Method Blank**	**Lab Spike**	**Lab Spike Dup**
[2,3,7,8-TCDD]	**ND**	ND	--	--
EDL	4.7 pg/L	3.1 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	102%	118%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			14.4%	
IS Recovery	**55%**	65%	68%	71%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**77%**	82%	74%	90%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	Y170727B_31	Y170727B_14	Y170727B_12	Y170727B_13
Analysis Date	07/28/2017	07/27/2017	07/27/2017	07/27/2017
Analysis Time	06:49	22:43	21:45	22:14
Analyst	SMT	SMT	SMT	SMT
Volume	1.040L	1.010L	1.048L	1.047L
Dilution	NA	NA	NA	NA
ICAL Date	07/27/2017	07/27/2017	07/27/2017	07/27/2017
CCAL Filename	Y170727B_11	Y170727B_11	Y170727B_11	Y170727B_11

!	= Outside the Control Limits
ND	= Not Detected
EDL	= Estimated Detection Limit
Limits	= Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD	= Relative Percent Difference of Lab Spike Recoveries
IS	= Internal Standard [2,3,7,8-TCDD-$^{13}C_{12}$]
CS	= Cleanup Standard [2,3,7,8-TCDD-$^{37}Cl_4$]

Analyst: Suzanne M. Thorson

Project No.............10396096

MPA SAMPLE RESULTS

WELLS C-6, C-12, C-14, C-16, C-21 AND C-23

ANALYTICAL SERVICES, INC.
Microbiological Testing, Research and Consulting

130 Allen Brook Ln., PO Box 515, Williston, VT 05495 USA
1.800.723.4432 / 802.878.5138 Fax: 802.878.6765
www.analyticalservices.com

8/18/2017

Ron Bayer
EnviroTest Laboratories
315 Fullerton Ave.
Newburgh, NY 12550

Subj.: ASI Report 57773

Dear Ron,

Enclosed please find the results of Microscopic Particulate Analysis (MPA) performed by Analytical Services, Inc. (ASI).

Sample(s) covered in this report were received at ASI on: 7/13/2017

This report contains the following number of pages (total): 14

This report concerns only the samples referenced herein. These results were generated under ASI's quality system, which is in accordance with the NELAC (TNI) standard. Deviations, if any, are noted.

Exceptions: ASI processed,these six (6) samples and performed the Crypto/Giardia analyses; the MPA microscopic examinations were performed by Dr. R. Danielson of IEH-BioVir, an ASI affiliate with extensive MPA experience and expertise.

This report shall not be reproduced, except in full, without ASI's written permission.

Thank you for using ASI for your microbiological testing needs. If you have any questions, please contact us at 800-723-4432.

Sincerely,
ANALYTICAL SERVICES, INC. (ASI)
(for)
Harry D. Christman, Ph.D.
Technical Director

Microscopic Particulate Analysis (MPA)

Sample Information

Client	EnviroTest (LBG)	Volume Sampled (gal)	571.73
Site	Clovewood	Filter Color	Brown
Water Type	Raw/Well	Sediment Volume (mL)	1.4
Client Sample ID	C-6	Analysis Start	7/17/17 9:59
ASI Sample #	57773-01	Analysis End	11-Aug-17

MPA Data (data per 100 gal.)

Vol. Examined at 150x (gal.)	100	Detection Limit at 150X =	1.0
Vol. Examined at 300x (gal.)	NA	Detection Limit at 300X =	NA
Amorphous Debris	No Data	Iron Bacteria	No Data
Vegetative Debris w/ chlorophyll	ND	Crustaceans	ND
Veg. Debris w/o chlorophyll	ND	Crustacean Parts/Eggs	ND
Diatoms w/ chlorophyll (300X)	ND	Water Mites	No Data
Diatoms w/o chlorophyll (300X)	ND	Gastrotrichs	No Data
Other Algae (300X, see below)	ND	Tardigrades	No Data
Rotifers	ND	Nematodes/N. Eggs	ND
Rotifer Eggs	No Data	Invertebrate Eggs	No Data
Spores	No Data	Annelids	No Data
Pollen	ND	Amoeba	ND
Insects/Larvae	ND	Protozoa (300X, non-Crypto/Giardia)	No Data

Cryptosporidium and Giardia Data

Volume Examined (L)	726.5

	RESULTS	
	per Vol. Examined	Per 100L
Cryptosporidium Oocysts:	0	<0.14
Giardia Cysts:	0	<0.14

MPA Risk Rating Score (per EPA Consensus Method)

Numerical Score	0	Risk Rating	Low

Other

Algae Observed	NA
Comments	NA = Not Applicable No Data = Not recorded; not relevant in MPA Risk Rating score. ND = None Detected

Methods: MPA - SOP based on EPA Consensus Method (EPA 910/9-92-029)

Cryptosporidium & Giardia - SOP based on purification, staining & exam procedures in EPA 1623/1623.1

Notes MPA Risk Rating Tables were developed by USEPA Region 10 from limited data; interpret with caution.

MPA Risk Rating Score - if less than 100 gallons was examined, interpret with caution.

Microscopic Particulate Analysis (MPA)

Sample Information

Client	EnviroTest (LBG)	Volume Sampled (gal)	508.83
Site	Clovewood	Filter Color	Black
Water Type	Raw/Well	Sediment Volume (mL)	10
Client Sample ID	C-12	Analysis Start	7/13/17 13:07
ASI Sample #	57773-02	Analysis End	8/11/17

MPA Data (data per 100 gal.)

Vol. Examined at 150x (gal.)	100	Detection Limit at 150X =	1.0
Vol. Examined at 300x (gal.)	NA	Detection Limit at 300X =	NA
Amorphous Debris	No Data	Iron Bacteria	No Data
Vegetative Debris w/ chlorophyll	ND	Crustaceans	ND
Veg. Debris w/o chlorophyll	ND	Crustacean Parts/Eggs	ND
Diatoms w/ chlorophyll (300X)	ND	Water Mites	No Data
Diatoms w/o chlorophyll (300X)	ND	Gastrotrichs	No Data
Other Algae (300X, see below)	ND	Tardigrades	No Data
Rotifers	ND	Nematodes/N. Eggs	ND
Rotifer Eggs	No Data	Invertebrate Eggs	No Data
Spores	No Data	Annelids	No Data
Pollen	ND	Amoeba	ND
Insects/Larvae	ND	Protozoa (300X, non-Crypto/Giardia)	No Data

Cryptosporidium and Giardia Data

Volume Examined (L)	96.3		
		RESULTS	
		per Vol. Examined	Per 100L
	Cryptosporidium Oocysts:	0	<1.04
	Giardia Cysts:	0	<1.04

MPA Risk Rating Score (per EPA Consensus Method)

Numerical Score	0	Risk Rating	Low

Other

Algae Observed	NA
Comments	NA = Not Applicable No Data = Not recorded; not relevant in MPA Risk Rating score. ND = None Detected

Methods: MPA - SOP based on EPA Consensus Method (EPA 910/9-92-029)

Cryptosporidium & Giardia - SOP based on purification, staining & exam procedures in EPA 1623/1623.1

Notes MPA Risk Rating Tables were developed by USEPA Region 10 from limited data; interpret with caution.

MPA Risk Rating Score - if less than 100 gallons was examined, interpret with caution.

P 3/14

Microscopic Particulate Analysis (MPA)

Sample Information

Client	EnviroTest (LBG)	Volume Sampled (gal)	1010.13
Site	Clovewood	Filter Color	Gray
Water Type	Raw/Well	Sediment Volume (mL)	25
Client Sample ID	C-14	Analysis Start	7/13/17 13:14
ASI Sample #	57773-03	Analysis End	8/11/17

MPA Data (data per 100 gal.)

Vol. Examined at 150x (gal.)	100	Detection Limit at 150X =	1.0
Vol. Examined at 300x (gal.)	NA	Detection Limit at 300X =	NA
Amorphous Debris	No Data	Iron Bacteria	No Data
Vegetative Debris w/ chlorophyll	ND	Crustaceans	ND
Veg. Debris w/o chlorophyll	ND	Crustacean Parts/Eggs	ND
Diatoms w/ chlorophyll (300X)	ND	Water Mites	No Data
Diatoms w/o chlorophyll (300X)	ND	Gastrotrichs	No Data
Other Algae (300X, see below)	ND	Tardigrades	No Data
Rotifers	ND	Nematodes/N. Eggs	ND
Rotifer Eggs	No Data	Invertebrate Eggs	No Data
Spores	No Data	Annelids	No Data
Pollen	ND	Amoeba	ND
Insects/Larvae	ND	Protozoa (300X, non-Crypto/Giardia)	No Data

Cryptosporidium and Giardia Data

Volume Examined (L) 76.5

	RESULTS	
	per Vol. Examined	Per 100L
Cryptosporidium Oocysts:	0	<1.31
Giardia Cysts:	0	<1.31

MPA Risk Rating Score (per EPA Consensus Method)

Numerical Score	0	Risk Rating	Low

Other

Algae Observed	NA
Comments	NA = Not Applicable No Data = Not recorded; not relevant in MPA Risk Rating score. ND = None Detected

Methods: MPA - SOP based on EPA Consensus Method (EPA 910/9-92-029)

Cryptosporidium & Giardia - SOP based on purification, staining & exam procedures in EPA 1623/1623.1

Notes MPA Risk Rating Tables were developed by USEPA Region 10 from limited data; interpret with caution.

MPA Risk Rating Score - if less than 100 gallons was examined, interpret with caution.

P 4/14

Microscopic Particulate Analysis (MPA)

Sample Information

Client	EnviroTest (LBG)	Volume Sampled (gal)	869.79
Site	Clovewood	Filter Color	Orange/Tan
Water Type	Raw/Well	Sediment Volume (mL)	0.8
Client Sample ID	C-16	Analysis Start	7/14/17 10:33
ASI Sample #	57773-04	Analysis End	8/11/17

MPA Data (data per 100 gal.)

Vol. Examined at 150x (gal.)	100	Detection Limit at 150X =	1.0
Vol. Examined at 300x (gal.)	NA	Detection Limit at 300X =	NA
Amorphous Debris	No Data	Iron Bacteria	No Data
Vegetative Debris w/ chlorophyll	ND	Crustaceans	ND
Veg. Debris w/o chlorophyll	ND	Crustacean Parts/Eggs	ND
Diatoms w/ chlorophyll (300X)	ND	Water Mites	No Data
Diatoms w/o chlorophyll (300X)	ND	Gastrotrichs	No Data
Other Algae (300X, see below)	ND	Tardigrades	No Data
Rotifers	ND	Nematodes/N. Eggs	ND
Rotifer Eggs	No Data	Invertebrate Eggs	No Data
Spores	No Data	Annelids	No Data
Pollen	ND	Amoeba	ND
Insects/Larvae	ND	Protozoa (300X, non-Crypto/Giardia)	No Data

Cryptosporidium and Giardia Data

Volume Examined (L)	1646.1		
		RESULTS	
		per Vol. Examined	Per 100L
	Cryptosporidium Oocysts:	0	<0.06
	Giardia Cysts:	0	<0.06

MPA Risk Rating Score (per EPA Consensus Method)

Numerical Score	0	Risk Rating	Low

Other

Algae Observed	NA
Comments	NA = Not Applicable No Data = Not recorded; not relevant in MPA Risk Rating score. ND = None Detected

Methods: MPA - SOP based on EPA Consensus Method (EPA 910/9-92-029)

Cryptosporidium & Giardia - SOP based on purification, staining & exam procedures in EPA 1623/1623.1

Notes MPA Risk Rating Tables were developed by USEPA Region 10 from limited data; interpret with caution.

MPA Risk Rating Score - if less than 100 gallons was examined, interpret with caution.

Microscopic Particulate Analysis (MPA)

Sample Information

Client	EnviroTest (LBG)	Volume Sampled (gal)	988.3
Site	Clovewood	Filter Color	Tan
Water Type	Raw/Well	Sediment Volume (mL)	1.5
Client Sample ID	C-21	Analysis Start	7/13/17 11:37
ASI Sample #	57773-05	Analysis End	8/11/17

MPA Data (data per 100 gal.)

Vol. Examined at 150x (gal.)	100	Detection Limit at 150X =	1.0
Vol. Examined at 300x (gal.)	NA	Detection Limit at 300X =	NA
Amorphous Debris	No Data	Iron Bacteria	No Data
Vegetative Debris w/ chlorophyll	ND	Crustaceans	ND
Veg. Debris w/o chlorophyll	ND	Crustacean Parts/Eggs	ND
Diatoms w/ chlorophyll (300X)	ND	Water Mites	No Data
Diatoms w/o chlorophyll (300X)	ND	Gastrotrichs	No Data
Other Algae (300X, see below)	ND	Tardigrades	No Data
Rotifers	ND	Nematodes/N. Eggs	ND
Rotifer Eggs	No Data	Invertebrate Eggs	No Data
Spores	No Data	Annelids	No Data
Pollen	ND	Amoeba	ND
Insects/Larvae	ND	Protozoa (300X, non-Crypto/Giardia)	No Data

Cryptosporidium and Giardia Data

Volume Examined (L)	1246.8		RESULTS	
			per Vol. Examined	Per 100L
		Cryptosporidium Oocysts:	0	<0.08
		Giardia Cysts:	0	<0.08

MPA Risk Rating Score (per EPA Consensus Method)

Numerical Score	0	Risk Rating	Low

Other

Algae Observed	NA
Comments	NA = Not Applicable No Data = Not recorded; not relevant in MPA Risk Rating score. ND = None Detected

Methods: MPA - SOP based on EPA Consensus Method (EPA 910/9-92-029)

Cryptosporidium & Giardia - SOP based on purification, staining & exam procedures in EPA 1623/1623.1

Notes MPA Risk Rating Tables were developed by USEPA Region 10 from limited data; interpret with caution.

MPA Risk Rating Score - if less than 100 gallons was examined, interpret with caution.

Microscopic Particulate Analysis (MPA)

Sample Information

Client	EnviroTest (LBG)	Volume Sampled (gal)	1092.03
Site	Clovewood	Filter Color	Orange/Brown
Water Type	Raw/Well	Sediment Volume (mL)	0.4
Client Sample ID	C-23	Analysis Start	7/13/17 11:25
ASI Sample #	57773-06	Analysis End	8/11/17

MPA Data (data per 100 gal.)

Vol. Examined at 150x (gal.)	100	Detection Limit at 150X =	1.0
Vol. Examined at 300x (gal.)	NA	Detection Limit at 300X =	NA
Amorphous Debris	No Data	Iron Bacteria	No Data
Vegetative Debris w/ chlorophyll	ND	Crustaceans	ND
Veg. Debris w/o chlorophyll	ND	Crustacean Parts/Eggs	ND
Diatoms w/ chlorophyll (300X)	ND	Water Mites	No Data
Diatoms w/o chlorophyll (300X)	ND	Gastrotrichs	No Data
Other Algae (300X, see below)	ND	Tardigrades	No Data
Rotifers	ND	Nematodes/N. Eggs	ND
Rotifer Eggs	No Data	Invertebrate Eggs	No Data
Spores	No Data	Annelids	No Data
Pollen	ND	Amoeba	ND
Insects/Larvae	ND	Protozoa (300X, non-Crypto/Giardia)	No Data

Cryptosporidium and Giardia Data

Volume Examined (L)	0		
		RESULTS	
		per Vol. Examined	Per 100L
	Cryptosporidium Oocysts:	0	<0.05
	Giardia Cysts:	0	<0.05

MPA Risk Rating Score (per EPA Consensus Method)

Numerical Score	0	Risk Rating	Low

Other

Algae Observed: NA

Comments:
NA = Not Applicable
No Data = Not recorded; not relevant in MPA Risk Rating score.
ND = None Detected

Methods: MPA - SOP based on EPA Consensus Method (EPA 910/9-92-029)
Cryptosporidium & Giardia - SOP based on purification, staining & exam procedures in EPA 1623/1623.1

Notes MPA Risk Rating Tables were developed by USEPA Region 10 from limited data; interpret with caution.
MPA Risk Rating Score - if less than 100 gallons was examined, interpret with caution.

P 7/14

Analytical Services, Inc.

123563 - 1

Page 1 of 1

CHAIN OF CUSTODY RECORD

Ship to: Analytical Services, Inc., 130 Allen Brook Lane, Williston, VT 05495, Attn: Sample Management
Phone: 1-800-723-4432 or 802-878-5138 • Fax: 802-878-6765 *Web site: www.analyticalservices.com*

Submitted By: LBG, Inc.
4 Research D. Suite # 204
Shelton, CT 06484

Phone: 203-929-8555 Email: sstieber@lbgct.com

Report To: LBG, Inc.
SAME

Phone: Email:

Project Name	Clovewood
Job Site	Clovewood
P.O. Number	Lake Ann

Invoice To: Simon Gelb
CCP, LLC

Phone: Email:

Sample Identification*	Sample Collection			Sample Matrix check one							Analysis Requested	Lab Use Only
	Date (Start)	Time (Start)	Sampler Initials	Water - Raw	Water - Finished	Waste Water	Biosolids	Soil/Sediment	Other			Temp (°C)
C-6	7/11/17	1550	SS	X							MPA, giardia, crypto	4.4

*Sample ID should match ID written on the sample containers and data sheets. Sample ID will appear on the report for identification.

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	7/12/17 1432	Boyer 4.8°	7/12/17 1432
	7/12/17 1545		7/13/17 10:10

4.2°C
IR#3
on ice

Field Comments:

Lab Comments:

White – To accompany samples • Yellow – Sampler Copy

P8/14

Analytical Services, Inc.

123563-2

Page ___ of ___

CHAIN OF CUSTODY RECORD

Ship to: Analytical Services, Inc., 130 Allen Brook Lane, Williston, VT 05495, Attn: Sample Management
Phone: 1-800-723-4432 or 802-878-5138 • Fax: 802-878-6765 *Web site: www.analyticalservices.com*

Submitted By: Leggette, Brashears & Graham
4 Research Dr. Suite 204
Shelton, CT 06484

Phone: 203-929-8555 Email: sstieber@lbgct.com

Report To: Stacy Stieber
Leggette, Brashears & Graham
4 Research Dr. Suite 204
Shelton, CT 06484

Phone: 203-929-8555 Email: sstieber@lbgct.com

Project Name	Clovewood
Job Site	Clovewood
P.O. Number	Lakann

Invoice To: Simon Gelb
CPC, LLC

Phone: ____ Email: ____

Sample Identification*	Sample Collection			Sample Matrix						Analysis Requested	Lab Use Only
				check one							
	Date (Start)	Time (Start)	Sampler Initials	Water - Raw	Water - Finished	Waste Water	Biosolids	Soil/Sediment	Other		Temp (°C)
C-12	7/11/17	1613	SS	X						MPA, giardia, crypto	8.1

*Sample ID should match ID written on the sample containers and data sheets. Sample ID will appear on the report for identification.

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	7/12/17 1430	4.8°C	7/12/17 1430
	7/12/17 1545		7/13/17 10:10

4.2°C
IR#3
on ice

Field Comments:

Lab Comments:

White – To accompany samples • Yellow – Sampler Copy

Analytical Services, Inc.

123563-3

Page 1 of 1

CHAIN OF CUSTODY RECORD

Ship to: Analytical Services, Inc., 130 Allen Brook Lane, Williston, VT 05495, Attn: Sample Management
Phone: 1-800-723-4432 or 802-878-5138 • Fax: 802-878-6765 *Web site: www.analyticalservices.com*

Submitted By: LBG, Inc
4 Research Dr. Suite #204
Shelton, CT 06484
Stacy Stieber
Phone: 203 929-8555 Email: sstieber@lbgct.com

Report To: LBG, Inc
Stacy Stieber
Phone: Email:

Project Name	Cloverwood
Job Site	Cloverwood
P.O. Number	Lake Ann

Invoice To: Simon Gelb
CCP, LLC
Phone: Email:

Sample Identification*	Sample Collection			Sample Matrix check one						Analysis Requested	Lab Use Only Temp (°C)
	Date (Start)	Time (Start)	Sampler Initials	Water - Raw	Water - Finished	Waste Water	Biosolids	Soil/Sediment	Other		
C-14	7/11/17	1830	SS	X						MPA, giardia, crypto	8.1

*Sample ID should match ID written on the sample containers and data sheets. Sample ID will appear on the report for identification.

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	7/12/17 1430	4.4°C	7/12/17 1430
	7/12/17 1545		7/13/17 10:10

4.2°C
IR #3
on ice

Field Comments:

Lab Comments:

White – To accompany samples • Yellow – Sampler Copy

Analytical Services, Inc.

123563-4

Page ___ of ___

CHAIN OF CUSTODY RECORD

Ship to: Analytical Services, Inc., 130 Allen Brook Lane, Williston, VT 05495, Attn: Sample Management
Phone: 1-800-723-4432 or 802-878-5138 • Fax: 802-878-6765 *Web site: www.analyticalservices.com*

Submitted By: LBG, Inc.
Stacy Stieber
4 Research Dr. Suite 204
Shelton, CT 06484
Phone: 203929-8555 Email: SStieber@Lbg.ct.com

Report To: LBG, Inc.
Same
Phone: ___ Email: ___

Project Name	Clovewood
Job Site	Clovewood
P.O. Number	Lakann

Invoice To: Simon Gelb
CPC, LLC
Phone: ___ Email: ___

Sample Identification*	Sample Collection			Sample Matrix check one						Analysis Requested	Lab Use Only
	Date (Start)	Time (Start)	Sampler Initials	Water - Raw	Water - Finished	Waste Water	Biosolids	Soil/Sediment	Other		Temp (°C)
C-16	7/11/17	1650	SS	X						MPA, giardia, crypto	14.0

*Sample ID should match ID written on the sample containers and data sheets. Sample ID will appear on the report for identification.

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	7/12/17 1435	4.0°	7/12/17 1435
	7/12/17 1545		7/13/17 10:10

4.2°C
IR#3
on ice

Field Comments:

Lab Comments:

P11/14

White – To accompany samples • Yellow – Sampler Copy

Analytical Services, Inc.

123563-5

Page ____ of ____

CHAIN OF CUSTODY RECORD

Ship to: Analytical Services, Inc., 130 Allen Brook Lane, Williston, VT 05495, Attn: Sample Management
Phone: 1-800-723-4432 or 802-878-5138 • Fax: 802-878-6765 *Web site: www.analyticalservices.com*

Submitted By: Leggette, Brashears & Graham
4 Research Dr. Suite 204
Shelton, CT 06484

Phone: 203-929-8555 Email: ssfieber@lbgct.com

Report To: Leggette, Brashears & Graham
Stacy Stieber
4 Research Dr. Suite 204
Shelton, CT 06484

Phone: 2039298555 Email: ssfieber@lbgct.com

Project Name	Clovewood
Job Site	Clovewood
P.O. Number	Lakann

Invoice To: Simon Gelb
CPC, LLC

Phone: ____________ Email: ____________

Sample Identification*	Sample Collection			Sample Matrix (check one)						Analysis Requested	Lab Use Only
	Date (Start)	Time (Start)	Sampler Initials	Water - Raw	Water - Finished	Waste Water	Biosolids	Soil/Sediment	Other		Temp (°C)
C-21	7/11/17	1749	SS	X						MPA, giardia, crypto	5.0

*Sample ID should match ID written on the sample containers and data sheets. Sample ID will appear on the report for identification.

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	7/12/17 1430	4.6°C	7/12/17 1430
	7/12/17 1545		7/13/17 10:10

4.2°C
IR#3
on ice

Field Comments:

Lab Comments:

White – To accompany samples • Yellow – Sampler Copy

Analytical Services, Inc.

123563-6 Page ___ of ___

CHAIN OF CUSTODY RECORD

Ship to: Analytical Services, Inc., 130 Allen Brook Lane, Williston, VT 05495, Attn: Sample Management
Phone: 1-800-723-4432 or 802-878-5138 • Fax: 802-878-6765 *Web site: www.analyticalservices.com*

Submitted By: Leggette, Brashears & Graham
4 Research Dr. Suite 204
Shelton, CT 06484
Phone: 203-929-8555 Email: sstieber@lbgct.com

Report To: Stacy Stieber
Leggette, Brashears & Graham, Inc.
4 Research Dr. Suite 204
Shelton, CT 06484
Phone: 203-929-8555 Email: sstieber@lbgct.com

Project Name	Clovewood
Job Site	Clovewood
P.O. Number	Lakann

Invoice To: Simon Gelb
CPC, LLC
Phone: ___ Email: ___

Sample Identification*	Sample Collection			Sample Matrix (check one)						Analysis Requested	Lab Use Only
	Date (Start)	Time (Start)	Sampler Initials	Water - Raw	Water - Finished	Waste Water	Biosolids	Soil/Sediment	Other		Temp (°C)
C-23	7/11/17	1753	SS	X						MPA, giardia, crypto	11.2

*Sample ID should match ID written on the sample containers and data sheets. Sample ID will appear on the report for identification.

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
	7/12/17 1431	5.0°C	7/12/17 1431
	7/12/17 1545		7/13/17 10:10

4.2°C
IR#3
on ice

Field Comments:

Lab Comments:

White – To accompany samples • Yellow – Sampler Copy

Analytical Services, Inc.

Page ___ of ___

CHAIN OF CUSTODY RECORD

Ship to: Analytical Services, Inc., 130 Allen Brook Lane, Williston, VT 05495, Attn: Sample Management
Phone: 1-800-723-4432 or 802-878-5138 • Fax: 802-878-6765 *Web site: www.analyticalservices.com*

Submitted By: Leggette Brashears & Graham
4 Research Dr. Suite 204
Shelton, CT 06484

Phone: 203-929-8555 Email: sstieber@lbgct.com

Report To: Stacy Stieber
Leggette, Brashears & Graham
4 Research Dr. Suite 204
Shelton, CT 06484

Phone: 203-929-8555 Email: sstieber@lbgct.com

Project Name	Clovewood
Job Site	Clovewood
P.O. Number	Lakann

Invoice To: Mr. Simon Gelb
CPC, LLC

Phone: ___ Email: ___

Sample Identification*	Sample Collection			Sample Matrix check one						Analysis Requested	Lab Use Only Temp (°C)
	Date (Start)	Time (Start)	Sampler Initials	Water - Raw	Water - Finished	Waste Water	Biosolids	Soil/Sediment	Other		
C-7B	7/11/17	1533	SS	X						MPA, giardia, crypto	

Cancelled as per Stacy of LBG 7/12/17 JB

*Sample ID should match ID written on the sample containers and data sheets. Sample ID will appear on the report for identification.

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
		Kurt Englund	7/13/17 10:10

Field Comments:

Lab Comments:
Cancelled per Client request.

White – To accompany samples • Yellow – Sampler Copy

P 14/14

APPENDIX XI

C-12 SEPTEMBER 2017

ANALYTICAL REPORT

Job Number: 420-126731-1

SDG Number: Clovewood

Job Description: LBG, Inc.

For:
Leggette, Brashears & Graham, Inc.
4 Research Drive
Shelton, CT 06464

Attention: Stacy Stieber

Debra Bayer

Debra Bayer
Customer Service Manager
dbayer@envirotestlaboratories.com
09/28/2017

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-126731-1
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Total Coliform and Escherichia coli by Colilert - Presence/Absence	EnvTest	SMWW SM 9223	

Lab References:

EnvTest = EnviroTest

Method References:

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

METHOD / ANALYST SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-126731-1
SDG Number: Clovewood

Method	Analyst	Analyst ID
SMWW SM 9223	O'Driscoll, Kate	KO

SAMPLE SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-126731-1
SDG Number: Clovewood

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
420-126731-1	C-12	Drinking Water	09/20/2017 1320	09/20/2017 1440

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-126731-1
Sdg Number: Clovewood

Biology

Client Sample ID: **C-12**

Lab Sample ID:	420-126731-1	Date Sampled:	09/20/2017 1320
Client Matrix:	Drinking Water	Date Received:	09/20/2017 1440

Analyte	Result	Qual	Units	Dil	Method
Coliform, Total	Absent		CFU/100mL	1.0	SM 9223
Anly Batch:		Date Analyzed	09/20/2017 1658		
Escherichia coli	Absent		CFU/100mL	1.0	SM 9223
Anly Batch:		Date Analyzed	09/20/2017 1658		

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Certification Information

The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Silicon, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide, Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Phenolphthalein Alkalinity, Solids (Fixed), Solids (Percent), Solids (Percent Moisture) **,** Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, Volatile Acids as Acetic Acid, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, Iron Bacteria, Salmonella, & Sulfur Reducing Bacteria.

The following analytes are Not Part of ELAP Potable Water scope of accreditation:

Cobalt (200.7, 200.8), Tin (200.7), Strontium (200.7), Gold (200.7), Platinum (200.7), Palladium (200.7), Titanium (200.7), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), Naphthalene (502.2), o-Xylene (502.2, 524), & Fecal Coliform (9222D).

The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

The following analytes are Not Part of ELAP Non Potable Water scope of accreditation:

Dissolved Organic Carbon (5310C), Mecoprop (8151A), & MCPA (8151A).

Definitions and Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points.

EnviroTest Laboratories, Inc.

CHAIN OF CUSTODY

126731

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

REPORT# (Lab Use Only)

PROJECT REFERENCE Clovewood	PROJECT NO.	PROJECT LOCATION NY
ENVIROTEST PROJECT MANAGER Debra Bayer	P.O. NUMBER	TOWN
CLIENT (SITE) PM LBG, Inc.	CLIENT PHONE 203-929-8555	CLIENT FAX
CLIENT NAME Stacy Stieber		
CLIENT ADDRESS 4 Research Drive, Suite 301, Shelton, CT 06484		
COMPANY CONTRACTING THIS WORK (if applicable): 1		

PAGE 1 of 1

TURNAROUND TIME
NORMAL X
QUICK ____
VERBAL ____

#OF COOLERS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) *INDICATE*	AQUEOUS (WATER)	D (Drinking Water) or W (Waste Water) *Indicate*	SOLID OR SEMISOLID	OTHER *Specify*	Liter Amber Plain	40ml Vials HCL	40ml Sodium Thio.	250ml Amber Sodium Thio.	Liter Amber HCl/Na2SO3	250ml Plastic Nitric Acid	40ml Mon/Sod.Thio(liquid)	Liter Plastic	250ml Plastic Sodium Hyd.	125ml Plastic Sterile	Gallon Plastic Nitric	40ml Vials Unpres	REMARKS
9/20/17	13⁰⁰	C12															1			Total Coliform/Ecoli (P/A)

MATRIX TYPE; REQUIRED ANALYSES; NUMBER OF CONTAINERS SUBMITTED

420-126731-A-1
C-12
Location. Water Sample Coolers
Date Sampled 9/20/2017 420-1108604

RELINQUISHED BY: (SIGNATURE)	COMPANY LBG	DATE 9/20/17	TIME 1400	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
SAMPLED BY: (SIGNATURE)	COMPANY LBG	DATE 9/20/17	TIME 1320	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	COMPANY	DATE	TIME	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME

SUBCONTACT: PACE-SOC,Radio,Radon; MPA - Mohawk

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE 9/20/17	TIME 1440	CUSTODY INTACT YES NO	Cooler Temp. 2.9°C	LABORATORY REMARKS ICE X pH____ CL2____ Reviewed by____

IR3

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-126731-1
SDG Number: Clovewood

Login Number: 126731

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	2.9 C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

C-23 SEPTEMBER 2017

EnviroTest
Laboratories Inc.

ANALYTICAL REPORT

Job Number: 420-126741-1

SDG Number: Clovewood

Job Description: LBG, Inc.

For:
Leggette, Brashears & Graham, Inc.
4 Research Drive
Shelton, CT 06464

Attention: Stacy Stieber

Debra Bayer

Debra Bayer
Customer Service Manager
dbayer@envirotestlaboratories.com
10/03/2017

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554

ACCREDITED IN ACCORDANCE WITH nelac

METHOD SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-126741-1
SDG Number: Clovewood

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Semivolatile Organic Compounds in Drinking Water by GCMS	EnvTest	EPA 525.2	
Determination of Semivolatile Organic Compounds in	EnvTest		EPA 525.2

Lab References:

EnvTest = EnviroTest

Method References:

EPA = US Environmental Protection Agency

METHOD / ANALYST SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-126741-1
SDG Number: Clovewood

Method	Analyst	Analyst ID
EPA 525.2	Labare, Alicia M	AML

SAMPLE SUMMARY

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-126741-1
SDG Number: Clovewood

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
420-126741-1	C-23	Drinking Water	09/20/2017 1340	09/20/2017 1440

Analytical Data

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-126741-1
Sdg Number: Clovewood

Client Sample ID: **C-23**

Lab Sample ID:	420-126741-1	Date Sampled:	09/20/2017 1340
Client Matrix:	Drinking Water	Date Received:	09/20/2017 1440

525.2 Semivolatile Organic Compounds in Drinking Water by GCMS

Method:	525.2	Analysis Batch: 420-114790	Instrument ID:	Hewlett Packard 5890
Preparation:	525.2	Prep Batch: 420-114787	Lab File ID:	A0927007.D
Dilution:	1.0		Initial Weight/Volume:	1040 mL
Date Analyzed:	09/27/2017 2047		Final Weight/Volume:	1 mL
Date Prepared:	09/27/2017 1515		Injection Volume:	

Analyte	Result (ug/L)	Qualifier	MDL
Benzo[a]pyrene	<0.0192		0.0192
Di(2-ethylhexyl)adipate	<0.0577		0.0577
Bis(2-ethylhexyl) phthalate	<0.0481		0.0481
Metribuzin	<0.0865		0.0865
Aldrin	<0.135		0.135

Surrogate	%Rec	Acceptance Limits
2-Nitro-m-xylene	101	70 - 130
Perylene-d12	116	70 - 130
Triphenylphosphate	121	70 - 130

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Certification Information

The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Silicon, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide**,** Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Phenolphthalein Alkalinity, Solids (Fixed), Solids (Percent), Solids (Percent Moisture) **,** Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, Volatile Acids as Acetic Acid, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, Iron Bacteria, Salmonella, & Sulfur Reducing Bacteria.

The following analytes are Not Part of ELAP Potable Water scope of accreditation:

Cobalt (200.7, 200.8), Tin (200.7), Strontium (200.7), Gold (200.7), Platinum (200.7), Palladium (200.7), Titanium (200.7), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), Naphthalene (502.2), o-Xylene (502.2, 524), & Fecal Coliform (9222D).

The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

The following analytes are Not Part of ELAP Non Potable Water scope of accreditation:

Dissolved Organic Carbon (5310C), Mecoprop (8151A), & MCPA (8151A).

Definitions and Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points.

EnviroTest Laboratories, Inc.

CHAIN OF CUSTODY

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

12674)

REPORT# (Lab Use Only)

PROJECT REFERENCE Clovewood	PROJECT NO.	PROJECT LOCATION NY
ENVIROTEST PROJECT MANAGER Debra Bayer	P.O. NUMBER	TOWN
CLIENT (SITE) PM LBG, Inc.	CLIENT PHONE 203-929-8555	CLIENT FAX
CLIENT NAME Stacy Stieber		
CLIENT ADDRESS 4 Research Drive, Suite 301, Shelton, CT 06484		
COMPANY CONTRACTING THIS WORK (if applicable):		1

PAGE 1 of 1

TURNAROUND TIME
NORMAL ✗
QUICK ____
VERBAL ____

#OF COOLERS

MATRIX TYPE / REQUIRED ANALYSES / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) *INDICATE*	AQUEOUS (WATER)	D (Drinking Water) or W (Waste Water) *Indicate*	SOLID OR SEMISOLID	OTHER *Specify*	Liter Amber Plain	40ml Vials HCL	40ml Sodium Thio.	250ml Amber Sodium Thio.	Liter Amber HCl/Na2SO3	250ml Plastic Nitric Acid	40ml Mon/Sod.Thio(liquid)	Liter Plastic	250ml Plastic Sodium Hyd.	125ml Plastic Sterile	Gallon Plastic Nitric	40ml Vials Unpres	REMARKS
1 9/20/17	1340	C-23										2								Benzo(a)pyrene (525.2)

RELINQUISHED BY: (SIGNATURE)	COMPANY	DATE	TIME	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
	LBG	9/20/17	1440				
SAMPLED BY: (SIGNATURE)	COMPANY	DATE	TIME	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME
	LBG	9/20/17	1340				
RELINQUISHED BY: (SIGNATURE)	COMPANY	DATE	TIME	RECEIVED BY: (SIGNATURE)	COMPANY	DATE	TIME

SUBCONTACT: PACE-SOC,Radio,Radon; MPA - Mohawk

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES NO	Cooler Temp.	LABORATORY REMARKS: ICE ✗ pH____ CL2____ Reviewed by:____
	9/20/17	1440		2.9°C	

IR3

420-126741-A-1
C-23

Date Sampled: 9/20/2017

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Leggette, Brashears & Graham, Inc.

Job Number: 420-126741-1
SDG Number: Clovewood

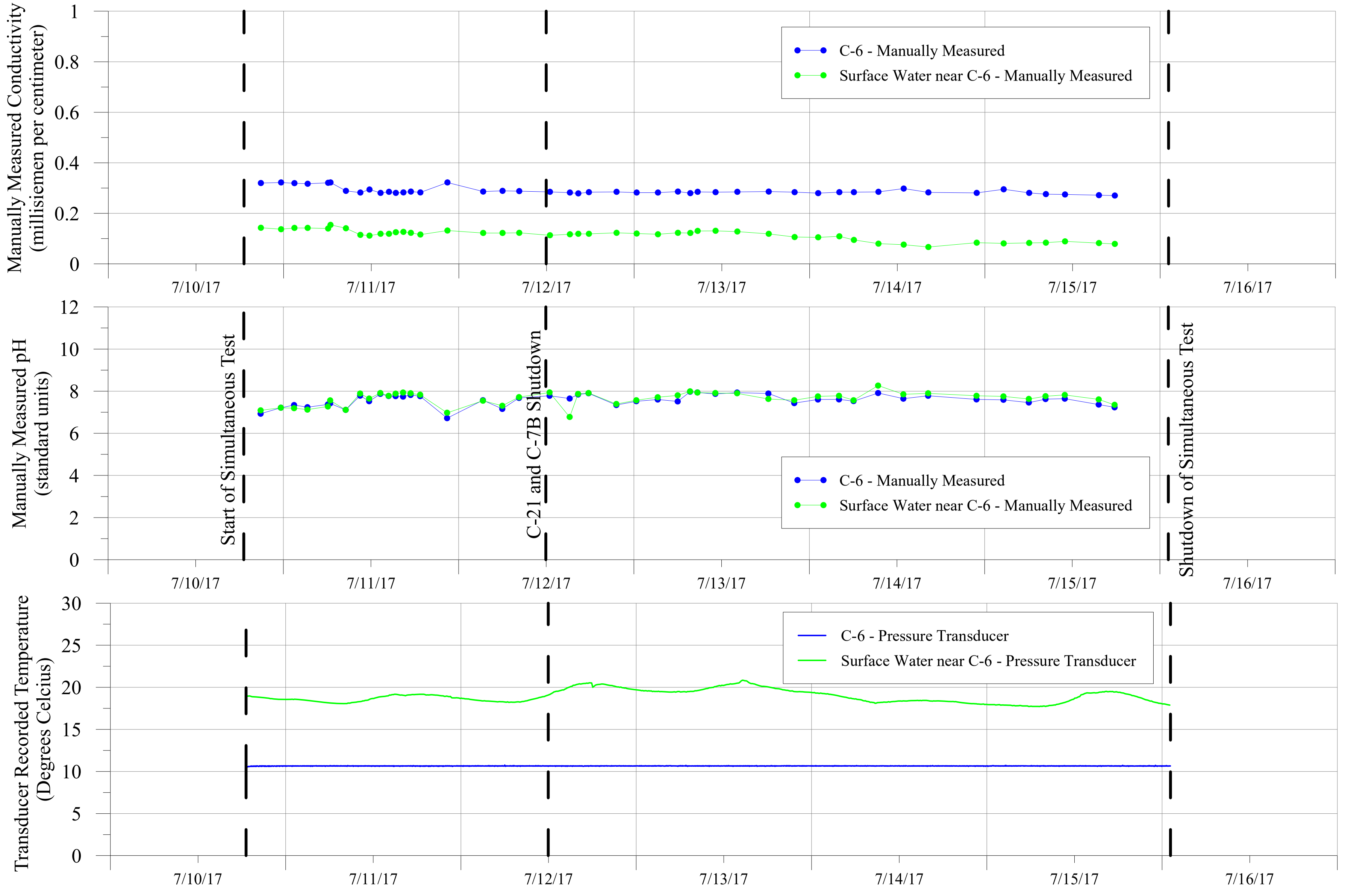
Login Number: 126741

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	2.9 C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

APPENDIX XII

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Graphs of Physical Parameter Measurements Collected from Pumping Well C-6 and Surface Water Near Pumping Well C-6 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23, July 10, 2017 Through July 16, 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Physical Parameters\C-6 Multi PP Simultaneous.grf

LBG Hydrogeologic & Engineering Services, P.C.

CLOVEWOOD PROPERTY
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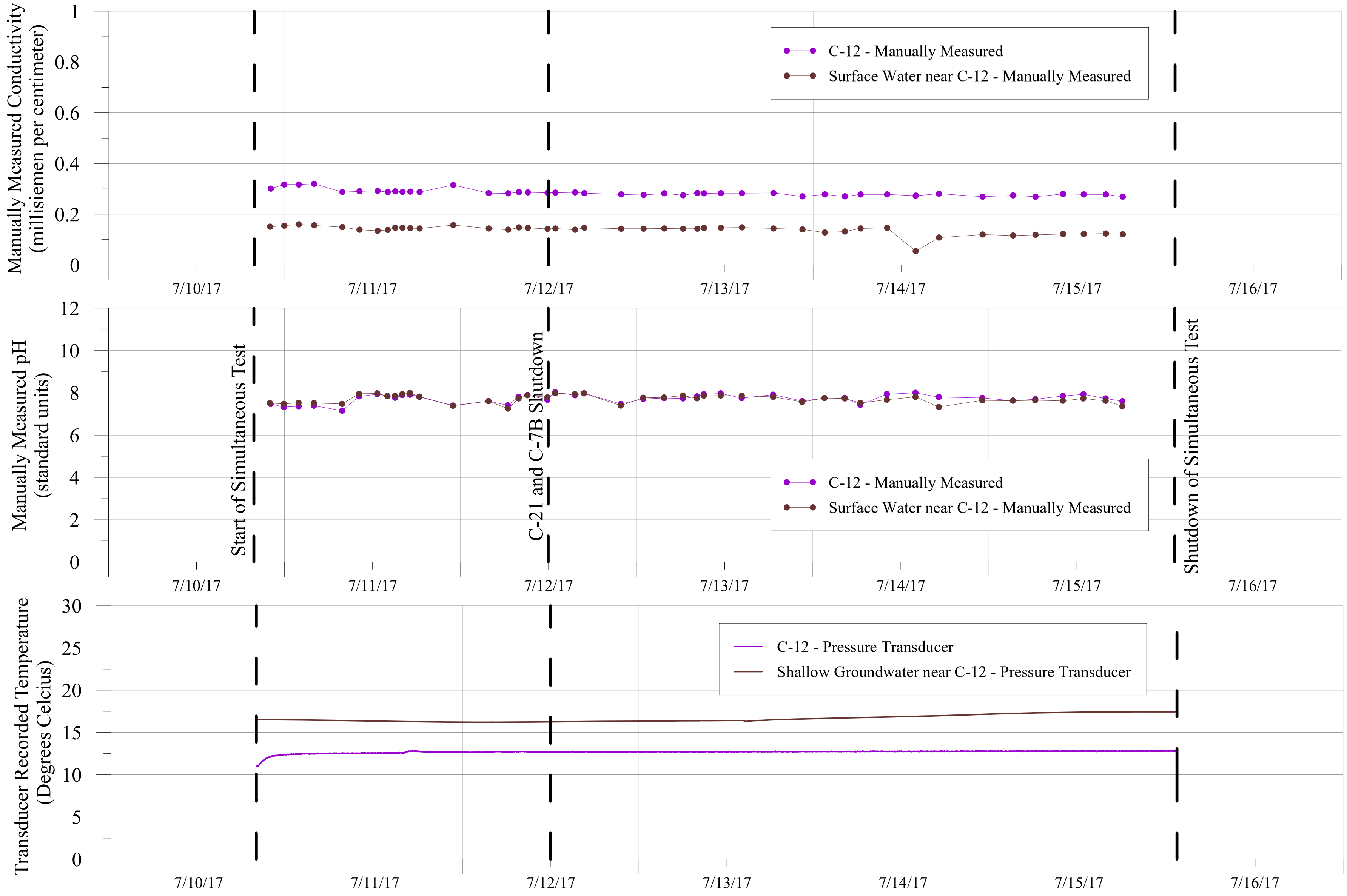
Graphs of Physical Parameter Measurements Collected from Pumping Well C-12 and Surface Water Near Pumping Well C-12 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23, July 10, 2017 Through July 16, 2017



K:\Jobs\Lake Anne\Clovewood\2017\Hydrographs\Physical Parameters\C-12 Multi PP Simultaneous.grf

LBG Hydrogeologic & Engineering Services, P.C.

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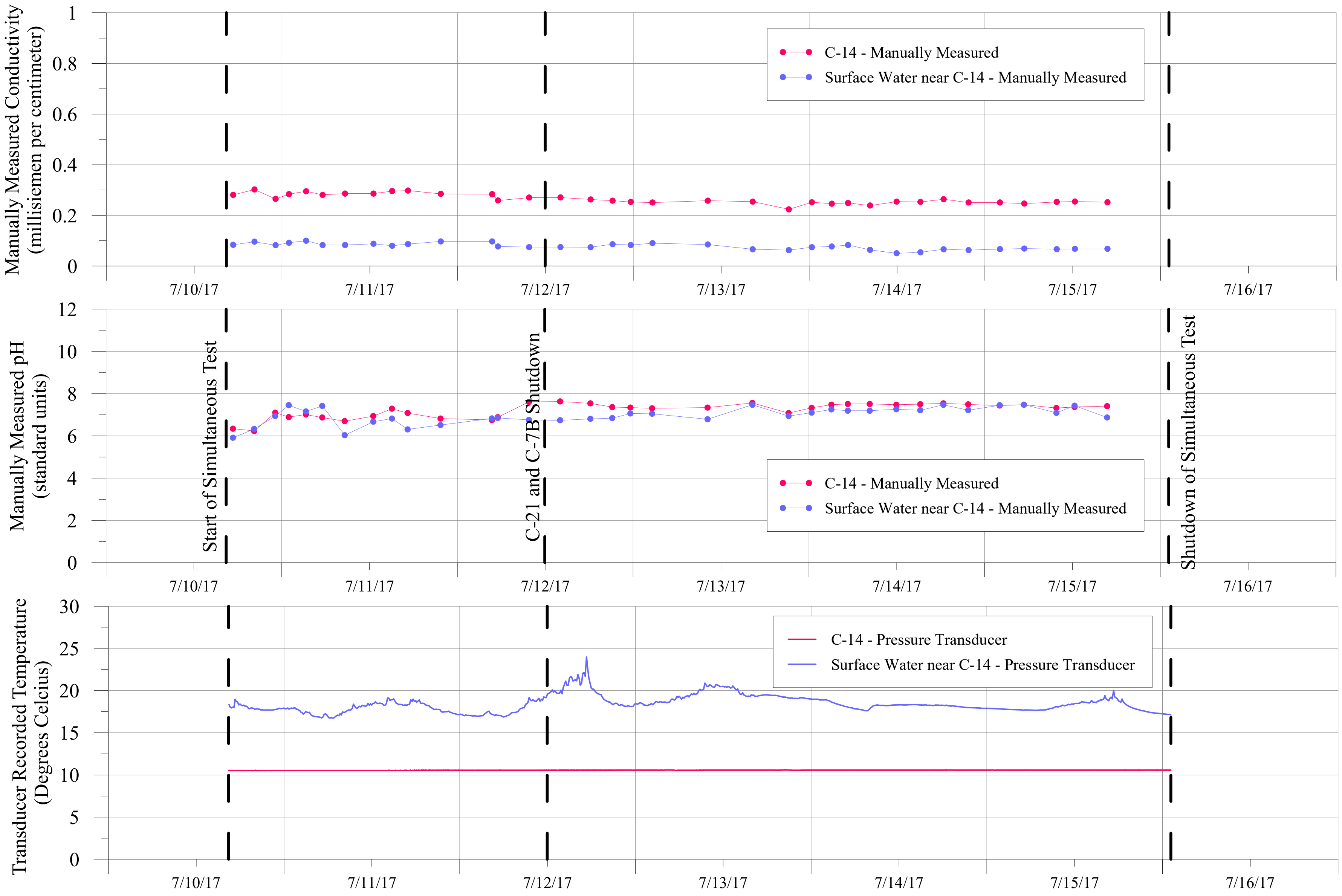
Graphs of Physical Parameter Measurements Collected from Pumping Well C-14 and Surface Water Near Pumping Well C-14 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23, July 10, 2017 Through July 16, 2017



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LBG Hydrogeologic & Engineering Services, P.C.

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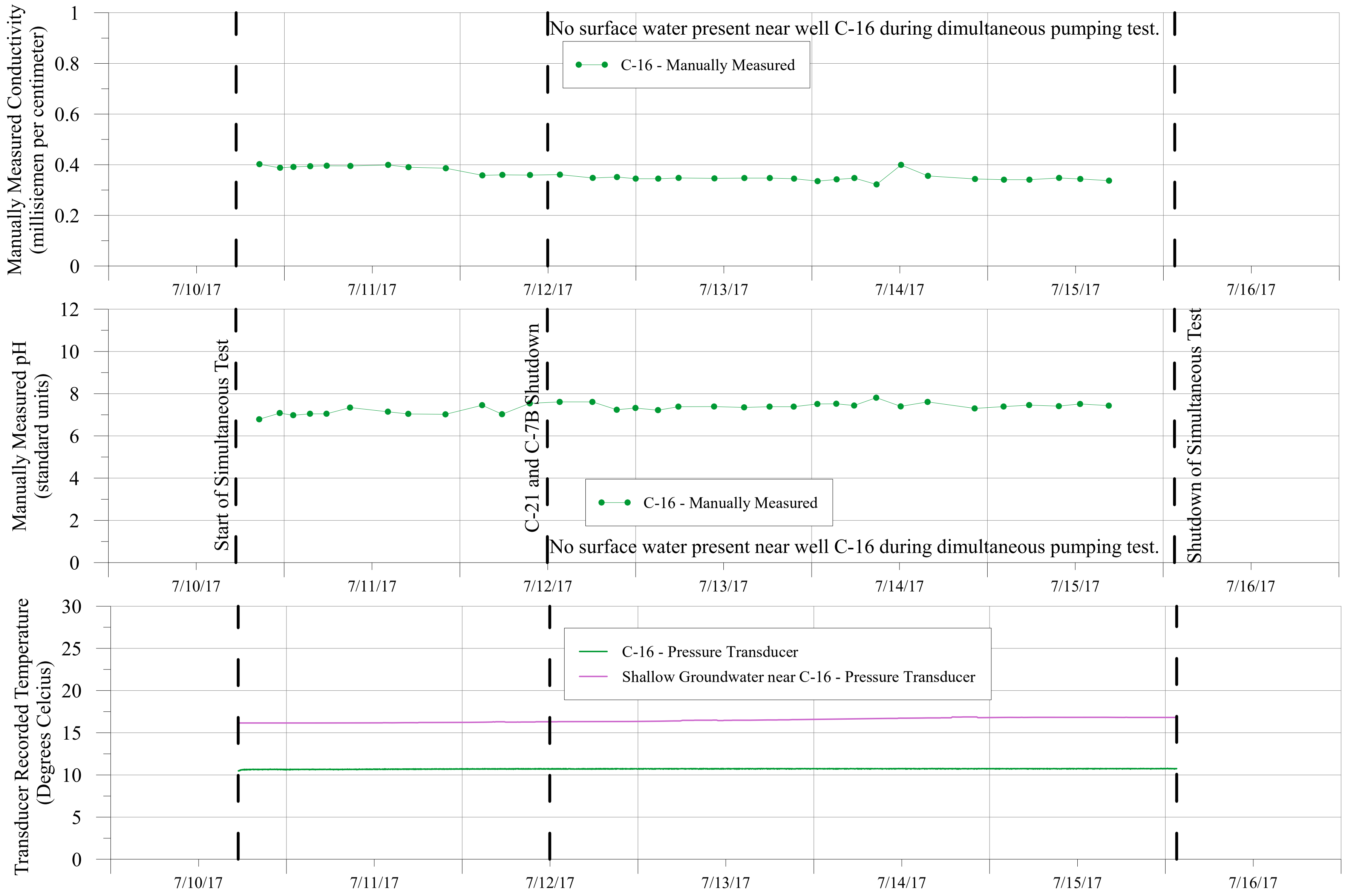
Graphs of Physical Parameter Measurements Collected from Pumping Well C-16 and Surface Water Near Pumping Well C-16 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23, July 10, 2017 Through July 16, 2017



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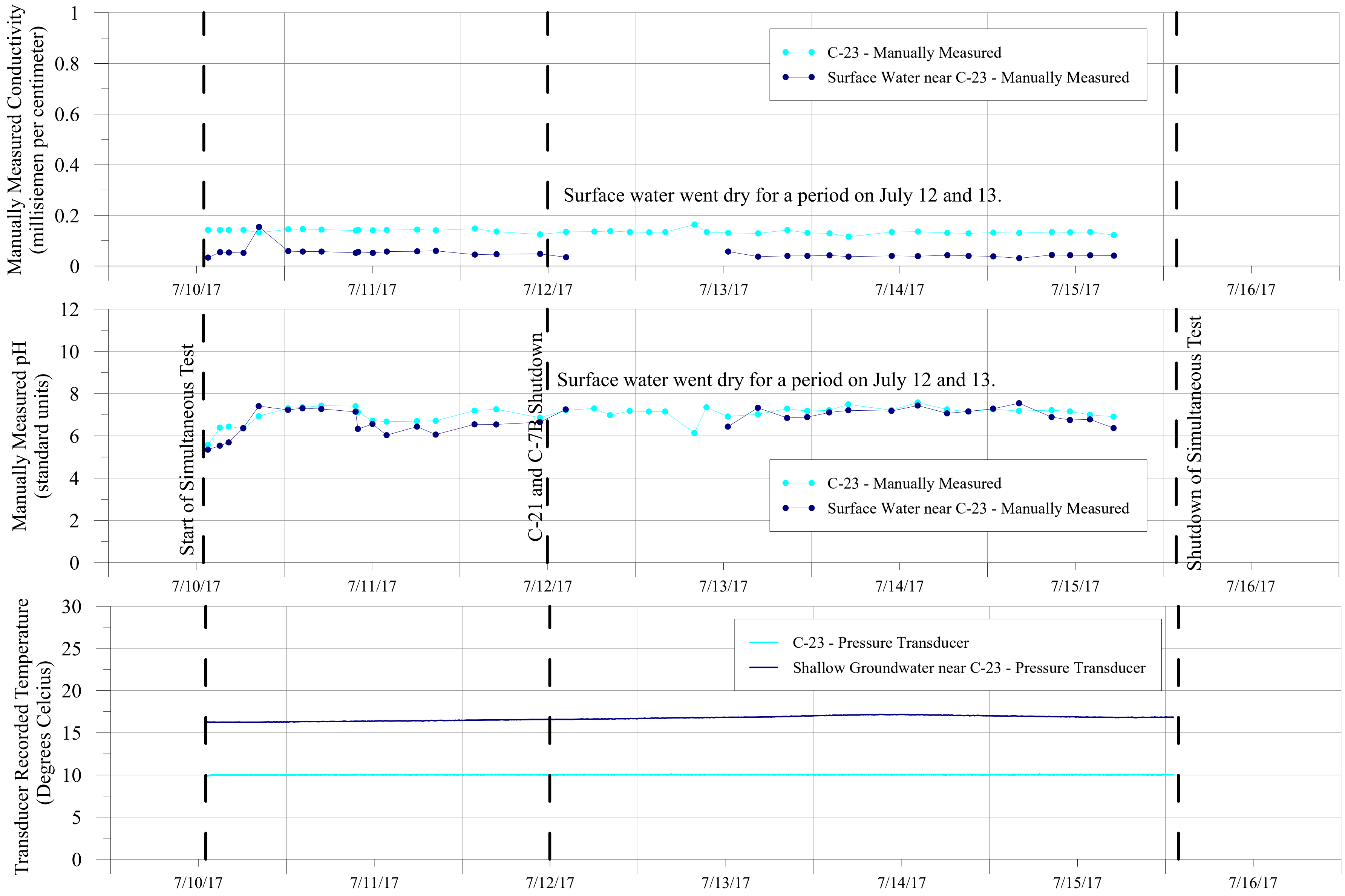
Graphs of Physical Parameter Measurements Collected from Pumping Well C-23 and Surface Water Near Pumping Well C-23 During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23, July 10, 2017 Through July 16, 2017



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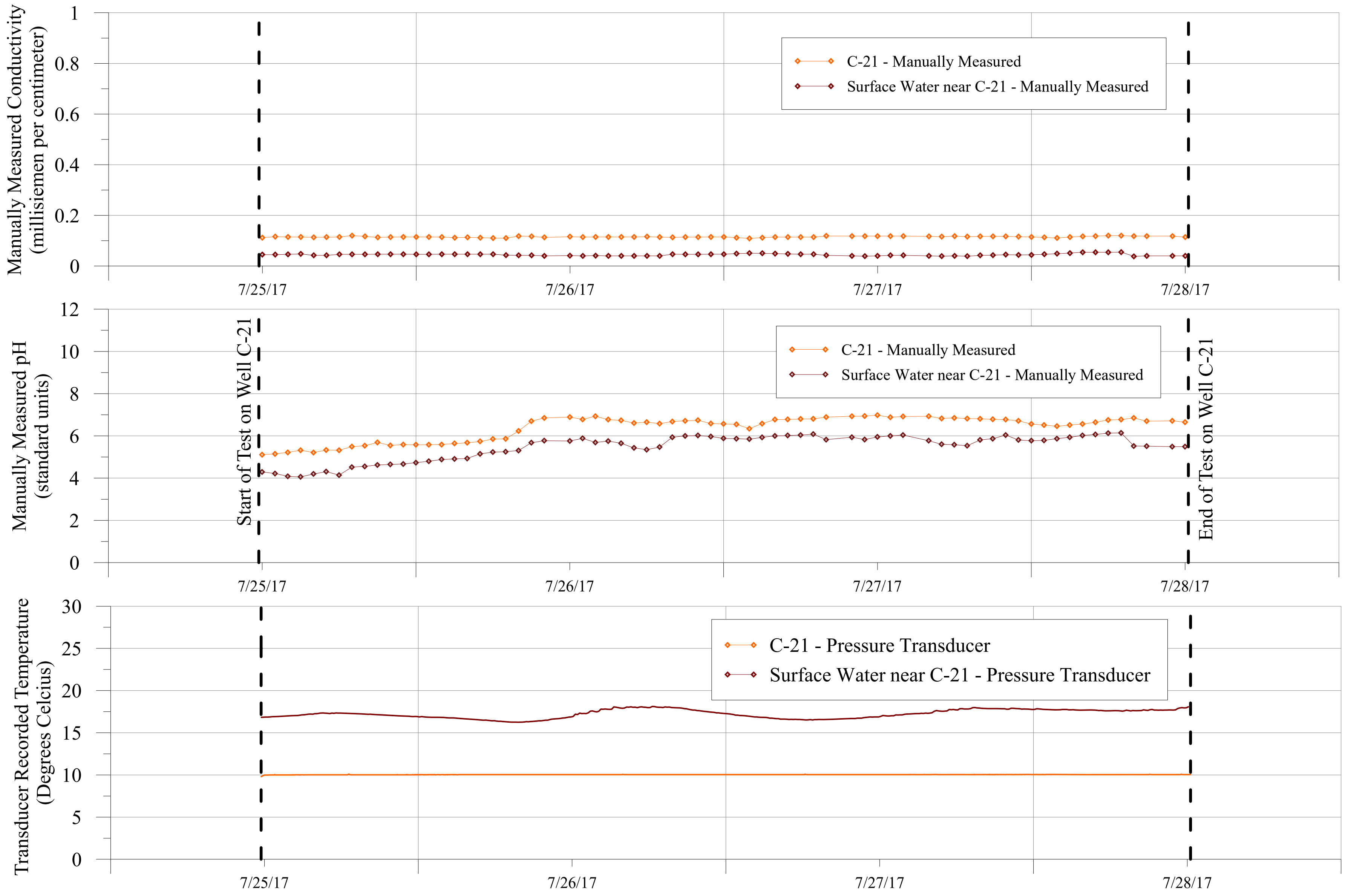
Graphs of Physical Parameter Measurements Collected from Pumping Well C-21 and Surface Water near Pumping Well C-21 During Pumping Test Program Conducted on Well C-21, July 25, 2017 Through July 28, 2017



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Physical Parameter Measurements of pH, Conductivity and Total Dissolved Solids Collected from the Pumping Well Discharge Water and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	pH (S.U.)	Conductivity (mS/cm)	pH (S.U.)	Conductivity (mS/cm)
		C-6 Discharge		Surface Water Near C-6	
7/10/2017	20:53	6.93	0.320	7.09	0.143
7/10/2017	23:40	7.21	0.322	7.21	0.137
7/11/2017	1:29	7.34	0.319	7.19	0.142
7/11/2017	3:18	7.24	0.317	7.12	0.142
7/11/2017	6:06	7.37	0.321	7.27	0.140
7/11/2017	6:25	7.42	0.322	7.56	0.154
7/11/2017	8:32	7.11	0.289	7.11	0.141
7/11/2017	10:30	7.79	0.282	7.89	0.115
7/11/2017	11:45	7.52	0.294	7.65	0.112
7/11/2017	13:16	7.87	0.281	7.91	0.119
7/11/2017	14:25	7.77	0.285	7.78	0.119
7/11/2017	15:22	7.76	0.281	7.88	0.125
7/11/2017	16:24	7.74	0.283	7.93	0.127
7/11/2017	17:26	7.82	0.286	7.90	0.123
7/11/2017	18:44	7.76	0.283	7.83	0.116
7/11/2017	22:25	6.72	0.322	6.97	0.132
7/12/2017	3:20	7.57	0.286	7.55	0.122
7/12/2017	5:58	7.16	0.289	7.31	0.122
7/12/2017	8:16	7.68	0.288	7.72	0.123
7/12/2017	12:27	7.78	0.285	7.94	0.113
7/12/2017	15:12	7.65	0.282	6.77	0.117
7/12/2017	16:21	7.84	0.279	7.87	0.119
7/12/2017	17:48	7.90	0.284	7.91	0.119
7/12/2017	21:35	7.34	0.285	7.39	0.123
7/13/2017	0:20	7.52	0.282	7.57	0.120
7/13/2017	3:16	7.60	0.282	7.71	0.117
7/13/2017	5:59	7.51	0.286	7.80	0.123
7/13/2017	7:41	7.97	0.280	7.99	0.122
7/13/2017	8:41	7.94	0.285	7.93	0.130
7/13/2017	11:08	7.87	0.284	7.91	0.131
7/13/2017	14:08	7.93	0.285	7.90	0.128
7/13/2017	18:25	7.89	0.286	7.63	0.119
7/13/2017	21:57	7.43	0.284	7.57	0.106
7/14/2017	1:11	7.60	0.280	7.75	0.105
7/14/2017	4:05	7.61	0.284	7.78	0.109
7/14/2017	6:05	7.53	0.284	7.57	0.095
7/14/2017	9:26	7.91	0.285	8.27	0.080
7/14/2017	12:54	7.64	0.298	7.85	0.076
7/14/2017	16:16	7.78	0.283	7.90	0.067
7/14/2017	22:53	7.61	0.281	7.78	0.084
7/15/2017	2:35	7.59	0.295	7.75	0.081
7/15/2017	6:04	7.46	0.281	7.63	0.083
7/15/2017	8:22	7.62	0.276	7.76	0.084
7/15/2017	10:59	7.64	0.275	7.82	0.089
7/15/2017	15:38	7.36	0.272	7.61	0.082
7/15/2017	17:48	7.23	0.270	7.35	0.079

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Physical Parameter Measurements of pH, Conductivity and Total Dissolved Solids Collected from the Pumping Well Discharge Water and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	pH (S.U.)	Conductivity (mS/cm)	pH (S.U.)	Conductivity (mS/cm)
		C-12 Discharge		Surface Water Near C-12	
7/10/2017	22:06	7.47	0.301	7.51	0.151
7/10/2017	23:55	7.33	0.317	7.48	0.155
7/11/2017	1:55	7.36	0.317	7.53	0.160
7/11/2017	4:00	7.39	0.320	7.51	0.156
7/11/2017	7:50	7.16	0.287	7.48	0.149
7/11/2017	10:10	7.83	0.290	7.96	0.139
7/11/2017	12:38	7.94	0.292	7.97	0.135
7/11/2017	14:01	7.85	0.287	7.84	0.138
7/11/2017	15:03	7.77	0.290	7.85	0.147
7/11/2017	16:03	7.89	0.288	7.94	0.147
7/11/2017	17:06	7.91	0.289	7.99	0.145
7/11/2017	18:23	7.82	0.287	7.81	0.144
7/11/2017	22:58	7.40	0.315	7.39	0.157
7/12/2017	3:48	7.60	0.283	7.60	0.144
7/12/2017	6:27	7.41	0.282	7.25	0.139
7/12/2017	7:55	7.81	0.287	7.73	0.148
7/12/2017	9:07	7.90	0.286	7.88	0.146
7/12/2017	11:50	7.67	0.285	7.79	0.142
7/12/2017	12:53	8.03	0.285	7.98	0.144
7/12/2017	15:35	7.88	0.286	7.94	0.139
7/12/2017	16:49	7.98	0.283	7.97	0.147
7/12/2017	21:50	7.47	0.278	7.40	0.143
7/13/2017	0:54	7.71	0.276	7.77	0.143
7/13/2017	3:44	7.75	0.282	7.78	0.144
7/13/2017	6:18	7.73	0.275	7.87	0.143
7/13/2017	8:14	7.83	0.284	7.74	0.143
7/13/2017	9:09	7.93	0.282	7.86	0.146
7/13/2017	11:28	7.97	0.283	7.87	0.147
7/13/2017	14:20	7.75	0.283	7.86	0.148
7/13/2017	18:37	7.91	0.284	7.81	0.144
7/13/2017	22:34	7.61	0.270	7.57	0.140
7/14/2017	1:36	7.75	0.278	7.75	0.128
7/14/2017	4:21	7.76	0.270	7.73	0.132
7/14/2017	6:29	7.43	0.278	7.53	0.144
7/14/2017	10:06	7.94	0.278	7.67	0.146
7/14/2017	14:00	8.00	0.273	7.81	0.055
7/14/2017	17:11	7.80	0.281	7.33	0.108
7/14/2017	23:08	7.76	0.269	7.64	0.120
7/15/2017	3:17	7.63	0.274	7.63	0.116
7/15/2017	6:20	7.70	0.269	7.65	0.119
7/15/2017	10:06	7.85	0.280	7.62	0.122
7/15/2017	12:54	7.93	0.278	7.73	0.122
7/15/2017	15:55	7.73	0.278	7.62	0.124
7/15/2017	18:13	7.60	0.269	7.37	0.121

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BLAGGS CLOVE, NEW YORK

Physical Parameter Measurements of pH, Conductivity and Total Dissolved Solids Collected from the Pumping Well Discharge Water and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	pH (S.U.)	Conductivity (mS/cm)	pH (S.U.)	Conductivity (mS/cm)
		C-14 Discharge		**Surface Water Near Well C-14**	
7/10/2017	17:20	6.34	0.281	5.91	0.084
7/10/2017	20:15	6.23	0.302	6.33	0.096
7/10/2017	23:07	7.10	0.265	6.94	0.082
7/11/2017	0:58	6.89	0.284	7.45	0.092
7/11/2017	3:18	7.01	0.295	7.16	0.100
7/11/2017	5:33	6.87	0.281	7.42	0.083
7/11/2017	8:37	6.70	0.286	6.03	0.083
7/11/2017	12:30	6.94	0.286	6.67	0.088
7/11/2017	15:03	7.29	0.296	6.82	0.080
7/11/2017	17:13	7.08	0.298	6.31	0.087
7/11/2017	21:42	6.82	0.285	6.51	0.097
7/12/2017	4:43	6.75	0.284	6.83	0.097
7/12/2017	5:31	6.88	0.259	6.85	0.077
7/12/2017	9:46	7.61	0.270	6.76	0.075
7/12/2017	14:02	7.63	0.271	6.74	0.075
7/12/2017	18:10	7.54	0.263	6.81	0.074
7/12/2017	21:09	7.36	0.258	6.84	0.086
7/12/2017	23:39	7.34	0.253	7.06	0.083
7/13/2017	2:36	7.31	0.251	7.05	0.090
7/13/2017	10:10	7.34	0.258	6.79	0.085
7/13/2017	16:18	7.56	0.254	7.47	0.066
7/13/2017	21:15	7.08	0.224	6.94	0.063
7/14/2017	0:23	7.33	0.252	7.10	0.074
7/14/2017	3:05	7.48	0.246	7.25	0.077
7/14/2017	5:19	7.51	0.249	7.19	0.083
7/14/2017	8:20	7.51	0.239	7.19	0.064
7/14/2017	11:58	7.48	0.254	7.26	0.050
7/14/2017	15:13	7.50	0.253	7.21	0.054
7/14/2017	18:23	7.54	0.264	7.47	0.066
7/14/2017	21:47	7.49	0.251	7.22	0.063
7/15/2017	2:04	7.44	0.251	7.45	0.067
7/15/2017	5:23	7.48	0.247	7.48	0.069
7/15/2017	9:49	7.32	0.253	7.09	0.067
7/15/2017	12:18	7.37	0.255	7.43	0.068
7/15/2017	16:45	7.41	0.252	6.87	0.068

CLOVEWOOD PROPERTY
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BLAGGS CLOVE, NEW YORK

Physical Parameter Measurements of pH, Conductivity and Total Dissolved Solids Collected from the Pumping Well Discharge Water and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	pH (S.U.)	Conductivity (mS/cm)	pH (S.U.)	Conductivity (mS/cm)
		C-16 Discharge		No Surface Present Near Well C-16	
7/10/2017	20:36	6.79	0.402	--	--
7/10/2017	23:24	7.08	0.388	--	--
7/11/2017	1:15	6.98	0.391	--	--
7/11/2017	3:32	7.05	0.394	--	--
7/11/2017	5:47	7.05	0.396	--	--
7/11/2017	9:00	7.34	0.395	--	--
7/11/2017	14:10	7.14	0.399	--	--
7/11/2017	16:57	7.04	0.390	--	--
7/11/2017	22:02	7.02	0.386	--	--
7/12/2017	3:02	7.45	0.358	--	--
7/12/2017	5:45	7.03	0.360	--	--
7/12/2017	9:32	7.54	0.359	--	--
7/12/2017	13:37	7.61	0.361	--	--
7/12/2017	18:05	7.61	0.348	--	--
7/12/2017	21:25	7.24	0.351	--	--
7/12/2017	23:58	7.32	0.345	--	--
7/13/2017	3:02	7.22	0.345	--	--
7/13/2017	5:50	7.38	0.348	--	--
7/13/2017	10:43	7.39	0.346	--	--
7/13/2017	14:48	7.35	0.347	--	--
7/13/2017	18:16	7.38	0.347	--	--
7/13/2017	21:35	7.38	0.345	--	--
7/14/2017	0:48	7.51	0.335	--	--
7/14/2017	3:23	7.52	0.342	--	--
7/14/2017	5:49	7.44	0.347	--	--
7/14/2017	8:50	7.81	0.322	--	--
7/14/2017	12:11	7.40	0.399	--	--
7/14/2017	15:51	7.61	0.356	--	--
7/14/2017	22:17	7.30	0.344	--	--
7/15/2017	2:14	7.39	0.341	--	--
7/15/2017	5:42	7.46	0.341	--	--
7/15/2017	9:46	7.41	0.348	--	--
7/15/2017	12:40	7.51	0.344	--	--
7/15/2017	16:35	7.43	0.337	--	--

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Physical Parameter Measurements of pH, Conductivity and Total Dissolved Solids Collected from the Pumping Well Discharge Water and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	pH (S.U.)	Conductivity (mS/cm)	pH (S.U.)	Conductivity (mS/cm)
		C-21 Discharge		Surface Water Near Well C-21	
7/25/2017	12:00	5.11	0.112	4.29	0.045
7/25/2017	13:00	5.15	0.116	4.22	0.045
7/25/2017	14:00	5.22	0.115	4.09	0.046
7/25/2017	15:00	5.32	0.115	4.06	0.048
7/25/2017	16:00	5.21	0.113	4.20	0.042
7/25/2017	17:00	5.33	0.114	4.31	0.042
7/25/2017	18:00	5.32	0.115	4.14	0.046
7/25/2017	19:00	5.49	0.120	4.52	0.046
7/25/2017	20:00	5.53	0.117	4.55	0.046
7/25/2017	21:00	5.69	0.113	4.62	0.047
7/25/2017	22:00	5.55	0.114	4.65	0.047
7/25/2017	23:00	5.59	0.115	4.67	0.047
7/26/2017	0:00	5.58	0.115	4.73	0.046
7/26/2017	1:00	5.58	0.115	4.80	0.046
7/26/2017	2:00	5.59	0.114	4.88	0.047
7/26/2017	3:00	5.64	0.112	4.91	0.047
7/26/2017	4:00	5.68	0.113	4.93	0.047
7/26/2017	5:00	5.74	0.112	5.15	0.047
7/26/2017	6:00	5.85	0.110	5.23	0.047
7/26/2017	7:00	5.86	0.110	5.25	0.043
7/26/2017	8:00	6.23	0.118	5.31	0.042
7/26/2017	9:00	6.70	0.117	5.68	0.042
7/26/2017	10:00	6.85	0.113	5.77	0.040
7/26/2017	12:00	6.89	0.116	5.76	0.041
7/26/2017	13:00	6.78	0.114	5.88	0.040
7/26/2017	14:00	6.93	0.115	5.69	0.041
7/26/2017	15:00	6.77	0.115	5.75	0.040
7/26/2017	16:00	6.73	0.115	5.65	0.040
7/26/2017	17:00	6.61	0.115	5.43	0.040
7/26/2017	18:00	6.65	0.116	5.35	0.040
7/26/2017	19:00	6.58	0.114	5.47	0.040
7/26/2017	20:00	6.68	0.113	5.94	0.047
7/26/2017	21:00	6.71	0.114	6.00	0.046
7/26/2017	22:00	6.74	0.114	6.02	0.046
7/26/2017	23:00	6.59	0.115	5.97	0.047
7/27/2017	0:00	6.57	0.115	5.88	0.047
7/27/2017	1:00	6.55	0.112	5.87	0.049
7/27/2017	2:00	6.34	0.109	5.85	0.051
7/27/2017	3:00	6.58	0.112	5.93	0.050
7/27/2017	4:00	6.77	0.114	6.00	0.049
7/27/2017	5:00	6.78	0.114	6.02	0.048
7/27/2017	6:00	6.80	0.114	6.04	0.047
7/27/2017	7:00	6.81	0.114	6.08	0.047
7/27/2017	8:00	6.89	0.119	5.82	0.042
7/27/2017	10:00	6.93	0.118	5.94	0.040
7/27/2017	11:00	6.94	0.118	5.83	0.039
7/27/2017	12:00	6.98	0.118	5.95	0.040
7/27/2017	13:00	6.88	0.118	6.00	0.042
7/27/2017	14:00	6.92	0.118	6.04	0.042

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Physical Parameter Measurements of pH, Conductivity and Total Dissolved Solids Collected from the Pumping Well Discharge Water and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	pH (S.U.)	Conductivity (mS/cm)	pH (S.U.)	Conductivity (mS/cm)
		C-21 Discharge (continued)		Surface Water Near Well C-21 (continued)	
7/27/2017	16:00	6.93	0.117	5.77	0.040
7/27/2017	17:00	6.83	0.116	5.60	0.039
7/27/2017	18:00	6.85	0.118	5.58	0.040
7/27/2017	19:00	6.82	0.116	5.53	0.039
7/27/2017	20:00	6.81	0.117	5.81	0.042
7/27/2017	21:00	6.79	0.117	5.87	0.043
7/27/2017	22:00	6.77	0.117	6.04	0.045
7/27/2017	23:00	6.71	0.116	5.81	0.044
7/28/2017	0:00	6.56	0.115	5.77	0.044
7/28/2017	1:00	6.51	0.113	5.79	0.047
7/28/2017	2:00	6.46	0.111	5.87	0.049
7/28/2017	3:00	6.51	0.114	5.94	0.051
7/28/2017	4:00	6.56	0.117	6.02	0.054
7/28/2017	5:00	6.64	0.118	6.07	0.054
7/28/2017	6:00	6.75	0.120	6.13	0.054
7/28/2017	7:00	6.77	0.120	6.14	0.055
7/28/2017	8:00	6.85	0.118	5.52	0.038
7/28/2017	9:00	6.70	0.118	5.51	0.040
7/28/2017	11:00	6.71	0.118	5.49	0.040
7/28/2017	12:00	6.65	0.114	5.49	0.040

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Physical Parameter Measurements of pH, Conductivity and Total Dissolved Solids Collected from the Pumping Well Discharge Water and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	pH (S.U.)	Conductivity (mS/cm)	pH (S.U.)	Conductivity (mS/cm)
		Well C-23		Surface Water Near Well C-23	
7/10/2017	13:35	5.57	0.143	7.23	0.059
7/10/2017	15:13	6.39	0.142	7.31	0.057
7/10/2017	16:26	6.44	0.142	7.27	0.057
7/10/2017	18:25	6.35	0.143	7.14	0.052
7/10/2017	20:32	6.93	0.132	6.33	0.056
7/11/2017	0:32	7.31	0.145	6.56	0.052
7/11/2017	2:30	7.35	0.146	6.03	0.057
7/11/2017	5:04	7.43	0.144	6.44	0.058
7/11/2017	9:45	7.41	0.140	6.06	0.060
7/11/2017	10:05	7.13	0.143	6.55	0.045
7/11/2017	12:04	6.72	0.141	6.54	0.047
7/11/2017	13:59	6.68	0.142	6.65	0.048
7/11/2017	18:08	6.70	0.144	7.25	0.035
7/11/2017	20:41	6.71	0.141	Dry	Dry
7/12/2017	2:00	7.20	0.148	Dry	Dry
7/12/2017	4:58	7.26	0.136	Dry	Dry
7/12/2017	10:55	6.86	0.125	Dry	Dry
7/12/2017	14:27	7.22	0.135	Dry	Dry
7/12/2017	18:20	7.30	0.136	Dry	Dry
7/12/2017	20:30	6.98	0.138	Dry	Dry
7/12/2017	23:10	7.18	0.134	6.44	0.057
7/13/2017	1:49	7.15	0.133	7.33	0.037
7/13/2017	4:00	7.15	0.134	6.85	0.040
7/13/2017	8:00	6.14	0.164	6.89	0.040
7/13/2017	9:40	7.35	0.134	7.11	0.042
7/13/2017	12:35	6.92	0.131	7.21	0.037
7/13/2017	16:40	7.03	0.129	7.18	0.040
7/13/2017	20:40	7.29	0.142	7.44	0.039
7/13/2017	23:25	7.18	0.131	7.07	0.043
7/14/2017	2:25	7.21	0.129	7.16	0.040
7/14/2017	5:02	7.49	0.116	7.29	0.038
7/14/2017	10:55	7.22	0.134	7.55	0.031
7/14/2017	14:29	7.58	0.136	6.89	0.044
7/14/2017	18:30	7.25	0.131	6.75	0.043
7/14/2017	21:24	7.15	0.129	6.78	0.042
7/15/2017	0:47	7.26	0.132	6.37	0.041
7/15/2017	4:19	7.18	0.130	7.23	0.059
7/15/2017	8:46	7.22	0.134	7.31	0.057
7/15/2017	11:17	7.16	0.133	7.27	0.057
7/15/2017	14:00	7.00	0.135	7.14	0.052
7/15/2017	17:15	6.91	0.122	6.33	0.056

S.U.	standard units
mS/cm	millisiemen per centimeter

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Temperature Measurements from the Pumping Wells and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Temperature (degrees Celsius) Well C-6	Temperature (degrees Celsius) Surface Water Near Well C-6	Date	Time	Temperature (degrees Celsius) Well C-12	Temperature (degrees Celsius) Piezometer Shallow Groundwater Near Well C-12[1/]
7/10/2017	19:00	10.58	18.97	7/10/2017	20:00	11.03	16.53
7/10/2017	20:00	10.62	18.85	7/10/2017	21:00	11.84	16.51
7/10/2017	21:00	10.65	18.76	7/10/2017	22:00	12.18	16.50
7/10/2017	22:00	10.64	18.66	7/10/2017	23:00	12.34	16.49
7/10/2017	23:00	10.65	18.57	7/11/2017	0:00	12.40	16.48
7/11/2017	0:00	10.66	18.57	7/11/2017	1:00	12.43	16.47
7/11/2017	1:00	10.65	18.57	7/11/2017	2:00	12.46	16.47
7/11/2017	2:00	10.66	18.53	7/11/2017	3:00	12.47	16.46
7/11/2017	3:00	10.64	18.45	7/11/2017	4:00	12.46	16.45
7/11/2017	4:00	10.64	18.33	7/11/2017	5:00	12.49	16.44
7/11/2017	5:00	10.66	18.23	7/11/2017	6:00	12.53	16.43
7/11/2017	6:00	10.65	18.16	7/11/2017	7:00	12.51	16.42
7/11/2017	7:00	10.66	18.08	7/11/2017	8:00	12.53	16.42
7/11/2017	8:00	10.63	18.07	7/11/2017	9:00	12.53	16.41
7/11/2017	9:00	10.66	18.19	7/11/2017	10:00	12.51	16.39
7/11/2017	10:00	10.63	18.30	7/11/2017	11:00	12.59	16.38
7/11/2017	11:00	10.65	18.48	7/11/2017	12:00	12.56	16.36
7/11/2017	12:00	10.65	18.67	7/11/2017	13:00	12.56	16.35
7/11/2017	13:00	10.66	18.87	7/11/2017	14:00	12.60	16.33
7/11/2017	14:00	10.63	18.99	7/11/2017	15:00	12.57	16.32
7/11/2017	15:00	10.65	19.17	7/11/2017	16:00	12.59	16.30
7/11/2017	16:00	10.63	19.06	7/11/2017	17:00	12.81	16.28
7/11/2017	17:00	10.66	19.11	7/11/2017	18:00	12.77	16.27
7/11/2017	18:00	10.66	19.17	7/11/2017	19:00	12.69	16.25
7/11/2017	19:00	10.64	19.13	7/11/2017	20:00	12.70	16.24
7/11/2017	20:00	10.64	19.11	7/11/2017	21:00	12.70	16.23
7/11/2017	21:00	10.64	19.01	7/11/2017	22:00	12.63	16.23
7/11/2017	22:00	10.67	18.95	7/11/2017	23:00	12.67	16.22
7/11/2017	23:00	10.63	18.74	7/12/2017	0:00	12.64	16.21
7/12/2017	0:00	10.65	18.71	7/12/2017	1:00	12.64	16.21
7/12/2017	1:00	10.65	18.60	7/12/2017	2:00	12.68	16.21
7/12/2017	2:00	10.68	18.47	7/12/2017	3:00	12.67	16.21
7/12/2017	3:00	10.64	18.39	7/12/2017	4:00	12.72	16.22
7/12/2017	4:00	10.67	18.34	7/12/2017	5:00	12.73	16.22
7/12/2017	5:00	10.66	18.27	7/12/2017	6:00	12.69	16.22
7/12/2017	6:00	10.75	18.25	7/12/2017	7:00	12.73	16.23
7/12/2017	7:00	10.66	18.23	7/12/2017	8:00	12.75	16.23
7/12/2017	8:00	10.66	18.26	7/12/2017	9:00	12.73	16.24
7/12/2017	9:00	10.64	18.40	7/12/2017	10:00	12.67	16.25
7/12/2017	10:00	10.63	18.63	7/12/2017	11:00	12.68	16.26
7/12/2017	11:00	10.65	18.85	7/12/2017	12:00	12.66	16.26
7/12/2017	12:00	10.64	19.12	7/12/2017	13:00	12.69	16.27
7/12/2017	13:00	10.67	19.53	7/12/2017	14:00	12.67	16.28
7/12/2017	14:00	10.64	19.69	7/12/2017	15:00	12.69	16.28
7/12/2017	15:00	10.63	20.10	7/12/2017	16:00	12.69	16.29
7/12/2017	16:00	10.65	20.37	7/12/2017	17:00	12.71	16.29
7/12/2017	17:00	10.66	20.46	7/12/2017	18:00	12.67	16.30
7/12/2017	18:00	10.64	20.00	7/12/2017	19:00	12.72	16.31
7/12/2017	19:00	10.65	20.36	7/12/2017	20:00	12.71	16.31
7/12/2017	20:00	10.66	20.30	7/12/2017	21:00	12.72	16.32
7/12/2017	21:00	10.65	20.14	7/12/2017	22:00	12.70	16.32
7/12/2017	22:00	10.66	19.97	7/12/2017	23:00	12.71	16.33

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Temperature Measurements from the Pumping Wells and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Temperature (degrees Celsius) Well C-6	Temperature (degrees Celsius) Surface Water Near Well C-6	Date	Time	Temperature (degrees Celsius) Well C-12	Temperature (degrees Celsius) Piezometer Shallow Groundwater Near Well C-12[1/]
7/12/2017	23:00	10.63	19.82	7/13/2017	0:00	12.71	16.33
7/13/2017	0:00	10.65	19.69	7/13/2017	1:00	12.72	16.34
7/13/2017	1:00	10.67	19.58	7/13/2017	2:00	12.71	16.35
7/13/2017	2:00	10.67	19.56	7/13/2017	3:00	12.72	16.35
7/13/2017	3:00	10.67	19.53	7/13/2017	4:00	12.70	16.36
7/13/2017	4:00	10.66	19.47	7/13/2017	5:00	12.70	16.37
7/13/2017	5:00	10.66	19.44	7/13/2017	6:00	12.71	16.37
7/13/2017	6:00	10.68	19.45	7/13/2017	7:00	12.72	16.38
7/13/2017	7:00	10.64	19.51	7/13/2017	8:00	12.71	16.39
7/13/2017	8:00	10.64	19.59	7/13/2017	9:00	12.72	16.39
7/13/2017	9:00	10.66	19.74	7/13/2017	10:00	12.73	16.40
7/13/2017	10:00	10.66	19.97	7/13/2017	11:00	12.72	16.40
7/13/2017	11:00	10.66	20.14	7/13/2017	12:00	12.72	16.41
7/13/2017	12:00	10.67	20.24	7/13/2017	13:00	12.73	16.41
7/13/2017	13:00	10.64	20.39	7/13/2017	14:00	12.73	16.41
7/13/2017	14:00	10.64	20.52	7/13/2017	15:00	12.75	16.34
7/13/2017	15:00	10.69	20.77	7/13/2017	16:00	12.72	16.40
7/13/2017	16:00	10.68	20.42	7/13/2017	17:00	12.75	16.44
7/13/2017	17:00	10.64	20.15	7/13/2017	18:00	12.72	16.48
7/13/2017	18:00	10.63	20.05	7/13/2017	19:00	12.73	16.51
7/13/2017	19:00	10.62	19.85	7/13/2017	20:00	12.75	16.54
7/13/2017	20:00	10.67	19.70	7/13/2017	21:00	12.72	16.57
7/13/2017	21:00	10.65	19.56	7/13/2017	22:00	12.74	16.59
7/13/2017	22:00	10.67	19.47	7/13/2017	23:00	12.74	16.61
7/13/2017	23:00	10.66	19.44	7/14/2017	0:00	12.76	16.63
7/14/2017	0:00	10.63	19.39	7/14/2017	1:00	12.74	16.66
7/14/2017	1:00	10.65	19.27	7/14/2017	2:00	12.74	16.68
7/14/2017	2:00	10.66	19.21	7/14/2017	3:00	12.74	16.70
7/14/2017	3:00	10.65	19.10	7/14/2017	4:00	12.74	16.72
7/14/2017	4:00	10.65	18.94	7/14/2017	5:00	12.77	16.73
7/14/2017	5:00	10.67	18.74	7/14/2017	6:00	12.75	16.75
7/14/2017	6:00	10.66	18.62	7/14/2017	7:00	12.75	16.77
7/14/2017	7:00	10.66	18.43	7/14/2017	8:00	12.76	16.78
7/14/2017	8:00	10.64	18.22	7/14/2017	9:00	12.78	16.81
7/14/2017	9:00	10.65	18.17	7/14/2017	10:00	12.75	16.83
7/14/2017	10:00	10.64	18.24	7/14/2017	11:00	12.73	16.85
7/14/2017	11:00	10.65	18.31	7/14/2017	12:00	12.73	16.87
7/14/2017	12:00	10.66	18.36	7/14/2017	13:00	12.77	16.89
7/14/2017	13:00	10.67	18.37	7/14/2017	14:00	12.77	16.91
7/14/2017	14:00	10.66	18.42	7/14/2017	15:00	12.77	16.93
7/14/2017	15:00	10.66	18.43	7/14/2017	16:00	12.76	16.96
7/14/2017	16:00	10.65	18.40	7/14/2017	17:00	12.77	16.98
7/14/2017	17:00	10.66	18.39	7/14/2017	18:00	12.77	17.01
7/14/2017	18:00	10.66	18.36	7/14/2017	19:00	12.77	17.03
7/14/2017	19:00	10.66	18.31	7/14/2017	20:00	12.78	17.06
7/14/2017	20:00	10.65	18.23	7/14/2017	21:00	12.78	17.09
7/14/2017	21:00	10.64	18.13	7/14/2017	22:00	12.76	17.12
7/14/2017	22:00	10.65	18.07	7/14/2017	23:00	12.81	17.15
7/14/2017	23:00	10.66	17.99	7/15/2017	0:00	12.81	17.18
7/15/2017	0:00	10.64	17.96	7/15/2017	1:00	12.78	17.20
7/15/2017	1:00	10.66	17.94	7/15/2017	2:00	12.76	17.23
7/15/2017	2:00	10.65	17.89	7/15/2017	3:00	12.77	17.25

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Temperature Measurements from the Pumping Wells and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Temperature (degrees Celsius) Well C-6	Temperature (degrees Celsius) Surface Water Near Well C-6	Date	Time	Temperature (degrees Celsius) Well C-12	Temperature (degrees Celsius) Piezometer Shallow Groundwater Near Well C-12[1/]
7/15/2017	3:00	10.67	17.87	7/15/2017	4:00	12.77	17.27
7/15/2017	4:00	10.66	17.82	7/15/2017	5:00	12.79	17.29
7/15/2017	5:00	10.65	17.79	7/15/2017	6:00	12.79	17.31
7/15/2017	6:00	10.66	17.75	7/15/2017	7:00	12.80	17.33
7/15/2017	7:00	10.67	17.74	7/15/2017	8:00	12.79	17.35
7/15/2017	8:00	10.64	17.74	7/15/2017	9:00	12.78	17.36
7/15/2017	9:00	10.63	17.87	7/15/2017	10:00	12.78	17.37
7/15/2017	10:00	10.66	18.06	7/15/2017	11:00	12.79	17.39
7/15/2017	11:00	10.63	18.32	7/15/2017	12:00	12.80	17.40
7/15/2017	12:00	10.63	18.71	7/15/2017	13:00	12.78	17.41
7/15/2017	13:00	10.67	19.15	7/15/2017	14:00	12.76	17.42
7/15/2017	14:00	10.64	19.32	7/15/2017	15:00	12.78	17.42
7/15/2017	15:00	10.64	19.35	7/15/2017	16:00	12.77	17.43
7/15/2017	16:00	10.65	19.46	7/15/2017	17:00	12.79	17.43
7/15/2017	17:00	10.67	19.49	7/15/2017	18:00	12.81	17.44
7/15/2017	18:00	10.64	19.40	7/15/2017	19:00	12.81	17.44
7/15/2017	19:00	10.64	19.21	7/15/2017	20:00	12.78	17.44
7/15/2017	20:00	10.64	19.02	7/15/2017	21:00	12.80	17.44
7/15/2017	21:00	10.68	18.76	7/15/2017	22:00	12.80	17.44
7/15/2017	22:00	10.63	18.46	7/15/2017	23:00	12.81	17.44
7/15/2017	23:00	10.64	18.22	7/16/2017	0:00	12.80	17.44
7/16/2017	0:00	10.64	18.02	--	--	--	--

Date	Time	Temperature (degrees Celsius) Well C-14	Temperature (degrees Celsius) Surface Water Near Well C-14	Date	Time	Temperature (degrees Celsius) Well C-16	Temperature (degrees Celsius) Piezometer Shallow Groundwater Near Well C-16[1/]
7/10/2017	17:00	10.52	17.99	7/10/2017	18:00	10.63	16.16
7/10/2017	18:00	10.51	18.27	7/10/2017	19:00	10.63	16.16
7/10/2017	19:00	10.52	17.87	7/10/2017	20:00	10.62	16.16
7/10/2017	20:00	10.52	17.79	7/10/2017	20:00	10.62	16.16
7/10/2017	20:00	10.52	17.70	7/10/2017	21:00	10.66	16.16
7/10/2017	21:00	10.52	17.68	7/10/2017	22:00	10.66	16.16
7/10/2017	22:00	10.52	17.82	7/10/2017	23:00	10.65	16.16
7/10/2017	23:00	10.52	17.84	7/11/2017	0:00	10.62	16.16
7/11/2017	0:00	10.53	17.87	7/11/2017	1:00	10.66	16.16
7/11/2017	1:00	10.53	17.61	7/11/2017	2:00	10.65	16.15
7/11/2017	2:00	10.53	17.42	7/11/2017	3:00	10.64	16.16
7/11/2017	3:00	10.53	16.93	7/11/2017	4:00	10.65	16.16
7/11/2017	4:00	10.53	16.76	7/11/2017	5:00	10.65	16.16
7/11/2017	5:00	10.53	16.76	7/11/2017	6:00	10.63	16.16
7/11/2017	6:00	10.53	16.99	7/11/2017	7:00	10.64	16.16
7/11/2017	7:00	10.53	17.41	7/11/2017	8:00	10.66	16.17
7/11/2017	8:00	10.53	17.71	7/11/2017	9:00	10.66	16.17
7/11/2017	9:00	10.53	18.05	7/11/2017	10:00	10.66	16.17
7/11/2017	10:00	10.53	18.14	7/11/2017	11:00	10.66	16.17
7/11/2017	11:00	10.54	18.48	7/11/2017	12:00	10.68	16.18
7/11/2017	12:00	10.54	18.50	7/11/2017	13:00	10.67	16.18
7/11/2017	13:00	10.54	19.12	7/11/2017	14:00	10.69	16.18
7/11/2017	14:00	10.54	18.74	7/11/2017	15:00	10.69	16.19
7/11/2017	15:00	10.53	18.34	7/11/2017	16:00	10.67	16.19
7/11/2017	16:00	10.54	18.34	7/11/2017	17:00	10.68	16.20
7/11/2017	17:00	10.54	18.62	7/11/2017	18:00	10.67	16.20
7/11/2017	18:00	10.54	18.46	7/11/2017	19:00	10.68	16.21

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Temperature Measurements from the Pumping Wells and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Temperature (degrees Celsius) Well C-14	Temperature (degrees Celsius) Surface Water Near Well C-14	Date	Time	Temperature (degrees Celsius) Well C-16	Temperature (degrees Celsius) Piezometer Shallow Groundwater Near Well C-16[1/]
7/11/2017	19:00	10.54	17.96	7/11/2017	20:00	10.70	16.21
7/11/2017	20:00	10.54	17.78	7/11/2017	21:00	10.69	16.21
7/11/2017	21:00	10.54	17.50	7/11/2017	22:00	10.71	16.22
7/11/2017	22:00	10.54	17.28	7/11/2017	23:00	10.70	16.22
7/11/2017	23:00	10.54	17.21	7/12/2017	0:00	10.70	16.23
7/12/2017	0:00	10.55	17.06	7/12/2017	1:00	10.70	16.23
7/12/2017	1:00	10.54	17.01	7/12/2017	2:00	10.68	16.24
7/12/2017	2:00	10.54	17.03	7/12/2017	3:00	10.73	16.24
7/12/2017	3:00	10.54	17.34	7/12/2017	4:00	10.72	16.29
7/12/2017	4:00	10.55	17.05	7/12/2017	5:00	10.70	16.29
7/12/2017	5:00	10.55	16.91	7/12/2017	6:00	10.71	16.26
7/12/2017	6:00	10.55	17.38	7/12/2017	7:00	10.70	16.27
7/12/2017	7:00	10.55	17.74	7/12/2017	8:00	10.72	16.27
7/12/2017	8:00	10.55	18.42	7/12/2017	9:00	10.71	16.28
7/12/2017	9:00	10.55	18.79	7/12/2017	10:00	10.74	16.29
7/12/2017	10:00	10.56	18.97	7/12/2017	11:00	10.70	16.29
7/12/2017	11:00	10.56	19.66	7/12/2017	12:00	10.70	16.30
7/12/2017	12:00	10.55	19.79	7/12/2017	13:00	10.74	16.31
7/12/2017	13:00	10.56	20.36	7/12/2017	14:00	10.70	16.31
7/12/2017	14:00	10.56	21.68	7/12/2017	15:00	10.70	16.31
7/12/2017	15:00	10.56	21.89	7/12/2017	16:00	10.70	16.32
7/12/2017	16:00	10.56	21.71	7/12/2017	17:00	10.71	16.31
7/12/2017	17:00	10.56	20.18	7/12/2017	18:00	10.70	16.32
7/12/2017	18:00	10.56	19.54	7/12/2017	19:00	10.71	16.32
7/12/2017	19:00	10.56	18.73	7/12/2017	20:00	10.71	16.33
7/12/2017	20:00	10.56	18.48	7/12/2017	21:00	10.73	16.33
7/12/2017	21:00	10.56	18.31	7/12/2017	22:00	10.72	16.34
7/12/2017	22:00	10.56	18.15	7/12/2017	23:00	10.74	16.35
7/12/2017	23:00	10.56	18.42	7/13/2017	0:00	10.71	16.34
7/13/2017	0:00	10.56	18.28	7/13/2017	1:00	10.75	16.34
7/13/2017	1:00	10.56	18.44	7/13/2017	2:00	10.73	16.35
7/13/2017	2:00	10.56	18.60	7/13/2017	3:00	10.70	16.36
7/13/2017	3:00	10.56	18.61	7/13/2017	4:00	10.71	16.38
7/13/2017	4:00	10.56	18.97	7/13/2017	5:00	10.73	16.39
7/13/2017	5:00	10.58	19.18	7/13/2017	6:00	10.73	16.46
7/13/2017	6:00	10.55	19.41	7/13/2017	7:00	10.71	16.47
7/13/2017	7:00	10.55	19.54	7/13/2017	8:00	10.72	16.48
7/13/2017	8:00	10.55	20.08	7/13/2017	9:00	10.73	16.48
7/13/2017	9:00	10.55	20.68	7/13/2017	10:00	10.74	16.49
7/13/2017	10:00	10.56	20.67	7/13/2017	11:00	10.74	16.45
7/13/2017	11:00	10.56	20.43	7/13/2017	12:00	10.73	16.46
7/13/2017	12:00	10.56	20.34	7/13/2017	13:00	10.73	16.48
7/13/2017	13:00	10.56	19.77	7/13/2017	14:00	10.72	16.48
7/13/2017	14:00	10.56	19.33	7/13/2017	15:00	10.69	16.48
7/13/2017	15:00	10.56	19.47	7/13/2017	16:00	10.74	16.50
7/13/2017	16:00	10.56	19.46	7/13/2017	17:00	10.73	16.51
7/13/2017	17:00	10.56	19.47	7/13/2017	18:00	10.73	16.52
7/13/2017	18:00	10.56	19.43	7/13/2017	19:00	10.72	16.53
7/13/2017	19:00	10.56	19.24	7/13/2017	20:00	10.74	16.54
7/13/2017	20:00	10.56	19.11	7/13/2017	21:00	10.73	16.55
7/13/2017	21:00	10.58	19.08	7/13/2017	22:00	10.72	16.56
7/13/2017	22:00	10.55	19.08	7/13/2017	23:00	10.71	16.57
7/13/2017	23:00	10.56	18.97	7/14/2017	0:00	10.76	16.58

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Temperature Measurements from the Pumping Wells and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Temperature (degrees Celsius) Well C-14	Temperature (degrees Celsius) Surface Water Near Well C-14	Date	Time	Temperature (degrees Celsius) Well C-16	Temperature (degrees Celsius) Piezometer Shallow Groundwater Near Well C-16[1/]
7/14/2017	0:00	10.56	18.89	7/14/2017	1:00	10.74	16.59
7/14/2017	1:00	10.56	18.88	7/14/2017	2:00	10.72	16.60
7/14/2017	2:00	10.56	18.52	7/14/2017	3:00	10.74	16.62
7/14/2017	3:00	10.56	18.25	7/14/2017	4:00	10.75	16.63
7/14/2017	4:00	10.57	18.02	7/14/2017	5:00	10.73	16.64
7/14/2017	5:00	10.56	17.82	7/14/2017	6:00	10.71	16.65
7/14/2017	6:00	10.56	17.67	7/14/2017	7:00	10.75	16.66
7/14/2017	7:00	10.56	17.95	7/14/2017	8:00	10.72	16.68
7/14/2017	8:00	10.56	18.28	7/14/2017	9:00	10.72	16.69
7/14/2017	9:00	10.56	18.22	7/14/2017	10:00	10.72	16.70
7/14/2017	10:00	10.56	18.27	7/14/2017	11:00	10.71	16.71
7/14/2017	11:00	10.57	18.32	7/14/2017	12:00	10.73	16.72
7/14/2017	12:00	10.57	18.29	7/14/2017	13:00	10.73	16.73
7/14/2017	13:00	10.57	18.33	7/14/2017	14:00	10.74	16.74
7/14/2017	14:00	10.57	18.30	7/14/2017	15:00	10.75	16.75
7/14/2017	15:00	10.57	18.26	7/14/2017	16:00	10.75	16.75
7/14/2017	16:00	10.57	18.27	7/14/2017	17:00	10.73	16.76
7/14/2017	17:00	10.57	18.24	7/14/2017	18:00	10.70	16.77
7/14/2017	18:00	10.57	18.17	7/14/2017	19:00	10.71	16.87
7/14/2017	19:00	10.57	18.10	7/14/2017	20:00	10.75	16.87
7/14/2017	20:00	10.57	18.01	7/14/2017	21:00	10.71	16.87
7/14/2017	21:00	10.57	17.96	7/14/2017	22:00	10.74	16.88
7/14/2017	22:00	10.57	17.92	7/14/2017	23:00	10.74	16.80
7/14/2017	23:00	10.57	17.87	7/15/2017	0:00	10.72	16.80
7/15/2017	0:00	10.57	17.85	7/15/2017	1:00	10.73	16.80
7/15/2017	1:00	10.55	17.82	7/15/2017	2:00	10.74	16.81
7/15/2017	2:00	10.57	17.76	7/15/2017	3:00	10.71	16.81
7/15/2017	3:00	10.56	17.73	7/15/2017	4:00	10.72	16.82
7/15/2017	4:00	10.57	17.69	7/15/2017	5:00	10.70	16.82
7/15/2017	5:00	10.57	17.69	7/15/2017	6:00	10.70	16.82
7/15/2017	6:00	10.57	17.69	7/15/2017	7:00	10.72	16.82
7/15/2017	7:00	10.57	17.73	7/15/2017	8:00	10.73	16.82
7/15/2017	8:00	10.57	17.97	7/15/2017	9:00	10.74	16.82
7/15/2017	9:00	10.57	18.17	7/15/2017	10:00	10.72	16.82
7/15/2017	10:00	10.57	18.37	7/15/2017	11:00	10.71	16.82
7/15/2017	11:00	10.57	18.48	7/15/2017	12:00	10.73	16.82
7/15/2017	12:00	10.57	18.64	7/15/2017	13:00	10.74	16.83
7/15/2017	13:00	10.57	18.59	7/15/2017	14:00	10.74	16.83
7/15/2017	14:00	10.57	18.75	7/15/2017	15:00	10.72	16.83
7/15/2017	15:00	10.57	19.40	7/15/2017	16:00	10.75	16.83
7/15/2017	16:00	10.57	19.02	7/15/2017	17:00	10.73	16.82
7/15/2017	17:00	10.57	18.70	7/15/2017	18:00	10.74	16.82
7/15/2017	18:00	10.57	18.28	7/15/2017	19:00	10.71	16.82
7/15/2017	19:00	10.57	17.91	7/15/2017	20:00	10.72	16.81
7/15/2017	20:00	10.57	17.63	7/15/2017	21:00	10.77	16.81
7/15/2017	21:00	10.57	17.43	7/15/2017	22:00	10.71	16.81
7/15/2017	22:00	10.58	17.32	7/15/2017	23:00	10.72	16.81
7/15/2017	23:00	10.57	17.24	7/16/2017	0:00	10.75	16.81
7/16/2017	0:00	10.57	17.99	--	--	--	--

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Temperature Measurements from the Pumping Wells and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Temperature (degrees Celsius) Well C-21	Temperature (degrees Celsius) Surface Water Near Well C-21	Date	Time	Temperature (degrees Celsius) Well C-23	Temperature (degrees Celsius) Piezometer Shallow Groundwater Near Well C-23[1/]
7/25/2017	12:00	9.98	16.86	7/10/2017	13:00	9.80	16.28
7/25/2017	13:00	10.00	16.93	7/10/2017	14:00	9.99	16.28
7/25/2017	14:00	10.01	17.02	7/10/2017	15:00	10.00	16.24
7/25/2017	15:00	10.01	17.13	7/10/2017	16:00	9.97	16.25
7/25/2017	16:00	10.01	17.25	7/10/2017	17:00	10.00	16.27
7/25/2017	17:00	10.01	17.28	7/10/2017	18:00	9.97	16.26
7/25/2017	18:00	10.02	17.34	7/10/2017	19:00	10.00	16.24
7/25/2017	19:00	10.02	17.25	7/10/2017	20:00	9.99	16.26
7/25/2017	20:00	10.02	17.18	7/10/2017	20:00	9.99	16.26
7/25/2017	20:00	10.02	17.18	7/10/2017	21:00	10.03	16.25
7/25/2017	21:00	10.02	17.12	7/10/2017	22:00	10.02	16.27
7/25/2017	22:00	10.02	17.03	7/10/2017	23:00	10.01	16.27
7/25/2017	23:00	10.02	16.96	7/11/2017	0:00	10.02	16.30
7/26/2017	0:00	10.02	16.88	7/11/2017	1:00	10.00	16.26
7/26/2017	1:00	10.03	16.83	7/11/2017	2:00	9.98	16.30
7/26/2017	2:00	10.03	16.81	7/11/2017	3:00	10.02	16.32
7/26/2017	3:00	10.03	16.71	7/11/2017	4:00	10.00	16.30
7/26/2017	4:00	10.03	16.61	7/11/2017	5:00	10.02	16.34
7/26/2017	5:00	10.03	16.48	7/11/2017	6:00	9.99	16.34
7/26/2017	6:00	10.03	16.37	7/11/2017	7:00	10.00	16.33
7/26/2017	7:00	10.03	16.27	7/11/2017	8:00	9.99	16.37
7/26/2017	8:00	10.03	16.26	7/11/2017	9:00	10.00	16.35
7/26/2017	9:00	10.03	16.36	7/11/2017	10:00	10.00	16.36
7/26/2017	10:00	10.03	16.48	7/11/2017	11:00	10.00	16.38
7/26/2017	11:00	10.03	16.71	7/11/2017	12:00	10.02	16.39
7/26/2017	12:00	10.04	16.94	7/11/2017	13:00	9.99	16.38
7/26/2017	13:00	10.03	17.28	7/11/2017	14:00	10.04	16.38
7/26/2017	14:00	10.03	17.55	7/11/2017	15:00	10.01	16.40
7/26/2017	15:00	10.03	17.79	7/11/2017	16:00	10.01	16.40
7/26/2017	16:00	10.04	17.93	7/11/2017	17:00	10.00	16.42
7/26/2017	17:00	10.04	17.98	7/11/2017	18:00	10.05	16.42
7/26/2017	18:00	10.03	17.99	7/11/2017	19:00	10.02	16.45
7/26/2017	19:00	10.04	18.00	7/11/2017	20:00	10.03	16.44
7/26/2017	20:00	10.03	17.94	7/11/2017	21:00	10.03	16.47
7/26/2017	21:00	10.03	17.78	7/11/2017	22:00	10.02	16.44
7/26/2017	22:00	10.04	17.57	7/11/2017	23:00	10.00	16.48
7/26/2017	23:00	10.03	17.41	7/12/2017	0:00	10.02	16.45
7/27/2017	0:00	10.04	17.26	7/12/2017	1:00	10.01	16.50
7/27/2017	1:00	10.03	17.04	7/12/2017	2:00	10.01	16.51
7/27/2017	2:00	10.04	16.90	7/12/2017	3:00	10.05	16.53
7/27/2017	3:00	10.04	16.81	7/12/2017	4:00	10.02	16.52
7/27/2017	4:00	10.04	16.66	7/12/2017	5:00	10.07	16.54
7/27/2017	5:00	10.04	16.58	7/12/2017	6:00	10.00	16.52
7/27/2017	6:00	10.04	16.54	7/12/2017	7:00	10.02	16.54
7/27/2017	7:00	10.04	16.55	7/12/2017	8:00	10.02	16.54
7/27/2017	8:00	10.04	16.58	7/12/2017	9:00	10.01	16.58
7/27/2017	9:00	10.04	16.65	7/12/2017	10:00	10.03	16.58
7/27/2017	10:00	10.04	16.70	7/12/2017	11:00	10.02	16.58
7/27/2017	11:00	10.04	16.84	7/12/2017	12:00	10.03	16.59
7/27/2017	12:00	10.04	16.94	7/12/2017	13:00	10.01	16.56
7/27/2017	13:00	10.04	17.02	7/12/2017	14:00	10.00	16.57

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

Temperature Measurements from the Pumping Wells and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

Date	Time	Temperature (degrees Celsius) Well C-21	Temperature (degrees Celsius) Surface Water Near Well C-21	Date	Time	Temperature (degrees Celsius) Well C-23	Temperature (degrees Celsius) Piezometer Shallow Groundwater Near Well C-23[1/]
7/27/2017	14:00	10.04	17.23	7/12/2017	15:00	10.01	16.59
7/27/2017	15:00	10.04	17.27	7/12/2017	16:00	10.00	16.61
7/27/2017	16:00	10.04	17.37	7/12/2017	17:00	10.02	16.64
7/27/2017	17:00	10.04	17.57	7/12/2017	18:00	10.01	16.64
7/27/2017	18:00	10.04	17.70	7/12/2017	19:00	10.01	16.66
7/27/2017	19:00	10.04	17.85	7/12/2017	20:00	10.00	16.65
7/27/2017	20:00	10.04	17.88	7/12/2017	21:00	10.05	16.68
7/27/2017	21:00	10.04	17.84	7/12/2017	22:00	10.04	16.66
7/27/2017	22:00	10.04	17.80	7/12/2017	23:00	10.01	16.69
7/27/2017	23:00	10.04	17.81	7/13/2017	0:00	10.02	16.70
7/28/2017	0:00	10.04	17.77	7/13/2017	1:00	10.02	16.69
7/28/2017	1:00	10.04	17.75	7/13/2017	2:00	10.00	16.72
7/28/2017	2:00	10.05	17.72	7/13/2017	3:00	10.01	16.71
7/28/2017	3:00	10.04	17.73	7/13/2017	4:00	10.00	16.75
7/28/2017	4:00	10.04	17.67	7/13/2017	5:00	10.04	16.77
7/28/2017	5:00	10.04	17.64	7/13/2017	6:00	10.02	16.78
7/28/2017	6:00	10.04	17.61	7/13/2017	7:00	10.02	16.77
7/28/2017	7:00	10.04	17.60	7/13/2017	8:00	10.00	16.79
7/28/2017	8:00	10.04	17.62	7/13/2017	9:00	10.00	16.78
7/28/2017	9:00	10.04	17.73	7/13/2017	10:00	10.04	16.83
7/28/2017	10:00	10.04	17.67	7/13/2017	11:00	10.02	16.81
7/28/2017	11:00	10.04	17.72	7/13/2017	12:00	10.00	16.80
7/28/2017	12:00	10.04	18.08	7/13/2017	13:00	10.02	16.85
--	--	--	--	7/13/2017	14:00	10.01	16.84
--	--	--	--	7/13/2017	15:00	10.01	16.85
--	--	--	--	7/13/2017	16:00	9.98	16.88
--	--	--	--	7/13/2017	17:00	10.03	16.86
--	--	--	--	7/13/2017	18:00	10.04	16.88
--	--	--	--	7/13/2017	19:00	10.02	16.91
--	--	--	--	7/13/2017	20:00	10.02	16.93
--	--	--	--	7/13/2017	21:00	10.02	16.95
--	--	--	--	7/13/2017	22:00	10.04	16.94
--	--	--	--	7/13/2017	23:00	10.04	16.98
--	--	--	--	7/14/2017	0:00	10.00	17.02
--	--	--	--	7/14/2017	1:00	10.01	17.04
--	--	--	--	7/14/2017	2:00	10.01	17.06
--	--	--	--	7/14/2017	3:00	10.02	17.08
--	--	--	--	7/14/2017	4:00	9.99	17.12
--	--	--	--	7/14/2017	5:00	10.09	17.09
--	--	--	--	7/14/2017	6:00	10.02	17.10
--	--	--	--	7/14/2017	7:00	10.01	17.11
--	--	--	--	7/14/2017	8:00	10.02	17.14
--	--	--	--	7/14/2017	9:00	10.03	17.16
--	--	--	--	7/14/2017	10:00	10.02	17.12
--	--	--	--	7/14/2017	11:00	10.06	17.17
--	--	--	--	7/14/2017	12:00	9.98	17.15
--	--	--	--	7/14/2017	13:00	10.02	17.13
--	--	--	--	7/14/2017	14:00	10.03	17.13
--	--	--	--	7/14/2017	15:00	10.01	17.10
--	--	--	--	7/14/2017	16:00	10.00	17.10
--	--	--	--	7/14/2017	17:00	10.02	17.12
--	--	--	--	7/14/2017	18:00	9.99	17.09

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS CLOVE, NEW YORK

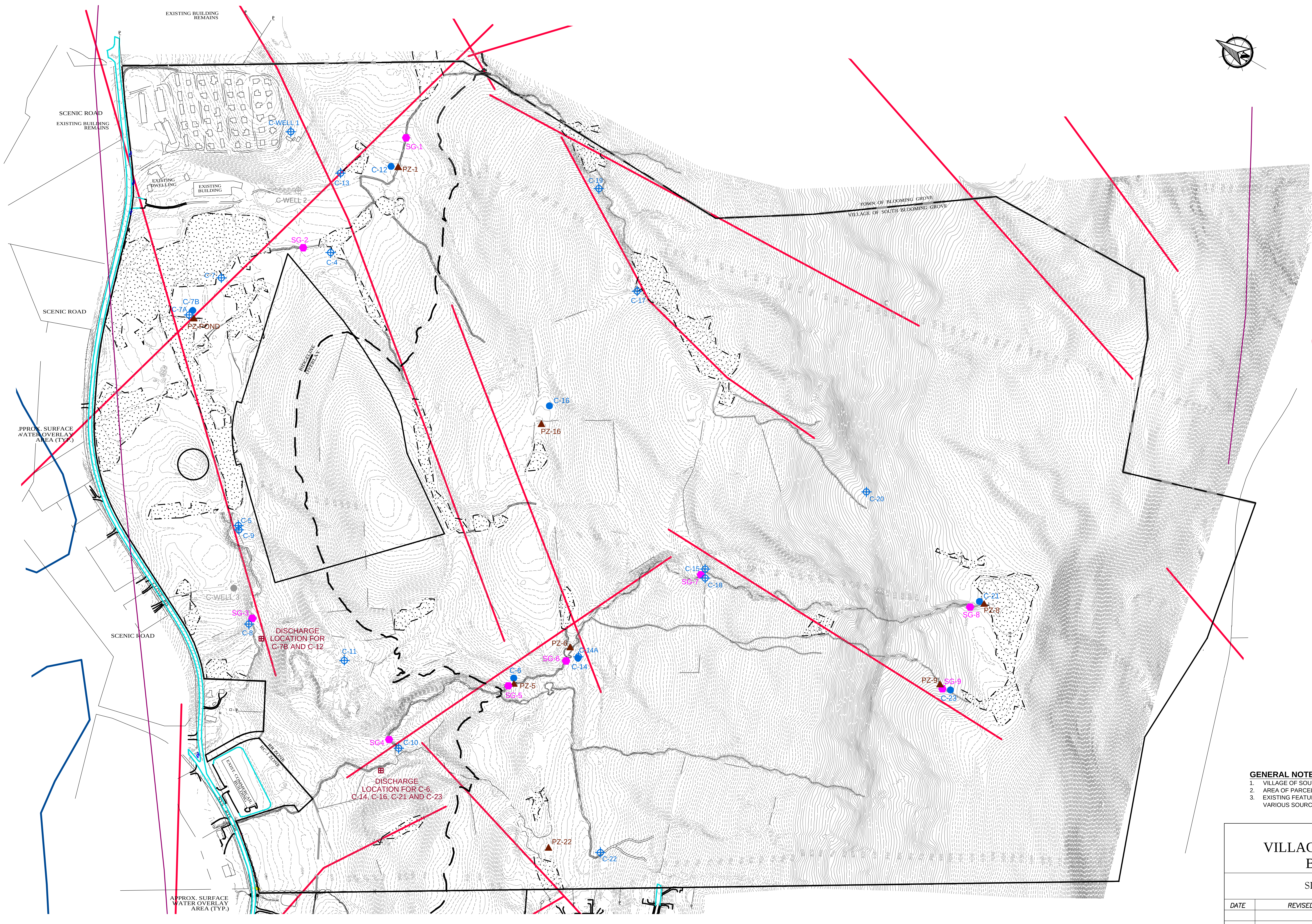
Temperature Measurements from the Pumping Wells and Nearby Surface Water During Pumping Test Program Conducted on Wells C-6, 7B, 12, 14, 16, 21, and 23 During July 2017

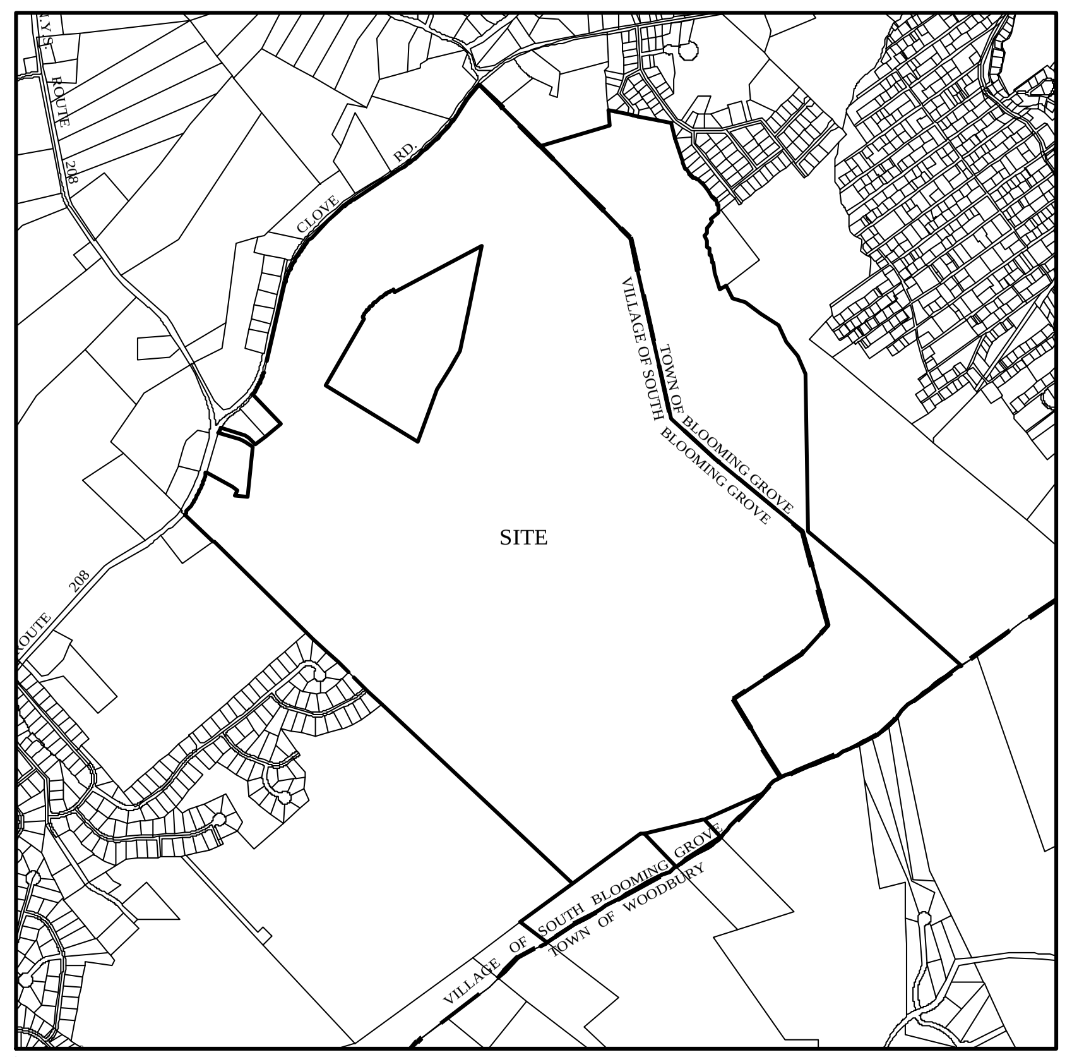
Date	Time	Temperature (degrees Celsius) Well C-21	Temperature (degrees Celsius) Surface Water Near Well C-21	Date	Time	Temperature (degrees Celsius) Well C-23	Temperature (degrees Celsius) Piezometer Shallow Groundwater Near Well C-23[1/]
--	--	--	--	7/14/2017	19:00	10.04	17.05
--	--	--	--	7/14/2017	20:00	10.05	17.07
--	--	--	--	7/14/2017	21:00	10.05	17.07
--	--	--	--	7/14/2017	22:00	10.00	17.03
--	--	--	--	7/14/2017	23:00	10.00	17.02
--	--	--	--	7/15/2017	0:00	10.02	17.01
--	--	--	--	7/15/2017	1:00	10.03	17.00
--	--	--	--	7/15/2017	2:00	10.00	16.98
--	--	--	--	7/15/2017	3:00	10.04	16.99
--	--	--	--	7/15/2017	4:00	10.04	16.95
--	--	--	--	7/15/2017	5:00	10.01	16.95
--	--	--	--	7/15/2017	6:00	10.00	16.94
--	--	--	--	7/15/2017	7:00	10.00	16.91
--	--	--	--	7/15/2017	8:00	10.02	16.94
--	--	--	--	7/15/2017	9:00	10.04	16.91
--	--	--	--	7/15/2017	10:00	10.04	16.89
--	--	--	--	7/15/2017	11:00	10.07	16.89
--	--	--	--	7/15/2017	12:00	10.05	16.90
--	--	--	--	7/15/2017	13:00	10.00	16.85
--	--	--	--	7/15/2017	14:00	10.01	16.83
--	--	--	--	7/15/2017	15:00	10.02	16.84
--	--	--	--	7/15/2017	16:00	10.00	16.81
--	--	--	--	7/15/2017	17:00	10.07	16.82
--	--	--	--	7/15/2017	18:00	10.05	16.82
--	--	--	--	7/15/2017	19:00	10.08	16.81
--	--	--	--	7/15/2017	20:00	10.01	16.80
--	--	--	--	7/15/2017	21:00	10.03	16.83
--	--	--	--	7/15/2017	22:00	10.01	16.85
--	--	--	--	7/15/2017	23:00	9.99	16.82
--	--	--	--	7/16/2017	0:00	10.01	16.88

[1/] Temperature measurements from transducer installed in the nearby shallow-screened piezometer were used for comparison.

K:\Jobs\Lake Anne\Clovewood\2017\Report\Temperature Table.doc

PLATE





LOCATION MAP
SCALE: 1" = 2,000'

LEGEND

▬	EXISTING PROPERTY LINE
—	EXISTING 10' CONTOUR LINE
- - -	EXITING 2' CONTOUR LINE
—	EXISTING EDGE OF PAVEMENT
▬ ▬	ZONING BOUNDARY
▨	EXISTING WETLANDS
●	PUMPING WELL LOCATION
⊕	ONSITE MONITORING WELL LOCATION
▲	PIEZOMETER LOCATION
⬢	STREAM GAGING LOCATION/STREAM FLOW OBSERVATION POINT
⊞	WELL DISCHARGE LOCATION
● C-WELL 3	WELL NOT ACCESSIBLE FOR PUMPING OR WATER-LEVEL MONITORING
▨	EXISTING 15% - 20% SLOPES
▨	EXISTING 20% - 25% SLOPES
▨	EXISTING 25% OR GREATER SLOPES
—	FRACTURE TRACE
—	APPROXIMATE BEDROCK CONTACT LINE BASED ON ORANGE COUNTY WATER AUTHORITY GROUNDWATER RESOURCE STUDY
—	APPROXIMATE FAULT LINE BASED ON ORANGE COUNTY WATER AUTHORITY GROUNDWATER RESOURCE STUDY

GENERAL NOTES:

1. VILLAGE OF SOUTH BLOOMING GROVE TAX MAP DESIGNATION: SEC. 208, BLK. 1, LOTS 2 & 3.
2. AREA OF PARCEL PER SURVEY BY LANC & TULLY PC: 708.17± AC.
3. EXISTING FEATURES AND INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES.

0 300
SCALE IN FEET

CLOVEWOOD PROPERTY
VILLAGE OF SOUTH BLOOMING GROVE
BLAGGS COVE, NEW YORK

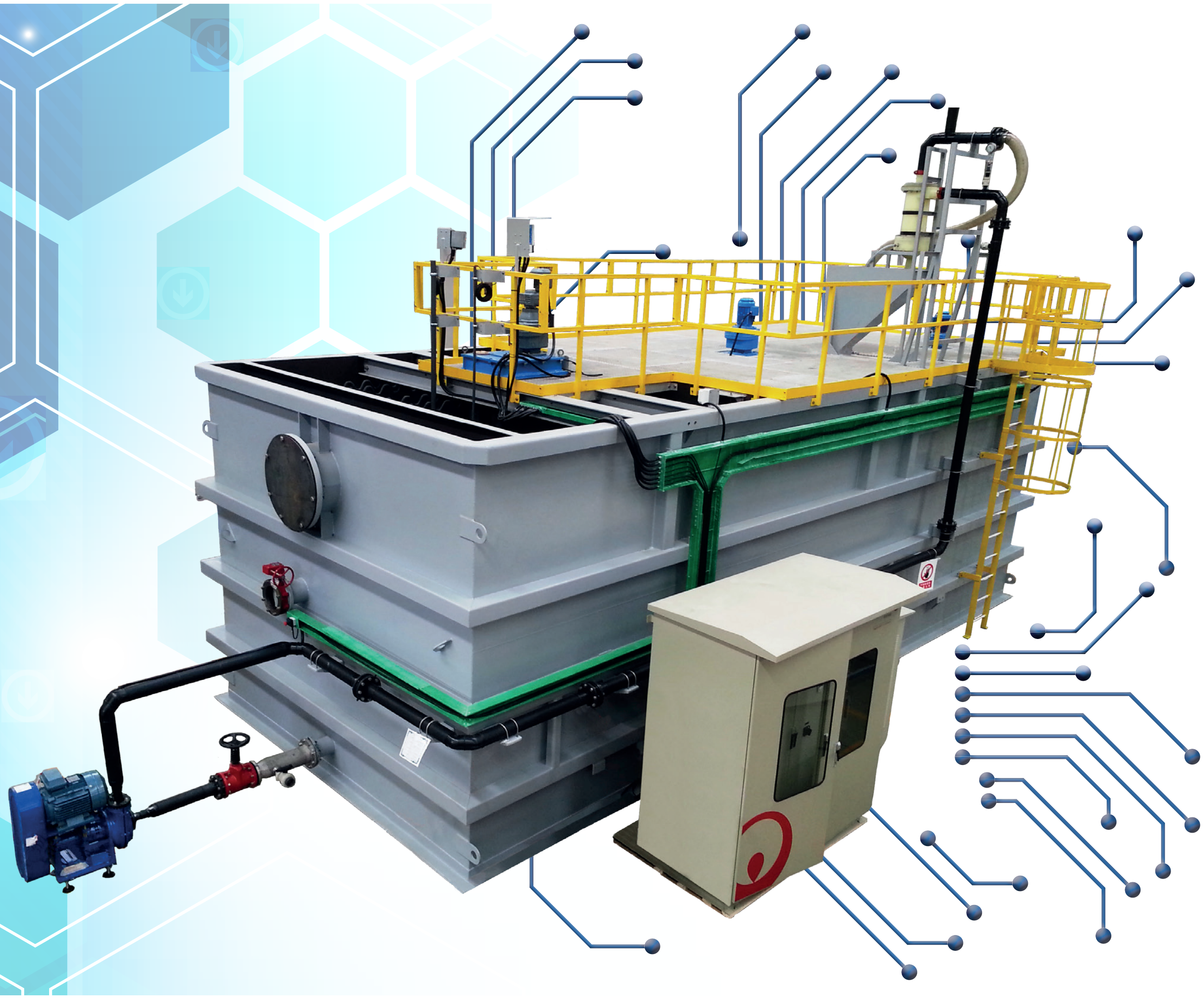
SITE MAP FOR JULY 2017 PUMPING TEST

DATE	REVISED

PREPARED BY:
LBG HYDROGEOLOGIC & ENGINEERING SERVICES, P.C.
Professional Geologists & Environmental Engineers
Member of WSP
4 Research Drive
Suite 204
Shelton, Connecticut 06484
(203) 929-8555

DRAWN:	RAC	CHECKED:	SS	DATE:	03/23/18	PLATE:	1

APPENDIX II



VEOLIA

Actiflo® Pack ACP2

High Performance Packaged Clarifiers

WATER TECHNOLOGIES

Looking for optimum modular high rate clarification?

Clarification is a key process step in most water treatment plants used for the production of drinking water, industrial process water, for wastewater treatment and reuse. The Actiflo® process is suitable for all these applications.

The key target of clarification is to produce water free from suspended solids and other contaminants. The Actiflo consistently displays higher efficiency than all other clarification processes.

In many plants, a recurrent challenge with clarification is to be able to handle fluctuating flows and contaminants concentrations. The Actiflo process has shown consistent and unparalleled results even in cases of very high fluctuations.

Veolia Water Technologies, an expert in water treatment solutions, has developed and patented Actiflo which is today recognized as the most universal and the highest performing clarification process in the market.

In order to stay on the cutting edge, Veolia Water Technologies has extensively standardized the Actiflo in a range of package plant to comply with various Customers' expectations:

- Systems that can be delivered, installed and commissioned very quickly
- High level of local services based on a reliable, efficient and modular solutions
- Cost effective products

Applications

The Actiflo Pack ACP2 range covers all municipal and industrial treatment applications and all types of water.

- Surface and ground water treatment
- Very high or very low turbidity water and wastewater
- Primary, secondary and tertiary clarification of wastewater
- Treatment of biofilter backwash water and trickling filter effluents
- Stormwater and combined sewer overflow treatment, reverting to effluent polishing during dry weather
- Industrial process water treatment
- Pre-treatment to membrane and ion exchange systems
- Industrial wastewater treatment in all market segments, including leachate and run-off water
- Recycling/Reuse
- Industrial effluents retrofitting

Actiflo Pack ACP2

The best package range of microsand enhanced clarifiers

Based on Actiflo's high rate, compact, microsand ballasted clarification patented process by Veolia Water Technologies. the Actiflo Pack ACP 2 units are **fully standardized** clarifier package plants .

The Actiflo Pack ACP2 units have the same operating characteristics and advantages: fast, high performance treatment and great operational flexibility. Standardized and pre-assembled, Actiflo Pack ACP2 units provide the clients with the most competitive and advanced technologies with minimal engineering costs and **extremely short delivery and commissioning times.** Numerous standard options and alternatives are proposed to enhance performances and monitoring.

Integrating the continuous innovation carried out by Veolia Water Technologies, the Actiflo Pack ACP2 range now includes eight models suitable for flow rates from 300 m³/d to 43 000 m³/d.

Advantages

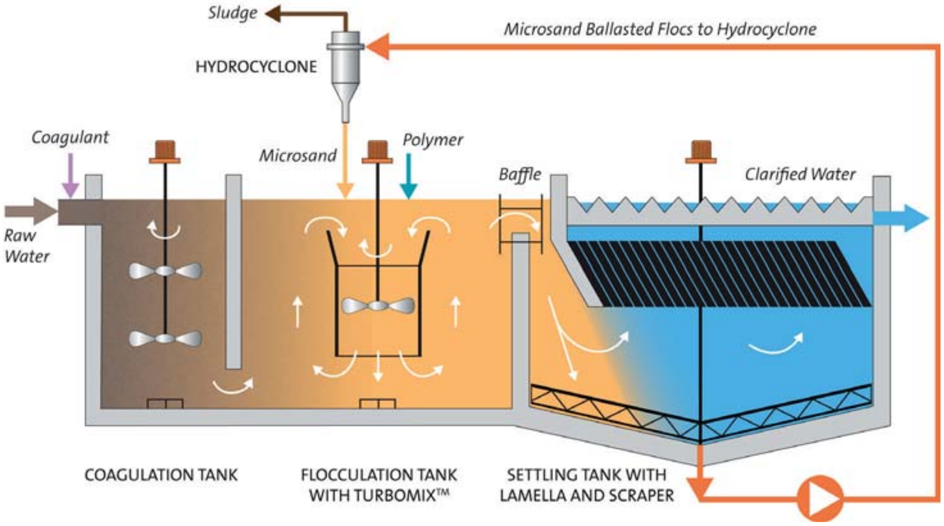
- **Fully standardized, short lead times, quick installation and commissioning**
- **Small footprint:** suited for restricted areas and retrofit projects.
- **Exceptional treatment performance:** regardless of the field of application.
- **Operational stability:** no impact on treatment efficiency during sudden flow or raw water quality fluctuations.
- **Quick response to treatment adjustments.**
- **Higher degree of operational flexibility:** Full automation and remote monitoring.

Actiflo Pack ACP2 – All of Actiflo's efficiency in fully

Operating principle

Actiflo Pack uses microsand which enhances the formation of robust flocs and acts as ballast, significantly increasing their settling velocities. The unique characteristics of the resulting microsand ballasted flocs allow for clarifier designs with very short hydraulic residence times, high rise rates and extremely compact system footprints that are 4 to 8 times smaller than lamella or dissolved air flotation (DAF) clarifiers and up to 50 times smaller than conventional clarification systems of similar capacity.

Also , the microsand buffers the effect of raw water flow or load variations, making the process very user friendly and easy to operate.
A flexible process where easy and frequent shutdowns and restars are possible, depending on water needs, Actiflo Pack achieves better treatment performance than existing clarification process on the market, displaying consistent and up to > 99% removal efficiencies of turbidity, suspended solids and associated pollutants.



Services

Local aftermarket service and support teams offer preventative and corrective maintenance programs to ensure the long-term, efficient operation of installed plants.

Pilot tests

Technical audits

Lab and bench-scale tests

Service contracts

standardized package range

Key figures and Performances

System Performances

Model	Unit	ACP2-15	ACP2-30	ACP2-40	ACP2-45	ACP2-55	ACP2-60	ACP2-70	ACP2-75
Min flow rate(1)	m³/hr	13	25	38	50	75	100	156	178
	US gpm	55	110	165	220	330	440	688	784
Max flow rate(1)	m³/hr	125	250	375	500	750	1 000	1 563	1 781
	US gpm	550	1 101	1 651	2 201	3 302	4 403	6 879	7 842

(1): Selection of models must be done according to inlet water characteristics and treatment requirements

Dimensions

Model	Unit	ACP2-15	ACP2-30	ACP2-40	ACP2-45	ACP2-55	ACP2-60	ACP2-70	ACP2-75
Lenght (2)	m	4,2	5,8	6,9	8,6	10,1	11,4	13,5	14,4
	ft	13,8	19,0	22,6	28,2	33,1	37,4	44,3	47,2
Width (2)	m	3,1	3,3	3,7	3,8	4,4	5,1	5,6	5,8
	ft	10,2	10,8	12,1	12,5	14,4	16,7	18,4	19,0
Height (2)	m	4,9	5,1	5,4	5,5	5,6	5,9	6,4	6,4
	ft	16,1	16,7	17,7	18,0	18,4	19,4	21,0	21,0
Clearance Height	m	5,9	6,1	6,4	6,5	6,6	6,9	7,4	7,4
	ft	19,4	20,0	21,0	21,3	21,6	22,6	24,3	24,3
Empty Tank Weight	kg	4 000	7 000	8 100	9 100	11 500	15 500	18 200	21 700
	lb	8 800	15 400	17 820	20 020	25 300	34 100	40 040	47 740
Operating Weight	kg	26 000	37 500	53 000	64 000	90 000	122 000	180 000	200 000
	lb	57 200	82 500	116 600	140 800	198 000	268 400	396 000	440 000

(2): Including recirculation line(s), ladder and embedded control panel

Feed water requirements

Parameter	Unit	Value
Minimum water temperature	°C	2
	°F	35
Maximum water temperature	°C	40
	°F	104
Max inlet TSS (3)	ppm	5 000
Max inlet Turbidity (3)	NTU	2 000
Max inlet particle size	mm	2

(3): For some applications, max acceptable inlet TSS or turbidity could be lower to warranty performances

Materials

Tank (5)	**Coated Carbon steel**
Internal components (5)	SS304L
Recirculation pipework (5)	HDPE

(5): Other materials available on request

Environmental conditions

Parameter	Unit	Value
Minimum ambiet temperature	°C	5
	°F	41
Maximum water temperature	°C	35
	°F	95
Max inlet TSS (3)	%	90

(4): Standard design can be modified on request to be suitable for other environmental conditions

Power requirements

Version	ISO (Spain)	ISO (China)	ASME (US)	ASME (Canada)
Voltage (6)	400 V	400 V	460 V	575 V
Frequency	50 Hz	50 Hz	60 Hz	60 Hz
Phases	3	3	3	3

(6): Other voltages available on request

Hydrex

For even greater performance and safety, Actiflo Pack can be offered with the Hydrex™ range of additives, coagulants and polymers and with Actisand™ microsand developed by Veolia. Hydrex 3,000, 6,000 & 9,000 water treatment chemicals from Veolia Water Technologies are recommended for optimized plant operation.

Always at the forefront of innovation

With 25 years of operational experience and more than 1,800 Actiflo references around the world, Veolia Water Technlogies continuously innovates and optimizes its Actiflo ranges performance excellence. Turbomix® Evolution, its latest patented innovation integrated in Actiflo Pack ACP2, enhances the collective efficiency and retention times of the process.

Actiflo Pack ACP2

Features & Benefits

Over 900 Actiflo package plants with and average capacity of 290 m³/hr

New fully automatic HMI and controller

- Built-in ethernet port and Vision™ Ready
- Touch screen HMI
- PLC control system and message display
- Simplified monitoring and operation

High treatment efficiency

- Turbidity and TSS removal up to > 99%; treats all water and wastewater sources
- Extremely quick start-up time: Reaches treatment efficiency within a few minutes
- Process stability: Microsand buffers the effect of raw water flow or load variations, making the process very user friendly and easy to operate
- Efficient in cold water applications: Suitable for use also in Nordic regions

Delivering smarter management

To support the customers and make their water management easier and always more efficient, Veolia Water Technologies has included Vision in the Actiflo Pack ACP2 range.

Vision™ is a new private and secure internet portal for remote monitoring, offering numerous functionalities including a personalized dashboard, to facilitate the customer's account activity.

Lower operating costs

- Optimal chemical use
- Turbomix Evolution: higher treatment velocity

Skid mounted, Pre-commissioned

- Minimal civil requirements with short lead times and fast commissioning
- Minimal start-up time
- Small footprint, saving on plant space
- Fully standardized design: complete documentation readily available
- Numerous standard options and alternatives to enhance performances and monitoring

References Actiflo Pack ACP2

Industrial

- **DeBeers Diamond Mine**
  Snap Lake, NT, Canada (420 m³/h, 2014)
- **ThyssenKrupp**
  Calvert, Alabama, USA (2,300 m³/h, 2009)
- **Addisseo**
  France, surface water treatment for process water (42 m³/hr, 2013)
- **Nanning Langdong**
  China, treatment of the backwash water from a tertiary filtration plant (35,0000 m³/d)

Municipal

- **Potawatomi**
  Wisconsin, US (24 m³/hr- 2015), tertiary treatment (Phosphorus to 0,075 mg/l)
- **Holliston**
  Massachusetts, US (125 m³/hr- 2013), treats ground water for the production of drinking water

Resourcing the world

Veolia Water Technologies

Kruger / 4001 Weston Parkway / Cary, NC 27513
Phone: 919.677.8310 • Fax: 919.677.0082
usmunicipal@veolia.com • www.veoliawatertech.com

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APPENDIX III

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Clear Form

WATER CONSERVATION PROGRAM FORM

For Public Water Supplies

Print Form

TO BE COMPLETED AND SUBMITTED AS PART OF A NYSDEC WATER WITHDRAWAL PERMIT APPLICATION
- SEE PAGE 6 FOR FURTHER INTRODUCTION AND INSTRUCTION REGARDING THIS FORM -

If your water system already has its own written water conservation program, please feel free to submit it as a supplement to this WCPF.If your system is new, please indicate the water conservation measures that will be taken when the system is completed (e.g., all sources of supply and customers will be 100% metered.

I. GENERAL SYSTEM INFORMATION

Name of Applicant: Keen Equities, LLC
DEC No. Dept Use Only
Street Address: 505 Clove Road
WWA No. Dept Use Only
Post Office: South Blooming Grove
County: Orange
State & ZIP: NY 10914

Name & Title of Contact: Yehoshua (YC) Rubin, Managing Member
Street Address: 4922 11th Avenue
Post Office: Brooklyn
State & ZIP: NY 11219

Applicant Telephone: (949) 769-9478
Contact Telephone: (949) 769-9478

II. SOURCES OF WATER SUPPLY

Please give amounts in gallons per minute (**gpm**), per day (**gpd**) or million gallons per day (**mgd**).

Source Type: **S** = Surface supply, **G** = Ground supply, **P** = Purchased supply
Source Status: **R** = Regular use, **S** = Standby use, **E** = Emergency use

Name of Source	Source Type	Source Status	Tested Capacity	Actual Current Withdrawal	Start-up Year
C-6	G	R	45 gpm	N/A	TBD
C-12	G	R	40.5 gpm	N/A	TBD
C-14	G	R	157 gpm	N/A	TBD
C-16	G	R	50 gpm	N/A	TBD
C-21	G	R	163 gpm	N/A	TBD
C-23	G	R	90 gpm	N/A	TBD

Name of Applicant: Keen Equities, LLC	WWA No. For Dept Use

III. WATER USAGE AND METERING

The water production data requested in this section should be available from the monthly "Water System Operation Reports" required by the State or Local Department of Health.

For unmetered systems, please provide your best estimates for water production and/or consumption.

Are all sources of supply (including major interconnections) equipped with master meters?			
What percentage of your system is metered? %		How often are they read?	
Number of service connections?		Total population served?	
How many meters are recalibrated and/or replaced each year?			
Water Production for calendar year		**Water Consumption for calendar year**	
Total metered water production :	System not yet in service.	Total metered water consumption:	
Average day production (total/365):		Average day consumption (total/365):	
Peak day production (largest single day):		Per capita usage per day (avg. day/pop. served):	(gpcd)

What are your future goals and schedule for water system metering? All sources of supply and customers will be 100% metered and meters will be read regularly.

Recommendations:

* 100% metering of all water system connections, including public buildings.

* Master meters should be tested and calibrated annually.

* Customer meters should be recalibrated or replaced at least once every 15 years or in accordance with an optimum meter replacement schedule developed using the American Water Works Association (AWWA) Manual M6.

* Quarterly meter reading and prompt billing with rates that reflect amount of water used.

Name of Applicant: Keen Equities, LLC	WWA No. For Dept Use

IV. WATER SUPPLY AUDIT

Do you conduct a system water audit at least once each year? N/A.
If yes, please submit a copy of your latest audit in addition to completing the following section.

** Water Supply Audit for Calendar Year System not in operation.

Total metered water production (from previous section)		Total		% of Total
Total metered water consumed (from previous section)		subtract		
Authorized unmetered usage		subtract		
e.g. Unmetered public bldgs. Firefighting & training Main flushing Street cleaning		subtract		
		subtract		
		subtract		
Water lost to leaks that have since been repaired		subtract		
TOTAL UNACCOUNTED-FOR WATER		Sub-total		
Unaccounted-for water breakdown	Meter under-registration	subtract		
	Unrepaired leakage	subtract		
	Other:	subtract		
** Water measurement and accounting techniques are available in NYSDEC's January 1989, (re-printed February 1998) Water Conservation Manual.			0	

What are your future goals for water system auditing? Future goals for water system auditing are to conduct annual water audits and keep accurate water records.

Recommendations:

* At least once each year, a system water audit should be conducted using metered water production and consumption data to determine unaccounted-for water.

* Quantify all authorized water uses by consumption categories (e.g. residential, industrial, municipal etc.).

* Keep accurate estimates of authorized unmetered water use (e.g. firefighting, main flushing, etc.).

Name of Applicant: . Keen Equities, LLC	WWA No. For Dept Use

V. LEAK DETECTION AND REPAIR

Not in service, not constructed to date.

Do you regularly survey your system for leaks with listening equipment? ☐

Total miles of distribution pipe	Percent of system surveyed each year	Miles of pipe surveyed each year	Listening equipment used	Year of last survey	Number of leaks found	Number of leaks repaired

Do you have a regular water system rehabilitation program? _____.
If yes, give details: ______________________________

What are your future goals for water system leak detection and repair? The water system will be checked for leaks. Leaks will be repaired as soon as possible.

Recommendations:

* Check at least one third of your water distribution system for leaks each year.

* Fix every detectable leak as soon as possible.

* Have an on-going system rehabilitation program.

Name of Applicant: Keen Equities, LLC	WWA No. For Dept Use

VI. WATER USE REDUCTION

Have you distributed information to residential customers on household water saving devices and ways to reduce water use? N/A - system not yet in operation. Water saving devices will be incorporated in planned residential construction.

Have you distributed water conservation information to industrial and commercial customers that promotes recycling and reuse? N/A - system not yet in operation. No planned industrial or commercial uses.

Do you have a program to retrofit public buildings with water savings fixtures and encourage the private sector to do the same? N/A - system not yet in operation. No buildings in need of retrofitting.

Do you have lawn sprinkling time restrictions during the summer or periods of peak demand?____.
If yes, please describe:
Lawn sprinkling time restrictions during summer or periods of peak demand will be considered as a means of water conservation once the system is placed into service.

Do you have a plan that takes progressive steps to further reduce outdoor water use during drought conditions with a procedure to assure compliance? ____. If yes, please describe:
The planned development is a cluster subdivision with a large portion of the site remaining as open space. Outdoor water use will likely be low.

What are your future goals for reducing water usage? Conservation through education and awareness programs.

Recommendations:

* Carry out a public information program that promotes water conservation practices by all categories of water users (e.g. residential, commercial, industrial, etc.).

* Retrofit public buildings with water saving fixtures and encourage the private sector to do the same.

* Use lawn sprinkling time restrictions (e.g. Odd/even days, morning and evening hours) during the summer and outdoor water use bans during times of drought.

* Adopt a procedure to be followed in times of drought that calls for a progression of restrictions on water use specifying: who will reduce, how, and by how much, along with actions to be taken to assure compliance.

Name of Applicant Keen Equities, LLC	WWA No. For Dept Use

VII. CERTIFICATION OF WATER CONSERVATION PROGRAM:

To be signed by the owner or official of the municipality or corporation operating this water system.

I hereby affirm that the information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Date: 4/17/18 Signature:__________ Title: Managing Member

DISCUSSION:

Effective January 1, 1989, New York State Environmental Conservation Law (ECL 15-1501) has required that all new applications for a NYSDEC Public Water Supply Permit include a water conservation program. This Water Conservation Program Form (WCPF) is intended to be a guide in completing this requirement.

The WCPF has been set up to cover the following basic elements of a water conservation program: Source Water Inventory, Water Usage and Metering, Water Supply Auditing, Leak Detection/Repair and Water Use Reduction. The recommended actions listed at the bottom of each page represent DEC water conservation policy objectives and should be factored into your program development. Additional water conservation measures such as increasing block water rate structuring, non-residential water use reduction or water efficient landscaping may also play an important role in your system's program and should certainly be considered when applicable.

Water supply permit applicants can consult the NYSDEC publication entitled, "Water Conservation Manual For Development of a Water Conservation Plan", January, 1989 (Re-printed February 1998) for details regarding the development of these water conservation practices. A PDF version of this manual is available on our website at: http://www.dec.ny.gov/docs/permits_ejoperations_pdf/program.pdf Copies can also be obtained through your DEC Regional Offices.

The American Water Works Association (AWWA) is also an excellent source of information regarding water conservation and public water supply systems in general. Information ranging from technical manuals to public education bill stuffers are available from AWWA at reasonable cost by calling 1-800-926-7337.

As a final note, the former "Bureau of Water Resources" has been incorporated into the "Bureau of Water Resource Management" and can now be contacted at (518) 402-8099.

EXHIBIT II

TRANSMITTAL LETTER – WW-1 ITEM 10(M)

EXHIBIT II

CLOVEWOOD WATER SYSTEM
BLAGGS CLOVE
VILLAGE OF SOUTH BLOOMING GROVE
ORANGE COUNTY, NEW YORK

Item 10 – Part 601.10(m) – Transmittal Letter Information

(1) Names, addresses and phone numbers of the applicant, its attorney, engineer and any consultants.

- **Applicant**
  Keen Equities, LLC
  4922 11th Avenue, Brooklyn, NY 11219
  (949) 769 9478

- **Applicant's Representative**
  CPC LLC
  PO Box 2020, Monroe, NY 10949
  (845) 774-8000

- **Applicant's Attorney**
  Whiteman, Osterman & Hanna LLP
  Contact: Terresa Bakner
  One Commerce Plaza, 99 Washington Avenue, Albany, NY 12210
  (518) 487-7600

- **Applicant's Engineer**
  Kirk Rother, P.E.
  Consulting Engineer, PLLC
  5 Saint Stephens Lane, Warwick, NY 10990
  (845) 988-0620

- **Applicant's Hydrogeologist**
  Stacy Stieber, CPG, PG(NY)
  WSP USA (formerly LBG Hydrogeologic & Engineering Services, P.C.)
  6 Research Drive, Suite 260, Shelton, CT 06484
  (475) 882-1723

(2) Name and address of any public halls or other placed in which a public hearing, if required, may be held.

Village of South Blooming Grove Village Hall: 811 NY State Route 208, Monroe, NY

(3) Names and publication schedules of local newspapers.

Times Herald-Record recordonline.com: (845) 341-1100 Option 5

EXHIBIT III

CERTIFICATE OF INCORPORATION OF A WATER-WORKS CORPORATION

CERTIFICATE OF INCORPORATION
OF
KEEN TRANSPORTATION CORPORATION
A WATER-WORKS CORPORATION

PURSUANT TO ARTICLE 1, SECTION 3 AND ARTICLE 4 OF THE TRANSPORTATION CORPORATIONS LAW OF THE STATE OF NEW YORK

I, the undersigned, for the purpose of forming a water- works corporation pursuant to Article 1, Section 3 and Article 4 of the Transportation Corporations Law of the State of New York, hereby certify:

FIRST: The name of the proposed corporation is:

KEEN TRANSPORTATION CORPORATION

SECOND: The purposes for which the within water-works corporation is formed are to provide for the water supply and/or distribution system and appurtenances thereto associated with the Clovewood residential development of 600 lots, located on property within the Village of South Blooming Grove, Town of Blooming Grove, County of Orange and State of New York, and in connection with said development to lay, maintain, repair and operate such facilities in any street, highway or public place of any city, town, village or other municipal area, in which it has obtained the consent required by Article 4, Section 41 of the Transportation Corporations Law and to perform all other permitted activities under Article 1, Section 3 and Article 4 of the Transportation Corporations Law.

THIRD: The aggregate number of shares which the Corporation shall have the authority to issue is 200 shares of no par value stock.

FOURTH: The office of the Corporation is to be located in Orange County.

FIFTH: The Secretary of State is designated as agent of the Corporation upon whom process against it may be served. The post office address to which the Secretary of State shall mail a copy of any process against the Corporation served upon him is: Keen Equities LLC, % Yehousha Rubin 4922 11th Avenue, Brooklyn, NY 11219.

SIXTH: The undersigned incorporator is of the age of twenty-one years or over:

YEHOUSHA RUBIN

SEVENTH: This Corporation shall be empowered to engage in any similar lawful business or enterprise which is or might be incidental to, and in any manner connected with its primary purposes.

EIGHTH: The area to be supplied with water by the Corporation is the Clovewood residential development, located solely in the Village of South Blooming Grove, Town of Blooming Grove, County of Orange, State of New York and the Consent of the Village Board of the Village of South Blooming Grove, as required by Section 41 of the Transportation Corporations Law, has been obtained and is annexed hereto.

NINTH: No holder of any of the shares of any class of the Corporation shall be entitled as of right to subscribe for, purchase, or otherwise acquire any shares of any class of the Corporation which the Corporation proposes to issue, or any rights or options which the Corporation proposes to grant for the purchase of shares of any class of the Corporation or for the purchase of any shares, bonds, securities, or obligations of the Corporation which are convertible into or exchangeable for, or which carry any rights to subscribe for, purchase or otherwise acquire shares of any class of the Corporation; and any and all of such shares, bonds, securities or obligations of the Corporation, whether now or hereafter authorized or created, may be issued, or may be reissued or transferred if the same have been reacquired and have treasury status, and any and all of such rights and options may be granted by the Board of Directors to such persons, firms, corporations and associations, and for such lawful consideration and on such terms, as the Board of Directors in its discretion may determine, without first offering the same, or any thereof, to any said holder. Without limiting the generality of the foregoing stated denial of any and all preemptive rights, no holder of shares of any class of the Corporation shall have any preemptive rights in respect of the matters, proceedings, or transaction specified in Article 6, Section 622, paragraph (e), subparagraphs (1) to (6) inclusive of the Business Corporation Law.

TENTH: Except as may otherwise be specifically provided in this Certificate of Incorporation, no provision of this Certificate of Incorporation is intended by the Corporation to be construed as limiting, prohibiting, denying, or abrogating any of the general or specific powers or rights conferred under the Transportation Corporations Law or, by virtue of Article 1, Section 3 and Article 4 thereof, the Business Corporation Law upon the Corporation, upon its shareholders, bondholders, and security holders, and upon its directors, officers and other corporate personnel including, in particular, the power of the Corporation to furnish indemnification to directors and officers in the capacities defined and prescribed by the Business Corporation Law, and the defined and prescribed rights of said persons to indemnification as the same are conferred by the Business Corporation Law.

ELEVENTH: Annexed hereto is a certificate, duly executed on behalf of the local governing body of the Village of South Blooming Grove, the Incorporated Village in which all of the water-works system provided by this Corporation is situated, consenting to the formation of this Corporation.

IN WITNESS WHEREOF, this Certificate has been signed this 16 day of November, 2020.

Y C. Rubin

Yehoshua Rubin

State of New York, County of KINGS) ss.:

On the 16 of November in the year 2020 before me, the undersigned personally appeared YEHOSHUA RUBIN, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument the individual, or the person upon whose behalf the individual acted, executed the instrument.

Notary Public

CHASKEL RUBIN
Notary Public, State of New York
Reg. No. 01RU6370321
Qualified in Kings County
Commission Expires January 29, 2022

CERTIFICATE OF CONSENT TO FORMATION OF KEEN TRANSPORTATION CORPORATION

I, GEORGE KALAJ, Mayor of the Village of South Blooming Grove, pursuant to Resolution of the Village Board of Village of South Blooming Grove adopted on Nov. 23 2020 hereby certifies that the Village Board of the Village of South Blooming Grove has consented to the formation of the KEEN TRANSPORTATION CORPORATION, a water-works corporation under the provisions of Article 1, Section 3 and Article 4 of the Transportation Corporations Law of the State of New York for the purpose of servicing the Village of South Blooming Grove with a water system effective at such time as the New York State Department of Environmental Conservation issues the requisite permit and approves the maps and certifications of the proposed water system or issues notice of its intent to grant such approval, and consent to the filing of the annexed Certificate of Incorporation of the Keen Transportation Corporation.

George Kalaj, Mayor
Village of South Blooming Grove

State of New York, County of Orange) ss.:

On the 25th of November in the year 2020 before me, the undersigned personally appeared GEORGE KALAJ personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument the individual, or the person upon whose behalf the individual acted, executed the instrument.

Notary Public

KERRY A. DOUGHERTY
Notary Public, State of New York
Qualified in Orange County
Reg # 01DO5042691
Commission Expires April 24, 2023

EXHIBIT IV

FULL ENVIRONMENTAL ASSESSMENT FORM

WSP USA INC.

VILLAGE OF SOUTH BLOOMING GROVE
DEC 18 2015
RECEIVED

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project:
Clovewood

Project Location (describe, and attach a general location map):
555 Clove Road, Tax Map Sec. 208, Block 1, Lots 2 and 3 of the Village of South Blooming Grove, Orange County, NY (see map attached)

Brief Description of Proposed Action (include purpose or need):
Clovewood is a proposed 600 lot single family residential conservation subdivision of approximately 708.2 acres lying on the east side of NYS Route 208 and the east side of Orange County Route 27 within the Village of South Blooming Grove. Approximately 702 acres are situated within the Village's RR Zoning District and approximately 6.2 acres lying within the Village's RC-1 Zoning District. The overall development plan proposes that approximately 80% of the parcel be left as open space within which 8.5% of the total parcel area, or approximately 60 acres, are slated as parkland to be available to the public. the remaining 20% of the property will include 600 single family lots, 22 acres of vacant land and associated infrastructure including roads and utilities. Access to the site will be proposed access points onto County Route 27 and NYS Route 208. Two additional future road connection points to adjacent properties are also proposed as a matter of sound planning. Water supply will be accomplished by means of a new central water system served by on site wells. Sanitary sewer will be accomplished through a new central sewer system and new on site sewerage treatment plant. The purpose of the Clovewood project is to meet the housing needs of a rapidly growing region which is facing critical housing shortages.

Name of Applicant/Sponsor: CPC, LLC c/o Simon Gelb	Telephone: 845-774-8000 E-Mail: cpc400@gmail.com	
Address: P.O. Box 2020		
City/PO: Monroe	State: New York	Zip Code: 10949
Project Contact (if not same as sponsor; give name and title/role):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): Keen Equities, LLC	Telephone: 949-769-9478 E-Mail: ycr@windsordistributors.com	
Address: 54 Freeman Street		
City/PO: Newark	State: New Jersey	Zip Code: 07105

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity		If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees	☑Yes☐No	Village of South Blooming Grove Village Board: Approve Transportation Corporation/District	2016
b. City, Town or Village Planning Board or Commission	☑Yes☐No	Village of South Blooming Grove Planning Board: Subdivision and Site Plan Approval	July, 2014
c. City Council, Town or Village Zoning Board of Appeals	☐Yes☑No		
d. Other local agencies	☐Yes☑No		
e. County agencies	☑Yes☐No	Orange County DPW: Highway Permit OC Health Department: Realty Sub. & Water Sup.	2016
f. Regional agencies	☐Yes☑No		
g. State agencies	☑Yes☐No	NYS-DEC: SPDES Permits and Water Supply NYS-DOT: Highway Permit	December, 2015
h. Federal agencies	☐Yes☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☐Yes☑No

If Yes, identify the plan(s):

N/A

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☑Yes☐No

If Yes, identify the plan(s):

The Orange County Open Space Plan (see Map 16) identifies the Clovewood property as not having any particular open space resource value. The Southeast Orange County Land Use Study used this immediate area as an example of how the regional Priority Growth Area should develop, suggesting a smart growth scenario similar to the development proposed with Clovewood.

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
RR Rural Residential District, RC-1 Rural Crossroads -1 District, Scenic Roads Overlay District, Surface Water Overlay District, Ridgeline Overlay District, Scenic Biological Overlay District and Scenic Viewshed Overlay District

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? N/A

C.4. Existing community services.

a. In what school district is the project site located? Washingtonville Central School District

b. What police or other public protection forces serve the project site?
Town of Blooming Grove Police Department, Orange County Sheriff's Office, New York State Police

c. Which fire protection and emergency medical services serve the project site?
South Blooming Grove Fire Company and Blooming Grove Volunteer Ambulance

d. What parks serve the project site?
Schunnemunk Mountain State Park, Gonzaga County Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Residential

b. a. Total acreage of the site of the proposed action? 708+/- acres
b. Total acreage to be physically disturbed? 136+/- acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 867+/- acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % N/A Units: N/A

d. Is the proposed action a subdivision, or does it include a subdivision? ☑ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
Residential
ii. Is a cluster/conservation layout proposed? ☑ Yes ☐ No
iii. Number of lots proposed? 600
iv. Minimum and maximum proposed lot sizes? Minimum 0.10+/- acre Maximum 0.20+/- acre

e. Will proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 60 months
ii. If Yes:
- Total number of phases anticipated N/A
- Anticipated commencement date of phase 1 (including demolition) N/A month N/A year
- Anticipated completion date of final phase N/A month N/A year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: N/A

f. Does the project include new residential uses? ☑Yes ☐No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase	600	N/A	N/A	N/A
At completion of all phases	600	N/A	N/A	N/A

g. Does the proposed action include new non-residential construction (including expansions)? ☐Yes ☑No

If Yes,

i. Total number of structures N/A

ii. Dimensions (in feet) of largest proposed structure: N/A height; N/A width; and N/A length

iii. Approximate extent of building space to be heated or cooled: N/A square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☑Yes ☐No

If Yes,

i. Purpose of the impoundment: Stormwater management

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑ Other specify: Stormwater runoff

iii. If other than water, identify the type of impounded/contained liquids and their source. N/A

iv. Approximate size of the proposed impoundment. Volume: T/B/D million gallons; surface area: T/B/D acres

v. Dimensions of the proposed dam or impounding structure: < 6 feet height; T/B/D length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): Earthen embankment

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐Yes ☑No

If Yes:

i. What is the purpose of the excavation or dredging? N/A

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): N/A
- Over what duration of time? N/A

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. N/A

iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☑No

If yes, describe. N/A

v. What is the total area to be dredged or excavated? N/A acres

vi. What is the maximum area to be worked at any one time? N/A acres

vii. What would be the maximum depth of excavation or dredging? N/A feet

viii. Will the excavation require blasting? ☐Yes ☑No

ix. Summarize site reclamation goals and plan: N/A

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☑Yes ☐No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): Crossing of on-site, unnamed Class C tributaries to Satterly Creek.

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
Placing of culverts and fill material within the bed and/or banks in the area of proposed stream crossings. Extent of stream crossing activity is expected to result in less than 1/4 acre of water body disturbance.

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐Yes ☑No
If Yes, describe: N/A

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes ☑No
If Yes:

- acres of aquatic vegetation proposed to be removed: N/A
- expected acreage of aquatic vegetation remaining after project completion: N/A
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): N/A
- proposed method of plant removal: N/A
- if chemical/herbicide treatment will be used, specify product(s): N/A

v. Describe any proposed reclamation/mitigation following disturbance:

c. Will the proposed action use, or create a new demand for water? ☑Yes ☐No
If Yes:
i. Total anticipated water usage/demand per day: 288,000 gallons/day
ii. Will the proposed action obtain water from an existing public water supply? ☐Yes ☑No
If Yes:

- Name of district or service area: N/A
- Does the existing public water supply have capacity to serve the proposal? ☐Yes ☐No
- Is the project site in the existing district? ☐Yes ☐No
- Is expansion of the district needed? ☐Yes ☐No
- Do existing lines serve the project site? ☐Yes ☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes ☑No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project: N/A
- Source(s) of supply for the district: N/A

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☑ Yes ☐No
If, Yes:

- Applicant/sponsor for new district: Clovewood
- Date application submitted or anticipated: 2016
- Proposed source(s) of supply for new district: On-site wells

v. If a public water supply will not be used, describe plans to provide water supply for the project:
Development of of multiple on-site bedrock wells for a new community water system
vi. If water supply will be from wells (public or private), maximum pumping capacity: 580 gallons/minute.

d. Will the proposed action generate liquid wastes? ☑Yes ☐No
If Yes:
i. Total anticipated liquid waste generation per day: 288,000+ gallons/day
ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
Sanitary wastewater from 600 residential lots, including buffer capacity to serve amenities such as pool/bathouse.

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐Yes ☑No
If Yes:

- Name of wastewater treatment plant to be used: N/A
- Name of district: N/A
- Does the existing wastewater treatment plant have capacity to serve the project? ☐Yes ☐No
- Is the project site in the existing district? ☐Yes ☐No
- Is expansion of the district needed? ☐Yes ☐No

- Do existing sewer lines serve the project site? ☐Yes☐No
- Will line extension within an existing district be necessary to serve the project? ☐Yes☐No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project:

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☑Yes☐No

If Yes:
- Applicant/sponsor for new district: Clovewood
- Date application submitted or anticipated: 2016
- What is the receiving water for the wastewater discharge? Unnamed tributary of Satterly Creek

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):
New on-site central wastewater collection and treatment system with discharge to unnamed Class C tributary of Satterly Creek.

vi. Describe any plans or designs to capture, recycle or reuse liquid waste:
None

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?
N/A Square feet or 65 acres (impervious surface)
N/A Square feet or 708 acres (parcel size)

ii. Describe types of new point sources. Roads, driveways, roof tops, sidewalks, parking lots and playgrounds.

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?
On-site storm water management facilities for later discharge into on-site surface waters.

- If to surface waters, identify receiving water bodies or wetlands:
  On-site unnamed tributaries to Satterly Creek and on-site Federal wetlands
- Will stormwater runoff flow to adjacent properties? ☐Yes☑No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑Yes☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)
N/A

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)
N/A

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)
N/A

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes☐No

ii. In addition to emissions as calculated in the application, the project will generate:
- N/A Tons/year (short tons) of Carbon Dioxide (CO_2)
- N/A Tons/year (short tons) of Nitrous Oxide (N_2O)
- N/A Tons/year (short tons) of Perfluorocarbons (PFCs)
- N/A Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- N/A Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- N/A Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): N/A

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): N/A

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

N/A

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☑Yes ☐No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☑ Morning ☐ Evening ☐Weekend

☐ Randomly between hours of ________ to ________.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: N/A

iii. Parking spaces: Existing 114 Proposed 1,200 Net increase/decrease 1,086

iv. Does the proposed action include any shared use parking? ☐Yes ☑No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

Creation of new internal system of roads to deliver traffic to and from the homes developed with such off-site improvements as may be required.

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☑No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☑No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☑No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action:

N/A

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

N/A

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7am to 7pm
- Saturday: None anticipated
- Sunday: 7am to 7pm
- Holidays: None anticipated

ii. During Operations:

- Monday - Friday: N/A
- Saturday: N/A
- Sunday: N/A
- Holidays: N/A

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☐Yes ☑No

If yes:

i. Provide details including sources, time of day and duration:

N/A

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐Yes ☐No

Describe: N/A

n.. Will the proposed action have outdoor lighting? ☑Yes ☐No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Pole mounted lights, at approximately 12' with shielding to avoid fugitive light encroaching on adjoiners and wall mounted units with similar shields.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐Yes ☑No

Describe: N/A

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐Yes ☑No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

N/A

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐Yes ☑No

If Yes:

i. Product(s) to be stored N/A

ii. Volume(s) N/A per unit time N/A (e.g., month, year)

iii. Generally describe proposed storage facilities:

N/A

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑No

If Yes:

i. Describe proposed treatment(s):

N/A

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: N/A tons per N/A (unit of time)
- Operation : N/A tons per N/A (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: N/A
- Operation: N/A

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: N/A
- Operation: N/A

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No
If Yes:
i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): N/A
ii. Anticipated rate of disposal/processing:
- N/A Tons/month, if transfer or other non-combustion/thermal treatment, or
- N/A Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: N/A years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐Yes ☑No
If Yes:
i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility:
N/A
ii. Generally describe processes or activities involving hazardous wastes or constituents:
N/A
iii. Specify amount to be handled or generated N/A tons/month
iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents:
N/A
v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐Yes ☐No
If Yes: provide name and location of facility:
N/A
If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:
N/A

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.
i. Check all uses that occur on, adjoining and near the project site.
☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☑ Rural (non-farm)
☑ Forest ☐ Agriculture ☐ Aquatic ☑ Other (specify): Cemetery
ii. If mix of uses, generally describe:
Generally woodlands lands with commercial and residential structures interspersed; former golf course on site with vacant on site residential development and associated community buildings, also vacant.

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	5 +/-	65 +/-	60 +/-
• Forested	515 +/-	449 +/-	(66 +/-)
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	85 +/-	20 +/-	(65 +/-)
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	10 +/-	10 +/-	0
• Wetlands (freshwater or tidal)	35 +/-	35 +/-	0
• Non-vegetated (bare rock, earth or fill)	48 +/-	48 +/-	0
• Other Describe: Lawns and landscaping	10 +/-	81 +/-	71 +/-

c. Is the project site presently used by members of the community for public recreation? ☐Yes☑No
i. If Yes: explain:

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐Yes☑No
If Yes,
i. Identify Facilities:
N/A

e. Does the project site contain an existing dam? ☐Yes☑No
If Yes:
i. Dimensions of the dam and impoundment:

- Dam height: N/A feet
- Dam length: N/A feet
- Surface area: N/A acres
- Volume impounded: N/A gallons OR acre-feet

ii. Dam's existing hazard classification:
iii. Provide date and summarize results of last inspection:
N/A

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes☑No
If Yes:
i. Has the facility been formally closed? ☐Yes☐ No

- If yes, cite sources/documentation: N/A

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:
N/A

iii. Describe any development constraints due to the prior solid waste activities:
N/A

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐Yes☑No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:
N/A

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐Yes☑ No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐Yes☑No

☐ Yes – Spills Incidents database Provide DEC ID number(s): N/A
☐ Yes – Environmental Site Remediation database Provide DEC ID number(s): N/A
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:
N/A - However, Phase I and Phase II assessments conducted and a remedial work action plan developed for solid wastes found on site.

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐Yes☐No
If yes, provide DEC ID number(s): N/A

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):
N/A

v. Is the project site subject to an institutional control limiting property uses? ☐Yes ☑No

- If yes, DEC site ID number: N/A
- Describe the type of institutional control (e.g., deed restriction or easement): N/A
- Describe any use limitations: N/A
- Describe any engineering controls: N/A
- Will the project affect the institutional or engineering controls in place? ☐Yes ☐No
- Explain:

N/A

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 8+/- feet

b. Are there bedrock outcroppings on the project site? ☑Yes ☐No
If Yes, what proportion of the site is comprised of bedrock outcroppings? 6.5+/- %

c. Predominant soil type(s) present on project site:

Mardin	60 %
Erie	15 %
Swartswood	25 %

d. What is the average depth to the water table on the project site? Average: 80+/- feet

e. Drainage status of project site soils:

☑ Well Drained:	8 % of site
☑ Moderately Well Drained:	86 % of site
☑ Poorly Drained	6 % of site

f. Approximate proportion of proposed action site with slopes:

☑ 0-10%:	20 % of site
☑ 10-15%:	70 % of site
☑ 15% or greater:	10 % of site

g. Are there any unique geologic features on the project site? ☐Yes ☑No
If Yes, describe: N/A

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑Yes ☐No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑Yes ☐No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑Yes ☐No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name Unnamed tributary to Satterly Creek Classification C
- Lakes or Ponds: Name Unnamed pond on site Classification C
- Wetlands: Name Federal wetlands + Non-inventoried state Approximate Size 35 +/- acres combined
- Wetland No. (if regulated by DEC) Non-inventoried wetland

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐Yes ☑No

If yes, name of impaired water body/bodies and basis for listing as impaired:
N/A

i. Is the project site in a designated Floodway? ☐Yes ☑No

j. Is the project site in the 100 year Floodplain? ☐Yes ☑No

k. Is the project site in the 500 year Floodplain? ☐Yes ☑No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐Yes ☑No
If Yes:
i. Name of aquifer: N/A

m. Identify the predominant wildlife species that occupy or use the project site:

Deer	Small game (squirrels, rabbits, etc.)	
Amphibians	Birds	

n. Does the project site contain a designated significant natural community? ☑Yes☐No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): Chestnut-Oak-Hickory Forest

ii. Source(s) of description or evaluation: DEC EAF Mapper and habitat assessments performed for project

iii. Extent of community/habitat:

- Currently: 2,435 acres
- Following completion of project as proposed: 2,435 acres
- Gain or loss (indicate + or -): 0 acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes☐No

Potential habitat for Timber Rattlesnake, Indiana Bat and Northern Long-Eared Bat. See Endangered and Threatened Species Report and Habitat Assessment for Clovewood as prepared by North Country Ecological Services, Inc.

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes☑No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes☑No

If yes, give a brief description of how the proposed action may affect that use:

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes☑No

If Yes, provide county plus district name/number: N/A

b. Are agricultural lands consisting of highly productive soils present? ☐Yes☑No

i. If Yes: acreage(s) on project site? N/A

ii. Source(s) of soil rating(s): N/A

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes☑No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: N/A

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes☑No

If Yes:

i. CEA name: N/A

ii. Basis for designation: N/A

iii. Designating agency and date: N/A

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? If Yes: *i.* Nature of historic/archaeological resource: ☐Archaeological Site ☐Historic Building or District *ii.* Name: N/A *iii.* Brief description of attributes on which listing is based: N/A	☐ Yes ☑ No
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☐ Yes ☑ No
g. Have additional archaeological or historic site(s) or resources been identified on the project site? If Yes: *i.* Describe possible resource(s): N/A *ii.* Basis for identification: N/A	☐ Yes ☑ No
h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? If Yes: *i.* Identify resource: N/A *ii.* Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): N/A *iii.* Distance between project and resource: N/A miles.	☐ Yes ☑ No
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? If Yes: *i.* Identify the name of the river and its designation: N/A	☐ Yes ☑ No
ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666?	☐ Yes ☑ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name CPC, LLC c/o Kirk Rother, PE, PLLC

Date July 16, 2014, Rev.Dec. 19. 2014, Rev Dec.09, 2015

Signature

Title Project Engineer

PRINT FORM

	Agency Use Only [If applicable]
Project :	Clovewood
Date :	Co-Lead Adoption PB 5/5/16, VB 5/9/16

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "**Yes**" to a numbered question, please complete all the questions that follow in that section.
- If you answer "**No**" to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land
Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1)
If "Yes", answer questions a - j. If "No", move on to Section 2.

☐NO ☑YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☑	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☐	☑
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☑	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☑	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☐	☑
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☐	☑
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☑	☐
h. Other impacts: ______________________		☐	☐

2. Impact on Geological Features The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g) *If "Yes", answer questions a - c. If "No", move on to Section 3.*	☐NO	☑YES	
	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. Identify the specific land form(s) attached: ______________	E2g	☑	☐
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: ______________	E3c	☑	☐
c. Other impacts: Impact of Land Disturbance on project site		☐	☑

3. Impacts on Surface Water The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h) *If "Yes", answer questions a - l. If "No", move on to Section 4.*	☐NO	☑YES	
	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action may create a new water body.	D2b, D1h	☑	☐
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	☑	☐
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	☑	☐
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	☐	☑
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	☑	☐
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	☑	☐
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	☐	☑
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	☐	☑
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	☐	☑
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	☑	☐
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	☐	☑

l. Other impacts: ______________________________		☐	☐

4. Impact on groundwater

The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. ☐NO ☑YES
(See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t)
If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	☐	☑
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: ______________________	D2c	☐	☑
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	☐	☑
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	☐	☑
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	☐	☑
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	☑	☐
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	☑	☐
h. Other impacts: ______________________________		☐	☐

5. Impact on Flooding

The proposed action may result in development on lands subject to flooding. ☑NO ☐YES
(See Part 1. E.2)
If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	☐	☐
b. The proposed action may result in development within a 100 year floodplain.	E2j	☐	☐
c. The proposed action may result in development within a 500 year floodplain.	E2k	☐	☐
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	☐	☐
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	☐	☐
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	☐	☐

g. Other impacts: ______________________________		☐	☐

6. Impacts on Air
The proposed action may include a state regulated air emission source. ☐NO ☑YES
(See Part 1. D.2.f., D,2,h, D.2.g)
If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	☐	☐
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	☐	☐
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	☐	☐
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	☐	☐
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	☐	☐
vi. 43 tons/year or more of methane	D2h	☐	☐
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	☐	☐
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	☐	☐
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	☐	☐
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	☐	☐
f. Other impacts: Impact on air quality during construction operation		☑	☐

7. Impact on Plants and Animals
The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☐NO ☑YES
If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	☐	☑
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	☐	☑
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	☐	☑
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	☐	☑

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	☑	☐
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: ____________	E2n	☐	☑
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	☐	☑
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: ____________	E1b	☒	☐
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	☐	☐
j. Other impacts: ____________		☐	☐

8. Impact on Agricultural Resources

The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☑NO ☐YES

If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	☐	☐
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, Elb	☐	☐
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	☐	☐
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	☐	☐
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	El a, E1b	☐	☐
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	☐	☐
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	☐	☐
h. Other impacts: ____________		☐	☐

9. Impact on Aesthetic Resources

The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)

If "Yes", answer questions a - g. If "No", go to Section 10.

☐ NO ☑ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☑	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☑	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	 ☐ ☐	 ☑ ☑
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	 ☐ ☐	 ☑ ☑
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☑
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☑	☐
g. Other impacts: ______________________________		☐	☐

10. Impact on Historic and Archeological Resources

The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)

If "Yes", answer questions a - e. If "No", go to Section 11.

☐ NO ☑ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on or has been nominated by the NYS Board of Historic Preservation for inclusion on the State or National Register of Historic Places.	E3e	☑	☐
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	☑	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: OPRHP - Phase 1A Submission	E3g	☐	☑

d. Other impacts: ______________________________		☐	☐
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	☑	☐
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	☑	☐
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	☑	☐

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	☐	☐
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	☐	☐
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	☐	☐
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	☐	☐
e. Other impacts: ______________________________		☐	☐

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)
If "Yes", answer questions a - c. If "No", go to Section 13.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
c. Other impacts: ______________________________		☐	☐

13. Impact on Transportation

The proposed action may result in a change to existing transportation systems. ☐ NO ☑ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☐	☑
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☐	☑
c. The proposed action will degrade existing transit access.	D2j	☑	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☑	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☐	☑
f. Other impacts: Impact of Construction traffic on local roadways		☐	☑

14. Impact on Energy

The proposed action may cause an increase in the use of any form of energy. ☐ NO ☑ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☑	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☐	☑
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☑	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☑	☐
e. Other Impacts:		☐	☐

15. Impact on Noise, Odor, and Light

The proposed action may result in an increase in noise, odors, or outdoor lighting. ☐ NO ☑ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☑	☐
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☑	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☑	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☑	☐
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☐	☑
f. Other impacts: Impact of Traffic Noise and Sewage Treatment plant noise		☑	☐

16. Impact on Human Health

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.) ☐ NO ☑ YES

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No,or small impact may occur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☑	☐
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☐	☑
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☐	☑
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☑	☐
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☑	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☑	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☑	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☑	☐
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☑	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☐	☑
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☑	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☑	☐
m. Other impacts:		☐	☐

17. Consistency with Community Plans

The proposed action is not consistent with adopted land use plans. ☐ NO ☑ YES
(See Part 1. C.1, C.2. and C.3.)
If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☐	☑
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☐	☑
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☐	☑
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☑	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, Elb	☐	☑
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☐	☑
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☐	☑
h. Other: ______		☐	☐

18. Consistency with Community Character

The proposed project is inconsistent with the existing community character. ☐ NO ☑ YES
(See Part 1. C.2, C.3, D.2, E.3)
If "Yes", answer questions a - g. If "No", proceed to Part 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☑	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☐	☑
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☑	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☑	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☐	☑
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☐	☑
g. Other impacts: ______		☐	☐

PRINT FULL FORM

Agency Use Only [IfApplicable]

Project : CLOVEWOOD

Date : Co-lead Adoption PB 5/5/16 VB 5/9/16

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:

To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

The proposed action may result in Moderate to Large Environmental Impacts in the following areas:

1. Impact on Land
2. Impact on Geological Features
3. Impact on Surface Water
4. Impact on groundwater
5. Impacts on Air
6. Impact on Plants and Animals
7. Impact on Aesthetic Resources
8. Impact on Historical and Archeological
9. Impact on Transportation
10. Impact on Energy
11. Impact on Noise, Odor, and Light
12. Impact on Human Health
13. Consistency with Community Plans
14. Consistency with Community Character
15. Fiscal Resources

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☑ Type 1 ☐ Unlisted

Identify portions of EAF completed for this Project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the Village Board and Planning Board as lead agency that:

☐ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.d).

☑ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: Clovewood

Name of Lead Agency: Co-Lead Agencies Village of South Blooming Grove - Village Board and Planning Board

Name of Responsible Officer in Lead Agency: Rob Jeroloman, Mayor, Julius Sas, Chair Planning Board,

Title of Responsible Officer: Mayor of Village and Chair of Planning Board

Signature of Responsible Officer in Lead Agency: Date: 5/16/16

Signature of Preparer (if different from Responsible Officer) Robert Geneslaw Digitally signed by Robert Geneslaw DN: cn=Robert Geneslaw, o, ou, email=RGeneslaw@aol.com, c=US Date: 2016.05.15 20:42:22 -04'00' Date: 5/16/2016

For Further Information:

Contact Person: Kerry Dougherty, Village Clerk

Address: PO Box 295, Blooming Grove, NY 10914

Telephone Number: (845) 782-2600

E-mail: clerk@villageofsouthbloominggrove.com

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

PRINT FULL FORM

EXHIBIT V

STATE HISTORIC PRESERVATION OFFICE (SHPO) CORRESPONDENCE

WSP USA INC.

NEW YORK
STATE OF
OPPORTUNITY.

Parks, Recreation,
and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

November 14, 2016

Mr. Simon Gelb
CPC
P. O. Box 2020
Monroe, NY 10949

Re: DEC
Clovewood - 600 Residential Lot Subdivision at NY 208 and Clove Rd (CR 27)
555 Clove Road, Monroe, NY 10950
15PR03943

Dear Mr. Gelb:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources.

OPRHP has reviewed the revised Phase IB archaeological report submitted for this project – *Phase 1B Archaeological Field Reconnaissance Survey, Clovewood Site, Village of South Blooming Grove, Orange County, New York* (HVCRC, November 2016). Two previously unrecorded archaeological sites have been identified on the property, but outside the current Area of Potential Effects (APE) – the M. H. Howell Farm Complex (07167.000009) and the Round Hill Cemetery/ Howell Family Cemetery (07167.000010).

OPRHP has no concerns regarding standing buildings and structures.

Therefore, based on the information provided, OPRHP recommends that the planned project will have **No Impact** on cultural resources listed or eligible for listing on the State or National Register of Historic Places. This recommendation pertains only to the APE examined during the above-referenced investigation. It is not applicable to any other portion of the project property. Should the project design be changed OPRHP recommends further consultation with this office.

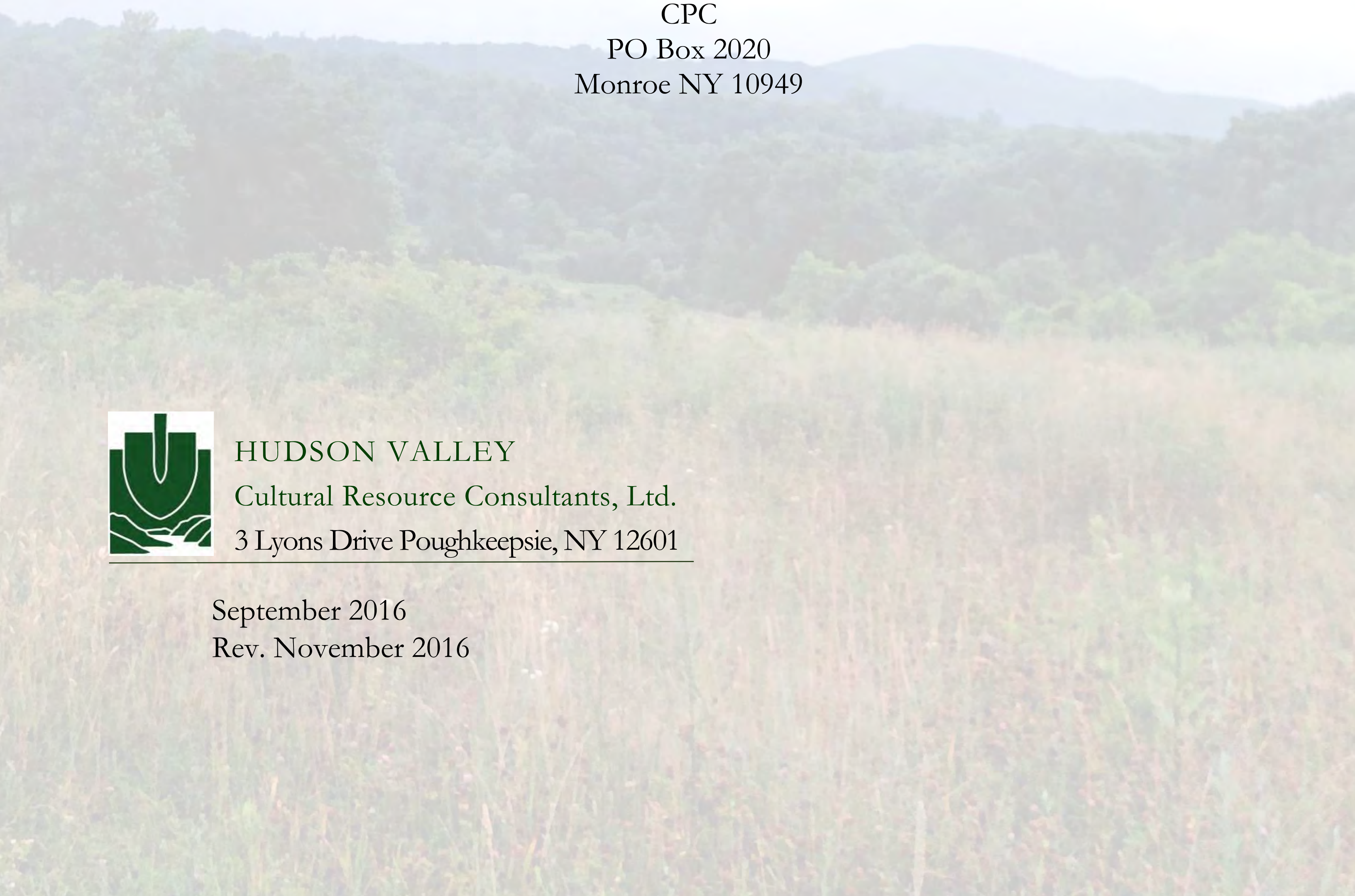
If you have any questions please don't hesitate to contact me.

Sincerely,

Philip A. Perazio

Philip A. Perazio, Historic Preservation Program Analyst - Archaeology Unit
Phone: 518-268-2175
e-mail: philip.perazio@parks.ny.gov via email only

cc: Charles Vandrei and John Petronella, DEC; Beth Selig, HVCRC



Phase 1B Archaeological Field Reconnaissance Survey

Clovewood Site

Village of South Blooming Grove,

Orange County, New York

Prepared for:

Simon Gelb
CPC
PO Box 2020
Monroe NY 10949

HUDSON VALLEY
Cultural Resource Consultants, Ltd.
3 Lyons Drive Poughkeepsie, NY 12601

September 2016
Rev. November 2016

Management Summary

SHPO Project Review Number (if available):

Involved State and Federal Agencies: NYS DEC, SEQR

Phase of Survey: **Phase 1B Archaeological Field Reconnaissance Survey**

Location Information:

Location: **NYS Route 208 & County Route 27 (Clove Road)**

Minor Civil Division: **Village of South Blooming Grove**

County: **Orange**

Survey Area (Metric & English)

Length: **9578'/2920 m**

Width: **4404'/1342.6 m**

Depth (when appropriate):

Number of Acres Surveyed: **±269.2 acres (108.9 hectares) APE Only**

Number of Square Meters & Feet Excavated (Phase II, Phase III only): **N/A**

Percentage of the Site Excavated (Phase II, Phase III only):

USGS 7.5 Minute Quadrangle Map: **Maybrook & Monroe 2013**

Archaeological Survey Overview

Number & Interval of Shovel Tests: **1051 stps @ 50' & 100' intervals**

Number & Size of Units: N/A

Width of Plowed Strips: N/A

Surface Survey Transect Interval: N/A

Results of Archaeological Survey

Number & name of prehistoric sites identified: **1: Schunemuck Prehistoric Site (Outside of APE)**

Number & name of historic sites identified**: 2: N.W. Howell House, & M.H. Howell Farm Complex (Outside of APE)**

Number & name of sites recommended for Phase II/Avoidance: 0

Results of Architectural Survey

Number of buildings/structures/cemeteries within project area: **residences,associated with former Lake Anne Country Club, H. Howell House, & N.W. Howell house**

Number of buildings/structures/cemeteries adjacent to project area: **1: Round Hill Cemetery (Outside of APE)**

Number of previously determined NR listed or eligible buildings/structures/cemeteries/districts: 0

Number of identified eligible buildings/structures/cemeteries/districts: 0

Report Author (s): **Beth Selig, MA, RPA. Stephanie Roberg-Lopez MA, RPA**

Date of Report: **September 2016, revised November 2016.**

Table of Contents

Table of Contents (Continued)

List of Appendices

List of Figures

List of Tables

List of Photographs

Photo 1: Existing structure located adjacent to the western entry way to the project area. View to the north.

Photo 2: Apartment/hotel buildings located in the northwestern portion of the project area. These buildings are identified on the figure included in The Architectural Report. View to the north.

Photo 3: Residential structures are located in the northern portion of the project area. View to the east.

Photo 4: Interior of the Clubhouse structure. The exterior walls of the building along with the interior of the structure is degraded.

Photo 5: Interior of the spring house showing the modern electrical features.

Photo 6: Area B is overgrown with ailanthus, black cap bushes, honeysuckle and multiflora rose. View to the northeast.

Photo 7: Area C is characterized by recent growth forest and gentle slopes on an undulating land surface. View to the west.

Photo 8: Area C is marked by significant alterations in the landscape. View to the north.

Photo 9: Area D contains modern items. The area is lightly forested. View to the east.

Photo 10: Area E contains subsurface iron infrastructure. View to the east.

Photo 11: A small pond is located in the western portion of Area E. This water feature was constructed as part of the golf course design.

Photo 12: A steep road cut bisects the southern tier of the golf course. View to the north. Principal investigator, Stephanie Roberg-Lopez completed a comprehensive walkover of the project area.

Photo 13: Area F is a mix of steep slopes overgrown with mature forest and thick understory. View to the northeast.

Photo 14: The steep ravines are covered with a thick understory. View to the northeast.

Photo 15: Area G is a level knoll that is lightly forested. The knoll is bordered by thick understory. View to the north.

Photo 16: Area H is located in a lightly forested are that exhibits evidence of surficial disturbance. View to the east.

Photo 17: Materials dating to the mid-20th century were noted on the landscape around the demolished house. View to the west.

Photo 18: The transects located within Area I followed the existing stonewalls located in this area. View to the southeast.

Photo 19: The surface area within area J is littered with small boulders and cobbles. View to the southwest.

List of Photographs (Continued)

Photo 20: The surface area within Area K is steeply sloped. View to the southwest.

Photo 21: Area L is a wooded area located to the south of the golf course. View to the north.

Photo 22: Area M is characterized by steep slopes interspersed with more gentle grades. View to the south.

Photo 23: Dry steam channels are located in the eastern portion of the APE. View to the east.

Photo 24: A series of access roads lead to covered test wells in the project area. View to the northeast.

Photo 25: The test wells are located within the project area. View to the west.

Photo 26: The landscape in the southern portion of the APE is marked by soil rows. This area is depicted as orchard on the 1958 aerial image. View to the east.

Photo 27: Undated lithographic image of Hezekiah Howell (1). Source: Ruttenbur & Clark: 1881

Photo 28: Undated lithographic image of Edmund S. Howell (1). Source: Ruttenbur & Clark: 1881

Photo 29: View south of the northern elevation of the H. Howell House.

Photo 30: A wood frame addition connects the H. Howell house to the Quonset hut. View to the west. This elevation around the house is heavily overgrown with vegetation.

Photo 31: View of the dry laid field stone on the south western wall of the structure. The openings in the wall contain modern piping and have been reinforced with corrugated steel sheeting.

Photo 32: View to the west of the N.W. Howell House.

Photo 33: An existing well is located on the northwestern side of the N.W. Howell House. View to the northeast.

Photo 34: View of the materials located within the dirt piles adjacent to the N.W. Howell House.

Photo 35: View of a large structure located within the M. H. Howell complex. View to the north.

Photo 36: The complex of structures associated with the M.H. Howell Complex are located outside the boundaries of the APE.

Photo 37: View to the east from the center of the Round Hill/Howell Family Cemetery.

Photo 38: This marker, located within Round Hill Cemetery is for Edward B. Howell, who was interred in this location in 1917.

Photo 39: An undated image showing the gate that was formerly standing at the Howell Cemetery. Source: Findagrave.com.

I. Phase 1B Archaeological Field Reconnaissance Survey

A: Introduction and Project Area Description

In June and July of 2016, Hudson Valley Cultural Resource Consultants (HVCRC) completed a Phase 1B Field Reconnaissance Survey of the Clovewood Site (Section 208 Block 1 Lot 2, Section 208 Block 1 Lot 3) in the Village of South Blooming Grove, Orange County New York. The property is located on the east side of NYS Route 208 and County Route 27 (a.k.a. Clove Road). The Area of Potential Effect (APE) for the Archaeological Survey totals 269.2 acres (108.9 hectares) within a larger property of approximately 708.2 acres (286.6 hectares).

Archaeological fieldwork was supervised by Stephanie Roberg-Lopez, MA, RPA. The field supervisor was Dylan Lewis. Field technicians included Frank Spada, Joe Federico, Matt Chmura, and Ned Tassinari. The final report was completed by Stephanie Roberg-Lopez, and Beth Selig MA, RPA. Site photography was completed by Dylan Lewis, Stephanie Roberg-Lopez and Beth Selig. The shovel test records and the field reconnaissance map were completed by Deb Ackerman and Beth Selig. Conditions on the site during the Phase 1B excavation were normally sunny and hot. Work was abandoned on a number of days, when dangerous thunder and lightning storms moved into the area.

All work was completed in accordance with the Standards for Cultural Resource Investigations and the Curation of Archeological Collections published by the New York Archeological Council (NYAC) and recommended for use by New York State Office of Parks, Recreation and Historic Preservation (OPRHP). The report complies with New York State ORPHP's Phase 1 Archaeological Report Format Requirements, established in 2005. The Phase 1B investigations were completed as requested by ORPHP in letters dated July 29th 2015, and October 29th 2016 (Appendix E).

The landscape within the delineated Area of Potential Effect (APE) is a mosaic of abandoned buildings associated with the former Lake Anne Country Club and an overgrown 18-hole golf course. The balance of the property can be characterized as recent growth forest, a dense undergrowth of catbrier and other opportunistic plant species, steep slopes and intermittent small streams. A wetland area is located to the east of Clove Road outside of the western boundary of the APE. The property is crisscrossed by a network of roads that are paved with black geotextile overlain with shot rock.

In the northeastern portion of the APE, there is a series of abandoned structures associated with the former country club that include a Quonset-hut style club house/restaurant that is in dilapidated condition. To the northwest of this structure is a group of apartment/hotel buildings, currently abandoned and significantly deteriorated. To the northeast of the Quonset hut is a three story structure built on a field stone foundation. This building is the location of the H. Howell residence shown on the 1875 historic map (Appendix B). The structure, currently in a state of extreme disrepair, was modernized in the past, and attached to the Quonset hut structure.

Entry to the site is along a partially blacktopped driveway located in the northwestern portion of the APE. The asphalt driveway provides access to a large parking area and a late 20th century structure that is currently occupied. To the north of this residence and the deteriorated apartment buildings is a small neighborhood of cottage style residences. These structures date to the late 1960's and are currently uninhabited. Subsurface and aboveground infrastructure are evident throughout this residential area.

In addition to the structures located in the former Lake Anne County Club complex, in the northwestern portion of the APE, (See The Architectural Report), there is a single map documented structure (MDS) located within the southeastern portion of the APE. This house, currently in a state of extreme disrepair, was documented on the historic 1903 map.

Adjacent to the southwestern boundary of the APE are the ruins of a complex of stone foundations. These ruins, discussed in detail later in the report, are located outside of the boundaries of the APE in the location of the Map Documented M.H. Howell residence (1875 Beers Map, Appendix B).

The Round Hill Cemetery, also identified as the Howell family cemetery, is located on a knoll adjacent to a wetland area outside of the western boundary of the Clovewood Property. This cemetery is listed as tax parcel 208-1-1 and in owned by Round

In the northern portion of the project area, adjacent to the existing wetland boundary a small stone spring house has been built into the side of the hill. This feature has a keystone dated “1941.” This feature is also located outside the boundaries of the APE.

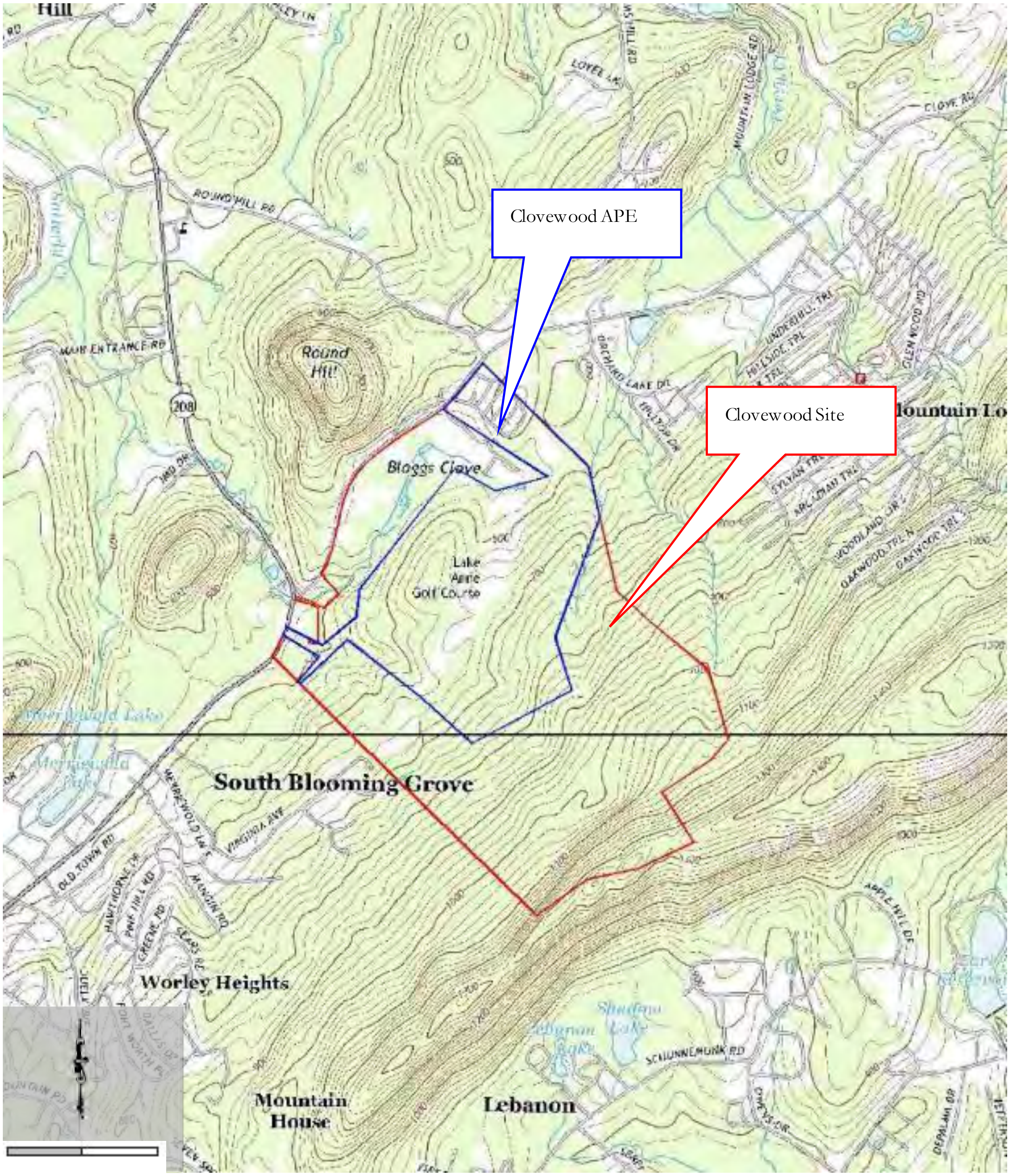


Figure 1: Detail of the 2014 USGS Topographical Map. Maybrook & Monroe Quadrangles. 7.5 Minute Series. (Source: USGS.gov.) Scale: 1"=1480.'


Clovewood APE

Clovewood Site

Figure 2: 2016 Aerial image of the project area. (Source: Google Earth.) Scale: 1”=1060.’

This aerial image, dated April 2016, shows the existing conditions of the Clovewood Site (red line) and the proposed APE (blue line). The former golf course is located in the central portion of the APE, and the existing network of roads can be seen throughout the APE.

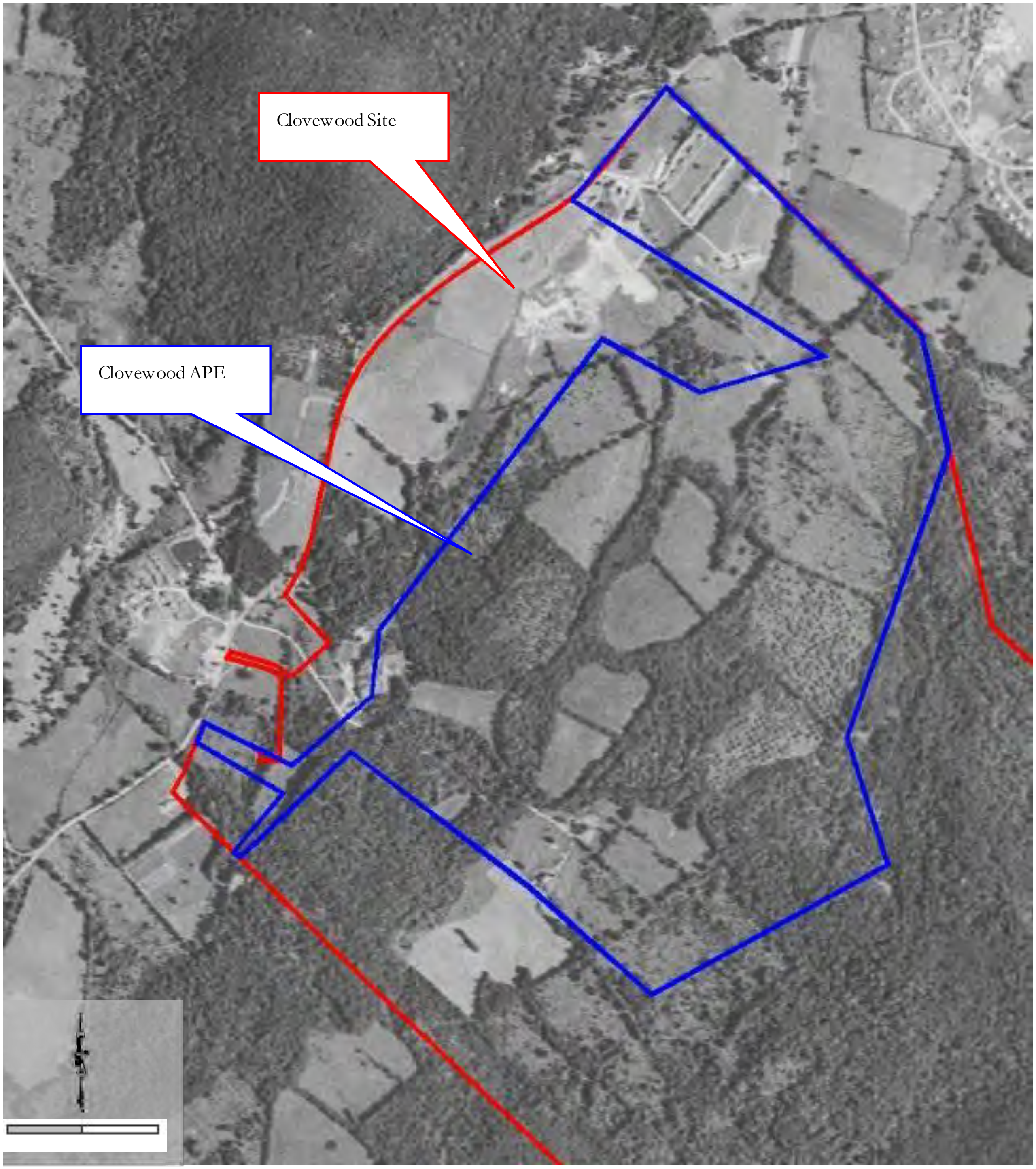


Figure 3: 1958 Aerial image of the project area. (Source: Google Earth.) Scale: 1”=780.’

This 1958 aerial image depicts the existing conditions of the property (red line) and the APE (blue line). In this image the construction on the Country Club and Golf Course has just begun. The landscape around the H. Howell House in the Lake Anne Complex appears to have been significantly disturbed. The wetlands located in the northwestern portion of the site have not been constructed and this area is shown as agricultural fields. The eastern and southeastern portions of the APE are orchards at this time.

B: Proposed Development

The project sponsor proposes to construct a residential development of 600 single family homes on approximately 142 acres, leaving large areas of open space within the APE. The associated infrastructure for the development will include roads, utilities, on site water supply, a sewage treatment plant, storm water and erosion control systems and community recreational facilities. An additional 22 acres in the center of the site are being reserved for future development but were tested as part of the Phase 1B investigations of the Clovewood Property.

C: Archaeological Survey Methodology

In June and July of 2016, HVCRC conducted an initial walkover of the Clovewood Site property and APE to assess the existing conditions in the Area of Potential Effect (APE). Areas selected for subsurface testing were identified and areas of disturbance, slope and wetland were eliminated from testing. These areas have been recorded on the Field Reconnaissance Map, included in Appendix C.

Results of a Phase 1A Literature Review and Sensitivity Analysis completed by CITY/SCAPE: Cultural Resource Consultants in July of 2015 confirmed that the site is located in an area of prehistoric activity. In addition, the landscape closely conforms to an ecological model that indicates that the level, undisturbed portions of the project area are moderate to highly sensitive for prehistoric cultural materials. The testing strategy for the site was structured around the knowledge that portions of the property possess the potential to yield historic and prehistoric cultural remains.

The field methodology employed within the Clovewood APE consisted of several stages of investigation. These included:

- A walkover and visual inspection of the site to assess areas of potential sensitivity for prehistoric and historic cultural remains, as well as locate and identify map documented structures.
- Systematic visual inspection of slopes and rock faces to rule out the presence of rock shelters and veins or deposits of cryptocrystalline rock suitable for raw material for making stone tools.
- Shovel testing in the areas identified as having potential sensitivity for prehistoric or historic remains.
- Photographic documentation of the overall site.

Shovel tests pits (STPs) measured approximately 45 cm in diameter and were spaced along Transects (TR) at 50' (15.2m) and 100' (30.4m) intervals. The larger intervals were utilized in areas such as the now abandoned Lake Annee golf course to demonstrate and delineate the profound subsurface disturbance. Shovel tests were normally excavated to a minimum of four inches (10 cm) into sterile subsoil, unless impeded by rocks or other obstructions. All excavated soils were passed through one-quarter-inch hardware cloth. Shovel test profiles were recorded on standard field forms that included stratigraphic levels, Munsell soil color, texture and inclusions, evidence of disturbance and any artifacts recovered. The locations of all STPs were recorded on a base map of the Project APE. The excavations and existing conditions across the Project Area were photographed. Items recovered from the screens were assigned to the stratum from which they were obtained. Had cultural materials been recovered they would have been bagged, labeled, and returned to the laboratory for processing.

D: Archaeological Survey Results

Once a testing strategy had been established and areas unsuitable for testing were eliminated from the survey, and potentially sensitive areas were systematically shovel tested. The areas subjected to shovel testing represent the undisturbed, level and well drained areas within the project area. To maintain surface control, the APE was divided into sections A through W. Area HH refers to shovel tests excavated around the historic Howell house in the southwestern corner of the APE. Work commenced in Area A, and generally proceeded counter clockwise throughout the APE, beginning in the northwestern corner. These areas have been demarcated on the Field Reconnaissance Maps (Appendix C). The table below provides details of which transects were completed in the designated areas.

Table 1: Testing Areas and Results for the Clovewood Phase 1B Survey

Area	**Transects (TR) #'s**	**Shovel Test Pits (STP) #'s**
Area A	0-16	0-121
Area B	17-33	122-223
Area C	34-444	224-331
Area D	45-54	332-372
Area E	55-65	373-574
Area F1	66-73	575--718
Area G	74-99	719-881
Area H	100-101	882-899
Area I	102-103	900-928
Area J	104-105	929-948
Area K		
Area L	106	949-952
Area M	107-108	953-966
Area N		
Area O		
Area P	109-110	967-984
Area Q		
Area R		
Area S	111-112	985-994
Area T	113-119	995-1031
Area U		0
Area V	120	1032-1040
Area W	121-122	1041-1051
Area HH	-	5
Total	**122**	**1056**

Area A

Testing began in the northeastern portion of the APE. The primary access point into the property is along an asphalt and gravel road that runs along the southern boundary of the decaying Lake Anne county club building complex north of a large wetland area. A modern residential structure, currently occupied, is located near the intersection of Clove Road and the site access driveway. The yard area around this structure, where not covered by the asphalt parking area is littered with household materials, and is heavily used by dogs and the house occupants. Shovel tests in this area were offset 50' (15.2m) from the house.

Photo 1: Existing structure located adjacent to the western entry way to the project area. View to the north.

In the northern portion of the project area is a derelict housing complex (indicated on local signage as the Lake Anne Cottages). This residential neighborhood is in dilapidated condition, and consists of approximately 50 houses. The housing development appears to be on a flat hilltop that has been graded. There is relatively steep slope on all four sides of the knoll. South of this area are three large communal style buildings, apartments or similar style housing associated with the former Lake Anne County Club.

Photo 2: Apartment/hotel buildings located in the northwestern portion of the project area. These buildings are identified on the figure included in The Architectural Report. View to the north.

There is significant evidence of surface and subsurface disturbance in Area A. Extensive subsurface infrastructure exists throughout, and areas of bulldozed and piled soil mark the landscape. A total of 121 shovel tests were excavated in Area A along transects oriented southwest to northeast. Within the housing complex, three transects were completed to confirm the presence of subsurface infrastructure. The shovel tests across Area A produced a variety of soil types ranging from silty loam, to clay, to gravel, to mottled mixed soils. Grassy surfaces between the houses, when tested, proved to be overgrowth on buried blacktop walkways. Soils overall were loose and rocky, and contained high densities of modern items. Some areas were wet and some were sloped, but overall the soil profiles were classic examples of extremely disturbed and churned soils. No cultural materials were recovered from intact stratified soils. The soils in this area are profoundly disturbed and lack archaeological integrity.

Photo 3: Residential structures are located in the northern portion of the project area. View to the east.

Area A contains what was once the Lake Anne Resort/Golf Club clubhouse, which is a Quonset hut style structure with divisions inside that represent a kitchen area, a dining and bar area and various storage and service rooms. This building dates to the Lake Anne Club era, approximately 1950-1960. It is currently in a decrepit condition. The inside is littered with a large quantity of both broken and intact 1960's to 70's mass produced restaurant ware and glassware. The roof of the structure is deteriorated and vegetation is beginning to grow within the walls of the structure.

Photo 4: Interior of the Clubhouse structure. The exterior walls of the building along with the interior of the structure is degraded.

The area around the clubhouse is extremely disturbed, with evidence of earth moving and soil piles. At some time after the Quonset hut club house was constructed, a series of poorly constructed small additions were added, extending from the northern end of the club house. These additions connect the club house to a historic building, identified on the historic map as the H. Howell house that first appears on the 1875 Beers map (Appendix B). The structure is in a state of decay and the foundation is deteriorating. The foundation is dry laid field stone, with corrugated steel supporting the southern wall of the structure. (See Photo 32) The foundation and perimeter of the house are heavily overgrown with vegetation. The house, a three story structure with a steeply pitched roof, is discussed in more detail later in this report. No significant cultural materials were recovered from Area A.

Photo 5: Interior of the spring house showing the modern electrical features.

Outside of the APE and southwest of Area A, stone and mortar spring house is built into the side of a hill. The keystone in the doorway is dated "1941." There are no other elements associated with this feature, nor does it seem to correlate to any of the existing structures on the property. This stone features is located outside the boundaries of the APE. The spring house has been fitted with modern electrical equipment and a circuit board.

Area B

Area B is located to the southeast of Area A, and represents a relatively flat landscape abutting the eastern boundary of the APE. This segment of the APE was effectively delineated on three sides by stone walls. A stone wall running northwest-southeast approximately 200' west of the APE boundary served as the baseline for the transects in this area. Area B is essentially a large field overgrown with black cap and honey suckle bushes, ailanthus and similar scrub foliage. The ground surface included subsurface hornets' nests. The ground surface within the field was compact, and three large artificial soil piles were identified in this area. A network of ATV trails run throughout Area B. A total of 102 shovel tests along 17 transects comprehensively tested this area. The soils in Area B ranged from light to dark brown silty loam to sandy clay with gravel. There was a surprising lack of consistency in the stratigraphy, indicating that this section of the APE has experienced significant ground disturbance, likely over a substantial period of time. No significant cultural materials were recovered from Area B.

Photo 6: Area B is overgrown with ailanthus, black cap bushes, honeysuckle and multiflora rose. View to the northeast.

Area C

Testing next moved south to Area C, located on the southern side of the stone wall delineating Area B. This area terminates at steep slopes that rise up to the Schunemunk Mountains in the southern portion of the Clovewood property.

Photo 7: Area C is characterized by recent growth forest and gentle slopes on an undulating land surface. View to the west.

Area C is a wooded landscape located to the east of the former golf course. This area is a combination of gentle slopes interspersed with areas with a steep grade. It overlooks a steep ravine with a stream to the east. The stream channel in the ravine is marked with large piles of gravel and washed out areas, indicative of a seasonally flooded or fast moving or similarly altered stream. The vegetation within the ravine is characterized by a dense understory of small trees, and multiflora rose.

Photo 8: Area C is marked by significant alterations in the landscape. View to the north.

Along the northern boundary of Area C, the surface inspection identified an iron pipe and a substantial drainage system that appeared to be fed by a stream extending up the side of the mountain. The northwestern portion of Area C terminates in the eastern extreme of the Lake Anne golf course. Evidence of stratigraphic disturbance is evident in this locus despite the extremely dense vegetation cover of brush and opportunistic grasses. A total of 108 shovel tests were excavated along 11 transects in Area C, yielding a variety of soil profiles similar to those identified in Area B. Throughout the area evidence of subsurface disturbance was evident in the soils, with the majority of tests terminating in a silty loam with shale, channery and gravel. Overall, the testing in Area C documented a land surface that has undergone significant changes due to the installation of an extensive irrigation system in the ravine, as well the alterations to the ground surface for the golf course. No cultural materials were recovered from Area C.

Area D

To complete testing in the eastern section of the APE, the crew excavated a total of 41 shovel tests along 10 transects oriented north to south. The transects were placed along the level areas of the gentle slopes that ascend the side of the mountain. Although Area D is sloped, it was considered a borderline incline in an area of higher sensitivity given its proximity to the nearby stream. Both a long established farm lane and a large access road reinforced with shot rock bisected this area. A significant percentage of the landscape is obviously disturbed as the result of subsurface drainage construction. In addition, this portion of the landscape has a boat and other modern materials scattered on the surface. The vegetation is open woodland combined with dense understory. The size of the trees in this area suggest that it was cleared sometime in the past 50 years, and was most likely used for pasture. No plow zone was identified within the soil profiles in this area. The shovel tests yielded a fairly consistent soil stratigraphy dominated by yellow to dark brown silts and silty loams, with gravel and slate inclusions. No significant cultural materials were recovered from Area D.

Photo 9: Area D contains modern items. The area is lightly forested. View to the east.

Area E

Area E encompasses the large, flat knoll where the majority of the now abandoned Lake Anne Golf Course is located. In its current condition, the knoll is mown grass that is now intermingled with meadow flora such as Queen Anne's lace, honeysuckle and multi flora rose. This area is traversed by substantial roads, both historic golf course roadways (cart paths) and access roads that lead throughout the property.

Photo 10: Area E contains subsurface iron infrastructure. View to the east.

Area E is the location of a substantial and complex irrigation system that was installed to create adequate drainage and water supply for the golf course. Iron pipes and other metal irrigation features are evident across this knoll. Former greens and bunkers (sand traps) are still evident across the area. The landscape is marked by loci where significant surface alteration has taken place. Several large groups of trees occur on the crest of the knoll, most likely features of the golf course design. In addition, large earthen berms have been bulldozed into place at the southeastern boundary of the former golf course. This earth moving event took place more sometime after the golf course closed, as it cuts into portions of the former golf course.

Photo 11: A small pond is located in the western portion of Area E. This water feature was constructed as part of the golf course design.

A total of 11 transects containing 202 shovel tests were excavated across the Lake Anne Golf Course landscape. The predominant soils were yellow to brown silty loam, frequently interspersed with dense clay and gravel. The characteristics of the soil stratigraphy and texture suggest that they may have been deliberately compacted. Sand was evident in many areas and is likely to represent either overgrown sand traps or to have been added to the ground surface to provide sufficient drainage for the course. The field team began testing this area using a 50’ (15.24 m) interval. As the soils lacked consistency across the area and were clearly disturbed, the crew changed the interval to 100’ (30.48 m) to continue to document the extent of the disturbance, and determine if any intact sediments remained in this area. The entire knoll exhibited disturbed soils. No significant cultural materials were recovered from Area E.

Photo 12: A steep road cut bisects the southern tier of the golf course. View to the north. Principal investigator, Stephanie Roberg-Lopez completed a comprehensive walkover of the project area.

Area F

Once the golf course knoll had been tested, the crew moved west to the slope leading up to a large knoll parallel to the golf course locus.

Photo 13: Area F is a mix of steep slopes overgrown with mature forest and thick understory. View to the northeast.

This area is characterized by a knoll overlooking a ravine and stream, as well as a small wetland area. The steep slopes were interspersed with level terraces. The transects were aligned parallel to the stream bed to conform to the orientation of the level areas. The land is interspersed with small hills and low lying wet areas. The ground surface contains a significant scatter of rock and boulders, suggesting that the stream floods seasonally, or is a fast moving waterway.

Photo 14: The steep ravines are covered with a thick understory. View to the northeast.

In addition, an existing dirt path bisects the area from the east to west. The shoulder areas of the path show evidence of cutting and filling to create a stable roadway. Soil piles associated with the road cut were noted. Area F also includes a small level area to the north of the existing roadway. In this location the transects were aligned south to north adjacent to an area of steep slopes. A total of 144 shovel tests were completed in this area, identifying a thin A horizon underlain by dry to damp silty loams with gravel and shale inclusions. Area F was a relatively inhospitable land surface, lowering the potential for human occupation. No significant cultural materials were recovered from Area F.

Area G

The crew then moved to the level hilltop located in the central portion of the property, adjacent to the western boundary of the APE. This hilltop parallels the golf course, and was initially considered, due to its elevation and proximity to wetlands, to have the highest potential for prehistoric habitation. Area G overlooks a large wetland to the west that is bounded by Clove Road. When the 1958 aerial photo was acquired, it became evident that the wetland was pastureland at that time, indicating that the wetlands are relatively recent. Based on surface conditions, Area G can be characterized as recent growth forest with a thick understory. The crew hand cleared transects through the briars and other underbrush. A total of 163 shovel tests on 23 transects comprehensively tested this area. The soils were shallow, and predominantly dry silts and silty clay loams with small gravel inclusions. Unlike other portions of the APE, no evidence of prior disturbance was encountered on the ground surface or within the stratigraphy. As the crew moved west from Area G to examine the steep slopes overlooking the wetland, they identified a series of iron/metal drainage culverts protruding from and lying atop the ground surface. These pipes seem to be part of a larger irrigation network located throughout the project area. No significant cultural materials were recovered from Area G.

Photo 15: Area G is a level knoll that is lightly forested. The knoll is bordered by thick understory. View to the north.

Area H

Area H is located in a swale oriented east-west. It is bounded on each side by rock walls and terminates in a series of mechanically excavated drainage ditches. The surface, which is very steep is littered with large fraction rocks and boulders resulting in an inhospitable landscape. To the west of Area H is an area that has been mined in the past. Large pits and soil berms remain, with trees ranging from 30 to 50 years in age growing out of the basins left by removal of the sediments.

Photo 16: Area H is located in a lightly forested are that exhibits evidence of surficial disturbance. View to the east.

Materials dating from the 1940's to the present were noted on the ground surface in this area. To the west of Area H are the remains of a demolished structure. Based on the surface artifacts which include machine made bottles, semi porcelain and modern china, bricks and cinderblocks, the structure likely dated to the mid-20th century. A total of 17 shovel tests along two transects oriented northeast to southwest tested the level and relatively undisturbed portions of Area H. The soils encountered consisted of a brown silty loam overlying a brownish yellow silt with gravel. No significant cultural materials were recovered from Area H.

Photo 17: Materials dating to the mid-20th century were noted on the landscape around the demolished house. View to the west.

Area I

Area I is located in the southwestern portion of the APE. Two access roads are proposed in this location to connect the new development to Clove Road, and Route 208. The roads run roughly perpendicular on a north-south, east-west orientation. This locus is characterized by gullies and culverts with numerous small streams. There are numerous stone walls networking the area, and north-south and east-west walls were used to orient the transects in Area I. The largest of the stream beds has been manually altered in some areas, to increase its efficiency as a drainage culvert. The historically altered section is located outside of the northern boundary of the APE. Two transects were aligned in the locations of the proposed roads. A total of 29 shovel tests were excavated along these two proposed road corridors. The stratigraphy was consistent throughout, with a brown yellow silt overlying a brown silty loam. No significant cultural materials were recovered from Area I.

Phot 18: The transects located within Area I followed the existing stonewalls located in this area. View to the southeast.

Area J

After the completion of Area I, the field crew began moving counterclockwise along the southern and eastern boundaries of the APE, testing the level terraces located within the steep slopes. Area J is a lightly forested landscape with mature trees and little understory. This area is located between two small drainages which bisect the steep slopes. The landscape ascends to the south and descends sharply to the north. There are numerous stone walls in the area, with a significant surface litter of rocks and boulders. Two transects were excavated on gentle slopes in this location. The stratigraphy was consistently a yellow to brown silty loam overlying sandy soils with gravel and shale inclusions. No significant cultural materials were recovered from Area J.

Photo 19: The surface area within area J is littered with small boulders and cobbles. View to the southwest.

Area K

Area K is an area that is marked by a series of undulating shallow slopes and gullies. There are no loci in Area K that meet the criteria for shovel testing. The field crew walked the land surface inspecting the site for rock overhangs, alluvial benches and sources of cryptocrystalline rock. None were encountered.

Photo 20: The surface area within Area K is steeply sloped. View to the southwest.

Area L

South of the golf course, the land rises to the south and east creating a series of slopes and terraces. The majority of the land surface exceeds 12% slope and was therefore eliminated from testing. Area L is characterized by a series of constructed roadways covered with shot rock. In the southern portion of Area L, adjacent to the southeastern tip of the golf course, a test well has been constructed. To the east of the test well is a derelict two story historic structure. This building appears on the 1903 maps as the N.W. Howell house and is shown north of a mineral spring. A significant waterway and a wet land area are located to the west of Area L. The landscape around the house has been significantly. Four shovel tests were completed along a single transect in a level area north of the existing structure. In addition, a series of five shovel tests were excavated around the perimeter of the house structure. The soils in Area L consisted of a brown silty loam overlying a brownish yellow silt with gravel. The shovel tests around the house structure identified a brown silt loam overlying a light yellowish brown silt. The materials recovered consisted of modern bottle and window glass, plastic, metal and modern ceramics. No significant cultural deposits were identified in Area L. The historic N.W. Howell house will be discussed in greater detail later in this report.

Photo 21: Area L is a wooded area located to the south of the golf course. View to the north.

Area M

To the north of Area L is Area M. Area M represents a locus that, while sloped, contains level areas suitable for shovel testing. This area is characterized by forested lands with little to no understory. A total of 14 shovel tests along two transects comprehensively tested this area. The soils encountered consisted of a brown silty loam overlying brown silty loam with gravel. No significant cultural materials were recovered from Area M.

Photo 22: Area M is characterized by steep slopes interspersed with more gentle grades. View to the south.

Areas N and O

Areas N and O, located at the southeastern portion of the APE, consist of steep slopes and dense underbrush. Like Area K to the west, the land surface is steeply sloped, and interspersed with dry drainage channels. The existing network of roads throughout the project area provided access into this portion of the project area. The field crew completed a surface reconnaissance of this locus, again focusing on rock overhangs, alluvial benches and sources of cryptocrystalline rock. No areas suitable for shovel testing were identified in these locations.

Photo 23: Dry steam channels are located in the eastern portion of the APE. View to the east.

Area P

Area P is located on the increasingly ascending slope that ultimately terminates along the mountain ridge to the south. Much of this foothill landscape is too sloped to test, however the crew inspected the entire area for benches and terraces that might have prehistoric potential. The area hosts a network of access roads that mark the landscape. Area P was marginally testable based on a slope of slightly less than 12% grade. A total of 17 shovel tests were excavated along two transects, however none yielded cultural material. The soils were brown silty loam with gravel over brown sandy silt. No cultural materials were recovered from Area P.

Photo 24: A n access road and covered test well are located in the project area. View to the northeast.

Areas Q, R and U

Areas Q and R abut Area P to the south, and are extensions of the sloped landscape. These areas are bordered by stream channels and stone walls, are steeply sloped and can be characterized as heavily forested. The steep slopes have been bisected by the existing roadways. No areas suitable for shovel testing were identified during the surface reconnaissance of this area.

Photo 25: A covered test well is located within the project area. View to the west.

Area S

Area S is located to the east of the Golf Course. This area is a flat bench that is lightly forested. A total of 10 shovel tests were excavated along two transects in Area S. The soil stratigraphy was consistent with soils across much of the site, a brown to yellow silty loam overlying a brown silt. No cultural materials were recovered from Area S.

Area T

Area T is located in the southern portion of the APE to the southwest of a wetland area. Portions of Area T include existing access roads. Portions of Area T contain concentrations of wet soils as well as excessive slope. A total of six transects containing 34 shovel tests comprehensively tested this area. Soils remained consistent with adjacent areas, a brown to yellow silt a silty loam underlain by brown silt or sandy silt. No significant cultural materials were recovered from Area T.

Area V

Area V is located in the southern corner of the APE on the northwestern edge of a wetland area on the small level foothills of the mountain. One transect with nine shovel tests was excavated on a gentle slope located adjacent to a small dry stream bed. The soils encountered consisted of a brown to yellow silty loam underlain by brown silt or sandy silt. No significant cultural materials were recovered from Area V.

Photo 26: The landscape in the southern portion of the APE is marked by soil rows. This area is depicted as orchard on the 1958 aerial image. View to the east.

Area W

Area W is a level location near an existing access road. Two transects were placed outside the previously disturbed area, and 11 shovel tests were excavated along these transects. The soil profile was identical to tests in the abutting Area V. No significant cultural materials were recovered from Area W.

E: Historic Context of the Clovewood Site

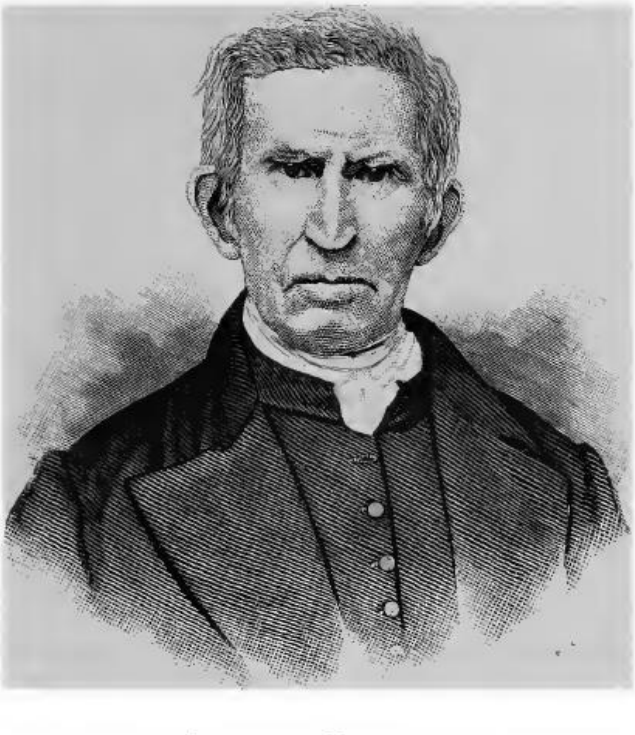
The Howell Family in Blooming Grove

The Clovewood Site is located on property that historically belonged to a notable Blooming Grove family, the Howells, who were prominent not only in Orange County, but in New York State as well. The town is historically home to many Howell homes and businesses, as well as those of the families into which they married. HVCRC completed a review of Orange County historical documents to provide a background for the use history of the site.

A brief narrative of the Howell family genealogy and history, as it has been recorded in published county histories, has been included below. This narrative is not meant to represent an exhaustive history of the Howell family, but rather to establish a context in which to adequately assess the historic structures within the project area. This information included in this narrative is taken from *The History of Orange County* (E.M. Ruttenbur & L.H. Clark 1881 and *The History of Orange County* (Russell Headly 1908)

Historic maps indicate that during the 19th century the land within the project area was owned and occupied primarily by the Howell family. Hezekiah Howell (1709-1785) came from the South Hampton area of Long Island New York, and settled in Blagg's Clove (a tract of one thousand acres, lying in the valley between Schunemunk Mountain and Round Hill) in 1727. Hezekiah Howell is a lineal descendent of Edward Howell who came from Marsh Gibbon, Buckinghamshire, England to Massachusetts in March of 1639. The Edward Howell Homestead still stands in South Hampton NY. Hezekiah Howell died in 1785. Records for some, but not all of Hezekiah Howell's descendants are available through genealogical resources.

When Hezekiah Howell (1) settled in Blagg's Clove, he married Susanna, the daughter of Job Sayre, and the couple had four children; Phebe, Jane, Hezekiah (Jr) and Charles S.



Hezh Howell

Photo 27: Undated lithographic image of Hezekiah Howell (1). Source: Ruttenbur & Clark: 1881

Charles S. Howell (son of Hezekiah Howell (1)) was born in Blagg's Clove in 1752. He was primarily a farmer, but also served as member of the Independent Corps under Gen. George Clinton. Charles S. Howell aided in the construction of Fort Putnam at West Point. In 1785, he married a daughter of Major Strong (her name has not been identified in the records), and settled on 150 acres of land in Blooming Grove. His children were Selah and Clarissa.

Hezekiah Howell (2), was born in 1741 at the homestead in Blooming Grove. He married Juliana Woodhull. Their children were Hezekiah (3), Nathaniel W., Susan, Sarah, Fanny and Elizabeth. Hezekiah Jr. was the first Supervisor of the Town of Cornwall in 1765 and in 1775 served on the Safety Committee. He also served as the Sheriff of Orange County during the Revolutionary War and as the overseer of the highways in Blagg's Clove in 1765. Historic records refer to this member of the family as Major Hezekiah Howell, likely for his service during the Revolution.

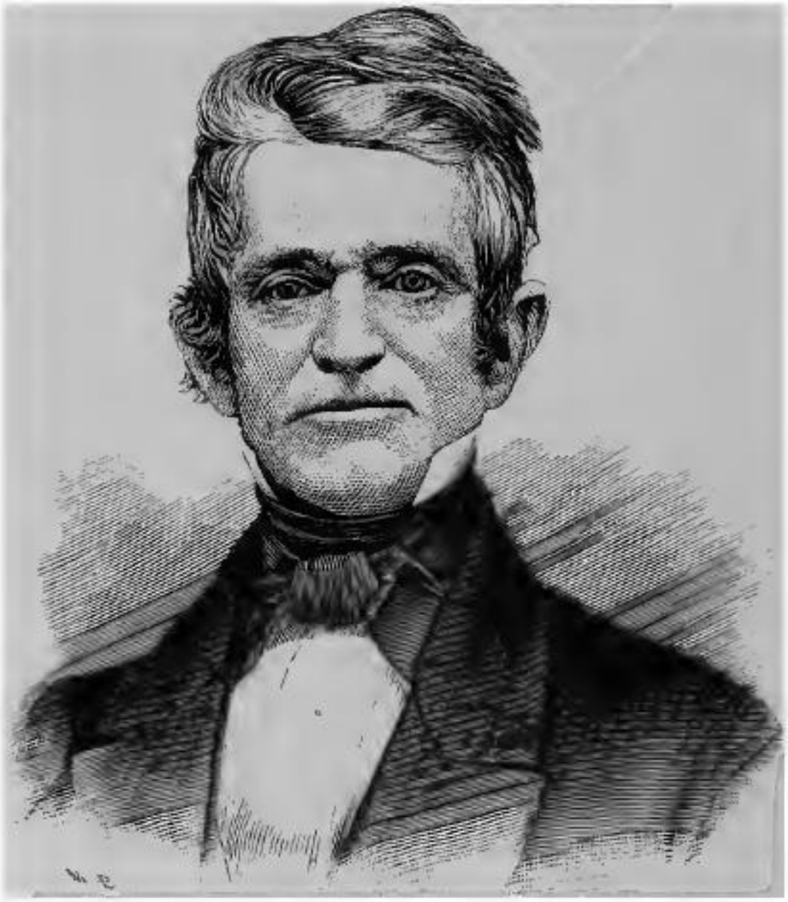
Hezekiah Howell (3) was born on the homestead in 1768. He attended school in Goshen, but spent much of his childhood on the farm. During his years at the school house in Goshen, Hezekiah pronounced letters for Noah Webster, the lexicographer, while Webster compiled his famous dictionary. Hezekiah Howell (3) was a farmer and an active business man. He also invested his energies in public works and contributed to the building of the Blooming Grove Church. In 1796, he married Frances Tuthill. Their children were Juliana W., Hezekiah (4), and Nathanial W., Mathew H., John W.T, Mary B., Gabriel, Simeon and Andrea. Hezekiah Howell (3) added 200 acres to the homestead and died there in 1855. At the time of his death the farmstead covered 750 acres.

Nathanial W. Howell (son of Hezekiah Howell [2]), served as a justice of the peace in Blooming Grove and Orange County for many years. He graduated from Princeton College in 1788 and served as a United States Representative from New York. He taught school in Montgomery, New York from 1789 to 1792. Nathanial Howell was admitted to the New York State Bar Association and practiced in New York City and in Tioga County from 1794 to 1796, and in Canandaigua from 1796 to 1851. He was the Attorney General for western New York from 1799 to 1802 and a member of the New York State Assembly in 1804. In 1817 he was elected as a Federalist to the Thirteenth Congress, holding office from March 4, 1813 to March 3, 1815. He was appointed a member of the commission to appraise the Western Inland Lock Navigation Co., and was the first judge of Ontario County, holding that office from 1819 to 1832. Nathanial W. Howell is buried in Canandaigua New York.

Mathew Henry Howell (son of Hezekiah Howell [3]), was born in 1805, and lived his life on part of the Howell Farmstead. He married Julia Brewster and the couple had four children, Nathaniel W., Charles, Sarah and Joanna. Mathew Howell's son, Nathaniel, the great grandson of Major Hezekiah Howell, lived on 300 acres of the farmstead. He managed the entire family farmstead from 1886 until 1908. In 1908, he sold the entire estate to Corydon T. Purdy, of Montclair, N. J., a descendant of Susan Howell (daughter of Major Hezekiah Howell).

Charles Howell (brother of Hezekiah Howell [1]), after the death of his first wife in 1802, married Elizabeth Board. Their children were Charles Board (1803-1865) who became a practicing physician in Chester, Edmund Sayre (1804-?) and Joseph Henry (1805-1878). Charles Howell died on the family Homestead in 1843.

Edmund Sayre Howell (grandson of Hezekiah Howell [1]) spent the majority of his life on the homestead in Blooming Grove. His education was limited to the local schools and he worked on the farm throughout his younger years. In 1836 he married Nancy Bell of Warwick. Together they had eight children (Mary E., Clarissa A., Phebe E., Charles H., Caroline A., Joseph E., Susan E., and Effie). Charles H. stayed on the family farmstead. He served as a member of the Second Presbyterian Church in Washingtonville and as one of the managers for the Orange County Bible Society.



Edmund S Howell

Photo 28: Undated lithographic image of Edmund S. Howell (1). Source: Ruttenbur & Clark: 1881

The historic maps gathered for this report document many members of the Howell family living along Clove Road within the boundaries of the Clovewood Site, as well as adjacent to it. In addition to the dairy farm and creamery that the family established in Blooming Grove, other members of the Howell family had a creamery in the town of Goshen. The Howell family married into the Woodhull and Tuthill families, whose farms and residences are also depicted on the maps of the Blooming Grove area. Members of the Howell Family are buried in the small cemetery adjacent to Clove Road. Others are buried in Goshen and in Middletown.

Recent History of the Howell Farmstead

In 1908 Corydon Purdy purchased the Howell Farmstead, erecting a number of farm buildings and adding equipment, creating a modern up-to-date and sanitary dairy farm. In addition to renovating the outbuildings, he modernized the structure built by Major Hezekiah Howell in 1727. He also expanded the scope of the farm, no longer simply providing dairy products to sell in city markets, but exporting fruits and vegetables as well.

Corydon Purdy was a renowned structural engineer who has been referred to as the "Father of the Skyscraper." He was responsible for the shift in using steel and iron infrastructure, rather than masonry, to support building height. Many of his buildings are still standing in New York and Chicago including the Bank of Manhattan Trust Building. Corydon Purdy worked in Manhattan and retreated to the farm in Blooming Grove for relaxation. He resided at the farm for many years before moving to Melbourne Florida, where he died in 1944.

The 1935 USGS Topographical map (Appendix B) shows that no significant changes have taken place to the landscape. The stream corridor in the western portion of the maps, shown on the 1903 cadastral map, still follows the same channel. The 1957 Topographical quadrangle shows that significant changes have taken place within the project area. The small stream has been dammed to create a large pond in the western portion of the project area. A network of roads has been constructed throughout the project area. This map indicates that mining has been taking place in the southwestern portion of the APE (Appendix B).

In 1952 Marvin H. Greene purchased approximately 710 acres of land in Blooming Grove, Orange County, New York, essentially the lands that had been the traditional Howell farm. On October 28, 1960, the Town of Blooming Grove Planning Board approved to construct a casino (which was later constructed on the site). The approved map showed the following existing facilities: luncheonette, cocktail lounge, six units and six bedrooms, 120 bungalow units, other buildings containing multiple bungalow units, outdoor pool and athletic facilities, and approximately ten acres of ski facilities, existing infrastructure including a water supply system claimed to be capable of supporting 544 bungalow units, an indoor swimming pool and an outdoor swimming pool, all on 136 acres of the site. In 1973 Greene again revised his plan to add additional bungalow units. On June 10, 1986, Greene applied to the town's building inspector for a permit to build the additional 419 units to the 125 units already built (totaling 544 residential dwelling units) (Unites States Court of Appeals 1989) (Appendix E). By June of 1953, Greene had built ten two-unit bungalows on the parcel on the eastern side of Clove Road.

In 1960 Greene revised his planned resort to include an outdoor pool and athletic facilities, an ice rink and approximately ten acres of ski facilities and additional bungalow units. By this time, Greene had already constructed an "infrastructure" to service the entire planned bungalow colony, including a water supply system claimed to be capable of supporting all 544 bungalow units, an indoor swimming pool and an outdoor swimming pool. He also constructed a casino. Many of these units have been constructed along Lake Anne Road to the north of the existing golf course. The Quonset hut structure served as a night club, dance hall, meeting room and cocktail lounge. An advertisement dated 1971 boasts the finest facilities and catering.

The Golf course operated until the 1990s. The Greene family sold the property to Keen Equities, LLC in January 2006.

F: Map Documented Structures

HVCRC examined historical maps of Orange County to identify possible structures, previous road alignments and other landscape features or alterations that would affect the likelihood that archaeological and/or historic resources could be located within the project area. Nineteenth century maps frequently lack the accuracy of location and scale present in modern surveys, however a number of historic structures have been identified within the APE and the larger project property.

H. Howell House

The H. Howell House (seen on the 1875 F.W. Beers Map, Appendix B) is depicted in the northwestern corner of the project area. This structure does not appear in this location for any of the other years for which the historic landowner maps are available. The date suggest that when this map was made Hezekiah Howell (3) or Hezekiah Howell (4) were the current occupants of the house. The remaining historic maps (1851, 1859, and 1903) do not show this structure but continue to show the residence on the northwestern side of the street. The structure on the northwestern side of Clove Road is last depicted as being owned by N.W. Howell, who owned 400 acres of land at that time.

The northwestern portion of the project area currently contains the derelict buildings related to the former Lake Anne Country Club. These structures include the Quonset Hut, club house, three apartment or hotel buildings, a large barn with a silo, approximately 50 residences in a cluster along the northern boundary of the project area, two derelict outbuildings and a three story residential structure attached to the Quonset Hut structure. These buildings are described in detail in the Architectural Report for the Lake Anne Country Club.

Sometime after the Lake Anne Quonset hut club house was built, a poorly constructed small addition was added, extending from the northern end of the club house and connecting it to the three story wood frame structure. This three story structure is in the location of the H. Howell house that first appears on the 1875 map. This structure, referred to throughout this report as the H. Howell, house is in a state of decay and the area surrounding the foundation deteriorating and overgrown. The foundation is dry laid field stone, with a wood frame super structure. The interior of the structure was not accessible at the time of the Phase 1B survey.

Photo 29: View south of the northern elevation of the H. Howell House.

The superstructure is three stories high with a peaked roof covered in aluminum sheeting. A single story addition is located on the northern side of the structure, and a small wooden porch is located on the northeastern side. A small wooden walkway connects the house to the Quonset Hut. This addition is constructed of cinderblock and has a corrugated steel roof. A small ell built on top of a field stone foundation is located on the western wall of the structure. The southern wall of the deteriorating fieldstone foundation has been reinforced with corrugated sheet metal. The house is heavily overgrown with vines, briars and other thick vegetation.

Photo 30: A wood frame addition connects the H. Howell house to the Quonset hut. View to the west. This elevation around the house is heavily overgrown with vegetation.

The architectural integrity of the house has been compromised over the years by the small addition, the sheet metal used for wall separations and the installation of utilities to the house as evidenced by a network of pipes breaching the foundation. Electrical lines, currently disconnected from the poles but still connected to the exterior walls of the structure, indicate that the building was modernized, probably during the construction of the Lake Anne County Club. The ground area on the southeastern and eastern sides of the house which connect to the Quonset hut complex are profoundly disturbed. Piles of dirt and the uneven ground surface surrounding the structure indicate a significant amount of subsurface disturbance within the yard area of the house. The shovel tests excavated in the yard area documented highly disturbed stratigraphy. Modern items were identified within the shovel tests completed in this area. The landscape slopes to the east and northeast into a low lying area that contains standing water. This low lying area is located on the northern side of the Lake Anne Quonset Hut. Given the condition of the structure, it is not considered to be National Register Eligible.

Photo 31: View of the dry laid field stone on the south western wall of the structure. The openings in the wall contain modern piping and have been reinforced with corrugated steel sheeting.

N.W. Howell House

At the southeastern portion of the APE is a map documented structure also belonging to the Howell family. This structure appears on the historic map dated 1903, and is shown as belonging to N. W. (Nathaniel Woodhull) Howell, the last owner of the Howell Homestead. The house is still standing but in a state of decay. It is wood frame construction and sits on top of a field stone and cinderblock foundation. The fieldstone is mortared and was later repaired, as evidenced by the cinderblock additions at various points around the foundation. The landscape around the structure, specifically to the northwest, south and southeast, has been bulldozed and graded. On the northeastern and eastern sides of the house, the ground surface has been bulldozed into large spoil piles. This soil moving event took place in the late 20th century, based on the size of the trees in the area and the amount of leaf litter and vegetation covering the soil piles.

Photo 32: View to the west of the N.W. Howell House.

The access road is cut into the landscape approximately 7-8' deep in the northwestern yard of the house. This level of profound disturbance effectively eliminates any potential for historic midden deposits or shaft features. As series of five shovel tests were excavated around the foundation in areas that had not been impacted by the access road. The shovel tests identified a dark brown silt loam overlying a light yellowish brown sandy soils and identified plastic, metal, whiteware and brick and coal fragments. The materials were mixed throughout the strata and are not consistent with an intact cultural deposit.

Photo 33: An existing well is located on the northwestern side of the N.W. Howell House. View to the northeast.

Adjacent to the structure is a large soil pile. While inspecting the soil pile, the crew identified a bottle fragment with the date of "1912", a mix of creamware modern whiteware and china fragments, and plastic and metal pipe fragments.

Photo 34: View of the materials located within the dirt piles adjacent to the N.W. Howell House.

The N.W. Howell house is not considered to represent an intact historic cultural deposit. The yard area and foundation perimeter have experienced a series of disturbances, including the repairing of the foundation with modern cinderblock. The structure itself is in a state of disrepair. This building, which appears only on the 1903 map is not considered to be National Register Eligible in its current state of dilapidation.

M. H. Howell Farm Complex

In the southwestern portion of the project area, north of the intersection of Route 208 and Clove Road, are the ruins of the M. H. (Matthew Henry) Howell farm complex. These structures are depicted on maps dating as early as 1851 and are still depicted in 1903. In 1903, this property is shown as being owned by N.W. (Nathaniel Woodhull) Howell. The remains of this farm complex are extant, and are represented in the form of substantial stone foundations and walls. The M. H. Howell farm is accessed by a short farm lane from Clove Road, and by a network of farm lanes from the interior of the site. The farmhouse foundation is comprised of a number of delineated rooms, with a chimney and interior fireplace structure still intact. The various entryways and fenestrations are easily identifiable in the stone foundation walls. The farm road continues east past the M. H. Howell farmhouse foundation into the interior of the property. On both sides of this road there are the remains of farm building foundations, most likely barns and storage buildings. The footprint of this farm complex is well preserved and in good condition. The M. W. Howell Farm Complex is outside of the APE and will not be impacted by the project. As this location is outside the proposed APE, no additional work is needed as part of the Clovewood Phase 1B survey.

To the north of the M.H. Howell complex is a small dam located at the southern tier of the large wetland. This dam crosses a small stream channel that drains to the south past the M.H. Howell complex. The large pond/wetland created by the dam does not appear on any of the 19th century maps, but can be seen on the

1958 aerial image (Figure 3). These drainage systems were likely constructed to support the large dairy farm owned by the Howell's and later, Corydon Purdy.

Photo 35: View of a large structure located within the M. H. Howell complex. View to the north.

As noted above, the M.H. Howell complex was purchased by Corydon Purdy in 1908. Mr. Purdy renovated the complex creating a dairy farm that utilized modern equipment. Mr. Purdy's architectural and engineering accomplishments throughout the end of the 19th century and into the early 20th century are well documented. He established the profession of consulting structural engineering as a vital business endeavor in the United States. Mr. Purdy, who renovated the Howell Dairy farm, may be responsible for the network of irrigation and drainage pipes located throughout the project area. At this time it is unclear if these improvements were constructed by the Howell family in the late 19th century of the Purdy's in the early to mid-20th century.

Photo 36: The complex of structures associated with the M.H. Howell Complex are located outside the boundaries of the APE.

Round Hill/Howell Cemetery

The Round Hill Cemetery, one of several burial grounds used by the Howell family, is located outside of the Clovewood property on a separate parcel (Section 208 Block 1 Lot 1) and is owned by Round Hill Cemetery. The cemetery is located on a small knoll approximately 500' (152.4 m) north of the M. H. Howell farmstead and is accessed by a farm road that runs between the knoll and the wetland area located to the east. At present, the cemetery, which measures approximately 75' by 40', is enclosed by a corroding and deteriorating wrought iron fence. The site is overgrown with brush, trees and other opportunistic vegetation. The cemetery was carefully inspected for grave markers, and photographed to document the existing conditions.

Photo 37: View to the east from the center of the Round Hill/Howell Family Cemetery.

Based on recorded dates, this cemetery was in use between 1784 and 1917. Research completed by CITY/SCAPE: Cultural Resource Consultants lists nine individuals buried in the cemetery as John W. Howell (13 months and 12 days), Edward Brewster Clark (age 48) buried in 1917, Andrew Howell buried in 1818, Elizabeth Board Howell, buried in 1841 at 75 years of age, Charles Howell, a son of Hezekiah and Susannah Sayre Howell, buried in 1843 at 91 years of age, John Woodhull Tuthill Howell (J. W. T. Howell), a son of Hezekiah and Frances Tuthill Howell, buried in 1870 at the age of 64, Sarah S. Brewster Howell, second wife of J. W. T. Howell, buried in 1873, Sarah B. Howell Clark, a daughter of Matthew H. Howell and Frances Tuthill Howell, who died in 1889 at 51 years of age, and William Wells Clark, husband of Sarah B. Howell. The cemetery, as noted above, is outside of the Clovewood Site and therefore will not be impacted by the project.

Photo 38: This marker, located within Round Hill Cemetery is for Edward B. Howell, who was interred in this location in 1917.

The Round Hill/ Howell Cemetery is considered to be National Register Eligible, under Criterion B, of the *National Register for Historic Place Guidelines for Evaluating and Registering Cemeteries and Burial Places*., as site "That is associated with the events that have made a significant contribution to the broad patterns of our history." This cemetery represents an import period in the early settlement of South Blooming Grove, and contributes to the evolving sense of community as well as reflecting important aspects of community history. In addition, the cemetery retains most of its original character and appearance, reflecting its period of significance (1784-1917.) The Howell Family/Round Hill cemetery is located outside the boundaries of the Clovewood Property and will not be impacted by the proposed development.

Photo 39: An undated image showing the gate that was formerly standing at the Howell Cemetery. Source: Findagrave.com.

Schunemuck Prehistoric Site

During the course of the field investigations the HVCRC crew systematically inspected the steep slopes and rock formations on the site to rule out loci suitable for rock shelters and overhangs as well as veins of cryptocrystalline rock suitable for tool making. Although shown as steeply sloped areas on the field reconnaissance map, areas of the property contain small terraces that might have contained prehistoric sites. None were identified within the APE. As the crew navigated the site, using a system of roads within the property, they examined the steeply sloped areas to the east of the APE boundary. A small body of standing water is located outside the boundaries of the APE, on a small terrace. The field technicians noted prehistoric artifacts on the surface of soil berms that were created during the construction of a road accessing a test well in this location. The crew completed a surface collection among the exposed soils and mapped the locus using GPS. Artifacts recovered include bifaces a possible projectile point base and a chert broad triangular projectile point. The base of the point has been broken off, so a cultural affiliation cannot be conclusively assigned. The size and shape of both the broken base and the triangular point suggest an Archaic affiliation.

Figure 7: A sample of the artifacts recovered from the Schunemuck Prehistoric Site.

This locus, identified as the Schunemuck Prehistoric Site is located outside the boundaries of the Proposed APE and has been partially disturbed by the construction of roadways. In the event that the proposed development plan changes, additional investigation in this area is recommended. The artifacts were recovered from the surface where the construction of the existing roadway turned over the soils. The materials recovered consist of a large biface or celt, several utilized flakes and a projectile point. The base of the projectile point has been broken off, but the size and breadth suggest an Archaic affiliation.

G: National Register Eligible and Listed Historic Properties

In July of 2015, CITY/SCAPE Cultural Resource Consultants evaluated the resources within the general vicinity of the project area for National Register Eligible and National Register listed sites. In July of 2016 HVCRC completed a Phase 1B Archaeological Survey of the Clovewood Property. No significant archaeological sites or National Register Eligible Properties were identified within the boundaries of the project

APE. In the course of completing the research for the Phase 1B Archaeological Investigation HCVRC rechecked the database of National Register sites, and determined that no new sites had been added.

The Round Hill/Howell Family cemetery is located on a ±0.70 acres (.285 h) outparcel parcel (Section 208, Block 1, Lot 1) outside the Clovewood property. Currently, this historic cemetery is surrounded by a tall stand of trees. It is recommended that Round Hill Cemetery Inc, retain these trees to alleviate any potential adverse visual effects the proposed development of the Clovewood site may have on this historic resource.

The viewshed around the proposed Clovewood site was analyzed during the course of the field investigations. To the northwest of the proposed project, two large hills, Round Hill and Mosquito Hill, rise to a height of approximately 700' and 954' Above Mean Sea Level (AMSL), respectively. The southeastern boundary of the Clovewood site is located in the Schunemunk Mountains. The eastern boundary of the APE is located at an elevation of approximately 840' and the property boundary is located at an elevation of approximately 1380' AMSL. Given the rise in land surface to the northwest and east as well as south east, adverse visual impacts from the proposed undertaking are not anticipated. One half mile to the north of the project area is Helm Hill. The elevation at the apex of the hill is approximately 700' AMSL. To the south the elevation steadily rises as Route 208 progresses south. No historic properties have been identified within this area, therefore adverse visual effects from the proposed development are not anticipated.

H: Project Summary

The Clovewood Site Area of Potential Effect (APE) has been examined through a series of investigations including a Phase 1A Literature Search and Sensitivity Assessment, completed by CITY/SCAPE Cultural Resource Consultants in July of 2015 and a Phase 1B Archaeological Field Reconnaissance Survey by HVCRC in July of 2016. The Phase 1B survey identified two historic structures dating to the mid-19th through the 20th centuries, which have been identified as the H. Howell house and the N.W. Howell house. These historic structures, now derelict and degraded, are located on lands originally purchased by Hezekiah Howell. The investigations completed in the vicinity of these structures did not identify an intact cultural deposits. The absence of intact stratigraphy, and as with the case of the N.W. Howell house, the complete removal of soils, indicates that no archaeological integrity remains in these locations.

The walkover reconnaissance of the Clovewood site identified a cluster of prehistoric materials located in the eastern portion of the property near the summit of the Schunemunk Mountains at an elevation pf approximately 1000' Above Mean Sea Level, well outside the boundaries of the APE. This site is located outside the boundary of the proposed APE, therefore, no additional work is needed as part of the Clovewood Phase 1B survey.

In the eastern portion of the Clovewood property, also outside the boundaries of the APE are the remains of the M.H. Howell farm complex and the Round Hill/Howell cemetery. These features are historically significant as they represent the historic settlement patterns and development of a sense of Community in the Blooming Grove area. The Howell farmstead was first established by Hezekiah Howell in 1727. Over the next two centuries the farmstead expanded and became a significant feature along Clove Road. In 1908, famed structural engineer Corydon Purdy purchased the farm as a vacation retreat, and rehabilitated and modernized the existing dairy. In the mid-20th century the property was sold to Marvin Greene who built the Lake Anne County club on the northern portion of the property.

I: Conclusions and Recommendations

In June and July of 2016, HVCRC completed a Phase 1B Field Reconnaissance survey of the Clovewood Site in the Village of South Blooming Grove, Orange County, New York. Based on the information identified in the Phase 1A report, it was determined that the project area had the potential to yield prehistoric and historic cultural deposits. It was therefore recommended that a Phase 1B Archaeological Field Reconnaissance Survey be undertaken on those undisturbed areas within the project Area of Potential Effect.

A total of 1056 shovel tests were excavated within the Clovewood APE in areas considered to have the potential to yield prehistoric and historic cultural material. Based on the information recovered from shovel testing in the area of the identified H. Howell House and N.W. Howell house sites, no archaeological integrity remains and it is unlikely that additional archaeological investigations will yield information about the habits and lifeways of the Howell family or other occupants during the 19th century. In addition, the foundation remains have been impacted by modern renovations in the latter part of the 20th century and are in a state of decay. Given the state of the buildings and the level of disturbance to the structures as well as the lack of archaeological integrity, these structures are not considered to be National Register Eligible. No additional work is recommended for these archaeological sites.

The former Lake Anne Country Club buildings, located in the northern portion of the project area are also in a state of disrepair. These structures were built in the mid to late 20th century. Given the date of construction and the state of the buildings these structures are not considered to be National Register Eligible. The land surface surrounding these structures was carefully shovel tested and examined, however the cultural material recovered consisted of modern items in a highly disturbed context.

The expansive subsurface infrastructure that irrigated and supported the Lake Anne golf course remains across the site. Much of the landscape has been subjected to subsurface disturbance due to historic activity. The Phase 1B comprehensively identified and documented these areas of disturbance. Based on the results of the Phase 1B survey no further archaeological work is recommended for the landscape within the boundaries of the current Clovewood Site APE.

Outside the boundary of the proposed APE the crew confirmed the location of two significant archaeological sites: a) the M.H. Howell farm complex, and b) the Schunemuck Prehistoric Site. As described in this report, the M.H. Howell complex represents a significant historic feature associated with the expansion of the Howell Family Farmstead and famous architect Corydon T Purdy. As this location is outside the boundaries of the APE, additional investigation is not warranted as part of the Clovewood Phase 1B Survey.

The Schunemuck Prehistoric Site is located outside the eastern boundary of the proposed APE. This location represents a disturbed Native American deposit that may be dated to the Archaic Period. As this location is outside the boundaries of the APE, additional investigation is not warranted as part of the Clovewood Phase 1B Survey.

The Howell Family/Round Hill Cemetery Howell is located outside of the western boundary of the Clovewood property. This cemetery represents an import period in the early settlement of Blooming Grove, and contributes to the evolving sense of community as well as reflecting important aspects of community history. This Cemetery can be considered National Register Eligible under Criterion B, of the *National Register for Historic Place Guidelines for Evaluating and Registering Cemeteries and Burial Places*.

No prehistoric artifacts of any kind were recovered within the APE of the Clovewood project area. Comprehensive testing of the extant buildings from all historic periods produced only disturbed soil contexts and modern materials. Based on the results of the Clovewood Phase 1B Survey, it is the recommendation of Hudson Valley Cultural Resource Consultants that the project be allowed to proceed without further archaeological investigation within the boundaries of the proposed APE.

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Appendix A: Additional Photographs

List of Photographs

Photo 40: Clove Road marks the northwestern boundary of the Clovewood Site. View to the southwest.

Photo 41: A series of asphalt roadways lead through the former Lake Ann County Club Complex. View to the east.

Photo 42: A network of farm roads lead throughout the APE. View to the northeast.

Photo 43: A series of access roads are located throughout the Clovewood Site. View to the north from the southern tier of the Golf Course.

Photo 44: The landscape through the western portions of the Clovewood APE consisted of vegetation indicative of former agricultural fields. View of Area B.

Photo 45: Features of the former golf course are still evident within the landscape in Area E. View to the east of a bunker area.

Photo 46: Within the former golf course earth moving activities had taken place to remove some of the former infrastructure. View to the north.

Photo 47: The roadways bisect the forested portion of the project area. View to the south in Area V.

Photo 48: Areas of standing water were noted within the APE. View of a small wet area located west of the N.W. Howell house and east of the southern edge of the Golf Course.

Photo 49: The streams and other small drainages are located within steep ravines. View east of the steep ravine located within Area F.

Photo 50: A wetland and pond is located in the western portion of the project area. This wetland features a small dam at its southwestern tip. The 1958 aerial shows this dam is in place.

Photo 51: Area of standing water are located in drainage ditch. View of standing water in Area F.

Photo 52: Pieces of drainage culverts were found within the project area. They are likely associated with a late 19th century irrigation system on the property.

Photo 53: View of the dam located at the southern tip of the wetland. This dam is located 500’ north of the M.H. Howell complex and is outside of the APE. Based on the cement and metal hardware this feature was probably constructed during the late 19th century to early 20th century.

Photo 54: Remnants of a fireplace located on the southern wall of the M. H. Howell foundation structure. View to the east.

Photo 55: The various walls of the M. H. Howell foundation show several different construction styles. View to the north.

Photo 56: A small well was identified adjacent to the southeastern corner of the main structure. Well is approximate 4’ in diameter.

List of Photographs (Continued)

Photo 57:	The Howell family cemetery is located to the north of the M.H. Howell Complex.
Photo 58:	View of the marker for Stephen Howell.
Photo 59:	View south from the edge of the knoll on which the cemetery is located across the open fields located to the west of the wetland.

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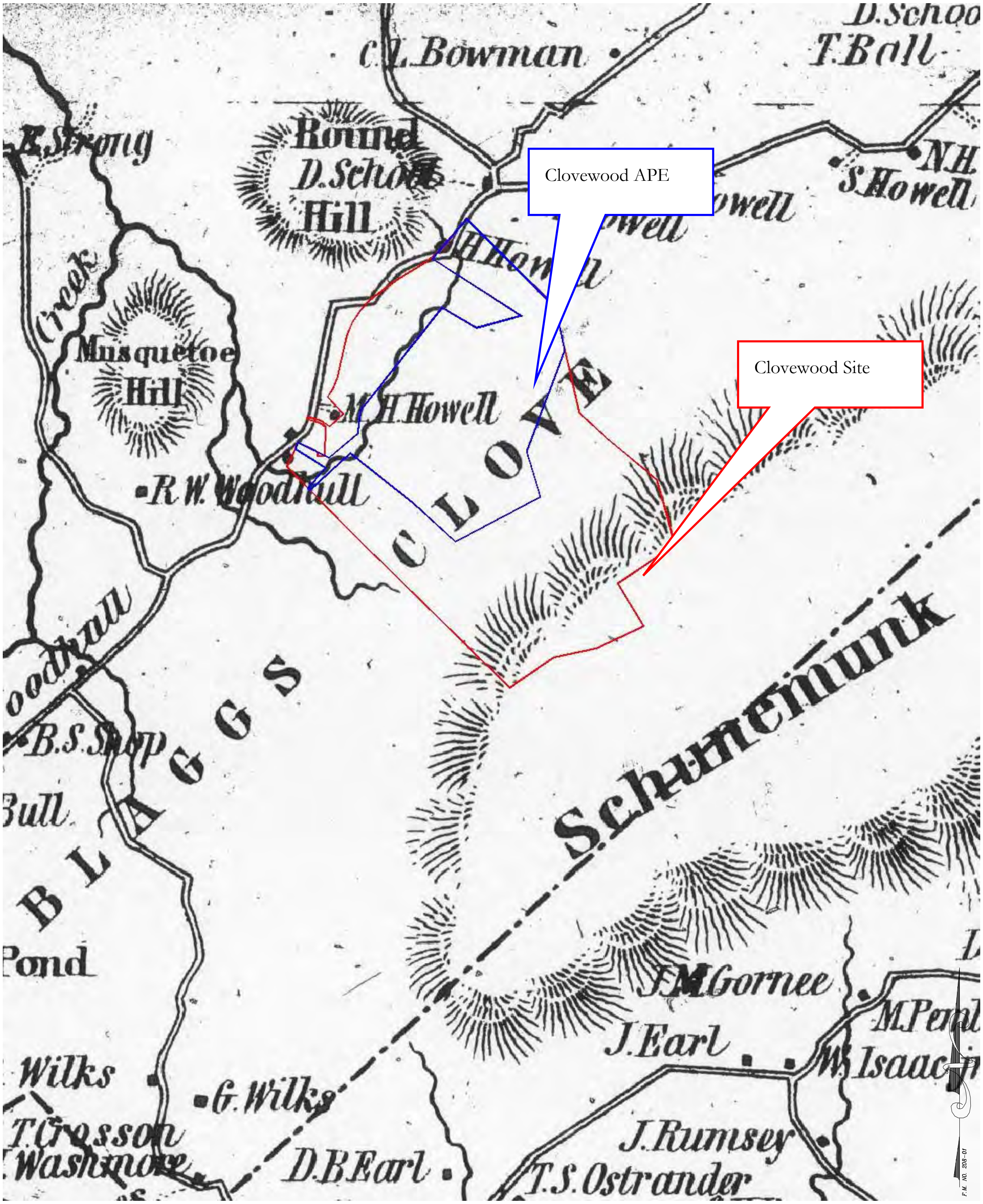
Photo 58: View of the marker for Stephen Howell.

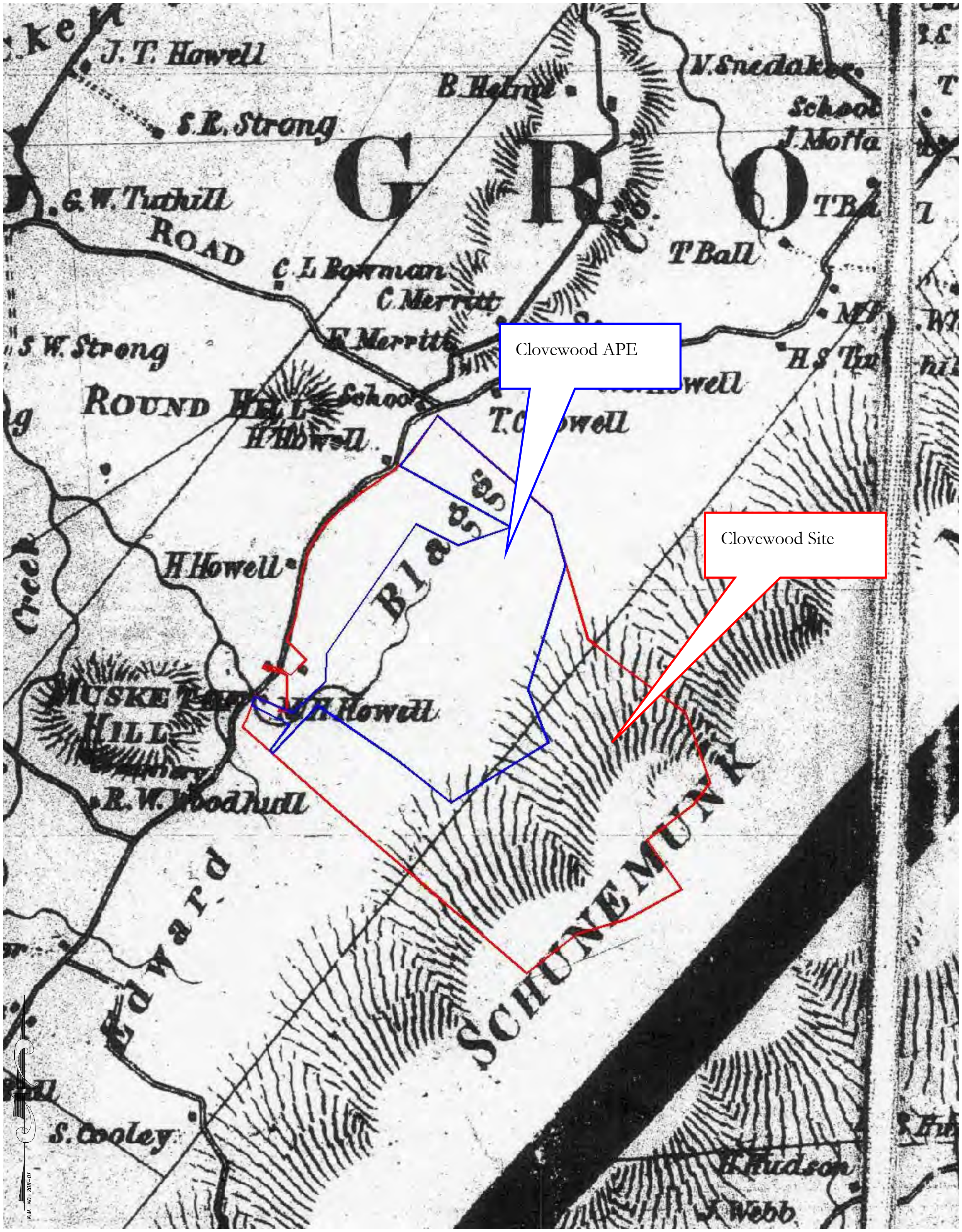
Photo 59: View south from the edge of the knoll on which the cemetery is located across the open fields located to the west of the wetland.

Appendix B: Clovewood Site Historic Maps

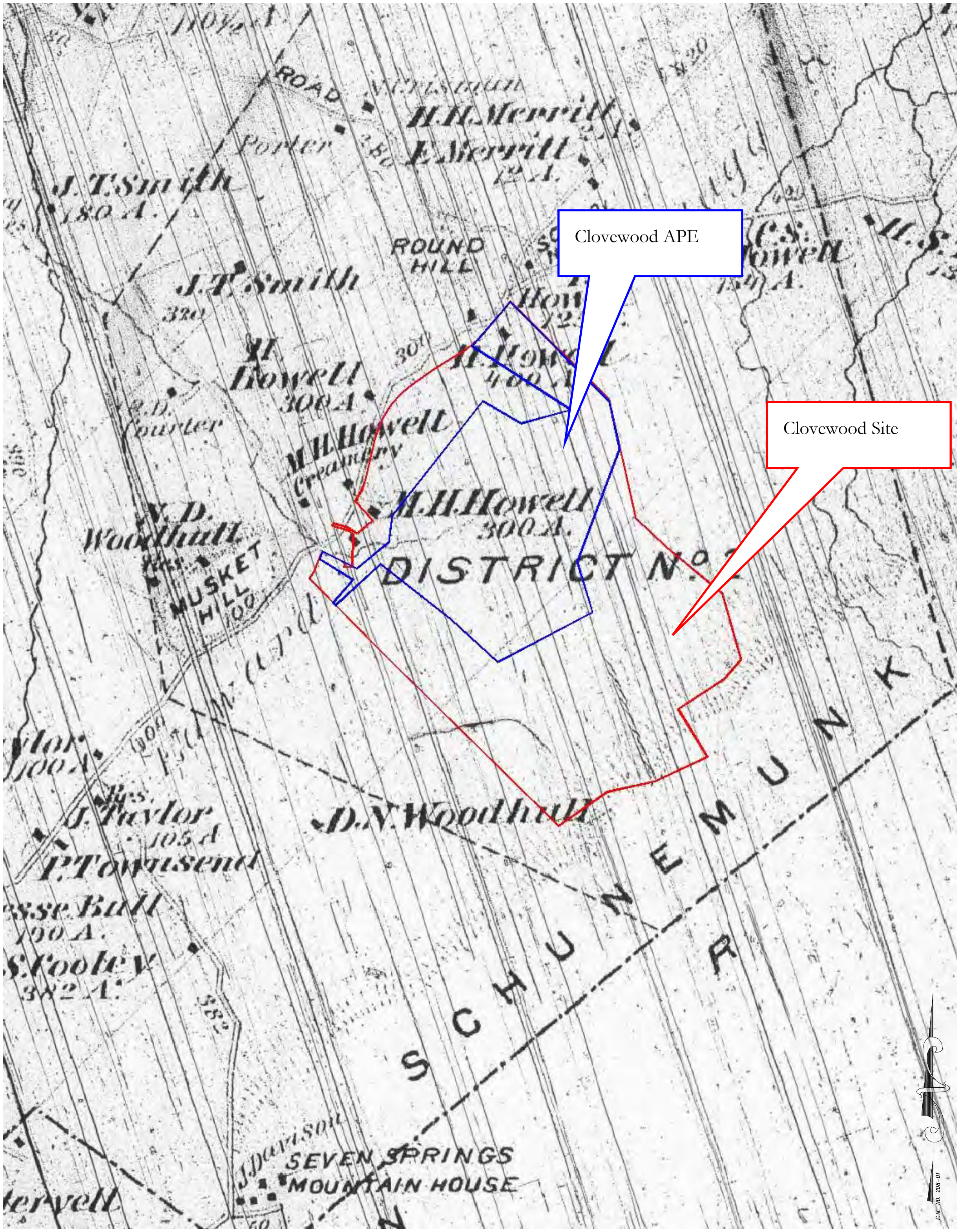
List of Figures



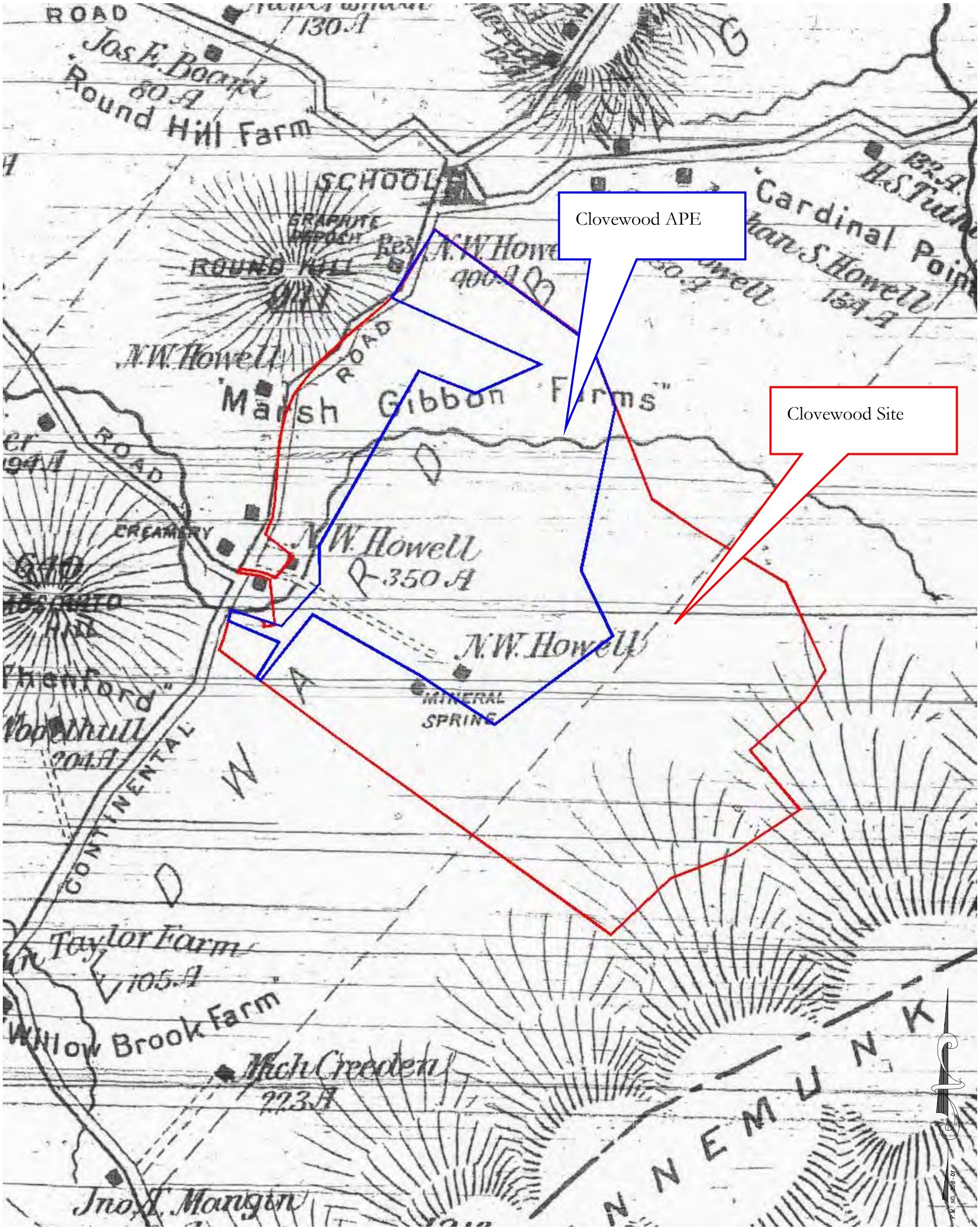
Map 1: 1851 J.C. Sidney. *Atlas of Orange County New York*. Scale: 1”= 3675’. Source: New York State Archives.



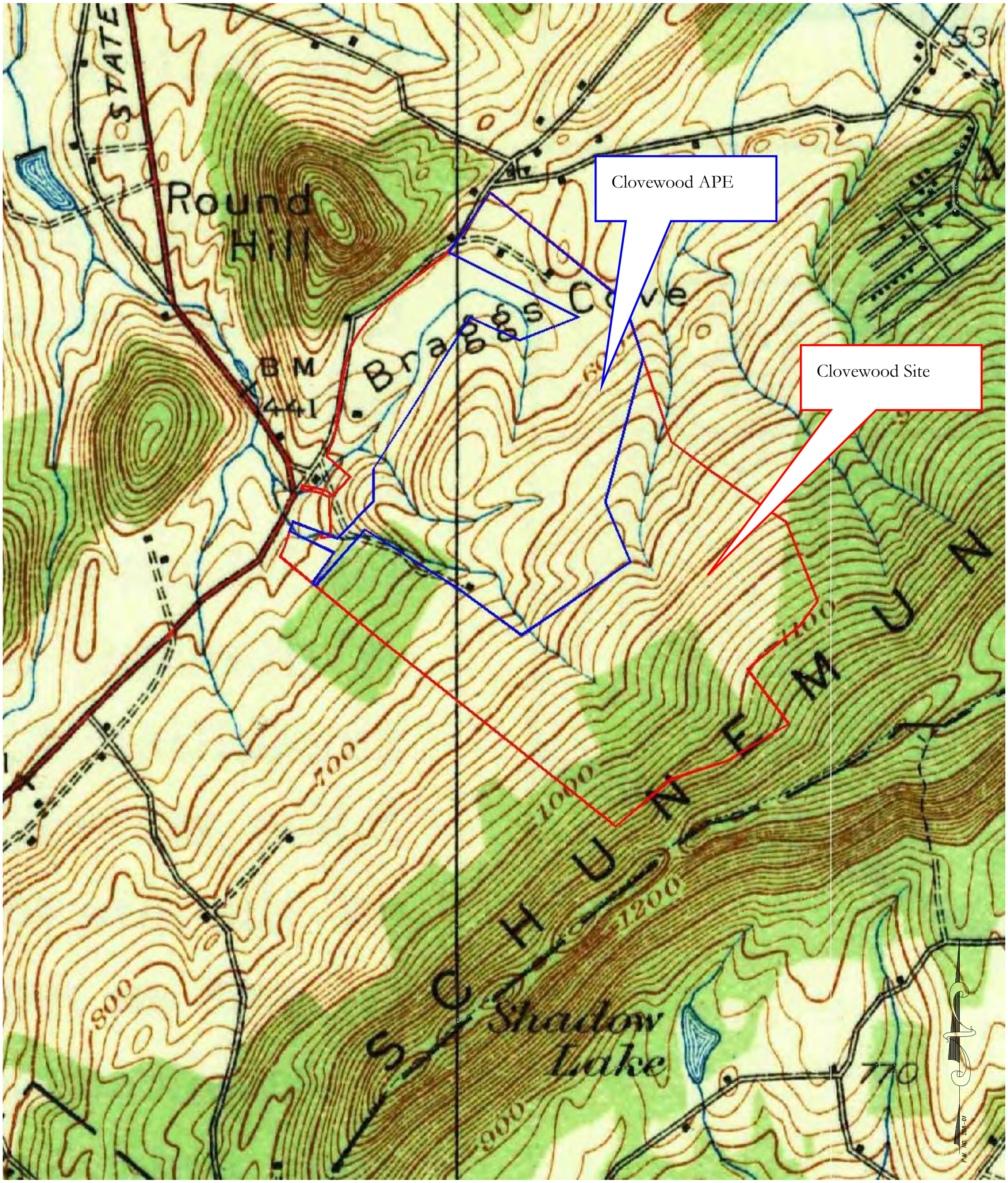
Map 2: 1859 French, H.H. *Map of Orange and Rockland Counties, New York*. Scale: 1"= 2940'. Source: New York State Archives.



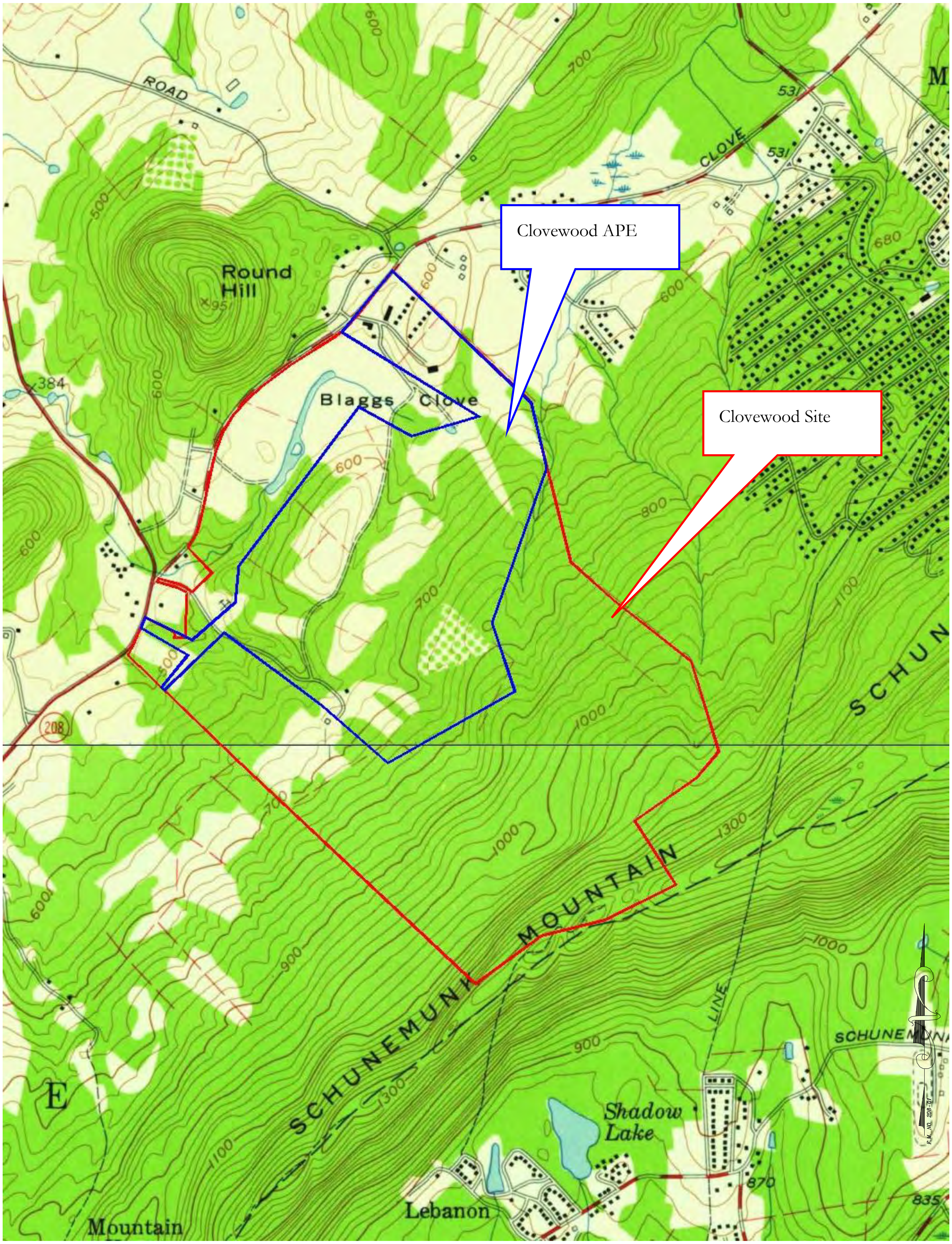
Map 3: 1875 F.W. Beers. *Atlas of the County of Orange, New York.* Scale: 1"= 3150'. Source: New York State Archives.



Map 4: 1903 J. M. Lathrop's *Atlas of Orange County, New York* Scale: 1"= 2445'. Source: New York State Archives.



Map 5: 1935 USGS Topographical Map. Schunemunk Quadrangle. Scale: 1"= 1850'. Source: USGS.gov.



Map 6: 1957 USGS Topographical Map. Maybrook and Monroe Quadrangles. Scale: 1"= 1645'. Source: USGS.gov.

Appendix C: Clovewood Site Field Reconnaissance Maps

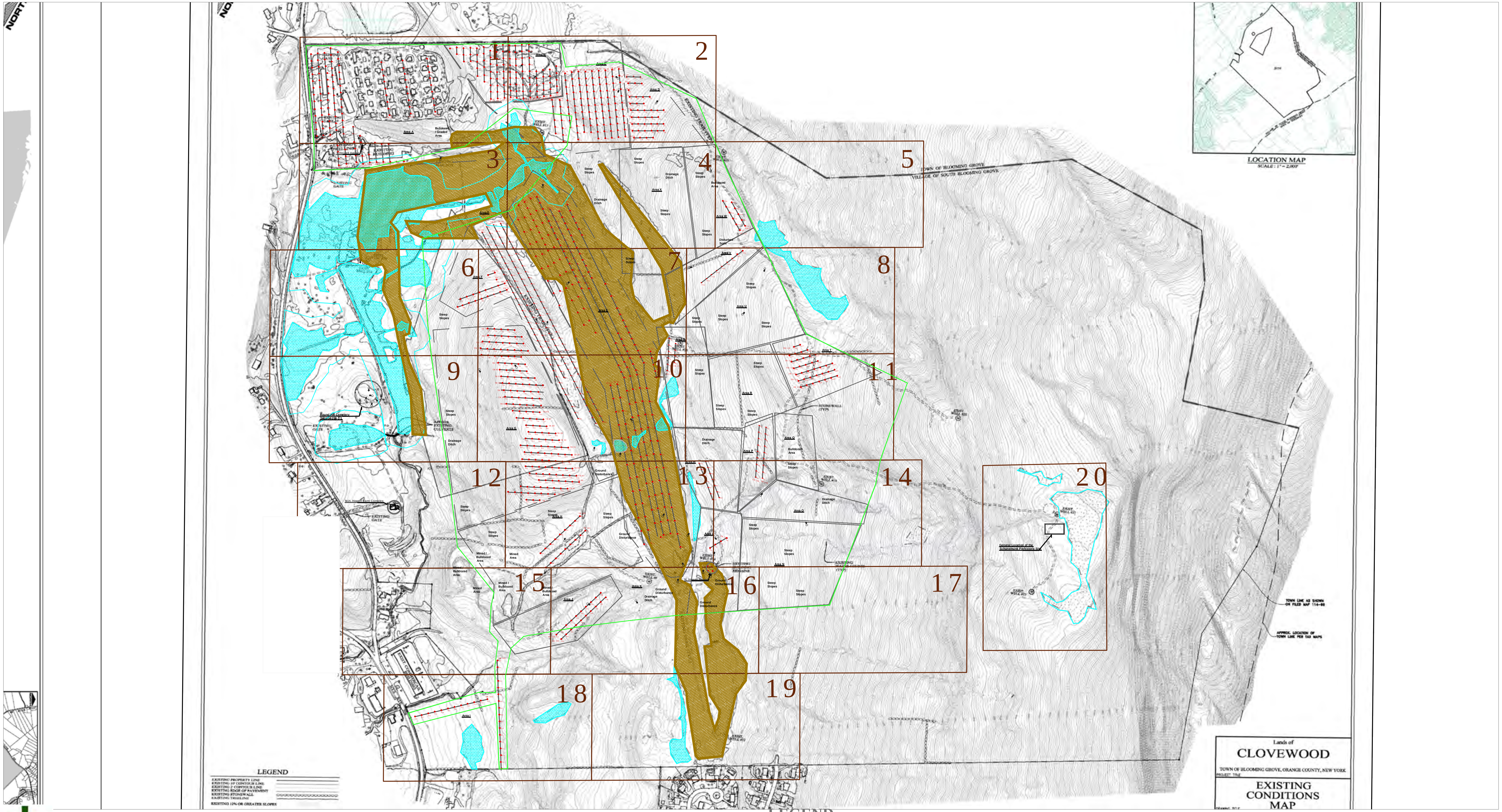


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Figure 4: Clovewood Site APE
Key for Field Reconnaissance Map
Showing Landscape Features and Test Areas
Scale 1" = 750'

0 350 700
(IN FEET)
1 inch = 750 ft.

LEGEND

● ST Sterile Shovel Test Location
① ➔ Photographic View
— — — Phase 1B Testing Sub Areas
—— Clovewood APE
■ Area Designated as the Lake Ann Golf Course
■ Areas of Standing Water or Wetland
■ Areas of Slope >12%
Existing Structures

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Figure 5.1: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

● ST	Sterile Shovel Test Location
① ➜	Photographic View
— —	Phase 1B Testing Sub Areas
🟦	Areas of Standing Water or Wetland
—	Wetland Buffer
▨	Areas of Slope >12%
—	Clovewood APE

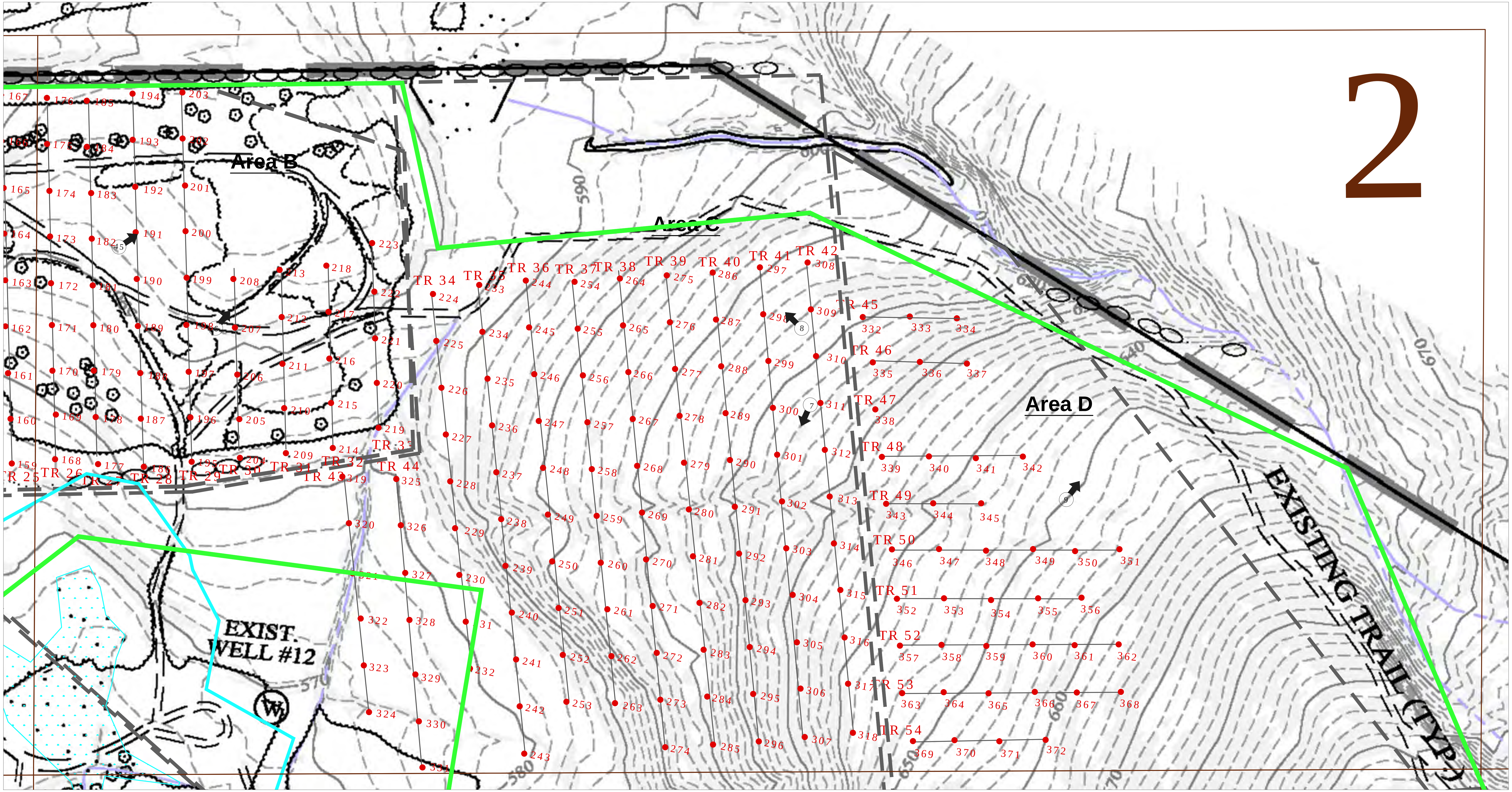

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Figure 5.2: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

● ST Sterile Shovel Test Location
① ➡ Photographic View
— — Phase 1B Testing Sub Areas
🟦 Areas of Standing Water or Wetland
— Wetland Buffer
▨ Areas of Slope >12%
— Clovewood APE

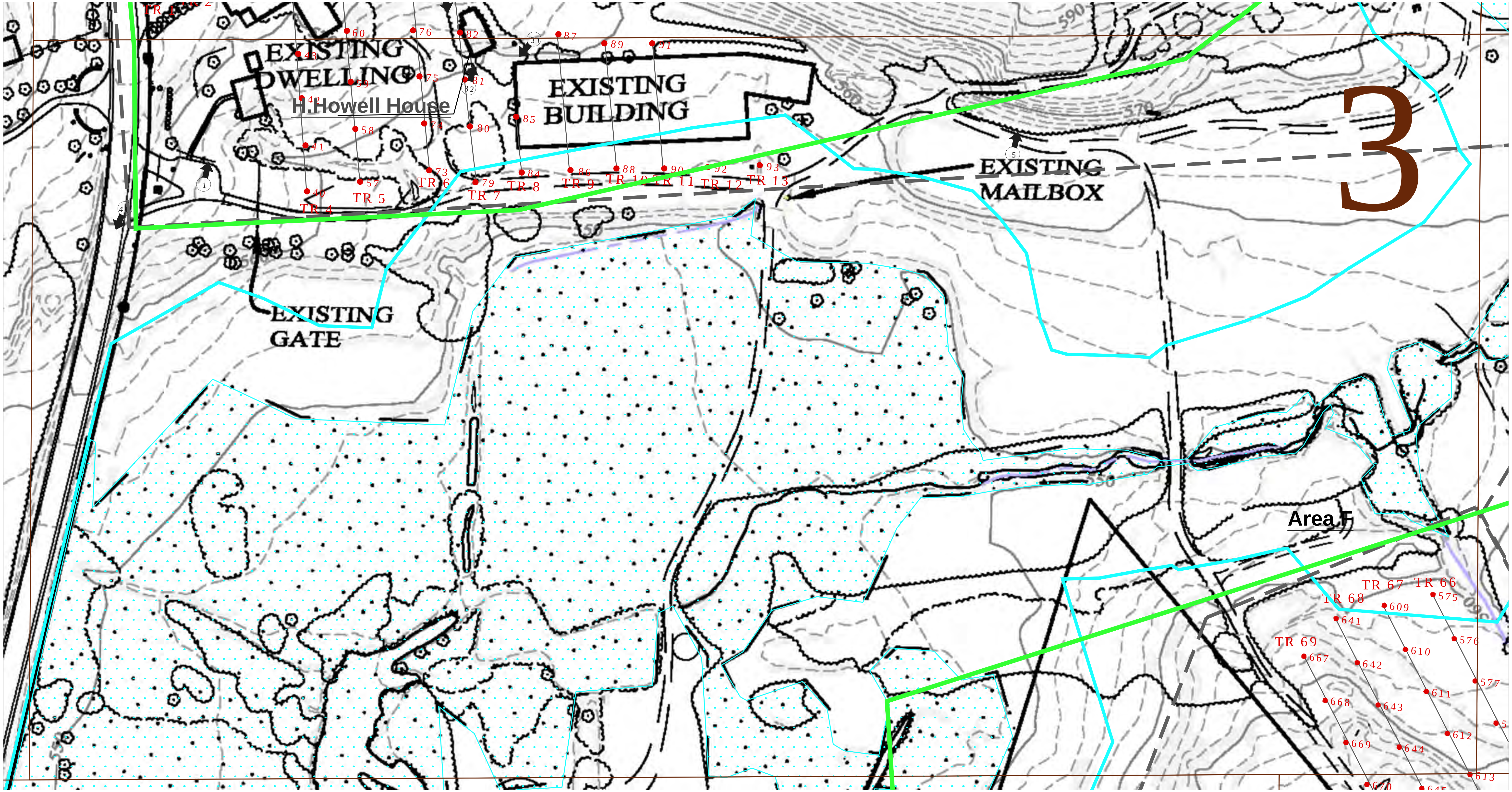

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Figure 5.3: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

● ST	Sterile Shovel Test Location
① ➡	Photographic View
— —	Phase 1B Testing Sub Areas
🟦	Areas of Standing Water or Wetland
—	Wetland Buffer
▨	Areas of Slope >12%
—	Clovewood APE

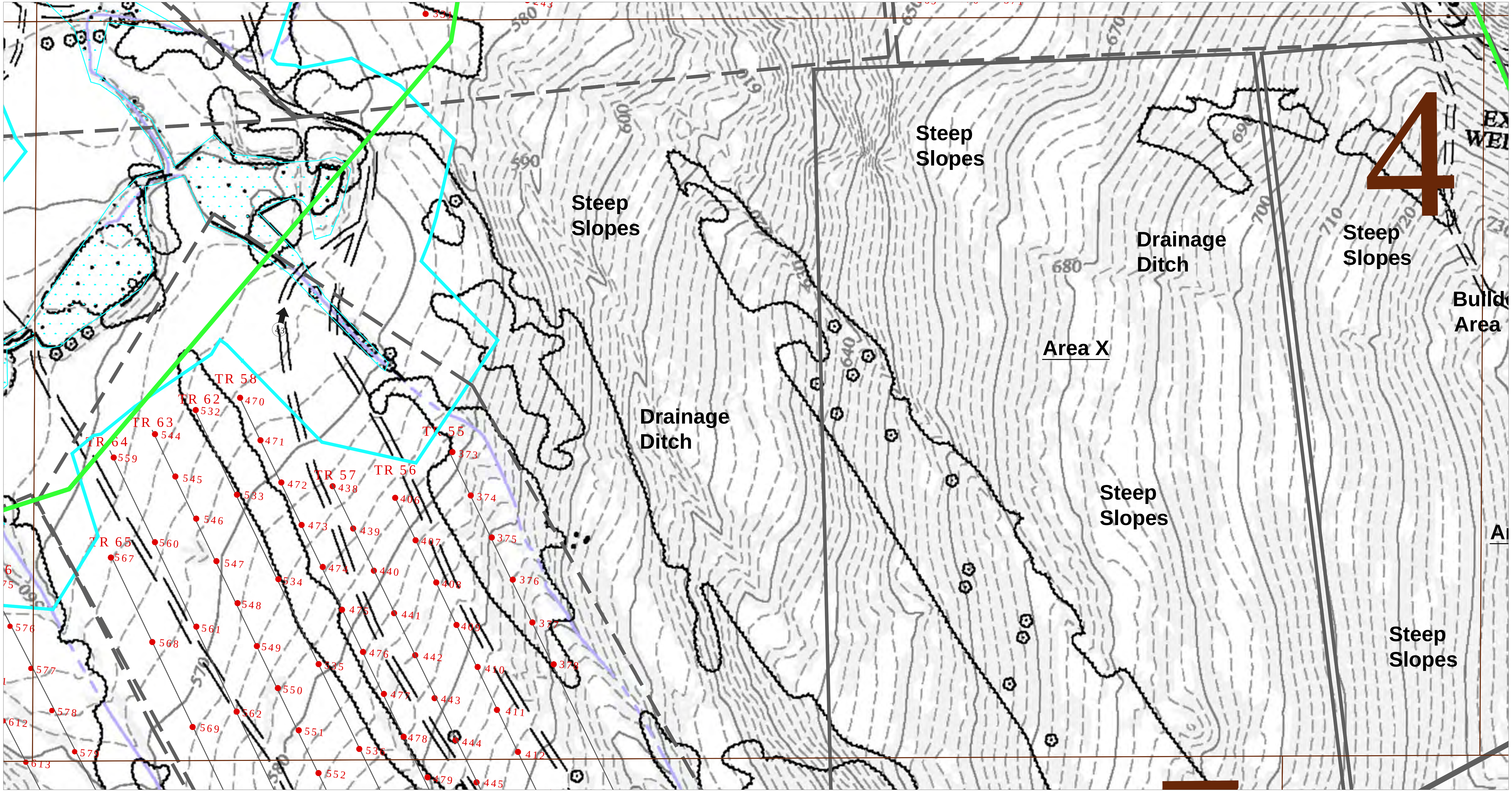

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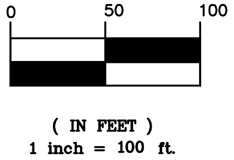
Figure 5.4: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'



LEGEND

● ST	Sterile Shovel Test Location
① ➔	Photographic View
— — —	Phase 1B Testing Sub Areas
🟦	Areas of Standing Water or Wetland
—	Wetland Buffer
▨	Areas of Slope >12%
—	Clovewood APE

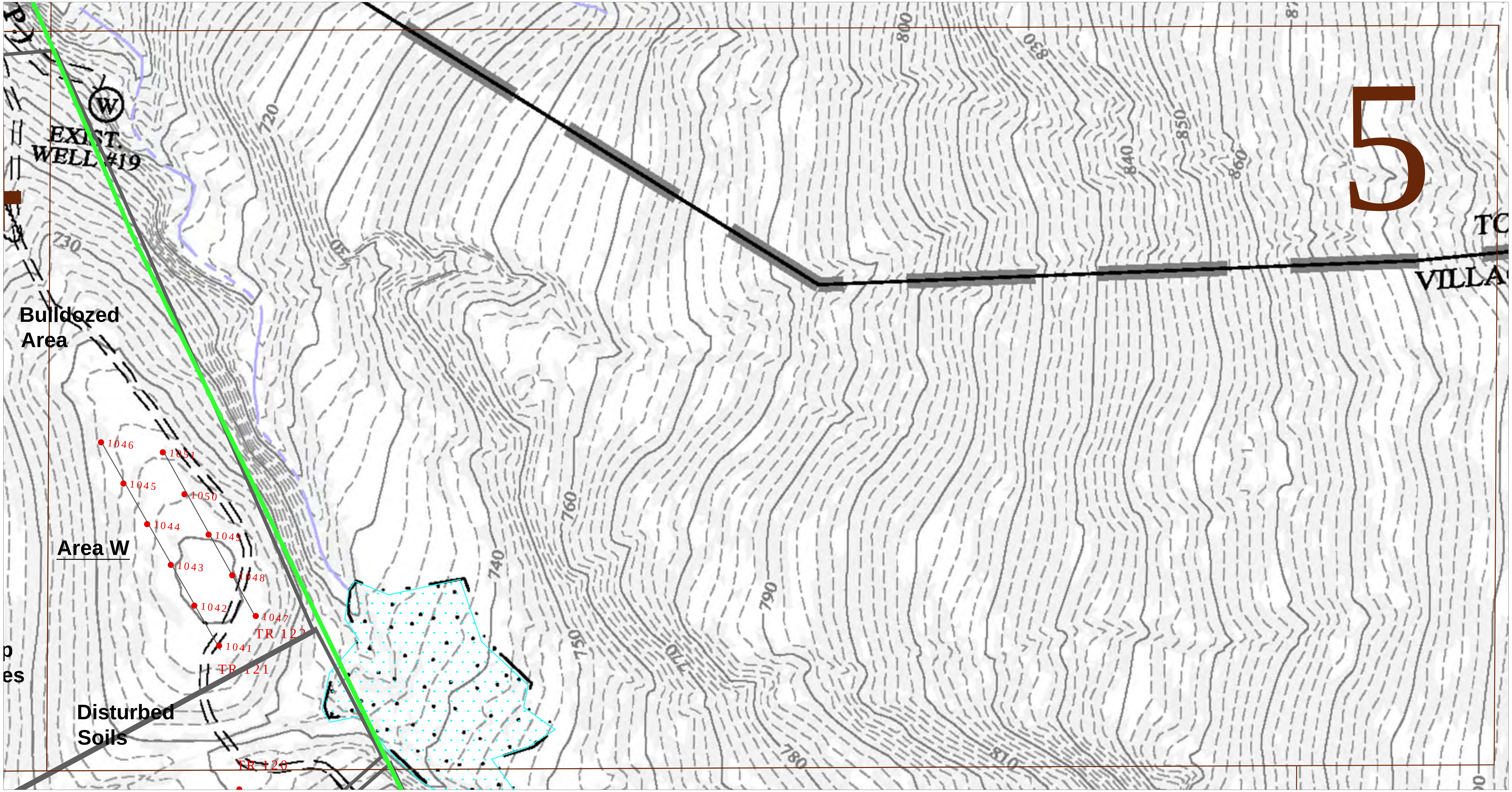


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Figure 5.5: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

● ST	Sterile Shovel Test Location	🟦	Areas of Standing Water or Wetland
➔	Photographic View	—	Wetland Buffer
— — —	Phase 1B Testing Sub Areas	▨	Areas of Slope >12%
		—	Clovewood APE

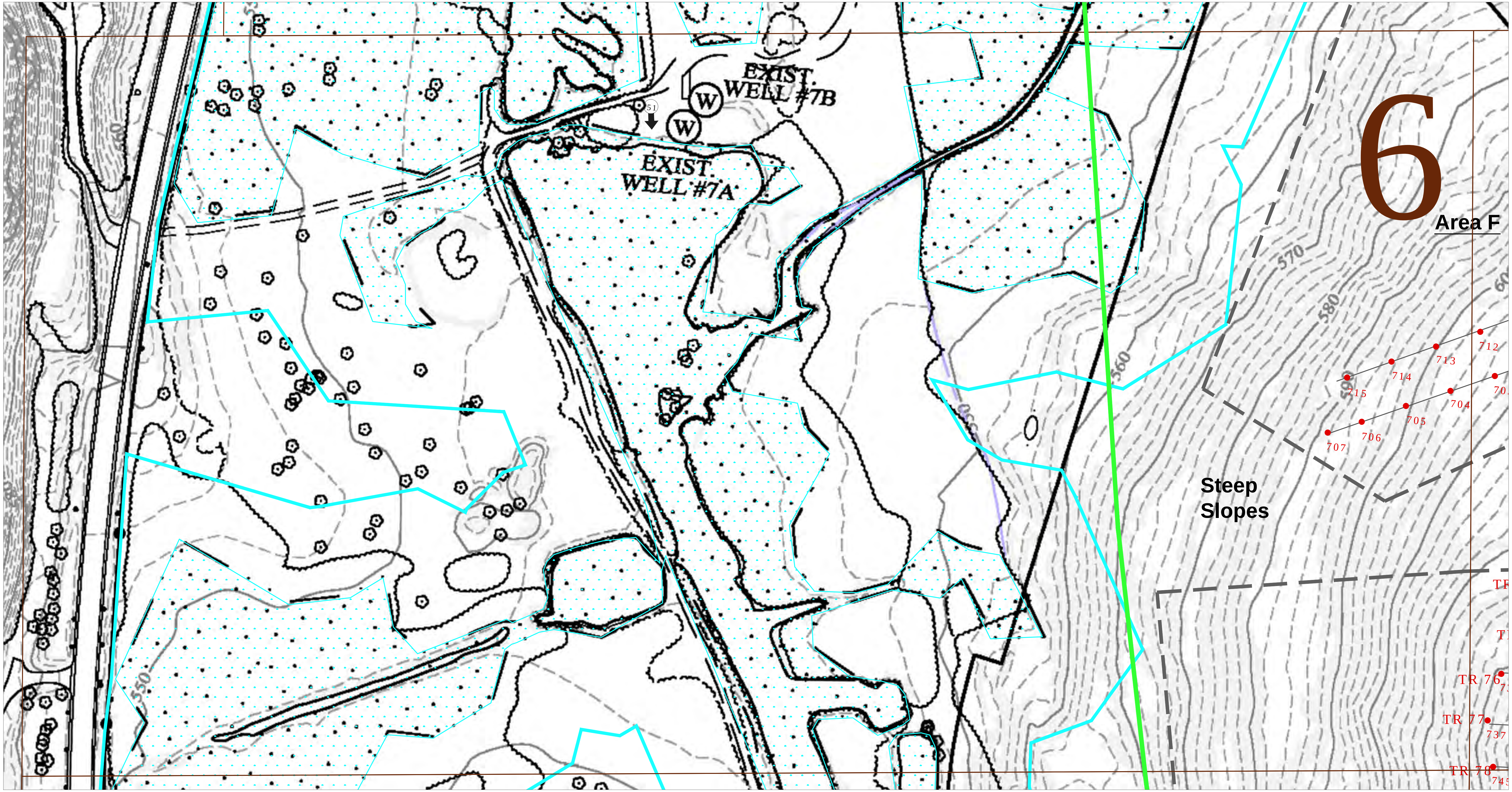

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Figure 5.6: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

LEGEND

- ● ST Sterile Shovel Test Location
- ① ➜ Photographic View
- — — Phase 1B Testing Sub Areas
- 🟦 Areas of Standing Water or Wetland
- — Wetland Buffer
- ▨ Areas of Slope >12%
- — Clovewood APE

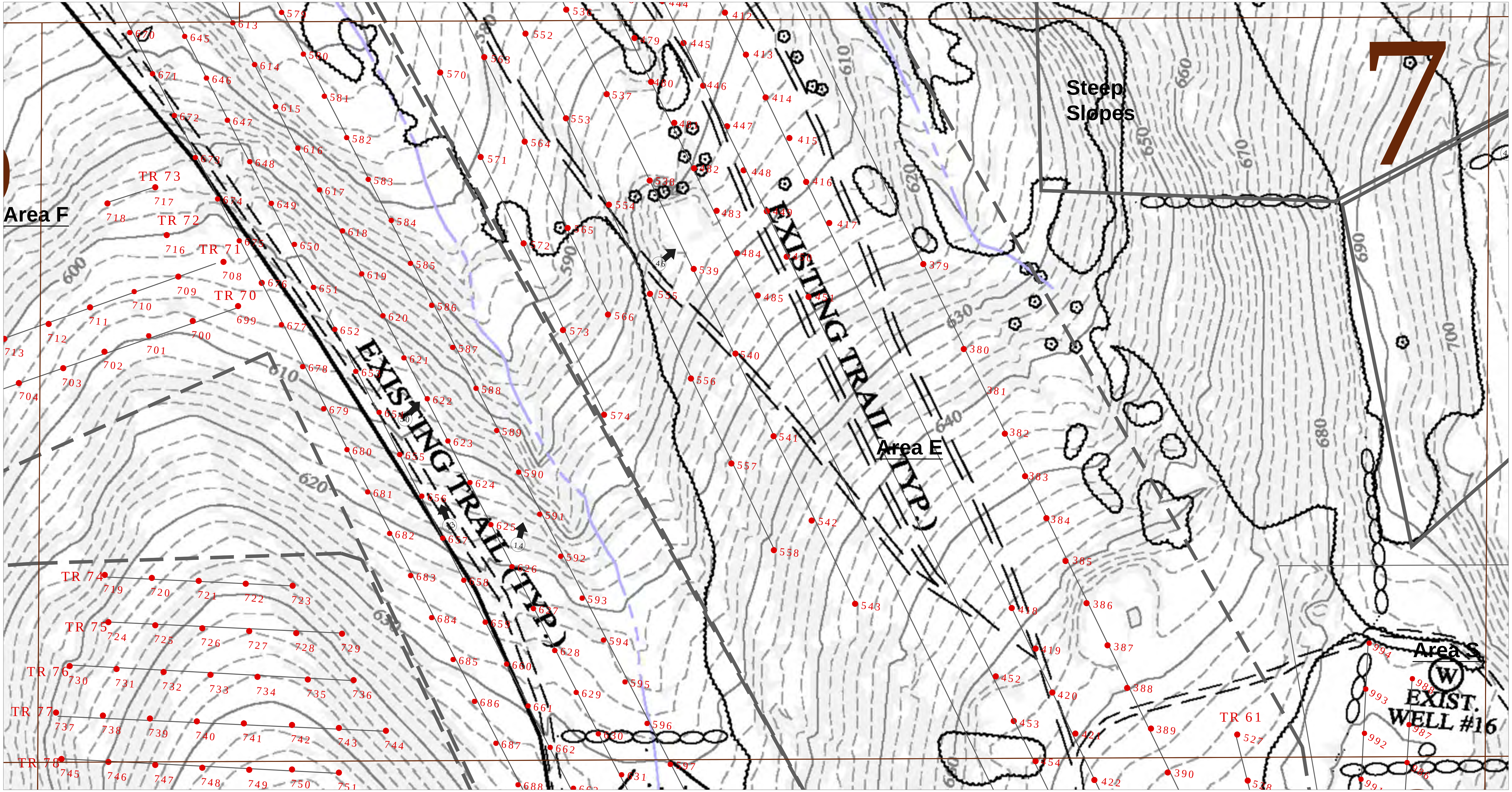

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Figure 5.7: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

● ST	Sterile Shovel Test Location
① ➡	Photographic View
— —	Phase 1B Testing Sub Areas
🟦	Areas of Standing Water or Wetland
—	Wetland Buffer
▨	Areas of Slope >12%
—	Clovewood APE

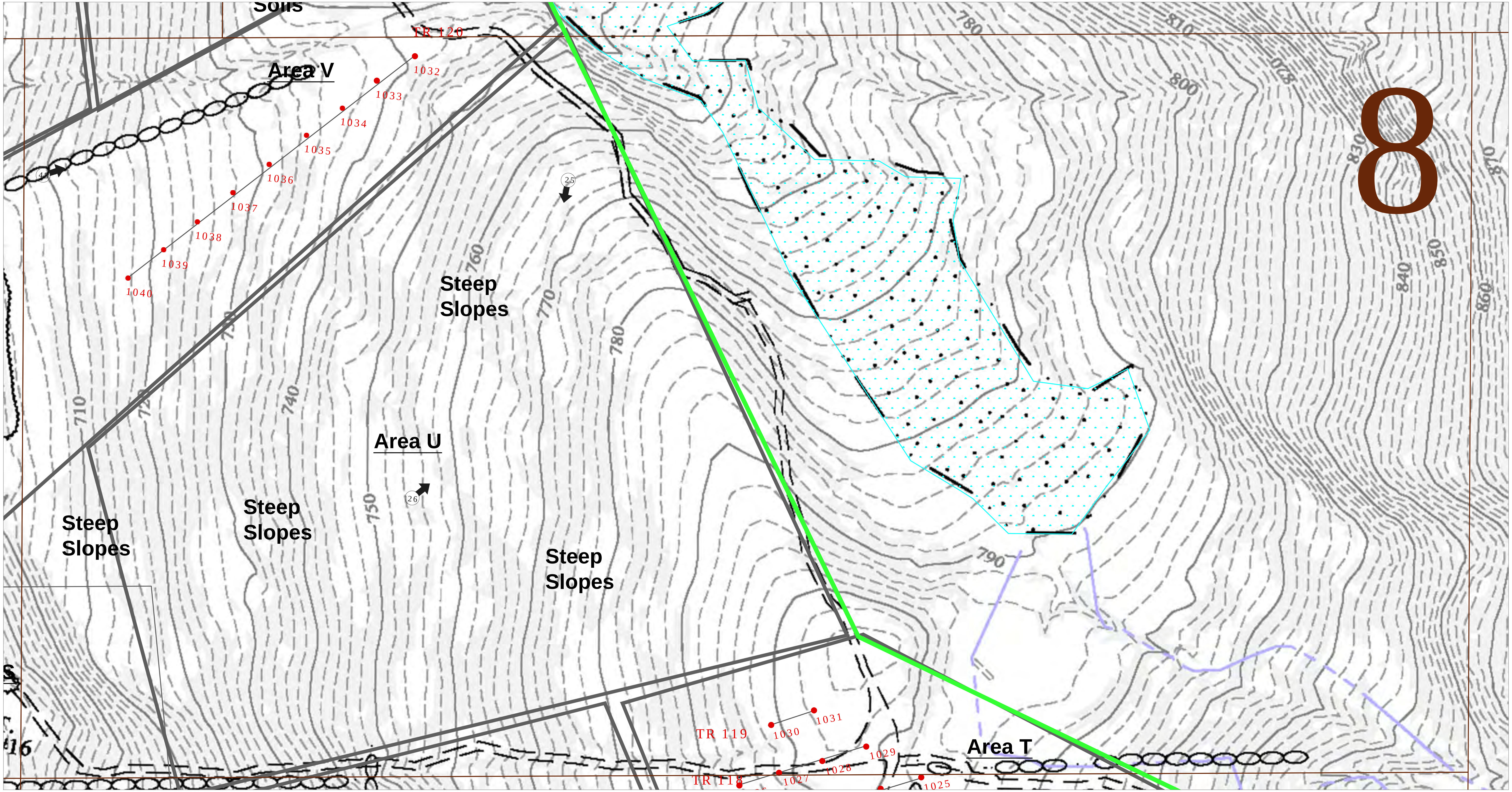

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Figure 5.8: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

LEGEND

- ● ST Sterile Shovel Test Location
- ① ➡ Photographic View
- — — Phase 1B Testing Sub Areas
- 🟦 Areas of Standing Water or Wetland
- — Wetland Buffer
- ▨ Areas of Slope >12%
- — Clovewood APE

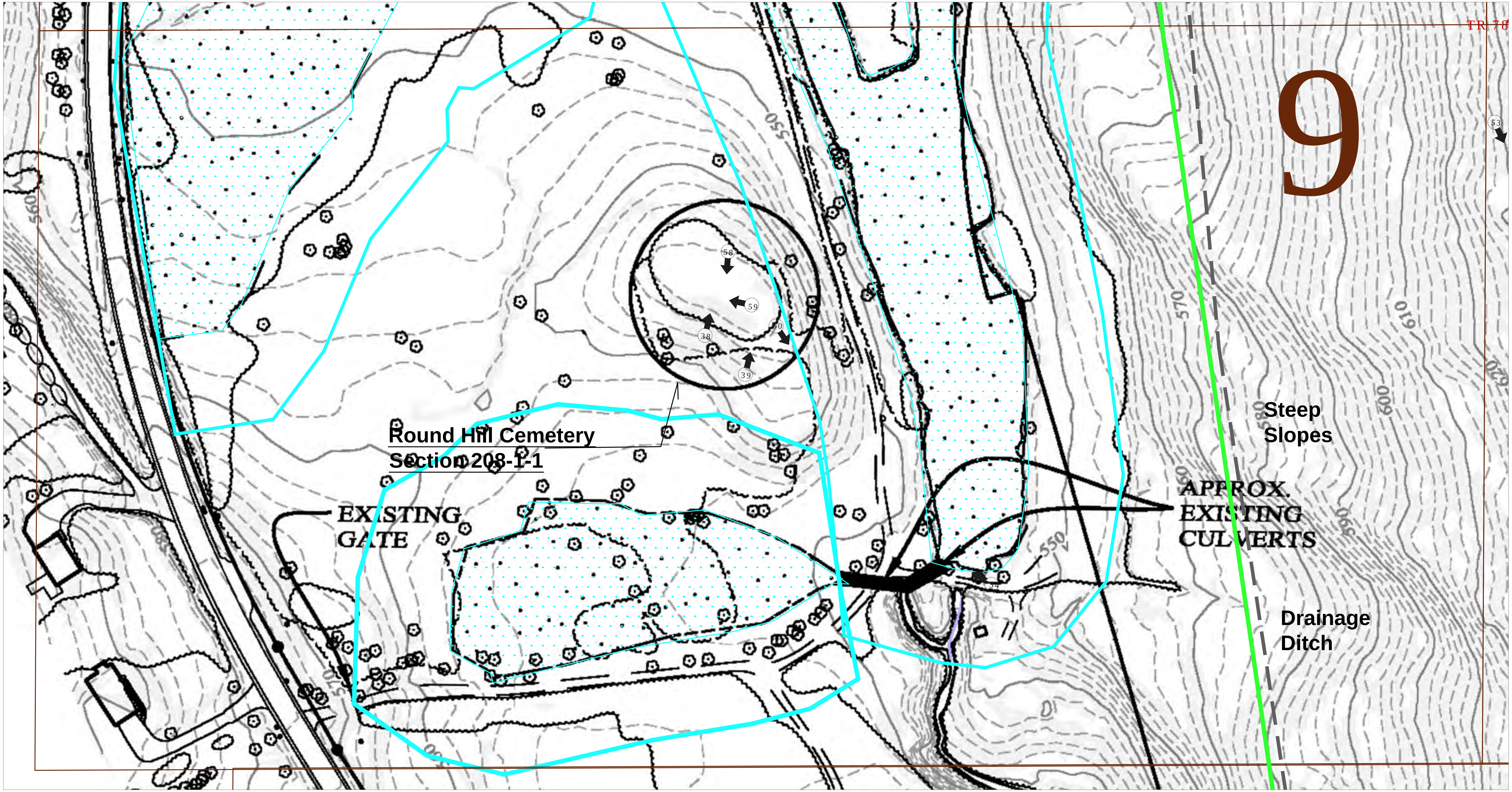

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Figure 5.9: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

● ST	Sterile Shovel Test Location
① ➡	Photographic View
— — —	Phase 1B Testing Sub Areas
🟦	Areas of Standing Water or Wetland
—	Wetland Buffer
▨	Areas of Slope >12%
—	Clovewood APE

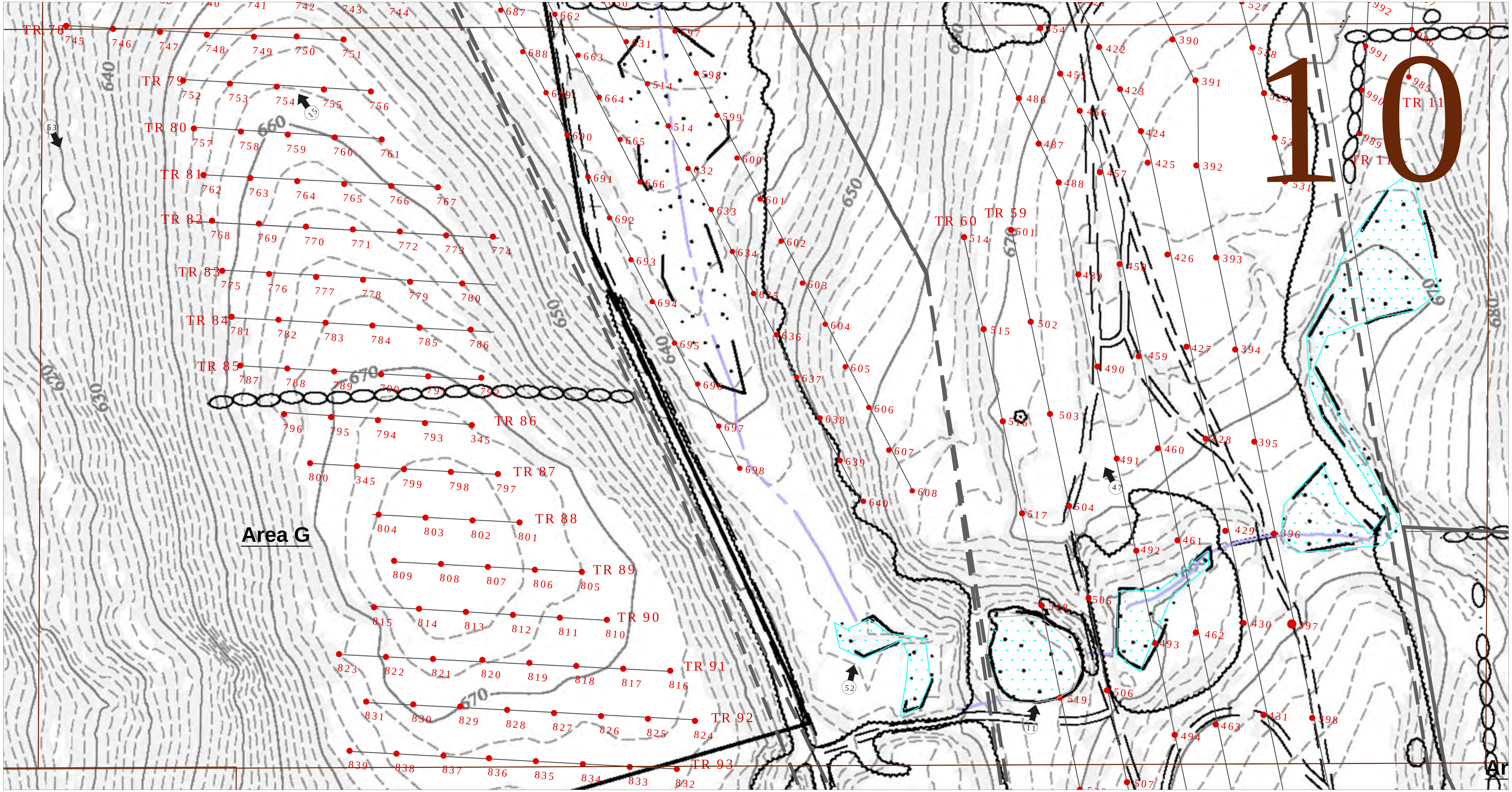

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Figure 5.10: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

- ● ST Sterile Shovel Test Location
- ① ➡ Photographic View
- — — Phase 1B Testing Sub Areas
- 🟦 Areas of Standing Water or Wetland
- — Wetland Buffer
- ▨ Areas of Slope >12%
- — Clovewood APE

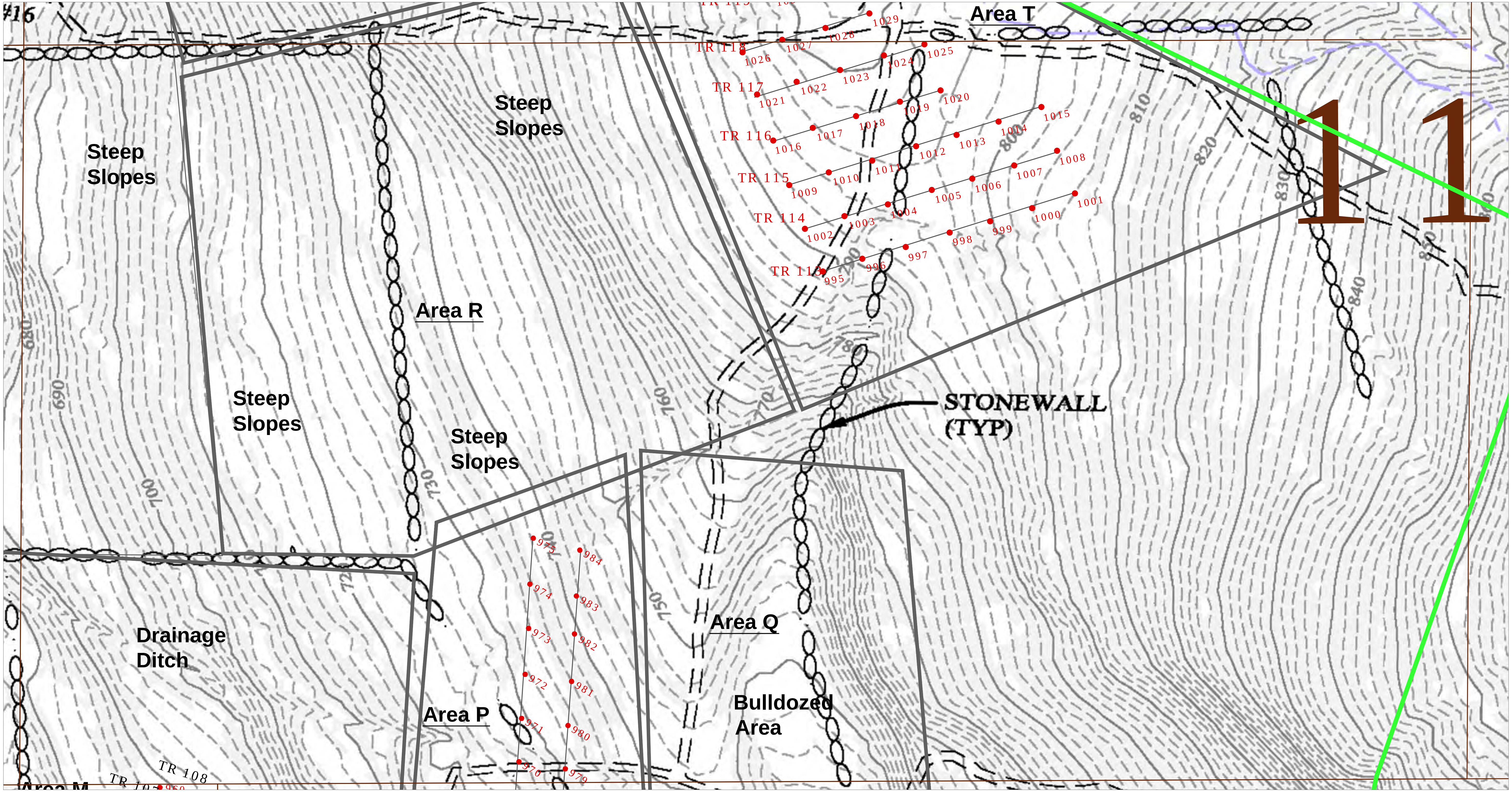

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Figure 5.11: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

● ST Sterile Shovel Test Location
① ➡ Photographic View
— — Phase 1B Testing Sub Areas
🟦 Areas of Standing Water or Wetland
— Wetland Buffer
▨ Areas of Slope >12%
— Clovewood APE

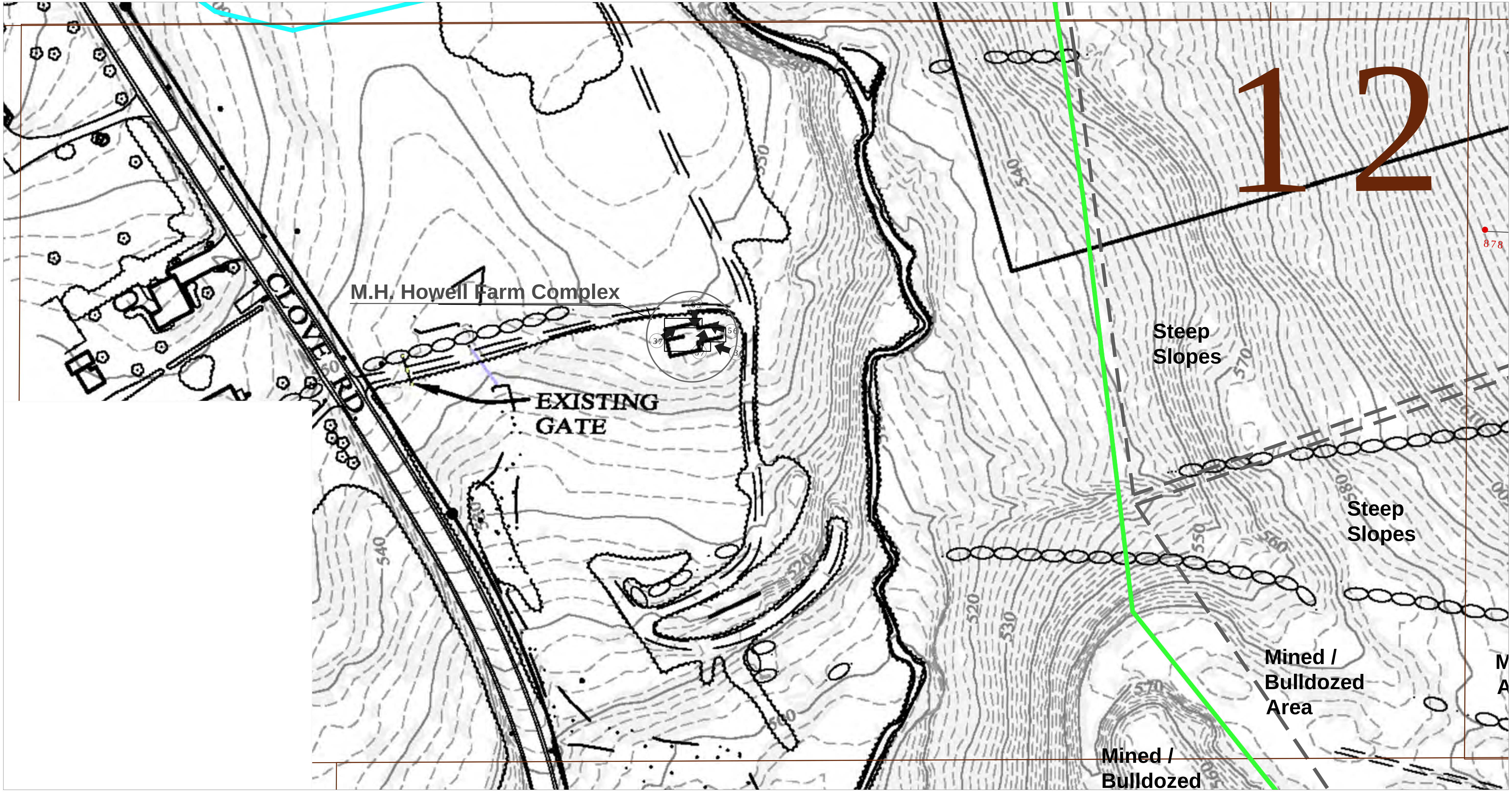

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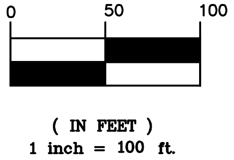
Figure 5.12: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'



LEGEND

● ST	Sterile Shovel Test Location
➊	Photographic View
– – –	Phase 1B Testing Sub Areas
🟦	Areas of Standing Water or Wetland
—	Wetland Buffer
▨	Areas of Slope >12%
—	Clovewood APE

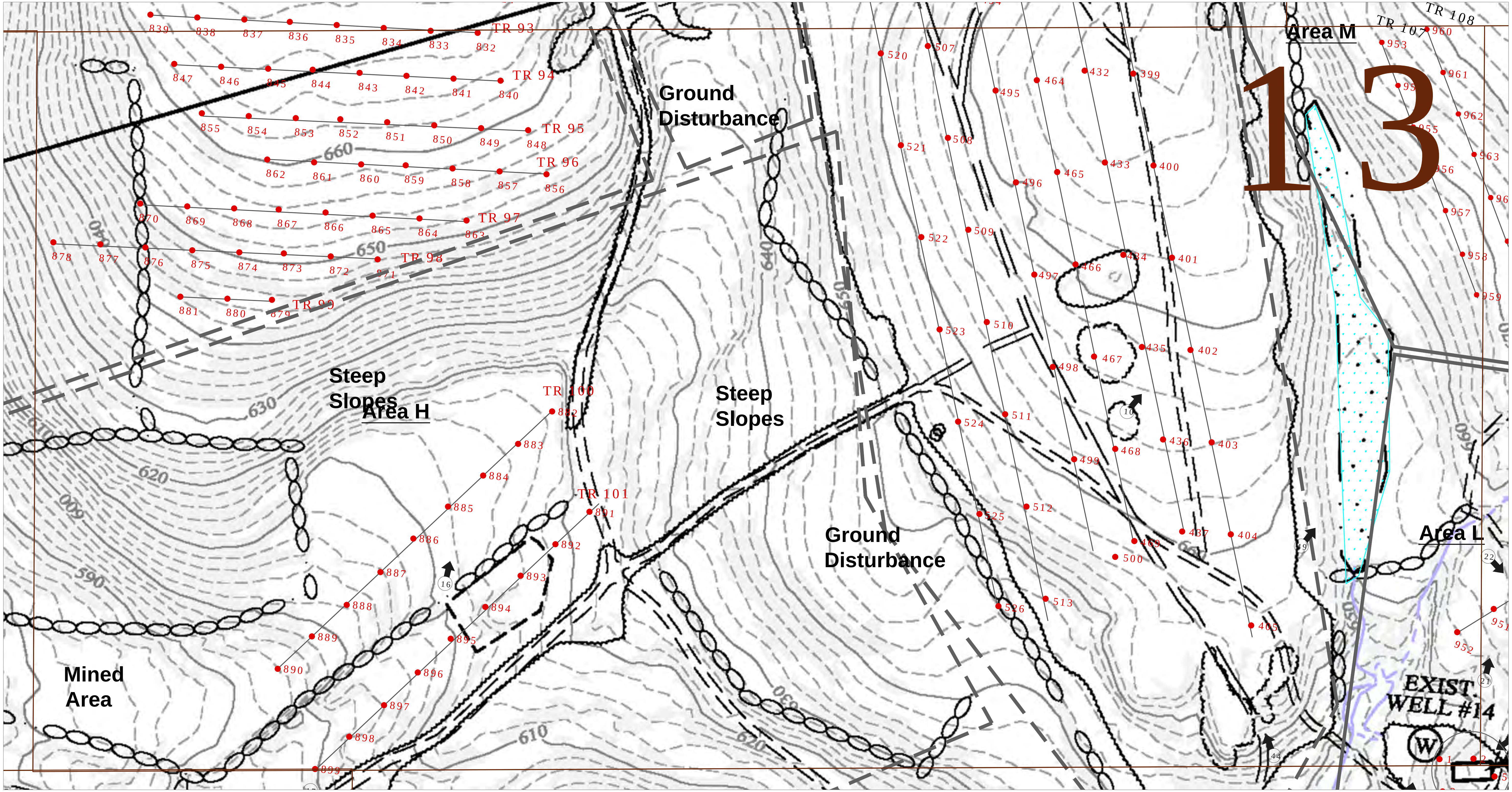


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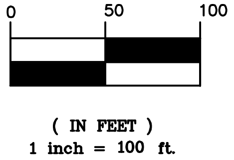
Figure 5.13: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'



LEGEND

- ● ST Sterile Shovel Test Location
- ➔ Photographic View
- – – Phase 1B Testing Sub Areas
- 🟦 Areas of Standing Water or Wetland
- — Wetland Buffer
- ▨ Areas of Slope >12%
- — Clovewood APE

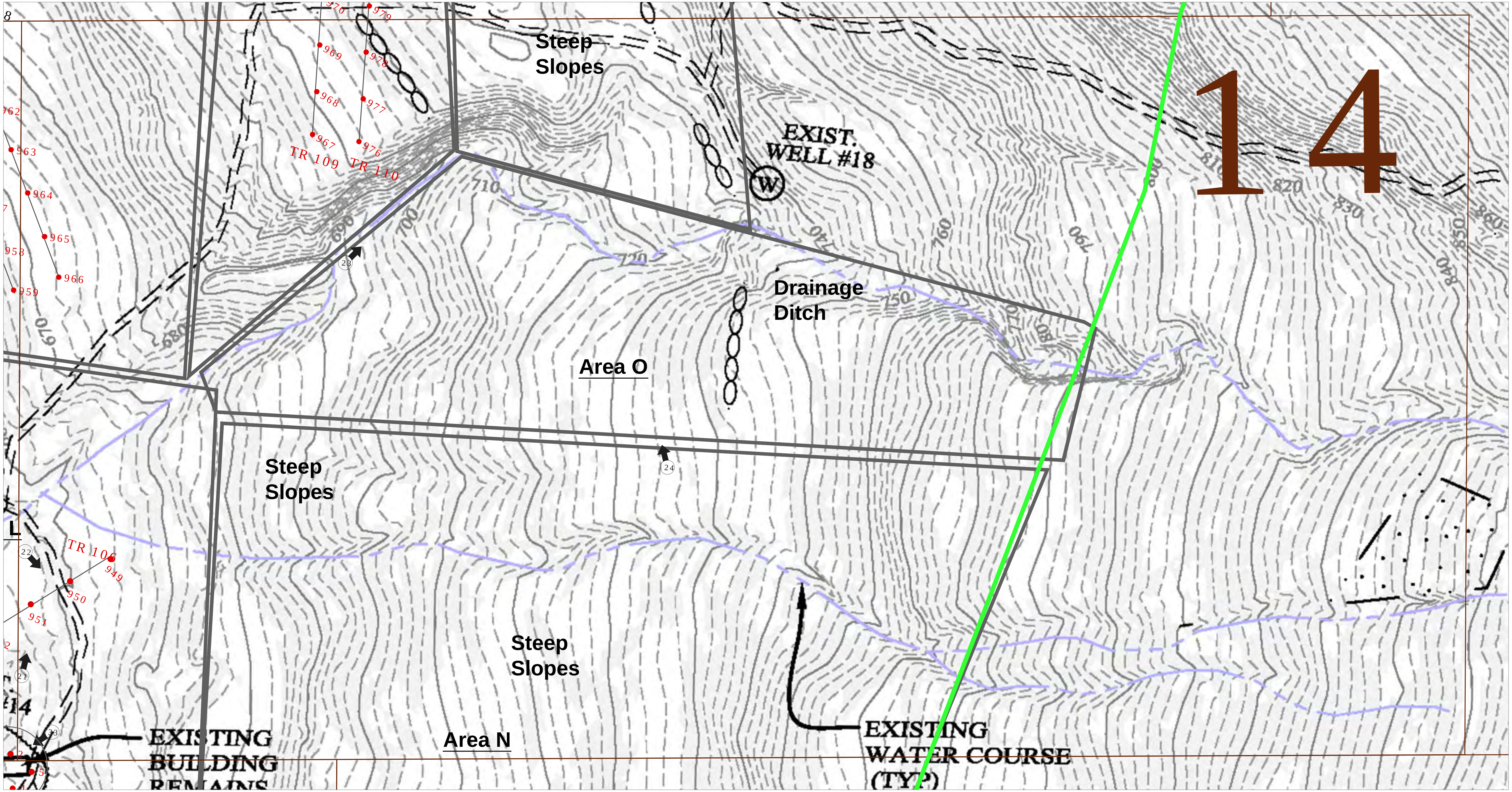


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Figure 5.14: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

● ST	Sterile Shovel Test Location
1 →	Photographic View
— — —	Phase 1B Testing Sub Areas
🟦	Areas of Standing Water or Wetland
—	Wetland Buffer
▨	Areas of Slope >12%
—	Clovewood APE

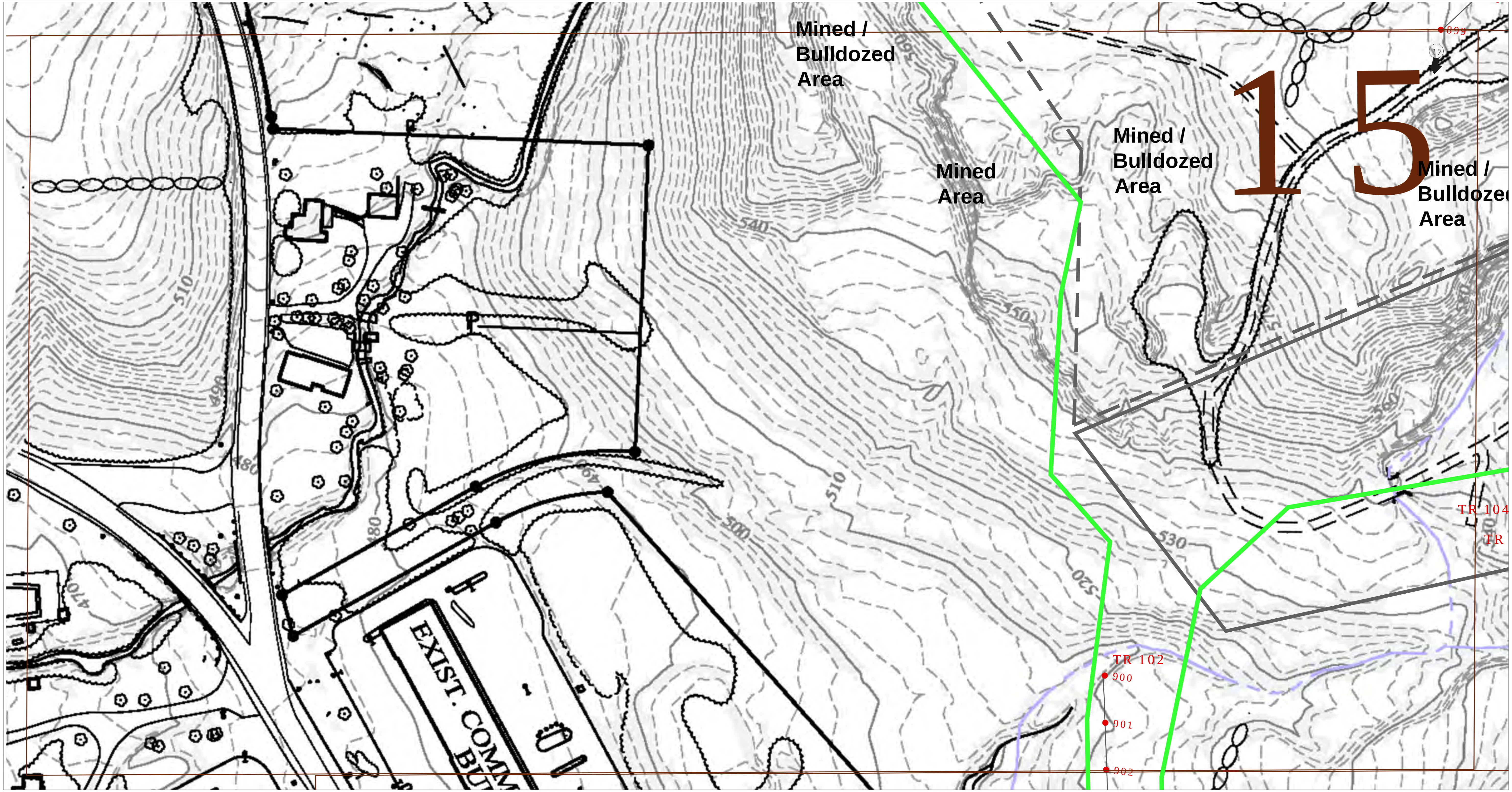

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Figure 5.15: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

● ST	Sterile Shovel Test Location
① ➡	Photographic View
– – –	Phase 1B Testing Sub Areas
🟦	Areas of Standing Water or Wetland
—	Wetland Buffer
▨	Areas of Slope >12%
—	Clovewood APE

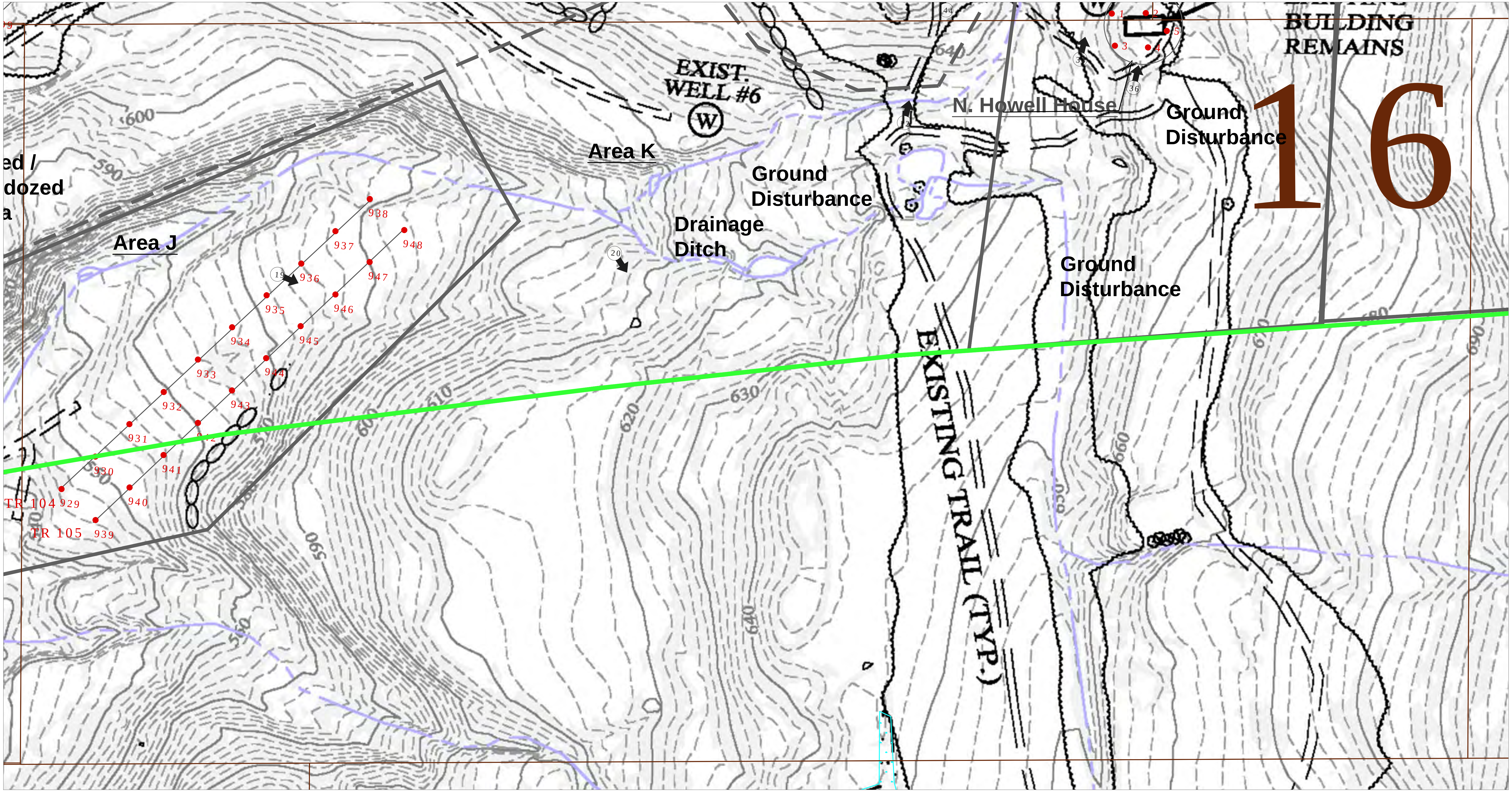

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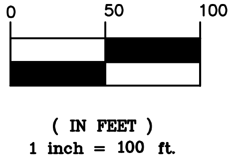
Figure 5.16: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'



LEGEND

● ST	Sterile Shovel Test Location
① ➡	Photographic View
— —	Phase 1B Testing Sub Areas
🟦	Areas of Standing Water or Wetland
—	Wetland Buffer
▨	Areas of Slope >12%
—	Clovewood APE

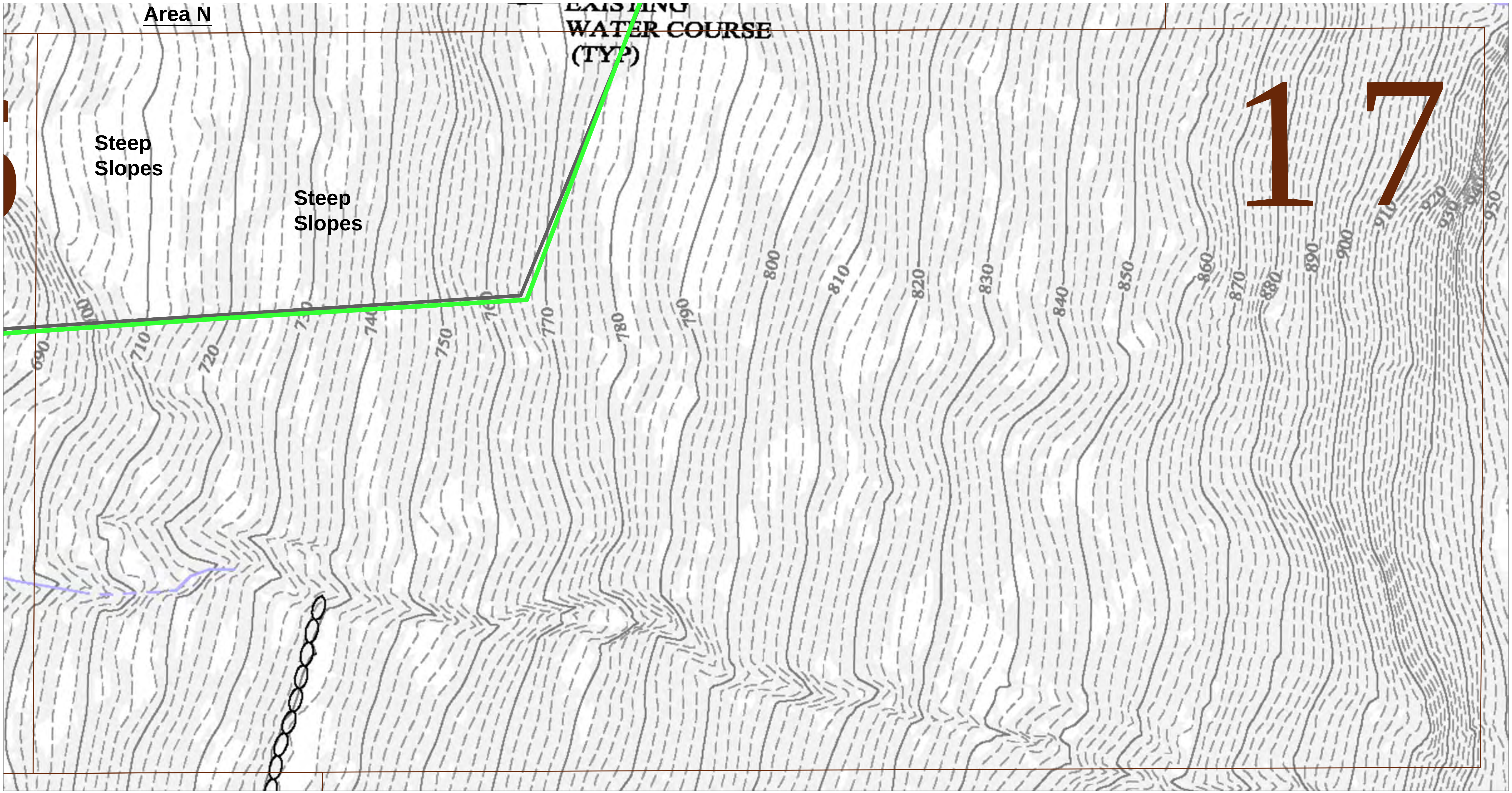


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Figure 5.17: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

● ST	Sterile Shovel Test Location
① ➡	Photographic View
— — —	Phase 1B Testing Sub Areas
▨	Areas of Standing Water or Wetland
—	Wetland Buffer
▨	Areas of Slope >12%
—	Clovewood APE

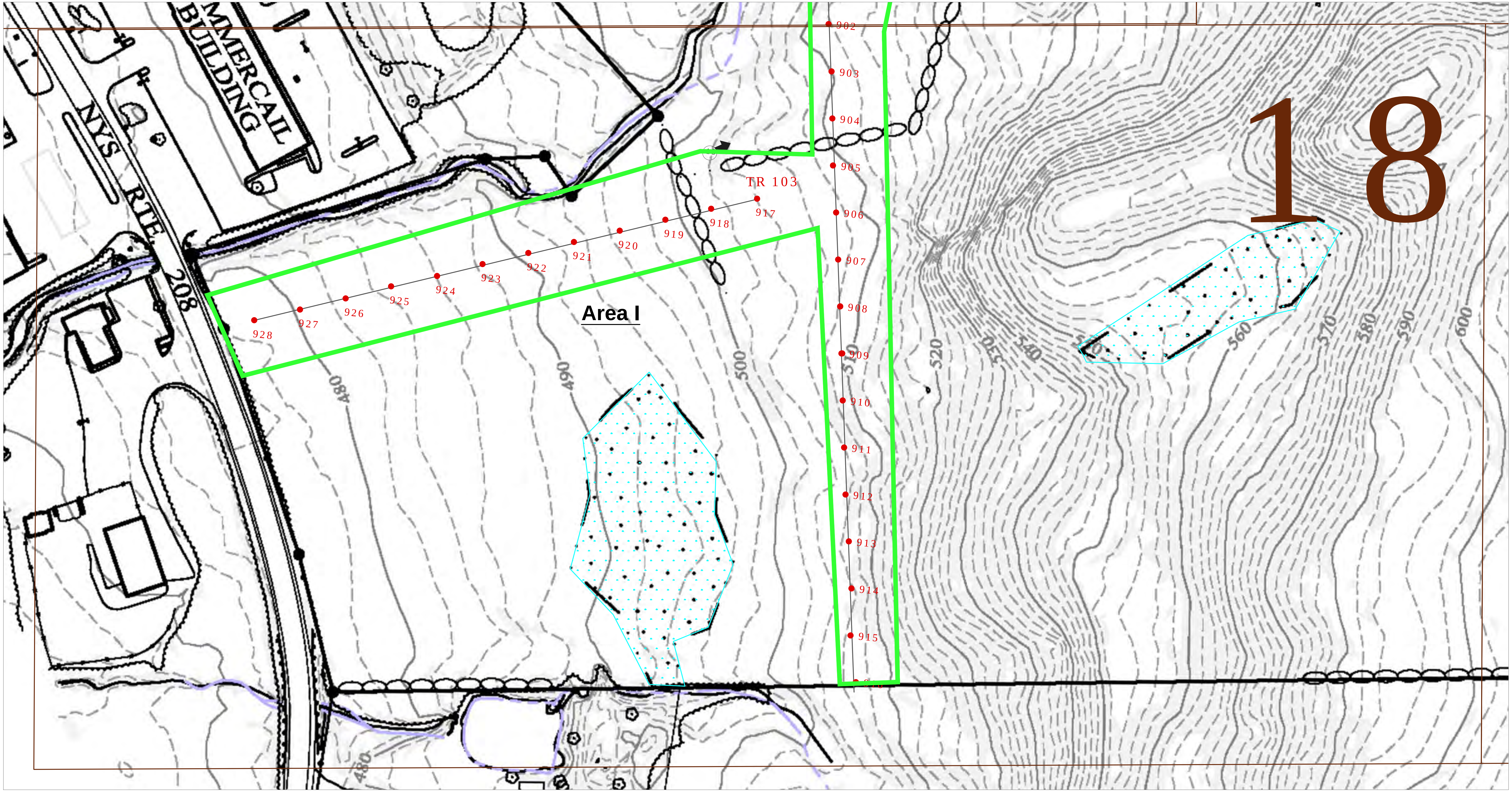

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Figure 5.18: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

● ST Sterile Shovel Test Location

1➡ Photographic View

— — Phase 1B Testing Sub Areas

🟦 Areas of Standing Water or Wetland

— Wetland Buffer

▨ Areas of Slope >12%

— Clovewood APE

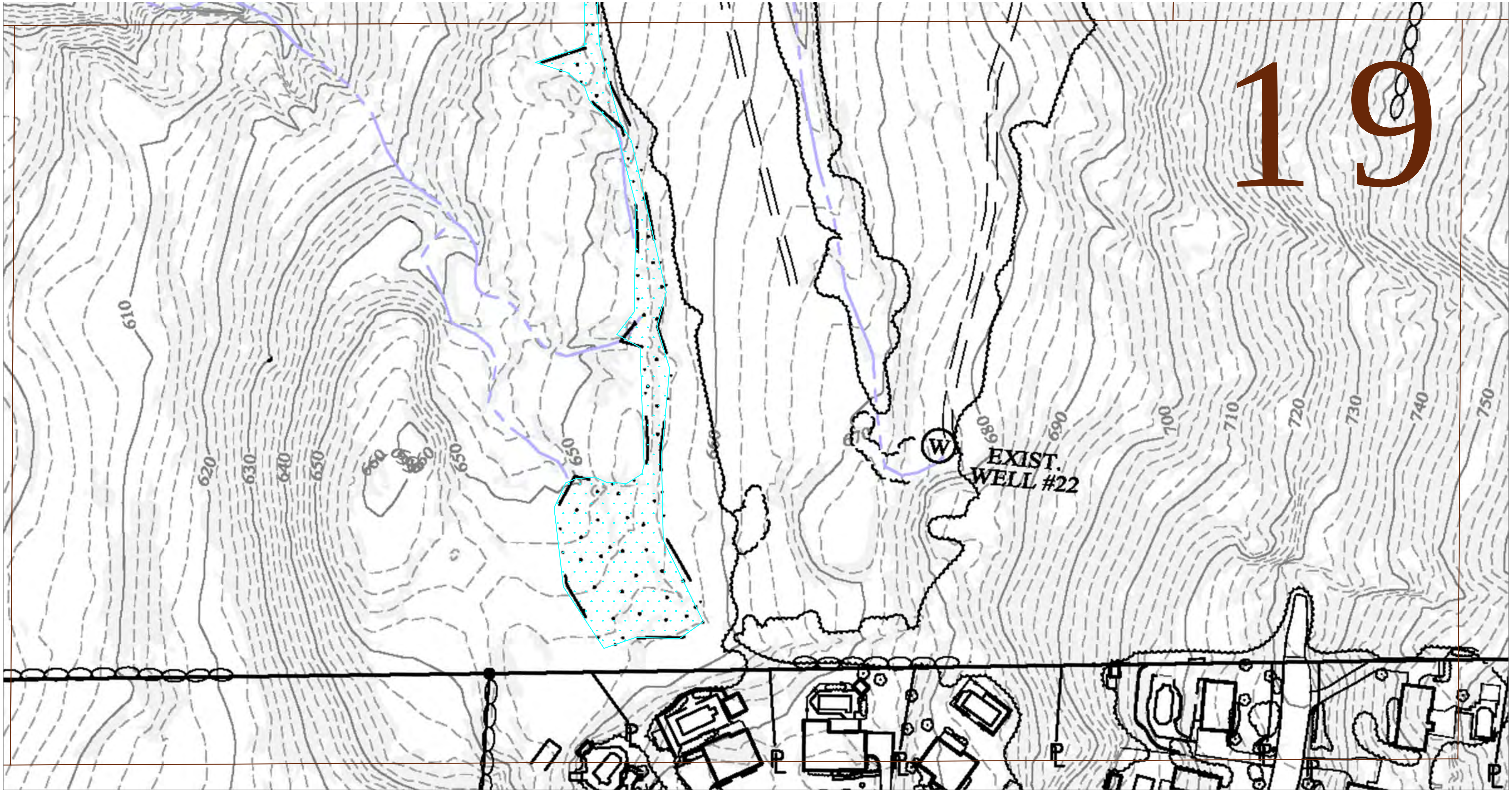

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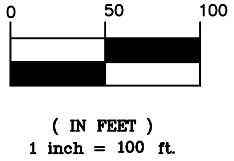
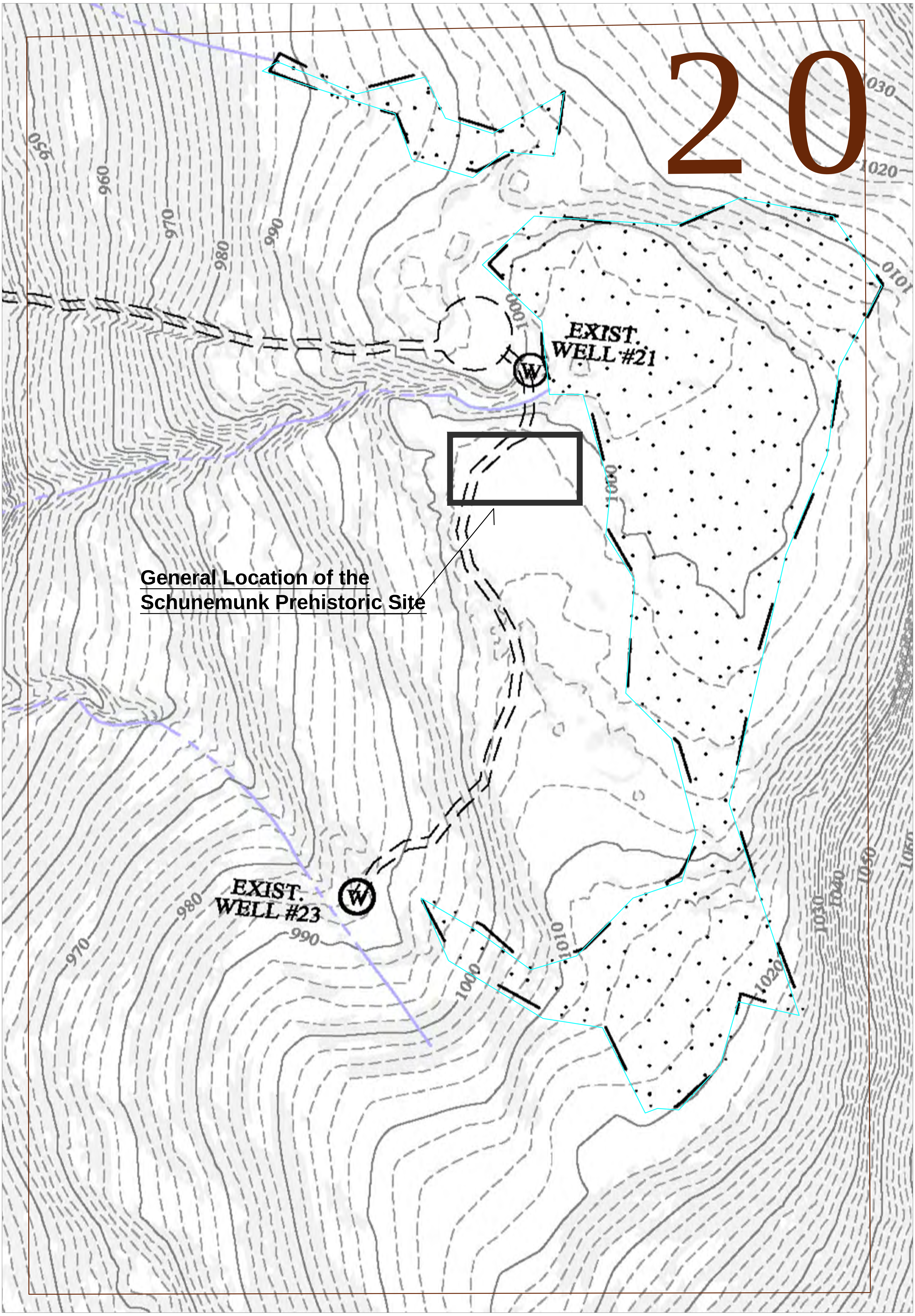
Figure 5.19: Clovewood Site APE
Phase 1B Field Reconnaissance Map
Scale 1" = 100'



LEGEND

● ST	Sterile Shovel Test Location	🟦	Areas of Standing Water or Wetland
① ➡	Photographic View	—	Wetland Buffer
— — —	Phase 1B Testing Sub Areas	▨	Areas of Slope >12%
		—	Clovewood APE



General Location of the Schunemunk Prehistoric Site

HUDSON VALLEY
Cultural Resource Consultants, Ltd.

Figure 6: Schunemunk Prehistoric Site
Phase 1B Field Reconnaissance Map
Scale 1" = 100'

0 50 100
(IN FEET)
1 inch = 100 ft.

LEGEND

🟦	Areas of Standing Water or Wetland
▨	Areas of Slope >12%

Appendix D: Shovel Test Records

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 1	1	1	0-5	0-13	10YR4/3	Brown gavel fill	NCM
	2	1	0-5	0-13	10YR4/3	Brown gavel fill	NCM
	3	1	0-3	0-8	10YR3/3	Dark brown silty loam with gravel	NCM
		2	3-7	8-22	10YR4/2	Dark gray brown compact silty sand with gravel	NCM
	4	1	0-4	0-9	10YR3/3	Dark brown silty loam with gravel	NCM
		2	4-7	9-19	10YR4/2	Dark gray brown compact silty sand with gravel	NCM
	5	1	0-11	0-29	10YR4/2	Dark gray brown rocky sandy gravel , terminated at rock impasse	NCM
	6	1	0-6	0-16	10YR5/3	Brown silty sandy loam	NCM
	7	2	6-10	16-26	10YR6/4	Light yellow brown compact sandy silt	NCM
	7	1	0-8	0-21	10YR5/3	Brown silty sandy loam	NCM
		2	8-13	21-32	10YR6/4	Light yellow brown compact sandy silt	NCM
	8	1	0-8	0-21	10YR4/3	Brown wet silty loam	NCM
		2	8-12	21-31	10YR6/4	Light yellow brown wet clay	NCM
	9	1	0-9	0-23	10YR4/3	Brown silty loam	NCM
		2	9-13	23-33	10YR6/4	Light yellow brown compact clay	NCM
	10	1	0-7	0-17	10YR4/4	Dark yellow brown silty loam	NCM
		1	7-11	17-29	10YR6/3	Pale brown dry mottled clay	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	11	1	0-9	0-22	10YR4/2	Dark gray brown silty loam	NCM
		2	9-13	22-32	10YR6/2	Light yellow brown compact silty loam	NCM
	12					Not Excavated: Wetland Area	
	13	1	0-4	0-10	10YR4/4	Dark yellow brown wet silty loam	NCM
TR 2	14	1	0-3	0-8	10YR4/2	Gray gravelly fill	NCM
	15	1	0-6	0-15	10YR5/3	Brown silty sandy loam	NCM
		2	6-11	15-28	2.5YR5/3	Reddish brown silty clay with shale channery	NCM
	16	1	0-5	0-13	10YR5/3	Brown silty loam	NCM
		2	5-11	13-28	2.5YR5/3	Reddish brown silty clay with shale channery	NCM
	17	1	0-7	0-22	10YR6/3	Pale brown silty loam	NCM
		2	7-13	22-34	10YR6/6	Brown yellow clay or silt with gravely shale	NCM
	18	1	0-7	0-22	10YR6/3	Pale brown silty loam	NCM
		2	7-13	22-34	10YR6/6	Brown yellow dry silty clay	NCM
	19	1	0-13	0-34	10YR6/3	Pale brown silty loam , terminated at root impasse	NCM
	20	1	0-12	0-31	10YR6/3	Pale brown silty loam	NCM
		2	12-16	31-41	10YR7/2 & 10YR7/3	Light gray and very pale brown silty clay	NCM
	21	1	0-9	0-24	10YR6/3	Pale brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	9-14	24-36	10YR6/6	Brown yellow silty clay	NCM
	22	1	0-10	0-25	10YR6/3	Pale brown silty loam	NCM
		2	10-13	25-34	10YR6/6	Brown yellow silt or clay	NCM
	23	1	0-9	0-23	10YR6/3	Pale brown silty loam	NCM
		2	9-14	23-36	10YR5/4	Yellow brown superfine silt or sand	NCM
	24	1	0-12	0-31	10YR6/3	Pale brown silty loam	NCM
	25					Not Excavated: On Gravel Road	
	26	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-9	15-22	10YR5/6	Yellow brown compact silty sand	NCM
TR 3	27					Not Excavated: On Gravel Road	
	28	1	0-8	0-21	10YR6/3	Pale brown silty loam	NCM
	29	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR5/6	Yellow brown compact silty sand	NCM
	30	1	0-7	0-19	10YR4/4	Dark yellow brown dry compact silt	NCM
		2	7-11	19-29	10YR7/2	Light gray compact silty sand	NCM
	31	1	0-6	0-16	10YR5/3	Brown silty loam	NCM
		2	6-10	16-26	10YR6/2	Light yellow brown dry sandy soil	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	32	1	0-6	0-16	10YR4/4	Dark yellow brown silty loam	NCM
		2	6-11	16-28	10YR6/4	Light yellow brown mottled clay	NCM
	33					Not Excavated: Building	
	34	1	0-6	0-14	10YR4/4	Dark yellow brown silty loam	NCM
		2	6-10	14-25	10YR6/4	Light yellow brown mottled clay	NCM
	35	1	0-12	0-31	10YR5/2	Gray brown gravel sandy loam fill	ceramic pipe fragments
	36	1	0-11	0-29	10YR5/2	Gray brown gravel sandy loam fill , terminated at rock impasse	NCM
	37	1	0-6	0-16	10YR3/1	Very dark gray damp silty loam	NCM
		2	6-8	16-21	10YR5/2	Gray brown gravel and sandy fill	NCM
	38	1	0-6	0-14	10YR3/2	Very dark gray brown damp silty loam	NCM
	39					Not Excavated: Wetland Area	
TR 4	40					Not Excavated: On Gravel Road	
	41	1	0-11	0-27	10YR5/3	Brown silty loam with gravel	Modern bottle glass, aluminum foil, nail
		2	11-15	27-38	10YR6/4	Light yellow brown silt with gravel	NCM
	42	1	0-12	0-30	10YR5/3	Brown silty loam with gravel	rusted metal, plastic wrappers - discarded
		2	12-16	30-40	10YR6/4	Light yellow brown silt with gravel	NCM
	43	1	0-9	0-23	10YR5/3	Brown silty loam with gravel	magnetic recording tape metal & plastic fragments , discarded

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	9-13	23-34	10YR6/4	Light yellow brown silt with gravel	NCM
	44	1	0-9	0-22	10YR5/3	Brown silty loam with gravel	plastic - discarded
		2	9-13	22-32	10YR6/4	Light yellow brown silt with gravel	NCM
	45	1	0-9	0-22	10YR5/3	Brown silty loam with gravel	plastic, metal washer - discarded
		2	9-13	22-32	10YR6/4	Light yellow brown silt with gravel	NCM
	46	1	0-9	0-23	10YR5/3	Brown silty loam with gravel	round head nail - discarded
	47	1	0-8	0-20	10YR5/3	Brown silty loam with gravel	nail, plastic comb, plastic hair clip, - discarded
		2	8-11	20-28	2.5YR4/4	Olive brown mottled clay	NCM
	48	1	0-9	0-22	10YR4/2	Dark gray brown silty loam , terminated at root impasse	plastic fragments - discarded
	49					Not Excavated: Building	
	50	1	0-6	0-15	10YR4/2	Dark gray brown silty loam	glass and plastic - discarded
		2	6-11	15-28	2.5YR4/4	Olive brown mottled clay	NCM
	51	1	0-7	0-17	10YR4/2	Dark gray brown silty loam with gravel	plastic - discarded
		2	7-9	17-24	10YR4/3	Brown silty gravel	NCM
	52					Not Excavated: Parking Lot	
	53	1	0-9	0-23	10YR4/3	Brown silty loam with gravel	NCM
		2	9-13	23-33	10YR6/6	Brown yellow dry mottled clay	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	54	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-9	17-23	10YR6/4	Light yellow brown silt with rock	NCM
	55	1	0-9	0-22	10YR4/3	Brown silty loam	NCM
		2	9-13	22-32	10YR6/4	Light yellow brown silt with rock	NCM
	56	1	0-8	0-21	10YR4/3	Brown silty loam , terminated at rock impasse	NCM
TR 5	57	1	0-5	0-12	10YR3/2	Very dark gray brown silty gravel with loam	NCM
		2	5-9	12-23	10YR6/3	Pale brown gravel with sand , terminated at rock impasse	NCM
	58	1	0-9	0-23	10YR5/2	Gray brown dry silty gravel with loam	modern bottle glass, metal-discarded
		2	9-13	23-33	10YR6/6	Brown yellow compacted dry silty loam	NCM
	59	1	0-10	0-26	10YR4/3	Brown silty loam	NCM
		2	10-14	26-36	10YR5/6	Yellow brown compact sandy silt	NCM
	60	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-11	18-28	10YR5/6	Yellow brown compact sandy silt	NCM
	61	1	0-5	0-13	10YR3/2	Very dark gray brown damp gravel and sand	NCM
		2	5-9	13-23	10YR4/6	Dark yellow brown damp compacted gravel and sand	NCM
	62	1	0-5	0-13	10YR3/2	Very dark gray brown damp gravel and sand	NCM
		2	5-10	13-25	10YR4/6	Dark yellow brown damp compacted gravel and sand	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	63	1	0-11	0-27	10YR3/2	Very dark gray brown silty loam and gravel	NCM
		2	11-15	27-38	10YR4/4	Dark yellow brown compact silty loam	NCM
	64					Not Excavated: Building	
	65					Not Excavated: Building	
	66	1	0-7	0-18	10YR3/2	Very dark gray brown silty sandy loam with gravel	NCM
		2	7-11	18-28	10YR4/4	Dark yellow brown compact silty sandy loam	NCM
	67	1	0-4	0-10	10YR4/4	Dark yellow brown rocky sandy loam , terminated at rock impasse	NCM
	68	1	0-5	0-12	10YR4/4	Dark yellow brown rocky sandy loam , terminated at rock impasse	NCM
	69					Not Excavated: Building	
	70					Not Excavated: Building	
	71					Not Excavated: Building	
	72	1	0-10	0-26	10YR4/3	Brown silty sandy loam with rocks , terminated at rock impasse	NCM
	73	1	0-4	0-10	10YR4/4	Dark yellow brown silty loam with decaying plant material	NCM
		2	4-8	10-20	10YR2/1	Black compact silty loam	NCM
TR 6	74	1	0-10	0-25	10YR4/3	Brown silty sandy loam with rocks , terminated at rock impasse	window glass, plastic - discarded
	75	1	0-9	0-23	10YR4/3	Brown silty loam with asphalt and garden hose fragments	NCM
	76					Not Excavated: Building	

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	77	1	0-8	0-21	10YR4/3	Brown silty loam	clear bottle glass's plastic - discarded
		2	8-14	21-36	10YR5/4	Yellow brown silty with shale gravel	NCM
	78	1	0-10	0-26	10YR4/3	Brown silty loam	bottle glass - discarded
		2	10-14	26-35	10YR5/4	Yellow brown silty with shale gravel	NCM
TR 7	79	1	0-6	0-15	10YR4/3	Brown gravel	NCM
		2	6-10	15-25	10YR5/4	Yellow brown hard gravel with clay	NCM
	80	1				Not Excavated: Building	
	81	1				Not Excavated: Building	
	82	1				Not Excavated: Building	
	83	1	0-7	0-19	10YR4/3	Brown gravelly loam	NCM
		2	7-11	19-28	10YR5/4	Yellow brown compact silt with gravel	NCM
TR 8	84	1	0-6	0-15	10YR4/3	Brown silty loam with shale gravel	metal, 1966 dime- discarded
		2	6-10	15-25	10YR5/4	Yellow brown compact silt with gravel	NCM
	85	1	0-10	0-26	10YR4/3	Brown silty loam , terminated at rock impasse	whiteware - discarded
TR 9	86	1	0-13	0-33	10YR4/3	Brown silty loam with gravel , terminated at rock impasse	NCM
	87	1	0-6	0-15	10YR4/3	Brown silty loam with gravel , terminated at rock impasse	NCM
TR 10	88	1	0-9	0-24	10YR4/3	Brown silty loam with gravel , terminated at rock impasse	bottle glass, LP record (vinyl),plastic, 1976 nickel - discarded

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	89					Not Excavated: Wetland Area	
TR 11	90	1	0-9	0-24	10YR4/3	Brown silty loam with gravel , terminated at rock impasse	metal ,clear glass, plastic - discarded
	91					Not Excavated: Swale with modern materials	
TR 12	92	1	0-4	0-10	10YR4/3	Brown silty loam with gravel , terminated at cinderblock	NCM
TR 13	93					Not Excavated: Swale with modern materials	
TR 14	94	1	0-6	0-15	10YR4/4	Dark yellow brown silty clay loam	NCM
		2	6-13	15-32	10YR5/6	Yellow brown compact silt with gravel	NCM
	95	1	0-4	0-10	10YR4/4	Dark yellow brown silty clay loam	NCM
		2	4-8	10-20	10YR5/6	Yellow brown compact silt with gravel	NCM
	96	1	0-3	0-8	10YR4/4	Dark yellow brown silty loam clay	NCM
		2	3-10	8-25	10YR5/6	Yellow brown compact silt with gravel	NCM
	97	1	0-9	0-23	10YR4/4	Dark yellow brown silty loam clay	NCM
		2	9-15	23-38	10YR5/6	Yellow brown compact silt with gravel	NCM
	98					Not Excavated: In concrete path	
	99					Not Excavated: In concrete path	
	100					Not Excavated: Piles of modern items	
	101	1	0-7	0-18	10YR3/3	Dark brown silty loam with rocks , terminated at root impasse	

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	102	1	0-9	0-23	10YR4/3	Brown silty loam with shale gravel	NCM
		2	9-14	23-35	10YR5/4	Yellow brown compact silt with gravel	NCM
	103	1	0-9	0-23	10YR4/3	Brown silty loam with shale gravel	NCM
		2	9-15	23-38	10YR5/4	Yellow brown compact silt with gravel	NCM
TR 15	104					Not Excavated: Slopes greater than 12%	
	105	1	0-7	0-18	10YR3/3	Dark brown silty loam with gravel	NCM
		2	7-13	18-32	10YR5/6	Yellow brown compact silt with gravel	NCM
	106					Not Excavated: In concrete path	
	107	1	0-4	0-10	10YR4/3	Rocky gravelly loam, terminated at root impasse	NCM
	108					Not Excavated: In concrete path	
	109	1	0-12	0-30	10YR4/4	Dark yellow brown silty loam	NCM
		2	12-16	30-40	10YR5/4	Yellow brown gravelly clay	NCM
	110					Not Excavated: Slopes greater than 12% grade	
	111	1	0-9	0-22	10YR3/4	Dark yellow brown silty loam	NCM
		2	9-13	22-34	10YR5/6	Yellow brown gravelly clay	NCM
	112	1	0-6	0-15	10YR3/4	Dark yellow brown silty loam	NCM
		2	6-13	15-33	10YR5/6	Yellow brown gravelly clay	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 16	113					Not Excavated: Slopes greater than 12% grade	
	114	1	0-11	0-28	10YR3/4	Dark yellow brown silty loam	NCM
		2	11-17	28-42	10YR5/6	Yellow brown gravelly clay	NCM
	115					Not Excavated: In concrete path	
	116	1	0-4	0-10	10YR3/4	Dark yellow brown silty loam , terminated at asphalt	NCM
	117					Not Excavated: Slopes greater than 12% grade	
	118					Not Excavated: Slopes greater than 12% grade	
	119	1	0-5	0-12	10YR4/4	Dark yellow brown silty loam	NCM
		2	5-9	12-22	10YR5/4	Yellow brown gravelly clay	NCM
	120					Not Excavated: In concrete path	
	121	1	0-9	0-22	10YR3/3	Dark brown silty loam with gravel	NCM
		2	9-15	22-38	10YR5/6	Yellow brown compact silt with gravel	NCM
Area B							
TR 17	122	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-11	16-28	2.5YR5/4	Light brown olive silty clay	NCM
TR 18	123	1	0-5	0-13	10YR4/3	Brown silty loam , terminated at rock impasse	NCM
	124		0-5	0-13	10YR4/3	Brown silty loam , terminated at rock impasse	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 19	125	1	0-7	0-19	10YR4/3	Brown silty loam	NCM
		2	7-12	19-31	10YR5/4	Light brown silt	NCM
	126	1	0-7	0-18	10YR4/3	Brown silty loam , terminated at rock impasse	NCM
	127	1	0-6	0-15	10YR4/3	Brown silty loam , terminated at rock impasse	NCM
TR 20	128	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-11	18-29	10YR5/4	Light brown silty	NCM
	129	1	0-8	0-21	10YR4/3	Brown silty loam	clear glass discarded
		2	8-13	21-32	10YR5/4	Light brown silty	NCM
	130	1	0-7	0-19	10YR4/3	Brown silty loam	NCM
		2	7-12	19-30	10YR5/4	Light brown silty	NCM
TR 21	131	1	0-8	0-20	10YR3/4	Dark yellow brown silty loam	NCM
		2	8-12	20-30	10YR5/6	Yellow brown rocky clay	NCM
	132	1	0-12	0-31	10YR3/4	Dark yellow brown silty loam	NCM
		2	12-18	31-45	10YR5/6	Yellow brown clay sand	NCM
	133	1	0-11	0-28	10YR3/4	Dark yellow brown silty loam with channery	NCM
		2	11-16	28-40	10YR5/6	Yellow brown rocky clay	NCM
	134	1	0-11	0-29	10YR3/3	Dark yellow brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	11-14	29-36	10YR5/6	Yellow brown rocky clay	NCM
	135	1	0-4	0-10	10YR4/4	Dark yellow brown compact sandy silty loam , terminated at root impasse	NCM
TR 22	136	1	0-14	0-35	10YR4/4	Dark yellow brown compact sandy silty loam	NCM
		2	14-15	35-37	10YR5/4	Light brown compact sandy silty loam , terminated at rock obstruction	NCM
	137	1	0-4	0-9	10YR4/4	Dark yellow brown compact sandy loam	NCM
		2	4-8	9-20	10YR5/4	Light brown compact sandy loam	NCM
	138	1	0-13	0-32	10YR5/4	Light brown damp silty sandy loam with gravel	NCM
		2	13-17	32-42	10YR6/3	Pale brown compact sandy loam	NCM
	139	1	0-13	0-34	10YR5/4	Light brown damp silty sandy loam with gravel	NCM
		2	13-17	34-42	10YR6/3	Pale brown compact sandy loam	NCM
	140	1	0-5	0-12	10YR3/4	Dark yellow brown silty loam , terminated at root impasse	NCM
	141	1	0-5	0-12	10YR3/4	Dark yellow brown silty loam , terminated at root impasse	NCM
TR 23	142	1	0-8	0-20	10YR4/2	Dark gray brown silty loam	NCM
		2	8-12	20-31	2.5YR5/3	Brown sandy clay	NCM
	143	1	0-10	0-26	10YR4/2	Dark gray brown silty loam	NCM
		2	10-14	26-35	10YR5/3	Brown sandy clay	NCM
	144					Not Excavated: Slopes greater than 12% grade	

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	145	1	0-9	0-23	10YR4/3	Brown silty loam	NCM
		2	9-13	23-33	10YR5/4	Light brown silty sand with gravel	NCM
	146	1	0-10	0-25	10YR4/3	Brown silty loam	NCM
		2	10-13	25-34	10YR5/4	Light brown silty sand with gravel	NCM
	147	1	0-5	0-13	10YR4/3	Brown silty loam	yellowware,whiteware
		2	5-10	13-25	10YR5/4	Light brown silty sand with gravel	NCM
	148	1	0-10	0-26	10YR4/3	Brown silty loam	window glass discarded
		2	10-14	26-36	2.5YR5/4	Light olive brown dry silt or clay with gravel and shale	NCM
	149	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-11	17-28	2.5YR5/4	Light olive brown dry silt or clay with gravel and shale	NCM
TR 24	150	1	0-6	0-14	10YR4/3	Brown silty loam with roots , terminated at rock impasse	NCM
	151	1	0-6	0-15	10YR4/2	Dark gray brown dry silty loam	NCM
		2	6-10	15-25	10YR6/4	Light yellow brown compact dry sandy loam	NCM
	152	1	0-4	0-9	10YR2/1	Black silty loam with decomposing plant material , terminated at rock impasse	NCM
	153	1	0-5	0-12	10YR2/1	Black silty loam with decomposing plant material , terminated at rock impasse	NCM
	154	1	0-16	0-40	10YR4/3	Brown silty gravelly loam , terminated at rock impasse	NCM
	155	1	0-8	0-20	10YR4/3	Brown silty sandy loam with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	8-12	20-30	10YR5/4	Yellow brown compact silty sandy loam	NCM
	156	1	0-6	0-15	10YR4/3	Brown silty sandy loam with gravel	NCM
		2	6-12	15-30	10YR5/4	Yellow brown compact silty sandy loam with gravel	NCM
	157	1	0-12	0-31	10YR4/3	Brown silty sandy loam with gravel	NCM
		2	12-16	31-41	10YR5/4	Yellow brown compact silty sandy loam with gravel	NCM
	158	1	0-14	0-36	10YR4/3	Brown silty sandy loam	NCM
		2	14-18	36-46	10YR5/4	Yellow brown compact silty sandy loam with gravel	NCM
TR 25	159	1	0-8	0-20	10YR4/3	Brown silty loam with shale gravel , terminated at rock impasse	NCM
	160	1	0-10	0-25	10YR4/3	Brown silty loam with shale cobbles , terminated at rock impasse	NCM
	161	1	0-9	0-24	10YR4/3	Brown silty loam , terminated at rock and root impasse	NCM
	162	1	0-9	0-22	10YR4/3	Brown silty loam	NCM
		2	9-12	22-31	2.5YR5/4	Light olive brown mottled clay	NCM
	163	1	0-10	0-26	10YR4/3	Brown silty loam , terminated at rock impasse	rusted broken hook - discarded
	164	1	0-9	0-22	10YR4/3	Brown silty loam	NCM
		2	9-12	22-30	2.5YR5/4	Light olive brown silty clay	NCM
	165	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-10	17-25	2.5YR6/4	Light yellowish brown silt or clay	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	166	1	0-16	0-41	10YR4/3	Brown silty loam	NCM
		2	16-20	41-51	2.5YR6/4	Light yellowish brown silty clay	NCM
	167	1	0-13	0-33	10YR4/3	Brown silty loam , terminated at root impasse	NCM
TR 26	168	1	0-9	0-23	10YR4/2	Dark brown silty loam , terminated at rock impasse	NCM
	169	1	0-10	0-25	10YR4/3	Brown silty loam	rusted nails discarded
		2	10-13	25-33	2.5YR5/4	Light olive brown clay	NCM
	170	1	0-8	0-21	10YR4/3	Brown silty loam	NCM
		2	8-12	21-30	2.5YR5/4	Light olive brown clay	NCM
	171	1	0-7	0-19	10YR4/3	Brown silty loam	NCM
		2	7-12	19-30	2.5YR5/4	Light olive brown clay	NCM
	172	1	0-10	0-25	10YR4/3	Brown silty loam	NCM
		2	10-13	25-32	2.5YR5/4	Light olive brown silty clay	NCM
	173	1	0-8	0-21	10YR4/3	Brown silty loam	NCM
		2	8-13	21-32	2.5YR5/4	Light olive brown silty clay	NCM
	174	1	0-7	0-19	10YR4/3	Brown silty loam	NCM
		2	7-10	19-25	2.5YR5/4	Light olive brown silty clay	NCM
	175	1	0-6	0-16	10YR4/3	Brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	6-10	16-26	2.5YR5/4	Light olive brown silty clay	NCM
	176	1	0-7	0-19	10YR4/3	Brown silty loam	NCM
		2	7-12	19-31	2.5YR5/4	Light olive brown silty clay	NCM
TR 27	177	1	0-5	0-13	10YR3/4	Dark brown silty loam , terminated at rock impasse	NCM
	178					Not Excavated: Large soil pile	
	179	1	0-9	0-24	10YR3/4	Dark yellow brown silty loam	NCM
		2	9-15	24-38	10YR5/6	Yellow brown rocky clay	NCM
	180	1	0-7	0-19	10YR3/3	Dark brown gravelly loam	NCM
		2	7-12	19-30	10YR5/4	Yellow brown rocky sand	NCM
	181	1	0-7	0-18	10YR3/4	Dark yellow brown gravelly loam	NCM
		2	7-11	18-27	10YR5/6	Yellow brown rocky sand	NCM
	182					Not Excavated: In dirt roadway	
	183	1	0-7	0-17	10YR3/4	Dark yellow brown gravelly loam	NCM
		2	7-12	17-31	10YR5/6	Yellow brown rocky clay	NCM
	184	1	0-9	0-22	10YR3/4	Dark yellow brown gravelly loam	NCM
		2	9-14	22-35	10YR5/6	Yellow brown rocky clay	NCM
	185	1	0-10	0-25	10YR3/4	Dark yellow brown gravelly loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	10-16	25-40	10YR5/6	Yellow brown rocky clay	NCM
TR 28	186	1	0-9	0-23	10YR4/3	Brown silty loam	NCM
		2	9-13	23-33	2.5YR5/4	Light olive brown silt	NCM
	187	1	0-12	0-30	10YR4/3	Brown silty loam	NCM
		2	12-17	30-44	2.5YR5/4	Light olive brown silt	NCM
	188	1	0-9	0-23	10YR4/3	Brown silty loam	NCM
		2	9-13	23-32	10YR6/6	Brown yellow silt	NCM
	189	1	0-9	0-22	10YR4/3	Brown silty loam	NCM
		2	9-13	22-32	10YR6/6	Brown yellow silt	NCM
	190	1	0-10	0-26	10YR4/3	Brown silty loam	NCM
		2	10-14	26-36	10YR6/6	Brown yellow dry silt	NCM
	191	1	0-10	0-26	10YR4/3	Brown silty loam	NCM
		2	10-12	26-31	10YR6/4	Light yellow brown silt	NCM
	192	1	0-9	0-23	10YR4/3	Brown silty loam	NCM
		2	9-13	23-33	10YR6/6	Brown yellow dry silt	NCM
	193	1	0-8	0-21	10YR4/3	Brown silty loam	NCM
		2	8-12	21-31	10YR6/6	Brown yellow dry silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	194	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-11	15-28	2.5YR5/4	Light olive brown silt	NCM
TR 29	195	1	0-12	0-30	10YR4/3	Brown silty loam	NCM
		2	12-18	30-45	2.5YR5/4	Light olive brown clay	NCM
	196	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-13	15-32	2.5YR5/4	Light olive brown clay	NCM
	197	1	0-12	0-31	10YR4/3	Brown silty loam	NCM
		2	12-17	31-42	2.5YR5/4	Light olive brown clay	NCM
	198	1	0-12	0-29	10YR4/3	Brown silty loam	NCM
		2	12-15	29-38	2.5YR5/4	Light olive brown clay	NCM
	199	1	0-11	0-27	10YR4/3	Brown silty loam	NCM
		2	11-14	27-35	2.5YR5/4	Light olive brown clay	NCM
	200	1	0-10	0-21	10YR4/3	Brown silty loam	NCM
		2	10-12	21-31	2.5YR5/4	Light olive brown clay	NCM
	201	1	0-10	0-21	10YR4/3	Brown silty loam	NCM
		2	10-12	21-29	2.5YR5/4	Light olive brown clay	NCM
	202	1	0-10	0-20	10YR4/3	Brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	10-12	20-31	2.5YR5/4	Light olive brown clay	NCM
	203	1	0-10	0-20	10YR4/3	Brown silty loam	NCM
		2	10-12	20-30	2.5YR5/4	Light olive brown clay	NCM
TR 30	204	1	0-6	0-15	10YR4/3	Brown silt loam , terminated at root impasse	NCM
	205	1	0-10	0-25	10YR4/3	Brown silt loam	whiteware -discarded
		2	10-15	25-38	10YR6/6	Brown yellow silt with gravel	NCM
	206	1	0-7	0-17	10YR4/3	Brown silty loam with shale	NCM
		2	7-12	17-30	10YR6/6	Brown yellow channery silt	NCM
	207	1	0-8	0-20	10YR4/3	Brown silty loam with shale	brick -discarded
		2	8-12	20-30	10YR6/6	Brown yellow channery silt	NCM
	208	1	0-9	0-22	10YR4/3	Brown channery silt loam	NCM
		2	9-13	22-34	10YR6/6	Brown yellow silt with gravel	NCM
TR 31	209	1	0-10	0-25	10YR4/3	Brown channery silt loam	NCM
		2	10-15	25-38	10YR5/4	Yellow brown silt with channery	NCM
	210	1	0-8	0-21	10YR4/3	Brown channery silt loam	NCM
		2	8-13	21-33	10YR5/4	Yellow brown silt with channery	NCM
	211	1	0-7	0-18	10YR4/3	Brown channery silt loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	7-11	18-28	10YR5/4	Yellow brown silt with channery	NCM
	212	1	0-8	0-20	10YR4/3	Brown channery silt loam	NCM
		2	8-12	20-30	10YR5/4	Yellow brown silt with channery	NCM
	213	1	0-8	0-21	10YR4/3	Brown silty loam	NCM
		2	8-13	21-33	10YR6/6	Brown yellow silt	NCM
TR 32	214	1	0-10	0-26	10YR4/3	Brown silty loam	NCM
		2	10-14	26-35	10YR6/6	Brown yellow silt	NCM
	215	1	0-10	0-25	10YR4/3	Brown silty loam	NCM
		2	10-13	25-33	10YR6/6	Brown yellow silt	NCM
	216	1	0-10	0-26	10YR4/3	Brown silty loam	NCM
		2	10-14	26-35	10YR6/6	Brown yellow silt	NCM
	217	1	0-8	0-19	10YR4/3	Brown silty loam	NCM
		2	8-9	19-20	10YR6/6	Brown yellow silt	NCM
	218	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-11	20-28	10YR6/6	Brown yellow silt	NCM
TR 33	219	1	0-22	0-55	10YR5/6	Yellow brown silty sand with gravel	NCM
	220	1	0-9	0-23	10YR5/6	Yellow brown silty sand with gravel	NCM

Transect	**STP**	**Level**	**Depth (in)**	**Depth (cm)**	**Munsell**	**Soil Description**	**Cultural Material**
		2	9-10	23-25	10YR6/6	Brown yellow sand silt with gravel	NCM
	221	1	0-8	0-20	10YR5/6	Yellow brown silty sand with gravel	Modern glass discarded
		2	8-13	20-33	10YR6/6	Brown yellow sand silt with gravel	NCM
	222	1	0-11	0-29	10YR5/6	Yellow brown silty sand with gravel	NCM
		2	11-15	29-39	10YR6/6	Brown yellow sand silt with gravel	NCM
	223	1	0-13	0-33	10YR5/6	Yellow brown silty sand with gravel	NCM
		2	13-18	33-45	10YR6/6	Brown yellow sand silt with gravel	NCM
Area C							
TR 34	224	1	0-2	0-5	10YR4/3	Brown silty loam	NCM
		2	2-10	5-25	2.5YR4/4	Olive brown silt	NCM
	225	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-11	18-29	2.5YR4/4	Olive brown silt	NCM
	226	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-9	16-22	2.5YR4/4	Olive brown silt	NCM
	227	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-10	17-25	2.5YR4/4	Olive brown silt	NCM
	228	1	0-6	0-16	10YR4/3	Brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	6-8	16-20	2.5YR4/4	Olive brown silt	NCM
	229	1	0-11	0-28	10YR4/3	Brown silty loam	NCM
		2	11-18	28-45	2.5YR4/4	Olive brown silt	NCM
	230	1	0-11	0-28	10YR4/3	Brown silty loam	NCM
		2	11-13	28-32	2.5YR4/4	Olive brown silt	NCM
	231	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-9	16-22	2.5YR4/4	Olive brown silt	NCM
	232					Not Excavated: Drainage ditch with pipe	
TR 35	233	1	0-12	0-30	10YR4/3	Brown coarse sand with gravel pebbles and cobbles	NCM
	234	1	0-9	0-23	10YR4/3	Brown silty loam	NCM
		2	9-12	23-31	2.5YR4/4	Olive brown silty clay	NCM
	235	1	0-10	0-26	10YR4/3	Brown silty loam , terminated at root impasse	NCM
		2	10-14	26-36	2.5YR4/4	Olive brown silty clay	NCM
	236	1	0-10	0-25	10YR4/3	Brown silty loam	NCM
	237	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-10	16-26	2.5YR5/4	Light olive brown silt	NCM
	238					Not Excavated: Ravine	

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	239	1	0-12	0-31	10YR4/3	Brown silty loam	NCM
		2	12-16	31-40	2.5YR5/4	Light olive brown silt	NCM
	240	1	0-13	0-34	10YR4/3	Brown silty loam	NCM
		2	13-17	34-44	2.5YR6/4	Light yellowish brown silty clay	NCM
	241	1	0-12	0-30	10YR4/3	Brown silty loam	NCM
		2	12-16	30-41	2.5YR5/4	Light olive brown sandy clay	NCM
	242	1	0-9	0-22	10YR4/3	Brown silty loam	NCM
		2	9-15	22-38	2.5YR5/4	Light olive brown mottled sandy clay	NCM
	243	1	0-7	0-19	10YR4/3	Brown silty loam	NCM
TR 36	244	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-9	14-22	2.5YR4/4	Olive brown silty clay	NCM
	245	1	0-13	0-33	10YR4/3	Brown silty loam	NCM
	246	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-12	17-30	2.5YR4/4	Olive brown silty clay	NCM
	247	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-12	18-30	2.5YR4/4	Olive brown silty clay	NCM
	248					Not Excavated: Slopes greater than 12% grade	

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	249					Not Excavated: Slopes greater than 12% grade	
	250	1	0-11	0-27	10YR4/3	Brown silty loam	NCM
		2	11-16	27-40	2.5YR4/4	Olive brown silty clay	NCM
	251	1	0-7	0-19	10YR4/3	Brown silty loam	NCM
		2	7-9	19-24	2.5YR4/4	Olive brown silty clay	NCM
	252	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-11	20-28	2.5YR4/4	Olive brown silty clay	NCM
	253	1	0-9	0-23	10YR4/3	Brown silty loam	NCM
		2	9-10	23-26	2.5YR4/4	Olive brown silty clay	NCM
TR 37	254	1	0-9	0-23	10YR4/3	Brown silty loam	NCM
		2	9-13	23-34	10YR5/6	Yellow brown silty clay	NCM
	255	1	0-11	0-29	10YR4/3	Brown silty loam	NCM
		2	11-15	29-39	10YR5/6	Yellow brown silty clay	NCM
	256	1	0-10	0-25	10YR4/3	Brown silty loam	NCM
		2	10-13	25-34	10YR5/6	Yellow brown silty clay	NCM
	257	1	0-7	0-22	10YR4/3	Brown silty loam , terminated by root impasse	NCM
	258					Not Excavated: Slopes greater than 12% grade	

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	259					Not Excavated: Slopes greater than 12% grade	
	260	1	0-9	0-23	10YR4/3	Brown silty loam, terminated by rock and root impasse	NCM
	261	1	0-12	0-30	10YR4/3	Brown silty loam, terminated at rock impasse	NCM
	262	1	0-9	0-23	10YR4/3	Brown silty sand with gravel	clear glass, plastic bit discarded
		2	9-10	23-26	10YR3/4	Dark yellow brown sand with gravel	NCM
	263	1	0-4	0-10	10YR4/3	Brown silty loam	NCM
		2	4-8	10-20	10YR3/4	Dark yellow brown silty or clay with shale	NCM
TR 38	264	1	0-12	0-31	10YR4/3	Brown gravelly loam	NCM
		2	12-18	31-45	10YR5/6	Yellow brown rocky clay	NCM
	265	1	0-10	0-26	10YR4/3	Brown gravelly loam	NCM
		2	10-16	26-40	10YR5/6	Yellow brown rocky clay	NCM
	266	1	0-12	0-30	10YR4/3	Brown gravelly loam , terminated at rock impasse	NCM
	267	1	0-11	0-29	10YR3/3	Dark brown gravelly loam	NCM
		2	11-15	29-38	10YR5/4	Yellow brown rocky clay	NCM
	268	1	0-12	0-30	10YR4/3	Brown gravelly loam	NCM
		2	12-18	30-45	10YR5/6	Yellow brown rocky clay	NCM
	269	1	0-4	0-10	10YR4/4	Dark yellow brown thick wet gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	4-10	10-25	10YR5/4	Yellow brown rocky clay	NCM
	270	1	0-2	0-5	10YR3/3	Dark brown gravelly loam	NCM
		2	2-8	5-20	10YR5/4	Yellow brown rocky clay	NCM
	271					Not Excavated: Slopes greater than 12% grade	
	272	1	0-13	0-32	10YR4/4	Dark yellow brown sandy loam	NCM
		2	13-	32-45	10YR5/6	Yellow brown gravelly clay	NCM
	273					Not Excavated: Gravel washout	
	274	1	0-10	0-26	10YR3/4	Dark yellow brown sandy gravel	NCM
		2	10-14	26-35	10YR5/4	Yellow brown rocky sand	NCM
TR 39	275	1	0-7	0-17	10YR5/4	Yellow brown silty loam , terminated at root impasse	NCM
	276	1	0-11	0-29	10YR5/4	Yellow brown silty loam with rocks , terminated at rock impasse	NCM
	277	1	0-11	0-27	10YR5/4	Yellow brown silty loam with rocks	NCM
		2	11-12	27-31	10YR6/6	Brown yellow silty loam with rocks , terminated at rock impasse	NCM
	278					Not Excavated: drainage ditch	
	279	1	0-3	0-7	10YR5/3	Brown damp silty loam	NCM
		2	3-7	7-17	10YR6/4	Light yellow brown damp clay	NCM
	280	1	0-4	0-10	10YR5/3	Brown damp silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	4-9	10-23	10YR6/4	Light yellow brown damp clay	NCM
	281	1	0-4	0-10	10YR5/3	Brown silty sandy loam	NCM
		2	4-9	10-22	10YR5/6	Yellow brown compact silty sand	NCM
	282					Not Excavated: Slopes greater than 12% grade	
	283	1	0-9	0-24	10YR4/3	Brown silty loam with roots and rocks, terminated at rock impasse	NCM
	284	1	0-9	0-24	10YR5/4	Yellow brown silty sandy loam with rocks and roots	NCM
		2	9-13	24-34	10YR5/6	Yellow brown silty sand	NCM
	285	1	0-10	0-25	10YR5/4	Yellow brown silty sandy loam with rocks and roots	NCM
		2	10-16	25-40	10YR5/6	Yellow brown silty sand	NCM
TR 40	286	1	0-8	0-20	10YR4/3	Brown silt loam terminated at root impasse	NCM
	287	1	0-9	0-22	10YR4/3	Brown silt loam	NCM
		2	9-11	22-27	2.5YR4/4	Olive brown sandy clay	NCM
	288	1	0-10	0-25	10YR4/3	Brown silt loam	NCM
		2	10-12	25-30	2.5YR4/4	Olive brown sandy clay	NCM
	289	1	0-6	0-15	10YR4/3	Brown silt loam	NCM
		2	6-10	15-25	2.5YR4/4	Olive brown sandy clay	NCM
	290	1	0-9	0-24	10YR4/3	Brown silt loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	9-11	24-29	2.5YR4/4	Olive brown sandy clay	NCM
	291	1	0-4	0-10	10YR4/3	Brown silt loam	NCM
		2	4-6	10-15	2.5YR4/4	Olive brown sandy clay	NCM
	292	1	0-2	0-4	10YR4/3	Brown silt loam	NCM
		2	2-4	4-10	2.5YR4/4	Olive brown sandy clay	NCM
	293	1	0-5	0-12	10YR4/3	Brown silt loam	NCM
		2	5-9	12-22	2.5YR4/4	Olive brown sandy clay	NCM
	294					Not Excavated: Slopes greater than 12% grade	
	295	1	0-7	0-18	10YR6/2	Light yellow brown silty loam with channery	NCM
	296					Not Excavated: boulders drain pipes	
TR 41	297	1	0-13	0-33	10YR5/4	Yellow brown silty sand	NCM
		2	13-17	33-43	10YR5/8	Yellow brown silty sand	NCM
	298	1	0-8	0-19	10YR5/4	Yellow brown silty sand	NCM
		2	8-11	19-29	10YR5/8	Yellow brown silty sand	NCM
	299	1	0-8	0-20	10YR5/4	Yellow brown silty sand	NCM
		2	8-12	20-30	10YR5/8	Yellow brown silty sand	NCM
	300	1	0-12	0-30	10YR5/4	Yellow brown silty sand	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	12-16	30-40	10YR5/8	Yellow brown silty sand	NCM
	301	1	0-11	0-28	10YR5/4	Yellow brown silty sand	NCM
		2	11-16	28-40	10YR5/8	Yellow brown silty sand	NCM
	302	1	0-9	0-24	10YR4/3	Brown silty gravel	NCM
		2	9-16	24-40	10YR5/6	Yellow brown silt with rocks and cobbles	NCM
	303	1	0-6	0-15	10YR3/3	Dark brown gravelly silt	NCM
		2	6-12	15-30	2.5YR5/4	Light olive brown wet gravel	NCM
	304	1	0-7	0-19	10YR5/6	Yellow brown gravelly loam , terminated at rock impasse	NCM
	305	1	0-6	0-15	10YR3/3	Dark brown silty sandy loam	NCM
		2	6-12	15-30	10YR5/6	Yellow brown gravelly rocky loam	NCM
	306					Not Excavated: Slopes greater than 12% grade	
	307					Not Excavated: Slopes greater than 12% grade	
TR 42	308	1	0-9	0-23	10YR4/3	Brown silty loam with gravel and rock	NCM
		2	9-13	23-34	10YR5/4	Yellow brown silt with gravel	NCM
	309	1	0-6	0-14	10YR4/3	Brown silty loam with gravel and rock , terminated at root impasse	NCM
	310	1	0-9	0-23	10YR4/3	Brown silty loam with gravel and rock	NCM
		2	9-13	23-33	10YR5/4	Yellow brown silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	311	1	0-8	0-21	10YR4/3	Brown silty loam with gravel and rock	NCM
		2	8-13	21-32	10YR5/4	Yellow brown silt	NCM
	312					Not Excavated: Slopes greater than 12% grade	NCM
	313	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-10	17-25	2.5YR5/4	Light olive brown sandy clay	NCM
	314	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-10	15-25	2.5YR5/4	Light olive brown sandy clay	NCM
	315	1	0-10	0-26	10YR4/3	Brown silty loam	NCM
	316	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-10	15-25	2.5YR4/5	Light olive brown clay	NCM
	317					Not Excavated: Slopes greater than 12% grade	
	318					Not Excavated: Slopes greater than 12% grade	
TR 43	319	1	0-8	0-21	10YR4/3	Brown silty sandy loam	NCM
		2	8-11	21-27	10YR5/8	Yellow brown compact sand , terminated at rock impasse	NCM
	320	1	0-13	0-32	10YR4/3	Brown silty loam with channery , terminated at rock impasse	NCM
	321	1	0-8	0-20	10YR4/3	Brown silty loam with channery	NCM
	322	2	8-12	20-31	10YR6/4	Light yellow brown dry mottled clay	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	323	1	0-8	0-20	10YR4/3	Brown silty loam with channery , terminated at rock and root impasse	NCM
	324	1	0-7	0-18	10YR4/3	Brown silty loam with gravel and shale	NCM
		2	7-11	18-28	10YR5/6	Yellow brown silty sandy loam with roots and gravel , terminated at rock impasse	NCM
TR 44	325	1	0-5	0-13	10YR4/3	Brown silty loam with channery , terminated at rock impasse	NCM
	326	1	0-7	0-19	10YR4/3	Brown silt loam with channery	NCM
		2	7-11	19-28	10YR5/4	Yellow brown sandy loam with gravel	NCM
	327	1	0-4	0-10	10YR4/3	Brown silt loam with channery	NCM
		2	4-9	10-23	10YR5/4	Yellow brown sandy loam with gravel	NCM
	328	1	0-7	0-17	10YR4/3	Brown silt loam with channery	NCM
		2	7-10	17-26	10YR5/4	Yellow brown sandy loam with gravel	NCM
	329	1	0-5	0-13	10YR4/3	Brown silt loam with channery	NCM
		2	5-13	13-33	10YR5/4	Yellow brown sandy loam with gravel	NCM
	330	1	0-5	0-13	10YR4/3	Brown silt loam with channery	NCM
		2	5-7	13-19	10YR5/4	Yellow brown sandy loam with gravel	NCM
	331	1	0-4	0-10	10YR4/3	Brown silt loam with channery	NCM
		2	4-9	10-23	10YR5/4	Yellow brown sandy loam with gravel	NCM

Area D

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 45	332	1	0-4	0-10	10YR4/3	Brown silty loam	NCM
		2	4-10	10-25	10YR6/6	Brown yellow silt	NCM
	333	1	0-5	0-12	10YR4/3	Brown silty loam	NCM
		2	5-12	12-30	10YR6/6	Brown yellow silt	NCM
	334	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-10	16-26	10YR6/6	Brown yellow silt , terminated at rock impasse	NCM
TR 46	335	1	0-6	0-16	10YR4/6	Dark yellow brown silty loam	NCM
		2	6-11	16-28	10YR6/6	Brown yellow silty loam	NCM
	336	1	0-7	0-18	10YR4/6	Dark yellow brown silty loam	NCM
		2	7-10	18-25	10YR6/6	Brown yellow silty loam	NCM
	337	1	0-7	0-17	10YR3/6	Dark yellow brown dry silty clay	NCM
		2	7-11	17-28	10YR6/6	Brown yellow dry clay	NCM
TR 47	338	1	0-10	0-26	10YR4/3	Brown silty loam with gravel	NCM
		2	10-14	26-36	10YR6/6	Brown yellow sandy silt	NCM
TR 48	339	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-8	14-20	10YR6/6	Brown yellow silt	NCM
	340	1	0-6	0-16	10YR4/3	Brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM
	341	1	0-4	0-10	10YR4/3	Brown silty loam	NCM
		2	4-9	10-22	10YR6/6	Brown yellow silt	NCM
	342					Not Excavated: Slopes greater than 12% grade	
TR 49	343	1	0-10	0-25	10YR4/3	Brown silty loam with gravel	NCM
		2	10-14	25-35	10YR6/6	Brown yellow sandy silt	NCM
	344	1	0-8	0-20	10YR4/3	Brown silty loam with gravel	NCM
		2	8-12	20-30	10YR6/6	Brown yellow sandy silt	NCM
	345					Not Excavated: Slopes greater than 12% grade	
TR 50	346	1	0-6	0-15	10YR4/6	Dark yellow brown dry clay	NCM
		2	6-9	15-23	10YR6/6	Brown yellow dry clay	NCM
	347	1	0-7	0-17	10YR5/6	Yellow brown silty loam	NCM
		2	7-11	17-27	10YR6/6	Brown yellow silty loam	NCM
	348	1	0-7	0-17	10YR5/6	Yellow brown silty loam	NCM
		2	7-12	17-30	10YR6/6	Brown yellow silty loam	NCM
	349	1	0-6	0-16	10YR5/6	Yellow brown silty loam	NCM
		2	6-11	16-27	10YR6/6	Brown yellow silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	350	1	0-6	0-15	10YR5/6	Yellow brown silty loam	NCM
		2	6-10	15-26	10YR6/6	Brown yellow silty loam	NCM
	351	1	0-5	0-13	10YR5/6	Yellow brown silty loam	NCM
		2	5-10	13-25	10YR6/6	Brown yellow silty loam	NCM
TR 51	352	1	0-5	0-12	10YR3/4	Dark yellow brown silty loam	NCM
		2	5-6	12-16	10YR6/6	Brown yellow silt	NCM
	353	1	0-4	0-10	10YR3/4	Dark yellow brown silty loam	NCM
		2	4-10	10-25	10YR6/6	Brown yellow silt	NCM
	354	1	0-6	0-14	10YR3/4	Dark yellow brown silty loam	NCM
		2	6-12	14-30	10YR6/6	Brown yellow silt	NCM
	355	1	0-6	0-16	10YR3/4	Dark yellow brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM
	356	1	0-5	0-12	10YR3/4	Dark yellow brown silty loam	NCM
		2	5-9	12-24	10YR6/6	Brown yellow silt	NCM
TR 52	357					Not Excavated: Slopes greater than 12% grade	
	358	1	0-7	0-18	10YR4/2	Dark gray brown silty loam with gravel	NCM
		2	7-11	18-29	10YR6/2	Light yellow brown sandy silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	359	1	0-8	0-20	10YR4/3	Brown silty loam with gravel	NCM
		2	8-12	20-30	10YR6/6	Brown yellow sandy silt	NCM
	360	1	0-8	0-21	10YR4/3	Brown silty loam with gravel	NCM
		2	8-13	21-33	10YR6/6	Brown yellow sandy silt	NCM
	361	1	0-5	0-12	10YR4/3	Brown silty loam with gravel	NCM
		2	5-9	12-24	10YR6/6	Brown yellow sandy silt , terminated at root impasse	NCM
	362					Not Excavated: Slopes greater than 12% grade	
TR 53	363	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM
	364	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM
	365	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-10	14-26	10YR6/6	Brown yellow silt	NCM
	366	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM
	367	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-10	14-26	10YR6/6	Brown yellow silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	368	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-12	15-30	10YR6/6	Brown yellow silt	NCM
TR 54	369	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-10	18-25	10YR5/6	Yellow brown silty loam , terminated at root impasse	NCM
	370	1	0-7	0-19	10YR4/6	Dark yellow brown dry clay	NCM
		2	7-10	19-26	10YR6/6	Brown yellow dry clay	NCM
	371	1	0-5	0-13	10YR3/6	Dark yellow brown silty loam	NCM
		2	5-8	13-21	10YR6/6	Brown yellow silty loam	NCM
	372	1	0-10	0-25	10YR3/6	Dark yellow brown silty loam	NCM
Area E							
TR 55	373	1	0-9	0-24	10YR4/2	Dark gray brown silty loam	NCM
		2	9-15	24-38	2.5YR5/4	Light olive brown silty loam	NCM
	374					Not Excavated: Dug out area	
	375	1	0-8	0-20	10YR4/2	Dark gray brown silty loam	NCM
		2	8-12	20-31	2.5YR5/4	Light olive brown silty loam	NCM
	376	1	0-12	0-30	10YR4/2	Dark gray brown silty loam	NCM
		2	12-17	30-43	2.5YR5/4	Light olive brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	377	1	0-7	0-19	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	378	1	0-8	0-21	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	389	1	0-7	0-19	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	380	1	0-7	0-17	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	381	1	0-7	0-19	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	7-11	19-29	10YR5/8	Yellow brown dry mottled clay	NCM
	382	1	0-8	0-20	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	8-12	20-30	10YR5/8	Yellow brown dry mottled clay	NCM
	383	1	0-6	0-16	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	384	1	0-6	0-15	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
		2	6-10	15-25	10YR5/8	Yellow brown dry mottled clay	NCM
	385	1	0-6	0-15	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	386					Not Excavated: Sand Trap	
	387					Not Excavated: Sand Trap	
	388	1	0-6	0-15	10YR5/4	Yellow brown gravelly sand , terminated at hard compact gravel and sand	NCM
	389	1	0-15	0-37	10YR5/4	Yellow brown sand	NCM
		2	15-18	37-45	10YR6/6	Brown yellow sand , terminated at rock obstruction	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	390					Not Excavated: Surface Disturbance	
	391	1	0-12	0-30	10YR5/4	Yellow brown silty loam	NCM
		2	12-13	30-34	10YR6/6	Brown yellow sand	NCM
	392					Not Excavated: Large drainage ditch	
	393	1	0-8	0-21	10YR3/3	Dark brown sandy loam , terminated at rock impasse	NCM
	394	1	0-14	0-36	10YR3/3	Dark brown sandy loam	NCM
		2	14-17	36-42	10YR6/6	Brown yellow sandy rocky gravel , terminated at rock impasse	NCM
	395					Not Excavated: Large drainage ditch	
	396					Not Excavated: Slopes greater than 12% grade greater than 12%	
	397	1	0-12	0-30	10YR3/3	Dark brown sandy loam	NCM
		2	12-15	30-37	10YR6/6	Brown yellow hard packed sand , terminated at rock impasse	NCM
	398	1	0-2	0-5	10YR3/3	Dark brown sandy loam , terminated at rock impasse	
	399	1	0-11	0-29	10YR3/3	Dark brown sandy loam	NCM
		2	11-15	29-38	10YR6/6	Brown yellow hard packed sand , terminated at rock impasse	NCM
	400	1	0-13	0-32	10YR3/3	Dark brown sand	NCM
		2	13-17	32-43	10YR6/6	Brown yellow rocky packed sand	NCM
	401	1	0-8	0-21	10YR3/3	Dark brown sandy rock , terminated at rock impasse	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	402	1	0-12	0-31	10YR3/3	Dark brown sandy rock	NCM
		2	12-18	31-45	10YR6/6	Brown yellow hard packed clay , terminated at rock impasse	NCM
	403	1	0-11	0-27	10YR3/3	Dark brown sandy rock	NCM
		2	11-14	27-35	10YR6/6	Brown yellow hard packed clay , terminated at rock impasse	NCM
	404					Not Excavated: Surface Disturbance	
	405	1	0-14	0-35	10YR5/4	Yellow brown sand , terminated at rock impasse	1 bottle glass discarded
TR 56	406	1	0-6	0-16	10YR4/2	Dark gray brown silty loam	NCM
		2	6-10	16-26	2.5YR5/4	Light olive brown silty loam	NCM
	407	1	0-6	0-14	10YR4/2	Dark gray brown silty loam	NCM
		2	6-10	14-26	2.5YR5/4	Light olive brown silty clay loam	NCM
	408	1	0-6	0-15	10YR4/2	Dark gray brown silty loam	NCM
		2	6-10	15-25	2.5YR5/4	Light olive brown silty clay loam	NCM
	409	1	0-7	0-17	10YR4/2	Dark gray brown silty loam	NCM
		2	7-10	17-25	2.5YR5/4	Light olive brown silty clay loam	NCM
	410	1	0-7	0-18	10YR4/2	Dark gray brown silty loam	NCM
		2	7-10	18-25	2.5YR5/4	Light olive brown silty clay loam	NCM
	411	1	0-7	0-18	10YR4/2	Dark gray brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	7-10	18-26	2.5YR5/4	Light olive brown silty clay loam	NCM
	412	1	0-5	0-12	10YR4/2	Dark gray brown silty loam	NCM
		2	5-8	12-20	2.5YR5/4	Light olive brown silty clay loam	NCM
	413	1	0-4	0-11	10YR5/4	Yellow brown silty loam , terminated at rock impasse	NCM
	414	1	0-5	0-12	10YR5/4	Yellow brown silty loam	NCM
		2	5-8	12-21	2.5YR5/4	Light olive brown silty clay loam	NCM
	415	1	0-4	0-11	10YR5/4	Yellow brown silty loam	NCM
		2	4-7	11-19	2.5YR5/4	Light olive brown silty clay loam	NCM
	416	1	0-4	0-11	10YR5/4	Yellow brown silty loam	NCM
		2	4-8	11-21	2.5YR5/4	Light olive brown silty clay loam	NCM
	417	1	0-4	0-11	10YR5/4	Yellow brown silty loam , terminated at rock impasse	NCM
	418	1	0-6	0-16	10YR5/4	Yellow brown silty loam	NCM
	419	2	6-10	16-26	2.5YR5/4	Light olive brown silty clay loam	NCM
	420					Not Excavated: In Gravel Road	
	421	1	0-3	0-8	10YR5/4	Yellow brown silt loam with gravel	NCM
		2	3-6	8-16	2.5YR5/4	Light olive brown silty clay loam	NCM
	422	1	0-8	0-20	10YR3/3	Dark brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	8-12	20-30	10YR5/6	Yellow brown silty loam	NCM
	423					Not Excavated: In Gravel Road	
	424	1	0-11	0-29	10YR3/3	Dark brown gravel	NCM
		2	11-15	29-39	10YR5/6	Yellow brown gravel	NCM
	425	1	0-1	0-28	10YR3/3	Dark brown gravel and rocks	NCM
		2	11-15	28-37	10YR5/6	Yellow brown gravel	NCM
	426	1	0-8	0-20	10YR3/3	Dark brown gravel sand and rocks	NCM
		2	8-10	20-25	10YR5/6	Yellow brown gravel sand and rocks	NCM
	427	1	0-7	0-18	10YR3/3	Dark brown gravel sand and rocks	NCM
		2	7-16	18-40	10YR5/6	Yellow brown gravel sand and rocks	NCM
	428	1	0-8	0-21	10YR3/3	Dark brown gravel sand and rocks	NCM
		2	8-11	21-29	10YR5/6	Yellow brown gravel sand and rocks	NCM
	429	1	0-5	0-13	10YR3/3	Dark brown gravel sand and rocks	NCM
	430					Not Excavated: Wetland	
	431	1	0-7	0-17	10YR3/3	Dark brown gravel and rocks	NCM
		2	7-10	17-25	10YR5/6	Yellow brown gravel and rocks	NCM
	432	1	0-6	0-15	10YR3/3	Dark brown gravel and rocks	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	6-9	15-23	10YR5/6	Yellow brown gravel and rocks	NCM
	433	1	0-7	0-17	10YR3/3	Dark brown gravel and rocks	2003 penny discarded
		2	7-9	17-23	10YR5/6	Yellow brown gravel and rocks	NCM
	434	1	0-6	0-15	10YR3/3	Dark brown gravel and rocks	NCM
		2	6-11	15-29	10YR5/6	Yellow brown gravel and rocks	NCM
	435	1	0-8	0-20	10YR3/3	Dark brown gravel and rocks	NCM
		2	8-10	20-25	10YR5/6	Yellow brown gravel and rocks	NCM
	436	1	0-7	0-18	10YR3/3	Dark brown gravel and rocks	NCM
		2	7-10	18-25	10YR5/6	Yellow brown gravel and rocks	NCM
	437					No Excavated: Large Gravel pile	
TR 57	438	1	0-7	0-17	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	7-11	17-27	2.5YR5/4	Light olive brown dry sandy silt with gravel	NCM
	439	1	0-8	0-21	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	8-12	21-31	2.5YR5/4	Light olive brown dry sandy silt with gravel	NCM
	440	1	0-8	0-21	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	441					Not Excavated: Large drainage ditch	
	442	1	0-7	0-18	10YR4/3	Brown dry sandy silt with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	7-11	18-28	2.5YR5/4	Light olive brown dry sandy silt with gravel	NCM
	443	1	0-7	0-18	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	7-11	18-28	2.5YR5/4	Light olive brown dry sandy silt with gravel , terminated at rock impasse	NCM
	444	1	0-7	0-18	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	7-11	18-28	2.5YR5/4	Light olive brown dry sandy silt with gravel	NCM
	445	1	0-7	0-18	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	7-11	18-29	2.5YR5/4	Light olive brown dry sandy silt with gravel	NCM
	446	1	0-5	0-13	10YR4/3	Brown dry sandy silt with gravel	NCM
	447	2	5-7	13-19	2.5YR5/4	Light olive brown dry sandy silt with gravel	NCM
	448	1	0-9	0-23	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	9-13	23-33	2.5YR5/4	Light olive brown dry sandy silt with gravel	NCM
	449	1	0-7	0-18	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	7-11	18-28	2.5YR5/4	Light olive brown dry sandy silt with gravel	NCM
	450					Not Excavated: Slopes greater than 12% grade	
	451	1	0-4	0-10	10YR4/3	Brown compact sand and grave in bulldozed pile	NCM
	452	1	0-6	0-16	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	453	1	0-9	0-22	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	454	1	0-11	0-28	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	11-12	28-30	10YR6/6	Brown yellow compact sand terminated at rock impasse	NCM
	455	1	0-9	0-24	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	456	1	0-11	0-28	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
		2	11-13	28-33	10YR6/6	Brown yellow compact sand , terminated at rock impasse	NCM
	457	1	0-6	0-15	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	458	1	0-7	0-17	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	459	1	0-10	0-26	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	10-14	26-36	10YR6/6	Brown yellow dry compact sand	NCM
	460	1	0-6	0-14	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	461	1	0-10	0-26	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	10-11	26-29	10YR6/6	Brown yellow compact silt/sand and gravel	NCM
	462					Not Excavated: In Roadway	
	463	1	0-10	0-25	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	10-14	25-35	10YR6/6	Brown yellow compact dry sand	NCM
	464	1	0-6	0-15	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	465	1	0-6	0-16	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	466					Not Excavated: Surface Disturbance	
	467	1	0-6	0-15	10YR3/3	Dark brown gravel and rocks	NCM
		2	6-11	15-29	10YR5/6	Yellow brown gravel and rocks	NCM
	468	1	0-8	0-20	10YR3/3	Dark brown gravel and rocks	NCM
		2	8-10	20-25	10YR5/6	Yellow brown gravel and rocks	NCM
	469	1	0-7	0-18	10YR3/3	Dark brown gravel and rocks	NCM
		2	7-10	18-25	10YR5/6	Yellow brown gravel and rocks	NCM
TR 58	470	1	0-7	0-19	10YR4/3	Brown silty loam	NCM
		2	7-12	19-31	2.5YR5/4	Light olive brown silt	NCM
	471	1	0-7	0-19	10YR4/3	Brown silty loam	plastic - discarded
		2	7-12	19-30	2.5YR5/4	Light olive brown silt	NCM
	472	1	0-3	0-7	10YR4/3	Brown silty loam	NCM
		2	3-7	7-18	2.5YR5/4	Light olive brown mottled clay with coarse sand	NCM
	473	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	2.5YR5/4	Light olive brown mottled clay with coarse sand	NCM
	474	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-10	17-26	2.5YR5/4	Light olive brown mottled clay with coarse sand and gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	475	1	0-9	0-23	10YR4/3	Brown silty loam	NCM
		2	9-13	23-33	2.5YR5/4	Light olive brown mottled clay with coarse sand and gravel	NCM
	476	1	0-9	0-24	10YR4/3	Brown silty loam	NCM
		2	9-13	24-34	2.5YR5/4	Light olive brown mottled clay with coarse sand and gravel	NCM
	477	1	0-7	0-19	10YR4/3	Brown silty loam	NCM
		2	7-12	19-30	2.5YR5/4	Light olive brown mottled clay with coarse sand and gravel	NCM
	478	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-10	15-25	2.5YR5/4	Light olive brown mottled clay with coarse sand and gravel	NCM
	479	1	0-7	0-18	10YR4/3	Brown silty loam with gravel	NCM
		2	7-11	18-28	2.5YR5/4	Light olive brown dry silt with gravel	NCM
	480	1	0-8	0-20	10YR4/3	Brown silty loam with gravel	NCM
		2	8-12	20-30	2.5YR5/4	Light olive brown dry silt with gravel	NCM
	481	1	0-3	0-8	10YR4/3	Brown silty loam with gravel	NCM
		2	3-7	8-18	2.5YR5/4	Light olive brown dense mottled clay	NCM
	482	1	0-6	0-14	10YR4/3	Brown silty loam with gravel	NCM
		2	6-9	14-24	2.5YR5/4	Light olive brown dense mottled clay	NCM
	483	1	0-9	0-24	10YR4/3	Brown silty loam with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	9-13	24-34	2.5YR5/4	Light olive brown dense mottled clay	NCM
	484	1	0-5	0-13	10YR4/3	Brown silty loam	NCM
		2	5-9	13-24	2.5YR5/4	Light olive brown silt	NCM
	485	1	0-8	0-20	10YR4/3	Brown silty loam , terminated at rock impasse	NCM
	486	1	0-7	0-18	10YR4/3	Brown silty loam	1 piece clear window pane discarded
		2	7-13	18-32	2.5YR5/4	Light olive brown silt	NCM
	487	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-11	18-28	10YR6/6	Brown yellow silt with coarse sand and channery	NCM
	488	1	0-8	0-21	10YR4/3	Brown silty loam	NCM
		2	8-12	21-31	10YR6/6	Brown yellow silt	NCM
	489	1	0-7	0-18	10YR4/3	Brown silty loam with channery	NCM
		2	7-12	18-31	10YR6/6	Brown yellow dry silt and coarse sand	NCM
	490	1	0-7	0-17	10YR4/3	Brown silty loam with shale rock and gravel	NCM
		2	7-11	17-29	10YR6/6	Brown yellow dry silt and coarse sand	NCM
	491	1	0-8	0-20	10YR4/3	Brown silty loam with shale rock and gravel	window glass discarded
		2	8-12	20-30	2.5YR5/4	Brown yellow dry silt and coarse sand	NCM
	492	1	0-12	0-31	10YR4/3	Brown silty loam with channery , terminated at rock impasse	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	493					Not Excavated: Wetland	
	494					Not Excavated: Wetland	
	495	1	0-11	0-28	10YR4/3	Brown silty loam with shale rock and gravel , terminated at rock impasse	buried iron pipe
	496	1	0-7	0-18	10YR4/3	Brown silty loam with shale rock and gravel , terminated at rock impasse	NCM
		2	7-9	18-24	10YR6/6	Brown yellow compact dry sand	NCM
	497	1	0-10	0-25	10YR4/3	Brown silty loam with shale rock and gravel	NCM
		2	10-12	25-31	10YR6/6	Brown yellow compact dry sand	NCM
	498	1	0-7	0-17	10YR3/4	Dark yellow brown silty loam , terminated at rock impasse	old rubber fragment (mower belt?)
						Not Excavated: Old Roadway	
	499	1	0-11	0-28	10YR4/3	Brown silty loam with shale rock and gravel , terminated at rock impasse	NCM
	500	1	0-7	0-19	10YR4/3	Brown silty loam	NCM
		2	7-12	19-30	2.5YR5/4	Light olive brown mottled clay with coarse sand and gravel	NCM
TR 59	501	1	0-10	0-25	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	10-14	25-35	10YR6/6	Brown yellow compact dry sand	NCM
	502	1	0-16	0-40	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	503	1	0-7	0-18	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	7-9	18-22	10YR6/6	Brown yellow compact dry sand , terminated at rock impasse	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	504	1	0-10	0-26	10YR4/3	Brown dry sandy silt with gravel	NCM
		2	10-12	26-30	10YR6/6	Brown yellow compact dry sand , terminated at rock impasse	NCM
	505	1	0-8	0-20	10YR4/3	Brown dry sandy silt with gravel , terminated at rock impasse	NCM
	506					Not Excavated: in pond	
	507					Not Excavated: Slopes greater than 12% grade	
	508	1	0-12	0-30	10YR4/3	Brown sandy soil with gravel	NCM
		2	12-16	30-40	10YR6/6	Brown yellow compact sand	NCM
	509	1	0-6	0-14	10YR4/3	Brown sandy soil with gravel	NCM
		2	6-10	14-25	10YR6/6	Brown yellow compact sand	NCM
	510	1	0-7	0-18	10YR4/3	Brown sandy soil with gravel	NCM
		2	7-11	18-28	10YR6/6	Brown yellow compact sand	NCM
	511	1	0-7	0-17	10YR4/3	Brown sandy soil with gravel	NCM
		2	7-11	17-28	10YR5/6	Yellow brown dry mottled clay	NCM
	512	1	0-8	0-21	10YR4/3	Brown sandy soil with gravel	NCM
		2	8-13	21-33	10YR6/6	Brown yellow compact sand	NCM
	513	1	0-9	0-23	10YR4/3	Brown sandy soil with gravel	NCM
		2	9-14	23-35	10YR6/6	Brown yellow compact sand	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 60	514	1	0-6	0-15	10YR3/3	Dark brown silty loam , terminated at rock impasse	NCM
	515	1	0-8	0-20	10YR3/3	Dark brown silty loam	NCM
		2	8-12	20-30	10YR5/6	Yellow brown silty loam	NCM
	516	1	0-5	0-12	10YR3/3	Dark brown silty loam	NCM
		2	5-8	12-20	10YR5/6	Yellow brown silty loam	NCM
	517	1	0-7	0-18	10YR3/3	Dark brown silty loam	NCM
		2	7-11	18-28	10YR5/6	Yellow brown silty loam	NCM
	518	1	0-7	0-17	10YR3/3	Dark brown silty loam	NCM
		2	7-10	17-26	10YR5/6	Yellow brown silty loam , terminated at rock impasse	NCM
	519	1	0-7	0-19	10YR3/3	Dark brown silty loam	NCM
		2	7-11	19-28	10YR5/6	Yellow brown silty loam	NCM
	520	1	0-10	0-26	10YR3/4	Dark yellow brown silty loam	NCM
		2	10-14	26-35	10YR5/6	Yellow brown silty loam	NCM
	521	1	0-4	0-11	10YR3/3	Dark brown silty loam	NCM
		2	4-8	11-20	10YR5/6	Yellow brown silty loam	NCM
	522	1	0-7	0-18	10YR3/3	Dark brown silty loam	NCM
		2	7-10	18-26	10YR5/6	Yellow brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	523	1	0-6	0-16	10YR3/3	Dark brown silty loam	NCM
		2	6-10	16-26	10YR5/6	Yellow brown silty loam	NCM
	524	1	0-9	0-23	10YR3/3	Dark brown silty loam	NCM
		2	9-13	23-34	10YR5/6	Yellow brown silty loam	NCM
	525	1	0-8	0-20	10YR3/3	Dark brown silty loam	NCM
		2	8-11	20-29	10YR5/6	Yellow brown silty loam	NCM
	526	1	0-7	0-19	10YR3/3	Dark brown silty loam	NCM
		2	7-11	19-28	10YR5/6	Yellow brown silty loam	NCM
TR 61	527	1	0-7	0-17	10YR3/3	Dark brown silty loam	NCM
		2	7-11	17-28	10YR5/6	Yellow brown silty loam	NCM
	528	1	0-8	0-20	10YR3/3	Dark brown silty loam	NCM
		2	8-12	20-31	10YR5/6	Yellow brown silty loam	NCM
	529	1	0-11	0-28	10YR3/3	Dark brown silty loam , terminated at rock impasse	NCM
	530	1	0-9	0-24	10YR3/3	Dark brown silty loam	NCM
		2	9-15	24-38	10YR5/6	Yellow brown silty loam	NCM
	531	1	0-10	0-25	10YR3/3	Dark brown silty loam	NCM
		2	10-14	25-35	10YR5/6	Yellow brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 62	532	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	2.5YR5/4	Light olive brown mottled silt	NCM
	533	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-31	10YR5/6 - 10YR6/6	Yellow brown to brown yellow silty gravel	NCM
	534	1	0-8	0-21	10YR4/3	Brown silty loam	NCM
		2	8-13	21-32	10YR5/6	Yellow brown silt with coarse sand pea gravel and pebbles	NCM
	535	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-31	10YR5/6 - 10YR6/6	Yellow brown to brown yellow silty sand with pea sand and gravel	NCM
	536	1	0-6	0-14	10YR4/3	Brown silty loam , terminated at rock impasse	NCM
	537	1	0-16	0-41	10YR5/2 & 2.5YR5/4	Gray clay and gravel	NCM
	538	1	0-6	0-14	10YR5/2	Gray brown silty sand and gravel	fiber drain pipe frag -discarded
	539	1	0-8	0-20	10YR5/2	Gray brown silty sand and gravel	NCM
	540	1	0-12	0-30	10YR5/2	Gray brown silty sand and gravel	fiber/asphalt pipe frag-Discarded
	541	1	0-6	0-15	10YR5/2	Gray brown silty sand and gravel	NCM
		2	6-12	15-30	10YR4/4	Dark yellow brown fine silt with gravel	NCM
	542	1	0-6	0-15	10YR5/2	Gray brown silty loam with shale and gravel	NCM
		2	6-12	15-30	10YR4/4	Dark yellow brown fine silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	543	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-31	10YR5/6 - 10YR6/6	Yellow brown to brown yellow silty gravel	NCM
TR 63	544	1	0-8	0-20	10YR3/3	Dark brown silty loam	plastic/PVC pipe-buried
	545	1	0-6	0-16	10YR3/3	Dark brown silty loam	NCM
		2	6-10	16-25	10YR7/2	Gray silty loam	NCM
	546	1	0-6	0-15	10YR3/3	Dark brown silty loam	NCM
		2	6-9	15-23	10YR7/2	Gray silty loam	NCM
	547	1	0-6	0-15	10YR3/3	Dark brown silty loam	NCM
		2	6-10	15-25	10YR5/6	Yellow brown silty loam	NCM
	548	1	0-5	0-12	10YR3/3	Dark brown silty loam	NCM
		2	5-9	12-23	10YR5/6	Yellow brown silty loam	NCM
	549	1	0-7	0-18	10YR3/3	Dark brown silty loam	NCM
		2	7-11	18-27	10YR5/6	Yellow brown silty loam	NCM
	550	1	0-5	0-12	10YR3/3	Dark brown silty loam	NCM
		2	5-8	12-20	10YR5/6	Yellow brown silty loam	NCM
	551	1	0-8	0-20	10YR3/3	Dark brown silty loam	NCM
		2	8-12	20-30	10YR5/6	Yellow brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	552	1	0-4	0-10	10YR3/3	Dark brown silty loam	NCM
	553	1	0-4	0-10	10YR3/3	Dark brown silty loam	NCM
		2	4-8	10-20	10YR5/6	Yellow brown silty loam	NCM
	554	1	0-4	0-9	10YR3/3	Dark brown silty loam	NCM
		2	4-8	9-20	10YR5/6	Yellow brown silty loam	NCM
	555	1	0-6	0-15	10YR3/3	Dark brown silty loam	NCM
		2	6-10	15-25	10YR5/6	Yellow brown silty loam	NCM
	556	1	0-9	0-22	10YR5/4	Yellow brown silty loam	NCM
		2	9-12	22-31	10YR7/6	Yellow silty loam	NCM
	557	1	0-8	0-20	10YR5/4	Yellow brown silty loam	NCM
		2	8-15	20-38	10YR7/6	Yellow silty loam	NCM
	558	1	0-9	0-22	10YR5/4	Yellow brown silty loam	NCM
		2	9-12	22-30	10YR7/6	Yellow silty loam	NCM
TR 64	559	1	0-7	0-18	10YR5/2	Gray brown silt	1 golf ball
		2	7-11	18-28	10YR4/4	Dark yellow brown silt with gravel	NCM
	560	1	0-7	0-18	10YR5/2	Gray brown silt	NCM
		2	7-11	18-28	10YR4/4	Dark yellow brown silt with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	561	1	0-8	0-20	10YR5/2	Gray brown silt	NCM
		2	8-12	20-30	10YR4/4	Dark yellow brown silt with gravel	NCM
	562	1	0-8	0-20	10YR5/2	Gray brown silt	NCM
		2	8-12	20-30	10YR4/4	Dark yellow brown silt with gravel	NCM
	563	1	0-6	0-15	10YR5/2	Gray brown silt	NCM
		2	6-10	15-25	10YR4/4	Dark yellow brown silt with gravel	NCM
	564	1	0-7	0-17	10YR5/2	Gray brown silt	NCM
		2	7-11	17-27	10YR4/4	Dark yellow brown silt with gravel	NCM
	565	1	0-6	0-15	10YR5/2	Gray brown silt	NCM
		2	6-10	15-25	10YR4/4	Dark yellow brown silt with gravel	NCM
	566	1	0-5	0-12	10YR5/2	Gray brown silt	NCM
		2	5-9	12-22	10YR4/4	Dark yellow brown silt with gravel	NCM
TR 65	567	1	0-9	0-22	10YR4/3	Brown silty loam	NCM
		2	9-13	22-32	10YR5/3	Gray brown silt with shale and rock	NCM
	568	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-11	18-28	10YR6/6	Brown yellow silty with shale	NCM
	569	1	0-9	0-22	10YR4/3	Brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	9-13	22-32	10YR6/6	Brown yellow silty with shale	NCM
	570	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-11	18-28	10YR4/6	Dark yellow brown silty with shale and pebbles	NCM
	571	1	0-4	0-10	10YR4/3	Brown silty loam	NCM
		2	4-8	10-20	10YR4/6	Dark yellow brown silty with gravel	NCM
	572	1	0-12	0-30	10YR4/3	Brown silty loam , terminated at rock impasse	NCM
	573	1	0-9	0-22	10YR4/3	Brown silty loam	NCM
		2	9-13	22-32	10YR4/6	Dark yellow brown silty with gravel	NCM
	574	1	0-6	0-14	10YR4/3	Brown silty loam with gravel	NCM
		2	6-9	14-24	10YR4/6	Dark yellow brown silty gravel	NCM
Area F							
TR 66	575	1	0-8	0-20	10YR4/6	Dark yellow brown silty loam , terminated at root impasse	NCM
	576	1	0-12	0-30	10YR4/6	Dark yellow brown silty loam , terminated at root impasse	NCM
	577	1	0-13	0-33	10YR4/6	Dark yellow brown silty loam	NCM
		2	13-15	33-38	10YR5/6	Yellow brown silty loam	NCM
	578	1	0-11	0-28	10YR4/6	Dark yellow brown silty loam	NCM
		2	11-14	28-36	10YR5/6	Yellow brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	579	1	0-11	0-29	10YR4/6	Dark yellow brown silt	NCM
		2	11-15	29-37	10YR5/6	Yellow brown silt	NCM
	580	1	0-8	0-20	10YR4/6	Dark yellow brown wet silt	NCM
		2	8-12	20-30	10YR5/6	Yellow brown wet silt	NCM
	581					Not Excavated: Wetland	
	582	1	0-13	0-34	10YR3/3	Dark brown wet silty loam, terminated at pooling water	NCM
	583					Not Excavated: Drainage ditch	
	584					Not Excavated: Drainage ditch	
	585					Not Excavated: Rock wall pile	
	586	1	0-4	0-9	10YR3/3	Dark brown wet silty loam	NCM
		2	4-8	9-20	10YR5/6	Yellow brown silty loam	NCM
	587	1	0-5	0-12	10YR3/3	Dark brown wet silty loam	NCM
		2	5-8	12-20	10YR5/6	Yellow brown silty loam	NCM
	588	1	0-7	0-17	10YR3/3	Dark brown wet silty loam	NCM
		2	7-11	17-27	10YR5/6	Yellow brown silty loam	NCM
	589	1	0-8	0-20	10YR3/3	Dark brown wet silty loam , terminated at rock impasse	NCM
	590					Not Excavated: Rock wall pile	

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	591	1	0-9	0-23	10YR3/3	Dark brown wet silty loam	NCM
		2	9-12	23-30	10YR5/6	Yellow brown silty loam	NCM
	592	1	0-7	0-18	10YR3/3	Dark brown wet silty loam	NCM
		2	7-11	18-28	10YR5/6	Yellow brown silty loam	NCM
	593	1	0-6	0-15	10YR3/3	Dark brown wet silty loam	NCM
		2	6-10	15-25	10YR5/6	Yellow brown silt	NCM
	594	1	0-8	0-21	10YR4/6	Dark yellow brown dry silt	NCM
		2	8-12	21-30	10YR5/6	Yellow brown dry silt	NCM
	595	1	0-4	0-10	10YR4/6	Dark yellow brown dry silt	NCM
		2	4-8	10-20	10YR5/6	Yellow brown dry silt	NCM
	596	1	0-7	0-18	10YR4/6	Dark yellow brown dry silt	NCM
		2	7-10	18-26	10YR5/6	Yellow brown dry silt	NCM
	597					Not Excavated: Rock pile	
	598					Not Excavated: Rock pile	
	599	1	0-12	0-30	10YR3/3	Dark brown wet silt , terminated at rock impasse	NCM
	600	1	0-13	0-32	10YR3/2	Very dark gray brown wet clay, terminated at rock impasse	NCM
	601	1	0-4	0-10	10YR4/6	Dark yellow brown wet silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	4-10	10-25	10YR3/2	Very dark gray brown wet clay	NCM
	602	1	0-7	0-17	10YR3/2	Very dark gray brown wet silt	NCM
		2	7-11	17-28	10YR4/6	Dark yellow brown gravelly clay	NCM
	603	1	0-5	0-13	10YR4/6	Dark yellow brown dry silt	NCM
		2	5-8	13-20	10YR5/6	Yellow brown dry silt	NCM
	604	1	0-5	0-12	10YR4/6	Dark yellow brown dry silt	NCM
		2	5-8	12-20	10YR5/6	Yellow brown dry silt	NCM
	605					Not Excavated: Rock wall pile	
	606					Not Excavated: Rock wall pile	
	607					Not Excavated: Rock wall pile	
	608	1	0-10	0-26	10YR4/6	Dark yellow brown dry silt	NCM
		2	10-13	26-33	10YR5/6	Yellow brown dry silt	NCM
TR 67	609	1	0-11	0-22	10YR4/3	Brown silty loam	NCM
		2	11-13	22-32	10YR6/6	Brown yellow silt	NCM
	610	1	0-8	0-19	10YR4/3	Brown silty loam	NCM
		2	8-13	19-32	10YR6/6	Brown yellow silt	NCM
	611	1	0-11	0-22	10YR4/3	Brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	612	1	0-10	0-25	10YR4/3	Brown silty loam	NCM
		2	10-15	25-37	10YR6/6	Brown yellow silt	NCM
	613	1	0-10	0-26	10YR4/3	Brown silty loam	NCM
		2	10-15	26-36	10YR6/6	Brown yellow silt	NCM
	614	1				Not Excavated: Slopes greater than 12% grade	
		1				Not Excavated: Slopes greater than 12% grade	
	615	1	0-8	0-20	10YR5/2	Gray brown silty loam with gravel	NCM
		2	8-13	20-33	10YR6/4	Light yellow brown silt with gravel	NCM
	616	1	0-8	0-20	10YR5/2	Gray brown silty loam with gravel	NCM
		2	8-13	20-34	10YR6/4	Light yellow brown silt with gravel	NCM
	617	1	0-9	0-23	10YR5/2	Gray brown silty loam with gravel	NCM
		2	9-15	23-38	10YR6/4	Light yellow brown silt with gravel	NCM
	618	1	0-3	0-8	10YR5/2	Gray brown silty loam with gravel	NCM
		2	3-10	8-26	10YR6/4	Light yellow brown silt with gravel	NCM
	619	1				Not Excavated: Slopes greater than 12% grade	
	620	1				Not Excavated: Slopes greater than 12% grade	
	621	1	0-5	0-14	10YR5/2	Gray brown silty loam with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	5-13	14-34	10YR6/4	Light yellow brown silt with gravel	NCM
	622	1				Not Excavated: Slopes greater than 12% grade	
	623	1				Not Excavated: Slopes greater than 12% grade	
	624	1				Not Excavated: Slopes greater than 12% grade	
	625	1				Not Excavated: Slopes greater than 12% grade	
	626	1				Not Excavated: Drainage Channel	
	627	1				Not Excavated: Drainage Channel	
	628	1				Not Excavated: Drainage Channel	
	629	1	0-9	0-22	10YR4/6	Dark yellow brown silty loam , terminated at rock impasse	NCM
	630	1				Not Excavated: Rock wall	
	631	1	0-9	0-22	10YR4/6	Dark yellow brown silty loam , terminated at rock impasse	NCM
	632	1	0-8	0-21	10YR4/6	Dark yellow brown silty loam , terminated at rock impasse	NCM
	633	1	0-6	0-15	10YR4/6	Dark yellow brown silty loam , terminated at rock impasse	NCM
	634	1	0-12	0-32	10YR4/6	Dark yellow brown silty loam , terminated at rock impasse	NCM
	635	1	0-11	0-28	10YR4/6	Dark yellow brown silty loam , terminated at rock impasse	NCM
	636					Not Excavated: Wetland	
	637					Not Excavated: Wetland	

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	638					Not Excavated: Wetland	
	639					Not Excavated: Wetland	
	640	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-10	16-26	10YR6/6	Brown yellow silt	NCM
TR 68	641	1	0-6	0-14	10YR5/2	Gray brown silty loam	NCM
		2	6-10	14-24	10YR6/4	Light yellow brown silt with gravel	NCM
	642	1	0-6	0-16	10YR5/2	Gray brown silt with gravel	NCM
		2	6-10	16-26	10YR6/4	Light yellow brown silt with gravel	NCM
	643	1	0-4	0-10	10YR5/2	Gray brown silty loam with gravel	NCM
		2	4-8	10-20	10YR6/4	Light yellow brown silt with gravel	NCM
	644	1	0-6	0-14	10YR5/2	Gray brown silty loam with gravel	NCM
		2	6-9	14-24	10YR6/4	Light yellow brown silt with gravel	NCM
	645					Not Excavated: Slopes greater than 12% grade	
	646	1	0-5	0-12	10YR5/2	Gray brown silty loam with gravel	NCM
		2	5-9	12-22	10YR6/4	Light yellow brown silt with gravel	NCM
	647	1	0-6	0-16	10YR5/2	Gray brown silty loam with gravel	NCM
		2	6-10	16-26	10YR6/4	Light yellow brown silt with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	648	1	0-6	0-16	10YR5/2	Gray brown silty loam with gravel	NCM
		2	6-12	16-30	10YR6/4	Light yellow brown silt with gravel	NCM
	649	1	0-7	0-18	10YR5/2	Gray brown silty loam with gravel	NCM
		2	7-12	18-30	10YR6/4	Light yellow brown silt with gravel	NCM
	650					Not Excavated: Slopes greater than 12% grade	
	651					Not Excavated: Slopes greater than 12% grade	
	652					Not Excavated: Slopes greater than 12% grade	
	653					Not Excavated: Slopes greater than 12% grade	
	654	1	0-7	0-18	10YR5/2	Gray brown silty loam	NCM
		2	7-12	18-30	10YR6/4	Light yellow brown silt with gravel	NCM
	655					Not Excavated: Slopes greater than 12% grade	
	656	1	0-6	0-14	10YR5/2	Gray brown silty loam	NCM
		2	6-9	14-24	10YR6/4	Light yellow brown silt with gravel	NCM
	657	1	0-9	0-22	10YR6/4	Light yellow brown silty loam with gravel	NCM
	658	1	0-6	0-16	10YR5/2	Gray brown silty loam with gravel	NCM
		2	6-10	16-26	10YR6/4	Light yellow brown silt with gravel	NCM
	659	1	0-6	0-15	10YR3/4	Dark yellow brown silt, terminated at rock impasse	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	660	1	0-6	0-15	10YR3/4	Dark yellow brown silt with rock	NCM
		2	6-10	15-25	10YR6/6	Brown yellow silty clay with rock	NCM
	661					Not Excavated: Rock strewn area	NCM
	662					Not Excavated: Rock strewn area	
	663					Not Excavated: Rock strewn area	
	664	1	0-6	0-14	10YR3/4	Dark yellow brown silt with rock	
		2	6-11	14-28	10YR6/6	Brown yellow silty clay with rock	NCM
	665	1	0-18	0-45	10YR3/4	Dark yellow brown rocky silt, terminated at rock impasse	NCM
	666	1	0-1	0-3	10YR3/4	Dark yellow brown silt with rock	NCM
		2	1-5	3-13	10YR6/6	Brown yellow silty clay with rock	NCM
TR 69	667					Not Excavated: Bulldozed mound	
	668	1	0-16	0-40	10YR4/3	Brown silty sandy loam , terminated at rock impasse	NCM
	669					Not Excavated: Bulldozed mound	
	670	1	0-11	0-28	10YR3/4	Dark yellow brown silt with rock	NCM
		2	11-15	28-38	10YR6/6	Brown yellow silty clay with rock	NCM
	671					Not Excavated: Surface Disturbance	
	672					Not Excavated: Surface Disturbance	

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	673					Not Excavated: Surface Disturbance	
	674					Not Excavated: Surface Disturbance	
	675	1	0-5	0-13	10YR3/4	Dark yellow brown silt with rock	NCM
		2	5-10	13-26	10YR6/6	Brown yellow silty clay with rock	NCM
	676					Not excavated: in existing roadway	
	677					Not excavated: in existing roadway	
	678					Not excavated: in existing roadway	
	679	1	0-11	0-28	10YR3/4	Dark yellow brown silt with rock	NCM
		2	11-15	28-38	10YR6/6	Brown yellow silty clay with rock	NCM
	680					Not excavated: in existing roadway	
	681					Not excavated: in existing roadway	
	682					Not excavated: in existing roadway	
	683	1	0-9	0-22	10YR3/4	Dark yellow brown silt with rock	NCM
		2	9-13	22-32	10YR6/6	Brown yellow silty clay with rock	NCM
	684	1	0-11	0-27	10YR3/4	Dark yellow brown silty sandy loam	NCM
		2	11-15	27-37	10YR6/6	Brown yellow silty sandy loam	NCM
	685	1	0-2	0-5	10YR3/2	Dark grayish brown loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	2-6	5-15	10YR3/4	Dark yellow brown silt with rock	NCM
		3	6-10	15-25	10YR6/6	Brown yellow silty clay with rock	NCM
	686	1	0-8	0-21	10YR3/4	Dark yellow brown silt with rock	NCM
		2	8-12	21-31	10YR6/6	Brown yellow silty clay with rock	NCM
	687	1	0-8	0-20	10YR3/4	Dark yellow brown silt with rock	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silty clay with rock	NCM
	688					Not Excavated: Surface Disturbance	
	689					Not Excavated: Large soil mound	
	690					Not Excavated: Surface Disturbance	
	691					Not Excavated: Surface Disturbance	
	692					Not Excavated: Surface Disturbance	
	693					Not Excavated: Surface Disturbance	
	694	1	0-9	0-22	10YR3/4	Dark yellow brown silt with rock	NCM
		2	9-13	22-33	10YR6/6	Brown yellow silty clay with rock	NCM
	695	1	0-8	0-20	10YR3/4	Dark yellow brown silt with rock	NCM
		2	8-12	20-31	10YR6/6	Brown yellow silty clay with rock	NCM
	696	1	0-8	0-21	10YR4/3	Brown sand	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	8-12	21-31	10YR6/6	Brown yellow silty sandy loam	NCM
	697	1	0-8	0-20	10YR3/4	Dark yellow brown soft silty sand	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silt	NCM
	698	1	0-18	0-45	10YR3/4	Dark yellow brown silt with rock, terminated at rock impasse	NCM
TR 70	699	1	0-11	0-28	10YR4/6	Dark yellow brown silty loam , terminated at rock impasse	NCM
	700	1	0-6	0-15	10YR4/6	Dark yellow brown silty loam	NCM
		2	6-10	15-25	10YR5/6	Yellow brown silty loam	NCM
	701	1	0-1	0-29	10YR4/6	Dark yellow brown silty loam , terminated at rock impasse	NCM
	702	1	0-6	0-14	10YR4/6	Dark yellow brown silty loam	NCM
		2	6-9	14-22	10YR5/6	Yellow brown silty loam	NCM
	703	1	0-8	0-20	10YR4/6	Dark yellow brown silty loam	NCM
		2	8-12	30-30	10YR5/6	Yellow brown silty loam	NCM
	704					Not Excavated: Slopes greater than 12% grade	
	705					Not Excavated: Slopes greater than 12% grade	
	706					Not Excavated: Slopes greater than 12% grade	
	707	1	0-5	0-13	10YR4/6	Dark yellow brown silty loam	NCM
		2	5-11	13-27	10YR5/6	Yellow brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 71	708		0-4	0-10	10YR4/3	Brown silt loam gravel and rocks	NCM
			4-11	10-27	10YR6/6	Brown yellow silty clay with rock	NCM
	709					Not Excavated: Slopes greater than 12% grade	
	710					Not Excavated: Slopes greater than 12% grade	
	711		0-7	0-18	10YR4/3	Brown silt loam gravel and rocks	NCM
			7-11	18-28	10YR6/6	Brown yellow silty clay with rock	NCM
	712		0-7	0-17	10YR4/3	Brown silt loam gravel and rocks	NCM
i			7-12	17-30	10YR6/6	Brown yellow silty clay with rock	NCM
	713		0-6	0-14	10YR4/3	Brown silt loam gravel and rocks	NCM
			6-12	14-29	10YR6/6	Brown yellow silty clay with rock	NCM
	714		0-7	0-16	10YR4/3	Brown silt loam gravel and rocks	NCM
			7-11	16-26	10YR6/6	Brown yellow silty clay with rock	NCM
	715		0-4	0-10	10YR4/3	Brown silt loam gravel and rocks, terminated at rock obstruction	NCM
TR 72	716		0-12	0-30	10YR3/3	Dark brown sandy loam	NCM
TR 73	717	1	0-8	0-20	10YR5/2	Gray brown silty loam with gravel	NCM
		2	8-12	20-31	10YR6/4	Light yellow brown silt with gravel	NCM
	718	1	0-8	0-20	10YR5/2	Gray brown silty loam with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	8-13	20-32	10YR6/4	Light yellow brown silt with gravel	NCM
Area G							
TR 74	719	1	0-4	0-10	10YR4/3	Brown silty loam with shale gravel and pebbles	NCM
		2	4-8	10-20	10YR6/6	Brown yellow silt with shale	NCM
	720					Not Excavated: Slopes greater than 12% grade	
	721	1	0-5	0-12	10YR4/3	Brown silty loam	NCM
		2	5-12	12-30	10YR6/6	Brown yellow silt	NCM
	722	1	0-5	0-13	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	5-12	13-30	10YR6/6	Brown yellow silt with shale	NCM
	723	1	0-4	0-10	10YR4/3	Brown silty loam	NCM
		2	4-8	10-21	10YR6/6	Brown yellow silt	NCM
TR 75	724	1	0-6	0-14	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-9	14-22	10YR5/6	Yellow brown dry silt	NCM
	725					Not Excavated: Slopes greater than 12% grade	
	726	1	0-7	0-18	10YR4/6	Dark yellow brown dry silt	NCM
		2	7-12	18-30	10YR5/6	Yellow brown dry silt	NCM
	727	1	0-4	0-10	10YR4/6	Dark yellow brown dry silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	4-10	10-25	10YR5/6	Yellow brown dry silt	NCM
	728	1	0-8	0-20	10YR4/6	Dark yellow brown dry silt	NCM
		2	8-12	20-30	10YR5/6	Yellow brown dry silt	NCM
	729	1	0-7	0-18	10YR4/6	Dark yellow brown dry silt	NCM
		2	7-12	18-30	10YR5/6	Yellow brown dry silt	NCM
TR 76	730	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-12	15-31	10YR6/6	Brown yellow silt	NCM
	731	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-12	15-31	10YR6/6	Brown yellow silt	NCM
	732	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-14	15-35	10YR6/6	Brown yellow silt	NCM
	733	1	0-5	0-12	10YR4/3	Brown silty loam with shale gravel and pebbles	NCM
		2	5-12	12-30	10YR6/6	Brown yellow silt with shale and gravel	NCM
	734	1	0-5	0-13	10YR4/3	Brown silty loam with shale and pebbles	NCM
		2	5-13	13-33	10YR6/6	Brown yellow silt with shale	NCM
	735	1	0-5	0-12	10YR4/3	Brown silty loam with shale and pebbles	NCM
		2	5-9	12-22	10YR6/6	Brown yellow silt with shale	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	736	1	0-5	0-12	10YR4/3	Brown silty loam with shale and pebbles	NCM
		2	5-12	12-31	10YR6/6	Brown yellow silt with shale	NCM
TR 77	737	1	0-5	0-12	10YR4/6	Dark yellow brown dry silt	NCM
		2	5-9	12-22	10YR5/6	Yellow brown dry silt	NCM
	738	1	0-6	0-16	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-9	16-24	10YR5/6	Yellow brown dry silt	NCM
	739					Not Excavated: Slopes greater than 12% grade	
	740	1	0-8	0-20	10YR4/6	Dark yellow brown dry silt , terminated at root impasse	NCM
	741	1	0-7	0-18	10YR4/6	Dark yellow brown dry silt	NCM
		2	7-11	18-28	10YR5/6	Yellow brown dry silt	NCM
	742	1	0-6	0-15	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-10	15-25	10YR5/6	Yellow brown dry silt	NCM
	743	1	0-6	0-14	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-12	14-30	10YR6/6	Brown yellow dry silt	NCM
	744	1	0-6	0-15	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-10	15-25	10YR6/6	Brown yellow dry silt	NCM
TR 78	745	1	0-7	0-17	10YR4/6	Dark yellow brown dry silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	7-11	17-28	10YR6/6	Brown yellow dry silt	NCM
	746					Not Excavated: Slopes greater than 12% grade	
	747	1	0-8	0-20	10YR4/6	Dark yellow brown dry silt	NCM
		2	8-12	20-30	10YR6/6	Brown yellow dry silt	NCM
	748	1	0-6	0-15	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-11	15-27	10YR6/6	Brown yellow dry silt	NCM
	749	1	0-5	0-12	10YR4/6	Dark yellow brown dry silt	NCM
		2	5-10	12-20	10YR6/6	Brown yellow dry silt	NCM
	750	1	0-6	0-15	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-9	15-24	10YR6/6	Brown yellow dry silt	NCM
	751	1	0-5	0-12	10YR4/6	Dark yellow brown dry silt	NCM
		2	5-8	12-20	10YR6/6	Brown yellow dry silt	NCM
ztr 79	752	1	0-5	0-13	10YR4/3	Brown silty loam with shale and pebbles	NCM
		2	5-13	13-32	10YR6/6	Brown yellow silt with shale	NCM
	753	1	0-4	0-10	10YR4/3	Brown silty loam with shale and pebbles	NCM
		2	4-14	10-35	10YR6/6	Brown yellow silt with shale	NCM
	754	1	0-4	0-9	10YR4/3	Brown silty loam with shale and pebbles	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	4-8	9-21	10YR6/6	Brown yellow silt with shale	NCM
	755	1	0-5	0-12	10YR4/3	Brown silty loam with shale and pebbles	NCM
		2	5-11	12-29	10YR6/6	Brown yellow silt with shale	NCM
	756	1	0-4	0-11	10YR4/3	Brown silty loam with shale and pebbles	NCM
		2	4-11	11-29	10YR6/6	Brown yellow silt with shale	NCM
TR 80	757	1	0-4	0-11	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	4-12	11-30	10YR6/6	Brown yellow silt with shale	NCM
	758	1	0-4	0-11	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	4-12	11-30	10YR6/6	Brown yellow silt with shale	NCM
	759	1	0-4	0-10	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	4-8	10-21	10YR6/6	Brown yellow silt with shale	NCM
	760	1	0-5	0-12	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	5-8	12-20	10YR6/6	Brown yellow silt with shale , terminated at root impasse	NCM
	761	1	0-4	0-11	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	4-11	11-29	10YR6/6	Brown yellow silt with shale , terminated at root impasse	NCM
TR 81	762	1	0-9	0-23	10YR4/6	Dark yellow brown dry silt	NCM
		2	9-12	23-30	10YR6/6	Brown yellow dry silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	763	1	0-9	0-23	10YR5/6	Yellow brown silt	NCM
		2	9-13	23-33	10YR6/6	Brown yellow dry silt	NCM
	764	1	0-8	0-20	10YR5/6	Yellow brown silt	NCM
		2	8-12	20-30	10YR6/6	Brown yellow dry silt	NCM
	765	1	0-5	0-12	10YR5/6	Yellow brown silt	NCM
		2	5-14	12-35	10YR6/6	Brown yellow dry silt	NCM
	766	1	0-6	0-14	10YR5/6	Yellow brown silt	NCM
		2	6-9	14-24	10YR6/6	Brown yellow dry silt	NCM
	767	1	0-6	0-15	10YR5/6	Yellow brown silt	NCM
		2	6-9	15-23	10YR6/6	Brown yellow dry silt	NCM
TR 82	768	1	0-7	0-18	10YR5/6	Yellow brown silt	NCM
		2	7-10	18-26	10YR6/6	Brown yellow compact silt/sand and gravel	NCM
	769	1	0-5	0-13	10YR5/6	Yellow brown silt	NCM
		2	5-9	13-22	10YR6/6	Brown yellow dry silt	NCM
	770	1	0-6	0-15	10YR5/6	Yellow brown silt	NCM
		2	6-12	15-30	10YR6/6	Brown yellow dry silt	NCM
	771	1	0-6	0-16	10YR5/6	Yellow brown silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	6-10	16-26	10YR6/6	Brown yellow dry silt	NCM
	772	1	0-7	0-17	10YR5/6	Yellow brown silt	NCM
		2	7-11	17-28	10YR6/6	Brown yellow dry silt	NCM
	773	1	0-5	0-12	10YR5/6	Yellow brown silt	NCM
		2	5-11	12-28	10YR6/6	Brown yellow dry silt	NCM
	774	1	0-4	0-10	10YR5/6	Yellow brown silt	NCM
		2	4-9	10-22	10YR6/6	Brown yellow dry silt	NCM
TR 83	775	1	0-6	0-14	10YR4/3	Brown silty loam with shale gravel and pebbles	NCM
		2	6-14	14-35	10YR6/6	Brown yellow silt with shale	NCM
	776	1	0-6	0-15	10YR4/3	Brown silty loam with shale gravel and pebbles	NCM
		2	6-13	15-32	10YR6/6	Brown yellow silt with shale	NCM
	777	1	0-4	0-11	10YR4/3	Brown silty loam	NCM
		2	4-13	11-32	10YR6/6	Brown yellow silt with shale	NCM
	778	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-13	15-32	10YR6/6	Brown yellow silt with shale	NCM
	779	1	0-6	0-15	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	6-13	15-33	10YR6/6	Brown yellow silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	780	1	0-6	0-14	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	6-13	14-32	10YR6/6	Brown yellow silt	NCM
TR 84	781	1	0-6	0-15	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-12	15-30	10YR6/6	Brown yellow dry silt	NCM
	782	1	0-5	0-13	10YR4/6	Dark yellow brown dry silt	NCM
		1	5-10	13-25	10YR6/6	Brown yellow dry silt	NCM
	783	1	0-6	0-15	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	6-13	15-33	10YR6/6	Brown yellow silt	NCM
	784	1	0-7	0-18	10YR4/6	Dark yellow brown dry silt	NCM
		2	7-11	18-27	10YR6/6	Brown yellow dry silt	NCM
	785	1	0-6	0-14	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-10	14-25	10YR6/6	Brown yellow dry silt	NCM
	786	1	0-6	0-15	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-12	15-30	10YR6/6	Brown yellow dry silt	NCM
TR 85	787	1	0-6	0-14	10YR4/3	Brown silty loam with shale and gravel , terminated at rock impasse	NCM
	788	1	0-5	0-13	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	5-11	13-29	10YR6/6	Brown yellow silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	789	1	0-5	0-12	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	5-11	12-29	10YR6/6	Brown yellow silt	NCM
	790	1	0-6	0-14	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	6-13	14-34	10YR6/6	Brown yellow silt	NCM
	791	1	0-6	0-15	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	6-13	15-32	10YR6/6	Brown yellow silt	NCM
	792	1	0-6	0-14	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	6-12	14-31	10YR6/6	Brown yellow silt	NCM
TR 86	793	1	0-6	0-14	10YR3/3	Dark brown silty loam	1 piece coal discarded
		2	6-12	14-30	10YR4/6	Dark yellow brown silty loam	NCM
	794	1	0-6	0-15	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-10	15-25	10YR6/6	Brown yellow dry silt	NCM
	795	1	0-7	0-18	10YR4/6	Dark yellow brown dry silt	NCM
		2	7-12	18-30	10YR6/6	Brown yellow dry silt	NCM
	796	1	0-7	0-18	10YR4/6	Dark yellow brown dry silt	NCM
		2	7-11	18-28	10YR6/6	Brown yellow dry silt	NCM
TR 87	797	1	0-7	0-17	10YR4/3	Brown silty loam with shale and gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	7-12	17-30	10YR6/6	Brown yellow crumbly silt with shale	NCM
	798	1	0-5	0-13	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	5-12	13-30	10YR6/6	Brown yellow crumbly silt with shale	NCM
	799	1	0-6	0-14	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	6-11	14-28	10YR6/6	Brown yellow crumbly silt with shale	NCM
	800	1	0-4	0-10	10YR4/3	Brown silty loam with shale and gravel	NCM
		2	4-11	10-27	10YR6/6	Brown yellow crumbly silt with shale	NCM
TR 88	801	1	0-8	0-20	10YR4/6	Dark yellow brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silty loam	NCM
	802	1	0-7	0-17	10YR4/6	Dark yellow brown silty loam	NCM
		2	7-12	17-30	10YR6/6	Brown yellow silty loam	NCM
	803	1	0-7	0-17	10YR4/6	Dark yellow brown silty loam	NCM
		2	7-11	17-27	10YR6/6	Brown yellow silty loam	NCM
	804	1	0-6	0-15	10YR4/6	Dark yellow brown silty loam	NCM
		2	6-12	15-30	10YR6/6	Brown yellow silty loam	NCM
TR 89	805	1	0-8	0-20	10YR4/6	Dark yellow brown dry silt	NCM
		2	8-12	20-30	10YR6/6	Brown yellow dry silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	806	1	0-11	0-28	10YR4/6	Dark yellow brown dry silt	NCM
		2	11-15	28-38	10YR6/6	Brown yellow dry silt	NCM
	807	1	0-6	0-15	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-12	15-30	10YR6/6	Brown yellow dry silt	NCM
	808	1	0-5	0-13	10YR4/6	Dark yellow brown dry silt	NCM
		2	5-7	13-18	10YR6/6	Brown yellow dry silt , terminated at rock impasse	NCM
	809	1	0-6	0-15	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-12	15-30	10YR6/6	Brown yellow dry silt	NCM
TR 90	810	1	0-4	0-10	10YR4/3	Brown silty loam	NCM
		2	4-11	10-27	10YR6/6	Brown yellow silt	NCM
	811	1	0-5	0-12	10YR4/3	Brown silty loam	NCM
		2	5-11	12-29	10YR6/6	Brown yellow silt	NCM
	812	1	0-4	0-11	10YR4/3	Brown silty loam	NCM
		2	4-12	11-31	10YR6/6	Brown yellow silt	NCM
	813	1	0-5	0-13	10YR4/3	Brown silty loam	NCM
		2	5-12	13-30	10YR6/6	Brown yellow silt	NCM
	814	1	0-6	0-14	10YR4/3	Brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	6-12	14-30	10YR6/6	Brown yellow silt	NCM
	815					Not Excavated: Slopes greater than 12% grade	
TR 91	816	1	0-4	0-10	10YR4/3	Brown silty loam	NCM
		2	4-8	10-20	10YR6/6	Brown yellow silt with gravel	NCM
	817	1	0-3	0-7	10YR4/3	Brown silty loam	NCM
		2	3-8	7-20	10YR6/6	Brown yellow silt with gravel	NCM
	818	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-12	17-30	10YR6/6	Brown yellow silt with gravel	NCM
	819	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-10	15-25	10YR6/6	Brown yellow silt with gravel	NCM
	820	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-12	15-30	10YR6/6	Brown yellow silt with gravel	NCM
	821	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-10	16-26	10YR6/6	Brown yellow silt with gravel	NCM
	822	1	0-5	0-12	10YR4/3	Brown silty loam	NCM
		2	5-10	12-25	10YR6/6	Brown yellow silt with gravel	NCM
	823	1	0-6	0-16	10YR4/3	Brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	6-10	16-26	10YR6/6	Brown yellow silt with gravel	NCM
TR 92	824	1	0-7	0-18	10YR4/3	Brown sandy loam	NCM
		2	7-11	18-28	10YR6/6	Brown yellow silty sand	NCM
	825	1	0-4	0-9	10YR4/3	Brown sandy loam	NCM
		2	4-9	9-24	10YR6/6	Brown yellow silty sand	NCM
	826	1	0-5	0-13	10YR4/3	Brown sandy loam	NCM
		2	5-9	13-23	10YR6/6	Brown yellow silty sand	NCM
	827	1	0-4	0-11	10YR4/3	Brown sandy loam	NCM
		2	4-8	11-21	10YR6/6	Brown yellow silty sand	NCM
	828	1	0-5	0-13	10YR4/3	Brown sandy loam	NCM
		2	5-9	13-24	10YR6/6	Brown yellow silty sand	NCM
	829	1	0-5	0-12	10YR4/3	Brown sandy loam	NCM
		2	5-9	12-23	10YR6/6	Brown yellow silty sand	NCM
	830	1	0-4	0-10	10YR4/3	Brown sandy loam	NCM
		2	4-8	10-20	10YR6/6	Brown yellow silty sand	NCM
	831	1	0-3	0-7	10YR4/3	Brown sandy loam	NCM
		2	3-7	7-18	10YR6/6	Brown yellow silty sand	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 93	832	1	0-5	0-12	10YR4/6	Dark yellow brown dry silt	NCM
		2	5-8	12-20	10YR6/6	Brown yellow dry silt	NCM
	833	1	0-6	0-16	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-10	16-25	10YR6/6	Brown yellow dry silt	NCM
	834	1	0-8	0-20	10YR4/6	Dark yellow brown dry silt	NCM
		2	8-12	20-30	10YR6/6	Brown yellow dry silt	NCM
	835	1	0-7	0-18	10YR4/6	Dark yellow brown dry silt , terminated at rock impasse	NCM
	836	1	0-6	0-15	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-11	15-28	10YR6/6	Brown yellow dry silt	NCM
	837	1	0-5	0-13	10YR4/6	Dark yellow brown dry silt	Next to large old tree
	838	1	0-4	0-11	10YR6/6	Brown yellow dry silt	Next to large old tree
	839					Not Excavated: Roadway	
TR 94	840	1	0-5	0-12	10YR4/3	Brown silty loam	NCM
		2	5-9	12-22	10YR6/6	Brown yellow silt with gravel	NCM
	841	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-12	18-30	10YR6/6	Brown yellow silt with gravel	NCM
	842	1	0-7	0-19	10YR4/3	Brown silty loam	NCM

Transect	**STP**	**Level**	**Depth (in)**	**Depth (cm)**	**Munsell**	**Soil Description**	**Cultural Material**
		2	7-12	19-30	10YR6/6	Brown yellow silt with gravel	NCM
	843	1	0-5	0-12	10YR4/3	Brown silty loam	NCM
		2	5-12	12-30	10YR6/6	Brown yellow silt with gravel	NCM
	844	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt with gravel	NCM
	845	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silt with gravel	NCM
	846	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-13	16-32	10YR6/6	Brown yellow silt with gravel	NCM
	847	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silt with gravel	NCM
TR 95	848	1	0-13	0-32	10YR4/3	Brown silty loam	NCM
			13-15	32-35	10YR6/6	Brown yellow silt with gravel	NCM
	849	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-13	17-32	10YR6/6	Brown yellow silt with gravel	NCM
	850	1	0-9	0-22	10YR4/3	Brown silty loam	NCM
		2	9-14	22-36	10YR6/6	Brown yellow silt with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	851	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-14	18-36	10YR6/6	Brown yellow silt with gravel	NCM
	852					Not Excavated: hornets nest	
	853	1	0-6	0-14	10YR4/3	Brown silt loam gravel and rocks	NCM
		2	6-12	14-30	10YR6/6	Brown yellow silt with coarse sand	NCM
	854	1	0-4	0-11	10YR4/3	Brown silt loam gravel and rocks	several fragments tar paper discarded
		2	4-12	11-30	10YR6/6	Brown yellow silt with coarse sand	NCM
	855	1	0-5	0-12	10YR4/3	Brown silt loam gravel and rocks	NCM
		2	5-12	12-30	10YR6/6	Brown yellow silt with coarse sand	NCM
TR 96	856	1	0-4	0-11	10YR4/3	Brown decayed wood and silty loam	NCM
		2	4-8	11-21	10YR6/6	Brown yellow compact dry sand	NCM
	857	1	0-9	0-23	10YR4/3	Brown silty sand	NCM
		2	9-13	23-33	10YR6/6	Brown yellow sandy silt	NCM
	858	1	0-5	0-13	10YR4/3	Brown silty sand	NCM
		2	5-12	13-30	10YR6/6	Brown yellow sandy silt	NCM
	859	1	0-7	0-19	10YR4/3	Brown silty sand	NCM
		2	7-14	19-36	10YR6/6	Brown yellow sandy silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	860	1	0-6	0-15	10YR4/3	Brown silty sand	NCM
		2	6-12	15-30	10YR6/6	Brown yellow sandy silt	NCM
	861	1	0-7	0-17	10YR4/3	Brown silty sand	NCM
		2	7-11	17-27	10YR6/6	Brown yellow sandy silt	NCM
	862	1	0-9	0-23	10YR4/3	Brown silty sand	NCM
		2	9-15	23-39	10YR6/6	Brown yellow sandy silt	NCM
TR 97	863	1	0-5	0-13	10YR4/6	Dark yellow brown dry silt , terminated at root impasse	NCM
	864	1	0-8	0-20	10YR4/6	Dark yellow brown dry silt	NCM
		2	8-13	20-33	10YR6/6	Brown yellow dry silt	NCM
	865	1	0-7	0-18	10YR4/6	Dark yellow brown dry silt	NCM
		2	7-11	18-28	10YR6/6	Brown yellow dry silt	NCM
	866	1	0-6	0-15	10YR4/6	Dark yellow brown dry silt	NCM
		2	6-10	15-25	10YR6/6	Brown yellow dry silt	NCM
	867	1	0-4	0-11	10YR4/6	Dark yellow brown dry silt , terminated at root impasse	NCM
	868	1	0-7	0-19	10YR4/6	Dark yellow brown dry silt	NCM
		2	7-11	19-28	10YR6/6	Brown yellow dry silt	NCM
	869	1	0-7	0-17	10YR4/6	Dark yellow brown dry silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	0-11	0-28	10YR6/6	Brown yellow dry silt	NCM
	870	1	0-7	0-19	10YR4/6	Dark yellow brown dry silt	NCM
		2	7-11	19-27	10YR6/6	Brown yellow dry silt	NCM
TR 98	871	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silty loam with gravel	NCM
	872	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silty loam with gravel	NCM
	873	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-12	15-30	10YR6/6	Brown yellow silty loam with gravel	NCM
	874	1	0-5	0-13	10YR4/3	Brown silty loam	NCM
		2	5-12	13-30	10YR6/6	Brown yellow silty loam with gravel	NCM
	875	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-12	15-30	10YR6/6	Brown yellow silty loam with gravel	NCM
	876	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-12	15-30	10YR6/6	Brown yellow silty loam with gravel	NCM
	877	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-12	14-30	10YR6/6	Brown yellow silty loam with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	878	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silty loam with gravel	NCM
TR 99	879	1	0-7	0-19	10YR4/3	Brown silty sand	NCM
		2	7-11	19-29	10YR6/6	Brown yellow sandy silt	NCM
	880	1	0-4	0-9	10YR4/3	Brown silty sand	NCM
		2	4-11	9-28	10YR6/6	Brown yellow sandy silt	NCM
	881	1	0-7	0-18	10YR4/3	Brown silty sand	NCM
		2	7-11	18-29	10YR6/6	Brown yellow sandy silt , terminated at rock impasse	NCM
Area H							
TR 100	882	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-12	14-30	10YR6/6	Brown yellow silt with gravel	NCM
	883	1	0-5	0-12	10YR4/3	Brown silty loam	NCM
		2	5-12	12-30	10YR6/6	Brown yellow silt with gravel	NCM
	884	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-12	14-30	10YR6/6	Brown yellow silt with gravel	NCM
	885	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-12	15-30	10YR6/6	Brown yellow silt with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	886	1	0-6	0-14	10YR4/3	Brown silty loam , terminated at rock impasse	NCM
	887	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-12	18-30	10YR6/6	Brown yellow silt with gravel	NCM
	888	1	0-5	0-12	10YR4/3	Brown silty loam , terminated at rock impasse	NCM
	889	1	0-4	0-10	10YR4/3	Brown silty loam , terminated at rock impasse	NCM
	890	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silt with gravel	NCM
TR 101	891	1	0-5	0-12	10YR4/6	Dark yellow brown silty loam	NCM
		2	5-10	12-25	10YR6/6	Brown yellow silty loam	NCM
	892					Not Excavated: Wetland area	
	893					Not Excavated: Wetland area	
	894	1	0-7	0-19	10YR4/6	Dark yellow brown silty loam	NCM
		2	7-10	19-25	10YR6/6	Brown yellow silty loam	NCM
	895	1	0-6	0-14	10YR4/6	Dark yellow brown silty loam	NCM
		2	6-8	14-20	10YR6/6	Brown yellow silty loam	NCM
	896	1	0-6	0-14	10YR4/6	Dark yellow brown silty loam	NCM
		2	6-8	14-20	10YR6/6	Brown yellow silty loam, terminated at rock obstruction	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	897	1	0-4	0-10	10YR4/6	Dark yellow brown silty loam	NCM
		2	4-8	10-20	10YR6/6	Brown yellow silty loam	NCM
	898	1	0-4	0-11	10YR4/6	Dark yellow brown silty loam	NCM
		2	4-8	11-20	10YR6/6	Brown yellow silty loam	NCM
	899					Not Excavated: Drainage ditch	
Area I							
TR 102	900	1	0-6	0-16	10YR3/4	Dark yellow brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM
	901	1	0-7	0-19	10YR3/4	Dark yellow brown silty loam	NCM
		2	7-11	19-29	10YR6/6	Brown yellow silt	NCM
	902	1	0-7	0-18	10YR3/4	Dark yellow brown silty loam	NCM
		2	7-12	18-30	10YR6/6	Brown yellow silt	NCM
	903	1	0-7	0-17	10YR3/4	Dark yellow brown silty loam , terminated at rock impasse	NCM
	904	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silt with gravel	NCM
	905	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-12	18-30	10YR6/6	Brown yellow silt with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	906	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silt with gravel	NCM
	907	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silt with gravel	NCM
	908	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-10	14-25	10YR6/6	Brown yellow silt with gravel	NCM
	909	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-12	18-30	10YR6/6	Brown yellow silt	NCM
	910	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-11	15-28	10YR6/6	Brown yellow silt	NCM
	911	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silt	NCM
	912	1	0-9	0-23	10YR4/3	Brown silty loam	NCM
		2	9-11	23-28	10YR6/6	Brown yellow silt	NCM
	913	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM
	914	1	0-9	0-23	10YR4/3	Brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	9-14	23-35	10YR6/6	Brown yellow silt	NCM
	915	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-12	18-30	10YR6/6	Brown yellow silt	NCM
	916	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-10	15-25	10YR6/6	Brown yellow silt	NCM
TR 103	917	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM
	918	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow very dry silt	NCM
	919	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-10	18-26	10YR6/6	Brown yellow very dry silt	NCM
	920	1	0-7	0-18	10YR4/3	Brown silty loam	NCM
		2	7-12	18-30	10YR6/6	Brown yellow very dry silt	NCM
	921	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-10	17-25	10YR6/6	Brown yellow silt	NCM
	922	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-12	17-30	10YR6/6	Brown yellow silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	923	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-10	14-25	10YR6/6	Brown yellow silt	NCM
	924	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-12	14-30	10YR6/6	Brown yellow silt	NCM
	925	1	0-5	0-12	10YR4/3	Brown silty loam	NCM
		2	5-10	12-26	10YR6/6	Brown yellow silt	NCM
	926	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-10	15-25	10YR6/6	Brown yellow silt	NCM
	927	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-9	17-24	10YR6/6	Brown yellow silt	NCM
	928	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-10	16-26	10YR6/6	Brown yellow silt	NCM
Area J							
TR 104	929	1	0-7	0-19	10YR3/3	Dark brown silty loam with decaying plant material	NCM
		2	7-12	19-30	10YR6/4	Light yellow brown compact sandy clay	NCM
	930	1	0-8	0-21	10YR3/3	Dark brown silty loam with decaying plant material	NCM
		2	8-12	21-31	10YR6/4	Light yellow brown compact sandy clay	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	931	1	0-10	0-26	10YR3/3	Dark brown silty loam with decaying plant material	NCM
		2	10-14	26-36	10YR6/4	Light yellow brown compact sandy clay	NCM
		3	14-19	36-47	10YR6/4	Light yellow brown compact sandy clay	NCM
	932	1	0-7	0-17	10YR3/3	Dark brown silty loam , terminated at metal impasse	metal-discarded
	933	1	0-7	0-19	10YR4/3	Brown silty sandy loam	NCM
		2	7-9	19-23	10YR6/6	Brown yellow fine sandy silt	NCM
	934	1	0-4	0-9	10YR3/3	Dark brown silty loam, terminated at rock impasse	NCM
	935	1	0-2	0-6	10YR3/3	Dark brown silty loam with decaying plant material	NCM
	936	1				Not Excavated: Slopes greater than 12% grade	
	937	1				Not Excavated: Slopes greater than 12% grade	
	938	1	0-8	0-21	10YR4/3	Brown silty sandy loam	NCM
		2	8-12	21-30	10YR6/6	Brown yellow fine sandy silt	NCM
TR 105	939	1	0-5	0-12	10YR4/3	Brown silty loam with gravel	NCM
		2	5-8	12-21	10YR6/6	Brown yellow silt with gravel and shale , terminated at rock impasse	NCM
	940	1	0-6	0-15	10YR4/3	Brown silty loam with channery and gravel	NCM
		2	6-12	15-30	10YR6/6	Brown yellow silt with shale and gravel	NCM
	941	1	0-4	0-9	10YR4/3	Brown silty loam with channery and gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	4-12	9-30	10YR6/6	Brown yellow silt with shale and gravel	NCM
	942	1	0-8	0-20	10YR2/1	Black silty loam	NCM
		2	8-13	20-33	10YR6/6	Brown yellow silt	NCM
	943	1	0-6	0-16	10YR4/3	Brown silty loam with shale gravel and pebbles	NCM
		2	6-20	16-30	10YR6/6	Brown yellow silty with shale gravel and pebbles	NCM
	944	1	0-9	0-22	10YR4/3	Brown silty loam	NCM
		2	9-13	22-33	10YR6/6	Brown yellow silt with coarse sand and gravel	NCM
	945	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-14	16-34	10YR6/6	Brown yellow silt	NCM
	946	1	0-4	0-10	10YR4/3	Brown silty loam	NCM
		2	4-9	10-23	10YR6/6	Brown yellow silt , terminated at rock impasse	NCM
	947	1				Not Excavated: Dry stream bed	
	948	1				Not Excavated: Slopes greater than 12% grade	
Area L							
TR 106	949	1	0-7	0-18	10YR4/6	Dark yellow brown silty loam with gravel	NCM
		2	7-12	18-30	10YR6/6	Brown yellow silt with gravel	NCM
	950	1	0-6	0-15	10YR4/3	Brown silty loam with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	6-10	15-26	10YR6/6	Brown yellow compact sandy silt with gravel	NCM
	951	1	0-7	0-18	10YR4/3	Brown silty loam with gravel	NCM
		2	7-12	18-31	10YR5/3	Brown silt with gravel	NCM
	952	1	0-8	0-20	10YR4/3	Brown silty loam with gravel	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silt with gravel	NCM
						Area M	
TR 107	953	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-12	15-30	10YR6/6	Brown yellow silt with gravel	NCM
	954	1	0-5	0-13	10YR4/3	Brown silty loam	NCM
		2	5-9	13-24	10YR6/6	Brown yellow silt with gravel , terminated at root impasse	NCM
	955	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt with gravel	NCM
	956	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-11	14-28	10YR6/6	Brown yellow silt with gravel , terminated at rock impasse	NCM
	957	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-10	14-26	10YR6/6	Brown yellow silt with gravel	NCM
	958	1	0-6	0-16	10YR4/3	Brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	6-12	16-30	10YR6/6	Brown yellow silty with gravel	NCM
	959	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silty with gravel	NCM
TR 108	960	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silty with gravel	NCM
	961	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silty with gravel	NCM
	962	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-10	14-26	10YR6/6	Brown yellow silty with gravel , terminated at rock impasse	NCM
	963	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silty with gravel	NCM
	964	1	0-5	0-13	10YR4/3	Brown silty loam	NCM
		2	5-10	13-25	10YR6/6	Brown yellow silty with gravel , terminated at rock impasse	NCM
	965	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-11	14-27	10YR6/6	Brown yellow silty with gravel	NCM
	966	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-13	16-32	10YR6/6	Brown yellow silty with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
						Area P	
TR 109	967					Not Excavated: Roadway	
	968					Not Excavated: Roadway	
	969	1	0-8	0-20	10YR5/4	Yellow brown dry silt	NCM
		2	8-12	20-30	10YR6/6	Brown yellow dry silt	NCM
	970	1	0-9	0-24	10YR5/4	Yellow brown dry silt	NCM
		2	9-13	24-32	10YR6/6	Brown yellow dry silt	NCM
	971	1	0-9	0-24	10YR5/4	Yellow brown dry silt	NCM
		2	9-13	24-33	10YR6/6	Brown yellow dry silt	NCM
	972	1	0-10	0-26	10YR5/4	Yellow brown dry silt	NCM
		2	10-13	26-33	10YR6/6	Brown yellow dry silt	NCM
	973	1	0-7	0-19	10YR5/4	Yellow brown dry silt , terminated at root impasse	NCM
	974	1	0-7	0-19	10YR3/4	Dark yellow brown silty loam	NCM
		2	7-12	19-30	10YR6/6	Brown yellow silty loam	NCM
	976	1	0-12	0-30	10YR3/4	Dark yellow brown silty loam , terminated at rock impasse	NCM
TR 110	977	1	0-6	0-14	10YR3/2	Very dark gray brown silty loam	NCM
		2	6-13	14-33	10YR5/4	Yellow brown sandy silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	978	1	0-8	0-20	10YR4/3	Brown silty loam with roots	NCM
		2	8-12	20-30	10YR6/6	Brown yellow sandy silt	NCM
	979	1	094	0-9	10YR3/2	Very dark gray brown silty loam	NCM
		2	4-9	9-23	10YR4/3	Brown silty loam	NCM
		3	9-13	23-33	10YR6/6	Brown yellow sandy silt	NCM
	980	1	0-5	0-12	10YR4/3	Brown silty loam with gravel	NCM
		2	5-10	12-26	10YR6/6	Brown yellow sandy silt	NCM
	981	1	0-16	0-40	10YR4/3	Brown silty loam with gravel	NCM
		2	16-20	40-50	10YR6/6	Brown yellow sandy silt	NCM
	982	1	0-9	0-23	10YR3/4	Dark yellow brown silty loam	NCM
		2	9-13	23-34	10YR6/6	Brown yellow sandy silt	NCM
	983	1	0-10	0-26	10YR4/3	Brown silty loam with gravel	NCM
		2	10-14	26-36	10YR6/6	Brown yellow sandy silt	NCM
	984	1				Not Excavated: Slopes greater than 12% grade	
Area S							
TR 111	985	1	0-6	0-16	10YR3/4	Dark yellow brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	986	1	0-5	0-12	10YR3/4	Dark yellow brown silty loam	NCM
		2	5-12	12-30	10YR6/6	Brown yellow silt	NCM
	987	1	0-6	0-14	10YR3/4	Dark yellow brown silty loam	NCM
		2	6-12	14-30	10YR6/6	Brown yellow silt	NCM
	988	1	0-6	0-14	10YR3/4	Dark yellow brown silty loam	NCM
		2	6-11	14-28	10YR6/6	Brown yellow silt	NCM
	989	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM
	990	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-11	14-28	10YR6/6	Brown yellow silt	NCM
TR 112	991	1	0-5	0-12	10YR4/3	Brown silty loam	NCM
		2	5-10	12-26	10YR6/6	Brown yellow silt with gravel	NCM
	992	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		2	6-12	15-30	10YR6/6	Brown yellow silt with gravel	NCM
	993	1	0-8	0-20	10YR4/3	Brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silt with gravel	NCM
	994	1	0-4	0-10	10YR4/3	Brown silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	4-10	10-25	10YR6/6	Brown yellow silt with gravel	NCM
Area T							
TR 113	995	1	0-10	0-25	10YR5/4	Yellow brown silty loam , terminated at rock impasse	NCM
	996	1	0-7	0-17	10YR3/4	Dark yellow brown silty loam	NCM
		2	7-10	17-25	10YR6/6	Brown yellow silty loam	NCM
	997	1	0-7	0-17	10YR4/3	Brown silty loam	NCM
		2	7-11	17-28	10YR6/6	Brown yellow silty loam	NCM
	998	1	0-9	0-23	10YR5/6	Yellow brown dry silt	NCM
		2	9-12	23-30	10YR6/6	Brown yellow dry silt	NCM
	999	1				Not Excavated: Roadway	
	1000	1	0-6	0-15	10YR5/6	Yellow brown dry silt	NCM
		2	6-10	15-25	10YR6/6	Brown yellow dry silt	NCM
	1001	1	0-11	0-27	10YR5/6	Yellow brown dry silt	NCM
		2	11-14	27-35	10YR6/6	Brown yellow dry silt	NCM
TR 114	1002	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-10	16-25	10YR6/6	Brown yellow silt with gravel , terminated at rock impasse	NCM
	1003	1	0-5	0-12	10YR4/3	Brown silty loam	NCM

Transect	**STP**	**Level**	**Depth (in)**	**Depth (cm)**	**Munsell**	**Soil Description**	**Cultural Material**
		2	5-11	12-28	10YR6/6	Brown yellow silt with gravel	NCM
	1004	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt with gravel	NCM
	1005	1				Not Excavated: Roadway	
	1006	1	0-7	0-18	10YR3/4	Dark yellow brown silty loam	NCM
		2	7-12	18-30	10YR6/6	Brown yellow silt with gravel	NCM
	1007	1	0-8	0-20	10YR3/4	Dark yellow brown silty loam	NCM
		2	8-12	20-30	10YR6/6	Brown yellow silt with gravel	NCM
	1008	1	0-6	0-16	10YR3/4	Dark yellow brown silty loam	NCM
		2	6-11	16-28	10YR6/6	Brown yellow silt with gravel	NCM
TR 115	1009	1	0-7	0-18	10YR4/3	Brown silty loam with gravel	NCM
		2	7-12	18-30	10YR6/6	Brown yellow sandy silt	NCM
	1010	1	0-9	0-24	10YR4/3	Brown silty loam with gravel	NCM
		2	9-13	24-34	10YR6/6	Brown yellow sandy silt	NCM
	1011	1	0-8	0-20	10YR4/3	Brown silty loam with gravel	NCM
		2	8-13	20-33	10YR6/6	Brown yellow sandy silt	NCM
	1012	1				Not Excavated: Roadway	

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	1013	1	0-8	0-21	10YR4/3	Brown silty loam with gravel	NCM
		2	8-13	21-33	10YR6/6	Brown yellow sandy silt	NCM
	1014	1	0-15	0-39	10YR4/3	Brown silty loam with gravel	NCM
		2	15-19	39-49	10YR6/6	Brown yellow sandy silt	NCM
	1015	1				Not Excavated: Slopes greater than 12% grade	
TR 116	1016	1	0-7	0-17	10YR4/3	Brown silty loam with shale gravel and pebbles	NCM
		2	7-12	17-30	10YR6/4	Light yellow brown silty clay with pebbles	NCM
	1017	1	0-9	0-23	10YR4/3	Brown silty loam , terminated at root impasse	NCM
	1018	1	0-6	0-15	10YR4/3	Brown silty loam	NCM
		3	6-12	15-30	10YR6/4	Light yellow brown silt with coarse sand and rock	NCM
	1019	1	0-7	0-19	10YR4/3	Brown silty loam	NCM
		2	7-14	19-35	10YR6/4	Light yellow brown silt	NCM
	1020	1	0-1	0-27	10YR4/3	Brown silty loam	NCM
		2	11-12	27-30	10YR6/4	Light yellow brown silt with coarse sand and rock	NCM
TR 117	1021					Not Excavated: Roadway	
	1022	1	0-10	0-25	10YR5/6	Yellow brown silty loam	NCM
		2	10-13	25-33	10YR6/6	Brown yellow silty loam	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	1023					Not Excavated: Drainage ditch	
	1024	1	0-6	0-14	10YR4/6	Dark yellow brown wet clay	NCM
		2	6-10	14-25	10YR6/6	Brown yellow wet clay	NCM
	1025	1	0-11	0-28	10YR4/6	Dark yellow brown silty loam	NCM
		2	11-15	28-37	10YR6/6	Brown yellow silty loam	NCM
TR 118	1026	1	0-6	0-14	10YR3/2	Very dark gray brown silty loam	NCM
		2	6-8	14-20	10YR6/3	Pale brown sandy silt , terminated at rock impasse	NCM
	1027	1	0-4	0-10	10YR3/2	Very dark gray brown silty loam	NCM
		2	4-11	10-28	10YR6/3	Pale brown sandy silt	NCM
	1028	1				Not Excavated: Slopes greater than 12% grade	
	1029	1	0-13	0-33	10YR5/4	Yellow brown silt with gravel	NCM
		2	13-17	33-43	10YR6/6	Brown yellow sandy silt	NCM
Area V							
TR 119	1030	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-11	14-28	10YR6/6	Brown yellow silt	NCM
	1031	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	1032	1	0-5	0-12	10YR4/3	Brown silty loam	NCM
		2	5-6	12-16	10YR6/6	Brown yellow silt , terminated at rock impasse	NCM
	1033	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM
	1034	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-12	14-30	10YR6/6	Brown yellow silt	NCM
	1035	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-10	16-26	10YR6/6	Brown yellow silt	NCM
	1036	1	0-5	0-12	10YR4/3	Brown silty loam	NCM
		2	5-9	12-24	10YR6/6	Brown yellow silt	NCM
	1037	1	0-6	0-16	10YR4/3	Brown silty loam	NCM
		2	6-12	16-30	10YR6/6	Brown yellow silt	NCM
	1038	1	0-6	0-14	10YR4/3	Brown silty loam	NCM
		2	6-12	14-30	10YR6/6	Brown yellow silt	NCM
Area W							
TR 120	1039	1	0-8	0-20	10YR5/6	Yellow brown dry silt	NCM
		2	8-11	20-28	10YR6/6	Brown yellow dry silt	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	1040	1	0-7	0-18	10YR5/6	Yellow brown dry silt	NCM
		2	7-11	18-27	10YR6/6	Brown yellow dry silt	NCM
	1041	1	0-9	0-24	10YR5/6	Yellow brown dry silt	NCM
		2	9-12	24-30	10YR6/6	Brown yellow dry silt	NCM
	1042	1	0-9	0-22	10YR5/6	Yellow brown dry silt	NCM
		2	9-11	22-27	10YR6/6	Brown yellow dry silt , terminated at rock impasse	NCM
	1043	1	0-9	0-22	10YR5/6	Yellow brown dry silt	NCM
		2	9-12	22-30	10YR6/6	Brown yellow dry silt	NCM
TR 121	1044	1	0-9	0-22	10YR4/3	Brown silty loam with gravel	NCM
		2	9-13	22-32	10YR6/6	Brown yellow sandy silt	NCM
	1045	1	0-11	0-27	10YR4/3	Brown silty loam with gravel	NCM
		2	11-15	27-37	10YR6/6	Brown yellow sandy silt	NCM
	1046	1	0-13	0-33	10YR4/3	Brown silty loam with gravel	NCM
		2	13-17	33-44	10YR6/6	Brown yellow sandy silt	NCM
	1047	1	0-7	0-19	10YR4/3	Brown silty loam with gravel	NCM
		2	7-12	19-31	10YR6/6	Brown yellow sandy silt	NCM
	1048	1	0-7	0-19	10YR4/3	Brown silty loam with gravel	NCM

Transect	STP	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
		2	7-12	19-30	10YR6/6	Brown yellow sandy silt	NCM
	1049	1	0-9	0-22	10YR4/3	Brown silty loam with gravel	NCM
		2	9-13	22-32	10YR6/6	Brown yellow sandy silt	NCM
Historic N.W. Howell							
HH	1	1	0-6	0-15	10YR4/3	Brown silty loam	glass nails terra cotta piece
		2	6-12	15-30	10YR6/2	Light yellow brown dry sandy silt	NCM
	2	1	0-7	0-17	10YR4/3	Brown silty loam	glass nail coal- discarded
		2	7-13	17-32	10YR6/2	Light yellow brown dry sandy silt	NCM
	3	1	0-8	0-21	10YR3/3	Dark brown decaying plant material and silty loam	whiteware, blue plastic, coal - discarded
		2	8-12	21-31	10YR6/2	Light yellow brown dry sandy silt	NCM
	4	1	0-12	0-30	10YR3/3	Dark brown silty loam with roots , terminated at rock impasse	modern bottle glass
	5	1	0-8	0-21	10YR4/3	Brown silty loam , terminated at rock impasse	metal clear glass white ware brick coal-discarded
						In spill pile found broken bottle fragments one marked 1912 white ware fragments ceramic pieces damaged	

Appendix E: Project Correspondence & Other Project Documentation

NEW YORK
STATE OF
OPPORTUNITY.

**Parks, Recreation,
and Historic Preservation**

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

July 29, 2015

Mr. Simon Gelb
CPC
P. O. Box 2020
Monroe, NY 10949

Re: DEC
CLOVEWOOD
Village of South Blooming Grove, Section 208, Block 1, Lot 2 and 3.
555 Clove Road, Monroe, NY 10950
15PR03943

Dear Mr. Gelb:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6NYCRR Part 617).

OPRHP has reviewed the latest submission for this project – *Clovewood Archaeological Report, Phase 1A Literature Review and Sensitivity Analysis Blagg's Clove, Village of South Blooming Grove, Orange County, New York* (CITY/SCAPE, July 2015). Based on the information provided, we recommend that portions of the project's Area of Potential Effects (APE) are archaeologically sensitive and should be subjected to a Phase IB archaeological survey.

Comments regarding buildings and structures are provided separately.

If you have any questions please don't hesitate to contact me.

Sincerely,

Philip A. Perazio

Philip A. Perazio, Historic Preservation Program Analyst - Archaeology Unit
Phone: 518-268-2175
e-mail: philip.perazio@parks.ny.gov via email only

Division for Historic Preservation
P.O. Box 189, Waterford, New York 12188-0189 • (518) 237-8643 • www.nysparks.com

HUDSON VALLEY
Cultural Resource Consultants, Ltd.
3 Lyons Drive Poughkeepsie, NY 12601
914-456-3698 · 845-702-0869

October 19, 2015

Philip A. Perazio
NYS OPRHP
Peebles Island
1 Delaware Avenue
Cohoes, NY 12047

RE: Clovewood 15PR03943
Phase 1B Archaeological Field Reconnaissance Survey
Section 208, Block 1, Lot 2 & 3
Village of South Blooming Gove, Orange County New York

Dear Mr. Perazio,

Hudson Valley Cultural Resource Consultants has been contacted by Simon Gelb of CPC to provide a proposal for the Phase 1B Archaeological Field Reconnaissance Survey for the Clovewood project in the Village of South Blooming Grove. As a contributor to the Phase 1A Literature Review and Sensitivity Analysis, completed for the project by CITY/SCAPE in 2015, we are familiar with the project. Mr. Gelb has provided us with correspondence received from you dated July 29, 2015. In the letter dated July 29, you have stated that "portions of the Project Area's Area of Potential Effect (APE) are archaeologically sensitive and should be subjected to a Phase 1B archaeological survey." Mr. Gelb has asked that we confirm with you, the specific areas within the APE that require testing at the level of a Phase 1B Archaeological field reconnaissance survey.

In accordance with the New York State Archaeological Council (NYAC) guidelines adopted by your office, and the Office of Parks Recreation and Historic Preservations (OPRHP) recommendations established in 2005, we understand that the archaeologically sensitive portions of the Clovewood APE recommended for Phase 1B Archaeological testing include:

a. Areas within the APE containing well drained soils
b. Areas within the APE that contain slopes with less than 12% grade
c. Areas within the APE that do not contain standing water
d. Areas within the APE that have not been previously disturbed

Based on these criteria, the areas within the APE that would be excluded from the Phase 1B Archaeological Field Reconnaissance testing are:

e. Areas within the APE that contain wet or saturated soils
f. Areas within the APE that contain slopes in excess of 12% grade
g. Areas within the APE that contain standing water
h. Areas within the APE that can be documented as having been previously disturbed

We greatly appreciate you taking the time to confirm that the criteria described above is applicable for the Phase 1B Archaeological testing of the portions of the Clovewood APE recommended in your letter.

Sincerely,

Beth Selig

Beth Selig
Hudson Valley Cultural Resource Consultants

NEW YORK
STATE OF
OPPORTUNITY.

Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

October 29, 2015

Mr. Simon Gelb
CPC
P. O. Box 2020
Monroe, NY 10949

Re: DEC
CLOVEWOOD
Village of South Blooming Grove, Section 208, Block 1, Lot 2 and 3.
555 Clove Road, Monroe, NY 10950
15PR03943

Dear Mr. Gelb:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6NYCRR Part 617).

OPRHP has received a letter from Beth Selig of Hudson Valley Cultural Resource Consultants, dated 19 October 2015, requesting confirmation of the parameters of a Phase IB archaeological investigation of the above-referenced project area. We concur with the parameters outlined in the letter except for "e." Areas of permanent standing water are automatically excluded from testing, except for water bodies where cultural resources such as sunken ships may be present. Areas of temporary or seasonal wetness must be evaluated regarding their potential to have been suitable for occupation in the past. If, based on evidence, it can be demonstrated that prior historic or precontact occupations are unlikely, then such areas may be excluded from testing.

If you have any questions please don't hesitate to contact me.

Sincerely,

Philip A. Perazio

Philip A. Perazio, Historic Preservation Program Analyst - Archaeology Unit
Phone: 518-268-2175
e-mail: philip.perazio@parks.ny.gov via email only

Property Description Report For: Clove Rd, Municipality of V. South Blooming Grove

No Photo Available

		Status:	Active
		Roll Section:	Wholly Exem
		Swis:	332003
		Tax Map ID #:	208-1-1
		Property Class:	695 - Cemetery
		Site:	NOSITE 0
		In Ag. District:	No
		Site Property Class:	N/A
		Zoning Code:	N/A
		Neighborhood Code:	N/A
Total Acreage/Size:	314 x 314	School District:	Washingtonville
Land Assessment:	2016 - $700	Total Assessment:	2016 - $700
Full Market Value:	2016 - $3,800		
Equalization Rate:	----	Legal Property Desc:	Recorded 11-29-09 FNA (41-1-13)
Deed Book:	511	Deed Page:	415
Grid East:	583284	Grid North:	929495

Owners

Round Hill Cemetery

Sales

No Sales Information Available

Improvements

Structure	Size	Grade	Condition	Year	Replacement Cost	Quantity

Land Types

Type	Size

Special Districts for 2016

Description	Units	Percent	Type	Value
FD039-S blooming grve fire	0	0%		0

Exemptions

Year	Description	Amount	Exempt %	Start Yr	End Yr	V Flag	H Code	Own %
2016	PRIV CEM	$700	0	1995				0

Taxes

EXHIBIT VI

ENDANGERED AND THREATENED SPECIES REPORT

WSP USA INC.

Endangered and Threatened Species Report

Clovewood

Blaggs Cove
South Blooming Grove, Orange County, New York

Prepared For:

CPC
P.O. Box 2020
Monroe, New York 10949

Prepared By:

NCES
NORTH COUNTRY ECOLOGICAL SERVICES, INC.

September 23, 2016
Revised January 23, 2017

Table of Contents

List of Figures

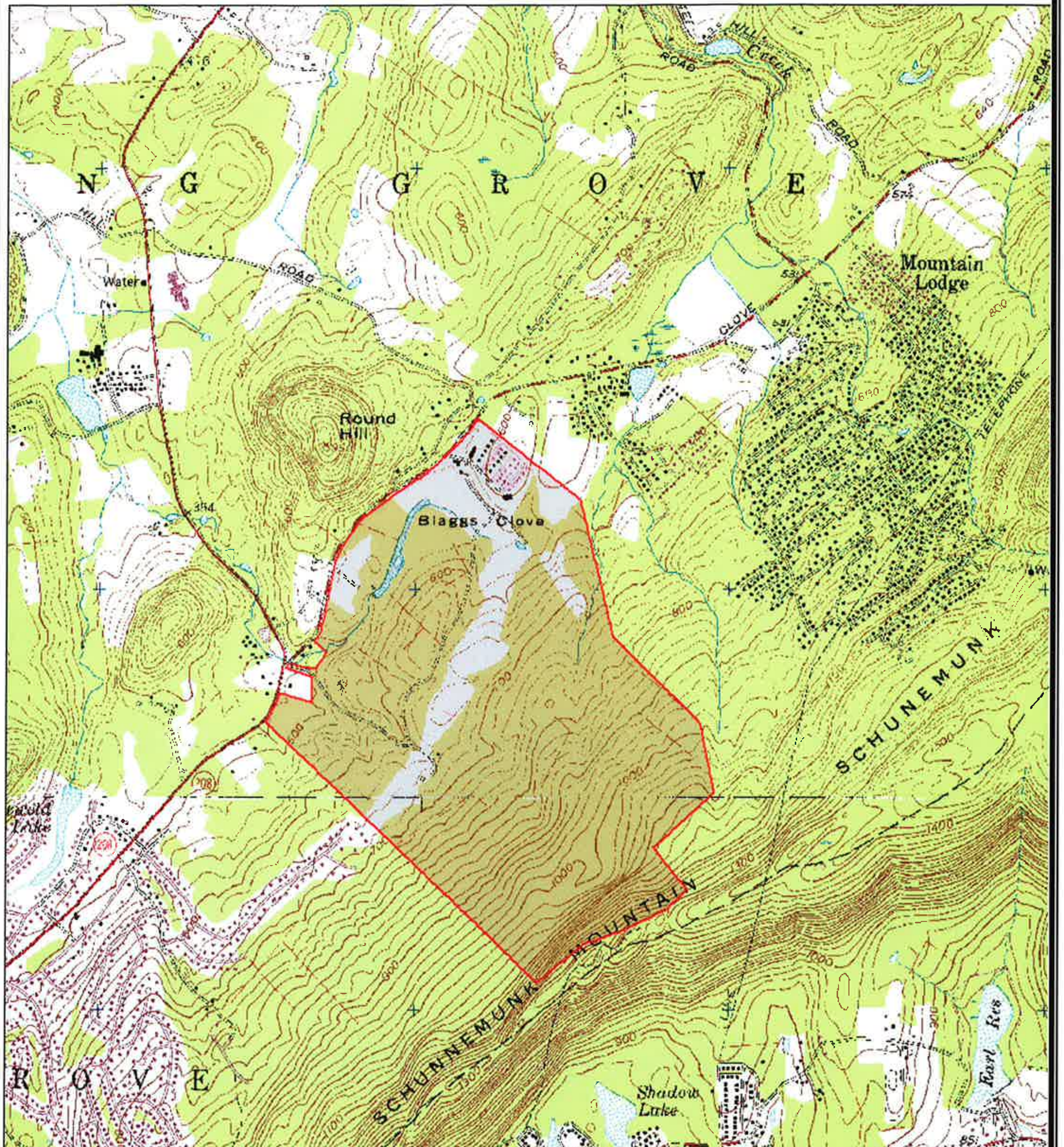
Appendices

1.0 INTRODUCTION

At the request of CPC, LLC (the "Applicant") North Country Ecological Services, Inc. (NCES) conducted an ecological investigation of the 708± acre property known as "Clovewood" (the "Site"). CPC requested the existing ecological character of the Site be evaluated to provide a baseline of information assessment of the existing condition of the property, the existing habitats present and the potential for the presence of state and federally listed Endangered or Threatened (ET) species of flora and fauna.

The Clovewood parcel is located at 555 Clove Road in the Village of South Blooming Grove, Orange County, New York (Figure 1). The centralized coordinates of the property are 41° 22' 36.0" N Latitude and 74° 9' 42.3" W Longitude. A ridge, known as Schunnemunk Mountain extends along the southeastern property boundary. The elevations within the property range from approximately 1,400 feet above Mean-Sea-Level (MSL), located near the top of Schunnemunk Mountain, to approximately 500 feet above MSL, found near the intersection of Rte 208 and Clove Road, resulting in an elevation difference of approximately 900 feet.

The subject parcel currently exists as a vacant and fallow property. The northwestern portion of the property (approximately 21± acres, or about 3%) was previously developed as a small private golf course known as the Lake Ann Golf Course. The golf course has been abandoned for several years and the land that was previously cleared/graded for the fairways, greens and irrigation ponds are still evident, but fallow. Consequently, much of the old course now exists as early successional field and early successional woodland. Several buildings are found throughout the northwest corner of the property. Most of these structures are believed to be associated with the previous golf facility. Some remnant stone structures found on the property are likely associated with older, agricultural usage of the property.



Base Map: USGS Maybrook and Monroe and 7.5' Quadrangles, Orange County, N.Y. Scale: 1" = 2000'

NCES
North Country Ecological Services, Inc.

FIGURE 1- SITE LOCATION MAP

Until recently, the property had been leased and was utilized for recreational purposes, inclusive of hiking and hunting. Several gravel roadways and trails are interspersed through-out the western half of the site. The majority of the roadways are contained within historically manipulated lands. A few trails extend eastward onto the wooded hillside and the steep ridge that is located in the eastern portion of the property.

2.0 ASSESSMENT METHODOLOGY

A formal endangered and threatened species review was conducted, which included the following:

1) An in-house review of literature sources and direct consultations with regulatory agencies regarding records of known occurrences of state and/or federally listed endangered, threatened or rare species of flora and fauna for the subject property and surrounding area.

2) An on-site formal field review of the existing ecological communities, habitats and indigenous flora/fauna present within the project area to determine the likelihood of endangered, threatened and/or rare species presence.

To initiate the in-house review, NCES and CPC consulted directly with the New York State Department of Environmental Conservation Natural Heritage Office (NHO) and the United States Fish and Wildlife Service (USFWS) to obtain information relative to any existent or historical records of occurrence of endangered, threatened or rare species of flora and fauna. Information pertaining to the potential for presence of significant ecological community types or other sensitive habitats that are known to be found within the immediate geographic area of the project area was also requested.

NCES also reviewed the following technical information to establish a general knowledge of the existing topography, vegetative structure, overall condition, and the types of ecological communities likely to be present and to identify known species of flora and fauna that may occur at the property:

- USDA Soil Survey
- Google Earth Aerial Imagery
- NYSDEC Environmental Resource Mapper
- National Wetland Inventory (NWI) maps
- USGS topographical mapping
- DEC Breeding Bird Atlas
- DEC Herpetological Atlas

The USDA Soil Survey, Google aerial imagery, NWI Maps, NYSDEC Environmental Resource Mapper, and USGS Topographical maps were used to identify baseline data to define existing topography, vegetation, soil composition and structure and potential regulated wetland locations, prior to any site visits. NCES also consulted the New York State Breeding Bird Atlas and the NYSDEC Herp Atlas for known information relative to known fauna that can be found on or within the immediate geographic region.

In addition to the aforementioned literature review, an on-site field investigation for endangered, threatened, and rare species and community types was undertaken. The field investigation included a comprehensive review of the entire Site, not just the area of development. During the field investigation, NCES documented the species of flora and fauna that were observed and the ecological community types that were present.

During the field reviews, NCES utilized opportunistic visual encounter, cover object search and call survey methodologies to search for species of fauna. Visual encounter methodologies were utilized to identify species of flora. NCES visually searched each of the ecological communities found at the site and assessed general habitat conditions and species presence. Where logs, rocks or other natural debris were found, NCES physically moved and/or lifted the debris to search for species. Where talus slopes or overhanging bedrock was exposed, NCES searched rock crevices for specimens. Species were identified visually, by vocalization, or by physical remains (tracks, scat, fur, feathers, bones, etc.). The resumes of the personnel who conducted the literature and field reviews are contained in Appendix A.

3.0 RESULTS

3.1 Literature Review Findings

According to the response obtained from the NHO (dated March 20, 2014) the Natural Heritage Database possesses nine (9) records of "…rare or state-listed animals or plants and significant natural communities, which our databases indicate occur, or may occur on your site or in the immediate vicinity of your site". Specifically, the response indicates that the following species of flora, fauna and/or significant ecological communities have the potential to be found on the Site:

- Northern Long-eared Bat (*Myotis septentrionalis*) - Threatened
- Indiana Bat (*Myotis sodalis*) - Endangered
- Timber Rattlesnake (*Crotalus horridus*) - Threatened
- Slender Pinweed (*Lechea tenuifolia*) - Threatened
- Virginia Snakeroot (*Endodeca serpentaria*) - Threatened
- Drummonds Rock Cress (*Boechera stricta*) - Threatened
- Woodland Agrimony (*Agrimonia rostellata*) - Threatened
- Green Rock Cress (*Boechera missouriensis*) - Threatened
- Chestnut Oak Forest - Unlisted

Based on the information provided from the NHO, the species of fauna referenced have been documented within 2.5 miles of the project Site. The referenced plant species are defined as being extant on Round Hill, which is located immediately northwest of the Site and the Green Rock Cress is also defined as occurring along the top of the ridge of Schunnemunk Mountain, which is found along the southeastern boundary of the Site. The forest community is referenced as occurring within the Schunnemunk Mountain State Park and is documented as being a "high quality occurrence" of the community type. A copy of the information obtained from the NHO is contained in Appendix B.

Upon consultation with the USFWS District Office in Cortland, New York, NCES was directed to review the USFWS website for federally-listed endangered and threatened species and habitat information. Subsequently, the information obtained from the USFWS website indicates five (5) species of flora and/or fauna have the potential to be found on the Site. Specifically, the response indicates the following species of flora, fauna and/or significant ecological communities have the potential to be found on the Site or in the immediate vicinity of the Site:

- Bog Turtle (*Glyptemys muhlenbergii*) - Endangered
- Northern Long-eared Bat (Myotis septentrionalis) - Threatened
- Indiana bat (*Myotis sodalis*) - Endangered
- Small-whorled Pogonia (*Isotria medeoloides*) - Threatened
- Dwarf Wedge Mussel (*Alasmidonta heterodon*) - Endangered

The information provided by the USFWS was not accompanied by any supportive information detailing approximate locations of the listed species or their associated habitats within the County. As a result, the response information provided is not project specific as, according to the USFWS, detailed information regarding precise locations of endangered and threatened species is to remain confidential. However, according to the information provided, the speculated presence of these species and/or significant habitat types is recognized by the USFWS based upon extant populations and/or historically recorded occurrences of the species within all of Orange County, New York. A copy of the information obtained from the USFWS is also contained in Appendix B.

3.2 Field Review Findings

The following sections describe the existing conditions relating to the ecological conditions the Site, as well as the habitat assessments for listed species based upon the field reviews. To encompass multiple seasons, NCES completed both fall and spring surveys on the Site. The fall surveys were conducted in September and October of 2014 and the spring surveys were conducted in June and July of 2015.

During each of the field investigations, NCES actively searched the existing community types for endangered, threatened and/or rare species of flora and fauna. NCES also specifically reviewed the project area for habitats that would be deemed conducive to the presence of those species documented by the NHO and USFWS and also for other unique communities and/or endangered, threatened or rare species that were not specifically referenced by the agencies. During the field review, photographs were taken to document the existing conditions at the time of the survey. A list of the observed flora and fauna was also compiled. Copies of the photographs are contained in Appendix C and the list of observed/identified flora and fauna is contained in Appendix D.

3.2-1 Existing Conditions

3.2-1a Existing Ecological Communities

The Clovewood property exists primarily as forested upland (566± acres, 80%) and Palustrine wetland (35± acres, 5%). Based upon the definitions presented in the *Ecological Communities of New York State* (Edinger, 2002) and the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, 1979), the following ecological communities have been identified on the property:

- Chestnut oak forest
- Acidic talus slope woodland
- Oak-tulip tree forest
- Successional southern hardwood forest
- Successional old field
- Successional shrub land
- Red maple hardwood swamp/Palustrine forested wetland
- Palustrine scrub-shrub wetland
- Palustrine emergent wetland
- Artificial pond

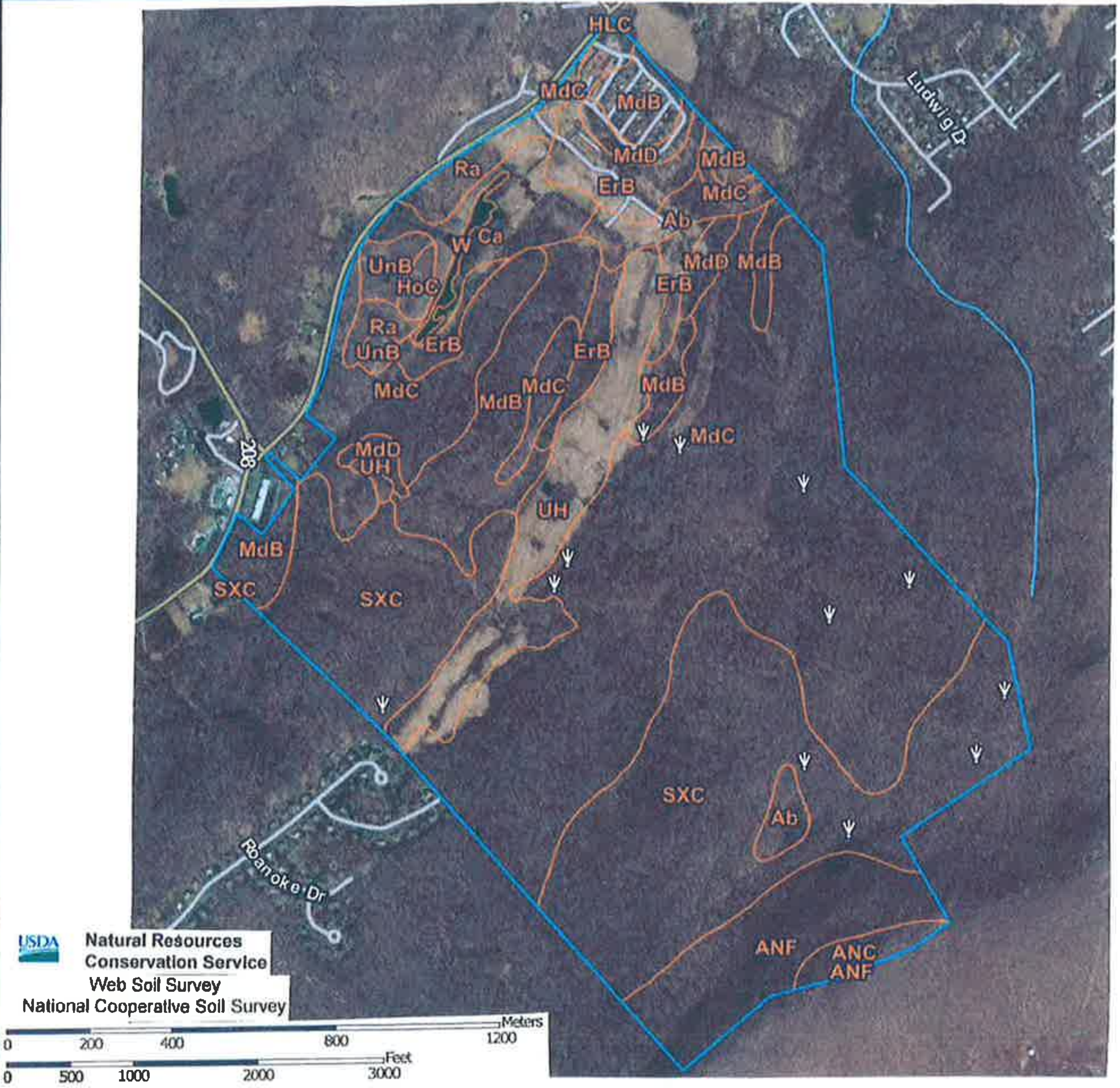
Land use surrounding the property consists of single-family residential and commercial development. The property is bordered by existing, large scale, moderate density, single-family residential developments to the northeast and southwest along Clove Road and Rte. 208, respectively. Other single-family residences and undeveloped forested and agricultural lands are found to the northwest of the site, along Clove Road. Local commercial establishments are located within two separate strip malls that are located at the intersection of Clove Road and Rte. 208. Undeveloped forested land borders the property to the southeast.

3.2-1b Soils

According to the USDA Natural Resources Conservation Service Web Soil Survey 3.0 for Orange County, New York (the "Soil Survey"), eleven (11) different soil series are found within the boundaries of the property. The soil types identified include: Alden silt loam (Ab); Arnot-Lordstown complex, sloping (ANC); Arnot-Lordstown complex, very steep (ANF); Canandaigua silt loam (Ca); Erie gravelly silt loam, with 0 to 8 percent slopes (ErA & ErB); Hoosic gravelly sandy loam, with 8 to 15 percent slopes (HoC); Mardin gravelly silt loam, with 3 to 25 percent slopes (MdB, MdC & MdD); Raynham silt loam (Ra); Swartswood and Mardin soils, sloping, very stony (SXC); Udorthents, smoothed (UH); and Unadilla silt loam, with 0 to 8 percent slopes (UnB) (Figure 2). In addition, the Soil Survey also indicates a few separate areas of standing, open water (W).

3.2-1c Vegetation

During the assessment, NCES identified the above-mentioned ten (10) different ecological communities within the subject property. These ecological communities include: Chestnut oak forest, Acidic talus slope woodland, Oak-tulip tree forest, Successional southern hardwood forest, Successional old field, Successional shrub land, Red maple hardwood swamp/Palustrine forested wetland, Palustrine scrub-shrub wetland, Palustrine emergent wetland, and Artificial pond. The ponds are man/made structures that exist as open bodies of water. The ponds are surrounded by Palustrine scrub-scrub and/or



Soils Legend

Ab – Alden silt loam
ANC – Arnot-Lorstown complex, sloping
ANF – Arnot-Lorstown complex, steep
Ca – Canandaigua silt loam
ErB – Erie gravelly loam, 3-8% slopes
HLC – Hollis soils, sloping
HoC – Hoosic gravelly sandy loam, 8-15% slopes
W – Open Water

MdB – Mardin gravelly silt loam, 3-8% slopes
MdC – Mardin gravelly silt loam, 8-15% slopes
MdD – Mardin gravelly silt loam, 15-25% slopes
Ra – Raynham silt loam,
SXC – Swartswood and Mardin soils, sloping
UH – Udorthents, smoothed
UnB – Unadilla silt loam, 0-8% slopes

Base Map: Web Soil Survey 3.0 – Orange County Soil Survey, N.Y.

Scale: As Noted

NCES
North Country Ecological Services, Inc.

FIGURE 2 - SOIL SURVEY

emergent wetland communities. The predominant species of vegetation observed within each of the identified ecological communities are listed below:

Chestnut Oak Forest

Some of the dominant species of vegetation observed within the Chestnut oak forest ecological community included, but are not limited to: chestnut oak (*Quercus montana*), shrub oak (*Quercus ilicifolia*), red oak (*Quercus rubra*), mountain laurel (*Kalmia latifolia*), rhododendron (*Rhododendron spp.*), black huckleberry (*Gaylussacia baccata*), low-bush blueberry (*Vaccinium pallidium*), wild sarsaparilla (*Aralia nudicaulis*) and Pennsylvania sedge (*Carex pennsylvanica*). This ecological community was located at the highest elevational portions (at or above 1,240' above MSL) of the ridge that extends along the southeast property boundary.

Acidic Talus Slope Woodland

Some of the dominant species of vegetation observed within the Acidic talus slope woodland ecological community included, but are not limited to: chestnut oak, mountain paper birch (*Betula cordifolia*), striped maple (*Acer pensylvanicum*), shrub oak, mountain laurel, rhododendron, witch-hazel (*Hamamelis virginiana*), black huckleberry, low-bush blueberry, wild sarsaparilla, rock polyplody (*Polypodium virginianum*), wood fern (*Dryopteris intermedia*), and various mosses. This ecological community possesses many rock out crops and was located along the steepest sloped portions of ridge that extends along the southeast property boundary. The Acidic talus slope is situated between the Chestnut oak forest and the Oak-Tulip tree forest communities and predominantly occurs between elevations 1,020' and 1,240'.

Oak Tulip Tree Forest

Some of the prominent species of vegetation observed within the Oak-Tulip tree forest ecological community included, but are not limited to: northern red oak (*Quercus rubra*), white oak *(Quercus alba*), tulip tree (*Liriodendron tulipifera*), American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), white ash (*Fraxinus americana*), black birch (*Betula lenta*), black cherry (*Prunus serotina*), shagbark hickory (*Carya ovata*), Japanese barberry (*Berberis thunbergii*), witch-hazel, winged euonymus (*Euonymus atlatus*), wild sarsaparilla, wood fern, Christmas fern (*Polystichum agrostichoides*), garlic mustard (*Alliaria officinalis*), common blue violet (*Viola sororia*), wild geranium (*Geranium maculatum*) and false solomon's seal (*Smilacina racemosa*). This ecological community is contained along the less steep areas of the ridge that extends along the southeastern property boundary. This ecological community is contained in areas that were not previously developed or cleared by the golf facility. This ecological community is positioned between the Acidic-talus slope woodland and the Successional southern hardwood forest and is readily established between elevations 940' and 1020'.

Successional Southern Hardwood Forest

Some of the prominent species of vegetation observed within the Successional southern hardwood forest ecological community included, but are not limited to: sugar maple, red maple, black locust (*Robinia pseudoacacia*), walnut (*Juglans* spp), quaking aspen (*Populus tremuloides*), wild apple (*Malus sylvestris*), common buckthorn (*Rhamnus cathartica*), honeysuckle (*Lonicera tatarica*), multiflora rose (*Rosa multiflora*), Japanese barberry, red raspberry (*Rubus ideaus*), black raspberry (*Rubus allegheniensis*), Virginia creeper (*Parthenocissus quinquefolia*), oriental bittersweet (*Celastris orbiculata*) poison ivy (*Toxicodendron radicans*), garlic mustard, common blue violet, snakeroot (*Ageritina altissima*) and stick-tight (*Lappula virginiana*). This forested community comprises the majority of the forested lands that are located within and/or immediately adjacent to previously cleared land found below the 940' elevation.

Successional Old Field

Some of the prominent species of vegetation observed within the Successional old field ecological community included, but are not limited to: Canada goldenrod (*Solidago canadensis*), early goldenrod (*Solidago juncea*), timothy (*Phleum pratense*), wild carrot (*Daucus carota*), spotted knapweed (*Centaurea maculosa*), black-eyed susan (*Rudbeckia hirta*), common milkweed (*Asclepias syraca*), ragweed (*Ambrosia artemisiifolia*), little blue stem (*Andropogon scoparius*), quackgrass (*Agropyron repens*), birdsfoot trefoil (*Lotus corniculatus*), orchard grass (*Dactylis glomerata*), evening primrose (*Oenothera biennis*), herbaceous cinquefoil (*Potentilla simplex*), red clover (*Trifolium pratense*), white clover (*Trifolium repens*), mullein (*Verbascum thappsus*) and dewberry (*Rubus procumbens*). This ecological community is limited to the areas that were contained within the previous golf course fairways, fringe rough and greens. All of these fields are located below the 940' elevation.

Successional Shrubland

Some of the prominent species of vegetation observed within the Successional shrubland ecological community included, but are not limited to: gray dogwood (*Cornus racemosa*), common buckthorn, tatarian honeysuckle, winged euonymus, multiflora rose, Japanese barberry, oriental bittersweet, catbrier (*Smilax* spp.) summer grape (*Vitis aestivalis*), blackberry (*Rubus occidentalis*), red raspberry (*Rubus ideaus*), Canada goldenrod, early goldenrod, spotted knapweed, ragweed, and dewberry. This ecological community is limited to areas that were cleared for the previous golf facility, but which were not graded and utilized for play. These areas are transitional habitats found between the Successional old field and the Successional southern hardwood ecological communities.

Red Maple Hardwood Swamp / Palustrine Forested Wetland

Some of the prominent species of vegetation observed within the Red-Maple hardwood swamp/Palustrine forested wetland ecological community included, but are not limited to red maple, green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*), ironwood (*Carpinus caroliniana*), box elder maple (*Acer negundo*), witch hazel (*Hamamelis virginiana*), highbush blueberry (*Vaccinium corymbosum*) silky dogwood (*Cornus amomum*), tussock sedge (*Carex stricta*), fox sedge (*Carex vulpinoidea*), skunk cabbage (*Symplocarpus foetidus*), sensitive fern (*Onoclea sensibilis*), fowl manna grass (*Glyceria striata*) and moneywort (*Lysimachia nummularia*). This wetland community is located within natural topographical depressions found within forested components of the property, where previous disturbances from the golf facility did not occur.

Palustrine Scrub-shrub and Emergent Wetland

Some of the prominent species of vegetation observed within the Palustrine scrub-shrub and emergent wetland communities included, but are not limited to, silky dogwood, red-osier dogwood (*Cornus stolonifera*), gray dogwood, arrowwood (*Viburnum dentatum*), nannyberry (*Viburnum lentago*), sensitive fern, tussock sedge, late goldenrod (*Solidago gigantea*), slender goldenrod (*Solidago tenuifolia*), jewelweed (*Impatiens capensis*) common reed (*Phragmites australis*), cattail (*Typha latifolia*), purple loosestrife (*Lythrum salicaria*), boneset (*Eupatorium perfoliatum*), joe-pye weed (*Eupatorium maculatum*), willow herb (*Epilobium glandulosum*), fringed sedge (*Carex crinita*), lurid sedge (*Carex lurida*), dark green bulrush (*Scirpus atrovirens*), wool grass (*Scirpus cyperinus*), soft rush (*Juncus effusus*), tussock sedge, fox sedge, NY Aster (*Aster novi-belgii*) and New England Aster (*Aster novae-angilae*). These wetland communities are limited to the western half of the property, in areas that were part of the previous golf course facility.

3.2-2 Agency Referenced Endangered & Threatened Species Evaluations

Investigations for Endangered or Threatened (ET) species of flora and fauna referenced by the regulatory agencies and specific reviews of existing ecological communities for habitats conducive to their existence, was conducted after a formal consultations with the USFWS and the NHO.

The following sub-sections provide specific habitat assessments of those species that were identified in the USFWS and the NHO correspondences as having been presently and/or historically recorded within Orange County, New York, thus having the potential to be found on the Site. The information provided by the USFWS and NHO is only relative to known occurrences. Therefore, any lack of endangered, threatened or rare species information within these sub-sections does not preclude additional endangered, threatened or rare species from having the potential to exist on the Site.

3.2-2a Northern Long-eared Bat and Indiana Bat Habitat Assessment

NCES reviewed the property in search of habitats that exhibit the criteria for potential summer roosting sites and suitable foraging habitat for the Indiana and Northern Long-eared Bat. NCES also searched for any caves, mines or other man-made structures that could be used as a potential roosts or as an over-wintering hibernacula. NCES utilized information obtained from the USFWS, including the "*Indiana Bat Project Review Fact Sheet"* and the "*Northern Long-eared Bat Fact Sheet*", which defines criteria of potential habitat for both species of bats. Being that Indiana and Northern Long-eared bats can occupy similar habitats, NCES conducted the habitat analysis following the recommended procedures outlined by the USFWS and DEC protocols established for Indiana bat surveys.

According to the DEC and the USFWS, suitable and potential Indiana bat summer roosting habitats are characterized as "…trees (dead, dying, or alive) or snags, greater than or equal to 5 inches in diameter at breast height (dbh), with exfoliating or defoliating bark, or containing cracks, crevices, or holes that could potentially be used by Indiana bats as a roost". Maternal colonies "generally use trees greater than or equal to 9 inches dbh." In addition, "structure appears to be more important than a particular tree species or habitat type." It is also documented that due to the fact roosting sites are "warmed by direct exposure to solar radiation, trees exposed to extended periods of direct sunlight are preferred over those in shaded areas."

Potential foraging habitat for the Indiana bat is defined as "...streams, associated floodplain forests, and impounded water bodies (ponds, wetlands, reservoirs)..." along with "canopies of upland forests, clearings with early successional vegetation, borders of croplands, along wooded fence rows, and over farm ponds in pastures". The USFWS also state that "while Indiana bats appear to forage in a wide variety of habitats, they seem to tend to stay close to tree cover" and that "Indiana bats may fly up to 2-5 miles from upland roosts" to forage and/or locate new roost sites.

According to the USFWS, suitable, potential Northern Long-eared bat summer habitats are characterized as forested communities that possess live and dead trees with "loose bark, cavities or crevices" as well as within "...cooler places like caves and mines". These bats have also been reported to be found roosting in "structures like barns and sheds". Northern Long-eared bats are known to roost independently or within colonies. Wintering habitat for the Northern Long-eared bat is defined as being within "caves and mines" that possess "large passages and entrances; constant temperatures; and high humidity with no air currents". Potential foraging habitat for the Northern Long-eared bat is defined as "...understory of forested hillsides and ridges". This bat species is also known to glean "motionless insects from vegetation and water surfaces".

NCES conducted a review of the property for potential habitat that would be suitable for the roosting of Indiana and Northern Long-eared Bats. NCES did identify trees that appeared suitable for use by both species for roosting activities. These trees included numerous shagbark hickories; black locust trees; damaged red oak, white ash and sugar maple trees; and dead elms. The dead elms are located immediately adjacent to

Palustrine wetland areas that were identified on the property. The remaining trees are sporadically located throughout the forested upland components of the site. No caves or mines were identified within the property boundaries that could be construed as potential over-wintering habitat (hibernaculum). However, several man-made structures are found within the northeast corner of the Site and these structures could potentially be utilized by bats for roosting activities.

Potential foraging habitat for both bat species was found on the property and it includes: the forested uplands; over the open emergent marsh community; along the stream corridors; and within the edge habitat that immediately borders the site. Potential foraging areas consist of a variety of different habitats that are common throughout the geographic region.

Given the abundance of available habitat in the area of the project and surrounding geography, sufficient habitat is available to sustain healthy populations of a variety of species of bats, even in the event of displacement.

3.2-2b Timber Rattlesnake Assessment:

NCES completed a review of the property for the presence of habitats suitable for use by Timber Rattlesnakes. This task was accomplished during an initial field investigation, conducted on September 25, 2014. During that review, NCES walked the entire property in an attempt to locate habitat conducive to Timber Rattlesnakes, such as talus slopes, rock outcrops and adjacent forested uplands where snakes could forage. As a result of the review, it was determined by NCES that suitable basking, foraging and shedding habitat is present on the property and that further study of these habitats was warranted.

NCES biologists spent remaining survey times traversing suitable habitat areas and visually scanning areas for the presence of individual rattlesnakes. During the fall survey, two biologists from NCES surveyed the property on different dates to increase the likelihood of finding snakes and to comply with survey guidelines established by the DEC - *Guidelines for Reviewing Projects for Potential Impacts to the Timber Rattlesnake* (DEC, 2009). The guidelines suggest a minimum of 4 surveys when assessing suitable basking, foraging, gestating or denning habitat and that surveys should separated by 7 or more days. The guidelines also indicate that surveys should only be completed when ambient air temperature is at or above 66° Fahrenheit and no measurable precipitation is occurring. The guidelines also specify that when surveying around known denning locations they should be conducted between the timeframe of September 15 to October 25 to coincide with snakes moving back to den sites.

To complete the field investigation, NCES utilized opportunistic visual survey methodologies as well as cover object search techniques and auditory monitoring in an effort to locate individual Timber Rattlesnakes.

The dates, times and conditions of the fall survey are shown below:

Survey Date	Time/Duration	Ambient Air Temp	Weather Condition
9/25/14	9:45am-4:30pm - 6 h45 min	68°F to 77°F	sunny, light wind
10/8/14	11:15pm-1:30pm - 2h 15 min	68°F to 71°F	overcast, light rain
10/9/14	10am-3:30pm - 5h 30 min	66°F to 68°F	overcast, light wind
10/16/14	9:45am-5:30pm - 7h 45 min	66°F to 70°F	partly cloudy
10/17/14	9:15am-3:30pm - 6h 15 min	66°F to 70°F	sunny
10/30/14	11am-2:15pm - 3h 15 min	65°F	sunny

Where logs, loose rock outcrops/rock overhangs or other natural debris were found, NCES physically moved/lifted the debris to search for the species. NCES reviewed exposed bedrock ledges at the top of the ridge for basking snakes as well peered/prodded with snake hooks into ledges/crevices were snakes could remain hidden. NCES also listened for auditory responses (rattling) in conjunction with the visual and cover object survey techniques.

During the fall of 2014 field surveys, no individual Timber Rattlesnakes were found by NCES. Despite not having located any Timber Rattlesnakes during the surveys, NCES did confirm the presence of suitable foraging, basking and shedding habitats within certain portions of the property. All of these habitats are located within the southeastern portion of the property and along the steeper slopes of the ridge that extends along the southeastern property boundary, at elevations that are higher than 940' above MSL. These habitats are within areas that have not been disturbed by the previous golf course.

The viable basking and shedding habitats are primarily limited to the Chestnut oak forest and Acidic Talus slope woodland communities found in the easternmost third of the property. These two communities coupled with the Oak-tulip tree forest community also provide viable foraging habitat for Timber Rattlesnakes. It is assumed by NCES that the potential of movement of Timber Rattlesnakes through the Clovewood property would be generally conducted within these habitats and primarily along the steep ridge, away from the proposed development.

Since suitable habitat was confirmed present within the property boundaries, NCES, the Applicant and the Project Engineer determined that a 2015 Spring Survey should be undertaken. To comply with the DEC survey protocol for Spring Reviews, NCES visited the Clovewood Property on 5 additional dates in June and July of 2015 to search the property for the presence of Timber Rattlesnakes and to document habitat. The survey completed by NCES was undertaken during the known spring emergence, dispersal and basking periods of Timber Rattlesnakes.

NCES again complied with survey guidelines established by the DEC (*Guidelines for Reviewing Projects for Potential Impacts to the Timber Rattlesnake* (DEC, 2009). The Spring survey guidelines mimic the fall surveys whereas the guidelines suggest a minimum of 4 surveys when assessing suitable basking, foraging, gestating or denning habitat and indicate that surveys should separated by 7 or more days. The guidelines also establish that surveys should only be completed when ambient air temperature is at or above 66° Fahrenheit and no measurable precipitation is occurring.

The dates, times and conditions of the spring surveys are shown below:

Survey Date	Time/Duration	Ambient Air Temp	Weather Condition
6/03/15	10:15am-4:30pm - 6 h15 min	65°F to 76°F	sunny, light wind
6/10/15	11:15pm-4:30pm - 5h 15 min	70°F to 78°F	sunny, light wind
6/11/15	10am-3:30pm - 5h 30 min	70°F to 83°F	sunny, humid
6/24/15	9:45am-1:30pm - 3h 45 min	66°F to 75°F	overcast, humid
7/08/15	12:15pm-6:00pm - 5h 45 min	76°F to 86°F	hazy, hot & humid

To complete the spring field survey, biologists from NCES utilized opportunistic visual survey methodologies as well as cover object search techniques and auditory monitoring in an effort to locate individual Timber Rattlesnakes. NCES focused the review on the suitable habitats that were identified during the Fall 2014 survey.

NCES biologists spent the survey time traversing the suitable habitat and searching these areas for individual snakes. Where logs, loose rock outcrops/rock overhangs or other natural debris were found, NCES physically moved/lifted the debris to search for the species. NCES reviewed exposed bedrock ledges at the top of the ridge for basking snakes as well peered/prodded with snake hooks into ledges/crevices were snakes could remain hidden. NCES also listened for auditory responses (rattling) in conjunction with the visual and cover object survey techniques.

During the Spring 2015 field surveys, NCES located two (2) individual Timber Rattlesnakes in the Talus slope found along the top of the ridge extending parallel with the southern property boundary. One of these snakes was found during the first survey conducted on June 3, 2015 and the second snake was found on the survey conducted on June 10, 2015. The snakes were found within one of the suitable basking areas identified by NCES during prior surveys. Based on the GPS location of where the snakes were found, it has been determined that they were located near the eastern property line. One snake was found to lie 80± feet from the eastern property boundary and the other was approximately 100± feet from the same property boundary. These locations are greater than 0.5 miles (3,000'±) from the proposed development.

The presence of two individual snakes confirms the information provided by the DEC and it documents the talus slope community (contained along the summit of Schunnemunk Mountain and outside of the areas proposed for development) is viable and occupied habitat. The talus slope provides the most optimal basking and shedding habitat and the immediately adjacent forested uplands provide suitable foraging habitat for Timber Rattlesnakes.

Given that NCES confirmed the presence of Rattlesnakes within the suitable habitats located along the talus slope communities during the first two Spring surveys (6/03 and 6/10/15), during the final three surveys (6/11, 6/24, and 7/08/15) NCES focused the review to the areas of the proposed development. NCES searched the successional woodlands, open fields, and wetland areas that are located within the proposed development envelope. During these reviews, no Timber Rattlesnakes were found in the areas that were surveyed.

3.2-2c Bog Turtle Phase 1 Habitat Assessment:

NCES completed the assessment for potential Bog Turtle habitat following the guidelines presented in *Guidelines for Bog Turtle Surveys* (last revised April 2006) contained within the U.S. Fish and Wildlife Services "Bog Turtle Northern Population Recovery Plan" (Klemens, 2001) (the "BTNPRP"). According to the BTNPRP, potential and suitable habitat for Bog Turtles includes Palustrine emergent or scrub-shrub wetlands that contain a relatively open canopy, and the following three criteria:

1) Suitable hydrology – characterized as "…Typically spring fed with shallow surface water or saturated soils present year round…", "interspersed with dry and wet pockets…", "…sub-surface flow", and "…shallow rivulets (less than 4 inches deep) or pseudo rivulets are often present."

2) Suitable soils – characterized as "… a bottom substrate of permanently saturated organic or mineral soils." "These are often soft, mucky-like soils; you will usually sink to your ankles (3-5 inches) or deeper in muck, although in degraded wetlands or summers of dry years this may be limited to areas near spring heads or drainage ditches." "In some portions of the species range, the soft substrate consists of scattered pockets of peat instead of muck."

3) Suitable vegetation – characterized as "dominant vegetation of low grasses and sedges (in emergent wetlands), often with a scrub shrub component." "Common emergent vegetation includes, but is not limited to tussock sedge (*Carex stricta*), soft rush (*Juncus effusus*), rice cut grass (*Leersia oryzoides*), sensitive fern (*Onoclea sensibilis*), tearthumb (*Polygonum* spp.), jewelweed (*Impatiens capensis*), arrowheads (*Sagittaria* spp.), skunk cabbage (*Symplocarpus foetidus*), panic grasses (*Panicum* spp.), other sedges (*Carex* spp.), spike rushes (*Eleocharis* spp.), grass-of-Parnassus (*Parnassia glauca*), shrubby cinquefoil (*Dasiphora fruticosa*), sweet flag (*Acorus calamus*), and in disturbed sites, reed canary grass (*Phalaris arundinacea*) and purple loosestrife (*Lythrum salicaria*)." Common scrub-shrub species include alder (*Alnus* spp.), red maple (*Acer rubrum*), willow (*Salix* spp), tamarack (*Larix laricina*), and in disturbed sites, multiflora rose (*Rosa multiflora*). "Some forested wetland habitats are suitable given hydrology, soils, and/or historic land use. These include red maple, tamarack, and cedar swamps."

During the assessment, NCES traversed the Site and reviewed the on-site wetlands. NCES also reviewed off-site contiguous wetlands that immediately border the Site.

The soils within the wetlands are comprised of dense mineral soils and clay loams that are not associated with suitable Bog turtle habitat. The mineral soils do not allow for suitable burrowing or foraging activities that are required by Bog Turtles. During summer months, these wetlands typically dry and soils become hard. The vegetation identified within the wetlands, was dominated by taller, extremely dense and invasive emergent vegetation such as common reed, purple loosestrife, joe-pye weed and various goldenrods. This type of density can prohibit the general movement, basking and nesting opportunities for Bog turtles.

The main sources of hydrology within the wetlands occur from direct precipitation and surface water runoff. Precipitation events directly influence the wetlands when storms are received. The runoff from the adjacent, steeper uplands contribute the most to the overall hydrological regime of the wetlands. Many ephemeral and intermittent drainages extend along the slopes associated with Schunnemunk Mountain and lead directly into the wetlands within the Site.

Based on the Phase 1 Survey, it was determined by NCES that no portions of the wetlands reviewed exhibit the key characteristics of potential habitat for Bog turtles. The on-site wetlands lack soft "mucky" organic soils; suitable, low lying vegetation: and shallow, spring fed, slow moving water. The wetlands reviewed are surface water derived, have been manipulated by historical agricultural activities and are subject to fluctuating water levels, which is dependant upon the duration and intensity of precipitation events received.

Given the lack of suitable soils, vegetation and hydrology, it is highly unlikely that Bog Turtles would be present and/or have historically utilized the wetland complex found on the Site.

3.2-3d Dwarf Wedge Mussel Habitat Assessment:

The Dwarf Wedge Mussel is listed as an endangered species by the USFWS and the DEC. The Dwarf Wedge Mussel is a species of mollusk that inhabits freshwater areas and it can be found in small creeks and/or large deep rivers (Gabriel 1995). These bivalves are typically located in stable streams/habitats that possess substrates ranging from mixed sand, pebbles, gravel, and or clay (Nedeau, 2006). In the southern portion of its range, these mussels may be imbedded in substrates under logs or root masses (Moser, 1993) and are known to burrow into firmer sand, gravel, or cobble substrates in the northern extremes of their range (Fichtel and Smith 1995). Typical habitat also possesses permanent running water where stream currents/velocities are usually slow to moderate (USFWS, 2004).

The only known populations of these mussels, within New York State, exists within a 10 mile stretch of the Neversink River and portions of the Lower Delaware River system (DEC Fact Sheet, 2008). This population of Dwarf Wedge Mussels was identified in the 1990 as a result of ecological study being undertaken for the Natural Heritage Program (USFWS, 1993). Historically, the Dwarf Wedge Mussel was known to inhabit much of the Delaware River Basin (USFWS, 2004).

During the review NCES searched the Site for the presence of suitable habitat for Dwarf Wedge Mussels. As a result, it was determined that no potential habitat conducive to the existence of Dwarf Wedge Mussels exists at the Site. No river systems are found within or immediately adjacent to the Site and therefore no Dwarf Wedge Mussels would be found on the property.

3.2-2e Small-whorled Pogonia Assessment

Small-whorled Pogonia is a perennial wildflower that possesses 1 or 2 yellowish flowers found on a stem that rises above a whorl of 5 or 6 green leaves (Niering and Olmstead, 1979). This plant is a member of the Orchid family (Britton and Brown, 1970). Small whorled Pogonia grows to a height of only 4 to 10 inches (Niering and Olmstead, 1979). Small-whorled Pogonia is typically found in moist woods and flowers in May-July (Newcomb, 1977).

While this plant typically blooms in mid-June (Britton and Brown, 1970), the plant possesses a seed stalk and capsule, which are identifiable until seed dispersal in mid October (Mass, ESP, 1993). Based upon the existing conditions observed, the Site does contain suitable habitat that is typically associated with Small Whorled Pogonia. During the site assessment, no Small-whorled Pogonia plants were identified.

3.2-2f Slender Pinweed Assessment

Slender Pinweed is a perennial wildflower that typically occupies open, grassy communities, in dry conditions (NYNHP, 2015). Ecological community types associated with this species include natural or disturbed open habitats such as successional old fields, rocky summits, pine and oak barrens and mowed roadsides and pathways. According to the Natural Heritage program, in New York, populations are threatened most by improper maintenance of roadsides and natural succession.

Slender Pinweed plants flower during August and September (Britton and Brown, 1970) and the flowers are arranged in a cluster (panicle) at the top plant (Niering and Olmstead, 1979). Leaves are which are long and narrow in shape (NYNHP, 2015). The flower stalks open inconspicuously and the plant produces fruits, which are the primary means of proper identification of the species (Britton and Brown, (1970). The fruiting period of the plant is defined as being between late August and mid November (NYNHP, 2015).

During the reviews, NCES identified habitats on the property that are conducive to the existence of the species. These communities include the open areas in the talus slope woodlands and adjacent summit of Schunnemunk Mountain, the successional old fields associated with the previous golf resort and the grassy roadways and ATV trails that extend through the property. However, during the site reviews, no Slender Pinweed plants were identified by NCES.

3.2-2g Virginia Snakeroot Assessment

Virginia Snakeroot is a perennial wildflower that inhabits a range of well-drained habitats in New York State. Specifically, the species is most commonly associated with well-drained wooded hillsides, talus slopes found in upland forest communities and other open, moist woodlands (NYNHP, 2015). Associated ecological communities include Appalachian oak-Hickory Forest, Chestnut-Oak Forest, Oak-Tulip Tree Forest and Rich Mesophytic Forest.

Virginia Snakeroot is a plant that possesses unique features that make it distinguishable fro other plant species. Specifically the plant possesses small arrow shaped leaves (Britton and Brown, 1970) that are positioned in an alternate pattern along a central stem, which may be erect above the surface of the ground or not erect, and laying on the surface of the ground (NYNHP, 2015). The plant flowers during late May through early August (Niering and Olmstead, 1979) and possesses small, short purple flower tubes (NYNHP, 2015). The flowers can be inconspicuous, as they are often covered by leaf litter (NYNHP, 2015). After flowering, the plant produces small fruits, which are evident from mid June though late October.

During the ecological reviews, NCES identified habitats that are conducive to the existence of the species. These habitats include the Chestnut Oak and Oak-Tulip tree forest communities that are located within the southeastern portion of the Site. However, during the reviews, NCES did not locate any individual Virginia Snakeroot plants.

3.2-2h Drummonds Rock Cress and Green Rock Cress Assessment

Both the Drummonds Rock Cress and Green Rock Cress are perennial herbaceous plants that inhabit dry rocky woodlands and cliff communities. Both species rely on tap roots, which extend between rock crevices to obtain required nutrients for growth (Britton and Brown, 1970). Drummonds Rock Cress is most often located along rocky cliffs, rock ledges, steep ravines, although it has been reported along trails and sandy roadsides (NYNHP, 2015). Associated ecological communities include Calcareous cliff communities, Shale cliff and Talus communities and Talus slope woodlands (NYNHP, 2015). Green Rock Cress is typically found in open, rocky upland habitats such as cliffs, ledges, talus slope communities. Associated ecological communities include Appalachian Oak Hickory Forest, Hemlock, Northern Hardwood Forest, Limestone woodlands, White Cedar rocky Summits, Shale Cliff and Talus Community, Acidic Talus slope woodland, and Calcareous talus slope woodland.

Drummonds Rock Cress is characterized by a series of basal leaves, which form a rosette at the top of the taproot (NYNHP, 2015). A single stalk extends from the basal leaves and which possesses the flowers. The flowers are small, white and possess 4 petals (Niering and Olmstead, 1979). The flowering period for Drummond Rock Cress is May through July (NYNHP, 2015). After the flowering period ends, elongated fruits (seed ponds) form holding two distinct rows of seeds (NYNHP, 2015). It is during the flowering and fruiting period that the species is most easily recognizable.

Green Rock Cress is identified by pubescent basal leaves, which form a rosette at the top of the tap root (NYNHP, 2015). Like the Drummonds Rock Cress, a single stalk emerges from the center of the rosette of basal leaves and it is 8-12 inches tall and also possesses small white flowers (Niering and Olmstead, 1979). The flowering period for Green Rock Cress is May through August (NYNHP, 2015). The flowers possess 4 distinct petals (NYNHP, 2015). Once the flowering period is over an elongated seed pod forms and the seed pods are 2 to 3 inches in length. The best time to identify this species is during July, when both flowers and seed pods may be present (NYNHP, 2015).

During the ecological reviews, NCES identified habitats that are conducive to the existence of the species. These habitats include the Chestnut Oak and Ok-Tulip tree forest communities that are located within the southeastern portion of the Site. However, during the reviews, NCES did not locate any individual Virginia Snakeroot plants.

3.2-2i Woodland Agrimony Assessment

According to the Natural Heritage program, Woodland Agrimony is a perennial wildflower that is typically found in rich upland forests, forested slopes located near streams, dry oak woods, shrub thickets and other areas that are wooded and possess calcareous soils. Associated ecological communities include Appalachian Oak Hickory Forests, Hemlock-Northern hardwood Forests, Limestone woodlands, Maple-Basswood Rich Mesic Forests, Beech Maple Mesic Forests, Rich Mesophytic forests, Silver Maple-Ash Swamps and Successional Red Cedar Woodlands (NYNHP, 2015).

Woodland Agrimony plants are typically 1 to 3 feet tall and possess a single stalk where compound leaves extend off of (NYNHP, 2015). Each leaflet possesses 3 to 9 leaflets, which are toothed and oblong; narrowest at the base and widening toward the tip (Britton and Brown, 1970). Woodland Agrimony generates separate flowering and fruiting stems upon which flowers generate, then turning to bell-shaped fruit containing bristles that aid in seed distribution (Niering and Olmstead, 1979). The flowering period extends between mid-June though September and the fruiting period is between mid July and mid

October (NYNHP, 2015). The best time to identify this species is during July through September, when both flowers and fruits may be present (NYNHP, 2015).

During the ecological reviews, NCES identified habitats that are conducive to the existence of the species. These habitats include the Chestnut Oak and Oak-Tulip tree forest communities that are located within the southeastern portion of the Site. However, during the reviews, NCES did not locate any individual Virginia Snakeroot plants.

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Appendix A

Consultant Resumes

NORTH COUNTRY
ECOLOGICAL SERVICES, INC.

Stephen P. George, PWS & President

Education

B.A. - Environmental Science, Wildlife Management - 1983-1985, SUNY Plattsburgh, *Plattsburgh, NY*
A.A.S. - Natural Resources Conservation/Ecology – 1980 – 1982, SUNY Morrisville, *Morrisville, NY*

Experience

Mr. George possesses a wide range of experience in the fields of Ecology, Biology and Wetland Science. As the President and Senior Ecologist of North Country Ecological Services, Inc., Mr. George is responsible for: completing delineations of state and federal wetlands; compiling endangered and threatened species reports; completing habitat assessments and species inventories for flora and fauna; Environmental Impact Statement preparation; wetland mitigation design, construction, and monitoring; and, the preparation/finalization of reports and permit applications for submission to clients and regulatory agencies.

Work Experience

President & Senior Ecologist

1994–Present North Country Ecological Services, Inc. Johnstown, NY

Responsible for planning, execution, and completion of detailed technical reports for ecological studies including regulatory and legal issues. Also responsible for the preparation and execution of Environmental Impact Statements; habitat inventories; federal and state wetland delineations; wetland mitigation design, planting and wetland mitigation monitoring; wetland permit applications; endangered species evaluations; wildlife management plans; stormwater and erosion control plans; and, water quality monitoring.

Environmental Analyst/Ecologist

1989–1994 Smith & Mahoney, P.C. Albany, NY

Managed the development and co-authored Environmental Impact Statements for private, municipal, and commercial developments. Projects included residential housing developments, transfer stations, landfills, shopping malls, and industrial facilities. Supervised and conducted ecological studies and impact assessments of aquatic and terrestrial communities. Responsible for the preparation of federal and state wetland delineations, reports, mitigation, and the necessary permits for the clients. Assisted in the landfill siting process for the Saratoga County and the Montgomery-Otsego-Schoharie County Solid Waste Management Authority. Assisted in hazardous waste remediation projects. Duties also included assisting survey department, construction inspection and monitoring, water quality analysis and monitoring, and methane gas monitoring at landfills.

Engineering Technician/Environmental Analyst
1986-1989 Phillip Clark Engineers and Associates, P.C. Newburgh, NY

Prepared Environmental Impact Statements, assisted the survey crew, and conducted environmental analysis. Resident Engineer and Construction Inspector on the Harriman and Middletown WWTF construction projects. Resident Engineer for several potable water, municipal sewer main projects, water tower installation, and roadway construction. Experience includes pipeline and building layout, directional boring, concrete testing, pressurized and gravity water main testing, and as-built documentation.

Specific Endangered & Threatened Species Experience

- Karner Blue Butterfly evaluations, Timber Rattlesnake field investigations, Bog Turtle Phase 1 and 2 Studies, Indiana Bat and Northern Long-eared Bat habitat evaluations.

Additional Training

- ACOE Regulatory IV Course - Jurisdictional Wetland Delineation
- National Institute for Certification of Engineering Technologies – Highway Construction, Level II
- OSHA – 40 Hour Health and Safety at Hazardous Materials Sites
- Rutgers College – Freshwater Wetland Construction
- Rutgers College – Endangered and Threatened Species of Southern NJ
- Bat Study Techniques Workshop – Hands on training in mist netting and other capture techniques and bat species identification, handling, marking and ecology
- Volunteer to Environmental Defense / Jason Tesauro – Conducted Bog Turtle Surveys in Columbia and Dutchess Counties, New York.
- USFWS – Wallkill River National Wildlife Refuge, New Jersey. Assisted with radio telemetry survey of Bog Turtles.

Special Licenses

- NYSDEC – Nuisance Wildlife Control Operations
- NYSDEC – License to Collect and Possess
- NYSDEC Sportsman's Education Instructor (firearm, archery, trapping, waterfowl identification)
- USGC - Captain

Affiliations

- Society of Wetland Scientists
- NYS Wetland Forum, Co-Founder, Former Board Member
- National Audubon Society Member
- Corporate Wetlands Restoration Partnership NYS Chapter Member
- National Bowhunter Education Foundation, Board Member
- NYSDEC Wilderness Search & Rescue (Team 5-1) Member

Publications

- Wildlife Society Bulletin, Volume 15, No. 2, Summer 1987 – Evaluation of Site Variables Affecting Nest Box Use by Wood Ducks.

NORTH COUNTRY
ECOLOGICAL SERVICES, INC.

Thomas M. Ward, Vice President – Ecologist

Education

1996-2000 SUNY Cobleskill *Cobleskill, NY*

- B.T. Animal Science - Wildlife Management
- A.A.S. Animal Science - Fisheries & Wildlife Technologies

Experience

Mr. Ward possesses hands-on experience in the fields of Ecology, Biology and Wetland/Environmental Science. As Vice President and Ecologist, Mr. Ward works directly with all clients, municipalities, regulatory agencies and other professionals to identify, assess and overcome environmental requirements needed to develop project sites. Some of these requirements include: federal and state wetland boundary delineations; assessment of wetland function and values; assessment of wetland and biological/ecological impacts; completion of endangered/threatened species surveys, completion of wildlife inventories; conducting ecological habitat reviews/assessments; and, compilation of technical reports, permit applications and formal mitigation plans.

Work Experience

Vice President - Ecologist / Biologist

9/2000–Present North Country Ecological Services, Inc. *Johnstown, NY*

Responsible for the planning, execution and completion of detailed site assessments and technical reports for ecological studies and permitting processes. Also responsible for the preparation of Environmental Impact Statements; Federal and State wetland delineations and reports; flora/fauna and habitat inventories; preparation of state and federal wetland permit applications; wetland mitigation design, planting and monitoring; endangered/threatened species evaluations and reports; tree surveys; and, wildlife management plans. Also responsible for consultation with private clients and Federal/State/Municipal agencies regarding environmental issues and regulation.

Wetland Specialist

8/1999–9/2000 NYS Department of Environmental Conservation *Albany, NY*

Responsible for contacting landowners in Saratoga County and conducting delineations of state regulated wetlands, answering related questions on DEC regulations, informing individual landowners on wetland conservation, and making DEC Article 24 wetland map amendments. Also provided with landowners with Article 24 permit applications and requirement guidelines. Assited Regional Biologists with Article 24 and Article 15 permits. Coordinated delineation efforts between regional and central DEC offices.

Wildlife Coordinator

Seasonal-1999 Birdsong Farm *Delhi, NY*

Responsible for establishing a working Pheasant brooding and release program on the property. Other duties included; building/erecting bluebird houses and wood duck nest boxes, constructing hiking trails, and managing habitat for deer, turkey and pheasants. Initiated a wildlife management plan for the working farm.

Specific Endangered & Threatened Species Experience

- ***Bog Turtle:***
  - Phase 1 Habitat Evaluations and Assessments
  - Phase 2 Presence/Absence Surveys
  - Assisted in Phase 3 Trapping Survey
  - Assisted in Radio-Telemetry Survey
- ***Timber Rattlesnake:***
  - Specific Habitat Evaluations and Assessments
  - Presence/Absence Surveys – Visual Encounter Method
- ***Karner Blue Butterfly and Frosted Elfin:***
  - Specific Habitat Evaluations and Assessments
  - Blue Lupine and nectar source Surveys
  - Presence/Absence Surveys – Visual Encounter Method
- ***Indiana Bat and Northern Long-eared Bat:***
  - Specific Habitat Evaluations and Assessments
- ***Northern Cricket Frog:***
  - Specific Habitat Evaluations and Assessments
  - Presence/Absence Surveys – Visual Encounter and Call/Response Methods
- ***Dwarf Wedge Mussel:***
  - Specific Habitat Evaluations and Assessments

Additional Training

- Rutgers College – Freshwater Wetland Construction
- Rutgers College – Endangered & Threatened Species of Southern NJ
- Bat Study Techniques Workshop – Hands on training in mist-netting and other capture techniques and bat species identification, handling, marking, and ecology
- USFWS – WallKill River National Wildlife Refuge, New Jersey. Assisted with radio telemetry survey of Bog Turtles.
- Hudsonia Reptile/Amphibian Survey Methods Workshop – Hands on Training in various methods to survey species of Amphibians and Reptiles
- Volunteer to Environmental Defense / Jason Tesauro – conducted Bog Turtle Surveys in Columbia and Dutchess Counties, New York.

Special Licenses

- NYSDEC – Nuisance Beaver Training Snare Workshop Certificate
- NYSDEC – Statewide Annual Hunting and Trapping License
- NYSDEC – Nuisance Wildlife Control Operations
- NYSDEC – License to Collect and Possess

Affiliations

- New York State Wetlands Forum, Inc. - Member
- Corporate Wetlands Restoration Partnership – NYS Chapter Secretary
- Quality Deer Management Association – NYS Chapter Member

Appendix B

Correspondences with USFWS and DEC Natural Heritage Office

U.S. Fish and Wildlife Service

Trust Resources List

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

New York Ecological Services Field Office
3817 LUKER ROAD
CORTLAND, NY 13045
(607) 753-9334
http://www.fws.gov/northeast/nyfo/es/section7.htm

Project Name:

Clovewood T&E

Trust Resources List

Project Location Map:

Project Counties:

Orange, NY

U.S. Fish and Wildlife Service

Trust Resources List

Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):

MULTIPOLYGON (((-74.1630396 41.3902959, -74.160469 41.3884961, -74.1587524 41.3888181, -74.1584949 41.3893976, -74.1559157 41.3889436, -74.1541175 41.3869506, -74.1534309 41.3865642, -74.1519718 41.3860491, -74.1501693 41.3851475, -74.1501693 41.3843747, -74.1497402 41.3837952, -74.150856 41.3787719, -74.1476802 41.3749719, -74.1545467 41.3718159, -74.1564349 41.3720736, -74.1649279 41.3651137, -74.1658763 41.3656966, -74.1637306 41.3675647, -74.1671595 41.3726532, -74.1697344 41.3745855, -74.17703 41.3703345, -74.1807207 41.3734262, -74.1801199 41.3736838, -74.1778883 41.3722024, -74.1768584 41.3729109, -74.17703 41.3739414, -74.1790041 41.3752296, -74.1778025 41.3760025, -74.1762575 41.3768397, -74.1750559 41.3760669, -74.173511 41.3771618, -74.1744551 41.3778702, -74.1735968 41.3789007, -74.1728243 41.378321, -74.1721377 41.3795447, -74.1711077 41.3801243, -74.1722235 41.3808328, -74.1711935 41.3818632, -74.1710219 41.3825716, -74.1708502 41.3830868, -74.1705927 41.3840527, -74.1705069 41.3848899, -74.1695627 41.3856627, -74.1682753 41.3864354, -74.1656145 41.3878521, -74.1647562 41.3884317, -74.1630396 41.3902959)))

Project Type:

Development

Endangered Species Act Species List (USFWS Endangered Species Program).

There are a total of 5 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fishes may appear on the species list because a project could cause downstream effects on the species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section below for critical habitat that lies within your project area. Please contact the designated FWS office if you have questions.

Species that should be considered in an effects analysis for your project:

Clams	Status		Has Critical Habitat	Contact
Dwarf wedgemussel (*Alasmidonta heterodon*) Population: Entire	Endangered	species info		New York Ecological Services Field Office
Flowering Plants				
Small Whorled pogonia (*Isotria medeoloides*)	Threatened	species info		New York Ecological Services Field Office
Mammals				

Indiana bat (*Myotis sodalis*) Population: Entire	Endangered	species info		New York Ecological Services Field Office
northern long-eared Bat (*Myotis septentrionalis*) Population:	Proposed Endangered	species info		New York Ecological Services Field Office
Reptiles				
Bog Turtle (*Clemmys muhlenbergii*) Population: northern	Threatened	species info		New York Ecological Services Field Office

Critical habitats within your project area:

There are no critical habitats within your project area.

FWS National Wildlife Refuges (USFWS National Wildlife Refuges Program).

There are no refuges found within the vicinity of your project.

FWS Migratory Birds (USFWS Migratory Bird Program).

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. For more information regarding these Acts see http://www.fws.gov/migratorybirds/RegulationsandPolicies.html.

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html.

Migratory birds of concern that may be affected by your project:
There are **10** birds on your Migratory birds of concern list. The Division of Migratory Bird Management is in the process of populating migratory bird data with an estimated completion time of Fall 2014; therefore, the list below may not include all the migratory birds of concern in your project area at this time. While this information is being populated, please contact the Field Office for information about migratory birds in your project area.

Species Name	Bird of Conservation Concern (BCC)	Species Profile	Seasonal Occurrence in Project Area
American bittern (*Botaurus lentiginosus*)	Yes	species info	Breeding
Bald eagle (*Haliaeetus leucocephalus*)	Yes	species info	Year-round
Black-billed Cuckoo (*Coccyzus erythropthalmus*)	Yes	species info	Breeding
Canada Warbler (*Wilsonia canadensis*)	Yes	species info	Breeding
Golden-Winged Warbler (*Vermivora chrysoptera*)	Yes	species info	Breeding
Least Bittern (*Ixobrychus exilis*)	Yes	species info	Breeding
Purple Sandpiper (*Calidris maritima*)	Yes	species info	Wintering
Rusty Blackbird (*Euphagus carolinus*)	Yes	species info	Wintering
Wood Thrush (*Hylocichla mustelina*)	Yes	species info	Breeding
Worm eating Warbler (*Helmitheros vermivorum*)	Yes	species info	Breeding

NWI Wetlands (USFWS National Wetlands Inventory).

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

Data Limitations, Exclusions and Precautions

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Exclusions - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Precautions - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

The following wetland types intersect your project area in one or more locations:

Wetland Types	NWI Classification Code	Total Acres
Freshwater Emergent Wetland	PEM1F	1.2063
Freshwater Emergent Wetland	PEM1B	0.3377
Freshwater Emergent Wetland	PEM1Ex	0.5031
Freshwater Forested/Shrub Wetland	PSS1C	1.0222
Freshwater Forested/Shrub Wetland	PFO1E	3.2486
Freshwater Pond	PUBHh	0.9388
Freshwater Pond	PUBHx	0.336

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

Joe Martens
Commissioner

March 20, 2014

Robert G. Torgersen
Robert G. Torgersen, LA, CPESC
Three Main Drive
Nanuet, NY 10954

Re: Clovewood Development
Town/City: Blooming Grove. County: Orange.

Dear Robert G. Torgersen :

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

120

The following state-listed animals have been documented at your project site, or in its vicinity.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing. The list may also include significant natural communities that can serve as habitat for Endangered or Threatened animals, and/or other rare animals and rare plants found at these habitats.

For information about potential impacts of your project on these populations, how to avoid, minimize, or mitigate any impacts, and any permit considerations, contact the Wildlife Manager or the Fisheries Manager at the NYSDEC Regional Office for the region where the project is located. A listing of Regional Offices is at http://www.dec.ny.gov/about/558.html.

**The following species and habitats have been documented at or near the project site.
Potential onsite and offsite impacts from the project may need to be addressed.**

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Animal Assemblages				
Bat Colony (The northern long-eared bat was found at this colony within 1 mile of the project site.) *Hibernaculum*				2983
Reptiles				
Timber Rattlesnake (0.5 mi) *basking/shedding area*	*Crotalus horridus*	Threatened		13559

The following species have been documented within 1.5 mi. Individual animals may travel 1.5 mi from documented locations.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Reptiles				
Timber Rattlesnake *hibernaculum*	*Crotalus horridus*	Threatened		9682

The following species have been documented within 2.5 mi. Individual animals may travel 2.5 mi from documented locations.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Mammals				
Indiana Bat *Hibernaculum*	*Myotis sodalis*	Endangered	Endangered	12787

This report only includes records from the NY Natural Heritage databases. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at http://www.dec.ny.gov/animals/7494.html.

Information about many of the rare plants and animals, and natural community types, in New York are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NatureServe Explorer at http://www.natureserve.org/explorer.

New York Natural Heritage Program

Report on Rare Animals, Rare Plants, and
Significant Natural Communities

The following rare plants, rare animals, and significant natural communities have been documented at your project site, or in its vicinity.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following significant natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. They are either occurrences of a community type that is rare in the state, or a high quality example of a more common community type. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

COMMON NAME *SCIENTIFIC NAME* *NY STATE LISTING* *HERITAGE CONSERVATION STATUS*

Upland/Terrestrial Communities

Chestnut Oak Forest High Quality Occurrence

Schunnemunk Mountain State Park: The forest is moderately large and in good condition with excellent physiognomic diversity located in a protected area within a larger landscape that is being developed rapidly. 4524

The following plants are listed as Endangered or Threatened by New York State, and/or are considered rare by the New York Natural Heritage Program, and so are a vulnerable natural resource of conservation concern.

COMMON NAME *SCIENTIFIC NAME* *NY STATE LISTING* *HERITAGE CONSERVATION STATUS*

Vascular Plants

Slender Pinweed *Lechea tenuifolia* Threatened Imperiled in NYS

Round Hill Blooming Grove, 2002-08-21: An open, exposed rock outcrop on a southwest-facing slope. The surrounding area is forested with Juniperus virginiana, Quercus montana, Quercus rubra, and Carya glabra. 1252

Virginia Snakeroot *Endodeca serpentaria* Threatened Imperiled in NYS

Round Hill Blooming Grove, 2002-08-21: This SSW-facing slope is on a ridge that is dominated by Carya glabra, Quercus rubra, and Acer saccharum. Elymus hystrix is abundant in the area. Alliaria petiolata is present. 1100

Drummond's Rock-cress *Boechera stricta* Threatened Imperiled in NYS

Round Hill Blooming Grove, 2002-08-21: The plants are growing on rock outcrops that create an almost vertical face. 1234

Woodland Agrimony *Agrimonia rostellata* Threatened Imperiled in NYS

Round Hill Blooming Grove, 2002-08-21: A rocky forest dominated by Carya glabra and Acer saccharum. 10000

Green Rock-cress	*Boechera missouriensis*	Threatened	Imperiled in NYS

Schunnemunk Mountain, 2002-06-05: The plants occur near the ridge of Schunnemunk Mountain above the steep sided mountain slopes. The area is an oak-hickory forest adjacent to a more open oak-heath rocky summit community with Quercus ilicifolia and Quercus prinoides. Plants in the generalvicinity include Carya glabra, Quercus rubra, Deschampsia flexuosa, Antennaria plantaginifolia, Asplenium platyneuron, Panicum dichotomum, Andropogon gerardii, Quercus montana, Paronychia canadensis, Chenopodium sp., Polygonum scandens, Dryopteris marginlis, Panicum latifolium, Heuchera americana, Viburnum rafinesquianum, Ribes sp., Crataegus cf. pedicellata, and Vaccinium stamineum. 10779

This report only includes records from the NY Natural Heritage databases. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at http://www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to http://www.dec.ny.gov/animals/29384.html and click on Draft Ecological Communities of New York State.

Appendix C

Site Photographs

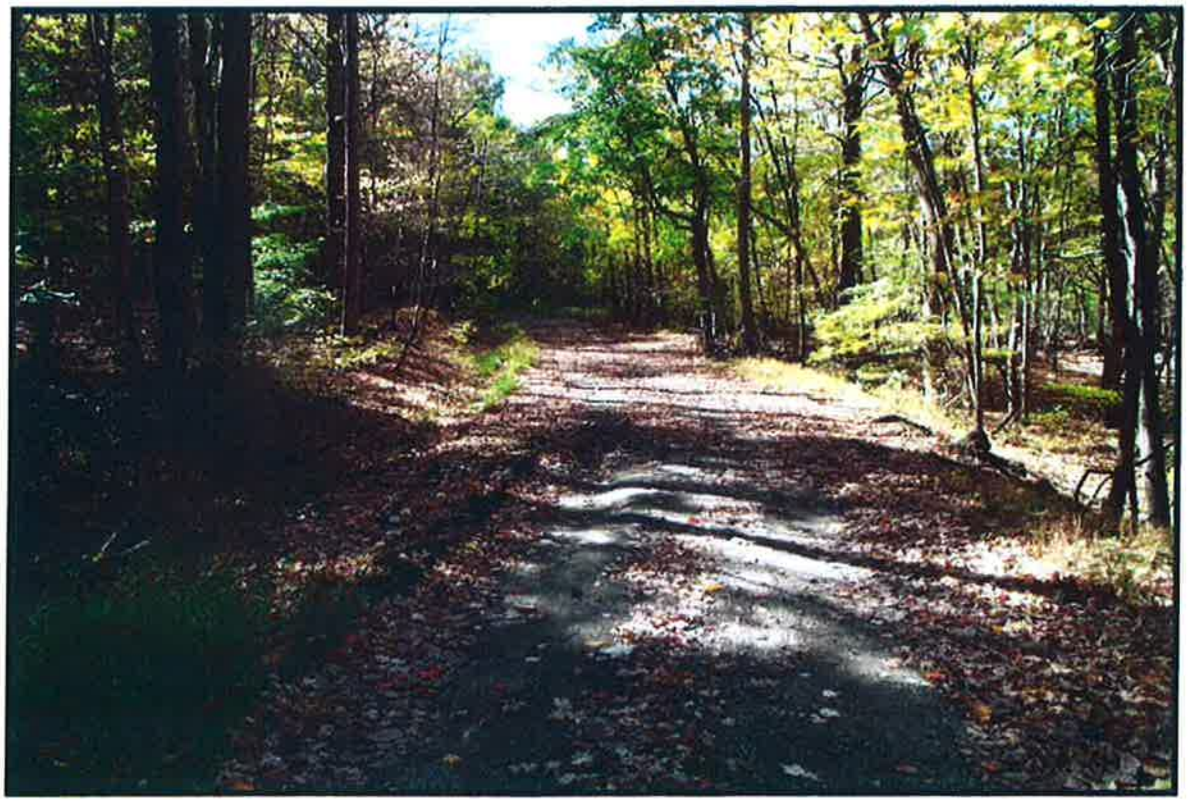
Photograph 1) View of one of the ponds that are found in the northern portion of the property and near Clove Road.

Photograph 2) View of the typical open/fallow field that is found in the northwestern most portion of the property.

Photograph 3) View of a cattail marsh found in the northwest portion of the property.

Photograph 4) View of the open/fallow upland field. Clove Road is visible in the background.

Photograph 5) View of an upland field dominated by knapweed. This field was part of the former golf course fairway.



Photograph 6) View one of the many roads that are found throughout the property.

Photograph 7) View of an upland field that was part of the former golf course's fairways.

Photograph 8) View of an open upland field that was part of the former golf course.

Photograph 9) View of an upland field that is found in the northwest corner of the property.

Photograph 10) View of a site typical upland field and wooded uplands.

Photograph 11) View of an emergent wetland that is found in an open field.

Photograph 12) View of the upland hardwood forest that is found in the western corner of the property.

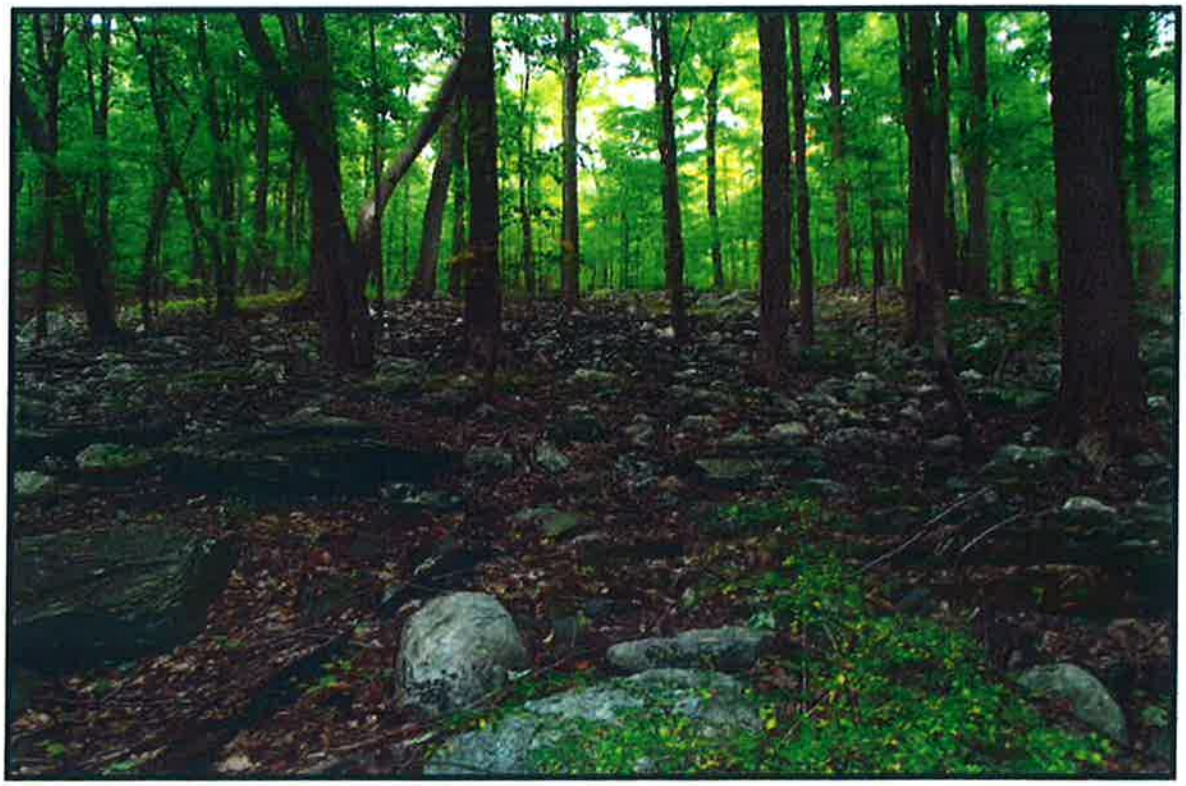
Photograph 13) View of upland open hardwood forest that is found near the center of the property.

Photograph 14) View a rocky drainage and uplands. The drainage flows northward from the higher elevations in the southern end of the property.

Photograph 15) View of open hardwoods that are typical throughout the central portion of the property.

Photograph 16) View open hardwoods that are found along the eastern property line.

Photograph 17) View looking north at an open field and hardwoods that are found along the properties eastern boundary.



Photograph 18) View of the rocky hardwood forest that is found throughout the central and southern extant of the property.

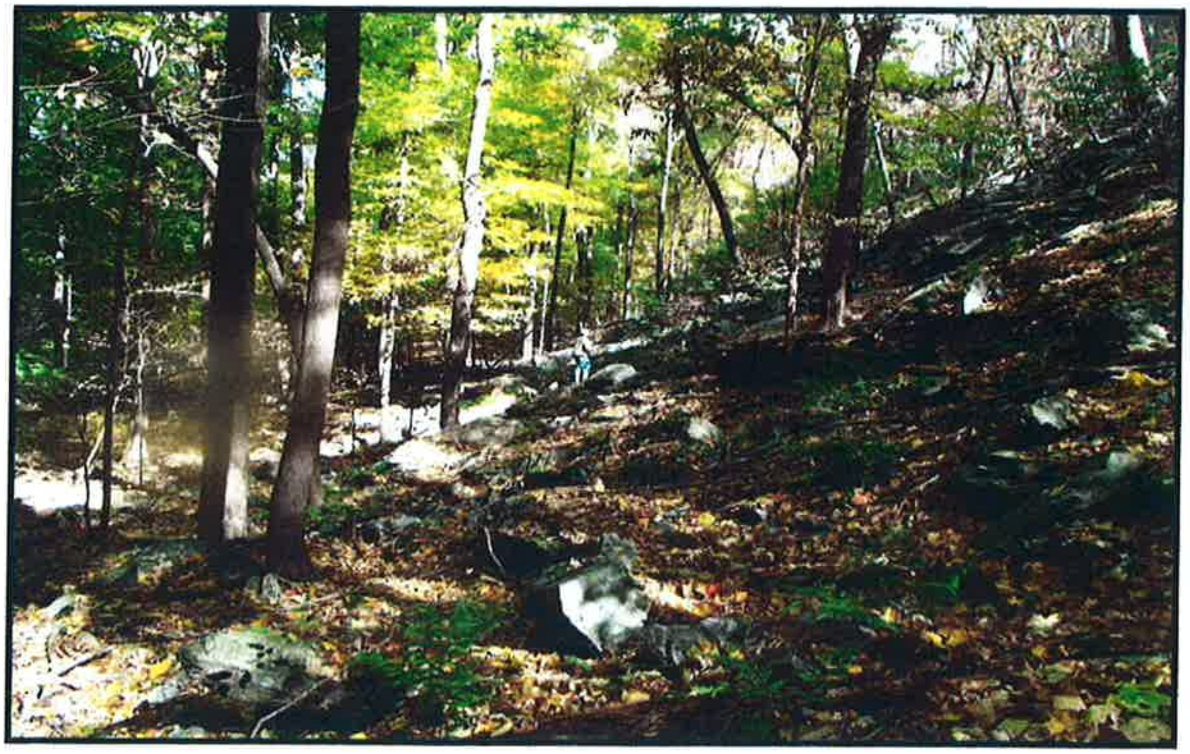
Photograph 19) View of one of the many roads that traverse the properties hardwood forest.

Photograph 20) Slimy salamander that was found in one of the rocky intermittent drainages.

Photograph 21) View of a two-lined salamander that was found in one of the drainages near the center of the property.

Photograph 22) View of a rock wall that was found in the southwest portion of the property. Many stonewalls were noted throughout the property during the various field reviews.

Photograph 23) View of another very typical stone wall on the property.



Photograph 24) View of rocky talus slope that is found in the southern end of the property. This habitat was the main focus of the Timber rattlesnake survey.

Photograph 25) View the trail at the top of the mountain in the Chestnut Oak forest.

Photograph 26) View of the structure of the Chestnut Oak forest community type that is found within the higher elevations found at the southern end of the property.

Photograph 27) View of typical structure of the Chestnut Oak forest community type.

Photograph 28) View of ledges that were encountered within the higher elevations of the southern portion of the property.

Photograph 29) View of the Chestnut Oak forest and rocky structure that was typically found within the southern portion of the property.

Photograph 30) View looking north from the summit of the mountain along the southern property line.

Photograph 31) View of the typical structure of the Chestnut Oak forest that is found at the upper elevations of the property.

Photograph 32) View looking northeast from the summit of the mountain.

Photograph 33) View of talus slope.

Photograph 34) View of a talus slope and potential basking area.

Appendix D

Observed Species List

Observed Flora & Fauna Species List
Clovewood Property

This species inventory lists only the species of flora and fauna that were observed and identified during the 2014 and 2015 site visits associated with the formal endangered/threatened species investigations that were conducted on the property. Most species were identified visually or by vocalization. Species denoted with * indicates that the species were identified by tracks, scat or physical remains confirmed during the site visits.

Fauna

Mammals:

Common Name	Scientific Name
Shorttail Shrew	*Blarina brevicaudata*
Eastern Coyote*	*Canis latrans*
Opossum*	*Didelphis marsupialis*
Woodchuck	*Marmota monax*
Meadow Vole	*Microtus pennsylvanicus*
Mink*	*Mustela vison*
White-tailed Deer	*Odocoileus virginiana*
Deer Mouse	*Peromyscus maniculatus*
Raccoon*	*Procyon lotor*
Eastern Gray Squirrel	*Sciurus carolinensis*
Cottontail Rabbit	*Sylvilagus floridanus*
Eastern Chipmunk	*Tamias striatus*
Black Bear*	*Ursus americanus*
Red Fox	*Vulpes vulpes*

Birds:

Common Name	Scientific Name
Wood Duck	*Aix sponsa*
Mallard	*Anas platyrhynchos*
Great Blue Heron	*Ardea herodias*
Red-winged Blackbird	*Agelaius phoeniceus*
Cedar Waxwing	*Bombycilla cedrorum*
Red-tailed Hawk	*Buteo jamaicensis*
Green Heron	*Butorides striatus*
Northern Cardinal	*Cardinal cardinalis*
American Goldfinch	*Carduelis tristis*
Purple Finch	*Carpodacus purpureus*
Turkey Vulture	*Cathartes aura*
Hermit Thrush	*Catharus guttatus*

Killdeer	*Charadrius vociferous*
Northern Flicker	*Colaptes auratus*
Eastern Wood Pewee	*Contopus virens*
American Crow	*Corvus brachyrhynchos*
Blue Jay	*Cyanocitta cristata*
Yellow Warbler	*Dendroica petechia*
Black-throated Green Warbler	*Dendroica virens*
Pileated Woodpecker	*Dryocopus pileatus*
Gray Catbird	*Dumetella carolinensis*
Common Yellowthroat	*Geothlypis trichas*
Northern Oriole	*Icterus galbula*
Tree Swallow	*Iridoprocne bicolor*
Dark-eyed Junco	*Junco hyemalis*
Belted Kingfisher	*Megaceryle alcyon*
Red-bellied Woodpecker	*Melanerpes carolinus*
Eastern Wild Turkey	*Meleagris gallopavo*
Song Sparrow	*Melospiza melodia*
Northern Mockingbird	*Mimus polyglottos*
Great-crested Flycatcher	*Myiarchus crinitus*
Black-capped Chickadee	*Parus atricapillus*
House Sparrow	*Passer domesticus*
Rose-breasted Grosbeak	*Pheuticus ludovicianus*
Downy Woodpecker	*Picoides pubescens*
Eastern Towhee	*Pipilo erythrophthalmus*
Scarlet Tanager	*Piranga olivacea*
Common Grackle	*Quiscalus quiscula*
Eastern Phoebe	*Sayornis phoebe*
American Woodcock	*Scolopax minor*
Eastern Bluebird	*Sialia sialis*
White-breasted Nuthatch	*Sitta carolinensis*
Tree Sparrow	*Spizella arborea*
Chipping Sparrow	*Spizella passerina*
Barred Owl	*Strix varia*
European Starling	*Sturnus vulgaris*
Winter Wren	*Troglodytes troglodytes*
American Robin	*Turdus migratorius*
Eastern Kingbird	*Tyrannus tyrannus*
Red-eyed Vireo	*Vireo olivaceus*
Mourning Dove	*Zenaida macroura*
White-throated Sparrow	*Zonotrichia albicollis*

Amphibians/Reptiles:

Common Name	**Scientific Name**
American Toad	*Anaxyrus americanus*
Common Snapping Turtle	*Chelydra serpentina*
Painted Turtle	*Chrysemys picta*
Eastern Timber Rattlesnake	*Crotalus horridus*
Northern Two-lined Salamander	*Eurycea bislineata*

Gray Treefrog	*Hyla versicolor*
Red Eft	*Notopthalmus viridescens*
Redback Salamander	*Plethodon cinereus*
Northern Slimy Salamander	*Plethodon glutinosus*
Spring Peeper	*Pseudacris crucifer*
Bull Frog	*Lithobates catesbeiana*
Green Frog	*Lithobates melanota clamitans*
Pickerel Frog	*Lithobates palustris*
Eastern Garter Snake	*Thamnophis sirtalis*

Flora

Trees:

Common Name	**Scientific Name**
Box Elder Maple	*Acer negundo*
Striped Maple	*Acer pensylvanicum*
Norway Maple	*Acer platanoides*
Red Maple	*Acer rubrum*
Silver Maple	*Acer saccharinum*
Sugar Maple	*Acer saccharum*
Tree of Heaven	*Ailanthus altissima*
Yellow Birch	*Betula allegheniensis*
Mountain Paper Birch	*Betula cordifolia*
Black Birch	*Betula lenta*
White Birch	*Betula papyrifera*
Gray Birch	*Betula populifolia*
American Hornbeam	*Carpinus caroliniana*
Pignut Hickory	*Carya glabra*
Shagbark Hickory	*Carya ovata*
American Beech	*Fagus grandifolia*
White Ash	*Fraxinus americana*
Green Ash	*Fraxinus pennsylvanica*
Honey Locust	*Gleditsia triacanthos*
Black Walnut	*Juglans nigra*
Red Cedar	*Juniperus virginiana*
Tulip Tree	*Liriodendron tulipifera*
Wild Apple	*Malus sylvestris*
Hop Hornbeam	*Oystra virginiana*
Pitch Pine	*Pinus rigida*
White Pine	*Pinus strobus*
Quaking Aspen	*Populus tremuloides*
Pin Cherry	*Prunus pennsylvanica*
Choke Cherry	*Prunus virginiana*
Black Cherry	*Prunus serotina*
White Oak	*Quercus alba*
Swamp White Oak	*Quercus bicolor*
Scarlet Oak	*Quercus coccinea*

Chestnut Oak	*Quercus montana*
Pin Oak	*Quercus palustris*
Red Oak	*Quercus rubra*
Black Locust	*Robinia pseudoacacia*
Basswood	*Tilia americana*
American Elm	*Ulmus americana*

Shrubs:

Common Name	**Scientific Name**
Speckled Alder	*Alnus rugosa*
Shadbush	*Amelanchier canadensis*
Japanese Barberry	*Berberis thunbergii*
Silky Dogwood	*Cornus amomum*
Gray Dogwood	*Cornus racemosa*
Red-osier Dogwood	*Cornus sericea*
Winged Euonymus	*Euonymus atlatus*
Black Huckleberry	*Gaylussacia baccata*
Witch Hazel	*Hamamelis virginiana*
Mountain Laurel	*Kalmia latifolia*
Honeysuckle	*Lonicera tatarica*
Shrub Oak	*Quercus ilicifolia*
Common Buckthorn	*Rhamnus cathartica*
Staghorn Sumac	*Rhus typhina*
Multiflora Rose	*Rosa multiflora*
Blackberry	*Rubus allegheniensis*
Red Raspberry	*Rubus idaeus*
Black Raspberry	*Rubus occidentalis*
Purple-flowering Raspberry	*Rubus oderatus*
Pussy Willow	*Salix discolor*
Black Willow	*Salix nigra*
Elderberry	*Sambucus canadensis*
Lowbush Blueberry	*Vaccinium angustifolium*
Highbush Blueberry	*Vaccinium corymbosum*
Maple-leaved Viburnum	*Viburnum acerifolium*
Nannyberry	*Viburnum lentago*
Arrowwood	*Viburnum dentatum*

Vines:

Common Name	**Scientific Name**
Oriental Bittersweet	*Celastris orbiculata*
Ground Ivy	*Glechoma hederacea*
Virginia Creeper	*Parthenocissus quinquefolia*
Poison Ivy	*Rhus radicans*
Common Dewberry	*Rubus procumbens*
Greenbrier	*Smilax spp.*

Bittersweet Nightshade	*Solanum dulcamara*
Summer Grape	*Vitis aestivalis*

Herbaceous Plants:

Common Name	**Scientific Name**
Yarrow	*Achillea millefolium*
Sweet Flag	*Acorus calamus*
Baneberry	*Actaea pachypoda*
Common Agrimony	*Agrimonia gryposepala*
Quack Grass	*Agropyron repens*
Redtop	*Agrostis alba*
Garlic Mustard	*Alliaria officinalis*
Wild Onion	*Allium stellatum*
Water Plantain	*Alisma plantago-aquatica*
Ragweed	*Ambrosia artemisiifolia*
Hog Peanut	*Amphicarpa bracteata*
Little Bluestem	*Andropogon scoparius*
Sarsaparilla	*Aralia nudicaulis*
White Snakeroot	*Ageritina altissima*
Jack-in-the Pulpit	*Arisaema triphyllum*
Common Burdock	*Arctium minus*
Common Mugwort	*Artemisia vulgaris*
Swamp Milkweed	*Asclepias incarnata*
Common Milkweed	*Asclepias syraca*
New England Aster	*Aster novae-angliae*
Small-white Aster	*Aster vimineus*
Bur Marigold	*Bidens cernua*
Beggar Ticks	*Bidens frondosa*
Marsh Marigold	*Caltha palustris*
Brome-like Sedge	*Carex bromoides*
Fringed Sedge	*Carex crinita*
Yellow Nut Sedge	*Carex esculentus*
Bladder Sedge	*Carex intumescens*
Pennsylvania Sedge	*Carex pennsylvanica*
Pointed Broom Sedge	*Carex scoparia*
Awl-fruited Sedge	*Carex stipata*
Tussock Sedge	*Carex stricta*
Bristlebract Sedge	*Carex tribuloides*
Fox Sedge	*Carex vulpinoidea*
Spotted Knapweed	*Centaurea maculosa*
Celandine	*Chelidonium majus*
Canada Thistle	*Cirsium arvense*
Bull Thistle	*Cirsium vulgare*
Orchard Grass	*Dactylis glomerata*
Deptford Pink	*Dianthus armeria*
Evergreen Wood Fern	*Dryopteris intermedia*
Spike Rush	*Eleocharis rostellata*
Joe-pye Weed	*Eupatorium maculatum*

Boneset	*Eupatorium perfoliatum*
Wild Madder	*Galium mollugo*
Sweet-scented Bedstraw	*Galium triflorum*
Wild Geranium	*Geranium maculatum*
Jewelweed	*Impatiens capensis*
Blueflag Iris	*Iris versicolor*
Soft Rush	*Juncus effusus*
Stick-tight	*Lappula virginiana*
Rice-cut Grass	*Leersia oryzoides*
Birdsfoot Trefoil	*Lotus corniculatus*
Bugleweed	*Lycopus americana*
Moneywort	*Lysimachia nummularia*
Purple Loosestrife	*Lythrum salicaria*
Evening Primrose	*Oenothera biennis*
Sensitive Fern	*Onoclea sensibilis*
Yellow Wood Sorrel	*Oxalis stricta*
Reed Canary Grass	*Phalaris arundinacea*
Phlox	*Phlox pilosa*
Pokeweed	*Phytolacca americana*
Clearweed	*Pilea pumila*
Water Smartweed	*Polygonum amphibium*
Tearthumb	*Polygonum sagittatum*
Rock Polyplody	*Polypodium virginianum*
Christmas Fern	*Polystichum agrostichoides*
Herbaceous cinquefoil	*Potentilla simplex*
Black-eyed Susan	*Rudbeckia hirta*
Dark Green Bulrush	*Scirpus atrovirens*
Woolgrass	*Scirpus cyperinus*
Bladder Campion	*Silene vulgaris*
False Solomon's Seal	*Smilacina racemosa*
Canada Goldenrod	*Solidago canadensis*
Late Goldenrod	*Solidago gigantea*
Early Goldenrod	*Solidago juncea*
Rough-stem Goldenrod	*Solidago rugosa*
Slender Goldenrod	*Solidago tenuifolia*
Skunk Cabbage	*Symplocarpus foetidus*
Dandelion	*Taraxacum officinale*
Marsh Fern	*Thelypteris palustris*
Virginia Knotweed	*Tovara virginiana*
White Clover	*Trifolium repens*
Red Clover	*Trifolium pratense*
Coltsfoot	*Tussilago farfara*
Cattail	*Typha latifolia*
Stinging Nettles	*Urtica dioica*
Common Mullein	*Verbascum thappsus*
Blue Vervain	*Verbena hastata*
New York Ironweed	*Vernonia noveboracense*
Common Speedwell	*Veronica officinalis*
Common Blue Violet	*Viola sororia*