APPENDIX 13

WATER SYSTEM PRELIMINARY DESIGN REPORT

February 2012

Water System Preliminary Design Report for *The Modified Belleayre Resort at Catskill Park Including Wildacres Resort & The Highmount Spa Resort*

Town of Shandaken and Middletown
Ulster and Delaware County, New York

Prepared for:

Crossroads Ventures, LLC
PO Box 267
Mt. Tremper, NY 12457

Prepared by:

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C.T. Male Project No: 09.9007

WATER SYSTEM PRELIMINARY DESIGN REPORT
The Modified Belleayre Resort at Catskill Park

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

Crossroads Ventures, LLC (Crossroads) proposes to construct a resort that offers access to Belleayre Mountain Ski Center, golf, and spa among other amenities. The Modified Belleayre Resort at Catskill Park (Resort) is divided into two areas served by the two hotels (Wildacres Resort and The Highmount Spa Resort) and other detached units. The project is located both in the Town of Shandaken and Town of Middletown which are in Ulster and Delaware County, New York. This Resort will include hotel rooms, restaurants, retail stores, spa and fitness centers, pools, golf club, and detached lodging units. The Resort site occupies approximately 738 acres and is located adjacent to the existing Belleayre Mountain Ski Center south of NYS Route 28 (refer to "Site Location Map," Appendix A).

All the water supply at the various Resort buildings will be provided by the Pine Hill Water Company a privately owned water transportation corporation that will serve the Resort exclusively.

A new water supply will be created from ground water wells and a new water treatment plant will be constructed to supply the needs of the Resort. The water infrastructure will include water mains, booster pump stations, pressure regulating valve vaults, and ground storage tanks to provide potable water and fire flow to all the building within the Resort property.

2.0 WATER DEMAND

Expected water demands for the Resort is summarized in Table 2-1.

Table 2-1
Water Demand

Facility Type	Water Demand (gpd)
Wildacres Hotel	47,200
Wildacres Detached Lodging Units	41,900
Golf Course (clubhouse, maintenance)	9,900
Wildacres Sub-Total	**99,000**
Highmount Hotel	34,200
Highmount Detached Lodging Units	23,600
Wilderness Activity Center	2,000
Highmount Sub-Total	**59,800**
Total	**158,800**
Daily Flow Peaking Factor	**1.65**
Maximum Daily Demand	**262,000 gpd or 182 gpm**

These demand rates represent the full build out condition with 100% occupancy which would be the maximum day flow. An average day is estimated when the Resort is at 70% capacity or approximately 111,000 gpd.

Additionally, a peaking factor of 1.65 was applied to the maximum day flow to determine the maximum daily demand of the well field and the treatment plant. Appendix B has a detailed water demand estimate for the proposed facilities.

2.1 Fire Flows

Fire flows for the resort were estimated based on the recommendations from the Insurance Service Office (ISO). The fire flow calculations are included in Appendix C.

The facilities requiring the highest fire flows are the two largest buildings, the Wildacres hotel/conference center (3,100 gpm) and the Highmount Hotel and Spa (2,700 gpm). For these flow ranges, ISO recommends a three hour fire flow. Thus, 560,000 gallons and 485,000 gallons of fire flow are needed respectively for each of the water storage tanks in addition to the amount needed for water use.

2.2 Water Conservation Program

Water conservation and the efficient use of potable water will be designed into the Resort buildings. Water saving features such as low flow showers and toilets will be standard. In public bathroom areas, automatic water use fixtures will be installed to conserve water.

The Resort has a built-in incentive to use potable water efficiently because it must rely on its own ground water wells for supply and it must operate and pay all of the cost to provide and treat the water used. Additionally, the Resort will have to pay the NYCDEP for all the wastewater that is pumped to the NYCDEP wastewater treatment plant.

3.0 WATER SUPPLY

The water supply to meet the design water demand of 262,000 gpd will be provided by two well fields identified as the K and Q Well fields. The locations of these well fields are shown in the preliminary design drawings included in Appendix D.

The K Well field has three wells that will be used, Well K2, K3 and K4. The K Well field is capable of sustaining a long term, average pumping rate of 157 gpm and the well pumps will be designed to not exceed that pumping rate. Well K4 is the largest well and has a capacity of 82 gpm. Wells K2 and K3 can each produce 75 gpm.

The Q Well field has one well that will be used for potable water and Well Q1 has a long term, average yield of 45 gpm.

To meet the requirements of NYSDOH, a well field must supply the maximum daily demand with the largest well out of service. The Resort's well fields meet this requirement (K2 (75 gpm) +K3 (75 gpm) + Q1 (45 gpm) =195 gpm)

Since these wells have sufficient capacity to provide the maximum daily demand with the largest well out of service, no other source of water will be used to supply the Resort.

Appendix E has a copy of the hydrology report for these wells that documents their construction, testing and documents their capacity rating.

4.0 WATER TREATMENT

Based on the water quality data collected from the proposed well fields, arsenic removal will be required plus chlorine disinfection. See Appendix F for water quality results.

Microfiltration is proposed for water treatment. The microfiltration plant will be a cost effective approach, both in terms of capital expenditure and operation and maintenance costs, while meeting the requirements of the NYSDOH.

Several manufacturers have developed microfiltration systems to effectively filter drinking water. This system generally consists of pressure vessels containing either synthetic or natural membranes to effectively filter water. The membranes used for microfiltration typically have a nominal pore size of 0.1 micron. The membrane filtration process will be preceded by chemical addition. The chemical addition consists of coagulants that help smaller particles (arsenic) stick together to form larger particles which can then be more readily filtered out.

Liquid chlorine or sodium hypochlorite will be used for disinfection and for providing chlorine residual in the distribution system.

A conventional membrane microfiltration plant consists of a rack or several racks of membrane vessels that filter the raw water following chemical addition. Periodically, these membranes must be backwashed and cleaned to clear particulate matter retained in the vessel by the membranes. The period of time between backwash cycles varies depending on the amount of particulate matter being filtered from the raw water. These membranes must be chemically cleaned once the membranes develop a buildup of material or scale that cannot be cleaned by routine backwashing.

The membrane microfiltration system requires a set of automatic controls and a set of manual controls. Various manufacturers provide complete skid mounted membrane filtration systems specifically designed for filtration of small water supplies. These systems are purchased from the manufacturer complete with all equipment required to efficiently filter raw water including pumps, backwash pumps, chemical storage tanks, automatic and manual controls, a computer, water quality monitoring equipment, piping, membrane filtration units, air compressor, and all electrical connections among other features.

The backwash water generated by the micofiltration system will be discharged to the sewer system.

This microfiltration system consists of a series of vessels containing water filtration membranes in a rack. These membranes would filter the water until a pre-determined pressure drop across the membranes had been reached, then the unit automatically initiates a backwash cycle. This membrane system is capable of 4.5 to 7 log removal of Giardia and Cryptosporidium and producing a finished water with turbidity of less than 0.1 NTU, therefore, meeting the NYSDOH requirements.

This microfiltration system would include construction of a new building near the golf maintenance building. The filtration system would be located inside this building along with all associated piping and controls. The final system would include a base system skid consisting of all piping, controls, pumps, backwash pumps, chemical storage tanks, and system computer. Two (2) skids of membrane units would be installed adjacent to the base unit. This system would be designed for a peak flow capacity of approximately 262,000 gpd, with each skid being capable of providing full treatment of the 262,000 gpd (full redundancy).

It is expected that the membrane units would automatically enter a backwash cycle approximately every 20 minutes while in operation. The backwash cycle will typically take about 90 seconds to complete prior to returning to filtration operation. The membrane units require chemical cleaning, as discussed earlier. It is anticipated that the chemical cleaning process would require about two hours of operator attention about every 30 days. The filters would be off-line during this process.

Appendix G includes a preliminary layout of the proposed water treatment plant information.

5.0 WATER DISTRIBUTION SYSTEM AND STORAGE

The water distribution system will serve all the facilities in the Resort and provide water storage for water use and fire protection. Because of the mountainous terrain of the area being served, various pump stations and pressure reducing vaults will be used to regulate the water pressure between 120 psi and 80 psi in the mains. All buildings will need to have pressure reducing valves to control pressures in the buildings.

5.1 Wildacres Resort

The raw water from the well fields will be pumped to the water treatment plant located near the golf course maintenance in the Wildaces Resort area. After the water is treated, a 16, 12 and 8-inch water mains will provide water service and fire protection to the all of the buildings at the Wildacres Resort.

Based on water demands approximately 100,000 gallons is needed for water storage (one day useage) plus 560,000 gallons for fire flow. Thus, the water storage tank for the Wildacres section will be approximately 660,000 gallons. To minimize aesthetic impacts, the concrete tank will be partially buried to limit its height and the top will be painted an earth tone color.

The Wildacres tank will be filled by the high lift pumps at the water treatment plant. It will provide pressure for the Wildacres Hotel and other detached units. Pressure reducing vaults will be needed in line with the 12-inch water main to lower the pressure at the detached lodging units.

5.2 Highmount Spa Resort

The Highmount Hotel, Highmount detached lodging units and Wilderness Activity Center will be served by a 16, 12 and 8-inch water mains that are fed from the Wildacres Resort area and loops around the Highmount Hotel.

Based on water demands approximately 60,000 gallons is needed for water storage (one day usage) plus 485,000 gallons for fire flow. Thus, the water storage tank for the Highmount section will be approximately 545,000 gallons. To minimize aesthetic impacts, the concrete tank will be partially buried to limit its height and the top will be painted an earth tone color.

The Highmount tank will be filled from a booster pump station in the Wildacres area. The tank elevation will provide pressure for the Highmount Hotel. A Wildacres booster pump station will provide pressure for the detached units located above the tank. Based on pressures a second pump station is needed to reach the units at the highest elevations. Both pump stations will require fire pumps.

5.4 Off-Site Water

The Resort will not connect any properties outside its property to its water system.

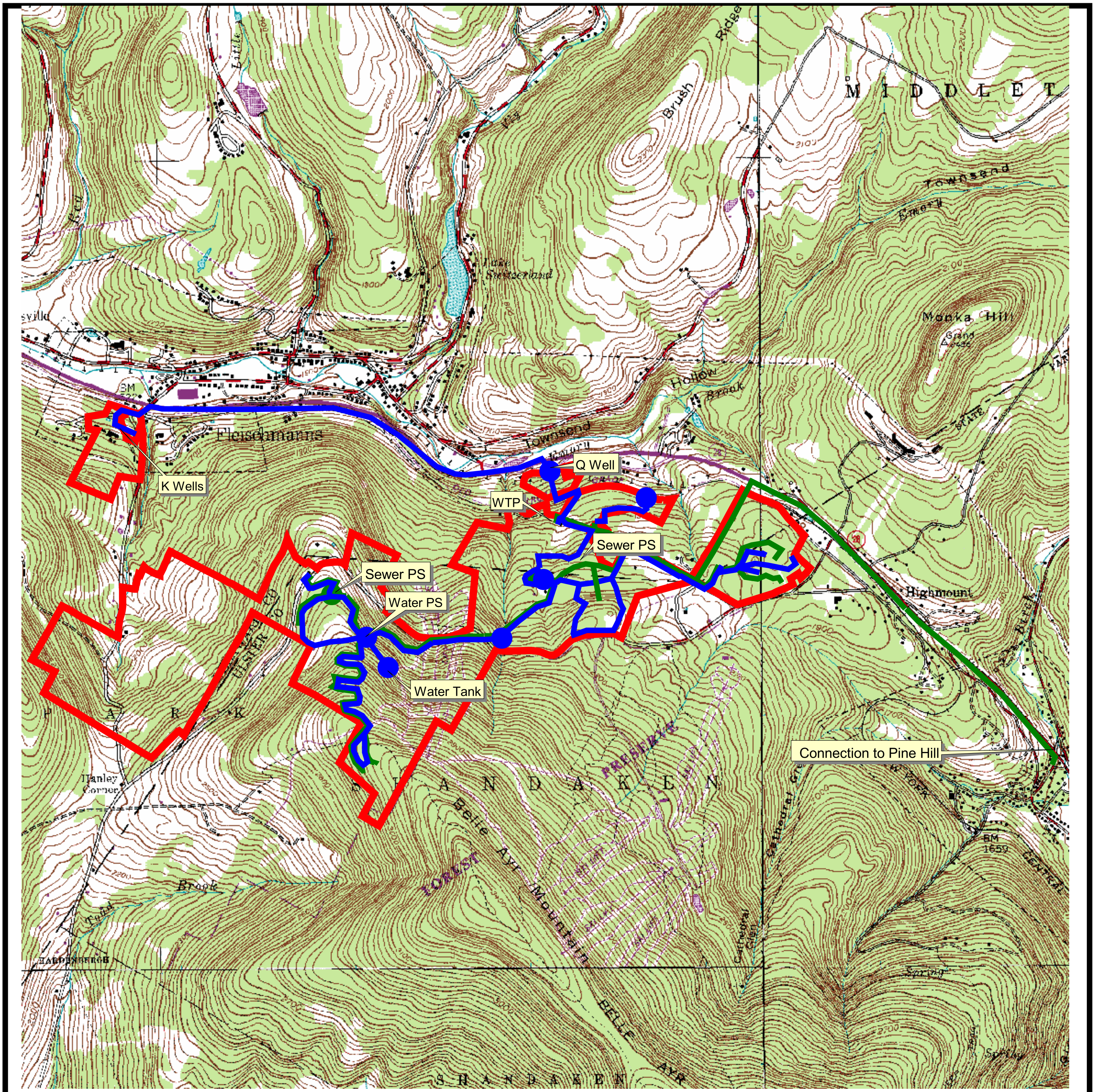
6.0 OPERATION AND MAINTENANCE

All of the proposed infrastructure, including the wells, water treatment plant, water lines, pump stations, and storage tanks will be owned and operated by the Pine Hill Water Company.

Since the proposed water system will be a public water supply, the Pine Hill Water Company will have licensed water operators that will operate the well fields, water treatment plant, and distribution system in conformance with NYSDOH regulations.

APPENDIX A

SITE LOCATION MAP



MAP REFERENCE
USGS Topographic Map
Flieschmanns and Westkill, NY Quadrangles, Dated 2000
7.5 Minute Series, NAD 83 UTM 18N
Downloaded from CUGIR on 09/25/09

Legend:
🟥 Property Line
🟩 Sewer Line
🟦 Water Line

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BUILDING SYSTEMS ENGINEERING
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SERVICES

C.T.MALE ASSOCIATES, P.C.

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FIGURE 1 SITE LOCATION MAP

Modified Belleayre Resort at Catskill Park
Wildacres Resort & The Highmount Spa Resort

Towns of Shandaken & Middletown
Ulster & Delaware Counties, NY

SCALE: 1"= 2,500
DRAFTER: JLM
PROJECT NO: 09.9007

APPENDIX B

Water Demands Estimates

Estimated Water Demand for *The Modified Belleayre Resort at Catskill Park*

Facility Type	Units	Number	Daily Demand [1] (gal/unit/day)	Water Demand [2] (gpd)	Allowable Reduction [2] (gpd)	Daily Demand Reference Standard[3]
Wildacres Resort and Golf Club						
Hotel						
208 Lodging Units w/o kitchens	Bedrooms	208	120	24,960	- (4,992)	Dwellings and apartments
42 Suites w/ kitchens	Bedrooms	76	150	11,400	- (2,280)	Dwellings and apartments
Restaurant (2 rest; 450 seats; 3 seatings)	Patrons	1,350	7	9,450		Restaurants (toilets and kitchens)
** w/ 100 Seat Beverage Lounge (2 seatings)	Patrons	200	2	400		Restaurants (toilets and kitchens)
Retail Stores (10)	1000 SF	13	250	3,250		Shopping Center
** Public Bathrooms	Toilets	4	400	1,600		Stores
Spa and Fitness Center						
** w/ 15 Treatment Rooms and Lap Pool	Patrons	100	15	1,500		Day camps
Indoor Pool	Swimmers	100	10	1,000		Swimming pools and beaches with bathhouses
Meeting Space	100 SF	18	12	216		Office Building
Offices - Administration and Operating	100 SF	55	12	660		Office Building
Detached Lodging Units						
139 - 2 Bdrm Lodging Units	Bedrooms	278	150	41,700	- (8,340)	Dwellings and apartments
Lodging Unit Clubhouse--						
**Pool/ Health Club	Swimmers	139	15	2,085		Day Camps
**40 Seat Snack Bar (2 seatings)	Patrons	80	2	160		Restaurants with bar or cocktail lounge
Offices - Reception/Sales/Operating	100 SF	8	12	96		Office Building
Conference Center	100 SF	51	12	612		Office Building
-Ballroom/Auditorium (2)	Seats	700	10	7,000	- (1,400)	Places of Public Assembly
Golf Course Clubhouse	Members	154	25	3,850	- (770)	Country Clubs
** w/ 40 Seat Snack Bar (4 seatings)	Patrons	160	2	320		Restaurants with bar or cocktail lounge
** w/ Steam and Sauna	Patrons	125	5	625		
** w/ Offices - Pro/Sales/Operating	100 SF	5	12	60		Office Building
Satellite Golf Maintenance	100 SF	15	12	180		Office Building
Golf Maintenance	100 SF	85	12	1,020		Office Building
** w/ offices/showers/lockers						
Children's Center	100 SF	75	12	900		Office Building
Employee Cafeteria and Lockers	Employees	245	15	3,675		Day Workers
			Potable Subtotal	116,719	**98,937**	
Highmount Resort and Spa						
Hotel						
120 Lodging Units w/o kitchens	Bedrooms	120	120	14,400	- (2,880)	Dwellings and apartments
53 Lodging Units w/ kitchens	Bedrooms	132	150	19,800	- (3,960)	Dwellings and apartments
Restaurant (125 seats; 3 seatings)	Patrons	375	7	2,625		Restaurant (restrooms and kitchen)
Lounge (50 seats; 2 seatings)	Patrons	100	2	200		Restaurants with bar or cocktail lounge
Spa with 25 treatment rms/fitness ctr/lap pool	Patrons	150	15	2,250		Day Camp
Café (40 seats; 2 seatings)	Patrons	80	7	560		Restaurant (restrooms and kitchen)
Meeting Space	100 SF	25	12	300		Office Building
Administrative Offices	100 SF	76	12	912		
Detached Lodging Units						
33 - 2 Bdrm Lodging Units	Bedrooms	66	150	9,900	- (1,980)	Dwellings and apartments
34 - 3 Bdrm Lodging Units	Bedrooms	102	150	15,300	- (3,060)	Dwellings and apartments
Employee Cafeteria and Lockers	Employees	229	15	3,435		Day Workers
			Potable Subtotal	69,682	**57,802**	
Wilderness Activity Center						
Café with Lounge and Library	Patrons	60	2	120		Restaurants with bar or cocktail lounge
Locker Rooms	Toilets	4	400	1,600		Stores
Sauna/ Steam Room/ Jacuzzi	Patrons	60	5	300		
			Potable Subtotal	2,020	**2,020**	
	Combined Potable Total (@ 100% occupancy)			188,421	**158,759**	182
	Combined Potable Total (@ 70% occupancy)			131,895	**111,131**	127

[1] All hydraulic demand rates taken from "*Rural Water Supply*"- New York State Department of Health and the "*Community Water Systems Source Book*"-Fifth Edition-Sixth Printing

[2] Demand (gpd)='Number' Value *Daily Demand (gal/unit/day)

[3] Daily demand standard from *Rural Water Supply*, Table 2 - Guide for Water Use or *Community Water Systems Source Book*, Table IV or Table V

APPENDIX C

Fire Flow Calculations

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50 Century Hill Drive
Latham, NY 12110

JOB CROSS ROADS 09, 9007
SHEET NO. 1 OF 1
CALCULATED BY: R.F. DATE: 1/26/11
CHECKED BY: DLP. DATE:
SCALE

FIRE FLOW

BASED ON INSURANCE SERVICES OFFICE (ISO) FORMULA:

$$F = 18\,C\,(A)^{0.5}$$

F = required fire flow (gpm)
C = coefficient for type of construction, use 1.0 for ordinary const.
A = Total floor area, FT^2

For automatic sprinklers, reduce by 75%

Highmount Hotel Floor Area =

$$F = 18(1.0)(355{,}000\ FT^2)^{0.5}$$

$= 10{,}725$ gpm ✓ 10,750

REDUCE FOR SPRINKLERS

$F = (.25)(10{,}725\ gpm)$
$F = 2{,}681$ gpm ✓

Wildacres Hotel Floor Area =

$$F = 18(1.0)(476{,}000\ Ft^2)^{0.5}$$

$= 12{,}419$ gpm ✓ 12,500

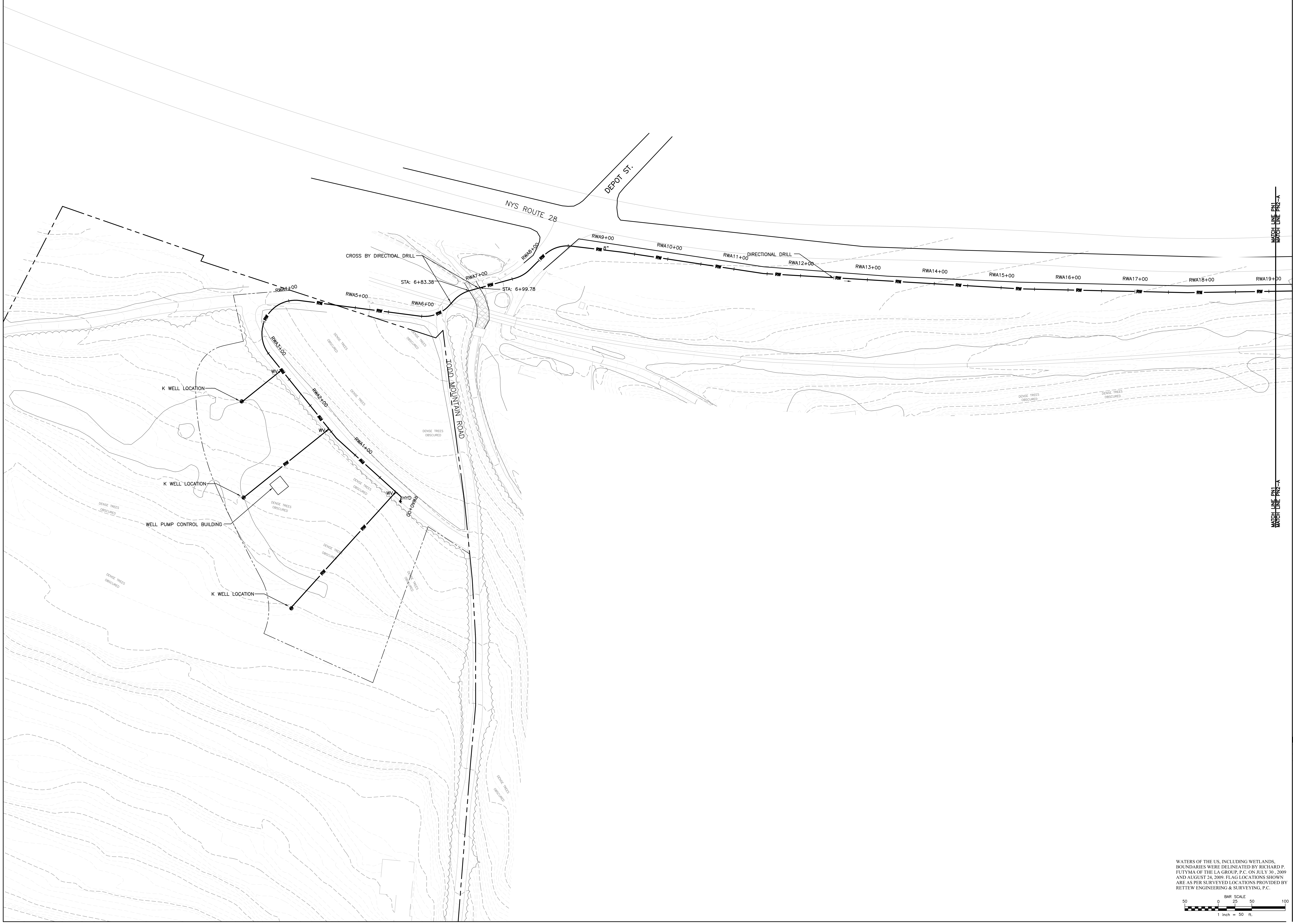
REDUCE FOR SPRINKLERS

$F = (.25)(12{,}419\ gpm)$

$= 3{,}105$ gpm ✓

APPENDIX D

Preliminary Design Drawings



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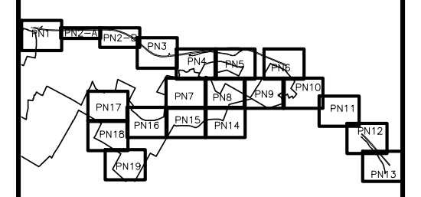
PRELIMINARY WATER AND SEWER DESIGN

Key Plan



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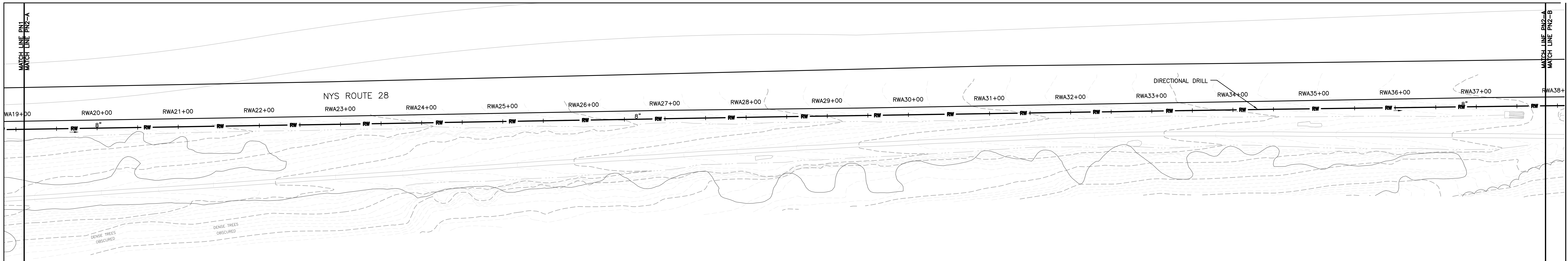
PN1



PLAN A/PN2
SCALE: 1" = 50'
CROSS REFERENCE: PN1

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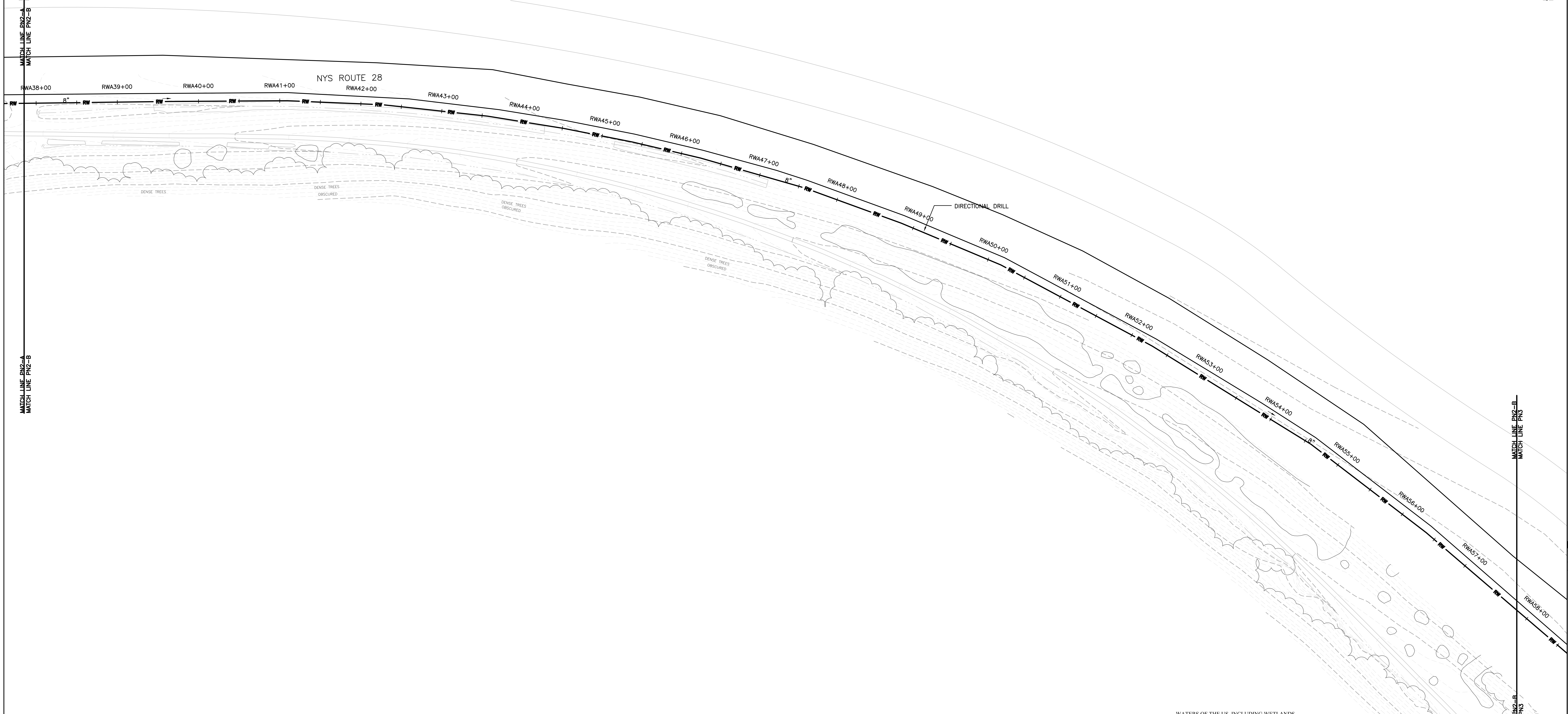

PLAN B/PN2
SCALE: 1" = 50'
CROSS REFERENCE: NONE

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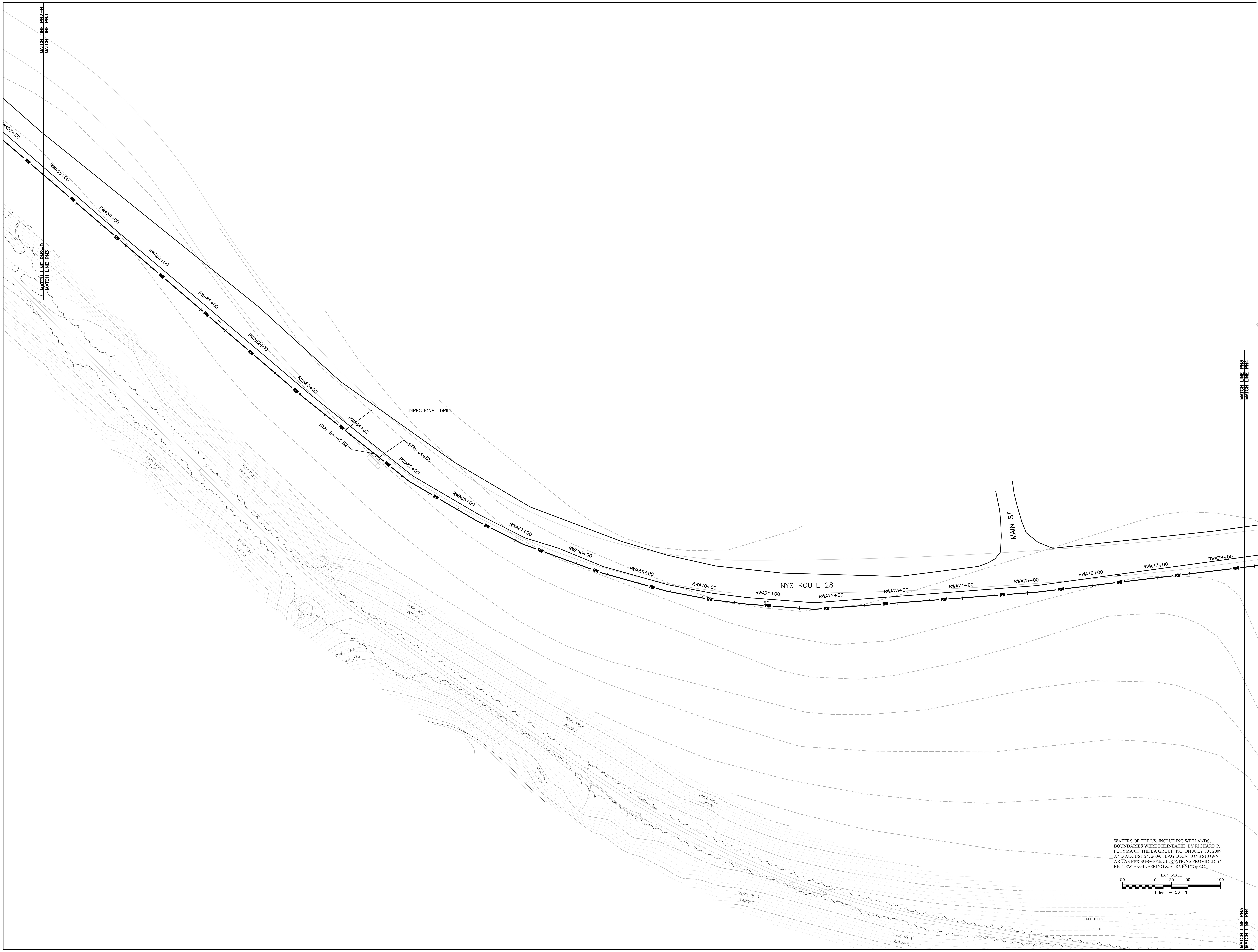

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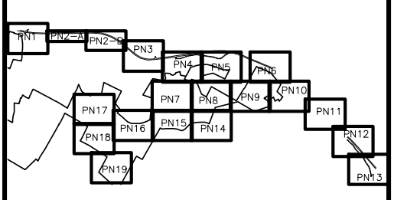

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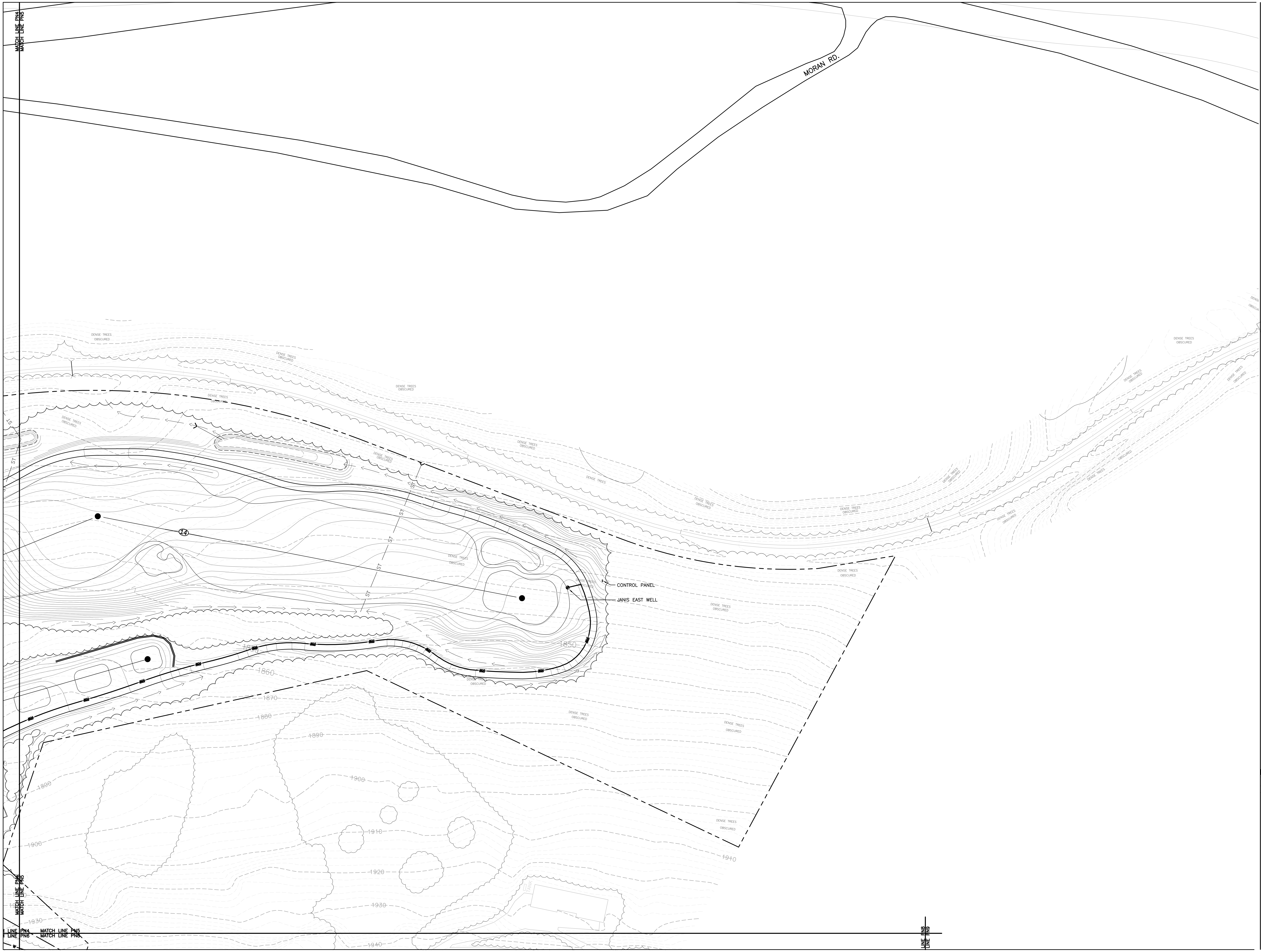

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PRELIMINARY WATER AND SEWER DESIGN

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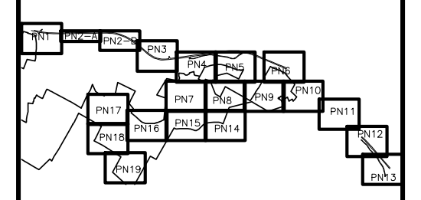

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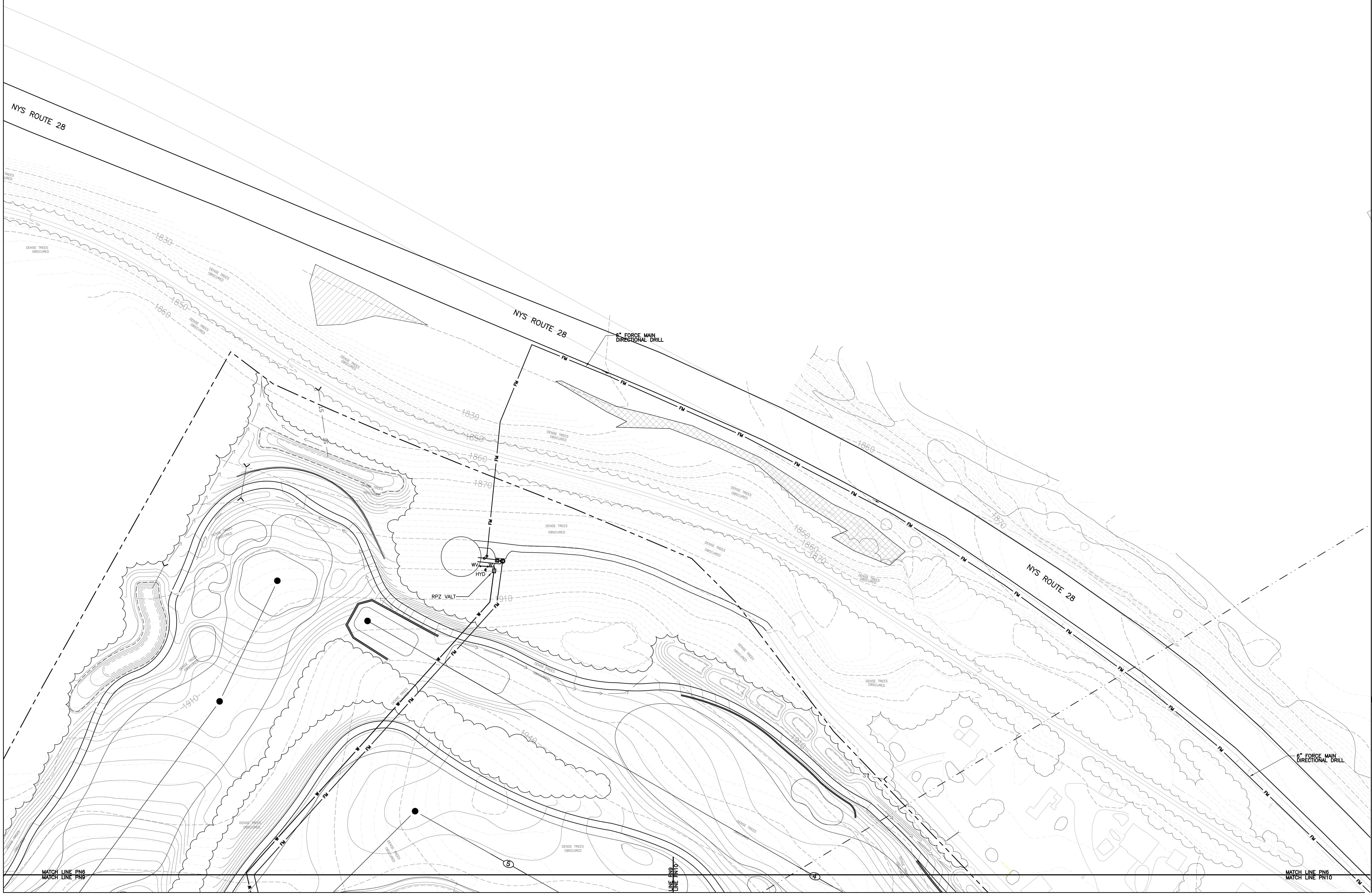
50 0 25 50 100
1 inch = 50 ft.



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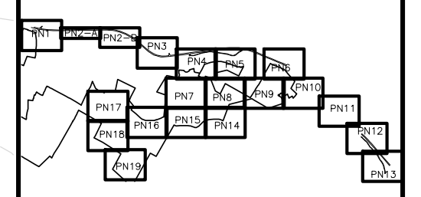
CTM PROJECT NO: 09.9007

PREPARED FOR:
Crossroads Ventures, L.L.C.
PO Box 267
Mt. Tremper, NY 12457

The Modified Belleayre Resort at Catskill Park

Wildacres Resort & The Highmount Spa Resort
Town of Shandaken & Town of Middletown, New York
PRELIMINARY WATER AND SEWER DESIGN

Key Plan



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Revisions

Project: 07074
Date:

Drawing
PN6

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Key Plan

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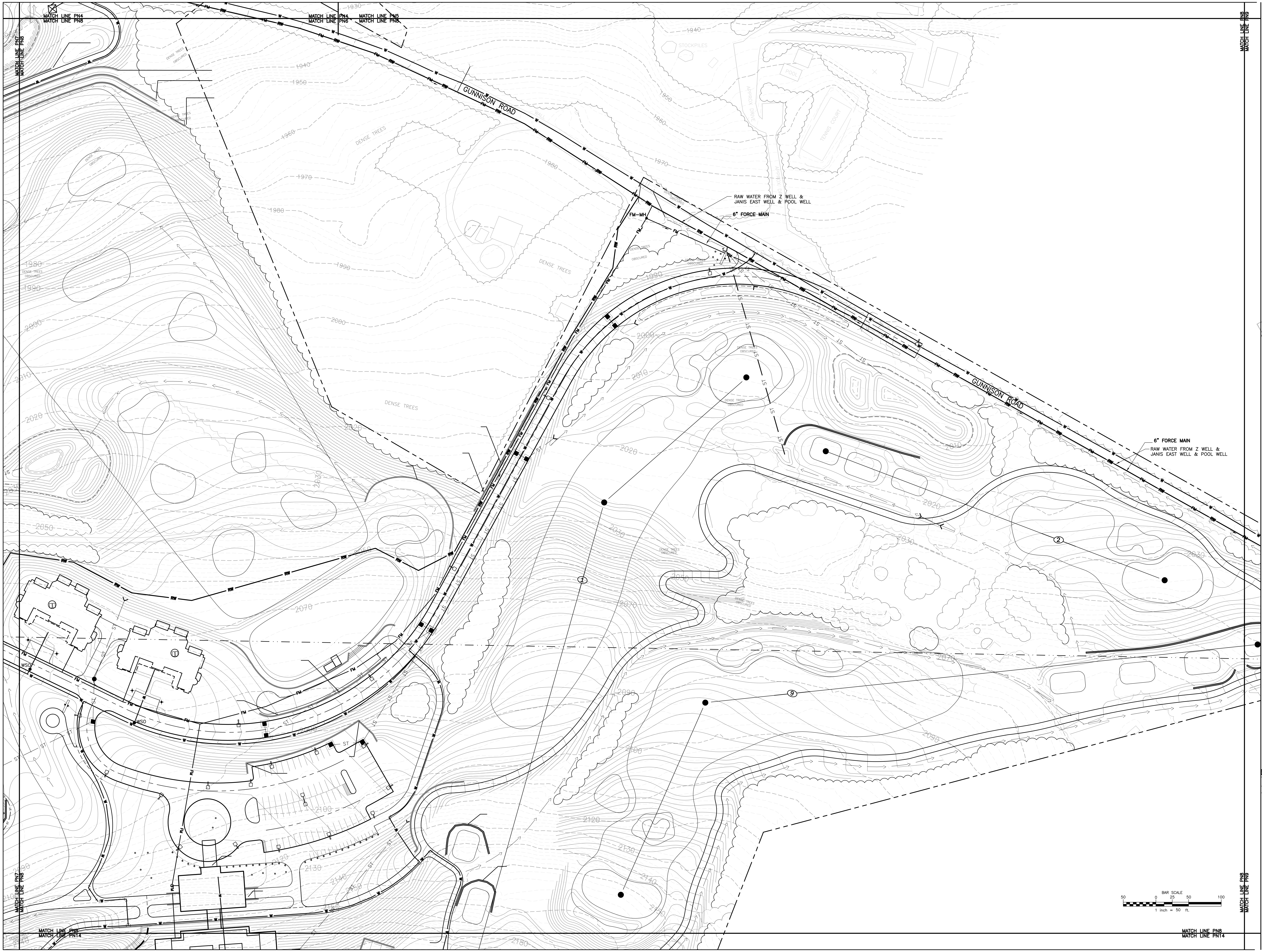
Project: 07074
Date:

Drawing
PN7



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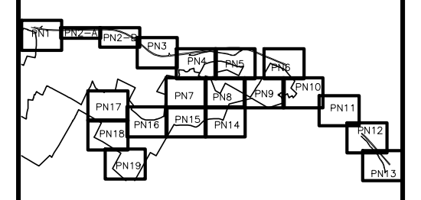

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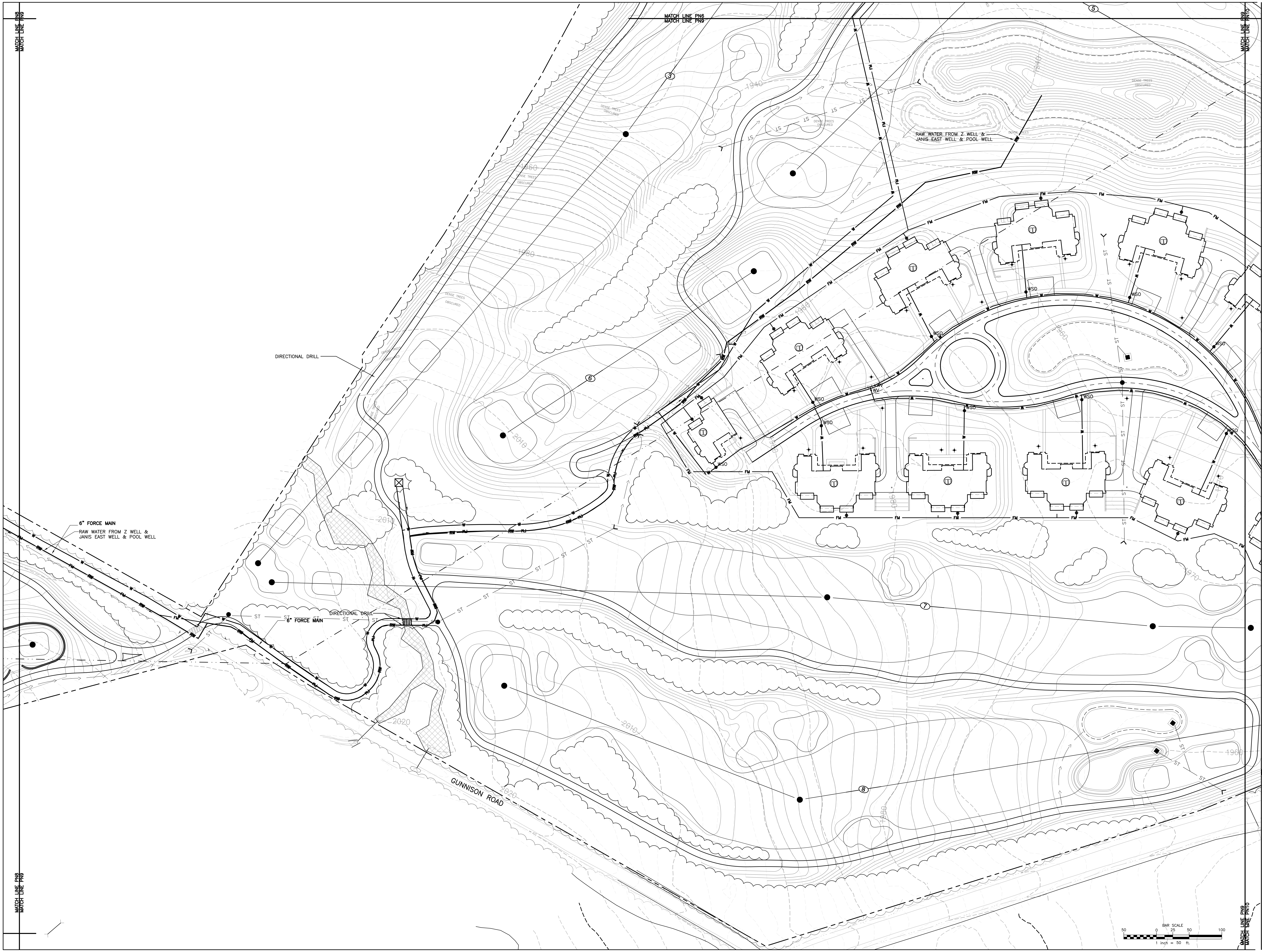
Drawing
PN8



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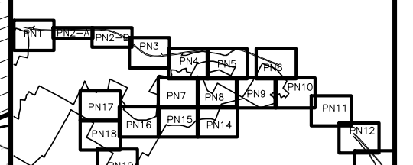

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Project: 07074
Date:

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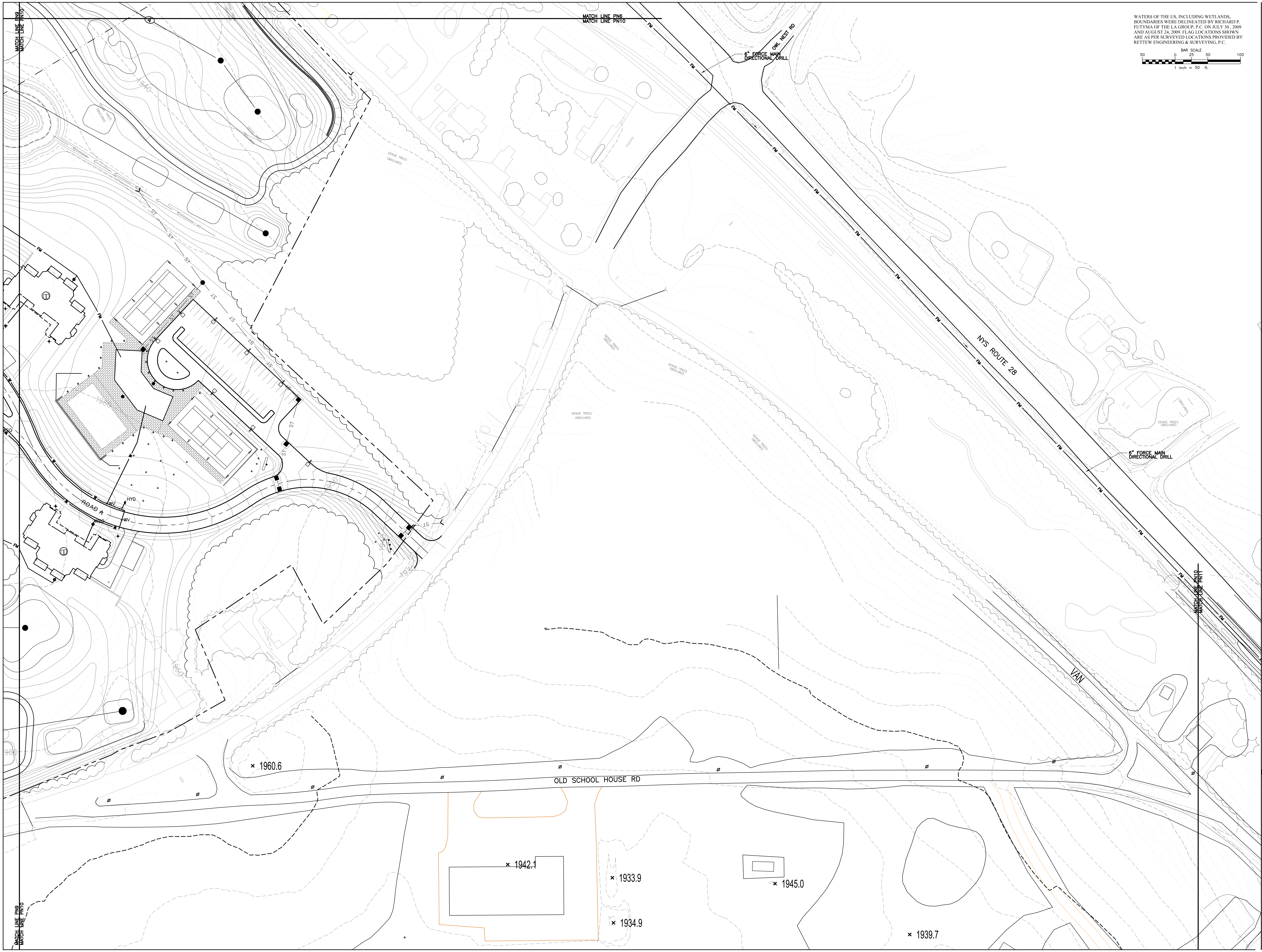
PN9



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BAR SCALE
50 0 25 50 100
1 inch = 50 ft.

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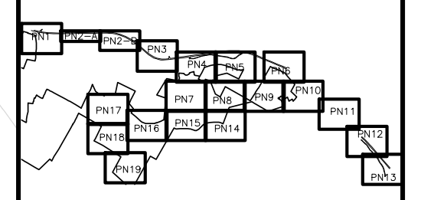

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PN10

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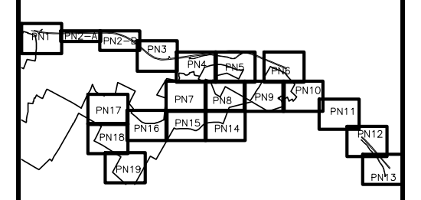

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Project: 07074
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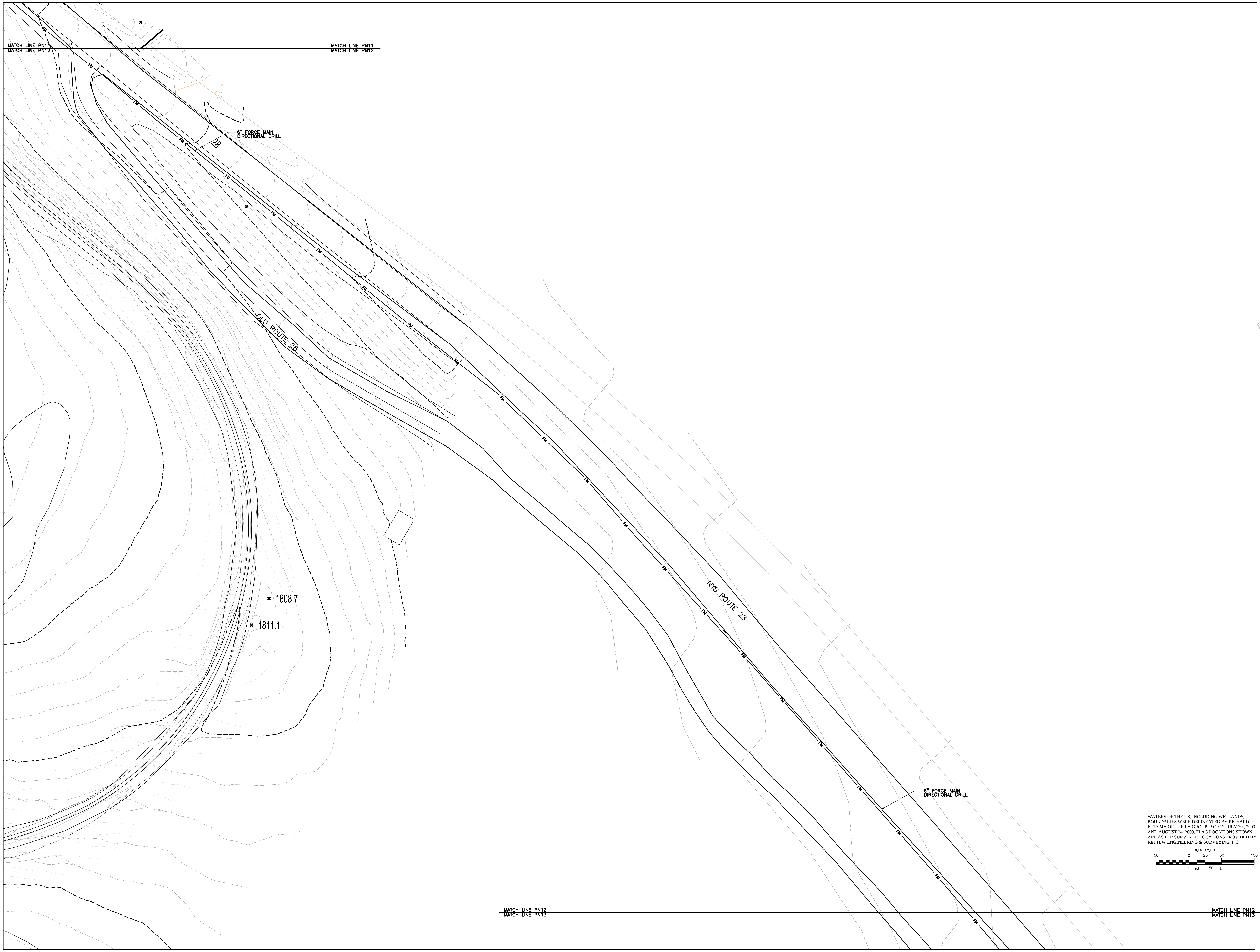
PN11



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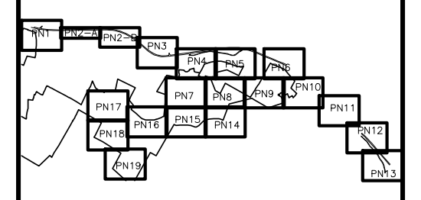
Key Plan



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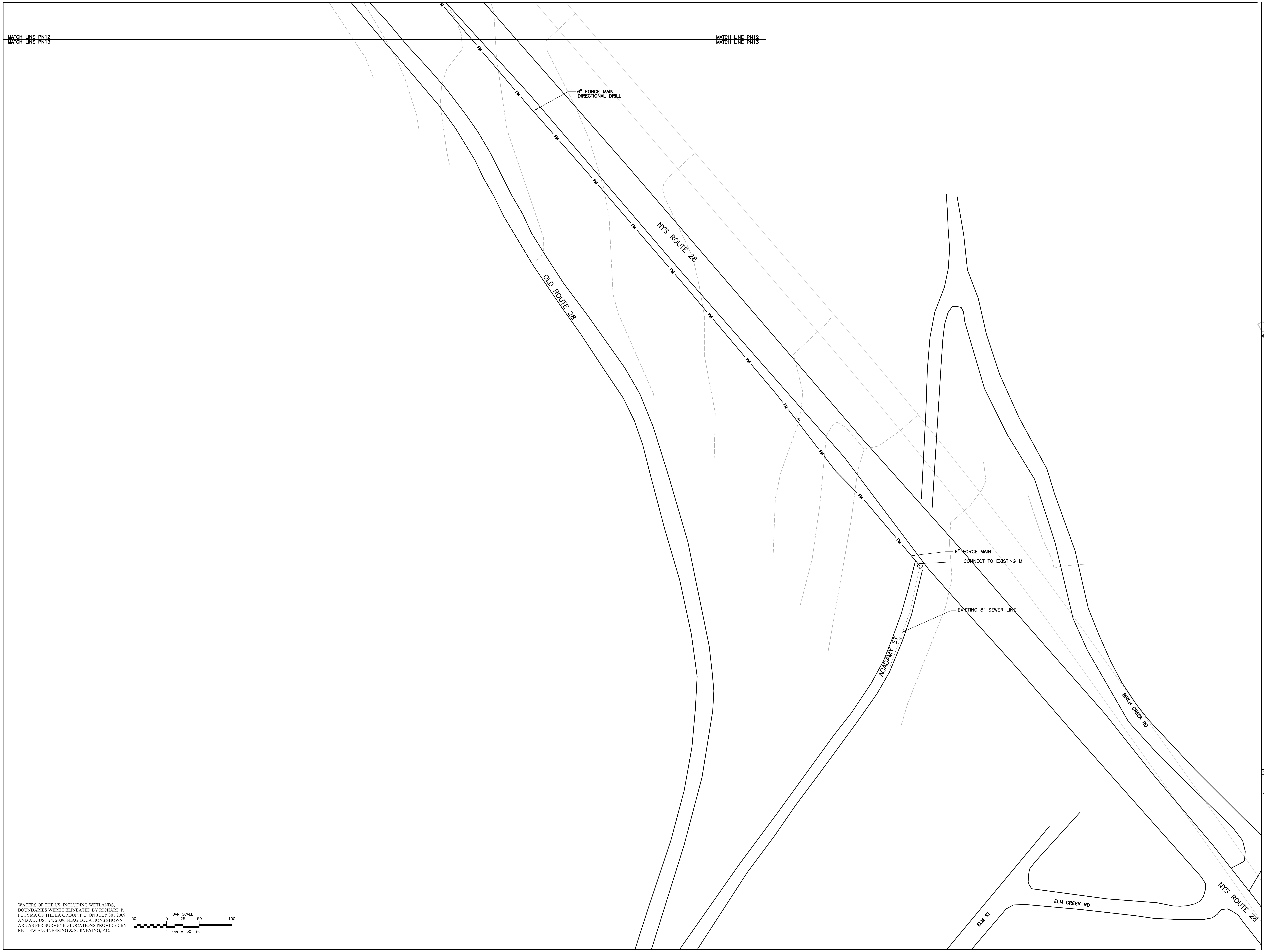
PN12



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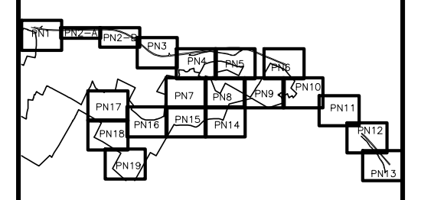
Key Plan



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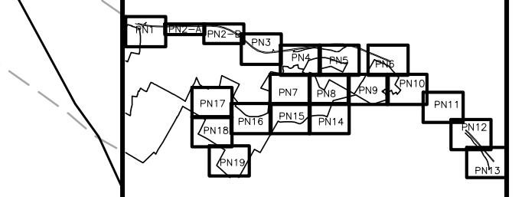

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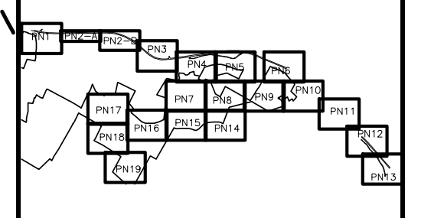

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PN15

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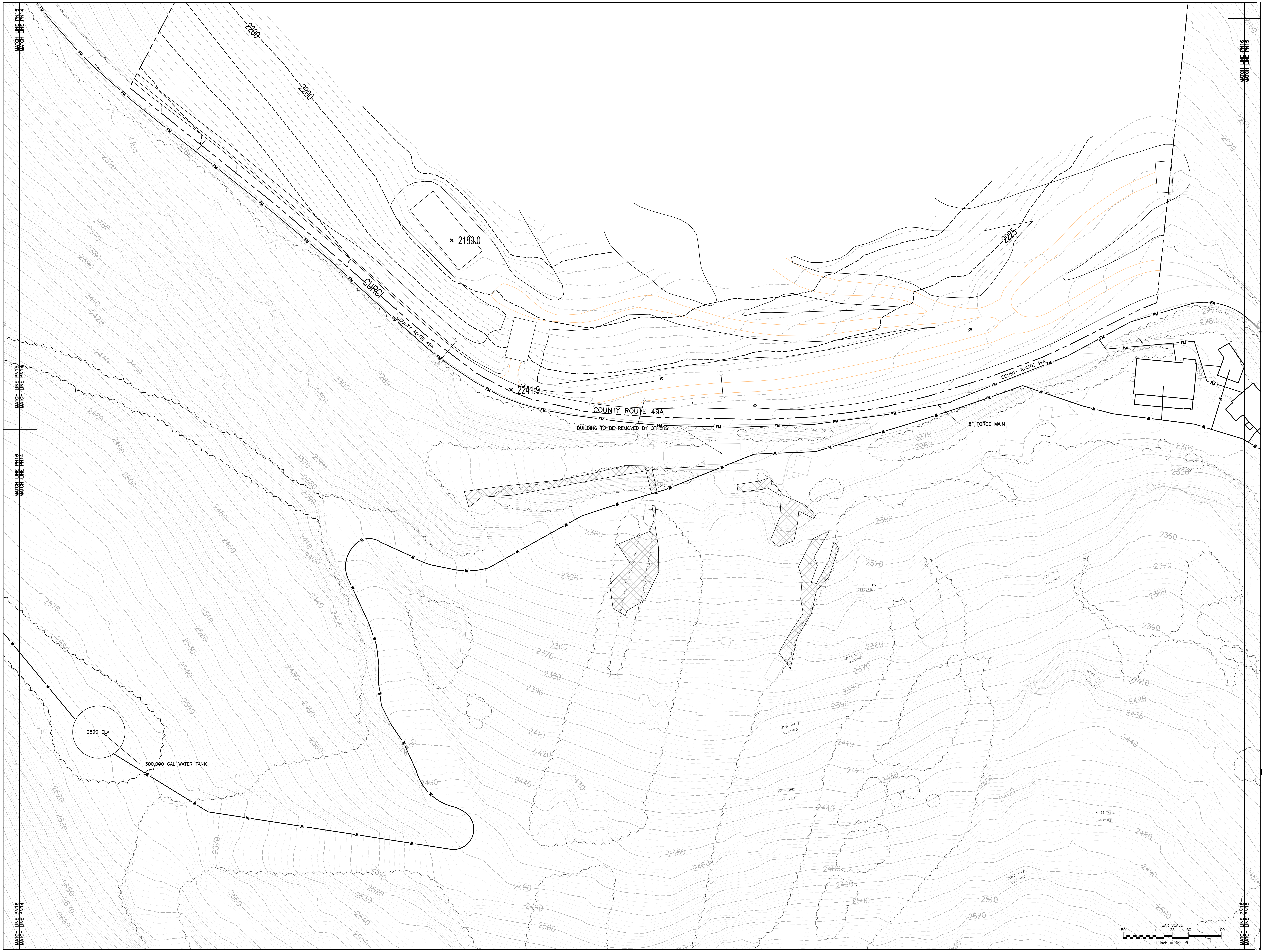

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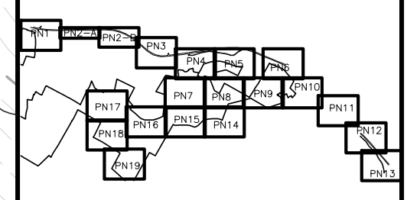

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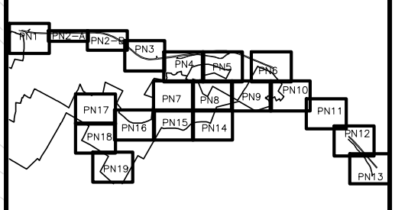

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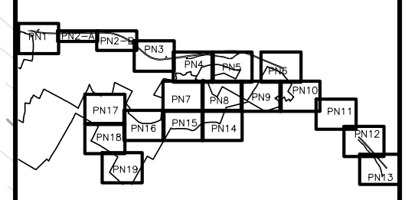

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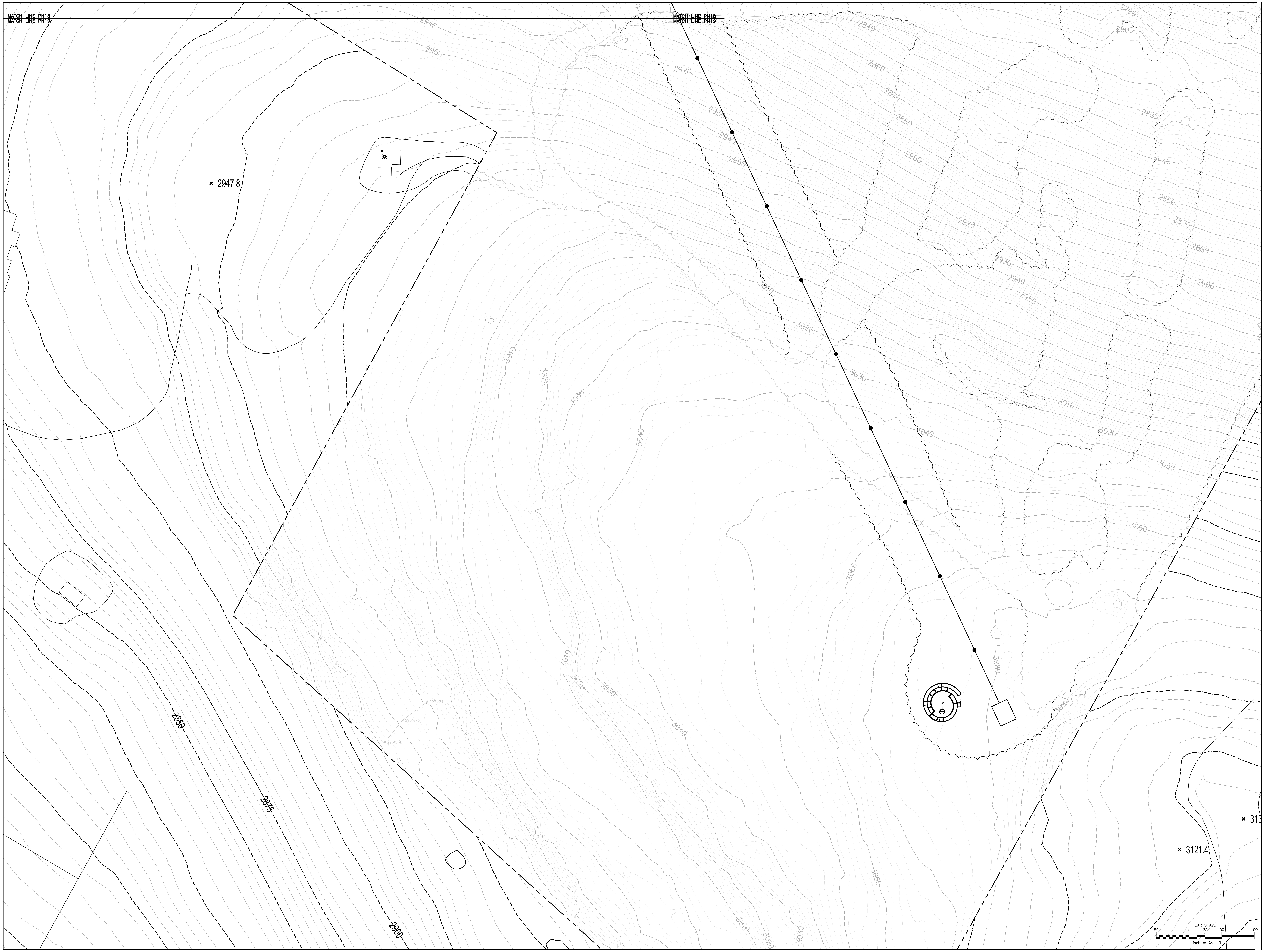
PN18



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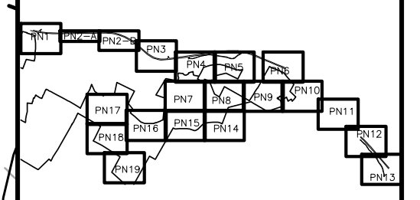

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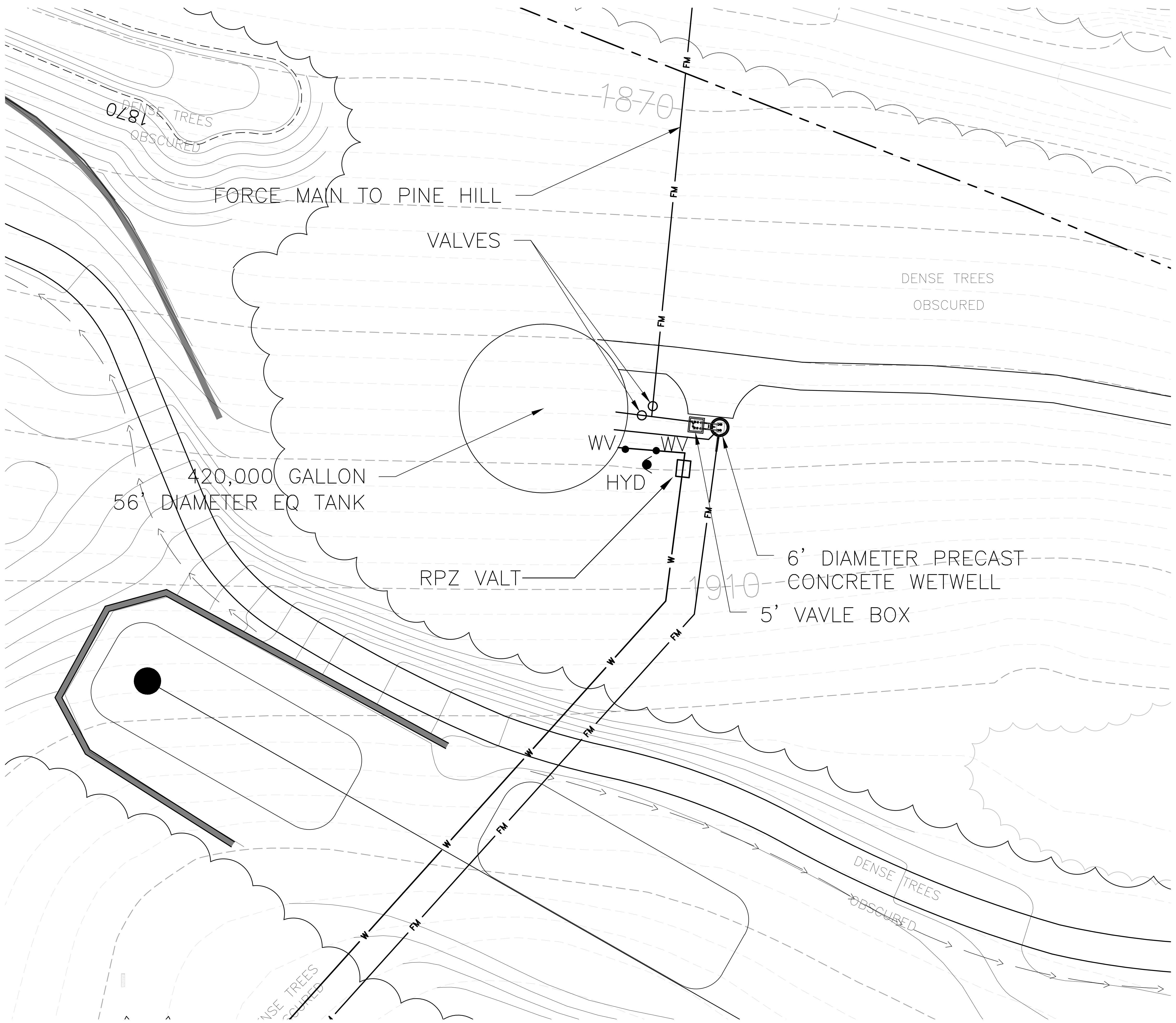
PN19



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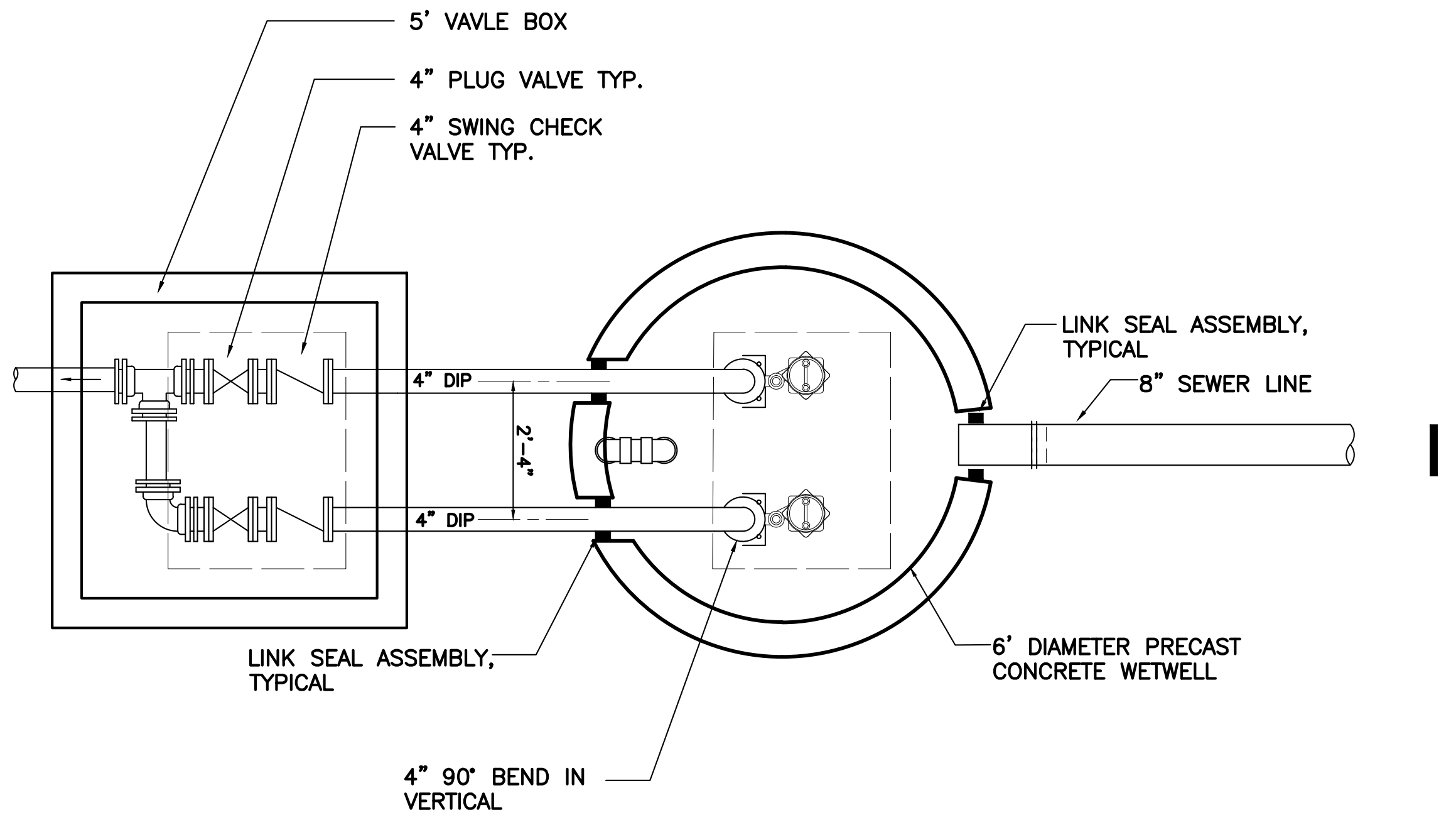
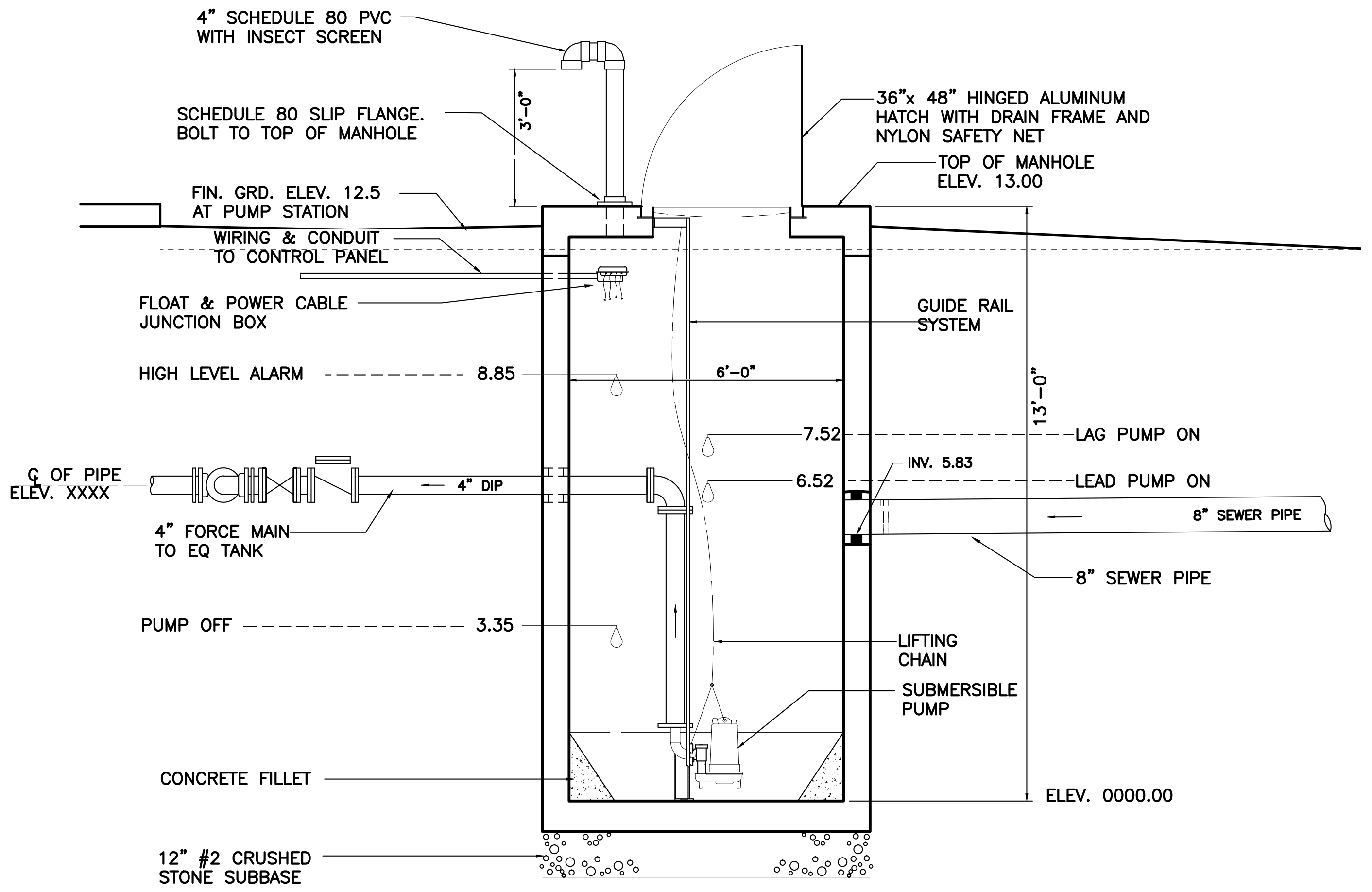
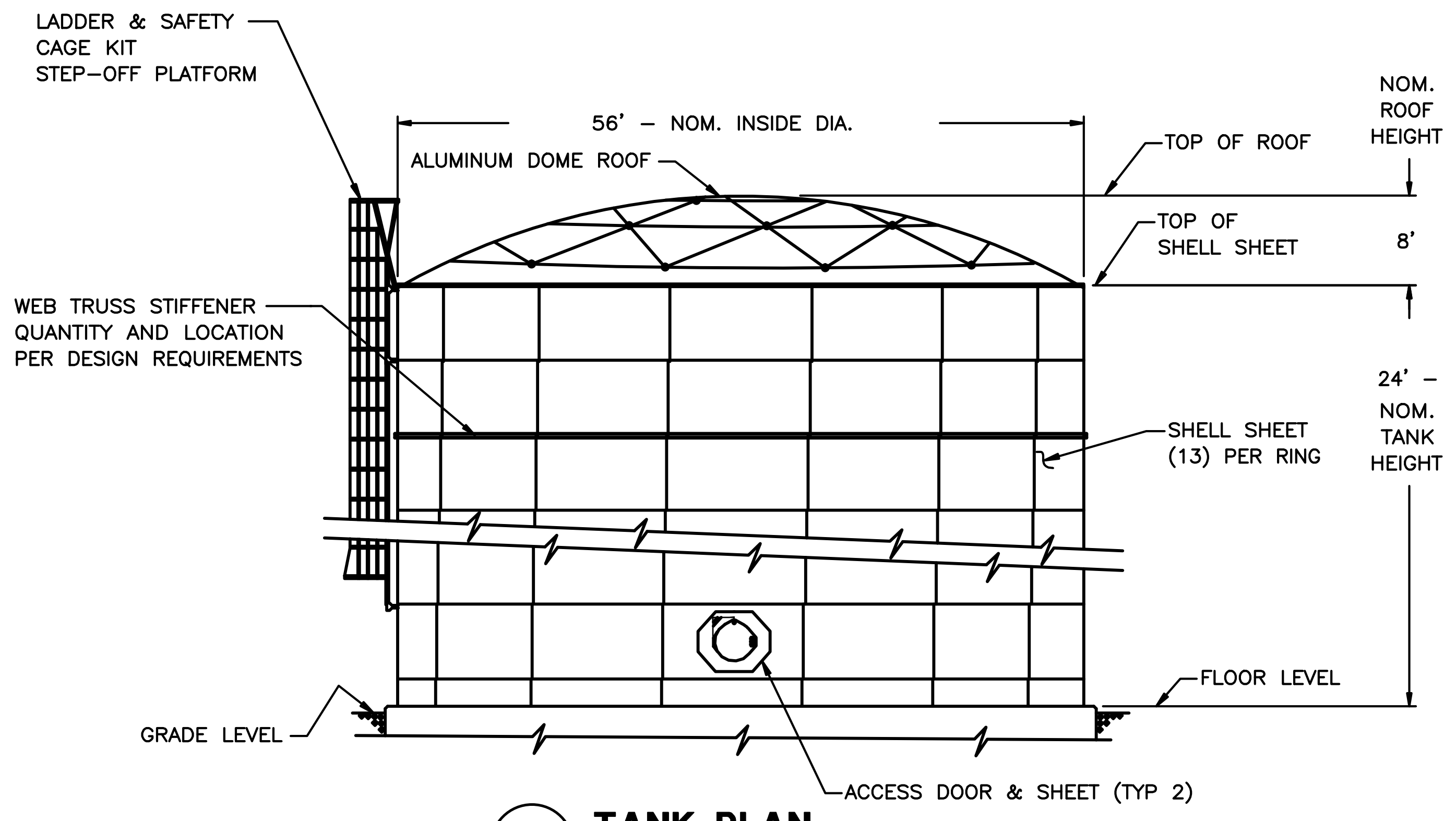
SCALE: 1"=20'
CROSS REFERENCE: NONE



2 PN20 **PLAN WETWELL**
SCALE: 3/8"=1'
CROSS REFERENCE: NONE



3 PN20 **SECTION WETWELL**
SCALE: 3/8"=1'
CROSS REFERENCE: NONE



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CTM PROJECT NO: 09.9007

PREPARED FOR:
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The Modified Belleayre Resort at Catskill Park
Wildacres Resort & The Highmount Spa Resort
Town of Shandaken & Town of Middletown, New York
PRELIMINARY WATER AND SEWER DESIGN

Key Plan

NORTH

Revisions

Project: 07074
Date:

Drawing
PN20

APPENDIX E

Well Field Hydrology Report

Pumping Tests at the K Well Field and Q1 Well
Fleischmanns, New York

Belleayre Resort at Catskill Park

Prepared for:

Crossroads Ventures LLC
72 Andrew Lane Rd
P.O. Box 267
Mount Tremper, New York 12457

June 22, 2009

ALPHA
GEOSCIENCE

ALPHA
GEOSCIENCE
Geology
Hydrology
Remediation
Water Supply

Pumping Tests at the K Well Field and Q1 Well
Fleischmanns, New York

Belleayre Resort at Catskill Park

Prepared for:

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June 22, 2009

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EXECUTIVE SUMMARY

Crossroads Ventures LLC conducted pumping tests on new wells in 2007 and 2008 as part of developing a potable water supply for the proposed Belleayre Resort at Catskill Park (the Resort). The impetus for installing and testing the new wells was to avoid the use of the Rosenthal wells, which are located in the Birch Creek valley in Pine Hill, New York. Concerns had been raised regarding the use of the Rosenthal wells and the potential effect on the flow in Birch Creek. The preference of the non-governmental organizations, which were signatories to the Agreement In Principle for this project, was to prioritize the use of other potable water sources over the Rosenthal wells. In keeping with this preference, the new wells are located outside of the Birch Creek drainage system and near the Village of Fleischmanns, New York (the Village).

Two, three-day duration, constant rate pumping tests were conducted in autumn 2007 at the K well field, which consists of three production wells (K2, K3 and K4) that are located near the west end of the Village. Another three-day constant rate pumping test was conducted in autumn 2008 at the Q1 well, which is located near the east end of the Village. The two pumping tests at the K well field were conducted according to the September 14, 2007 Pumping Test Protocol (2007 Protocol) that was submitted to, and approved by, the New York State Department of Environmental Conservation, the New York State Department of Health, and the NGOs. The pumping test at the Q1 well was conducted according to the October 9, 2008 Pumping Test Protocol (2008 protocol) that was submitted to, and approved by, these same entities.

K Wellfield Pumping Tests

The K wells were installed to provide the primary sources of potable water for the Resort. The objectives of the two pumping tests were to determine the sustainable yield from various two-well combinations of wells K2, K3, and K4; to assess the potential effects of pumping those wells on nearby water supplies, surface waters and springs; and to evaluate the quality of the water from the wells.

The first test was a simultaneous pumping test that involved pumping wells K2 and K4 at average rates of 65 gpm each for 76 hours beginning on September 25, 2007 (130 gpm). Total drawdowns of 99.1 and 98.3 feet were measured during this test at wells K2 and K4, respectively. Long term projections based on 180 days of continuous pumping of both wells at 65 gpm each, with no aquifer recharge, resulted in projected total drawdowns of 102 and 101 feet at wells K2 and K4, respectively. The available drawdowns projected in K2 and K4 at the end of the 180-day hypothetical pumping period are 119 feet and 91 feet, respectively. The final six hours or more of water level data from the simultaneous, constant rate pumping test of wells K2 and K4 (130 gpm total) show stabilized water levels were achieved according to the NYSDOH criteria. Water levels in the two pumping wells achieved 90% recovery within 1½ hours after the test was ended.

The second test at the K well field was a simultaneous pumping test that involved pumping wells K3 and K4 at average rates of 75 gpm and 82 gpm, respectively, for 73.25 hours beginning on October 2, 2007 (157 gpm total). Total drawdowns of 132.2 feet and 125.9 feet were measured during this test at wells K3 and K4, respectively. Long term projections based on 180 days of continuous pumping of K3 at 75 gpm and K4 at 82 gpm, with no aquifer recharge, resulted in projected total drawdowns of 137 and 128 feet, respectively. The available drawdowns projected in K3 and K4 at the end of the 180-day hypothetical pumping period are 55 feet and 64 feet, respectively. The final six hours or more of water level data from the simultaneous, constant rate pumping test of wells K3 and K4 (157 gpm total) show stabilized water levels were achieved according to the NYSDOH criteria. Water levels in the two pumping wells achieved 90% recovery within 1½ hours after the tests were ended.

Water level and water quality data show that neither of the pumping tests impacted any surface water body or spring. Two residential wells (the Mansion Well and Trailer Well) experienced drawdowns resulting from the pumping tests conducted at the K well field. The Mansion Well and the Trailer Well experienced drawdowns of 19.2 and 13.5 feet, respectively, during the K2-K4 test, and 23.8 and 17.4 feet, respectively, during the K3-K4 test. These drawdowns are minimal and will not diminish the availability of water from these domestic wells. No drawdown was experienced at the Village of Fleischmanns water supply wells, which are much further away from the K well field than the Mansion Well or the Trailer Well.

The results of water quality analyses show that arsenic was the only parameter where the NYSDOH Part 5 MCL was exceeded. The arsenic levels exceeded the MCL in all three pumping wells; consequently, water from the K well field will need treatment to reduce arsenic concentrations to acceptable levels. The results of a ground water under the direct influence of surface water (GWUDI) determination, which included microscopic particulate analyses on all three wells, indicate there is a low risk (EPA risk factors = 0) of contamination by surface water.

The review and analysis of data collected during the two simultaneous, constant rate, pumping tests demonstrate that the K well field is capable of sustaining a long term, average pumping rate of 157 gpm. The well field is capable of sustaining this rate without adversely impacting existing water supplies, streams, or springs.

Q1 Well Pumping Test

The Q1 well was installed and the pumping test was conducted to seek approval to use the well as a backup source of potable water for the Resort. The objectives of the pumping test were to determine the sustainable yield from well Q1; to assess the potential effects of well Q1 pumping on nearby water supply wells, surface waters and springs; and to evaluate well Q1 water quality. Particular attention was placed on the Village’s water sources, which include nearby springs and water supply wells.

The pumping test involved pumping well Q1 at an average rate of 45 gpm for 75 hours beginning on November 7, 2008. A total drawdown of approximately 124 feet was measured at well Q1 during the test. The drawdown in the well is projected to be approximately 138 feet after 180 days of continuous pumping at 45 gpm, with approximately 173 feet of available drawdown remaining. The final six hours or more of water level data from the constant rate pumping test of well Q1 show stabilized water levels were achieved according to the NYSDOH criteria. The water level in well Q1 achieved 90% recovery within 3 hours after the test was ended.

The results of laboratory water quality analysis for well Q1 indicate that none of the NYSDOH Part 5 Maximum Contaminant Levels were exceeded. The results of a GWUDI determination, which included a microscopic particulate analysis, indicate there is a low risk (EPA risk factors = 0) of contamination by surface water.

The review and analysis of data collected during the constant rate pumping test demonstrates that well Q1 is capable of sustaining a long term, average pumping rate of 45 gpm. The evaluation of well Q1 pumping influence on existing wells, and the evaluation of spring flow and water quality data during the test, indicates that the well is capable of sustaining the 45 gpm rate without adversely impacting existing water supplies, streams, or springs. The analyses further indicate that the Q1 well and Village well 2 can sustain their pumping rates together without adversely impacting each other, or the Village's backup well 4.

1.0 INTRODUCTION

This report by Alpha Geoscience (Alpha) presents the results of pumping tests conducted on three of the K-series wells (K-wells) and on the Q1 well. All of the wells are located in, or adjacent to, the Village of Fleischmanns (the Village), Town of Middletown, Delaware County, New York. The pumping tests were undertaken by Crossroads Ventures LLC (Crossroads) as part of developing a potable water supply for the proposed Belleayre Resort at Catskill Park (the Resort). The development of these wells as water sources for the project would allow the project to satisfy its water demands without the use of the Rosenthal wells. It is the preference of the non-governmental organizations (NGOs), which were signatories to the Agreement In Principle (AIP) for this project, to prioritize the use of other potable water sources over the Rosenthal wells.

The field testing, data analysis and report preparation were completed by Alpha at the request of Crossroads. Titan Drilling Corporation, of Arkville, New York (Titan) provided the necessary testing equipment. Titan and Crossroads personnel assisted Alpha in the collection of field data associated with the pumping tests. Mr. Paul Rubin was the on-site hydrogeologist representing the NGOs during the pumping tests conducted on the K-wells, was present during all of the testing of those wells, and assisted with conducting and recording manual water level readings. Mr. Michael Meyers, the Village Water Commissioner, represented the Village during the Q1 test, observed the procedures of the test, and was present during the well and stream manual water level measurements. Mr. Meyers also assisted Crossroads personnel with a short term test of Village well 2.

The pumping tests at the K well field were conducted in late September and early October of 2007. The Q1 well pumping test took place in early November 2008. The remainder of this report is divided into two major sections. Section 2.0 addresses the pumping tests conducted at the K well field, including the methods, results and conclusions. Section 3.0 addresses the pumping test conducted at the Q1 well, including methods, results and conclusions.

2.0 K WELL PUMPING TESTS

The K well field is located on the west side of Todd Mountain Road and south of Route 28 in the Village of Fleischmanns (Figure 1). The pumping tests were conducted according to the September 14, 2007 Pumping Test Protocol (2007 protocol) that was submitted to, and approved by, the New York State Department of Environmental Conservation (NYSDEC), the New York State Department of Health (NYSDOH), and the NGOs. The detailed protocol followed the NYSDEC and NYSDOH requirements as set forth in Exhibit G, Section B, of the AIP. The 2007 Protocol is included herein as Appendix A.

The primary objectives of the testing were to determine the sustainable yield from some combination of wells K2, K3, and K4 and to assess the potential effects of pumping those wells on nearby residential wells, the Fleischmanns municipal water supply, Todd Mountain Brook, Emory Brook, and the Bush Kill

2.1 SCOPE OF WORK

The following primary tasks were performed using the procedures described in the pumping test protocol.

- Conducted individual step-rate pumping tests on wells K2, K3 and K4;
- Attempted a 72-hour, simultaneous constant rate pumping test of wells K1, K2 and K3;
- Conducted a 72-hr simultaneous constant rate pumping test of wells K2 and K4;
- Conducted a 72-hr simultaneous constant rate pumping test of wells K3 and K4;
- Monitored water levels in the bedrock pumping wells, bedrock observation wells, and local streams;
- Monitored precipitation at the K-well field;
- Collected water quality samples from all three pumping wells and submitted them for analysis by a NYSDOH-approved laboratory for parameters established in Subpart 5-1 of the State Sanitary Code (Part 5 parameters);

- Collected Microscopic Particulate Analysis (MPA) samples from the three pumping wells to evaluate the potential for Ground Water Under the Direct Influence (GWUDI) of surface water;
- Monitored surface water and ground water quality;
- Monitored water level recovery;
- Conducted down-hole conductivity and temperature profiling of the K-wells; and
- Surveyed elevations and locations of all monitoring stations

2.2 METHODS

2.2.1 Test Setup

The testing of wells K2, K3 and K4 was conducted using submersible pumps supplied by Titan. Water was discharged from each of the wellheads to large receptacles located near each well to prevent discharge to the land surface near the wells, to reduce the potential for erosion, to facilitate manual checking of discharge rates, and allow for sample collection ((Appendix B, Photograph 1)(All photographs referred to in this report are included in Appendix B)). The discharge water from each receptacle was then drained by gravity through two 4-inch diameter plastic pipes and discharged directly into a steel culvert beneath a driveway (Photograph 2), which is located approximately 175 ft downhill from well K3. The water was allowed to drain from the culvert via the existing ditch on the other side of the driveway, down to the ditch alongside of the railroad bed. The railroad ditch drains to a ditch alongside Route 28 and empties into the Bush Kill, at a location downstream of the confluence with Todd Mountain Brook. The drainage pathway of the discharge water is shown on Figure 2.

Ball valve and pipe orifice plate/manometer systems were used to regulate flow rates at the three pumping wells. This setup provides a convenient means of adjusting the flow rate to keep it as nearly constant as possible. A circular orifice plate (or weir plate) with a smaller inner diameter than the discharge pipe was attached to the end of the discharge pipe. The weir plate created backpressure that is reflected in a corresponding height of water in the manometer (Photograph 1 and Inset). The water column height in the manometer tube was calibrated to the correct, measured flow rate by checking the time necessary to fill a 30-gallon container. The manometer readings were monitored routinely to check that the flow rate was near the target. Periodic measurements of the flow rate also were made with a stopwatch and 30-gallon container to make sure the manometer readings were valid. The ball valve provided the means of adjusting the discharge rate if the manometer reading or measured flow rate was too low or too high (Photograph 3).

Titan installed two plastic tubes in wells K2, K3 and K4 to accommodate a probe for manual water-level measurements and a transducer for automated water level measurements (Photograph 3). The transducers were also equipped with a sensor for automated, down-hole temperature measurements. Field personnel used electronic water level meters for the manual measurements in the pumping wells and In-situ brand data logger and pressure transducer systems for the automated measurements. Field data were collected by Alpha, Titan, Crossroads personnel, and Mr. Rubin.

2.2.2 Precipitation Monitoring

A rain gauge was installed in an open area near well K3, and the gauge was checked daily in the morning. A log of the precipitation recorded at the well field is included as Table 1. Each measurement represents the rainfall that occurred within the 24-hrs prior to the morning measurement.

The precipitation data recorded at the Belleayre Mt. Ski Center were also obtained to supplement the well field data collected during the pumping tests (Appendix C). Hourly precipitation data is recorded at the Ski Center as part of the NYSDEC’s atmospheric deposition monitoring network and converted to daily precipitation values. Each value in Appendix C represents the total amount of rainfall that occurred as of midnight on that day.

2.2.3 Water Level Monitoring

Water levels were measured in the K wells for approximately two weeks prior to the constant rate testing, throughout the pumping tests, and for over a week following the completion of all well testing. Water levels were also measured at three nearby bedrock residential wells, four bedrock wells owned by the Village of Fleischmanns, two stream locations on Todd Mountain Brook, three locations on the Bush Kill, and one location on Emory Brook. The purpose of the water level measurements was to evaluate the effects of pumping the K wells on these water supplies and surface waters. The water level measurements at these locations included a combination of manual and automated water levels and were made during roughly the same time frame as the K Well monitoring. All of these monitoring points were located by Alpha using a GPS receiver and are shown on Figure 1. Rettew Engineering and Surveying, P.C., performed the elevation survey of the monitoring locations. The elevation survey data for the monitoring points, including the K wells, is presented in Table 2A.

2.2.3.1 K Wells

The locations of wells K1 through K4 are shown on Figure 1. The well driller's logs for the four wells are contained in Appendix D. Only three of the four K-wells (K2, K3 and K4) are planned for use as water supply wells for the project. The depths of wells K2, K3 and K4 are 373 ft, 323 ft and 365 ft deep, respectively. Well K1, which is 448 ft deep, was used as an observation well during the pumping tests of the other three wells. Table 2B includes additional K well elevation data for the ground surface and the PVC tubes used for water level measurements during the pumping tests.

Automated pressure transducers, with data recording capabilities, were installed in all four K wells to record water temperature and water levels prior to, during, and after the pumping tests (recovery). The resulting water-level data for the K wells is on the compact disc included in Appendix E. Manual water-level measurements were also made at the K wells to provide a backup in the event of data logger failure.

2.2.3.2 Bedrock Residential Wells

The three residential wells monitored during the pumping tests included the Banks well, the Coombs well, and the Mansion well (Figure 1). Elevation survey data for these wells is included in Table 2A. The Banks well is approximately 800 feet east of the K well field, the Coombs well is approximately 1,100 feet to the south, and the Mansion well is located approximately 1,000 feet to the west of the well field.

The pump setting in the Banks well is 130 feet according to a Titan repair log. The actual depth of the Banks well is not known, but the pump setting indicates the total depth of the well is likely to be no more than about 150 feet. Mr. Coombs indicated that his well is 400 feet deep and yields about 2 gpm. The Titan drilling log for the Mansion well, which was drilled September 2002, indicates that it is 598 feet deep, with 20 feet of casing and an estimated yield of 1.5 gpm (Appendix D).

Water levels in the Banks and Coombs wells were measured manually prior to, during and after the pumping tests at intervals of one to three times per day. The water level data recorded for the Banks and Coombs wells are presented in Tables 3 and 4, respectively. An automatic data logger and pressure transducer was installed in the Mansion well at the request of the owner in order to minimize visitation by field personnel. Water-level measurements in the Mansion Well were recorded every thirty-minutes prior to constant rate testing and at ten-minute intervals after commencement of the pumping tests. The water-level data for the Mansion Well is on the compact disc included in Appendix E.

2.2.3.3 Village Wells

The four wells owned by the Village of Fleischmanns that were monitored for the K well pumping tests include Village Wells 1A, 3, 4 and the Trailer well (Figure 1). Elevation survey data for all of these wells are included in Table 2A. Wells 3 and 4 historically have been part of the Village water supply system and their records are on file with the NYSDOH. A borehole camera survey by the Village in August 2007 indicated that Well 3 is actually 236 ft deep, which is deeper than the 140 ft depth reported in the NYSDOH records (Alpha, 2008). It is located at the west end of the ball field, next to the tennis courts, and has no pump currently installed.

Well 4 typically is operated only during conditions of high demand and low spring yield. Well 4 is also used when Well 2 production is not enough to meet the demand. NYSDOH records indicate Well 4 is 410 feet deep with a yield of 70 gpm. Well 4 reportedly was not used by the Village during the pumping tests at the K well field. Water level measurements in Well 4 are made with an electronic water level meter through a port at the top of well head assembly (Photograph 4).

Village Well 1A is located approximately five feet south of Village Well 1 (Photograph 5), which has been out of service since 1996. Well 1A is a 145-ft deep well that was drilled into bedrock by the Village, in 2007, as a potential replacement well for Well 1. The Village reportedly has no plans to incorporate Well 1A into the Village water supply at this time (Alpha, 2008). Well 1A was monitored as a sentinel well for Village Well 2, since the well head configuration at Well 2 does not allow for manual water-level measurements. Well 2 is the primary production well for the Village and reportedly operates automatically when the Village spring reservoir level drops below a certain level. The Village water department agreed to shut off Well 2 during the K well pumping tests, unless it became necessary to operate due to low levels in the spring reservoir.

The Trailer well is owned by the Village and is located northeast of the K well field, on the opposite side of the Bush Kill valley, and near the new waste water treatment plant (Figure 1). The well is not in use and its total depth and yield are unknown. The well depth is greater than the deepest water level (68 ft) that was recorded during the K well pumping tests. The Trailer well is interpreted to be installed in bedrock based on the information contained in a Well Completion Report filed with the NYSDEC for a nearby residential well, NYSDEC Well Number D1157. Well D1157 is located approximately 250 ft uphill from the Trailer well (Figure 1). Well D1157 is a 210-ft deep bedrock well with 11 feet of overburden, 20 feet of casing, and an estimated yield of at least 20 gpm (Appendix D). It is reasonable to assume that the well construction at the Trailer well is similar to that of well D1157.

Water levels at the Village wells were measured manually prior to, during and after the pumping tests at intervals of one to three times per day. The water level data recorded for Well 3, Well 4 and the Trailer well are presented in Tables 5, 6 and 7, respectively. A data logger/pressure transducer was also installed in Well 1A, and water levels were recorded at 10-minute intervals throughout the monitoring period. The logger data for Well 1A are included in the compact disc provided in Appendix E.

2.2.3.4 Streams

Surface water level measurements were recorded at one location on Emory Brook, two locations on Todd Mountain Brook, and three locations on the Bush Kill (Figure 1). Emory Brook and Todd Mountain Brook are tributaries to the Bush Kill. Measurements at these locations, except for Upper Todd, were made of the depth to water from a fixed point, such as a nail in a tree or a mark on a boulder (Photographs 6 and 7). Measurements at Upper Todd were made by reading the height of the water as measured on the NYCDEP stream gage at that location (Photograph 8). Elevation survey data for the stream locations are included in Table 2A. Water levels at the stream locations were measured manually prior to, during and after the pumping tests at intervals of one to three times per day. The stream water level data for Todd Mountain Brook, Emory Brook and the Bush Kill are presented in Tables 8, 9 and 10, respectively.

2.2.4 Spring Flow Monitoring

The pumping test protocol (Appendix A) discussed spring flow monitoring at K1 Spring and at the Fleischmanns Springs. K1 Spring is a minor spring/seep located approximately 10 feet from well K1 (Figure 1). Measurements of actual spring yield were made in lieu of well point measurements. The spring yield was measured directly by creating a small dam and inserting a pipe through the dam. The discharge was measured at the pipe outfall using the stopwatch and calibrated bucket method (Photograph 9). The spring yield data are presented in Table 11.

The Fleischmanns springs are located uphill from Village Well 4 and are approximately 1.5 miles east of the K well field. The spring collection system has been upgraded and the configuration is no longer conducive to isolating and manually measuring spring flows. Delaware Engineering previously outfitted the spring collection system with in-ground weirs and data loggers that automatically record the water temperature and the spring flow into the reservoir every two hours. Delaware provided the data from July 2007 through November 2007; unfortunately, they reported and that the flow data are unreliable due to a potential problem with heat and/or humidity that caused erroneous flow data (e.g., zero flow when there is clearly flow into the reservoir; and erratic flow rate changes of 200 gpm within a two-hour period).

Alpha personnel visited the reservoir on September 24, 2007 and on October 3, 2007 and noted the reservoir level, flow characteristics into the reservoir, and overflow from the reservoir. Photograph 10 shows the Fleischmanns spring flow into the reservoir on September 24, 2007. No overflow from the reservoir was present on either date.

2.2.5 Water Quality Testing

Water samples of the pump discharge from K2, K3 and K4 were collected for field analysis of conductivity, total dissolved solids (TDS), pH, temperature and turbidity. Odor and color of the discharge water were also noted. The samples were collected periodically to evaluate water quality changes during the progression of the test. The field water quality data for K2, K3 and K4 is presented in Table 12.

The transducers installed in the four K wells, the Mansion Well, and Village Well 1A also recorded water temperature at the same frequency as the water-level measurements in these wells. The water temperature data are included with the water level data on the CD in Appendix E.

Samples were also collected for field analysis of the aforementioned parameters from the water-level monitoring locations on Todd Mountain Brook, Emory Brook and the Bush Kill. The field water quality data from the three streams are presented in Tables 13, 14 and 15. Additionally, automated temperature data loggers were installed in Emory Brook and at the upper Todd Mountain Brook location. The temperature data from these loggers are included in the CD in Appendix E.

Water quality samples were collected at wells K2, K3 and K4 near the end of their respective pumping tests for laboratory analysis of parameters defined in New York State's Sanitary Code - Part 5. The Part 5 samples were submitted to Phoenix Environmental Laboratories, Inc. of Manchester, Connecticut (Phoenix), a NYSDOH-certified laboratory. The laboratory reports with results of analysis on the Part 5 samples are included as Appendix F.

2.2.6 Step Rate Testing

Step rate tests were performed on wells K3, K2 and K4 on September 17, 18 and 19, 2007, respectively. The tests involved measuring water-level changes in the three wells in response to consecutively higher pumping rates at the pumping well. A summary of the individual step rate tests is included as Table 16. The water-level data from the step rate tests are included on the CD in Appendix E. The step rate data helped in choosing initial pumping rates for the constant rate tests, and can be used in the future as a baseline to evaluate well efficiency. The influence of the tests can be seen in the two-month linear plots of the water-level data recorded by the transducers in the K wells and the Mansion well (Figures 3-7). No influence was observable in the Village Well 1A data (Figure 8).

2.2.7 Constant Rate Testing

Table 16 includes a detailed, chronological summary of events related to the K2-K4 and K3-K4 constant rate pumping tests at the K well field. The first attempt to conduct a simultaneous, constant rate pumping test included wells K2, K3 and K4 and was initiated at 9:00 am on September 24, 2007. The pumping rates for the test were 80 gpm for each of wells K2 and K4, and 50 gpm for well K3, for a total well field rate of 210 gpm. A problem with the generator necessitated shutting the test down after a few hours. A replacement generator was obtained by Titan overnight and a three-well test began again at 9:00 am the following day, September 25, 2007, since the wells had recovered sufficiently from the brief, initial testing. This pumping test began with all three wells pumping at 65 gpm, but was soon reduced to just wells K2 and K4 pumping at 65 gpm each for the remainder of the test (Table 16). The K3-K4 pumping test began the following week on October 2 and involved pumping K3 at 75 gpm and K4 at 82 gpm, for a total well field rate of 157 gpm.

2.2.7.1 K2 & K4 Simultaneous Testing

The K2-K4 simultaneous, constant rate pumping test began at the time that well K3 was shut off (12:00 noon, 9/25/07) and lasted 76 hours. The water levels rose for a time in response to the lower pumping rate after K3 was shut off; however, the water levels resumed a declining trend after approximately 1.5 hours. Wells K2 and K4 were each pumped at an average rate of 65 gpm for the entirety of the test. Discharge rate data for wells K2 and K4 during this test are presented in Tables 17 and 18, respectively. Per NYSDEC's T.O.G.S. 3.2.1, Recommended Pump Test Procedures for Water Supply Applications, the well K2 and well K4 discharge rates were each held within 5% of the design pumping rate (65 gpm) for the entire length of the test.

A cable shorted out and tripped the generator off at about 6:51 am on September 28, the final day of the pumping test. Titan personnel were able to restart the generator within two minutes. Within approximately one hour after resumption of pumping, the water levels in the pumping wells had returned to where they were prior to the temporary shut down (see Figures 3 through 6). The pumping test ended at 4:00 pm on September 28, 2007. Water level measurements continued to be made after the test to monitor recovery and see that 100% recovery was achieved in the K wells.

2.2.7.2 K3 & K4 Simultaneous Testing

The K3-K4 simultaneous, constant rate pumping test began at 8:30 am on October 2, 2007. Well K3 was pumped at an average pumping rate of 75 gpm during the test and K4 averaged 82 gpm. Discharge rate data for wells K3 and K4 during this test are presented in Tables 19 and 20, respectively. The well K3 discharge rate was held within 5% of the design pumping rate (75 gpm) for the entire length of the test. After initial adjustments to the well K4 discharge rate during the first hour of the test, the discharge rate was held within 5% of its design pumping rate of 82 gpm.

It was noted that the measured pumping rate in well K3 had slipped to just above 73 gpm (down from 75 gpm) for much of the second day of the pumping test, although the manometer readings were consistent with those from the first day of testing. Similarly, the measured pumping rate in well K4 had slipped to approximately 80 gpm (down from 82 gpm) during the same period, even though the manometer readings were again consistent with those from the first day of testing. Slight upward adjustments in the well K3 and well K4 pumping rates, which corresponded with slightly higher manometer readings, had to be made between the second and third day of testing in order to maintain the design rates. A period of increasing drawdown rate subsequently occurred as the water levels adjusted to the slightly higher pumping rates in K3 and K4. This period of water level adjustment is seen in the linear plots of the data (Figures 5 and 6) between late morning, October 4 and about midnight of October 5. The pumping rate adjustments are also seen in the discharge rate data (Tables 19 and 20) where the measured pumping rates correspond with higher readings on the manometers (pipe orifice tubes) than during the first two days of the test.

Mr. Bill Gilday (NYSDOH) was on site October 5, 2007 and acknowledged that the K3-K4 pumping test results, as of 9:45 that morning (73.25 hrs into the test), met the NYSDOH stabilization requirements. The pumps were operated for an additional hour in order to collect water quality samples. Water level measurements continued to be made after the test to monitor recovery and see that 100% recovery was achieved in the K wells.

2.2.8 GWUDI Evaluation

The NYSDOH requested that Microscopic Particulate Analysis (MPA) samples be collected from the pumping wells to evaluate the possibility of ground water under the direct influence of surface water (GWUDI). The NYSDOH required the GWUDI evaluation due to the relatively shallow (<50 ft below grade) casing depths of the K wells. MPA sampling began at K2 and K4 approximately 32 hours after recovery so that potential interference with the constant rate/stable level and recovery portions of the test would be eliminated. MPA sampling at K3 began approximately 58 ¾ hrs into the K3-K4 pumping test and ended at approximately 70.5 hrs into the test. The three MPA samples were submitted to Environmental Associates Ltd., of Ithaca, NY. The laboratory results of the MPA samples are included in Appendix G. Additionally, the hydraulic connection between the pumping wells and the local surface waters (streams) was evaluated via comparison of the water level and water quality monitoring data between the pumping wells and the streams.

2.2.9 Down Hole Temperature and Conductivity Logging

The conductivity and temperature profiles of the water column were logged in pumping wells K2, K3 and K4 by Aqua Terra Geophysics Inc., of Bellport, New York, on November 14, 2007, forty days after the final pumping test at the K well field. The profiles were logged using an electronic sensor that was lowered into the well on a cable at a specific rate of descent. A bore hole caliper was also included as part of the geophysical tools that were used in the wells. The conductivity and temperature profiling were initiated at the top of the water column and logged from top to bottom to avoid disturbance of the ambient conditions. The borehole caliper was employed on the return trip to the surface. The geophysical logs are included in Appendix H of this report.

2.3 RESULTS

2.3.1 Conditions

The simultaneous K2-K4 pumping test ran from September 25 through September 28, 2007. A total of 0.13 inches of rainfall were recorded at the Belleayre Ski Center during the week prior to the K2-K4 pumping test (Appendix C), and 1.60 inches of rainfall was recorded at the K well field during the pumping test. Most of this precipitation (1.4 inches) occurred on September 26 and 27 (Table 1). This is bit more than the 1.26 inches of precipitation recorded at the Belleayre Ski Center during the same time frame.

The K3-K4 pumping test ran from October 2 through October 5, 2007. Only a trace of rainfall was recorded at the well field after the K2-K4 test and throughout the K3-K4 test. This is also consistent with the rainfall recorded at the Belleayre Ski Center during the same time frame.

2.3.2 Pretest Data Analysis

Water level data collected prior to the simultaneous well yield test were used to evaluate natural water level trends. The water levels recorded by the automated data loggers installed in the four K wells, the Mansion Well and Village Well 1A all indicate that the water levels in the wells were relatively stable prior to step rate testing and prior to constant rate testing. Linear plots of the data, shown as drawdown, are presented in Figures 3 through 8 and the data files are contained on the CD in Appendix E. The water levels at the Mansion Well exhibited greater fluctuation than at the K wells, or Well 1A, prior to K well testing because of its daily use by the resident of the house. Drawdowns of up to 13 feet were recorded at the Mansion well prior to K well testing.

The effects of the step rate testing of K3, K2 and K4 also are shown on the graphs of the logger data from the bedrock observation wells K1 and the Mansion Well. The effect of the step rate testing is manifested as sudden drops in the water levels accompanied by rapid water level recoveries. Village Well 1A was not influenced by the step rate testing.

The graphs of the stream water-level data (Figures 9, 10 and 11) indicate relatively stable or slightly dropping water levels prior to the K well testing. The Banks well graph (Figure 12) shows slightly dropping water levels prior to testing, while the Coombs well water levels were relatively stable (Figure 13). The data for these two wells may reflect the fact that the Coombs residence was not occupied during the week as compared to the Banks residence, which was occupied more frequently. Village Well 3 and the Trailer Well both exhibited relatively stable water levels prior to K well testing (Figures 14 and 16), whereas water levels in Village Well 4 appeared to be dropping from earlier, higher water levels likely associated with rainfall events (Figure 15).

2.3.3 K2-K4 Simultaneous Constant Rate Pumping Test

2.3.3.1 Drawdown

2.3.3.1.1 Pumping Wells

The potential level of impact to a well due to pumping is evaluated by comparing the available drawdown in the well prior to pumping and at the end of pumping. Drawdown is the lowering of the water level in a well as a result of water withdrawal. Available drawdown is the height of the water column in the well available for use. The available drawdown is considered a minimum estimate of the water immediately available in the well, since the well is hydraulically connected to an aquifer that transmits water to the well.

Total drawdowns of 99.1 ft and 98.3 ft were measured at wells K2 and K4, respectively, during the simultaneous, constant rate test of K2 and K4. There was 121.9 feet of available drawdown in well K2 at the end of the pumping test, based on a pump setting of 353 feet below grade (355.7 ft below PVC). There was 93.8 feet of available drawdown at well K4, at the end of the test, based on a pump setting of 345 feet below grade (347.5 ft below PVC).

Separate semi-log graphs of elapsed time versus drawdown for wells K2 and K4 during the K2-K4 constant rate test are presented in Appendix I. The K2 semi-log graph shows that the drawdown data fall roughly on a straight line for nearly the last two days of the pumping test. The K4 semi-log graph shows that the drawdown data fall roughly on a straight line for at least the last day and a half of the pumping test. No positive or negative hydraulic boundaries were encountered at wells K2 and K4 during the K2-K4 constant rate pumping test.

Best-fit lines of the final day of pumping at wells K2 and K4 were extrapolated and used to project drawdown at each well as a result of pumping both wells continuously for 180 days at 65 gpm each (Appendix I). Drawdowns of 102 and 101 feet are projected at wells K2 and K4, respectively. The available drawdown (i.e., the water column in the well above the pump) projected in well K2 at the end of the 180-day pumping period is approximately 119 feet; in well K4, it is projected to be approximately 91 feet. The projections satisfy the NYSDEC portion of the NYSDOH/NYSDEC hybrid pumping test protocol developed for this project.

The final six hours or more of water-level data from wells K2 and K4 were plotted on separate stabilization plots (Appendix I). These linear plots also indicate the range of water-level fluctuation allowed by the NYSDOH in Section 5-D.4(c) of Appendix 5-D, NYS Sanitary Code, as repeated on page 8 of the pumping test protocol included as Appendix A. The water levels at the end points of stabilization plots are not lower than the beginning points. The pumping rates were maintained during this time period as required and the range of fluctuation observed meets the NYSDOH stabilization criteria.

2.3.3.1.2 Observation Wells

The water level data from Village wells 1A, 3, and 4 indicate that they were not influenced by the simultaneous pumping of wells K2 and K4 (Figures 8, 14 and 15). The Banks and Coombs residential wells, which are closer to the K wells than the Village wells, also were unaffected during the test (Figures 12 and 13).

The water level data indicate that well K1, well K3, the Mansion Well, and the Trailer Well (Figure 1) were hydraulically influenced by the simultaneous pumping of wells K2 and K4. Well K1, which is 225 feet north of the closest pumping well (K2), experienced a drawdown of 30.6 feet during the K2-K4 pumping test (Figure 3). Well K3, which is 145 feet north of well K2, experienced a drawdown of approximately 95.3 feet. The Mansion Well, which is 1,000 feet west of K2, experienced a drawdown of 19.2 feet (Figure 7). The Trailer Well, which is 1,910 feet northeast of K2, and on the opposite side of the Bush Kill, experienced a drawdown of approximately 13.5 feet (Figure 16).

The drawdown at the Mansion well (19.2 ft) is very small compared to the available drawdown in the well at the end of the K2-K4 pumping test, which was approximately 352 feet; consequently, the Mansion Well will continue to meet the needs of this seasonal residence. Well K1 and the Trailer Well are not in use.

2.3.3.2 Recovery

Water level recovery data recorded by the data loggers in wells K2 and K4 are included in the CD in Appendix E. The linear plots of well K2 and well K4 water level data (Figures 4 and 6) show that both pumping wells experienced rapid recovery after shutting the pumps off on September 28, 2007. The data indicate that Well K2 had achieved 90% recovery 89 minutes after pumping stopped and that 100% recovery was achieved after approximately 17 hours. Well K4 had achieved 90% recovery 81 minutes after pumping stopped and 100% recovery within 19 hours.

The data indicate that the Mansion Well had achieved 100% water-level recovery within one day (Figure 7; data in Appendix E), despite the frequent use of the well by the tenant. The Trailer Well water-level data (Table 7; Figure 16) indicate 100% recovery within 20 hours.

2.3.4 K3-K4 Simultaneous Constant Rate Pumping Test

2.3.4.1 Drawdown

2.3.4.1.1 Pumping Wells

Total drawdowns of approximately 132.2 ft and 125.9 ft were measured at wells K3 and K4, respectively, during the simultaneous, constant rate test of K3 and K4. There were approximately 59.6 feet of available drawdown in well K3 at the end of the pumping test, based on a pump setting of 303 feet below grade. There were approximately 66.4 feet of available drawdown at well K4, at the end of the test, based on a pump setting of 345 feet below grade.

Separate semi-log graphs of elapsed time versus drawdown for wells K3 and K4 during the K3-K4 constant rate test are presented in Appendix J. The semi-log graphs for wells K3 and K4 show that the drawdown data falls roughly on a straight line for approximately the last 12 hours of the pumping test. The pumping test lasted for 73.25 hours, which was the time into the pumping test at which Mr. Gilday (NYSDOH) acknowledged that the stabilization criteria of the NYSDOH had been met in both wells. No positive or negative hydraulic boundaries were encountered at wells K3 and K4 during the K3-K4 simultaneous constant rate test. The inflection shown in the K3 and K4 semi-log plots is associated with a period of water level adjustment in response to slightly high pumping rates, as discussed in Section 2.2.7.2. This inflection does not reflect influences from a negative hydraulic boundary. The water levels in the pumping wells would have continued to drop sharply had a negative boundary actually been encountered.

Best-fit lines of the final 12 hours of pumping at wells K3 and K4 were extrapolated and used to project drawdown at each well as a result of pumping well K3 at 75 gpm and well K4 at 82 gpm continuously for 180 days (Appendix J). Data collected prior to the final 12 hours were not considered in creating the best fit lines due to the fact that the water levels were still adjusting to the slightly higher pumping rates (75 gpm vs. 73 gpm in K2; 82 gpm vs. 80 gpm in K4). Drawdowns of 137 and 128 feet are projected at wells K3 and K4, respectively. The available drawdown (i.e., the water column in the well above the pump) projected in well K3 at the end of the 180-day pumping period is approximately 55 feet; and the available drawdown in well K4 is projected to be 64 feet. The projections satisfy the NYSDEC portion of the NYSDOH/NYSDEC hybrid pumping test protocol developed for this project.

The final six hours or more of water-level data from wells K3 and K4 were plotted on separate stabilization plots (Appendix J). These linear plots also indicate the range of water-level fluctuation allowed by the NYSDOH in Section 5-D.4(c) of Appendix 5-D, NYS Sanitary Code, as repeated on page 8 of the pumping test protocol included as Appendix A. The water levels at the end points of stabilization plots are not lower than the beginning points. The pumping rates were maintained during this time period as required and the range of fluctuation observed meets the NYSDOH stabilization criteria.

2.3.4.1.2 Observation Wells

The pattern of affected and unaffected observation wells for the K3-K4 pumping test remained the same as it was for the K2-K4 pumping test. The water level data from Village wells 1A, 3, and 4 indicate that they were not influenced by the simultaneous pumping of wells K3 and K4 (Figures 8, 14 and 15). The Banks and Coombs residential wells, which are closer to the K wells than the Village wells, also were unaffected during the test (Figures 12 and 13).

The water level data indicate that Well K1, Well K2, the Mansion Well, and the Trailer Well (Figure 1) were hydraulically influenced by the simultaneous pumping of wells K3 and K4. Well K1, which is approximately 80 feet north of the closest pumping well (K3) experienced a drawdown of 36.8 feet during the K3-K4 pumping test (Figure 3). Well K2, which is located between the pumping wells (145 ft south of K3; 182 ft north of K4) experienced a drawdown of 125.3 feet. The Mansion Well, which is about 1,000 feet west of K3, experienced a drawdown of 23.8 feet (Figure 7). The Trailer Well, which is 1,780 feet northeast of K3, experienced a drawdown of 17.4 feet (Figure 16).

The drawdown at the Mansion well (23.8 feet) is very small compared to the available drawdown in the well, which is approximately 366 feet; consequently, the Mansion Well will continue to meet the needs of this seasonal residence. Well K1 and the Trailer Well are not in use. NYSDEC Well No. D1157, which is located approximately 225 feet further north (uphill) from the Trailer Well, is expected to experience less drawdown than the Trailer Well since it is further away from the K wells.

Village Well 1A, while unaffected by the two pumping tests, experienced a drop in water levels toward the very end of the K3-K4 pumping test (Figure 8). At approximately 8:35 am on October 5, the water level in Well 1A began to fall in a pattern indicative of a nearby pump being activated (Figure 8A). The water level continued to drop over the next 1 hr, 40 min and reached a maximum drawdown of approximately seven feet at 10:15 am, at which time the water level in Well 1A began to return rapidly to the previous level

The basis for concluding that the drawdown was not the result of the K3-K4 pumping test is predicated on three facts. First, the pumping test did not end until 10:45 am, which is 30 minutes after the water level in Well 1A already had begun to rise; consequently, the water level drop at Well 1A could not have been due to pumping at the K wells. Second, the drawdown and recovery signature at Well 1A is consistent with the pattern of water levels exhibited by Well 1A during August and September of 2008 (Figure 31), when Village Well 2 was known to be in frequent use. The water level at Well 1A during that time was approximately 11.5 ft below TOC when Village Well 2 was not pumping and was approximately 19 ft when Well 2 was pumping. Third, this same pattern at Well 1A was observed during a 6.5-hour pumping test conducted on Village Well 2 on November 14, 2008 (Section 3.6). Analysis of the pattern of water level data collected in the summer of 2008, and during the 6.5-hr pumping test on Village well 2, confirms that Village Well 2 was activated toward the end of the K3-K4 test and caused the approximately 7 feet of drawdown at 1A. The Village does not have records detailing the use of Well 2 during the period of the K well pumping tests.

2.3.4.2 Recovery

Water level recovery data recorded by the data loggers in wells K3 and K4 are included in the CD in Appendix E. The linear plots of the well K3 and well K4 water level data (Figures 5 and 6) show that both pumping wells experienced rapid recovery after the pumps were shut off at 10:45 am on October 5, 2007. The data indicate that Well K3 had achieved 90% recovery 79 minutes after pumping stopped and that 100% recovery was achieved after approximately 39 hours. Well K4 had achieved 90% recovery 88 minutes after pumping stopped and 100% recovery just after 24 hours.

The data indicate that the Mansion Well had achieved 100% water-level recovery within 2½ days (Figure 7; data in Appendix E), despite the frequent use of the well by the tenant. The Trailer Well water-level data (Table 7; Figure 16) indicate 100% recovery within two days.

2.3.4.3 Water Quality

2.3.4.3.1 Field Sampling

The field water quality data for the discharge water from wells K2, K3 and K4 are located in Table 12 and include temperature, specific conductivity (SC), total dissolved solids (TDS), pH and turbidity. A review of the data shows that temperature and pH of the discharge waters were relatively stable throughout each of the pumping tests. The temperature of the discharge in all three wells remained relatively stable at approximately 9.9° C (49.8°F). The pH of the discharge water from wells K2 and K3 averaged approximately 7.5, whereas the pH of the K4 discharge water was consistently above 8.0, and averaged 8.3.

The transducers in the four K wells, the Mansion Well, and Village Well 1A were all set to record temperatures at the same time as water levels. The transducers in the three pumping wells were installed within stilling tubes at approximately 20 feet above the pumps (the stilling tubes ended at approximately 10 feet above the pumps). The temperature data from the transducers is included with the water level data for each well and is on the CD in Appendix E. Graphs of the temperature data from the transducers are presented in Figures 17 through 22. The transducer temperature data indicate slightly cooler water temperatures in the stilling tubes than the discharge water (8.1°C for K2 and K3; 8.4°C for K4), although the probes were set at different water depths. Minor water temperature changes (up to 1°F) in response to pumping are evident in the graphs of the temperature data from wells K2, K3 and K4 due to apparent mixing of deeper, warmer water with shallower, cooler water.

Turbidity values measured during the constant rate tests (Table 12) decreased throughout the pumping tests (Figures 23-25). Turbidity in the discharge water from K3 and K4 decreased to below 1 nephelometric turbidity unit (NTU) by the end of the pumping test, and the turbidity of the K2 discharge water stabilized below 5 NTUs.

Specific conductivity values and TDS values increased in unison during pumping and leveled off toward the end of pumping tests (Figures 23-25). TDS is generally half the SC value; consequently, only the SC values are shown on Figures 23 through 25. Specific conductivity of the K2 and K3 discharge waters was very similar with stabilized values of approximately 480 microsiemens/centimeter (µs/cm). The SC of the well K4 discharge water stabilized at approximately 690 µs/cm during the K2-K4 constant rate test and remained near that value for the entirety of the subsequent K3-K4 constant rate test.

A strong sulfur odor, which indicates the presence of hydrogen sulfide, was consistently detected at the well K4 discharge by field personnel. Sulfur odors were negligible at wells K2 and K3 by comparison with K4. The presence of sulfur at low levels in the water may require treatment to address taste and odor; however, it does not preclude use as a potable supply.

2.3.4.3.2 Analytical Sampling

Samples were collected from well K2 and well K4 discharges near the conclusion of the K2-K4 constant rate pumping test. These were submitted to Phoenix for analysis of Part 5 parameters as stipulated in the pumping test protocol. The laboratory reported the next day, via telephone, that total coliform, but not *e-coli*, was present in the bacteria sample from K4. The fact that well K4 was to be pump-tested in conjunction with well K3 afforded an opportunity to collect a second sample for analysis of total coliform bacteria (Table 16). Total coliform was absent in the second bacteria sample from well K4.[1]

Portions of the Part 5 sample were collected from well K3 at two different times during the K3-K4 pumping test. Samples for time-sensitive parameters were collected at approximately 54 hrs into the test because the October 8 (Monday) Columbus Day holiday would have prevented these parameters from being analyzed within their holding times. Samples for the remaining parameters of the Part 5 analyses were collected at the end of the pumping test.

The results of the laboratory analyses (Appendix F) show that none of the NYSDOH Part 5 maximum contaminant levels (MCLs) were exceeded, except arsenic. The arsenic levels in K2,

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[1] Phoenix also reported that the radon samples from K2 and K4 were analyzed approximately one day outside of holding time due to a delay experienced during delivery to a separate lab. Neither of the two samples analyzed outside holding time had elevated radon levels. A second sample was collected from well K4 during the K3-K4 pumping test and was analyzed for radon within holding time. The second K4 sample also did not have elevated levels of radon. There is no maximum contaminant level for radon in drinking water in New York State.

K3 and K4 were 0.031 mg/l, 0.018 mg/l and 0.019 mg/l, respectively. All three of the reported concentrations exceed the MCL of 0.010 for arsenic; consequently, the water from all three wells may need to undergo treatment to reduce arsenic concentrations to below the MCL. Total coliform, as noted above, was present in the first sample from K4, but not in the re-sample. Total coliform was present in the well K3 sample and absent from the well K2 sample. No *e-coli* were present in any of the bacteria samples collected from the pumping wells.

2.3.5 Ground Water/Surface Water Evaluation

The results of the microscopic particulate analysis on the samples from wells K2, K3 and K4 (Appendix G) indicate that there is a low risk of surface contamination at all three well locations (EPA risk factors all = 0, low risk). No biological materials or other indicators of surface water were observed in the samples.

The stream water level data (Tables 8, 9 and 10), collected during the constant rate test, show no impact to the streams from pumping. Water levels at Todd Mountain Brook, Emory Brook and Bush Kill all rose quickly in response to precipitation events and fell gradually after such events, with no indication of a decline due to pumping (Figures 9, 10 and 11).

The comparison of field water quality data from the streams (Tables 13, 14 and 15) with the water quality data from the pumping wells (Table 12) shows distinctly different values for the measured parameters (except for pH). These results further indicate that there was no influence on well water quality from surface water. The pH in the streams and in wells K2 and K3 was near 7.5, whereas the pH in well K4 was consistently above 8.0. Turbidity generally increased in the surface waters through time, whereas the turbidity of the pumping well discharges decreased through time. Specific conductivity and TDS were significantly lower in the streams than in the well discharges.

The surface waters were consistently warmer than the discharge water from the pumping wells. The data from the automatic temperature loggers installed in upper Todd Mountain Brook and in

Emory Brook are shown in Table 21, and the data are contained on the compact disc in Appendix E. The stream temperatures exhibited diurnal fluctuations corresponding to air temperature changes and were between approximately 51°F and 58.7°F during the K well tests. Figure 26 shows a plot of the stream temperature data with the average well discharge temperature for comparison. The discharge water from the pumping wells was relatively constant and stayed between 9.7°C (49.5°F) and 10.1°C (50.2°F) during both pumping tests (Table 12). The discharge water temperature data from the transducers installed in the K wells is contained on the compact disc in Appendix E.

The water quality data from the K1 Spring is presented in Table 22. The pH of the K1 spring (6.7) is notably lower than that of the streams and the well discharge. The turbidity was less than 1 NTU except after precipitation events (Table 1) when the turbidity rose over 1 NTU. The temperature of the K1 Spring water was lower than the streams and higher than the well discharges. The TDS and SC of the spring water were similar to that of the surface waters and significantly lower than the well discharges. The K1 Spring yield (Table 11) increased in association with precipitation events and decreased gradually afterward with no additional precipitation. The water quality and yield data from the K1 Spring show no influence from pumping of the K wells.

The stream water level data, the differences in water quality between the pumping wells and streams, and the water quality and yield data of K1 spring are all consistent with the MPA results, which indicate the wells have no direct connection to surface waters and springs. Though no reliable data exists for the yield of the Village Springs during the K well pumping tests, as discussed in Section 2.2.4, it is reasonable to assume that the pumping of the K wells had no impact on the yield of the Village Springs. This conclusion is supported by the fact that the 2008 pumping test on well Q1 had no impact on the flow at the Village Springs (discussed later in Section 3.3.2.1.6). Well Q1, which is located 600 feet from the Springs, is 1.4 miles closer to the Springs than the K wells.

2.3.6 Down Hole Conductivity and Temperature Logging

The conductivity, temperature, and borehole caliper logs (geophysical logs) of wells K2, K3 and K4 (Appendix H) are consistent with the driller's logs for these wells (Appendix D). The major water-bearing fractures encountered by the drillers at K2, K3 and K4 were at depths of 327 ft, 304 ft, and 346 ft, respectively. These depths are consistent with the major fractures indicated by the geophysical logs. Major water-bearing fractures are indicated on the geophysical logs when sharp increases in the borehole diameter (caliper log) are coincident with water temperature and conductivity increases. Such fractures are only indicated at depths of 326 ft (K2), 304 ft (K3) and 345 ft (K4). These results show that the geophysical logging of the wells, while of academic interest, merely duplicate the data provided by the well driller's borehole logs.

2.4 SUMMARY AND CONCLUSIONS

2.4.1 K2-K4 Simultaneous Constant Rate Pumping Test, 130 gpm total

- The 76-hour, simultaneous, constant rate, pumping test (130 gpm) of wells K2 and K4 resulted in a total drawdown of 99.1 feet at well K2 and left 121.9 feet of available drawdown (water above the pump intake).
- The 76-hour, simultaneous, constant rate, pumping test (130 gpm) of wells K2 and K4 resulted in a total drawdown of 98.3 feet at well K4 and left 93.8 feet of available drawdown.
- The range of water level fluctuation in the pumping wells during the final six hours of the test meets the NYSDOH stabilization criteria.
- Well K2 achieved 90% recovery of water level drawdown 89 minutes after pumping stopped and 100 % recovery was achieved after approximately 17 hours. Well K4 achieved 90% recovery 81 minutes after pumping stopped and 100% recovery was achieved within 19 hours.
- The Mansion Well and the Trailer Well experienced drawdowns of 19.2 feet and 13.5 feet, respectively during the K2-K4 (130 gpm) constant rate pumping test. These drawdowns are minimal and not expected to alter the use of the wells by the owners (the

Trailer Well is owned by the Village of Fleischmanns and is not in use). No other bedrock monitoring wells outside the K well field experienced any drawdown as a result of the K2-K4 constant rate pumping test.

- A projection based on 180 days of continuous, simultaneous pumping of K2 at 65 gpm and K4 at 65 gpm, with no aquifer recharge, resulted in projected drawdowns at K2 and K4 of 102 and 101 feet, respectively. The available drawdowns projected in K2 and K4 at the end of the 180-day pumping period are 119 feet and 91 feet, respectively. These projections demonstrate that wells K2 and K4 are capable of sustaining long term yields of at least 65 gpm each when pumping simultaneously.
- The final six hours or more of water level data from the simultaneous, constant rate pumping test of wells K2 and K4 (130 gpm total) show stabilized water levels were achieved according to the NYSDOH criteria.

2.4.2 K3-K4 Simultaneous Constant Rate Pumping Test, 157 gpm total

- The 73.25 hour, simultaneous, constant rate pumping test (157 gpm) of wells K3 and K4 resulted in a total drawdown of 132.2 feet at well K3 and left approximately 59.6 feet of available drawdown (water above the pump intake).
- The 73.25 hour, simultaneous, constant rate pumping test (157 gpm) of wells K3 and K4 resulted in a total drawdown of 125.9 feet at well K4 and left approximately 66.4 feet of available drawdown.
- Well K3 achieved 90% recovery of water level drawdown 79 minutes after pumping stopped and 100 % recovery was achieved after approximately 39 hours. Well K4 achieved 90% recovery 88 minutes after pumping stopped and 100% recovery was achieved after approximately 24 hours.
- The Mansion Well and the Trailer Well experienced drawdowns of 23.8 feet and 17.4 feet, respectively during the K3-K4 (157 gpm) constant rate pumping test. These drawdowns are minimal and not expected to alter the use of the well by the owners (the Trailer Well is owned by the Village of Fleischmanns and is not in use). No other

bedrock monitoring wells outside the K well field experienced any drawdown as a result of the K3-K4 constant rate pumping test.

- A projection based on 180 days of continuous, simultaneous pumping of K3 at 75 gpm and K4 at 82 gpm, with no aquifer recharge, resulted in projected drawdowns at K3 and K4 of 137 feet and 128 feet, respectively. The available drawdowns projected in K3 and K4 at the end of the 180-day pumping period are 55 feet and 64 feet, respectively. These projections demonstrate that wells K3 and K4 are capable of sustaining long term yields of at least 75 gpm and 82 gpm, respectively, when pumping simultaneously.
- The final six hours or more of water level data from the simultaneous, constant rate pumping test of wells K3 and K4 (157 gpm total) show stabilized water levels were achieved according to the NYSDOH criteria.

2.4.3 General

- The well field is capable of sustaining a long term yield of 157 gpm, without adversely impacting local water supplies and surface water bodies.[2]
- The results of MPA sampling indicate that wells K2, K3 and K4 are not at risk of contamination by surface waters
- A sulfur odor was detected at the well K4 point of discharge throughout both constant rate tests. The presence of low levels of hydrogen sulfide in the water may require treatment for taste and odor; however, it does not preclude use as a potable water supply.
- Arsenic was present in the Part 5 samples collected from the K wells at concentrations that exceed the maximum contaminant level (MCL) for that parameter. The use of the K wells as public water supply wells will require treatment to reduce arsenic concentrations to below the MCL.

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[2] Mr. Gilday (NYSDOH) communicated to Mr. Steve Trader (Alpha) on site October 5, 2008, that because of the similarity of the three wells regarding their drawdown and recovery, and because well K2 is located between K3 and K4, this yield likely could be obtained by pumping well K4 at 82 gpm in combination with either well K2 or K3 pumping at 75 gpm.

- Geophysical logging of the wells K2, K3 and K4 confirmed the information already present on the well driller's logs. The primary water-bearing fractures in the three wells are all deeper than 300 feet below the surface.

3.0 Q1 WELL PUMPING TEST

Well Q1 is located off Moran Road, south of NYS Route 28 and east of the Village (Figure 27). Well Q1 is intended as a backup potable source of water. Well Q1, along with previously evaluated wells K2 and K3, is intended help to fulfill the New York State Department of Health (NYSDOH) requirement that the Resort be able to meet its maximum daily demand with its largest source (well K4) offline. The pumping test was conducted according to the October 9, 2008 Pumping Test Protocol (2008 Protocol) that was submitted to, and approved by, the NYSDEC and the NYSDOH. The 2008 Protocol is included herein as Appendix K, along with the NYSDOH and NYSDEC correspondence that provide additional testing conditions and endorsement of the protocol. The Protocol followed the NYSDEC and NYSDOH requirements as set forth in Exhibit G, Section B, of the AIP for this project. The Counsel for the NGOs was contacted by Crossroads' attorneys to review and approve the protocol; however, the Counsel for the NGOs reported that they were satisfied as long as the protocol was approved by the NYSDOH and the NYSDEC.

The primary objectives of the testing were to determine the sustainable yield from well Q1 and to assess the potential effects of pumping that well on nearby residential wells, the Fleischmanns municipal water supply, and Emory Brook. Secondary objectives were to evaluate the effects of pumping Village well 2 when well Q1 is not pumping, and assess the combined effects of pumping Village well 2 and well Q1 simultaneously. The secondary objectives were added to meet the additional Protocol conditions required by the NYSDOH.

3.1 SCOPE OF WORK

The following primary tasks were performed using the procedures described in the pumping test protocol.

- Conducted a step-rate pumping test on well Q1;
- Conducted a 75-hr constant rate pumping test of well Q1;
- Monitored water levels in the bedrock pumping well, bedrock observation wells, and local streams;
- Monitored precipitation at the well Q1 location;
- Collected a water quality sample from well Q1 and submitted it for analysis by a NYSDOH-approved laboratory for parameters established in Subpart 5-1 of the State Sanitary Code (Part 5 parameters);
- Collected a Microscopic Particulate Analysis (MPA) sample from well Q1 to evaluate the potential for Ground Water Under the Direct Influence (GWUDI) of surface water;
- Monitored surface water quality (Emory Brook) and ground water quality (Well Q1);
- Monitored water level recovery;
- Conducted down-hole conductivity and temperature profiling of well Q1; and
- Surveyed elevations and locations of all monitoring stations

3.2 METHODS

3.2.1 Step Rate Testing

A step rate test was performed on well Q1 on August 14, 2008. The test involved measuring water-level changes in the well in response to consecutively higher pumping rates. The rates tested, in consecutive order, were 26 gpm, 36 gpm, 47 gpm, and 67 gpm. A final step of 53 gpm was added when it was clear that the 67 gpm step would exceed the long-term capacity of the well. The water-level data from the step rate test are included on the CD in Appendix N. The step rate data were used for the selection of an initial pumping rate for the constant rate test and can be used in the future as a baseline to evaluate well efficiency.

3.2.2 Constant Rate Testing

The constant rate pumping test of Q1 began at 10:00 AM on November 7, 2008 and was concluded at 1:06 PM on November 10, 2008. The well was pumped at an average rate of 45 gpm for a total of 75 hours and 6 minutes. Discharge rate data collected during this test are presented in Table 23. After initial adjustments to the discharge rate during the first couple hours of the test, the discharge rate was held within 5% (42.7 gpm – 47.3) of its design pumping rate (45 gpm) for the duration of the test (except for a short term spike near the end of the test), per NYSDEC's T.O.G.S. 3.2.1, Recommended Pump Test Procedures for Water Supply Applications.

The short term spike appeared to be the result of voltage fluctuations from the generator. The generator gave audible evidence of possible voltage fluctuations approximately 72 hrs and 40 minutes into the test, which corresponded with upward and downward surges in the water level inside the manometer tube affixed to the discharge pipe (Table 23). Adjustments were made to keep the discharge rate as close to 45 gpm as possible; however, the measured pumping rate increased momentarily to 48.1 gpm, which is just outside the allowable 5% pumping rate window. The pumping rate was quickly adjusted to bring the discharge rate back to within the range of 42.7- 47.3 gpm. Water level measurements continued to be made after the test to monitor recovery and document when 90% recovery in well Q1 was achieved.

3.2.3 Test Setup

Testing of well Q1 was conducted using a submersible pump supplied by Titan. Water was discharged from the wellhead to a large receptacle located near the well to prevent discharge to the land surface near the well, to reduce the potential for erosion, to facilitate manual checking of the discharge rate, and to allow for sample collection. The discharge water from the receptacle was then drained by gravity through 4-inch diameter plastic piping and discharged to a culvert beneath Moran Road (Figure 28), which is located approximately 200 ft northwest of well Q1. The water exited the Moran Road culvert and flowed in a ditch north toward a culvert beneath Route 28. The Route 28 culvert outlet is on the north side of Route 28 and downslope from the road. The water then flowed into a swale, which was wet during the test, and flowed westward to a pond that has a spillway into Emory Brook.

A ball valve and pipe orifice plate/manometer system, like that used in the K Wells testing, was used to regulate the flow rate at the pumping well. This setup provides a convenient means of adjusting the flow rate to keep it nearly constant throughout the pumping period. A circular orifice plate (or weir plate) with a smaller inner diameter (2”) than the discharge pipe (4”) was attached to the end of the discharge pipe. The weir plate created backpressure that is reflected in a corresponding height of water in the manometer. The water column height in the manometer tube was calibrated and periodically checked by observing the time necessary to fill a 30-gallon container. The ball valve provided the means of adjusting the discharge rate if the manometer reading or measured flow rate was too low or too high. Titan installed two plastic tubes in well Q1 to accommodate a probe for manual water-level measurements and a transducer for automated water level measurements.

3.2.4 Precipitation Monitoring

A rain gauge was installed in the open area adjacent to well Q1. Daily monitoring of the precipitation began on September 6, 2008 and continued through November 16, 2008. This monitoring spanned the period from two months prior to the pumping test through six days after the test. The gauge was checked daily in the morning during the test. A log of the precipitation recorded at the rain gauge is included as Table 24. Each measurement represents the rainfall that occurred within the 24-hrs prior to the morning measurement.

The precipitation data recorded at the Belleayre Mt. Ski Center (Ski Center) were also obtained to supplement the precipitation data collected during the pumping test (Appendix L). Hourly precipitation data are recorded at the Ski Center as part of the NYSDEC's atmospheric deposition monitoring network and were converted to daily precipitation values.

3.2.5 Water Level Monitoring Locations and Data Collection

The water levels in pumping well Q1 were measured on a routine basis following its installation in early August and continued for approximately two weeks after the constant rate testing. Water levels were also measured during the pumping test at three nearby residential or commercial bedrock wells, two bedrock wells owned by the Village of Fleischmanns, three bedrock wells drilled by Crossroads, and two stream locations on Emory Brook. The purpose of the water level measurements was to evaluate the effects from pumping well Q1 on these water supplies and the surface water. The water level measurements at these locations were conducted using a combination of manual and automated methods. All of these monitoring points were located by Alpha using a GPS receiver and are shown on Figure 27. Rettew Engineering and Surveying, P.C., performed the elevation survey of the monitoring locations. The elevation survey data for all the monitoring points are presented in Table 25.

3.2.5.1 Well Q1

The location of well Q1, which was completed August 4, 2008, is shown on Figure 27 and the driller's log is contained in Appendix M. The well is located on the floor of an abandoned rock quarry that had provided crushed stone for the Route 28 realignment in the 1960s; consequently, bedrock is exposed at the surface. The total depth of well Q1 is 373 feet below grade and the well has 20 ft of casing in the ground, plus a 2.5-ft casing stickup.

An automated pressure transducer, with data recording capabilities, was installed in the well to record water temperature and water levels prior to, during, and after the pumping test (recovery). The resulting water-level data, which was recorded at one-minute intervals during the test, is contained on the compact disc included in Appendix N. Manual water-level measurements were made at the well during the test to provide a backup in the event of data logger failure. Manual water level readings were also made several times per week since August 2008 when well Q1 was completed (Table 26).

3.2.5.2 Village Wells

The two wells owned by the Village of Fleischmanns, which were monitored for the pumping test, include Wells 1A and 4 (Figure 27). Village Well 1A is located approximately five feet south of Village Well 1, which has been out of service since 1996. Well 1A is an 8-inch diameter, 145-ft deep well that was drilled into bedrock by the Village, in 2007, as a potential replacement well for Well 1. The Village reportedly has no plans to incorporate Well 1A into the municipal water supply at this time. The water level data at well 1A were also used to help estimate the depth to water at well 2, since the well head configuration at Well 2 does not allow for manual water-level measurements.

Well 2 is the primary production well for the Village and normally operates automatically when the Village reservoir level drops below a certain level. NYSDOH records indicate well 2 is 200 ft deep and has a yield of 150 gpm. The well was serviced by Titan earlier in 2008 and has a 15 horsepower pump rated at 230 gpm. The Village water department agreed to shut off Well 2 during the Q1 pumping test, unless it became necessary to operate due to low levels in the reservoir.

Well 4 has historically been part of the Village water supply system and its records are on file with the NYSDOH. Well 4 is rarely used and serves as a backup well when Well 2 production alone is not enough to meet the Village demand and spring yield is low. NYSDOH records indicate Well 4 is an 8-inch diameter, 410 feet deep bedrock well with a yield of 70 gpm. The well is located approximately 820 ft west-southwest of Q1. Well 4 was not used by the Village during the pumping test. Water level measurements in Well 4 were made with an electronic water level meter through a port at the top of the well head.

Water levels at the two Village wells were measured manually several times per day during the pumping test, and nearly every day for two weeks prior to, and after, the pumping test at well

Q1. Well 1A and Well 4 were also measured several times per week starting in mid-July and mid-August, respectively. The water level data recorded for Wells 1A and 4 are presented in Tables 27 and 28, respectively.

3.2.5.3 Bedrock Residential and Commercial Wells

The two residential wells that were monitored during the pumping test consisted of the Moran well and the Dignes well (Figure 27). The water supply well at Belleayre Realty (Realty well) is a commercial well. The total depths of the Realty well and the Dignes well are 123 ft and 448 ft, respectively, and their reported yields are 20 gpm and 0.5 gpm, respectively (Appendix M). The depth of the Moran well is not known. The Moran well and the Realty well were in normal use during the Q1 pumping test. The Dignes house was not occupied during the test.

Water levels in the Realty, Dignes and Moran wells were measured several times per day during the pumping test. Permission to monitor the Moran well was not obtained until after the pumping test started; consequently, the first water level measurement at the Moran well did not occur until several hours after the test started. Measurement of the water levels in the Realty well began approximately three weeks prior to the pumping test and continued for over a week after the test was completed. The Dignes well was monitored on at least a weekly basis since mid July. The water level measurements from the Realty, Moran and Dignes wells are contained in Tables 29, 30 and 31, respectively.

The residences immediately east and west of the quarry (Minion and Wickham, respectively) were also considered for inclusion in the monitoring program for the pumping test. The locations of these residences are indicated on Figure 28. Permission to monitor these wells was granted by the homeowners; however, upon inspection, the water levels in these two wells could not be monitored safely and efficiently due to physical access limitations. In lieu of water level measurements, the residents were asked to note any quantity, or quality, changes to their well water they experience during the test. Neither of these residents experienced any water quality or quantity changes during the step rate test that was performed on well Q1 on August 14, 2008.

3.2.5.4 Bedrock Wells Owned by Crossroads

The Crossroads wells monitored during the test are known as the Janis East well, the Z well, and well Q2 (Figure 27), none of which are in use, and their depths are 698 ft, 548 ft, and 375 ft, respectively. Well Q2 was originally 498 ft deep, but it has since been grouted back to 375 ft. The drilling logs for these wells are included in Appendix M. The Janis East and Z wells are planned for use as irrigation wells for the proposed resort. The ultimate use of well Q2, if it is used at all, has not yet been determined.

An 8-hr step rate pumping test was performed on the Z well on August 27, 2008 and 8-hr testing on the Janis East well occurred on September 3, 2008. The estimated yields of these two wells, based on the step rate testing, are 13 gpm (Z) and 10 gpm (Janis East). No pumping test has been performed on well Q2; however, the yield of Q2 was estimated by the driller to be 15 gpm.

Water level measurements at the three bedrock wells owned by Crossroads were conducted on nearly a weekly basis from the summer of 2008 until a couple weeks after the Q1 pumping test. The frequency of measurements was increased during the test. The water level data from the Janis East, Z and Q2 wells are presented in Tables 32, 33 and 34, respectively.

3.2.5.5 Streams

Surface water level measurements were recorded at two locations on Emory Brook (Figure 27). Measurements at the two locations were made of the depth to water from a fixed point, such as a nail in a tree. Water levels at the stream locations were measured manually prior to, during and after the pumping tests at intervals of one to three times per day. The stream water level data for Emory Brook is presented in Table 35.

3.2.6 Spring Flow Monitoring

The Village of Fleischmanns springs are located approximately 600 feet southwest of well Q1. The spring collection system has been upgraded and the configuration is not conducive to isolating and manually measuring spring flows. Delaware Engineering has outfitted the spring collection system with in-ground v-notch weirs and transducers with data logging capabilities. The data loggers automatically record the water temperature and the water column above the transducer, which is related to the height of water above the bottom of the v-notch in the weir. Delaware converted the transducer data to spring flow data using standardized equations that directly relate the water depth measurements to flow through a v-notch weir. Delaware provided Alpha with the spring flow and temperature data from June 24, 2008 through March 3, 2009. The conditions that were causing the problems with the data loggers during the K well tests in 2007 (see Section 2.2.4) were addressed by Delaware subsequent to the K well testing. The data from approximately one week before the Q1 test through one week after the test is included in Appendix O.

3.2.7 Water Quality Testing

Water samples of the pump discharge from well Q1 were collected for field analysis of conductivity, total dissolved solids (TDS), pH, temperature and turbidity (Table 36). Odor and color of the discharge water were also noted. The samples were collected periodically to evaluate water quality changes during the progression of the test.

The transducer installed in well Q1 also recorded water temperature at the same frequency as the water-level measurements. The water temperature data are included with the water level data on the CD in Appendix N.

Samples were also collected for field analysis of the aforementioned parameters from the water-level monitoring locations on Emory Brook (Table 37). Additionally, an automated temperature data logger was installed in Emory Brook (upstream). The temperature data from this logger are included in the CD (Appendix N).

Water quality samples were collected at well Q1, near the end of the pumping test, for laboratory analysis of parameters defined in New York State’s Sanitary Code - Part 5. The Part 5 samples were submitted to Phoenix Environmental Laboratories, Inc. of Manchester, Connecticut (Phoenix), a NYSDOH-certified laboratory. The laboratory reports for the Part 5 analyses are included as Appendix P.

3.2.8 GWUDI Evaluation

The NYSDOH requested that Microscopic Particulate Analysis (MPA) samples be collected from well Q1 to evaluate the possibility of ground water under the direct influence of surface water (GWUDI). The NYSDOH required the GWUDI evaluation due to the relatively shallow (<50 ft below grade) casing depth of well Q1. MPA sampling began at approximately 56 hrs into the pumping test and ended at approximately 68 hrs into the test. The MPA sample was submitted to Environmental Associates Ltd., of Ithaca, NY. The laboratory results of the MPA sampling are included in Appendix Q. Additionally, the hydraulic connection between well Q1 and the local surface waters (Emory Brook) was evaluated via comparison of the field water quality monitoring data between the pumping well and the stream.

3.2.9 Down Hole Temperature and Conductivity Logging

Conductivity and temperature profiles of the water column were logged in well Q1 by Aqua Terra Geophysics Inc., of Bellport, New York, on January 12, 2009, two months after the pumping test. This time lag between the pumping test and the geophysical logging provided ample time for the water column in the borehole to stabilize. The profile was logged using an electronic sensor that was lowered into the well on a cable at a specific rate of descent. A bore hole caliper was also included as part of the geophysical tools that were used in the well. The conductivity and temperature profiling were initiated at the top of the water column and logged from top to bottom to avoid disturbance of the ambient conditions. The borehole caliper was employed on the return trip to the surface. The geophysical logs are included in Appendix R of this report.

3.3 RESULTS

3.3.1 Conditions

The first three weeks of October 2008 were quite dry, with only 0.2 inches of rainfall occurring at the well site during that time (Table 24). After this dry period, a wet period from October 25 through October 28 brought 4.1 inches of precipitation at the well site, with 0.8 inches of that precipitation falling as snow (8 inches) on October 28. The water levels in the area wells and creeks rose, with the water level in well Q1 rising more than 0.5 ft per 100 ft of wetted borehole; consequently, the pumping test, which was originally scheduled to commence on October 28, had to be postponed until the rising water levels had stabilized or begun to decline.

The water level in Emory Brook peaked on or about November 5, 2008 and then began to decline (Figure 29). The rate of water level rise in well Q1 slowed down and began to stabilize on or about November 6, 2008 (Table 26; Figure 30). As of November 6, it had not rained for a week, and the local weather forecast did not call for significant additional rain for another week. The declining creek level, the apparent stabilization of the static water level in well Q1, and the local weather conditions presented the opportunity to conduct the pumping test at well Q1 that met the conditions of the protocol: consequently, the test was started on November 7, 2008. Only a trace of rainfall was recorded at the Q1 well site during the constant rate pumping test (Table 24), which is consistent with the rainfall recorded at the Belleayre Ski Center during the same time frame (Appendix L).

3.3.2 Q1 Constant Rate Pumping Test

3.3.2.1 Drawdown

3.3.2.1.1 Well Q1

Total drawdown measured at well Q1 at the end of the constant rate test was 123.8 feet, based on a pre-test static water level of 54.8 feet (ft) and a 178.6-ft depth to water at the end of pumping (referenced to TOC). There was 186.9 feet of available drawdown in well Q1 at the end of the pumping test, based on a pump setting of 365.5 feet below TOC (363 ft below grade). The importance of available drawdown is discussed in Section 2.3.3.1.1 earlier in this report.

Linear and semi-log graphs of elapsed time versus drawdown for well Q1 are presented in Appendix S. The linear plot of the drawdown data clearly shows the effect of slight adjustments to the well Q1 pumping rate that were necessary during the test to maintain a discharge rate of approximately 45 gpm (Table 23). The approximate 12-hr period, during which the MPA filter assembly was connected, is also evident on the linear plot. The water level during the MPA sampling period stabilized at a slightly lower level than the water level prior to, and after, the MPA sampling period. The reason for the lower level of stabilization during the MPA sampling period is that one gpm was diverted through the MPA filter while 45 gpm was maintained through the main discharge pipe.

The well Q1 semi-log graph (Appendix S) shows that the drawdown data fall roughly on a straight line for approximately the last two days of the pumping test. No positive or negative hydraulic boundaries were encountered during the 75 hours of pumping at well Q1. Any deflections in the data over the last couple days of test pumping were the result of periodic, slight pumping rate adjustments and the 12-hr MPA sampling period.

A best-fit line of the final two days of water level data on the semi-log graph was extrapolated and used to project drawdown at Well Q1 as a result of pumping continuously for 180 days at 45 gpm (Appendix S). In this manner, a drawdown of 138 feet is projected at well Q1. The available drawdown (i.e., the water column in the well above the pump) projected in well Q1 at the end of the 180-day pumping period is approximately 172.7 feet. The 180-day projection satisfies the NYSDEC portion of the NYSDOH/NYSDEC hybrid pumping test protocol developed for this project.

The final six hours (7:06 to 13:06 on 11/10/08) of water-level data from well Q1 was plotted on a stabilization plot (Appendix S). This linear plot also indicates the range of water-level fluctuation allowed by the NYSDOH in Section 5-D.4(c) of Appendix 5-D, NYS Sanitary Code, and as repeated on page 7 of the pumping test protocol included herein as Appendix K. The water level at the end point of the stabilization plot is not lower than the beginning point of the six-hour period. The pumping rate was held within 5% of the design rate of 45 gpm (42.5 to 47.5 gpm), except during a brief period of generator surges (as discussed in Section 3.2.2), which caused a momentary pumping rate increase to 48.1 gpm. The water-level fluctuation during the final six hours of pumping meets the NYSDOH stabilization criteria, notwithstanding the apparent fluctuations in the generator output. Furthermore, the 12-hr period of MPA sampling shows that the water level had already stabilized prior to the final six-hour period, albeit at a slightly lower level and at a pumping rate of approximately 46 gpm (Appendix S).

3.3.2.1.2 Village Wells

The water level data from Village wells 1A and 4 indicate that these two wells were hydraulically influenced by the pumping of well Q1. Well 1A experienced a drawdown of 0.6 ft during the test (Table 27 and Figure 31) and Well 4 experienced a drawdown of 14.18 ft (Table 28 and Figure 32). The drawdown at both wells is very small compared to the available drawdown in the wells at the end of the test, which was approximately 133.6 ft in Well 1A and 325.3 feet in Well 4.

3.3.2.1.3 Residential and Commercial Wells

The Realty well, which is approximately 1,050 feet east-northeast of well Q1, experienced a water-level drawdown of 10.3 feet during the well Q1 constant rate pumping test (Table 29 and Figure 33). The amount of drawdown was small relative to the 92.4 feet of available drawdown in the well at the end of the test.

The Moran and Dignes wells were unaffected by the pumping of well Q1. The water level data from the Moran well (Table 30) and the Dignes well (Table 31) are plotted on Figures 34 and 35, respectively.

The Minion and Wickham residences, which are the closest residences to the well site (Figure 28) and are located east and west of the abandoned quarry property, respectively, reported no change in water quality or loss of water during the test.

3.3.2.1.4 Crossroads' Monitoring Wells

The 698-ft deep Janis East well was unaffected by the pumping of well Q1. The water levels in the Janis East well displayed a natural variation of approximately 150 feet between mid-August and the end of November (Table 32 and Figure 36). The water level rose considerably in the well following the heavy precipitation that occurred October 25-28, 2008, and had nearly peaked by the start of the well Q1 pumping test on November 7, 2008 (Figure 36). The water level in the well rose slightly during the first hours of the test, and then began to decline for the remainder of the test (Figure 37). The water level continued to decline at the same rate for at least several days after the test was completed, indicating that the water level decline was responding to the background weather conditions. No precipitation had occurred in the area since the end of October. The resulting water level pattern in the Janis East well is similar to that in the Moran well, which was also unaffected by the well Q1 test.

Both the Z well and well Q2 were hydraulically influenced by pumping at well Q1. The Z well, which is located approximately 950 ft south of well Q1, incurred 13 ft of drawdown (Table 33 and Figure 38). The available drawdown at the conclusion of the pumping test was 404 ft. The drawdown impact at well Q2, which is located approximately 110 ft east-northeast of well Q1, was 31 feet (Table 34 and Figure 39) and the available drawdown at the conclusion of the test was over 290 ft. The magnitude of drawdown at these two wells is very small relative to the available drawdown in each of these wells.

3.3.2.1.5 Village Well 2

The water level in Village well 2, as discussed in Section 3.2.5.2, could not be monitored during the well Q1 pumping test; consequently, the exact amount of drawdown in that well remains unknown. The drawdown in Village well 2 due to pumping at well Q1 can be estimated by plotting the amount of drawdown in the monitoring wells versus the distance from well Q1. Figure 40 shows the amount of drawdown at Village well 2 that likely occurred during the well Q1 pumping test was approximately 3.5 feet. This is a reasonable estimate, given the amount of drawdown at the Realty well (10.3 ft), which is located between well Q1 and well 2, and well 1A (0.6 ft), which is located at a greater distance from well Q1 (Figure 27).

3.3.2.1.6 Fleischmanns Springs

The spring flow data recorded by the transducer/data logger installed in the Village spring collection system (Appendix O) is plotted in graph form on Figure 41 for the time period covering one week prior to, and after, the well Q1 constant rate pumping test. The graph indicates that the pumping test had no impact on the spring flow. The spring flow was relatively stable during the test, declined after the test for several days, and then increased in response to precipitation that started November 15. The spring flow measurements correlate reasonably well with the changes in water level in the Moran well, which was also unaffected by the pumping.

3.3.2.2 Recovery

Water level recovery data recorded by the data logger in pumping well Q1 is included in the file of transducer data on the CD (Appendix N). The data from the well Q2 data logger is also on the CD. The linear plot of the recovery data from well Q1 (Figure 42) shows that the well experienced rapid recovery after shutting the pump off on November 10, 2008. The data indicate that well Q1 had achieved 90% recovery 2 hrs, 40 min after pumping stopped.

The water level recovery data recorded by the data logger in monitoring well Q2 indicates that 90% recovery was achieved at approximately 26 hrs after pumping at well Q1 was stopped

(Figure 43). Village Well 4 (Table 28 and Figure 32) and the Realty Well (Table 29 and Figure 33) achieved 90% water-level recovery within 1.5 days. The Realty Well was in normal use during this time and Well 4 was not used. The Z well, which was not used during the test, achieved 90% water-level recovery within one day (Table 33 and Figure 38). The Dignes, Moran, and Janis East wells were not affected during the test.

The pre-test static water level in Village well 1A was 10.8 ft and the water level dropped 0.6 feet during the test (Table 27 and Figure 31). The water level recovered to 11.0 feet subsequent to the test and remained at that level for several days until it was affected by the pumping of Village well 2 on November 14. The effect of pumping Village well 2 is discussed in Section 7.0.

3.3.3 Q1 Water Quality

3.3.3.1 Field Sampling

The field water quality data for the discharge water from well Q1 (Table 36) includes temperature, specific conductivity, TDS, pH and turbidity. The discharge temperature ranged from 8.4°C to 8.8°C (47.1°F to 47.8°F) and exhibited a very slight decrease from an average about 8.6°C (47.5°F) to about 8.5°C (47.3°F) during the test (Figure 44).

The well water temperature was also recorded downhole by the transducer that was set in the stilling tube at approximately 20 ft above the pump. The transducer/data logger was programmed to record the temperature at the same time as water level measurements. The automated temperature data is included with the water level data on the CD (Appendix N). A graph of the temperature data from the transducer is presented in Figure 45. The transducer temperature data indicate a slightly cooler average water temperature in the stilling tube (46.8°F) than the discharge water (47.3°F) during the test. Minor water temperature changes (up to 0.3°F) in response to pumping are evident in the graph of the temperature data from the stilling tube. These changes occur at the beginning of the test, and after the pump shut-off, due to apparent mixing of deeper, warmer water with shallower, cooler water. The discharge water cooled slightly during the test as the shallower, cooler, water was brought closer to the pump as the water level in the well was lowered.

The pH of the well discharge was relatively stable throughout the pumping test, except for an apparent spike approximately 7 hrs into the test (Table 36). The pH ranged from 7.85 to 8.97 and averaged approximately 8.1

Turbidity values decreased as the test progressed (Figure 46 and Table 36). The turbidity in the discharge decreased to zero within 24 hrs and remained at or near zero for the remainder of the test. The discharge water appeared clear throughout the test.

Specific conductivity (SC) values and TDS values increased during pumping and leveled off toward the end of the test (Figure 46). TDS is generally half the SC value; consequently, only the SC values are shown on Figure 46. Specific conductivity stabilized at approximately 190 µs/cm.

A slight sulfur odor, which indicates the presence of hydrogen sulfide, was consistently detected at the well Q1 discharge by field personnel. The presence of low levels of sulfur in the water may require treatment to address taste and odor; however, it does not preclude its use as a potable supply.

3.3.3.2 Analytical Sampling

Samples were collected from the well Q1 discharge near the conclusion of the constant rate pumping test. The sample was submitted to Phoenix for analysis of Part 5 parameters and the laboratory report with the results of analysis is included in Appendix P. The results show that none of the NYSDOH Part 5 maximum contaminant levels (MCLs) were exceeded. The reported manganese concentration of 0.12 mg/L, although below the MCL, may be sufficient to impart bad taste and brown staining; however, manganese can be treated, if necessary, and its presence in water from well Q1 does not preclude its use as a potable water supply.

3.3.4 Ground Water/Surface Water Evaluation

The results of the microscopic particulate analysis (MPA) on the sample from well Q1 (Appendix Q) indicates that there is a low risk of surface contamination at the well (EPA risk factors all = 0, low risk). No primary indicators of surface water were observed in the sample.

The water level data from Emory Brook (Table 35) show no impact to the stream from pumping during the constant rate test at well Q1. The water level at Emory Brook rose in response to the precipitation events prior to the test, peaking a day or two before the test (Figure 29). The water levels then began to fall and continued to do so during the test and for several days afterward. No indication of a decline due to pumping is evident.

The field water quality data from Emory Brook (Table 37) show distinctly different values than the field water quality data from pumping well Q1 (Table 36). These results further indicate that there was no influence on well water quality from surface water. The pH in the upstream location of Emory Brook, which is much closer to the pumping well location than the downstream location, was consistently lower than that of the well discharge. The pH of the well discharge averaged approximately 8.1 and the pH of Emory Brook averaged approximately 7.3 (Figure 47). The Emory Brook (upstream) turbidity fluctuated between 0.24 and 1.51 NTUs throughout the test (Table 37), whereas the turbidity of the pumping well discharge decreased rapidly during the first day of pumping and remained near zero throughout the remainder of the test (Figure 46).

Specific conductivity during the test was significantly lower in Emory Brook (40-53 µs/cm) than in the well discharge (177-190 µs/cm). Furthermore, the specific conductivity of the well Q1 discharge increased during the first two days of the test, then stabilized at approximately 190 µs/cm (Figure 46). If there was any significant connection to the surface water, the conductivity of the well Q1 discharge water would be expected to decrease during the test, since the conductivity of Emory Brook was much lower than the well Q1 discharge throughout the test.

The data from the automatic temperature logger installed in Emory Brook are displayed graphically in Figure 48. The temperature of Emory Brook was warmer than the Q1 discharge water during the first half of the test and colder than the discharge water during the second half of the test. The cooling trend of Emory Brook during the pumping test is consistent with cooling air temperatures during the same period. Air temperature data from Pine Hill, NY, which is located approximately 2 miles southeast of well Q1, is available on the web, and indicate that the daily high and low temperatures decreased from November 7 through November 11, 2008 (www.wunderground.com). The stream temperatures exhibited diurnal fluctuations corresponding to daily air temperature changes and remained between 43.9°F and 49°F during the test. Figure 48 shows a plot of the automated stream temperature data with the well discharge temperature for comparison. The discharge water from the pumping well was relatively constant and stayed between 8.4°C (47.1°F) and 8.8°C (47.8°F) during the test, as discussed in Section 3.3.3.1.

The stream water level data, and the differences in water quality between well Q1 and Emory Brook, are consistent with the MPA results, which indicate the wells have no direct connection to surface waters.

3.4 GEOPHYSICAL LOGGING

The downhole conductivity, temperature, and borehole caliper logs of well Q1 (Appendix R) are consistent with the driller's logs for this well (Appendix N). The major water-bearing fracture encountered by the driller at well Q1 was at a depth of approximately 206 ft below grade (208.5 ft below TOC). This depth is consistent with a major water-bearing fracture indicated by the geophysical log at 204.5 ft below grade (207 ft below TOC). Major water-bearing fractures are indicated on the geophysical log when a sharp increase in the borehole diameter (caliper log) is coincident with sudden water temperature and conductivity changes. Such a fracture is only indicated at a depth of approximately 204.5 ft below grade (207 ft below TOC) on the well Q1 geophysical log. These results show that the geophysical logging of the well, while of some academic interest, merely duplicated the data already provided by the well driller's borehole logs.

As with the geophysical logs of the three K wells, no new information vital to the capability of the well to yield sufficient water for the project was contained in the geophysical logs. The important information pertinent to the well's capability to provide a satisfactory yield is contained in the results of the constant rate pumping test.

3.5 TEST CONDITIONS vs. HISTORICAL CONDITIONS

Mr. James Garry, of the NYSDEC, requested that the amount of precipitation in autumn 2008, prior to the well Q1 constant rate test, be compared with autumn periods of prior years (Appendix U). He also asked that a comparison be made between the well water levels at the time of the test and historical water levels, and that a similar comparison be done for the Fleischmanns' spring flows.

3.5.1 Fleischmanns Springs

The only historical spring flow data Alpha is aware of are those measured by Alpha for the evaluation of the Village's water supply in 2000, which was performed for Crossroads (Alpha, 2000). The objective of that study was to determine if the Village had excess potable water supply. In that study, the total spring flow was measured directly five times during the first three weeks of November, 2000. The spring flows ranged from 74.6 gpm to 82 gpm. A supplemental measurement of 64 gpm was made on December 14, 2001, after four months of drought conditions. The spring flow during the well Q1 test averaged approximately 193 gpm. It should be noted that the Village has completely upgraded the spring collection system since the historical measurements were made; consequently, any comparisons made regarding the calculated flows during the test versus the historic flows are not reliable.

3.5.2 Well Water Levels

Since the Q wells were not drilled until August-September 2008, there is no historic record of water levels in those wells with which to compare the test conditions. A comparison of water levels can be made to the historical water levels from several local wells with a limited historical record. The available water level data represent only a few seasons at best, and many years with wetter autumn seasons than that of 2008 are not represented (see Section 3.5.3). Water level monitoring continued at Crossroads' wells during the spring of 2009 so that a comparison of the water levels at the time of the November testing can be compared to water levels at those same wells during spring conditions.

The historical water level data exists for the following wells in the monitoring network for the well Q1 pumping test: Janis East, Z, Village 1A and Village 4. Periodic water levels were also recorded in 2008 at Crossroads' wells K1 and R1, which is located approximately 2.5 miles southeast of Well Q1. Each of these wells also has some limited historical water level data. Appendix T contains the historical water level data and data plots for these wells. Some of the data from these wells extends as far back as 2000 and as recent as June 2009. The intent of the analysis of the historical data is to compare the historical, natural (i.e., non-pumping) conditions to background water levels that were measured at the time of the Q1 constant rate test. Several of these wells that are relied upon for historical data have undergone testing in the past. The drawdown data associated with these tests is not included in Appendix T because those data were not collected during non-pumping conditions. The 2008-2009 water level data for wells Q1 and Q2 are contained in Tables 26 and 34, respectively, and the data plots have been included in Appendix T.

The Appendix T data indicate that the water levels during the November 2008 test were relatively close to those measured in the past at the same wells. This is because the magnitude of natural, seasonal water level fluctuation at most of these wells is relatively small compared to the height (length) of the water column in the wells. For example, Q1, Q2, K1 and R1 show seasonal fluctuations of between approximately four and seven feet. A relatively small seasonal fluctuation in ground water levels, as exhibited by Q1, Q2, K1, and R1, is a likely indication of a bedrock well's connection to a fracture system with good storage. This is consistent with Bear (1979), who states that "climatic fluctuations in groundwater levels are usually small relative to the thickness of an aquifer, so that the large volume of water stored in the aquifer may serve as a buffer and also supply water in periods of drought."

3.5.3 Precipitation

The precipitation data indicate that the area experienced approximately average precipitation in autumn 2008. An above average amount of precipitation occurred during the last week of October; yet, the precipitation during the week before the test was very low. This is consistent with the water levels in the area, which rose a couple weeks prior to the test and then leveled off during the week just before the test.

Autumn precipitation data from Belleayre Ski Center for the years 1996-2008 is contained in Appendix U. Graphs of the data are also provided in Appendix U to show the antecedent precipitation at the time of the well Q1 pumping test. The graphs show that amount of precipitation preceding the well Q1 pumping test was not extraordinary. In fact, the autumn seasons (Sept-Nov) have been wetter than that of 2008 during eight out of the 12 years prior to 2008.

The majority of the precipitation prior to the well Q1 test occurred between October 25 and October 31, based on precipitation data at the well site (Table 24) and the Belleayre Ski Center (Appendix L). This period of greater precipitation occurred seven to 14 days prior to the test. The data from the Ski Center indicate that the 4.16 inches of precipitation that occurred seven to 14 days prior to the test was above average for the years since 1996 (Appendix U, October 24 – October 31 graph). The data also show that the amount of precipitation (0.11 inches) during the one week prior to the test was one of the lowest amounts for that time frame since 1996.

3.6 EFFECTS OF PUMPING VILLAGE WELL 2

Mr. William Gilday, of the NYSDOH, requested that data be available to assess the impacts of pumping at Village well 2 on Village wells 1A and 4 when no pumping is done at well Q1 (Appendix K). Well 2 was pumped for this purpose by Mr. Michael Meyers, the Village Water Commissioner, on November 14, 2008 from 7:00 am to 1:30 pm, four days after the well Q1 test. The pumping rate of well 2 during this 6.5 hour test is not known (not metered); however, Mr. Meyers indicated it is reasonable to expect that the test rate was the same rate at which the well normally pumps when in use. The well use is normally tied to the water level in the spring reservoir, as discussed in Section 3.2.5.2. The data collected during the 6.5 hr pumping test, data collected from a previous well 2 pumping test, and water level monitoring data were used to address Mr. Gilday's request.

NYSDOH records indicate that Village well 2 is rated at 150 gpm. A 24-hr constant rate pumping test was conducted on well 2 in 2000 as part of the evaluation of the Village's water supply (Alpha 2000). Well 2 was pumped at approximately 180 gpm during that test and the discharge was directed to Emory Brook. It is likely that the pumping rate during the 2008 test of well 2 was less than 180 gpm since the discharge was directed to the Village system during the November 14, 2008 test, where it had to work against the system pressure rather than flow freely to the creek.

A semi-log plot of the well 2 drawdown data from the 24-hr constant rate test of well 2 in 2000 is shown on Figure 49. The total draw down in well 2 at the end of the 2000 24-hr test was approximately 52 ft, and the drawdown 6.5 hrs into the test was approximately 50 ft; consequently, the total draw down in well 2 at the end of the 6.5-hr 2008 test was likely less than 50 ft, since the pumping rate was likely less than 180 gpm. The projection on Figure 49 indicates a drawdown of 60 ft after 180 days of pumping at 180 gpm, with an available drawdown of approximately 114 ft.

Mr. Myers and Mr. Al Frisenda, of Crossroads, monitored the water levels in wells 1A, 4, Q1, Q2, and the Realty well to assess the hydraulic influence on those wells due to the pumping of Village well 2 on November 14, 2008 (when Q1 was not pumping). The water level measurements from wells Q1, 1A, 4, Realty and Q2, collected during the November 14, 2008 well 2 test, are contained in Tables 26, 27, 28, 29 and 34, respectively. Table 38 summarizes the hydraulic influence to these wells due to the pumping of Village well 2 on November 14, 2008. Each of these wells displayed a minor amount of drawdown from the pumping of well 2. The impact to wells 1A, 4, Realty and Q2 is seen graphically in Figures 31, 32, 33 and 39, respectively. The drawdown impact of pumping well 2 on well Q1 is seen in Figure 50, which is a linear plot of the transducer data from well Q1 from November 13-15, 2008.

Figure 50A is a semi-log plot of the Q1 drawdown, derived from the transducer data from 7:00 to 13:30, November 14, 2008 (the duration that Village well 2 was operating). This projection of the Q1 drawdown data indicates a total drawdown of approximately 3.9 feet in well Q1 after 180 days, assuming continuous pumping at well 2, with no aquifer recharge. The Village, however, does not pump well 2 continuously for that length of time, as the graph of well 1A water levels (Figure 31) clearly shows; consequently, less drawdown from Well 2 pumping is expected.

The hydraulic influence on well 4 due to pumping at well 2 on November 14, 2008 was approximately 1.8 feet (Table 38); however, the longer term effect on well 4 due to the use of well 2 can be seen on Figure 32. Village Well 2 was operated frequently from August 21 through August 29, resulting in approximately 3.3 feet of drawdown in well 4.

3.7 COMBINED EFFECTS OF PUMPING WELLS Q1 AND 2

The long term, combined hydraulic influence of well Q1 and Village well 2 operating simultaneously can be estimated by adding the projected drawdowns from their individual pumping. The projected drawdown in well Q1 after 180 days of continuously pumping well Q1 at 45 gpm is approximately 138 ft, based on the semi-log plot of the drawdown data from the well Q1 constant rate pumping test (Section 3.3.2.1.1 and Appendix S). Appendix V contains graphs of long term, projected drawdown at wells Q2, 4, Z, Realty, and 1A due to pumping at well Q1. The projected drawdown in these wells is summarized in Table 39 and presented graphically versus distance from well Q1 in Figure 51. The arrangement of the wells allows for the interpolation of the long term drawdown at Village well 2 that could occur as a result of continuous pumping at Q1 only. The projected drawdown in Village well 2 after 180 days of continuously pumping well Q1 at 45 gpm is six feet.

The projected drawdown in Village Well 2 after 180 days of continuously pumping well 2 individually at 180 gpm is approximately 60 ft, based on the semi-log plot of the drawdown data from the 24-hr constant rate test conducted in November 2000 (Section 3.6 and Figure 49). Appendix W contains graphs of long term, projected drawdown at wells 1A, Realty, 4, and Q2 due to continuous pumping at Village well 2. The data for the graphs were collected during the 6.5 hour test on well 2 conducted on November 14, 2008. Water level data for these wells does not exist for the 24-hr test on well 2 conducted in November 2000. The projected drawdowns in these wells are summarized in Table 40. The projected drawdown impact to well Q1, shown graphically in Figure 50A, is 3.9 feet. The projected drawdowns in the monitoring wells due to pumping well 2 individually are less than they are due to pumping well Q1 individually.

Table 41 summarizes the long term projected drawdown data from the November 2008 well Q1 and well 2 tests. The 180-day projected drawdowns from each test are added together to present the total projected drawdown for the wells when well 2 and well Q1 are pumping simultaneously. The projected available drawdown remaining in each well at the end of 180 days is also shown in Table 41. The available drawdowns remaining in well Q1, Village well 2 and Village well 4, after simultaneously pumping well Q1 and well 2 for 180 days, are projected to be approximately 168 ft, 111 ft, and 310 ft, respectively. The available drawdown is based on pump settings of ten feet off the bottom of each well. This projection indicates that a large amount of available drawdown exists after the 180-day continuous pumping period.

3.8 SUMMARY AND CONCLUSIONS

3.8.1 Q1 Constant Rate Pumping Test, 45 gpm

- The 75-hour constant rate pumping test (45 gpm) of well Q1 resulted in a total drawdown of approximately 124 feet, with approximately 187 feet of available drawdown (water above the pump intake).
- The final six hours or more of water level data from the constant rate pumping test of well Q1 show stabilized water levels were achieved according to the NYSDOH criteria.
- Well Q1 achieved 90% recovery to pretest levels 2 hrs and 40 minutes after pumping stopped.
- A projection based on 180 days of continuous pumping of well Q1 at 45 gpm, with no aquifer recharge, resulted in a projected drawdown at well Q1 of 138 ft and an available drawdown of 172.7 ft. This projection demonstrates that well Q1 is capable of sustaining a long term yield of at least 45 gpm.
- Well Q1 is capable of sustaining a long term yield of 45 gpm, without adversely impacting local water supplies, which include the Village wells and springs, and without adversely impacting surface water resources.
- The results of MPA sampling indicate that well Q1 has a low risk of surface contamination (EPA risk factors = 0).
- The results show that none of the NYSDOH Part 5 maximum contaminant levels (MCLs) were exceeded in the sample collected from Q1 near the end of the pumping test. The reported manganese concentration of 0.12 mg/L may be high enough to impart bad taste and brown staining; however, the manganese concentration can be reduced through treatment, if necessary.
- A slight sulfur odor was detected at the well Q1 point of discharge throughout most of the constant rate test. The presence of low levels of hydrogen sulfide in the water may require treatment for taste and odor; however, it does not preclude use as a potable water supply.

- Geophysical logging of wells Q1confirmed the information already present on the well driller's logs. The primary water-bearing fracture in the well is at approximately 200 ft below the surface.

3.8.2 Well 2 Pumping Test

- Village well 2 was pumped at the normal pumping rate for 6.5 hours on November 14, 2008, while no pumping was occurring at well Q1. The results of this test were combined with the results of a 24-hr constant rate test on Village well 2 conducted in 2000 to evaluate drawdown impacts to the surrounding wells.
- Projections based on 180 days of continuous pumping of Village well 2, while no pumping is done at well Q1 and with no aquifer recharge, resulted in drawdowns in well 2, well 4 and well Q1 of 60 ft, 6.2 ft, and 3.9 ft, respectively.

3.8.3 Q1 and Well 2 Combined Effects

- The long term, combined hydraulic influence of well Q1 and Village well 2 operating simultaneously was estimated by adding the projected drawdowns from their individual pumping tests.
- The available drawdowns remaining in well Q1, Village well 2 and Village well 4, after simultaneously pumping Q1 and well 2 for 180 days, are projected to be approximately 168 ft, 111 ft, and 310 ft, respectively. The large amount of available drawdown projected in these wells at the end of the 180-day period indicates that the wells can sustain their pumping rates together without adversely impacting each other, or the Village's backup well 4.

Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Q1 Pumping Test Report.doc

REFERENCES

Alpha Geoscience, December 21, 2000, “Water Supply Evaluation, Village of Fleischmanns, Delaware County, New York”, consulting report prepared for Crossroads Ventures, LLC, 14 pages.

Alpha Geoscience, August 2008, “Pumping Test Report, Village of Fleischmanns, New York”, consulting report prepared for Delaware Engineering, P.C., as part of Fleischmanns’ 2009 Application for a Water Supply Permit, 8 pages.

Bear, Jacob, 1979, Hydraulics of Groundwater, McGraw-Hill Book Company, New York, 569 pages.

TABLES

TABLE 1
Precipitation at the K Well Field

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date	Rain Gauge (inches)*
9/24/07	0
9/25/07	0
9/26/07	0
9/27/07	0.42
9/28/07	1.16
9/29/07	0.2
9/30/07	0
10/1/07	0
10/2/07	trace
10/3/07	0
10/4/07	0
10/5/07	0
10/6/07	0
10/7/07	0
10/8/07	0
10/9/07	1.2
10/10/07	0.6
10/11/07	0.7
10/12/07	0
10/13/07	0
10/14/07	0
10/15/07	0.5

*Measurements taken in AM

TABLE 2A
Elevation Survey Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Location ID	Measuring Point (MP)	MP Elevation (ft amsl)
Well K1	TOC	1559.83
Well K2	TOC	1598.22
Well K3	TOC	1577.69
Well K4	TOC	1618.79
K1 Spring	Spring Vent	1559.83
Mansion Well	TOC	1680
Combs Well	TOC	1788.76
Banks Well	TOC	1549.66
Trailer Well	TOC	1513.98
Village Well 1A	TOC	1534.68
Village Well 3	TOC	1491.64
Village Well 4	Top of well, at hole in cover	1615.54
Upper Todd Mt. Brook	3.30' mark on DEP Gage	1823.58
Lower Todd Mt. Brook	center of cross on rock	1495.59
Bush Kill - Ball Field	center of cross on rock	1491.17
Bush Kill - Wadler	center of cross on rock	1464.30
Bush Kill - Sawmill	nail in tree	1461.98
Emory Brook	nail in tree	1532.80

TOC = Top of Steel Casing, with well cover removed
DEP = NYC Dept. of Environmental Protection
All elevations surveyed by Rettew Engineering and Surveying, P.C., except the Mansion Well, which was estimated from the NYSDOT 1985 Fleischmanns 7.5-minute Quadrangle Map

TABLE 2B
Wellhead Configuration During Pumping Tests

Well I.D.	Elevation (ft amsl)		
	TOC	Grade	Measuring Point (PVC Tube)
Well K1	1559.83	1558.48	No PVC Tube
Well K2	1598.22	1595.92	1598.62
Well K3	1577.69	1574.97	1578.08
Well K4	1618.79	1616.64	1619.18

TOC = Top of Steel Casing, with well cover removed

TABLE 3
Banks Well
Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Depth to Water	Water Level Elevation
8/27/07 14:31	58.35	1491.31
8/30/07 10:05	58.22	1491.44
9/6/07 13:16	58.2	1491.46
9/10/07 14:10	58	1491.66
9/12/07 10:00	56.2	1493.46
9/13/07 10:17	57	1492.66
9/17/07 8:00	57.6	1492.06
9/17/07 10:35	57.6	1492.06
9/17/07 17:00	57.4	1492.26
9/18/07 10:56	57.7	1491.96
9/18/07 15:35	57.7	1491.96
9/19/07 8:18	57.8	1491.86
9/19/07 17:50	57.6	1492.06
9/20/07 11:22	57.7	1491.96
9/24/07 8:07	58	1491.66
9/24/07 15:00	58	1491.66
9/25/07 7:59	58.2	1491.46
9/25/07 14:04	58	1491.66
9/25/07 17:22	58.1	1491.56
9/26/07 7:45	58.2	1491.46
9/26/07 13:10	58.4	1491.26
9/26/07 16:50	58.4	1491.26
9/27/07 9:15	58.2	1491.46
9/27/07 13:30	58.2	1491.46
9/28/07 8:25	57.2	1492.46
9/28/07 12:58	56.7	1492.96
9/29/07 11:20	57	1492.66
10/2/07 8:05	57.5	1492.16
10/2/07 13:30	57.6	1492.06
10/2/07 16:57	57.6	1492.06
10/3/07 8:48	57.8	1491.86
10/4/07 12:52	57.8	1491.86
10/5/07 8:40	57.9	1491.76
10/8/07 11:50	57	1492.66
10/9/07 12:00	56.5	1493.16
10/10/07 14:00	56.3	1493.36
10/11/07 12:40	56	1493.66
10/15/07 11:05	56	1493.66

1549.66 = Elevation of Banks Well (TOC)

TABLE 4
Coombs Well
Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Depth to Water	Water Level Elevation	
8/30/07 10:40	162.6	1626.2	
9/6/07 12:03	165.3	1623.5	
9/10/07 14:05	164.7	1624.1	
9/12/07 9:54	164.0	1624.8	
9/13/07 10:10	164.1	1624.7	
9/18/07 8:15	164.4	1624.4	
9/19/07 8:00	164.4	1624.4	
9/19/07 17:37	164.0	1624.8	
9/20/07 11:02	164.0	1624.8	
9/24/07 7:53	163.9	1624.9	
9/24/07 14:50	163.8	1625.0	
9/25/07 7:53	163.8	1625.0	
9/25/07 14:11	163.8	1625.0	
9/25/07 17:18	163.8	1625.0	
9/26/07 7:39	163.8	1625.0	
9/26/07 13:17	163.9	1624.9	
9/26/07 17:16	163.8	1625.0	
9/27/07 9:20	163.8	1625.0	
9/27/07 15:50	163.8	1625.0	
9/28/07 8:20	163.7	1625.1	
9/28/07 13:05	165.7	1623.1	in use
9/29/07 11:00	165.5	1623.3	in use
10/2/07 8:15	165.2	1623.6	
10/2/07 13:20	165.2	1623.6	
10/2/07 17:09	165.0	1623.8	
10/3/07 8:00	165.0	1623.8	
10/4/07 12:46	165.0	1623.8	
10/5/07 8:46	165.0	1623.8	
10/8/07 12:15	165.1	1623.7	
10/9/07 12:10	165.4	1623.4	
10/10/07 13:50	165.3	1623.5	
10/11/07 13:15	165.4	1623.4	
10/15/07 11:30	165.4	1623.4	

1788.76 = Elevation of Coombs Well (TOC)

TABLE 5
Village Well 3
Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Depth to Water	Water Level Elevation
9/24/07 8:35	10.0	1481.64
9/24/07 16:03	10.0	1481.64
9/25/07 8:24	10.0	1481.64
9/25/07 14:43	10.0	1481.64
9/25/07 17:33	10.0	1481.64
9/26/07 6:40	10.0	1481.64
9/26/07 12:48	10.3	1481.34
9/26/07 16:59	10.3	1481.34
9/27/07 9:11	10.2	1481.44
9/27/07 17:13	10.2	1481.44
9/28/07 8:45	10.2	1481.44
9/28/07 12:27	10.2	1481.44
9/29/07 12:05	10.3	1481.34
10/2/07 7:39	10.3	1481.34
10/2/07 11:54	10.2	1481.44
10/3/07 8:23	10.5	1481.14
10/4/07 8:48	10.6	1481.04
10/4/07 15:47	10.1	1481.54
10/5/07 8:35	10.6	1481.04
10/6/07 12:15	10.8	1480.84
10/7/07 13:12	10.8	1480.84
10/8/07 11:15	10.8	1480.84
10/9/07 11:55	10.8	1480.84
10/10/07 13:25	10.6	1481.04
10/11/07 14:00	10.6	1481.04
10/15/07 10:20	10.4	1481.24

All measurements made with Sonic Water Level Meter

1491.64 = Elevation of Fleischmanns Well 3 (

TABLE 6
Village Well 4
Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Depth to Water	Water Level Elevation
6/7/07 11:00	61.90	1553.64
9/6/07 14:50	68.00	1547.54
9/10/07 15:05	67.80	1547.74
9/12/07 11:30	68.00	1547.54
9/13/07 12:00	67.80	1547.74
9/18/07 8:35	68.20	1547.34
9/19/07 7:32	65.22	1550.32
9/24/07 8:49	66.40	1549.14
9/24/07 16:39	66.60	1548.94
9/25/07 8:42	66.62	1548.92
9/25/07 15:00	66.45	1549.09
9/25/07 17:48	66.50	1549.04
9/26/07 7:15	66.42	1549.12
9/26/07 12:20	66.45	1549.09
9/26/07 17:35	66.44	1549.10
9/27/07 17:25	66.40	1549.14
9/28/07 8:30	65.30	1550.24
9/28/07 12:41	65.50	1550.04
9/29/07 12:30	65.40	1550.14
10/2/07 7:20	65.60	1549.94
10/2/07 12:15	66.05	1549.49
10/2/07 16:26	66.07	1549.47
10/3/07 8:10	66.25	1549.29
10/3/07 15:22	66.20	1549.34
10/4/07 8:30	66.25	1549.29
10/5/07 8:23	66.65	1548.89
10/5/07 13:42	66.96	1548.58
10/6/07 12:10	66.70	1548.84
10/7/07 13:37	66.50	1549.04
10/8/07 11:00	65.20	1550.34
10/9/07 11:49	65.40	1550.14
10/10/07 12:40	65.20	1550.34
10/11/07 14:20	65.00	1550.54
10/15/07 10:00	65.20	1550.34

1615.54 = Elevation of Fleischmanns Well 4 (

TABLE 7
Trailer Well
Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Depth to Water	Water Level Elevation
9/6/07 15:30	50.9	1463.08
9/10/07 14:25	51.2	1462.78
9/12/07 10:40	50.6	1463.38
9/13/07 11:10	50.8	1463.18
9/16/07 12:45	51.0	1462.98
9/18/07 8:25	51.2	1462.78
9/19/07 7:50	50.8	1463.18
9/20/07 10:41	50.8	1463.18
9/24/07 8:27	50.7	1463.28
9/24/07 15:46	53.7	1460.28
9/25/07 8:15	51.0	1462.98
9/25/07 14:36	62.0	1451.98
9/25/07 17:28	63.0	1450.98
9/26/07 6:15	64.8	1449.18
9/26/07 12:57	65.0	1448.98
9/26/07 16:42	65.0	1448.98
9/27/07 9:05	65.0	1448.98
9/27/07 17:04	65.0	1448.98
9/28/07 8:55	64.5	1449.48
9/28/07 12:16	64.5	1449.48
9/28/07 15:56	64.5	1449.48
9/28/07 15:59	64.5	1449.48
9/28/07 16:00	64.5	1449.48
9/28/07 16:01	64.5	1449.48
9/28/07 16:02	64.5	1449.48
9/28/07 16:03	64.5	1449.48
9/28/07 16:04	64.5	1449.48
9/28/07 16:05	64.5	1449.48
9/28/07 16:06	64.5	1449.48
9/28/07 16:07	64.5	1449.48
9/28/07 16:08	64.4	1449.58
9/28/07 16:09	64.4	1449.58
9/28/07 16:10	64.4	1449.58
9/28/07 16:11	64.4	1449.58
9/28/07 16:12	64.2	1449.78
9/28/07 16:13	64.2	1449.78
9/28/07 16:14	64.2	1449.78
9/28/07 16:15	64.2	1449.78
9/28/07 16:17	64.0	1449.98
9/28/07 16:20	63.8	1450.18
9/28/07 16:25	63.5	1450.48
9/28/07 16:30	63.2	1450.78
9/28/07 16:35	62.8	1451.18
9/28/07 16:40	62.4	1451.58
9/28/07 16:45	62.2	1451.78
9/28/07 16:50	61.7	1452.28

TABLE 7
Trailer Well
Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Depth to Water	Water Level Elevation
9/28/07 16:55	61.5	1452.48
9/28/07 17:00	61.2	1452.78
9/29/07 11:45	50.8	1463.18
9/30/07 17:31	50.6	1463.38
10/2/07 7:49	50.6	1463.38
10/2/07 11:45	60.2	1453.78
10/2/07 15:34	64.2	1449.78
10/3/07 8:30	67.2	1446.78
10/3/07 13:58	67.7	1446.28
10/4/07 8:55	67.5	1446.48
10/4/07 15:41	67.8	1446.18
10/5/07 8:00	67.6	1446.38
10/5/07 10:07	68.0	1445.98
10/5/07 10:45	68.0	1445.98
10/5/07 10:54	68.0	1445.98
10/5/07 10:55	67.8	1446.18
10/5/07 11:11	67.8	1446.18
10/5/07 11:15	66.5	1447.48
10/5/07 11:20	66.2	1447.78
10/5/07 11:25	65.8	1448.18
10/5/07 11:30	65.2	1448.78
10/5/07 11:40	64.6	1449.38
10/5/07 14:26	57.2	1456.78
10/5/07 18:06	53.5	1460.48
10/6/07 12:50	51.0	1462.98
10/7/07 13:02	50.6	1463.38
10/8/07 11:30	50.5	1463.48
10/9/07 11:26	50.2	1463.78
10/10/07 13:10	50.2	1463.78
10/11/07 13:40	50.0	1463.98
10/15/07 10:35	50.0	1463.98

1513.98 = Elevation of Trailer Well (TOC)

TABLE 8
Todd Mt. Brook
Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Todd Mt. Brook			
	Upper Todd		Lower Todd	
	Water Height on DEP Gauge (ft)	Water Level Elev.	Depth to Water from Cross Mark on Rock (ft)	Water Level Elev.
9/6/07 11:55	0.81	1,821.09		
9/6/07 14:10			2.05	1493.54
9/10/07 13:50	0.81	1,821.09		
9/10/07 14:15			2.07	1493.52
9/12/07 9:49	1	1,821.28		
9/12/07 10:30			1.95	1493.64
9/13/07 10:00	0.98	1,821.26		
9/13/07 10:50			1.95	1493.64
9/16/07 11:50	0.98	1,821.26		
9/16/07 12:30			1.97	1493.62
9/18/07 8:00	0.96	1,821.24		
9/19/07 7:47			1.92	1493.67
9/19/07 8:10	0.96	1,821.24		
9/20/07 11:06	0.96	1,821.24		
9/24/07 7:59	0.9	1,821.18		
9/24/07 8:16			2.04	1493.55
9/24/07 14:57	0.9	1,821.18		
9/24/07 15:14			2.01	1493.58
9/25/07 7:44	0.9	1,821.18		
9/25/07 8:08			2.01	1493.58
9/25/07 14:15	0.89	1,821.17		
9/25/07 14:20			2.1	1493.49
9/25/07 17:13	0.88	1,821.16		
9/25/07 19:08			2.05	1493.54
9/26/07 6:51			2.1	1493.49
9/26/07 7:35	0.88	1,821.16		
9/26/07 10:02			2.05	1493.54
9/26/07 13:07			2	1493.59
9/26/07 13:21	0.88	1,821.16		
9/26/07 14:50			2.05	1493.54
9/26/07 15:36	0.87	1,821.15		
9/26/07 17:25	0.88	1,821.16		
9/26/07 17:30			2	1493.59
9/27/07 9:28	0.98	1,821.26		
9/27/07 9:41	0.96	1,821.24		
9/27/07 17:03			1.85	1493.74
9/27/07 17:26	1.16	1,821.44		
9/28/07 8:15	1.02	1,821.30		
9/28/07 9:03			1.9	1493.69
9/28/07 9:58	1.02	1,821.30		
9/28/07 10:11			1.98	1493.61
9/28/07 12:54			1.95	1493.64

TABLE 8
Todd Mt. Brook
Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Todd Mt. Brook			
	Upper Todd		Lower Todd	
	Water Height on DEP Gauge (ft)	Water Level Elev.	Depth to Water from Cross Mark on Rock (ft)	Water Level Elev.
9/28/07 13:09	1.02	1,821.30		
9/29/07 10:45	0.99	1,821.27		
9/29/07 12:15			1.99	1493.6
10/2/07 8:01			2	1493.59
10/2/07 8:09	0.98	1,821.26		
10/2/07 14:36	0.97	1,821.25		
10/2/07 15:05			2	1493.59
10/3/07 7:55	0.96	1,821.24		
10/3/07 8:40			2.15	1493.44
10/3/07 13:15	0.96	1,821.24		
10/3/07 13:27			1.98	1493.61
10/4/07 12:40	0.96	1,821.24		
10/4/07 14:45	0.95	1,821.23		
10/4/07 14:56			1.99	1493.6
10/5/07 12:54	0.95	1,821.23		
10/5/07 13:04			1.99	1493.6
10/6/07 13:10	0.94	1,821.22		
10/7/07 13:55	0.96	1,821.24		
10/8/07 12:20	0.98	1,821.26		
10/9/07 12:20	1	1,821.28		
10/10/07 13:40	1.1	1,821.38		
10/11/07 13:25	1.16	1,821.44		
10/15/07 12:05	1.24	1,821.52		
10/15/07 10:55			1.9	1493.69
10/17/07 12:00	1.23	1,821.51		

1,823.58 = Elevation of Upper Todd DEP gage at 3.30' mark
1,495.59 = Elevation of Lower Todd gage (center of cross mark on rock)

TABLE 9
Emory Brook
Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Emory Brook	
	Depth to Water	Water Level Elev.
9/12/07 11:00	4.50	1528.30
9/13/07 11:30	4.57	1528.23
9/16/07 13:10	4.62	1528.18
9/18/07 8:46	4.65	1528.15
9/19/07 7:17	4.62	1528.18
9/24/07 8:41	4.68	1528.12
9/24/07 16:13	4.68	1528.12
9/25/07 8:34	4.70	1528.10
9/25/07 14:53	4.68	1528.12
9/25/07 17:41	4.70	1528.10
9/26/07 7:08	4.70	1528.10
9/26/07 12:35	4.70	1528.10
9/26/07 15:59	4.70	1528.10
9/26/07 17:08	4.70	1528.10
9/27/07 8:52	4.67	1528.13
9/27/07 16:28	4.62	1528.18
9/28/07 8:36	4.56	1528.24
9/28/07 10:25	4.59	1528.21
9/28/07 12:31	4.58	1528.22
9/29/07 11:51	4.60	1528.20
10/2/07 7:29	4.70	1528.10
10/2/07 12:06	4.67	1528.13
10/2/07 16:17	4.66	1528.14
10/3/07 8:16	4.70	1528.10
10/3/07 14:30	4.65	1528.15
10/4/07 8:40	4.68	1528.12
10/4/07 15:57	4.65	1528.15
10/5/07 13:49	4.67	1528.13
10/6/07 12:17	4.70	1528.10
10/7/07 13:25	4.70	1528.10
10/8/07 11:02	4.65	1528.15
10/9/07 11:10	4.57	1528.23
10/10/07 13:00	4.52	1528.28
10/11/07 14:10	4.52	1528.28
10/15/07 10:07	4.50	1528.30
10/17/07 12:15	4.51	1528.29

1532.80 = Elevation of Emory Brook Gage, nail in tree

TABLE 10
Bush Kill
Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Water Level - Bush Kill					
	Ball field		Wadler		Saw Mill	
	Depth to Water	Water Level Elev.	Depth to Water	Water Level Elev.	Depth to Water	Water Level Elev.
9/6/07 14:30	7.5	1483.67				
9/10/07 14:35	7.6	1483.57				
9/12/07 10:50	7.1	1484.07				
9/12/07 11:15					5	1456.98
9/13/07 11:15	7.33	1483.84				
9/13/07 11:00					5.14	1456.84
9/16/07 12:40					5.4	1456.58
9/16/07 13:00	7.47	1483.7				
9/18/07 8:30	7.6	1483.57				
9/19/07 8:05					5.29	1456.69
9/24/07 8:12					5.51	1456.47
9/24/07 8:24			2.31	1461.99		
9/24/07 8:30	7.68	1483.49				
9/24/07 15:28					5.41	1456.57
9/24/07 15:38			2.3	1462		
9/24/07 15:54	7.69	1483.48				
9/25/07 8:04					5.44	1456.54
9/25/07 8:13			2.31	1461.99		
9/25/07 8:28	7.71	1483.46				
9/25/07 14:27					5.41	1456.57
9/25/07 14:31			2.36	1461.94		
9/25/07 14:46	7.71	1483.46				
9/25/07 19:00					5.45	1456.53
9/25/07 19:08			2.41	1461.89		
9/25/07 19:13	7.73	1483.44				
9/26/07 6:44	7.72	1483.45				
9/26/07 6:49					5.4	1456.58
9/26/07 6:53			2.38	1461.92		
9/26/07 12:41	7.71	1483.46				
9/26/07 12:54			2.37	1461.93		
9/26/07 13:02					5.44	1456.54
9/26/07 16:45			2.37	1461.93		
9/26/07 17:02	7.71	1483.46				
9/26/07 17:10					5.44	1456.54
9/27/07 9:00			2.35	1461.95		
9/27/07 16:37	7.64	1483.53				
9/27/07 16:44			2.33	1461.97		
9/27/07 16:55					5.35	1456.63
9/28/07 8:40	7.38	1483.79				
9/28/07 8:50			2	1462.3		
9/28/07 8:59					5.19	1456.79
9/28/07 10:37	7.44	1483.73				
9/28/07 10:51			2.08	1462.22		
9/28/07 12:10			2.09	1462.21		
9/28/07 12:24	7.47	1483.7				
9/28/07 12:27					5.22	1456.76
9/28/07 12:49					5.25	1456.73
9/29/07 11:30			2.24	1462.06		
9/29/07 12:00	7.61	1483.56				
9/29/07 12:10					5.3	1456.68

TABLE 10
Bush Kill
Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Water Level - Bush Kill					
	Ball field		Wadler		Saw Mill	
	Depth to Water	Water Level Elev.	Depth to Water	Water Level Elev.	Depth to Water	Water Level Elev.
10/2/07 7:35	7.69	1483.48				
10/2/07 7:45			2.33	1461.97		
10/2/07 7:55					5.41	1456.57
10/2/07 11:42			2.33	1461.97		
10/2/07 11:59	7.68	1483.49				
10/2/07 15:15					5.38	1456.6
10/2/07 15:25			2.37	1461.93		
10/2/07 15:47	7.72	1483.45				
10/3/07 8:20	7.7	1483.47				
10/3/07 8:26			2.35	1461.95		
10/3/07 8:35					5.45	1456.53
10/3/07 13:37					5.4	1456.58
10/3/07 13:48			2.39	1461.91		
10/3/07 14:05	7.74	1483.43				
10/4/07 8:43	7.71	1483.46				
10/4/07 12:50					5.43	1456.55
10/4/07 12:57			2.36	1461.94		
10/4/07 15:05			2.4	1461.9		
10/4/07 15:20	7.74	1483.43				
10/4/07 15:30					5.39	1456.59
10/5/07 8:31	7.73	1483.44				
10/5/07 13:22					5.42	1456.56
10/5/07 13:31			2.42	1461.88		
10/5/07 14:00	7.75	1483.42				
10/6/07 12:20	7.73	1483.44				
10/6/07 12:40			2.35	1461.95		
10/6/07 12:55					5.42	1456.56
10/7/07 13:07			2.36	1461.94		
10/7/07 13:17	7.71	1483.46				
10/7/07 13:45					5.43	1456.55
10/8/07 11:10	7.7	1483.47				
10/8/07 11:20			2.35	1461.95		
10/8/07 11:40					5.4	1456.58
10/9/07 11:15			2.25	1462.05		
10/9/07 11:50	7.6	1483.57				
10/9/07 12:30					5.3	1456.68
10/10/07 13:05			2.15	1462.15		
10/10/07 13:20	7.5	1483.67				
10/10/07 13:30					5.29	1456.69
10/11/07 13:35			2.1	1462.2		
10/11/07 13:50					5.25	1456.73
10/11/07 13:55	7.49	1483.68				
10/15/07 10:15	7.45	1483.72				
10/15/07 10:30			2.07	1462.23		
10/15/07 10:45					5.2	1456.78

1491.17 = Elevation of Bush Kill, Ballfield Gage
1464.30 = Elevation of Bush Kill, Wadler Gage
1461.98 = Elevation of Bush Kill, Saw Mill Gage

TABLE 11
K1 Spring Flow

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date/Time	Flow - K1 Spring (gpm)
8/27/07 8:10	0
9/6/07 13:46	0
9/10/07 15:42	0
9/12/07 10:22	2
9/13/07 10:25	3
9/14/07 15:00	3
9/16/07 12:00	2.6
9/17/07 8:00	2.6
9/18/07 9:09	2.6
9/18/07 16:40	2.6
9/19/07 8:50	2.14
9/19/07 13:10	2.14
9/20/07 11:00	1.88
9/24/07 7:35	0.75
9/24/07 11:58	0.75
9/24/07 14:17	0.72
9/25/07 7:15	0.48
9/25/07 11:13	0.45
9/25/07 13:30	0.43
9/25/07 18:09	0.35
9/26/07 8:17	0.25
9/26/07 12:58	0.24
9/26/07 13:34	0.26
9/26/07 16:35	0.25
9/26/07 17:17	0.20
9/27/07 7:30	0.12
9/27/07 8:30	0.12
9/27/07 13:30	0.10
9/27/07 16:25	0.28
9/28/07 7:30	2.00
9/28/07 9:04	1.94
9/28/07 14:51	2.00
9/28/07 16:29	2.26
9/28/07 16:42	2.50
9/28/07 17:02	2.07
9/29/07 12:25	2.40
9/30/07 17:29	2.16
10/1/07 6:30	1.77
10/2/07 8:08	1.50
10/2/07 10:24	1.71
10/2/07 16:30	1.67
10/2/07 16:30	1.54
10/2/07 16:30	1.36
10/4/07 9:00	1.20
10/5/07 11:20	1.00

TABLE 12
K2, K3, K4 Water Quality Field Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Location	Date and Time	Temperature (°C)	Specific Conductivity (µs/cm)	TDS (ppm)	pH	Turbidity (NTU)
K2	9/25/07 13:33	10.7	264	132	7.7	30.00
K2	9/25/07 17:52	10.0	278	140	7.67	17.50
K2	9/26/07 8:05	9.8	354	178	7.54	9.63
K2	9/26/07 12:35	10.0	362	181	7.54	6.07
K2	9/26/07 17:10	10.0	377	189	7.63	6.27
K2	9/27/07 8:18	9.9	423	211	7.59	3.52
K2	9/27/07 13:24	10.1	434	217	7.67	3.38
K2	9/27/07 17:45	10.1	442	221	7.5	—
K2	9/28/07 8:53	9.9	464	232	7.62	2.97
K2	9/28/07 15:06	9.9	470	235	7.61	2.81
K3	10/2/07 10:15	9.7	312	156	7.33	2.01
K3	10/2/07 18:15	9.8	448	223	6.65	2.48
K3	10/3/07 11:48	9.8	478	240	7.13	1.62
K3	10/4/07 10:56	10.0	485	242	8.00	0.43
K3	10/4/07 18:45	10.0	481	241	7.72	0.43
K4	9/25/07 13:50	10.0	348	174	8.62	6.30
K4	9/25/07 17:42	10.0	378	187	8.67	7.10
K4	9/26/07 7:29	9.9	515	258	8.45	3.50
K4	9/26/07 12:10	10.0	553	277	8.38	1.60
K4	9/26/07 17:01	10.0	586	292	8.33	0.53
K4	9/27/07 8:07	9.9	643	322	8.26	0.49
K4	9/27/07 13:05	10.0	665	326	8.27	0.53
K4	9/27/07 17:43	10.1	663	332	8.20	—
K4	9/28/07 8:43	10.0	693	346	8.24	0.38
K4	9/28/07 15:12	9.9	690	345	8.23	0.27
K4	10/2/07 10:40	9.7	686	342	8.25	0.11
K4	10/2/07 17:58	10.0	688	344	8.24	0.88
K4	10/3/07 11:36	9.8	696	346	8.09	-0.20
K4	10/4/07 10:40	9.6	688	343	8.25	-0.33
K4	10/4/07 19:02	9.7	682	341	8.33	-0.43

TABLE 13
Todd Mt. Brook Water Quality Field Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Location	Date and Time	Temperature (°C)	Specific Conductivity (µs/cm)	TDS (ppm)	pH	Turbidity (NTU)
Upper	9/24/07 15:00	13.2	48	22	6.85	—
Upper	9/25/07 15:19	13.6	46	23	7.36	0.86
Upper	9/26/07 8:46	13.6	48	21	7.24	1.29
Upper	9/26/07 15:36	15.5	48	24	7.06	0.86
Upper	9/27/07 9:41	13.9	59	30	6.80	5.6
Upper	9/27/07 17:26	15.9	110	55	6.70	—
Upper	9/28/07 9:58	13.9	62	31	6.76	4.52
Upper	10/2/07 14:36	12.6	50	24	7.71	—
Upper	10/3/07 13:16	13.5	50	25	7.16	—
Upper	10/4/07 14:46	14.1	50	26	6.88	—
Upper	10/5/07 12:56	14.2	50	24	7.42	—
Lower	9/24/07 15:12	12.7	62	31	7.27	—
Lower	9/25/07 15:32	13.0	65	31	7.71	0
Lower	9/26/07 10:02	13.3	66	33	7.80	0.38
Lower	9/26/07 14:50	14.6	67	32	7.71	0.56
Lower	9/27/07 9:57	14.4	76	38	7.45	0.73
Lower	9/27/07 17:03	15.4	69	34	7.52	—
Lower	9/28/07 10:11	13.9	80	40	7.62	0.54
Lower	10/2/07 15:05	13.1	72	35	7.75	—
Lower	10/3/07 13:29	13.4	70	34	7.01	—
Lower	10/4/07 14:58	14.0	70	34	7.45	—
Lower	10/5/07 13:07	13.9	70	35	7.33	—

TABLE 14
Emory Brook Water Quality Field Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Location	Date and Time	Temperature (°C)	Specific Conductivity (µs/cm)	TDS (ppm)	pH	Turbidity (NTU)
Emory	9/24/07 16:20	15.1	91	45	7.52	—
Emory	9/25/07 15:50	15.7	92	46	7.37	0.12
Emory	9/26/07 9:11	13.5	93	46	7.50	0.13
Emory	9/26/07 15:59	16.1	93	46	7.37	0.41
Emory	9/27/07 10:19	14.4	90	45	7.19	0.12
Emory	9/27/07 16:28	15.7	88	44	7.4	—
Emory	9/28/07 10:25	14.4	90	44	7.27	0.42
Emory	10/2/07 16:14	14.3	93	50	7.47	—
Emory	10/3/07 14:07	14.9	92	46	7.55	—
Emory	10/4/07 15:58	14.9	92	47	7.31	—
Emory	10/5/07 13:51	15.8	94	47	7.64	—

TABLE 15
Bush Kill Water Quality Field Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Location	Date and Time	Temperature (°C)	Specific Conductivity (μs/cm)	TDS (ppm)	pH	Turbidity (NTU)
Ballfield	9/24/07 16:00	15.2	67	33	7.82	—
Ballfield	9/25/07 16:12	16.7	65	33	7.52	0.2
Ballfield	9/26/07 9:31	14.8	71	36	7.41	0.27
Ballfield	9/26/07 16:16	18.3	68	34	7.28	0.14
Ballfield	9/27/07 10:38	16.3	71	35	7.25	0.27
Ballfield	9/27/07 16:37	18.6	75	37	7.4	—
Ballfield	9/28/07 10:37	16.1	65	32	7.21	3.12
Ballfield	10/2/07 15:47	15.3	67	33	6.74	—
Ballfield	10/3/07 14:09	16.2	68	34	7.61	—
Ballfield	10/4/07 15:07	17.1	79	39	7.81	—
Ballfield	10/5/07 14:03	16.6	74	37	7.76	—
Wadler	9/24/07 15:37	16.0	73	36	7.75	—
Wadler	9/25/07 16:03	16.9	76	38	7.82	0.97
Wadler	9/26/07 9:41	15.1	77	38	7.53	0.35
Wadler	9/26/07 16:29	18.5	76	38	7.86	0.21
Wadler	9/27/07 10:55	16.8	85	42	8.12	0.59
Wadler	9/27/07 16:44	18.8	83	42	6.99	—
Wadler	9/28/07 10:51	15.5	74	36	7.31	3.3
Wadler	10/2/07 15:25	14.9	76	38	7.39	—
Wadler	10/3/07 13:51	16.1	85	42	7.52	—
Wadler	10/4/07 15:21	16.9	73	36	7.43	—
Wadler	10/5/07 13:32	17.1	82	41	7368	—
Sawmill	9/24/07 15:19	16.1	75	37	7.56	—
Sawmill	9/25/07 16:23	16.8	82	41	7.7	1.2
Sawmill	9/26/07 9:54	15.2	89	44	7.54	1.21
Sawmill	9/26/07 16:39	18.4	88	44	7.67	1.14
Sawmill	9/27/07 11:25	17.1	96	48	7.5	0.7
Sawmill	9/27/07 16:55	18.7	117	58	7.77	—
Sawmill	9/28/07 12:27	16.5	84	42	7.31	2.67
Sawmill	10/2/07 15:15	14.7	101	51	7.43	—
Sawmill	10/3/07 13:40	15.8	107	53	7.48	—
Sawmill	10/4/07 15:30	17.2	98	50	7.74	—
Sawmill	10/5/07 13:24	16.9	88	43	7.55	—

TABLE 16
Summary of Testing-Related Events

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Step Rate Testing

9/17/2007	8:40 - Begin well K3 step rate pumping test (36 gpm, 60 gpm, 82 gpm, 104 gpm) 17:20 - shut down test; begin water level recovery monitoring
9/18/2007	9:00 Begin well K2 step rate pumping test (37.5 gpm, 60 gpm, 80 gpm, 108 gpm) 16:41 - shut down test; begin water level recovery monitoring
9/19/2007	9:00 Begin well K4 step rate pumping test (41 gpm. 60.6 gpm, 84 gpm, 108 gpm) 13:41 - shut down test; begin water level recovery monitoring
9/20/07-9/23/07	No Activity

K2-K3-K4 Constant Rate Testing @ 210 gpm

9/24/2007	9:00 - start constant rate testing with K2 and K4 each @ 80 gpm and K3 @ 50 gpm 9:30 - K4 pump apparently losing efficiency and cannot maintain pumping rate; rate drops to 51 gpm by 10:15 11:10-11:11 - toggle K4 off and on to check for blocked pump screen (negative) 11:14 - shut down pumps at K2 and K3; continue running K4; K4 operates correctly 12:00 - shut down k4; generator insufficient to operate all three pumps at once; begin water level recovery monitoring; Titan obtains replacement rental generator overnight for re-start of test on 9/25/07

K2-K4 CR Test @ 130 gpm total

9/25/2007	9:00 - start test with K2,K3,K4 pumps each @ 65 gpm (195 gpm total) 9:07 - K2 & K3 pumps not operating consistently; shut down test 9:07-9:58 - Titan connects all three pumps to new generator 9:58:20 to 9:59:20 - All 3 well pumps on breifly to test proper connection w/ generator (Wait for water level recovery) 10:20 - Restart CR test with K2,K3,K4 pumps each @ 65 gpm (195 gpm total) 12:00 - Shut down K3; continue K2 and K4 at 65 gpm (130 gpm total)
9/26/2007	K2-K4 pumping test continues
9/27/2007	K2-K4 pumping test continues
9/28/2007	6:51 - cable to inactive K3 pump shorted out and tripped circuit breaker on generator 6:53 - Titan crew restarted generator; K2 and K4 pumps re-activated 8:00 (approx.) water levels in K wells "back on track" 11:00 - Collect sample from well K4 for NYSDOH Part 5 Analysis 11:15 - Collect sample from well K2 for NYSDOH Part 5 Analysis 16:00 - test shut down; begin water level recovery monitoring 17:21 - 90% recovery achieved in well K4 (81 minutes after shut down) 17:29 - 90% recovery achieved in well K2 (89 minutes after shut down)
9/29/2007	Recovery period
9/30/2007	MPA sample collection 18:15:30 - turn on pumps at K2 and K4 at approx. 37 gpm and 48 gpm, respectively 18:17 Begin K4 MPA filter sample collection 18:30 Begin K2 MPA filter sample collection
10/1/2007	6:22 - Shut down K2 and K4 pumps and end MPA filtering; begin water level recovery

K3-K4 CR Test @ 157 gpm total

10/2/2007	8:30:00 AM - start test with K3 @ 75 gpm and K4 @ 82 gpm
10/3/2007	K3-K4 pumping test continues
10/4/2007	13:54 - Re-Sample K4 for Coliform and Radon 14:25 - Collect sample from well K3 for NYSDOH Part 5 Analysis (time sensitive parameters only 19:21 - Begin K3 MPA filter sample collection
10/5/2007	6:52 - Stop MPA filter sample collection 9:15 - Bill Gilday (NYSDOH) on-site with three other NYSDOH representatives to witness procedures and view results 9:45 - Bill Gilday acknowledges that the results meet the NYSDOH stabilization requirements and gives approval to stop the test (NYHSDOH off-site at 10:15) 9:45 -10:30 - Collect sample from well K3 for NYSDOH Part 5 Analysis (remaining parameters) 10:45 - shut down test; begin water-level recovery monitoring 12:04 - 90% recovery achieved in well K3 (79 minutes after shut down) 12:13 - 90% recovery achieved in well K4 (88 minutes after shut down)

TABLE 17

Well K2 Pumping Rate Data

K2-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date	Time	Pipe Orifice Tube (inches)	Drum Measurement (30-gal capacity)	
			Seconds	GPM
9/25/2007	9:00	K2,K3,K4 Pumps On		
9/25/2007	9:07:10	K2,K3,K4 pumps off; generator problem with K2,K3		
9/25/2007	10:20:00	Pumps back on - all now hooked to same generator		
9/25/2007	10:25	15.75	28.4	63.4
9/25/2007	10:29	15	28.11	64.0
9/25/2007	10:32	15.5	28.96	62.2
9/25/2007	10:38	14.5	29.4	61.2
9/25/2007	10:40	16 - 16.25		
9/25/2007	10:45	13.75 - 14	30.9	58.3
9/25/2007	10:48	14.5 ± 0.25	29.09	61.9
9/25/2007	10:50	14.25 ± 0.25	29.85	60.3
9/25/2007	10:53	15.25 ± 0.25	28.66	62.8
9/25/2007	10:57	16 ± 0.25	27.81	64.7
9/25/2007	11:02	15.875 - 16	27.79	64.8
9/25/2007	12:00:00	K3 pump off; K2 and K4 continue at 65gpm each		
9/25/2007	13:30	16	27.34	65.8
9/25/2007	15:32	16		
9/25/2007	16:02	16		
9/25/2007	16:19	15.75; adjusted up to 16		
9/25/2007	17:01	16		
9/25/2007	18:01	16		
9/25/2007	19:00	16.25		
9/25/2007	19:48	16.25		
9/25/2007	20:58	16.25		
9/25/2007	21:59	16.25		
9/25/2007	23:04	16.25		
9/26/2007	0:03	16.25		
9/26/2007	1:00	16.25		
9/26/2007	2:06	16.25		
9/26/2007	4:15	16.25		
9/26/2007	5:03	16.25		
9/26/2007	6:04	16.25		
9/26/2007	7:02	16.125		
9/26/2007	8:04	16.125		
9/26/2007	9:01	16.125		
9/26/2007	9:57	16		
9/26/2007	10:59	16 ± 0.125		
9/26/2007	12:04	16.125		
9/26/2007	13:01	16.125		
9/26/2007	13:54	16 ± 0.125		
9/26/2007	14:44	16 ± 0.125		
9/26/2007	17:00	15.875-16.125; adjusted up to 16 - 16.5, then measured Q	26.47	68.0
9/26/2007	17:13	adjusted down to 16 - 16.25		
9/26/2007	18:03	16.25		
9/26/2007	18:56	16 - 16.25		
9/26/2007	19:56	16 - 16.25		
9/26/2007	20:58	16 - 16.25		
9/26/2007	21:55	16 - 16.25		
9/26/2007	23:27	16 - 16.25		
9/27/2007	4:56	16 - 16.25		
9/27/2007	5:56	16 - 16.25		
9/27/2007	7:01	16 - 16.25		

TABLE 17
Well K2 Pumping Rate Data
K2-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date	Time	Pipe Orifice Tube (inches)	Drum Measurement (30-gal capacity)	
			Seconds	GPM
9/27/2007	8:03	16.25		
9/27/2007	9:05	16.25		
9/27/2007	10:04	16 - 16.375		
9/27/2007	11:04	16 - 16.25		
9/27/2007	11:58	16 - 16.25		
9/27/2007	13:08	16 - 16.25		
9/27/2007	14:04	16 - 16.25		
9/27/2007	14:45	16 - 16.375		
9/27/2007	15:05	16 - 16.375		
9/27/2007	16:05	16 - 16.375		
9/27/2007	17:00	16 - 16.5		
9/27/2007	19:05	16 - 16.5		
9/27/2007	20:15	16 - 16.5		
9/27/2007	21:00	16 - 16.5		
9/27/2007	22:05	16 - 16.5		
9/27/2007	23:00	16 - 16.5		
9/28/2007	1:00	16 - 16.5		
9/28/2007	2:30	16 - 16.5		
9/28/2007	3:30	16 - 16.5		
9/28/2007	5:30	16 - 16.5		
9/28/2007	6:50	16 - 16.5		
9/28/2007	6:58	17		
9/28/2007	7:11	16.5		
9/28/2007	7:15	16.25 - 16.5		
9/28/2007	7:18	16.25 - 16.5		
9/28/2007	7:20	16.25 - 16.5		
9/28/2007	7:24	16.25 - 16.5		
9/28/2007	7:29	16.25 - 16.5		
9/28/2007	7:33	16.25 - 16.5		
9/28/2007	7:37	16.25 - 16.5		
9/28/2007	7:42	16.25 - 16.5		
9/28/2007	7:46	16.25 - 16.5		
9/28/2007	7:51	16.25 - 16.5		
9/28/2007	7:56	16.25 - 16.5		
9/28/2007	8:01	16.25 - 16.5	27.5	65.5
9/28/2007	8:30	16.25 - 16.5		
9/28/2007	9:02	16.25 - 16.5		
9/28/2007	9:33	16.25 - 16.5		
9/28/2007	10:03	16.25 - 16.5		
9/28/2007	11:02	16.25 - 16.25		
9/28/2007	12:07	16 - 16.25		
9/28/2007	13:04	16 - 16.25		
9/28/2007	14:06	16 - 16.25		
9/28/2007	15:03	16 - 16.25		
9/28/2007	16:00	Pumps Off		

TABLE 18
Well K4 Pumping Rate Data at 65 gpm
K2-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date	Time	Pipe Orifice Tube (inches)	Drum Measurement (30-gal capacity)	
			Seconds	GPM
9/25/2007	9:00:00	K2, K3, K4 Pumps On		
9/25/2007	9:01:30	15.5	30	60.0
9/25/2007	9:04:00	16 - 16.25	30	60.0
9/25/2007	9:06:00	16.75 - 17.0		
9/25/2007	9:07:10	K2,K3,K4 pumps off; generator problem with K2,K3		
9/25/2007	10:20:00	Pumps back on - all now hooked to same generator		
9/25/2007	10:22:00		28	64.3
9/25/2007	10:22:30	16.25		
9/25/2007	10:24:00	15.75 - 16	28.75	62.6
9/25/2007	10:29:00	16.75 - 17	28.4	63.4
9/25/2007	10:30:00	17.25		
9/25/2007	10:30:30	17 - 17.25	28.1	64.1
9/25/2007	10:31:30	17.25 - 17.5		
9/25/2007	10:33:45	17		
9/25/2007	10:34:30	17.25 - 17.5		
9/25/2007	10:38:00	17.25 - 17.5		
9/25/2007	10:38:20		27.3	65.9
9/25/2007	10:43:00	17 - 17.25		
9/25/2007	10:44:30	17.5		
9/25/2007	10:48:00	17 - 17.25		
9/25/2007	10:53:00	17 - 17.25		
9/25/2007	10:57:00	17 - 17.25	28.2	63.8
9/25/2007	10:59:00	17.5		
9/25/2007	11:03:00	17.25 - 17.5		
9/25/2007	11:05:30	17.75		
9/25/2007	11:17:00	17.25 - 17.5		
9/25/2007	11:25:00	17.5		
9/25/2007	11:32:00	17.5		
9/25/2007	11:40:00	17.25 - 17.5		
9/25/2007	11:48:00	17.25 - 17.5		
9/25/2007	12:00:00	K3 pump off; K2 and K4 continue at 65gpm each		
9/25/2007	12:01:00	18 (rising)		
9/25/2007	12:01:30	17.5 (rising)		
9/25/2007	12:04:00	17.25 - 17.5 (rising)		
9/25/2007	12:21:00	17.5		
9/25/2007	12:31:00	17.5		
9/25/2007	12:41:00	17.25 - 17.5		
9/25/2007	12:50:00	17.25 - 17.75		
9/25/2007	13:00:00	17.5 - 17.75		
9/25/2007	13:11:00	17.5	28	64.3
9/25/2007	13:13:00	(adjusted up)	27.72	64.9
9/25/2007	13:30:00	18 - 18.25		
9/25/2007	13:40:00	18 - 18.25		
9/25/2007	14:00:00	18 - 18.25		

TABLE 18
Well K4 Pumping Rate Data at 65 gpm
K2-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date	Time	Pipe Orifice Tube (inches)	Drum Measurement (30-gal capacity)	
			Seconds	GPM
9/25/2007	14:30:00	18 - 18.25		
9/25/2007	15:07:00	18 - 18.5		
9/25/2007	16:00:00	18 - 18.25		
9/25/2007	17:59:00	18.125		
9/25/2007	19:00:00	18.125		
9/25/2007	19:44:00	18		
9/25/2007	20:54:00	18.125		
9/25/2007	21:54:00	18.125		
9/25/2007	23:00:00	18.125		
9/25/2007	23:58:00	18.125		
9/26/2007	0:55:00	18.125		
9/26/2007	2:00:00	18.125		
9/26/2007	4:12:00	18.125		
9/26/2007	5:00:00	18.125		
9/26/2007	6:00:00	18.125		
9/26/2007	7:00:00	18.125		
9/26/2007	8:01:00	18.125		
9/26/2007	8:58:00	18 - 18.25		
9/26/2007	11:01:00	18 - 18.5		
9/26/2007	12:00:00	18 - 18.25		
9/26/2007	12:57:00	18 - 18.25		
9/26/2007	14:00:00	18 - 18.25		
9/26/2007	14:58:00	18 - 18.25		
9/26/2007	16:58:00	18 - 18.25	27.68	65.0
9/26/2007	17:58:00	18 - 18.25		
9/26/2007	18:55:00	18 - 18.25		
9/26/2007	19:54:00	18 - 18.25		
9/26/2007	20:55:00	18 - 18.25		
9/26/2007	21:51:00	18 - 18.25		
9/26/2007	23:10:00	18 - 18.25		
9/27/2007	4:48:00	18 - 18.25		
9/27/2007	5:53:00	18 - 18.25		
9/27/2007	5:58:00	18 - 18.25		
9/27/2007	8:00:00	18.25		
9/27/2007	9:01:00	18 - 18.5	27.51	65.4
9/27/2007	10:00:00	18 - 18.5		
9/27/2007	10:59:00	18 - 18.5		
9/27/2007	12:00:00	18 - 18.5		
9/27/2007	13:02:00	18 - 18.5		
9/27/2007	14:00:00	18 - 18.5		
9/27/2007	15:00:00	18 - 18.5		
9/27/2007	15:31:00	18 - 18.5		
9/27/2007	16:02:00	18 - 18.5		
9/27/2007	16:59:00	18 - 18.5		
9/27/2007	17:24:00	18 - 18.5		

TABLE 18

Well K4 Pumping Rate Data at 65 gpm

K2-K4 Simultaneous Pumping Test

K Well Field Pumping Tests

Belleayre Resort at Catskill Park

Date	Time	Pipe Orifice Tube (inches)	Drum Measurement (30-gal capacity)	
			Seconds	GPM
9/27/2007	19:00:00	18 - 18.5		
9/27/2007	20:00:00	18 - 18.5		
9/27/2007	21:00:00	18 - 18.5		
9/27/2007	22:05:00	18 - 18.5		
9/27/2007	23:00:00	18 - 18.5		
9/28/2007	1:00:00	18 - 18.5		
9/28/2007	2:30:00	18 - 18.5		
9/28/2007	3:30:00	18 - 18.5		
9/28/2007	5:30:00	18 - 18.5		
9/28/2007	6:47:00	18 - 18.5		
9/28/2007	7:18:00	18 - 18.5		
9/28/2007	8:32:00	18 - 18.5		
9/28/2007	8:59:00	18 - 18.5		
9/28/2007	9:30:00	18 - 18.5		
9/28/2007	10:01:00	18 - 18.5		
9/28/2007	11:00:00	18 - 18.25		
9/28/2007	12:04:00	18 - 18.25		
9/28/2007	13:00:00	18 - 18.25		
9/28/2007	14:03:00	18 - 18.25		
9/28/2007	15:00:00	18 - 18.25		
9/28/2007	16:00:00	Pumps Off		

TABLE 19
Well K3 Pumping Rate Data
K3-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date	Time	Pipe Orifice Tube (inches)	Drum Measurement (30-gal capacity)	
			Seconds	GPM
10/2/2007	8:30	K3 and K4 Pumps On	24.5	73.5
10/2/2007	8:31	21.5	24.5	73.5
10/2/2007	8:33	22.5	24	75.0
10/2/2007	8:35	21.5	24	75.0
10/2/2007	8:37	21	24	75.0
10/2/2007	8:39	20.5	24	75.0
10/2/2007	8:41	21.5-21.75	24	75.0
10/2/2007	8:45	21-21.25	25	72.0
10/2/2007	8:50	21.5		
10/2/2007	8:55	21.5	24	75.0
10/2/2007	9:00	21.25		
10/2/2007	9:05	21 5/8	24	75.0
10/2/2007	9:11	21.5		
10/2/2007	9:20	21.5	24	75.0
10/2/2007	9:40	21.625		
10/2/2007	9:50	21.5		
10/2/2007	10:00	21.25		
10/2/2007	10:11	21.25 - 21.5		
10/2/2007	10:30	21.5		
10/2/2007	11:05	21.25 - 21.5		
10/2/2007	11:56	20.875 ± 0.125		
10/2/2007	12:06	adjusted up to 21.5		
10/2/2007	13:34	21		
10/2/2007	14:04	21		
10/2/2007	15:03	21.25		
10/2/2007	15:55	21		
10/2/2007	16:32	21.25 - 21.5		
10/2/2007	16:41		24.4	73.8
10/2/2007	16:56	adjusted up to 21.5		
10/2/2007	17:04	21.25		
10/2/2007	18:10	21.25		
10/2/2007	18:12	adjusted up to 21.625		
10/2/2007	18:15		24.2	74.4
10/2/2007	19:00	21.625		
10/2/2007	20:00	21.625		
10/2/2007	20:54	21.5		
10/2/2007	21:57	21.5		
10/2/2007	22:59	21.5		
10/2/2007	23:53	21.5		
10/3/2007	0:53	21.5		
10/3/2007	2:53	21.5		
10/3/2007	3:53	21.5		
10/3/2007	4:53	21.5		
10/3/2007	5:55	21.5		
10/3/2007	7:10	21.5		
10/3/2007	8:03	21.5		
10/3/2007	8:07	21.75		

TABLE 19
Well K3 Pumping Rate Data
K3-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date	Time	Pipe Orifice Tube (inches)	Drum Measurement (30-gal capacity)	
			Seconds	GPM
10/3/2007	10:05	21.75		
10/3/2007	11:05	21.75		
10/3/2007	11:55	21.5 - 21.75		
10/3/2007	13:06	21.5		
10/3/2007	14:05	21.5		
10/3/2007	15:06	21.75		
10/3/2007	16:05	21.5		
10/3/2007	17:01	21.5		
10/3/2007	17:57	21.5		
10/3/2007	18:10	adjusted up to 21.5 - 21.75		
10/3/2007	18:51	21.5		
10/3/2007	19:50	21.5		
10/3/2007	20:51	21.5		
10/3/2007	21:51	21.5		
10/3/2007	22:54	21.5		
10/4/2007	1:57	21.5		
10/4/2007	3:57	21.5		
10/4/2007	6:16	21.5		
10/4/2007	7:21	21.25 - 21.5; adjusted up to 21.5 - 21.75		
10/4/2007	8:00	21.5		
10/4/2007	9:07	21.5	24.58	73.2
10/4/2007	9:15	21.5; adjusted up to 21.5 - 22		
10/4/2007	9:35		24	75.0
10/4/2007	10:00	21.875		
10/4/2007	11:00	21.875		
10/4/2007	12:02	21.75		
10/4/2007	12:58	21.375		
10/4/2007	13:20	21.5 - 21.75; adjust to 22 - 22.25		
10/4/2007	14:59	22.125		
10/4/2007	16:00	22		
10/4/2007	16:46	adjusted up to 22 - 22.25		
10/4/2007	16:59	22.125		
10/4/2007	17:44	21.75 - 22	23.35	77.1
10/4/2007	18:06	21.75 - 22		
10/4/2007	18:28	21.75 - 22		
10/4/2007	19:01	21.75 - 22		
10/4/2007	19:57	21.75 - 22		
10/4/2007	21:00	21.75 - 22		
10/4/2007	21:58	21.75 - 22		
10/4/2007	22:56	21.75		
10/5/2007	0:50	21.75		
10/5/2007	1:54	21.75		
10/5/2007	3:12	21.75		
10/5/2007	4:02	21.75		
10/5/2007	4:56	21.75		
10/5/2007	5:55	21.75		
10/5/2007	6:57	22		
10/5/2007	8:07	21.875	23.95	75.2
10/5/2007	10:45	Pumps Off		

TABLE 20

Well K4 Pumping Rate Data at 82 gpm

K3-K4 Simultaneous Pumping Test

K Well Field Pumping Tests

Belleayre Resort at Catskill Park

Date	Time	Pipe Orifice Tube (inches)	Drum Measurement (30-gal capacity)	
			Seconds	GPM
10/2/2007	8:30	K3 and K4 Pumps On		
10/2/2007	8:33	26	23.20	77.6
10/2/2007	8:36	27	23.14	77.8
10/2/2007	8:40	27.5 - 28	22.5	80.0
10/2/2007	8:41	27.5 - 28	22.3	80.7
10/2/2007	8:47	28		
10/2/2007	8:51	28.75		
10/2/2007	9:00	28 - 28.5		
10/2/2007	9:10	28 - 28.75		
10/2/2007	9:20	28 - 28.5		
10/2/2007	9:30	28.25 - 28.5		
10/2/2007	9:39	28 - 28.5		
10/2/2007	9:40	28 - 28.5 (adjusted down)	20.69	87.0
10/2/2007	9:47	27.5	22.4	80.4
10/2/2007	9:58	27.5		
10/2/2007	10:09	27.5		
10/2/2007	10:20	27.25 - 27.5 (adjusted up)		
10/2/2007	10:22	27.5 - 28		
10/2/2007	10:30	27.5	21.59	83.4
10/2/2007	11:02	27.5		
10/2/2007	11:30	27.25		
10/2/2007	11:46	27 - 27.25 (adjusted up to 27.5 - 28)		
10/2/2007	12:00	27.5		
10/2/2007	12:30	27.25		
10/2/2007	13:00	27 - 27.5		
10/2/2007	13:30	27.25		
10/2/2007	14:02	27.5		
10/2/2007	14:09	27.25 - 27.5		
10/2/2007	14:58	27.25 - 27.5		
10/2/2007	16:01	27.5		
10/2/2007	17:50		22.12	81.4
10/2/2007	18:52	27.5		
10/2/2007	19:50	27.5		
10/2/2007	20:50	27.5		
10/2/2007	21:50	27.5		
10/2/2007	22:50	27.5		
10/2/2007	23:50	27.5		
10/3/2007	0:50	27.5		
10/3/2007	2:50	27.5		
10/3/2007	3:50	27.5		
10/3/2007	4:50	27.5		
10/3/2007	5:50	27.5		
10/3/2007	8:01	27.25 - 27.5		
10/3/2007	8:15		21.81	82.5
10/3/2007	9:02	27.5		
10/3/2007	10:00	27.5 - 27.75		

TABLE 20
Well K4 Pumping Rate Data at 82 gpm
K3-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date	Time	Pipe Orifice Tube (inches)	Drum Measurement (30-gal capacity)	
			Seconds	GPM
10/3/2007	11:01	27.5		
10/3/2007	13:00	27.5		
10/3/2007	14:01	27.5		
10/3/2007	15:00	27.5		
10/3/2007	16:00	27.5		
10/3/2007	16:57	27.5		
10/3/2007	17:54	27.25 - 27.5		
10/3/2007	18:50	27.5		
10/3/2007	19:45	27.5		
10/3/2007	20:48	27.5		
10/3/2007	21:45	27.5		
10/3/2007	22:50	27.5		
10/4/2007	1:52	27.5		
10/4/2007	3:50	27.5		
10/4/2007	4:47	27.5		
10/4/2007	6:10	27.25 - 27.5		
10/4/2007	6:55	27.25 - 27.5		
10/4/2007	7:06	27 (adjusted up to 27.25 - 27.5)		
10/4/2007	7:55	Adjusted up to 27.5 average (27.25 - 27.75)		
10/4/2007	8:45	Adjusted up to 27.5 - 28		
10/4/2007	9:03	27.625		
10/4/2007	9:56	27.5		
10/4/2007	10:28	Adjusted up to 27.5 - 28	22.67	79.4
10/4/2007	10:34	27.5 - 28	22.13	81.3
10/4/2007	10:55	27.75		
10/4/2007	12:23	27.25 - 27.75; Adjusted up to 27.5 -28		
10/4/2007	12:55	27.75		
10/4/2007	14:55	27.75		
10/4/2007	15:55	27.75		
10/4/2007	16:18	Adjusted up to 28 - 28.25		
10/4/2007	16:55	28		
10/4/2007	18:21	28 - 28.25		
10/4/2007	18:54	28 - 28.25		
10/4/2007	19:52	28 - 28.25		
10/4/2007	20:51	28 - 28.25		
10/4/2007	21:52	28 - 28.25		
10/4/2007	22:51	28 - 28.25		
10/5/2007	0:44	28 - 28.25		
10/5/2007	1:49	28 - 28.25		
10/5/2007	3:08	28 - 28.25		
10/5/2007	3:51	28 - 28.25		
10/5/2007	4:50	28 - 28.25		
10/5/2007	5:49	28 - 28.25		
10/5/2007	8:02	28 - 28.25		
10/5/2007	8:25		21.62	83.3
10/5/2007	8:57	27.75 - 28.25		
10/5/2007	9:51	28		
10/5/2007	10:42	28		
10/5/2007	10:45	Pumps Off		

TABLE 21
Stream Temperature Data From Automated Loggers
Todd Mt. Brook (Upper) and Emory Brook
K3-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date Time	Temperature (°F)	
	TODD	EMORY
9/19/07 9:00 AM	--	51.08
9/19/07 1:00 PM	--	55.28
9/19/07 5:00 PM	--	55.97
9/19/07 9:00 PM	51.08	53.89
9/20/07 1:00 AM	50.38	52.49
9/20/07 5:00 AM	49.67	51.79
9/20/07 9:00 AM	49.67	51.79
9/20/07 1:00 PM	51.79	56.66
9/20/07 5:00 PM	53.19	56.66
9/20/07 9:00 PM	52.49	54.58
9/21/07 1:00 AM	52.49	53.89
9/21/07 5:00 AM	51.79	53.89
9/21/07 9:00 AM	51.79	53.89
9/21/07 1:00 PM	53.89	55.97
9/21/07 5:00 PM	54.58	56.66
9/21/07 9:00 PM	53.89	54.58
9/22/07 1:00 AM	53.19	53.89
9/22/07 5:00 AM	52.49	53.19
9/22/07 9:00 AM	52.49	53.89
9/22/07 1:00 PM	54.58	57.35
9/22/07 5:00 PM	55.28	58.04
9/22/07 9:00 PM	54.58	55.97
9/23/07 1:00 AM	53.89	54.58
9/23/07 5:00 AM	52.49	53.19
9/23/07 9:00 AM	51.79	53.19
9/23/07 1:00 PM	53.19	56.66
9/23/07 5:00 PM	53.89	56.66
9/23/07 9:00 PM	52.49	53.89
9/24/07 1:00 AM	51.79	52.49
9/24/07 5:00 AM	50.38	51.79
9/24/07 9:00 AM	49.67	51.79
9/24/07 1:00 PM	52.49	56.66
9/24/07 5:00 PM	53.19	56.66
9/24/07 9:00 PM	52.49	53.89
9/25/07 1:00 AM	51.79	52.49
9/25/07 5:00 AM	51.08	51.79
9/25/07 9:00 AM	51.08	51.79
9/25/07 1:00 PM	53.19	57.35
9/25/07 5:00 PM	54.58	57.35
9/25/07 9:00 PM	53.89	55.28
9/26/07 1:00 AM	53.89	54.58
9/26/07 5:00 AM	53.89	53.89
9/26/07 9:00 AM	53.89	54.58
9/26/07 1:00 PM	55.97	58.73
9/26/07 5:00 PM	56.66	58.73
9/26/07 9:00 PM	55.97	55.97

TABLE 21
Stream Temperature Data From Automated Loggers
Todd Mt. Brook (Upper) and Emory Brook
K3-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date Time	Temperature (°F)	
	TODD	EMORY
9/27/07 1:00 AM	55.28	55.28
9/27/07 5:00 AM	55.28	54.58
9/27/07 9:00 AM	54.58	54.58
9/27/07 1:00 PM	56.66	58.73
9/27/07 5:00 PM	58.73	58.73
9/27/07 9:00 PM	56.66	56.66
9/28/07 1:00 AM	55.97	56.66
9/28/07 5:00 AM	55.28	55.97
9/28/07 9:00 AM	54.58	55.28
9/28/07 1:00 PM	55.28	55.97
9/28/07 5:00 PM	55.28	55.97
9/28/07 9:00 PM	53.89	53.89
9/29/07 1:00 AM	53.19	53.89
9/29/07 5:00 AM	53.19	53.19
9/29/07 9:00 AM	52.49	53.19
9/29/07 1:00 PM	53.89	56.66
9/29/07 5:00 PM	53.89	55.97
9/29/07 9:00 PM	52.49	53.19
9/30/07 1:00 AM	51.79	51.79
9/30/07 5:00 AM	50.38	51.08
9/30/07 9:00 AM	49.67	51.08
9/30/07 1:00 PM	52.49	55.97
9/30/07 5:00 PM	53.19	55.28
9/30/07 9:00 PM	51.79	53.19
10/1/07 1:00 AM	51.08	52.49
10/1/07 5:00 AM	51.79	52.49
10/1/07 9:00 AM	51.79	52.49
10/1/07 1:00 PM	52.49	53.89
10/1/07 5:00 PM	53.19	54.58
10/1/07 9:00 PM	52.49	53.19
10/2/07 1:00 AM	51.79	52.49
10/2/07 5:00 AM	51.79	52.49
10/2/07 9:00 AM	51.79	52.49
10/2/07 1:00 PM	53.19	55.97
10/2/07 5:00 PM	53.19	55.97
10/2/07 9:00 PM	52.49	53.19
10/3/07 1:00 AM	52.49	53.19
10/3/07 5:00 AM	52.49	53.19
10/3/07 9:00 AM	52.49	53.89
10/3/07 1:00 PM	54.58	55.97
10/3/07 5:00 PM	55.28	56.66
10/3/07 9:00 PM	53.89	54.58
10/4/07 1:00 AM	53.89	53.89
10/4/07 5:00 AM	53.89	53.89
10/4/07 9:00 AM	53.19	53.89
10/4/07 1:00 PM	55.28	58.04
10/4/07 5:00 PM	55.97	57.35
10/4/07 9:00 PM	55.28	54.58
10/5/07 1:00 AM	54.58	53.89

TABLE 21
Stream Temperature Data From Automated Loggers
Todd Mt. Brook (Upper) and Emory Brook
K3-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date Time	Temperature (°F)	
	TODD	EMORY
10/5/07 5:00 AM	53.89	53.19
10/5/07 9:00 AM	53.19	53.89
10/5/07 1:00 PM	55.28	58.04
10/5/07 5:00 PM	55.97	58.04
10/5/07 9:00 PM	55.28	55.28
10/6/07 1:00 AM	54.58	53.89
10/6/07 5:00 AM	53.89	53.19
10/6/07 9:00 AM	53.89	53.89
10/6/07 1:00 PM	55.97	57.35
10/6/07 5:00 PM	56.66	58.04
10/6/07 9:00 PM	55.97	55.97
10/7/07 1:00 AM	55.28	55.28
10/7/07 5:00 AM	55.28	54.58
10/7/07 9:00 AM	55.28	55.28
10/7/07 1:00 PM	56.66	56.66
10/7/07 5:00 PM	56.66	58.04
10/7/07 9:00 PM	55.97	55.28
10/8/07 1:00 AM	55.28	54.58
10/8/07 5:00 AM	55.28	53.89
10/8/07 9:00 AM	54.58	54.58
10/8/07 1:00 PM	55.97	56.66
10/8/07 5:00 PM	55.97	58.04
10/8/07 9:00 PM	56.66	57.35
10/9/07 1:00 AM	56.66	57.35
10/9/07 5:00 AM	56.66	56.66
10/9/07 9:00 AM	55.97	56.66
10/9/07 1:00 PM	57.35	57.35
10/9/07 5:00 PM	56.66	56.66
10/9/07 9:00 PM	55.28	55.28
10/10/07 1:00 AM	55.28	55.28
10/10/07 5:00 AM	54.58	55.28
10/10/07 9:00 AM	54.58	55.28
10/10/07 1:00 PM	55.97	57.35
10/10/07 5:00 PM	55.28	57.35
10/10/07 9:00 PM	54.58	55.28
10/11/07 1:00 AM	53.89	54.58
10/11/07 5:00 AM	53.89	54.58
10/11/07 9:00 AM	53.19	54.58
10/11/07 1:00 PM	53.89	54.58
10/11/07 5:00 PM	53.89	54.58
10/11/07 9:00 PM	53.19	54.58
10/12/07 1:00 AM	53.19	53.89
10/12/07 5:00 AM	52.49	53.89
10/12/07 9:00 AM	51.79	52.49
10/12/07 1:00 PM	51.79	52.49
10/12/07 5:00 PM	51.08	51.08
10/12/07 9:00 PM	49.67	50.38
10/13/07 1:00 AM	48.96	49.67

TABLE 21
Stream Temperature Data From Automated Loggers
Todd Mt. Brook (Upper) and Emory Brook
K3-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date Time	Temperature (°F)	
	TODD	EMORY
10/13/07 5:00 AM	48.96	48.96
10/13/07 9:00 AM	48.25	48.96
10/13/07 1:00 PM	49.67	50.38
10/13/07 5:00 PM	49.67	50.38
10/13/07 9:00 PM	48.96	49.67
10/14/07 1:00 AM	48.96	48.96
10/14/07 5:00 AM	48.96	49.67
10/14/07 9:00 AM	48.96	49.67
10/14/07 1:00 PM	49.67	50.38
10/14/07 5:00 PM	49.67	50.38
10/14/07 9:00 PM	48.96	49.67
10/15/07 1:00 AM	48.25	49.67
10/15/07 5:00 AM	48.25	49.67
10/15/07 9:00 AM	48.96	49.67
10/15/07 1:00 PM	48.96	50.38
10/15/07 5:00 PM	49.67	50.38
10/15/07 9:00 PM	48.25	49.67
10/16/07 1:00 AM	48.25	48.96
10/16/07 5:00 AM	47.53	48.96
10/16/07 9:00 AM	47.53	48.96
10/16/07 1:00 PM	49.67	51.79
10/16/07 5:00 PM	49.67	51.79
10/16/07 9:00 PM	48.25	49.67
10/17/07 1:00 AM	47.53	48.96
10/17/07 5:00 AM	47.53	48.96
10/17/07 9:00 AM	47.53	48.96

TABLE 22
K1 Spring Water Quality Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Date and Time	Temperature (°C)	Specific Conductivity (μs/cm)	TDS (ppm)	pH	Turbidity (NTU)
9/25/2007 7:15	13.8	77	38	6.62	0.50
9/25/2007 18:09	13.8	75	38	6.88	0.64
9/26/2007 8:17	13.6	79	39	6.68	0.20
9/26/2007 12:58	14.7	78	39	6.73	0.21
9/26/2007 17:17	13.7	78	40	7.32	0.59
9/27/2007 8:30	14.1	79	40	6.73	1.51
9/27/2007 13:30	15.5	76	38	6.87	0.50
9/27/2007 16:25	15.4	79	39	6.7	---
9/28/2007 9:04	13.2	83	41	6.35	1.45
9/28/2007 14:51	13.1	81	40	6.39	1.46
10/2/2007 10:24	11.8	87	43	6.52	0.25
10/3/2007 12:12	12.3	85	43	6.44	---

TABLE 23
Well Q1 Pumping Rate Data

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Time	Pipe Orifice Tube (inches)	Drum Measurement (15-gal capacity)	
			Seconds	GPM
11/7/2008	10:00	Q1 pump on		
11/7/2008	10:01	8 1/2	19	47.4
11/7/2008	10:04	7 3/4	19	47.4
11/7/2008	10:06	7 5/8	20	45.0
11/7/2008	10:08	7 3/8	20	45.0
11/7/2008	10:11	7 1/4	20.3	44.3
11/7/2008	10:15	7 1/8	20.3	44.3
11/7/2008	10:20	6 7/8	20.3	44.3
11/7/2008	10:25	6 3/4	21.3	42.3
11/7/2008	10:30	adjusted up to 8	19.3	46.6
11/7/2008	10:45	7 5/8	20	45.0
11/7/2008	11:20	7 3/8	20.5	43.9
11/7/2008	11:30	7 3/8	20.3	44.3
11/7/2008	11:50	7 1/4 - 7 3/8	20.3	44.3
11/7/2008	12:00	7 1/4 - 7 3/8	21.1	42.7
11/7/2008	12:04	adjusted to 7 1/2	20.1	44.8
11/7/2008	12:30	7 3/8 - 7 1/2	20	45.0
11/7/2008	12:59	7 3/8	19.84	45.4
11/7/2008	13:32	7 3/8 - 7 1/2	20	45.0
11/7/2008	13:58	7 3/8 - 7 1/2	20.4	44.1
11/7/2008	14:30	7 3/8	19.68	45.7
11/7/2008	15:00	7 3/8	20.15	44.7
11/7/2008	16:01	7 1/4 - 7 3/8	20.28	44.4
11/7/2008	17:01	7 1/4 - 7 3/8	20	45.0
11/7/2008	18:00	7 1/4 - 7 3/8		
11/7/2008	19:00	7 1/4 - 7 3/8		
11/7/2008	20:00	7 1/4		
11/7/2008	21:00	7 1/4 - 7 3/8		
11/7/2008	22:04	7 1/4	20.5	43.9
11/7/2008	22:17	adjusted up to 7 1/2 - 7 5/8	19.6	45.9
11/7/2008	23:01	7 1/2 - 7 5/8		
11/8/2008	0:00	7 1/2 - 7 5/8		
11/8/2008	1:00	7 3/8 - 7 1/2		
11/8/2008	2:00	7 1/2 - 7 5/8		
11/8/2008	3:00	7 1/2 - 7 5/8		
11/8/2008	4:00	7 1/2		
11/8/2008	5:00	7 1/2 - 7 5/8		
11/8/2008	6:00	7 1/2 - 7 5/8		
11/8/2008	6:59	7 1/2 - 7 5/8		
11/8/2008	7:27	7 1/2 - 7 5/8	19.79	45.5
11/8/2008	8:00	7 1/2 - 7 5/8		
11/8/2008	9:01	7 1/2 - 7 5/8		
11/8/2008	10:00	7 1/2 - 7 5/8		
11/8/2008	11:08	7 1/2		
11/8/2008	11:55	7 1/2		
11/8/2008	13:05	7 1/2		
11/8/2008	14:03	7 1/2	19.8	45.5
11/8/2008	15:03	7 1/2		
11/8/2008	16:01	7 1/2 - 7 5/8	20	45.0
11/8/2008	17:02	7 1/2		
11/8/2008	19:02	7.5		

TABLE 23
Well Q1 Pumping Rate Data

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

11/8/2008	21:59	adjusted back to 7 1/2 - 7 5/8		
11/9/2008	9:01	7 5/8	19.66	45.8
11/9/2008	10:01	7 5/8		
11/9/2008	11:01	7 5/8		
11/9/2008	12:01	7 5/8		
11/9/2008	13:01	7 5/8	19.89	45.2
11/9/2008	14:01	7 5/8		
11/9/2008	15:01	7 5/8		
11/9/2008	16:01	7 5/8	19.85	45.3
11/9/2008	16:40	7 5/8		
11/9/2008	17:01	7 5/8		
11/9/2008	17:52	Connect MPA Sampler		
11/9/2008	18:01	7 1/2 - 7 5/8		
11/9/2008	19:00	7.5		
11/9/2008	20:00	7 1/2 - 7 5/8		
11/9/2008	21:00	7 1/2 - 7 5/8		
11/9/2008	21:37	7 3/8	19.97	45.1
11/9/2008	22:00	7 1/4 - 7 1/2		
11/9/2008	23:00	7 1/2 - 7 5/8		
11/10/2008	0:00	7 1/2 - 7 5/8		
11/10/2008	1:00	7 1/2 - 7 5/8		
11/10/2008	2:00	7 1/2 - 7 5/8		
11/10/2008	3:00	7 1/2		
11/10/2008	4:00	7 1/2 - 7 5/8		
11/10/2008	5:01	7 1/2		
11/10/2008	6:00	7 1/2 - 7 5/8		
11/10/2008	6:15	Disconnect MPA Sampler		
11/10/2008	7:00	7 1/2 - 7 5/8		
11/10/2008	7:08	7 5/8	19.88	45.3
11/10/2008	8:01	7 1/2 - 7 5/8		
11/10/2008	9:01	7 1/2 - 7 5/8		
11/10/2008	10:01	7 1/2 - 7 5/8		
11/10/2008	10:29	7 5/8 - 7 3/4		
11/10/2008	10:39	Audible generator surges accompanied by large manometer changes		
11/10/2008	10:42	7 1/4 - 7 3/4; attempt to adjust discharge rate		
11/10/2008	10:43	7 1/2 - 7 3/4		
11/10/2008	10:47	7 1/2 - 7 3/4		
11/10/2008	10:52	Spiked (8 1/8); then back to 7 1/2 - 7 3/4		
11/10/2008	10:54	Spiked again; attempt adjustments		
11/10/2008	11:10	8	18.7	48.1
11/10/2008	11:13	Adjusted down to 7 1/8		
11/10/2008	11:15	7 1/8 - 7 1/4	19.8	45.5
11/10/2008	11:16	7 1/4		
11/10/2008	11:21	7 1/2 - 7 3/4		
11/10/2008	11:39	7 1/4 - 7 1/2		
11/10/2008	11:41	7 3/4		
11/10/2008	11:44	7 3/4		
11/10/2008	11:45		19.85	45.3
11/10/2008	11:48	7 1/4 - 7 3/4		
11/10/2008	12:05	7 1/4 - 7 3/4		
11/10/2008	12:38	7 1/4 - 7 3/4		
11/10/2008	13:06	7 1/2 - 7 3/4		

TABLE 24
Precipitation at Well Q1

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Rain Gauge (inches)	Date	Rain Gauge (inches)	
9/6/08	2.2	10/12/08	0	
9/7/08	0	10/13/08	0	
9/8/08	0.8	10/14/08	0	
9/9/08	0	10/15/08	0.2	
9/10/08	0	10/16/08	0	
9/11/08	0	10/17/08	0	
9/12/08	0.25	10/18/08	0	
9/13/08	0.2	10/19/08	0	
9/14/08	0	10/20/08	0	
9/15/08	0	10/21/08	0	
9/16/08	0	10/22/08	0	
9/17/08	0	10/23/08	0	
9/18/08	0	10/24/08	0	
9/19/08	0	10/25/08	2.8	
9/20/08	0	10/26/08	0	
9/21/08	0.2	10/27/08	0.5	
9/22/08	0	10/28/08	0.8	(8 inches snow)
9/23/08	0	10/29/08	0	
9/24/08	0	10/30/08	0	
9/25/08	0	10/31/08	0	
9/26/08	1.25	11/1/08	0	
9/27/08	0	11/2/08	0	
9/28/08	1.6	11/3/08	0	
9/29/08	0	11/4/08	0	
9/30/08	0.35	11/5/08	0	
10/1/08	0	11/6/08	0	
10/2/08	0	11/7/08	0	
10/3/08	0	11/8/08	0.05	
10/4/08	tr	11/9/08	0.05	
10/5/08	tr	11/10/08	0	
10/6/08	0	11/11/08	0	
10/7/08	0	11/12/08	tr	
10/8/08	0	11/13/08	0.1	
10/9/08	0	11/14/08	0.3	
10/10/08	0	11/15/08	0.1	
10/11/08	0	11/16/08	0.1	
		Total	6.85	

Note: 0.8" rain on 10/28/08 based on
measured snowfall total of 8" and temperature
range of between 28°F and 34° F

TABLE 25
Elevation Survey Data

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Location ID	Measuring Point (MP)	MP Elevation (ft amsl)	Elevation at Grade (ft amsl)
Dignes	TOW	1830.70	1829.5
Fleischmanns 1A	TOW	1534.68	1533.44
Fleischmanns 2	TOW	1538.38	1537.14
Fleischmanns 4	TOW	1615.54	1614.7
Janis	TOW	1829.57	1827.38
Moran	TOW	1690.69	1689.81
Q1	TOW	1614.17	1611.69
Q2	TOW	1615.10	1612.81
Real Estate	TOW	1555.06	1553.41
Z Well	TOW	1857.55	1856.41
Emory Down	Nail 14" Dia Maple Tree	1532.97	
Emory Up	Screw in Tree Root	1564.47	
Fleischmann Spring	Top of North Spring box	1694.11	1692.34
Fleischmann Spring	Top of South Spring box	1696.20	1693.32

TOW = Top of Well

All elevations surveyed by Rettew Engineering and Surveying, P.C.

TABLE 26
Manual Water Level Data - Well Q1

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (feet)	
8/5/2008 0:00	58.2	
8/6/2008 0:00	58.4	
8/7/2008 0:00	58.8	
8/8/2008 0:00	59.1	
8/9/2008 0:00	58.9	
8/11/2008 0:00	58.8	
8/12/2008 0:00	58.9	
8/13/2008 0:00	58.7	
8/14/2008 7:00	58.8	
8/14/2008 9:35	58.8	
8/14/2008 10:15	100.3	Step Rate Test at Well Q1
8/14/2008 11:39	114.91	
8/14/2008 12:00	138.52	
8/14/2008 15:05	220.4	
8/14/2008 17:03	292.15	
8/14/2008 17:05	243.35	
8/14/2008 17:07	205	
8/14/2008 17:10	156.7	
8/14/2008 17:16	117.55	
8/14/2008 17:34	81.93	
8/14/2008 17:40	78.02	
8/15/2008 8:25	60.7	
8/15/2008 11:36	60.8	
8/15/2008 17:00	60.3	
8/16/2008 12:34	59.5	
8/17/2008 12:05	59.4	
8/18/2008 10:20	59.5	
8/19/2008 9:35	59.4	
8/20/2008 11:20	59.5	
8/21/2008 11:20	60.4	
8/22/2008 12:20	59.8	
8/23/2008 8:20	60	
8/25/2008 10:45	60.8	
8/26/2008 14:50	60.8	
8/27/2008 9:46	61.2	Z Well Step Rate Test
8/27/2008 11:29	61.5	
8/27/2008 14:45	62.2	
8/27/2008 18:00	62.5	
8/28/2008 8:35	61	
8/28/2008 15:48	61.4	
8/29/2008 11:10	61.5	
8/29/2008 15:10	61.2	
9/2/2008 10:37	60.6	
9/3/2008 7:29	60.6	Janis East Step Rate Test
9/3/2008 12:26	61.2	
9/4/2008 10:25	61.6	
9/5/2008 13:24	61	
9/8/2008 9:10	61	

TABLE 26
Manual Water Level Data - Well Q1

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (feet)
9/9/2008 13:55	60.3

TABLE 26
Manual Water Level Data - Well Q1

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (feet)	
9/10/2008 11:49	59.8	
9/11/2008 11:20	60.5	
9/12/2008 10:35	60	
9/13/2008 14:43	60.3	
9/15/2008 9:00	60.2	
9/16/2008 10:35	60.2	
9/17/2008 14:55	60.3	
9/18/2008 11:15	60.6	
9/19/2008 10:20	60.5	
9/22/2008 12:15	61	
9/24/2008 9:50	61.2	
9/26/2008 8:00	61.5	
9/26/2008 10:33	61.2	Drilling Activities at Well Q2
9/26/2008 11:40	61.5	
9/26/2008 12:33	62.6	
9/26/2008 13:40	63.2	
9/26/2008 14:30	63.7	
9/27/2008 7:45	60.3	
9/27/2008 9:00	64	
9/27/2008 9:55	65.2	
9/27/2008 10:07	65.2	
9/27/2008 10:17	64.9	
9/27/2008 10:30	64.6	
9/27/2008 10:43	63.9	
9/28/2008 10:23	60.2	
9/30/2008 11:25	59	
10/1/2008 10:35	58.8	
10/2/2008 11:10	59.2	
10/3/2008 11:20	58.8	
10/6/2008 11:30	58.8	
10/10/2008 10:10	58.6	
10/13/2008 14:00	57.8	
10/15/2008 10:05	59.2	
10/16/2008 13:26	59.2	
10/17/2008 10:26	59.3	
10/21/2008 10:08	59.6	
10/24/2008 12:20	59.8	
10/26/2008 9:39	58	
10/27/2008 8:20	57.6	
10/27/2008 16:19	57.4	
10/28/2008 8:18	57.1	
10/29/2008 12:37	56.8	
10/30/2008 12:27	56.6	
10/31/2008 14:47	56.6	
11/3/2008 13:35	56.1	
11/4/2008 10:32	55.9	
11/5/2008 9:00	55.6	
11/6/2008 11:57	55.4	

TABLE 26
Manual Water Level Data - Well Q1

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (feet)
11/7/2008 7:37	55.4

TABLE 26
Manual Water Level Data - Well Q1

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (feet)	
11/7/2008 10:01	67.1	72-hr Constant Rate Test at Well Q1
11/7/2008 10:05	97.1	
11/7/2008 10:20	130.69	
11/7/2008 11:30	159.48	
11/7/2008 12:00	161.41	
11/7/2008 12:59	165.84	
11/7/2008 13:58	167.4	
11/7/2008 23:01	174.32	
11/8/2008 8:00	175.48	
11/8/2008 16:01	176.36	
11/9/2008 7:01	178.45	
11/9/2008 16:01	179.45	
11/10/2008 7:00	179.75	
11/10/2008 12:38	179.65	
11/10/2008 13:06	179.76	
11/10/2008 17:03	66.55	
11/10/2008 18:02	65.65	
11/10/2008 20:20	64.18	
11/11/2008 7:51	60.3	
11/11/2008 14:25	59.34	
11/12/2008 10:23	57.2	
11/12/2008 16:05	56.8	
11/13/2008 8:57	56.3	
11/13/2008 15:18	56.1	
11/14/2008 6:45	55.9	
11/14/2008 7:54	55.9	Fleischmanns Well 2 pumping 7:00 - 13:00
11/14/2008 8:48	56.1	
11/14/2008 13:15	56.6	
11/14/2008 15:23	56.6	
11/15/2008 13:22	55.6	
11/17/2008 10:26	55.4	
11/18/2008 10:30	55.6	
11/20/2008 8:00	55.4	
11/22/2008 10:00	56	
11/24/2008 8:48	56.1	
11/26/2008 13:45	56.2	

TABLE 27
Manual Water Level Data - Fleischmanns Well 1A

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (ft)	
7/16/2008 12:00	12.4	
7/21/2008 12:00	19.2	
7/22/2008 12:00	18.4	
7/24/2008 12:00	18.0	
7/25/2008 12:00	11.6	
7/28/2008 12:00	11.0	
7/29/2008 12:00	11.1	
7/30/2008 12:00	11.0	
8/1/2008 12:00	11.3	
8/4/2008 14:45	11.2	
8/5/2008 12:00	11.1	
8/6/2008 12:00	11.0	
8/7/2008 12:00	11.8	
8/8/2008 12:00	11.3	
8/9/2008 12:00	11.2	
8/11/2008 12:00	11.0	
8/12/2008 12:00	11.2	
8/13/2008 12:00	11.4	
8/14/2008 7:00	11.5	
8/14/2008 12:00	11.4	
8/19/2008 9:29	11.4	
8/20/2008 11:10	11.6	
8/21/2008 11:05	19.0	
8/22/2008 12:00	19.1	
8/23/2008 8:00	19.0	
8/25/2008 10:00	18.9	
8/26/2008 14:46	18.9	
8/27/2008 9:40	19.1	
8/27/2008 11:24	19.2	
8/28/2008 8:15	11.6	
8/29/2008 11:00	19.1	
8/29/2008 15:00	12.0	
9/2/2008 10:15	11.5	
9/3/2008 7:19	11.5	
9/3/2008 11:46	19.0	
9/3/2008 17:50	11.7	
9/4/2008 10:00	17.8	
9/5/2008 13:10	11.5	
9/8/2008 8:49	19.0	
9/9/2008 13:40	11.4	
9/10/2008 11:36	11.3	
9/11/2008 11:07	18.9	
9/12/2008 10:20	11.4	
9/15/2008 8:44	15.6	
9/16/2008 10:18	13.7	
9/17/2008 14:41	11.5	
9/18/2008 11:00	11.5	
9/19/2008 10:00	11.3	
9/22/2008 11:41	17.6	
9/24/2008 10:11	11.7	
9/30/2008 11:30	11.2	
10/1/2008 10:22	11.2	
10/2/2008 11:00	11.5	
10/6/2008 11:15	11.3	
10/10/2008 10:00	11.2	
10/13/2008 14:35	11.4	
10/15/2008 10:15	11.4	
10/16/2008 13:32	11.4	
10/17/2008 10:00	11.5	
10/17/2008 14:35	11.5	
10/21/2008 9:55	11.5	
10/24/2008 13:22	11.6	
10/26/2008 9:59	11.0	
10/27/2008 8:33	11.0	
10/27/2008 16:05	11.0	
10/28/2008 9:12	11.0	
10/29/2008 12:14	10.8	
10/30/2008 12:31	10.8	
10/31/2008 14:52	11.0	
11/3/2008 13:15	10.8	
11/4/2008 10:20	10.8	
11/5/2008 14:42	10.6	
11/6/2008 11:44	10.6	
11/7/2008 7:15	10.8	
11/7/2008 13:09	10.8	72-hr Constant Rate Test at Well Q1
11/7/2008 16:09	11.0	
11/8/2008 7:26	11.2	
11/8/2008 12:22	11.2	
11/8/2008 16:20	11.3	
11/9/2008 7:29	11.4	
11/9/2008 12:52	11.3	
11/9/2008 15:38	11.4	
11/10/2008 7:33	11.4	
11/10/2008 11:41	11.4	
11/10/2008 14:00	11.4	
11/10/2008 15:47	11.3	
11/11/2008 14:10	11.0	
11/12/2008 10:08	11.0	
11/12/2008 15:55	11.0	
11/13/2008 8:47	11.0	
11/13/2008 15:30	11.0	
11/14/2008 6:35	11.0	
11/14/2008 8:06	18.1	Fleischmanns well 2 pumping 7:00 - 13:30
11/14/2008 8:28	18.4	
11/14/2008 12:59	19.1	
11/14/2008 15:12	12.0	
11/15/2008 13:11	10.8	
11/17/2008 10:13	11.0	
11/20/2008 8:15	11.1	
11/22/2008 10:06	10.8	
11/24/2008 9:08	11.0	
11/26/2008 10:45	11.0	

TABLE 28
Manual Water Level Data - Fleischmanns Well 4

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (ft)	
8/14/2008 7:00	65.90	
8/14/2008 12:27	69.95	Step Rate Test at Well Q1
8/14/2008 14:34	72.95	
8/14/2008 16:41	75.45	
8/14/2008 17:36	74.38	
8/15/2008 8:30	66.30	
8/15/2008 11:33	66.40	
8/15/2008 17:05	66.00	
8/16/2008 12:30	64.80	
8/17/2008 12:00	64.85	
8/18/2008 10:15	64.90	
8/19/2008 9:21	65.20	
8/20/2008 11:00	65.00	
8/21/2008 11:15	66.80	
8/22/2008 12:15	66.90	
8/23/2008 8:10	67.00	
8/25/2008 9:50	67.50	
8/26/2008 15:00	67.60	
8/27/2008 9:42	68.02	
8/28/2008 8:25	67.21	
8/29/2008 11:20	68.31	
8/29/2008 15:06	67.52	
9/2/2008 10:25	67.05	
9/3/2008 7:25	67.05	
9/3/2008 11:55	68.06	
9/3/2008 18:00	67.20	
9/4/2008 10:15	68.45	
9/5/2008 13:20	67.28	
9/8/2008 9:03	67.35	
9/9/2008 13:45	67.20	
9/10/2008 11:42	65.30	
9/11/2008 11:15	66.70	
9/12/2008 10:29	65.90	
9/15/2008 8:55	66.25	
9/16/2008 10:25	66.40	
9/17/2008 14:50	66.50	
9/18/2008 11:10	66.82	
9/19/2008 10:10	66.50	
9/22/2008 11:50	67.20	
9/24/2008 10:15	67.00	
9/30/2008 11:51	63.85	
10/1/2008 10:29	63.75	
10/2/2008 10:50	64.00	
10/6/2008 11:20	63.72	
10/10/2008 10:05	63.50	
10/16/2008 13:38	65.45	
10/17/2008 10:20	65.45	
10/21/2008 9:59	65.95	
10/24/2008 15:00	66.15	

Date	Depth to Water (ft)	
10/26/2008 10:12	62.25	
10/27/2008 9:11	61.92	
10/27/2008 16:15	61.40	
10/28/2008 9:30	61.50	
10/29/2008 12:32	61.10	
10/30/2008 12:40	61.00	
10/31/2008 15:00	60.90	
11/3/2008 13:25	60.85	
11/6/2008 11:50	60.45	
11/7/2008 7:10	60.52	
11/7/2008 13:21	68.25	72-hr Constant Rate Test at Well Q1
11/7/2008 16:18	69.85	
11/8/2008 7:36	72.59	
11/8/2008 12:43	72.92	
11/8/2008 16:28	73.20	
11/9/2008 7:39	74.00	
11/9/2008 13:00	74.12	
11/9/2008 15:46	74.22	
11/10/2008 7:43	74.75	
11/10/2008 11:48	74.70	
11/10/2008 14:07	70.80	
11/10/2008 15:55	67.45	
11/11/2008 7:55	63.10	
11/11/2008 14:17	62.50	
11/12/2008 10:17	61.75	
11/12/2008 16:00	61.55	
11/13/2008 8:54	61.40	
11/13/2008 15:25	61.30	
11/14/2008 6:30	61.20	
11/14/2008 7:59	61.60	Fleischmanns Well 2 pumping 7:00-13:30
11/14/2008 8:43	61.85	
11/14/2008 13:09	62.78	
11/14/2008 15:18	62.50	
11/15/2008 13:17	61.30	
11/17/2008 10:19	61.00	
11/18/2008 10:39	61.00	
11/20/2008 8:22	61.20	
11/24/2008 8:55	61.20	
11/26/2008 10:59	61.55	

TABLE 29
Manual Water Level Data - Realty Well

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (ft)	
10/17/2008 14:30	12.7	
10/21/2008 9:48	13.0	
10/24/2008 13:17	13.0	
10/26/2008 9:57	11.3	
10/27/2008 8:58	11.3	
10/27/2008 16:02	11.0	
10/28/2008 9:08	11.0	
10/29/2008 12:28	10.8	
11/6/2008 11:40	10.2	
11/7/2008 7:21	10.3	
11/7/2008 13:05	15.7	72-hr Constant Rate Test at Well Q1
11/7/2008 16:07	18.6	
11/8/2008 7:21	18.9	
11/8/2008 12:37	19.3	
11/8/2008 16:16	19.4	
11/9/2008 7:22	20.1	
11/9/2008 12:48	20.1	
11/9/2008 15:34	20.2	
11/10/2008 7:27	20.6	
11/10/2008 11:39	20.6	
11/10/2008 13:57	18.2	
11/10/2008 15:44	15.4	
11/11/2008 7:58	12.0	
11/11/2008 14:05	11.5	
11/12/2008 10:04	11.0	
11/12/2008 15:50	10.8	
11/13/2008 8:42	10.8	
11/13/2008 15:13	10.6	
11/14/2008 6:48	10.5	
11/14/2008 8:02	11.4	Fleischmanns Well 2 pumping 7:00-13:30
11/14/2008 8:39	11.7	
11/14/2008 13:02	13.0	
11/14/2008 15:09	12.2	
11/15/2008 13:09	10.6	
11/17/2008 10:04	10.5	
11/20/2008 8:10	10.7	
11/26/2008 10:40	11.0	

TABLE 30
Manual Water Level Data - Moran Well

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (ft)
11/7/2008 13:37	2.27
11/7/2008 16:23	2.28
11/8/2008 7:42	2.25
11/8/2008 12:49	2.22
11/8/2008 16:00	2.22
11/9/2008 7:44	2.24
11/9/2008 13:05	2.25
11/9/2008 15:51	2.25
11/10/2008 7:48	2.27
11/10/2008 11:52	2.27
11/10/2008 14:32	2.27
11/10/2008 16:21	2.27
11/12/2008 10:25	2.38
11/12/2008 16:10	2.38
11/13/2008 9:02	2.40
11/13/2008 15:35	2.40
11/17/2008 10:32	2.70

TABLE 31
2008 Manual Water Level Data - Dignes Well

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (ft)		Date	Depth to Water (ft)	
7/18/2008 12:00	205.8		9/5/2008 14:10	208.3	
7/21/2008 12:00	209.0		9/8/2008 9:45	205.8	
7/22/2008 12:00	209.5		9/9/2008 14:15	205.4	
7/24/2008 12:00	190.1		9/10/2008 12:06	203.1	
7/25/2008 12:00	189.0		9/11/2008 11:32	202.3	
7/28/2008 12:00	185.2		9/12/2008 10:49	202.6	
7/29/2008 12:00	180.2		9/15/2008 9:25	204.8	
7/30/2008 12:00	174.3		9/16/2008 17:28	205.5	
8/1/2008 12:00	172.8		9/17/2008 15:15	206.0	
8/4/2008 9:00	172.6		9/18/2008 11:30	207.0	
8/4/2008 14:25	172.8		9/19/2008 10:40	208.1	
8/5/2008 12:00	172.8		9/22/2008 12:31	216.2	
8/6/2008 12:00	172.5		9/24/2008 10:30	212.6	
8/7/2008 12:00	172.9		9/30/2008 12:01	192.2	
8/8/2008 12:00	172.4		10/1/2008 10:59	189.2	
8/9/2008 12:00	175.0		10/6/2008 11:05	185.2	
8/11/2008 12:00	174.5		10/10/2008 10:25	186.2	
8/12/2008 12:00	176.8		10/16/2008 13:51	191.8	
8/13/2008 12:00	176.7		10/21/2008 10:27	199.2	
8/14/2008 7:00	179.2		10/24/2008 14:43	203.0	
8/14/2008 8:50	179.8		10/26/2008 10:35	190.8	
8/14/2008 15:03	180.0		10/27/2008 9:31	183.4	
8/14/2008 16:33	180.2		10/27/2008 16:35	182.3	
8/14/2008 17:27	180.2		10/28/2008 9:45	179.8	
8/15/2008 8:40	181.2		10/29/2008 12:56	176.8	
8/15/2008 11:22	181.4		10/30/2008 13:05	174.0	
8/15/2008 17:20	181.0		11/3/2008 13:45	169.8	
8/16/2008 12:50	180.6		11/4/2008 10:50	168.5	
8/17/2008 12:20	181.9		11/5/2008 12:37	166.8	
8/18/2008 10:35	182.3		11/6/2008 12:15	165.4	
8/19/2008 10:13	184.0		11/7/2008 8:35	164.2	
8/20/2008 11:35	186.1		11/7/2008 13:56	163.8	72-hr Constant Rate Test at Well Q1
8/21/2008 11:36	188.0		11/7/2008 16:32	163.8	
8/22/2008 12:40	190.1		11/8/2008 8:09	163.4	
8/23/2008 8:35	192.2		11/8/2008 13:01	163.2	
8/25/2008 11:40	195.0		11/8/2008 15:53	162.9	
8/26/2008 15:10	196.7		11/9/2008 7:55	162.8	
8/27/2008 8:15	197.1		11/9/2008 13:15	162.7	
8/27/2008 11:01	198.0	Step Rate Testing at Janis East & Z Wells	11/9/2008 16:02	162.7	
8/27/2008 11:36	198.2		11/10/2008 8:15	162.8	
8/27/2008 12:03	198.4		11/10/2008 12:02	162.8	
8/27/2008 14:54	198.9		11/10/2008 14:25	162.7	
8/27/2008 15:40	199.0		11/10/2008 16:14	162.6	
8/27/2008 19:31	200.2		11/11/2008 14:47	162.4	
8/28/2008 9:00	199.9		11/12/2008 10:32	162.4	
8/28/2008 16:00	200.4		11/12/2008 16:37	162.4	
8/29/2008 10:48	201.2		11/13/2008 9:33	162.2	
8/29/2008 15:25	201.2		11/13/2008 15:46	162.2	
9/2/2008 10:50	204.8		11/17/2008 10:43	163.2	
9/3/2008 7:42	205.4		11/24/2008 9:20	164.5	
9/3/2008 11:29	205.8		11/26/2008 14:00	165.6	

TABLE 32
Manual Water Level Data - Janis East Well

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (ft)	
5/6/08 12:13	148.8	
8/14/08 7:00	122.3	
8/25/08 11:05	144.5	
8/27/08 9:06	148.2	
8/27/08 10:19	147.8	
8/27/08 10:32	198.5	
8/27/08 11:00	288.29	Step Rate Testing at Janis East and Z Well
8/27/08 12:13	485.23	
8/28/08 8:45	195.8	
9/2/08 11:18	199.3	
9/3/08 7:55	199.26	
9/3/08 8:30	199.26	
9/3/08 8:55	266.83	Step Rate Testing at Janis East Well
9/3/08 16:40	432.78	
9/4/08 10:40	207.5	
9/5/08 13:53	204.6	
9/8/08 9:25	201.9	
9/10/08 11:58	201.4	
9/12/08 11:01	200.7	
9/15/08 10:00	201	
9/16/08 11:00	201.6	
9/17/08 15:30	201.8	
9/18/08 11:50	202	
9/19/08 10:50	202.5	
9/22/08 12:40	204.2	
9/24/08 11:00	205	
10/1/08 10:47	188.4	
10/21/08 10:17	199.8	
10/24/08 14:33	201.6	
11/7/08 8:13	47.5	
11/7/08 13:47	47.3	72-hr Constant Rate Test at Well Q1
11/8/08 7:53	47.8	
11/8/08 15:30	47.9	
11/9/08 13:25	49.9	
11/10/08 7:59	57.4	
11/10/08 12:34	56.6	
11/10/08 14:16	57.3	
11/10/08 16:04	58.1	
11/11/08 14:30	64.2	
11/12/08 10:40	66	
11/12/08 16:25	69.2	
11/13/08 8:16	72	
11/26/08 14:10	96.8	

TABLE 33
Manual Water Level Data - Z Well

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (ft)		Date	Depth to Water (ft)	
6/6/2007 12:00	284.6		9/2/2008 10:55	292.4	
5/6/2008 12:13	278.2		9/3/2008 7:38	292.4	
7/21/2008 12:00	289		9/3/2008 11:25	292.6	
7/22/2008 12:00	288.5		9/4/2008 11:00	293.6	
7/24/2008 12:00	287		9/5/2008 14:00	293.4	
7/25/2008 12:00	286.8		9/8/2008 9:40	293.3	
7/28/2008 12:00	285.6		9/9/2008 14:10	292.8	
7/29/2008 12:00	285.1		9/10/2008 12:02	291.8	
7/30/2008 12:00	280		9/11/2008 11:30	292.8	
8/1/2008 12:00	280		9/12/2008 10:45	291.8	
8/4/2008 14:20	281.2		9/15/2008 9:15	291.6	
8/5/2008 12:00	281.4		9/16/2008 10:45	293.6	
8/6/2008 12:00	281.2		9/17/2008 15:05	293.1	
8/7/2008 12:00	281.8		9/18/2008 11:25	292.6	
8/8/2008 12:00	282		9/19/2008 10:35	292.7	
8/9/2008 12:00	281.8		9/22/2008 12:25	293.0	
8/11/2008 12:00	281.5		9/24/2008 10:25	293.3	
8/12/2008 12:00	281.4		9/30/2008 11:40	289.2	
8/13/2008 12:00	281.2		10/1/2008 10:55	288.6	
8/14/2008 7:00	282.2		10/6/2008 11:00	288.2	
8/14/2008 8:50	283.4		10/10/2008 10:20	288.6	
8/14/2008 8:57	282.8		10/16/2008 13:48	289.6	
8/14/2008 15:01	286.2	Step Rate Testing at Well Q1	10/21/2008 10:23	290.3	
8/14/2008 16:31	287.6		10/24/2008 14:40	291.4	
8/14/2008 17:25	288.4		10/26/2008 10:32	288.1	
8/15/2008 8:35	283.6		10/27/2008 9:28	286.9	
8/15/2008 11:43	282.2		10/27/2008 16:32	286.6	
8/15/2008 17:15	282.4		10/28/2008 9:41	286.2	
8/16/2008 12:43	283		10/29/2008 12:50	286.8	
8/17/2008 12:15	283.1		10/30/2008 13:00	286.7	
8/18/2008 10:30	283.2		11/5/2008 12:31	281.8	
8/19/2008 10:09	283.2		11/6/2008 12:20	281.4	
8/20/2008 11:30	283.6		11/7/2008 8:32	281	
8/21/2008 11:31	284.5		11/7/2008 13:53	284.8	72-hr Constant Rate Test at Well Q1
8/22/2008 12:30	284.9		11/7/2008 16:30	286.8	
8/23/2008 8:30	285.1		11/8/2008 8:04	291	
8/25/2008 11:35	285.7		11/8/2008 12:57	291.4	
8/26/2008 15:15	285.9		11/8/2008 15:50	291.6	
8/27/2008 10:17	288.60	Step Rate Testing at Z Well and Janis East Well	11/9/2008 7:52	292.8	
8/27/2008 10:25	314.40		11/9/2008 13:12	293	
8/27/2008 10:33	341.14		11/9/2008 15:58	293	
8/27/2008 10:45	372.75		11/10/2008 8:12	293.8	
8/27/2008 11:00	400.94		11/10/2008 11:59	294	
8/27/2008 11:18	424.31		11/10/2008 14:22	293	
8/27/2008 11:50	442.00		11/10/2008 16:11	290.6	
8/27/2008 13:41	448.25		11/11/2008 14:45	286.4	
8/27/2008 16:04	452.1		11/12/2008 10:30	282.2	
8/27/2008 16:40	452.84		11/12/2008 16:35	282	
8/27/2008 17:00	453.1		11/13/2008 9:30	281.6	
8/27/2008 18:22	454.35		11/13/2008 15:44	281.5	
8/27/2008 19:06	339.2		11/17/2008 10:40	281.4	
8/27/2008 21:00	293.8		11/24/2008 9:15	263	
8/28/2008 9:15	293.5		11/26/2008 13:55	262.2	
8/28/2008 15:56	293.6		3/5/2009 12:00	282.5	
8/29/2008 10:42	293.6		3/6/2009 12:00	281.8	
8/29/2008 15:20	293.5		3/9/2009 12:00	279	

TABLE 34
Manual Water Level Data - Well Q2

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date	Depth to Water (ft)	
9/30/2008 11:22	57	
10/1/2008 10:37	56.8	
10/2/2008 11:12	57	
10/3/2008 11:22	56.8	
10/6/2008 11:32	56.8	
10/10/2008 10:12	56.7	
10/15/2008 10:00	57.4	
10/16/2008 13:23	57.4	
10/17/2008 10:29	57.6	
10/21/2008 10:06	57.6	
10/24/2008 12:16	57.8	
10/26/2008 9:41	56.3	
10/27/2008 8:24	55.6	
10/27/2008 16:21	55.6	
10/28/2008 8:20	55.2	
10/29/2008 12:40	54.8	
10/30/2008 12:23	54.8	
10/31/2008 14:44	54.4	
11/3/2008 13:30	54	
11/4/2008 10:30	53.8	
11/5/2008 9:02	53.6	
11/6/2008 11:55	53.4	
11/7/2008 7:32	53.4	
11/7/2008 10:01	53.35	72-hr Constant Rate Pumping Test at Well Q1
11/7/2008 10:05	53.35	
11/7/2008 10:20	54.48	
11/7/2008 11:30	64.15	
11/7/2008 12:00	67.15	
11/7/2008 12:57	70.69	
11/7/2008 14:02	72.80	
11/7/2008 23:04	78.3	
11/8/2008 7:58	80.5	
11/8/2008 15:59	81.55	
11/9/2008 7:02	83.00	
11/9/2008 16:02	83.6	
11/10/2008 7:05	84.50	
11/10/2008 12:41	84.38	
11/10/2008 13:06	84.37	
11/10/2008 17:00	64.6	
11/10/2008 18:00	63.5	
11/10/2008 20:17	61.92	
11/11/2008 7:49	58.1	
11/11/2008 14:22	57	
11/12/2008 10:21	55.4	
11/12/2008 16:07	55	
11/13/2008 8:59	54.4	
11/13/2008 15:20	54.2	
11/14/2008 6:46	53.9	
11/14/2008 7:53	53.9	Fleischmanns Well 2 Pumping 7:00 - 13:30
11/14/2008 8:46	54	
11/14/2008 13:14	54.4	
11/14/2008 15:21	54.4	
11/15/2008 13:20	53.8	
11/17/2008 10:24	53.6	
11/18/2008 10:33	53.6	
11/20/2008 8:03	53.5	
11/22/2008 10:02	54.1	
11/24/2008 8:50	54.1	
11/26/2008 13:46	54.1	

TABLE 35
Emory Brook
Water Level Data
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Date and Time	Emory Brook			
	Upstream		Downstream	
	Depth to Water	Water Level Elevation	Depth to Water	Water Level Elevation
10/24/2008 13:47			4.65	1528.32
10/26/2008 10:04			4.2	1528.77
10/27/2008 8:35			4.25	1528.72
10/27/2008 8:45	1.95	1562.52		
10/27/2008 15:57	1.95	1562.52		
10/27/2008 16:07			4.27	1528.7
10/28/2008 8:23			4.22	1528.75
10/28/2008 8:34	1.89	1562.58		
10/28/2008 9:02	1.9	1562.57		
10/28/2008 9:14			4.18	1528.79
10/29/2008 12:16			4.25	1528.72
10/29/2008 12:23	2	1562.47		
10/31/2008 14:54			4.25	1528.72
11/3/2008 13:17			4.15	1528.82
11/4/2008 10:23			4.15	1528.82
11/5/2008 14:40			4.09	1528.88
11/6/2008 11:30	1.78	1562.69		
11/6/2008 11:42			4.11	1528.86
11/7/2008 7:18			4.15	1528.82
11/7/2008 7:26	1.8	1562.67		
11/7/2008 8:01			4.11	1528.86
11/7/2008 8:14	1.77	1562.7		
11/7/2008 13:02	1.78	1562.69		
11/7/2008 13:11			4.14	1528.83
11/7/2008 16:03	1.8	1562.67		
11/7/2008 16:11			4.18	1528.79
11/8/2008 7:15	1.87	1562.6		
11/8/2008 7:28			4.18	1528.79
11/8/2008 12:23			4.18	1528.79
11/8/2008 12:30	1.87	1562.6		
11/8/2008 16:10	1.87	1562.6		
11/8/2008 16:22			4.19	1528.78
11/9/2008 7:15	1.82	1562.65		
11/9/2008 7:32			4.19	1528.78
11/9/2008 12:40	1.85	1562.62		
11/9/2008 12:54			4.2	1528.77
11/9/2008 15:29	1.85	1562.62		
11/9/2008 15:39			4.22	1528.75
11/10/2008 7:20	1.89	1562.58		
11/10/2008 7:35			4.25	1528.72
11/10/2008 11:43			4.25	1528.72
11/10/2008 12:49	1.92	1562.55		
11/10/2008 13:53	1.9	1562.57		
11/10/2008 14:01			4.25	1528.72
11/10/2008 15:41	1.9	1562.57		
11/10/2008 15:48			4.25	1528.72
11/11/2008 14:00	1.92	1562.55		
11/11/2008 14:11			4.29	1528.68
11/12/2008 9:55	1.95	1562.52		
11/12/2008 10:10			4.32	1528.65
11/12/2008 15:45	1.95	1562.52		
11/12/2008 15:56			4.32	1528.65
11/13/2008 8:38	1.95	1562.52		
11/13/2008 8:45			4.33	1528.64
11/13/2008 15:08	1.95	1562.52		
11/13/2008 15:31			4.33	1528.64
11/17/2008 9:58	1.94	1562.53		
11/17/2008 10:12			4.32	1528.65
11/26/2008 10:35	2	1562.47		
11/26/2008 10:46			4.4	1528.57

1564.47 = Elevation of Emory Brook Upstream Gage
1532.97 = Elevation of Emory Brook Downstream Gage

TABLE 36
Well Q1 Water Quality Field Data

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Location	Date and Time	Temperature (°C)	Specific Conductivity (µs/cm)	TDS (ppm)	pH	Turbidity (NTU)
Q1	11/7/08 10:38 AM	8.6	179	90	8.21	9.57
Q1	11/7/08 12:10 PM	8.8	177	88	8.14	6.65
Q1	11/7/08 3:20 PM	8.6	177	88	7.98	1.81
Q1	11/7/08 4:50 PM	8.7	177	87	8.97	1.27
Q1	11/8/08 7:30 AM	8.6	177	89	7.96	0.00
Q1	11/8/08 11:54 AM	8.6	181	90	7.94	0.15
Q1	11/8/08 4:17 PM	8.6	180	90	8.06	0.00
Q1	11/9/08 8:20 AM	8.4	188	94	8.16	0.00
Q1	11/9/08 1:21 PM	8.5	190	95	8.22	0.22
Q1	11/9/08 5:15 PM	8.5	188	95	7.85	0.00
Q1	11/10/08 7:18 AM	8.4	190	95	7.96	0.22
Q1	11/10/08 11:01 AM	8.5	190	95	8.12	0.00

TABLE 37
Emory Brook Water Quality Field Data

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Location	Date and Time	Temperature (°C)	Specific Conductivity (μs/cm)	TDS (ppm)	pH	Turbidity (NTU)
Upstream	10/27/08 8:46	7.1	53	26	7.54	0.69
Upstream	10/28/08 8:34	4.6	50	24	7.58	0.37
Upstream	11/7/08 8:14	8.8	42	21	7.32	0.82
Upstream	11/7/08 13:01	9.6	43	21	7.58	0.8
Upstream	11/7/08 17:08	9.2	41	20	7.23	1.51
Upstream	11/8/08 6:42	8.9	40	20	7.66	0.42
Upstream	11/8/08 12:12	9.2	40	20	7.04	0.28
Upstream	11/8/08 16:28	9.1	43	21	7.22	0.43
Upstream	11/9/08 7:41	7.3	41	22	7.61	0.24
Upstream	11/9/08 13:49	7.6	42	21	7.42	0.51
Upstream	11/9/08 16:49	7.4	40	19	7.24	0.61
Upstream	11/10/08 6:47	6.6	41	20	7.35	0.42
Upstream	11/10/08 15:19	6.3	41	20	7.2	1.47
Downstream	10/27/08 8:35	7.4	58	27	8.41	1.11
Downstream	10/28/08 8:23	5.4	56	30	7.86	0.25
Downstream	11/7/08 8:01	8.9	50	24	7.90	2.14
Downstream	11/7/08 13:10	9.6	47	23	7.43	0.47
Downstream	11/7/08 17:15	9.4	46	22	7.18	0.82
Downstream	11/8/08 6:51	9.1	47	23	7.01	0.35
Downstream	11/8/08 12:24	9.3	47	23	6.97	0.08
Downstream	11/8/08 16:36	9.2	47	23	7.52	0
Downstream	11/9/08 7:56	7.3	49	24	7.57	0.29
Downstream	11/9/08 14:40	7.6	50	25	7.86	0.78
Downstream	11/9/08 16:58	7.4	49	24	7.12	0.34
Downstream	11/10/08 7:00	6.7	51	26	7.22	1.06
Downstream	11/10/08 15:10	6.3	48	24	7.84	0.59

TABLE 38
Village Well 2 Distance vs. Drawdown Data
November 14, 2008 6.5-hr Pumping Test

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Village Well 2 Pumping Rate = Routine Use (<180 gpm)

Well	Drawdown (feet)	Distance From Pumping Well 2 (ft)
2	<50	0
1A	8	449
Realty	2.5	737
4	1.8	1051
Q1	0.85	1795
Q2	0.5	1898

Drawdown estimate for well 2 based on data in Figure 49.

TABLE 39
Well Q1 Distance vs. Projected Drawdown Data

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Q1 Pumping Rate = 45 gpm

Well	Projected Drawdown (ft)	Distance From Pumping Well Q1 (ft)
Q1	138	0
Q2	45	109
4	24	820
Z	23.7	950
Realty	16	1058
2	6 (est.)	1795
1A	1.2	2180

Note: The estimate for well 2 was derived from Figure 51.

TABLE 40
Village Well 2 vs. Projected Drawdown Data

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Village Well 2 Pumping Rate = Routine Use (<180 gpm)

Well	Projected Drawdown (ft)	Distance From Pumping Well 2 (ft)
2	<60	0
1A	11.9	449
Realty	9	737
4	6.2	1051
Q1	3.9	1795
Q2	2.8	1898

Projected drawdowns determined from Figure 49 (Well 2), Figure 50A (Q1), and Appendix V (1A, Realty, 4 and Q2).

TABLE 41
180 Day Drawdown Projections
Simultaneous Pumping of Well Q1 and Well 2

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

Pumping Rates

Well Q1 = 45 gpm
Well 2 = Routine Use

Projected Drawdown

Well	Projected Drawdown from Well Q1 Pumping (feet)	Projected Drawdown from Well 2 Pumping (feet)	Total Projected Drawdown from Simultaneous Pumping of Well Q1 and Well 2 (feet)	Available Drawdown after 180 days of Simultaneous Pumping of Well Q1 and Well 2 (feet)
2	6 (est.)	60	66	110.7
1A	1.2	11.9	13.1	112.3
Realty	16	9	25	79.3
4	24	6.2	30.2	310.1
Q1	138	3.9	141.9	168.2
Q2	45	2.8	47.8	266.1

Notes:

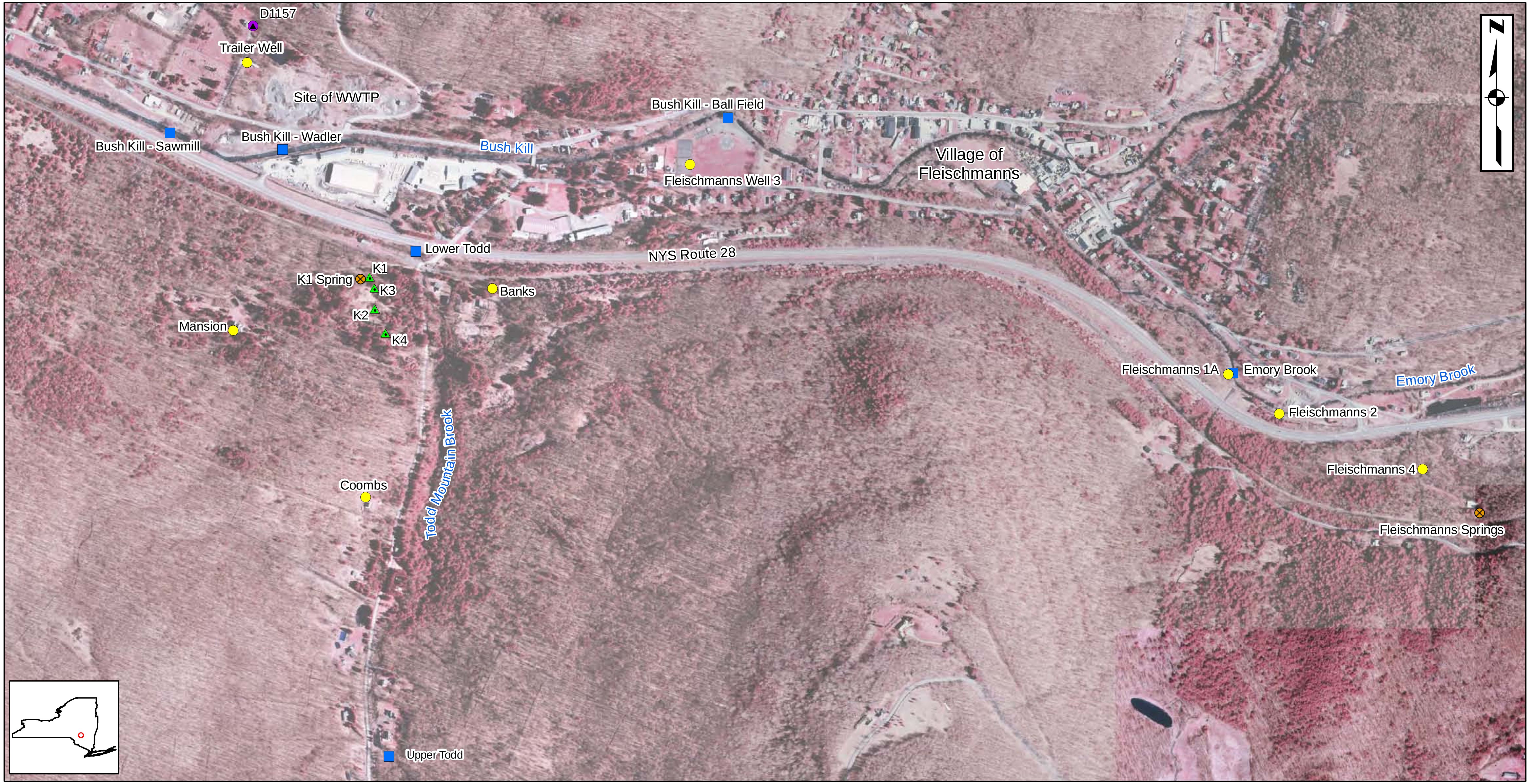
The projected drawdown in Well 2 due to pumping Well 2 is presented in Figure 49.
The projected drawdown in Well Q1 due to pumping in Well 2 is presented in Figure 50A.
Projected drawdowns for the other wells due to pumping Well 2 are in Appendix W.

The projected drawdown in Well Q1 due to pumping in Well Q1 is presented in Appendix S.
The projected drawdown in Well 2 due to pumping Well Q1 is presented in Figure 51.
Projected drawdowns for the other wells due to pumping Well Q1are in Appendix V.

Available Drawdowns are based on static water levels prior to Q1 test, except for Well 2, which was assigned a static level equivalent to the Well 1A water level elevation prior to the Q1 test.

The pumping rate of Well 2 is not metered. The normal pumping rate for Well 2 is expected to be less than 180 gpm (see Section 3.6 in text).

FIGURES



KEY

▲	NYSDEC Well
▲	K-Well
●	Monitoring Well Location
■	Stream Monitoring Location
⊗	Spring

0 675 1,350 2,025
Feet

Notes:
- **Basemap - April 2001 digital orthophotos 30 cm resolution color infrared (http://www.nysgis.state.ny.us)**
- **WWTP = Waste water treatment plant**

ALPHA GEOSCIENCE
Alpha Project No. 07143

FIGURE 1

LOCATION MAP

K-Well Pumping Tests
Belleayre Resort

Fleischmanns, Delaware County, New York

Map Document: (Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\GIS\Monitoring_Locations_11x17.mxd)
1/10/2008 -- 2:02:29 PM

KEY

▲ K-Well
━ Gravity drainage through piping
▬ Drainage via existing ditch

Source:
- Basemap - April 2001 digital orthophotos
30 cm resolution color infrared
(http://www.nysgis.state.ny.us)

ALPHA
GEOSCIENCE
Alpha Project No. 07143

FIGURE 2

PUMPING DISCHARGE ROUTE

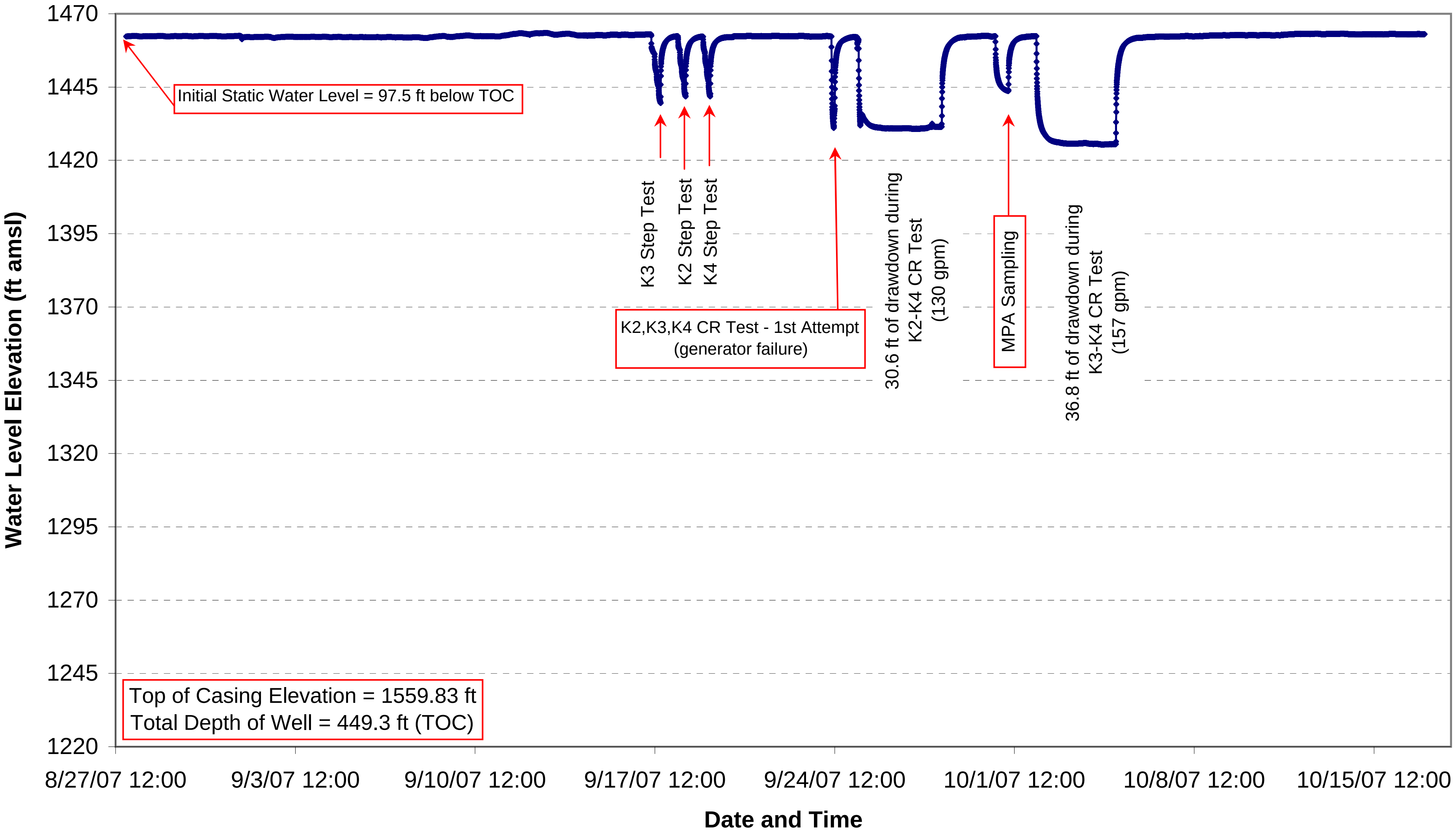
K-Well Pumping Tests
Belleayre Resort

Fleischmanns, Delaware County, New York

Map Document: (Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\GIS\Discharge_Route.mxd)
6/22/2009 -- 12:54:22 PM

FIGURE 3
Well K1
Linear Plot of Water Level Data

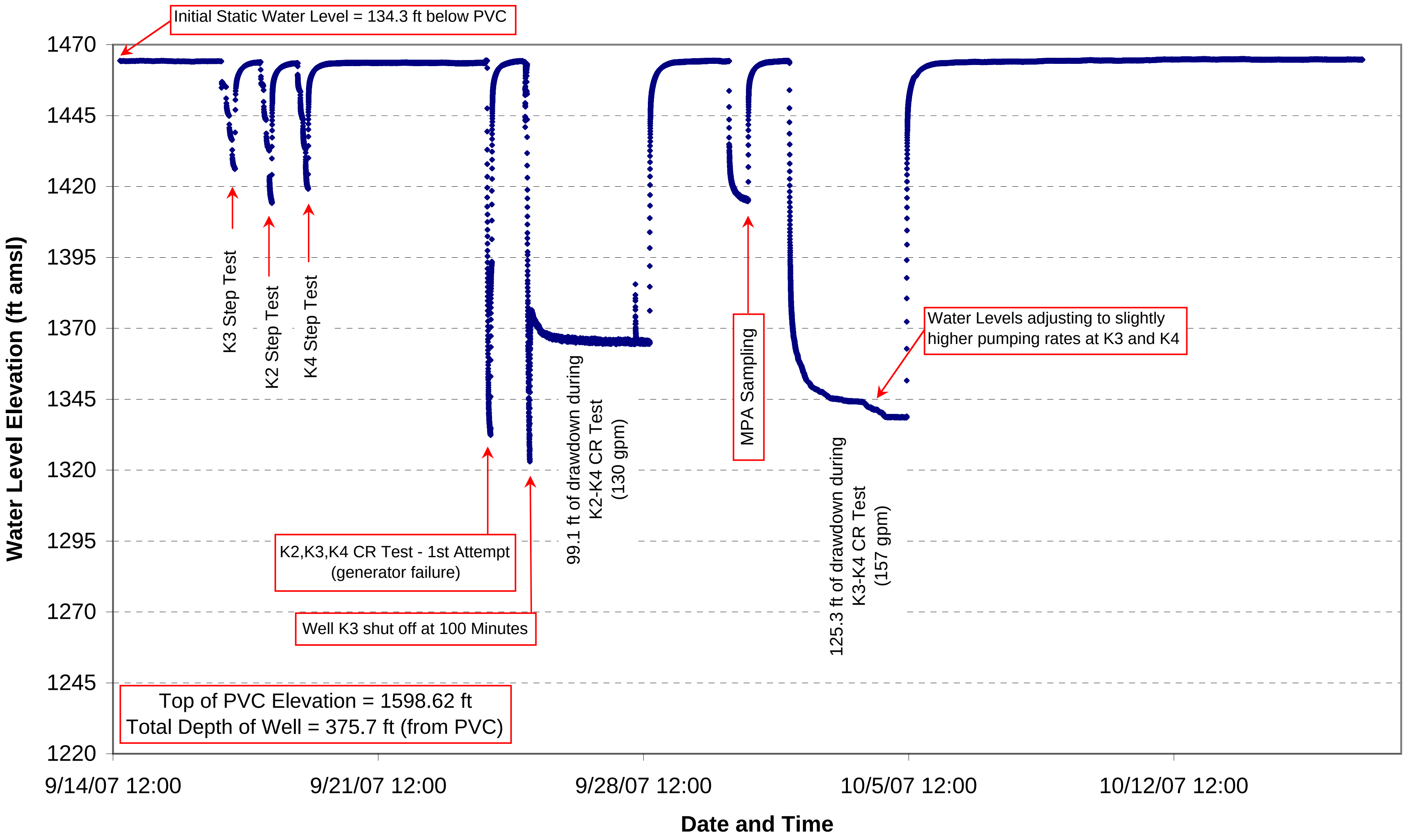
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\K1\K1 Data - all tests\WL Elev. graph - all data

FIGURE 4
Well K2
Linear Plot of Water Level Data

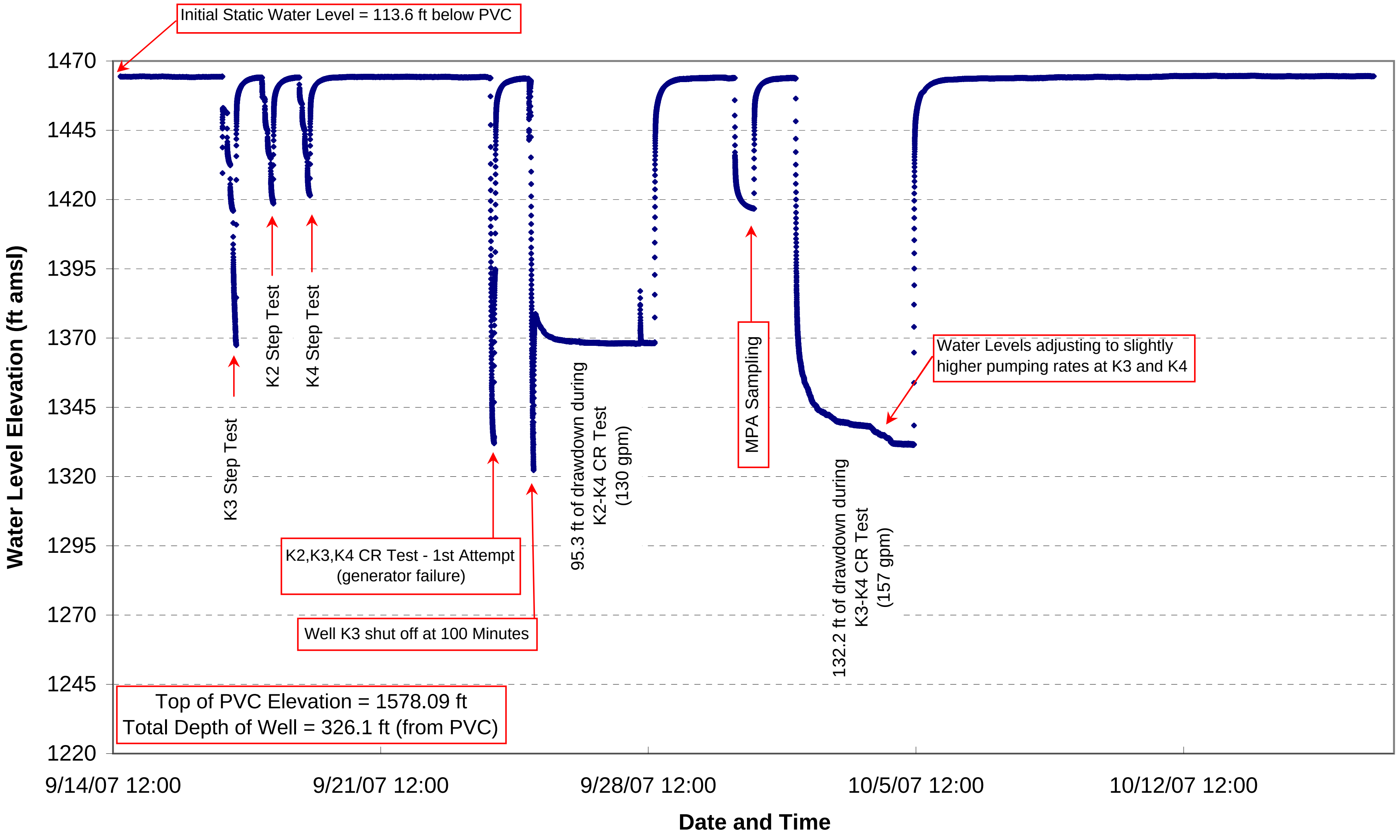
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\K2\K2 All Data\WL Elev Graph

FIGURE 5
Well K3
Linear Plot of Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Initial Static Water Level = 113.6 ft below PVC

K2,K3,K4 CR Test - 1st Attempt
(generator failure)

Well K3 shut off at 100 Minutes

95.3 ft of drawdown during
K2-K4 CR Test
(130 gpm)

132.2 ft of drawdown during
K3-K4 CR Test
(157 gpm)

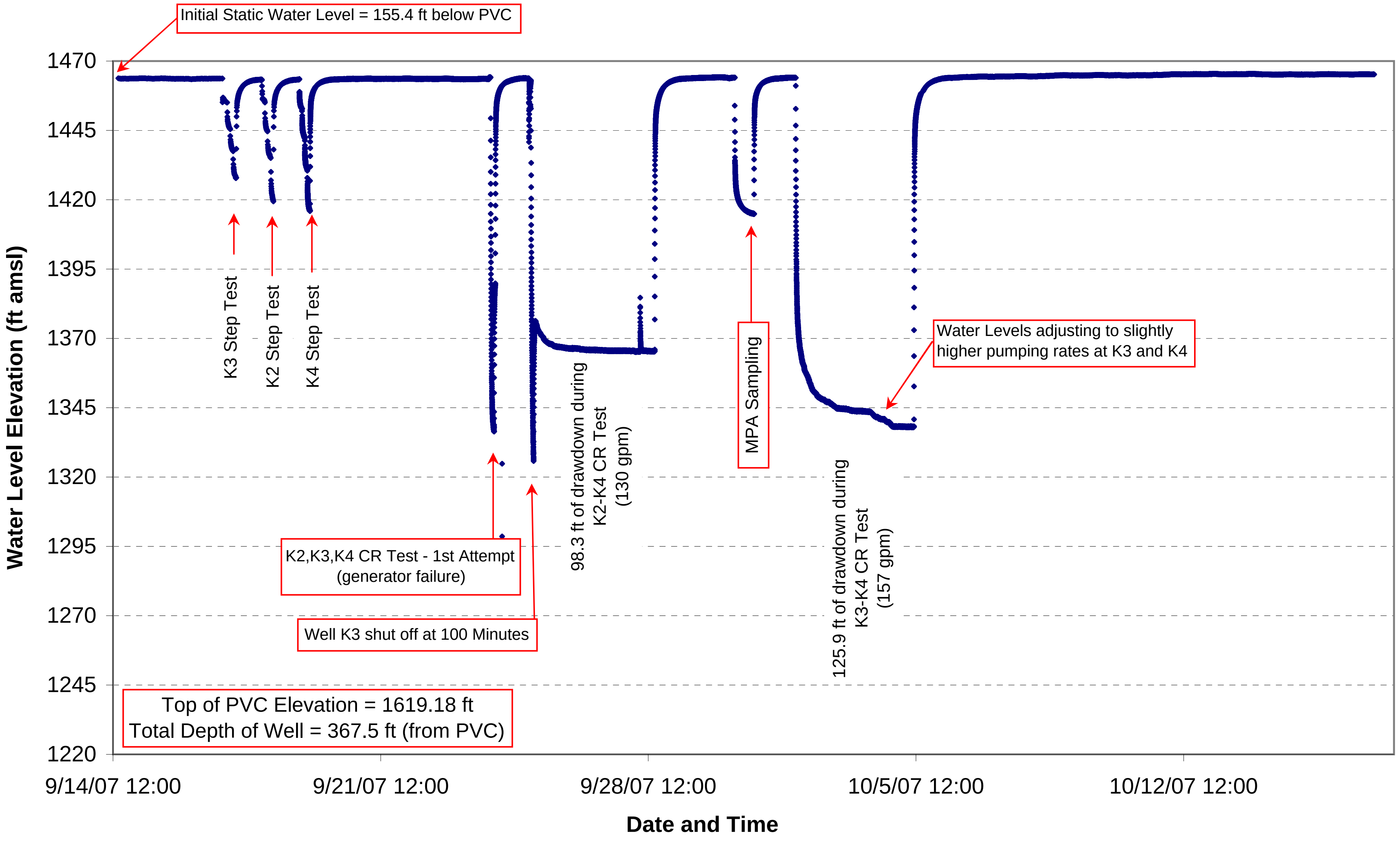
Water Levels adjusting to slightly
higher pumping rates at K3 and K4

Top of PVC Elevation = 1578.09 ft
Total Depth of Well = 326.1 ft (from PVC)

Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\k3\K3 All Data\WL Elev Graph

FIGURE 6
Well K4
Linear Plot of Water Level Data

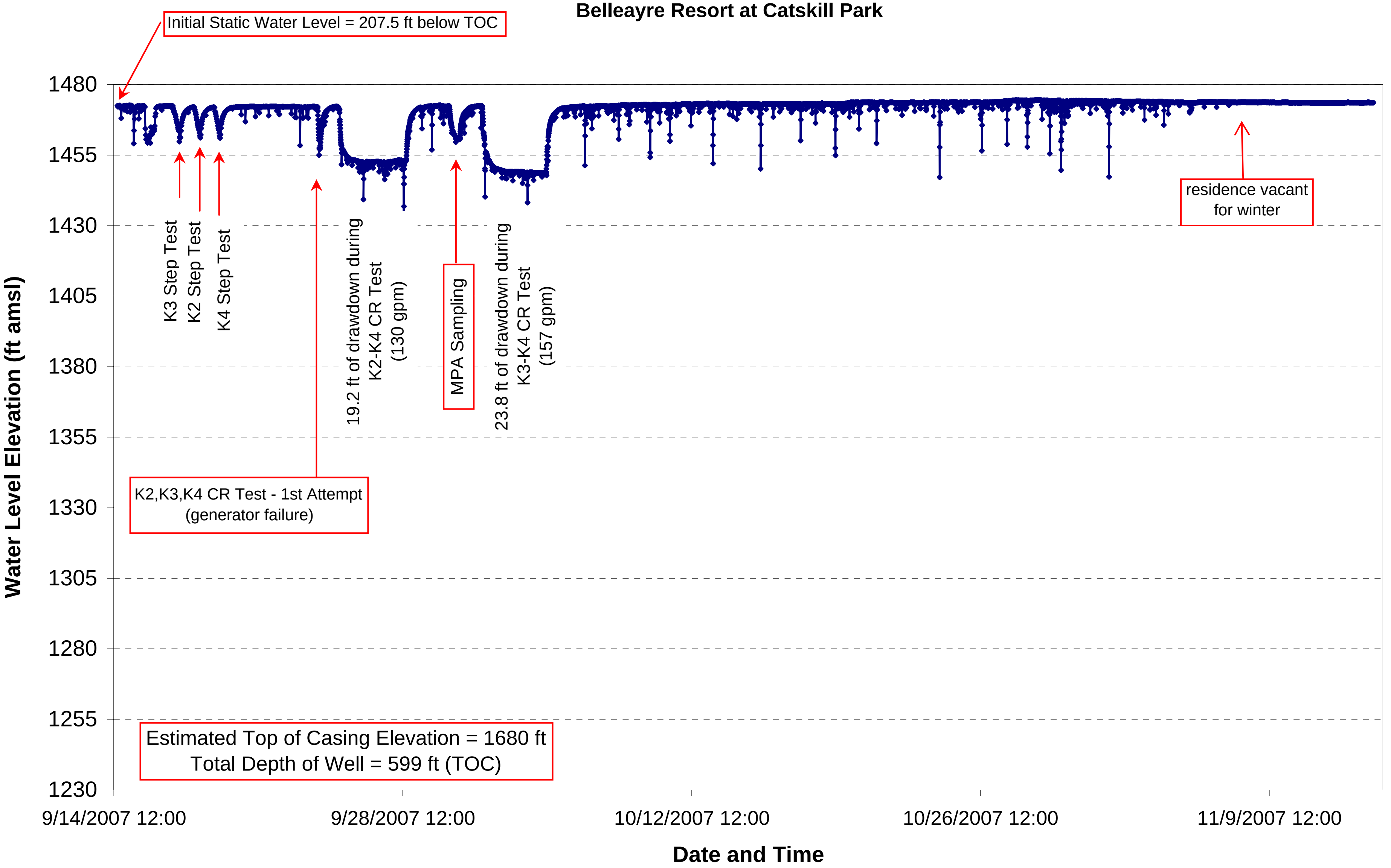
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\k4\K4 All Data\WL Elev Graph

FIGURE 7
Mansion Well
Linear Plot of Water Level Data

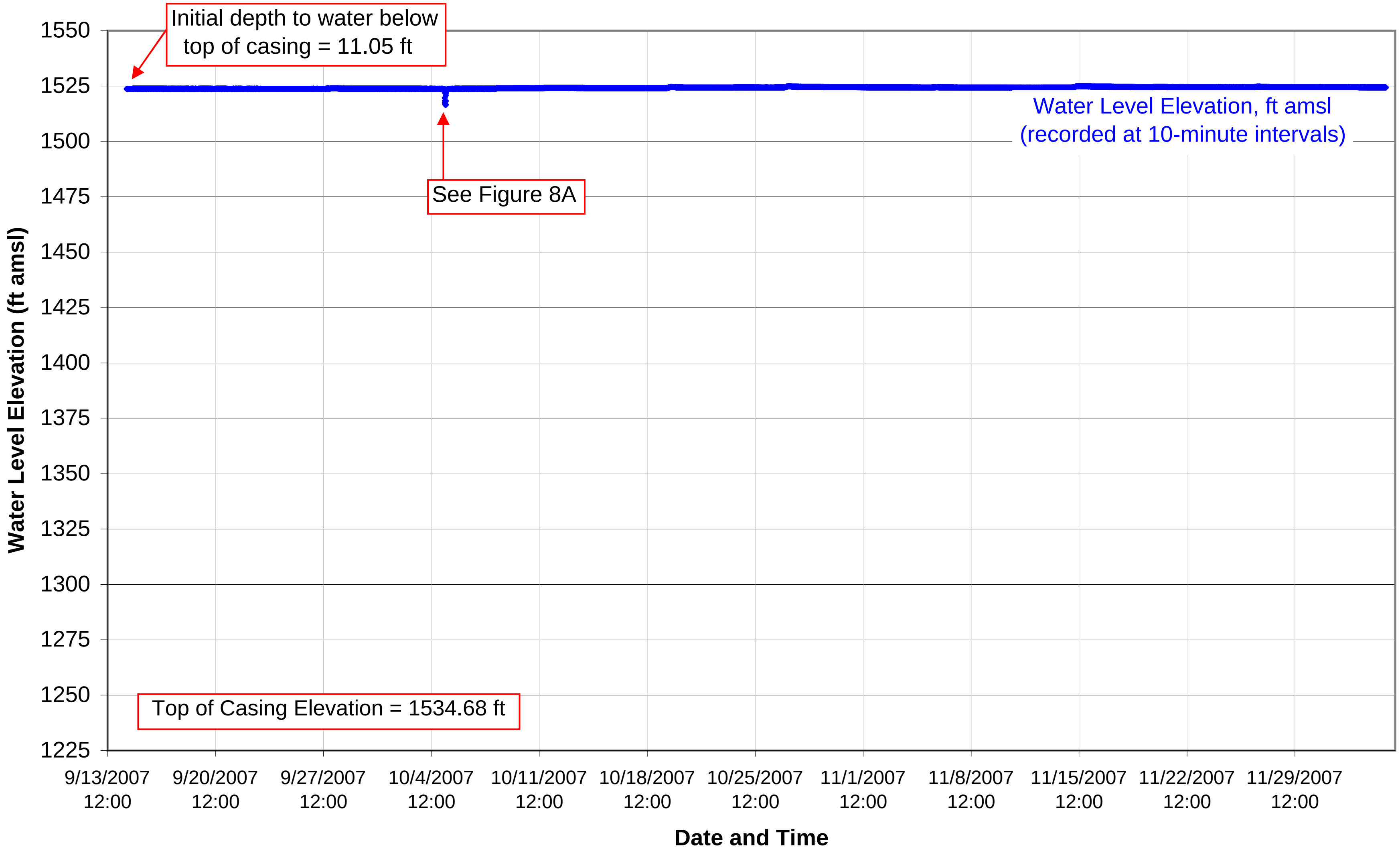
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Mansion Well\Mansion Well - All Data 9-14 to 11-14\Mansion WL Elev graph

FIGURE 8
Village Well 1A
Linear Plot of Water Level Data

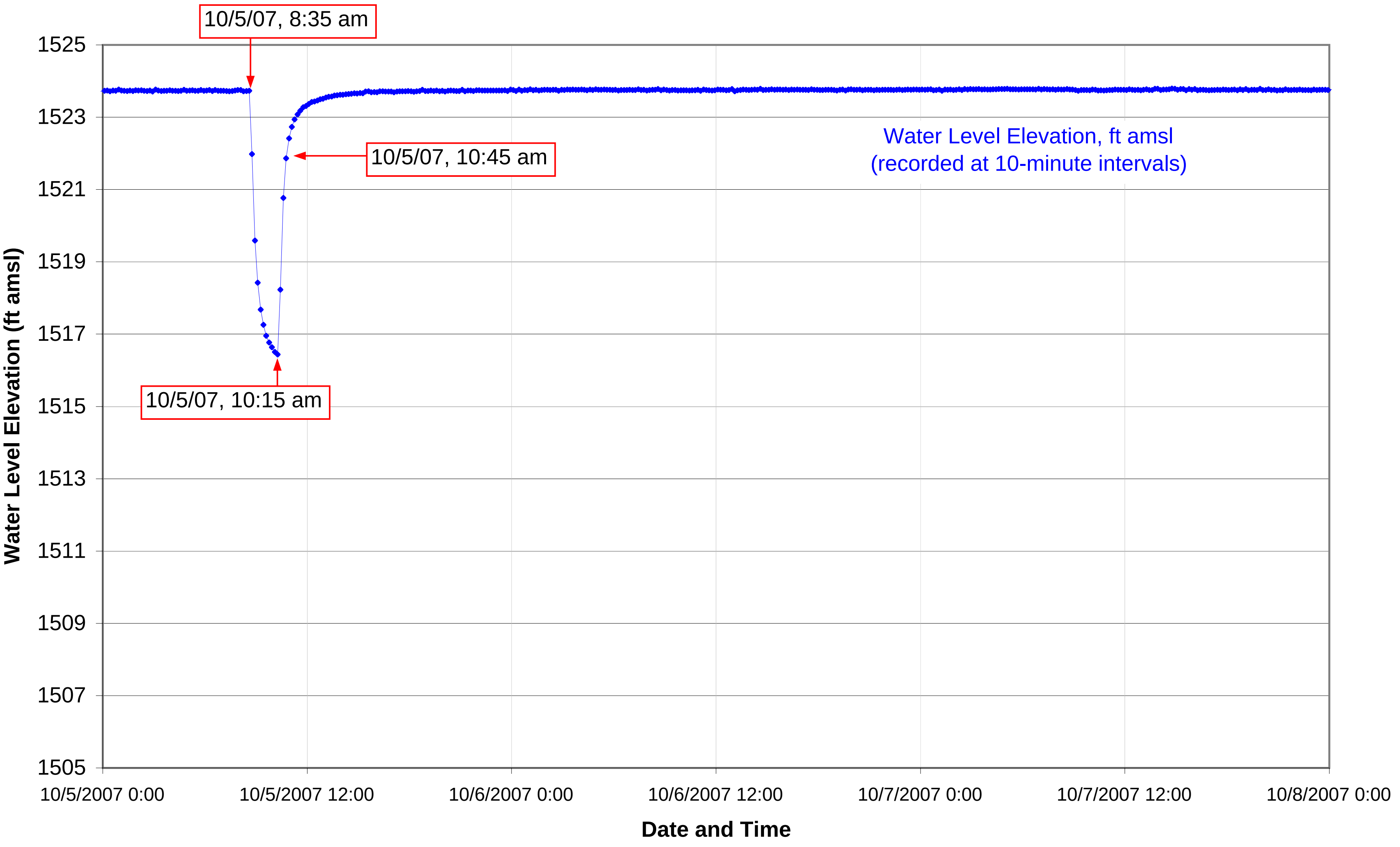
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Fleischmanns 1A\Fleisch 1A all data\1A Chart

FIGURE 8A
Village Well 1A
Detail of Water Level Data

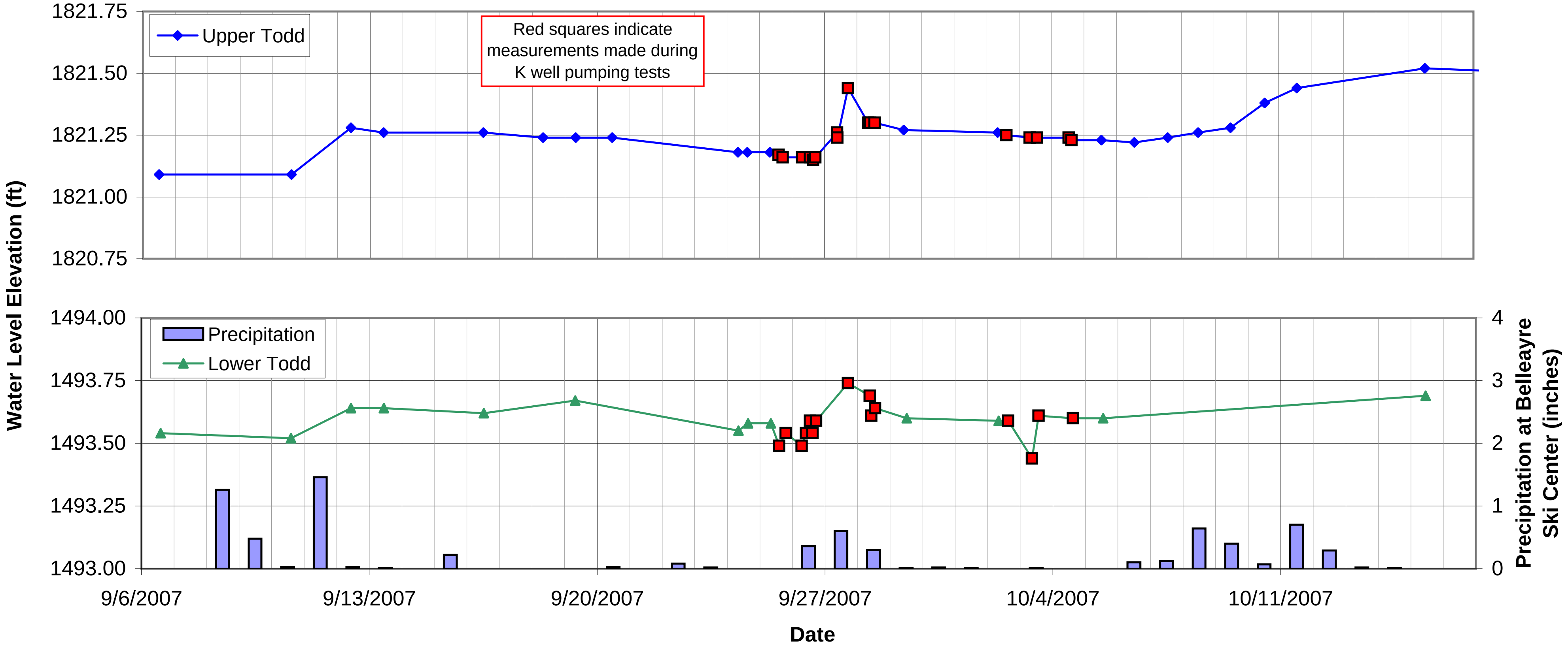
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Fleischmanns 1A\Fleisch 1A all data\zoom

FIGURE 9
Todd Mountain Brook
Linear Plot of Water Level Data

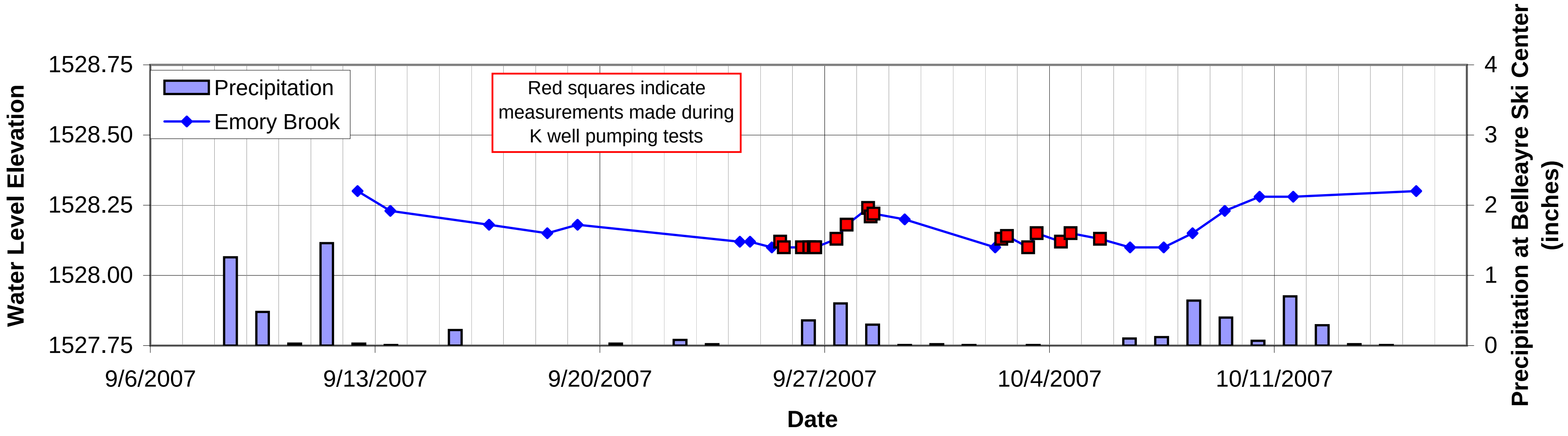
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Stream Water Levels\Todd WL Graph

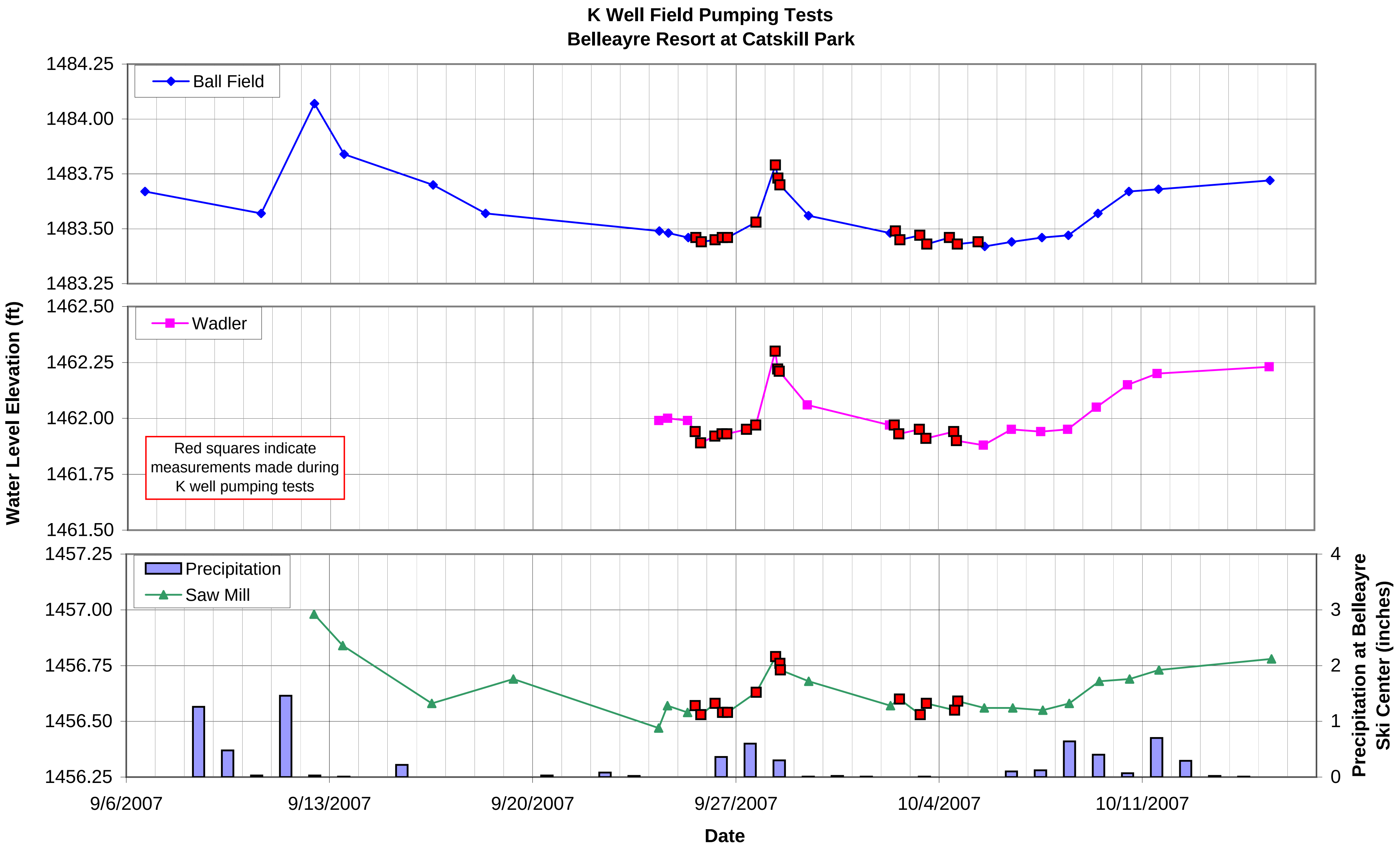
FIGURE 10
Emory Brook
Linear Plot of Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Stream Water Levels\Emory Graph

FIGURE 11
Bush Kill
Linear Plot of Water Level Data



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Stream Water Levels\Bush Kill WL Graph

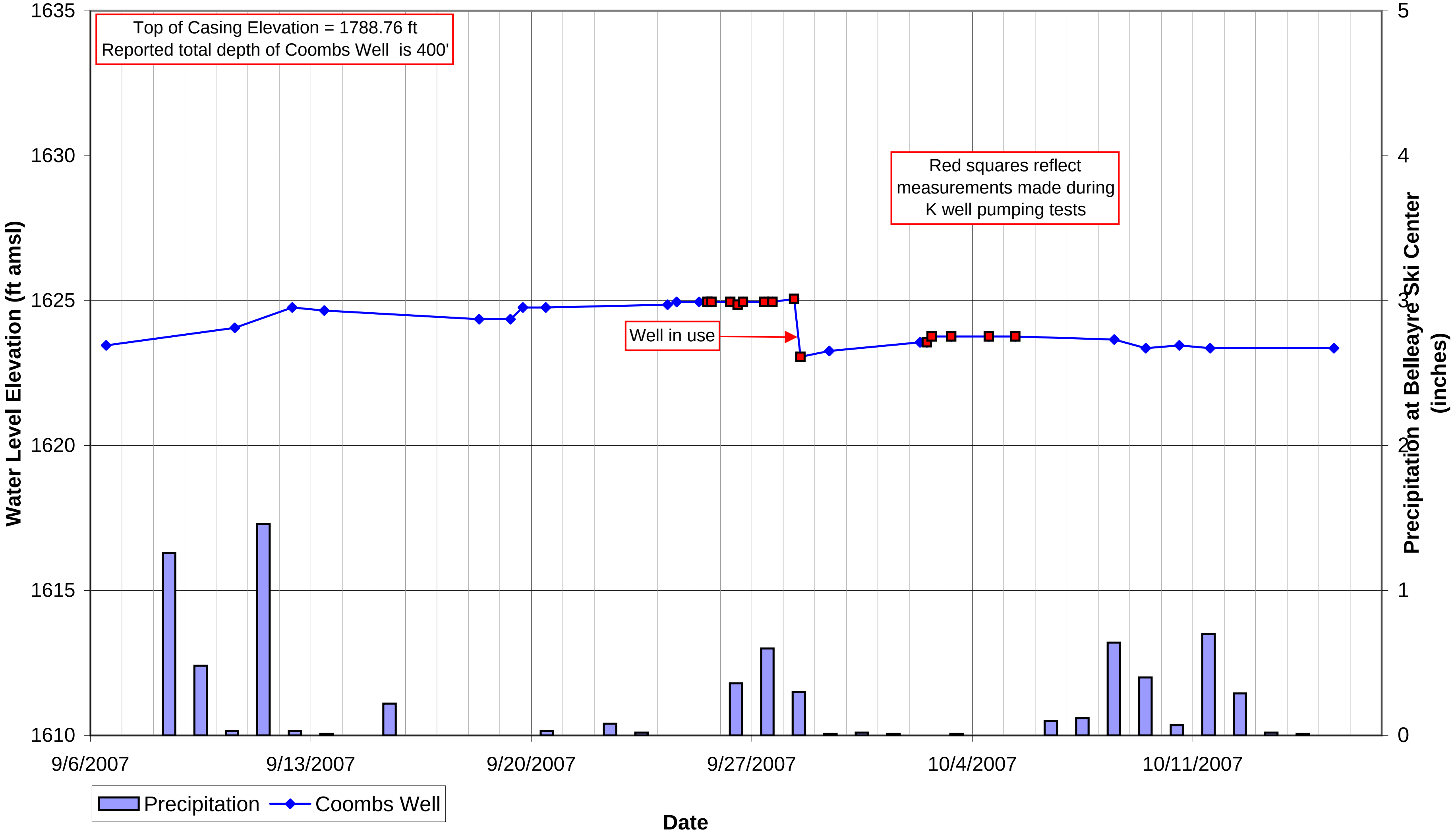
FIGURE 12
Banks Well
Linear Plot of Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Observation Wells\Banks Graph

FIGURE 13
Coombs Well
Linear Plot of Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Observation Wells\Coombs Graph

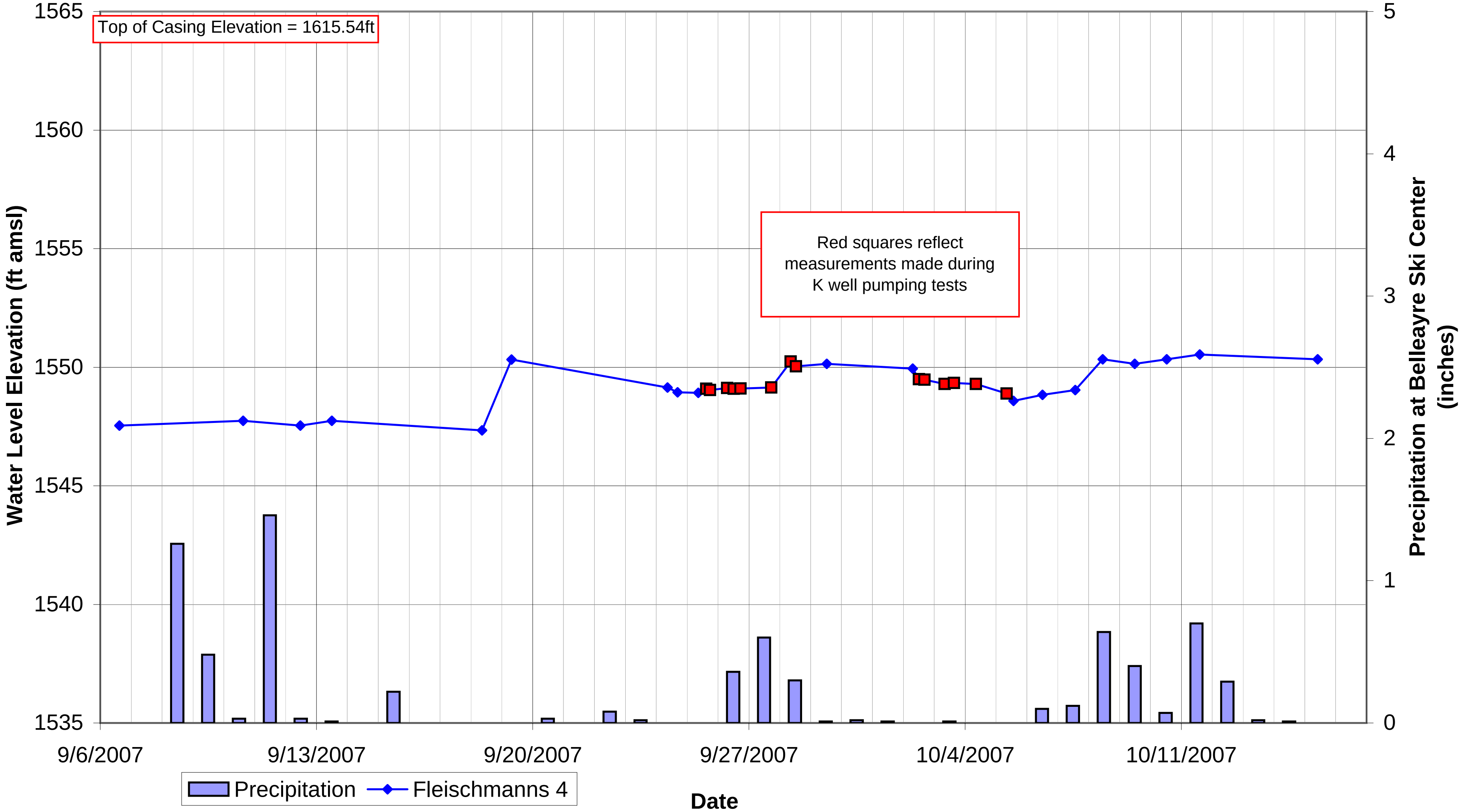
FIGURE 14
Village Well 3
Linear Plot of Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Observation Wells\Fleischmanns 3 Graph

FIGURE 15
Village Well 4
Linear Plot of Water Level Data

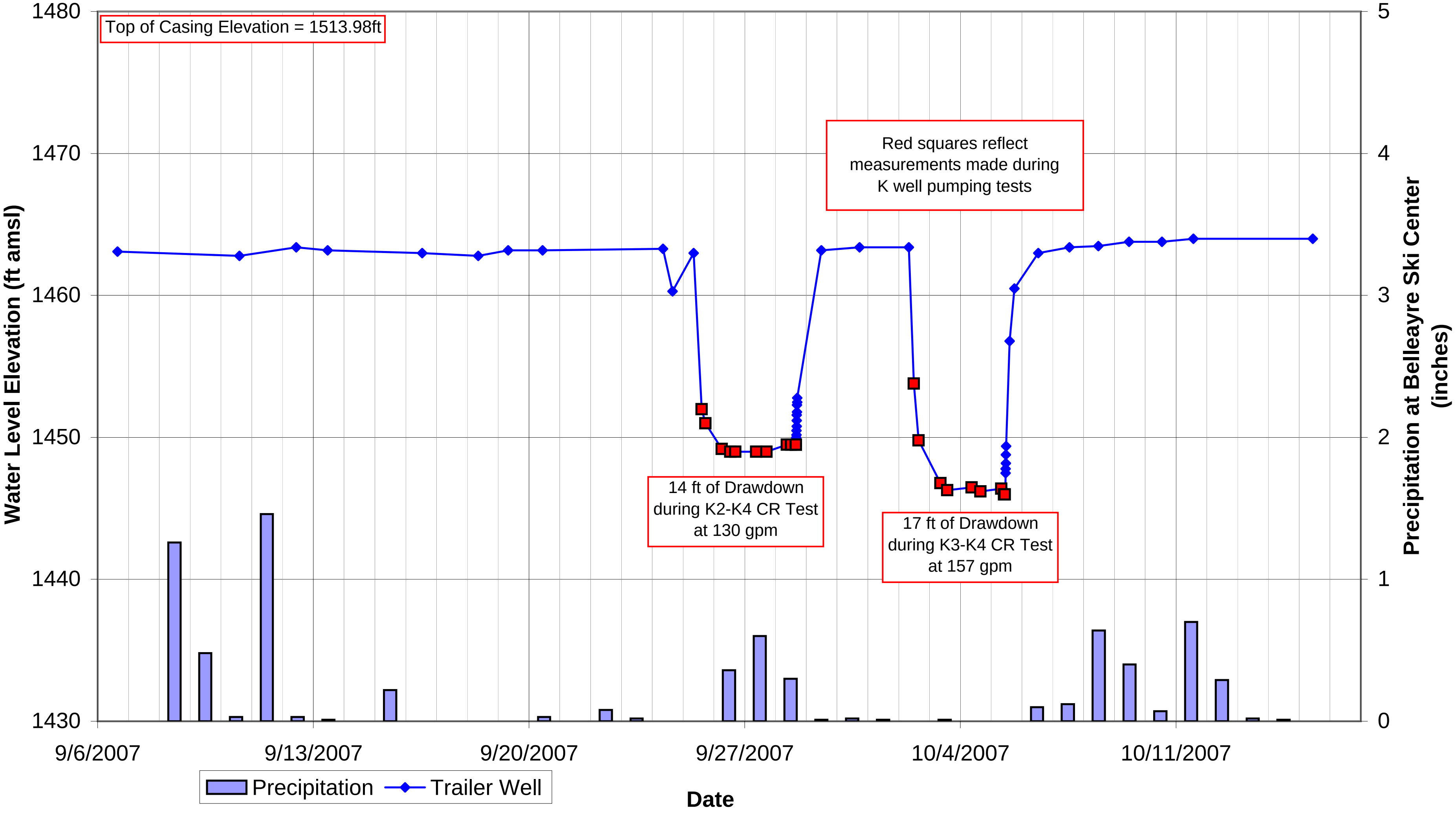
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Observation Wells\Fleischmanns 4 Graph

FIGURE 16
Trailer Well
Linear Plot of Water Level Data

K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Observation Wells\Trailer Well Graph

FIGURE 17
Well K1
Linear Plot of Water Temperature

K Well Field Pumping Tests
Belleayre Resort at Catskill Park

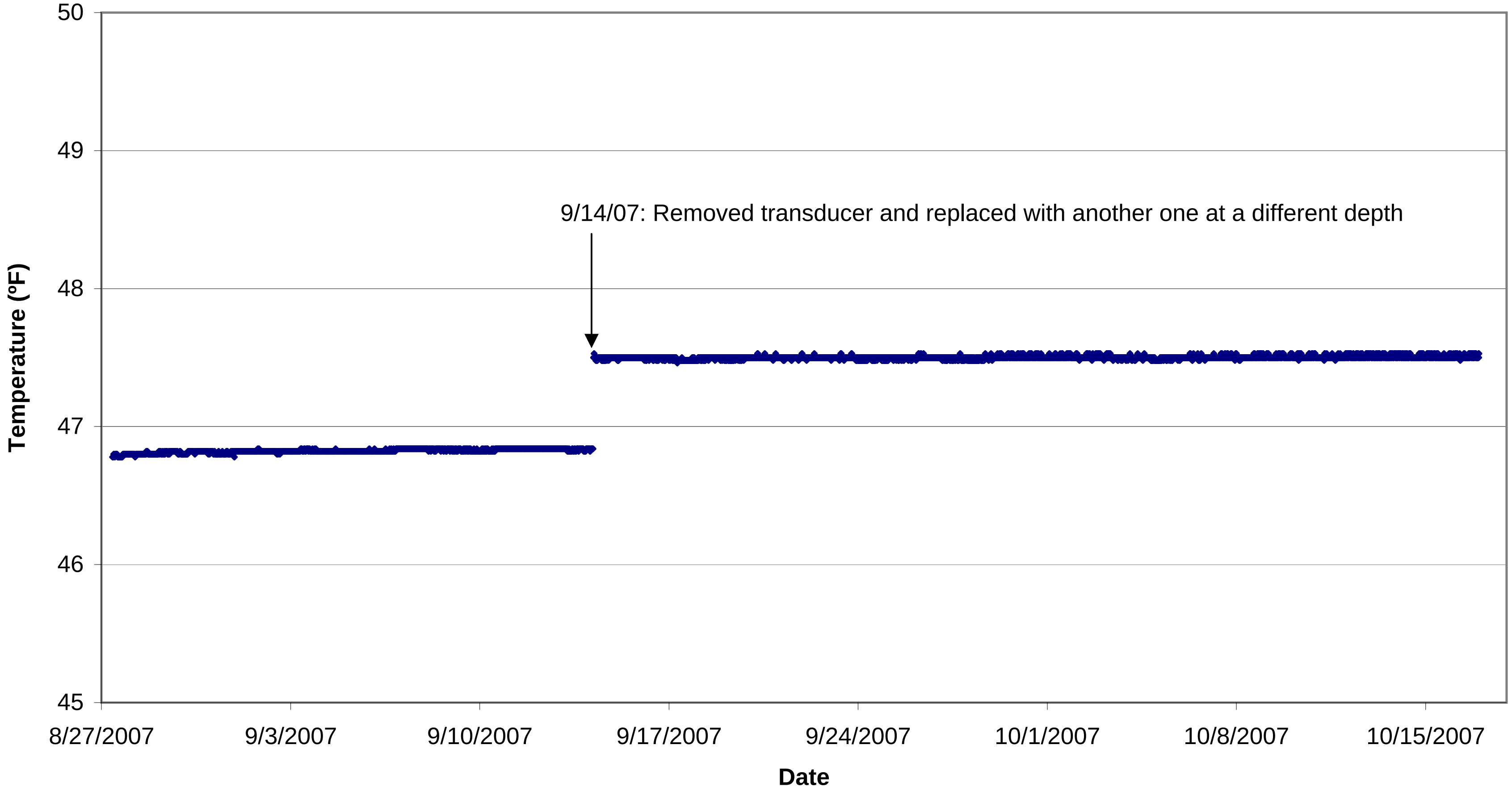
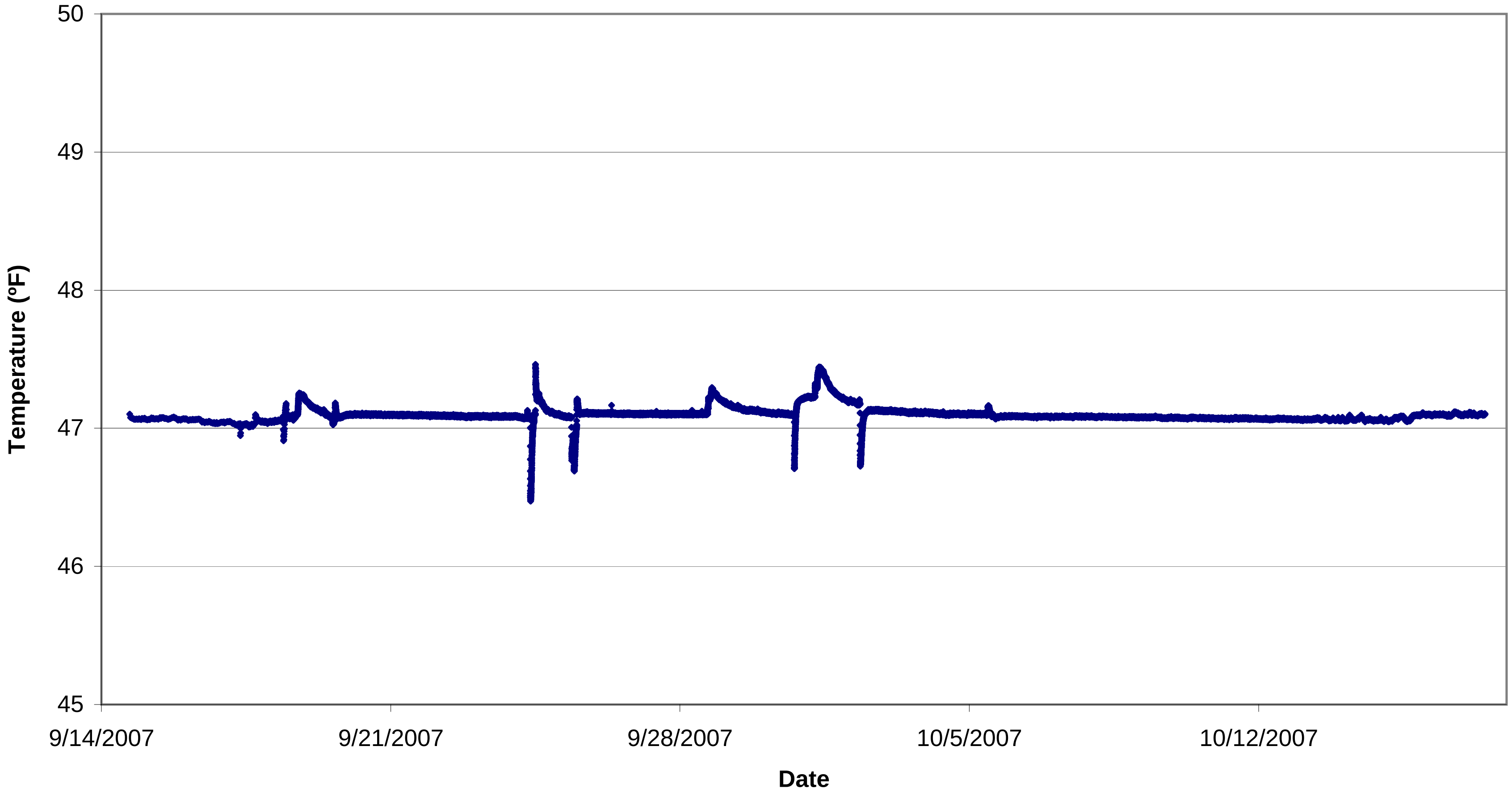


FIGURE 18
Well K2
Linear Plot of Water Temperature

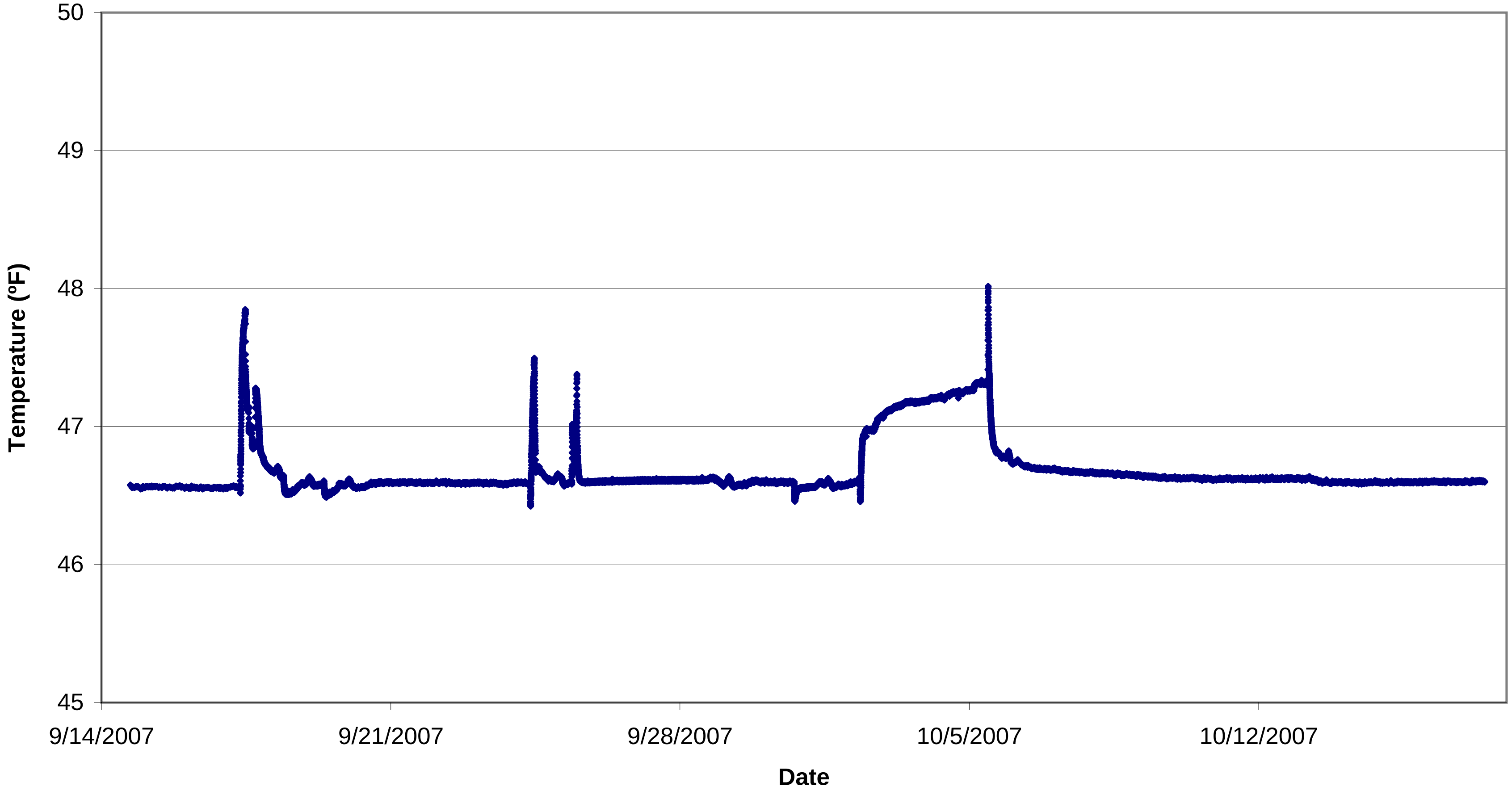
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\K2\K2 All Data\Temp Graph

FIGURE 19
Well K3
Linear Plot of Water Temperature

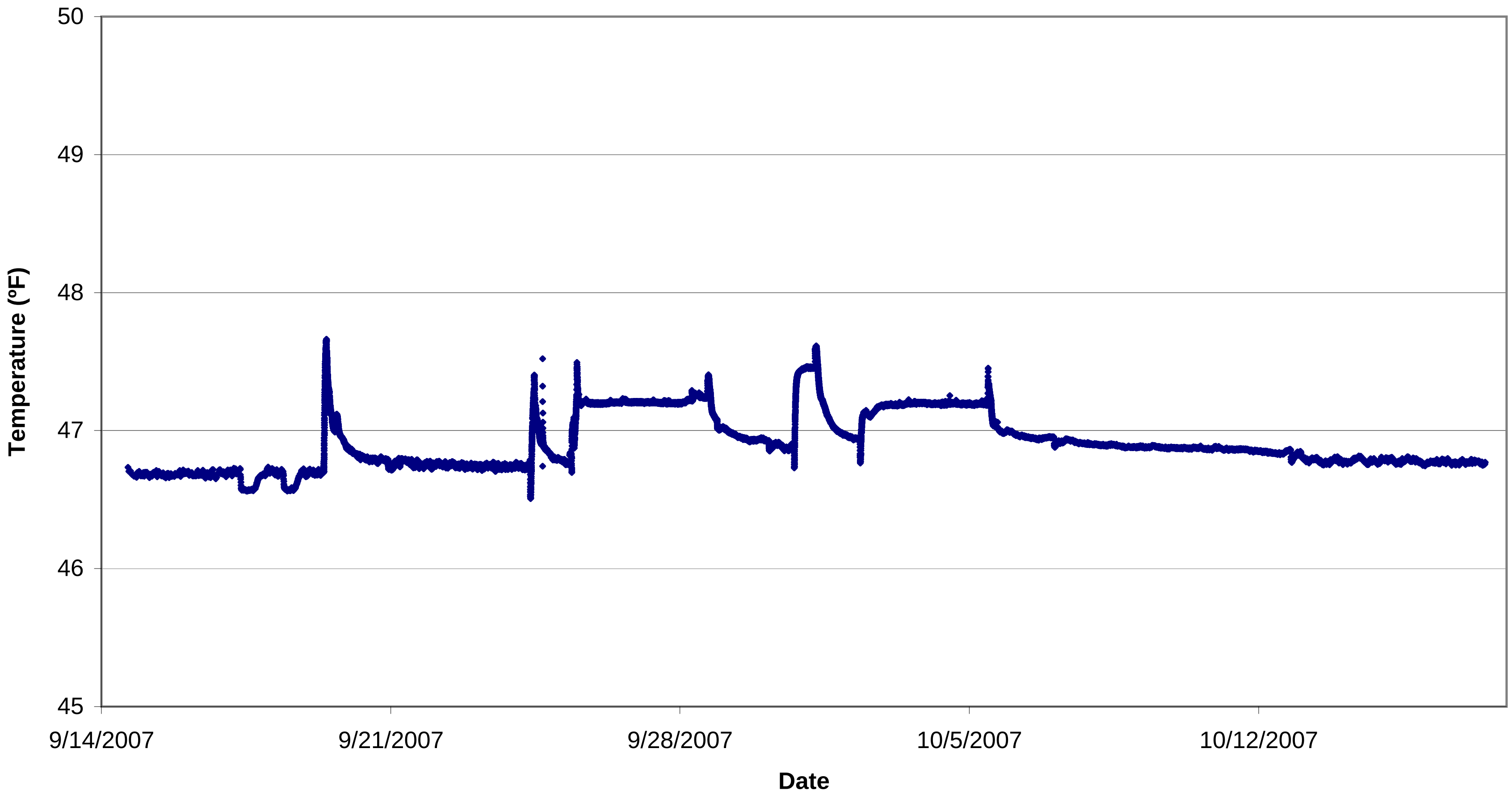
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\k3\K3 All Data\Temp Graph

FIGURE 20
Well K4
Linear Plot of Water Temperature

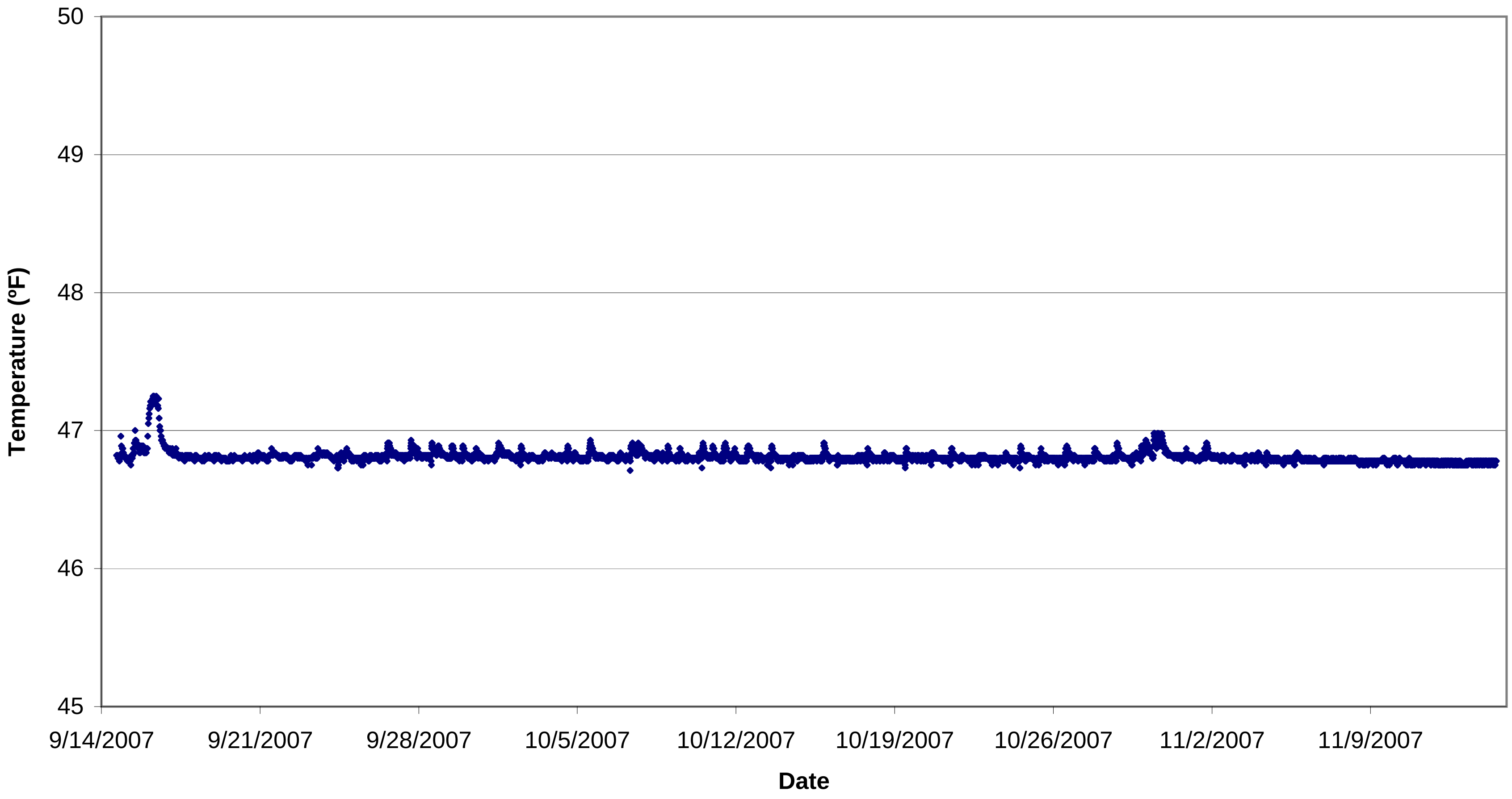
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\k4\K4 All Data\Temp Graph

FIGURE 21
Mansion Well
Linear Plot of Water Temperature

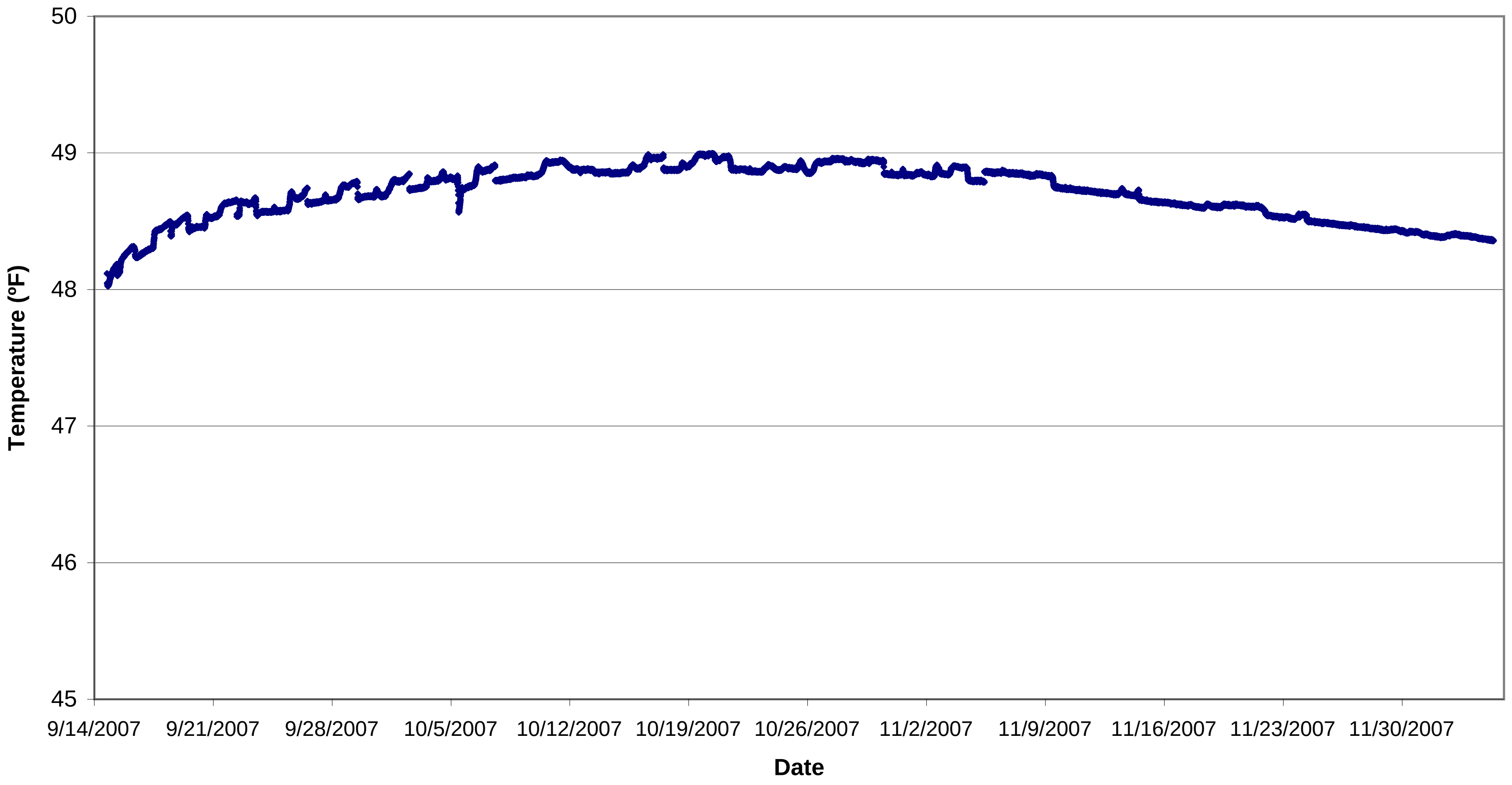
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Mansion Well\Mansion Well - All Data 9-14 to 11-14\Temp Graph

FIGURE 22
Village Well 1A
Linear Plot of Water Temperature

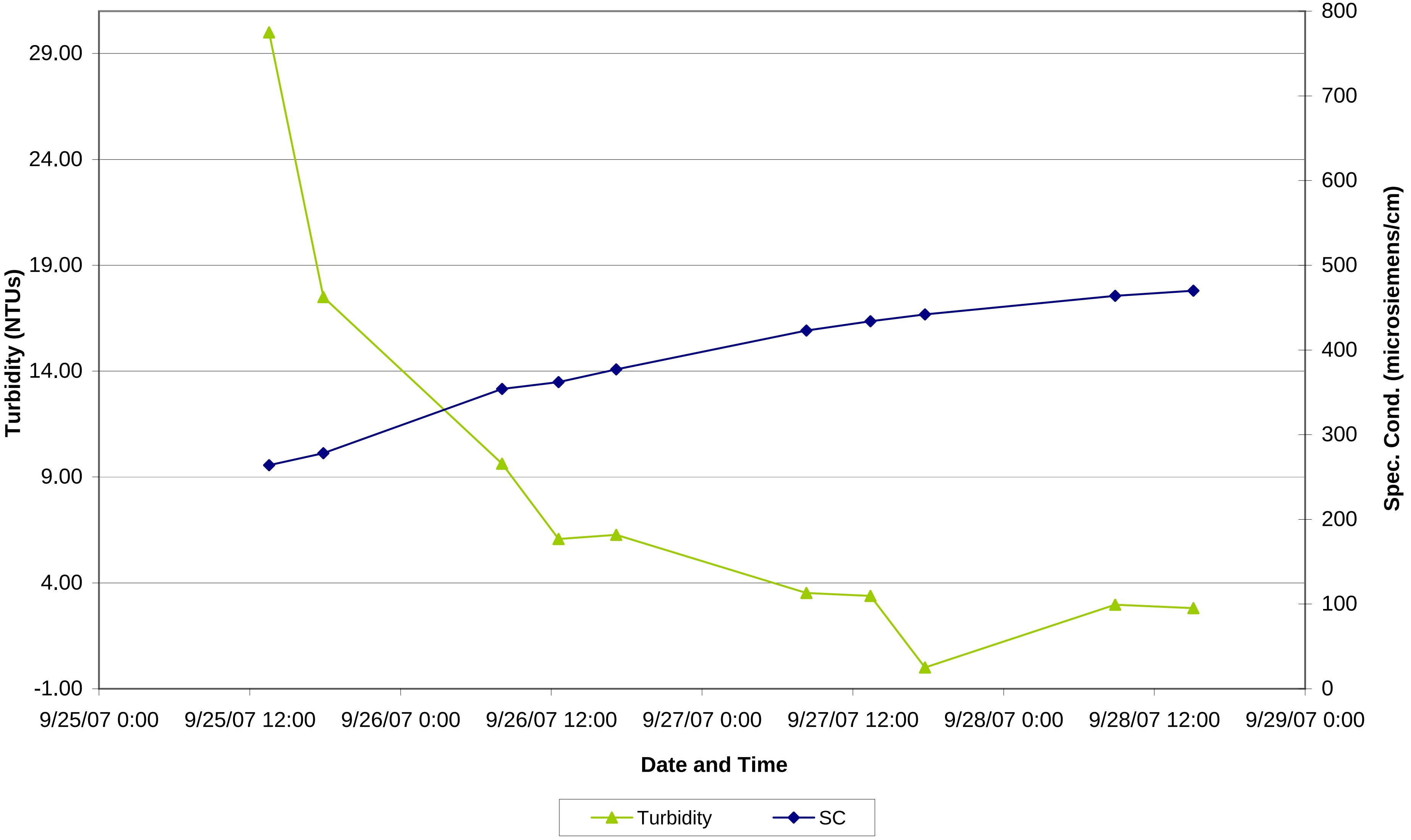
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Fleischmanns 1A\Fleisch 1A all data\Temp Graph

FIGURE 23
Well K2 Field Water Quality

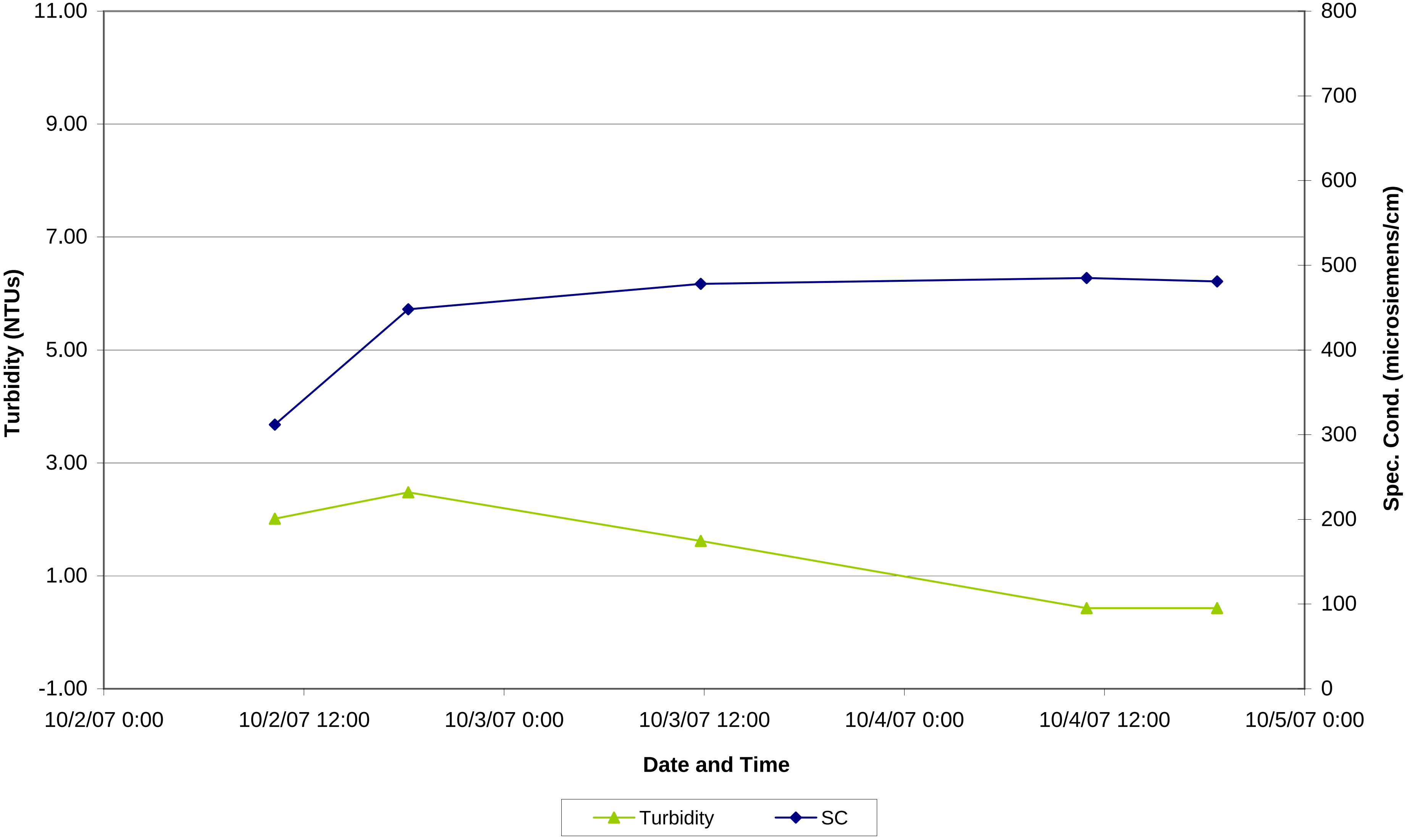
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\WQ Tables\K2 WQ Graph

FIGURE 24
Well K3 Field Water Quality

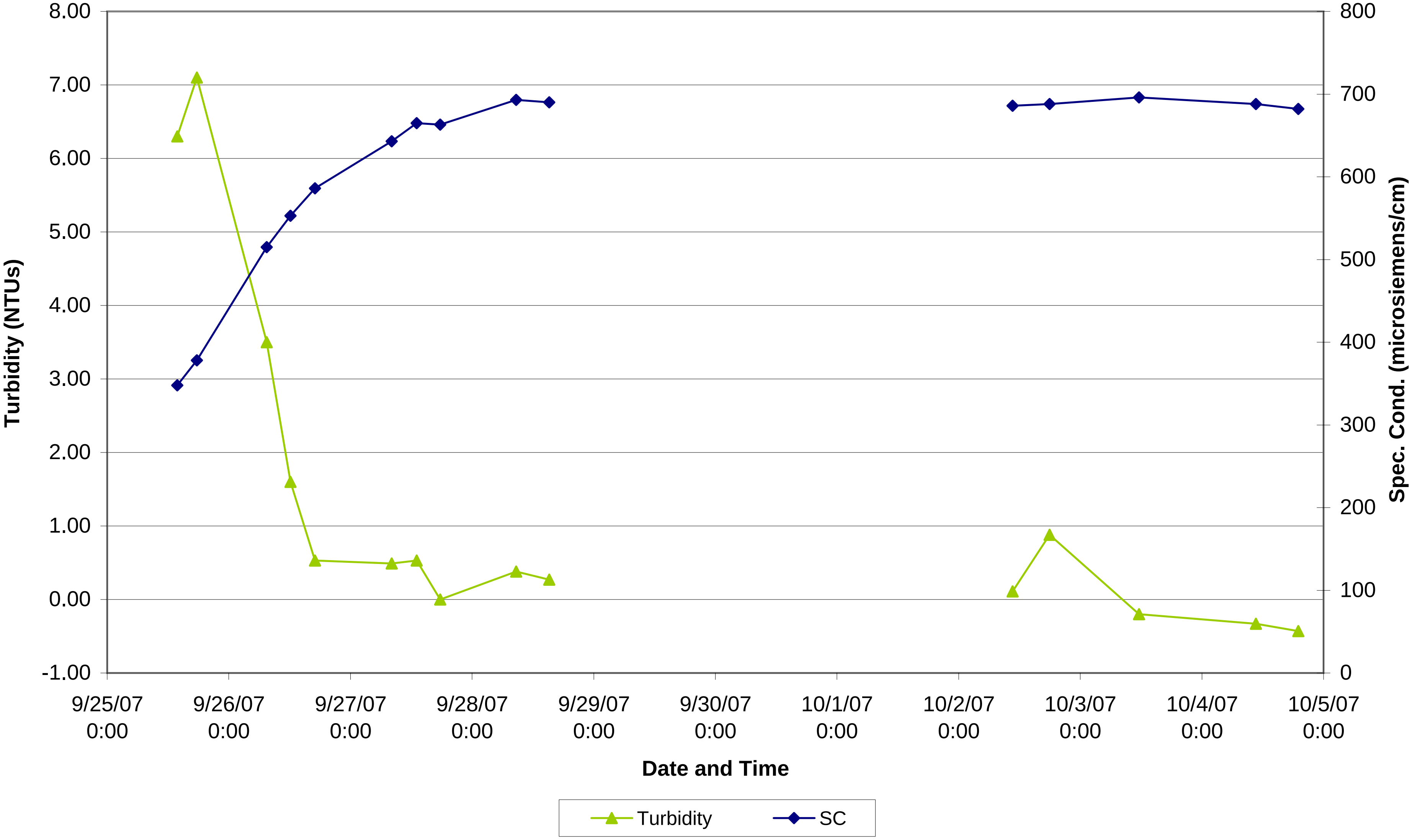
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\WQ Tables\K3 WQ Graph

FIGURE 25
Well K4 Field Water Quality

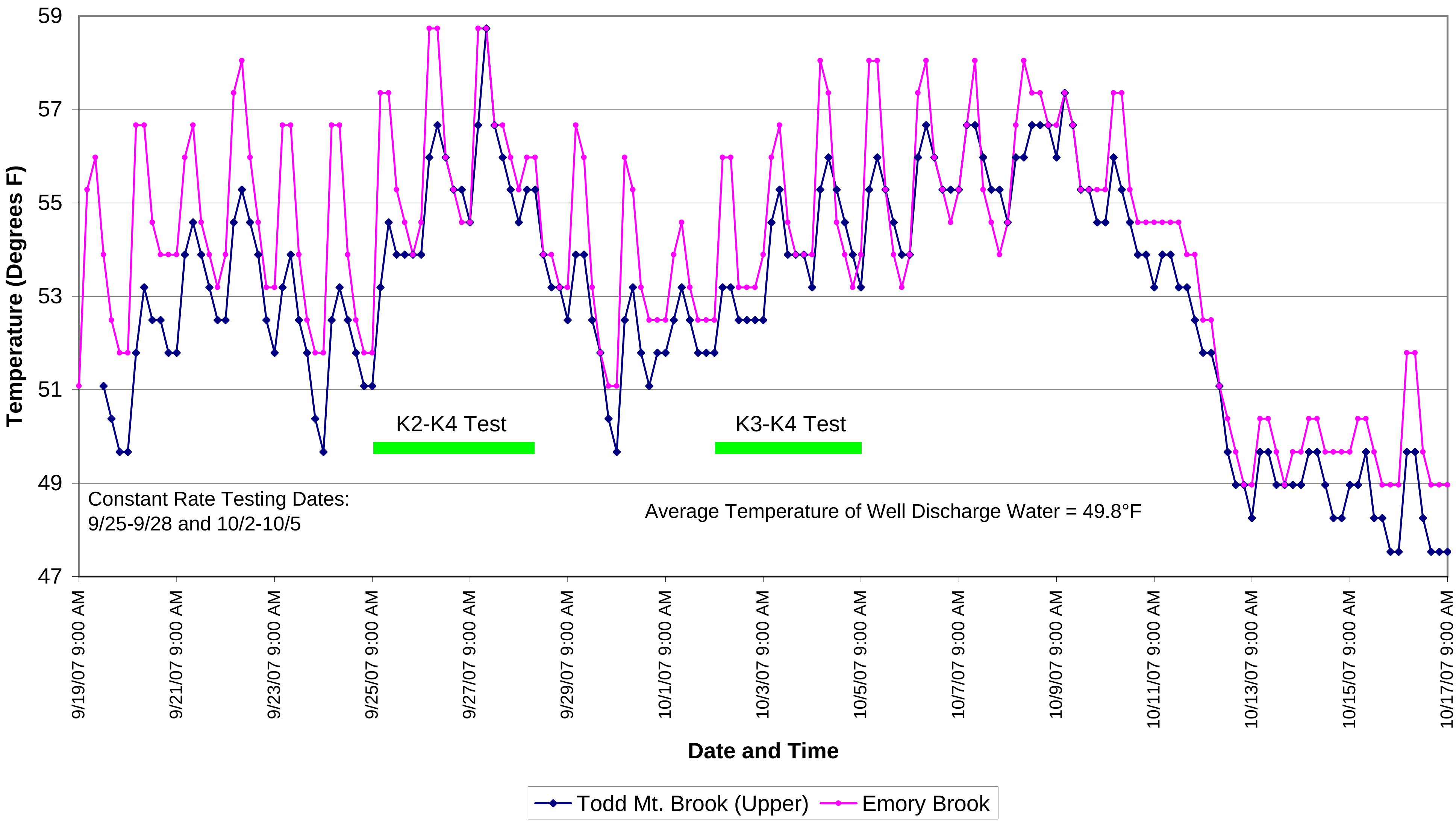
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



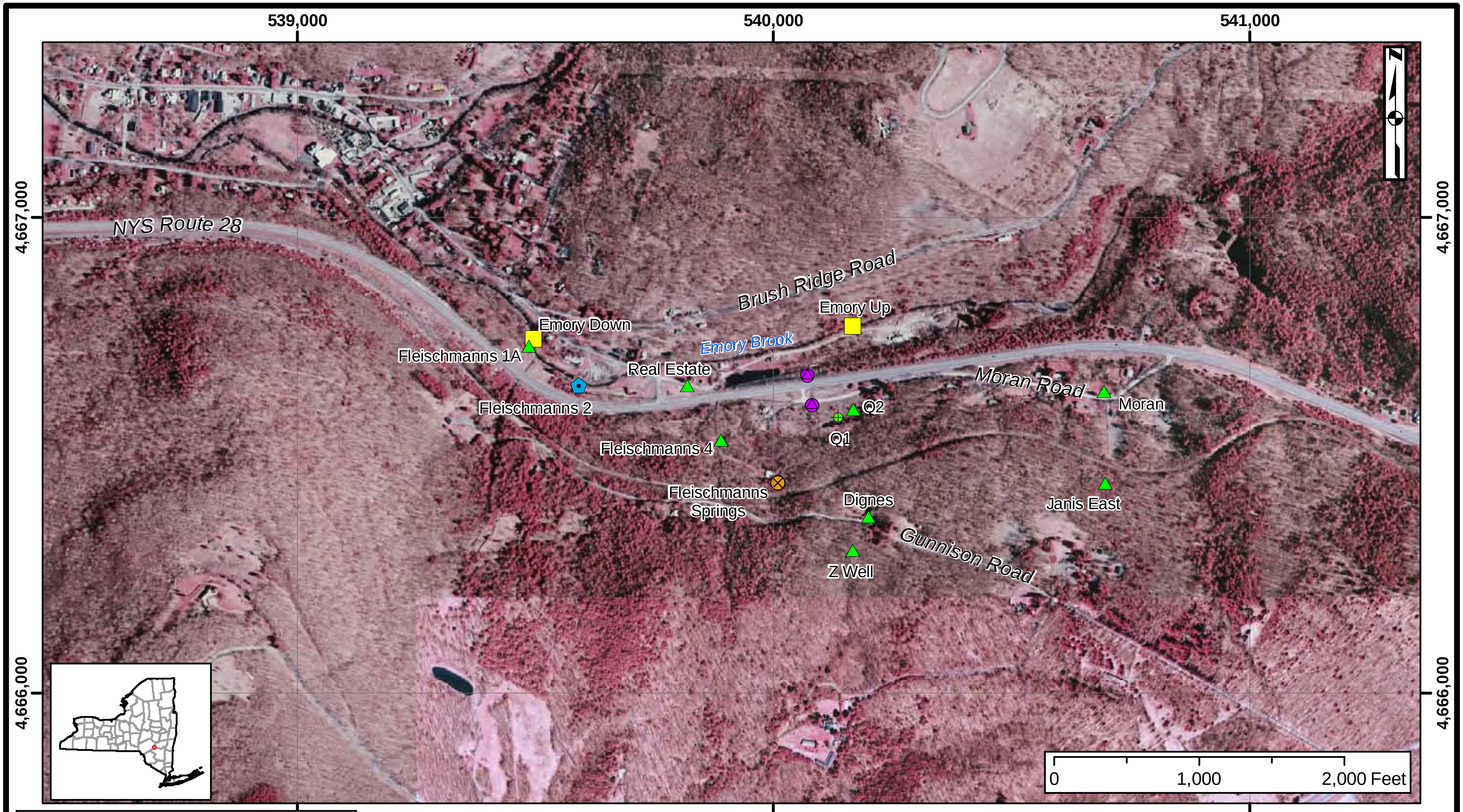
Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\WQ Tables\K4 WQ Graph

FIGURE 26
Stream Temperature Data
from Automated Loggers

K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Hobo Temperature Loggers\HOBO Graph



Key

Monitoring Locations

- ⊕ Production Well
- ⬟ Primary Village Supply Well
- ▲ Monitoring Well
- 🟨 Stream Monitoring Location
- ● Discharge Location
- ⊗ Spring Location

Notes:
- Basemap - Delaware County 30-centimeter Resolution Color Infrared Orthoimagery (April 2001), NYS Office of Cyber Security & Critical Infrastructure Coordination.
- Grid units are UTM meters (NAD83, Zone 18N).

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Alpha Project No. 08163

FIGURE 27
PRODUCTION WELL AND MONITORING LOCATIONS

Well Q1 Pumping Test
Belleayre Resort

Fleischmanns, Delaware County, New York

Map Document: (Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\GIS\Monitoring_Locations_Q-Wells.mxd)
6/12/2009 -- 3:13:02 PM

KEY

- ⊕ Production Well
- ▲ Monitoring Well
- 🟨 Stream Monitoring Location
- ⊗ Spring Location
- △ Discharge Point

Discharge

- 🟨 Gravity drainage through PVC piping
- ▬ Drainage via existing ditch or culvert pipe

ALPHA GEOSCIENCE

Alpha Project No. 07143

FIGURE 28

PUMPING DISCHARGE ROUTE

Well Q1 Pumping Test
Belleayre Resort

Fleischmanns, Delaware County, New York

Map Document: (Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\GIS\Discharge_Route_Q-Wells.mxd)
6/22/2009 -- 11:32:52 AM

Figure 29
Emory Brook
Water Level Data and Precipitation

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

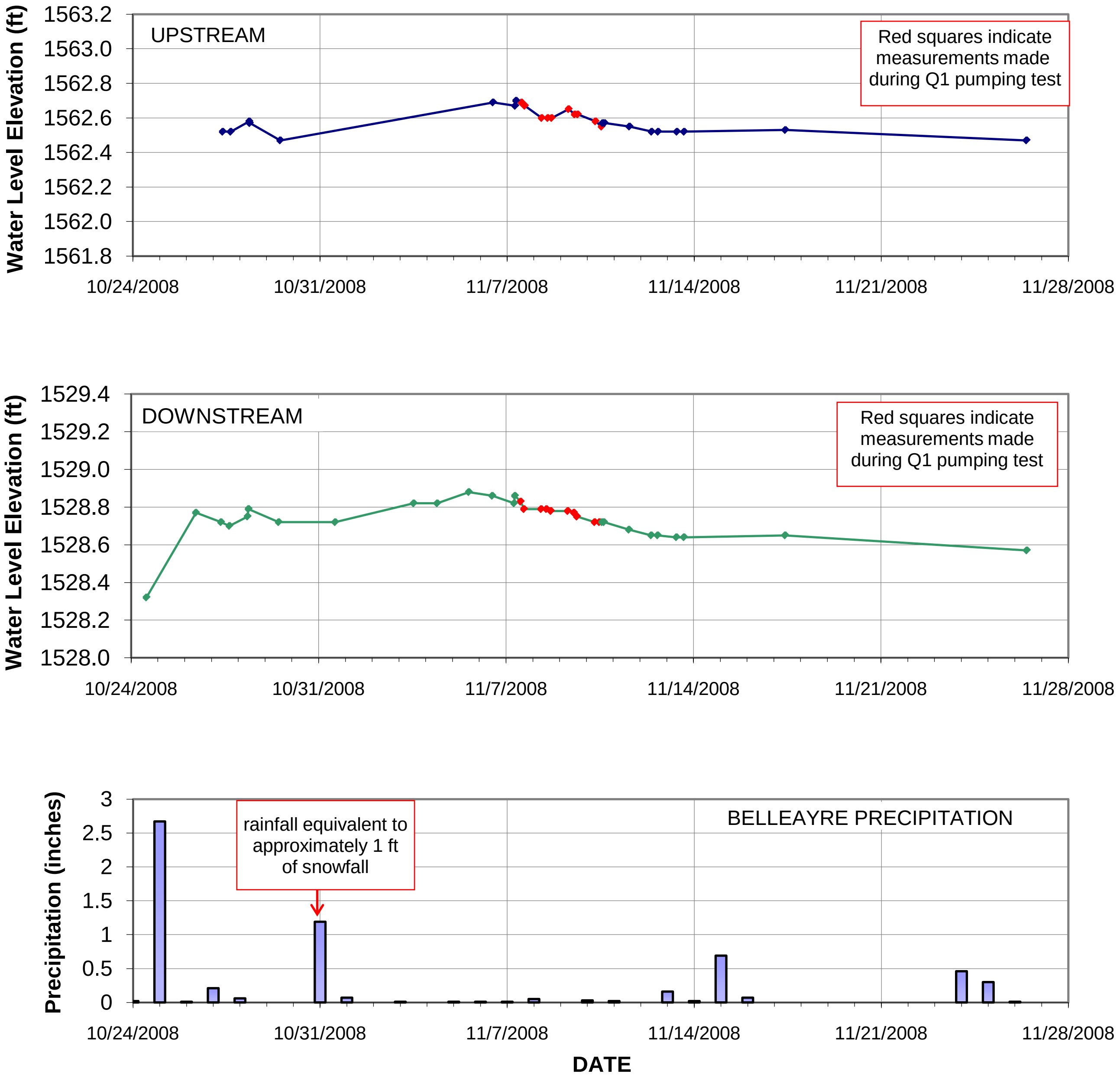
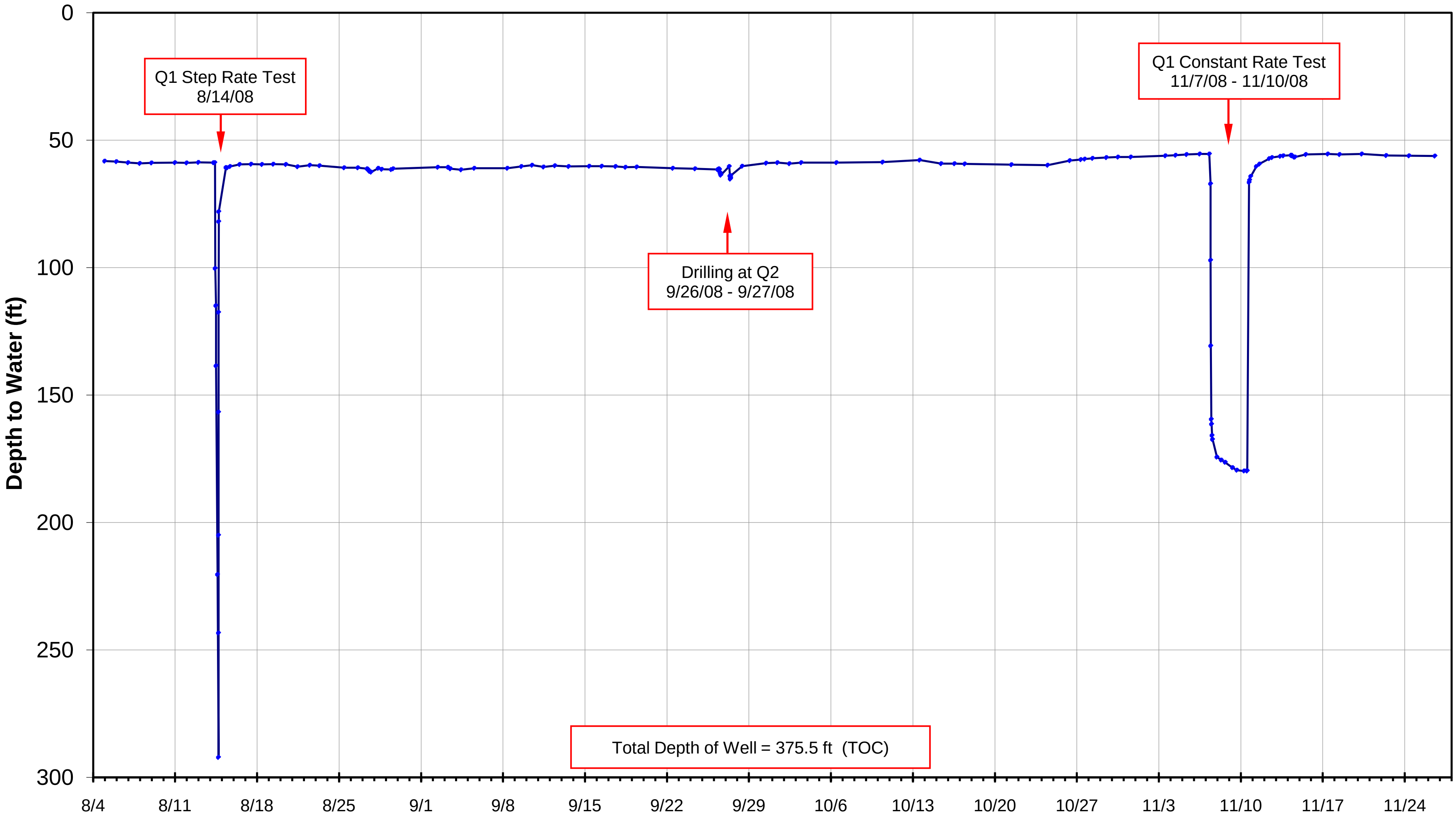


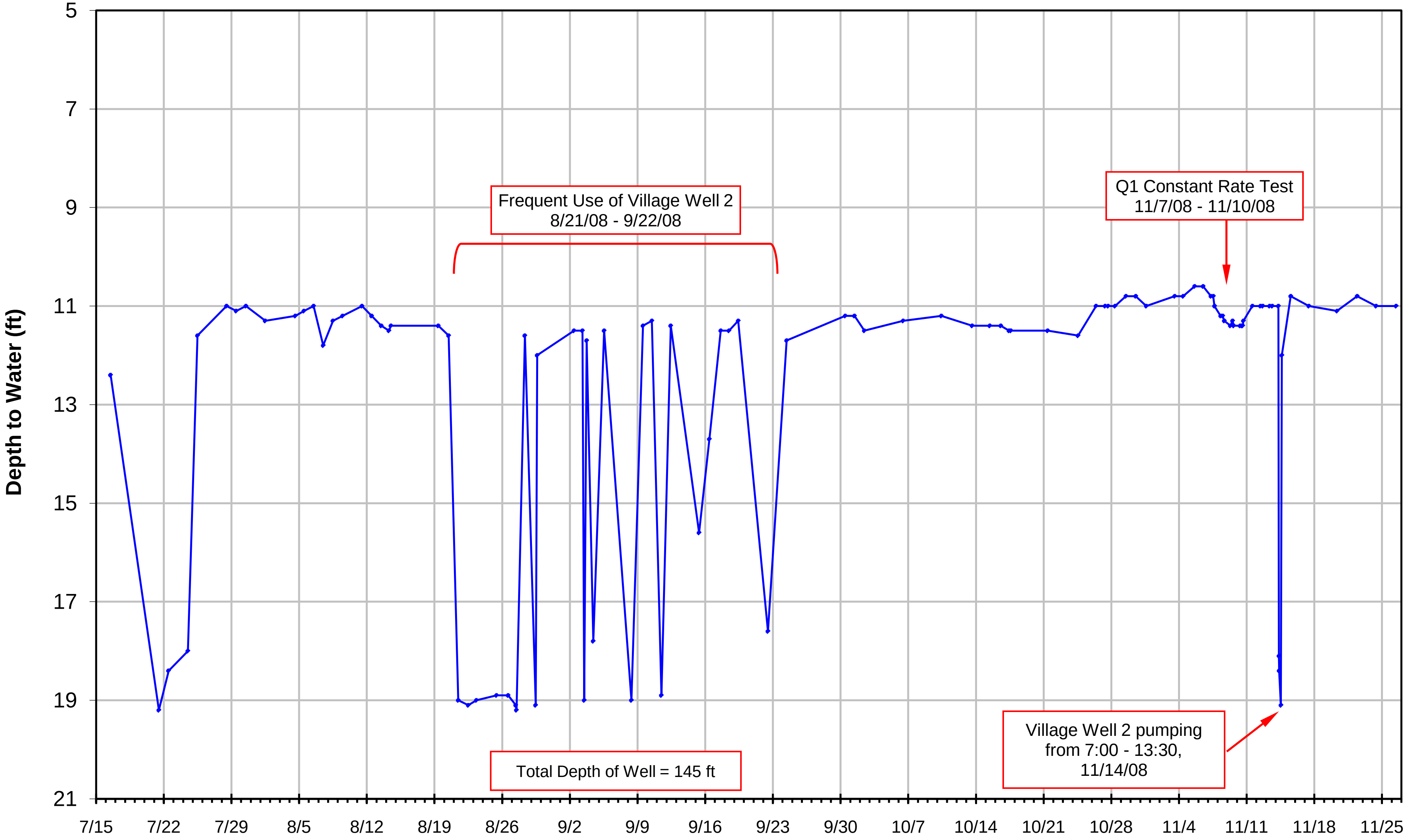
Figure 30
Well Q1
Linear Plot of Manual Water Level Data in 2008

Well Q1
Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Observation Wells WLs.xls\Q1 Graph

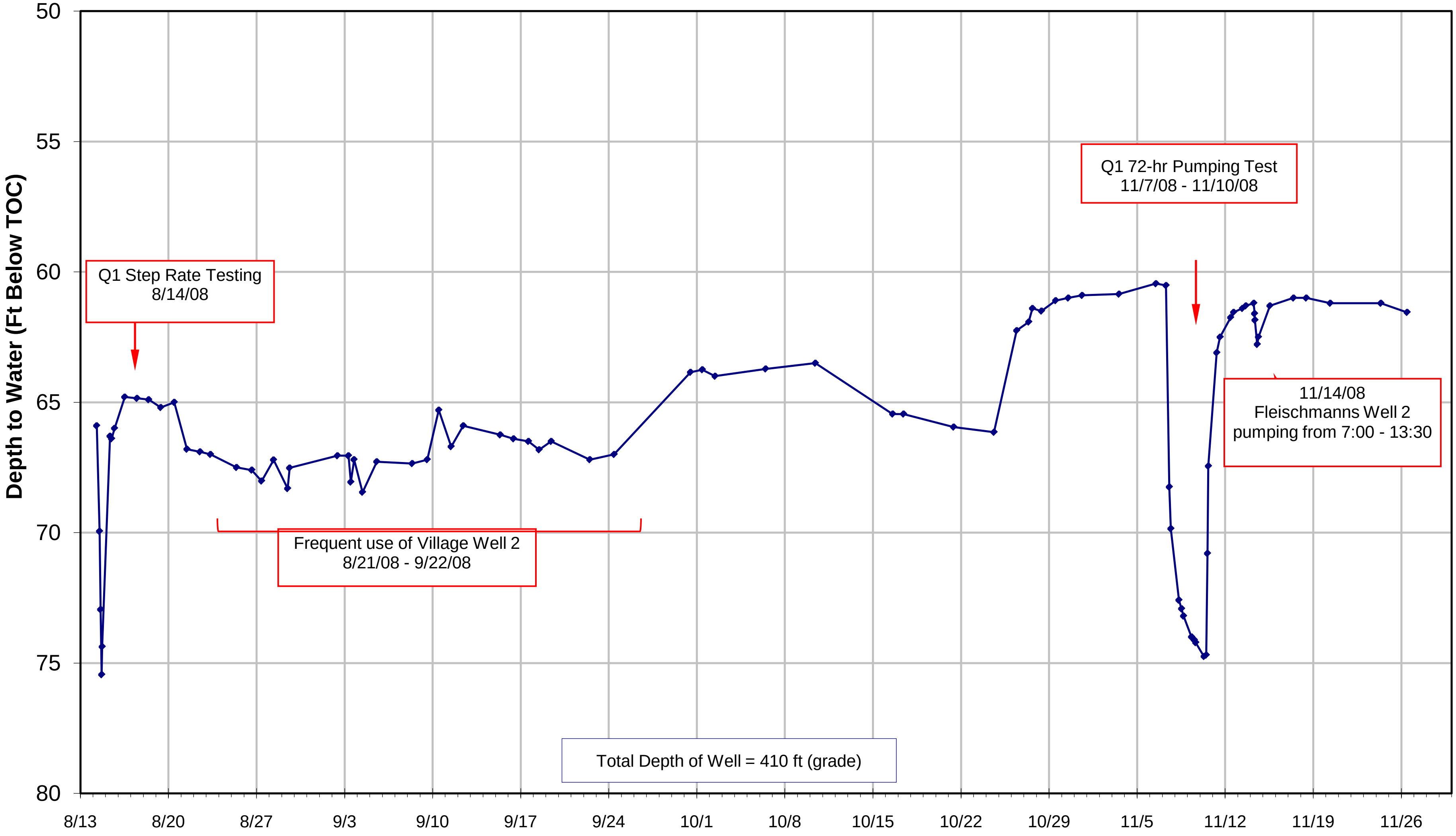
FIGURE 31
Village Well 1A
Linear Plot of Water Level Data in 2008
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Well 1A Manual WL Data.xls\1A Graph

FIGURE 32
Village Well 4
Linear Plot of Water Level Data in 2008

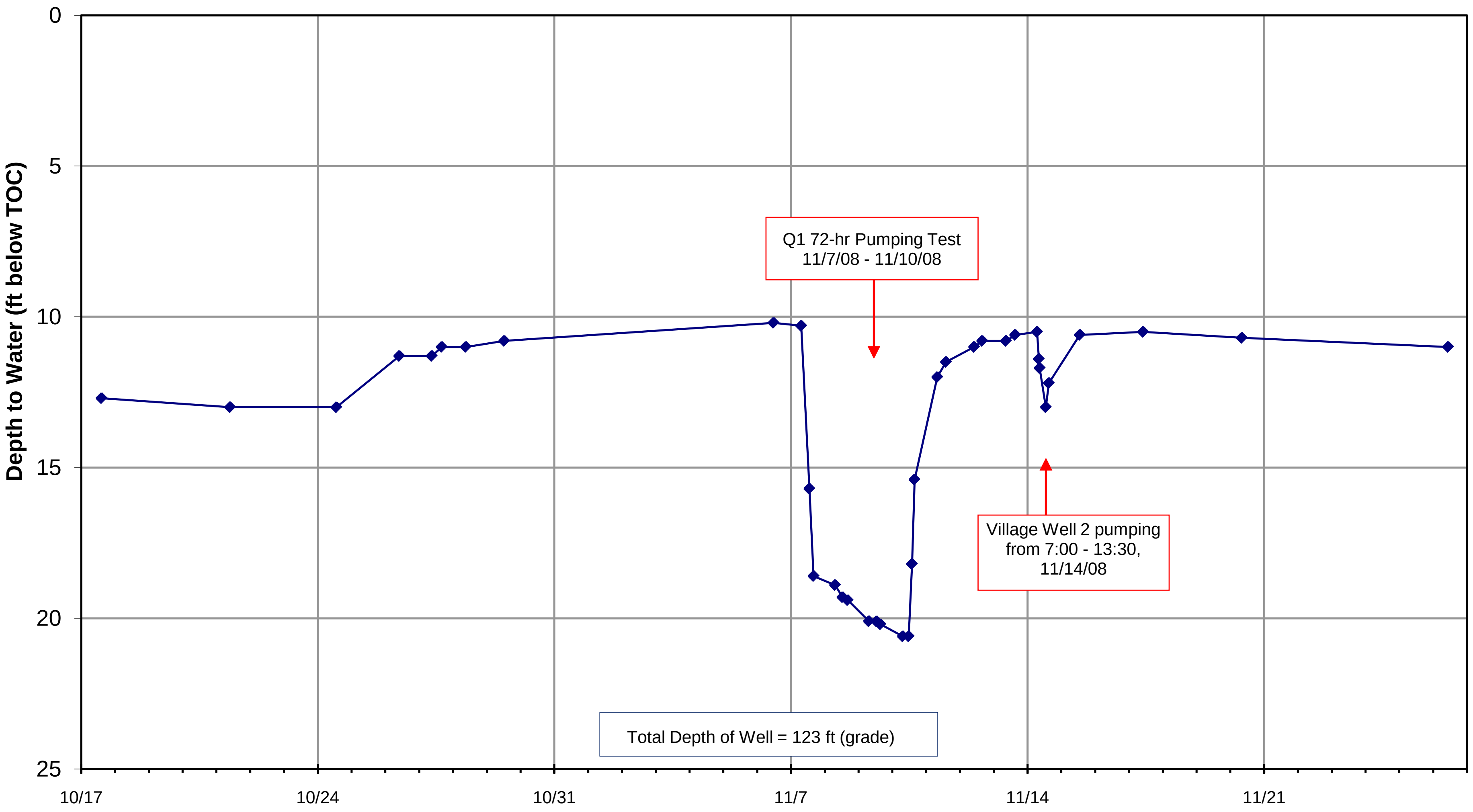
Well Q1 Constant Rate Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Observation Wells WLs.xls\4 Graph

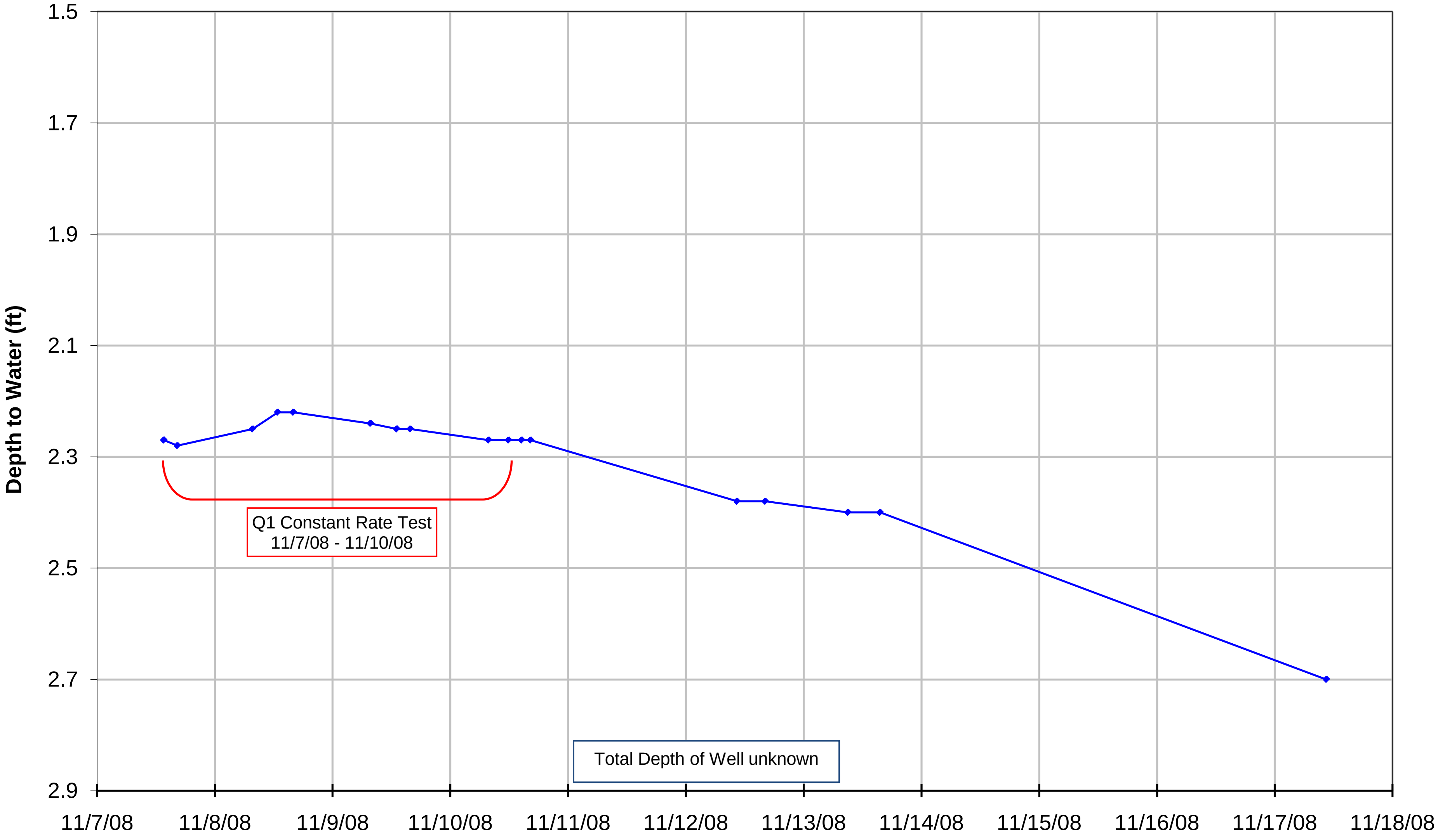
FIGURE 33
Realty Well
Linear Plot of Water Level Data in 2008

Well Q1 Constant Rate Test
Belleayre Resort at Catskill Park



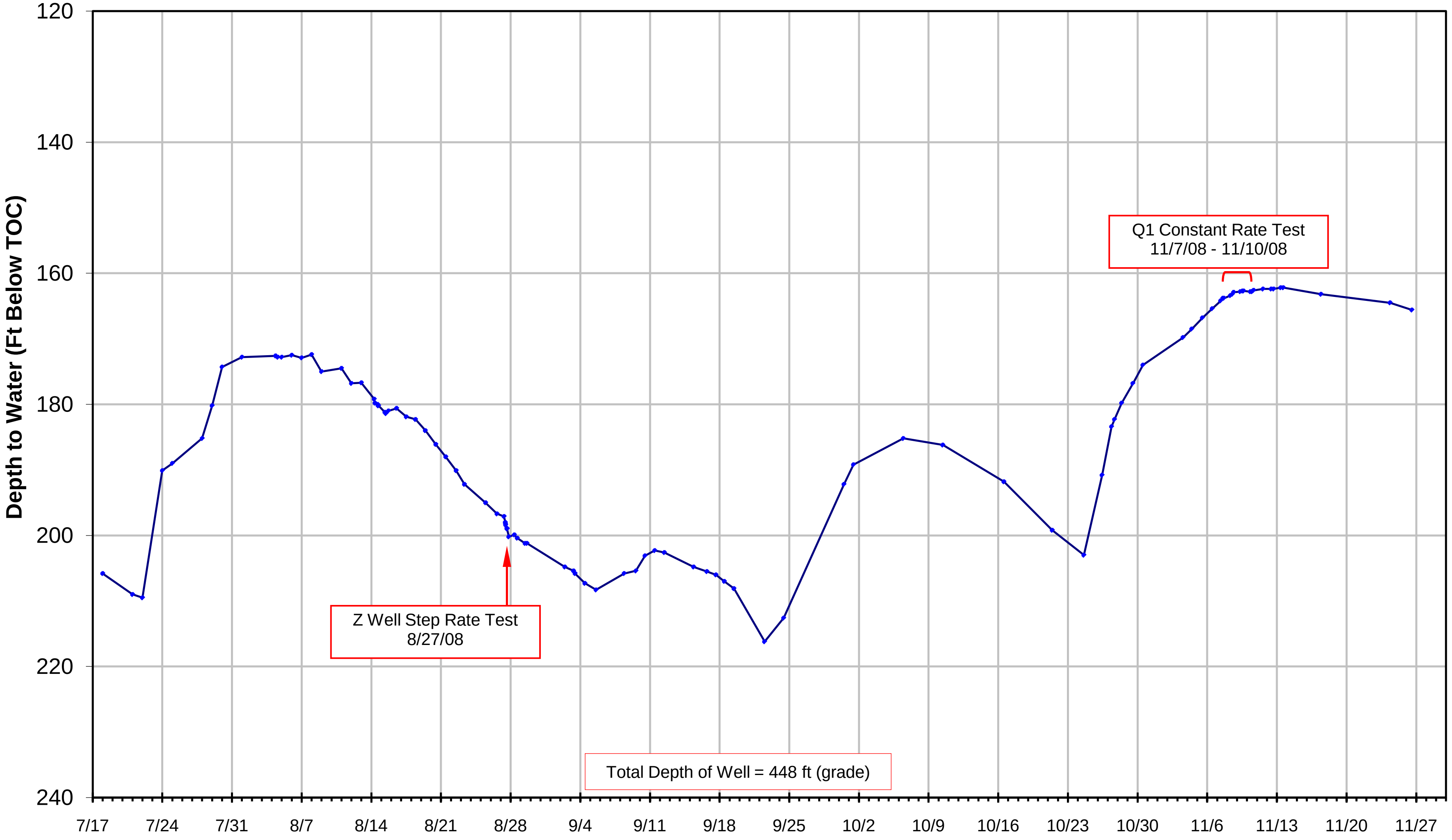
Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Observation Wells WLs.xls\Realty Graph

FIGURE 34
Moran Well
Linear Plot of Water Level Data in 2008
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



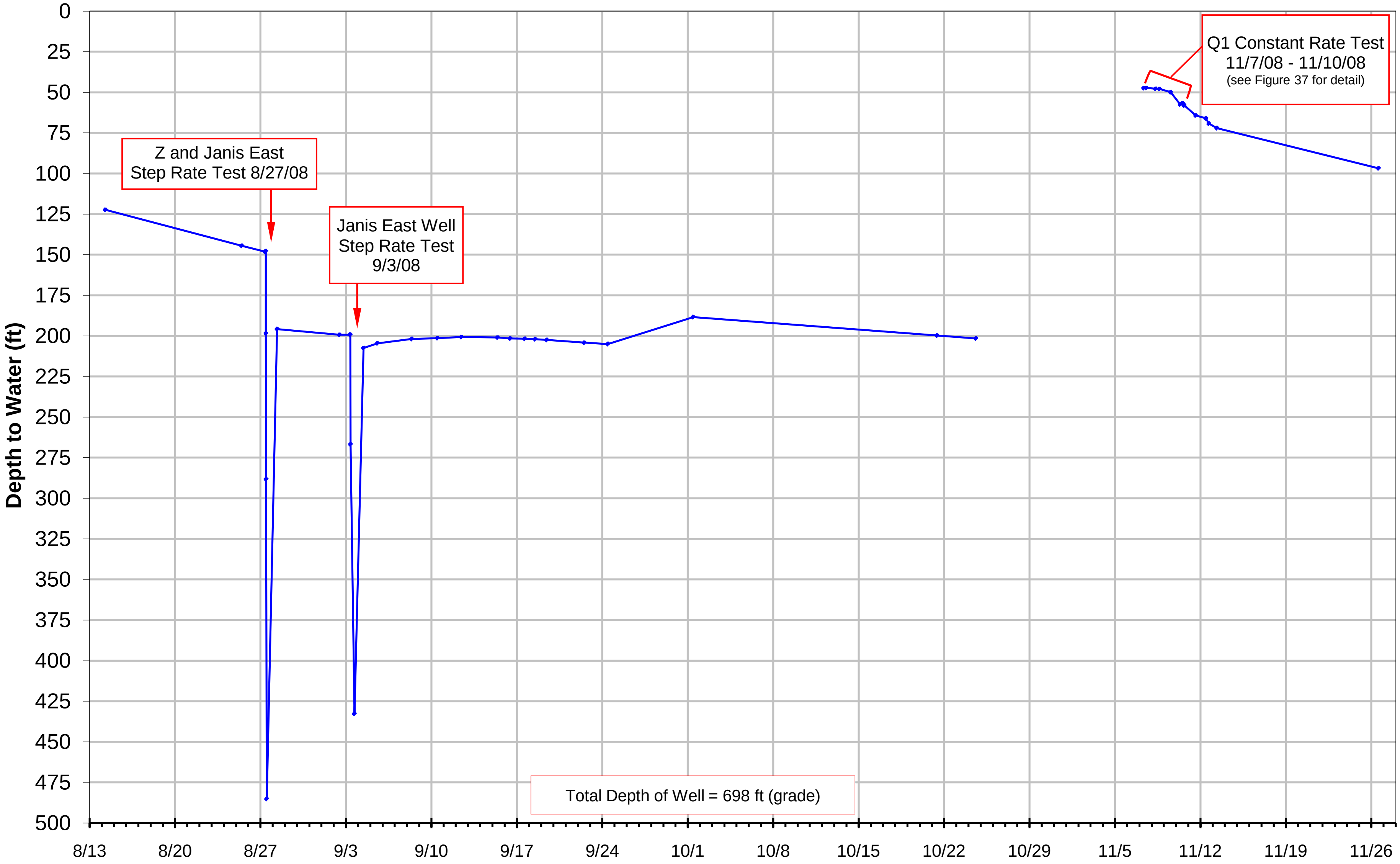
Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Moran Well - Manual WL Data.xls\Moran Graph

FIGURE 35
Dignes Well
Linear Plot of Water Level Data in 2008
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



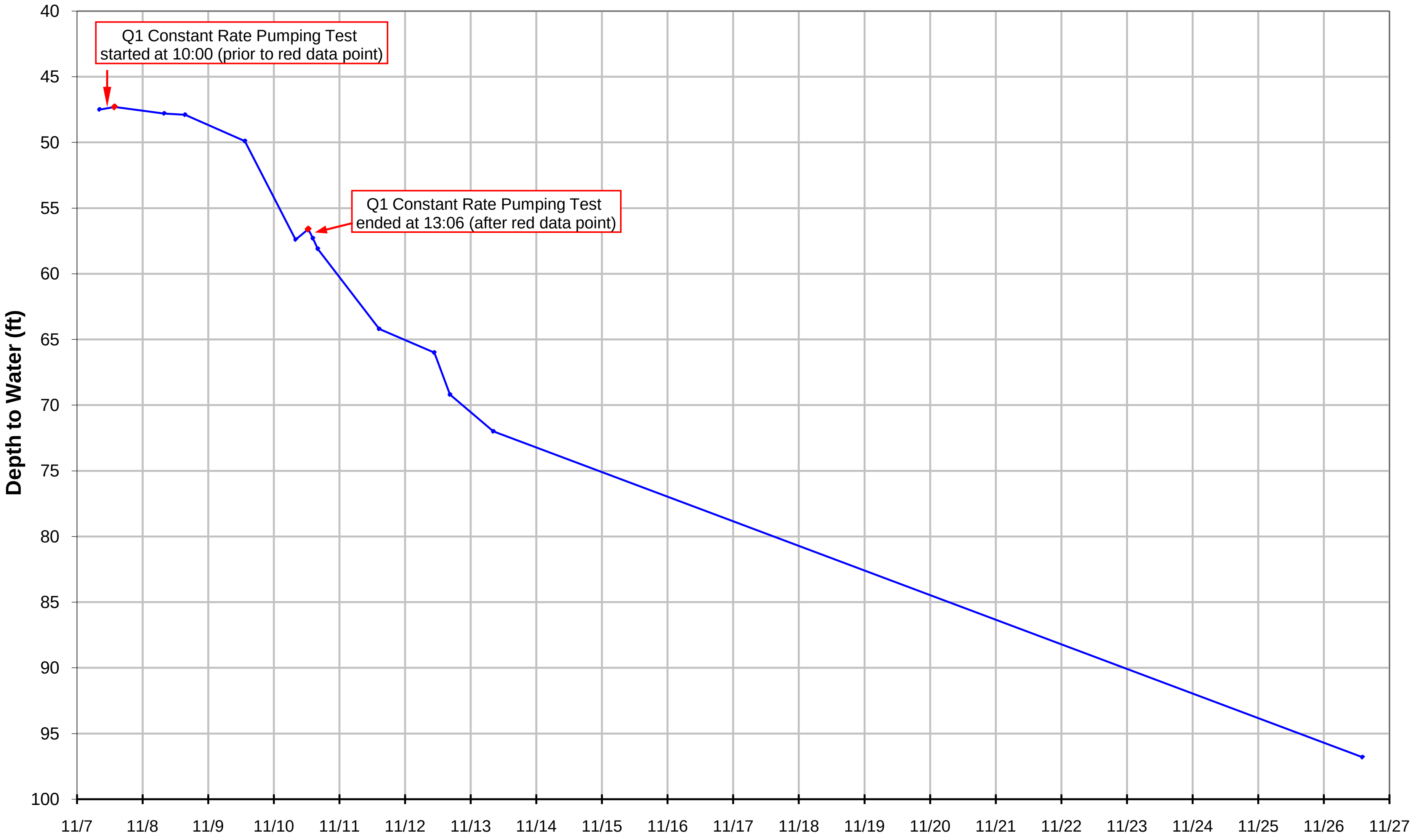
Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Observation Wells WLs.xls\Dignes Well Graph

FIGURE 36
Janis East Well
Linear Plot of Water Level Data in 2008
Well Q1 Constant Rate Pumping Test
Bellayre Resort at Catskill Park



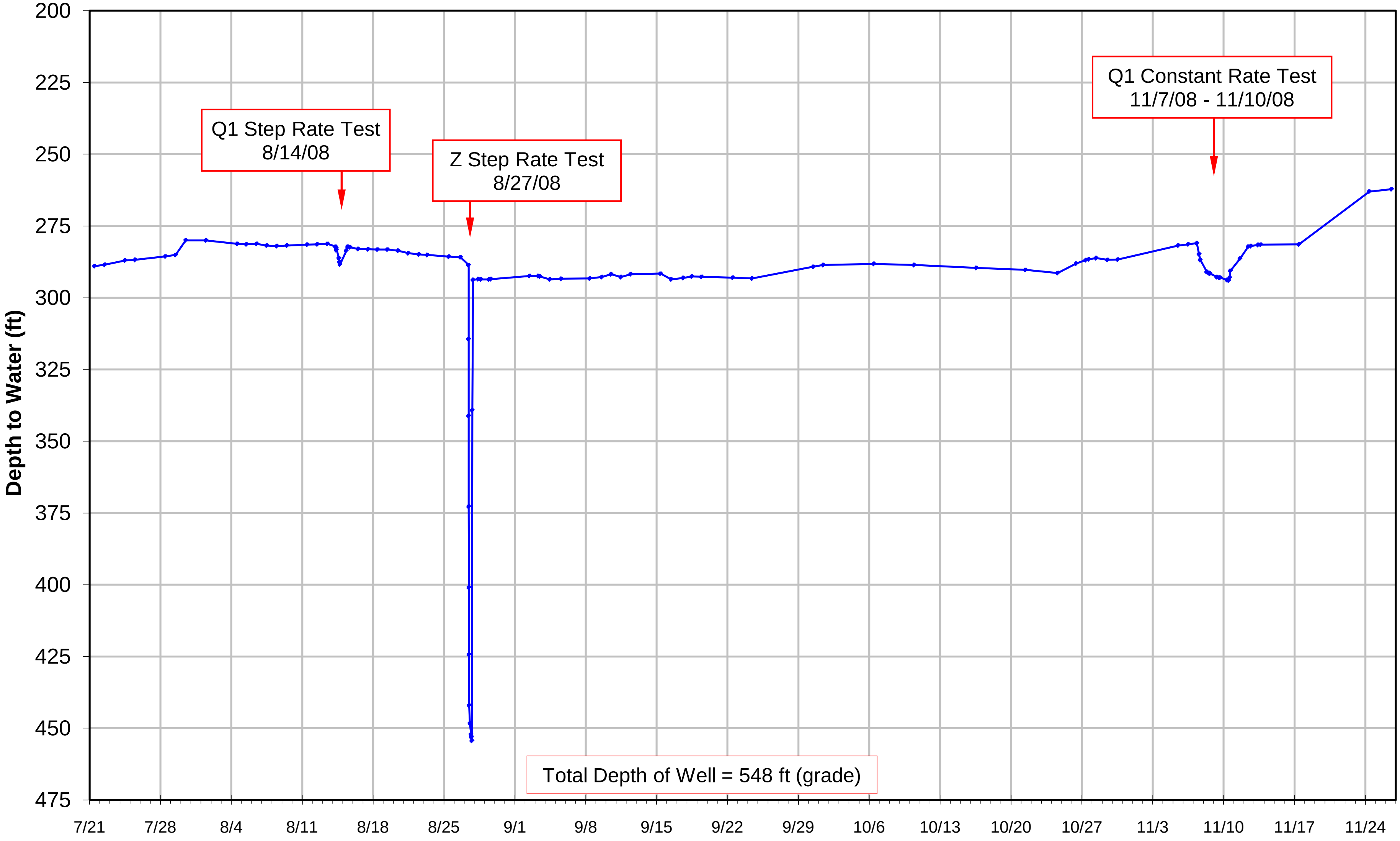
Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Janis East Well Manual WL Data.xls\Janis East 2008 graph

FIGURE 37
Janis East Well - Water Level Detail
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



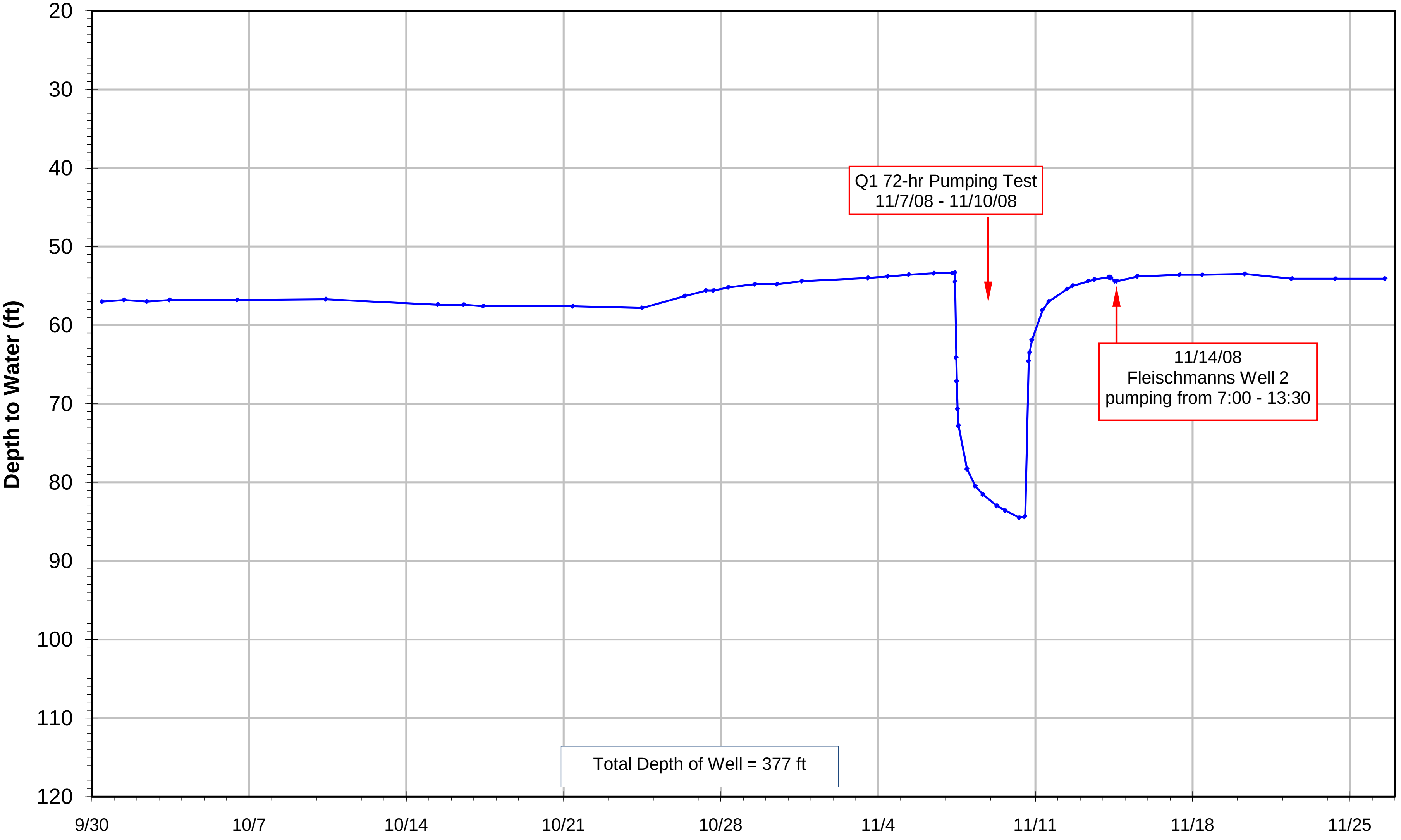
Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Janis East Well Manual WL Data.xls\Janis Graph during test

FIGURE 38
Z Well
Linear Plot of Water Level Data in 2008
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Z Well Manual WL Data.xls\Z Graph

FIGURE 39
Well Q2
Linear Plot of Water Level Data in 2008
Well Q1 Constant Rate Test
Belleayre Resort at Catskill Park



Q1 72-hr Pumping Test
11/7/08 - 11/10/08

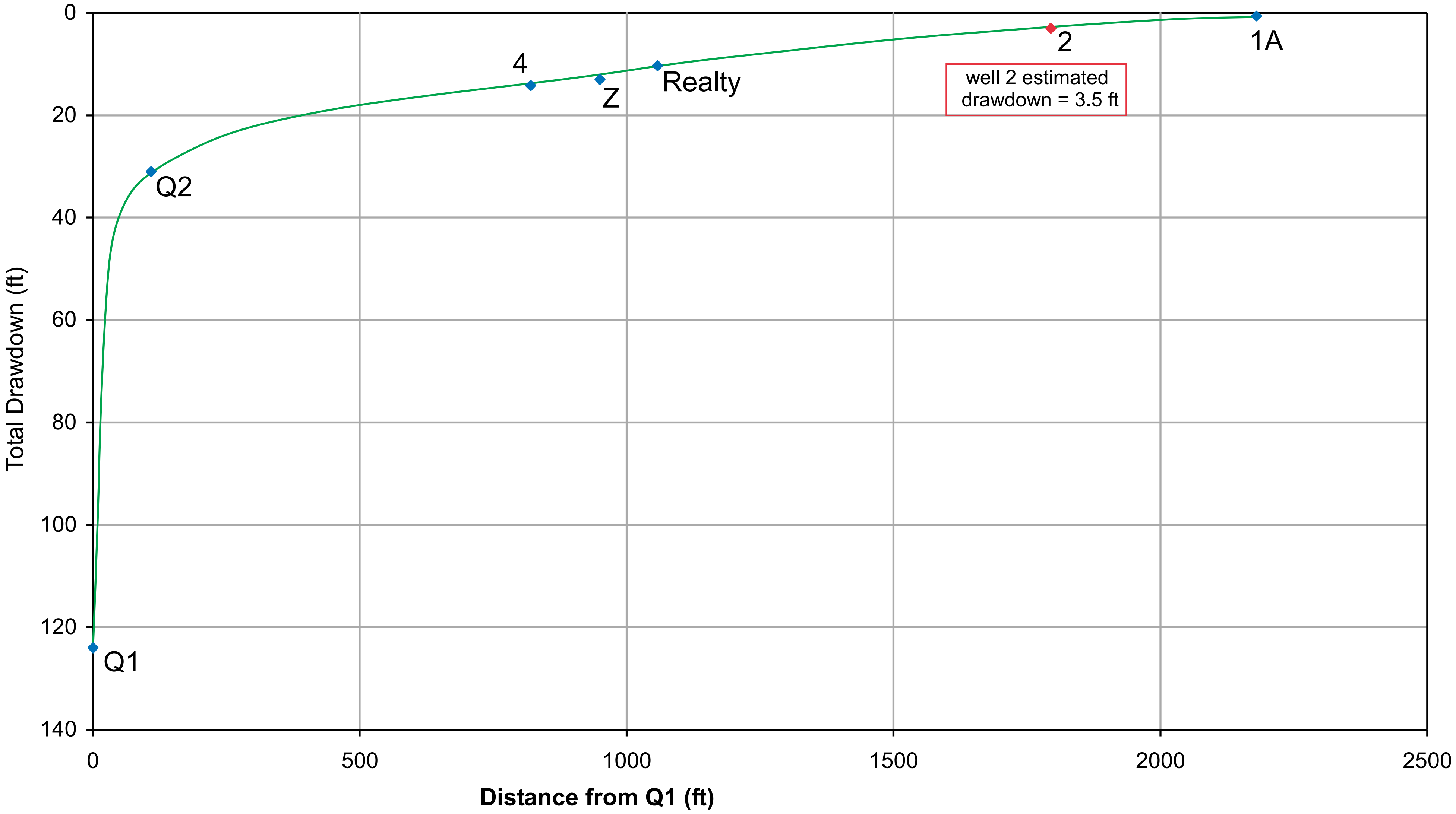
11/14/08
Fleischmanns Well 2
pumping from 7:00 - 13:30

Total Depth of Well = 377 ft

Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Q2 Manual WL Data.xls\Q2 2008 Graph

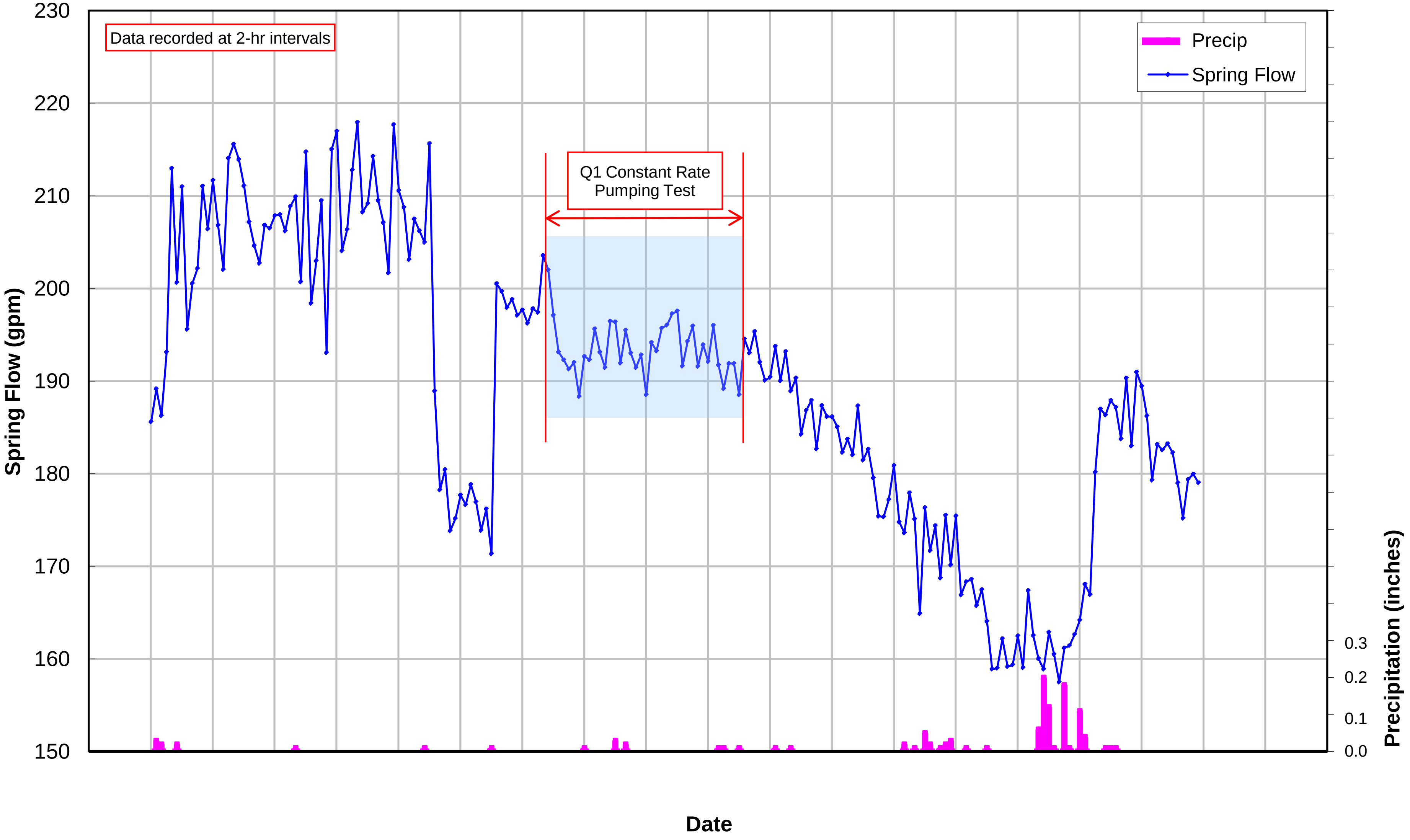
FIGURE 40
Distance vs. Drawdown
Q1 Pumping at 45 gpm

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



08136 - Belleayre Q Wells\Q1 Distance Drawdown.cvx

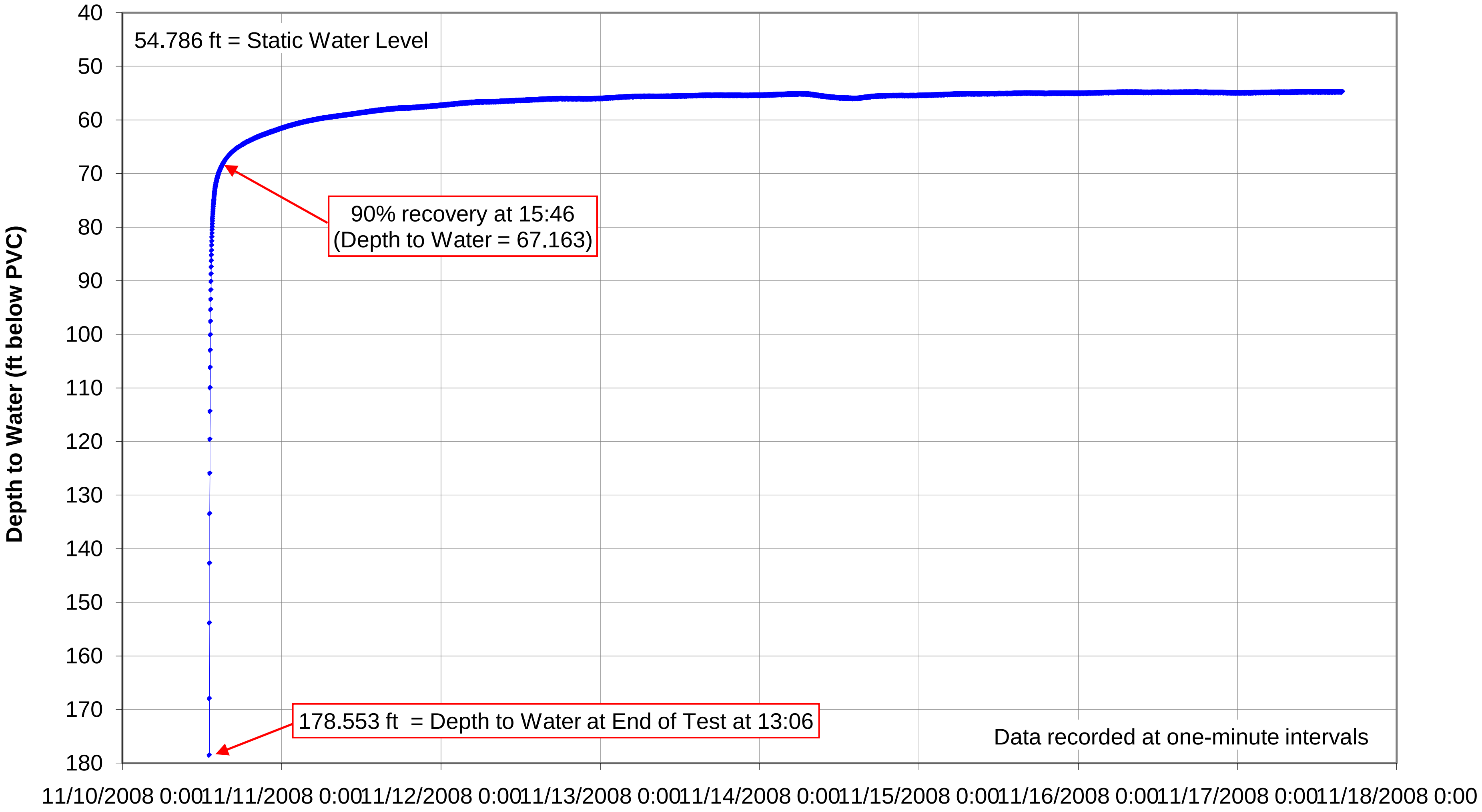
FIGURE 41
Fleischmanns Spring Flow
Well Q1 Constant Rate Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Fleischmanns Spring\SpringA - 6_24_08 to 11_05_08.xls\Springflow and Precip

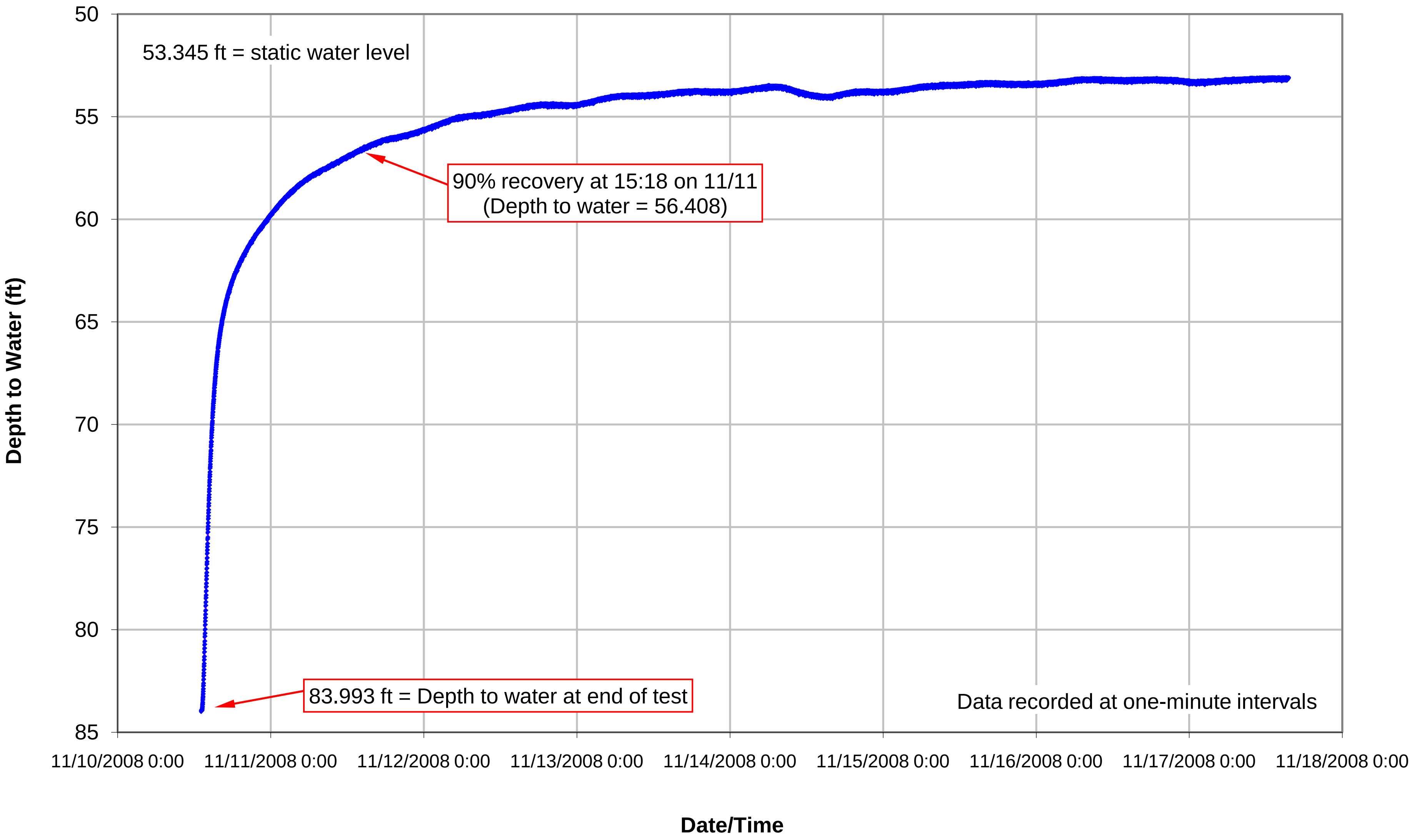
FIGURE 42
Well Q1 Recovery

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



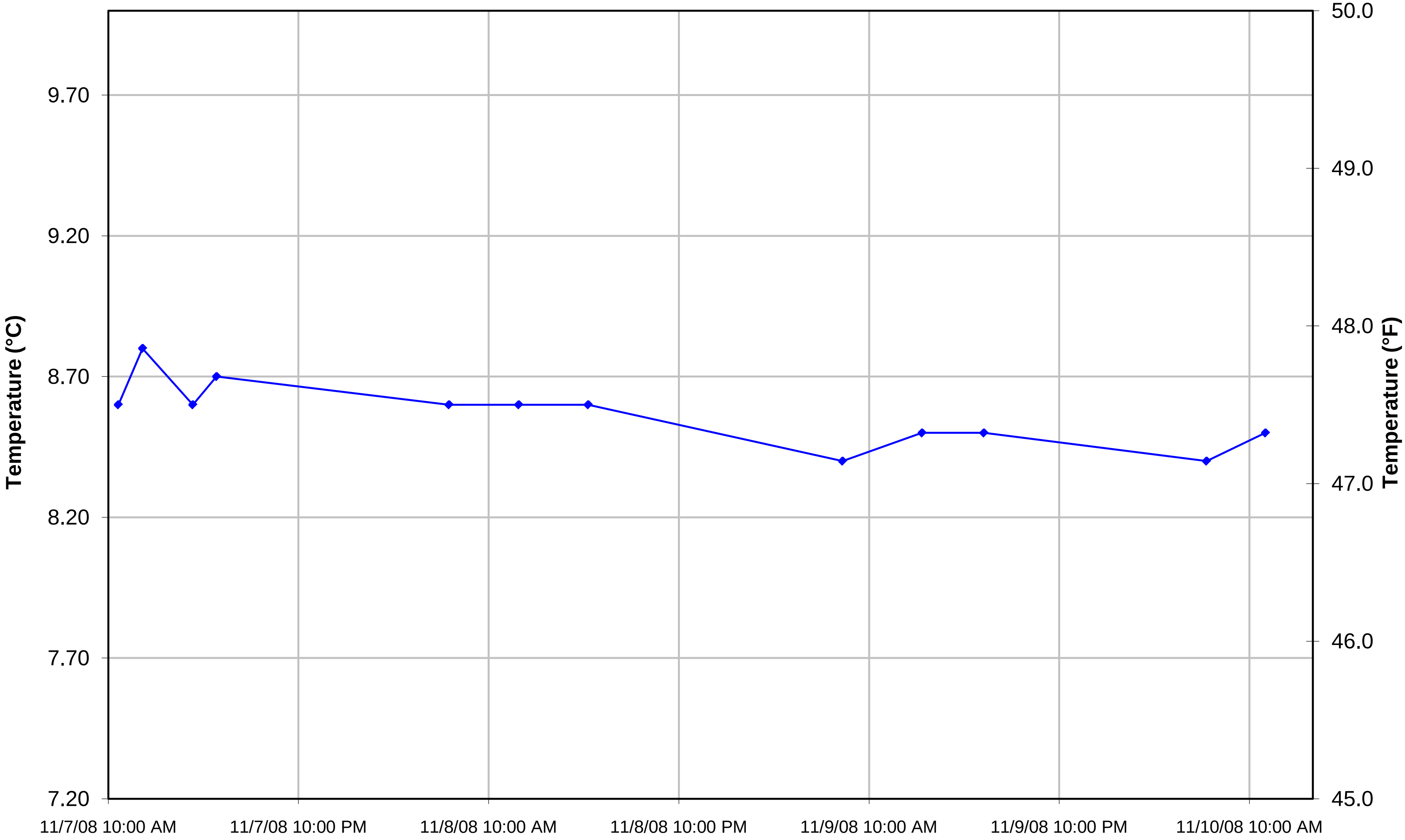
Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Q1 180-day projection.xls\Q1 Recovery

FIGURE 43
Well Q2 Recovery
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Q1-Q2 Field WL Data\Well Q2 - Q1 72hr CR Test2 2008-11-07.xls\Q2 Recovery

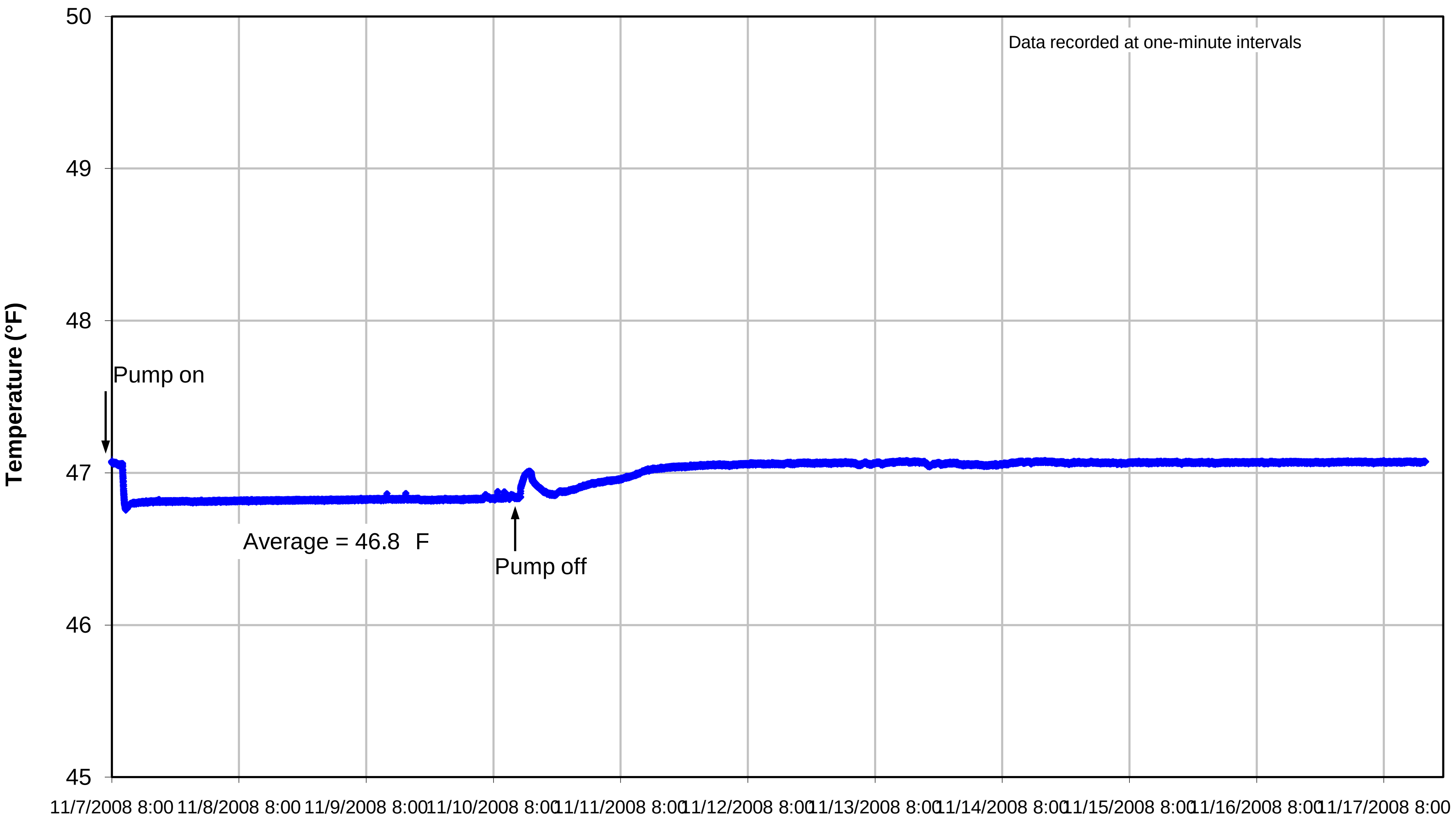
FIGURE 44
Well Q1 Discharge Water Temperature
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\WQ Well Q1.xls\Q1 Field °F Graph

FIGURE 45
Well Q1 Downhole Water Temperature

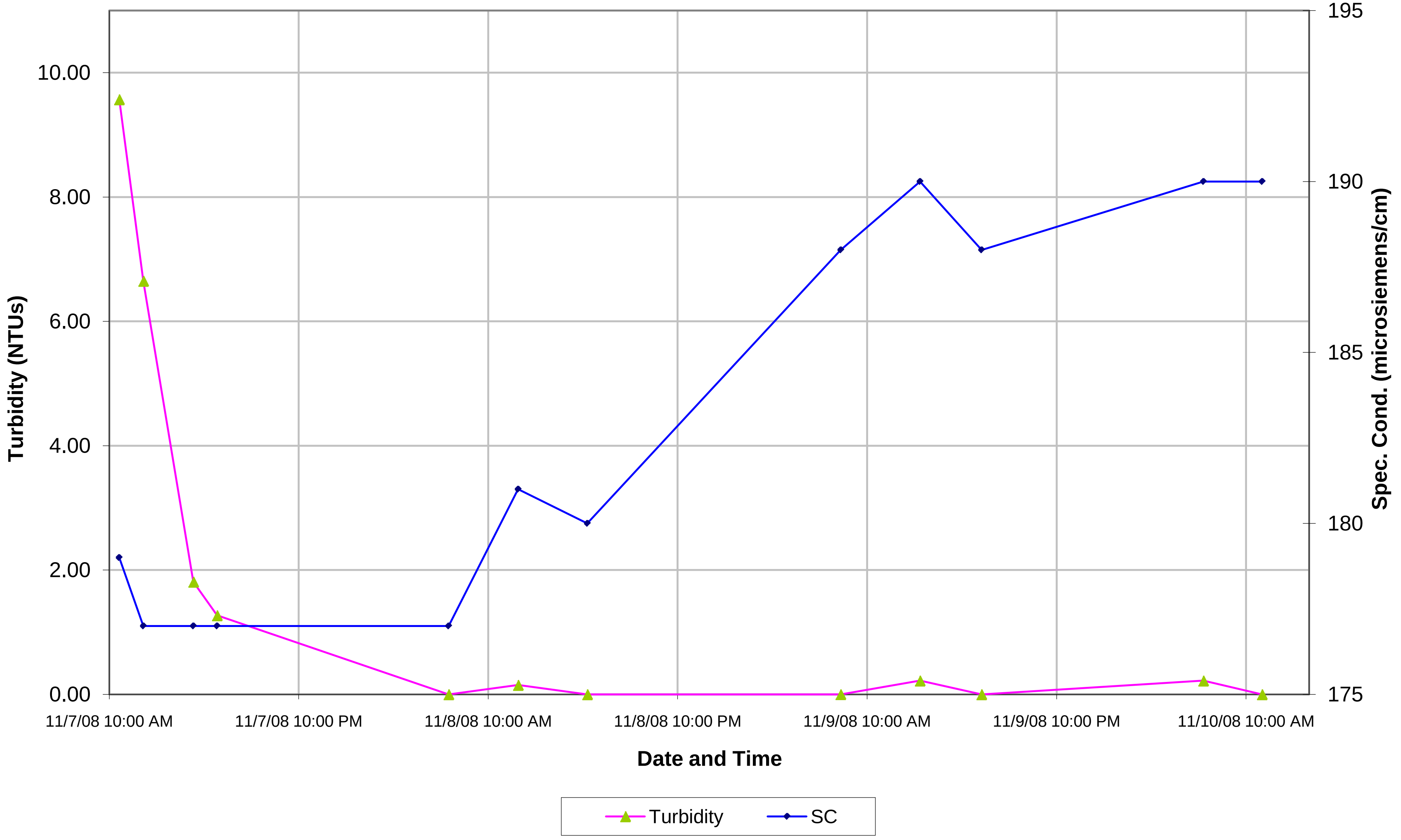
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Q1-Q2 Field WL Data\Well Q1 - Q1 CR Test2 2008-11-07.xls\Q1 XD °F Graph

FIGURE 46
Well Q1 Turbidity and Specific Conductivity

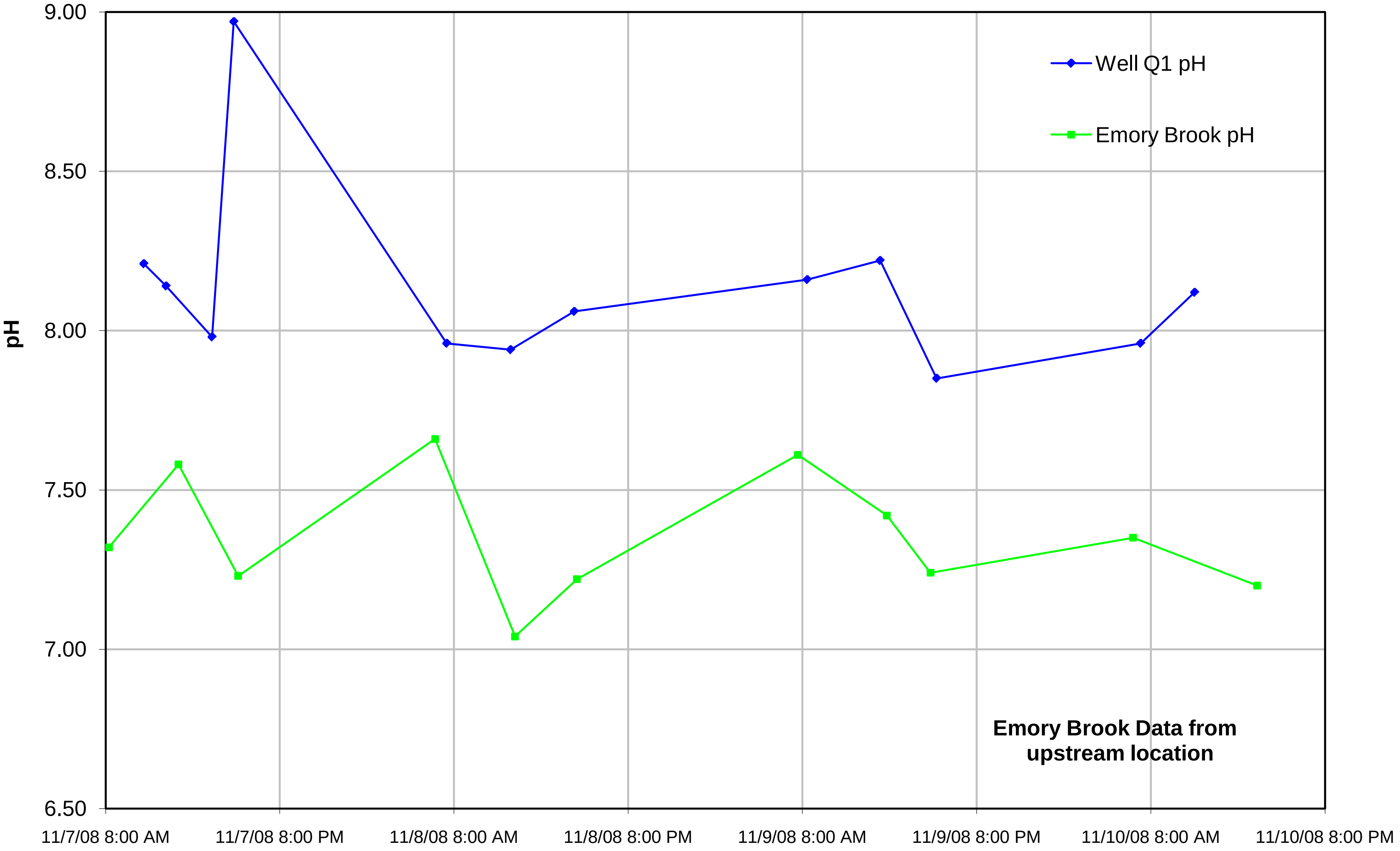
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\WQ Well Q1.xls\Q1 SC and Turb Graph

FIGURE 47
Well Q1 pH vs. Emory Brook pH

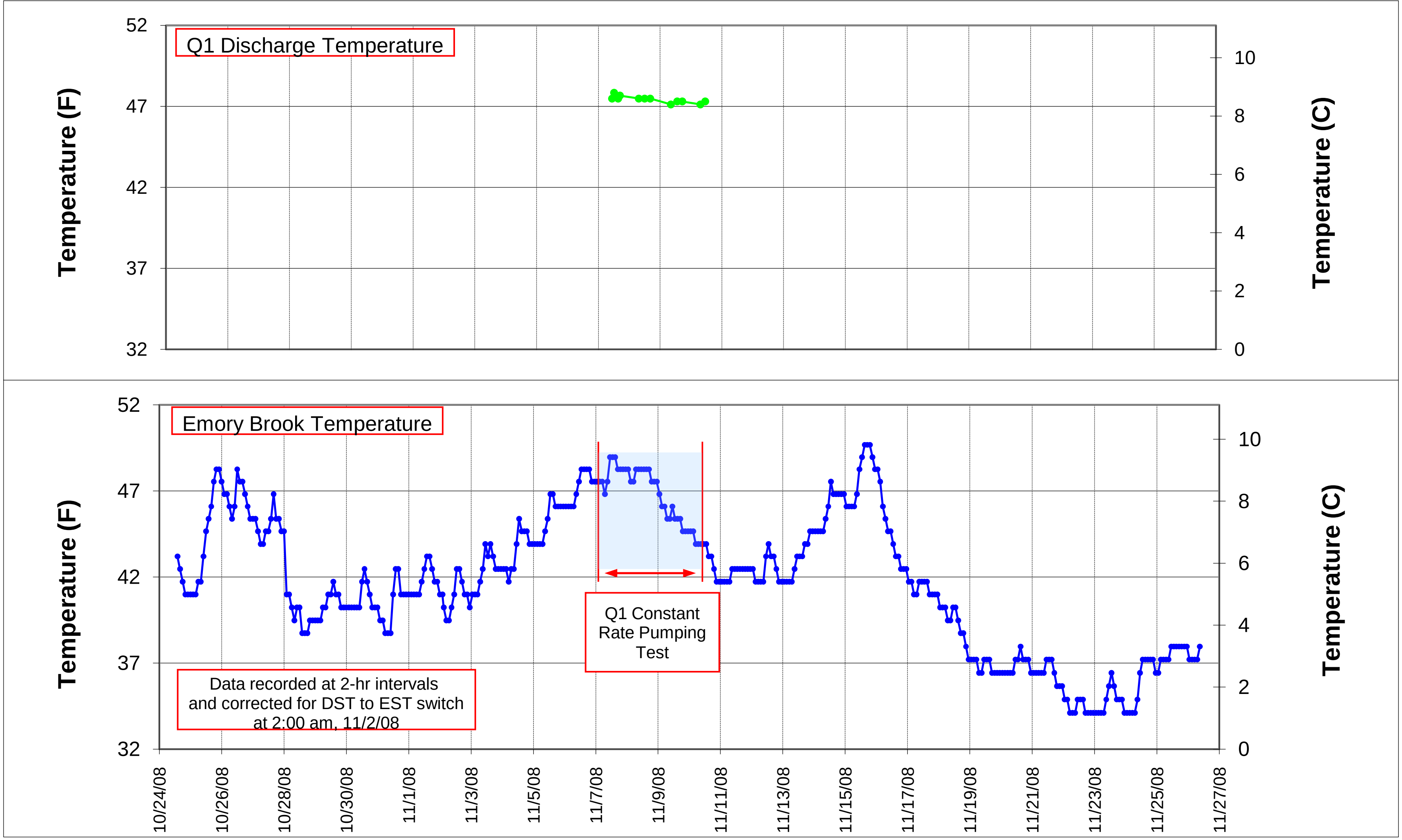
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\WQ Emory vs Q1.xls\Q1 v Emory pH

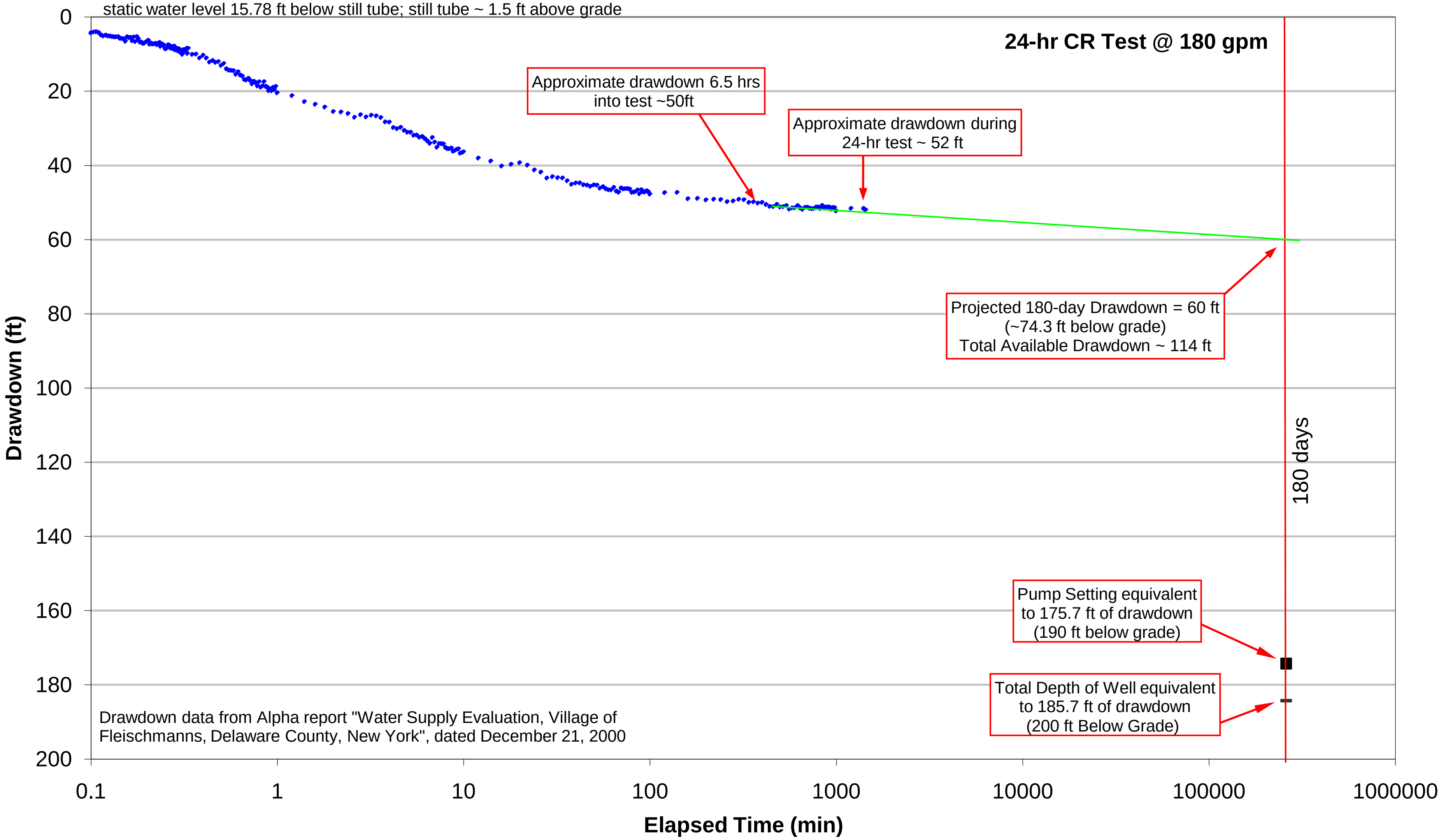
FIGURE 48
Emory Brook Temperature Data from Automated Logger

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\HOBO Data\Emory Brook Stream Temp Logger.xls\Graphs

FIGURE 49
Village Well 2
Semi-log Plot of Drawdown Data
November 14-15, 2000



static water level 15.78 ft below still tube; still tube ~ 1.5 ft above grade

Approximate drawdown 6.5 hrs into test ~50ft

Approximate drawdown during 24-hr test ~ 52 ft

Projected 180-day Drawdown = 60 ft
(~74.3 ft below grade)
Total Available Drawdown ~ 114 ft

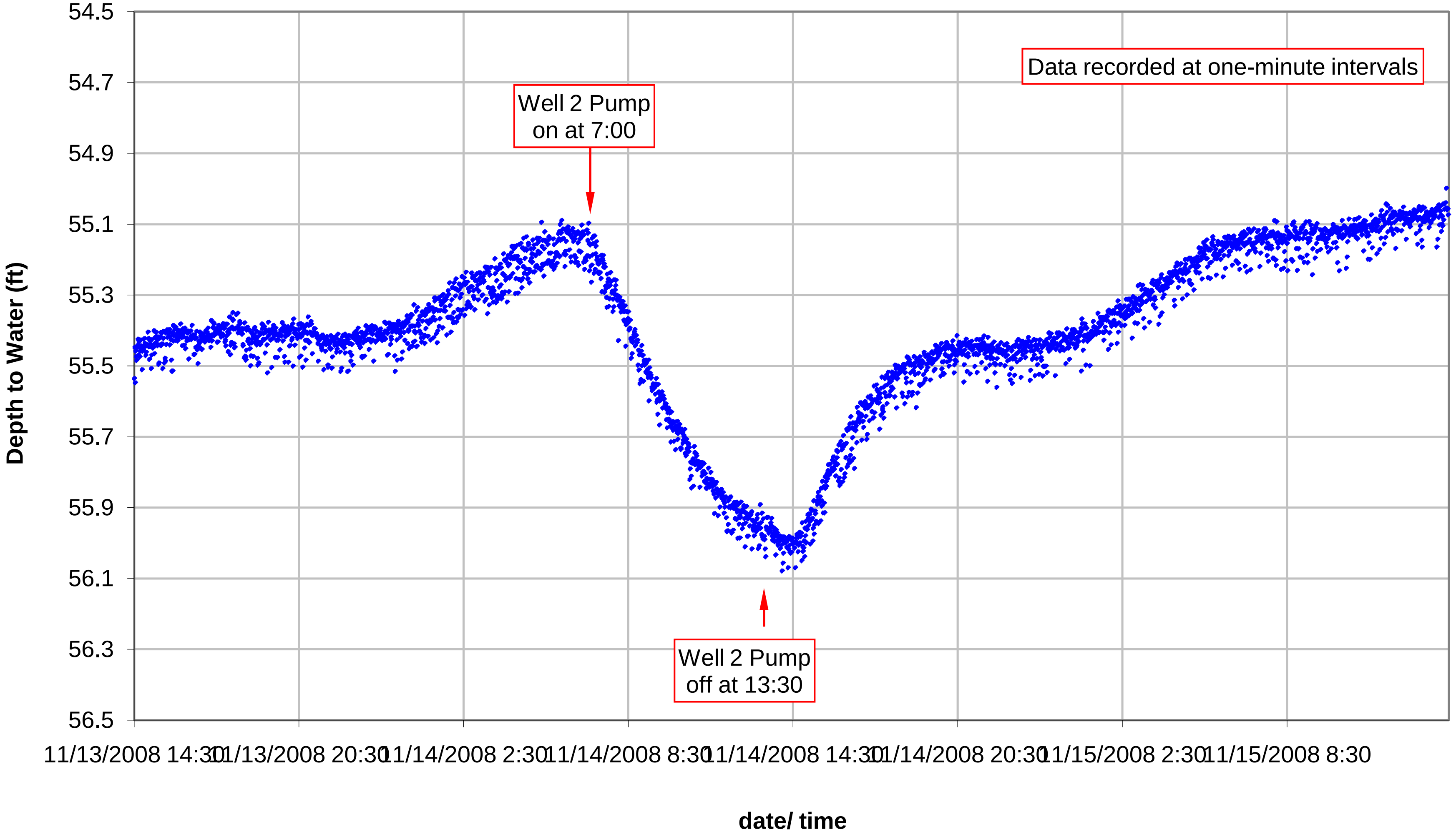
Pump Setting equivalent to 175.7 ft of drawdown (190 ft below grade)

Total Depth of Well equivalent to 185.7 ft of drawdown (200 ft Below Grade)

Drawdown data from Alpha report "Water Supply Evaluation, Village of Fleischmanns, Delaware County, New York", dated December 21, 2000

FIGURE 50
Well Q1 Response to Pumping at Well 2
Linear Plot of Transducer Water Level Data

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Q1 180-day projection.xls\Fig 50 - Well 2 Influence

FIGURE 50A
Well Q1 Response to Pumping at Well 2
Semi-Log Plot of Transducer Data

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park

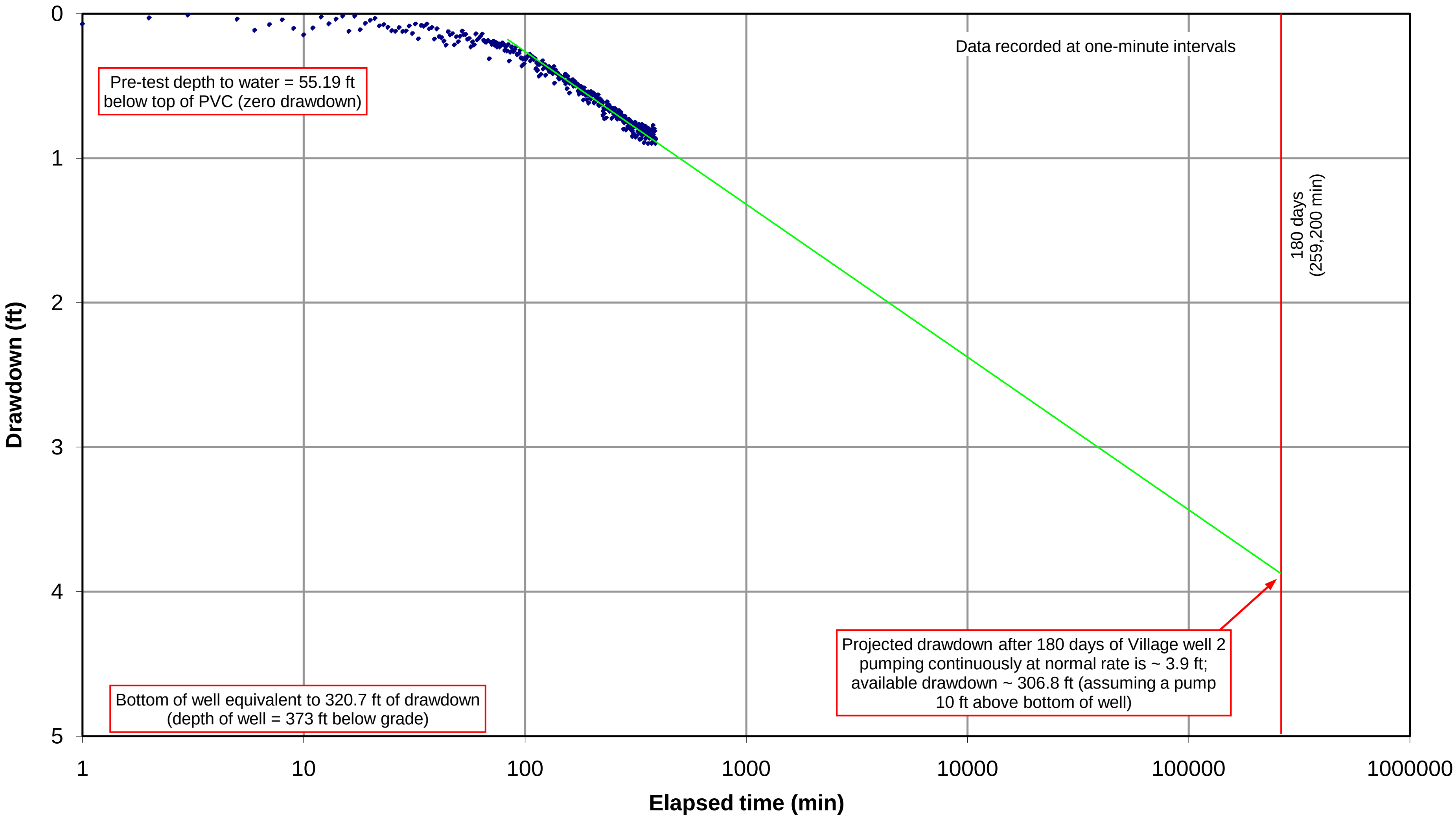
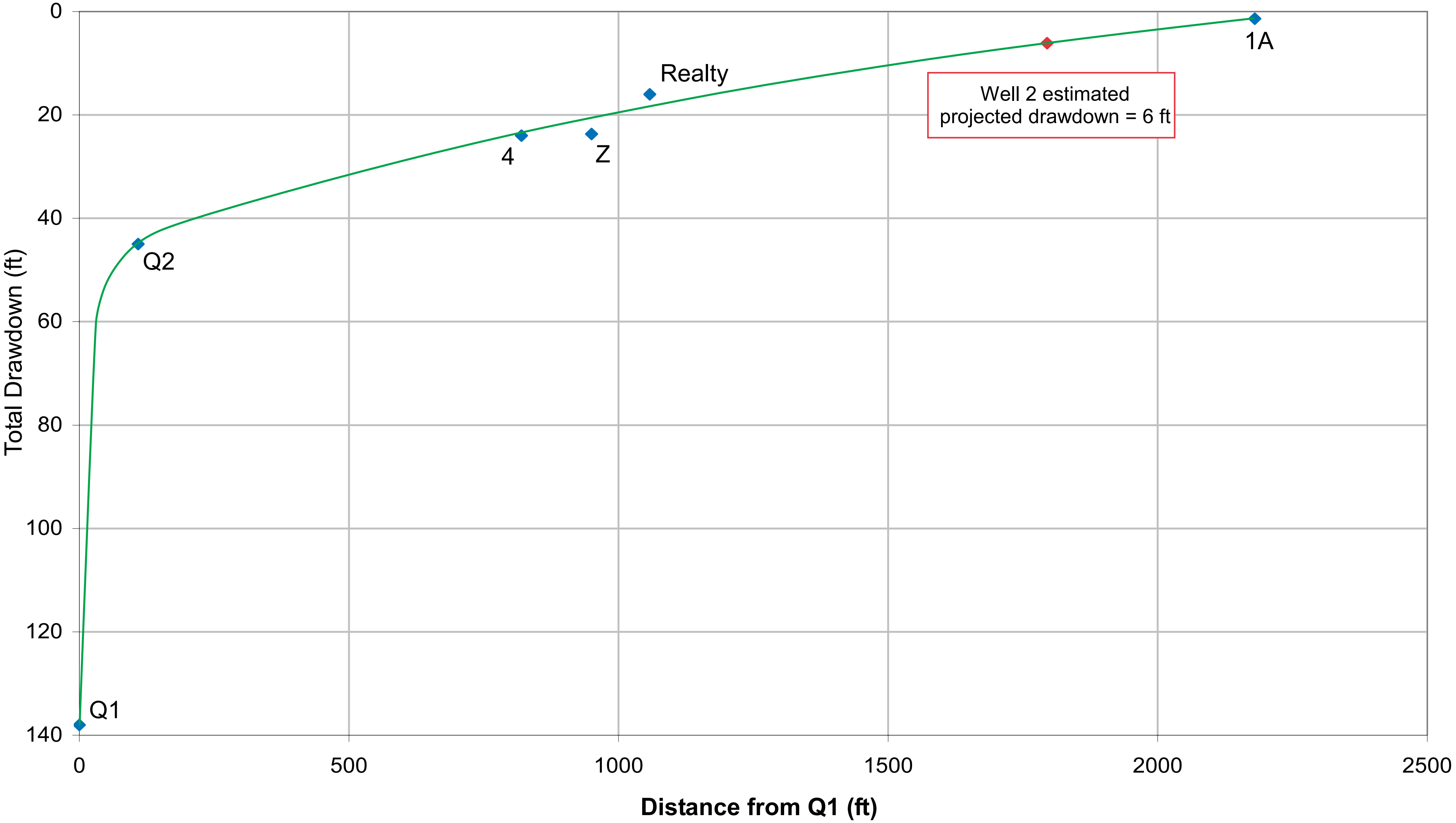


FIGURE 51
Distance vs. Projected Drawdown
Q1 Pumping at 45 gpm

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



APPENDIX A

Pumping Test Protocol

K Well Tests

PUMPING TEST PROTOCOL

BELLEAYRE RESORT K-WELLS

Prepared for:

Crossroads Ventures LLC
72 Andrew Lane Road
Mt. Tremper,New York12457

September 14, 2007

ALPHA
GEOSCIENCE

ALPHA
GEOSCIENCE
Geology
Hydrology
Remediation
Water Supply

PUMPING TEST PROTOCOL

BELLEAYRE RESORT K-WELLS

Prepared for:

Crossroads Ventures LLC
72 Andrew Lane Road
Mt. Tremper, New York 12457

Prepared by:

Alpha Geoscience
679 Plank Road
Clifton Park, NY12065

September 14, 2007

TABLE OF CONTENTS

1.0 INTRODUCTION

This pumping test protocol is for the testing of the K-series wells (K-wells) located on the west side of Todd Mountain Road in the Village of Fleischmanns, Delaware County, New York. The pumping test is being undertaken by Crossroads Ventures LLC to develop a water supply for the proposed Belleayre Resort at Catskill Park. The locations of the K-wells (K1 through K4) are shown on Figure 1. The well driller's logs for the four K-wells are contained in Appendix A. Only three of the four K-wells are planned for use as water supply wells for the project: K2, K3, and K4.

The objectives of the testing are to determine the sustainable yield of wells K2, K3, and K4 and to assess the potential effects of pumping those wells on nearby residential wells, the Fleischmanns' municipal water supply, Todd Mountain Brook, Emory Brook, and the Bush Kill. The detailed protocol provided herein follows the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) requirements as set forth in Exhibit G, Section B, of the Agreement in Principle.

2.0 KEY ELEMENTS OF PUMPING TEST

The pumping test will consist of:

- Monitoring of water levels in bedrock pumping wells, bedrock observation wells, local streams (Emory Brook, Todd Mountain Brook and the Bush Kill), and a shallow well point,
- Monitoring precipitation at the K-well field,
- Down-hole conductivity and temperature profiling of the K-wells,
- Step-rate pumping of three K-wells (K2, K3, and K4),
- Simultaneous, constant-rate pumping of three K-wells (K2, K3, and K4),
- Simultaneous, constant rate/stable level pumping of the three K-wells, if necessary,
- Monitoring of surface water and ground water quality,
- Monitoring of water level recovery, and

- Surveying the elevations of all monitoring locations.

3.0 WATER LEVEL MONITORING

Water levels will be measured starting at least 2-weeks prior to any pumping of the K-wells, continuing throughout the pumping tests, and ending at least one week following the completion of the constant rate pumping, or after 90 percent of the water level recovery has been achieved in all of the pumping wells if it takes more than a week for 90 percent recovery to be achieved. Water level measurements will be made in all four K-wells, in three bedrock residential wells (Combs, Banks, Mansion), in four wells owned by the Village of Fleischmanns, (Fleischmans 1a, 3, 4 and Trailer) in a well point (WP-1) adjacent to well K1, at one location in Emory Brook, three locations in Bush Kill, and at two locations in Todd Mountain Brook. All of those monitoring locations are shown on Figure 1.

3.1 Monitoring of Pumping Wells

Water levels will be measured approximately once per day in pumping wells K2, K3 and K4 starting at least 2 weeks prior to any pumping. Each of these wells will be outfitted with pressure transducer/data loggers (transducers) automated to record measurements during the pumping test phases. These devices will measure and record the level to the nearest 0.01 ft in time steps of increasing measuring intervals for the 72-hour constant rate pumping test and the water level recovery phase. The water level measuring schedule recorded by the data loggers in the pumping wells will be as follows (or more frequent):

Time after Pumping Started/Stopped	Time Between each Successive Measurement
0 – 10 minutes	1 minute
10 – 50 minutes	5 minutes
60 minutes – 72-hours	10 minutes

The transducers will be programmed to record water levels every 1.0 minute during the entire step rate test at each well, and the measurements will be maintained at 10-minute intervals during the constant rate/constant level portion of the testing program.

Manual water level measurements will also be taken from the pumping wells as a backup source of data. All manual measurements discussed herein will be taken with electronic meters capable of recording to the nearest 0.01 ft; except for residential wells. Water levels in residential wells will be measured manually with either an electronic water level meter or a sonic water level meter capable of recording to the nearest 0.1 ft. Manual water level measurements will be taken from the pumping wells at the following intervals for the 72-hour constant rate phase:

Time after Pumping Started	Time Between Successive Measurement Interval
0 – 10 minutes	1 minute
10 – 100 minutes	10 minutes
100 – 240 minutes	30 minutes
240 minutes – 72 hours	1 hour

The manual measurements will be made every 10 minutes during the entirety of the constant rate/stable level test. Manual water level readings during the recovery phase after pump shut-off will follow the time intervals shown above except that after 12 hours, the frequency of manual water level readings will be reduced to two or three times per day. The frequency will be further reduced to once per day if 90% recovery is not achieved within two days.

3.2 Monitoring of Bedrock Observation Wells

Manual water level measurements will be made in bedrock observation wells at the locations shown on Figure 1. These wells include:

- Three residential wells
    - Combs
    - Banks
    - Mansion

Four Fleischmanns Municipal wells
- Fleischmanns Well 1a
- Fleischmanns Well 3 (Ball Park Well)
- Fleischmanns Well 4
- Trailer

One K-well
- K1

The manual water level measurements will be made approximately twice a week for at least two weeks prior to the start of the K-well pumping tests. The monitoring will be increased to once a day during the step-rate testing of the K-wells, and the interval will be increased to every 6 to 8 hours during the 72-hour constant rate and the subsequent constant rate/stable level testing. The interval will be dropped back to approximately once a day during the recovery period. An attempt will be made to have the residential well users record times during which their pump is in use.

Fleischmanns wells 1a, 3 and the trailer well do not currently have pumps installed and are not in use. It is Alpha's understanding that Fleischmanns Well 2, the Village's highest yielding well, automatically operates when the water level in the Village spring reservoir drops below a certain level. The wellhead configuration at Well 2 does not allow for manual water level measurements; however, the Village water department has agreed to shut off Well 2 during the constant rate test unless it becomes absolutely necessary to operate. This will eliminate any Well 2-induced water level drawdown at Well 1a. It is anticipated that the flow of the Fleischmanns springs will be sufficient to meet the Village demand during the constant rate pumping test. Fleischmanns Well 4 typically is operated only during conditions of high demand and low spring yields, and when Well 2 production is not enough to meet the demand. It is not expected that Well 4 will be used by the Village during the pumping tests.

Well K1 will also be outfitted with a transducer/data logger to automatically record water levels. This recorder will be set to measure and record water levels at least every four hours starting at least two weeks prior to any pumping and continue for at least a week during recovery.

3.3 Monitoring Surface Water

Manual water level measurements will be taken at one location in Emory Brook, two locations in Todd Mountain Brook, and three locations in Bush Kill (Figure 1). Emory Brook and Todd Mountain Brook are tributaries to Bush Kill. The measurements will be taken from a fixed point, such as a mark on a rock or structure, or from a metal post driven into the creek bed. Measurements will be taken with a tape or electronic water level meter at least twice a week prior to any pumping. Measurements will be increased to once per day during the week of the step-rate testing and every six to eight hours during the 72-hour constant rate and the follow-up constant rate/constant level test. Subsequent recovery measurements will be made once per day for one week after pumping has been terminated or until 90 percent recovery has been achieved in the K-wells.

3.4 Shallow Well Point Monitoring

A shallow well point (WP-1) has been installed in a seep adjacent to well K1. The seep has been observed in August and September (2007) to be a minor seep (1-3 gpm) that flows after rainfall events. The ground at the seep between events is merely moist and no flow is apparent at the surface. The well point is an approximately 1.5-inch diameter, stainless steel, wire-wrap screen with a drive point. The well point was driven vertically approximately 1.5 feet into the surface. Manual water level measurements will be made following the same schedule as those measurements taken from the network of bedrock observation wells and the stream level monitoring.

4.0 SPRING FLOW MONITORING

It is Alpha’s understanding from Delaware Engineering that the Village of Fleischmanns spring collection system is currently outfitted with weirs and data loggers that automatically record the spring flow into the spring reservoir every four to six hours. The September and early October data from the Village’s spring flow monitoring system will be obtained and incorporated into the pumping test evaluation of the K-well field.

5.0 PRECIPITATION MONITORING

A rain gauge will be installed in an open area at the K-well field. The gauge will be checked daily, two weeks prior to the pumping and continuing through to at least a week after the pumping has been completed. Measurements will be recorded to the nearest 0.01 inch and a log will be kept of the general weather conditions.

6.0 DOWNHOLE TEMPERATURE AND CONDUCTIVITY LOGGING

The conductivity and temperature profile of the water column will be logged in pumping wells K2, K3 and K4. These profiles will be logged using an electronic sensor that will be lowered into the hole on a cable. The logging will be initiated at the top of the water column and logged from the top to bottom to avoid disturbance of ambient conditions. The results will be recorded on an associated data logger. Due to time constraints and contractor scheduling, the downhole profiles will not be performed until two to three weeks after the pumping test.

7.0 STEP RATE PUMPING TEST

Step rate pumping tests will be conducted individually at K2, K3 and K4 prior to the constant rate test. Each of the wells will be tested on a separate day, and the water level measurements in all the other K-wells will be monitored as previously described. An attempt will be made to pump the wells up to a maximum of four successively higher rates of 40 gallons per minute (gpm), 60 gpm, 80 gpm and 100 gpm. Each step will last for 100 minutes unless the drawdown reaches the pump intake. The last step-rate test will be completed at least three days prior to the 72-hour constant rate pumping test. This period of non-pumping will allow time for water level recovery. The discharge from these tests will be conveyed through a pipe to the open drainage near the base of Todd Mountain in the manner described in more detail within Section 8.0.

8.0 CONSTANT RATE PUMPING TEST

A simultaneous, constant rate pumping test of K2, K3 and K4 will be conducted for a minimum of 72 hours as specified in NYSDEC's Recommended Pump Test Procedures for Water Supply Applications (Appendix 10, TOGS 3.2.1). The respective pumping rates will be selected based on the results of the step-rate testing. The respective pumping rates will be monitored throughout the 72-hour test by using a pipe orifice system and by periodically checking the accuracy of the system with a receptacle of known volume and a stop watch.

If there is a need to reduce an individual rate or all of the rates during the test, the pumping length will be increased so that a continuous 72-hour period of constant pumping can be achieved. The primary reason for reducing the rate(s) would be if an early projection of drawdown shows that the well suction will be broken prior to the end of the test or prior to the end of a 180 day (6-month) projection of the drawdown data.

Consideration will be given to lengthening the 72-hour test for a short period (6-hours or less) if a plot of the data indicates that the drawdown will reach one of the more productive fractures in the well within less than 6-hours following the scheduled end of the test. This will allow an analysis of potential boundary effects. A lengthening of the 72-hour test up to an additional 24-hours may be necessary if a significant boundary condition has been reached. A mere blip on the line that is the result of inadvertent, short term changes in pumping rate, does not constitute a boundary condition. Small fluctuations in pumping rates are normal and unavoidable in all pumping tests that experience changes in pump lift pressure related to hydraulic head drops.

A lengthening of the pumping test may also be considered if a recharge event during the later stages of the 72-hour constant rate test causes a rise in water levels in the pumping wells that are more than 0.5 ft per 100 ft of wetted borehole. The test will be postponed if a potential recharge event is anticipated shortly before or during the scheduled start of the test.

The pumping discharge will be directed by gravity drainage through separate piping to a common receptacle. The combined discharges will be drained from that receptacle by gravity flow through a pipe that will conduct the water down hill to the railroad tracks near the base of Todd Mountain. This water will then drain along the side ditch of the railroad tracks and eventually flow to the drainage ditch that runs along the south side of New York State Route 28. This drainage ditch drains through a culvert under Route 28 and empties into the Bush Kill, downstream of the confluence with Todd Mountain Brook. The pathway of the pipe and the drainage along the open ditch is shown on Figure 2.

9.0 CONSTANT RATE/STABLE LEVEL PUMPING TEST

The running of a simultaneous constant rate/stable water level test is an optional test that will only be necessary if water level stabilization does not occur during the 72-hour constant rate test. The constant rate/stable level test will be initiated by reducing the pumping rate in each well by 10 percent or some other reasoned amount less than 10 percent. The test will be conducted per the requirements of the NYSDOH/NYSDEC Hybrid pumping test protocol developed for this project. The test will allow a 6-hour period of aquifer level recovery following the discharge reduction before initiating a period of 6-hours during which the water level must remain stable. A stabilized water level is defined in Section 5-D.4(c) of Appendix 5-D, NYS Sanitary Code, as one which "shall not fluctuate more than plus or minus 0.5 foot (i.e.; within a vertical tolerance of one foot) for each 100 feet of water in the well (i.e.; initial water level to the bottom of well) over the duration of constant flow rate of pumping. The water level at the end point of the stabilized drawdown period shall not be lower than the water level at the beginning point of that period." The stability criteria will be based on the static water level measured less than an hour before the start of the 72-hour pumping test.

Additional 12-hour periods of constant rate/stable level pumping may be required if the forgoing NYSDOH stabilization requirements are not met. Each successive step will require six hours of reduced pumping with associated aquifer recovery prior to initiating a six hour period of stability that must meet the NYSDOH criteria for a stable water level.

10.0 WATER QUALITY MONITORING

Water quality from the pumping well discharge and the surface water bodies (Emory Brook, Bush Kill, and Todd Mountain Brook) will be monitored throughout the test using field testing methods. A round of samples also will be collected from the same locations close to the end of the 72-hour pumping test and submitted to a laboratory for analysis. The field testing will include measurements of temperature, turbidity, pH and conductivity, total dissolved solids and the observation of odor and color. The field temperature measurements will be taken at the pumping wells, Well K1 and one location in each of Bush Kill and Todd Mountain Brook using automated data loggers that will be set to record a measurement every four hours. Water samples collected from the pumping wells will be submitted to a NYSDOH-certified laboratory for analysis of water quality parameters established in Subpart 5-1 of the State Sanitary Code (Part 5 parameters).

The NYSDOH has requested that Microscopic Particulate Analysis (MPA) samples be collected from the pumping wells to evaluate the possibility of ground water under the direct influence of surface water (GWUDI). The NYSDOH has require the GWUDI evaluation due to the relatively shallow (<50 feet below grade) casing depths of the K-wells. To avoid potential interference with the constant rate/stable level portion of the pumping test, the MPA samples will be collected from pumping wells K1, K2, and K3 just after the wells have achieved 90% recovery and while the pumps are still installed in the wells.

11.0 RECOVERY MONITORING

The water levels at all of the pumping wells, monitoring wells and stream locations will be monitored for at least one week or until 90 percent recovery has occurred (whichever is longer). The monitoring will be conducted as described previously in Section 3.0.

12.0 ELEVATION SURVEY

The elevations of all measuring reference points for monitoring locations and pumping wells will be surveyed by a surveyor licensed in the State of New York. Ground elevations for the wells will also be surveyed for elevation. The elevation of the pumping well discharge location (where it exits the piping) will also be surveyed. This survey will be completed before completion of the pumping test analysis and submission of the pumping test report.

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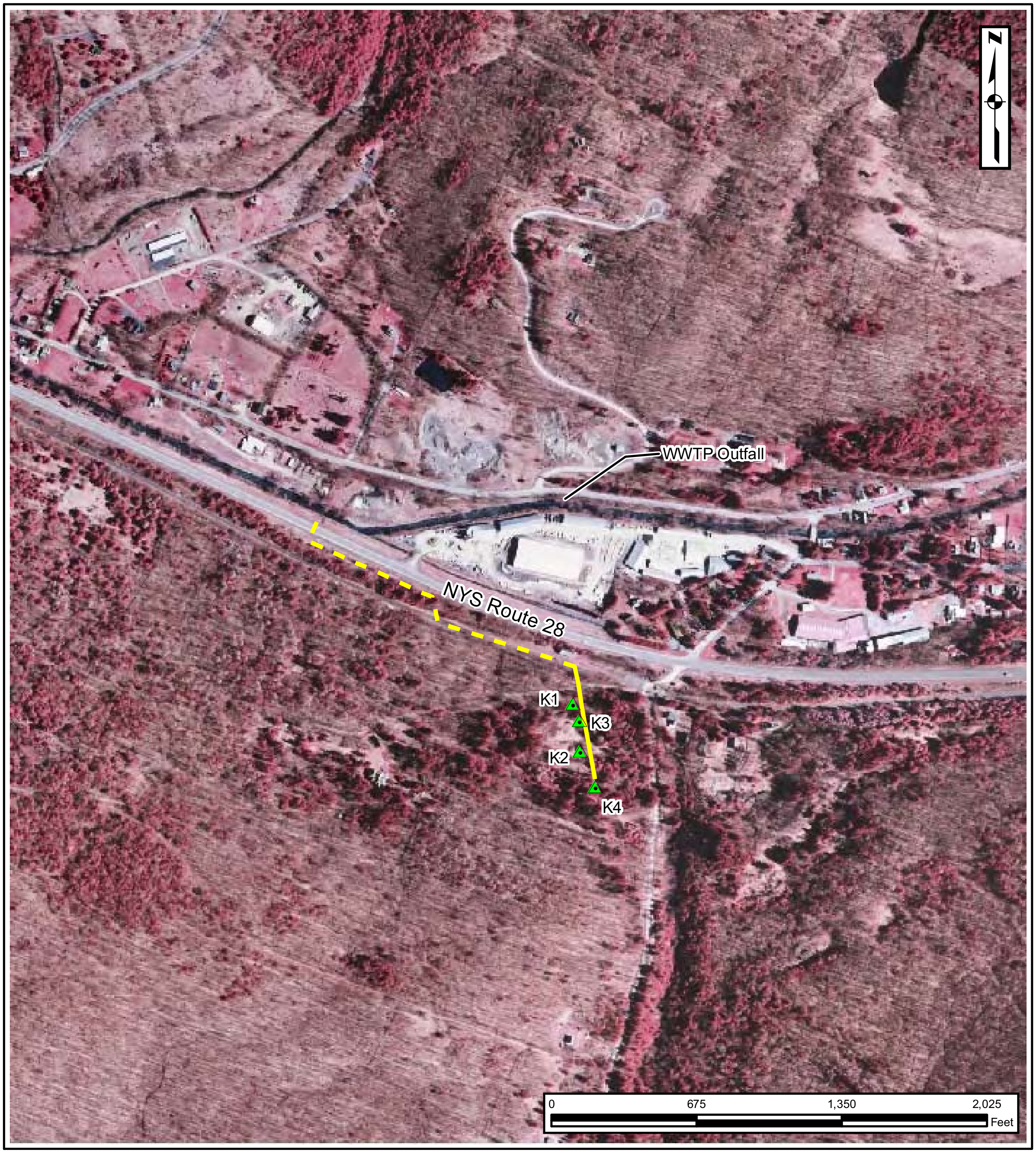

KEY

- ▲ K-Well
- ━ Gravity drainage through piping
- ╍ Drainage via existing ditch

Source:

- Basemap - April 2001 digital orthophotos
30 cm resolution color infrared
(http://www.nysgis.state.ny.us)

ALPHA
GEOSCIENCE

Alpha Project No. 07143

FIGURE 2

PUMPING DISCHARGE ROUTE

K-Well Pumping Tests
Bellayre Resort

Fleischmanns, Delaware County, New York

Map Document: (Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\GIS\Discharge_Route.mxd)
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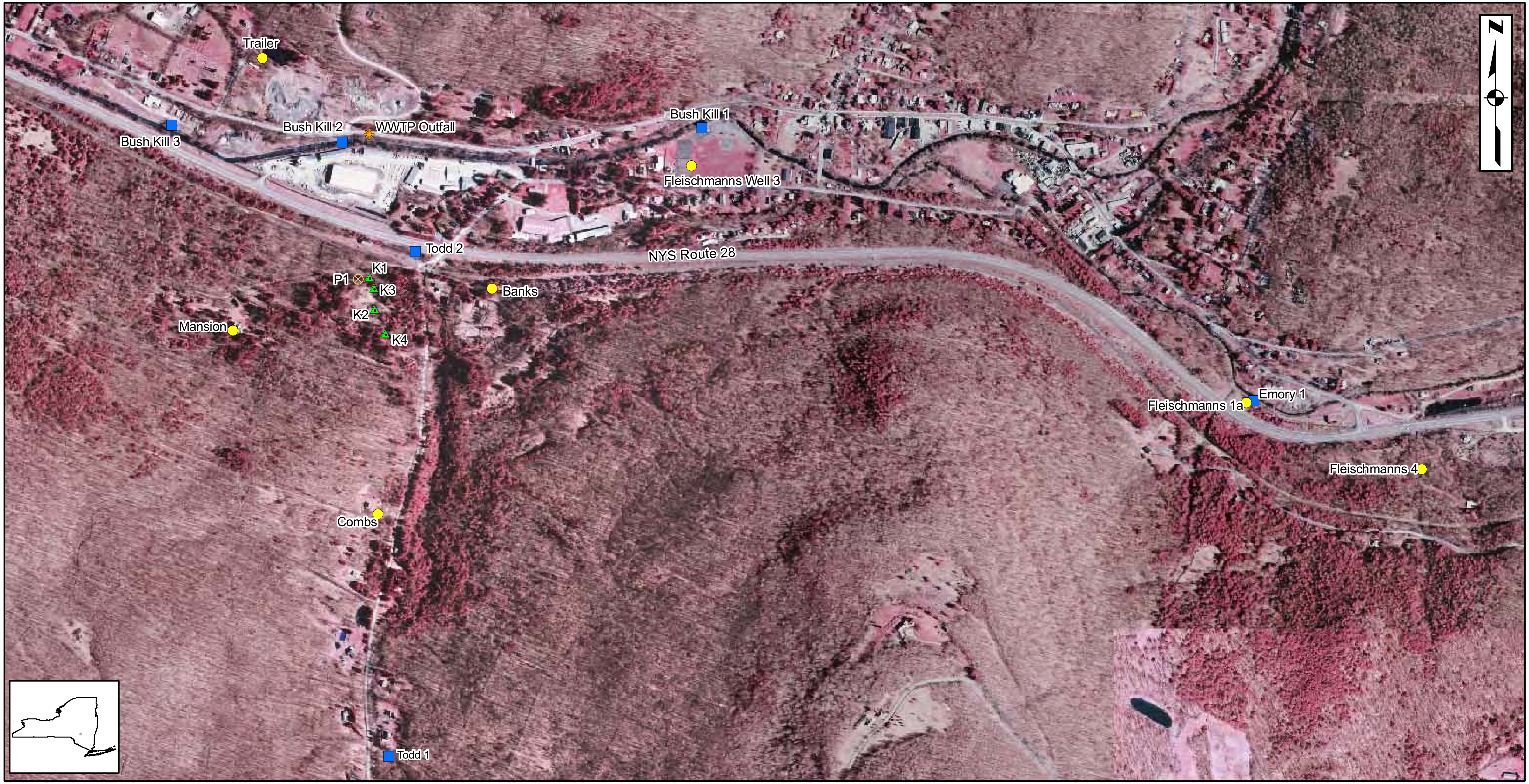

KEY

▲	K-Well
●	Well Monitoring Location
■	Stream Monitoring Location
⊗	Wellpoint
✱	WWTP Outfall

0 675 1,350 2,025
Feet

Source:
- Basemap - April 2001 digital orthophotos
30 cm resolution color infrared
(http://www.nysgis.state.ny.us)

ALPHA
GEOSCIENCE
Alpha Project No. 07143

FIGURE 1

MONITORING LOCATIONS

K-Well Pumping Tests
Bellayre Resort

Fleischmanns, Delaware County, New York

Map Document: (Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\GIS\Monitoring_Locations_11x17.mxd)
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APPENDIX A

Drillers Logs

TITAN Drilling Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

03/21/07

CROSSROAD VENTURES
BOX 267 ANDREW LANE
MT. TREMPER, NY 12457

WELL #1

0-7	hardpan
7-18	blue sandstone
18-100	red shale
100-110	blue sandstone
110-130	red shale
130-155	blue sandstone
155-225	red shale
225-255	blue sandstone
255-310	red shale
310-448	blue sandstone

23' of 8" casing with drive shoe
Grouted well casing

TOTAL DRILLING; 448'
TOTAL CASING; 20' 8"
DRIVE SHOE
YIELD; 20 GPM
GROUT; 20'

TITAN
Drilling
Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

03/27/07

CROSSROAD VENTURES
BOX 267 ANDREW LANE
MT. TREMPER, NY 12457

WELL #2

0-9	hardpan
9-115	red shale
115-160	blue sandstone
160-175	red shale
175-198	blue sandstone
198-373	red shale

20' of 8" casing with drive shoe
Grouted well casing
235' 15 GPM
327' 100 GPM

TOTAL DRILLING; 373'
TOTAL CASING; 20' 8"
DRIVE SHOE
YIELD; 100+ GPM
GROUT; 20'

TITAN Drilling Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

05/30/07

CROSSROAD VENTURES
BOX 267 ANDREW LANE
MT. TREMPER, NY 12457

WELL #3

0-10	hardpan
10-30	red shale
30-35	blue sandstone
35-110	red shale
110-135	blue sandstone
135-160	red shale
160-185	blue sandstone
185-215	red shale
215-235	blue sandstone
235-310	red shale
310-323	blue sandstone

20' of 8" casing with drive shoe
Grouted well casing
250' 15-20 GPM
304' 100GPM

TOTAL DRILLING; 323'
TOTAL CASING; 20' 8"
DRIVE SHOE
YIELD; 100 GPM
GROUT; 20'

TITAN Drilling Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

06/12/07

CROSSROAD VENTURES
BOX 267 ANDREW LANE
MT. TREMPER, NY 12457

WELL #4

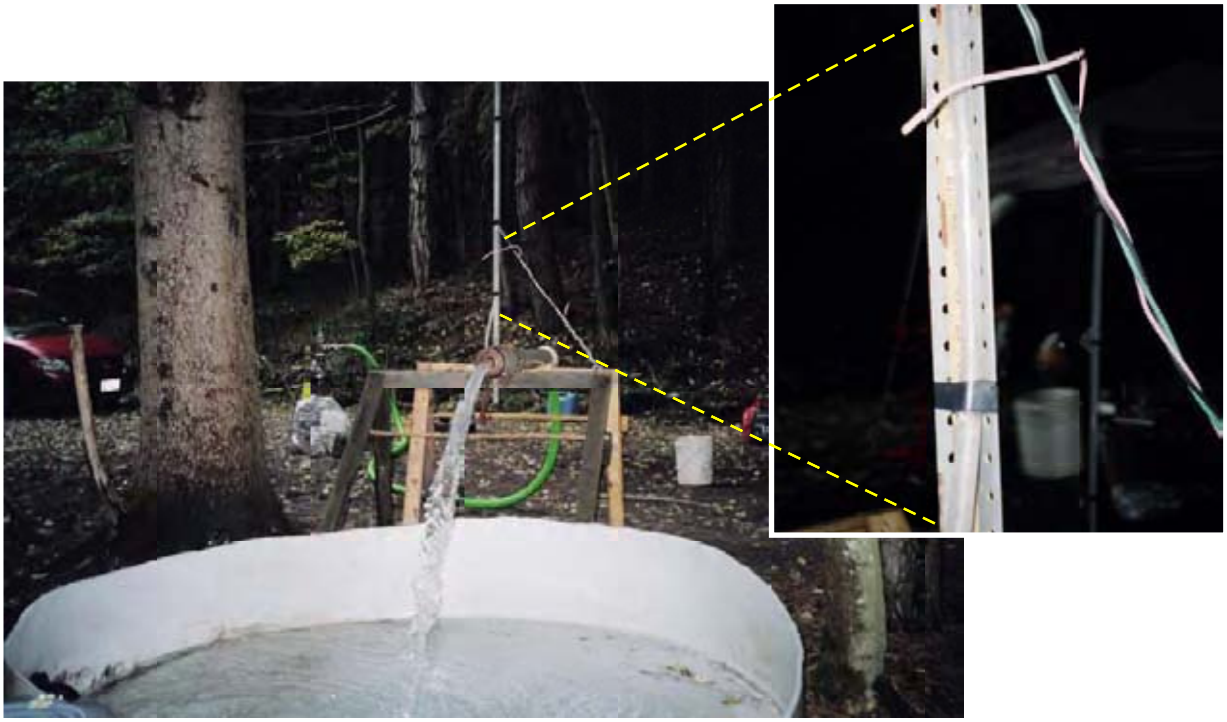
0-10	hardpan
10-45	blue sandstone
45-70	red shale
70-100	blue sandstone
100-140	red shale
140-180	blue sandstone
180-195	red shale
195-325	blue sandstone
325-365	red shale

20' of 8" casing with drive shoe
6 bags of grout
300' 8 GPM
346' 100 GPM

TOTAL DRILLING; 365'
TOTAL CASING; 20' 8"
DRIVE SHOE
YIELD; 100+ GPM
GROUT; 20'

APPENDIX B

Photographs



Photograph 1: Water discharging from well K4 through circular weir plate into large receptacle to prevent discharge to the land surface near the wells, to reduce the potential for erosion, to facilitate manual checking of discharge rates, and allow for sample collection. The water drains from the receptacle via two four-inch diameter plastic pipes. **Inset:** close up view of manometer tube used as a check on discharge rates.

Photograph 2: Water from K2, K3 and K4 is carried downhill through six platic pipes (two per well) and discharged into a steel culvert under a driveway.

Photograph 3: K3 Well head. Ball valve for controlling discharge rate is located just prior to green discharge hose. Two stilling tubes, one for manual water level readings and one for a downhole data logger/pressure transducer, were installed in the wells. Hose bib at top is for attaching the MPA sampling kit.

Photograph 4: Village Well 4. Performing a manual water level measurement with an electronic water level meter through a port at top of well cover.

Photograph 5: Fleischmanns Village Well 1A with transducer/data logger installed (cable spool adjacent to well). Well in background is Village Well 1 (out of service). Emory Brook is just behind the brush, approximately 10 feet behind Well 1, and flows right to left in the picture.

Photograph 6: Measuring the depth to water in Emory Brook from a surveyed nail in a tree. This location is adjacent to Fleischmanns Village Well 1

Photograph 7: Measuring the depth to water in the Bush Kill at the ball field location. Measurements were made from a surveyed mark on the stone at the top of the retaining wall.

Photograph 8: NYCDEP stream gauge at Upper Todd location on Todd Mountain Brook.

Photograph 9: Measuring water quality of K1 Spring. Spring yield was measured with a calibrated bucket and stopwatch. The K1 Spring vent is at the base of the steel well point (between plastic pipes). The flow from the spring was dammed and conducted through the dam by a plastic pipe.

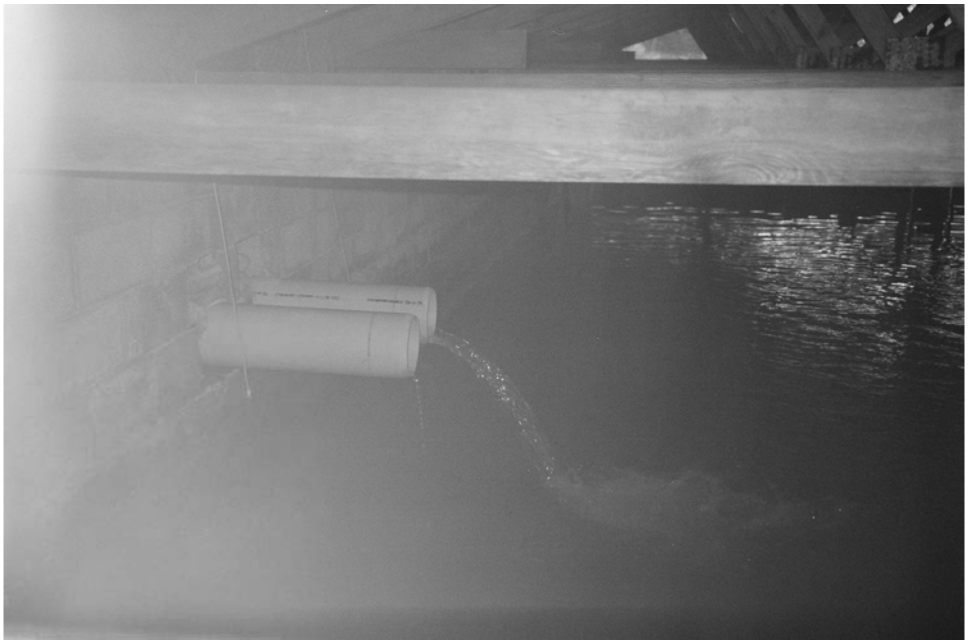


Figure 10: Flow into Fleischmanns Spring Reservoir on September 24, 2007. Photograph appears hazy because it was taken through the wire screen that surrounds the reservoir. The majority of the flow is entering the reservoir through one pipe, although a trickle is apparent from the 2nd pipe.

APPENDIX C

Precipitation at Belleayre Ski Center

August-October, 2007

Precipitation Recorded at Belleayre Mt. Ski Center

Date(YYYY-MM	Time (HH24:MI)	Precipitation in
8/1/2007	0:00	0
8/2/2007	0:00	0
8/3/2007	0:00	0
8/4/2007	0:00	0
8/5/2007	0:00	0
8/6/2007	0:00	0
8/7/2007	0:00	0.51
8/8/2007	0:00	0.38
8/9/2007	0:00	0.4
8/10/2007	0:00	1.11
8/11/2007	0:00	0.06
8/12/2007	0:00	0.01
8/13/2007	0:00	0.17
8/14/2007	0:00	0
8/15/2007	0:00	0
8/16/2007	0:00	0.12
8/17/2007	0:00	0.22
8/18/2007	0:00	0.05
8/19/2007	0:00	0.01
8/20/2007	0:00	0.09
8/21/2007	0:00	0.36
8/22/2007	0:00	0.02
8/23/2007	0:00	0.03
8/24/2007	0:00	0
8/25/2007	0:00	0
8/26/2007	0:00	0.04
8/27/2007	0:00	0.01
8/28/2007	0:00	0
8/29/2007	0:00	0
8/30/2007	0:00	0
8/31/2007	0:00	0
9/1/2007	0:00	0
9/2/2007	0:00	0
9/3/2007	0:00	0
9/4/2007	0:00	0
9/5/2007	0:00	0
9/6/2007	0:00	0
9/7/2007	0:00	0
9/8/2007	0:00	1.26
9/9/2007	0:00	0.48
9/10/2007	0:00	0.03
9/11/2007	0:00	1.46
9/12/2007	0:00	0.03
9/13/2007	0:00	0.01
9/14/2007	0:00	0
9/15/2007	0:00	0.22
9/16/2007	0:00	0
9/17/2007	0:00	0
9/18/2007	0:00	0
9/19/2007	0:00	0
9/20/2007	0:00	0.03
9/21/2007	0:00	0
9/22/2007	0:00	0.08
9/23/2007	0:00	0.02
9/24/2007	0:00	0
9/25/2007	0:00	0

9/26/2007	0:00	0.36
9/27/2007	0:00	0.6
9/28/2007	0:00	0.3
9/29/2007	0:00	0.01
9/30/2007	0:00	0.02
10/1/2007	0:00	0.01
10/2/2007	0:00	0
10/3/2007	0:00	0.01
10/4/2007	0:00	0
10/5/2007	0:00	0
10/6/2007	0:00	0.1
10/7/2007	0:00	0.12
10/8/2007	0:00	0.64
10/9/2007	0:00	0.4
10/10/2007	0:00	0.07
10/11/2007	0:00	0.7
10/12/2007	0:00	0.29
10/13/2007	0:00	0.02
10/14/2007	0:00	0.01
10/15/2007	0:00	0
10/16/2007	0:00	0
10/17/2007	0:00	0.02
10/18/2007	0:00	6.71
10/19/2007	0:00	1.17
10/20/2007	0:00	0.03
10/21/2007	0:00	0
10/22/2007	0:00	0
10/23/2007	0:00	0.38
10/24/2007	0:00	0.34
10/25/2007	0:00	0.1
10/26/2007	0:00	0.26
10/27/2007	0:00	1.12
10/28/2007	0:00	0.01
10/29/2007	0:00	0
10/30/2007	0:00	0

APPENDIX D

Well Driller’s Logs

K-Well Tests

TITAN Drilling Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

03/21/07

CROSSROAD VENTURES
BOX 267 ANDREW LANE
MT. TREMPER, NY 12457

WELL #1

0-7	hardpan
7-18	blue sandstone
18-100	red shale
100-110	blue sandstone
110-130	red shale
130-155	blue sandstone
155-225	red shale
225-255	blue sandstone
255-310	red shale
310-448	blue sandstone

23' of 8" casing with drive shoe
Grouted well casing

TOTAL DRILLING; 448'
TOTAL CASING; 20' 8"
DRIVE SHOE
YIELD; 20 GPM
GROUT; 20'

TITAN Drilling Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

03/27/07

CROSSROAD VENTURES
BOX 267 ANDREW LANE
MT. TREMPER, NY 12457

WELL #2

0-9	hardpan
9-115	red shale
115-160	blue sandstone
160-175	red shale
175-198	blue sandstone
198-373	red shale

20' of 8" casing with drive shoe
Grouted well casing
235' 15 GPM
327' 100 GPM

TOTAL DRILLING; 373'
TOTAL CASING; 20' 8"
DRIVE SHOE
YIELD; 100+ GPM
GROUT; 20'

TITAN Drilling Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

05/30/07

CROSSROAD VENTURES
BOX 267 ANDREW LANE
MT. TREMPER, NY 12457

WELL #3

0-10	hardpan
10-30	red shale
30-35	blue sandstone
35-110	red shale
110-135	blue sandstone
135-160	red shale
160-185	blue sandstone
185-215	red shale
215-235	blue sandstone
235-310	red shale
310-323	blue sandstone

20' of 8" casing with drive shoe
Grouted well casing
250' 15-20 GPM
304' 100GPM

TOTAL DRILLING; 323'
TOTAL CASING; 20' 8"
DRIVE SHOE
YIELD; 100 GPM
GROUT; 20'

TITAN
Drilling
Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

06/12/07

CROSSROAD VENTURES
BOX 267 ANDREW LANE
MT. TREMPER, NY 12457

WELL #4

0-10	hardpan
10-45	blue sandstone
45-70	red shale
70-100	blue sandstone
100-140	red shale
140-180	blue sandstone
180-195	red shale
195-325	blue sandstone
325-365	red shale

20' of 8" casing with drive shoe
6 bags of grout
300' 8 GPM
346' 100 GPM

TOTAL DRILLING; 365'
TOTAL CASING; 20' 8"
DRIVE SHOE
YIELD; 100+ GPM
GROUT; 20'

TITAN Drilling Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

Haruna Kimura
Depot Street
Fleischmanns, NY

9/30/02

0-7	gravel
7-33	green sandstone
33-46	red sandstone
46-60	blue sandstone
60-75	red shale
75-96	blue sandstone
96-120	red shale
120-143	blue sandstone
143-169	red sandstone
169-188	red shale
188-233	blue sandstone
233-247	red shale
247-283	blue sandstone
283-295	red shale
295-320	blue sandstone
320-339	red shale
339-345	blue sandstone
345-367	red shale
367-386	blue sandstone
386-414	red shale
414-426	blue sandstone
426-495	red sandstone
495-502	blue sandstone
502-518	red sandstone
518-567	blue sandstone
567-598	red shale

TOTAL DRILLING: 598'
TOTAL CASING: 20'
YIELD: 1.5 GPM
DRIVESHOE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) County Delaware

(2) Township Middletown

(3) DEC Well Number 01157

WELL COMPLETION REPORT

(4) OWNER [redacted]

(5) ADDRESS Fleischmanns NY 12430

(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: 42° 09.50N 74° 32.797W

☒ GPS ☐ DEC Website ☐ Map Interpolation

(7) DEPTH OF WELL BELOW LAND SURFACE (Feet) 210

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (Feet) 10' DATE MEASURED 8/23/02

CASINGS

(9) DIAMETER 6 in. | in. | in. | in.

(10) LENGTH 80 ft. | ft. | ft. | in.

(11) GROUT TYPE / SEALING

(12) GROUT / SEALING INTERVAL (Feet) FROM ____ TO ____

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 8/23/02

(19) DURATION OF TEST 1hr.

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

(21) STABILIZED DISCHARGE (GPM) 20+

(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 test discharged away from immediate area? Yes ____ No ____

PUMP INSTALLATION

(26) PUMP INSTALLED? YES ____ NO X

(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) Domestic

(36) DATE DRILLING WORK STARTED 8/23/02

(37) DATE DRILLING WORK COMPLETED 8/28/02

(38) DATE REPORT FILED 8/24/02

(39) DRILLER & COMPANY Titan Drilling

(40) DEC REGISTRATION NO. 10178

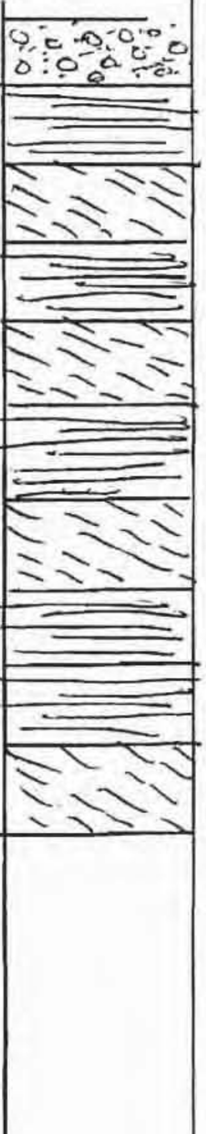
LOG *

Ground Surface EL. ______ ft. above sea level

Top Of Casing is located 1.5' ft.above (+) or below (-) ground surface

TOP OF WELL

Sand gravel 0-11	
red sandstone 11-21	
red shale 21-53	
Blue Sandstone 53-92	
red shale 92-97	
Blue Sandstone 97-103	
red Shale 103-114	
red Sandstone 114-136	
Blue 136-196	
red shale 196-210	



BOTTOM OF HOLE

* Show log of geologic materials encountered with depth below ground surface, water bearing beds and water levels in each; casings; screens; pump; additional pumping tests and other matters of interest, e.g., water quality (sulphur, salt, methane). Describe repair work. Attach separate sheet if necessary.

See further instructions titled "Instructions for New York State Well Completion Report".

NYSDEC COPY

APPENDIX E

Compact Disc with Data Logger Files

K Well Tests

APPENDIX F

Laboratory Reports

NYSDOH Part 5 Analysis

K Wells

WELL K2

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Analysis Report

November 08, 2007

FOR: Attn: Mr. Steve Trader
Alpha GeoScience
679 Plank Road
Clifton Park, NY 12065

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	**Collected by:**		09/28/07	11:15
Location Code:	ALPHAGEO	**Received by:**	LP	09/28/07	17:15
Rush Request:		**Analyzed by:**	see "By" below		
P.O.#:	07143				

Laboratory Data

SDG I.D.: GAJ56482
Phoenix I.D.: AJ56483

Client ID: BELLEAYRE K WELLS K2

Parameter	Result	RL	Units	Date	Time	By	Reference
Silver	< 0.002	0.002	mg/L	10/10/07		EK	6010/200.7
Arsenic	0.031	0.003	mg/L	10/05/07		RS	200.9
Barium	0.143	0.002	mg/L	10/10/07		EK	200.7/6010
Beryllium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Calcium	15.4	0.01	mg/L	10/10/07		EK	6010/200.7
Cadmium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Chromium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Copper	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Iron	0.01	0.002	mg/L	10/10/07		EK	200.7/6010
Hardness (CaCO3)	48	0.10	mg/L	10/10/07		EK	200.7
Mercury	< 0.0002	0.0002	mg/L	10/02/07		RS	E245.1
Magnesium	2.32	0.01	mg/L	10/10/07		EK	6010/200.7
Manganese	0.032	0.002	mg/L	10/10/07		EK	200.7/6010
Sodium	136	1	mg/L	10/10/07		EK	200.7/6010
Nickel	< 0.002	0.002	mg/L	10/10/07		EK	200.7/6010
Lead	< 0.001	0.001	mg/L	10/03/07		M/R	200.9
Antimony	< 0.003	0.003	mg/L	10/03/07		RS	E200.9
Selenium	< 0.002	0.002	mg/L	10/04/07		RS	E200.9
Thallium	< 0.001	0.001	mg/L	10/04/07		RS	E200.9
Zinc	0.033	0.002	mg/L	10/10/07		EK	6010/200.7
Escherichia Coli	Absent	0	/100mls	09/28/07	19:15	C/R	SM 9223B
Standard Plate Count	4	0	CFU/ml	09/29/07	10:45	RM	SM 9215B
Total Coliforms	Absent	0	/100mls	09/28/07	19:15	C/R	9223B
Alkalinity (CaCO3)	100	20	mg/L	10/01/07		LK	SM 2320B
Chloride	170	15	mg/L	10/02/07		M/E	300.0
Color	< 1	1	P.C.U.	09/28/07	23:00	CD	SM 2120B
Fluoride	0.20	0.10	mg/L	10/04/07		E/G	E300.0

Parameter	Result	RL	Units	Date	Time	By	Reference
Nitrite as Nitrogen	< 0.010	0.010	mg/L	09/29/07	3:10	G/E	300.0
Nitrate as Nitrogen	< 0.050	0.050	mg/L	09/29/07	3:10	G/E	300.0
Odor	< 1	1	T.O.N.	09/28/07	23:00	CD	S207/140.1
pH	8.04	0.10	PH	09/28/07	23:00	CD	4500-H B/9045
Sulfate	5.2	3	mg/L	09/29/07		G/E	300.0
Total Cyanide (Drinking water)	< 0.010	0.010	mg/L	10/02/07		R/G	EPA335.4
Tot. Diss. Solids	372	10	mg/L	10/01/07		KL	SM2540C
Turbidity	0.41	0.10	NTU	09/28/07	23:00	CD	E180.1
Extraction	Completed			10/01/07		K	
Mercury Digestion	Completed			10/02/07		D	7471/245.1
Extraction of DW Pesticides	Completed			10/01/07		K	508
Extraction of DW Herbicides	Completed			10/03/07		O/E	
Total Metal Digestion	Completed			10/01/07		AG	E200.2
Gross Alpha Water	4.2 ± 1.5	2.0	pci/L	10/31/07		•	7110B
Gross Beta Water	3.2 ± 1.5	1.7	pci/L	10/31/07		•	7110 B
Radium 226	0.32 ± 0.26	0.34	pci/L	10/18/07		•	7500 Ra B/903.0
Radium 228	0.34 ± 0.52	0.84	pci/L	10/16/07		•	7500 Ra D/904.0
Radon-222	686 ± 42	34	pCi/l	10/04/07		•	7500 Rn B
Synthetic Organic Compounds (525							
Alachlor	ND	0.1	ug/L	10/06/07		•	EPA525.2
Aldrin	ND	0.1	ug/L	10/06/07		•	EPA525.2
Atrazine	ND	0.1	ug/L	10/06/07		•	EPA525.2
Benzo(a)pyrene	ND	0.02	ug/L	10/06/07		•	EPA525.2
Butachlor	ND	0.1	ug/L	10/06/07		•	EPA525.2
Di (2-ethylhexyl) adipate	ND	0.6	ug/L	10/06/07		•	EPA525.2
Di (2-ethylhexyl)phthalate	ND	0.6	ug/L	10/06/07		•	EPA525.2
Dieldrin	ND	0.1	ug/L	10/06/07		•	EPA525.2
Endrin	ND	0.01	ug/L	10/06/07		•	EPA525.2
Heptachlor	ND	0.04	ug/L	10/06/07		•	EPA525.2
Heptachlor epoxide	ND	0.02	ug/L	10/06/07		•	EPA525.2
Hexachlorobenzene	ND	0.1	ug/L	10/06/07		•	EPA525.2
Hexachlorocyclopentadiene	ND	0.1	ug/L	10/06/07		•	EPA525.2
Lindane	ND	0.02	ug/L	10/06/07		•	EPA525.2
Methoxychlor	ND	0.1	ug/L	10/06/07		•	EPA525.2
Metolachlor	ND	0.1	ug/L	10/06/07		•	EPA525.2
Metribuzin	ND	0.1	ug/L	10/06/07		•	EPA525.2
Propachlor	ND	0.1	ug/L	10/06/07		•	EPA525.2
Simazine	ND	0.07	ug/L	10/06/07		•	EPA525.2
Carbamates HPLC (531)							
3 Hydroxycarbofuran	ND	0.5	ug/L	10/05/07		•	EPA531.2
Aldicarb	ND	0.5	ug/L	10/05/07		•	EPA531.2
Aldicarb Sulfone	ND	0.7	ug/L	10/05/07		•	EPA531.2
Aldicarb Sulfoxide	ND	0.5	ug/L	10/05/07		•	EPA531.2
Carbaryl	ND	0.5	ug/L	10/05/07		•	EPA531.2
Carbofuran	ND	0.9	ug/L	10/05/07		•	EPA531.2
Methomyl	ND	0.5	ug/L	10/05/07		•	EPA531.2

Parameter	Result	RL	Units	Date	Time	By	Reference
Oxamyl	ND	1.0	ug/L	10/05/07		*	EPA531.2
Asbestos in Water							
Asbestos fibers (>0.5u and <10u)	BDL<4.00E-01	0.1	MFL	10/06/07		*	EPA600/4-84
Asbestos fibers (>10u)	BDL<1.33E-01	0.1	MFL	10/06/07		*	EPA600/4-84
EDB and DBCP Analysis							
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	ug/L	10/04/07		JRB	504.1
1,2-Dibromoethane (EDB)	ND	0.02	ug/L	10/04/07		JRB	504.1
Organophosphorus Pesticides (507)							
Alachlor	ND	0.44	ug/L	10/02/07		JRB	E507
Atrazine	ND	0.22	ug/L	10/02/07		JRB	E507
Butachlor	ND	0.1	ug/L	10/02/07		JRB	E507
Metolachlor	ND	0.1	ug/L	10/02/07		JRB	E507
Metribuzin	ND	2.00	ug/L	10/02/07		JRB	E507
Simazine	ND	0.15	ug/L	10/02/07		JRB	E507
Pesticides/PCB's (508)							
Aldrin	ND	0.05	ug/L	10/03/07		MH	EPA508
Chlordane	ND	0.5	ug/L	10/03/07		MH	EPA508
Dieldrin	ND	0.1	ug/L	10/03/07		MH	EPA508
Endrin	ND	0.1	ug/L	10/03/07		MH	EPA508
Heptachlor	ND	0.1	ug/L	10/03/07		MH	EPA508
Heptachlor Epoxide	ND	0.05	ug/L	10/03/07		MH	EPA508
Lindane	ND	0.05	ug/L	10/03/07		MH	EPA508
Methoxychlor	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1016	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1221	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1232	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1242	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1248	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1254	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1260	ND	0.5	ug/L	10/03/07		MH	EPA508
Propachlor	ND	0.5	ug/L	10/03/07		MH	EPA508
Toxaphene	ND	1.0	ug/L	10/03/07		MH	EPA508
QA/QC Surrogates							
%DCBP (Surrogate Rec)	115		%	10/03/07		MH	EPA508
%TCMX (Surrogate Rec)	106		%	10/03/07		MH	EPA508
Herbicides (515)							
2,4,5-T	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
2,4,5-TP	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
2,4-D	ND	1.0	ug/L	10/04/07		JRB	EPA 515.1
Dalapon	ND	5.0	ug/L	10/04/07		JRB	EPA 515.1
Dicamba	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1
Dichloroprop	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
Dinoseb	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1

Parameter	Result	RL	Units	Date	Time	By	Reference
Pentachlorophenol	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
Picloram	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,1-Trichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,2-Trichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,3-Trichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,3-Trichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,4-Trichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,4-Trimethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dibromo-3-chloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dibromoethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3,5-Trimethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,4-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
2,2-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
2-Butanone	ND	0.5	ug/L	09/28/07		R/J	524.2
2-Chlorotoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
4-Chlorotoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
4-Isopropyltoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
Benzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromochloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromodichloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromoform	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromomethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Carbon Tetrachloride	ND	0.5	ug/L	09/28/07		R/J	524.2
Chlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloroform	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
cis-1,2-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
cis-1,3-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
Dibromochloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Dibromomethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Dichlorodifluoromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Ethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Hexachlorobutadiene	ND	0.5	ug/L	09/28/07		R/J	524.2

Client ID: BELLEAYRE K WELLS K2 **Phoenix I.D.: AJ56483**

Parameter	Result	RL	Units	Date	Time	By	Reference
Isopropylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Methyl Tert Butyl Ether	ND	1.0	ug/L	09/28/07		R/J	524.2
Methylene Chloride	ND	0.5	ug/L	09/28/07		R/J	524.2
n-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Naphthalene	ND	0.5	ug/L	09/28/07		R/J	524.2
o-Xylene	ND	0.5	ug/L	09/28/07		R/J	524.2
p- and m- Xylene	ND	0.5	ug/L	09/28/07		R/J	524.2
Propylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
sec-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Styrene	ND	0.5	ug/L	09/28/07		R/J	524.2
tert-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Tetrachloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
Toluene	ND	0.5	ug/L	09/28/07		R/J	524.2
Total Trihalomethanes (TTHM)	ND	0.5	ug/L	09/28/07		R/J	524.2
trans-1,2-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
trans-1,3-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
Trichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
Trichlorofluoromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Vinyl Chloride	ND	0.5	ug/L	09/28/07		R/J	524.2
QA/QC Surrogates							
%4-Bromofluorobenzene (Surrogate)	89		%	09/28/07		R/J	524.2

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

Radon run past hold due to shipping problems.
* Asbestos was analyzed by NY state certified lab #10851. Methods 525, 531 and Radiologicals analyzed by NY certified lab #11398.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
ND=Not detected BDL=Below Detection Limit RL=Reporting Limit

Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 08, 2007

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 6°C Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: Alpha GeoScience
Address: 679 Plank Road
Clifton Park, NY 12065

Project: Belleyne K Wells
Report to: Steve Trader
Invoice to: Steve Trader

Project P.O: 07143
Phone #: 518 348 6995
Fax #: 518 348 6966

Client Sample - Information - Identification

Sampler's Signature 9/28/07 Date

Analysis Request

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NYSDOH Part 5 Analysis												Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [4] As is [2] HCl MCA Acid 2	GL Amber 1000ml [X] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [X] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [X] 1000mL	PL HNO3 250ml (1) 1L (4)	PL NaOH 250ml	Bacteria Bottle	
56482	K4 *	DW	9/28/07	1100	X															8	7	2	1	5	1	2	25
56483	K2	DW	9/28/07	1115	X															8	7	2	1	5	1	2	25

Relinquished by:	Accepted by:	Date:	Time:
		9/28/07	1143
	Wilhelm	9/28/07	17:15

Comments, Special Requirements or Regulations:

Do not run Dioxin, Diquat, Glyphos or endothal per Steve Trader. LB

* Radon to be resampled due to lost cooler by DHL
K2 to be run out of hold.

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: N

Data Format
☐ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

WELL K3

PHOENIX

NY # 11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 09, 2007

FOR: Attn: Mr. Dean Gitter
Crossroads Ventures,LLC
P.O. Box 267
Mt. Tremper,NY 12457

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:		10/04/07	14:25
Location Code:	SPECIAL2	Received by:	LP	10/05/07	9:55
Rush Request:		Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG I.D.: GAJ58615
Phoenix I.D.: AJ58616

Client ID: BELLAYRE K WELLS K3

Parameter	Result	RL	Units	Date	Time	By	Reference
Silver	< 0.002	0.002	mg/L	10/06/07		L/E	6010/200.7
Arsenic	0.018	0.003	mg/L	10/17/07		RS	200.9
Barium	0.165	0.002	mg/L	10/06/07		L/E	200.7/6010
Beryllium	< 0.001	0.001	mg/L	10/06/07		L/E	200.7/6010
Calcium	19.2	0.01	mg/L	10/06/07		L/E	6010/200.7
Cadmium	< 0.001	0.001	mg/L	10/06/07		L/E	200.7/6010
Chromium	< 0.001	0.001	mg/L	10/06/07		L/E	200.7/6010
Copper	0.004	0.001	mg/L	10/06/07		L/E	200.7/6010
Iron	0.023	0.002	mg/L	10/06/07		L/E	200.7/6010
Hardness (CaCO3)	59.5	0.10	mg/L	10/09/07		PS	200.7
Mercury	< 0.0002	0.0002	mg/L	10/08/07		RS	E245.1
Magnesium	2.8	0.01	mg/L	10/06/07		L/E	6010/200.7
Manganese	0.045	0.002	mg/L	10/06/07		L/E	200.7/6010
Sodium	82.4	1	mg/L	10/11/07		T/E	200.7/6010
Nickel	< 0.002	0.002	mg/L	10/06/07		L/E	200.7/6010
Lead	< 0.001	0.001	mg/L	10/16/07		RS	200.9
Antimony	< 0.003	0.003	mg/L	10/16/07		RS	E200.9
Selenium	< 0.002	0.002	mg/L	10/09/07		RS	E200.9
Thallium	< 0.001	0.001	mg/L	10/10/07		RS	E200.9
Zinc	0.088	0.002	mg/L	10/06/07		L/E	6010/200.7
Escherichia Coli	Absent	0	/100mls	10/05/07	13:30	C/R	SM 9223B
Standard Plate Count	10	0	CFU/ml	10/05/07	12:00	RM	SM 9215B
Total Coliforms	Present	0	/100mls	10/05/07	13:30	C/R	9223B
Alkalinity (CaCO3)	95	20	mg/L	10/08/07		LK	SM 2320B
Chloride	120	3	mg/L	10/06/07		C/E	300.0
Color	< 1	1	P.C.U.	10/05/07	23:00	CD	SM 2120B
Cyanide, Free	< 0.01	0.01	mg/L	10/09/07		R/C	335.4/9014

Client ID: BELLAYRE K WELLS K3 Phoenix I.D.: AJ58616

Parameter	Result	RL	Units	Date	Time	By	Reference
Fluoride	< 0.10	0.10	mg/L	10/09/07		ESG	E300.0
Nitrite as Nitrogen	< 0.010	0.010	mg/L	10/06/07	2:08	G/E	300.0
Nitrate as Nitrogen	0.14	0.050	mg/L	10/06/07	2:08	G/E	300.0
Odor	< 1	1	T.O.N.	10/05/07	23:00	CD	S207/140.1
pH	7.80	0.10	PH	10/05/07	23:00	CD	4500-H B/9045
Sulfate	11	3	mg/L	10/06/07		G/E	300.0
Total Cyanide (Drinking water)	< 0.010	0.010	mg/L	10/09/07		R/G	EPA335.4
Tot. Diss. Solids	268	10	mg/L	10/08/07		KL	SM2540C
Turbidity	0.27	0.10	NTU	10/05/07	23:00	CD	E180.1
Mercury Digestion	Completed			10/08/07		E	7471/245.1
Bromate	<5.0	5.0	ug/L	10/11/07	15:36	*	300.0
Chlorite	<0.010	0.010	mg/L	10/11/07		*	300.0
Gross Alpha Water	5.6 ± 1.2	1.3	pci/L	10/13/07		*	7110B
Gross Beta Water	2.9 ± 1.2	1.3	pci/L	10/13/07		*	7110 B
Radium 226	0.58 ± 0.37	0.42	pci/L	10/19/07		*	7500 Ra B/903.0
Radium 228	1.1 ± 0.5	0.7	pci/L	10/18/07		*	7500 Ra D/904.0
Radium 226 & 228	1.68 ± 0.62		pCi/L	10/19/07		*	7500 RA B/D
Radon-222	954 ± 39		pCi/l	10/08/07		*	7500 Rn B
Asbestos in Water							
Asbestos fibers (>0.5u and <10u)	ND	0.4	MFL	10/10/07		*	EPA600/4-84
Asbestos fibers (>10u)	ND	0.133	MFL	10/10/07		*	EPA600/4-84

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold time.

* Asbestos analyzed by NY certified lab #10851. Chlorite, Bromate, Radiochemicals analyzed by NY certified lab #1139.

The Free Cyanide is "Below Detection Limit" based on the Total Cyanide being "Below Detection Limit".

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Limit RL=Reporting Limit

Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 09, 2007

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: CROSS ROADS VENTURES LLC
Address: PO Box 267
Mt. Tremper, NY 12457

Project: Belleayre K Wells
Report to: Steven M TRADER
Invoice to: DEAN GITTER

Project P.O:
Phone #:
Fax #:

Client Sample - Information - Identification

Sampler's Signature Steven M Trader Date 10/4/07

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Coliform	Std. Plate Count	RADON	NYS PART V Analysis									Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial(4)	GL Amber 1000ml [ ] As is [ ] HCl	PL As is [ ] 250ml [ ] As is [ ] H2SO4	PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1000ml	PL HNO3 250ml [ ] 500ml	PL NaOH 250ml	Bacteria Bottle	
	K4	DW	10/4/	1351	X	X	X													2						2	
	K3	DW	10/4/07	11/25			X	X												2							

Relinquished by:	Accepted by:	Date:	Time:
Steven M Trader		10/4/07	1425

Comments, Special Requirements or Regulations:

Please send a copy of report to Steve Trader (via email) (Alpha Geoscience)
strader@alphageoscience.com

PARTIAL PART V The rest to come later

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: ____

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Analysis Report

October 30, 2007

FOR: **Attn: Mr. Steve Trader**
Alpha GeoScience
679 Plank Road
Clifton Park, NY 12065

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:	ST	10/05/07	10:30
Location Code:	ALPHAGEO	Received by:	LP	10/10/07	10:30
Rush Request:		Analyzed by:	see "By" below		
P.O.#:					

SDG I.D.: GAJ59833

Laboratory Data

Phoenix I.D.: AJ59833

Client ID: BELLEAYRE K WELLS K3

Parameter	Result	RL	Units	Date	Time	By	Reference
Extraction	Completed			10/12/07		K	
Extraction of DW Pesticides	Completed			10/12/07		K	508
Extraction of DW Herbicides	Completed			10/12/07		O/D	
2,3,7,8-TCDD	ND	5.00	pg/L	10/20/07		*	1613B
Synthetic Organic Compounds (525							
Alachlor	ND	0.1	ug/L	10/16/07		*	EPA525.2
Aldrin	ND	0.1	ug/L	10/16/07		*	EPA525.2
Atrazine	ND	0.1	ug/L	10/16/07		*	EPA525.2
Benzo(a)pyrene	ND	0.02	ug/L	10/16/07		*	EPA525.2
Butachlor	ND	0.1	ug/L	10/16/07		*	EPA525.2
Di (2-ethylhexyl) adipate	ND	0.7	ug/L	10/16/07		*	EPA525.2
Di (2-ethylhexyl)phthalate	ND	0.7	ug/L	10/16/07		*	EPA525.2
Dieldrin	ND	0.1	ug/L	10/16/07		*	EPA525.2
Endrin	ND	0.01	ug/L	10/16/07		*	EPA525.2
Heptachlor	ND	0.05	ug/L	10/16/07		*	EPA525.2
Heptachlor epoxide	ND	0.02	ug/L	10/16/07		*	EPA525.2
Hexachlorobenzene	ND	0.1	ug/L	10/16/07		*	EPA525.2
Hexachlorocyclopentadiene	ND	0.1	ug/L	10/16/07		*	EPA525.2
Lindane	ND	0.02	ug/L	10/16/07		*	EPA525.2
Methoxychlor	ND	0.1	ug/L	10/16/07		*	EPA525.2
Metolachlor	ND	0.1	ug/L	10/16/07		*	EPA525.2
Metribuzin	ND	0.1	ug/L	10/16/07		*	EPA525.2
Propachlor	ND	0.1	ug/L	10/16/07		*	EPA525.2
Simazine	ND	0.08	ug/L	10/16/07		*	EPA525.2

Parameter	Result	RL	Units	Date	Time	By	Reference
Carbamates HPLC (531)							
3 Hydroxycarbofuran	ND	0.5	ug/L	10/16/07		*	EPA531.2
Aldicarb	ND	0.5	ug/L	10/16/07		*	EPA531.2
Aldicarb Sulfone	ND	0.7	ug/L	10/16/07		*	EPA531.2
Aldicarb Sulfoxide	ND	0.5	ug/L	10/16/07		*	EPA531.2
Carbaryl	ND	0.5	ug/L	10/16/07		*	EPA531.2
Carbofuran	ND	0.9	ug/L	10/16/07		*	EPA531.2
Methomyl	ND	0.5	ug/L	10/16/07		*	EPA531.2
Oxamyl	ND	1.0	ug/L	10/16/07		*	EPA531.2
Glyphosate							
Glyphosate	ND	6.0	ug/L	10/12/07		*	EPA 547
Endothall							
Endothall	ND	9.0	ug/L	10/15/07		*	EPA548
Diquat							
Diquat	ND	0.4	ug/L	10/12/07		*	EPA549
EDB and DBCP Analysis							
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	ug/L	10/11/07		JRB	504.1
1,2-Dibromoethane (EDB)	ND	0.02	ug/L	10/11/07		JRB	504.1
Organophosphorus Pesticides (507)							
Alachlor	ND	0.44	ug/L	10/12/07		JRB	E507
Atrazine	ND	0.22	ug/L	10/12/07		JRB	E507
Butachlor	ND	0.1	ug/L	10/12/07		JRB	E507
Metolachlor	ND	0.1	ug/L	10/12/07		JRB	E507
Metribuzin	ND	2.00	ug/L	10/12/07		JRB	E507
Simazine	ND	0.15	ug/L	10/12/07		JRB	E507
Pesticides/PCB's (508)							
Aldrin	ND	0.05	ug/L	10/16/07		KCA	EPA508
Chlordane	ND	0.5	ug/L	10/16/07		KCA	EPA508
Dieldrin	ND	0.1	ug/L	10/16/07		KCA	EPA508
Endrin	ND	0.1	ug/L	10/16/07		KCA	EPA508
Heptachlor	ND	0.1	ug/L	10/16/07		KCA	EPA508
Heptachlor Epoxide	ND	0.05	ug/L	10/16/07		KCA	EPA508
Lindane	ND	0.05	ug/L	10/16/07		KCA	EPA508
Methoxychlor	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1016	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1221	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1232	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1242	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1248	ND	0.5	ug/L	10/16/07		KCA	EPA508

Parameter	Result	RL	Units	Date	Time	By	Reference
PCB-1254	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1260	ND	0.5	ug/L	10/16/07		KCA	EPA508
Propachlor	ND	0.5	ug/L	10/16/07		KCA	EPA508
Toxaphene	ND	1.0	ug/L	10/16/07		KCA	EPA508
QA/QC Surrogates							
%DCBP (Surrogate Rec)	91		%	10/16/07		KCA	EPA508
%TCMX (Surrogate Rec)	77		%	10/16/07		KCA	EPA508
Herbicides (515)							
2,4,5-T	ND	0.2	ug/L	10/13/07		JRB	EPA 515.1
2,4,5-TP	ND	0.2	ug/L	10/13/07		JRB	EPA 515.1
2,4-D	ND	1.0	ug/L	10/13/07		JRB	EPA 515.1
Dalapon	ND	5.0	ug/L	10/13/07		JRB	EPA 515.1
Dicamba	ND	0.5	ug/L	10/13/07		JRB	EPA 515.1
Dichloroprop	ND	0.2	ug/L	10/13/07		JRB	EPA 515.1
Dinoseb	ND	0.5	ug/L	10/13/07		JRB	EPA 515.1
Pentachlorophenol	ND	0.2	ug/L	10/13/07		JRB	EPA 515.1
Picloram	ND	0.5	ug/L	10/13/07		JRB	EPA 515.1
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1,1-Trichloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1,2-Trichloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1-Dichloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1-Dichloroethene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1-Dichloropropene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2,3-Trichlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2,3-Trichloropropane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2,4-Trichlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2,4-Trimethylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2-Dibromo-3-chloropropane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2-Dibromoethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2-Dichlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2-Dichloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2-Dichloropropane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,3,5-Trimethylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,3-Dichlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,3-Dichloropropane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,4-Dichlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
2,2-Dichloropropane	ND	0.5	ug/L	10/11/07		R/J	524.2
2-Butanone	ND	0.5	ug/L	10/11/07		R/J	524.2
2-Chlorotoluene	ND	0.5	ug/L	10/11/07		R/J	524.2
4-Chlorotoluene	ND	0.5	ug/L	10/11/07		R/J	524.2
4-Isopropyltoluene	ND	0.5	ug/L	10/11/07		R/J	524.2
Benzene	ND	0.5	ug/L	10/11/07		R/J	524.2

Parameter	Result	RL	Units	Date	Time	By	Reference
Bromobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Bromochloromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Bromodichloromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Bromoform	ND	0.5	ug/L	10/11/07		R/J	524.2
Bromomethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Carbon Tetrachloride	ND	0.5	ug/L	10/11/07		R/J	524.2
Chlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Chloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Chloroform	ND	0.5	ug/L	10/11/07		R/J	524.2
Chloromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
cis-1,2-Dichloroethene	ND	0.5	ug/L	10/11/07		R/J	524.2
cis-1,3-Dichloropropene	ND	0.5	ug/L	10/11/07		R/J	524.2
Dibromochloromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Dibromomethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Dichlorodifluoromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Ethylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Hexachlorobutadiene	ND	0.5	ug/L	10/11/07		R/J	524.2
Isopropylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Methyl Tert Butyl Ether	ND	1.0	ug/L	10/11/07		R/J	524.2
Methylene Chloride	ND	0.5	ug/L	10/11/07		R/J	524.2
n-Butylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Naphthalene	ND	0.5	ug/L	10/11/07		R/J	524.2
o-Xylene	ND	0.5	ug/L	10/11/07		R/J	524.2
p- and m- Xylene	ND	0.5	ug/L	10/11/07		R/J	524.2
Propylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
sec-Butylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Styrene	ND	0.5	ug/L	10/11/07		R/J	524.2
tert-Butylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Tetrachloroethene	ND	0.5	ug/L	10/11/07		R/J	524.2
Toluene	ND	0.5	ug/L	10/11/07		R/J	524.2
Total Trihalomethanes (TTHM)	ND	0.5	ug/L	10/11/07		R/J	524.2
trans-1,2-Dichloroethene	ND	0.5	ug/L	10/11/07		R/J	524.2
trans-1,3-Dichloropropene	ND	0.5	ug/L	10/11/07		R/J	524.2
Trichloroethene	ND	0.5	ug/L	10/11/07		R/J	524.2
Trichlorofluoromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Vinyl Chloride	ND	0.5	ug/L	10/11/07		R/J	524.2
QA/QC Surrogates							
%4-Bromofluorobenzene (Surrogate)	96		%	10/11/07		R/J	524.2

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

* Dioxin analyzed by NY certified lab #11647. Methods 525, 531, 547, 548, and 549 analyzed by NY certified lab #11398.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Limit RL=Reporting Limit

Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 30, 2007

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: ~~Alpha Geoscience~~ Crossroads Ventures LLC
Address: PO Box 267
Mt Tremper, NY 12457

Project: Belleayre K Wells
Report to: Steven M Trader
Invoice to: Dean Gitter

Project P.O.
Phone #:
Fax #:

Client Sample - Information - Identification

Sampler's Signature Stv M Trader Date

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NYSDOH Part V		SOC	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ]250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ]250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
59833	K3	DW	10/5/07	10:30	X												
59834	Trip Blank						X										

Relinquished by:	Accepted by:	Date:	Time:
Stv M Trader		10/9/07	1535
		10/10/07	10:30

Comments, Special Requirements or Regulations:
Please send copy of report to Steve Trader (Alpha Geoscience) via e.mail strader@alphageoscience.com
* Remaining samples from Part V analysis sent in to lab on 10/4/07

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
*SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected:

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

WELL K4

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Analysis Report

November 08, 2007

FOR: **Attn: Mr. Steve Trader**
Alpha GeoScience
679 Plank Road
Clifton Park, NY 12065

Sample Information		**Custody Information**		**Date**	**Time**
Matrix:	**DRINKING WATER**	**Collected by:**		**09/28/07**	**11:00**
Location Code:	**ALPHAGEO**	**Received by:**	**LP**	**09/28/07**	**17:15**
Rush Request:		**Analyzed by:**	**see "By" below**		
P.O.#:	**07143**				

SDG I.D.: GAJ56482
Phoenix I.D.: AJ56482

Laboratory Data

Client ID: BELLEAYRE K WELLS K4

Parameter	Result	RL	Units	Date	Time	By	Reference
Silver	< 0.002	0.002	mg/L	10/10/07		EK	6010/200.7
Arsenic	0.019	0.003	mg/L	10/05/07		RS	200.9
Barium	0.159	0.002	mg/L	10/10/07		EK	200.7/6010
Beryllium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Calcium	17.5	0.01	mg/L	10/10/07		EK	6010/200.7
Cadmium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Chromium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Copper	0.004	0.001	mg/L	10/10/07		EK	200.7/6010
Iron	0.027	0.002	mg/L	10/10/07		EK	200.7/6010
Hardness (CaCO3)	54.2	0.10	mg/L	10/10/07		EK	200.7
Mercury	< 0.0002	0.0002	mg/L	10/02/07		RS	E245.1
Magnesium	2.54	0.01	mg/L	10/10/07		EK	6010/200.7
Manganese	0.022	0.002	mg/L	10/10/07		EK	200.7/6010
Sodium	81.1	1	mg/L	10/10/07		EK	200.7/6010
Nickel	< 0.002	0.002	mg/L	10/10/07		EK	200.7/6010
Lead	< 0.001	0.001	mg/L	10/03/07		M/R	200.9
Antimony	< 0.003	0.003	mg/L	10/03/07		RS	E200.9
Selenium	< 0.002	0.002	mg/L	10/04/07		RS	E200.9
Thallium	< 0.001	0.001	mg/L	10/04/07		RS	E200.9
Zinc	0.149	0.002	mg/L	10/10/07		EK	6010/200.7
Escherichia Coli	Absent	0	/100mls	09/28/07	19:15	C/R	SM 9223B
Standard Plate Count	35	0	CFU/ml	09/29/07	10:45	RM	SM 9215B
Total Coliforms	Present	0	/100mls	09/28/07	19:15	C/R	9223B
Alkalinity (CaCO3)	< 20	20	mg/L	10/01/07		LK	SM 2320B
Chloride	97	3	mg/L	09/29/07		G/E	300.0
Color	< 1	1	P.C.U.	09/28/07	23:00	CD	SM 2120B
Fluoride	0.12	0.10	mg/L	10/04/07		E/G	E300.0

Client ID: BELLEAYRE K WELLS K4 **Phoenix I.D.: AJ56482**

Parameter	Result	RL	Units	Date	Time	By	Reference
Nitrite as Nitrogen	< 0.010	0.010	mg/L	09/29/07	3:01	G/E	300.0
Nitrate as Nitrogen	0.10	0.050	mg/L	09/29/07	3:01	G/E	300.0
Odor	< 1	1	T.O.N.	09/28/07	23:00	CD	S207/140.1
pH	7.58	0.10	PH	09/28/07	23:00	CD	4500-H B/9045
Sulfate	9.3	3	mg/L	09/29/07		G/E	300.0
Total Cyanide (Drinking water)	< 0.010	0.010	mg/L	10/02/07		R/G	EPA335.4
Tot. Diss. Solids	260	10	mg/L	10/01/07		KL	SM2540C
Turbidity	2.17	0.10	NTU	09/28/07	23:00	CD	E180.1
Extraction	Completed			10/01/07		K	
Mercury Digestion	Completed			10/02/07		D	7471/245.1
Extraction of DW Pesticides	Completed			10/01/07		K	508
Extraction of DW Herbicides	Completed			10/03/07		O/E	
Total Metal Digestion	Completed			10/01/07		AG	E200.2
Gross Alpha Water	4.8 ± 2.2	2.6	pci/L	10/31/07		*	7110B
Gross Beta Water	2.2 ± 2.5	2.8	pci/L	10/31/07		*	7110 B
Radium 226	0.51 ± 0.30	0.32	pci/L	10/18/07		*	7500 Ra B/903.0
Radium 228	0.46 ± 0.49	0.77	pci/L	10/16/07		*	7500 Ra D/904.0
Radon-222	594 ± 40	35	pCi/l	10/04/07		*	7500 Rn B

Synthetic Organic Compounds (525

Parameter	Result	RL	Units	Date	Time	By	Reference
Alachlor	ND	0.1	ug/L	10/06/07		*	EPA525.2
Aldrin	ND	0.1	ug/L	10/06/07		*	EPA525.2
Atrazine	ND	0.1	ug/L	10/06/07		*	EPA525.2
Benzo(a)pyrene	ND	0.02	ug/L	10/06/07		*	EPA525.2
Butachlor	ND	0.1	ug/L	10/06/07		*	EPA525.2
Di (2-ethylhexyl) adipate	ND	0.6	ug/L	10/06/07		*	EPA525.2
Di (2-ethylhexyl)phthalate	ND	0.6	ug/L	10/06/07		*	EPA525.2
Dieldrin	ND	0.1	ug/L	10/06/07		*	EPA525.2
Endrin	ND	0.01	ug/L	10/06/07		*	EPA525.2
Heptachlor	ND	0.04	ug/L	10/06/07		*	EPA525.2
Heptachlor epoxide	ND	0.02	ug/L	10/06/07		*	EPA525.2
Hexachlorobenzene	ND	0.1	ug/L	10/06/07		*	EPA525.2
Hexachlorocyclopentadiene	ND	0.1	ug/L	10/06/07		*	EPA525.2
Lindane	ND	0.02	ug/L	10/06/07		*	EPA525.2
Methoxychlor	ND	0.1	ug/L	10/06/07		*	EPA525.2
Metolachlor	ND	0.1	ug/L	10/06/07		*	EPA525.2
Metribuzin	ND	0.1	ug/L	10/06/07		*	EPA525.2
Propachlor	ND	0.1	ug/L	10/06/07		*	EPA525.2
Simazine	ND	0.07	ug/L	10/06/07		*	EPA525.2

Carbamates HPLC (531)

Parameter	Result	RL	Units	Date	Time	By	Reference
3 Hydroxycarbofuran	ND	0.5	ug/L	10/05/07		*	EPA531.2
Aldicarb	ND	0.5	ug/L	10/05/07		*	EPA531.2
Aldicarb Sulfone	ND	0.7	ug/L	10/05/07		*	EPA531.2
Aldicarb Sulfoxide	ND	0.5	ug/L	10/05/07		*	EPA531.2
Carbaryl	ND	0.5	ug/L	10/05/07		*	EPA531.2
Carbofuran	ND	0.9	ug/L	10/05/07		*	EPA531.2
Methomyl	ND	0.5	ug/L	10/05/07		*	EPA531.2

Parameter	Result	RL	Units	Date	Time	By	Reference
Oxamyl	ND	1.0	ug/L	10/05/07		*	EPA531.2
Asbestos in Water							
Asbestos fibers (>0.5u and <10u)	BDL<1.60E+0	0.1	MFL	10/06/07		*	EPA600/4-84
Asbestos fibers (>10u)	BDL<1.78-01	0.1	MFL	10/06/07		*	EPA600/4-84
EDB and DBCP Analysis							
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	ug/L	10/04/07		JRB	504.1
1,2-Dibromoethane (EDB)	ND	0.02	ug/L	10/04/07		JRB	504.1
Organophosphorus Pesticides (507)							
Alachlor	ND	0.44	ug/L	10/08/07		JRB	E507
Atrazine	ND	0.22	ug/L	10/08/07		JRB	E507
Butachlor	ND	0.1	ug/L	10/08/07		JRB	E507
Metolachlor	ND	0.1	ug/L	10/08/07		JRB	E507
Metribuzin	ND	2.00	ug/L	10/08/07		JRB	E507
Simazine	ND	0.15	ug/L	10/08/07		JRB	E507
Pesticides/PCB's (508)							
Aldrin	ND	0.05	ug/L	10/03/07		MH	EPA508
Chlordane	ND	0.5	ug/L	10/03/07		MH	EPA508
Dieldrin	ND	0.1	ug/L	10/03/07		MH	EPA508
Endrin	ND	0.1	ug/L	10/03/07		MH	EPA508
Heptachlor	ND	0.1	ug/L	10/03/07		MH	EPA508
Heptachlor Epoxide	ND	0.05	ug/L	10/03/07		MH	EPA508
Lindane	ND	0.05	ug/L	10/03/07		MH	EPA508
Methoxychlor	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1016	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1221	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1232	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1242	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1248	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1254	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1260	ND	0.5	ug/L	10/03/07		MH	EPA508
Propachlor	ND	0.5	ug/L	10/03/07		MH	EPA508
Toxaphene	ND	1.0	ug/L	10/03/07		MH	EPA508
QA/QC Surrogates							
%DCBP (Surrogate Rec)	115		%	10/03/07		MH	EPA508
%TCMX (Surrogate Rec)	121		%	10/03/07		MH	EPA508
Herbicides (515)							
2,4,5-T	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
2,4,5-TP	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
2,4-D	ND	1.0	ug/L	10/04/07		JRB	EPA 515.1
Dalapon	ND	5.0	ug/L	10/04/07		JRB	EPA 515.1
Dicamba	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1
Dichloroprop	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
Dinoseb	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1

Client ID: BELLEAYRE K WELLS K4 **Phoenix I.D.: AJ56482**

Parameter	Result	RL	Units	Date	Time	By	Reference
Pentachlorophenol	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
Picloram	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,1-Trichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,2-Trichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,3-Trichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,3-Trichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,4-Trichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,4-Trimethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dibromo-3-chloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dibromoethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3,5-Trimethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,4-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
2,2-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
2-Butanone	ND	0.5	ug/L	09/28/07		R/J	524.2
2-Chlorotoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
4-Chlorotoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
4-Isopropyltoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
Benzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromochloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromodichloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromoform	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromomethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Carbon Tetrachloride	ND	0.5	ug/L	09/28/07		R/J	524.2
Chlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloroform	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
cis-1,2-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
cis-1,3-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
Dibromochloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Dibromomethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Dichlorodifluoromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Ethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Hexachlorobutadiene	ND	0.5	ug/L	09/28/07		R/J	524.2

Client ID: BELLEAYRE K WELLS K4 **Phoenix I.D.: AJ56482**

Parameter	Result	RL	Units	Date	Time	By	Reference
Isopropylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Methyl Tert Butyl Ether	ND	1.0	ug/L	09/28/07		R/J	524.2
Methylene Chloride	ND	0.5	ug/L	09/28/07		R/J	524.2
n-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Naphthalene	ND	0.5	ug/L	09/28/07		R/J	524.2
o-Xylene	ND	0.5	ug/L	09/28/07		R/J	524.2
p- and m- Xylene	ND	0.5	ug/L	09/28/07		R/J	524.2
Propylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
sec-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Styrene	ND	0.5	ug/L	09/28/07		R/J	524.2
tert-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Tetrachloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
Toluene	ND	0.5	ug/L	09/28/07		R/J	524.2
Total Trihalomethanes (TTHM)	ND	0.5	ug/L	09/28/07		R/J	524.2
trans-1,2-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
trans-1,3-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
Trichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
Trichlorofluoromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Vinyl Chloride	ND	0.5	ug/L	09/28/07		R/J	524.2
QA/QC Surrogates							
%4-Bromofluorobenzene (Surrogate)	92		%	09/28/07		R/J	524.2

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

* Asbestos was analyzed by NY state certified lab #10851. Methods 525, 531 and Radiologicals analyzed by NY certified lab #11398.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Limit RL=Reporting Limit

Phyllis Shiller

Phyllis Shiller, Laboratory Director

November 08, 2007

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 6°C Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: Alpha GeoScience
Address: 679 Plank Road
Clifton Park, NY 12065

Project: Belleayre K Wells
Report to: Steve Trader
Invoice to: Steve Trader

Project P.O: 07143
Phone #: 518 348 6995
Fax #: 518 348 6966

Client Sample - Information - Identification

Sampler's Signature Sh M Trad Date 9/28/07

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NYSDOH Part 5 Analysis												Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [4] As is [2] HCl MCA acid 2	GL Amber 1000ml [X] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [X] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [X] 1000mL	PL HNO3 250ml (1) 1L (4)	PL NaOH 250ml	Bacteria Bottle	
56482	K4 *	DW	9/28/07	1100	X															8	7	2	1	5	1	2	25
56483	K2	DW	9/28/07	1115	X															8	7	2	1	5	1	2	25

Relinquished by:	Accepted by:	Date:	Time:
Sh M Trad		9/28/07	1143
	Wilhelm	9/28/07	17:15

Comments, Special Requirements or Regulations:
Do not run Dioxin, Diquat, Glyphos or endothal per Steve Trader. LB
* Radon to be resampled due to lost cooler by DHL
K2 to be run out of hold.

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: N

Data Format
☐ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv.*
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Analysis Report

November 09, 2007

FOR: Attn: Mr. Dean Gitter
Crossroads Ventures,LLC
P.O. Box 267
Mt. Tremper,NY 12457

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:		10/04/07	13:54
Location Code:	SPECIAL2	Received by:	LP	10/05/07	9:55
Rush Request:		Analyzed by:	see "By" below		
P.O.#:					

SDG I.D.: GAJ58615
Phoenix I.D.: AJ58615

Laboratory Data

Client ID: BELLAYRE K WELLS K4

Parameter	Result	RL	Units	Date	Time	By	Reference
Escherichia Coli	Absent	0	/100mls	10/05/07	13:30	C/R	SM 9223B
Standard Plate Count	1	0	CFU/ml	10/05/07	12:00	RM	SM 9215B
Total Coliforms	Absent	0	/100mls	10/05/07	13:30	C/R	9223B
Radon Test	775 ± 36	24	pCi/l	10/08/07		*	

Comments:

* Radon analyzed by NY certified lab #11398.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Limit RL=Reporting Limit

Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 09, 2007

Temp Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery:
☐ Fax #:
☐ Email:

Customer: Crossroads Ventures LLC
Address: PO Box 267
Mt. Tremper, NY 12457

Project: Belleayre K Wells
Report to: Steven M. Trader
Invoice to: Dean Gitter

Project P.O:
Phone #:
Fax #:

Client Sample - Information - Identification

Sampler's Signature Steve M Trader Date 10/4/07

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Coliform	Std. Plate Count	Radon	NYS Part V Analysis									Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [✓] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle	
	K4	DW	10/4/7	1354	X	X	X													2						2	
	K3	DW	10/4/07	1425			X	X												2							

Relinquished by:	Accepted by:	Date:	Time:
Steve M Trader		10/4/7	1425

Comments, Special Requirements or Regulations:
Please send a copy of rpt. - to Steve Trader (via email) strader@alphageoscience.com (Alpha Ge[illegible])
PARTIAL PART V [illegible]

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected:

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

APPENDIX G

Laboratory Reports

Microscopic Particulate Analysis

K Wells

ENVIRONMENTAL
ASSOCIATES LTD. ENVIRONMENTAL CONSULTANTS, ANALYSES & RESEARCH

October 12, 2007

RECEIVED
OCT 15 2007
By

Mr. Steve Trader
Alpha Geoscience
679 Plank Rd.
Clifton Park , NY 12065

Dear Mr. Trader:

Enclosed are the results from the sample(s) collected for microscopic particulate analysis (MPA). Samples are processed according to the "Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA)" published Oct. 1992. EPA risk factors are calculated for the bio-indicators observed in samples.

A portion of the sediment is analyzed by immunofluorescent dual antibody staining (IFDA) for Giardia and Cryptosporidium according to the ICR protocol. Positive control cysts are examined concurrently with sample sediments for comparison.

If you have any questions about the enclosed reports I can be reached at the lab number.

Sincerely,

Susan N. Boutros, Ph.D.
President

Encl. report: 28423, 28424, 28462

MAIN OFFICE
24 Oak Brook Drive • Ithaca, NY 14850 • (607) 272-8902 • Fax (607) 256-7092 • www.eal-labs.com • E-Mail: labservice@eal-labs.com

REPORT: PARTICULATES, GIARDIA, AND CRYPTOSPORIDIUM

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

Filter ID: 28423
Client: Alpha Geoscience

Station/Body of water: Well K2

RECEIPT OF FILTER:

Date Received: 10/1/2007
# of filters: 2
Type: 1µm
Carrier: In Person

COLLECTION:

Collector: Steve Trader
Date collected: 10/1/2007
Temperature: °F
Turbidity: ------
Water Type: Ground Water

FILTER PROCESSING

Color of water around filter: clear
Filter color: tan
Color of sediment: tan
gallons filtered: 812
Total volume of sediment: 0.25 ml
Volume of sediment/100 gallons: 0.03 ml/100gal.
IFA equivalent liter volume examined: 100L
Phase equivalent gallon volume examined: 110gal.

GIARDIA/CRYPTOSPORIDIUM	# Observed	Calc. #/100 Gallons
Giardia cyst confirmed:	0	0
Giardia cyst presumptive :	0	0
Cryptosporidium oocyst confirmed:	0	0
Cryptosporidium oocyst presumptive:	0	0

ANALYSIS OF PARTICULATES:

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

PARTICULATE DEBRIS	Quantity	Description
Large part. 5 µm & larger	R	fine silt & sand
Small part. up to 5 µm	EH	fine amorphous debris
Plant debris	NF	
OTHER ORGANISMS		
Nematodes	NF	
Nematode eggs	NF	
Rotifers	NF	
Crustaceans	NF	
Crustacean eggs	NF	
Insects	NF	
Other	NF	

PROTOZOANS	Quantity	Description
Other Coccidia	NF	
Other protozoans	NF	
ALGAE		
Green Algae	NF	
Diatoms	NF	
Blue-Green Algae	NF	
Flagellated Algae	NF	

COMMENTS:

Sediment = to 100 liters examined by IFA for Giardia and Cryptosporidium was negative (limit of detection = < 1 cyst / 100 L). No biological materials were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).

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

REPORT REVIEWED BY: Susan h. Boutros **DATE:** October 9, 2007

PWS ID#	Well ID#	Utility Name	EAL Sample ID:
	Well K2	**Alpha Geoscience**	**28423**

EPA Relative Surface Water Risk Factors

Date: 10/1/2007

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

EPA Relative Risk = 0	Low Risk

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

COMMENTS: No biological materials were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).

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

L072692

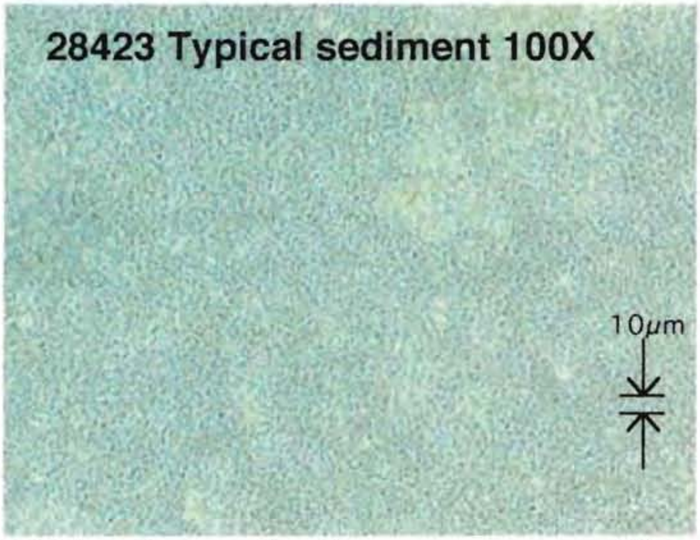
Environmental Associates Ltd. certifies that all quality control elements, as required by NELAP, associated with the above data have been met.

REPORT REVIEWED BY: Susan T. Boutros **DATE:** October 9, 2007

Environmental Associates, Ltd.

28423 Alpha Geoscience Well K2

CLIENT SAMPLE SITE Oct 9, 2007 10:29:34



28423A Typical sediment 100x

REPORT: PARTICULATES, GIARDIA, AND CRYPTOSPORIDIUM

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

Filter ID: 28462
Client: Alpha Geoscience

Station/Body of water: Well K3

RECEIPT OF FILTER:

Date Received: 10/5/2007
# of filters: 1
Type: 1µm
Carrier: In Person

COLLECTION:

Collector: Steve Trader
Date collected: 10/5/2007
Temperature: °F
Turbidity: ------
Water Type: Ground Water

FILTER PROCESSING

Color of water around filter: cloudy
Filter color: tan
Color of sediment: brown
gallons filtered: 516
Total volume of sediment: 0.08 ml
Volume of sediment/100 gallons: 0.02 ml/100gal.
IFA equivalent liter volume examined: 100L
Phase equivalent gallon volume examined: 103gal.

GIARDIA/CRYPTOSPORIDIUM	# Observed	Calc. #/100 Gallons
Giardia cyst confirmed:	0	0
Giardia cyst presumptive :	0	0
Cryptosporidium oocyst confirmed:	0	0
Cryptosporidium oocyst presumptive:	0	0

ANALYSIS OF PARTICULATES:

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

PARTICULATE DEBRIS	Quantity	Description
Large part. 5 µm & larger	EH	fine silt & sand
Small part. up to 5 µm	EH	fine amorphous debris
Plant debris	NF	
OTHER ORGANISMS		
Nematodes	NF	
Nematode eggs	NF	
Rotifers	NF	
Crustaceans	NF	
Crustacean eggs	NF	
Insects	NF	
Other	R	1/100gal. plant debris w/out chlorophyll

PROTOZOANS	Quantity	Description
Other Coccidia	NF	
Other protozoans	NF	
ALGAE		
Green Algae	NF	
Diatoms	NF	
Blue-Green Algae	NF	
Flagellated Algae	NF	

COMMENTS:

Sediment = to 100 liters examined by IFA for Giardia and Cryptosporidium was negative (limit of detection = < 1 cyst / 100 L). No primary surface water indicators were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).

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

REPORT REVIEWED BY: Susan H. Boutros **DATE:** October 9, 2007

PWS ID#	Well ID#	Utility Name	EAL Sample ID:
	Well K3	**Alpha Geoscience**	**28462**

EPA Relative Surface Water Risk Factors

Date: 10/5/2007

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

EPA Relative Risk = 0	Low Risk

Secondary Particulates			
Nematodes	0	NF	
Crustaceans	0	NF	
Amoeba	0	NF	
Non-photo. flag. & ciliates	0	NF	
Photosynthetic flagellates	0	NF	
Other:	1	R	no relative risk factor assigned

COMMENTS: No primary surface water indicators were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).

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

L072692

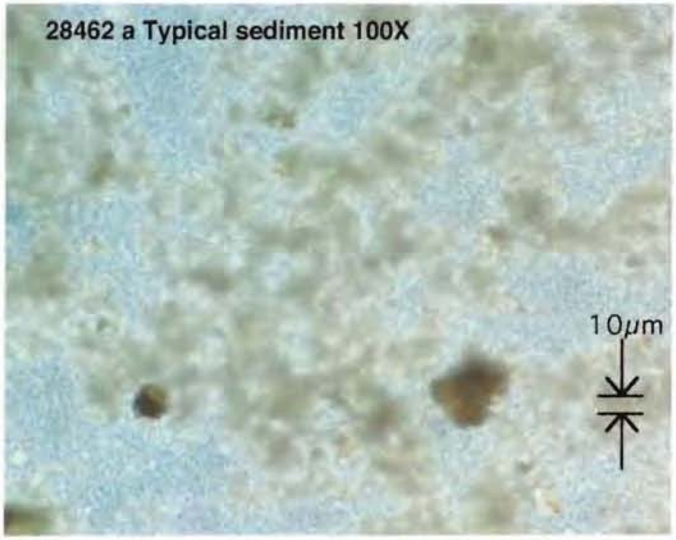
Environmental Associates Ltd. certifies that all quality control elements, as required by NELAP, associated with the above data have been met.

REPORT REVIEWED BY: Susan T. Boutros **DATE:** October 9, 2007 Environmental Associates, Ltd.

28462 Alpha Geoscience — CLIENT

Well K3 — SAMPLE SITE

Oct 12, 2007 10:12:46



28462A Typical sediment 100x

REPORT: PARTICULATES, GIARDIA, AND CRYPTOSPORIDIUM

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

Filter ID: 28424
Client: Alpha Geoscience

Station/Body of water: Well K4

RECEIPT OF FILTER:

Date Received: 10/1/2007
\# of filters: 2
Type: 1µm
Carrier: In Person

COLLECTION:

Collector: Steve Trader
Date collected: 10/1/2007
Temperature: °F
Turbidity: ------
Water Type: Ground Water

FILTER PROCESSING

Color of water around filter: clear
Filter color: tan
Color of sediment: pinkish grey
\# gallons filtered: 747
Total volume of sediment: 0.05 ml
Volume of sediment/100 gallons: 0.01 ml/100gal.
IFA equivalent liter volume examined: 100L
Phase equivalent gallon volume examined: 112gal.

GIARDIA/CRYPTOSPORIDIUM	# Observed	Calc. #/100 Gallons
Giardia cyst confirmed:	0	0
Giardia cyst presumptive :	0	0
Cryptosporidium oocyst confirmed:	0	0
Cryptosporidium oocyst presumptive:	0	0

ANALYSIS OF PARTICULATES:

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

PARTICULATE DEBRIS	Quantity	Description
Large part. 5 µm & larger	R	fine silt & sand
Small part. up to 5 µm	EH	fine amorphous debris
Plant debris	NF	
OTHER ORGANISMS		
Nematodes	NF	
Nematode eggs	NF	
Rotifers	NF	
Crustaceans	NF	
Crustacean eggs	NF	
Insects	NF	
Other	NF	

PROTOZOANS	Quantity	Description
Other Coccidia	NF	
Other protozoans	NF	
ALGAE		
Green Algae	NF	
Diatoms	NF	
Blue-Green Algae	NF	
Flagellated Algae	NF	

COMMENTS:

Sediment = to 100 liters examined by IFA for Giardia and Cryptosporidium was negative (limit of detection = < 1 cyst / 100 L). No biological materials were observed. Sediment is pinkish grey in color. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).

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

REPORT REVIEWED BY: Susan H. Boutros

DATE: October 9, 2007

PWS ID#	*Well ID#*	*Utility Name*	*EAL Sample ID:*
	Well K4	**Alpha Geoscience**	**28424**

EPA Relative Surface Water Risk Factors

Date: 10/1/2007

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

EPA Relative Risk = 0	Low Risk

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

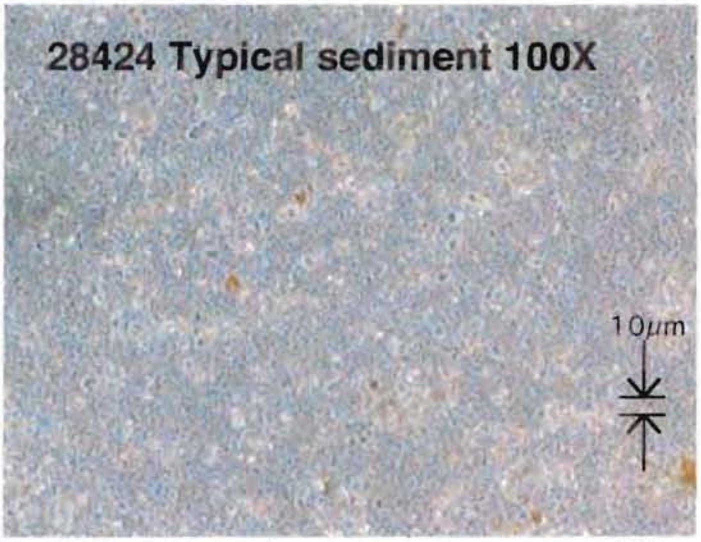
COMMENTS: No biological materials were observed. Sediment is pinkish grey in color. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).

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

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

REPORT REVIEWED BY: Susan T. Boutros **DATE:** October 9, 2007 Environmental Associates, Ltd.

28424 Alpha Geoscience Well K4
CLIENT SAMPLE SITE Oct 9, 2007 10:29:49



28424A Typical sediment 100x

APPENDIX H

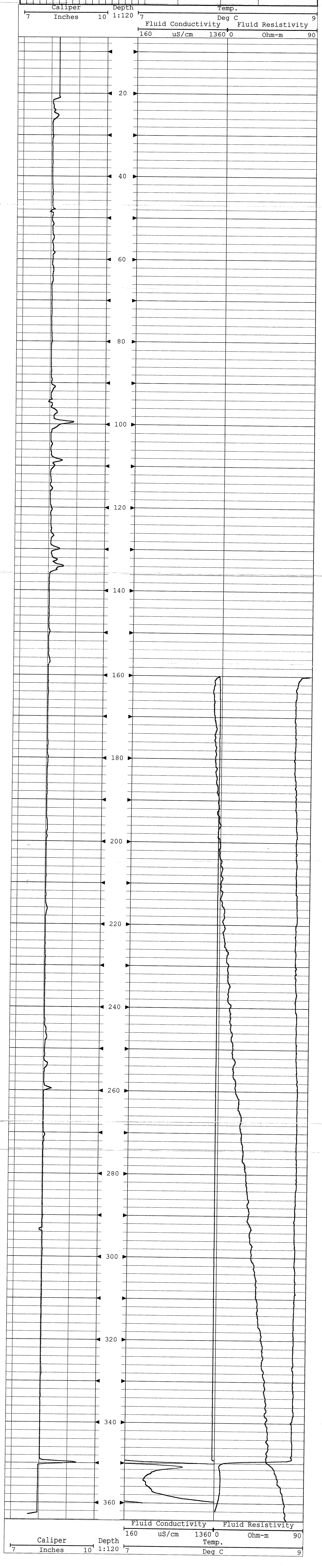
Down Hole Temperature and Conductivity Logs

K Wells

AQUA TERRA GEOPHYSICS INC

CO
WELL
FLD
CTY
STE
FILING No

COMPANY ALPHA GEOSCIENCE
WELL ID K-4
FIELD BELLEAYRE
COUNTRY DELAWARE STATE NEW YORK
LOCATION OTHER SERVICES
SEC TWP RGE
PERMANENT DATUM ELEVATION K.B.
LOG MEAS. FROM TOP OF CASING ABOVE PERM. DATUM D.F.
DRILLING MEAS. FROM G.L.
DATE NOVEMBER 14, 2007 TYPE FLUID IN HOLE
RUN No SALINITY
TYPE LOG DENSITY
DEPTH-DRILLER LEVEL
DEPTH-LOGGER MAX. REC. TEMP.
BTM LOGGED INTERVAL
TOP LOGGED INTERVAL
OPERATING RIG TIME
RECORDED BY BENJAMIN RICE
WITNESSED BY STEVE TASKER
RUN BOREHOLE RECORD CASING RECORD
NO. BIT FROM TO SIZE WGT. FROM TO



AQUA TERRA GEOPHYSICS INC

CO
WELL
FLD
CTY
STE
FILING No

COMPANY ALPHA GEOSCIENCE
WELL ID K-2
FIELD BELLEAYRE
COUNTRY DELAWARE STATE NEW YORK
LOCATION OTHER SERVICES
SEC TWP RGE
PERMANENT DATUM ELEVATION K.B.
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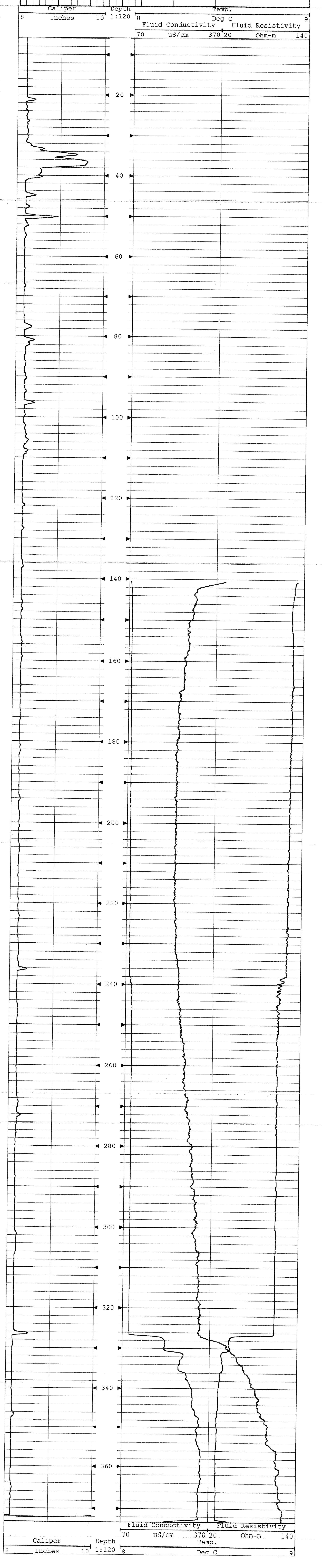
DRILLING MEAS. FROM G.L.
DATE NOVEMBER 14, 2007 TYPE FLUID IN HOLE
RUN No SALINITY
TYPE LOG DENSITY
DEPTH-DRILLER LEVEL
DEPTH-LOGGER MAX. REC. TEMP.
BTM LOGGED INTERVAL
TOP LOGGED INTERVAL
OPERATING RIG TIME
RECORDED BY BENJAMIN RICE
WITNESSED BY STEVE TRADER
RUN BOREHOLE RECORD CASING RECORD
NO. BIT FROM TO SIZE WGT. FROM TO



AQUA TERRA GEOPHYSICS INC

CO
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FLD
CTY
STE
FILING No

COMPANY ALPHA GEOSCIENCE
WELL ID K-3
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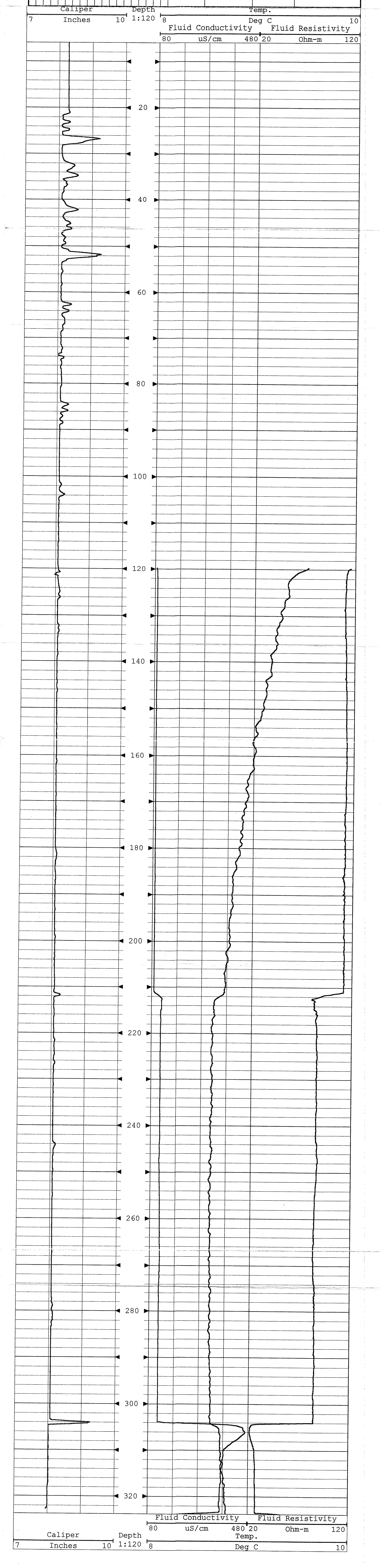
COUNTRY DELAWARE STATE NEW YORK
LOCATION OTHER SERVICES
SEC TWP RGE
PERMANENT DATUM ELEVATION K.B.
LOG MEAS. FROM TOP OF CASING ABOVE PERM. DATUM D.F.
DRILLING MEAS. FROM G.L.
DATE NOVEMBER 14, 2007 TYPE FLUID IN HOLE
RUN No SALINITY
TYPE LOG DENSITY
DEPTH-DRILLER LEVEL
DEPTH-LOGGER MAX. REC. TEMP.
BTM LOGGED INTERVAL
TOP LOGGED INTERVAL
OPERATING RIG TIME
RECORDED BY BENJAMIN RICE
WITNESSED BY STEVE TRADER
RUN BOREHOLE RECORD CASING RECORD
NO. BIT FROM TO SIZE WGT. FROM TO



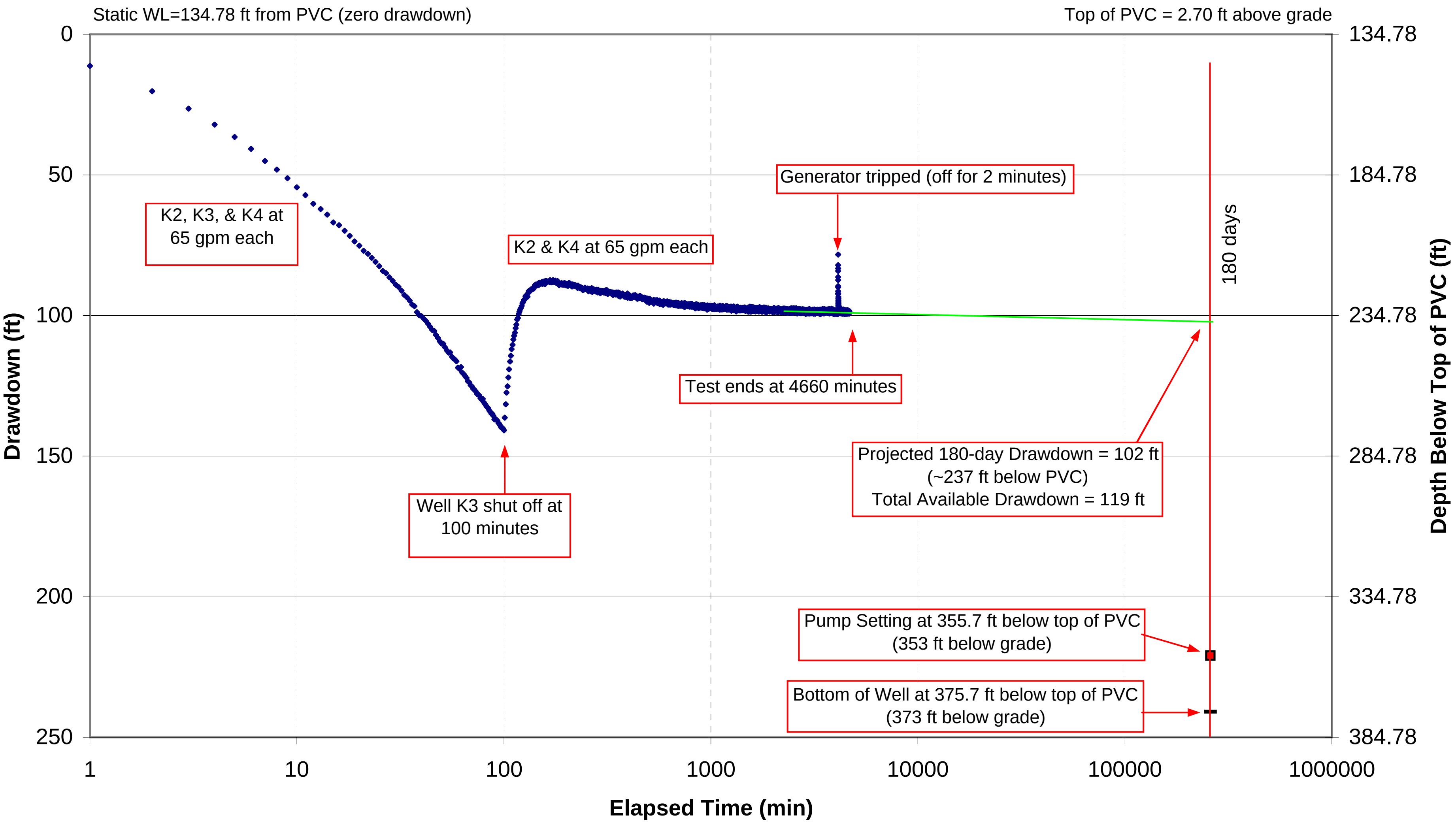
APPENDIX I

K2 and K4 Semi-Log and Stabilization Plots

K2-K4 Constant Rate Test

Well K2
Semi-log Plot of Drawdown Data
K2-K4 Pumping Test

K Well Field Pumping Tests
Belleayre Resort at Catskill Park



K2, K3, & K4 at 65 gpm each

K2 & K4 at 65 gpm each

Generator tripped (off for 2 minutes)

Test ends at 4660 minutes

Well K3 shut off at 100 minutes

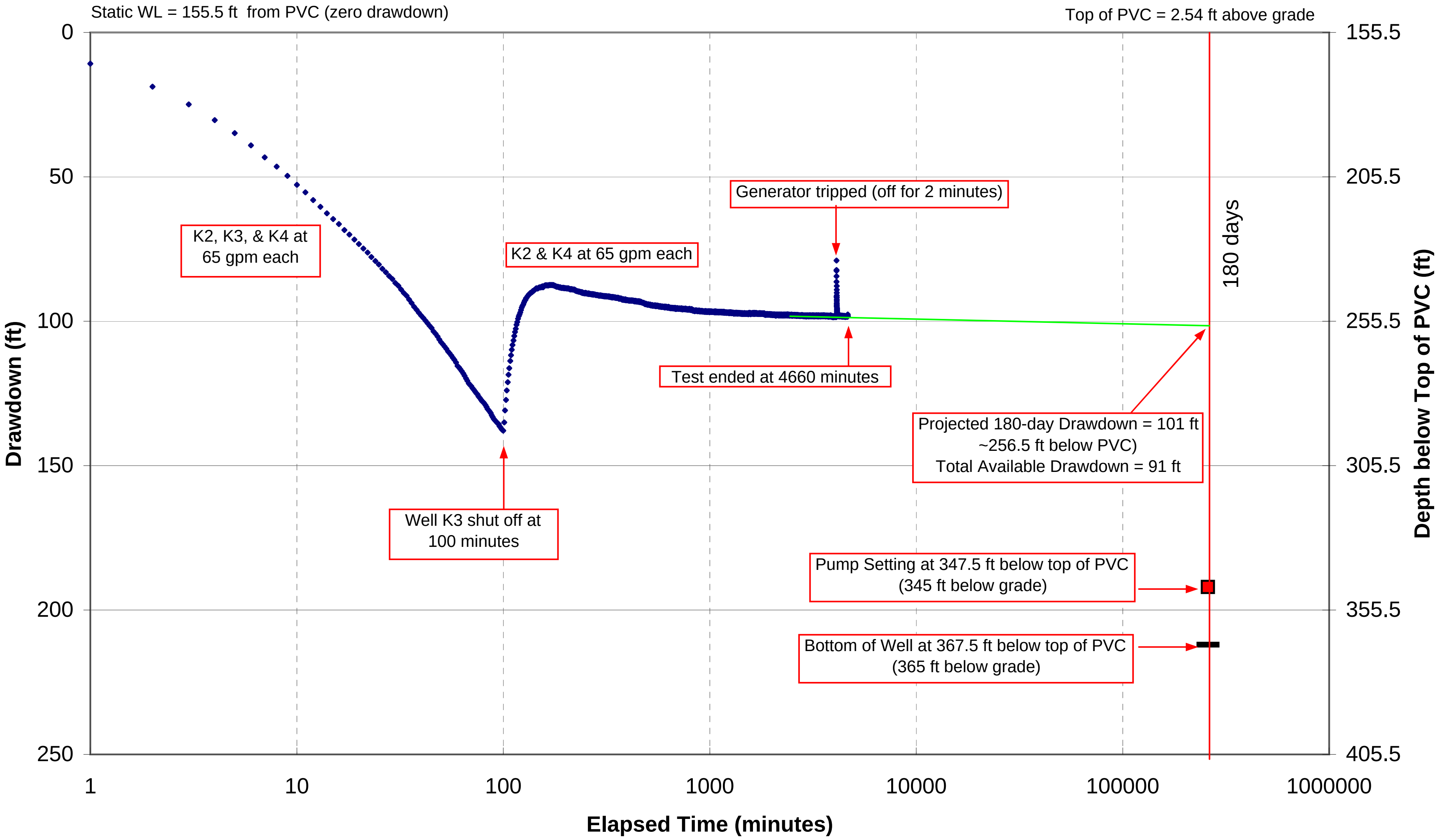
Projected 180-day Drawdown = 102 ft
(~237 ft below PVC)
Total Available Drawdown = 119 ft

Pump Setting at 355.7 ft below top of PVC
(353 ft below grade)

Bottom of Well at 375.7 ft below top of PVC
(373 ft below grade)

Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\K2\K2 All Data\K2 180 day

Well K4
Semi-log Plot of Drawdown Data
K2-K4 Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Static WL = 155.5 ft from PVC (zero drawdown)

Top of PVC = 2.54 ft above grade

K2, K3, & K4 at 65 gpm each

K2 & K4 at 65 gpm each

Generator tripped (off for 2 minutes)

Test ended at 4660 minutes

Well K3 shut off at 100 minutes

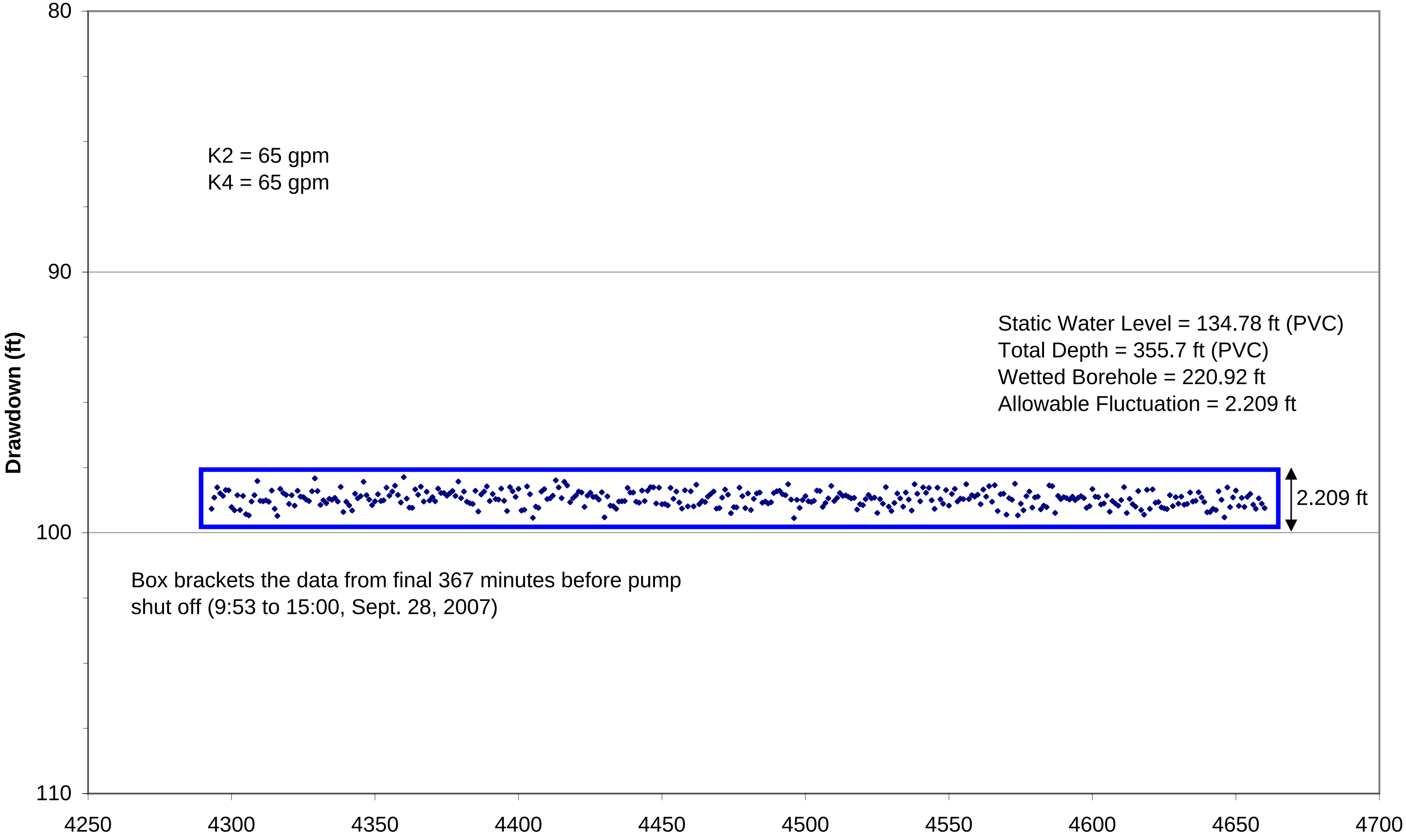
Projected 180-day Drawdown = 101 ft ~256.5 ft below PVC) Total Available Drawdown = 91 ft

Pump Setting at 347.5 ft below top of PVC (345 ft below grade)

Bottom of Well at 367.5 ft below top of PVC (365 ft below grade)

Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\k4\K4 All Data\K4 (K2-K4) 180 day

K2 Stabilization Plot
K2-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



K2 = 65 gpm
K4 = 65 gpm

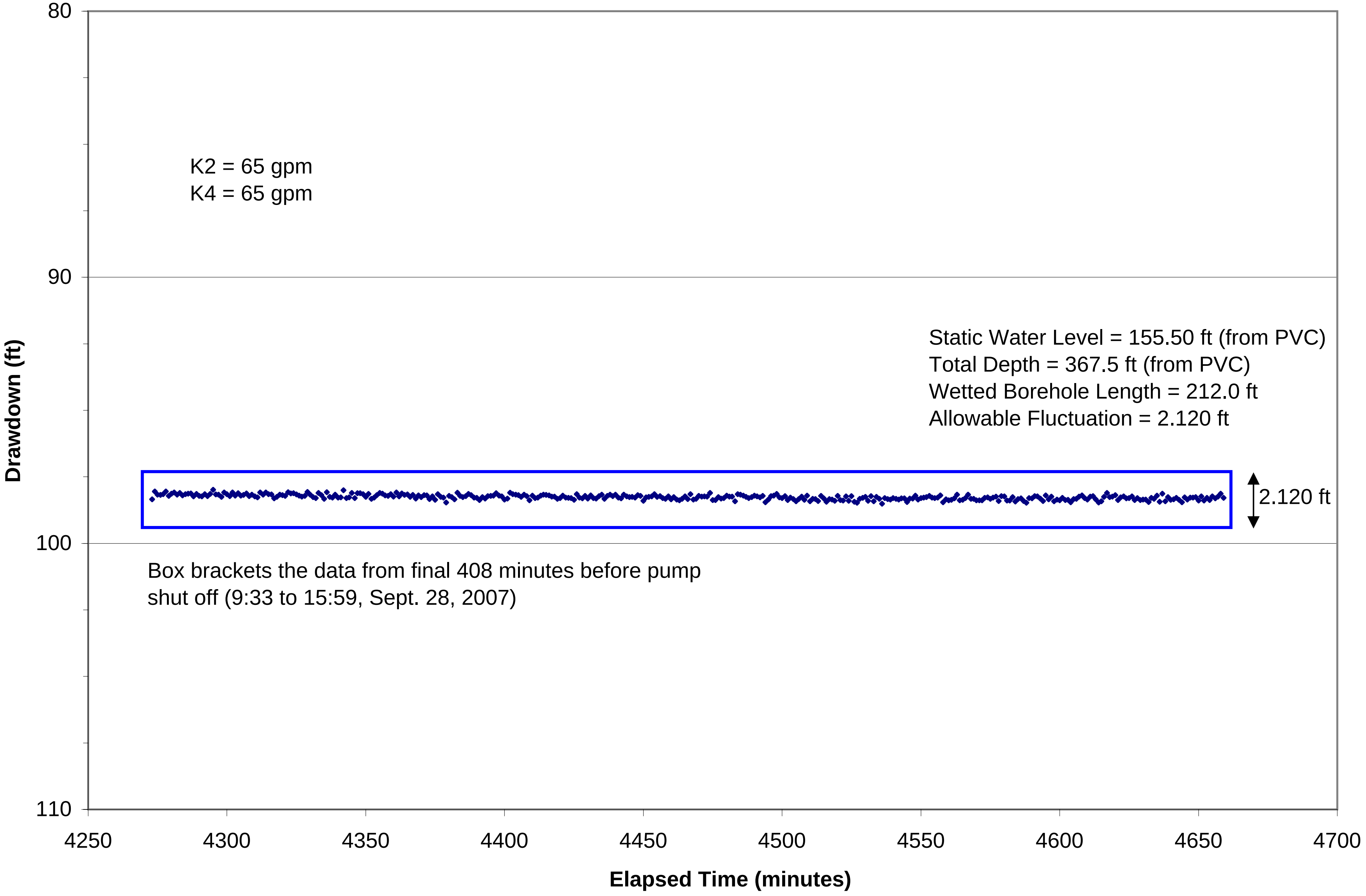
Static Water Level = 134.78 ft (PVC)
Total Depth = 355.7 ft (PVC)
Wetted Borehole = 220.92 ft
Allowable Fluctuation = 2.209 ft

Box brackets the data from final 367 minutes before pump shut off (9:53 to 15:00, Sept. 28, 2007)

Elapsed Time (minutes)

Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Six Hour Stabilization Plots\K2 Chart

K4 Stabilization Plot
K2-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



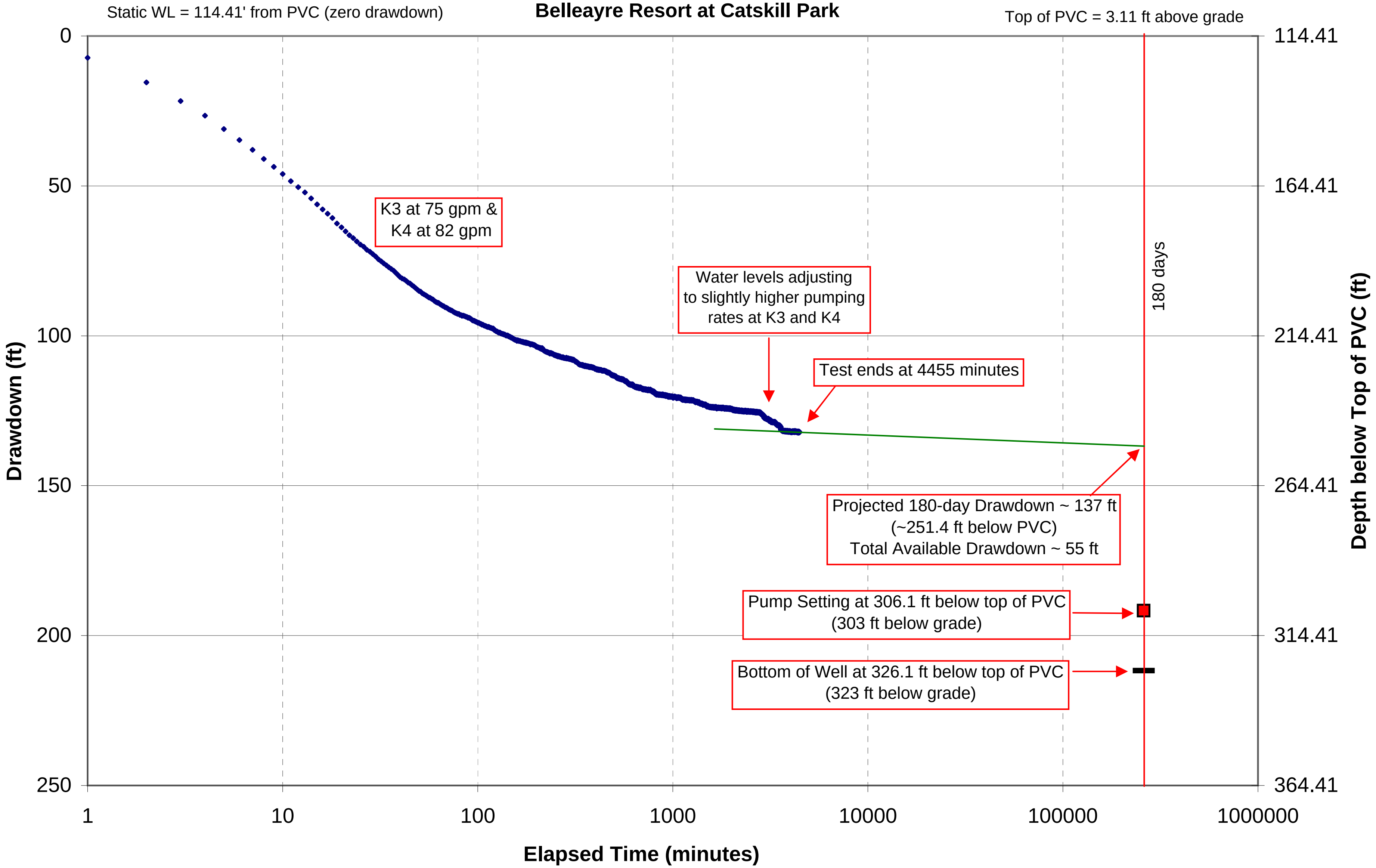
Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Six Hour Stabilization Plots\K4 (K2-K4) Chart

APPENDIX J

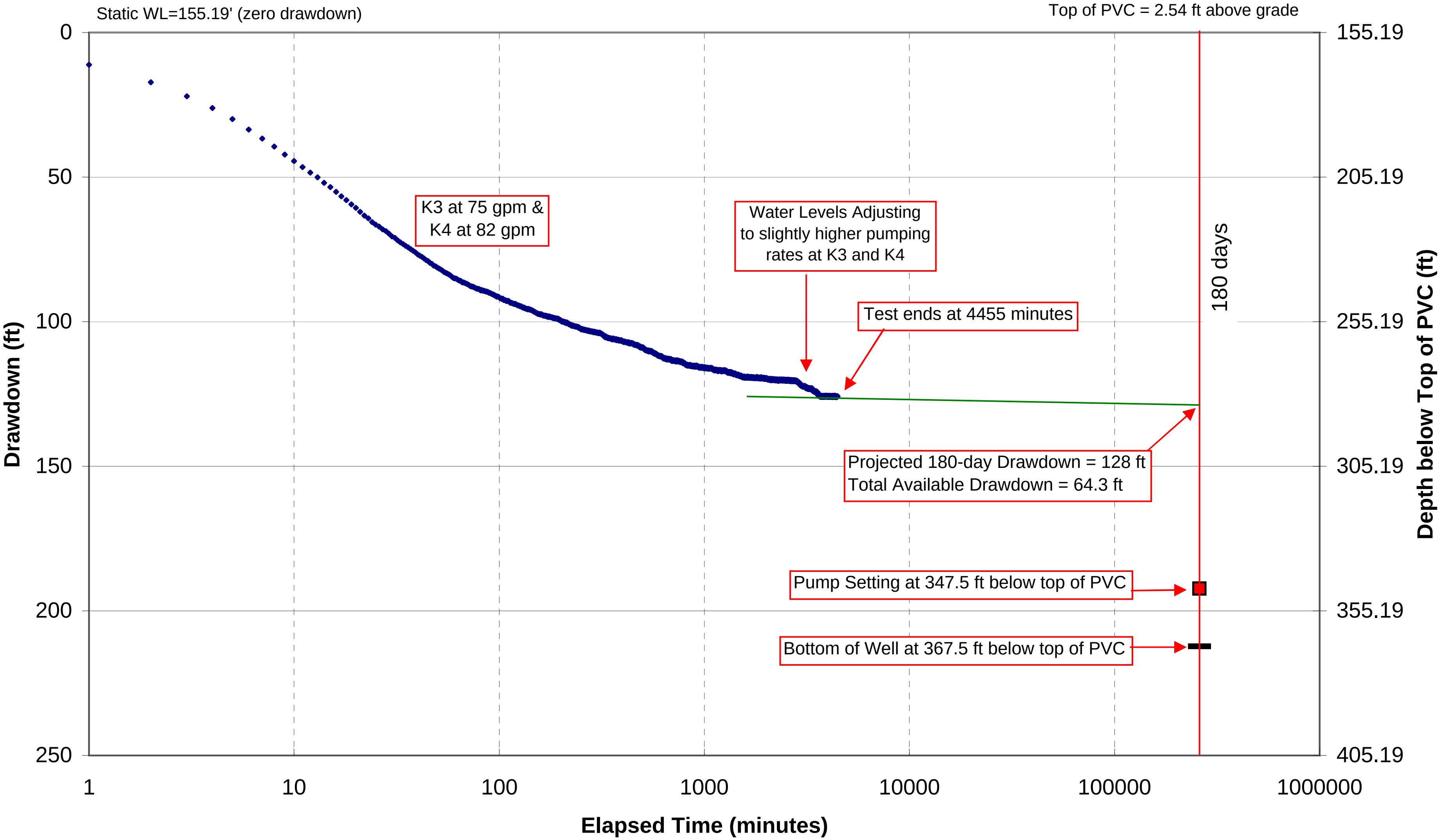
K3 and K4 Semi-Log and Stabilization Plots

K3-K4 Constant Rate Test

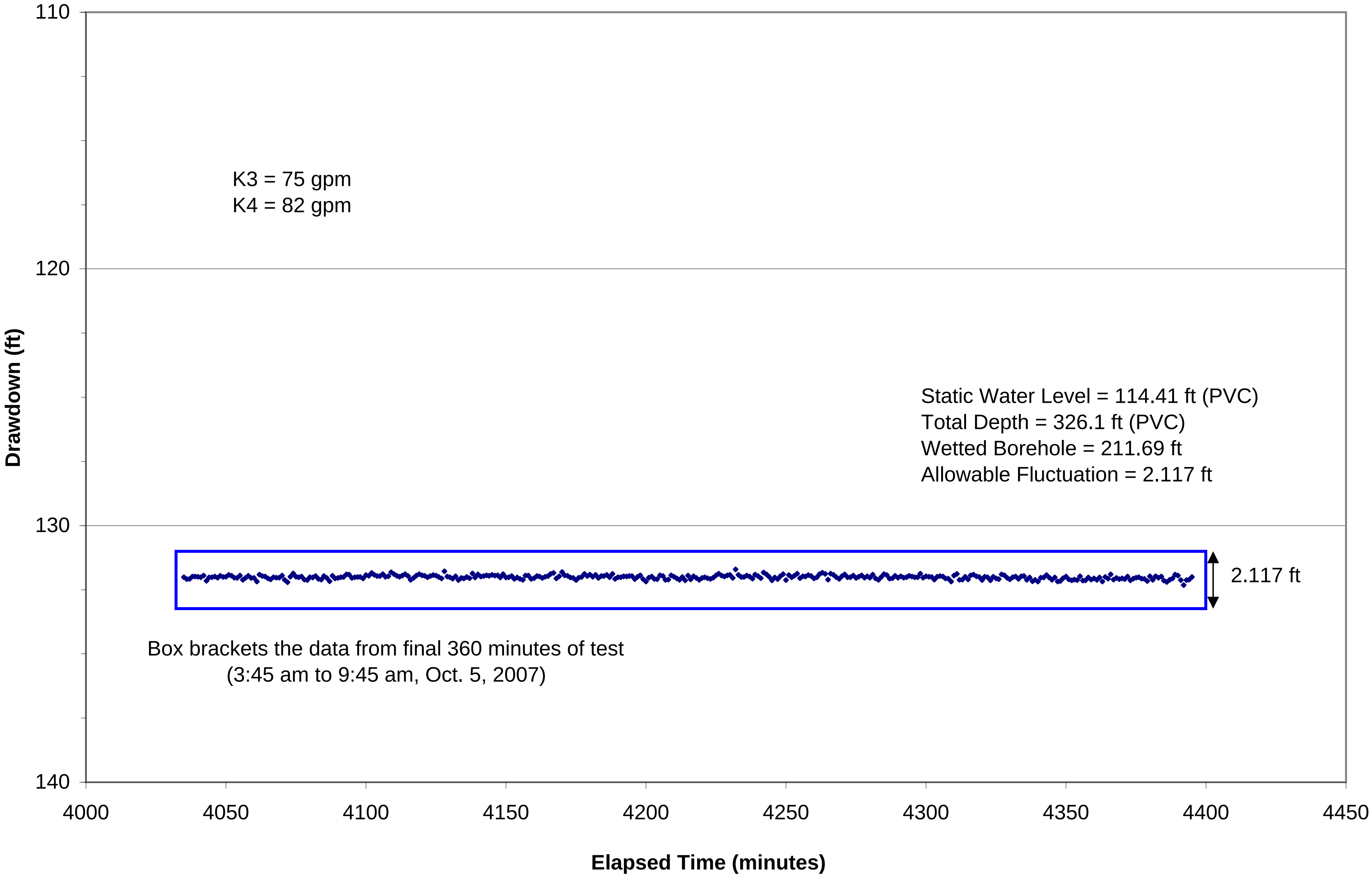
Well K3
Semi-log Plot of Drawdown Data
K3-K4 Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Well K4
Semi-log Plot of Drawdown Data
K3-K4 Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park

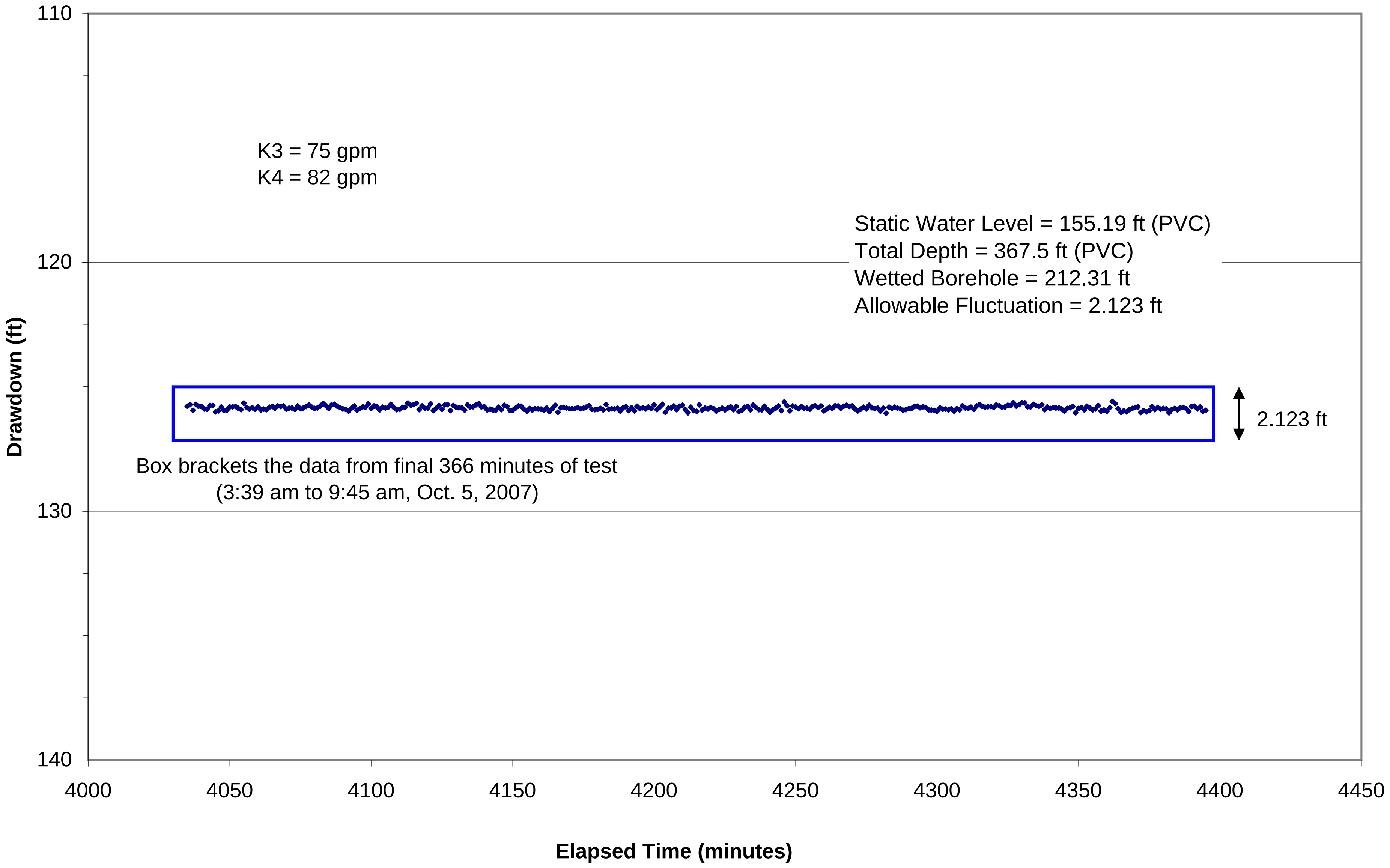


K3 Stabilization Plot
K3-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



Z:\projects\2007\07141 - 07160\07143 - Belleayre K Wells\Six Hour Stabilization Plots\K3 Chart

K4 Stabilization Plot
K3-K4 Simultaneous Pumping Test
K Well Field Pumping Tests
Belleayre Resort at Catskill Park



APPENDIX K

Q1 Well Pumping Test Protocol

with NYSDOH and NYSDEC Endorsements

Q1 Well Test

STATE OF NEW YORK
DEPARTMENT OF HEALTH
Flanigan Square 547 River Street Troy, New York 12180-2216

Richard F. Daines, M.D.
Commissioner

Wendy E. Saunders
Chief of Staff

October 24, 2008

Steve M. Trader
Alpha Geoscience
679 Plank Road
Clifton Park, NY 12065

Re: Log #18393
Pumping Test Protocol for Well Q1
Belleayre Resort/Crossroads Ventures
(T) Middletown, Delaware County

Dear Mr. Trader:

The New York State Department of Health (NYS DOH) has reviewed the "Pumping Test Protocol for Belleayre Resort Well Q1" received here electronically on October 9, 2008. The Protocol outlines a methodology consistent with the "Hybrid" constant rate/stabilized water level method that NYS DOH, NYS Department of Environmental Conservation (DEC), and others have agreed to for testing rock wells associated with the subject project. Several wells, including the Village of Fleischmanns wells and springs and at least two nearby private wells, will be observed during the pumping test to assess potential impacts from pumping at Q1.

We hereby endorse the subject Protocol with the following conditions:

THAT conductivity in Q1 be periodically measured and recorded, along with temperature, during the pumping test;
THAT a water sample be collected from Q1 toward the end of the pumping test and be sent for microscopic particulate analysis (MPA); and
THAT an effort be made to also observe water levels at the residence immediately west and downgradient from Q1.

Additionally, I offer the following comments.

1. Please ensure that data are available to indicate the impacts of pumping at Village Well 2 on Village Wells 1A and 4 when no pumping is done at Q1.

2. Please note that in the event of transducer failure in Q1 during the test the manually recorded water level values (frequency schedule in Section 3.1 of the Protocol) should be no less frequent than specified in the NYS DEC *Recommended Pump Test Procedures for Water Supply Applications.*

3. Although the proposed water level monitoring locations should be sufficient to assess potential impacts of pumping at Q1 on nearby public and private water wells, please be aware that additional testing and observation may need to be done in the future if the area-wide impacts appear to be potentially extensive as was determined to be the case during testing of the “Finn Well” at the Village of Hunter.

4. Please clarify for the record if the well casing at Q1 actually extends to 20 feet below ground surface (with 1.5 feet of “stick-up” casing welded to it) or if the casing and grout at Q1 extend to 18.5 feet below ground surface.

Thank you for the opportunity to review this Protocol. I may be reached at (518) 402-7676 if you have any questions.

Sincerely,

William Gilday

William M. Gilday, P.E.
Senior Sanitary Engineer
Bureau of Water Supply Protection

cc, electronically:
NYS DOH – CDRO, Attn: Mr. Vickerson
NYS DOH – ODO, Attn: Mr. Currey
NYS DEC, Attn: Mr. Garry
WHO, Attn: Mr. Ruzow, Ms. Bakner

P:\Sections\Design\EASTERN\Delaware\Crossroads\Logbook 18393, Pumping Test Protocol Q1.doc

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From: James Garry [jdgarry@gw.dec.state.ny.us]
Sent: Thursday, October 09, 2008 2:59 PM
To: Steve Trader
Cc: Seliag@aol.com; Bill Gilday; egoldstein@nrdc.org; Daniel' 'Ruzow; Peter' 'Trimarchi; Terresa' 'Bakner
Subject: Re: Belleayre - Well Q1 Pumping Test Protocol

Steve,

The proposal looks very good. Just a comment or two.

Perhaps the measurement made of surface water level should remain at the elevated frequency (every 6 - 8 hours) for the first 12 to 24 hours after pumping has ceased.

In the final report, please include historical precipitation data so that precipitation for the past two months can be compared to prior years autumn periods. Are there historical water levels at the wells to be monitored that can be used to compare to current water levels? And can historical data from Fleischmanns' spring be obtained for similar comparisons?

Thanks,
Jim

James D. Garry, P.G.
Senior Engineering Geologist
Division of Water
NYS Dept of Environmental Conservation
625 Broadway
Albany, N.Y. 12233-3508
Ph: 518 402-8101

>>> "Steve Trader" <strader@alphageoscience.com> 10/9/2008 12:50 PM >>>
Attached is the Protocol for performing a 72-hr pumping test on well Q1 for the proposed Belleayre Resort. Please review and comment. We anticipate conducting the test by the end of October.

Thanks,

Steve

Steven M. Trader

Geologist

Alpha Geoscience

<http://www.alphageoscience.com/> www.alphageoscience.com

PUMPING TEST PROTOCOL

BELLEAYRE RESORT WELL Q1

Prepared for:

Crossroads Ventures LLC
72 Andrew Lane Road
Mt. Tremper, New York 12457

October 9, 2008

PUMPING TEST PROTOCOL

BELLEAYRE RESORT WELL Q1

Prepared for:

Crossroads Ventures LLC
72 Andrew Lane Road
Mt. Tremper, New York 12457

Prepared by:

Alpha Geoscience
679 Plank Road
Clifton Park, NY 12065

October 9, 2008

TABLE OF CONTENTS

1.0 INTRODUCTION

This pumping test protocol is for the testing of the proposed production well Q1 located on the south side of Moran Road near the Village of Fleischmanns, Delaware County, New York. The pumping test is being undertaken by Crossroads Ventures LLC (Crossroads) as part of water supply development for the proposed Belleayre Resort at Catskill Park. The location of well Q1 is shown on Figure 1 and the driller's log for well Q1 is contained in Appendix A.

The objectives of the testing are to determine the sustainable yield of well Q1 and to assess the potential effects of pumping Q1 on nearby residential wells, the Fleischmanns' municipal water supply, and Emory Brook. The detailed protocol provided herein follows the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) requirements as set forth in Exhibit G, Section B, of the Agreement in Principle.

2.0 KEY ELEMENTS OF THE PUMPING TEST

The pumping test will consist of:

- Monitoring of water levels in bedrock pumping well Q1, bedrock observation wells, and Emory Brook;
- Monitoring precipitation at the Q-well field;
- Down-hole conductivity and temperature profiling of well Q1;
- Conducting a constant-rate pumping test of well Q1;
- Conducting a constant rate/stable level pumping test of Q1, if necessary;
- Monitoring of surface water and ground water quality;
- Monitoring spring flow rates;
- Monitoring of water level recovery; and
- Surveying the elevations of all monitoring locations.

3.0 WATER LEVEL MONITORING

Water levels will be measured starting at least 2-weeks prior to pumping of the Q1, continuing throughout the pumping tests, and ending at least one week following the completion of the constant rate pumping, or after 90 percent of the water level recovery has been achieved in the pumping well if it takes more than a week for 90 percent recovery to be achieved. Water level measurements will be made in the pumping well, in two bedrock residential wells (Dignis and the Real Estate Well), in two bedrock wells owned by the Village of Fleischmanns (Fleischmans 1A and 4), and in three wells owned by Crossroads (Z-Well, Q2 and Janis East). The water level in Emory Brook will be measured at two locations. The ground water level and surface water level monitoring locations are shown on Figure 1.

3.1 Monitoring of Pumping Well Q1

Water levels will be measured manually approximately once per day in well Q1 starting at least two weeks prior to any pumping. The well will be outfitted with a pressure transducer/data logger (transducer) automated to record measurements during the pumping test phases. The transducer will measure and record the water level to the nearest 0.01 ft once per minute throughout the pumping and recovery phases of the test. The transducer will be programmed to record water levels every ten minutes during the constant rate/constant level portion of the testing program in the event that it is needed.

Manual water level measurements will also be taken from the pumping well as a backup source of data in case of transducer failure/error. Manual measurements in the pumping well will be taken with an electronic meter capable of recording to the nearest 0.01 ft. Manual water level measurements will be taken from the pumping well at approximately the following intervals for the 72-hour constant rate phase:

Time after Pumping Started	Time Between Successive Measurement Interval
0 – 15 minutes	1 minute

15 – 50 minutes	5 minutes
50 – 100 minutes	10 minutes
100 – 240 minutes	30 minutes
240 minutes – 72 hours	1 hour

Manual water level readings during the recovery phase after pump shut-off will follow the time intervals shown above except that after 12 hours, the frequency of manual water level readings will be reduced to two or three times per day. The frequency will be further reduced to once per day if 90% recovery is not achieved within two days.

3.2 Monitoring of Bedrock Observation Wells

Manual water level measurements will be made in bedrock observation wells at the locations shown on Figure 1. These wells include:

- Two residential wells
    - Dignis
    - Real Estate

- Two Fleischmanns Municipal wells
    - Fleischmanns Well 1A
    - Fleischmanns Well 4

- Three Crossroads wells
    - Z
    - Q2
    - Janis East

Water levels in the monitoring wells will be measured manually with either an electronic water level meter or a sonic water level meter capable of recording to the nearest 0.1 ft. The manual water level measurements will be made approximately twice a week for at least two weeks prior to the start of the Q1 pumping test. The monitoring will be increased to once every six to eight hours during the 72-hour constant rate and the subsequent constant rate/stable level testing. The interval will be dropped back to approximately once a day during the recovery period. An attempt will be made to have the residential well users record times during which their pump is in use.

Fleischmanns well 1A does not currently have a pump and the well is not in use. It is Alpha's understanding that Fleischmanns Well 2, which is the Village's highest yielding well, automatically operates when the water level in the Village spring reservoir drops below a certain level. The wellhead configuration at Well 2 does not allow for manual water level measurements; however, the Village water department has agreed to shut off Well 2 during the constant rate test unless it becomes absolutely necessary to operate. This will eliminate any Well 2-induced water level drawdown at Well 1A and at Well 4. It is anticipated that the flow of the Fleischmanns springs will be sufficient to meet the Village demand during the constant rate pumping test. Fleischmanns Well 4 typically is operated only during conditions of high demand and low spring yields, and when Well 2 production is not enough to meet the demand. It is not expected that Well 4 will be used by the Village during the pumping tests and its operation is not tied to the spring reservoir level.

Well Q2 will also be outfitted with a transducer to automatically record water levels. The transducer will be set to measure and record water levels at least every four hours during the test and for at least a week during recovery.

3.3 Monitoring Surface Water

Manual water level measurements will be taken at two locations in Emory Brook. One of these locations will be upstream of where the pumping well discharge enters Emory Brook (Emory 1) (Figure 1). The second location will be further downstream, near Fleischmann Well 1A. The measurements will be taken from a fixed point, such as a mark on a rock or structure, or from a metal post driven into the creek bed. A measuring tape or electronic water level meter will be used to measure the creek levels. Measurements will be made at least twice per week starting approximately two weeks prior to any pumping at Q1. The measurement frequency will be increased to every six to eight hours during the 72-hour constant rate and the follow-up constant rate/constant level test. Subsequent recovery measurements will be made once per day for one week after pumping has been terminated or until 90 percent recovery has been achieved in the Q-wells.

4.0 SPRING FLOW MONITORING

It is Alpha's understanding from Delaware Engineering that the Village of Fleischmanns spring collection system is currently outfitted with a weir and a data logger that automatically records the total spring flow into the spring reservoir every two hours. The data from the Village's spring flow monitoring system will be obtained and incorporated into the pumping test evaluation of the Q-well field.

5.0 PRECIPITATION MONITORING

A rain gauge will be installed in an open area at the Q-well field. The gauge will be checked daily, two weeks prior to the pumping and continuing through to at least a week after the pumping has been completed. Measurements will be recorded to the nearest 0.01 inch and a log will be kept of the general weather conditions.

6.0 DOWNHOLE TEMPERATURE AND CONDUCTIVITY LOGGING

The conductivity and temperature profile of the water column will be logged in pumping well Q1. The profile will be logged using an electronic sensor that will be lowered into the hole on a cable. The logging will be initiated at the top of the water column and logged from the top to bottom to avoid disturbance of ambient conditions. As with the K-well testing in the fall of 2007, the downhole profile will be performed several weeks after the Q1 pumping test is complete.

7.0 CONSTANT RATE PUMPING TEST

A constant rate pumping test of Q1 will be conducted for a minimum of 72 hours as specified in NYSDEC's Recommended Pump Test Procedures for Water Supply Applications (Appendix 10, TOGS 3.2.1). The target pumping rate is 45 gallons per minute (gpm) based on the results of a step-rate test that was conducted on August 26, 2008. The pumping rate will be monitored throughout the 72-hour test by using a pipe orifice system and by periodically checking the accuracy of the system with a receptacle of known volume and a stop watch.

If there is a need to reduce the pumping rate during the test, the pumping length will be increased so that a continuous 72-hour period of constant pumping can be achieved. The primary reason for reducing the rate would be if an early projection of drawdown shows that the well suction will be broken prior to the end of the test or prior to the end of a 180 day (6-month) projection of the drawdown data.

A lengthening of the 72-hour test up to an additional 24-hours may be necessary if a significant boundary condition has been reached. A mere blip on the line that is the result of inadvertent, short term changes in pumping rate, does not constitute a boundary condition. Small fluctuations in pumping rates are normal and unavoidable in all pumping tests that experience changes in pump lift pressure related to hydraulic head loss.

A lengthening of the pumping test may also be considered if a recharge event during the later stages of the 72-hour constant rate test causes a rise in water levels in the pumping wells that are more than 0.5 ft per 100 ft of wetted borehole. The test will be postponed if a significant recharge event is anticipated shortly before or during the scheduled start of the test.

The pumping discharge will be directed by gravity drainage through a pipe that will conduct the water to a drainage ditch that runs along the south side of Moran Road. This drainage ditch drains westward to a drainage ditch along the south side of New York State Route 28 and then passes through a culvert under Route 28 and empties into Emory Brook.

8.0 CONSTANT RATE/STABLE LEVEL PUMPING TEST

The running of a constant rate/stable water level test in well Q1 is an optional test that will only be necessary if water level stabilization does not occur during the 72-hour constant rate test. The constant rate/stable level test will be initiated by reducing the pumping rate by 10 percent or some other reasoned amount less than 10 percent. The test will be conducted per the requirements of the NYSDOH/NYSDEC Hybrid pumping test protocol developed for this project. The test will allow a 6-hour period of aquifer level recovery following the discharge reduction before initiating a period of 6-hours during which the water level must remain stable. A stabilized water level is defined in Section 5-D.4(c) of Appendix 5-D, NYS Sanitary Code, as one which "shall not fluctuate more than plus or minus 0.5 foot (i.e.; within a vertical tolerance of one foot) for each 100 feet of water in the well (i.e.; initial water level to the bottom of well) over the duration of constant flow rate of pumping. The water level at the end point of the stabilized drawdown period shall not be lower than the water level at the beginning point of that period." The stability criteria will be based on the static water level measured less than an hour before the start of the 72-hour pumping test.

Additional 12-hour periods of constant rate/stable level pumping may be required if the forgoing NYSDOH stabilization requirements are not met. Each successive step will require six hours of reduced pumping with associated aquifer recovery prior to initiating a six hour period of stability. This is necessary to meet the NYSDOH criteria for a stable water level.

10.0 WATER QUALITY MONITORING

Water quality from the pumping well discharge and Emory Brook will be monitored throughout the test using field testing methods. The field testing will include measurements of temperature, turbidity, pH and conductivity, total dissolved solids and the observation of odor and color. The field temperature measurements will be taken at the pumping well and at the upstream location in Emory Brook (Emory 2) using automated data loggers that will be set to record a temperature measurement every four hours.

Water samples will be collected from the pumping well discharge near the end of the 72-hour pumping test. The sample from the pumping well will be submitted to a NYSDOH-certified laboratory for analysis of water quality parameters established in Subpart 5-1 of the State Sanitary Code (Part 5 parameters).

11.0 RECOVERY MONITORING

The water levels at the pumping well, monitoring wells and stream locations will be monitored for at least one week or until 90 percent recovery has occurred (whichever is longer). The monitoring will be conducted as described previously in Section 3.0.

12.0 ELEVATION SURVEY

The elevations of all measuring reference points for monitoring locations and pumping wells will be surveyed by a surveyor licensed in the State of New York. Ground elevations for the wells will also be surveyed for elevation. This survey will be completed before completion of the pumping test analysis and submission of the pumping test report.

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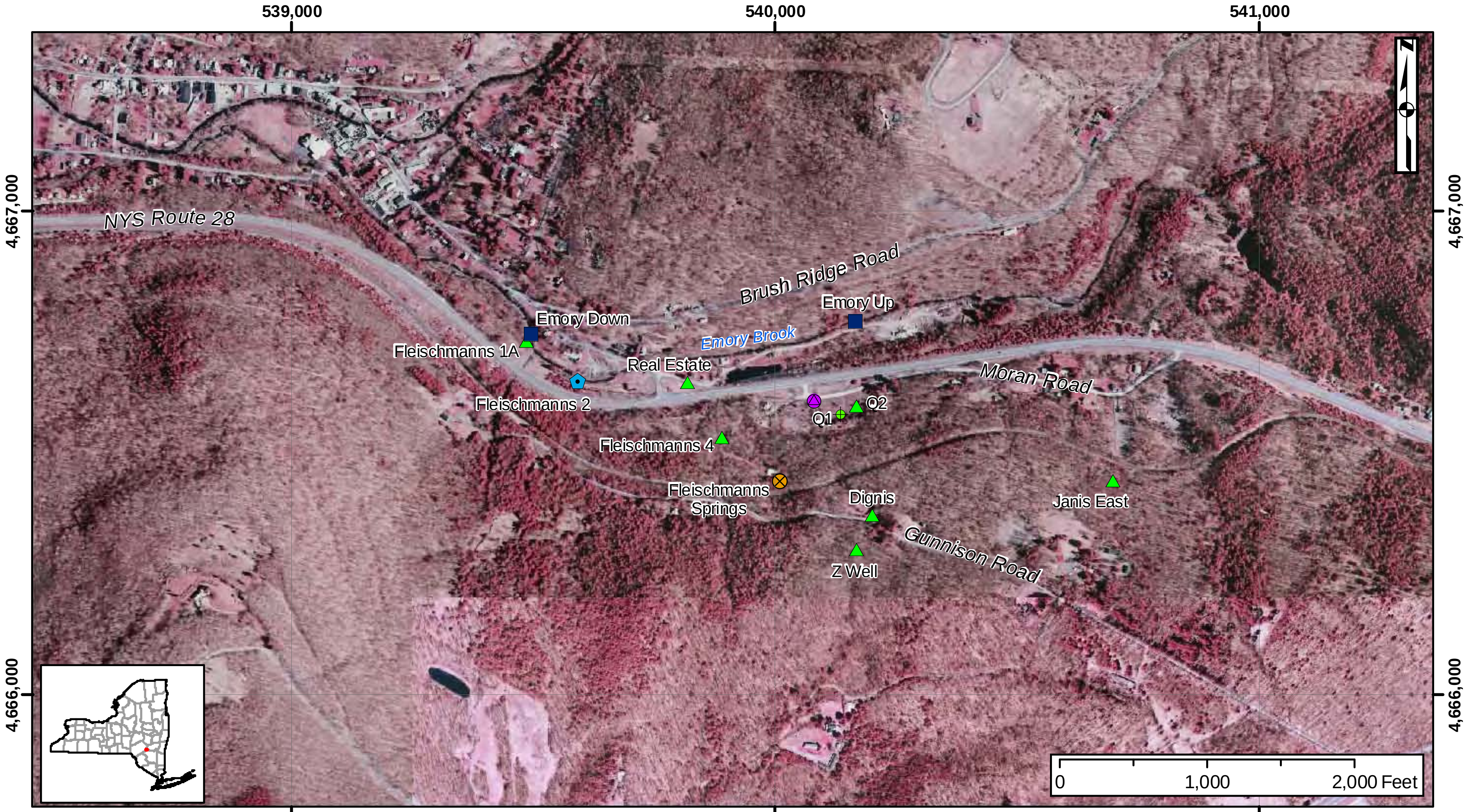
FIGURE 1



Key

Monitoring Locations

- ⊕ Production Well
- ⬟ Primary Village Supply Well
- ▲ Monitoring Well
- ■ Stream Monitoring Location
- ▲ Discharge Location
- ⊗ Spring Location

Notes:

- **Basemap - Delaware County 30-centimeter Resolution Color Infrared Orthoimagery (April 2001), NYS Office of Cyber Security & Critical Infrastructure Coordination.**
- **Grid units are UTM meters (NAD83, Zone 18N).**
- **Locations of well Q2 and the Real Estate Well are approximate. All other well locations are based on GPS readings.**

ALPHA GEOSCIENCE

Alpha Project No. 00163

FIGURE 1

PRODUCTION WELL AND MONITORING LOCATIONS

Well Q1 Pumping Test
Bellayre Resort

Fleischmanns, Delaware County, New York

Map Document: (Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\GIS\Monitoring_Locations_Q-Wells.mxd)
10/27/2008 -- 2:13:08 PM

APPENDIX A

Drillers Log

Steve Trader
(518)348-6966

32

70907

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY Delaware

pg 1

(2) TOWN

(3) DEC Well Number D2256

WATER WELL COMPLETION REPORT

(4) OWNER Crossroad Ventures

Well #1

(5) ADDRESS Mt tremper NY / Moran Rd. Fleischmanns NY

(6) LOCATION OF WELL (See Instructions On Reverse) (Check here ☐ if same as address above, also provide Lat / Long below) Show Lat/Long if available and method used: ☒ GPS ☐ Map Interpolation 42° 09.332N 74° 33.054W

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 373

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet)

DATE MEASURED

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

(10) LENGTH 20 ft. | ft. | ft. | in.

(11) GROUT TYPE / SEALING Bentonite/Driveshoe

(12) GROUT / SEALING INTERVAL (feet) 20 FROM 0 TO 20

(13) MAKE & MATERIAL

(14) OPENINGS

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

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

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

(18) DATE 8-4-08

(19) DURATION OF TEST 1hr

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

(21) STABILIZED DISCHARGE (GPM) 40

(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 ___

(26) PUMP INSTALLED? YES ___ NO X

(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 Airhammer

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

(36) DATE DRILLING WORK STARTED 8-1-08

(37) DATE DRILLING WORK COMPLETED 8-4-08

(38) DATE REPORT FILED 8.4.08

(39) REGISTERED COMPANY Titan Drilling Corp

(40) DEC REGISTRATION NO. NYRD 0178

(41) CERTIFIED DRILLER (Print name) Troy Johnson

(42) CERTIFIED DRILLER SIGNATURE *

(43) LOG

Depth to Bedrock ______ (ft. below ground surface)

Ground Elev. 1625 (ft. above S.L.)

Top of Casing 1.5+ (ft., above (+) or below (-) ground surface)

TOP OF WELL

blue sandstone 0-10	▤
brown Sandstone 10-15	▤
blue Sandstone 15-21	▤
red Sandstone 21-28	▤
blue sandstone 28-42	▤
red sandstone 42-44	▤
blue Sandstone 44-45	▤
brown sandstone 45-49	▤
blue sandstone 49-53	▤
red sandstone 53-55	▤
blue Sandstone 55-61	▤
red shale 61-66	▨
red Sandstone 66-68	▤
red shale 68-77	▨
red Sandstone 77-83	▤
blue Sandstone 83-114	▤
red Sandstone 114-117	▤
blue Sandstone 117-120	▤
red Sandstone 120-126	▤
red Shale 126-132	▨

70907

pg. 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY Delaware

(2) TOWN

(3) DEC Well Number D22516

WATER WELL COMPLETION REPORT

(4) OWNER Crossroad Ventures Well#1

(5) ADDRESS Mt Tremper NY/Moran Rd Fleischmanns NY

(6) LOCATION OF WELL (See instructions On Reverse) (Check here ☐ if same as address above, also provide Lat/Long below)
Show Lat/Long if available and method used: 42° 09.332N 74° 33.054W
☒ GPS ☐ Map Interpolation

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 373

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

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

(10) LENGTH 20 ft. | ft. | ft. | in.

(11) GROUT TYPE / SEALING Bentonite / Driveshoe

(12) GROUT / SEALING INTERVAL (feet) 20 FROM 0 TO 20

(13) MAKE & MATERIAL

(14) OPENINGS

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

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

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

(18) DATE 8-4-08

(19) DURATION OF TEST 1hr

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

(21) STABILIZED DISCHARGE (GPM) 40

(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 ____

(26) PUMP INSTALLED? YES ____ NO X

(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 Air hammer

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

(36) DATE DRILLING WORK STARTED 8-1-08

(37) DATE DRILLING WORK COMPLETED 8-4-08

(38) DATE REPORT FILED 8.4.08

(39) REGISTERED COMPANY Titan Drilling Corp

(40) DEC REGISTRATION NO. NYRD 10178

(41) CERTIFIED DRILLER (Print name) Tim Tillinson

(42) CERTIFIED DRILLER SIGNATURE

(43) LOG

Depth to Bedrock ____ (ft. below ground surface)

Ground Elev. 1625 (ft. above S.L.)

Top of Casing 1.5+ (ft., above (+) or below (-) ground surface)

TOP OF WELL

red sandstone 132-164	▤
blue sandstone 164-170	▤
red sandstone 170-199	▤
blue sandstone 199-205	▤
red sandstone 205-211	▤
blue sandstone 211-215	▤
red sandstone 215-223	▤
red shale 223-238	▧
red sandstone 238-278	▤
blue sandstone 278-280	▤
red shale 280-365	▧
blue sandstone 365-373	▤

APPENDIX L

Precipitation at Belleayre Ski Center

October – November, 2008

Hourly Precipitation at Belleayre Ski Center from October through November, 2008

10/1/2008 12:00 AM	0.04	10/4/2008 3:00 AM	0	10/7/2008 6:00 AM	0	10/10/2008 9:00 AM	0	10/13/2008 12:00 PM	0	10/16/2008 3:00 PM	0	10/19/2008 6:00 PM	0
10/1/2008 1:00 AM	0	10/4/2008 4:00 AM	0	10/7/2008 7:00 AM	0	10/10/2008 10:00 AM	0	10/13/2008 1:00 PM	0	10/16/2008 4:00 PM	0	10/19/2008 7:00 PM	0
10/1/2008 2:00 AM	0	10/4/2008 5:00 AM	0	10/7/2008 8:00 AM	0	10/10/2008 11:00 AM	0	10/13/2008 2:00 PM	0	10/16/2008 5:00 PM	0	10/19/2008 8:00 PM	0
10/1/2008 3:00 AM	0	10/4/2008 6:00 AM	0	10/7/2008 9:00 AM	0	10/10/2008 12:00 PM	0	10/13/2008 3:00 PM	0	10/16/2008 6:00 PM	0	10/19/2008 9:00 PM	0
10/1/2008 4:00 AM	0	10/4/2008 7:00 AM	0	10/7/2008 10:00 AM	0	10/10/2008 1:00 PM	0	10/13/2008 4:00 PM	0	10/16/2008 7:00 PM	0	10/19/2008 10:00 PM	0
10/1/2008 5:00 AM	0	10/4/2008 8:00 AM	0	10/7/2008 11:00 AM	0	10/10/2008 2:00 PM	0	10/13/2008 5:00 PM	0	10/16/2008 8:00 PM	0	10/19/2008 11:00 PM	0
10/1/2008 6:00 AM	0	10/4/2008 9:00 AM	0	10/7/2008 12:00 PM	0	10/10/2008 3:00 PM	0	10/13/2008 6:00 PM	0	10/16/2008 9:00 PM	0	10/20/2008 12:00 AM	0
10/1/2008 7:00 AM	0	10/4/2008 10:00 AM	0.01	10/7/2008 1:00 PM	0	10/10/2008 4:00 PM	0	10/13/2008 7:00 PM	0	10/16/2008 10:00 PM	0	10/20/2008 1:00 AM	0
10/1/2008 8:00 AM	0.01	10/4/2008 11:00 AM	0	10/7/2008 2:00 PM	0	10/10/2008 5:00 PM	0	10/13/2008 8:00 PM	0	10/16/2008 11:00 PM	0	10/20/2008 2:00 AM	0
10/1/2008 9:00 AM	0	10/4/2008 12:00 PM	0	10/7/2008 3:00 PM	0	10/10/2008 6:00 PM	0	10/13/2008 9:00 PM	0	10/17/2008 12:00 AM	0	10/20/2008 3:00 AM	0
10/1/2008 10:00 AM	0	10/4/2008 1:00 PM	0	10/7/2008 4:00 PM	0	10/10/2008 7:00 PM	0	10/13/2008 10:00 PM	0	10/17/2008 1:00 AM	0	10/20/2008 4:00 AM	0
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10/1/2008 12:00 PM	0.02	10/4/2008 3:00 PM	0	10/7/2008 6:00 PM	0	10/10/2008 9:00 PM	0	10/14/2008 12:00 AM	0	10/17/2008 3:00 AM	0	10/20/2008 6:00 AM	0
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10/1/2008 7:00 PM	0	10/4/2008 10:00 PM	0	10/8/2008 1:00 AM	0	10/11/2008 4:00 AM	0	10/14/2008 7:00 AM	0	10/17/2008 10:00 AM	0	10/20/2008 1:00 PM	0
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10/2/2008 2:00 AM	0	10/5/2008 5:00 AM	0	10/8/2008 8:00 AM	0.02	10/11/2008 11:00 AM	0	10/14/2008 2:00 PM	0	10/17/2008 5:00 PM	0	10/20/2008 8:00 PM	0
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10/3/2008 9:00 AM	0	10/6/2008 12:00 PM	0	10/9/2008 3:00 PM	0	10/12/2008 6:00 PM	0	10/15/2008 9:00 PM	0	10/19/2008 12:00 AM	0	10/22/2008 3:00 AM	0
10/3/2008 10:00 AM	0.01	10/6/2008 1:00 PM	0	10/9/2008 4:00 PM	0	10/12/2008 7:00 PM	0	10/15/2008 10:00 PM	0	10/19/2008 1:00 AM	0	10/22/2008 4:00 AM	0
10/3/2008 11:00 AM	0.01	10/6/2008 2:00 PM	0	10/9/2008 5:00 PM	0	10/12/2008 8:00 PM	0	10/15/2008 11:00 PM	0	10/19/2008 2:00 AM	0	10/22/2008 5:00 AM	0
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10/3/2008 2:00 PM	0.01	10/6/2008 5:00 PM	0	10/9/2008 8:00 PM	0	10/12/2008 11:00 PM	0	10/16/2008 2:00 AM	0	10/19/2008 5:00 AM	0	10/22/2008 8:00 AM	0
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10/3/2008 4:00 PM	0	10/6/2008 7:00 PM	0	10/9/2008 10:00 PM	0	10/13/2008 1:00 AM	0	10/16/2008 4:00 AM	0	10/19/2008 7:00 AM	0	10/22/2008 10:00 AM	0
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10/3/2008 8:00 PM	0	10/6/2008 11:00 PM	0	10/10/2008 2:00 AM	0	10/13/2008 5:00 AM	0	10/16/2008 8:00 AM	0.02	10/19/2008 11:00 AM	0	10/22/2008 2:00 PM	0
10/3/2008 9:00 PM	0	10/7/2008 12:00 AM	0	10/10/2008 3:00 AM	0	10/13/2008 6:00 AM	0	10/16/2008 9:00 AM	0.1	10/19/2008 12:00 PM	0	10/22/2008 3:00 PM	0
10/3/2008 10:00 PM	0	10/7/2008 1:00 AM	0	10/10/2008 4:00 AM	0	10/13/2008 7:00 AM	0	10/16/2008 10:00 AM	0.02	10/19/2008 1:00 PM	0	10/22/2008 4:00 PM	0
10/3/2008 11:00 PM	0	10/7/2008 2:00 AM	0	10/10/2008 5:00 AM	0	10/13/2008 8:00 AM	0	10/16/2008 11:00 AM	0.01	10/19/2008 2:00 PM	0	10/22/2008 5:00 PM	0
10/4/2008 12:00 AM	0	10/7/2008 3:00 AM	0	10/10/2008 6:00 AM	0	10/13/2008 9:00 AM	0	10/16/2008 12:00 PM	0.01	10/19/2008 3:00 PM	0	10/22/2008 6:00 PM	0
10/4/2008 1:00 AM	0	10/7/2008 4:00 AM	0	10/10/2008 7:00 AM	0	10/13/2008 10:00 AM	0	10/16/2008 1:00 PM	0	10/19/2008 4:00 PM	0	10/22/2008 7:00 PM	0
10/4/2008 2:00 AM	0	10/7/2008 5:00 AM	0	10/10/2008 8:00 AM	0	10/13/2008 11:00 AM	0	10/16/2008 2:00 PM	0	10/19/2008 5:00 PM	0	10/22/2008 8:00 PM	0

Hourly Precipitation at Belleayre Ski Center from October through November, 2008

10/22/2008 9:00 PM	0
10/22/2008 10:00 PM	0
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11/10/2008 4:00 AM	0.01
11/10/2008 5:00 AM	0.01
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11/13/2008 5:00 PM	0.01

Hourly Precipitation at Belleayre Ski Center from October through November, 2008

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11/13/2008 7:00 PM	0.01
11/13/2008 8:00 PM	0.01
11/13/2008 9:00 PM	0.01
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11/14/2008 11:00 AM	0
11/14/2008 12:00 PM	0.01
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11/15/2008 9:00 AM	0.01
11/15/2008 10:00 AM	0.19
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11/17/2008 10:00 AM	0
11/17/2008 11:00 AM	0
11/17/2008 12:00 PM	0
11/17/2008 1:00 PM	0
11/17/2008 2:00 PM	0
11/17/2008 3:00 PM	0
11/17/2008 4:00 PM	0
11/17/2008 5:00 PM	0
11/17/2008 6:00 PM	0
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11/18/2008 3:00 AM	0
11/18/2008 4:00 AM	0
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11/18/2008 6:00 AM	0
11/18/2008 7:00 AM	0
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11/19/2008 3:00 PM	0
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11/19/2008 6:00 PM	0
11/19/2008 7:00 PM	0
11/19/2008 8:00 PM	0
11/19/2008 9:00 PM	0
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11/20/2008 3:00 AM	0
11/20/2008 4:00 AM	0
11/20/2008 5:00 AM	0
11/20/2008 6:00 AM	0
11/20/2008 7:00 AM	0
11/20/2008 8:00 AM	0
11/20/2008 9:00 AM	0
11/20/2008 10:00 AM	0
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11/20/2008 1:00 PM	0
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11/20/2008 4:00 PM	0
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11/20/2008 10:00 PM	0
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11/24/2008 4:00 AM	0
11/24/2008 5:00 AM	0
11/24/2008 6:00 AM	0
11/24/2008 7:00 AM	0
11/24/2008 8:00 AM	0.01
11/24/2008 9:00 AM	0
11/24/2008 10:00 AM	0
11/24/2008 11:00 AM	0.03
11/24/2008 12:00 PM	0
11/24/2008 1:00 PM	0
11/24/2008 2:00 PM	0
11/24/2008 3:00 PM	0
11/24/2008 4:00 PM	0
11/24/2008 5:00 PM	0
11/24/2008 6:00 PM	0
11/24/2008 7:00 PM	0.04
11/24/2008 8:00 PM	0.05
11/24/2008 9:00 PM	0.06
11/24/2008 10:00 PM	0.1
11/24/2008 11:00 PM	0.1
11/25/2008 12:00 AM	0.07
11/25/2008 1:00 AM	0.06
11/25/2008 2:00 AM	0.01
11/25/2008 3:00 AM	0.01
11/25/2008 4:00 AM	0.02
11/25/2008 5:00 AM	0.02
11/25/2008 6:00 AM	0.01
11/25/2008 7:00 AM	0.02
11/25/2008 8:00 AM	0.03
11/25/2008 9:00 AM	0.01
11/25/2008 10:00 AM	0.03
11/25/2008 11:00 AM	0.01
11/25/2008 12:00 PM	0.04
11/25/2008 1:00 PM	0.01
11/25/2008 2:00 PM	0.01
11/25/2008 3:00 PM	0
11/25/2008 4:00 PM	0
11/25/2008 5:00 PM	0.01
11/25/2008 6:00 PM	0
11/25/2008 7:00 PM	0
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11/26/2008 7:00 AM	0
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11/26/2008 9:00 AM	0
11/26/2008 10:00 AM	0
11/26/2008 11:00 AM	0
11/26/2008 12:00 PM	0
11/26/2008 1:00 PM	0.01
11/26/2008 2:00 PM	0
11/26/2008 3:00 PM	0
11/26/2008 4:00 PM	0
11/26/2008 5:00 PM	0
11/26/2008 6:00 PM	0
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11/28/2008 10:00 AM	0
11/28/2008 11:00 AM	0
11/28/2008 12:00 PM	0
11/28/2008 1:00 PM	0
11/28/2008 2:00 PM	0.01
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11/30/2008 6:00 AM	0
11/30/2008 7:00 AM	0
11/30/2008 8:00 AM	0
11/30/2008 9:00 AM	0
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11/30/2008 11:00 AM	0
11/30/2008 12:00 PM	0
11/30/2008 1:00 PM	0
11/30/2008 2:00 PM	0.01
11/30/2008 3:00 PM	0.02
11/30/2008 4:00 PM	0.02
11/30/2008 5:00 PM	0.06
11/30/2008 6:00 PM	0.11
11/30/2008 7:00 PM	0.07
11/30/2008 8:00 PM	0.04
11/30/2008 9:00 PM	0.01
11/30/2008 10:00 PM	0.01
11/30/2008 11:00 PM	0.06
12/1/2008 12:00 AM	0.1

APPENDIX M

Well Driller’s Logs

Q1 Well Test

TITAN DRILLING CORP.

DRILL LOG & WORK REPORT

Form TD #2

7/14 8/4/08

Sheet No. 1 of 2 Rig No. 2

Job Cross Rd Ventures @1 Well Location

Date	Feet		Well Log	Report
	0	10'	Blue Sandstone	Set in 20' of 8" Casing
	10'	15'	Brown Sandstone	w/ Drive shoe Grouted
	15'	21'	Blue Sandstone	Casing. Some large material
	21'	28'	Red Sandstone	coming in Between 28' and
	28'	42	Blue Sandstone	33'
	42'	44'	Red sandstone	Billed 8/6/08 10372
	44'	45	Blue Sandstone	
	45'	49'	Brown Sandstone (Large material)	
	49'	53'	Blue Sandstone	
	53'	55'	Red Sandstone	
	55	61	Blue Sandstone	
	61'	66'	Red ~~Sandstone~~ Shale	
	66'	68	Red Sandstone	
	68	77	Red shale	
	77'	83'	Red Sandstone	
	83'	114	Blue Sandstone (void)	
	114	117'	Red Sandstone	
	117	120	Blue Sandstone	
	120	126	Red Sandstone	
	126	132	Red shale	

Total Drilling 373' Ft. Total GPM: 40 + Approx. Bit Size: 8"

Total Casing 20' 8" Ft. Drive Shoe: yes 8" Offset Ft.

Condition: Cloudy

Driller Signature: Todd Fred

TITAN DRILLING CORP.

DRILL LOG & WORK REPORT

Form TD #2

Sheet No. 2 of 2

Rig No. 2

Job

Location

Date	Feet		Well Log	Report
	132	164'	Red sandstone	Soft spots From 148' - 151'
	164	170	Blue sandstone	
	170	199'	Red sandstone	
	199'	205	Blue sandstone	Voids From 202'-204'
	205	211'	Red sandstone	Hit water at 206'
	211	215	Blue sandstone	Aprox 40 GPM
	215	227'	Red sandstone	Quit for day at 298'
	227'	238'	Red shale	
	238'	278	Red sandstone	8/4 Blew hole, had aprox
	278'	280'	Blue sandstone	250' of water w/40+
	280'	365'	Red shale	GPM
	365'	323	Blue sandstone	Drilled to 323' had
				aprox 40+ GPM

Total Drilling 323' Ft.

Total GPM: 40+

Approx. Bit Size: 8"

Total Casing 20' 8" Ft.

Drive Shoe: Yes 8"

Offset Ft.

Water Condition: Cloudy

Driller Signature: Todd Fred

TITAN Drilling Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

Belleayre Realty
Fleischmanns, NY

12/22/1978

0-24	gravel & sand
24-46	blue stone
46-111	red shale
111-123	red shale

TOTAL DRILLING: 123'
TOTAL CASING: 33'
YIELD: 20 GPM
DRIVE SHOE

TITAN Drilling Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

Ellie Bernstein (DIGNES)
Highmount, NY

8/1985

0-8	hardpan
8-23	blue stone
23-48	green sandstone
48-62	brown sandstone
62-80	blue stone
80-85	green sandstone\
85-93	red sandstone
93-130	red shale
130-133	grey shale
133-148	red shale
148-201	grey shale
201-230	red shale
230-255	grey shale
255-448	red shale

TOTAL DRILLING: 448'
TOTAL CASING: 20'
YIELD: .5 GPM
DRIVE SHOE

Q2

TITAN Drilling Corp.
264 COUNTY HIGHWAY 38 ARKVILLE, NY 12406
845-586-4000 1-800-468-4826

Cross Road Ventures
Moran Rd. Well # 2
Fleischmanns, NY

9/29/08
8" WELL

0-6	broken rock
6-35	blue sandstone
35-60	red shale
60-72	blue sandstone
72-89	red sandstone
89-101	red shale
101-115	blue sandstone
115-127	red sandstone
127-141	blue sandstone
141-160	red shale
160-190	blue sandstone
190-204	red sandstone
204-242	blue sandstone
242-268	red shale
268-279	blue sandstone
279-292	red sandstone
292-306	red shale
306-351	blue sandstone
351-370	red sandstone
370-384	red shale
384-391	red sandstone
391-411	blue sandstone
411-422	red sandstone
422-440	blue sandstone
440-462	red shale
462-480	red sandstone
480-498	blue sandstone

TOTAL DRILLING: 498'
TOTAL CASING: 20'
YIELD: 15 GPM
DRIVESHOE
GROUT

Z-well

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) COUNTY Delaware

(2) TOWN ______

(3) DEC Well Number D2049

WATER WELL COMPLETION REPORT

(4) OWNER Crossroad Ventures

(5) ADDRESS Andrew Warie, Box 267, Mt. Tremper/Gunnard Rd

(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: ☒ GPS ☐ Map interpolation 42° 08.905N 74° 30.832W

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 348

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

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

(10) LENGTH 20 ft. | ft. | ft. | in.

(11) GROUT TYPE / SEALING Drive Shoe

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

(13) MAKE & MATERIAL

(14) OPENINGS

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

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

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

(18) DATE 5-7-07

(19) DURATION OF TEST 1 hr

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

(21) STABILIZED DISCHARGE (GPM) 25

(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 ____

(26) PUMP INSTALLED? YES ____ NO X

(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 Airhammer

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

(36) DATE DRILLING WORK STARTED 5-7-07

(37) DATE DRILLING WORK COMPLETED 5-7-07

(38) DATE REPORT FILED 5.8.07

(39) REGISTERED COMPANY Titan Drilling Corp

(40) DEC REGISTRATION NO. NYRD 10128

(41) CERTIFIED DRILLER (Print name) Troy Johnson

(42) CERTIFIED DRILLER SIGNATURE *

(43) LOG

Ground Surface EL. ______ ft. above sea level

Top Of Casing is located 1.5+ ft. above (+) or below (-) ground surface

TOP OF WELL

hardpan 0-8
blue sandstone 8-60
red shale 60-90
blue sandstone 90-145
red shale 145-181
blue sandstone 181-255
red shale 255-270
blue sandstone 270-320
red shale 320-355
blue sandstone 355-385
red shale 385-470
blue sandstone 470-500
red shale 500-548

BOTTOM OF HOLE

* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law §15-1502; (2) this water well was constructed in accordance with

Janis Eastwell

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(1) County Delaware

(2) Township ____

(3) DEC Well Number D778

WELL COMPLETION REPORT

(4) OWNER Cross Rd Ventures Well#1 [redacted] Prop.

(5) ADDRESS Box 267 Andrew Lane Mt. Tremper NY

(6) LOCATION OF WELL (See Instructions On Reverse)
Show Lat/Long if available and method used: 42° 08.95N 74° 30.45W
☒ GPS ☐ DEC Website ☐ Map Interpolation

(7) DEPTH OF WELL BELOW LAND SURFACE (Feet) 698

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (Feet) 100' DATE MEASURED 11/28/00

CASINGS

(9) DIAMETER 6 in. | in. | in. | in.

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

(11) GROUT TYPE / SEALING

(12) GROUT / SEALING INTERVAL (Feet) FROM ____ TO ____

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 11/28/00

(19) DURATION OF TEST 1hr.

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

(21) STABILIZED DISCHARGE (GPM) 30

(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 test discharged away from immediate area? Yes ____ No ____

PUMP INSTALLATION

(26) PUMP INSTALLED? YES ____ NO X

(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 Air Hammer

(35) USE OF WATER (see instructions for choices) Domestic

(36) DATE DRILLING WORK STARTED 11/25/00

(37) DATE DRILLING WORK COMPLETED 11/28/00

(38) DATE REPORT FILED 4/16/01

(39) DRILLER & COMPANY Titan Drilling Corp

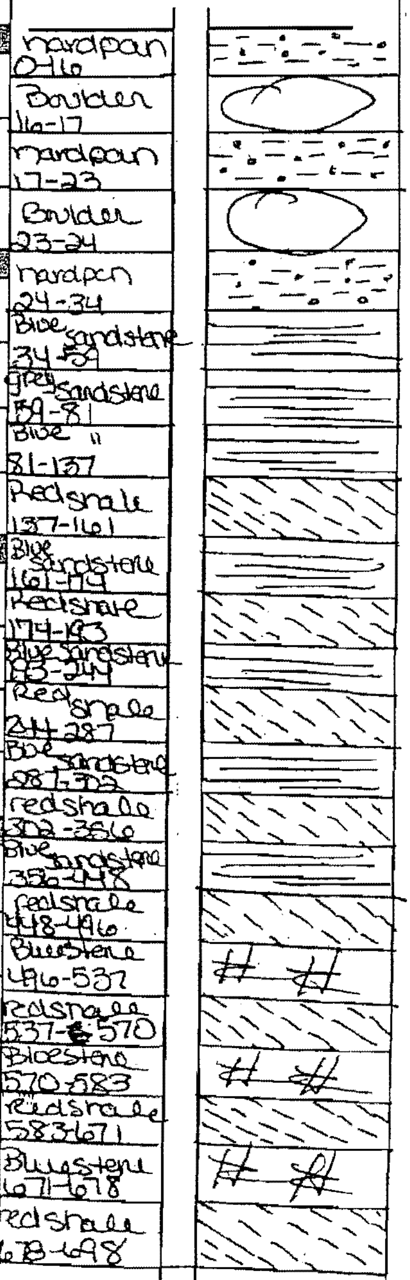
(40) DEC REGISTRATION NO. 10178

LOG *

Ground Surface EL. ____ ft. above sea level

Top Of Casing is located 1.5+ ft. above (+) or below (-) ground surface

TOP OF WELL



hardpan 0-16
Boulder 16-17
hardpan 17-23
Boulder 23-24
hardpan 24-34
Blue sandstone 34-59
grey Sandstone 59-81
Blue " 81-137
Redshale 137-161
Blue Sandstone 161-174
Redshale 174-193
Blue Sandstone 193-244
Red shale 244-287
Blue sandstone 287-302
redshale 302-356
Blue sandstone 356-448
Redshale 448-496
Bluestone 496-537
Redshale 537-570
Bluestone 570-583
Redshale 583-671
Bluestone 671-678
Redshale 678-698

BOTTOM OF HOLE

* Show log of geologic materials encountered with depth below ground surface, water bearing beds and water levels in each; casings; screens; pump; additional pumping tests and other matters of interest, e.g., water quality (sulphur, salt, methane). Describe repair work. Attach separate sheet if necessary.

See further instructions titled "Instructions for New York State Well Completion Report".

NYSDEC COPY

APPENDIX N

Compact Disc with Data Logger Files

Q1 Well Test

APPENDIX O

Village of Fleischmanns Spring Flow Data

Fleischmanns Springs Flow Data
November 1 -17, 2008

Date	Time	100 ms	Level	Temperature	Q cfs	Q gpm
11/1/2008	0:10:15	0	2.45696	7.304	0.413546016	185.5994519
11/1/2008	2:10:15	0	2.46162	7.305	0.421493882	189.1664541
11/1/2008	4:10:15	0	2.45782	7.307	0.415005961	186.2546755
11/1/2008	6:10:15	0	2.46673	7.317	0.430313808	193.124837
11/1/2008	8:10:15	0	2.49145	7.337	0.474539621	212.9733821
11/1/2008	10:10:15	0	2.47626	7.351	0.447056447	200.6389333
11/1/2008	12:10:15	0	2.48904	7.363	0.470113478	210.9869288
11/1/2008	14:10:15	0	2.46987	7.375	0.435787934	195.5816248
11/1/2008	16:10:15	0	2.47613	7.384	0.446825475	200.5352734
11/1/2008	18:10:15	0	2.47815	7.386	0.450422508	202.1496214
11/1/2008	20:10:15	0	2.48913	7.385	0.470278322	211.060911
11/1/2008	22:10:15	0	2.48345	7.384	0.459942667	206.422269
11/2/2008	0:10:15	0	2.48988	7.38	0.471653375	211.6780346
11/2/2008	2:10:15	0	2.48394	7.376	0.460828871	206.8199974
11/2/2008	4:10:15	0	2.47801	7.369	0.45017265	202.0374854
11/2/2008	6:10:15	0	2.49278	7.365	0.476992929	214.0744263
11/2/2008	8:10:15	0	2.4946	7.359	0.480362394	215.5866424
11/2/2008	10:10:15	0	2.4926	7.359	0.476660458	213.9252135
11/2/2008	12:10:15	0	2.48916	7.36	0.470333278	211.0855752
11/2/2008	14:10:15	0	2.48439	7.359	0.461643634	207.1856628
11/2/2008	16:10:15	0	2.48123	7.358	0.455940435	204.6260673
11/2/2008	18:10:15	0	2.47885	7.358	0.451673043	202.7108617
11/2/2008	20:10:15	0	2.48398	7.355	0.460901259	206.8524853
11/2/2008	22:10:15	0	2.48355	7.354	0.460123442	206.5034007
11/3/2008	0:10:15	0	2.48522	7.35	0.463148684	207.8611294
11/3/2008	2:10:15	0	2.48537	7.349	0.463420995	207.9833424
11/3/2008	4:10:15	0	2.48318	7.352	0.459454788	206.2033088
11/3/2008	6:10:15	0	2.48645	7.352	0.465384467	208.864549
11/3/2008	8:10:15	0	2.48773	7.351	0.467717999	209.911838
11/3/2008	10:10:15	0	2.47634	7.351	0.447198619	200.70274
11/3/2008	12:10:15	0	2.4936	7.354	0.478509278	214.7549639
11/3/2008	14:10:15	0	2.47343	7.357	0.442044558	198.3895975
11/3/2008	16:10:15	0	2.47918	7.359	0.452263303	202.9757703
11/3/2008	18:10:15	0	2.48722	7.363	0.466787393	209.4941821
11/3/2008	20:10:15	0	2.46665	7.365	0.430174882	193.062487
11/3/2008	22:10:15	0	2.49393	7.367	0.479120331	215.0292046
11/4/2008	0:10:15	0	2.49627	7.366	0.483466684	216.9798479
11/4/2008	2:10:15	0	2.48053	7.364	0.45468282	204.0616497
11/4/2008	4:10:15	0	2.48338	7.362	0.45981615	206.3654882
11/4/2008	6:10:15	0	2.49122	7.361	0.474116135	212.7833213
11/4/2008	8:10:15	0	2.49742	7.362	0.485611349	217.9423732
11/4/2008	10:10:15	0	2.48568	7.362	0.463984074	208.2360526
11/4/2008	12:10:15	0	2.48682	7.364	0.466058284	209.166958
11/4/2008	14:10:15	0	2.49302	7.365	0.477436439	214.2734739
11/4/2008	16:10:15	0	2.48724	7.366	0.466823867	209.5105514
11/4/2008	18:10:15	0	2.4843	7.364	0.461480612	207.1124987
11/4/2008	20:10:15	0	2.47755	7.365	0.449352275	201.6693012
11/4/2008	22:10:15	0	2.49713	7.363	0.485069983	217.6994084
11/5/2008	0:10:15	0	2.48854	7.362	0.469198306	210.5761999
11/5/2008	2:10:15	0	2.48631	7.361	0.465129662	208.7501924
11/5/2008	4:10:15	0	2.47935	7.362	0.452567557	203.1123194
11/5/2008	6:10:15	0	2.48479	7.361	0.462368592	207.5110242
11/5/2008	8:10:15	0	2.48322	7.361	0.459527047	206.2357386
11/5/2008	10:10:15	0	2.48166	7.362	0.456714004	204.9732449

11/5/2008	12:05:19	0	2.49468	7.371	0.480510829	215.65326
11/5/2008	14:05:19	0	2.4613	7.39	0.420945201	188.9202062
11/5/2008	16:05:19	0	2.44718	7.401	0.397159937	178.2453795
11/5/2008	18:05:19	0	2.45012	7.403	0.402044052	180.4373704
11/5/2008	20:05:19	0	2.44119	7.403	0.387319567	173.8290216
11/5/2008	22:05:19	0	2.44299	7.401	0.390261043	175.1491561
11/6/2008	0:05:19	0	2.44644	7.4	0.39593624	177.6961847
11/6/2008	2:05:19	0	2.44502	7.4	0.393594409	176.6451705
11/6/2008	4:05:19	0	2.44796	7.399	0.398452232	178.8253618
11/6/2008	6:05:19	0	2.44543	7.4	0.394269715	176.9482483
11/6/2008	8:05:19	0	2.44124	7.4	0.387401094	173.8656111
11/6/2008	10:05:19	0	2.44441	7.401	0.392590969	176.1948268
11/6/2008	12:05:19	0	2.43778	7.402	0.381783668	171.3445102
11/6/2008	14:05:19	0	2.47612	7.374	0.446807711	200.5273009
11/6/2008	16:05:19	0	2.47507	7.374	0.444944843	199.6912455
11/6/2008	18:05:19	0	2.47284	7.374	0.441003945	197.9225704
11/6/2008	20:05:19	0	2.47397	7.374	0.442998273	198.817625
11/6/2008	22:05:19	0	2.4718	7.373	0.439173226	197.1009437
11/7/2008	0:05:19	0	2.47253	7.373	0.440457772	197.6774479
11/7/2008	2:05:19	0	2.4707	7.372	0.437241859	196.2341462
11/7/2008	4:05:19	0	2.47271	7.372	0.440774855	197.8197549
11/7/2008	6:05:19	0	2.47219	7.372	0.43985921	197.4088134
11/7/2008	8:05:19	0	2.47992	7.37	0.453588598	203.5705626
11/7/2008	10:05:19	0	2.47795	7.372	0.450065594	201.9894385
11/7/2008	12:05:19	0	2.4718	7.373	0.439173226	197.1009437
11/7/2008	14:05:19	0	2.46674	7.374	0.430331176	193.1326316
11/7/2008	16:05:19	0	2.46566	7.376	0.428457899	192.2919051
11/7/2008	18:05:19	0	2.46438	7.376	0.426244066	191.2983368
11/7/2008	20:05:19	0	2.46529	7.377	0.427817256	192.0043844
11/7/2008	22:05:19	0	2.46053	7.376	0.419626695	188.3284608
11/8/2008	0:05:19	0	2.46613	7.375	0.429272519	192.6575064
11/8/2008	2:05:19	0	2.46565	7.376	0.428440577	192.2841309
11/8/2008	4:05:19	0	2.46995	7.375	0.435927945	195.6444616
11/8/2008	6:05:19	0	2.46672	7.376	0.430296441	193.1170426
11/8/2008	8:05:19	0	2.46457	7.375	0.426572247	191.4456244
11/8/2008	10:05:19	0	2.471	7.375	0.437768089	196.4703182
11/8/2008	12:05:19	0	2.4709	7.376	0.437592636	196.3915752
11/8/2008	14:05:19	0	2.4652	7.377	0.427661511	191.934486
11/8/2008	16:05:19	0	2.46977	7.376	0.435612958	195.5030957
11/8/2008	18:05:19	0	2.46659	7.375	0.430070705	193.0157324
11/8/2008	20:05:19	0	2.46457	7.375	0.426572247	191.4456244
11/8/2008	22:05:19	0	2.46634	7.373	0.429636798	192.8209948
11/9/2008	0:05:19	0	2.46078	7.372	0.42005451	188.5204639
11/9/2008	2:05:19	0	2.46807	7.371	0.432644822	194.170996
11/9/2008	4:05:19	0	2.46688	7.369	0.430574367	193.2417758
11/9/2008	6:05:19	0	2.47004	7.365	0.436085489	195.7151676
11/9/2008	8:05:19	0	2.47047	7.363	0.436838673	196.0531964
11/9/2008	10:05:19	0	2.47201	7.362	0.439542522	197.2666839
11/9/2008	12:05:19	0	2.47239	7.362	0.440211246	197.5668071
11/9/2008	14:05:19	0	2.46478	7.363	0.42693515	191.6084951
11/9/2008	16:05:19	0	2.46822	7.362	0.432906227	194.2883145
11/9/2008	18:05:19	0	2.47034	7.36	0.436610884	195.9509647
11/9/2008	20:05:19	0	2.46474	7.359	0.426866011	191.5774657
11/9/2008	22:05:19	0	2.46775	7.357	0.432087475	193.9208588
11/10/2008	0:05:19	0	2.46541	7.354	0.428024969	192.0976061
11/10/2008	2:05:19	0	2.47042	7.353	0.436751053	196.0138727
11/10/2008	4:05:19	0	2.46494	7.35	0.427211771	191.7326429
11/10/2008	6:05:19	0	2.46162	7.349	0.421493882	189.1664541

11/10/2008	8:05:19	0	2.46514	7.346	0.427557699	191.8878955
11/10/2008	10:05:19	0	2.46514	7.344	0.427557699	191.8878955
11/10/2008	12:05:19	0	2.46077	7.341	0.420037392	188.5127815
11/10/2008	14:05:19	0	2.46855	7.34	0.43348165	194.5465647
11/10/2008	16:05:19	0	2.4666	7.34	0.430088067	193.0235244
11/10/2008	18:05:19	0	2.46958	7.337	0.435280621	195.3539427
11/10/2008	20:05:19	0	2.46532	7.334	0.427869178	192.0276873
11/10/2008	22:05:19	0	2.46281	7.33	0.423538052	190.0838776
11/11/2008	0:05:19	0	2.46323	7.326	0.424260941	190.4083101
11/11/2008	2:05:19	0	2.46753	7.324	0.431704549	193.7490016
11/11/2008	4:05:19	0	2.46275	7.323	0.423434842	190.0375572
11/11/2008	6:05:19	0	2.46681	7.321	0.430452761	193.1871991
11/11/2008	8:05:19	0	2.4613	7.318	0.420945201	188.9202062
11/11/2008	10:05:19	0	2.46312	7.318	0.424071541	190.3233076
11/11/2008	12:05:19	0	2.45517	7.317	0.410517185	184.2401128
11/11/2008	14:05:19	0	2.45857	7.318	0.416281691	186.8272227
11/11/2008	16:05:19	0	2.45998	7.319	0.418686425	187.9064673
11/11/2008	18:05:19	0	2.45309	7.316	0.407014417	182.6680705
11/11/2008	20:05:19	0	2.45926	7.314	0.417457437	187.3548977
11/11/2008	22:05:19	0	2.45769	7.312	0.414785074	186.1555412
11/12/2008	0:05:19	0	2.45768	7.311	0.414768085	186.1479168
11/12/2008	2:05:19	0	2.45625	7.311	0.412343038	185.0595552
11/12/2008	4:05:19	0	2.45259	7.308	0.40617509	182.2913803
11/12/2008	6:05:19	0	2.4545	7.305	0.409386923	183.7328512
11/12/2008	8:05:19	0	2.45223	7.304	0.405571417	182.0204521
11/12/2008	10:05:19	0	2.45922	7.303	0.417389223	187.3242834
11/12/2008	12:05:19	0	2.45148	7.302	0.404315496	181.4567948
11/12/2008	14:05:19	0	2.45304	7.303	0.406930438	182.6303805
11/12/2008	16:05:19	0	2.44891	7.304	0.400029585	179.5332778
11/12/2008	18:05:19	0	2.44332	7.303	0.390801762	175.391831
11/12/2008	20:05:19	0	2.44324	7.299	0.390670638	175.3329822
11/12/2008	22:05:19	0	2.44577	7.297	0.394830253	177.1998175
11/13/2008	0:05:19	0	2.4507	7.293	0.403011817	180.8717035
11/13/2008	2:05:19	0	2.44249	7.291	0.389442627	174.7818509
11/13/2008	4:05:19	0	2.44087	7.291	0.386798035	173.5949582
11/13/2008	6:05:19	0	2.44677	7.29	0.396481663	177.9409703
11/13/2008	8:05:19	0	2.44292	7.29	0.390146403	175.0977055
11/13/2008	10:05:19	0	2.42876	7.29	0.367370151	164.8757236
11/13/2008	12:05:19	0	2.44459	7.29	0.392886906	176.3276434
11/13/2008	14:05:19	0	2.43824	7.293	0.382527657	171.6784125
11/13/2008	16:05:19	0	2.44196	7.293	0.388576231	174.3930124
11/13/2008	18:05:19	0	2.43415	7.295	0.375943079	168.7232539
11/13/2008	20:05:19	0	2.44348	7.296	0.391064091	175.5095641
11/13/2008	22:05:19	0	2.43611	7.298	0.379089965	170.1355764
11/14/2008	0:05:19	0	2.44337	7.298	0.390883729	175.4286175
11/14/2008	2:05:19	0	2.43161	7.298	0.371888363	166.9034973
11/14/2008	4:05:19	0	2.4336	7.301	0.375062851	168.3282076
11/14/2008	6:05:19	0	2.43396	7.3	0.37563886	168.5867206
11/14/2008	8:05:19	0	2.42999	7.302	0.369316051	165.7490439
11/14/2008	10:05:19	0	2.43241	7.302	0.373162593	167.4753718
11/14/2008	12:05:19	0	2.42758	7.304	0.365509145	164.0405044
11/14/2008	14:05:19	0	2.42023	7.309	0.354044669	158.8952472
11/14/2008	16:05:19	0	2.42037	7.309	0.354260994	158.992334
11/14/2008	18:05:19	0	2.42494	7.312	0.361366057	162.1810865
11/14/2008	20:05:19	0	2.42061	7.312	0.354632021	159.1588512
11/14/2008	22:05:19	0	2.42089	7.314	0.355065181	159.3532534
11/15/2008	0:05:19	0	2.42537	7.315	0.362038947	162.4830794
11/15/2008	2:05:19	0	2.42044	7.315	0.354369186	159.0408907

11/15/2008	4:05:19	0	2.43227	7.314	0.372939414	167.375209
11/15/2008	6:05:19	0	2.42542	7.314	0.362117239	162.5182167
11/15/2008	8:05:19	0	2.42186	7.314	0.356568226	160.0278197
11/15/2008	10:05:19	0	2.42021	7.317	0.354013771	158.8813806
11/15/2008	12:05:19	0	2.42593	7.319	0.362916395	162.876878
11/15/2008	14:05:19	0	2.42252	7.323	0.357593094	160.4877807
11/15/2008	16:05:19	0	2.4182	7.327	0.350916858	157.4914857
11/15/2008	18:05:19	0	2.42351	7.329	0.359133708	161.1792079
11/15/2008	20:05:19	0	2.42388	7.33	0.359710513	161.4380781
11/15/2008	22:05:19	0	2.42559	7.332	0.362383507	162.6377178
11/16/2008	0:05:19	0	2.42777	7.334	0.365808416	164.174817
11/16/2008	2:05:19	0	2.43324	7.336	0.374487372	168.0699326
11/16/2008	4:05:19	0	2.43164	7.337	0.371936099	166.9249214
11/16/2008	6:05:19	0	2.44973	7.337	0.401394098	180.1456711
11/16/2008	8:05:19	0	2.45877	7.333	0.416622282	186.9800801
11/16/2008	10:05:19	0	2.45792	7.333	0.415175923	186.3309542
11/16/2008	12:05:19	0	2.45998	7.333	0.418686425	187.9064673
11/16/2008	14:05:19	0	2.45899	7.333	0.416997125	187.1483098
11/16/2008	16:05:19	0	2.45452	7.331	0.409420636	183.7479812
11/16/2008	18:05:19	0	2.46312	7.331	0.424071541	190.3233076
11/16/2008	20:05:19	0	2.45351	7.328	0.407720256	182.984851
11/16/2008	22:05:19	0	2.46397	7.324	0.425536402	190.9807372
11/17/2008	0:05:19	0	2.46197	7.32	0.422094492	189.4360081
11/17/2008	2:05:19	0	2.45779	7.318	0.414954981	186.2317955
11/17/2008	4:05:19	0	2.4486	7.314	0.399514459	179.3020892
11/17/2008	6:05:19	0	2.45374	7.312	0.408107098	183.1584656
11/17/2008	8:05:19	0	2.45294	7.307	0.40676251	182.5550145
11/17/2008	10:05:19	0	2.45385	7.306	0.408292187	183.2415336
11/17/2008	12:05:19	0	2.45256	7.306	0.406124763	182.2687937
11/17/2008	14:05:19	0	2.4482	7.303	0.398850368	179.0040453
11/17/2008	16:05:19	0	2.44303	7.301	0.390326561	175.1785605
11/17/2008	18:05:19	0	2.44871	7.298	0.3996972	179.3841034
11/17/2008	20:05:19	0	2.44948	7.297	0.400977792	179.9588332
11/17/2008	22:05:19	0	2.44823	7.293	0.398900152	179.0263883

APPENDIX P

Laboratory Reports

NYSDOH Part 5 Analysis

Q1 Well

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Analysis Report

December 15, 2008

FOR: Attn: Mr. Steve Trader
Alpha GeoScience
679 Plank Road
Clifton Park, NY 12065

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:	ST	11/10/08	12:30
Location Code:	ALPHAGEO	Received by:	LB	11/11/08	10:55
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	08136				

SDG I.D.: GAQ99507
Phoenix I.D.: AQ99507

Laboratory Data

Client ID: Q WELL TESTING Q1

Parameter	Result	RL	Units	Date	Time	By	Reference	
Antimony	< 0.003	0.003	mg/L	11/25/08		RS	E200.9	
Arsenic	0.006	0.003	mg/L	11/21/08		RS	200.9	
Barium	0.093	0.002	mg/L	11/12/08		EK	200.7/6010	
Beryllium	< 0.001	0.001	mg/L	11/12/08		EK	200.7/6010	
Calcium	22.1	0.010	mg/L	11/12/08		EK	6010/200.7	
Cadmium	< 0.001	0.001	mg/L	11/12/08		EK	200.7/6010	
Chromium	< 0.001	0.001	mg/L	11/12/08		EK	200.7/6010	
Copper	< 0.001	0.001	mg/L	11/12/08		EK	200.7/6010	
Hardness (CaCO3)	77.8	0.10	mg/L	11/12/08		EK	200.7	
Iron	0.005	0.002	mg/L	11/12/08		EK	200.7/6010	
Lead	< 0.001	0.001	mg/L	11/24/08		RS	200.9	
Magnesium	5.49	0.01	mg/L	11/12/08		EK	6010/200.7	
Manganese	0.120	0.002	mg/L	11/12/08		EK	200.7/6010	
Mercury	< 0.0002	0.0002	mg/L	11/12/08		RS	E245.1	
Nickel	< 0.002	0.002	mg/L	11/12/08		EK	200.7/6010	
Selenium	< 0.002	0.002	mg/L	11/24/08		RS	E200.9	
Silver	< 0.002	0.002	mg/L	11/12/08		EK	6010/200.7	
Sodium	19.3	0.10	mg/L	11/12/08		EK	200.7/6010	
Thallium	< 0.001	0.001	mg/L	11/17/08		RS	E200.9	
Zinc	0.036	0.002	mg/L	11/12/08		EK	6010/200.7	
Escherichia Coli	Absent	0	/100mls	11/11/08	12:45	RB	SM 9223B	
Heterotrophic Plate Count	0	0	CFU/ml	11/11/08	11:00	RB	SM 9215B	
Total Coliforms	Present	0	/100mls	11/11/08	12:45	RB	9223B	
Alkalinity (CaCO3)	76.3	20	mg/L	11/11/08		JC	SM 2320B	
Chloride	16	3.0	mg/L	11/11/08		B/E	300.0	
Color	< 1	1	P.C.U.	11/11/08	23:00	CD	SM 2120B	
Corrosivity	Negative	NONE	None	11/12/08		CD	SM 2330	
Cyanide, Free	< 0.01	0.01	mg/L	11/20/08		GD	335.4/9014	1
Fluoride	< 0.10	0.10	mg/L	11/13/08		B/E	E300.0	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	11/11/08	20:46	B/E	300.0	

Client ID: Q WELL TESTING Q1 Phoenix I.D.: AQ99507

Parameter	Result	RL	Units	Date	Time	By	Reference
Nitrate as Nitrogen	0.12	0.05	mg/L	11/11/08	20:46	B/E	300.0
Odor	< 1	1	T.O.N.	11/11/08	23:00	CD	SM 2150B
pH	8.20	0.10	pH	11/11/08		JC	4500-H B/9045
Sulfate	8.0	3.0	mg/L	11/11/08		B/E	300.0
Total Cyanide (Drinking water)	< 0.01	0.01	mg/L	11/12/08		Z/G	EPA 335.4
Tot. Diss. Solids	120	10	mg/L	11/12/08		VR/KDB	SM2540C
Turbidity	0.33	0.20	NTU	11/12/08		T	E180.1
Extraction	Completed			11/17/08		K/K	
Extraction for 525.2	Completed			11/11/08		V	EPA525.2
Mercury Digestion	Completed			11/12/08		E	7471/245.1
Extraction of DW Pesticides	Completed			11/17/08		K/K	508
Extraction of DW Herbicides	Completed			11/12/08		O/D	
Total Metal Digestion	Completed			11/11/08		AG	E200.2
Gross Alpha Water	3.10 ± 1.22	2.85	pci/L	11/18/08		*	7110B
Radium 226	0.23 ± 0.07	0.76	pci/L	11/22/08		*	7500 Ra B/903.0
Radium 226 & 228	0.23 ± 0.07		pCi/L	11/17/08		*	7500 RA B/D
Radium 228	-0.11 ± 0.64	0.65	pci/L	11/24/08		*	7500 Ra D/904.0
Radon Test	1040 ± 40	30	pCi/l	11/14/08		*	
Uranium, Total	ND	1.0	ug/L	11/17/08		*	200.8
Carbamates HPLC (531)							
3 Hydroxycarbofuran	ND	0.50	ug/L	11/18/08		*	EPA531.2
Aldicarb	ND	0.50	ug/L	11/18/08		*	EPA531.2
Aldicarb Sulfone	ND	0.80	ug/L	11/18/08		*	EPA531.2
Aldicarb Sulfoxide	ND	0.50	ug/L	11/18/08		*	EPA531.2
Carbaryl	ND	0.50	ug/L	11/18/08		*	EPA531.2
Carbofuran	ND	0.90	ug/L	11/18/08		*	EPA531.2
Methomyl	ND	0.50	ug/L	11/18/08		*	EPA531.2
Oxamyl	ND	2.0	ug/L	11/18/08		*	EPA531.2
Asbestos in Water							
Asbestos fibers (>0.5u and <10u)	ND	0.4	MFL	11/18/08		*	EPA600/4-84
Asbestos fibers (>10u)	ND	0.133	MFL	11/18/08		*	EPA600/4-84
EDB and DBCP Analysis							
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	ug/L	11/18/08		KCA	504.1
1,2-Dibromoethane (EDB)	ND	0.02	ug/L	11/18/08		KCA	504.1
Organophosphorus Pesticides (507)							
Alachlor	ND	0.44	ug/L	11/23/08		JRB	E507
Atrazine	ND	0.22	ug/L	11/23/08		JRB	E507
Butachlor	ND	0.1	ug/L	11/23/08		JRB	E507
Metolachlor	ND	0.1	ug/L	11/23/08		JRB	E507
Metribuzin	ND	2.00	ug/L	11/23/08		JRB	E507
Simazine	ND	0.15	ug/L	11/23/08		JRB	E507
Pesticides/PCB's (508)							
Aldrin	ND	0.05	ug/L	11/25/08		MH	EPA508
Chlordane	ND	0.5	ug/L	11/25/08		MH	EPA508
Dieldrin	ND	0.1	ug/L	11/25/08		MH	EPA508
Endrin	ND	0.1	ug/L	11/25/08		MH	EPA508
Heptachlor	ND	0.1	ug/L	11/25/08		MH	EPA508
Heptachlor Epoxide	ND	0.05	ug/L	11/25/08		MH	EPA508
Hexachlorobenzene	ND	0.1	ug/L	11/25/08		MH	EPA508

Parameter	Result	RL	Units	Date	Time	By	Reference
Hexachlorocyclopentadiene	ND	0.1	ug/L	11/25/08		MH	EPA508
Lindane	ND	0.05	ug/L	11/25/08		MH	EPA508
Methoxychlor	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1016	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1221	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1232	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1242	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1248	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1254	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1260	ND	0.5	ug/L	11/25/08		MH	EPA508
Propachlor	ND	0.5	ug/L	11/25/08		MH	EPA508
Toxaphene	ND	1.0	ug/L	11/25/08		MH	EPA508
QA/QC Surrogates							
%DCBP (Surrogate Rec)	82		%	11/25/08		MH	EPA508
%TCMX (Surrogate Rec)	76		%	11/25/08		MH	EPA508

Herbicides (515)

Parameter	Result	RL	Units	Date	Time	By	Reference
2,4,5-T	ND	0.2	ug/L	11/14/08		KCA	EPA 515.1
2,4,5-TP	ND	0.2	ug/L	11/14/08		KCA	EPA 515.1
2,4-D	ND	1.0	ug/L	11/14/08		KCA	EPA 515.1
Dalapon	ND	5.0	ug/L	11/14/08		KCA	EPA 515.1
Dicamba	ND	0.5	ug/L	11/14/08		KCA	EPA 515.1
Dichloroprop	ND	0.2	ug/L	11/14/08		KCA	EPA 515.1
Dinoseb	ND	0.5	ug/L	11/14/08		KCA	EPA 515.1
Pentachlorophenol	ND	0.2	ug/L	11/14/08		KCA	EPA 515.1
Picloram	ND	0.5	ug/L	11/14/08		KCA	EPA 515.1

Volatiles (524.2)

Parameter	Result	RL	Units	Date	Time	By	Reference
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,1,1-Trichloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,1,2-Trichloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,1-Dichloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,1-Dichloroethene	ND	0.50	ug/L	11/12/08		JH	524.2
1,1-Dichloropropene	ND	0.50	ug/L	11/12/08		JH	524.2
1,2,3-Trichlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,2,3-Trichloropropane	ND	0.50	ug/L	11/12/08		JH	524.2
1,2,4-Trichlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,2,4-Trimethylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	11/12/08		JH	524.2
1,2-Dichlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,2-Dichloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,2-Dichloropropane	ND	0.50	ug/L	11/12/08		JH	524.2
1,3,5-Trimethylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,3-Dichlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,3-Dichloropropane	ND	0.50	ug/L	11/12/08		JH	524.2
1,4-Dichlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
2,2-Dichloropropane	ND	0.50	ug/L	11/12/08		JH	524.2
2-Chlorotoluene	ND	0.50	ug/L	11/12/08		JH	524.2
4-Chlorotoluene	ND	0.50	ug/L	11/12/08		JH	524.2
Benzene	ND	0.50	ug/L	11/12/08		JH	524.2
Bromobenzene	ND	0.50	ug/L	11/12/08		JH	524.2

Parameter	Result	RL	Units	Date	Time	By	Reference
Bromochloromethane	ND	0.50	ug/L	11/12/08		JH	524.2
Bromodichloromethane	ND	0.50	ug/L	11/12/08		JH	524.2
Bromoform	ND	0.50	ug/L	11/12/08		JH	524.2
Bromomethane	ND	0.50	ug/L	11/12/08		JH	524.2
Carbon tetrachloride	ND	0.50	ug/L	11/12/08		JH	524.2
Chlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
Chloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
Chloroform	ND	0.50	ug/L	11/12/08		JH	524.2
Chloromethane	ND	0.50	ug/L	11/12/08		JH	524.2
cis-1,2-Dichloroethene	ND	0.50	ug/L	11/12/08		JH	524.2
cis-1,3-Dichloropropene	ND	0.50	ug/L	11/12/08		JH	524.2
Dibromochloromethane	ND	0.50	ug/L	11/12/08		JH	524.2
Dibromoethane	ND	0.50	ug/L	11/12/08		JH	524.2
Dibromomethane	ND	0.50	ug/L	11/12/08		JH	524.2
Dichlorodifluoromethane	ND	0.50	ug/L	11/12/08		JH	524.2
Ethylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
Hexachlorobutadiene	ND	0.50	ug/L	11/12/08		JH	524.2
Isopropylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
m&p-Xylene	ND	1.0	ug/L	11/12/08		JH	524.2
Methyl Ethyl Ketone	ND	5.0	ug/L	11/12/08		JH	524.2
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	11/12/08		JH	524.2
Methylene chloride	ND	0.50	ug/L	11/12/08		JH	524.2
Naphthalene	ND	0.50	ug/L	11/12/08		JH	524.2
n-Butylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
n-Propylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
o-Xylene	ND	0.50	ug/L	11/12/08		JH	524.2
p-Isopropyltoluene	ND	0.50	ug/L	11/12/08		JH	524.2
sec-Butylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
Styrene	ND	0.50	ug/L	11/12/08		JH	524.2
tert-Butylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
Tetrachloroethene	ND	0.50	ug/L	11/12/08		JH	524.2
Toluene	ND	0.50	ug/L	11/12/08		JH	524.2
Total Trihalomethanes	ND	0.50	ug/L	11/12/08		JH	524.2
Total Xylenes	ND	1.0	ug/L	11/12/08		JH	524.2
trans-1,2-Dichloroethene	ND	0.50	ug/L	11/12/08		JH	524.2
trans-1,3-Dichloropropene	ND	0.50	ug/L	11/12/08		JH	524.2
Trichloroethene	ND	0.50	ug/L	11/12/08		JH	524.2
Trichlorofluoromethane	ND	0.50	ug/L	11/12/08		JH	524.2
Vinyl chloride	ND	0.50	ug/L	11/12/08		JH	524.2
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	11/12/08		JH	524.2
% Bromofluorobenzene	90		%	11/12/08		JH	524.2
% Dibromofluoromethane	95		%	11/12/08		JH	524.2
% Toluene-d8	95		%	11/12/08		JH	524.2

Organic Cmpds. in Drinking Water (525)

Parameter	Result	RL	Units	Date	Time	By	Reference
Benzo(a)Pyrene	ND	0.02	ug/L	11/12/08		HM	EPA525.2
Di-(2-ethylhexyl)Adipate	ND	0.6	ug/L	11/12/08		HM	EPA525.2
Di-(2-ethylhexyl)phthalate	ND	0.6	ug/L	11/12/08		HM	EPA525.2

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.
Corrosivity is based solely on the pH analysis performed above.

* Asbestos analyzed by NY certified lab #10851. Radon analyzed by NY certified lab #11398. Method 531 and Uranium analyzed by NY certified lab #11549. Gross Alpha, Ra-226, and Ra-228 analyzed by NY certified lab #11827.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 15, 2008

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
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ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

QA/QC Report

December 15, 2008

QA/QC Data

SDG I.D.: GAQ99507

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 113937, QC Sample No: AQ93823 (AQ99507)								
Arsenic	BDL		105	105	0.0	106	106	0.0
QA/QC Batch 114389, QC Sample No: AQ96674 (AQ99507)								
Antimony	BDL	NC	100	102	2.0	104	99.6	4.3
QA/QC Batch 114389, QC Sample No: AQ96674 (AQ99507)								
Thallium	BDL	NC	97.7	99.2	1.5	98.0	96.7	1.3
QA/QC Batch 114599, QC Sample No: AQ97467 (AQ99507)								
Lead (Furnace)	BDL		106	102	3.8	110	121	9.5
QA/QC Batch 115082, QC Sample No: AQ99507 (AQ99507)								
ICP Metals - Aqueous								
Barium	BDL	0.20	105	106	0.9	106	108	1.9
Beryllium	BDL	NC	103	104	1.0	103	105	1.9
Cadmium	BDL	NC	102	105	2.9	103	104	1.0
Calcium	BDL	1.50	101	103	2.0	85.7	82.4	3.9
Chromium	BDL	NC	102	103	1.0	103	103	0.0
Copper	BDL	NC	101	103	2.0	103	104	1.0
Iron	BDL	NC	95.2	94.5	0.7	95.0	95.6	0.6
Magnesium	BDL	1.50	103	104	1.0	102	101	1.0
Manganese	BDL	0.90	102	103	1.0	103	104	1.0
Nickel	BDL	NC	100	102	2.0	102	103	1.0
Silver	BDL	NC	103	84.7	19.5	78.1	90.2	14.4
Sodium	BDL	0.40	101	102	1.0	>130	>130	NC
Zinc	BDL	1.10	104	105	1.0	105	106	0.9
QA/QC Batch 115083, QC Sample No: AQ99507 (AQ99507)								
Selenium	BDL		102	102	0.0	102	104	1.9
QA/QC Batch 115142, QC Sample No: AQ99788 (AQ99507)								
Mercury	BDL		104	99.7	4.2	103	103	0.0

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 15, 2008

QA/QC Report

December 15, 2008

QA/QC Data

SDG I.D.: GAQ99507

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 115162, QC Sample No: AQ99119 (AQ99507)								
Tot. Diss. Solids	BDL	1.71	98.1					
QA/QC Batch 115195, QC Sample No: AQ99490 (AQ99507)								
Alkalinity-CaCO3	BDL	NC	100					
QA/QC Batch 115198, QC Sample No: AQ99490 (AQ99507)								
Turbidity		NC						
QA/QC Batch 115153, QC Sample No: AQ99491 (AQ99507)								
Bromide	BDL	NC	98.1			101		
QA/QC Batch 115154, QC Sample No: AQ99491 (AQ99507)								
Chloride	BDL	NC	95.7			96.4		
QA/QC Batch 115156, QC Sample No: AQ99491 (AQ99507)								
Nitrate as Nitrogen	BDL	NC	101			92.7		
QA/QC Batch 115155, QC Sample No: AQ99491 (AQ99507)								
Nitrite as Nitrogen	BDL	NC	98.9			103		
QA/QC Batch 115157, QC Sample No: AQ99491 (AQ99507)								
Sulfate	BDL	0	93.8			96.2		
QA/QC Batch 115191, QC Sample No: AQ99507 (AQ99507)								
Total Cyanide	BDL		96.3			104		
QA/QC Batch 115293, QC Sample No: AQ99565 (AQ99507)								
Turbidity	BDL	0	103					
QA/QC Batch 115602, QC Sample No: AR00835 (AQ99507)								
Fluoride	BDL	NC	89.8			82.0		

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 15, 2008

QA/QC Report

December 15, 2008

QA/QC Data

SDG I.D.: GAQ99507

QA/QC Batch 113649, QC Sample No: AQ86153 (AQ99507)

Pesticides

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
4,4' -DDD	ND	116	109	6.2			
4,4' -DDE	ND	97	100	3.0			
4,4' -DDT	ND	104	108	3.8			
a-BHC	ND	88	90	2.2			
a-Chlordane	ND	84	88	4.7			
Alachlor	ND	N/A	N/A	NC			
Aldrin	ND	70	72	2.8			
b-BHC	ND	89	85	4.6			
Chlordane	ND	N/A	N/A	NC			
d-BHC	ND	95	91	4.3			
Dieldrin	ND	85	88	3.5			
Endosulfan I	ND	92	92	0.0			
Endosulfan II	ND	90	91	1.1			
Endosulfan sulfate	ND	88	92	4.4			
Endrin	ND	94	95	1.1			
Endrin aldehyde	ND	98	99	1.0			
Endrin ketone	ND	97	112	14.4			
g-BHC	ND	87	90	3.4			
g-Chlordane	ND	75	79	5.2			
Heptachlor	ND	77	74	4.0			
Heptachlor epoxide	ND	86	90	4.5			
Methoxychlor	ND	107	91	16.2			
Toxaphene	ND	N/A	N/A	NC			
% DCBP	70	73	72	1.4			
% TCMX	65	65	66	1.5			

QA/QC Batch 113648, QC Sample No: AQ86154 (AQ99507)

Organophosphorus Pesticides (507)

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
Alachlor	ND	83	81	2.4			
Atrazine	ND	76	71	6.8			
Butachlor	ND	96	94	2.1			
Metolachlor	ND	88	85	3.5			
Metribuzin	ND	94	90	4.3			
Simazine	ND	81	78	3.8			

QA/QC Batch 114269, QC Sample No: AQ94244 (AQ99507)

Herbicides (515)

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
2,4,5-T	ND	120	120	0.0			
2,4,5-TP	ND	112	116	3.5			

QA/QC Data

SDG I.D.: GAQ99507

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
2,4-D	ND	124	134	7.8			
Dalapon	ND	132	104	23.7			
Dicamba	ND	119	126	5.7			
Dichloroprop	ND	78	116	39.2			
Dinoseb	ND	139	136	2.2			
Pentachlorophenol	ND	110	112	1.8			
Picloram	ND	105	103	1.9			

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 115169, QC Sample No: AQ96761 (AQ99507)

Volatiles Organics

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
1,1,1,2-Tetrachloroethane	ND	100	94	6.2	88	94	6.6
1,1,1-Trichloroethane	ND	105	100	4.9	82	101	20.8
1,1,2,2-Tetrachloroethane	ND	97	92	5.3	97	95	2.1
1,1,2-Trichloroethane	ND	101	95	6.1	99	92	7.3
1,1-Dichloroethane	ND	112	107	4.6	91	103	12.4
1,1-Dichloroethene	ND	115	107	7.2	87	107	20.6
1,1-Dichloropropene	ND	101	93	8.2	78	96	20.7
1,2,3-Trichlorobenzene	ND	121	75	46.9	111	87	24.2
1,2,3-Trichloropropane	ND	121	112	7.7	105	105	0.0
1,2,4-Trichlorobenzene	ND	119	87	31.1	105	97	7.9
1,2,4-Trimethylbenzene	ND	114	106	7.3	95	111	15.5
1,2-Dibromo-3-chloropropane	ND	109	101	7.6	99	89	10.6
1,2-Dichlorobenzene	ND	101	95	6.1	90	95	5.4
1,2-Dichloroethane	ND	110	103	6.6	100	102	2.0
1,2-Dichloropropane	ND	111	101	9.4	100	105	4.9
1,3,5-Trimethylbenzene	ND	107	99	7.8	89	105	16.5
1,3-Dichlorobenzene	ND	103	95	8.1	89	99	10.6
1,3-Dichloropropane	ND	107	103	3.8	99	98	1.0
1,4-Dichlorobenzene	ND	104	99	4.9	96	102	6.1
2,2-Dichloropropane	ND	92	78	16.5	77	83	7.5
2-Chlorotoluene	ND	103	96	7.0	86	104	18.9
2-Hexanone	ND	>130	120	NC	111	<70	NC
2-Isopropyltoluene	ND	108	99	8.7	85	104	20.1
4-Chlorotoluene	ND	107	96	10.8	90	103	13.5
4-Methyl-2-pentanone	ND	>130	>130	NC	150	135	10.5
Acetone	ND	112	110	1.8	102	105	2.9
Acrolein	ND	115	108	6.3	116	99	15.8
Acrylonitrile	ND	125	123	1.6	120	111	7.8
Benzene	ND	106	99	6.8	89	99	10.6
Bromobenzene	ND	101	96	5.1	91	99	8.4
Bromochloromethane	ND	105	97	7.9	93	94	1.1
Bromodichloromethane	ND	105	98	6.9	92	96	4.3
Bromoform	ND	104	93	11.2	96	92	4.3
Bromomethane	ND	91	82	10.4	72	76	5.4
Carbon Disulfide	ND	113	104	8.3	80	100	22.2
Carbon tetrachloride	ND	99	91	8.4	78	95	19.7
Chlorobenzene	ND	101	94	7.2	88	97	9.7

QA/QC Data

SDG I.D.: GAQ99507

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD	
Chloroethane	ND	113	108	4.5	90	107	17.3	
Chloroform	ND	102	96	6.1	86	95	9.9	
Chloromethane	ND	>130	>130	NC	112	129	14.1	
cis-1,2-Dichloroethene	ND	106	99	6.8	89	97	8.6	
cis-1,3-Dichloropropene	ND	98	89	9.6	92	92	0.0	
Dibromochloromethane	ND	104	98	5.9	100	95	5.1	
Dibromoethane	ND	104	96	8.0	104	96	8.0	
Dibromomethane	ND	103	93	10.2	95	93	2.1	
Dichlorodifluoromethane	ND	>130	123	NC	94	116	21.0	
Ethylbenzene	ND	104	97	7.0	88	100	12.8	
Hexachlorobutadiene	ND	95	84	12.3	79	93	16.3	
Isopropylbenzene	ND	101	95	6.1	84	103	20.3	
m&p-Xylene	ND	105	97	7.9	88	98	10.8	
Methyl ethyl ketone	ND	120	112	6.9	111	100	10.4	
Methyl t-butyl ether (MTBE)	ND	101	94	7.2	101	93	8.2	
Methylene chloride	ND	106	101	4.8	92	98	6.3	
Naphthalene	ND	106	79	29.2	98	475	131.6	3
n-Butylbenzene	ND	124	108	13.8	98	120	20.2	
n-Propylbenzene	ND	107	98	8.8	84	104	21.3	
o-Xylene	ND	105	98	6.9	89	98	9.6	
p-Isopropyltoluene	ND	110	101	8.5	87	106	19.7	
sec-Butylbenzene	ND	106	96	9.9	84	103	20.3	
Styrene	ND	108	101	6.7	95	100	5.1	
tert-Butylbenzene	ND	103	97	6.0	84	103	20.3	
Tetrachloroethene	ND	101	92	9.3	83	97	15.6	
Tetrahydrofuran (THF)	ND	>130	123	NC	114	108	5.4	
Toluene	ND	102	95	7.1	85	97	13.2	
trans-1,2-Dichloroethene	ND	110	100	9.5	85	101	17.2	
trans-1,3-Dichloropropene	ND	107	94	12.9	98	95	3.1	
trans-1,4-dichloro-2-butene	ND	118	114	3.4	107	100	6.8	
Trichloroethene	ND	103	95	8.1	86	100	15.1	
Trichlorofluoromethane	ND	118	113	4.3	86	113	27.1	
Trichlorotrifluoroethane	ND	110	100	9.5	85	105	21.1	
Vinyl chloride	ND	125	116	7.5	91	113	21.6	
% 1,2-dichlorobenzene-d4	103	99	99	0.0	98	100	2.0	
% Bromofluorobenzene	94	103	101	2.0	102	98	4.0	
% Dibromofluoromethane	99	103	100	3.0	98	96	2.1	
% Toluene-d8	97	97	95	2.1	97	96	1.0	

QA/QC Batch 115078, QC Sample No: AQ96792 (AQ99507)

Semivolatile Organic Compounds (525)

Benzo(a)pyrene	ND	113	120	6.0
Bis-(2-ethylhexyl)adipate	ND	97	110	12.6
Bis-(2-ethylhexyl)phthalate	ND	97	90	7.5
% 1,3-Dimethyl-2-nitrobenzene	108	118	90	26.9
% Perylene-d12	91	89	85	4.6
% Triphenylphosphate	110	115	110	4.4

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Data

SDG I.D.: GAQ99507

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 116053, QC Sample No: AQ99507 (AQ99507)							
EDB and DBCP Analysis							
1,2-Dibromo-3-Chloropropane (DBCP)	ND	97	101	4.0			
1,2-Dibromoethane (EDB)	ND	97	104	7.0			

3 = This parameter is outside laboratory ms/msd specified limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 15, 2008

PHOENIX

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

NY Temperature Narration

December 15, 2008

SDG I.D.: GAQ99507

The samples in this delivery group were received at 10C.
(Note acceptance criteria is above freezing up to 6C)

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 10° w/ic Pg of

Data Delivery:
☐ Fax #:
☒ Email: Strader@alphageoscience.com

Customer: Dean Gritter
Address: Crossroads Ventures
PO Box 267, Mt Tremper, NY 12457

Project: Q Well Testing
Report to: Steve Trader - Alpha Geoscience
Invoice to: Crossroads Ventures

Project P.O: 08136
Phone #: Alpha 518 348 6995
Fax #:

Client Sample - Information - Identification

Sampler's Signature
Date 11/10/08

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NYS Part 5 Analysis **											Amber VOA	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [X] As is [ ] H2SO4	PL As is [ ] 250ml [X] 500ml [X] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml /500ml	PL NaOH 250ml	Bacteria Bottle	
99507	Q1	DW	11/10/08	12:30	X											2				7	11	2/2		1/4	1	2	

Relinquished by:	Accepted by:	Date:	Time:
Steve M Trader		11/10/08	6:45pm
FedEx		11/11/08	10:55

Comments, Special Requirements or Regulations:

** See attached Sheet with parameter list

Do not need waived Parameters Per Steve Trader See attached.

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: NY

Data Format
☐ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

PARAMETER AND MAXIMUM CONTAMINANT LEVEL (MCL) LIST
New York State Department of Health - 10NYCRR Subpart 5-1
New Ground Water Source Approval - Community Systems

Antimony	0.006	Cyanide	0.2	Chloride	250	Sulfate	250	Alkalinity	no MCL	Corrosivity	no MCL
Arsenic	0.01	Mercury	0.002	Iron	0.3	Zinc	5.0	Copper	*1.3	pH	no MCL
Barium	2.00	Nickel	no MCL	Manganese	0.3	Color	15 units	Lead	*0.015	Turbidity	5 NTU
Beryllium	0.004	Selenium	0.05	Silver	0.1	Odor	3 units	Hardness, Total		no MCL	
Cadmium	0.005	Thallium	0.002	Sodium	no MCL			Total Dissolved Solids		no MCL	
Chromium	0.10	Fluoride	2.2								
Asbestos 7.0 MFL> 10 Microns				Nitrate-N	10	Nitrite-N	1	*these are "action levels", not MCLs			

VOLATILE ORGANIC CHEMICALS (VOCs)

[Principal Organic Chemicals on table 9D
plus vinyl chloride and MTBE]

MCL is 0.005 *mg/l* each, unless specified otherwise

- benzene
- bromobenzene
- bromochloromethane
- bromomethane
- n-butylbenzene
- sec-butylbenzene
- tert-butylbenzene
- carbon tetrachloride
- chlorobenzene
- chloroethane
- chloromethane
- 2-chlorotoluene
- 4-chlorotoluene
- dibromomethane
- 1,2-dichlorobenzene
- 1,3-dichlorobenzene
- 1.4-dichlorobenzene
- dichlorodifluoromethane
- 1,1-dichloroethane
- 1,2-dichloroethane
- 1,1-dichlorethene
- cis-1,2-dichloroethene
- trans-1,2-dichlorethene
- 1,2-dichloropropane
- 1,3-dichloropropane
- 2,2-dichloropropane
- 1,1-dichloropropene
- cis-1,3-dichloropropene
- trans-1,3-dichloropropene
- ethylbenzene
- isopropylbenzene
- p-isopropyltoluene
- methylene chloride
- n-propylbenzene
- styrene
- 1,1,1,2-tetrachloroethane
- 1,1,2,2-tetrachloroethane
- tetrachloroethene
- toluene
- 1,2,3-trichlorobenzene
- 1,2,4-trichlorobenzene
- 1,1,1-trichloroethane
- 1,1,2-trichloroethane
- trichlorethene
- trichlorofluoromethane
- 1,2,3-trichloropropane
- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- m-xylene
- o-xylene
- p-xylene

vinyl chloride (**MCL = 0.002 mg/l**)

methyl tertiary butyl ether
(MTBE, MCL = 0.01 mg/l)

SYNTHETIC ORGANIC CHEMICALS (SOCs)

[Organic Chemicals]

Group 1 Chemicals

alachlor	0.002
aldicarb	0.003
aldicarb sulfoxide	0.002
aldicarb sulfone	0.004
atrazine	0.003
carbofuran	0.04
chlordane	0.002
2,4-D	0.05
endrin	0.002
heptachlor	0.0004
heptachlor epoxide	0.0002
lindane	0.0002
methyoxychlor	0.04
polychlorinated biphenyls (PCB)	0.0005
pentachlorophenol	0.001
toxaphene	0.003
2,4,5-TP (Silvex)	0.01

These 4 chemicals are waived unless otherwise noted

diquat	**0.02**
endothall	**0.005**
glyphosate	**0.005**
2,3,7,8-TCDD (dioxin)	**0.00000003**

Group 2 Chemicals

aldrin	0.005
benzo(a)pyrene	0.0002
butachlor	0.005
carbaryl	0.005
dalapon	0.005
di(2-ethylhexyl)adipate	0.005
di(2-ethylhexyl)phthalate	0.006
dicamba	0.005
dieldrin	0.005
dinoseb	0.007
hexachlorobenzene	0.005
hexachlorocyclopentadiene	0.005
3-hydroxycarbofuran	0.005
methomyl	0.005
metolachlor	0.005
metribuzin	0.005
oxamyl vydate	0.005
picloram	0.005
propachlor	0.005
simazine	0.004
dibromochloropropane (DBCP)	0.0002
ethylene dibromide (EDB)	0.00005

RADIOLOGICAL	MCL (pCi/L = picocuries per liter)
Gross Alpha	15 pCi/L
Combined Radium (Ra-226 & Ra-228)	5 pCi/L
Uranium	0.03 mg/L
Radon	Currently no MCL for radon, but EPA is likely to adopt one soon

MICROBIOLOGICAL

Total Coliform
Standard Plate Count

EAS®

Eastern Analytical Services, Inc.

Phone (914) 592-8380

4 Westchester Plaza
Elmsford, New York 10523-1610
http://www.EASInc.com

Fax (914) 592-8956

November 20, 2008

Ms. Bobbi Aloisa
Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
P.O. Box 370
Manchester, CT 06040

Dear Ms. Aloisa:

Enclosed please find the laboratory results for the 1 water samples received by Eastern Analytical Services, Inc. November 12, 2008. The analysis was performed in accordance with EPA-600/4-83-043 and NYS Item 198.2.

Thank you for allowing EAS, Inc. to provide Phoenix Environmental Laboratories, Inc. with professional analytical services. If you have any questions or require additional information or assistance, please feel free to contact me at the number above or e-mail Lab@EASInc.com.

Sincerely,

EASTERN ANALYTICAL SERVICES, INC.

Paul Stascavage
Laboratory Director

PS:om

Enclosures

Electronically Transmitted
November 19, 2008

Eastern Analytical Services, Inc.

Water Sample Report

Date Collected: 11/10/2008
Collected By: Not Given
Date Received: 11/12/2008
Date Analyzed: 11/18/2008
Analyzed By: Ghayath Elias
Signature:
Analyte: Asbestos Fibers
Analytical Method EPA 100.1/NYS 198.2
NVLAP Lab No: 101646-0
NYS Lab Number: 10851

Client: Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
P.O. Box 370
Manchester, CT 06040

Sample ID# / Lab ID#	**Sample Location**	**Sample Notes**	**Vol. (mls)**	**Concentration - 19k ≥0.5 µm < 10.0 µm**	**Vol. (mls)**	**Concentration - 10k ≥10.0 µm**
AQ99507 1711431	Not Given	Drinking Water	200.	BDL< 4.00E-01 MFL	200.	BDL< 1.33E-01 MFL

MFL = Million Fibers per Liter
Liability Limited to Cost of Analysis
Results Applicable to Those Items Tested
This Report Must Not be Used by the Client to Claim Product Endorsement by NVLAP or Any Agency of the US Government
AIHA Accreditation No. 418 Rhode Island DOH No. AAL-072T3 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AAS 2095

Eastern Analytical Services, Inc.

Water Sample Report

Date Received:	11/12/2008	**Analytical Method:**	EPA-600/4-83-043	**Filter Type:**	0.1μ MCE
Date Collected:	11/10/2008	**Instrument:**	JEOL 100CXII	**Filter Manufacturer:**	Advantec, Inc.
Date Analyzed:	11/18/2008	**Accelerating Voltage:**	100 kV	**Filter Lot No:**	41BBAA
Analyzed By:	Ghayath Elias	**Magnification:**	19 kX	**Effective Filtration Area:**	960 mm²
Client:	Phoenix Environmental	**No of Grid Openings:**	1	**Filter Loading:**	Medium
Sample No:	AQ99507	**Grid Opening Area:**	0.012 mm²	**Volume:**	200. milliliters
Lab No:	1711431	**Area Analyzed:**	0.012 mm²	**Minimum Detection Limit**	4.00E-01 MFL

Grid Opening	Structure No.	Structure Type	No. of Fibers	Length	Width	SAED	Negative ID	EDS	Spectra File Name
1J5	0	No Structure							

Total Number of Asbestos Structures ≥ 0.5μm < 10.0 μm: 0

Total Number of Asbestos Structures ≥ 10.0 μm: 0

Associated Concentration: BDL< 4.00E-01 MFL

Associated Concentration: BDL< 1.33E-01 MFL

Eastern Analytical Services, Inc.

Water Sample Report

Date Received: 11/12/2008
Date Collected: 11/10/2008
Date Analyzed: 11/18/2008
Analyzed By: Ghayath Elias
Client: Phoenix Environmental
Sample No: AQ99507
Lab No: 1711431

Analytical Method: EPA-600/4-83-043
Instrument: JEOL 100CXII
Accelerating Voltage: 100 kV
Magnification: 10 kX
No of Grid Openings: 3
Grid Opening Area: 0.012 mm²
Area Analyzed: 0.036 mm²

Filter Type: 0.1µ MCE
Filter Manufacturer: Advantec, Inc.
Filter Lot No: 41BBAA
Effective Filtration Area: 960 mm²
Filter Loading: Medium
Volume: 200. milliliters
Minimum Detection Limit 1.33E-01 MFL

Grid Opening	Structure No.	Structure Type	No. of Fibers	Length	Width	SAED	Negative ID	EDS	Spectra File Name
2I1	0	No Structure							
3P5	0	No Structure							

Total Number of Asbestos Structures ≥ 0.5µm < 10.0 µm: 0

Total Number of Asbestos Structures ≥ 10.0 µm: 0

Associated Concentration: BDL< 4.00E-01 MFL

Associated Concentration: BDL< 1.33E-01 MFL

Eastern Analytical Services, Inc.

Chain of Custody Form

EAS Client:	Phoenix Environmental Laboratories, Inc. 587 East Middle Turnpike P.O. Box 370 Manchester, CT 06040	Batch No.	0813919
		Turn-Around:	5 Day
		Shipped Via:	FedEx
Analyte:	Asb H2O	State of Origin:	NY
No. of Samples Received:	1	Lab:	NY
		Sample Disposition:	Standard x
No. of Samples Analyzed:	1		Return
Client Project Number/Name:			

Lab ID Numbers 1711431

Collected By:	Not Given	Signature	Date: 11/10/2008	
Received By:	Paul Stascavage		Date: 11/12/2008	Time: 1037
Logged In By:	Ghayath Elias		Date: 11/18/2008	
Prepped By:	Ghayath Elias		Date: 11/18/2008	
Analyzed By :	Ghayath Elias		Date: 11/18/2008	Time: 2155
Re-Analyzed By:			Date:	
Checked By:	Damien Warner		Date: 11/19/2008	
E-Transmitted By:	Damien Warner		Date: 11/19/2008	Time: 1446
Logged Out By:			Date:	

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: EAS
Address:

Project:
Report to: Bobbi Aloisa
Invoice to:

Project P.O:
Phone #:
Fax #:

Client Sample - Information - Identification

Sampler's Signature ______ Date

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Asbestos	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As Is [ ] HCl	GL Amber 1000ml [ ] As Is [ ] H2SO4	PL As Is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
* AQ99507	1711431	DW	11/10	—	✓										

Relinquished by:	Accepted by:	Date:	Time:
Lori Bryda	Fed Ex	11-11-08	
EAS	NOV 12 '08 10:37		

Comments, Special Requirements or Regulations:

*AS LABELED ON PAPERWORK
*INITIALS/DATE [illegible] 2008

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: NY

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

APPENDIX Q

Laboratory Reports

Microscopic Particulate Analysis

Q1 Well

REPORT: PARTICULATES, GIARDIA, AND CRYPTOSPORIDIUM

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

Filter ID: 32657
Client: Alpha Geoscience

Station/Body of water: Crossroads Ventures-Well Q1

RECEIPT OF FILTER:

Date Received: 11/11/2008
\# of filters: 1
Type: 1µm
Carrier: In Person

COLLECTION:

Collector: Steve Trader
Date collected: 11/10/2008
Temperature: °F
Turbidity: ------
Water Type: Ground Water

FILTER PROCESSING

Color of water around filter: cloudy
Filter color: light tan
Color of sediment: brown
\# gallons filtered: 760.8
Total volume of sediment: 0.02 ml
Volume of sediment/100 gallons: 0.003 ml/100gal.
IFA equivalent liter volume examined: ------
Phase equivalent gallon volume examined: 152

GIARDIA/CRYPTOSPORIDIUM	# Observed	Calc. #/100 Gallons
Giardia cyst confirmed:	--	--
Giardia cyst presumptive :	--	--
Cryptosporidium oocyst confirmed:	--	--
Cryptosporidium oocyst presumptive:	--	--

ANALYSIS OF PARTICULATES:

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

PARTICULATE DEBRIS	Quantity	Description
Large part. 5 µm & larger	R	fine silt & sand
Small part. up to 5 µm	EH	fine amorphous debris
Plant debris	NF	
OTHER ORGANISMS		
Nematodes	R	1/100gal.
Nematode eggs	NF	
Rotifers	NF	
Crustaceans	NF	
Crustacean eggs	NF	
Insects	NF	
Other	NF	

PROTOZOANS	Quantity	Description
Other Coccidia	NF	
Other protozoans	NF	
ALGAE		
Green Algae	NF	
Diatoms	NF	
Blue-Green Algae	NF	
Flagellated Algae	NF	

COMMENTS:

No primary surface water indicators were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).

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

REPORT REVIEWED BY: Susan H. Boutros **DATE:** December 10, 2008

PWS ID#	Well ID#	Utility Name	EAL Sample ID:
	Crossroads Ventures-Well Q1	**Alpha Geoscience**	**32657**

EPA Relative Surface Water Risk Factors

Date: 11/10/2008

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

EPA Relative Risk = 0	Low Risk

Secondary Particulates			
Nematodes	1	R	no relative risk factor assigned
Crustaceans	0	NF	
Amoeba	0	NF	
Non-photo. flag. & ciliates	0	NF	
Photosynthetic flagellates	0	NF	
Other:	0	NF	

COMMENTS: No primary surface water indicators were observed. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a low risk of surface contamination (EPA risk factors= 0 low risk).

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

L072692

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

REPORT REVIEWED BY: Susan L. Boutros **DATE:** December 10, 2008 Environmental Associates, Ltd.

APPENDIX R

Q1 Well

Down Hole Temperature and Conductivity Logs

AQUA TERRA GEOPHYSICS INC.

13 Station Court, Bellport NY 11713
631.286.7699

CO
WELL
FLD
CTY
STE
FILING No

COMPANY CROSSROADS VENTURES LLC
WELL ID Q - 1
FIELD BELLAYRE
COUNTRY DELAWARE STATE NEW YORK

LOCATION
QUARRY OFF MORAN ROAD

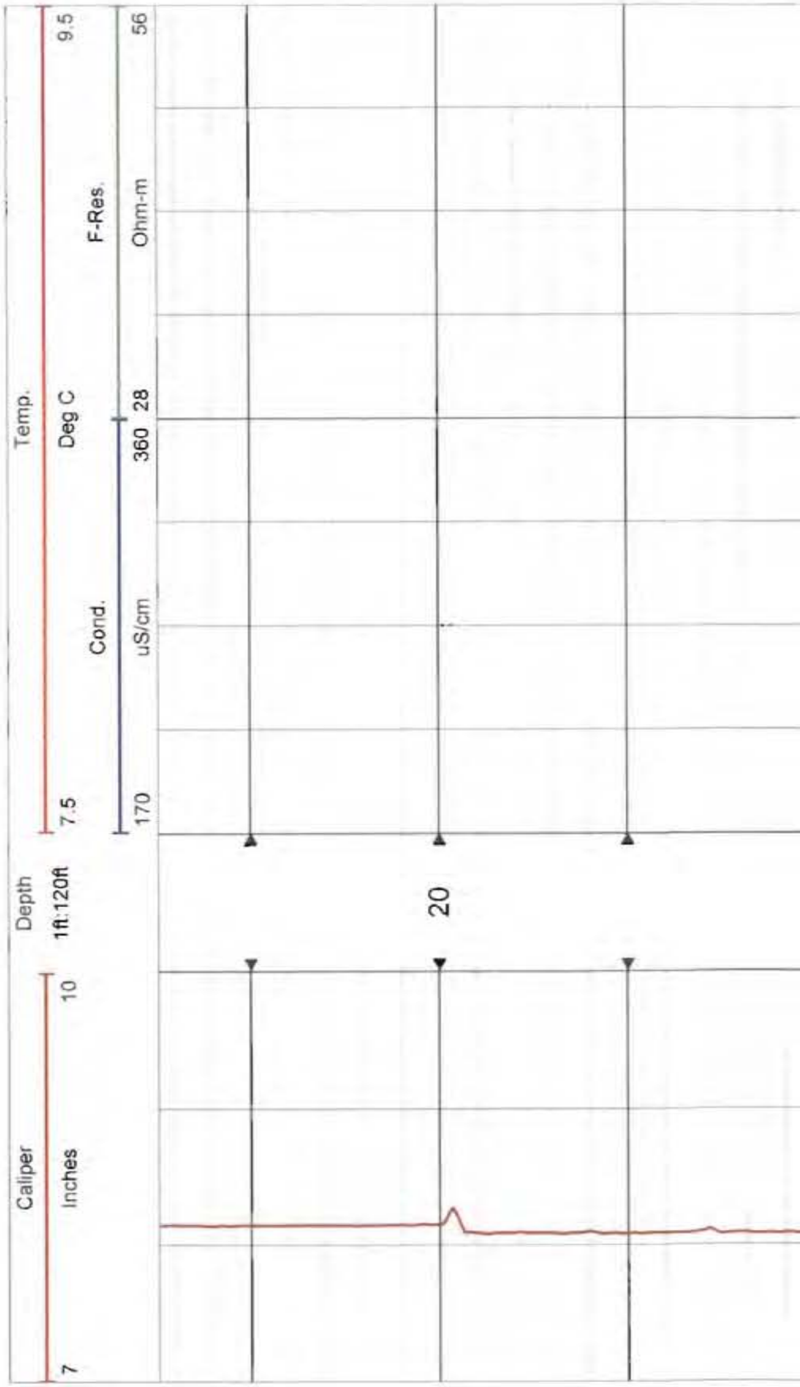
OTHER SERVICES

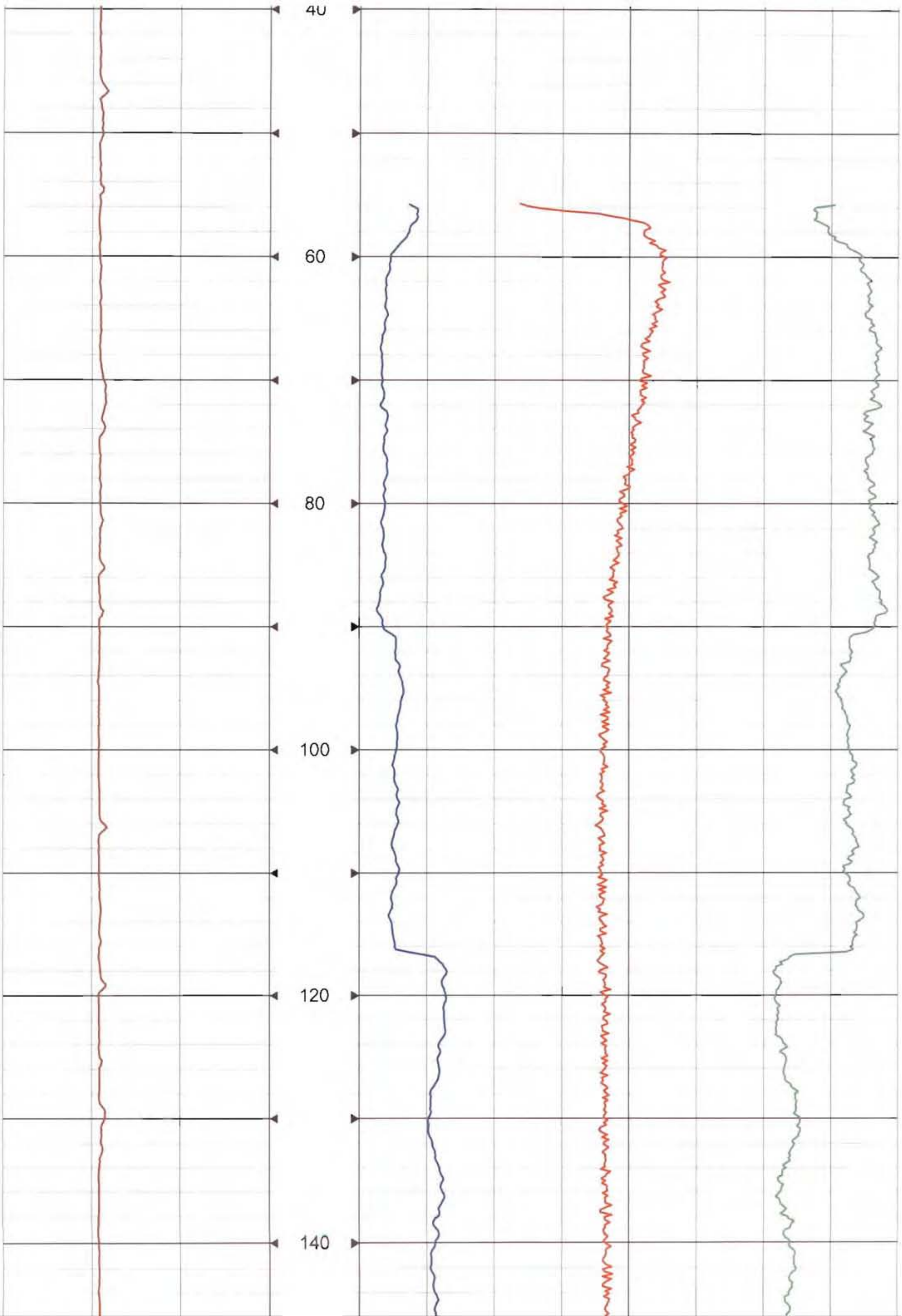
SEC TWP RGE

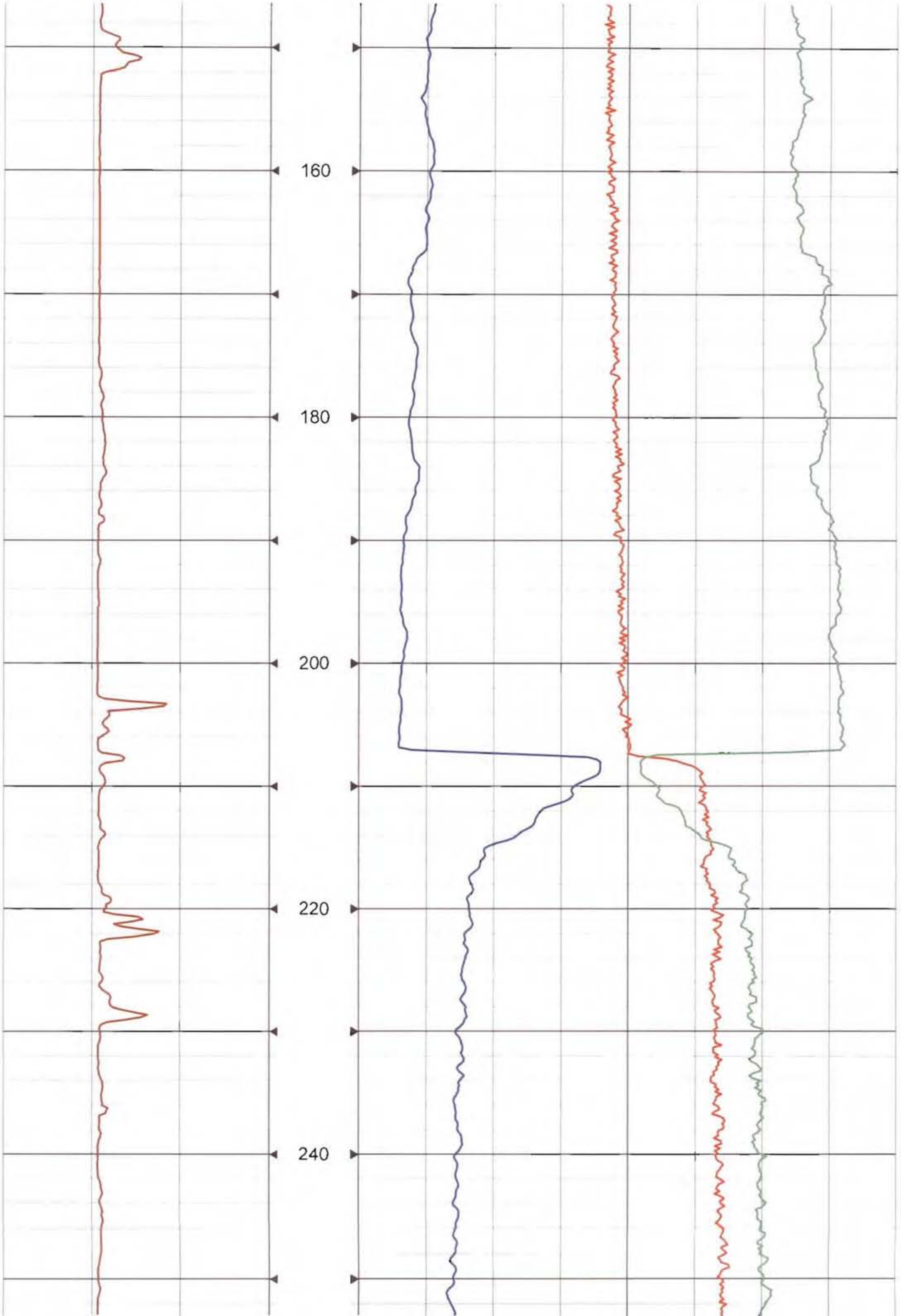
PERMANENT DATUM ELEVATION K.B.
LOG MEAS. FROM TOP OF CASING ABOVE PERM. DATUM D.F.
DRILLING MEAS. FROM G.L.

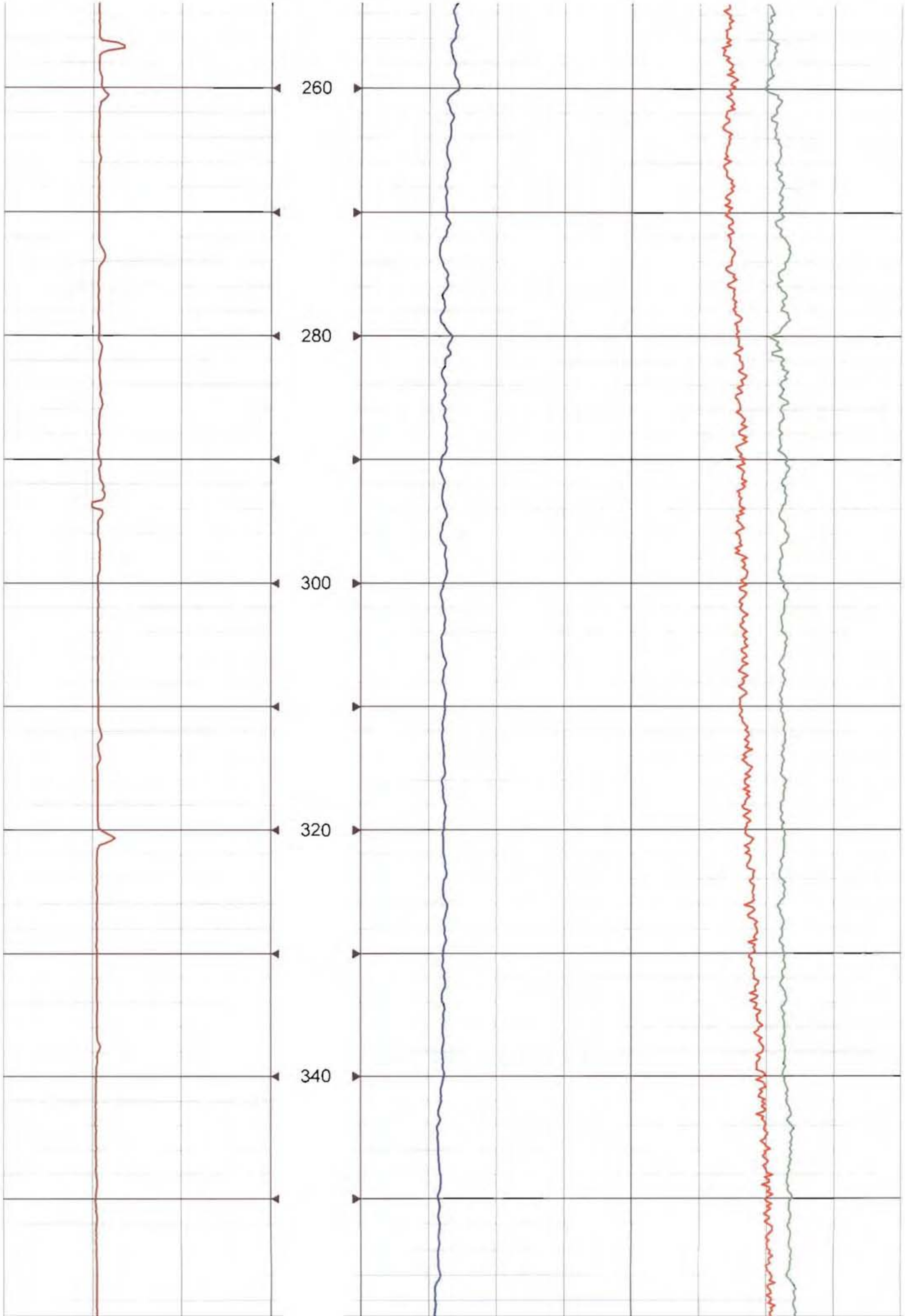
DATE	JANUARY 12, 2009	TYPE FLUID IN HOLE	
RUN No		SALINITY	
TYPE LOG		DENSITY	
DEPTH-DRILLER		LEVEL	
DEPTH-LOGGER	374 FEET	MAX. REC. TEMP.	
BTM LOGGED INTERVAL			
TOP LOGGED INTERVAL			
OPERATING RIG TIME			
RECORDED BY	BENJAMIN RICE		
WITNESSED BY	AL FRISENDA		

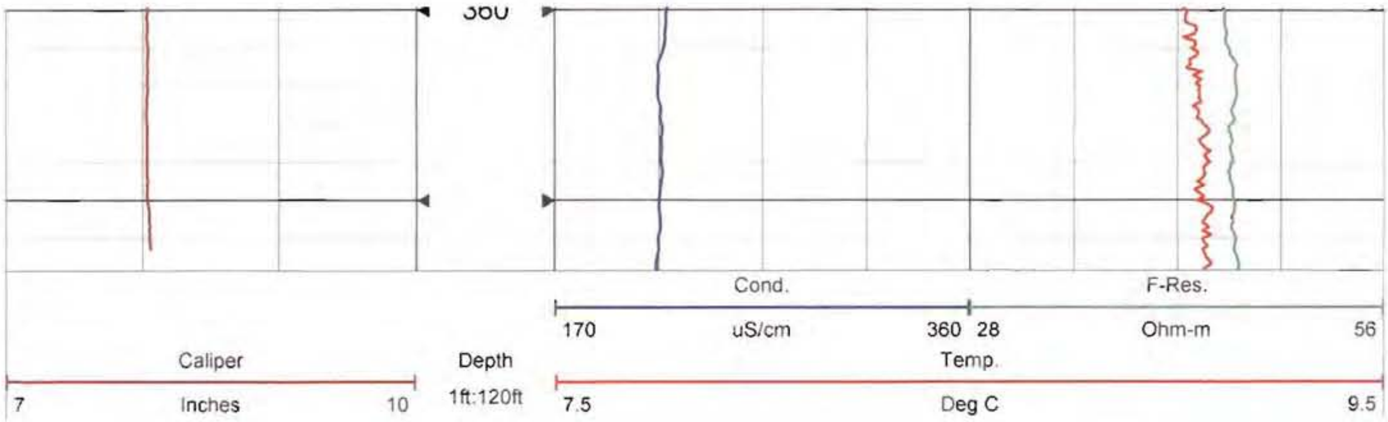
RUN	BOREHOLE RECORD			CASING RECORD			
NO.	BIT	FROM	TO	SIZE	WGT.	FROM	TO
	8 INCH	20 FEET	TOTAL DEPTH	8 INCH	STEEL	0	20 FEET




40
60
80
100
120
140


160
180
200
220
240


260
280
300
320
340


360
Cond.
170
uS/cm
360
28
F-Res.
Ohm-m
56
Caliper
7
Inches
10
Depth
1ft:120ft
Temp.
7.5
Deg C
9.5

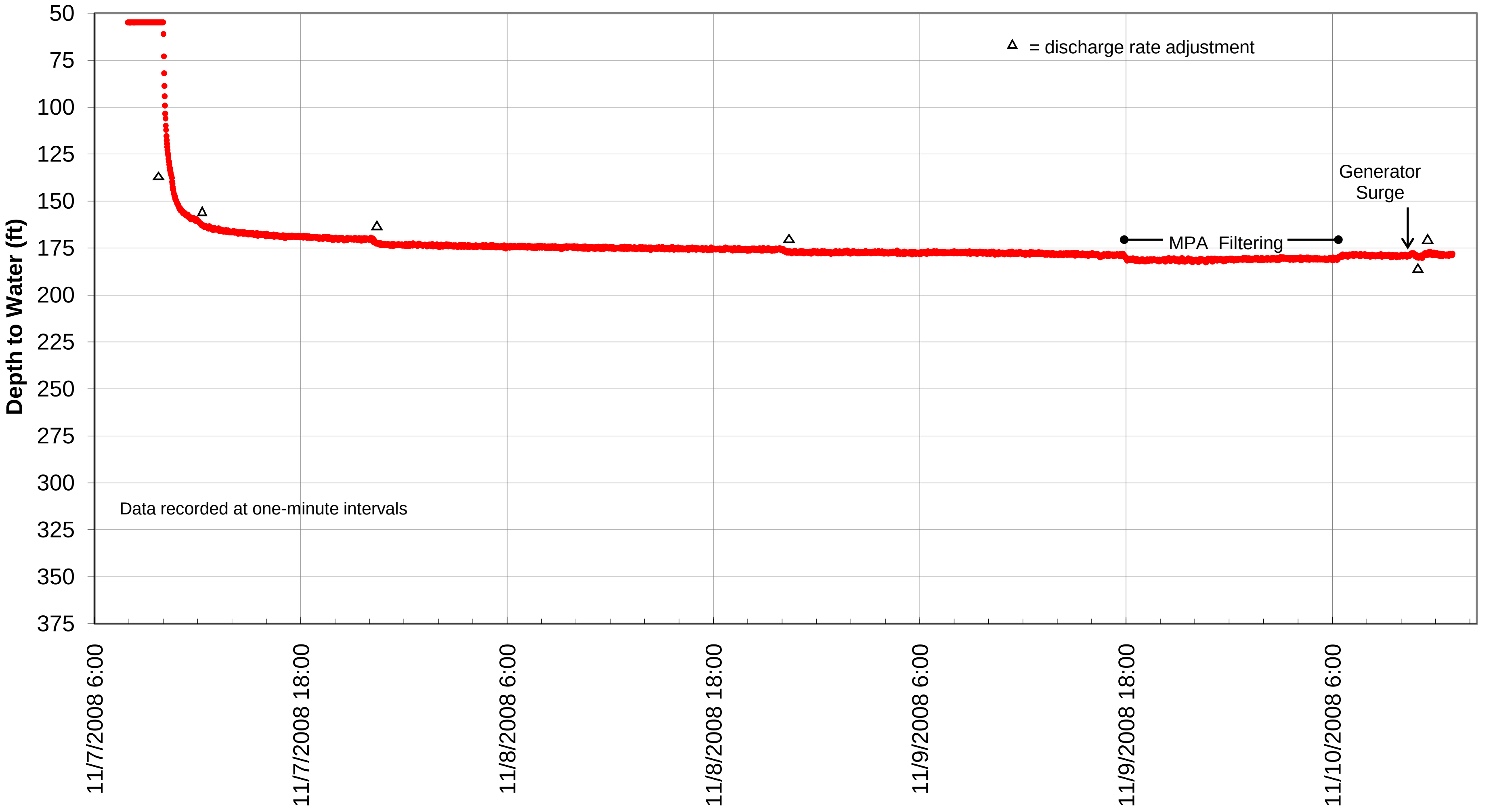
APPENDIX S

Q1 Well Drawdown and Stabilization Plots

Constant Rate Test

Well Q1
Linear Plot of Water Level Data

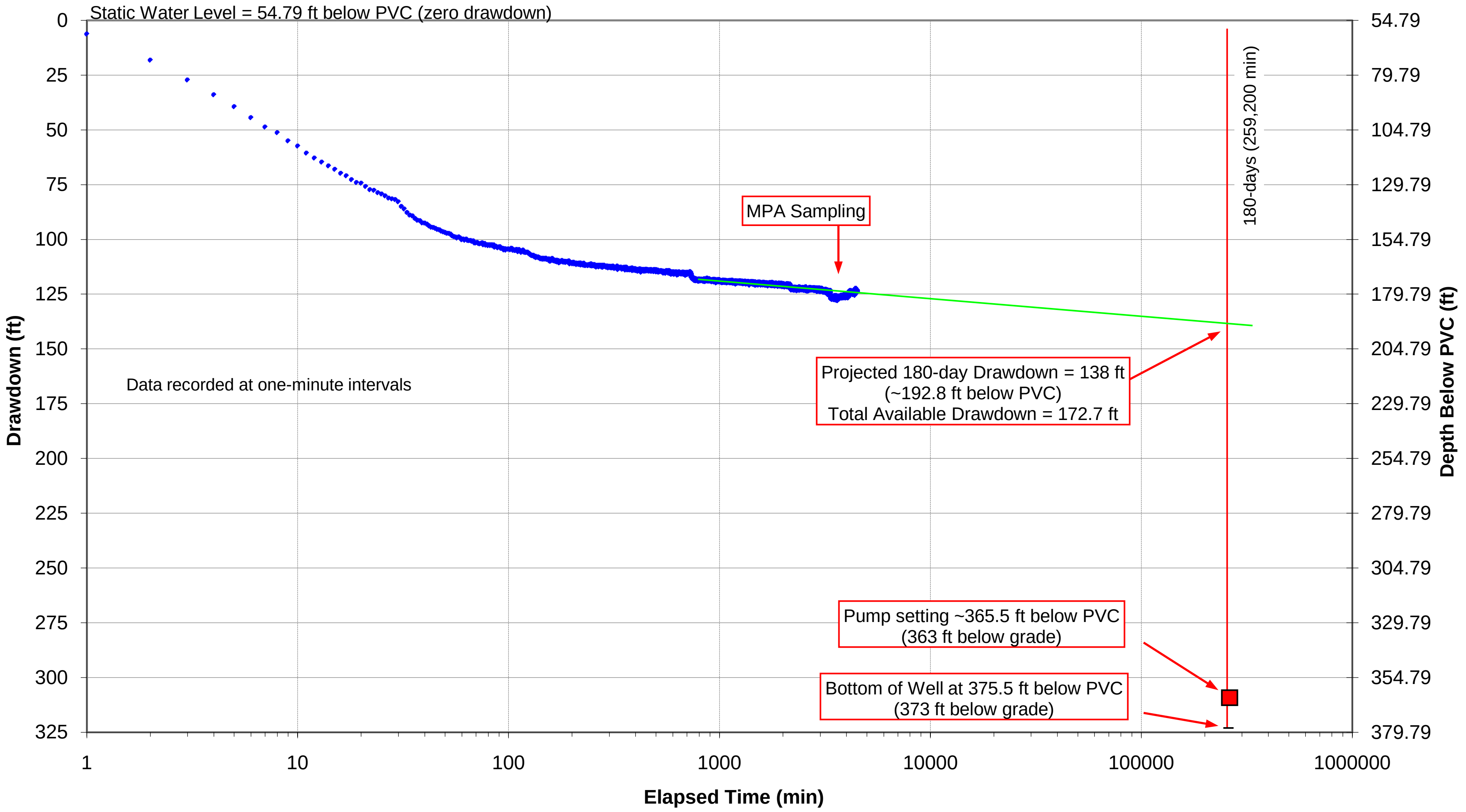
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



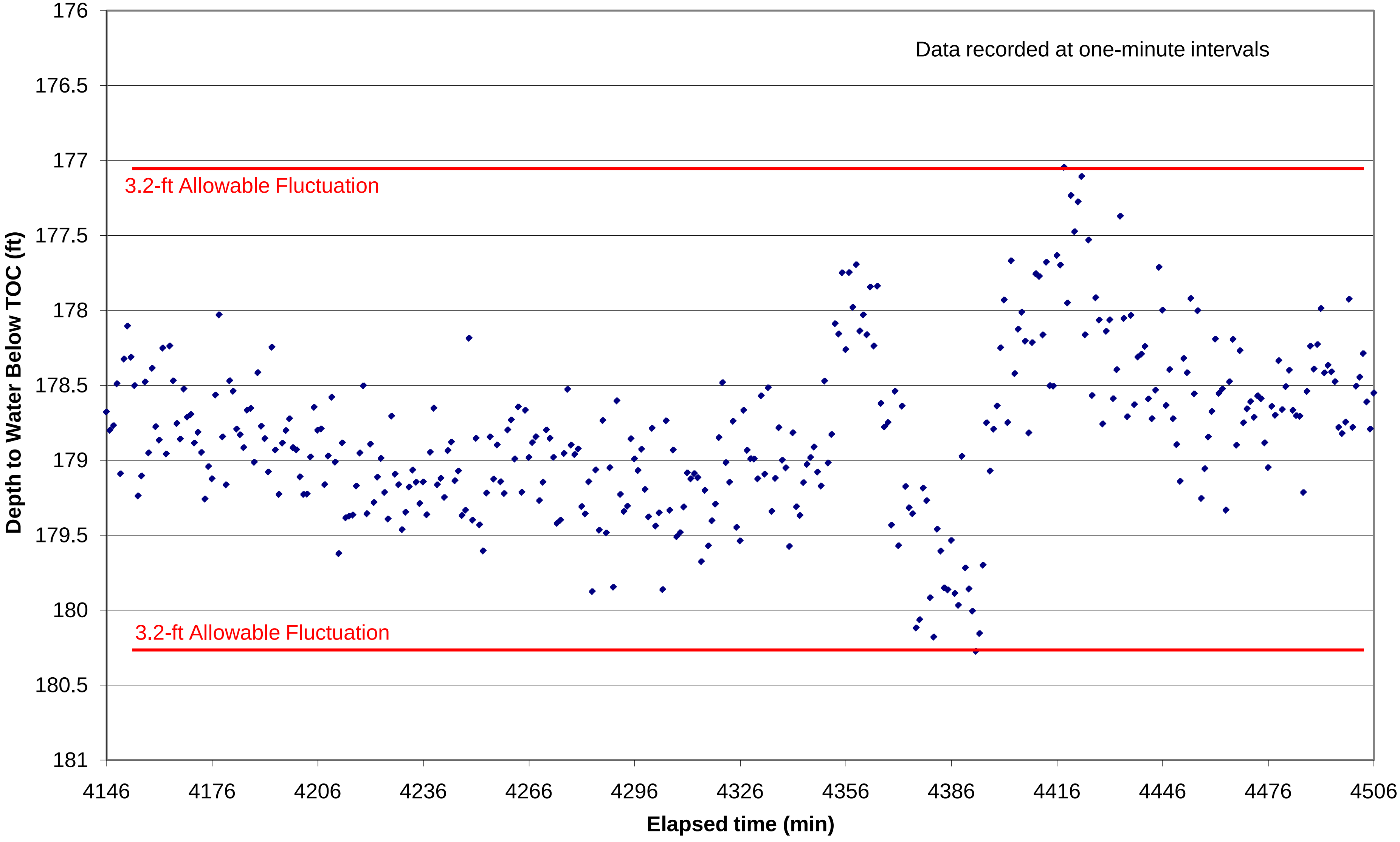
Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Q1 180-day projection.xls\Q1 Linear Plot

Well Q1
Semi-Log Plot of Drawdown Data

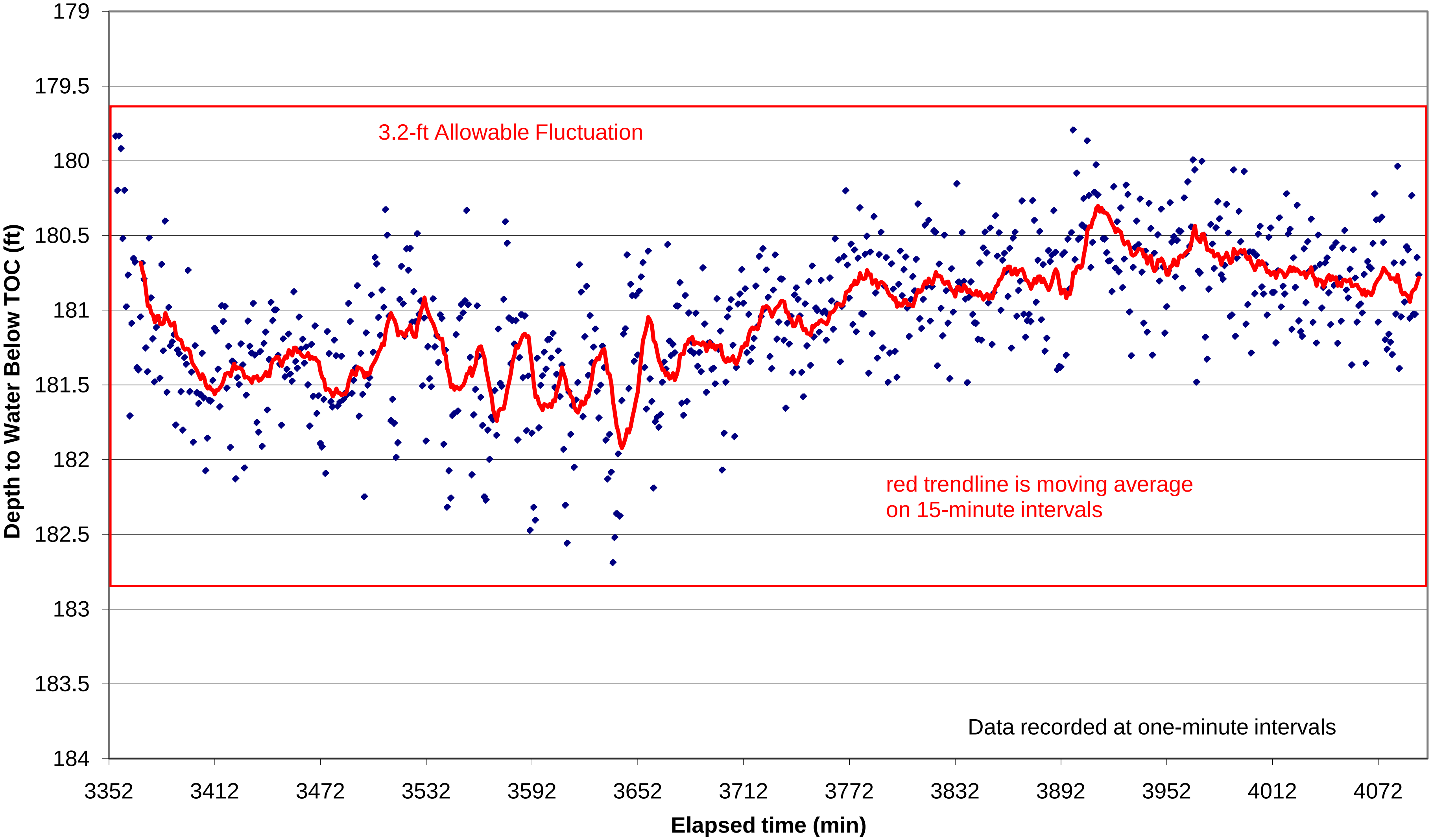
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Well Q1 72-hr Constant Rate Test
Linear Plot of Final Six Hours



Linear Plot of Water Levels Recorded Over 12 hrs of MPA Filtering



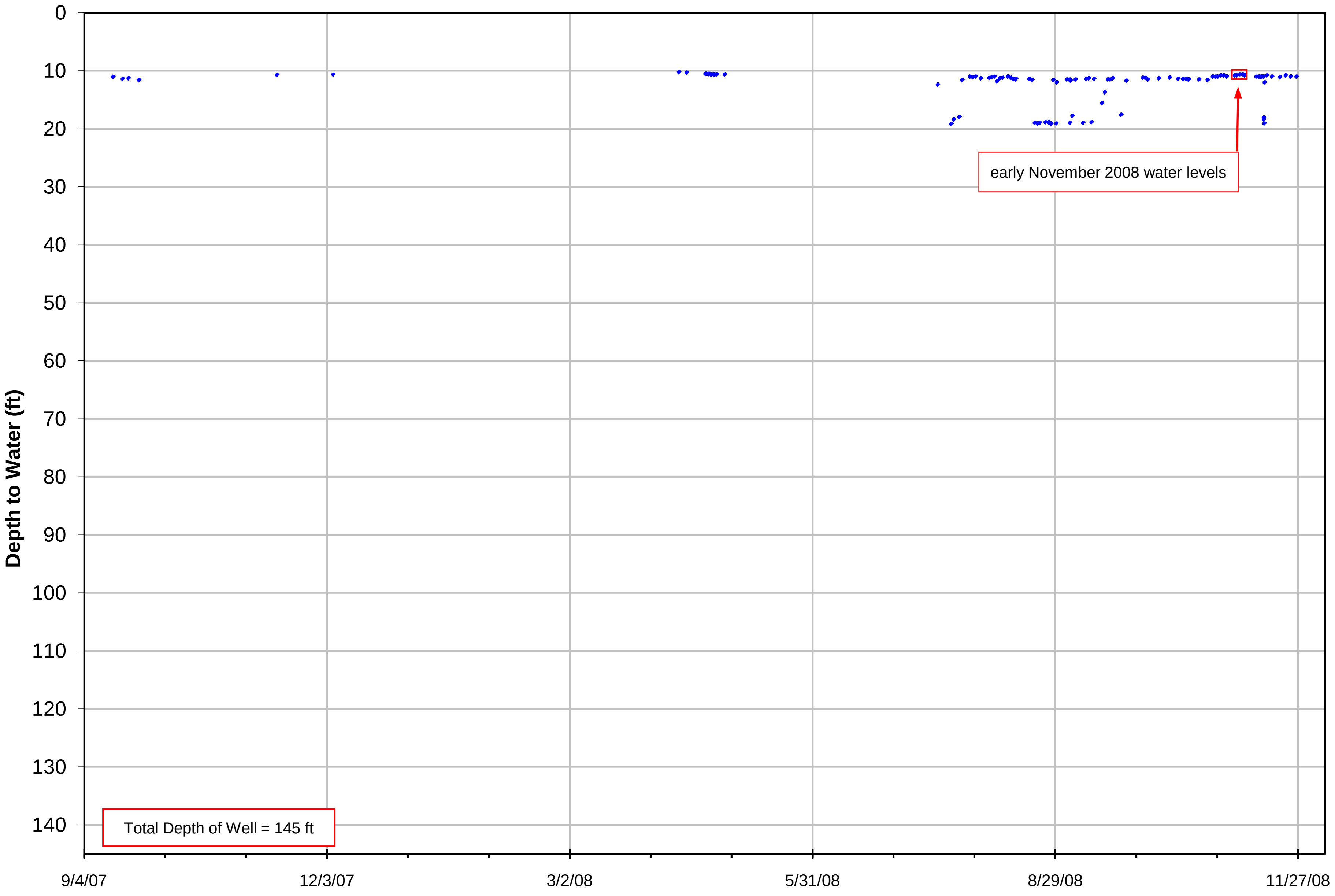
APPENDIX T

Historical Water Levels

Village Well 1A
Historical Water Levels

Date	Depth to Water (ft)
9/14/2007 18:44	11.1
9/18/2007 8:45	11.4
9/20/2007 11:47	11.3
9/24/2007 8:42	11.6
11/14/2007 13:05	10.7
12/5/2007 10:17	10.6
4/11/08 12:55	10.22
4/14/08 10:00	10.32
4/21/08 9:45	10.52
4/21/08 13:17	10.52
4/21/08 15:58	10.51
4/22/08 9:58	10.55
4/22/08 13:12	10.55
4/22/08 16:18	10.55
4/23/08 9:31	10.61
4/23/08 12:41	10.61
4/23/08 15:53	10.61
4/24/08 8:53	10.61
4/24/08 11:32	10.61
4/24/08 14:39	10.62
4/24/08 17:24	10.62
4/25/08 10:30	10.63
4/25/08 14:22	10.63
4/28/08 11:35	10.63
7/16/2008	12.4
7/21/2008	19.2
7/22/2008	18.4
7/24/2008	18.0
7/25/2008	11.6
7/28/2008	11.0
7/29/2008	11.1
7/30/2008	11.0
8/1/2008	11.3
8/4/2008 14:45	11.2
8/5/2008	11.1
8/6/2008	11.0
8/7/2008	11.8
8/8/2008	11.3
8/9/2008	11.2
8/11/2008	11.0
8/12/2008	11.2
8/13/2008	11.4
8/14/2008 7:00	11.5
8/14/2008 12:00	11.4
8/19/2008 9:29	11.4
8/20/2008 11:10	11.6
8/21/2008 11:05	19.0
8/22/2008 12:00	19.1
8/23/2008 8:00	19.0
8/25/2008 10:00	18.9
8/26/2008 14:46	18.9
8/27/2008 9:40	19.1
8/27/2008 11:24	19.2
8/28/2008 8:15	11.6
8/29/2008 11:00	19.1
8/29/2008 15:00	12.0
9/2/2008 10:15	11.5
9/3/2008 7:19	11.5
9/3/2008 11:46	19.0
9/3/2008 17:50	11.7
9/4/2008 10:00	17.8
9/5/2008 13:10	11.5
9/8/2008 8:49	19.0
9/9/2008 13:40	11.4
9/10/2008 11:36	11.3
9/11/2008 11:07	18.9
9/12/2008 10:20	11.4
9/15/2008 8:44	15.6
9/16/2008 10:18	13.7
9/17/2008 14:41	11.5
9/18/2008 11:00	11.5
9/19/2008 10:00	11.3
9/22/2008 11:41	17.6
9/24/2008 10:11	11.7
9/30/2008 11:30	11.2
10/1/2008 10:22	11.2
10/2/2008 11:00	11.5
10/6/2008 11:15	11.3
10/10/2008 10:00	11.2
10/13/2008 14:35	11.4
10/15/2008 10:15	11.4
10/16/2008 13:32	11.4
10/17/2008 10:00	11.5
10/17/2008 14:35	11.5
10/21/2008 9:55	11.5
10/24/2008 13:22	11.6
10/26/2008 9:59	11.0
10/27/2008 8:33	11.0
10/27/2008 16:05	11.0
10/28/2008 9:12	11.0
10/29/2008 12:14	10.8
10/30/2008 12:31	10.8
10/31/2008 14:52	11.0
11/3/2008 13:15	10.8
11/4/2008 10:20	10.8
11/5/2008 14:42	10.6
11/6/2008 11:44	10.6
11/7/2008 7:15	10.8
11/11/2008 14:10	11.0
11/12/2008 10:08	11.0
11/12/2008 15:55	11.0
11/13/2008 8:47	11.0
11/13/2008 15:30	11.0
11/14/2008 6:35	11.0
11/14/2008 8:06	18.1
11/14/2008 8:28	18.4
11/14/2008 12:59	19.1
11/14/2008 15:12	12.0
11/15/2008 13:11	10.8
11/17/2008 10:13	11.0
11/20/2008 8:15	11.1
11/22/2008 10:06	10.8
11/24/2008 9:08	11.0
11/26/2008 10:45	11.0

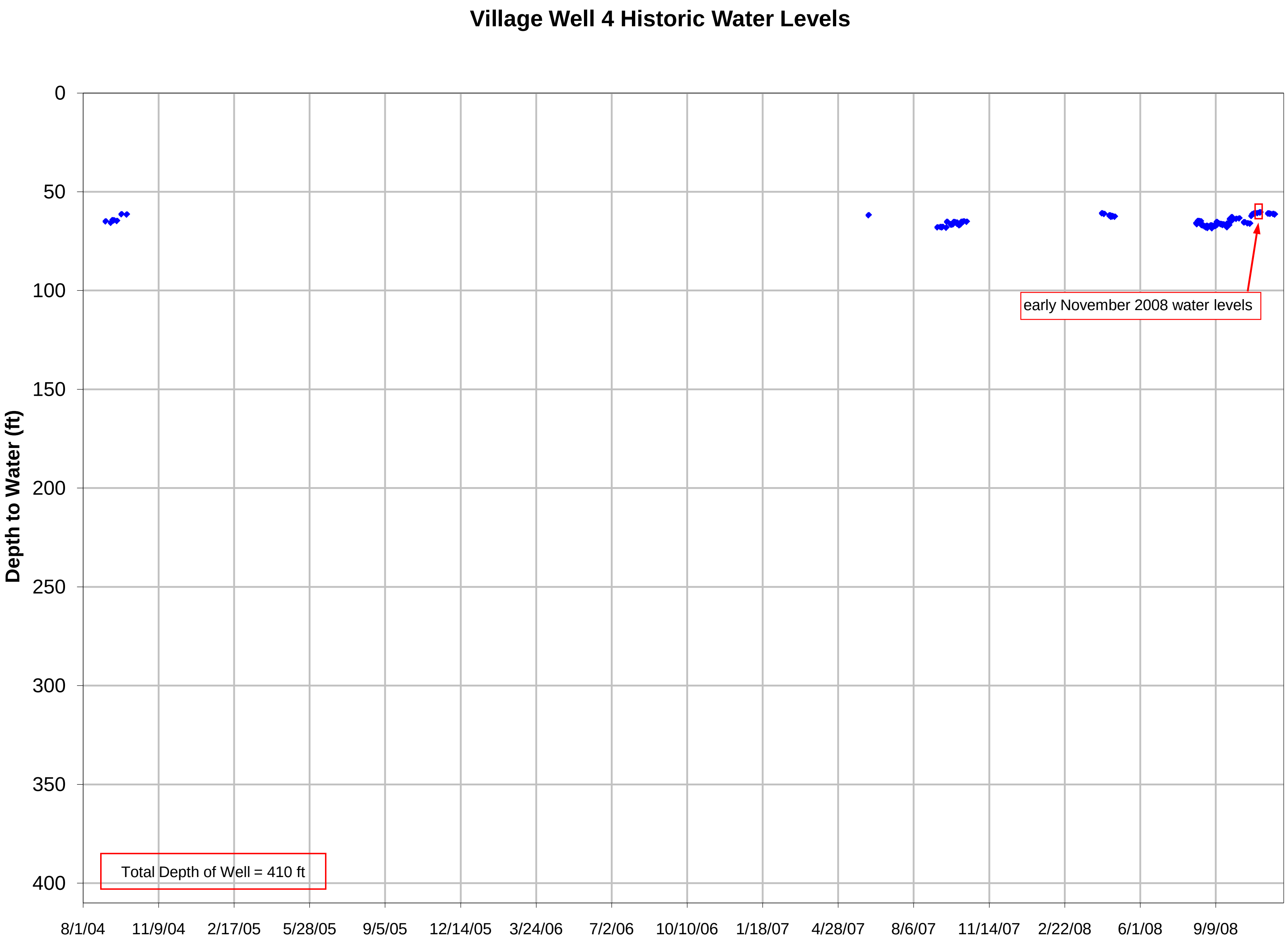
Village Well 1A Historical Water Levels



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Historic WLs - 1A.xls\1A Graph

Village Well 4
Historical Water Levels

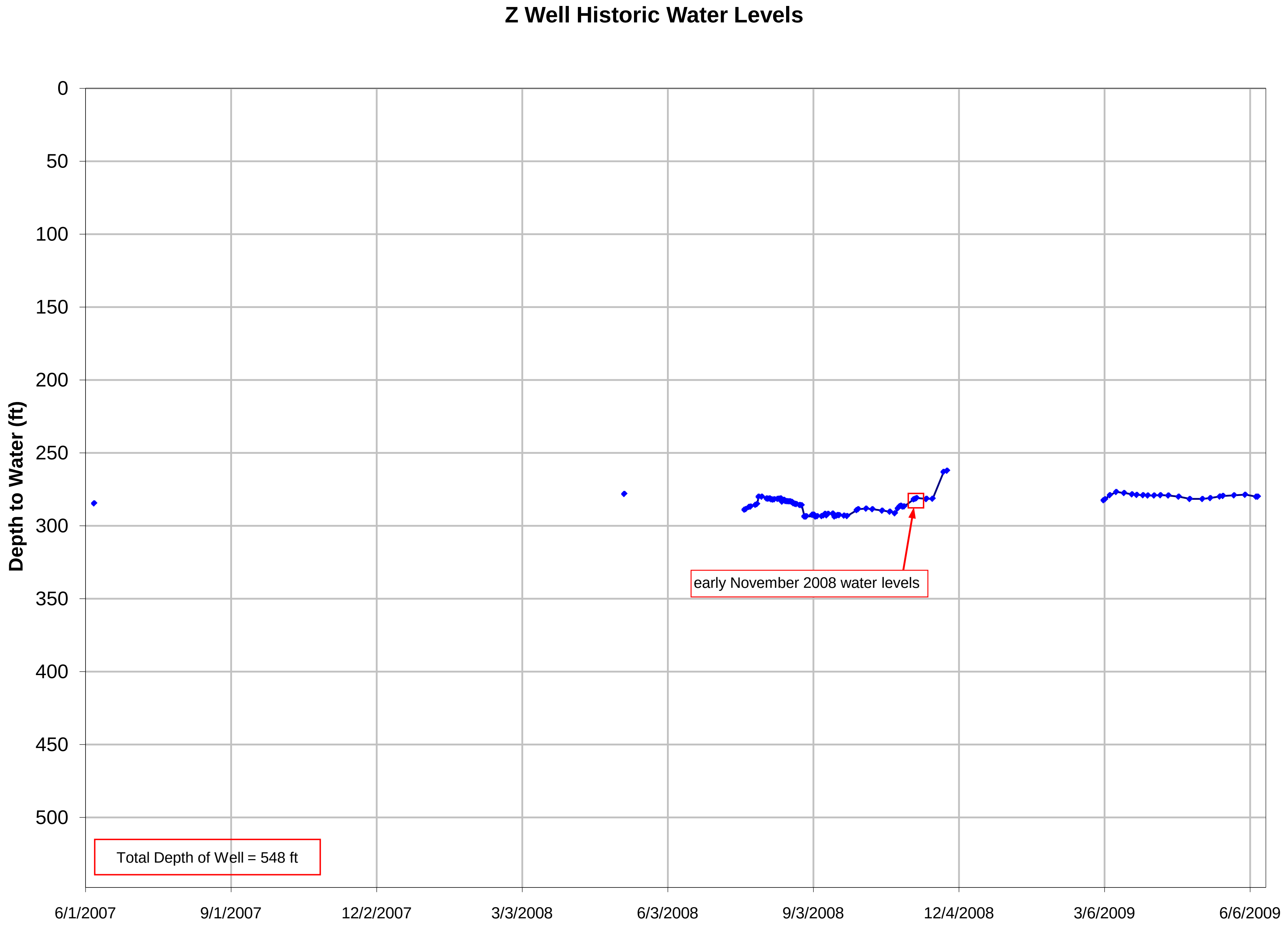
Date	Depth to Water (ft)
8/31/04 0:00	65.00
9/7/04 0:00	65.70
9/9/04 0:00	64.40
9/11/04 0:00	64.50
9/15/04 0:00	64.79
9/21/04 0:00	61.40
9/28/04 0:00	61.55
6/7/07 11:00	61.90
9/6/07 14:50	68.00
9/10/07 15:05	67.80
9/12/07 11:30	68.00
9/13/07 12:00	67.80
9/18/07 8:35	68.20
9/19/07 7:32	65.22
9/24/07 8:49	66.40
9/24/07 16:39	66.60
9/25/07 8:42	66.62
9/25/07 15:00	66.45
9/25/07 17:48	66.50
9/26/07 7:15	66.42
9/26/07 12:20	66.45
9/26/07 17:35	66.44
9/27/07 17:25	66.40
9/28/07 8:30	65.30
9/28/07 12:41	65.50
9/29/07 12:30	65.40
10/2/07 7:20	65.60
10/2/07 12:15	66.05
10/2/07 16:26	66.07
10/3/07 8:10	66.25
10/3/07 15:22	66.20
10/4/07 8:30	66.25
10/5/07 8:23	66.65
10/5/07 13:42	66.96
10/6/07 12:10	66.70
10/7/07 13:37	66.50
10/8/07 11:00	65.20
10/9/07 11:49	65.40
10/10/07 12:40	65.20
10/11/07 14:20	65.00
10/15/07 10:00	65.20
4/11/08 13:08	60.91
4/14/08 10:26	61.25
4/21/08 9:52	61.99
4/21/08 13:06	62.01
4/21/08 15:49	61.98
4/22/08 10:05	62.13
4/22/08 13:18	62.15
4/22/08 16:14	62.18
4/23/08 9:55	62.55
4/23/08 12:38	62.66
4/23/08 15:48	62.60
4/24/08 8:59	62.35
4/24/08 11:38	62.31
4/24/08 14:49	62.33
4/24/08 17:29	62.38
4/25/08 10:43	62.47
4/25/08 14:31	62.46
4/28/08 12:00	62.65
8/14/2008 7:00	65.90
8/15/2008 8:30	66.30
8/15/2008 11:33	66.40
8/15/2008 17:05	66.00
8/16/2008 12:30	64.80
8/17/2008 12:00	64.85
8/18/2008 10:15	64.90
8/19/2008 9:21	65.20
8/20/2008 11:00	65.00
8/21/2008 11:15	66.80
8/22/2008 12:15	66.90
8/23/2008 8:10	67.00
8/25/2008 9:50	67.50
8/26/2008 15:00	67.60
8/27/2008 9:42	68.02
8/28/2008 8:25	67.21
8/29/2008 11:20	68.31
8/29/2008 15:06	67.52
9/2/2008 10:25	67.05
9/3/2008 7:25	67.05
9/3/2008 11:55	68.06
9/3/2008 18:00	67.20
9/4/2008 10:15	68.45
9/5/2008 13:20	67.28
9/8/2008 9:03	67.35
9/9/2008 13:45	67.20
9/10/2008 11:42	65.30
9/11/2008 11:15	66.70
9/12/2008 10:29	65.90
9/15/2008 8:55	66.25
9/16/2008 10:25	66.40
9/17/2008 14:50	66.50
9/18/2008 11:10	66.82
9/19/2008 10:10	66.50
9/22/2008 11:50	67.20
9/24/2008 10:15	67.00
9/30/2008 11:51	63.85
10/1/2008 10:29	63.75
10/2/2008 10:50	64.00
10/6/2008 11:20	63.72
10/10/2008 10:05	63.50
10/16/2008 13:38	65.45
10/17/2008 10:20	65.45
10/21/2008 9:59	65.95
10/24/2008 15:00	66.15
10/26/2008 10:12	62.25
10/27/2008 9:11	61.92
10/27/2008 16:15	61.40
10/28/2008 9:30	61.50
10/29/2008 12:32	61.10
10/30/2008 12:40	61.00
10/31/2008 15:00	60.90
11/3/2008 13:25	60.85
11/6/2008 11:50	60.45
11/7/2008 7:10	60.52
11/17/2008 10:19	61.00
11/18/2008 10:39	61.00
11/20/2008 8:22	61.20
11/24/2008 8:55	61.20
11/26/2008 10:59	61.55


Village Well 4 Historic Water Levels
Depth to Water (ft)
0
50
100
150
200
250
300
350
400
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05
3/24/06
7/2/06
10/10/06
1/18/07
4/28/07
8/6/07
11/14/07
2/22/08
6/1/08
9/9/08
early November 2008 water levels
Total Depth of Well = 410 ft

APPENDIX T

Z Well
Historical Water Levels

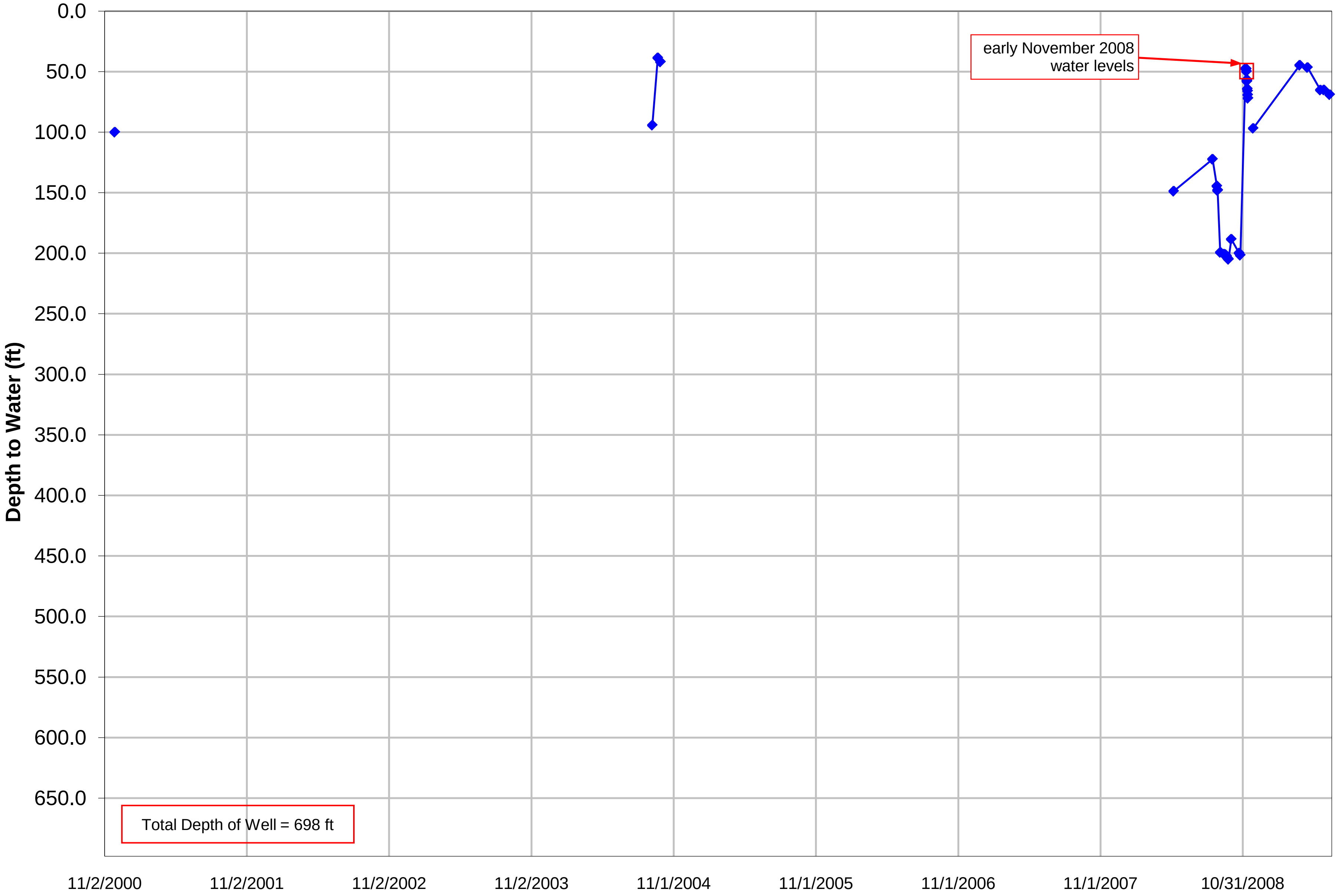
Date	Depth to Water (ft)
6/6/2007 12:00	284.6
5/6/2008 12:13	278.2
7/21/2008 12:00	289
7/22/2008 12:00	288.5
7/24/2008 12:00	287
7/25/2008 12:00	286.8
7/28/2008 12:00	285.6
7/29/2008 12:00	285.1
7/30/2008 12:00	280
8/1/2008 12:00	280
8/4/2008 14:20	281.2
8/5/2008 12:00	281.4
8/6/2008 12:00	281.2
8/7/2008 12:00	281.8
8/8/2008 12:00	282
8/9/2008 12:00	281.8
8/11/2008 12:00	281.5
8/12/2008 12:00	281.4
8/13/2008 12:00	281.2
8/14/2008 7:00	282.2
8/14/2008 8:50	283.4
8/14/2008 8:57	282.8
8/15/2008 11:43	282.2
8/15/2008 17:15	282.4
8/16/2008 12:43	283
8/17/2008 12:15	283.1
8/18/2008 10:30	283.2
8/19/2008 10:09	283.2
8/20/2008 11:30	283.6
8/21/2008 11:31	284.5
8/22/2008 12:30	284.9
8/23/2008 8:30	285.1
8/25/2008 11:35	285.7
8/26/2008 15:15	285.9
8/28/2008 9:15	293.5
8/28/2008 15:56	293.6
8/29/2008 10:42	293.6
8/29/2008 15:20	293.5
9/2/2008 10:55	292.4
9/3/2008 7:38	292.4
9/3/2008 11:25	292.6
9/4/2008 11:00	293.6
8/29/2008 15:20	293.5
9/2/2008 10:55	292.4
9/3/2008 7:38	292.4
9/3/2008 11:25	292.6
9/4/2008 11:00	293.6
9/5/2008 14:00	293.4
9/8/2008 9:40	293.3
9/9/2008 14:10	292.8
9/10/2008 12:02	291.8
9/11/2008 11:30	292.8
9/12/2008 10:45	291.8
9/15/2008 9:15	291.6
9/16/2008 10:45	293.6
9/17/2008 15:05	293.1
9/18/2008 11:25	292.6
9/19/2008 10:35	292.7
9/22/2008 12:25	293.0
9/24/2008 10:25	293.3
9/30/2008 11:40	289.2
10/1/2008 10:55	288.6
10/6/2008 11:00	288.2
10/10/2008 10:20	288.6
10/16/2008 13:48	289.6
10/21/2008 10:23	290.3
10/24/2008 14:40	291.4
10/26/2008 10:32	288.1
10/27/2008 9:28	286.9
10/27/2008 16:32	286.6
10/28/2008 9:41	286.2
10/29/2008 12:50	286.8
10/30/2008 13:00	286.7
11/5/2008 12:31	281.8
11/6/2008 12:20	281.4
11/7/2008 8:32	281
11/13/2008 9:30	281.6
11/13/2008 15:44	281.5
11/17/2008 10:40	281.4
11/24/2008 9:15	263
11/26/2008 13:55	262.2
3/5/2009	282.5
3/6/2009	281.8
3/9/2009	279
3/13/2009	276.8
3/18/2009	277.5
3/23/2009	278.4
3/26/2009	278.8
3/30/2009	279
4/2/2009	279.2
4/6/2009	279.2
4/10/2009	279
4/15/2009	279.2
4/22/2009	280
4/29/2009	281.6
5/7/2009	281.6
5/12/2009	281
5/18/2009	279.9
5/20/2009	279.5
5/27/2009	279.1
6/3/2009	278.7
6/10/2009	280
6/11/2009	280


Z Well Historic Water Levels
Depth to Water (ft)
0
50
100
150
200
250
300
350
400
450
500
6/1/2007
9/1/2007
12/2/2007
3/3/2008
6/3/2008
9/3/2008
12/4/2008
3/6/2009
6/6/2009
early November 2008 water levels
Total Depth of Well = 548 ft

Janis East Well
Historical Water Levels

Date	Depth to Water (ft)
11/28/00 0:00	100.0
9/7/04 0:00	94.3
9/21/04 0:00	38.6
9/28/04 0:00	42.0
5/6/08 12:13	148.8
8/14/08 7:00	122.3
8/25/08 11:05	144.5
8/27/08 9:06	148.2
8/27/08 10:19	147.8
9/3/08 8:06	199.3
9/12/08 11:01	200.7
9/15/08 10:00	201.0
9/16/08 11:00	201.6
9/17/08 15:30	201.8
9/18/08 11:50	202.0
9/19/08 10:50	202.5
9/22/08 12:40	204.2
9/24/08 11:00	205.0
10/1/08 10:47	188.4
10/21/08 10:17	199.8
10/24/08 14:33	201.6
11/7/08 8:13	47.5
11/7/08 13:47	47.3
11/8/08 7:53	47.8
11/8/08 15:30	47.9
11/9/08 13:25	49.9
11/10/08 7:59	57.4
11/10/08 12:34	56.6
11/10/08 14:16	57.3
11/10/08 16:04	58.1
11/11/08 14:30	64.2
11/12/08 10:40	66.0
11/12/08 16:25	69.2
11/13/08 8:16	72.0
11/26/08 14:10	96.8
3/26/2009	44.7
4/15/2009	46.6
5/18/2009	65.2
5/27/2009	65.1
6/11/2009	69.0

Janis East Well Historic Water Levels



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Historic WLs - Janis East.xls\Janis Graph

Well K1
Historical Water Levels

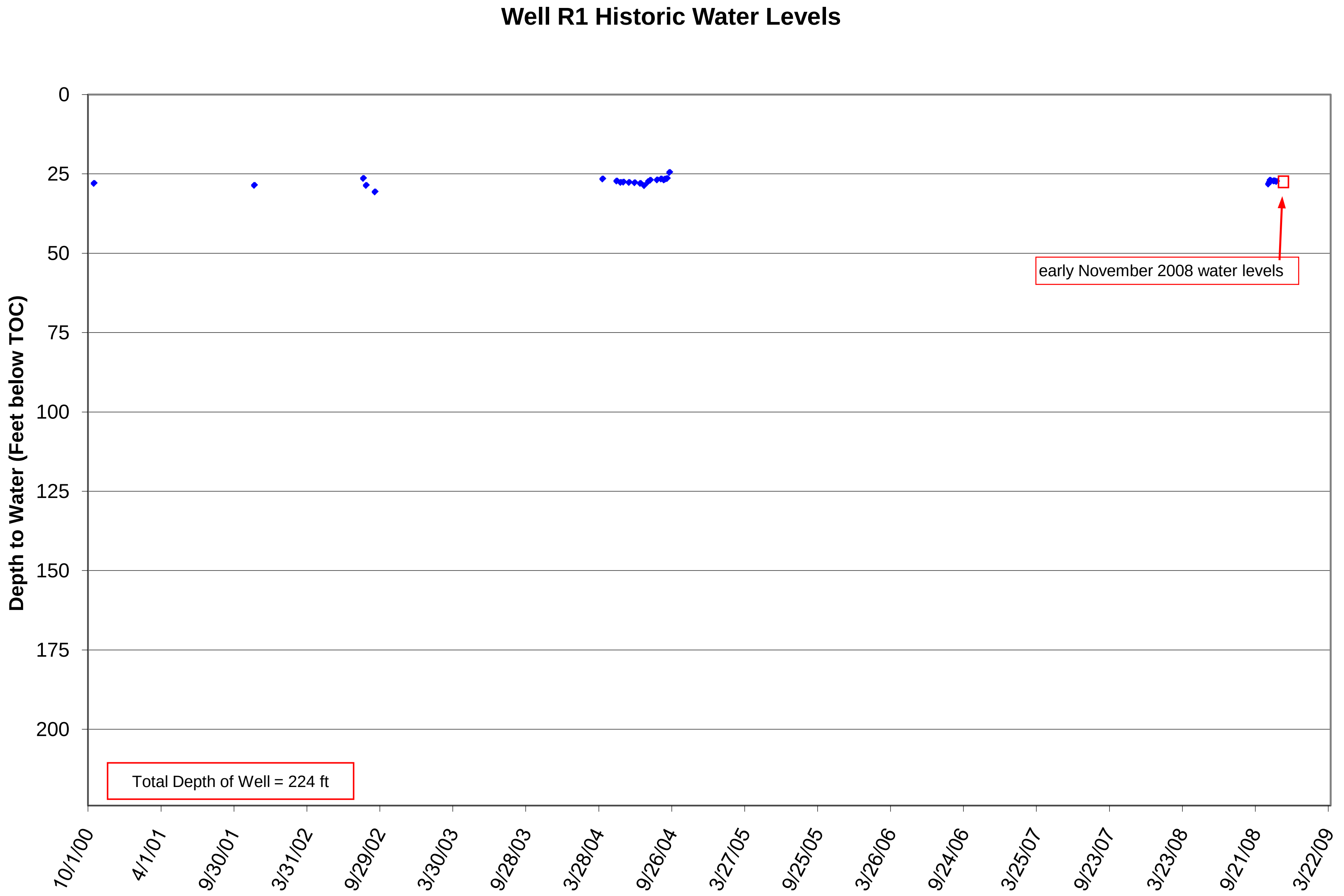
Date	Depth to Water (ft)	Date	Depth to Water (ft)
8/22/2007	97.25	4/25/2008 10:22	96.69
8/27/2007	97.52	4/25/2008 14:14	96.61
9/10/2007	98.1	4/28/2008 11:27	96.75
9/12/2007	98.0	9/5/2008	97.6
9/13/2007	97.8	9/10/2008	97.2
9/16/2007	98.1	9/24/2008	97.5
9/18/2007	98.4	10/1/2008	96.8
9/19/2007	98.4	10/24/2008	97.5
9/20/2007	98.4	10/26/2008	96.4
9/24/2007	98.4	10/27/2008	96.4
9/25/2007	98.6	10/28/2008	96.2
9/29/2007	98.4	10/29/2008	96.0
10/2/2007	98.2	11/5/2008	95.5
10/6/2007	98.5	11/6/2008	95.3
10/7/2007	98.4	11/8/2008	95.6
10/8/2007	98.2	11/13/2008	96.2
10/9/2007	98.2	3/9/2009	95.2
10/10/2007	97.8	3/10/2009	94.8
10/11/2007	97.9	3/13/2009	95.2
10/15/2007	97.7	3/18/2009	95.3
11/14/2007	96.52	3/23/2009	96.2
4/11/2008 12:34	95.42	3/26/2009	96.2
4/14/2008 8:40	95.63	3/30/2009	96.3
4/21/2008 9:31	96.22	4/2/2009	96.2
4/21/2008 12:58	96.2	4/6/2009	96.2
4/21/2008 15:43	96.19	4/10/2009	96.2
4/22/2008 9:50	96.51	4/15/2009	96.2
4/22/2008 13:05	96.54	4/22/2009	96.6
4/22/2008 16:00	96.57	4/29/2009	97
4/23/2008 9:04	96.68	5/7/2009	97.1
4/23/2008 12:18	96.72	5/12/2009	96.8
4/23/2008 17:16	96.76	5/18/2009	96.2
4/24/2008 9:13	96.95	5/20/2009	96
4/24/2008 11:52	96.95	5/27/2009	96.1
4/24/2008 14:56	96.89	6/3/2009	96
4/24/2008 15:44	96.87	6/10/2009	96.7
4/24/2008 17:43	96.87	6/11/2009	96.7

Well K1 Historic Water Levels

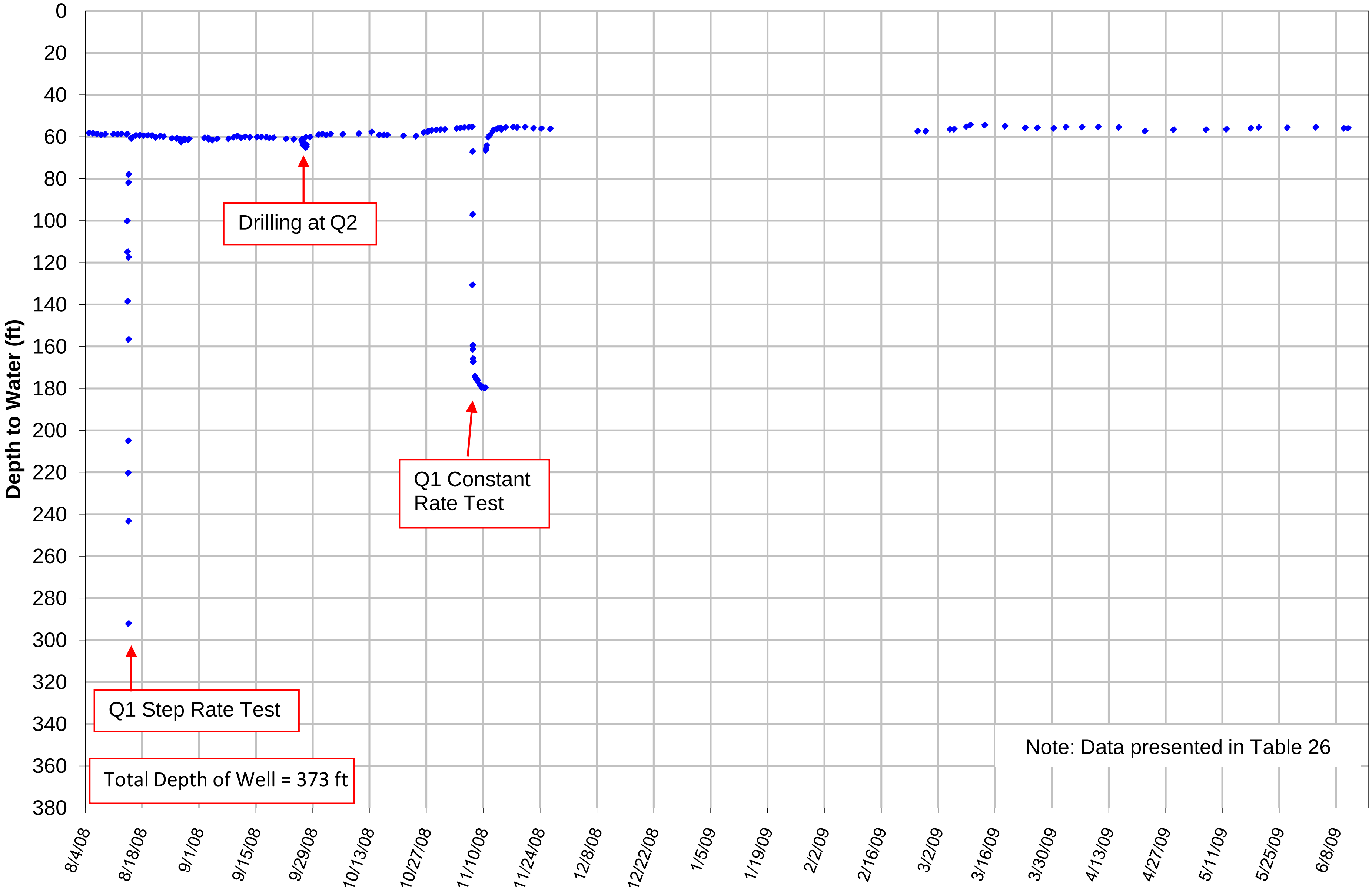
Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Historic WLs - K1.xls\K1 Historic WLs

Well R1
Historical Water Levels

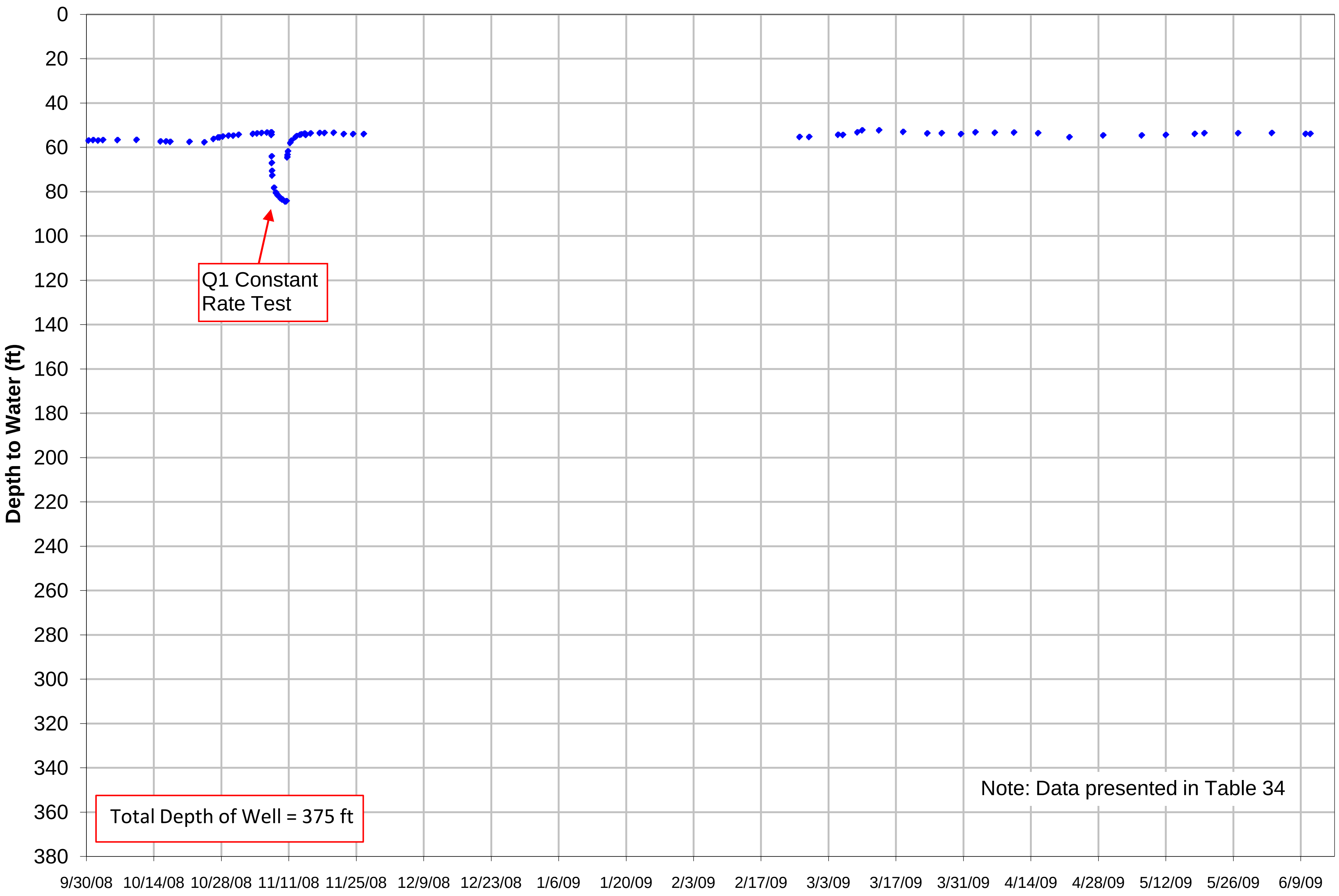
Date	Depth to Water (ft)
10/16/2000	28
11/20/2001	28.62
8/19/2002	26.42
8/26/2002	28.64
9/17/2002	30.7
4/7/2004	26.6
5/12/2004	27.25
5/22/2004	27.69
5/29/2004	27.6
6/12/2004	27.7
6/26/2004	27.79
7/10/2004	28
7/20/2004	28.7
7/30/2004	27.42
8/4/2004	27
8/21/2004	26.9
8/31/2004	26.6
9/7/2004	26.9
9/9/2004	26.72
9/11/2004	26.6
9/15/2004	26.47
9/21/2004	24.53
10/24/2008	28.2
10/26/2008	27.7
10/28/2008	27
11/6/2008	27.2
11/8/2008	27.2
11/13/2008	27.4


Well R1 Historic Water Levels
Depth to Water (Feet below TOC)
0
25
50
75
100
125
150
175
200
early November 2008 water levels
Total Depth of Well = 224 ft
10/1/00
4/1/01
9/30/01
3/31/02
9/29/02
3/30/03
9/28/03
3/28/04
9/26/04
3/27/05
9/25/05
3/26/06
9/24/06
3/25/07
9/23/07
3/23/08
9/21/08
3/22/09

Q1 Manual Water Level Data 2008-2009



Q2 Water Levels 2008-2009



APPENDIX U

Historical Autumn Precipitation Record at Belleayre Ski Center

Historical Autumn Precipitation at Belleayre Ski Center

1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008	
8/1/1996	0.32	8/1/1997	0.00	8/1/1998	0.00	8/1/1999	0.00	8/1/2000	0.06	8/1/2001	0	8/1/2002	0.01	8/1/2003	1.98	8/1/2003	0.07	8/1/2003	0.08	01-Aug-06	0	8/1/2007	0	8/1/2008	0
8/2/1996	0.01	8/2/1997	0.00	8/2/1998	0.00	8/2/1999	0.00	8/2/2000	0.02	8/2/2001	0	8/2/2002	0.44	8/2/2003	0.26	8/2/2003	0	8/2/2003	0	02-Aug-06	0	8/2/2007	0	8/2/2008	0.12
8/3/1996	0.00	8/3/1997	0.09	8/3/1998	0.00	8/3/1999	0.00	8/3/2000	0.04	8/3/2001	0.04	8/3/2002	0.06	8/3/2003	0.45	8/3/2003	0	8/3/2003	0	03-Aug-06	0	8/3/2007	0	8/3/2008	0.05
8/4/1996	0.01	8/4/1997	0.19	8/4/1998	0.00	8/4/1999	0.02	8/4/2000	0.04	8/4/2001	0.14	8/4/2002	0.02	8/4/2003	0.11	8/4/2003	0.22	8/4/2003	0	04-Aug-06	0.05	8/4/2007	0	8/4/2008	0.02
8/5/1996	0.01	8/5/1997	0.13	8/5/1998	0.00	8/5/1999	0.15	8/5/2000	0.01	8/5/2001	0.02	8/5/2002	0.35	8/5/2003	0.16	8/5/2003	0.25	8/5/2003	0.07	05-Aug-06	0.01	8/5/2007	0	8/5/2008	0.02
8/6/1996	0.01	8/6/1997	0.01	8/6/1998	0.00	8/6/1999	0.17	8/6/2000	0.07	8/6/2001	0	8/6/2002	0	8/6/2003	0.05	8/6/2003	0	8/6/2003	0.02	06-Aug-06	0	8/6/2007	0	8/6/2008	0.14
8/7/1996	0.00	8/7/1997	0.00	8/7/1998	0.00	8/7/1999	0.10	8/7/2000	0.29	8/7/2001	0	8/7/2002	0	8/7/2003	0.01	8/7/2003	0.05	8/7/2003	0	07-Aug-06	0.35	8/7/2007	0.51	8/7/2008	0
8/8/1996	0.00	8/8/1997	0.00	8/8/1998	0.00	8/8/1999	0.18	8/8/2000	0	8/8/2001	0	8/8/2002	0	8/8/2003	0	8/8/2003	0.05	8/8/2003	0	08-Aug-06	0	8/8/2007	0.38	8/8/2008	0.03
8/9/1996	0.33	8/9/1997	0.00	8/9/1998	0.00	8/9/1999	0.01	8/9/2000	0.09	8/9/2001	0	8/9/2002	0.02	8/9/2003	0.31	8/9/2003	0.02	8/9/2003	0	09-Aug-06	0	8/9/2007	0.4	8/9/2008	0.05
8/10/1996	0.01	8/10/1997	0.00	8/10/1998	0.07	8/10/1999	0.01	8/10/2000	0.07	8/10/2001	0.19	8/10/2002	0	8/10/2003	0.09	8/10/2003	0	8/10/2003	0	10-Aug-06	0	8/10/2007	1.11	8/10/2008	0.21
8/11/1996	0.00	8/11/1997	0.07	8/11/1998	0.29	8/11/1999	0.11	8/11/2000	0.72	8/11/2001	0.03	8/11/2002	0	8/11/2003	0.4	8/11/2003	0.01	8/11/2003	0	11-Aug-06	0	8/11/2007	0.06	8/11/2008	0.14
8/12/1996	0.01	8/12/1997	0.00	8/12/1998	0.00	8/12/1999	0.00	8/12/2000	0.89	8/12/2001	0.18	8/12/2002	0	8/12/2003	0.86	8/12/2003	2.34	8/12/2003	0.11	12-Aug-06	0	8/12/2007	0.01	8/12/2008	0.04
8/13/1996	0.00	8/13/1997	0.53	8/13/1998	0.00	8/13/1999	0.07	8/13/2000	0.03	8/13/2001	0.01	8/13/2002	0	8/13/2003	0.06	8/13/2003	0.81	8/13/2003	0.73	13-Aug-06	0	8/13/2007	0.17	8/13/2008	0.02
8/14/1996	0.00	8/14/1997	0.00	8/14/1998	0.00	8/14/1999	0.55	8/14/2000	0.53	8/14/2001	0	8/14/2002	0	8/14/2003	0	8/14/2003	0.04	8/14/2003	0.55	14-Aug-06	0	8/14/2007	0	8/14/2008	0.07
8/15/1996	0.00	8/15/1997	0.00	8/15/1998	0.00	8/15/1999	0.40	8/15/2000	0.07	8/15/2001	0	8/15/2002	0	8/15/2003	0	8/15/2003	0.35	8/15/2003	0.03	15-Aug-06	0.31	8/15/2007	0	8/15/2008	0.47
8/16/1996	0.11	8/16/1997	0.00	8/16/1998	0.00	8/16/1999	0.03	8/16/2000	0.53	8/16/2001	0	8/16/2002	0.1	8/16/2003	0.21	8/16/2003	0.42	8/16/2003	0.34	16-Aug-06	0	8/16/2007	0.12	8/16/2008	0.24
8/17/1996	0.01	8/17/1997	0.33	8/17/1998	0.10	8/17/1999	0.02	8/17/2000	0	8/17/2001	0.48	8/17/2002	0.08	8/17/2003	0.06	8/17/2003	0.04	8/17/2003	0.04	17-Aug-06	0	8/17/2007	0.22	8/17/2008	0.02
8/18/1996	0.01	8/18/1997	0.14	8/18/1998	0.15	8/18/1999	0.00	8/18/2000	0.01	8/18/2001	0	8/18/2002	0.01	8/18/2003	0.02	8/18/2003	0	8/18/2003	0.01	18-Aug-06	0	8/18/2007	0.05	8/18/2008	0.01
8/19/1996	0.00	8/19/1997	0.00	8/19/1998	0.01	8/19/1999	0.00	8/19/2000	0	8/19/2001	0	8/19/2002	0	8/19/2003	0	8/19/2003	0	8/19/2003	0	19-Aug-06	2.15	8/19/2007	0.01	8/19/2008	0.08
8/20/1996	0.01	8/20/1997	0.47	8/20/1998	0.00	8/20/1999	0.03	8/20/2000	0	8/20/2001	0.25	8/20/2002	0.06	8/20/2003	0	8/20/2003	0.1	8/20/2003	0.01	20-Aug-06	0.86	8/20/2007	0.09	8/20/2008	0.01
8/21/1996	0.00	8/21/1997	0.93	8/21/1998	0.01	8/21/1999	0.93	8/21/2000	0	8/21/2001	0.02	8/21/2002	0	8/21/2003	0.01	8/21/2003	0.6	8/21/2003	0	21-Aug-06	0.04	8/21/2007	0.36	8/21/2008	0.01
8/22/1996	0.00	8/22/1997	0.20	8/22/1998	0.00	8/22/1999	0.06	8/22/2000	0	8/22/2001	0	8/22/2002	0	8/22/2003	0	8/22/2003	0.04	8/22/2003	0	22-Aug-06	0	8/22/2007	0.02	8/22/2008	0
8/23/1996	0.57	8/23/1997	0.03	8/23/1998	0.00	8/23/1999	0.07	8/23/2000	0.36	8/23/2001	0	8/23/2002	0.04	8/23/2003	0	8/23/2003	0.04	8/23/2003	0	23-Aug-06	0	8/23/2007	0.03	8/23/2008	0
8/24/1996	0.17	8/24/1997	0.00	8/24/1998	0.00	8/24/1999	0.00	8/24/2000	0.05	8/24/2001	0	8/24/2002	0.73	8/24/2003	0	8/24/2003	0.04	8/24/2003	0	24-Aug-06	0.01	8/24/2007	0	8/24/2008	0
8/25/1996	0.01	8/25/1997	0.01	8/25/1998	0.00	8/25/1999	0.00	8/25/2000	0	8/25/2001	0	8/25/2002	0.04	8/25/2003	0	8/25/2003	0	8/25/2003	0	25-Aug-06	0.16	8/25/2007	0	8/25/2008	0
8/26/1996	0.00	8/26/1997	0.10	8/26/1998	0.20	8/26/1999	0.27	8/26/2000	0	8/26/2001	0	8/26/2002	0.02	8/26/2003	0.02	8/26/2003	0	8/26/2003	0	26-Aug-06	0.3	8/26/2007	0.04	8/26/2008	0.02
8/27/1996	0.08	8/27/1997	0.10	8/27/1998	0.00	8/27/1999	0.77	8/27/2000	0.01	8/27/2001	0	8/27/2002	0	8/27/2003	0.03	8/27/2003	0.01	8/27/2003	0	27-Aug-06	0.4	8/27/2007	0.01	8/27/2008	0
8/28/1996	0.02	8/28/1997	0.47	8/28/1998	0.00	8/28/1999	0.03	8/28/2000	0	8/28/2001	0	8/28/2002	0	8/28/2003	0	8/28/2003	0	8/28/2003	0.08	28-Aug-06	0.05	8/28/2007	0	8/28/2008	0
8/29/1996	0.01	8/29/1997	0.06	8/29/1998	0.00	8/29/1999	0.00	8/29/2000	0	8/29/2001	0	8/29/2002	1.59	8/29/2003	0.08	8/29/2003	0.02	8/29/2003	0.06	29-Aug-06	1.36	8/29/2007	0	8/29/2008	0.02
8/30/1996	0.00	8/30/1997	0.01	8/30/1998	0.06	8/30/1999	0.00	8/30/2000	0	8/30/2001	0	8/30/2002	0.04	8/30/2003	0.03	8/30/2003	0.3	8/30/2003	0.63	30-Aug-06	0.04	8/30/2007	0	8/30/2008	0.03
8/31/1996	0.00	8/31/1997	0.02	8/31/1998	0.06	8/31/1999	0.00	8/31/2000	0	8/31/2001	0.96	8/31/2002	0.02	8/31/2003	0.02	8/31/2003	0.27	8/31/2003	1.08	31-Aug-06	0.01	8/31/2007	0	8/31/2008	0
9/1/1996	0.00	9/1/1997	0.07	9/1/1998	0.01	9/1/1999	0.00	9/1/2000	0.3	9/1/2001	0.04	9/1/2002	0	9/1/2003	1.34	9/1/2003	0.01	9/1/2003	0.04	01-Sep-06	0.01	9/1/2007	0	9/1/2008	0.01
9/2/1996	0.00	9/2/1997	0.01	9/2/1998	0.41	9/2/1999	0.00	9/2/2000	0.03	9/2/2001	0.03	9/2/2002	0	9/2/2003	1.94	9/2/2003	0	9/2/2003	0.02	02-Sep-06	0.52	9/2/2007	0	9/2/2008	0
9/3/1996	0.01	9/3/1997	0.11	9/3/1998	0.00	9/3/1999	0.00	9/3/2000	0	9/3/2001	0.01	9/3/2002	0	9/3/2003	0.29	9/3/2003	0.01	9/3/2003	0	03-Sep-06	0.15	9/3/2007	0	9/3/2008	0
9/4/1996	0.02	9/4/1997	0.00	9/4/1998	0.00	9/4/1999	0.00	9/4/2000	0.06	9/4/2001	0.48	9/4/2002	1.44	9/4/2003	1.05	9/4/2003	0.01	9/4/2003	0	04-Sep-06	0.01	9/4/2007	0	9/4/2008	0
9/5/1996	0.00	9/5/1997	0.00	9/5/1998	0.00	9/5/1999	0.00	9/5/2000	0.01	9/5/2001	0	9/5/2002	0	9/5/2003	0	9/5/2003	0	9/5/2003	0	05-Sep-06	0.11	9/5/2007	0	9/5/2008	0
9/6/1996	0.01	9/6/1997	0.00	9/6/1998	0.00	9/6/1999	0.94	9/6/2000	0	9/6/2001	0.02	9/6/2002	0.02	9/6/2003	0	9/6/2003	0	9/6/2003	0	06-Sep-06	0.04	9/6/2007	0	9/6/2008	1.69
9/7/1996	1.11	9/7/1997	0.01	9/7/1998	0.48	9/7/1999	0.30	9/7/2000	0.01	9/7/2001	0	9/7/2002	0	9/7/2003	0	9/7/2003	0	9/7/2003	0	07-Sep-06	0.01	9/7/2007	0	9/7/2008	0.07
9/8/1996	0.12	9/8/1997	0.01	9/8/1998	0.15	9/8/1999	0.06	9/8/2000	0.02	9/8/2001	0	9/8/2002	0	9/8/2003	0	9/8/2003	0.82	9/8/2003	0	08-Sep-06	0.01	9/8/2007	1.26	9/8/2008	0.01
9/9/1996	0.00	9/9/1997	0.00	9/9/1998	0.07	9/9/1999	0.08	9/9/2000	0.13	9/9/2001	0	9/9/2002	0	9/9/2003	0	9/9/2003	1.13	9/9/2003	0	09-Sep-06	0.15	9/9/2007	0.48	9/9/2008	0.82
9/10/1996	0.00	9/10/1997	0.00	9/10/1998	0.00	9/10/1999	0.13	9/10/2000	0.03	9/10/2001	0.76	9/10/2002	0	9/10/2003	0	9/10/2003	0.04	9/10/2003	0	10-Sep-06	0.03	9/10/2007	0.03	9/10/2008	0.03
9/11/1996	0.01	9/11/1997	1.79	9/11/1998	0.00	9/11/1999	0.01	9/11/2000	0	9/11/2001	0.02	9/11/2002	0	9/11/2003	0.01	9/11/2003	0.03	9/11/2003	0	11-Sep-06	0	9/11/2007	1.46	9/11/2008	0
9/12/1996	0.00	9/12/1997	0.00	9/12/1998	0.00	9/12/1999	0.00	9/12/2000	1.57	9/12/2001	0.02	9/12/2002	0	9/12/2003	0	9/12/2003	0	9/12/2003	0	12-Sep-06	0	9/12/2007	0.03	9/12/2008	0.12
9/13/1996	0.98	9/13/1997	0.05	9/13/1998	0.00	9/13/1999	0.00	9/13/2000	0.17	9/13/2001	0.53	9/13/2002	0	9/13/2003	0.07	9/13/2003	0	9/13/2003	0	13-Sep-06	0	9/13/2007	0.01	9/13/2008	0.12
9/14/1996	0.01	9/14/1997	0.00	9/14/1998	0.00	9/14/1999	0.00	9/14/2000	0.01	9/14/2001	0.5	9/14/2002	0	9/14/2003	0.27	9/14/2003	0.01	9/14/2003	0	14-Sep-06	1.66	9/14/2007	0	9/14/2008	0.13
9/15/1996	0.00	9/15/1997	0.00	9/15/1998	0.47	9/15/1999	0.10	9/15/2000	0.47	9/15/2001	0	9/15/2002	0.39	9/15/2003	0.63	9/15/2003	0	9/15/2003	0.08	15-Sep-06	0.16	9/15/2007	0.22	9/15/2008	0
9/16/1996	0.00	9/16/1997	0.00	9/16/1998	0.14	9/16/1999	4.64	9/16/2000	0	9/16/2001	0.01	9/16/2002	0.31	9/16/2003	0.09	9/16/2003	0.01	9/16/2003	0.02	16-Sep-06	0.01	9/16/2007	0	9/16/2008	0
9/17/1996	0.83	9/17/1997	0.00	9/17/1998	0.01	9/17/1999	0.31	9/17/2000	0	9/17/2001	0	9/17/2002	0.02	9/17/2003	0.01	9/17/2003	2.73	9/17/2003	0.02	17-Sep-06	0.02	9/17/2007	0	9/17/2008	0
9/18/1996	0.31	9/18/1997	0.06	9/18/1998	0.00	9/18/1999	0.02	9/18/2000	0.01	9/18/2001	0.01	9/18/2002	0.03	9/18/2003	0.01	9/18/2003	2.5	9/18/2003	0	18-Sep-06	0	9/18/2007	0	9/18/2008	0
9/19/1996	0.00	9/19/1997	0.00	9/19/1998	0.00	9/19/1999	0.02	9/19/2000	0.01	9/19/2001	0	9/19/2002	0	9/19/2003	1.2	9/19/2003	0.01	9/19/2003	0	19-Sep-06	0.08	9/19/2007	0	9/19/2008	0
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9/22/1996	0.63	9/22/1997	0.00	9/22/1998	0.90	9/22/1999	0.44	9/22/2000	0	9/22/2001	0	9/22/2002	0.83	9/22/2003	0	9/22/2003	0	9/22/2003	0	22-Sep-06	0.02	9/22/2007	0.08	9/22/2008	0.03
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9/25/1996	0.03	9/25/1997	0.03	9/25/1998	0.00	9/25/1999	0.04	9/25/2000	0.02	9/25/2001	1.69	9/25/2002	0.02	9/25/2003	0	9/25/2003	0.24	9/25/2003	0	25-Sep-06	0.05	9/25/2007	0	9/25/2008	0
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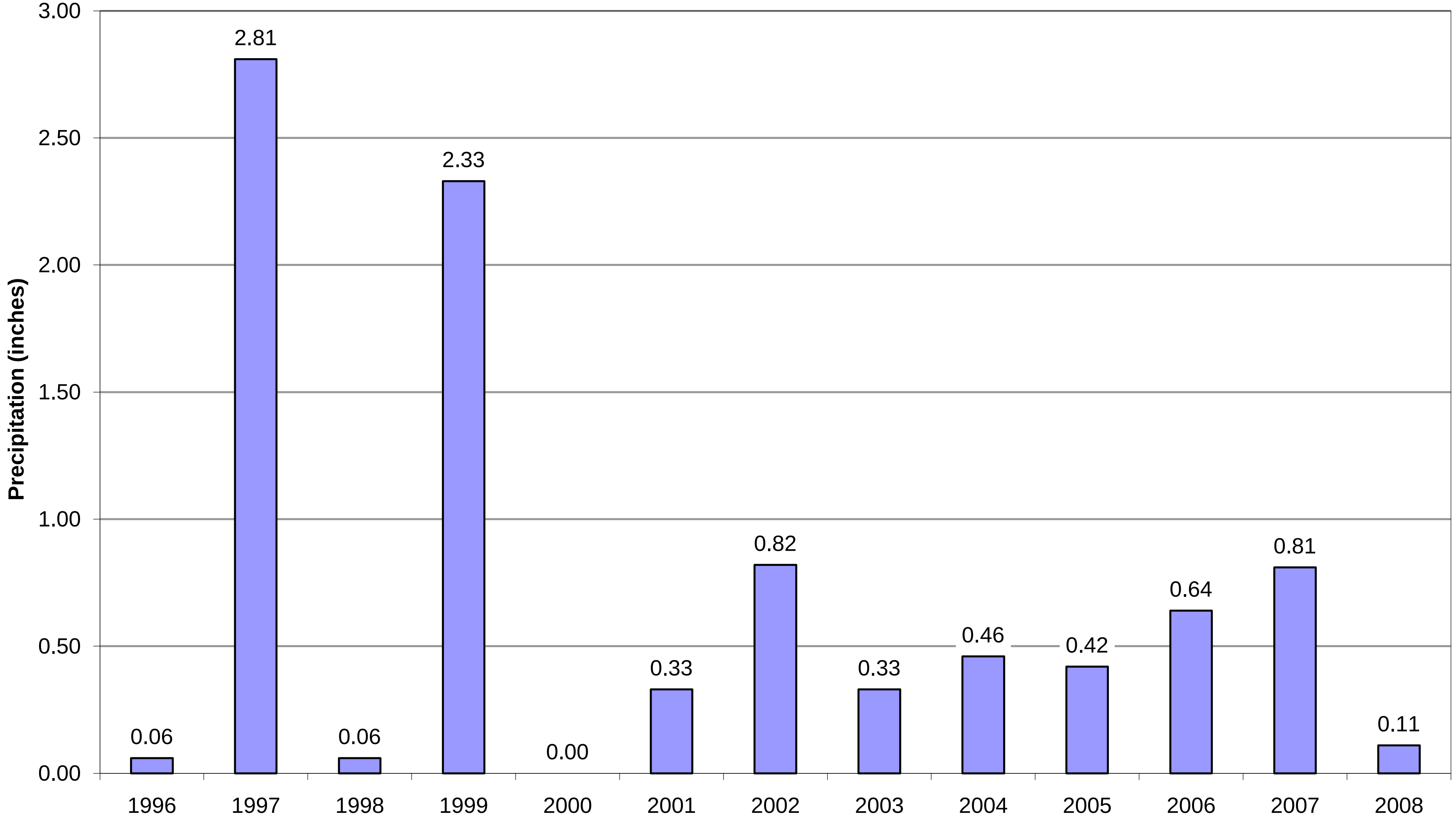
Aug. 1 - Nov. 7	13.60		11.62		7.72		16.60		10.41		9.90		16.27		18.17		18.21		16.49		16.94		21.82		12.05
Sep. 1 - Nov. 7	11.89		7.73		6.77		12.62		6.52		7.58		12.64		12.95		12.12		12.65		10.84		18.23		10.23
Oct. 1 - Nov. 7	6.7		4.71		3.41		5.21		3.35		2.01		7.69		6.04		2.11		11.27		6.23		13.32		4.74
Oct. 17 - Nov. 7	5.39		4.07		0.29		3.34		1.50		1.31		1.68		4.98		1.36		3.83		4.80		10.95		4.37
Oct. 24 - Oct. 31	0.32		1.19		0.19		0.06		0.59		0.18		0.53		4.30		0.00		1.63		2.06		1.83		4.16
Nov. 1 - Nov. 7	0.06		2.81		0.06		2.33		0		0.33		0.82		0.33		0.46		0.42		0.64		0.81		0.11

Historical Precipitation at Belleayre Ski Center
November 1 - November 7

Well Q1 72-hr Constant Rate Pumping Test
Belleayre Resort at Catskill Park



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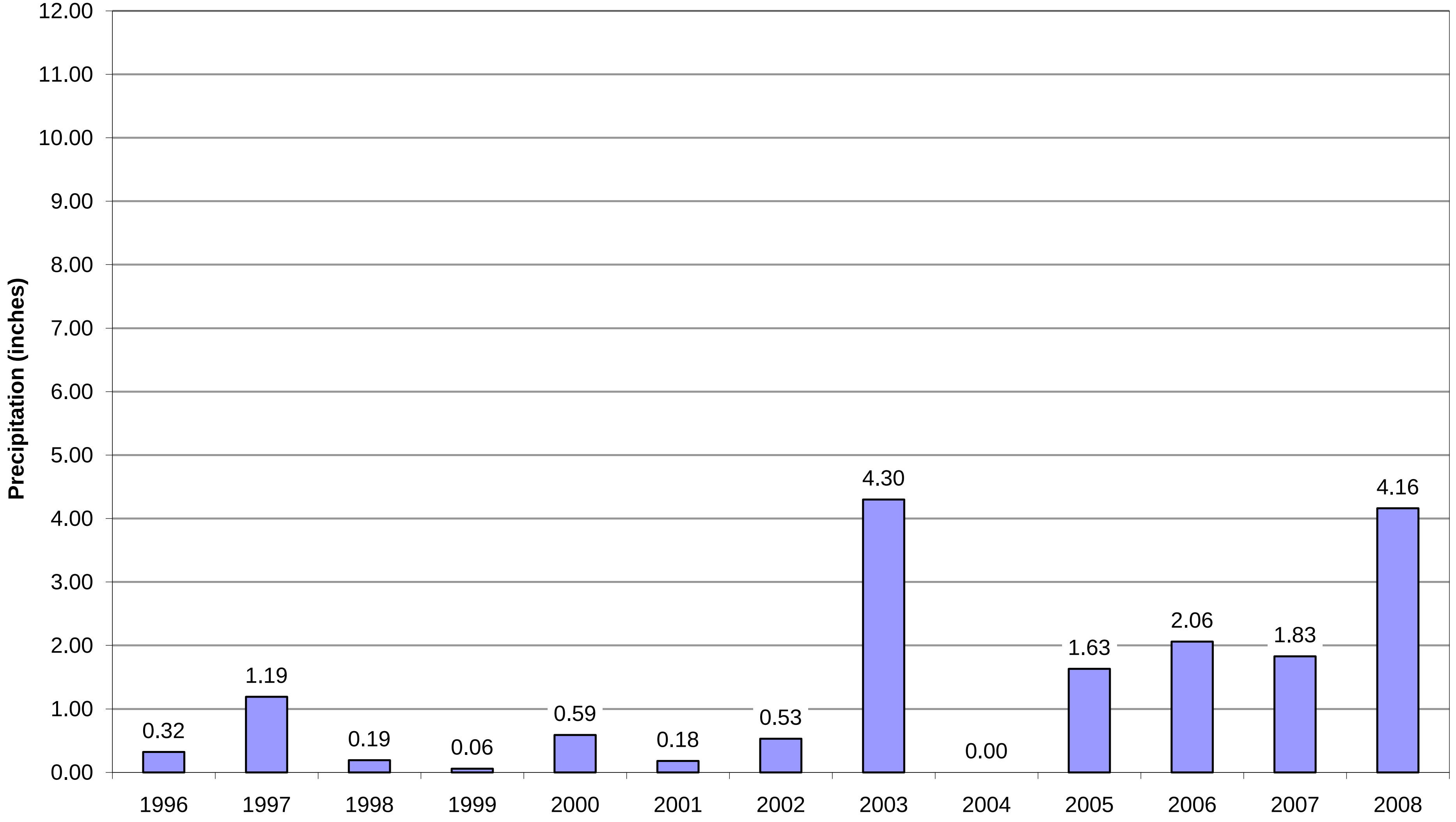
Historical Precipitation at Belleayre Ski Center
October 24 - October 31

Well Q1 72-hr Constant Rate Pumping Test
Belleayre Resort at Catskill Park



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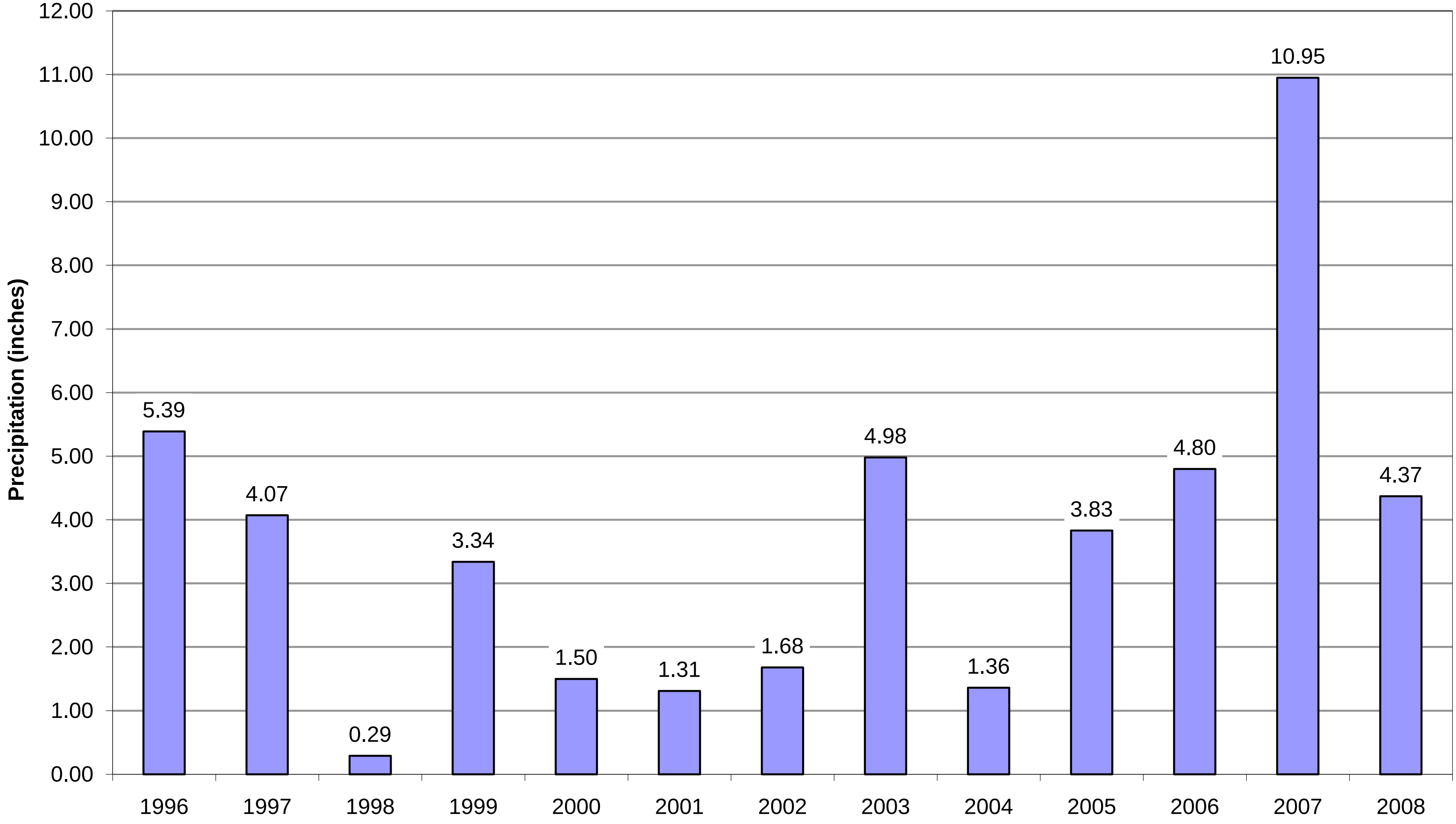
Historical Precipitation at Belleayre Ski Center
October 17- November 7

Well Q1 72-hr Constant Rate Pumping Test
Belleayre Resort at Catskill Park



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1997	4.07
1998	0.29
1999	3.34
2000	1.50
2001	1.31
2002	1.68
2003	4.98
2004	1.36
2005	3.83
2006	4.80
2007	10.95
2008	4.37

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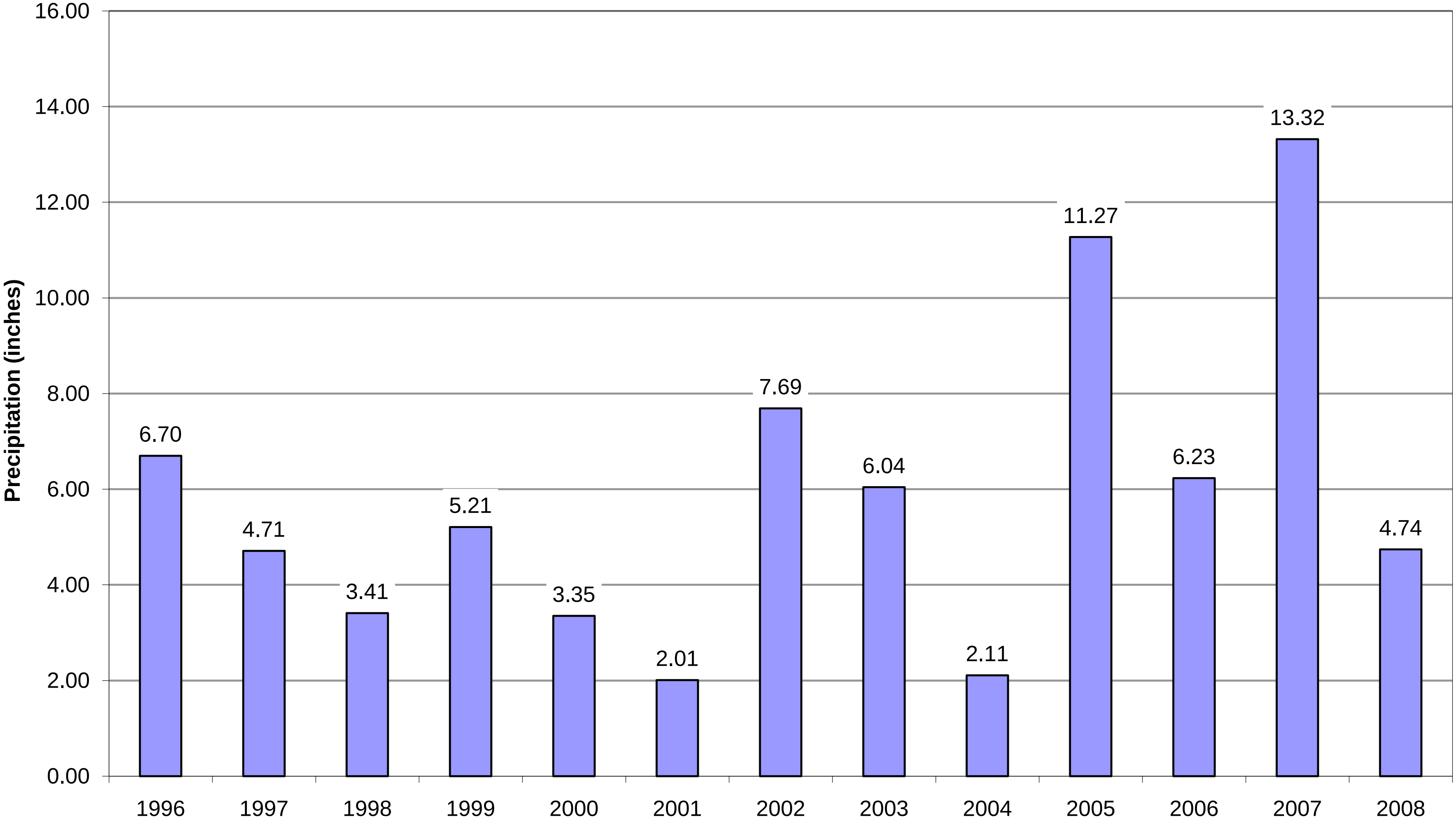
Historical Precipitation at Belleayre Ski Center
October 1 - November 7

Well Q1 72-hr Constant Rate Pumping Test
Belleayre Resort at Catskill Park



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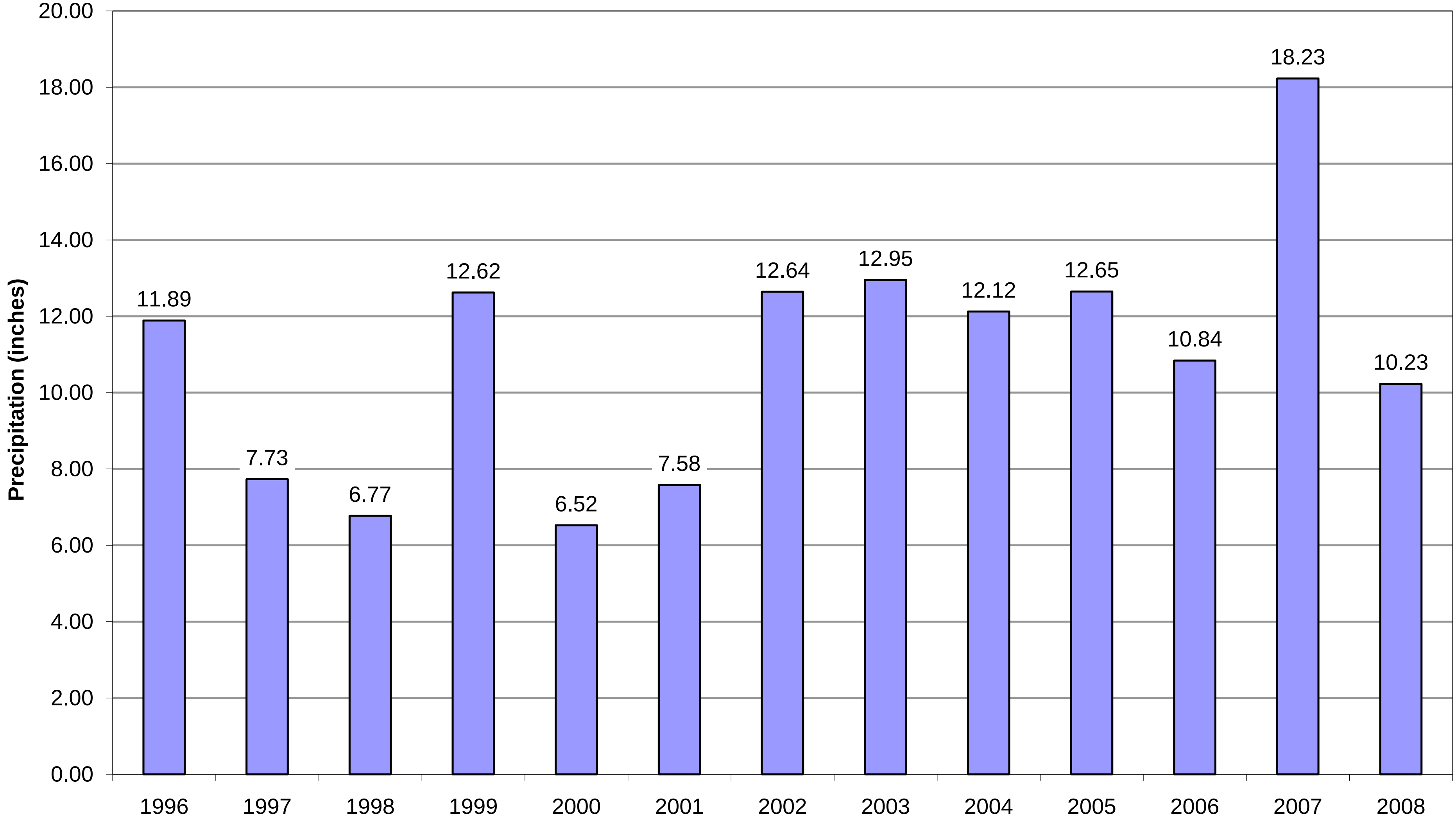
Historical Precipitation at Belleayre Ski Center
September 1 - November 7

Well Q1 72-hr Constant Rate Pumping Test
Belleayre Resort at Catskill Park



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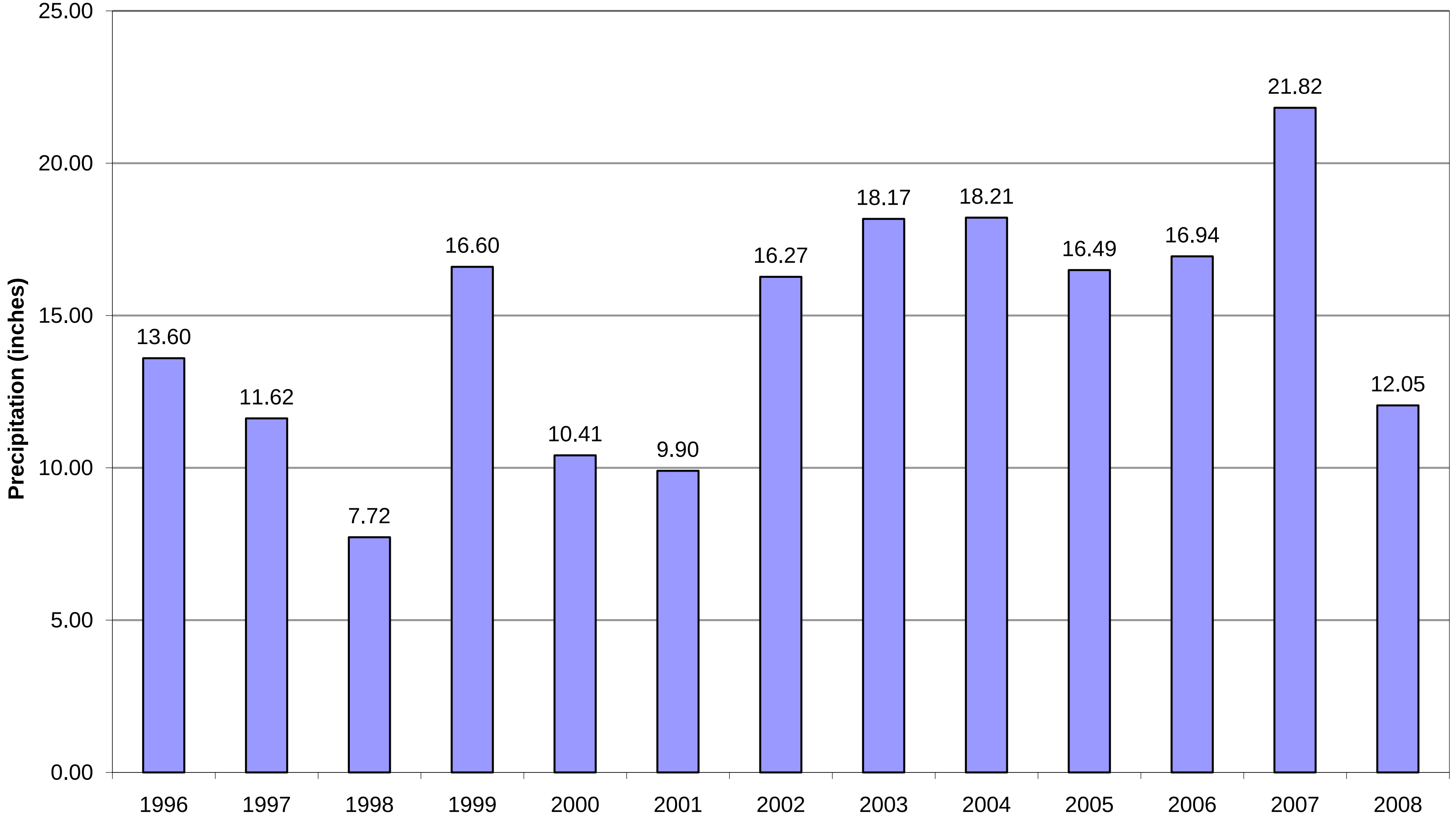
Historical Precipitation at Belleayre Ski Center
August 1 - November 7

Well Q1 72-hr Constant Rate Pumping Test
Belleayre Resort at Catskill Park



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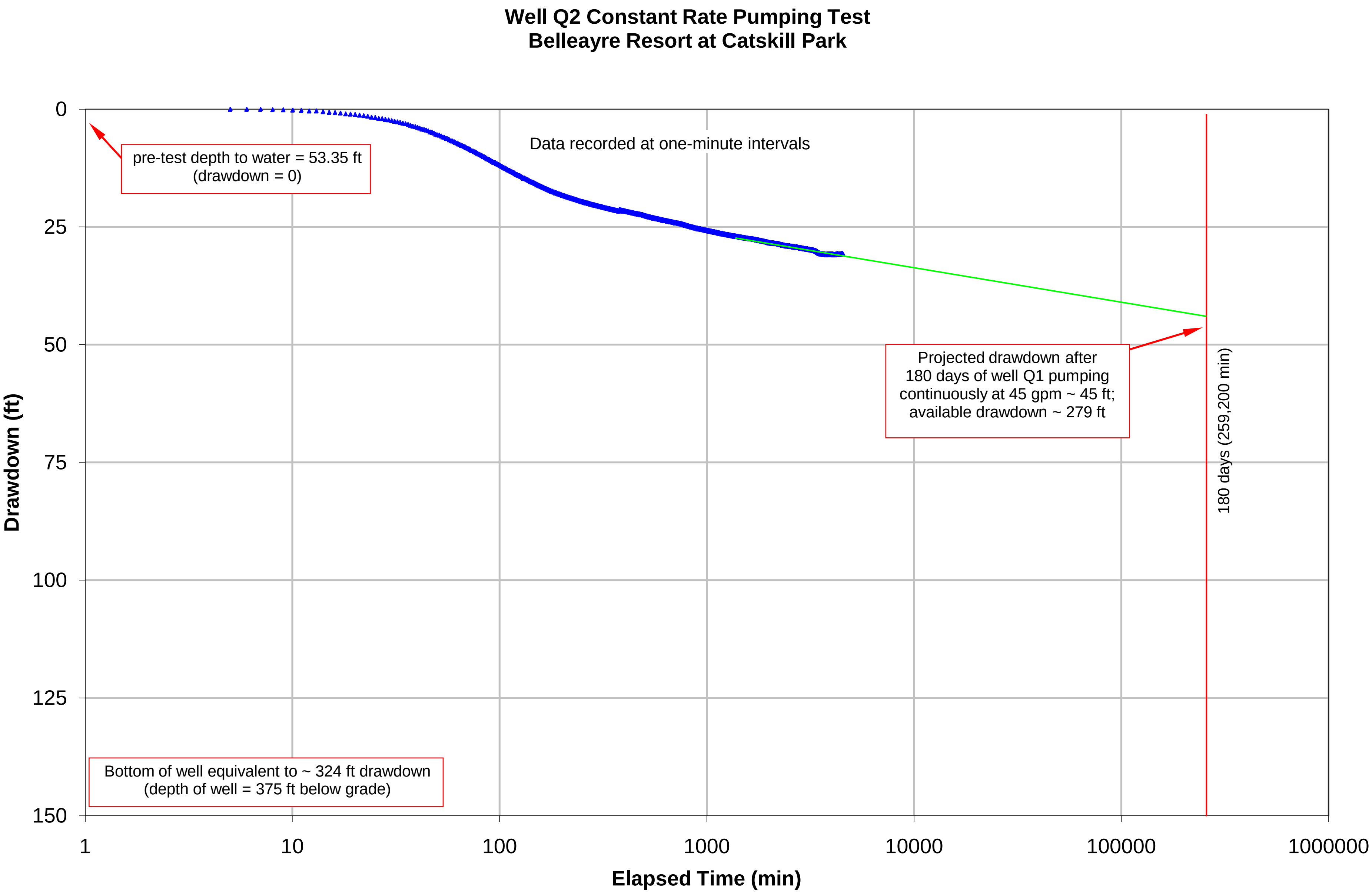
APPENDIX V

Q1 Well 180-day Drawdown Projections

Observation Wells

APPENDIX V

Well Q2
Semi-Log Plot with 180-day Projection



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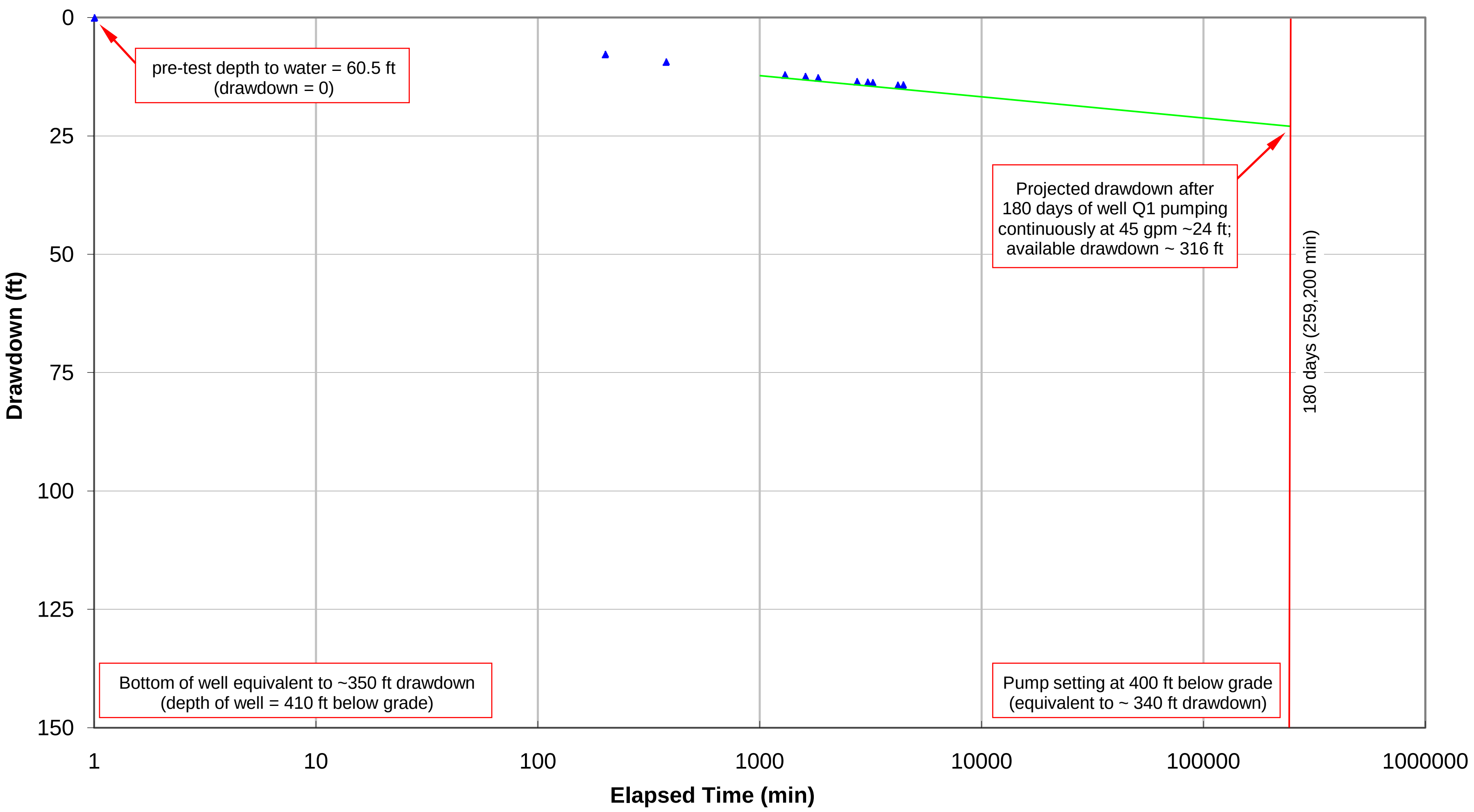
APPENDIX V

Fleischmanns Well 4
Semi-log Plot with 180-day Projection

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



pre-test depth to water = 60.5 ft
(drawdown = 0)

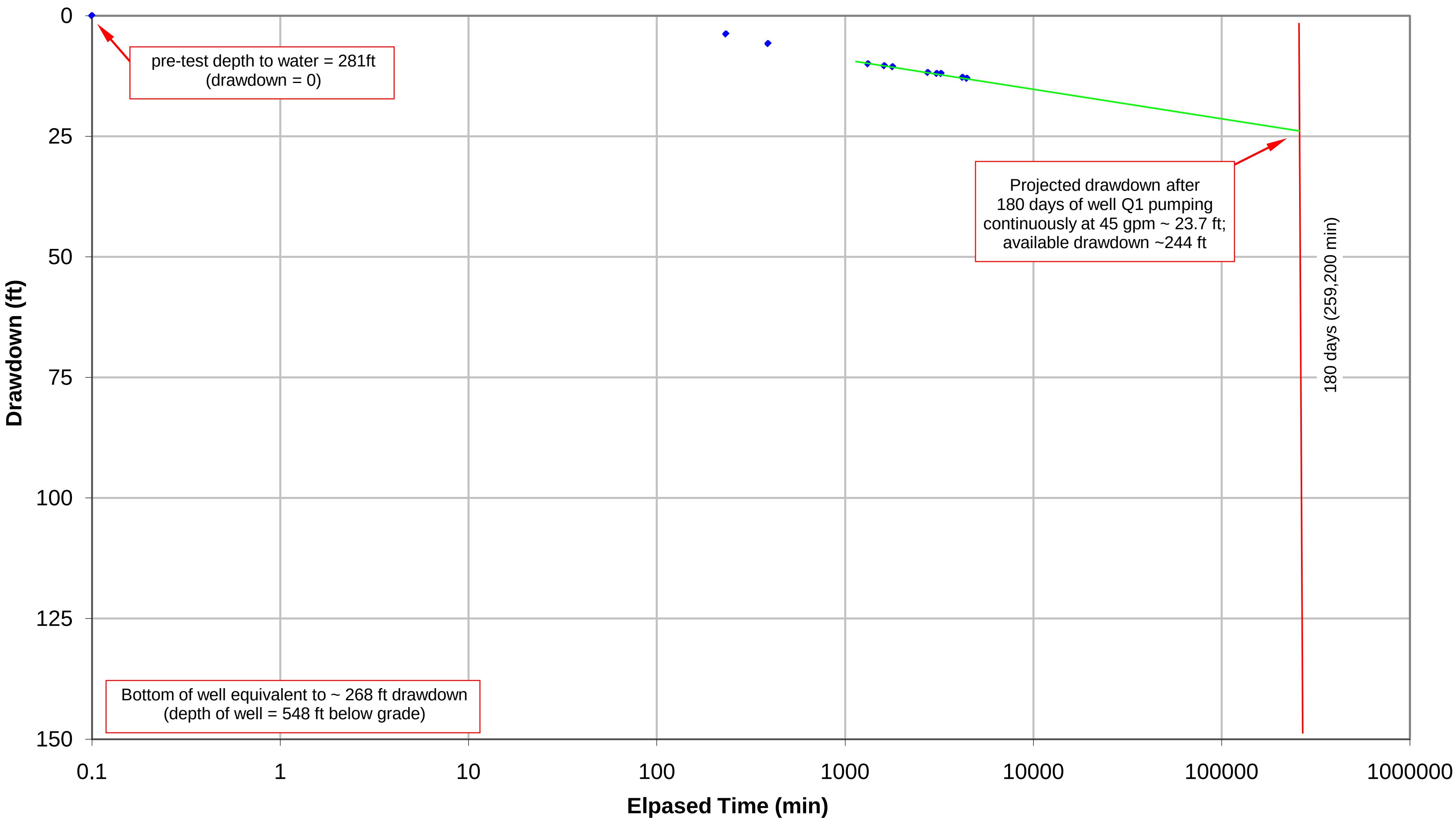
Projected drawdown after
180 days of well Q1 pumping
continuously at 45 gpm ~24 ft;
available drawdown ~ 316 ft

Bottom of well equivalent to ~350 ft drawdown
(depth of well = 410 ft below grade)

Pump setting at 400 ft below grade
(equivalent to ~ 340 ft drawdown)

Z Well
Semi-log Plot with 180-day Projection

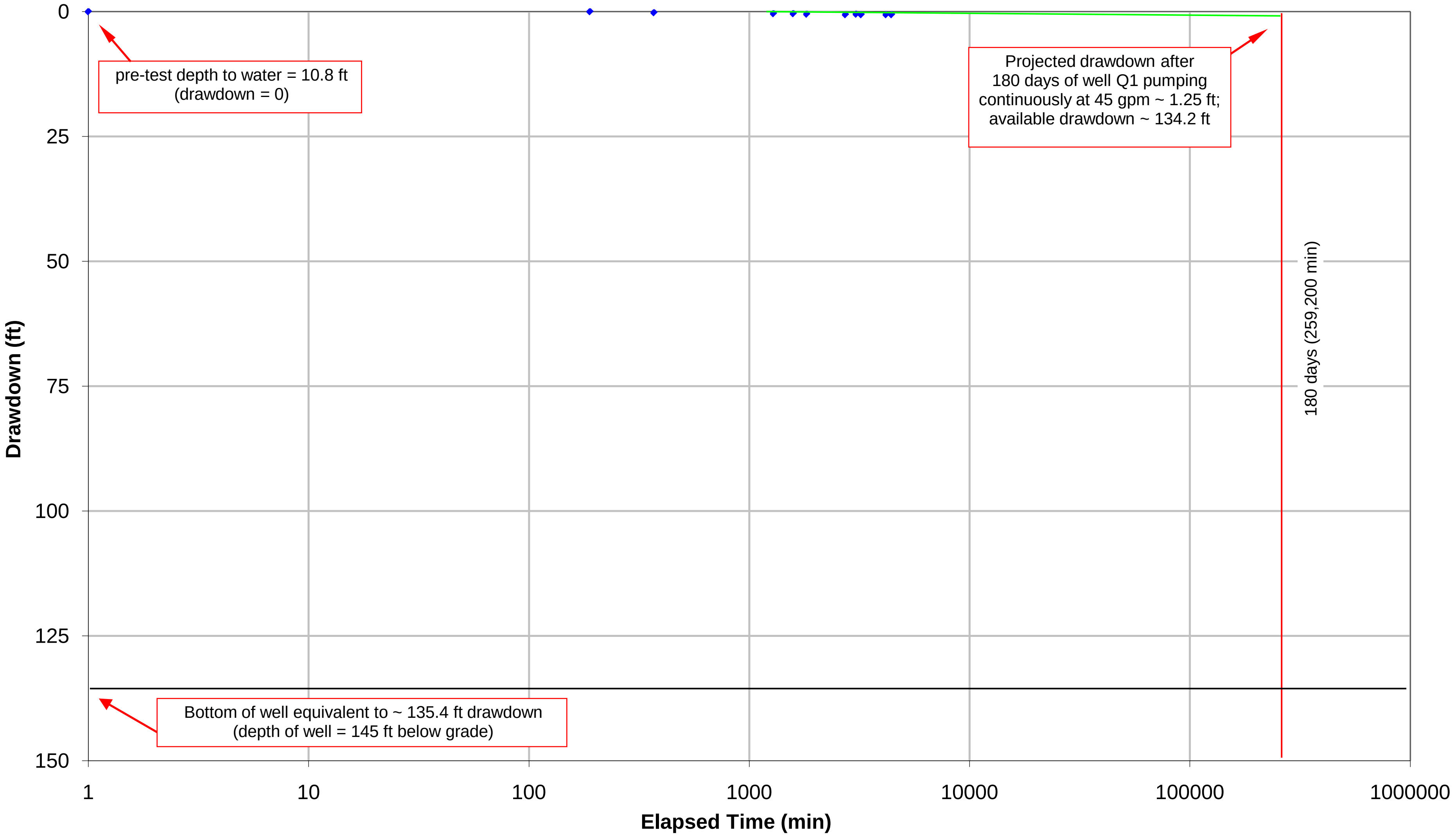
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Z Well Manual WL Data.xls\180-day 150y

Village Well 1A
Semi-log Plot with 180-day Drawdown Projection

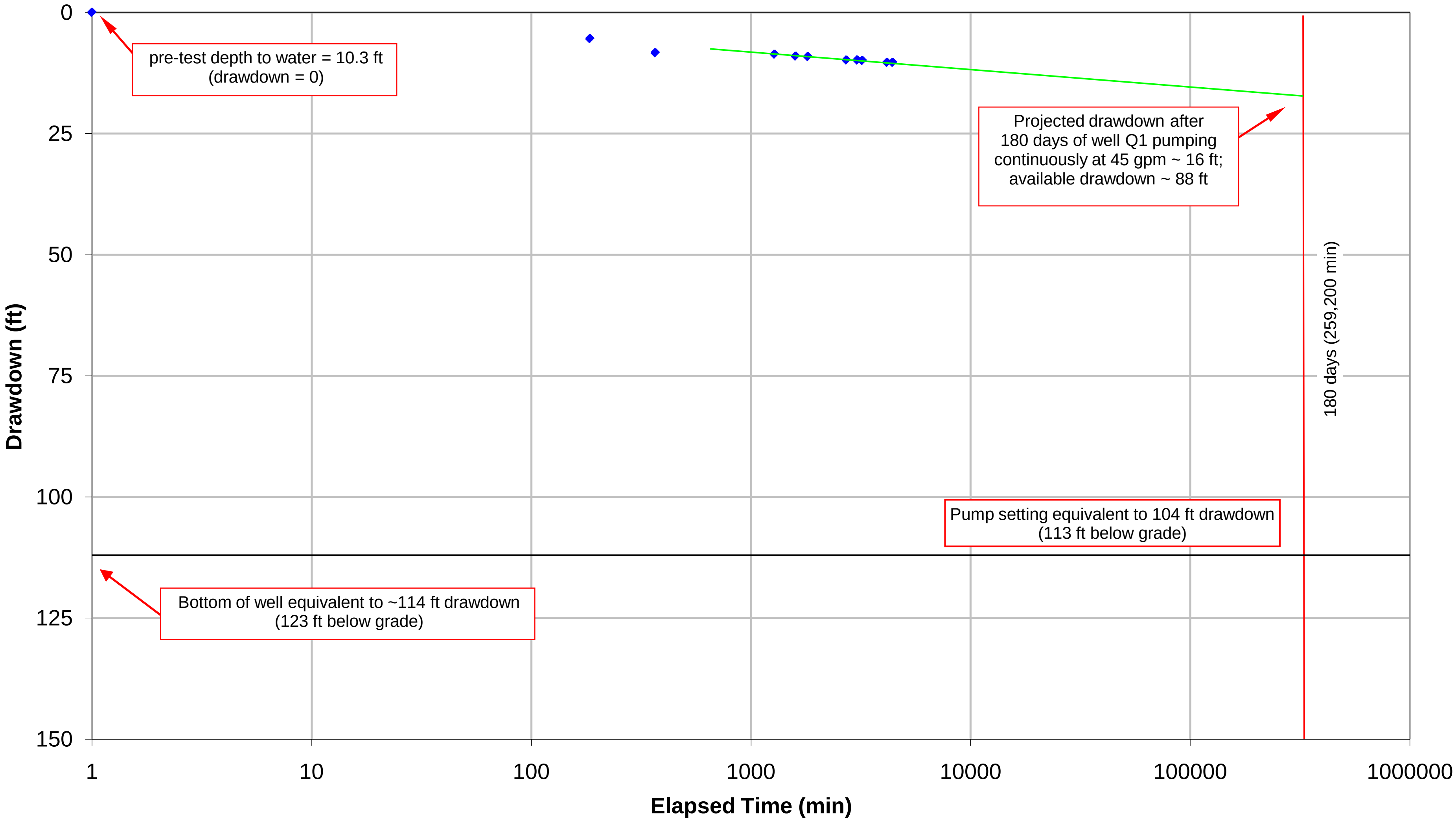
Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Well 1A Manual WL Data.xls\180-day 150y

Realty Well
Semi-log Plot with 180-day Projection

Well Q1 Constant Rate Pumping Test
Belleayre Resort at Catskill Park



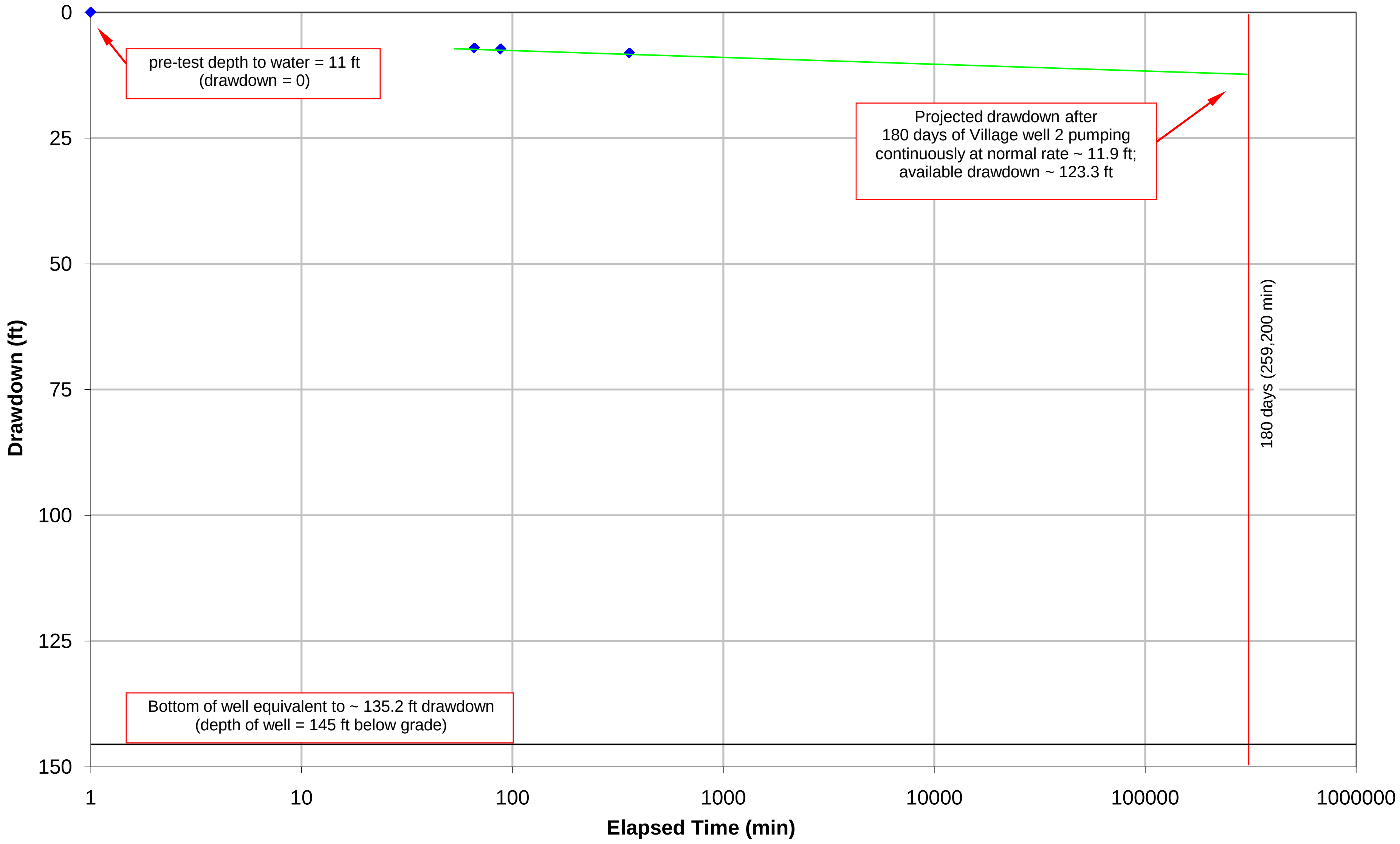
Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Realty Well Manual WL Data.xls\180-day 150y

APPENDIX W

Village Well 2 180-day Drawdown Projections

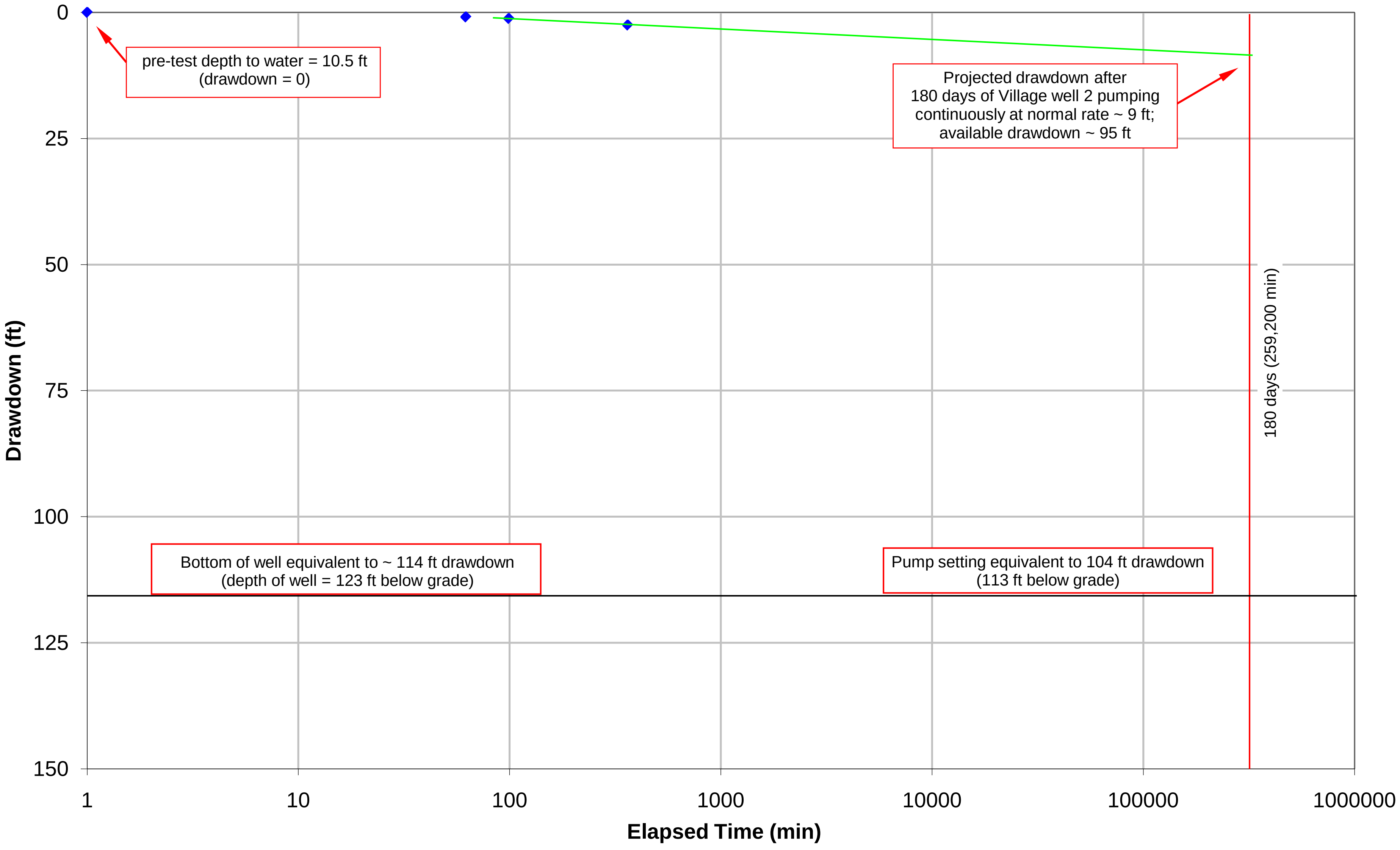
Observation Wells

Village Well 1A
Semi-log Plot with 180-day Drawdown Projection Due to Pumping at Village Well 2

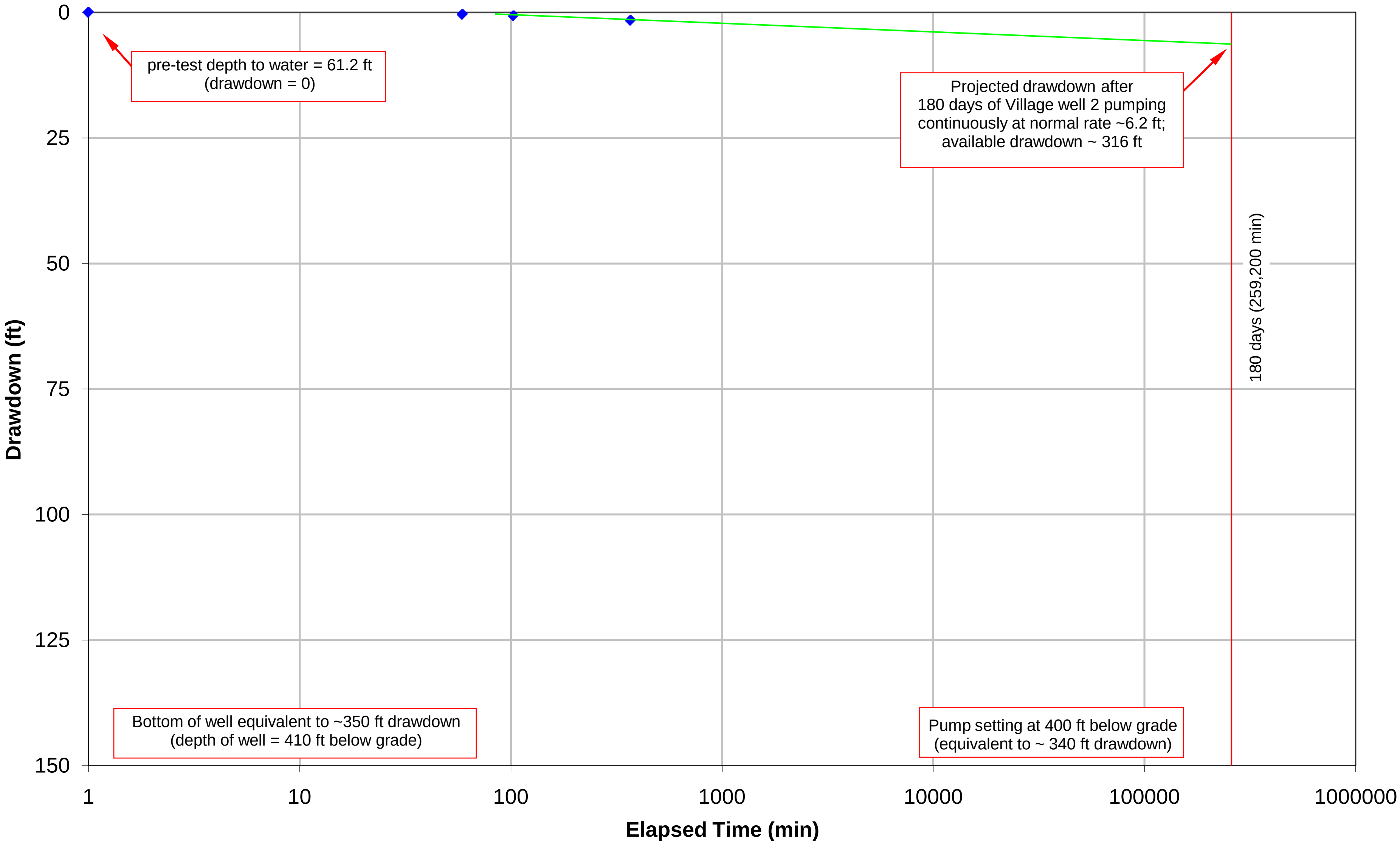


Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Well 1A Manual WL Data.xls\180-day (Well 2) 150y

Realty Well
Semi-log Plot with 180-day Drawdown Projection
Due to Pumping at Village Well 2



Village Well 4
Semi-log Plot with 180-Day Drawdown Projection
Due to Pumping at Village Well 2



pre-test depth to water = 61.2 ft
(drawdown = 0)

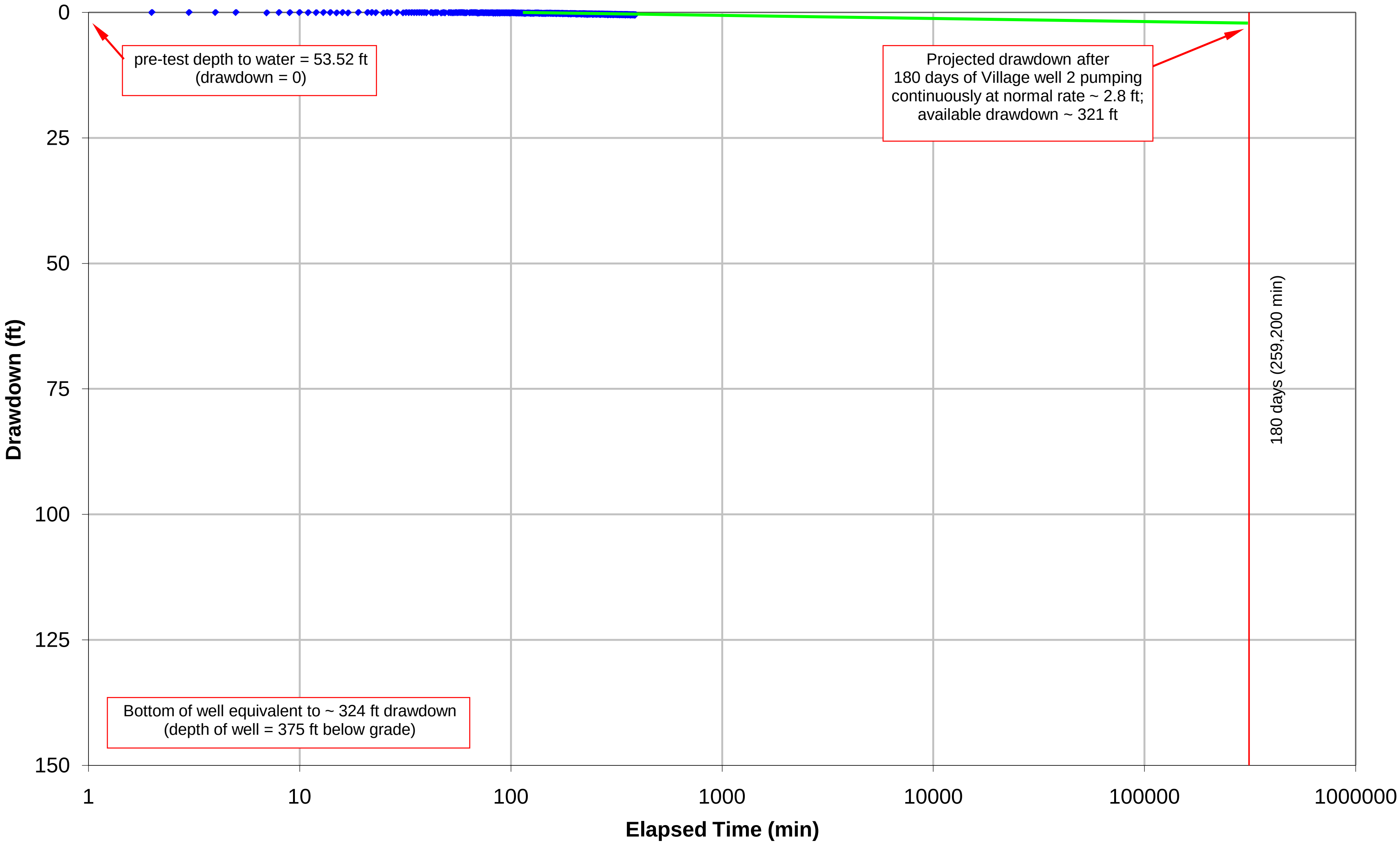
Projected drawdown after
180 days of Village well 2 pumping
continuously at normal rate ~6.2 ft;
available drawdown ~ 316 ft

Bottom of well equivalent to ~350 ft drawdown
(depth of well = 410 ft below grade)

Pump setting at 400 ft below grade
(equivalent to ~ 340 ft drawdown)

Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Well 4 Manual WL Data.xls\180-day (Well 2) 150y

Well Q2
Semi-log Plot with 180-Day Drawdown Projection
Due to Pumping at Village Well 2



pre-test depth to water = 53.52 ft
(drawdown = 0)

Projected drawdown after
180 days of Village well 2 pumping
continuously at normal rate ~ 2.8 ft;
available drawdown ~ 321 ft

Bottom of well equivalent to ~ 324 ft drawdown
(depth of well = 375 ft below grade)

Z:\projects\2008\08121 - 08140\08136 - Belleayre Q Wells\Q1-Q2 Field WL Data\Well Q2 - Q1 72hr CR Test2 2008-11-07.xls\180-day (Well 2) 150y

APPENDIX F

Water Quality Data

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Analysis Report

November 08, 2007

FOR: Attn: Mr. Steve Trader
Alpha GeoScience
679 Plank Road
Clifton Park, NY 12065

Sample Information		**Custody Information**		**Date**	**Time**
Matrix:	DRINKING WATER	Collected by:		09/28/07	11:15
Location Code:	ALPHAGEO	Received by:	LP	09/28/07	17:15
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	07143				

SDG I.D.: GAJ56482
Phoenix I.D.: AJ56483

Laboratory Data

Client ID: BELLEAYRE K WELLS K2

Parameter	Result	RL	Units	Date	Time	By	Reference
Silver	< 0.002	0.002	mg/L	10/10/07		EK	6010/200.7
Arsenic	0.031	0.003	mg/L	10/05/07		RS	200.9
Barium	0.143	0.002	mg/L	10/10/07		EK	200.7/6010
Beryllium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Calcium	15.4	0.01	mg/L	10/10/07		EK	6010/200.7
Cadmium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Chromium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Copper	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Iron	0.01	0.002	mg/L	10/10/07		EK	200.7/6010
Hardness (CaCO3)	48	0.10	mg/L	10/10/07		EK	200.7
Mercury	< 0.0002	0.0002	mg/L	10/02/07		RS	E245.1
Magnesium	2.32	0.01	mg/L	10/10/07		EK	6010/200.7
Manganese	0.032	0.002	mg/L	10/10/07		EK	200.7/6010
Sodium	136	1	mg/L	10/10/07		EK	200.7/6010
Nickel	< 0.002	0.002	mg/L	10/10/07		EK	200.7/6010
Lead	< 0.001	0.001	mg/L	10/03/07		M/R	200.9
Antimony	< 0.003	0.003	mg/L	10/03/07		RS	E200.9
Selenium	< 0.002	0.002	mg/L	10/04/07		RS	E200.9
Thallium	< 0.001	0.001	mg/L	10/04/07		RS	E200.9
Zinc	0.033	0.002	mg/L	10/10/07		EK	6010/200.7
Escherichia Coli	Absent	0	/100mls	09/28/07	19:15	C/R	SM 9223B
Standard Plate Count	4	0	CFU/ml	09/29/07	10:45	RM	SM 9215B
Total Coliforms	Absent	0	/100mls	09/28/07	19:15	C/R	9223B
Alkalinity (CaCO3)	100	20	mg/L	10/01/07		LK	SM 2320B
Chloride	170	15	mg/L	10/02/07		M/E	300.0
Color	< 1	1	P.C.U.	09/28/07	23:00	CD	SM 2120B
Fluoride	0.20	0.10	mg/L	10/04/07		E/G	E300.0

Client ID: BELLEAYRE K WELLS K2 Phoenix I.D.: AJ56483

Parameter	Result	RL	Units	Date	Time	By	Reference
Nitrite as Nitrogen	< 0.010	0.010	mg/L	09/29/07	3:10	G/E	300.0
Nitrate as Nitrogen	< 0.050	0.050	mg/L	09/29/07	3:10	G/E	300.0
Odor	< 1	1	T.O.N.	09/28/07	23:00	CD	S207/140.1
pH	8.04	0.10	PH	09/28/07	23:00	CD	4500-H B/9045
Sulfate	5.2	3	mg/L	09/29/07		G/E	300.0
Total Cyanide (Drinking water)	< 0.010	0.010	mg/L	10/02/07		R/G	EPA335.4
Tot. Diss. Solids	372	10	mg/L	10/01/07		KL	SM2540C
Turbidity	0.41	0.10	NTU	09/28/07	23:00	CD	E180.1
Extraction	Completed			10/01/07		K	
Mercury Digestion	Completed			10/02/07		D	7471/245.1
Extraction of DW Pesticides	Completed			10/01/07		K	508
Extraction of DW Herbicides	Completed			10/03/07		O/E	
Total Metal Digestion	Completed			10/01/07		AG	E200.2
Gross Alpha Water	4.2 ± 1.5	2.0	pci/L	10/31/07		*	7110B
Gross Beta Water	3.2 ± 1.5	1.7	pci/L	10/31/07		*	7110 B
Radium 226	0.32 ± 0.26	0.34	pci/L	10/18/07		*	7500 Ra B/903.0
Radium 228	0.34 ± 0.52	0.84	pci/L	10/16/07		*	7500 Ra D/904.0
Radon-222	686 ± 42	34	pCi/l	10/04/07		*	7500 Rn B

Synthetic Organic Compounds (525

Alachlor	ND	0.1	ug/L	10/06/07	*	EPA525.2
Aldrin	ND	0.1	ug/L	10/06/07	*	EPA525.2
Atrazine	ND	0.1	ug/L	10/06/07	*	EPA525.2
Benzo(a)pyrene	ND	0.02	ug/L	10/06/07	*	EPA525.2
Butachlor	ND	0.1	ug/L	10/06/07	*	EPA525.2
Di (2-ethylhexyl) adipate	ND	0.6	ug/L	10/06/07	*	EPA525.2
Di (2-ethylhexyl)phthalate	ND	0.6	ug/L	10/06/07	*	EPA525.2
Dieldrin	ND	0.1	ug/L	10/06/07	*	EPA525.2
Endrin	ND	0.01	ug/L	10/06/07	*	EPA525.2
Heptachlor	ND	0.04	ug/L	10/06/07	*	EPA525.2
Heptachlor epoxide	ND	0.02	ug/L	10/06/07	*	EPA525.2
Hexachlorobenzene	ND	0.1	ug/L	10/06/07	*	EPA525.2
Hexachlorocyclopentadiene	ND	0.1	ug/L	10/06/07	*	EPA525.2
Lindane	ND	0.02	ug/L	10/06/07	*	EPA525.2
Methoxychlor	ND	0.1	ug/L	10/06/07	*	EPA525.2
Metolachlor	ND	0.1	ug/L	10/06/07	*	EPA525.2
Metribuzin	ND	0.1	ug/L	10/06/07	*	EPA525.2
Propachlor	ND	0.1	ug/L	10/06/07	*	EPA525.2
Simazine	ND	0.07	ug/L	10/06/07	*	EPA525.2

Carbamates HPLC (531)

3 Hydroxycarbofuran	ND	0.5	ug/L	10/05/07	*	EPA531.2
Aldicarb	ND	0.5	ug/L	10/05/07	*	EPA531.2
Aldicarb Sulfone	ND	0.7	ug/L	10/05/07	*	EPA531.2
Aldicarb Sulfoxide	ND	0.5	ug/L	10/05/07	*	EPA531.2
Carbaryl	ND	0.5	ug/L	10/05/07	*	EPA531.2
Carbofuran	ND	0.9	ug/L	10/05/07	*	EPA531.2
Methomyl	ND	0.5	ug/L	10/05/07	*	EPA531.2

Parameter	Result	RL	Units	Date	Time	By	Reference
Oxamyl	ND	1.0	ug/L	10/05/07		*	EPA531.2
Asbestos in Water							
Asbestos fibers (>0.5u and <10u)	BDL<4.00E-01	0.1	MFL	10/06/07		*	EPA600/4-84
Asbestos fibers (>10u)	BDL<1.33E-01	0.1	MFL	10/06/07		*	EPA600/4-84
EDB and DBCP Analysis							
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	ug/L	10/04/07		JRB	504.1
1,2-Dibromoethane (EDB)	ND	0.02	ug/L	10/04/07		JRB	504.1
Organophosphorus Pesticides (507)							
Alachlor	ND	0.44	ug/L	10/02/07		JRB	E507
Atrazine	ND	0.22	ug/L	10/02/07		JRB	E507
Butachlor	ND	0.1	ug/L	10/02/07		JRB	E507
Metolachlor	ND	0.1	ug/L	10/02/07		JRB	E507
Metribuzin	ND	2.00	ug/L	10/02/07		JRB	E507
Simazine	ND	0.15	ug/L	10/02/07		JRB	E507
Pesticides/PCB's (508)							
Aldrin	ND	0.05	ug/L	10/03/07		MH	EPA508
Chlordane	ND	0.5	ug/L	10/03/07		MH	EPA508
Dieldrin	ND	0.1	ug/L	10/03/07		MH	EPA508
Endrin	ND	0.1	ug/L	10/03/07		MH	EPA508
Heptachlor	ND	0.1	ug/L	10/03/07		MH	EPA508
Heptachlor Epoxide	ND	0.05	ug/L	10/03/07		MH	EPA508
Lindane	ND	0.05	ug/L	10/03/07		MH	EPA508
Methoxychlor	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1016	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1221	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1232	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1242	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1248	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1254	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1260	ND	0.5	ug/L	10/03/07		MH	EPA508
Propachlor	ND	0.5	ug/L	10/03/07		MH	EPA508
Toxaphene	ND	1.0	ug/L	10/03/07		MH	EPA508
QA/QC Surrogates							
%DCBP (Surrogate Rec)	115		%	10/03/07		MH	EPA508
%TCMX (Surrogate Rec)	106		%	10/03/07		MH	EPA508
Herbicides (515)							
2,4,5-T	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
2,4,5-TP	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
2,4-D	ND	1.0	ug/L	10/04/07		JRB	EPA 515.1
Dalapon	ND	5.0	ug/L	10/04/07		JRB	EPA 515.1
Dicamba	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1
Dichloroprop	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
Dinoseb	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1

Client ID: BELLEAYRE K WELLS K2 Phoenix I.D.: AJ56483

Parameter	Result	RL	Units	Date	Time	By	Reference
Pentachlorophenol	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
Picloram	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,1-Trichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,2-Trichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,3-Trichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,3-Trichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,4-Trichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,4-Trimethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dibromo-3-chloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dibromoethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3,5-Trimethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,4-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
2,2-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
2-Butanone	ND	0.5	ug/L	09/28/07		R/J	524.2
2-Chlorotoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
4-Chlorotoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
4-Isopropyltoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
Benzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromochloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromodichloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromoform	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromomethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Carbon Tetrachloride	ND	0.5	ug/L	09/28/07		R/J	524.2
Chlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloroform	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
cis-1,2-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
cis-1,3-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
Dibromochloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Dibromomethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Dichlorodifluoromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Ethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Hexachlorobutadiene	ND	0.5	ug/L	09/28/07		R/J	524.2

Client ID: BELLEAYRE K WELLS K2 **Phoenix I.D.: AJ56483**

Parameter	Result	RL	Units	Date	Time	By	Reference
Isopropylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Methyl Tert Butyl Ether	ND	1.0	ug/L	09/28/07		R/J	524.2
Methylene Chloride	ND	0.5	ug/L	09/28/07		R/J	524.2
n-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Naphthalene	ND	0.5	ug/L	09/28/07		R/J	524.2
o-Xylene	ND	0.5	ug/L	09/28/07		R/J	524.2
p- and m- Xylene	ND	0.5	ug/L	09/28/07		R/J	524.2
Propylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
sec-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Styrene	ND	0.5	ug/L	09/28/07		R/J	524.2
tert-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Tetrachloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
Toluene	ND	0.5	ug/L	09/28/07		R/J	524.2
Total Trihalomethanes (TTHM)	ND	0.5	ug/L	09/28/07		R/J	524.2
trans-1,2-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
trans-1,3-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
Trichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
Trichlorofluoromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Vinyl Chloride	ND	0.5	ug/L	09/28/07		R/J	524.2
QA/QC Surrogates							
%4-Bromofluorobenzene (Surrogate)	89		%	09/28/07		R/J	524.2

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

Radon run past hold due to shipping problems.
* Asbestos was analyzed by NY state certified lab #10851. Methods 525, 531 and Radiologicals analyzed by NY certified lab #11398.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
ND=Not detected BDL=Below Detection Limit RL=Reporting Limit

Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 08, 2007

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 6°C Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: Alpha GeoScience
Address: 679 Plank Road
Clifton Park NY 12065

Project: Belleyne K Wells
Report to: Steve Trader
Invoice to: Steve Trader

Project P.O: 07143
Phone #: 518 348 6995
Fax #: 518 348 6966

Client Sample - Information - Identification

Sampler's Signature Sh M Trad Date 9/28/07

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NYSDOH Part 5 Analysis												Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [4] As is [2] HCl MCA Acid 2	GL Amber 1000ml [X] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [X] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [X] 1000ml	PL HNO3 250ml (1) 1L (4)	PL NaOH 250ml	Bacteria Bottle	
56482	K4 *	DW	9/28/07	1100	X															8	7	2	1	5	1	2	25
56483	K2	DW	9/28/07	1115	X															8	7	2	1	5	1	2	25

Relinquished by:	Accepted by:	Date:	Time:
Sh M Trad		9/28/07	1143
	Wilhelm	9/28/07	17:15

Comments, Special Requirements or Regulations:
Do not run Dioxin, Diquat, Glyphos or Endothal per Steve Trader. LB
* Radon to be resampled due to lost cooler by DHL
K2 to be run out of hold.

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: N

Data Format
☐ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Analysis Report

November 09, 2007

FOR: Attn: Mr. Dean Gitter
Crossroads Ventures,LLC
P.O. Box 267
Mt. Tremper,NY 12457

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:		10/04/07	14:25
Location Code:	SPECIAL2	Received by:	LP	10/05/07	9:55
Rush Request:		Analyzed by:	see "By" below		
P.O.#:					

SDG I.D.: GAJ58615
Phoenix I.D.: AJ58616

Laboratory Data

Client ID: BELLAYRE K WELLS K3

Parameter	Result	RL	Units	Date	Time	By	Reference
Silver	< 0.002	0.002	mg/L	10/06/07		L/E	6010/200.7
Arsenic	0.018	0.003	mg/L	10/17/07		RS	200.9
Barium	0.165	0.002	mg/L	10/06/07		L/E	200.7/6010
Beryllium	< 0.001	0.001	mg/L	10/06/07		L/E	200.7/6010
Calcium	19.2	0.01	mg/L	10/06/07		L/E	6010/200.7
Cadmium	< 0.001	0.001	mg/L	10/06/07		L/E	200.7/6010
Chromium	< 0.001	0.001	mg/L	10/06/07		L/E	200.7/6010
Copper	0.004	0.001	mg/L	10/06/07		L/E	200.7/6010
Iron	0.023	0.002	mg/L	10/06/07		L/E	200.7/6010
Hardness (CaCO3)	59.5	0.10	mg/L	10/09/07		PS	200.7
Mercury	< 0.0002	0.0002	mg/L	10/08/07		RS	E245.1
Magnesium	2.8	0.01	mg/L	10/06/07		L/E	6010/200.7
Manganese	0.045	0.002	mg/L	10/06/07		L/E	200.7/6010
Sodium	82.4	1	mg/L	10/11/07		T/E	200.7/6010
Nickel	< 0.002	0.002	mg/L	10/06/07		L/E	200 7/6010
Lead	< 0.001	0.001	mg/L	10/16/07		RS	200.9
Antimony	< 0.003	0.003	mg/L	10/16/07		RS	E200.9
Selenium	< 0.002	0.002	mg/L	10/09/07		RS	E200.9
Thallium	< 0.001	0.001	mg/L	10/10/07		RS	E200.9
Zinc	0.088	0.002	mg/L	10/06/07		L/E	6010/200.7
Escherichia Coli	Absent	0	/100mls	10/05/07	13:30	C/ R	SM 9223B
Standard Plate Count	10	0	CFU/ml	10/05/07	12:00	RM	SM 9215B
Total Coliforms	Present	0	/100mls	10/05/07	13:30	C/ R	9223B
Alkalinity (CaCO3)	95	20	mg/L	10/08/07		LK	SM 2320B
Chloride	120	3	mg/L	10/06/07		G/E	300.0
Color	< 1	1	P.C.U.	10/05/07	23:00	CD	SM 2120B
Cyanide, Free	< 0.01	0.01	mg/L	10/09/07		R/G	335.4/9014

Client ID: BELLAYRE K WELLS K3 Phoenix I.D.: AJ58616

Parameter	Result	RL	Units	Date	Time	By	Reference
Fluoride	< 0.10	0.10	mg/L	10/09/07		ESC	E300.0
Nitrite as Nitrogen	< 0.010	0.010	mg/L	10/06/07	2:08	G/E	300.0
Nitrate as Nitrogen	0.14	0.050	mg/L	10/06/07	2:08	G/E	300.0
Odor	< 1	1	T.O.N.	10/05/07	23:00	CD	S207/140.1
pH	7.80	0.10	PH	10/05/07	23:00	CD	4500-H B/9045
Sulfate	11	3	mg/L	10/06/07		G/E	300.0
Total Cyanide (Drinking water)	< 0.010	0.010	mg/L	10/09/07		R/G	EPA335.4
Tot. Diss. Solids	268	10	mg/L	10/08/07		KL	SM2540C
Turbidity	0.27	0.10	NTU	10/05/07	23:00	CD	E180.1
Mercury Digestion	Completed			10/08/07		E	7471/245.1
Bromate	<5.0	5.0	ug/L	10/11/07	15:36	*	300.0
Chlorite	<0.010	0.010	mg/L	10/11/07		*	300.0
Gross Alpha Water	5.6 ± 1.2	1.3	pci/L	10/13/07		*	7110B
Gross Beta Water	2.9 ± 1.2	1.3	pci/L	10/13/07		*	7110 B
Radium 226	0.58 ± 0.37	0.42	pci/L	10/19/07		*	7500 Ra B/903.0
Radium 228	1.1 ± 0.5	0.7	pci/L	10/18/07		*	7500 Ra D/904.0
Radium 226 & 228	1.68 ± 0.62		pCi/L	10/19/07		*	7500 RA B/D
Radon-222	954 ± 39		pCi/l	10/08/07		*	7500 Rn B
Asbestos in Water							
Asbestos fibers (>0.5u and <10u)	ND	0.4	MFL	10/10/07		*	EPA600/4-84
Asbestos fibers (>10u)	ND	0.133	MFL	10/10/07		*	EPA600/4-84

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold time.

* Asbestos analyzed by NY certified lab #10851. Chlorite, Bromate, Radiochemicals analyzed by NY certified lab #1139.

The Free Cyanide is "Below Detection Limit" based on the Total Cyanide being "Below Detection Limit".

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Limit RL=Reporting Limit

Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 09, 2007

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: Crossroads Ventures LLC
Address: PO Box 267
Mt. Tremper, NY 12457

Project: Belleayre Wells
Report to: Steven M Trader
Invoice to: Dean Gitter

Project P.O:
Phone #:
Fax #:

Client Sample - Information - Identification

Sampler's Signature Date 10/4/07

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Coliform	Std Plate Count	Radon	NYS Part V Metals	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
	K4	DW	10/4/7	1351	X	X	X					2						2
	K3	DW	10/4/7	1425			X	X				2						

Relinquished by:	Accepted by:	Date:	Time:
		10/4/7	1425

Comments, Special Requirements or Regulations:

Please send a copy of report to Steve Trader
(via e-mail) (Alpha Geoscience)
steve.trader@alphageoscience.com

[illegible] Run Part V [illegible]

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected:

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Analysis Report

October 30, 2007

FOR: Attn: Mr. Steve Trader
Alpha GeoScience
679 Plank Road
Clifton Park, NY 12065

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:	ST	10/05/07	10:30
Location Code:	ALPHAGEO	Received by:	LP	10/10/07	10:30
Rush Request:		Analyzed by:	see "By" below		
P.O.#:					

SDG I.D.: GAJ59833
Phoenix I.D.: AJ59833

Laboratory Data

Client ID: BELLEAYRE K WELLS K3

Parameter	Result	RL	Units	Date	Time	By	Reference
Extraction	Completed			10/12/07		K	
Extraction of DW Pesticides	Completed			10/12/07		K	508
Extraction of DW Herbicides	Completed			10/12/07		O/D	
2,3,7,8-TCDD	ND	5.00	pg/L	10/20/07		*	1613B
Synthetic Organic Compounds (525							
Alachlor	ND	0.1	ug/L	10/16/07		*	EPA525.2
Aldrin	ND	0.1	ug/L	10/16/07		*	EPA525.2
Atrazine	ND	0.1	ug/L	10/16/07		*	EPA525.2
Benzo(a)pyrene	ND	0.02	ug/L	10/16/07		*	EPA525.2
Butachlor	ND	0.1	ug/L	10/16/07		*	EPA525.2
Di (2-ethylhexyl) adipate	ND	0.7	ug/L	10/16/07		*	EPA525.2
Di (2-ethylhexyl)phthalate	ND	0.7	ug/L	10/16/07		*	EPA525.2
Dieldrin	ND	0.1	ug/L	10/16/07		*	EPA525.2
Endrin	ND	0.01	ug/L	10/16/07		*	EPA525.2
Heptachlor	ND	0.05	ug/L	10/16/07		*	EPA525.2
Heptachlor epoxide	ND	0.02	ug/L	10/16/07		*	EPA525.2
Hexachlorobenzene	ND	0.1	ug/L	10/16/07		*	EPA525.2
Hexachlorocyclopentadiene	ND	0.1	ug/L	10/16/07		*	EPA525.2
Lindane	ND	0.02	ug/L	10/16/07		*	EPA525.2
Methoxychlor	ND	0.1	ug/L	10/16/07		*	EPA525.2
Metolachlor	ND	0.1	ug/L	10/16/07		*	EPA525.2
Metribuzin	ND	0.1	ug/L	10/16/07		*	EPA525.2
Propachlor	ND	0.1	ug/L	10/16/07		*	EPA525.2
Simazine	ND	0.08	ug/L	10/16/07		*	EPA525.2

Parameter	Result	RL	Units	Date	Time	By	Reference
Carbamates HPLC (531)							
3 Hydroxycarbofuran	ND	0.5	ug/L	10/16/07		*	EPA531.2
Aldicarb	ND	0.5	ug/L	10/16/07		*	EPA531.2
Aldicarb Sulfone	ND	0.7	ug/L	10/16/07		*	EPA531.2
Aldicarb Sulfoxide	ND	0.5	ug/L	10/16/07		*	EPA531.2
Carbaryl	ND	0.5	ug/L	10/16/07		*	EPA531.2
Carbofuran	ND	0.9	ug/L	10/16/07		*	EPA531.2
Methomyl	ND	0.5	ug/L	10/16/07		*	EPA531.2
Oxamyl	ND	1.0	ug/L	10/16/07		*	EPA531.2
Glyphosate							
Glyphosate	ND	6.0	ug/L	10/12/07		*	EPA 547
Endothall							
Endothall	ND	9.0	ug/L	10/15/07		*	EPA548
Diquat							
Diquat	ND	0.4	ug/L	10/12/07		*	EPA549
EDB and DBCP Analysis							
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	ug/L	10/11/07		JRB	504.1
1,2-Dibromoethane (EDB)	ND	0.02	ug/L	10/11/07		JRB	504.1
Organophosphorus Pesticides (507)							
Alachlor	ND	0.44	ug/L	10/12/07		JRB	E507
Atrazine	ND	0.22	ug/L	10/12/07		JRB	E507
Butachlor	ND	0.1	ug/L	10/12/07		JRB	E507
Metolachlor	ND	0.1	ug/L	10/12/07		JRB	E507
Metribuzin	ND	2.00	ug/L	10/12/07		JRB	E507
Simazine	ND	0.15	ug/L	10/12/07		JRB	E507
Pesticides/PCB's (508)							
Aldrin	ND	0.05	ug/L	10/16/07		KCA	EPA508
Chlordane	ND	0.5	ug/L	10/16/07		KCA	EPA508
Dieldrin	ND	0.1	ug/L	10/16/07		KCA	EPA508
Endrin	ND	0.1	ug/L	10/16/07		KCA	EPA508
Heptachlor	ND	0.1	ug/L	10/16/07		KCA	EPA508
Heptachlor Epoxide	ND	0.05	ug/L	10/16/07		KCA	EPA508
Lindane	ND	0.05	ug/L	10/16/07		KCA	EPA508
Methoxychlor	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1016	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1221	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1232	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1242	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1248	ND	0.5	ug/L	10/16/07		KCA	EPA508

Parameter	Result	RL	Units	Date	Time	By	Reference
PCB-1254	ND	0.5	ug/L	10/16/07		KCA	EPA508
PCB-1260	ND	0.5	ug/L	10/16/07		KCA	EPA508
Propachlor	ND	0.5	ug/L	10/16/07		KCA	EPA508
Toxaphene	ND	1.0	ug/L	10/16/07		KCA	EPA508
QA/QC Surrogates							
%DCBP (Surrogate Rec)	91		%	10/16/07		KCA	EPA508
%TCMX (Surrogate Rec)	77		%	10/16/07		KCA	EPA508
Herbicides (515)							
2,4,5-T	ND	0.2	ug/L	10/13/07		JRB	EPA 515.1
2,4,5-TP	ND	0.2	ug/L	10/13/07		JRB	EPA 515.1
2,4-D	ND	1.0	ug/L	10/13/07		JRB	EPA 515.1
Dalapon	ND	5.0	ug/L	10/13/07		JRB	EPA 515.1
Dicamba	ND	0.5	ug/L	10/13/07		JRB	EPA 515.1
Dichloroprop	ND	0.2	ug/L	10/13/07		JRB	EPA 515.1
Dinoseb	ND	0.5	ug/L	10/13/07		JRB	EPA 515.1
Pentachlorophenol	ND	0.2	ug/L	10/13/07		JRB	EPA 515.1
Picloram	ND	0.5	ug/L	10/13/07		JRB	EPA 515.1
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1,1-Trichloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1,2-Trichloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1-Dichloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1-Dichloroethene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,1-Dichloropropene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2,3-Trichlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2,3-Trichloropropane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2,4-Trichlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2,4-Trimethylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2-Dibromo-3-chloropropane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2-Dibromoethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2-Dichlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2-Dichloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,2-Dichloropropane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,3,5-Trimethylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,3-Dichlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
1,3-Dichloropropane	ND	0.5	ug/L	10/11/07		R/J	524.2
1,4-Dichlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
2,2-Dichloropropane	ND	0.5	ug/L	10/11/07		R/J	524.2
2-Butanone	ND	0.5	ug/L	10/11/07		R/J	524.2
2-Chlorotoluene	ND	0.5	ug/L	10/11/07		R/J	524.2
4-Chlorotoluene	ND	0.5	ug/L	10/11/07		R/J	524.2
4-Isopropyltoluene	ND	0.5	ug/L	10/11/07		R/J	524.2
Benzene	ND	0.5	ug/L	10/11/07		R/J	524.2

Client ID: BELLEAYRE K WELLS K3 Phoenix I.D.: AJ59833

Parameter	Result	RL	Units	Date	Time	By	Reference
Bromobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Bromochloromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Bromodichloromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Bromoform	ND	0.5	ug/L	10/11/07		R/J	524.2
Bromomethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Carbon Tetrachloride	ND	0.5	ug/L	10/11/07		R/J	524.2
Chlorobenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Chloroethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Chloroform	ND	0.5	ug/L	10/11/07		R/J	524.2
Chloromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
cis-1,2-Dichloroethene	ND	0.5	ug/L	10/11/07		R/J	524.2
cis-1,3-Dichloropropene	ND	0.5	ug/L	10/11/07		R/J	524.2
Dibromochloromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Dibromomethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Dichlorodifluoromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Ethylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Hexachlorobutadiene	ND	0.5	ug/L	10/11/07		R/J	524.2
Isopropylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Methyl Tert Butyl Ether	ND	1.0	ug/L	10/11/07		R/J	524.2
Methylene Chloride	ND	0.5	ug/L	10/11/07		R/J	524.2
n-Butylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Naphthalene	ND	0.5	ug/L	10/11/07		R/J	524.2
o-Xylene	ND	0.5	ug/L	10/11/07		R/J	524.2
p- and m- Xylene	ND	0.5	ug/L	10/11/07		R/J	524.2
Propylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
sec-Butylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Styrene	ND	0.5	ug/L	10/11/07		R/J	524.2
tert-Butylbenzene	ND	0.5	ug/L	10/11/07		R/J	524.2
Tetrachloroethene	ND	0.5	ug/L	10/11/07		R/J	524.2
Toluene	ND	0.5	ug/L	10/11/07		R/J	524.2
Total Trihalomethanes (TTHM)	ND	0.5	ug/L	10/11/07		R/J	524.2
trans-1,2-Dichloroethene	ND	0.5	ug/L	10/11/07		R/J	524.2
trans-1,3-Dichloropropene	ND	0.5	ug/L	10/11/07		R/J	524.2
Trichloroethene	ND	0.5	ug/L	10/11/07		R/J	524.2
Trichlorofluoromethane	ND	0.5	ug/L	10/11/07		R/J	524.2
Vinyl Chloride	ND	0.5	ug/L	10/11/07		R/J	524.2
<u>QA/QC Surrogates</u>							
%4-Bromofluorobenzene (Surrogate)	96		%	10/11/07		R/J	524.2

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.
* Dioxin analyzed by NY certified lab #11647. Methods 525, 531, 547, 548, and 549 analyzed by NY certified lab #11398.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Limit RL=Reporting Limit

Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 30, 2007

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: ~~[illegible]~~ Crossroads Ventures LLC
Address: PO Box 267
Mt Tremper, NY 12457

Project: Belleayre K Wells
Report to: Steven M Trader
Invoice to: Dean Gitter

Project P.O:
Phone #:
Fax #:

Client Sample - Information - Identification

Sampler's Signature Stu M Trader Date

Analysis Request

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NYSDOH Part V *	VOC	Soil VOA [ ] Methanol [ ] S, Bisulfate [ ] H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
57033	K3	DW	10/5/07	10:30	X											
57034	Trip Blank					X										

Relinquished by:	Accepted by:	Date:	Time:
Stu M Trader		10/5/07	1535
		10/6/07	10:30

Comments, Special Requirements or Regulations:
Please send copy of report to Steve Trader (Alpha Geoscience) via e-mail strader@alphageoscience.com

* Remaining samples from Part V analyses sent in to lab on 10/4/07

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected:

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 08, 2007

FOR: Attn: Mr. Steve Trader
Alpha GeoScience
679 Plank Road
Clifton Park, NY 12065

Sample Information		**Custody Information**		**Date**	**Time**
Matrix:	DRINKING WATER	Collected by:		09/28/07	11:00
Location Code:	ALPHAGEO	Received by:	LP	09/28/07	17:15
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	07143				

SDG I.D.: GAJ56482
Phoenix I.D.: AJ56482

Laboratory Data

Client ID: BELLEAYRE K WELLS K4

Parameter	Result	RL	Units	Date	Time	By	Reference
Silver	< 0.002	0.002	mg/L	10/10/07		EK	6010/200.7
Arsenic	0.019	0.003	mg/L	10/05/07		RS	200.9
Barium	0.159	0.002	mg/L	10/10/07		EK	200.7/6010
Beryllium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Calcium	17.5	0.01	mg/L	10/10/07		EK	6010/200.7
Cadmium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Chromium	< 0.001	0.001	mg/L	10/10/07		EK	200.7/6010
Copper	0.004	0.001	mg/L	10/10/07		EK	200.7/6010
Iron	0.027	0.002	mg/L	10/10/07		EK	200.7/6010
Hardness (CaCO3)	54.2	0.10	mg/L	10/10/07		EK	200.7
Mercury	< 0.0002	0.0002	mg/L	10/02/07		RS	E245.1
Magnesium	2.54	0.01	mg/L	10/10/07		EK	6010/200.7
Manganese	0.022	0.002	mg/L	10/10/07		EK	200.7/6010
Sodium	81.1	1	mg/L	10/10/07		EK	200.7/6010
Nickel	< 0.002	0.002	mg/L	10/10/07		EK	200.7/6010
Lead	< 0.001	0.001	mg/L	10/03/07		M/R	200.9
Antimony	< 0.003	0.003	mg/L	10/03/07		RS	E200.9
Selenium	< 0.002	0.002	mg/L	10/04/07		RS	E200.9
Thallium	< 0.001	0.001	mg/L	10/04/07		RS	E200.9
Zinc	0.149	0.002	mg/L	10/10/07		EK	6010/200.7
Escherichia Coli	Absent	0	/100mls	09/28/07	19:15	C/R	SM 9223B
Standard Plate Count	35	0	CFU/ml	09/29/07	10:45	RM	SM 9215B
Total Coliforms	Present	0	/100mls	09/28/07	19:15	C/R	9223B
Alkalinity (CaCO3)	< 20	20	mg/L	10/01/07		LK	SM 2320B
Chloride	97	3	mg/L	09/29/07		G/E	300.0
Color	< 1	1	P.C.U.	09/28/07	23:00	CD	SM 2120B
Fluoride	0.12	0.10	mg/L	10/04/07		E/G	E300.0

Client ID: BELLEAYRE K WELLS K4 Phoenix I.D.: AJ56482

Parameter	Result	RL	Units	Date	Time	By	Reference
Nitrite as Nitrogen	< 0.010	0.010	mg/L	09/29/07	3:01	G/E	300.0
Nitrate as Nitrogen	0.10	0.050	mg/L	09/29/07	3:01	G/E	300.0
Odor	< 1	1	T.O.N.	09/28/07	23:00	CD	S207/140.1
pH	7.58	0.10	PH	09/28/07	23:00	CD	4500-H B/9045
Sulfate	9.3	3	mg/L	09/29/07		G/E	300.0
Total Cyanide (Drinking water)	< 0.010	0.010	mg/L	10/02/07		R/G	EPA335.4
Tot. Diss. Solids	260	10	mg/L	10/01/07		KL	SM2540C
Turbidity	2.17	0.10	NTU	09/28/07	23:00	CD	E180.1
Extraction	Completed			10/01/07		K	
Mercury Digestion	Completed			10/02/07		D	7471/245.1
Extraction of DW Pesticides	Completed			10/01/07		K	508
Extraction of DW Herbicides	Completed			10/03/07		O/E	
Total Metal Digestion	Completed			10/01/07		AG	E200.2
Gross Alpha Water	4.8 ± 2.2	2.6	pci/L	10/31/07		*	7110B
Gross Beta Water	2.2 ± 2.5	2.8	pci/L	10/31/07		*	7110 B
Radium 226	0.51 ± 0.30	0.32	pci/L	10/18/07		*	7500 Ra B/903.0
Radium 228	0.46 ± 0.49	0.77	pci/L	10/16/07		*	7500 Ra D/904.0
Radon-222	594 ± 40	35	pCi/l	10/04/07		*	7500 Rn B

Synthetic Organic Compounds (525

Parameter	Result	RL	Units	Date	Time	By	Reference
Alachlor	ND	0.1	ug/L	10/06/07		*	EPA525.2
Aldrin	ND	0.1	ug/L	10/06/07		*	EPA525.2
Atrazine	ND	0.1	ug/L	10/06/07		*	EPA525.2
Benzo(a)pyrene	ND	0.02	ug/L	10/06/07		*	EPA525.2
Butachlor	ND	0.1	ug/L	10/06/07		*	EPA525.2
Di (2-ethylhexyl) adipate	ND	0.6	ug/L	10/06/07		*	EPA525.2
Di (2-ethylhexyl)phthalate	ND	0.6	ug/L	10/06/07		*	EPA525.2
Dieldrin	ND	0.1	ug/L	10/06/07		*	EPA525.2
Endrin	ND	0.01	ug/L	10/06/07		*	EPA525.2
Heptachlor	ND	0.04	ug/L	10/06/07		*	EPA525.2
Heptachlor epoxide	ND	0.02	ug/L	10/06/07		*	EPA525.2
Hexachlorobenzene	ND	0.1	ug/L	10/06/07		*	EPA525.2
Hexachlorocyclopentadiene	ND	0.1	ug/L	10/06/07		*	EPA525.2
Lindane	ND	0.02	ug/L	10/06/07		*	EPA525.2
Methoxychlor	ND	0.1	ug/L	10/06/07		*	EPA525.2
Metolachlor	ND	0.1	ug/L	10/06/07		*	EPA525.2
Metribuzin	ND	0.1	ug/L	10/06/07		*	EPA525.2
Propachlor	ND	0.1	ug/L	10/06/07		*	EPA525.2
Simazine	ND	0.07	ug/L	10/06/07		*	EPA525.2

Carbamates HPLC (531)

Parameter	Result	RL	Units	Date	Time	By	Reference
3 Hydroxycarbofuran	ND	0.5	ug/L	10/05/07		*	EPA531.2
Aldicarb	ND	0.5	ug/L	10/05/07		*	EPA531.2
Aldicarb Sulfone	ND	0.7	ug/L	10/05/07		*	EPA531.2
Aldicarb Sulfoxide	ND	0.5	ug/L	10/05/07		*	EPA531.2
Carbaryl	ND	0.5	ug/L	10/05/07		*	EPA531.2
Carbofuran	ND	0.9	ug/L	10/05/07		*	EPA531.2
Methomyl	ND	0.5	ug/L	10/05/07		*	EPA531.2

Client ID: BELLEAYRE K WELLS K4 Phoenix I.D.: AJ56482

Parameter	Result	RL	Units	Date	Time	By	Reference
Oxamyl	ND	1.0	ug/L	10/05/07		*	EPA531.2
Asbestos in Water							
Asbestos fibers (>0.5u and <10u)	BDL<1.60E+0	0.1	MFL	10/06/07		*	EPA600/4-84
Asbestos fibers (>10u)	BDL<1.78-01	0.1	MFL	10/06/07		*	EPA600/4-84
EDB and DBCP Analysis							
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	ug/L	10/04/07		JRB	504.1
1,2-Dibromoethane (EDB)	ND	0.02	ug/L	10/04/07		JRB	504.1
Organophosphorus Pesticides (507)							
Alachlor	ND	0.44	ug/L	10/08/07		JRB	E507
Atrazine	ND	0.22	ug/L	10/08/07		JRB	E507
Butachlor	ND	0.1	ug/L	10/08/07		JRB	E507
Metolachlor	ND	0.1	ug/L	10/08/07		JRB	E507
Metribuzin	ND	2.00	ug/L	10/08/07		JRB	E507
Simazine	ND	0.15	ug/L	10/08/07		JRB	E507
Pesticides/PCB's (508)							
Aldrin	ND	0.05	ug/L	10/03/07		MH	EPA508
Chlordane	ND	0.5	ug/L	10/03/07		MH	EPA508
Dieldrin	ND	0.1	ug/L	10/03/07		MH	EPA508
Endrin	ND	0.1	ug/L	10/03/07		MH	EPA508
Heptachlor	ND	0.1	ug/L	10/03/07		MH	EPA508
Heptachlor Epoxide	ND	0.05	ug/L	10/03/07		MH	EPA508
Lindane	ND	0.05	ug/L	10/03/07		MH	EPA508
Methoxychlor	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1016	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1221	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1232	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1242	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1248	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1254	ND	0.5	ug/L	10/03/07		MH	EPA508
PCB-1260	ND	0.5	ug/L	10/03/07		MH	EPA508
Propachlor	ND	0.5	ug/L	10/03/07		MH	EPA508
Toxaphene	ND	1.0	ug/L	10/03/07		MH	EPA508
QA/QC Surrogates							
%DCBP (Surrogate Rec)	115		%	10/03/07		MH	EPA508
%TCMX (Surrogate Rec)	121		%	10/03/07		MH	EPA508
Herbicides (515)							
2,4,5-T	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
2,4,5-TP	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
2,4-D	ND	1.0	ug/L	10/04/07		JRB	EPA 515.1
Dalapon	ND	5.0	ug/L	10/04/07		JRB	EPA 515.1
Dicamba	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1
Dichloroprop	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
Dinoseb	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1

Client ID: BELLEAYRE K WELLS K4 Phoenix I.D.: AJ56482

Parameter	Result	RL	Units	Date	Time	By	Reference
Pentachlorophenol	ND	0.2	ug/L	10/04/07		JRB	EPA 515.1
Picloram	ND	0.5	ug/L	10/04/07		JRB	EPA 515.1
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,1-Trichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1,2-Trichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,1-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,3-Trichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,3-Trichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,4-Trichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2,4-Trimethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dibromo-3-chloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dibromoethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,2-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3,5-Trimethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
1,3-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
1,4-Dichlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
2,2-Dichloropropane	ND	0.5	ug/L	09/28/07		R/J	524.2
2-Butanone	ND	0.5	ug/L	09/28/07		R/J	524.2
2-Chlorotoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
4-Chlorotoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
4-Isopropyltoluene	ND	0.5	ug/L	09/28/07		R/J	524.2
Benzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromochloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromodichloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromoform	ND	0.5	ug/L	09/28/07		R/J	524.2
Bromomethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Carbon Tetrachloride	ND	0.5	ug/L	09/28/07		R/J	524.2
Chlorobenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloroethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloroform	ND	0.5	ug/L	09/28/07		R/J	524.2
Chloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
cis-1,2-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
cis-1,3-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
Dibromochloromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Dibromomethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Dichlorodifluoromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Ethylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Hexachlorobutadiene	ND	0.5	ug/L	09/28/07		R/J	524.2

Client ID: BELLEAYRE K WELLS K4 **Phoenix I.D.: AJ56482**

Parameter	Result	RL	Units	Date	Time	By	Reference
Isopropylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Methyl Tert Butyl Ether	ND	1.0	ug/L	09/28/07		R/J	524.2
Methylene Chloride	ND	0.5	ug/L	09/28/07		R/J	524.2
n-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Naphthalene	ND	0.5	ug/L	09/28/07		R/J	524.2
o-Xylene	ND	0.5	ug/L	09/28/07		R/J	524.2
p- and m- Xylene	ND	0.5	ug/L	09/28/07		R/J	524.2
Propylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
sec-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Styrene	ND	0.5	ug/L	09/28/07		R/J	524.2
tert-Butylbenzene	ND	0.5	ug/L	09/28/07		R/J	524.2
Tetrachloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
Toluene	ND	0.5	ug/L	09/28/07		R/J	524.2
Total Trihalomethanes (TTHM)	ND	0.5	ug/L	09/28/07		R/J	524.2
trans-1,2-Dichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
trans-1,3-Dichloropropene	ND	0.5	ug/L	09/28/07		R/J	524.2
Trichloroethene	ND	0.5	ug/L	09/28/07		R/J	524.2
Trichlorofluoromethane	ND	0.5	ug/L	09/28/07		R/J	524.2
Vinyl Chloride	ND	0.5	ug/L	09/28/07		R/J	524.2
QA/QC Surrogates							
%4-Bromofluorobenzene (Surrogate)	92		%	09/28/07		R/J	524.2

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

* Asbestos was analyzed by NY state certified lab #10851. Methods 525, 531 and Radiologicals analyzed by NY certified lab #11398.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Limit RL=Reporting Limit

Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 08, 2007

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 6°C Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: Alpha GeoScience
Address: 679 Plank Road
Clifton Park, NY 12065

Project: Belleayre K Wells
Report to: Steve Trader
Invoice to: Steve Trader

Project P.O: 07143
Phone #: 518 348 6995
Fax #: 518 348 6966

Client Sample - Information - Identification

Sampler's Signature Sh M Trad 9/28/07 Date

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NYSDOH Part 5 Analysis												Soil VOA ( ) Methanol ( ) S. Bisulfate ( ) H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial (4) As is (2) HCl MCA Acid 2	GL Amber 1000ml (X) As is ( ) H2SO4	PL As is ( ) 250ml ( ) 500ml (X) 1000ml	PL H2SO4 ( ) 250ml ( ) 500ml (X) 500ml	PL HNO3 250ml (1) 1L (4)	PL NaOH 250ml	Bacteria Bottle	
56482	K4 *	DW	9/28/07	1100	X															8	7	2	1	5	1	2	25
56483	K2	DW	9/28/07	1115	X															8	7	2	1	5	1	2	25

Relinquished by:	Accepted by:	Date:	Time:
Sh M Trad		9/28/07	1143
	Wilhelm	9/28/07	17:15

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

Data Format
☐ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

State where samples were collected: N

Comments, Special Requirements or Regulations:

Do not run Dioxin, Diquat, Glyphos or Endothal per Steve Trader. LB

* Radon to be resampled due to lost cooler by DHL
K2 to be run out of hold.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Analysis Report

November 09, 2007

FOR: Attn: Mr. Dean Gitter
Crossroads Ventures,LLC
P.O. Box 267
Mt. Tremper,NY 12457

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:		10/04/07	13:54
Location Code:	SPECIAL2	Received by:	LP	10/05/07	9:55
Rush Request:		Analyzed by:	see "By" below		
P.O.#:					

SDG I.D.: GAJ58615
Phoenix I.D.: AJ58615

Laboratory Data

Client ID: BELLAYRE K WELLS K4

Parameter	Result	RL	Units	Date	Time	By	Reference
Escherichia Coli	Absent	0	/100mls	10/05/07	13:30	C/R	SM 9223B
Standard Plate Count	1	0	CFU/ml	10/05/07	12:00	RM	SM 9215B
Total Coliforms	Absent	0	/100mls	10/05/07	13:30	C/R	9223B
Radon Test	775 ± 36	24	pCi/l	10/08/07		*	

Comments:

* Radon analyzed by NY certified lab # 11398.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Limit RL=Reporting Limit

Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 09, 2007

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: Crossroads Ventures LLC
Address: PO Box 267
Mt. Tremper, NY 12457

Project: Belleayre K Wells
Report to: Steven M. Trader
Invoice to: Dean Gitter

Project P.O:
Phone #:
Fax #:

Client Sample - Information - Identification

Sampler's Signature 10/4/07 Date

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Coliform	Std. Plate Count	RADON	NYS PART V [illegible]									Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As Is [ ] HCl	GL Amber 1000ml [ ] As Is [ ] H2SO4	PL As Is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle	
	K4	DW	10/4/07	1354	X	X	X													2						2	
	K3	DW	10/4/07	1425			X	X												2							

Relinquished by:	Accepted by	Date:	Time:
		10/4/07	1425

Comments, Special Requirements or Regulations:
Please send a copy of report to Steve Trader
(via email) (Alpha Geoscience)
strader@alphageoscience.com
Analyze Part V [illegible]

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected:

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Analysis Report

December 15, 2008

FOR: Attn: Mr. Steve Trader
Alpha GeoScience
679 Plank Road
Clifton Park, NY 12065

Sample Information		**Custody Information**		**Date**	**Time**
Matrix:	DRINKING WATER	Collected by:	ST	11/10/08	12:30
Location Code:	ALPHAGEO	Received by:	LB	11/11/08	10:55
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	08136				

Laboratory Data

SDG I.D.: GAQ99507
Phoenix I.D.: AQ99507

Client ID: Q WELL TESTING Q1

Parameter	Result	RL	Units	Date	Time	By	Reference	
Antimony	< 0.003	0.003	mg/L	11/25/08		RS	E200.9	
Arsenic	0.006	0.003	mg/L	11/21/08		RS	200.9	
Barium	0.093	0.002	mg/L	11/12/08		EK	200.7/6010	
Beryllium	< 0.001	0.001	mg/L	11/12/08		EK	200.7/6010	
Calcium	22.1	0.010	mg/L	11/12/08		EK	6010/200.7	
Cadmium	< 0.001	0.001	mg/L	11/12/08		EK	200.7/6010	
Chromium	< 0.001	0.001	mg/L	11/12/08		EK	200.7/6010	
Copper	< 0.001	0.001	mg/L	11/12/08		EK	200.7/6010	
Hardness (CaCO3)	77.8	0.10	mg/L	11/12/08		EK	200.7	
Iron	0.005	0.002	mg/L	11/12/08		EK	200.7/6010	
Lead	< 0.001	0.001	mg/L	11/24/08		RS	200.9	
Magnesium	5.49	0.01	mg/L	11/12/08		EK	6010/200.7	
Manganese	0.120	0.002	mg/L	11/12/08		EK	200.7/6010	
Mercury	< 0.0002	0.0002	mg/L	11/12/08		RS	E245.1	
Nickel	< 0.002	0.002	mg/L	11/12/08		EK	200.7/6010	
Selenium	< 0.002	0.002	mg/L	11/24/08		RS	E200.9	
Silver	< 0.002	0.002	mg/L	11/12/08		EK	6010/200.7	
Sodium	19.3	0.10	mg/L	11/12/08		EK	200.7/6010	
Thallium	< 0.001	0.001	mg/L	11/17/08		RS	E200.9	
Zinc	0.036	0.002	mg/L	11/12/08		EK	6010/200.7	
Escherichia Coli	Absent	0	/100mls	11/11/08	12:45	RB	SM 9223B	
Heterotrophic Plate Count	0	0	CFU/ml	11/11/08	11:00	RB	SM 9215B	
Total Coliforms	Present	0	/100mls	11/11/08	12:45	RB	9223B	
Alkalinity (CaCO3)	76.3	20	mg/L	11/11/08		JC	SM 2320B	
Chloride	16	3.0	mg/L	11/11/08		B/E	300.0	
Color	< 1	1	P.C.U.	11/11/08	23:00	CD	SM 2120B	
Corrosivity	Negative	NONE	None	11/12/08		CD	SM 2330	
Cyanide, Free	< 0.01	0.01	mg/L	11/20/08		GD	335.4/9014	1
Fluoride	< 0.10	0.10	mg/L	11/13/08		B/E	E300.0	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	11/11/08	20:46	B/E	300.0	

Client ID: Q WELL TESTING Q1 Phoenix I.D.: AQ99507

Parameter	Result	RL	Units	Date	Time	By	Reference
Nitrate as Nitrogen	0.12	0.05	mg/L	11/11/08	20:46	B/E	300.0
Odor	< 1	1	T.O.N.	11/11/08	23:00	CD	SM 2150B
pH	8.20	0.10	pH	11/11/08		JC	4500-H B/9045
Sulfate	8.0	3.0	mg/L	11/11/08		B/E	300.0
Total Cyanide (Drinking water)	< 0.01	0.01	mg/L	11/12/08		Z/G	EPA 335.4
Tot. Diss. Solids	120	10	mg/L	11/12/08		VR/KDB	SM2540C
Turbidity	0.33	0.20	NTU	11/12/08		T	E180.1
Extraction	Completed			11/17/08		K/K	
Extraction for 525.2	Completed			11/11/08		V	EPA525.2
Mercury Digestion	Completed			11/12/08		E	7471/245.1
Extraction of DW Pesticides	Completed			11/17/08		K/K	508
Extraction of DW Herbicides	Completed			11/12/08		O/D	
Total Metal Digestion	Completed			11/11/08		AG	E200.2
Gross Alpha Water	3.10 ± 1.22	2.85	pci/L	11/18/08		*	7110B
Radium 226	0.23 ± 0.07	0.76	pci/L	11/22/08		*	7500 Ra B/903.0
Radium 226 & 228	0.23 ± 0.07		pCi/L	11/17/08		*	7500 RA B/D
Radium 228	-0.11 ± 0.64	0.65	pci/L	11/24/08		*	7500 Ra D/904.0
Radon Test	1040 ± 40	30	pCi/l	11/14/08		*	
Uranium, Total	ND	1.0	ug/L	11/17/08		*	200.8
Carbamates HPLC (531)							
3 Hydroxycarbofuran	ND	0.50	ug/L	11/18/08		*	EPA531.2
Aldicarb	ND	0.50	ug/L	11/18/08		*	EPA531.2
Aldicarb Sulfone	ND	0.80	ug/L	11/18/08		*	EPA531.2
Aldicarb Sulfoxide	ND	0.50	ug/L	11/18/08		*	EPA531.2
Carbaryl	ND	0.50	ug/L	11/18/08		*	EPA531.2
Carbofuran	ND	0.90	ug/L	11/18/08		*	EPA531.2
Methomyl	ND	0.50	ug/L	11/18/08		*	EPA531.2
Oxamyl	ND	2.0	ug/L	11/18/08		*	EPA531.2
Asbestos in Water							
Asbestos fibers (>0.5u and <10u)	ND	0.4	MFL	11/18/08		*	EPA600/4-84
Asbestos fibers (>10u)	ND	0.133	MFL	11/18/08		*	EPA600/4-84
EDB and DBCP Analysis							
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	ug/L	11/18/08		KCA	504.1
1,2-Dibromoethane (EDB)	ND	0.02	ug/L	11/18/08		KCA	504.1
Organophosphorus Pesticides (507)							
Alachlor	ND	0.44	ug/L	11/23/08		JRB	E507
Atrazine	ND	0.22	ug/L	11/23/08		JRB	E507
Butachlor	ND	0.1	ug/L	11/23/08		JRB	E507
Metolachlor	ND	0.1	ug/L	11/23/08		JRB	E507
Metribuzin	ND	2.00	ug/L	11/23/08		JRB	E507
Simazine	ND	0.15	ug/L	11/23/08		JRB	E507
Pesticides/PCB's (508)							
Aldrin	ND	0.05	ug/L	11/25/08		MH	EPA508
Chlordane	ND	0.5	ug/L	11/25/08		MH	EPA508
Dieldrin	ND	0.1	ug/L	11/25/08		MH	EPA508
Endrin	ND	0.1	ug/L	11/25/08		MH	EPA508
Heptachlor	ND	0.1	ug/L	11/25/08		MH	EPA508
Heptachlor Epoxide	ND	0.05	ug/L	11/25/08		MH	EPA508
Hexachlorobenzene	ND	0.1	ug/L	11/25/08		MH	EPA508

Parameter	Result	RL	Units	Date	Time	By	Reference
Hexachlorocyclopentadiene	ND	0.1	ug/L	11/25/08		MH	EPA508
Lindane	ND	0.05	ug/L	11/25/08		MH	EPA508
Methoxychlor	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1016	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1221	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1232	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1242	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1248	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1254	ND	0.5	ug/L	11/25/08		MH	EPA508
PCB-1260	ND	0.5	ug/L	11/25/08		MH	EPA508
Propachlor	ND	0.5	ug/L	11/25/08		MH	EPA508
Toxaphene	ND	1.0	ug/L	11/25/08		MH	EPA508
QA/QC Surrogates							
%DCBP (Surrogate Rec)	82		%	11/25/08		MH	EPA508
%TCMX (Surrogate Rec)	76		%	11/25/08		MH	EPA508

Herbicides (515)

Parameter	Result	RL	Units	Date	Time	By	Reference
2,4,5-T	ND	0.2	ug/L	11/14/08		KCA	EPA 515.1
2,4,5-TP	ND	0.2	ug/L	11/14/08		KCA	EPA 515.1
2,4-D	ND	1.0	ug/L	11/14/08		KCA	EPA 515.1
Dalapon	ND	5.0	ug/L	11/14/08		KCA	EPA 515.1
Dicamba	ND	0.5	ug/L	11/14/08		KCA	EPA 515.1
Dichloroprop	ND	0.2	ug/L	11/14/08		KCA	EPA 515.1
Dinoseb	ND	0.5	ug/L	11/14/08		KCA	EPA 515.1
Pentachlorophenol	ND	0.2	ug/L	11/14/08		KCA	EPA 515.1
Picloram	ND	0.5	ug/L	11/14/08		KCA	EPA 515.1

Volatiles (524.2)

Parameter	Result	RL	Units	Date	Time	By	Reference
1,1,1,2-Tetrachloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,1,1-Trichloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,1,2-Trichloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,1-Dichloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,1-Dichloroethene	ND	0.50	ug/L	11/12/08		JH	524.2
1,1-Dichloropropene	ND	0.50	ug/L	11/12/08		JH	524.2
1,2,3-Trichlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,2,3-Trichloropropane	ND	0.50	ug/L	11/12/08		JH	524.2
1,2,4-Trichlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,2,4-Trimethylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	11/12/08		JH	524.2
1,2-Dichlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,2-Dichloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
1,2-Dichloropropane	ND	0.50	ug/L	11/12/08		JH	524.2
1,3,5-Trimethylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,3-Dichlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
1,3-Dichloropropane	ND	0.50	ug/L	11/12/08		JH	524.2
1,4-Dichlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
2,2-Dichloropropane	ND	0.50	ug/L	11/12/08		JH	524.2
2-Chlorotoluene	ND	0.50	ug/L	11/12/08		JH	524.2
4-Chlorotoluene	ND	0.50	ug/L	11/12/08		JH	524.2
Benzene	ND	0.50	ug/L	11/12/08		JH	524.2
Bromobenzene	ND	0.50	ug/L	11/12/08		JH	524.2

Parameter	Result	RL	Units	Date	Time	By	Reference
Bromochloromethane	ND	0.50	ug/L	11/12/08		JH	524.2
Bromodichloromethane	ND	0.50	ug/L	11/12/08		JH	524.2
Bromoform	ND	0.50	ug/L	11/12/08		JH	524.2
Bromomethane	ND	0.50	ug/L	11/12/08		JH	524.2
Carbon tetrachloride	ND	0.50	ug/L	11/12/08		JH	524.2
Chlorobenzene	ND	0.50	ug/L	11/12/08		JH	524.2
Chloroethane	ND	0.50	ug/L	11/12/08		JH	524.2
Chloroform	ND	0.50	ug/L	11/12/08		JH	524.2
Chloromethane	ND	0.50	ug/L	11/12/08		JH	524.2
cis-1,2-Dichloroethene	ND	0.50	ug/L	11/12/08		JH	524.2
cis-1,3-Dichloropropene	ND	0.50	ug/L	11/12/08		JH	524.2
Dibromochloromethane	ND	0.50	ug/L	11/12/08		JH	524.2
Dibromoethane	ND	0.50	ug/L	11/12/08		JH	524.2
Dibromomethane	ND	0.50	ug/L	11/12/08		JH	524.2
Dichlorodifluoromethane	ND	0.50	ug/L	11/12/08		JH	524.2
Ethylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
Hexachlorobutadiene	ND	0.50	ug/L	11/12/08		JH	524.2
Isopropylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
m&p-Xylene	ND	1.0	ug/L	11/12/08		JH	524.2
Methyl Ethyl Ketone	ND	5.0	ug/L	11/12/08		JH	524.2
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	11/12/08		JH	524.2
Methylene chloride	ND	0.50	ug/L	11/12/08		JH	524.2
Naphthalene	ND	0.50	ug/L	11/12/08		JH	524.2
n-Butylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
n-Propylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
o-Xylene	ND	0.50	ug/L	11/12/08		JH	524.2
p-Isopropyltoluene	ND	0.50	ug/L	11/12/08		JH	524.2
sec-Butylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
Styrene	ND	0.50	ug/L	11/12/08		JH	524.2
tert-Butylbenzene	ND	0.50	ug/L	11/12/08		JH	524.2
Tetrachloroethene	ND	0.50	ug/L	11/12/08		JH	524.2
Toluene	ND	0.50	ug/L	11/12/08		JH	524.2
Total Trihalomethanes	ND	0.50	ug/L	11/12/08		JH	524.2
Total Xylenes	ND	1.0	ug/L	11/12/08		JH	524.2
trans-1,2-Dichloroethene	ND	0.50	ug/L	11/12/08		JH	524.2
trans-1,3-Dichloropropene	ND	0.50	ug/L	11/12/08		JH	524.2
Trichloroethene	ND	0.50	ug/L	11/12/08		JH	524.2
Trichlorofluoromethane	ND	0.50	ug/L	11/12/08		JH	524.2
Vinyl chloride	ND	0.50	ug/L	11/12/08		JH	524.2
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	11/12/08		JH	524.2
% Bromofluorobenzene	90		%	11/12/08		JH	524.2
% Dibromofluoromethane	95		%	11/12/08		JH	524.2
% Toluene-d8	95		%	11/12/08		JH	524.2

Organic Cmpds. in Drinking Water (525)

Benzo(a)Pyrene	ND	0.02	ug/L	11/12/08		HM	EPA525.2
Di-(2-ethylhexyl)Adipate	ND	0.6	ug/L	11/12/08		HM	EPA525.2
Di-(2-ethylhexyl)phthalate	ND	0.6	ug/L	11/12/08		HM	EPA525.2

Client ID: Q WELL TESTING Q1 Phoenix I.D.: AQ99507

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.
Corrosivity is based solely on the pH analysis performed above.

* Asbestos analyzed by NY certified lab #10851. Radon analyzed by NY certified lab #11398. Method 531 and Uranium analyzed by NY certified lab #11549. Gross Alpha, Ra-226, and Ra-228 analyzed by NY certified lab #11827.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 15, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

QA/QC Report

December 15, 2008

QA/QC Data

SDG I.D.: GAQ99507

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 113937, QC Sample No: AQ93823 (AQ99507)								
Arsenic	BDL		105	105	0.0	106	106	0.0
QA/QC Batch 114389, QC Sample No: AQ96674 (AQ99507)								
Antimony	BDL	NC	100	102	2.0	104	99.6	4.3
QA/QC Batch 114389, QC Sample No: AQ96674 (AQ99507)								
Thallium	BDL	NC	97.7	99.2	1.5	98.0	96.7	1.3
QA/QC Batch 114599, QC Sample No: AQ97467 (AQ99507)								
Lead (Furnace)	BDL		106	102	3.8	110	121	9.5
QA/QC Batch 115082, QC Sample No: AQ99507 (AQ99507)								
ICP Metals - Aqueous								
Barium	BDL	0.20	105	106	0.9	106	108	1.9
Beryllium	BDL	NC	103	104	1.0	103	105	1.9
Cadmium	BDL	NC	102	105	2.9	103	104	1.0
Calcium	BDL	1.50	101	103	2.0	85.7	82.4	3.9
Chromium	BDL	NC	102	103	1.0	103	103	0.0
Copper	BDL	NC	101	103	2.0	103	104	1.0
Iron	BDL	NC	95.2	94.5	0.7	95.0	95.6	0.6
Magnesium	BDL	1.50	103	104	1.0	102	101	1.0
Manganese	BDL	0.90	102	103	1.0	103	104	1.0
Nickel	BDL	NC	100	102	2.0	102	103	1.0
Silver	BDL	NC	103	84.7	19.5	78.1	90.2	14.4
Sodium	BDL	0.40	101	102	1.0	>130	>130	NC
Zinc	BDL	1.10	104	105	1.0	105	106	0.9
QA/QC Batch 115083, QC Sample No: AQ99507 (AQ99507)								
Selenium	BDL		102	102	0.0	102	104	1.9
QA/QC Batch 115142, QC Sample No: AQ99788 (AQ99507)								
Mercury	BDL		104	99.7	4.2	103	103	0.0

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 15, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

December 15, 2008

QA/QC Data

SDG I.D.: GAQ99507

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 115162, QC Sample No: AQ99119 (AQ99507)								
Tot. Diss. Solids	BDL	1.71	98.1					
QA/QC Batch 115195, QC Sample No: AQ99490 (AQ99507)								
Alkalinity-CaCO3	BDL	NC	100					
QA/QC Batch 115198, QC Sample No: AQ99490 (AQ99507)								
Turbidity		NC						
QA/QC Batch 115153, QC Sample No: AQ99491 (AQ99507)								
Bromide	BDL	NC	98.1			101		
QA/QC Batch 115154, QC Sample No: AQ99491 (AQ99507)								
Chloride	BDL	NC	95.7			96.4		
QA/QC Batch 115156, QC Sample No: AQ99491 (AQ99507)								
Nitrate as Nitrogen	BDL	NC	101			92.7		
QA/QC Batch 115155, QC Sample No: AQ99491 (AQ99507)								
Nitrite as Nitrogen	BDL	NC	98.9			103		
QA/QC Batch 115157, QC Sample No: AQ99491 (AQ99507)								
Sulfate	BDL	0	93.8			96.2		
QA/QC Batch 115191, QC Sample No: AQ99507 (AQ99507)								
Total Cyanide	BDL		96.3			104		
QA/QC Batch 115293, QC Sample No: AQ99565 (AQ99507)								
Turbidity	BDL	0	103					
QA/QC Batch 115602, QC Sample No: AR00835 (AQ99507)								
Fluoride	BDL	NC	89.8			82.0		

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 15, 2008

QA/QC Report

December 15, 2008

QA/QC Data

SDG I.D.: GAQ99507

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 113649, QC Sample No: AQ86153 (AQ99507)							
Pesticides							
4,4' -DDD	ND	116	109	6.2			
4,4' -DDE	ND	97	100	3.0			
4,4' -DDT	ND	104	108	3.8			
a-BHC	ND	88	90	2.2			
a-Chlordane	ND	84	88	4.7			
Alachlor	ND	N/A	N/A	NC			
Aldrin	ND	70	72	2.8			
b-BHC	ND	89	85	4.6			
Chlordane	ND	N/A	N/A	NC			
d-BHC	ND	95	91	4.3			
Dieldrin	ND	85	88	3.5			
Endosulfan I	ND	92	92	0.0			
Endosulfan II	ND	90	91	1.1			
Endosulfan sulfate	ND	88	92	4.4			
Endrin	ND	94	95	1.1			
Endrin aldehyde	ND	98	99	1.0			
Endrin ketone	ND	97	112	14.4			
g-BHC	ND	87	90	3.4			
g-Chlordane	ND	75	79	5.2			
Heptachlor	ND	77	74	4.0			
Heptachlor epoxide	ND	86	90	4.5			
Methoxychlor	ND	107	91	16.2			
Toxaphene	ND	N/A	N/A	NC			
% DCBP	70	73	72	1.4			
% TCMX	65	65	66	1.5			
QA/QC Batch 113648, QC Sample No: AQ86154 (AQ99507)							
Organophosphorus Pesticides (507)							
Alachlor	ND	83	81	2.4			
Atrazine	ND	76	71	6.8			
Butachlor	ND	96	94	2.1			
Metolachlor	ND	88	85	3.5			
Metribuzin	ND	94	90	4.3			
Simazine	ND	81	78	3.8			
QA/QC Batch 114269, QC Sample No: AQ94244 (AQ99507)							
Herbicides (515)							
2,4,5-T	ND	120	120	0.0			
2,4,5-TP	ND	112	116	3.5			

QA/QC Data

SDG I.D.: GAQ99507

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
2,4-D	ND	124	134	7.8			
Dalapon	ND	132	104	23.7			
Dicamba	ND	119	126	5.7			
Dichloroprop	ND	78	116	39.2			
Dinoseb	ND	139	136	2.2			
Pentachlorophenol	ND	110	112	1.8			
Picloram	ND	105	103	1.9			

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 115169, QC Sample No: AQ96761 (AQ99507)

Volatiles Organics

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
1,1,1,2-Tetrachloroethane	ND	100	94	6.2	88	94	6.6
1,1,1-Trichloroethane	ND	105	100	4.9	82	101	20.8
1,1,2,2-Tetrachloroethane	ND	97	92	5.3	97	95	2.1
1,1,2-Trichloroethane	ND	101	95	6.1	99	92	7.3
1,1-Dichloroethane	ND	112	107	4.6	91	103	12.4
1,1-Dichloroethene	ND	115	107	7.2	87	107	20.6
1,1-Dichloropropene	ND	101	93	8.2	78	96	20.7
1,2,3-Trichlorobenzene	ND	121	75	46.9	111	87	24.2
1,2,3-Trichloropropane	ND	121	112	7.7	105	105	0.0
1,2,4-Trichlorobenzene	ND	119	87	31.1	105	97	7.9
1,2,4-Trimethylbenzene	ND	114	106	7.3	95	111	15.5
1,2-Dibromo-3-chloropropane	ND	109	101	7.6	99	89	10.6
1,2-Dichlorobenzene	ND	101	95	6.1	90	95	5.4
1,2-Dichloroethane	ND	110	103	6.6	100	102	2.0
1,2-Dichloropropane	ND	111	101	9.4	100	105	4.9
1,3,5-Trimethylbenzene	ND	107	99	7.8	89	105	16.5
1,3-Dichlorobenzene	ND	103	95	8.1	89	99	10.6
1,3-Dichloropropane	ND	107	103	3.8	99	98	1.0
1,4-Dichlorobenzene	ND	104	99	4.9	96	102	6.1
2,2-Dichloropropane	ND	92	78	16.5	77	83	7.5
2-Chlorotoluene	ND	103	96	7.0	86	104	18.9
2-Hexanone	ND	>130	120	NC	111	<70	NC
2-Isopropyltoluene	ND	108	99	8.7	85	104	20.1
4-Chlorotoluene	ND	107	96	10.8	90	103	13.5
4-Methyl-2-pentanone	ND	>130	>130	NC	150	135	10.5
Acetone	ND	112	110	1.8	102	105	2.9
Acrolein	ND	115	108	6.3	116	99	15.8
Acrylonitrile	ND	125	123	1.6	120	111	7.8
Benzene	ND	106	99	6.8	89	99	10.6
Bromobenzene	ND	101	96	5.1	91	99	8.4
Bromochloromethane	ND	105	97	7.9	93	94	1.1
Bromodichloromethane	ND	105	98	6.9	92	96	4.3
Bromoform	ND	104	93	11.2	96	92	4.3
Bromomethane	ND	91	82	10.4	72	76	5.4
Carbon Disulfide	ND	113	104	8.3	80	100	22.2
Carbon tetrachloride	ND	99	91	8.4	78	95	19.7
Chlorobenzene	ND	101	94	7.2	88	97	9.7

QA/QC Data

SDG I.D.: GAQ99507

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
Chloroethane	ND	113	108	4.5	90	107	17.3
Chloroform	ND	102	96	6.1	86	95	9.9
Chloromethane	ND	>130	>130	NC	112	129	14.1
cis-1,2-Dichloroethene	ND	106	99	6.8	89	97	8.6
cis-1,3-Dichloropropene	ND	98	89	9.6	92	92	0.0
Dibromochloromethane	ND	104	98	5.9	100	95	5.1
Dibromoethane	ND	104	96	8.0	104	96	8.0
Dibromomethane	ND	103	93	10.2	95	93	2.1
Dichlorodifluoromethane	ND	>130	123	NC	94	116	21.0
Ethylbenzene	ND	104	97	7.0	88	100	12.8
Hexachlorobutadiene	ND	95	84	12.3	79	93	16.3
Isopropylbenzene	ND	101	95	6.1	84	103	20.3
m&p-Xylene	ND	105	97	7.9	88	98	10.8
Methyl ethyl ketone	ND	120	112	6.9	111	100	10.4
Methyl t-butyl ether (MTBE)	ND	101	94	7.2	101	93	8.2
Methylene chloride	ND	106	101	4.8	92	98	6.3
Naphthalene	ND	106	79	29.2	98	475	131.6 3
n-Butylbenzene	ND	124	108	13.8	98	120	20.2
n-Propylbenzene	ND	107	98	8.8	84	104	21.3
o-Xylene	ND	105	98	6.9	89	98	9.6
p-Isopropyltoluene	ND	110	101	8.5	87	106	19.7
sec-Butylbenzene	ND	106	96	9.9	84	103	20.3
Styrene	ND	108	101	6.7	95	100	5.1
tert-Butylbenzene	ND	103	97	6.0	84	103	20.3
Tetrachloroethene	ND	101	92	9.3	83	97	15.6
Tetrahydrofuran (THF)	ND	>130	123	NC	114	108	5.4
Toluene	ND	102	95	7.1	85	97	13.2
trans-1,2-Dichloroethene	ND	110	100	9.5	85	101	17.2
trans-1,3-Dichloropropene	ND	107	94	12.9	98	95	3.1
trans-1,4-dichloro-2-butene	ND	118	114	3.4	107	100	6.8
Trichloroethene	ND	103	95	8.1	86	100	15.1
Trichlorofluoromethane	ND	118	113	4.3	86	113	27.1
Trichlorotrifluoroethane	ND	110	100	9.5	85	105	21.1
Vinyl chloride	ND	125	116	7.5	91	113	21.6
% 1,2-dichlorobenzene-d4	103	99	99	0.0	98	100	2.0
% Bromofluorobenzene	94	103	101	2.0	102	98	4.0
% Dibromofluoromethane	99	103	100	3.0	98	96	2.1
% Toluene-d8	97	97	95	2.1	97	96	1.0

QA/QC Batch 115078, QC Sample No: AQ96792 (AQ99507)

Semivolatile Organic Compounds (525)

Benzo(a)pyrene	ND	113	120	6.0
Bis-(2-ethylhexyl)adipate	ND	97	110	12.6
Bis-(2-ethylhexyl)phthalate	ND	97	90	7.5
% 1,3-Dimethyl-2-nitrobenzene	108	118	90	26.9
% Perylene-d12	91	89	85	4.6
% Triphenylphosphate	110	115	110	4.4

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Data

SDG I.D.: GAQ99507

QA/QC Batch 116053, QC Sample No: AQ99507 (AQ99507)

EDB and DBCP Analysis

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
1,2-Dibromo-3-Chloropropane (DBCP)	ND	97	101	4.0			
1,2-Dibromoethane (EDB)	ND	97	104	7.0			

3 = This parameter is outside laboratory ms/msd specified limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 15, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

NY Temperature Narration

December 15, 2008

SDG I.D.: GAQ99507

The samples in this delivery group were received at 10C.
(Note acceptance criteria is above freezing up to 6C)

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 10° w/c Pg of

Data Delivery:
☐ Fax #:
☒ Email: Strader@alphageoscience.com

Customer: Dean Gitter
Address: Crossroads Ventures
PO Box 267, Mt Tremper, NY 12457

Project: Q Well Testing
Report to: Steve Trader - Alpha Geoscience
Invoice to: Crossroads Ventures

Project P.O: 08136
Phone #: Alpha 518 348 6995
Fax #:

Client Sample - Information - Identification

Sampler's Signature Date 11/10/08

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NYS Part 5 Analysis **											Amber VOA	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [X] As is [ ] H2SO4	PL As is [ ] 250ml [X] 500ml [X] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml / 1000ml	PL NaOH 250ml	Bacteria Bottle	
99507	Q1	DW	11/10/08	12:30	X											2				7	11	2/2		1/4	1	2	

Relinquished by:	Accepted by:	Date:	Time:
Stu M Trader		11/10/08	6:45pm
FedEx		11/11/08	10:55

Comments, Special Requirements or Regulations:

** See attached Sheet with parameter list

Do not need Waived Parameters Per Steve Trader See attached.

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: NY

Data Format
☐ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

PARAMETER AND MAXIMUM CONTAMINANT LEVEL (MCL) LIST
New York State Department of Health - 10NYCRR Subpart 5-1
New Ground Water Source Approval - Community Systems

Antimony	0.006	Cyanide	0.2	Chloride	250	Sulfate	250	Alkalinity	no MCL	Corrosivity	no MCL
Arsenic	0.01	Mercury	0.002	Iron	0.3	Zinc	5.0	Copper	*1.3	pH	no MCL
Barium	2.00	Nickel	no MCL	Manganese	0.3	Color	15 units	Lead	*0.015	Turbidity	5 NTU
Beryllium	0.004	Selenium	0.05	Silver	0.1	Odor	3 units	Hardness, Total		no MCL	
Cadmium	0.005	Thallium	0.002	Sodium	no MCL			Total Dissolved Solids		no MCL	
Chromium	0.10	Fluoride	2.2								
Asbestos 7.0 MFL> 10 Microns				Nitrate-N	10	Nitrite-N	1	*these are "action levels", not MCLs			

VOLATILE ORGANIC CHEMICALS (VOCs)

[Principal Organic Chemicals on table 9D

plus vinyl chloride and MTBE]

MCL is 0.005 mg/l *each*, unless specified *otherwise*

benzene	1,1-dichloropropene
bromobenzene	*cis-1,3-dichloropropene*
bromochloromethane	trans-1,3-dichloropropene
bromomethane	ethylbenzene
n-butylbenzene	isopropylbenzene
sec-butylbenzene	p-isopropyltoluene
tert-butylbenzene	methylene chloride
carbon tetrachloride	n-propylbenzene
chlorobenzene	styrene
chloroethane	1,1,1,2-tetrachloroethane
chloromethane	1,1,2,2-tetrachloroethane
2-chlorotoluene	tetrachloroethene
4-chlorotoluene	toluene
dibromomethane	1,2,3-trichlorobenzene
1,2-dichlorobenzene	1,2,4-trichlorobenzene
1,3-dichlorobenzene	1,1,1-trichloroethane
1.4-dichlorobenzene	1,1,2-trichloroethane
dichlorodifluoromethane	trichlorethene
1,1-dichloroethane	trichlorofluoromethane
1,2-dichloroethane	1,2,3-trichloropropane
1,1-dichlorethene	1,2,4-trimethylbenzene
cis-1,2-dichloroethene	1,3,5-trimethylbenzene
trans-1,2-dichlorethene	m-xylene
1,2-dichloropropane	o-xylene
1,3-dichloropropane	p-xylene
2,2-dichloropropane	

vinyl chloride **(MCL = 0.002 mg/l)**

methyl tertiary butyl ether

(MTBE, MCL = 0.01 mg/l)

SYNTHETIC ORGANIC CHEMICALS (SOCs)

[Organic Chemicals]

Group 1 Chemicals		**Group 2 Chemicals**	
alachlor	0.002	aldrin	0.005
aldicarb	0.003	benzo(a)pyrene	0.0002
aldicarb sulfoxide	0.002	butachlor	0.005
aldicarb sulfone	0.004	carbaryl	0.005
atrazine	0.003	dalapon	0.005
carbofuran	0.04	di(2-ethylhexyl)adipate	0.005
chlordane	0.002	di(2-ethylhexyl)phthalate	0.006
2,4-D	0.05	dicamba	0.005
endrin	0.002	dieldrin	0.005
heptachlor	0.0004	dinoseb	0.007
heptachlor epoxide	0.0002	hexachlorobenzene	0.005
lindane	0.0002	hexachlorocyclopentadiene	0.005
methyoxychlor	0.04	3-hydroxycarbofuran	0.005
polychlorinated biphenyls (PCB)	0.0005	methomyl	0.005
pentachlorophenol	0.001	metolachlor	0.005
toxaphene	0.003	metribuzin	0.005
2,4,5-TP (Silvex)	0.01	oxamyl vydate	0.005
		picloram	0.005
		propachlor	0.005
		simazine	0.004
		dibromochloropropane (DBCP)	0.0002
These 4 chemicals are waived unless otherwise noted		ethylene dibromide (EDB)	0.00005
diquat	**0.02**		
endothall	**0.006**		
glyphosate	**0.005**		
2,3,7,8-TCDD (dioxin) ✓	**0.00000003**		

RADIOLOGICAL	MCL
	(pCi/L = picocuries per liter)
Gross Alpha	15 pCi/L
Combined Radium (Ra-226 & Ra-228)	5 pCi/L
Uranium	0.03 mg/L
Radon	Currently no MCL for radon, but EPA is likely to adopt one soon

MICROBIOLOGICAL

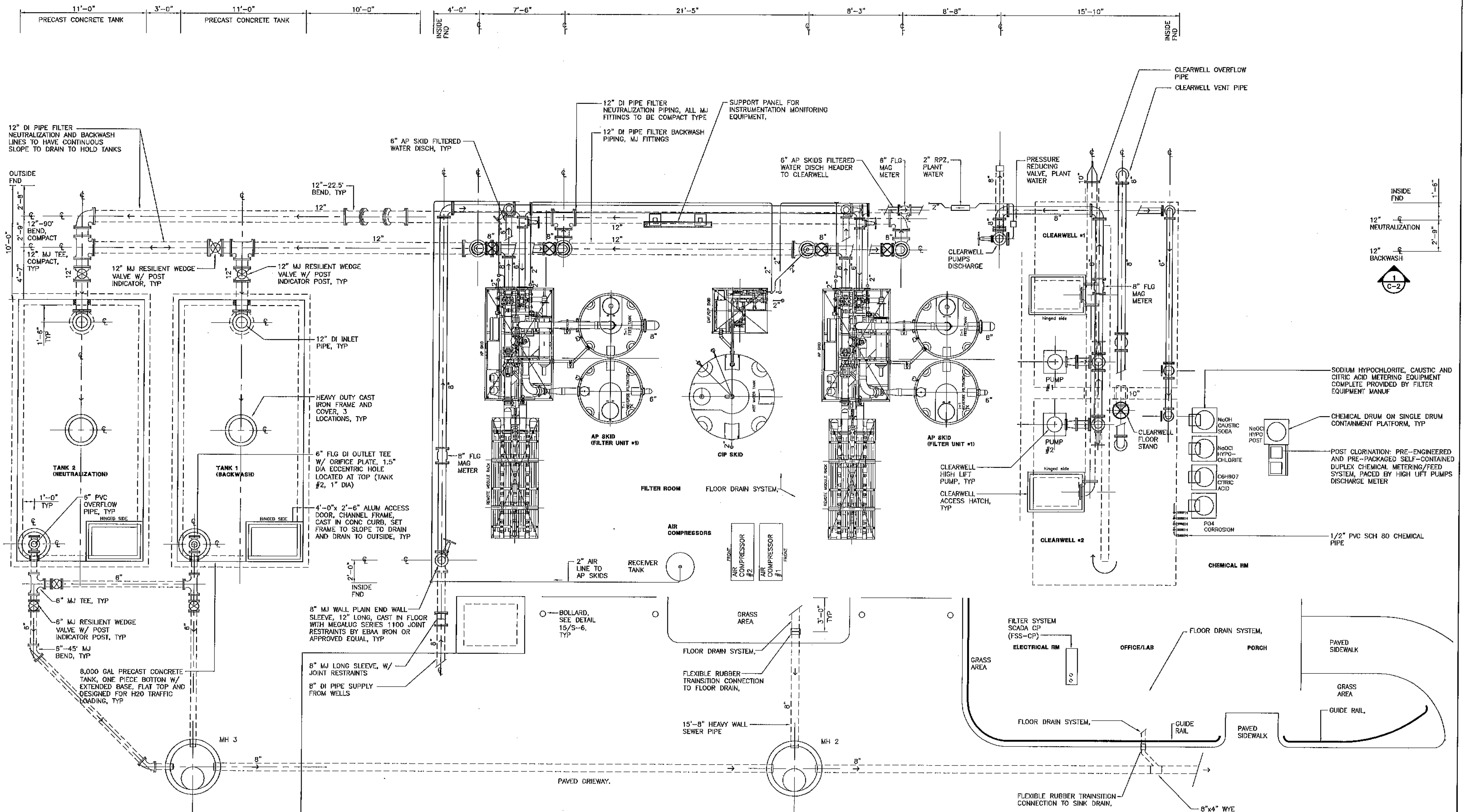
Total Coliform

Standard Plate Count

Z:\Regulations\DOH New Source List 10-06

APPENDIX G

Water Treatment Plant Pan View



NOT FOR CONSTRUCTION

① C-1 **BUILDING PIPING PLAN**
SCALE: 1/4"=1'-0"
CROSS REFERENCE: NONE

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW.

DESIGNED: JQE
DRAFTED : JQE
CHECKED : RF
PROJ. NO: 09.9007
SCALE : AS SHOWN
DATE : NOVEMBER 2009

WATER PLANT
PRELIMINARY LAYOUT

THE MODIFIED BELLEAYRE
RESORT AT CATSKILL PARK

TOWN OF SHANDAKEN
ULSTER COUNTY, NY

C.T. MALE ASSOCIATES, P.C.
ARCHITECTURE & BUILDING SYSTEMS ENGINEERING • CIVIL ENGINEERING
ENVIRONMENTAL SERVICES • SURVEY & LAND INFORMATION SERVICES

C-1
SHEET 1 OF 1
DWG. NO:

CAD DWG. FILE NAME: WATER PLANT.DWG