

Appendix 9.12    Aquifer Development and Pumping Test  
Report



*Silo Ridge Resort Community*  
Aquifer Development  
And Pumping Test  
Report

May 2007



Prepared for:

Higher Ground Country Club, LLC  
Route 22  
Amenia, New York 12501

*Silo Ridge Resort Community*  
Aquifer Development  
And Pumping Test  
Report

May 2007



Prepared by:

The Dutchess County Office  
The Chazen Companies  
21 Fox Street  
Poughkeepsie, New York 12601  
(845) 454-3980

*Dutchess County*  
*(845) 454-3980*

*Orange County*  
*(845) 567-1133*

*Capital District*  
*(518) 273-0055*

*North Country*  
*(518) 812-0513*

## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b> .....	<b>1</b>
<b>1.0 INTRODUCTION</b> .....	<b>4</b>
<b>2.0 HYDROGEOLOGY</b> .....	<b>5</b>
<b>2.1 Local and Regional Hydrogeology</b> .....	<b>5</b>
<b>2.2 Bedrock Fracture Trace Analysis</b> .....	<b>6</b>
<b>2.3 Site Recharge Analysis</b> .....	<b>6</b>
<b>3.0 WELL INSTALLATIONS AND DEVELOPMENT</b> .....	<b>9</b>
<b>3.1 Site Wells</b> .....	<b>9</b>
<b>4.1 Pumping Test Protocols</b> .....	<b>10</b>
<b>4.2 Pump and Piping Selection</b> .....	<b>11</b>
<b>4.3 On-Site Monitoring Program</b> .....	<b>11</b>
<b>4.4 Off-Site Monitoring Program</b> .....	<b>12</b>
<b>5.0 2006 AQUIFER TEST</b> .....	<b>14</b>
<b>5.1 Groundwater Response in Pumping Wells</b> .....	<b>14</b>
<u>5.1.1 Well PW-1</u> .....	<u>14</u>
<u>5.1.2 Well PW-2</u> .....	<u>15</u>
<u>5.1.3 Well PW-4</u> .....	<u>15</u>
<u>5.1.4 Well PW-5</u> .....	<u>16</u>
<u>5.1.5 Well PW-9</u> .....	<u>16</u>
<u>5.1.6 Well PW-11</u> .....	<u>17</u>

**5.2 Groundwater Responses in Other Monitored Locations .....17**

    5.2.1 On-Site Monitored Wells, Staff Gauges and Weirs..... 18

    5.2.2 Off-Site Monitored Well..... 18

**5.3 Multiple Well Pumping Test Impact Analysis .....18**

**5.5 Well Water Chemistry: NYSDOH Sub-part 5 Sampling.....19**

**5.6 Well Water Chemistry: MPA Sampling .....20**

**6.0 2007 AQUIFER TEST.....21**

**6.1 Groundwater Response in Pumping Wells.....21**

        6.1.2 Well PW-9..... 22

        6.1.3 Well PW-11..... 22

**6.2 Groundwater Responses in Other Monitored Locations .....23**

**6.3 Multiple Well Pumping Test Impact Analysis .....24**

**6.4 Well Water Chemistry: MPA Sampling .....24**

**7.0 CONCLUSIONS.....25**

**8.0 REFERENCES.....26**

**FIGURES**

- Figure 1 – Site Location Map
- Figure 2 – Map Showing Hydrologic Soil Groups
- Figure 3 – Map Showing Bedrock Wells, Piezometers, Rain and Staff Gauges
- Figure 4 – Map Showing Maximum Drawdown Observed during Pumping Test.
- Figure 5 – PW-1 Drawdown during the 2006 Pumping Test
- Figure 6 – PW-1 30, 60, 90 and 180 Day Drought Projections during the 2006 Pumping Test
- Figure 7 – PW-2 Drawdown and Pumping Rates during the 2006 Pumping Test
- Figure 8 – PW-2 30, 60, 90 and 180 Day Drought Projections during the 2006 Pumping Test
- Figure 9 – PW-4 Drawdown and Pumping Rates during the 2006 Pumping Test

- Figure 10 – PW-4 30, 60, 90 and 180 Day Drought Projections during the 2006 Pumping Test  
Figure 11 – PW-5 Drawdown and Pumping Rates during the 2006 Pumping Test  
Figure 12 – PW-5 30, 60, 90 and 180 Day Drought Projections during the 2006 Pumping Test  
Figure 13 – PW-9 Drawdown and Pumping Rates during the 2006 Pumping Test  
Figure 14 – PW-9 30, 60, 90 and 180 Day Drought Projections during the 2006 Pumping Test  
Figure 15 – PW-11 Drawdown and Pumping Rates during the 2006 Pumping Test  
Figure 16 – PW-11 30, 60, 90 and 180 Day Drought Projections during the 2006 Pumping Test  
Figure 17 – Water Level Record for Well 3 during the 2006 Pumping Test  
Figure 18 – Water Level Record for Well 6 during the 2006 Pumping Test  
Figure 19 – Water Level Record for Well 7 during the 2006 Pumping Test  
Figure 20 – Water Level Record for Well 8 during the 2006 Pumping Test  
Figure 21 – Water Level Record for Well 10 during the 2006 Pumping Test  
Figure 22 – Water Level Record for Well 12 during the 2006 Pumping Test  
Figure 23 – Water Level Record for Well 13 during the 2006 Pumping Test  
Figure 24 – Water Level Record for Well 14 during the 2006 Pumping Test  
Figure 25 – Water Level Record for Well 15 during the 2006 Pumping Test  
Figure 26 – Water Level Record for Well A6D during the 2006 Pumping Test  
Figure 27 – Water Level Record for Domestic Well at Segalla Rental during the 2006 Pumping Test  
Figure 28 – PW-9 Drawdown and Pumping Rates during the 2007 Pumping Test  
Figure 29 – PW-9 30, 60, 90 and 180 Day Drought Projections during the 2007 Pumping Test  
Figure 30 – PW-11 Drawdown and Pumping Rates during the 2007 Pumping Test  
Figure 31 – PW-11 30, 60, 90 and 180 Day Drought Projections during the 2007 Pumping Test  
Figure 32 – Water Level Record for Well 10 during the 2007 Pumping Test  
Figure 33 – Water Level Record for Well 12 during the 2007 Pumping Test  
Figure 34 – Water Level Record for Well 13 during the 2007 Pumping Test  
Figure 35 – Water Level Record for Well A6D during the 2007 Pumping Test  
Figure 36 – Water Level Record for Well PW-2 during the 2007 Pumping Test  
Figure 37 – Water Level Record for Well PW-4 during the 2007 Pumping Test

## TABLES

- Table 1 – Summary of Production Well Yields and Drawdown  
Table 2 – Precipitation during the 2006 Pumping Test  
Table 3 – Summary of Drawdown in Other Monitored Wells during the 2006 Pumping Test  
Table 4 – Staff Gauge and Weir Water Depth Data during the 2006 Pumping Test

- Table 5 – Summary of NYSDOH Sub-Part 5 Sampling for Pumping Wells  
Table 6 – Precipitation during the 2007 Pumping Test  
Table 7 – Summary of Drawdown in Other Monitored Wells during the 2007 Pumping Test  
Table 8 – Staff Gauge and Weir Water Depth Data during the 2007 Pumping Test

## **APPENDICES**

Appendix A – Well logs

Appendix B –Sub-Part 5-A Analyses

Appendix C –MPA Analyses

## **EXECUTIVE SUMMARY**

The Chazen Companies (TCC) were retained to help develop and evaluate capacity of a new community water system wellfield on the 668 acre proposed Silo Ridge Resort Community in the Town of Amenia, Dutchess County, New York. There is an existing public water system well on the site. Eleven new wells were drilled and considered as additional candidate water supply wells.

During 2006, six of the new wells and the existing public water system well were selected for a combined 72-hour pumping test. The selected wells are aligned from north to south along the base of the site's steep west valley wall (Figure 1). One of the new wells was removed from the test when discharge declined below minimum useful flows. The aquifer pumping test was completed with six production wells including the existing public water system well. Wells PW-1, PW-2, PW-4, and PW-5 lie in the northern half of the site and Wells PW-9 and PW-11 lie in the south/central portion of the site. The wells supported a combined yield of 358 gallons per minute (gpm). The best well (Well PW-2) provided 100 gpm of the total yield, making 258 gpm available to a project with the best well off line. No recorded drawdown extended beyond the project's site perimeter in any direction during the test.

During 2007, TCC conducted a focused follow-up 72-hour pumping test of wells PW-9 and PW-11 to marginally increase the verified wellfield yield. Testing was conducted only in these wells because the 2006 test data suggested that well PW-9 could support more yield and because wells PW-9 and PW-11 were suspected to tap interconnected fractures. During the 2007 test, well PW-9 was pumped at a rate 30 gpm greater than the 2006 selected pumping rate and the prior yield from well PW-11 was maintained. The test was successful and increased the total wellfield yield from 358 gpm to 388 gpm. Well PW-9 was shown to be the highest-yielding well, at 105 gpm, making 283 gpm available to a site project with the best well off line.

Average aquifer recharge on the site is currently estimated at approximately 330 gpm. Aquifer recharge during drought years may drop by up to 30 percent, to approximately 230 gpm.

Based on these findings, the tested wells appear capable of supporting continuous yields of up to 283 gpm with the best well off line. All of this yield can be supported by onsite recharge during normal years and up to 230 gpm can be supported during drought years.

During each aquifer pumping test, aquifer drawdown was observed in the pumped production wells. Aquifer monitoring during 2006 was conducted in nine on-site

bedrock monitoring wells, one off-site homeowner well, and multiple stream and pond level gauges and stream weirs. During the 2007 aquifer test, monitoring was conducted in those monitoring wells and stream and pond locations nearest to wells PW-9 and PW-11, and in well PW-2 and PW-4. A summary of aquifer responses to the pumping test follows:

- During the 2006 test, production wells PW-1, PW-2, PW-4, PW-5, PW-9 and PW-11 together supported discharges of 358 gpm for 72 or more hours. Wells PW-9 and PW-11 were pumped 90 hours in 2006 to allow flow rate adjustments and monitoring well water levels to fully stabilize.
- During the 2007 test, wells PW-9 and PW-11 were retested to identify another available 30 gpm from well PW-9, bringing the site's total available well discharge to 388 gpm.
- Thirty, sixty, ninety, and 180-day drought drawdown projections were prepared for each production well using the 2006 and 2007 pumping rates to estimate well water levels which might be expected during extended continuous pumping periods without recharge. All wells appear capable of maintaining tested flow rates during such periods.
- Monitored bedrock wells near the pumping wells indicated that drawdown impacts are strictly limited to on-site areas around the pumping wells.
- The test identified no drawdown impacts extending to wells near or beyond the perimeter of the site. Specifically,
  - To the SOUTH: Well 13 at the south end of the site and south of all tested production wells identified no drawdown during the test;
  - To the EAST: Wells 3, 12 and 15 located between the pumping wells and Route 22 identified no drawdown during the test;
  - To the NORTH: Neither wells 7 or 14 nor an off-site homeowner well monitored near the top of the S-Curve on Route 44 identified drawdown during the test;
  - To the WEST: No wells exist between the pumped wells and the top of the ridge near the west site margin. The ridge marks the hydraulic boundaries of the local watershed, so no drawdown effects would be expected further west of the site.

Water quality from the groundwater wells was tested for conformance with NYSDOH drinking water standards. Some of the wells will require standard treatment for select parameters. Proposed treatment systems are discussed in the water supply report prepared by The Chazen Companies, bound separately.

## **1.0 INTRODUCTION**

The Chazen Companies (TCC) were retained to manage installation and testing of candidate production wells PW-1, PW-2, PW-4, PW-5, Well 6, PW-9 and PW-11 situated on the proposed Silo Ridge Resort Community site in the Town of Amenia, Dutchess County, New York (Figure 1). Wells PW-1, PW-2, PW-4, PW-5 and Well 6 lie in the northern half of the site. Wells PW-9 and PW-11 lie in the south/central portion of the site.

This report provides a review of site hydrogeology, estimated aquifer recharge rates, well installation and development procedures, and aquifer testing procedures and results employed in 2006 and 2007. The locations of the production wells and all monitoring points are shown on Figure 3.

## 2.0 HYDROGEOLOGY

### 2.1 Local and Regional Hydrogeology

The Silo Ridge property includes approximately 668 acres situated on the valley floor and climbing the valley walls in the Town of Amenia. The site lies in the watershed of the TenMile River. The Wassaic Creek tributary to the TenMile River flows along the northeast site margin. A smaller, unnamed stream flows from the hillside and from the ponds on the site, near the center of the Silo Ridge parcel. These various streams and ponds are shown on Figures 1 and 3.

Water flows seasonally from the Island Green pond into a deeper, southern pond on the site. Water entering the Island Green pond from the hillside stream is used on occasion for irrigation purposes, infiltrates into local soils, or overflows to the deeper, southern pond. The deeper pond is used for irrigation and overflows to an off-site wetland complex situated between the site and Route 22.

Regional bedrock exposed in abundant outcrops along the steep valley walls and underlying much of the northern site consists of dark slate and schist identified on the NY State Museum Bedrock Geology Map as the Everett Schist. Wells 1, 2, 4, 5 and 6 are installed in this formation.

Dolomitic marble and varying carbonate and carbonate rich-sedimentary units underlie southern portions of the site. Wells 9 and 11 are installed in this formation. Based on air-rotary well cuttings noted during the water development program, the boundary between the schist and the carbonate formations on the site appears to lie in the vicinity of the club house. This boundary location is consistent with NY State Museum Bedrock Geology Map mapping. Statistical well yields from both the schist and the carbonate formations typically fall between 5 to 15 gallons per minute (gpm). Wells encountering major fractures in either formation can collect recharge from broader areas and support higher yields.

Surficial geologic sediments cover much of the site's lower-elevation areas. In some areas bedrock rises through these sediments to grade. The surficial geologic sediments include both glacially-deposited silty till and water-washed sandy lake or glacial outwash-type deposits. Till more than 100 feet thick was identified during installation of wells PW-2 west of the club house. The till in this area extends northward to near the Route 44 S-Curve on the basis of site soils and logs for wells PW-4 and PW-5. Water-washed sands were identified during installation of Wells 8 and 12 along the Wassaic Creek and in the southern wetland area, respectively. Both wells 8 and 12 encountered finer-grained glacial till sediments before the wells entered the underlying bedrock (Appendix A).

A unique geologic factor at this site involves reputed historic iron ore mining conducted through a vertical cut occupied today by the southern pond situated near the Island Green pond. The presence of an ore pit in this area is consistent with soft, iron-stained rock zones encountered during drilling of wells PW-2, PW-4, PW-5, Well 6, PW-9, Well 10, PW-11, and Well 12 (Appendix A). According to facility personnel, this pond is reportedly approximately 100 feet deep with steep bedrock walls and some limited springs discharging into the pond. Such spring discharges are estimated to support stream overflows observed at Weir 1 (Figures 3 and 4).

Precipitation and hillside runoff are the sole sources of groundwater recharge in bedrock and sediment aquifer formations on the site. Recharge infiltrates first through soil horizons and passes into or through surficial glacial deposits to enter the bedrock fractures. Excess groundwater eventually discharges from these bedrock and sediment aquifers at site streams. Either groundwater from bedrock fractures in the quarry pond, or leakage through from the Island Green pond supports continuous pond overflow from the quarry pond even during observed dry periods.

## **2.2 Bedrock Fracture Trace Analysis**

Before drilling candidate bedrock wells on the site, TCC evaluated maps and photographic records to identify naturally-formed surface traces potentially associated with underlying prominent bedrock fractures.

Black and white aerial photographs, 10 inches square and matte finished at a 1:35,000 scale, were obtained from USDA-FSA Aerial Photography Field Office. The photos provided a two-thirds overlap allowing stereoscopic (3-D) review using a portable stereoscope with 10X magnification.

Where linear features could not be discounted as human-design features, the linear features were plotted on site maps (Figure 1) and considered when selecting candidate production wells. Wells 2, 4 and 5 most clearly benefited from this analysis while wells 9 and 11 confirm that productive bedrock wells can also nonetheless sometimes be installed in areas not readily suggested by landscape features.

## **2.3 Site Recharge Analysis**

Annual precipitation in Dutchess County is normally between 40 and 45 inches. Average total annual rainfall between 1951 and 1980 in western portions of Amenia, including the Silo Ridge site, was approximately 42 inches (Randall, 1996).

Various methods may be used to estimate annual aquifer recharge in areas with upland glacial tills and in valley areas with typically more sandy sediments. A USGS evaluation of comparable lands in nearby Connecticut estimates seven inches of annual recharge through upland silty-clay soils (Cervione, et. al 1972). USGS evaluations of southern Dutchess County aquifers (Snively, 1980) and Putnam/Westchester County aquifers (Wolcott & Snow, 1995) identify annual recharge rates of between 7 and 10 inches in areas with glacial till and between 18 and 21 inches in sediment-filled valley areas. Work by Gerber (1982) for Dutchess County estimated annual recharge rates of 5 to 7 inches for areas with soils containing silt and clay and between 14.3 and 18 annual inches in areas with sands and gravel. The Silo Ridge site covers 668 acres. Using a conservative value of 16 annual inches of aquifer recharge on the approximately 200 acres of sandy bottom lands enclosing the existing golf and adjacent areas, and using 7 annual inches of aquifer recharge on the remaining 468 acres of steeper upland site areas, the average site-wide aquifer recharge is approximately 176 million gallons, equivalent to an average continuous recharge rate of approximately 335 gallons per minute. Precipitation during extreme drought years may fall by as much a 30 percent, during proportional recharge would be expected to drop to 123 million gallons, for an annualized average of 234 gallons per minute.

A recently-published study also by The Chazen Companies (2006) has identified aquifer recharge rates in the Wappinger Creek watershed for Hydrologic Soil Groups mapped by the Natural Resources Conservation Service. The assessment identified 18.2 annual inches of aquifer recharge through Hydrologic Soil Group (HSG) A and A/D soils, 13.3 inches per year through HSG group B soils, 6.8 inches per year through HSG group C and C/D soils, and 3.8 inches per year through HSG group D soils. Precipitation in the western portion of Amenia averages 42 inches rather than the 40 inches typically occurring in the Wappinger Creek watershed, so aquifer recharge rates on the Silo Ridge site would be proportionally higher: 19.1 annual inches through HSG group A and A/D soils, 14.0 annual inches through HSG group B soils, 7.1 annual inches through HSG group C and C/D soils, and 4.0 annual inches through HSG group D soils on the Silo Ridge site. Figure 2 shows the distribution of Hydrologic Soil Groups on the site along with approximate acreages of each soil group. Using these acreages and recharge rates, on-site annual aquifer recharge is approximately 171 million gallons, averaging 325 gallons per minute. During a drought with 30 percent precipitation reductions, proportional aquifer recharge reduction would fall to 119 million gallons per year, averaging to 227 gpm.

Based on these two recharge prediction methods, average aquifer recharge on the Silo Ridge site lies between of between 325 and 335 gpm during typical years and may fall to approximately 230 gpm during drought years. These values exceed the average proposed daily potable water demand for the site so no off-site groundwater drawdown impacts are anticipated. The proposed location for the discharge of

treated project wastewater is upstream of the irrigation water take-out point, so fully balances the project's irrigation water demand without requiring any further groundwater or surface water resources.

### 3.0 WELL INSTALLATIONS AND DEVELOPMENT

#### 3.1 Site Wells

Seven water wells were included in the 2006 multi-well pumping test at the site. Well 6 was taken out of service early in the test when its yield fell below a minimum reasonable discharge. All wells installed on the site are described below briefly and locations are shown on Figure 3. Available well logs are included in Appendix A.

- Well PW-1 has been in service for many years at the Silo Ridge Clubhouse. It has been sampled previously and is the listed primary source of water for the existing public water system permit at the site. Based on well sounding, it is approximately 211 feet deep from the casing rim. A pump was installed in the well for the present test with an intake at 207 feet below the casing rim. Casing depth and geologic formations penetrated are unknown.
- Wells 2 through 12 were installed during early 2006 as part of a water supply exploration program on the property. Each of these wells lies a minimum of 200 feet from property lines and the location of each well was selected either on the basis of fracture trace analysis or on sequentially improved understandings of site geology identified during the drilling program. Each new well is six inches in diameter. The most productive of the new wells are PW-2, PW-4, PW-5, PW-9 and PW-11. The rest, including Well 6 are less production and are identified as Well 3, Well 6, Well 7, Well 8, Well 10 and Well 12 in this report. All site wells not pumped during the flow test were used as monitored wells during the 2006 pumping test. A subset of untested wells was used for monitoring purposes during the 2007 test. Well logs are found in Appendix A.
- Several pre-existing bedrock wells existed on the site. One such bedrock well lies near Lake Amenia Road and is referred to as Well 14 in this report. Two other bedrock wells lie south of well PW-9. These are referred to as Well-A6D and Well 13 in this report. These were installed as part of off-site groundwater investigations. An existing well at the maintenance building is referred to in this report as Well 15.

## 4.0 AQUIFER TEST DESIGN COMPONENTS

### 4.1 Pumping Test Protocols

The protocol selected for the 2006 test included the following:

- Simultaneous testing of candidate production wells PW-1, PW-2, PW-4, PW-5, Well 6, PW-9 and PW-11. As a practical matter, test wells were started and turned off with up to 2 hour delays between wells.
- The pumping period for each well extended a minimum of 72-hours and was extended in wells PW-9 and PW-11 to confirm stability of adjusted pumping rates during the test.
- Wells monitored during the combined pumping test included the pumping wells and all other known wells on the property, including a well at the maintenance garage, a well along Lake Amenia Road, two bedrock monitoring wells near the south end of the site.
- Reasonable efforts were made to monitor existing domestic wells abutting the site to the north and east.
- Wells were monitored during the pumping test using either pressure sensors equipped with continuous data loggers or monitored using manual water level meters.
- Pumped ground water was conveyed to discharge locations downhill from and downstream from streams and ponds on the site to avoid potential short-circuiting of pumped water back into the aquifer near any pumped well. These discharge locations are shown on Figure 3.
- Off-site and on-site monitoring included pre-test and post-test water level measurements for at least 3 days before and after the test, sufficient to identify regional groundwater level trends. Precipitation records were monitored to help evaluate the influence of groundwater recharge occurring during aquifer testing. Water level recovery after the test was measured until a minimum of approximately 90% recovery was achieved.
- TCC collected water samples for analyses of all constituents listed in the NYS Sanitary Code, Part 5, Sub-Part 5-1 and radon and MTBE.

- Pumped wells within 200 feet of a surface water body were also be sampled for micro-particulates which could be indicative of groundwater recharged directly by surface waters and receiving insufficient natural filtration.
- Staff gages were installed in streams and ponds on the site to help quantify potential drawdown affects of pumping wells on surface water.

The protocol selected for the 2007 test was closely modeled on the 2006 test. Differences consisted only of the following:

- Only wells PW-9 and PW-11 were included in the 2007 test.
- Testing of these wells lasted 72-hours.
- All existing production wells and other existing wells near wells PW-9 and PW-11 were monitored prior to, during, and following the pumping test.
- No off-site monitoring was conducted since no offsite drawdown impacts were identified during the 2006 test and wells PW-9 and PW-11 lie farther from off-site wells than do the other site production wells.
- Wells PW-1, PW-2, PW-4 and PW-5 were not retested in 2007 because no additional yield was desired from these wells and wells PW-9 and PW-11 lie some distance from the other four wells.
- Wells PW-9 and PW-11 were retested for microparticulate constituents.

#### **4.2 Pump and Piping Selection**

Prior to conducting the aquifer tests, all test wells were equipped with pumps, downhole piping and electric wiring. All pumps were operated using portable diesel generators.

Pumping rates in all wells were monitored during the test using in-line flow meters. Flow rates were controlled by gate valves at each well head location. Pumped water was conveyed to nearby standing water bodies using flexible fire hose. Discharge locations of pumped water from each well during both tests are shown on Figure 3.

#### **4.3 On-Site Monitoring Program**

The on-site monitoring network for the multi-well aquifer test consisted of onsite bedrock monitoring wells, staff gauges in ponds and streams, and two weir gauges (Figure 3).

Aside from the production wells, other wells monitored during the combined 2006 pumping test included wells 3, 6, A6D, 7, 8, 10, 11, 13, 14, and 15.

Water levels at all locations were recorded during 2006 either manually or with depth sensors linked to continuous data recording devices. The accuracy of both methods is normally accurate to 0.01 foot. Water levels in the production wells were evaluated manually with m-scopes or using air pressure tubes. Water level readings were secured rapidly in production wells and monitored wells during test start-up periods and less frequently during later periods of the tests. Monitoring continued beyond the termination of the pumping tests long enough to record groundwater recovery.

Wooden staff gauges SG-1 through SG-8 were installed in streams and ponds on the site. During the 2006 and 2007 test, periodic measurements at these gauges were recorded measuring down from the top of each stake (Table 4). The depth of water overflowing two existing weirs was also recorded periodically.

A vertical-sided bucket was used on the golf course grounds to record precipitation. Accumulated rainfall in the bucket was measured using a tape measure. Significant rain fell only during the second day of the 2006 test (Table 2). No significant rain fell during the 2007 test although approximately 5 inches of rain had fallen a few weeks before the test.

#### **4.4 Off-Site Monitoring Program**

Prior to the 2006 test, letters of inquiry were sent and/or hand-delivered to parcel owners and to select property owners situated east and north of the Silo Ridge property. The letters sought permission for TCC to monitor domestic wells during the 2006 aquifer pumping test period.

No property owners along Lake Amenia Road were contacted because most if not all these residences are believed to receive water from the Amenia water district, and because onsite monitored wells 7 and 14 were to be used to estimate likely test impacts extending in off-site directions in this area.

Two residences were contacted along Route 44 near the S curve. Permission was provided by the site owner to monitor the more westerly of these two wells, so TCC equipped the well with a pressure transducer and data logger during the 2006 aquifer pumping test period to monitor water level in the well. The more easterly home on the S curve was offered for monitoring by its owner but was not selected by TCC for monitoring due to restrictive well access and site condition constraints.

Certified mail was sent to the Dutchess County Department of Public Works requesting permission to monitor the water level in a well at the County DPW/County Sheriff's site on Route 22 immediately north of Silo Ridge. A County representative returned correspondence with a determination that they would not allow water level monitoring.

Residents at two residences across Route 22 from the DPW/Sheriff site were contacted. Permission to monitor these wells was not resolved by the time testing began. On-site monitored of wells 3, 7, 8, 4 and 15 was instead used to estimate likely test impacts on off-site wells in this direction.

A well at the Amenia sportsman's club immediately south of the Silo Ridge main entry was not monitored during the 2006 test because Silo Ridge's Well 15 lay close by and provided an equivalent monitoring point.

## 5.0 2006 AQUIFER TEST

### 5.1 Groundwater Response in Pumping Wells

An extended multi-well pumping test was conducted between March 13, 2006 and March 17, 2006. The test initially engaged the seven pumping wells PW-1, PW-2, PW-4, PW-5, Well 6, PW-9, and PW-11. Yield from Well 6 dropped during the early hours of testing so pumping of this well was terminated. Individual well pumping rates and final drawdown values are summarized on Table 1.

The pumps in each production well were activated sequentially during a startup period of approximately 6 hours on March 13, 2006. During the first hours of pumping in each of the wells, manual water level data were collected frequently. Manually collected water level data were thereafter collected several times each day. Some of the production wells were also monitored using air pressure tubes.

Yields and drawdown in wells PW-1, PW-2, PW-4 and PW-5 stabilized early during the 72-hour test period and drawdown in surrounding monitored wells also either stabilized or were beyond areas influenced by the tests and so did not respond to the test. Pumping in these four wells was terminated after 72 hours of testing.

Drawdown in wells being monitored south of well PW-9 had not fully stabilized after approximately 60 hours of pumping, and the pumping rate in well PW-11 had been adjusted upward from 56 gpm to 65 gpm during the test, so discharge from the more southerly wells PW-9 and PW-11 was extended to approximately 90 hours to allow full stabilization of yields and drawdown from these two wells.

Performance summaries based on the 2006 flow test for each candidate production well follows:

#### 5.1.1 Well PW-1

Well PW-1 is approximately 211 feet deep and equipped with a pump installed approximately 207 feet below ground surface (bgs). Figure 5 shows water level and flow rate changes during the 2006 test.

Pumping in Well PW-1 began on March 13, 2006 at a discharge rate approximately 80 gpm. Testing ended on March 16, 2006. By the end of the test, the water level had declined approximately 86 feet below the pre-test static water level. The pumping rate at the end of the test remained stable at 80 gpm.

Projections of the water level decline in well PW-1 through 30, 60, 90 and 180 days of simulated continuous pumping without recharge are depicted in Figure 6. After 90 days of pumping without recharge, the water level is projected to fall to approximately 135 feet below the well casing. After 180 days of pumping without recharge the water level is projected to fall to approximately 145 feet below the rim of the well casing. Both projections remain forty or more feet above the level of the pump intake.

#### 5.1.2 Well PW-2

Well PW-2 is approximately 345 feet deep and equipped with a pump installed approximately 258 feet bgs. Figure 7 shows water level and flow rate changes throughout the 2006 test.

Pumping in Well PW-2 began on March 13, 2006 at a discharge rate approximately 100 gpm. Testing ended on March 16, 2006. By the end of the test, the water level had declined approximately 144 feet below the pre-test static water level. The pumping rate at the end of the test remained stable at 100 gpm.

Projections of the water level decline in well PW-2 through 30, 60, 90 and 180 days of simulated continuous pumping without recharge are depicted in Figure 8. After 90 days of pumping without recharge, the water level is projected to fall to approximately 182 feet below the well casing. After 180 days of pumping without recharge the water level is projected to fall to approximately 190 feet below the rim of the well casing. Both projections remain sixty or more feet above the level of the pump intake.

#### 5.1.3 Well PW-4

Well PW-4 is approximately 445 feet deep and equipped with a pump installed approximately 403 feet bgs for the test. Figure 9 shows water level and flow rate changes throughout the 2006 test. Residual sediment discharges blocked flow meter operation and interfered with the flow value such that the discharge rate varied between approximately 12 to 30 gpm during the test period.

Pumping in Well 4 began on March 13, 2006 at a discharge rate of approximately 15 gpm. Testing ended on March 16, 2006. By the end of the test, the well water level was repeatedly observed at a depth of approximately 80 feet when the well discharge varied between 12 and 15 gpm and drawdown appeared to drop to approximately 170 feet whenever discharge was temporarily increased to as much as 30 gpm. Fracture dimensions in this area appear to rate-limit the well's yield, such that yield and drawdown respond predictably up to yields of approximately 15 gpm, but drawdown increases significantly at any higher pumping rates.

Projections of the water level decline in well PW-4 through 30, 60, 90 and 180 days of continuous pumping without recharge are shown on Figure 10. After 90 days of pumping without recharge, the water level is projected to fall to approximately 138 feet below well casing at discharge rates of between 12 to 15 gpm. After 180 days of pumping without recharge the water level is projected to fall to approximately 140 feet below the rim of the well casing. If the well had been pumped consistently at 30 gpm, it is likely the 180 day drought projection would have fallen to approximately 220 feet below the casing rim. The 15 gpm projections remain nearly 260 feet above the level of the pump intake (Figure 10).

#### 5.1.4 Well PW-5

Well PW-5 is approximately 465 feet deep and equipped with a pump installed approximately 192 feet bgs for the test. Figure 11 shows water level and flow rate changes throughout the 2006 test. Yield was increased during the test from an initial yield of approximately 18 gpm to a final flow of between 20 and 26 gpm after pumping of nearby Well 6 was terminated.

Pumping in Well 5 began on March 13, 2006 at a discharge rate of approximately 18 gpm. Testing ended on March 16, 2006. By the end of the test, the well water level had declined approximately 120 feet and yield varied between 20 and 26 gpm, for an average yield of approximately 23 gpm.

Projections of the water level decline in well PW-5 at a pumping rate of 23 gpm through 30, 60, 90 and 180 days of simulated continuous pumping without recharge are shown on Figure 12. After 90 days of pumping without recharge, the water level is projected to decline to approximately 170 feet below the well casing. After 180 days of pumping without recharge the water level is projected to fall to approximately 275 feet below the rim of the well casing. These projections remain approximately 20 feet above the level of the pump intake and over 200 feet above the bottom of the well.

#### 5.1.5 Well PW-9

Well PW-9 is approximately 405 feet deep and was equipped in 2006 with a pump installed 235 feet bgs. Figure 13 shows water level and flow rate changes during the 2006 test.

Pumping in Well PW-9 began on March 13, 2006 at a discharge rate of 75 gpm. The water level substantially stabilized by the end of the test. Discharge was maintained throughout the test until the pump was shut off on March 17, 2006.

Projection of the general rate of water level decline through 30, 60, 90 and 180 days of continuous pumping at 75 gpm without recharge is depicted in Figure 14. After 90 days of pumping without recharge the water level is projected to fall to approximately 157 feet below grade. After 180 days of pumping without recharge the water level is projected to fall to approximately 158 feet below grade. Both projections remain more than 70 feet above the level of the pump and substantially above the bottom of the well.

#### 5.1.6 Well PW-11

Well PW-11 is approximately 605 feet deep and equipped with a pump installed approximately 572 feet bgs. Figure 15 shows water level and flow rate changes during the 2006 test.

Pumping in Well PW-11 began on March 13, 2006 at a discharge rate of 56 gpm. The water level dropped early in the test to approximately 275 feet below the well casing rim. Yield from the well was increased on March 15 to 65 gpm to explore a higher discharge rate and the test was extended to confirm reliability of the higher rate. Final drawdown at 65 gpm was approximately 490 feet below the pre-test static water level.

Two projections of water level associated with 30, 60, 90 and 180 days of continuous pumping without recharge at 65 gpm are depicted in Figure 16. Based on the final water level observations (Figure 15), the water level in well PW-11 had fully stabilized by the end of the test such that no further decline would occur. The most likely drawdown projection for this well, therefore, is a flat line projection leaving more than 100 feet of water in the well over the pump. An alternate and more conservative drawdown pathway is estimated on Figure 15 in which the water level is projected to decline at approximately the same rate of decline observed during early pumping at 56 gpm. Under this estimation approach, the water level in the well could fall to approximately 540 feet below the casing elevation after 90 days of continuous pumping without recharge at 65 gpm, and to 545 feet below the casing rim after 180 days of pumping without recharge. Both projections remain above the level of the pump.

## **5.2 Groundwater Responses in Other Monitored Locations**

Water level responses observed during the 2006 multi-well test in on-site monitored bedrock wells and the Segalla homeowner well are plotted on Figures 17 through 27. Water level data collected from the stream and pond surface water gauges are listed on Table 4. Sections 5.2.1 and 5.2.2 describe drawdown impacts observed during the multi-well test.

### 5.2.1 On-Site Monitored Wells, Staff Gauges and Weirs

On-site bedrock wells, one homeowner well, eight staff gauges and two stream weirs were monitored manually during the 2006 test using handheld meters or automated water level recording instruments.

Well 6, Well A6D, and Well 10 recorded a maximum of 10.85 feet, 14.80 feet and 3.36 feet of drawdown, respectively, during the 2006 aquifer test (Figures 18, 26, and 21). Drawdown in Well 6 reflects nearby pumping of well PW-5. Drawdown in wells 10 and A6D reflect pumping in well PW-9 based on proximity of each monitored well to the pumping wells.

No other on-site monitored wells showed measurable responses to the pumping test. Data from wells 3, 7, 8, 13 were essentially unchanged throughout the test period. Monitored wells in the southern portion of the site showed natural regional declines both before and after the pumping tests. Well 13 (Figure 23) showed some gradual groundwater recovery associated with rainfall occurring early during the pumping test. Wells 12 and 14 remained in an artesian condition (flowing freely over the top of well casing) throughout the test.

Staff gauges SG-1 through SG-8 and weirs 1 and 2 were installed in ponds and streams across the site to identify declines in surfacewater bodies related to groundwater testing (Table 4). Rain during the first 36 hours of the 2006 test raised water levels in nearly all staff gauges and weirs. Levels then fell to pre-rainfall levels during the rest of the test period.

### 5.2.2 Off-Site Monitored Well

A monitored domestic well (Segalla) lies north of wells PW-2 and PW-4 (Figure 3). No other offsite wells were available for monitoring.

The water level in the Segalla rental well fluctuated daily because of domestic water uses but showed no longer-cycle changes in water level between the domestic use periods indicative of the Silo Ridge test. Accordingly, the data identify that the Silo Ridge flow test did not modify the aquifer water level at this site. The resident reported some turbidity in well water when the test began but clarity reportedly returned later in the test, rendering the observation and its cause uncertain and unlikely to be related to the pumping test.

## **5.3 Multiple Well Pumping Test Impact Analysis**

The 2006 multi-well aquifer test demonstrated that the six production wells can supply 358 gpm for extended periods. On the basis of the groundwater recharge

budget estimated for the site, no drawdown impacts would be expected to extend beyond the property perimeter during normal years as long as average daily demand does not exceed 330 gpm. During drought years, drawdown could be expected to extend beyond site boundaries if average daily withdrawal rates exceed 230 gpm.

A contour map showing estimated drawdown associated with the 2006 multi-well bedrock aquifer pumping test is shown on Figure 4. The greatest drawdown impacts occur immediately around each well. The contours shown on Figure 4 are estimates; some variation in contour line shapes is likely depending on the orientation of particular water-bearing fractures supplying each well.

The estimated 10 foot drawdown contour line demonstrates that all meaningful test drawdown remained entirely on the site during the 2006 test. On-site wells near site property lines showed no drawdown effects to the south, east and north of the production wells. These observations indicate that the test imposed no drawdown off-site impacts in locations yet more distant from the production wells.

Test analysis indicates that extended use of these production wells for between 90 and 180 days without recharge from precipitation is not anticipated to bring aquifer levels below pump levels.

### **5.5 Well Water Chemistry: NYSDOH Sub-part 5 Sampling**

Test production wells 1, 2, 4, 5, 9 and 11 were sampled for constituents listed in NYSDOH Sanitary Code Sub-Part 5, applicable to community water system wells. Well PW-1 was selected for representative site sampling for diquat, glyphosate, endothall and dioxin.

Water quality samples were collected during the final day of pumping, after approximately 70 hours of continuous pumping and before termination of the 72-hour flow test. Samples were packed with ice in coolers and transported by a laboratory courier to Eastern Laboratory Services, Inc, (ELS) in Waverly, Pennsylvania.

Copies of the laboratory reports from ELS are provided in Appendix B. Table 5 summarizes the laboratory results and lists NYSDOH drinking water guidance values and standards. Proposed treatment systems are discussed in a water supply report prepared by TCC, bound separately. Iron, manganese, turbidity and/or lead exceeding drinking water standards were detected in wells PW-1, PW-2, PW-4 and PW-5. The elevated metal detections are likely related to turbidity and will decrease as turbidity in the wells clears over extended use periods. Accordingly,

treatment for metals may not be necessary. Coliform bacteria were not detected in any of the production wells.

## **5.6 Well Water Chemistry: MPA Sampling**

Groundwater filtrate samples were collected for microscopic particulate analysis (MPA) from wells PW-2 and PW-11. Well PW-2 is the site's highest capacity well and is situated within 200 feet of a seasonal stream; the composite sample was collected for MPA analysis although the casing extended to a depth of 275 feet including through 110 feet of glacial till.

Well PW-11 was sampled because it is situated near a pond reportedly 100 feet deep. Well PW-11 was constructed with 225 feet of steel casing.

No filtrate sample could be collected from well PW-4 because its construction is comparable to that of well PW-2. No sample could be collected from well PW-5 until further use reduces well turbidity.

Each of the MPA filtrate samples was collected during the third day of the pumping test. For comparison purposes, water quality in the pond by well PW-11 was also sampled for MPA analysis.

The samples were collected, packed in coolers with ice and shipped to Environmental Associates, Ltd. (EA) in Ithaca, NY. EA laboratory reports are provided in Appendix C.

Laboratory results from sampling of well PW-2 were assigned an EPA risk factor of "Low Risk" on the basis of low detected algal counts (Appendix C). Coliform bacteria were not detected in the Sub-Part 5 sampling analysis in this well (Table 5 and Appendix B).

Results from well PW-11 identified were assigned an EPA risk factor of "High Risk" on the basis of high algal and diatom counts (Appendix C). Coliform bacteria were not detected in the Sub-Part 5 sampling analysis for well PW-11 and turbidity as recorded in NTU units was below detection limits (Table 5 and Appendix B). The water sample from the nearby pond identified "R" (rare) algae and diatoms (Appendix C).

Proposed treatment systems, where appropriate, are discussed in the water supply report prepared by TCC in 2006 and bound separately.

## **6.0 2007 AQUIFER TEST**

The 2006 pumping test program confirmed an available well water supply from the site wellfield. As a result of revised estimates of a water demand which might be needed on this site, wells PW-9 and PW-11 were re-tested in 2007 using a higher pumping rate in well PW-9. Wells PW-1, PW-2, PW-4 and PW-5 were not pumped during this test because wells PW-9 and PW-11 lie considerably south of the other four wells and significant additional yield was only being sought from well PW-9, the southernmost well.

### **6.1 Groundwater Response in Pumping Wells**

An additional multi-well pumping test was conducted between April 23, 2007 and April 26, 2007. The test focused on testing of wells PW-9 and PW-11. The pumping rate in PW-9 was increased from the 2006 test rate of 75 gpm to 105 gpm. The pumping rate in PW-11 remained at the 65 gpm rate used during the 2006 test.

The wells were pumped concurrently because the prior test had suggested drawdown influence between these wells. Individual well pumping rates and final drawdown values are summarized on Table 1.

Pumps in the two production wells were turned on sequentially during a startup period of approximately 1 hour on April 23, 2007. During the first hours of pumping in each well, manual water level data were collected frequently; thereafter, manual water level data were collected at periodically each day.

Yields from both wells stabilized early during the 72-hour test and drawdown in the production wells and surrounding monitored wells also stabilized. Pumping was terminated at the end of a 72-hour test period.

Pre-test unpumped (static) aquifer water levels in all wells were between 1 and 4 feet higher than the static water levels observed prior to the 2006 pumping test. This can be attributed to regional rain events that occurring between April 15 to 17, 2007 and an associated seasonal difference in ground water elevations. Between rainfall events, regional rates of natural groundwater level decline observed in site wells averaged between approximately 0.05 to 0.16 feet per day.

Performance summaries for each of the candidate production wells follow:

### 6.1.2 Well PW-9

Location of the pump installation within the depth of the well remained approximately the same from the previous test. Figure 28 shows the water level responses in Well PW-9 during the 2007 test.

Pumping in Well PW-9 began on April 23, 2007 at a discharge rate of approximately 120 gpm but was adjusted to 105 gpm after a few hours of pumping on the basis of observed drawdown responses. The test was ended after 72 hours on April 26, 2007. At the end of the test the water level had declined 127 feet below the pre-test static water level. The pump maintained at a stable discharge rate of 105 gpm throughout the test.

Projections of the water level decline in Well PW-9 through 30, 60, 90, and 180 days of simulated continuous pumping at 105 gpm without recharge are depicted in Figure 29. After 90 days of pumping without recharge, the water level is projected to fall approximately 179 feet below the well casing. After 180 days of pumping without recharge the water level is projected to fall to approximately 181 feet below the rim of the well casing. Both projections remain 50 feet or more above the level of the pump intake.

The 90 and 180 day projections for the 2007 pumping test are within 30 feet of the drawdown projections estimated during the 2006 pumping test at the prior pumping rate of 75 gpm. The additional drawdown appears appropriate relative to the 50% yield increase in 2007.

### 6.1.3 Well PW-11

The pump used in well PW-11 in 2007 was installed at the same depth as during the 2006 test. Figure 30 shows the water level changes in Well PW-11 during the test.

Pumping in Well PW-11 began on April 23, 2007 at a discharge rate of up to 85 gpm. The pumping rate was reduced to approximately 70 gpm after 5 hours of pumping and then returned to the 65 gpm discharge rate used in 2006 after the first full day of pumping. At this pumping rate, the water level maintained stability for the duration of the test. The test was ended after 72 hours on April 26, 2007. By the end of the test, the well water level was observed at a constant depth of 234 feet below the pre-test static water level. The pumping rate at the end of the test remained stable at 65 gpm. The response of the well suggests that yield from well PW-11 is limited by particular fracture dimensions, such that pumping at any rate higher than approximately 65 gpm results in continuous water level declines

because fracture dimensions rather than aquifer shortcomings prevent more rapid water inflow to the well.

Water level projections in Well PW-9 through 30, 60, 90, and 180 days of simulated continuous pumping at 65 gpm without recharge are depicted in Figure 31. The water level after extended periods of pumping are projected to remain relatively stable. After 90 days of pumping without recharge, the water level is projected to fall to approximately 258 feet below the well casing. After 180 days of pumping without recharge the water level is projected to fall to approximately 259 feet below the rim of the well casing. These levels are slightly above the flatlined projections identified in 2006. Both projections remain 310 feet or more above the level of the pump intake.

## **6.2 Groundwater Responses in Other Monitored Locations**

The monitoring network for the 2007 pumping test included only wells near the pumping wells. Water levels were recorded in six onsite monitoring wells (Well 10, Well 12, Well 13, Well A6D, PW-2 and PW-4), two pond surface water gauges (SG-4 and SG-5) and Weir 1.

Water level responses observed during the 2007 test in on-site monitored bedrock wells are plotted on Figures 32 through 36. Water level data collected from pond surface water gauges are listed on Table 8.

Onsite monitoring wells were monitored manually with handheld meters and automated water level recording instruments during the 2007 aquifer test.

Well 10, Well 13, Well A6D, PW-2 and PW-4 recorded a maximum of 17.87 feet, 0.22 feet, 4.63 feet, 2.22 feet, and 1.03 feet of drawdown, respectively (Figures 32, 34, 35, 36, and 37; Table 6). Well 12 remained artesian throughout the pumping test. Drawdown in wells PW-2 and PW-4 was modest and likely influenced drawdown observed in these wells during the 2006 test since well PW-11 was pumped at the same discharge rate during both tests.

Staff gauges SG-4 and SG-5, and Weir 1 were installed in ponds and streams located near the pumping wells to identify any effects of the pumping test on surface water bodies during the pumping test (Table 8). The stakes and weirs recorded a regional decline in water levels of the surface water bodies following precipitation prior to the test. No water level drawdown relating to the pumping test was observed.

### **6.3 Multiple Well Pumping Test Impact Analysis**

Focused retesting of PW-9 and PW-11 in 2007 demonstrated that PW-9 can support withdrawals of 105 gpm with minimal additional impacts to other pumping or monitored wells. Well PW-11 was tested at the same flow rate as the 2006 test and confirmed the previously achieved yield.

The 2007 test identified a combined wellfield yield of 388 gpm with all wells pumping continuously. Well PW-9 provides the highest yield of any well in the wellfield, at 105 gpm; the wellfield can provide 283 gpm with all wells except PW-9 in continuous use.

### **6.4 Well Water Chemistry: MPA Sampling**

Sampling of well PW-9 and PW-11 identified water from this well as “low risk” for inadequately filtered potential surfacewater entry into the well. This result is better than the result identified in 2006 and may relate to different seasonal conditions or the additional beneficial flushing received by PW-9 and PW-11 after a second full-length aquifer test.

## **7.0 CONCLUSIONS**

The site pumping tests indicate that wells PW-1, PW-2, PW-4, PW-5, PW-9 and PW-11 supported a combined yield of approximately 388 gallons per minute during 72 hour pumping tests. Drawdown projections for each well indicate that water levels in each well will remain above pump levels during periods as long as 180 days without recharge.

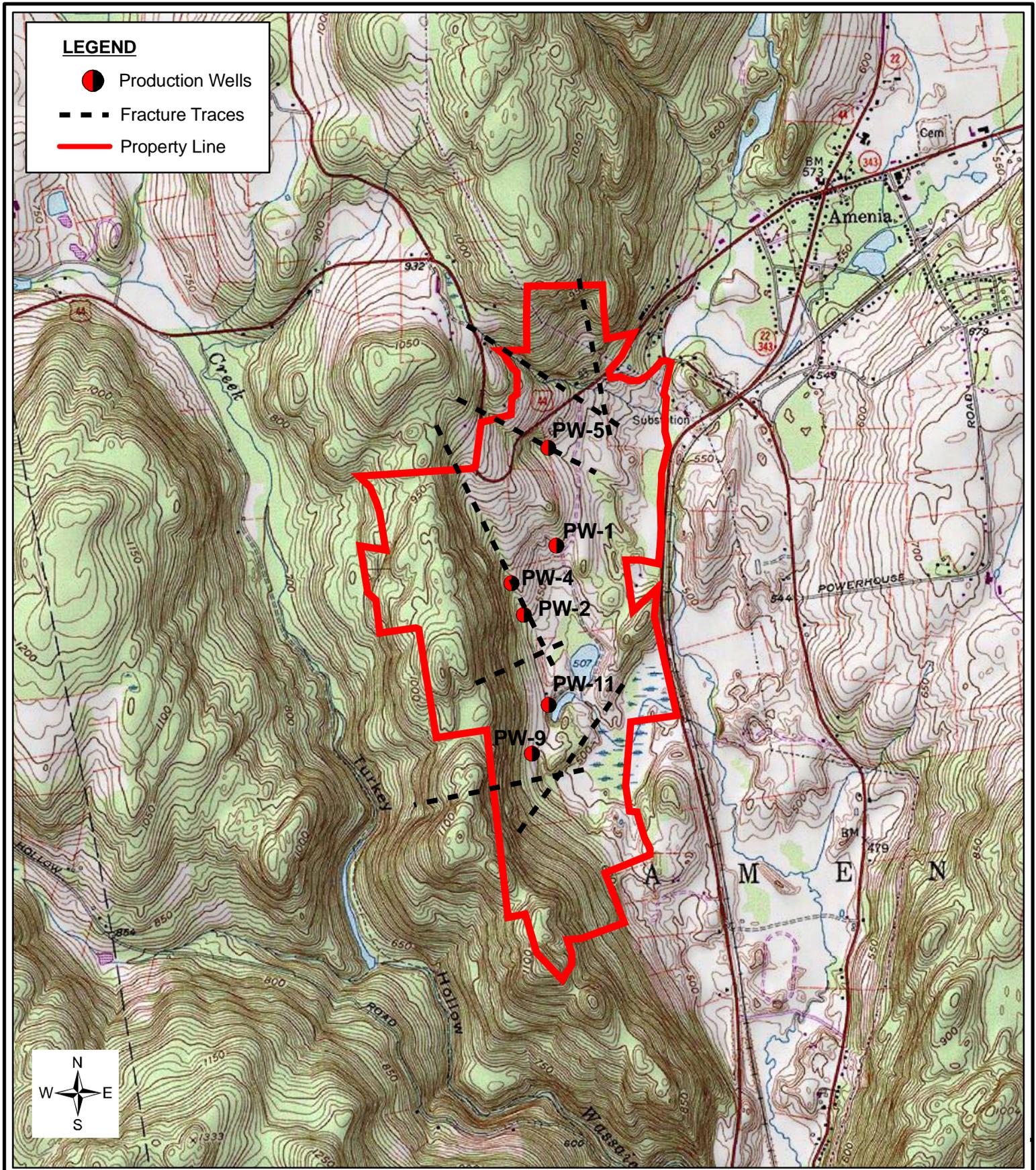
On-site bedrock wells, one private residence wells, eight stream staff gauges and two weirs were monitored during the aquifer pumping tests. All pumped and monitored wells showed stabilization by the termination of the tests. Stream and pond water and weir levels were effectively unchanged through the test period although rose during a 2006 rainfall event occurring during that test.

Water quality from the groundwater wells was tested for conformance with NYSDOH drinking water standards and will require standard treatment for select parameters. The proposed treatment systems are discussed in the water supply report prepared by TCC in 2006 and bound separately. A determination will be needed by NYSDOH as to whether wells PW-9 or PW-11 are categorized as being under the direct influence of surfacewater quality.

## 8.0 REFERENCES

- Cervione Jr., M., Mazaferro, D.L., Melvin, R.L., Water Resources Inventory of Connecticut. 1972. Part 6, Upper Housatonic River Basin, USGS Connecticut Water Resources Bulletin No. 21.
- Chazen Companies, 2006, Wappinger Creek Watershed Groundwater Recharge and Stream Baseflow Evaluation Assessment, for the Wappinger Creek Intermunicipal Council, c/o Village of Wappingers Falls and the Dutchess County Soil & Water Conservation Service / NRCS.
- Gerber, R.G., 1982. Final Report Water Resources Study for Dutchess County. For Dutchess County Department of Planning.
- Randall, A. 1996. Mean Annual Runoff, Precipitation, and Evapotranspiration in the Glaciated Northeastern United States, 1951-80, USGS Open-file report 96-395.
- Snavely, D.S., 1980. Groundwater Appraisal of the Fishkill-Beacon Area, Dutchess County, NY USGS Water Resources Investigation Open File Report 80-437, 13 p., 3 pl.
- Wolcott, S.W., Snow, R.F. 1995. Computation of Bedrock-Aquifer Recharge in Northern Westchester County, NY and Chemical Quality of Water from Selected Bedrock Wells. USGS. Water Resources Investigations Report 92-4157.

## **FIGURES**



**LEGEND**

- Production Wells
- Fracture Traces
- Property Line



**FIGURE 1 - SITE LOCATION MAP WITH FRACTURE TRACES AND PRODUCTION WELLS**

**Silo Ridge**

**Town of Amenia, Dutchess County, New York**

USGS Topographic Map of the Amenia, New York Quadrangle  
Dated 1984. Photo Revised 1989. 7.5 Minute Series

**THE Chazen COMPANIES**

ENGINEERS/SURVEYORS  
PLANNERS  
ENVIRONMENTAL SCIENTISTS

*Dutchess County Office:*  
21 Fox St. Poughkeepsie, NY 12601  
Phone: (845) 454-3980

*Orange County Office:*  
356 Meadow Ave. Newburgh, NY 12550

*Capital District Office:*  
547 River Street Troy, NY 12180

*Glens Falls Office:*  
110 Glen Street Glens Falls, NY 12801

Date:  
April 2006

Scale:  
1:2,000 ft

Project #:  
10454.01

## Hydrologic Soil Groups

- Approximately 6 Acres
- A/D, 25.7 Acres
- B, 187.7 Acres
- C and C/D, 441.9 Acres
- D, 7.2 Acres



**THE**  
*Chazen*  
**COMPANIES**

ENGINEERS/SURVEYORS  
PLANNERS  
ENVIRONMENTAL SCIENTISTS

*Dutchess County Office:*  
21 Fox St. Poughkeepsie, NY 12601  
Phone: (845) 454-3980

*Orange County Office:*  
356 Meadow Ave. Newburgh, NY 12550

*Capital District Office:*  
547 River Street Troy, NY 12180

*Glens Falls Office:*  
110 Glen Street Glens Falls, NY 12801

## FIGURE 2 - HYDROLOGIC SOIL GROUPS Silo Ridge

**Town of Amenia, Dutchess County, New York**  
USGS Topographic Map of the Amenia, New York Quadrangle  
Dated 1984. Photo Revised 1989. 7.5 Minute Series

Date:  
April 2006

Scale:  
1 in equals 1,250 ft

Project #:  
10454.01

# Legend

- Project Boundary
- % Production Wells
- % Observed Wells, Weirs, and Staff Gauges
- Discharge Lines

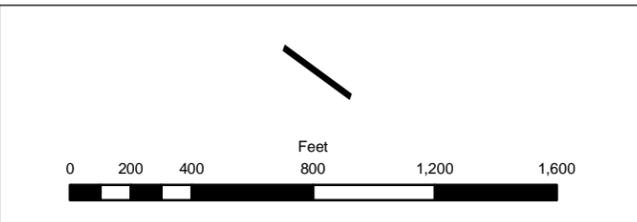


**THE Chazen COMPANIES**  
 Engineers/Surveyors  
 Planners  
 Environmental Scientists  
 GIS Consultants

### CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office: 21 Fox Street Poughkeepsie, New York 12601 Phone: (845) 454-3980	Orange County Office: 356 Meadow Avenue Newburgh, New York 12550 Phone: (845) 567-1133	Capital District Office: 547 River Street Troy, New York 12180 Phone: (518) 237-0055	North Country Office: 100 Glen Street Glens Falls, New York 12801 Phone: (518) 812-0513
---	---	---	--

This map is a product of The Chazen Companies. It should be used for reference purposes only. Reasonable efforts have been made to ensure the accuracy of this map. The Chazen Companies expressly disclaims any responsibilities or liabilities from the use of this map for any purpose other than its intended use.



**Figure 3**  
**Map showing Production and Observed Wells, Staff Gauges, Weirs, and Test Discharge Locations**  
**Silo Ridge**  
 Town of Amenia, Dutchess County, New York  
 Source: 2004 Orthophotos

Drawn:	TRO
Date:	4/12/06
Scale:	1:600
Project:	10454.00
Figure:	3

# Legend

- Project Boundary
- % Production Wells, drawdown in feet
- % Observed Wells, Weirs, and Staff Gauges, drawdown in feet
- Approximate drawdown contours

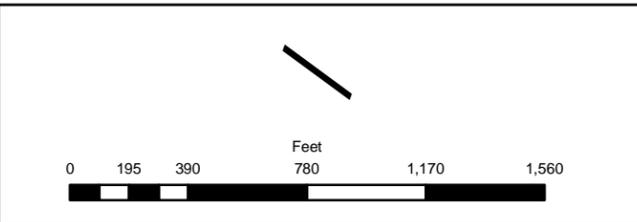


**THE Chazen COMPANIES**  
 Engineers/Surveyors  
 Planners  
 Environmental Scientists  
 GIS Consultants

**CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.**

Dutchess County Office: 21 Fox Street Poughkeepsie, New York 12601 Phone: (845) 454-3980	Orange County Office: 356 Meadow Avenue Newburgh, New York 12550 Phone: (845) 567-1133	Capital District Office: 547 River Street Troy, New York 12180 Phone: (518) 237-0055	North Country Office: 100 Glen Street Glens Falls, New York 12801 Phone: (518) 812-0513
---	---	---	--

This map is a product of The Chazen Companies. It should be used for reference purposes only. Reasonable efforts have been made to ensure the accuracy of this map. The Chazen Companies expressly disclaims any responsibilities or liabilities from the use of this map for any purpose other than its intended use.



**Figure 4**  
**Drawdown After 72 hour Pumping Test**  
**Silo Ridge**  
 Town of Amenia, Dutchess County, New York  
 Source: 2004 Orthophotos

Drawn:	TRO
Date:	4/12/06
Scale:	1:600
Project:	10454.00
Figure:	4

Figure 5 - PW-1 pumping test response during the 2006 pumping test

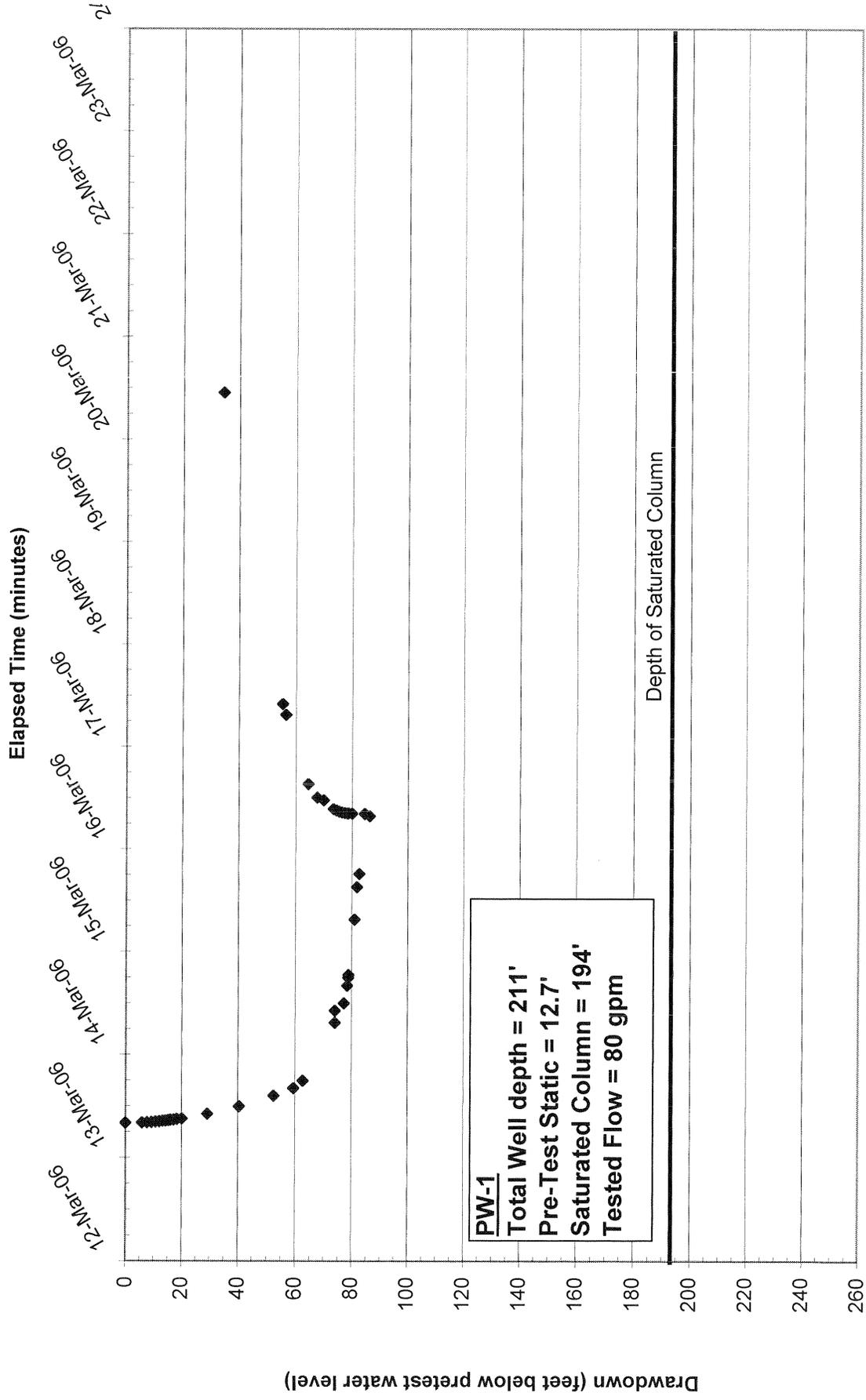


Figure 6 - PW-1 30, 60, 90 and 180 day drought projections during the 2006 pumping test

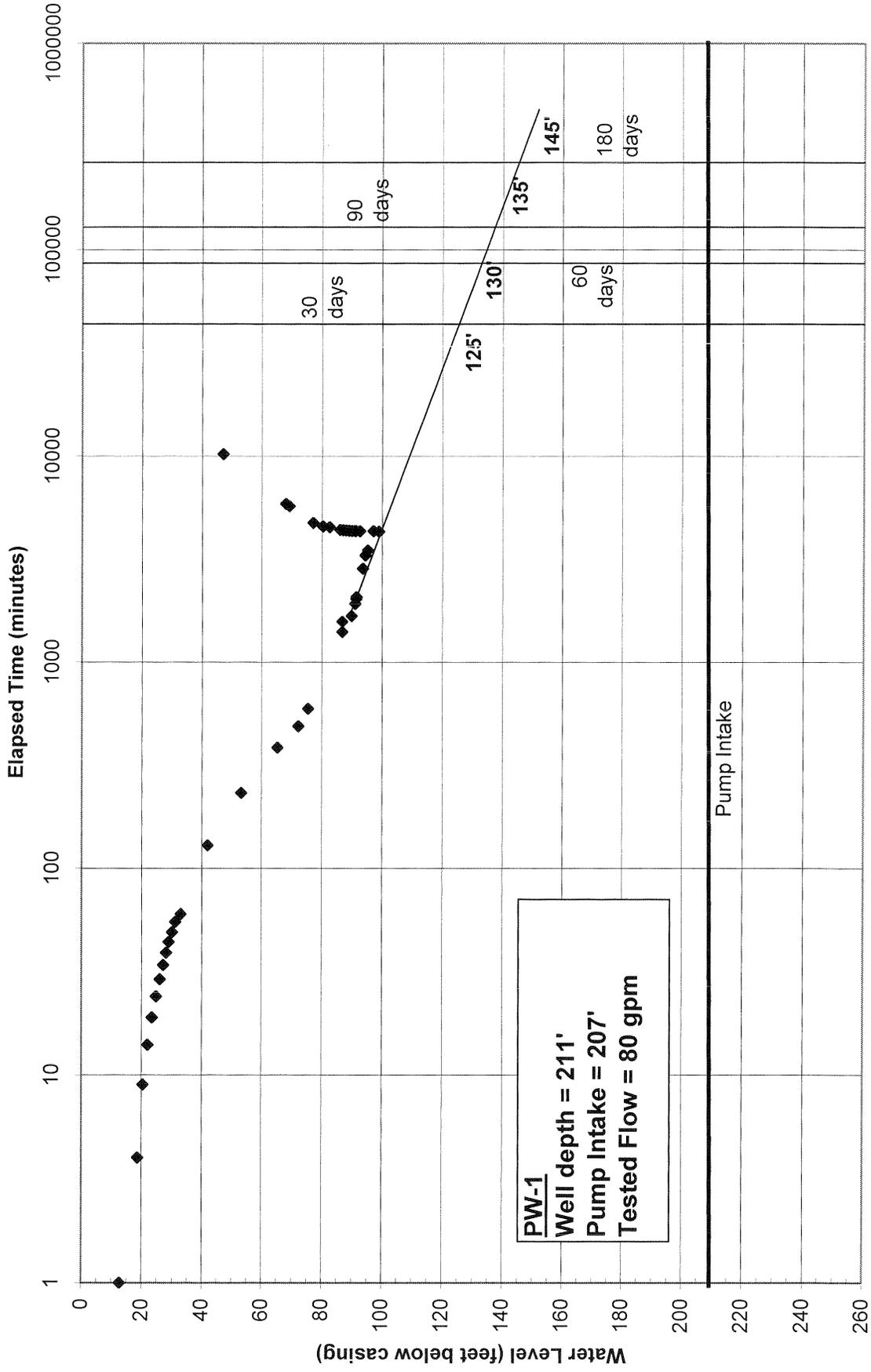


Figure 7 - PW-2 pumping test response during the 2006 pumping test

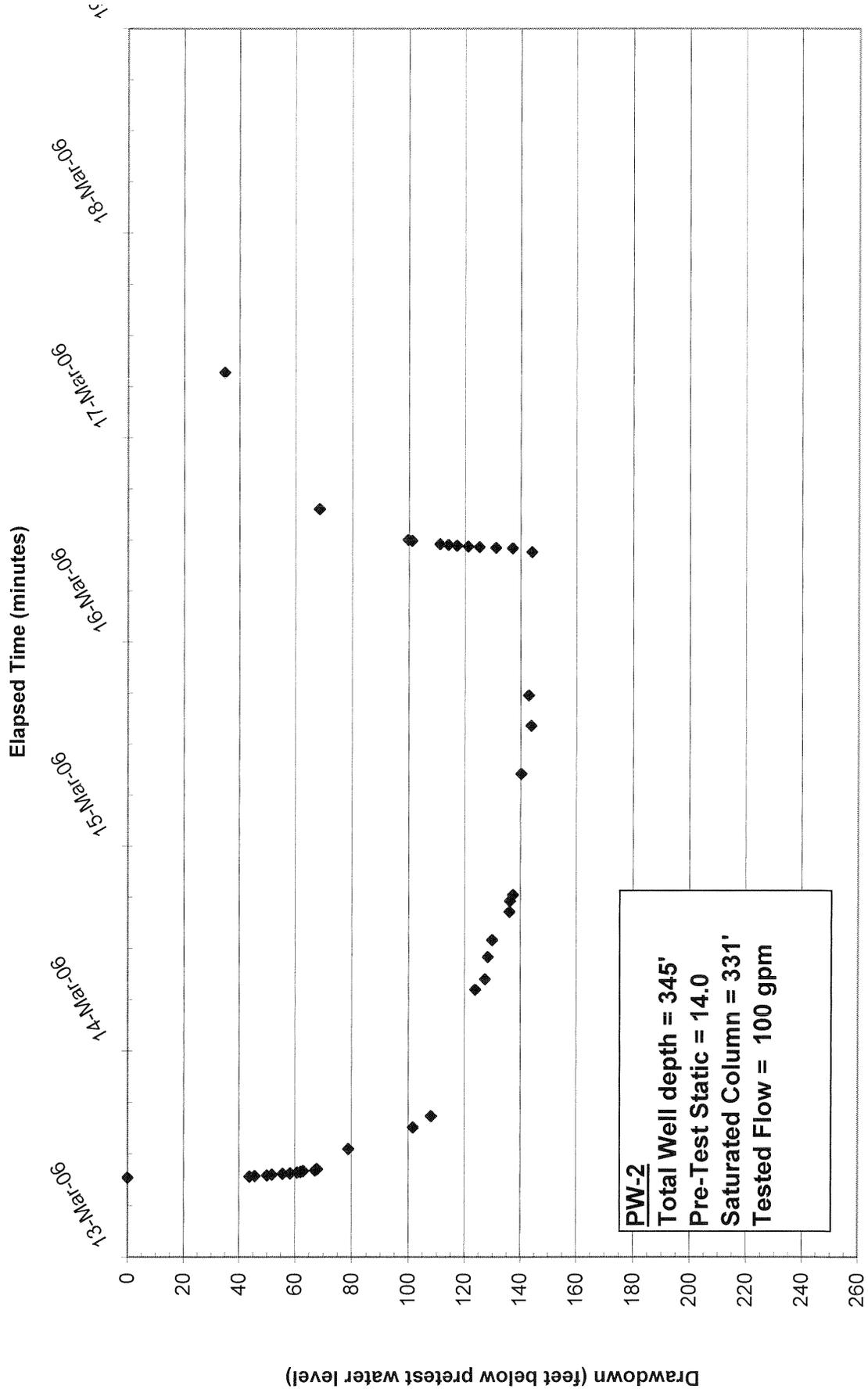


Figure 8 - PW-2 30, 60, 90 and 180 day drought projections during the 2006 pumping test

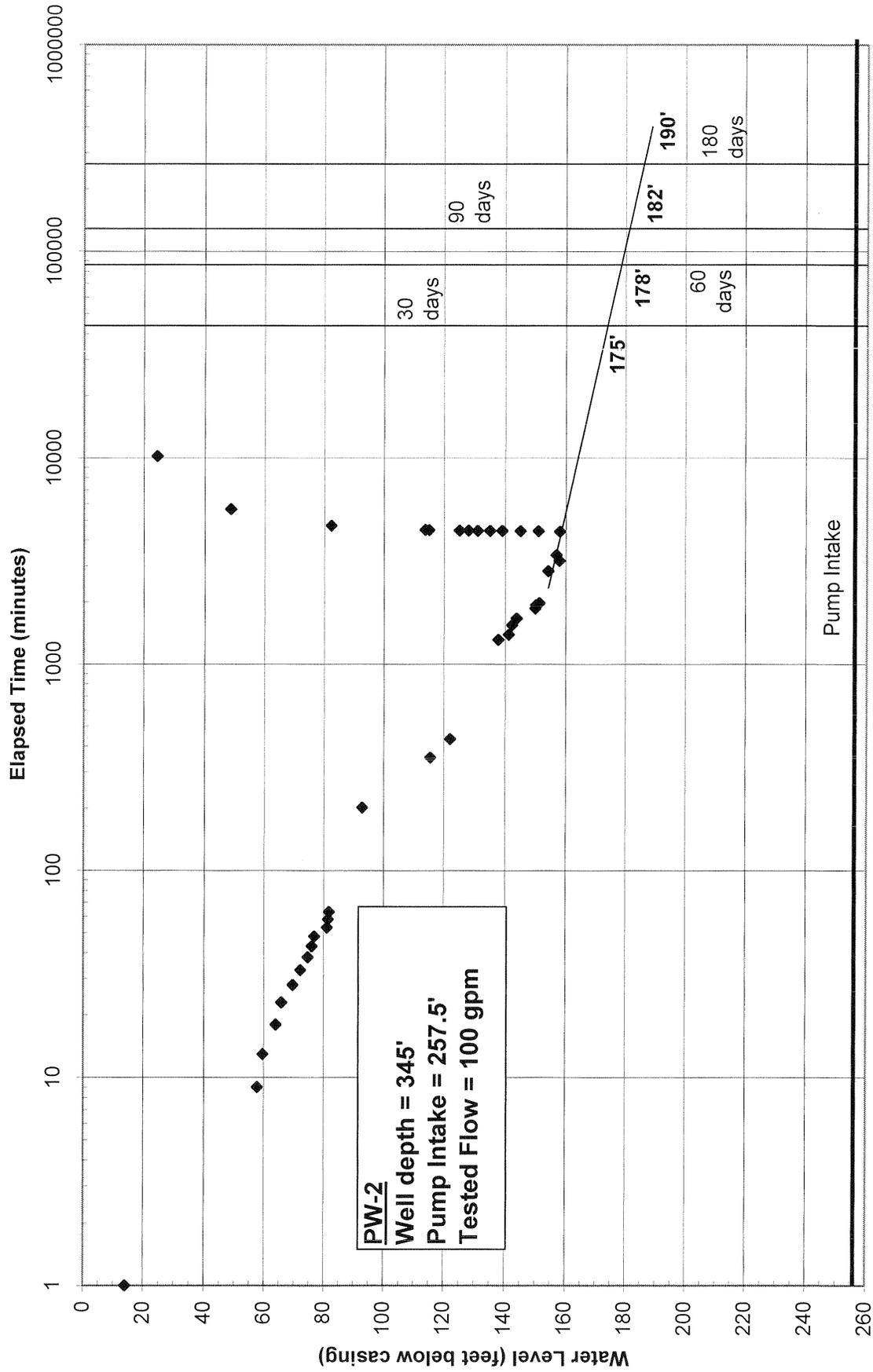


Figure 9 - PW-4 pumping test response during the 2006 pumping test

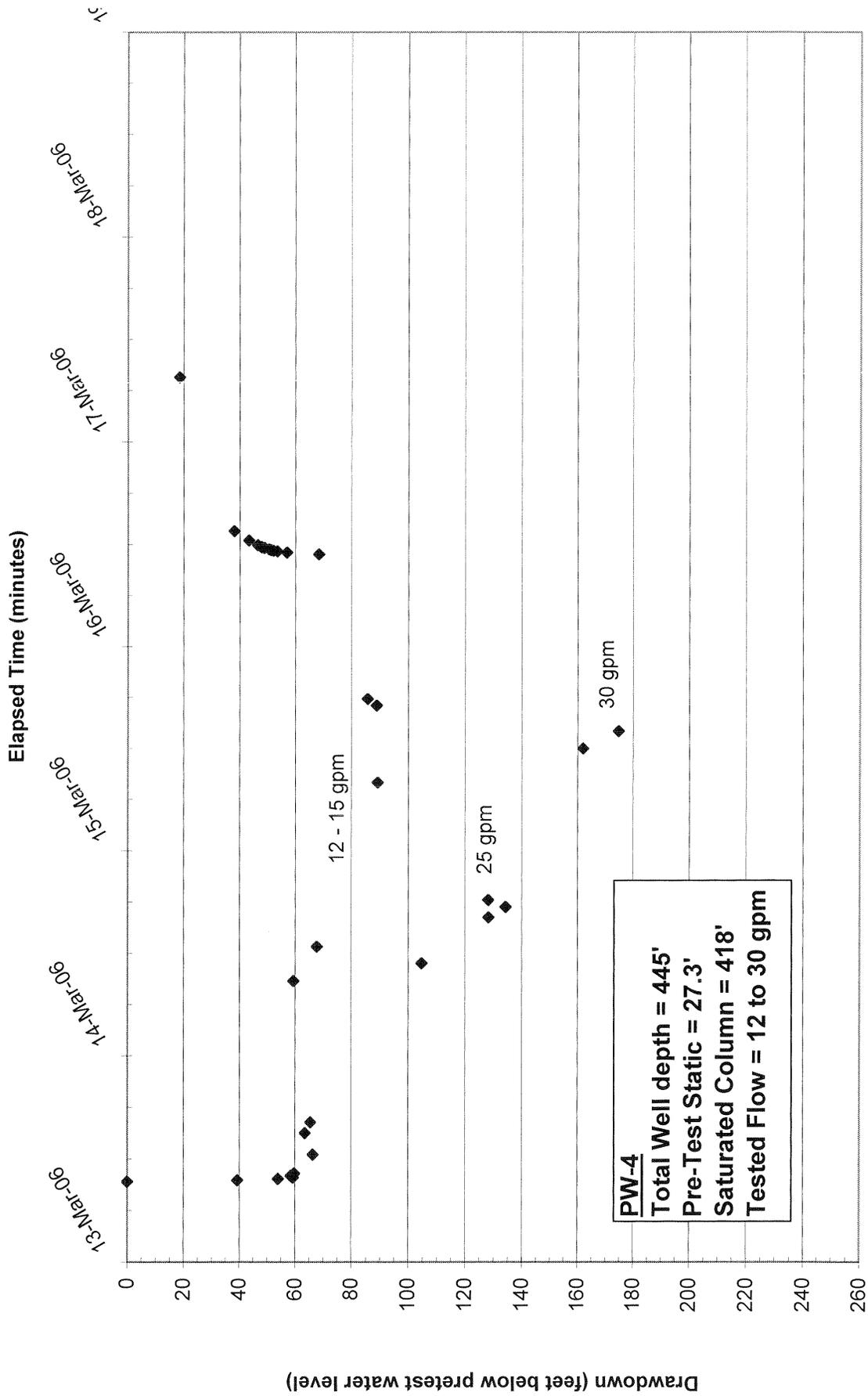


Figure 10 - PW-4 30, 60, 90 and 180 day drought projections during the 2006 pumping test

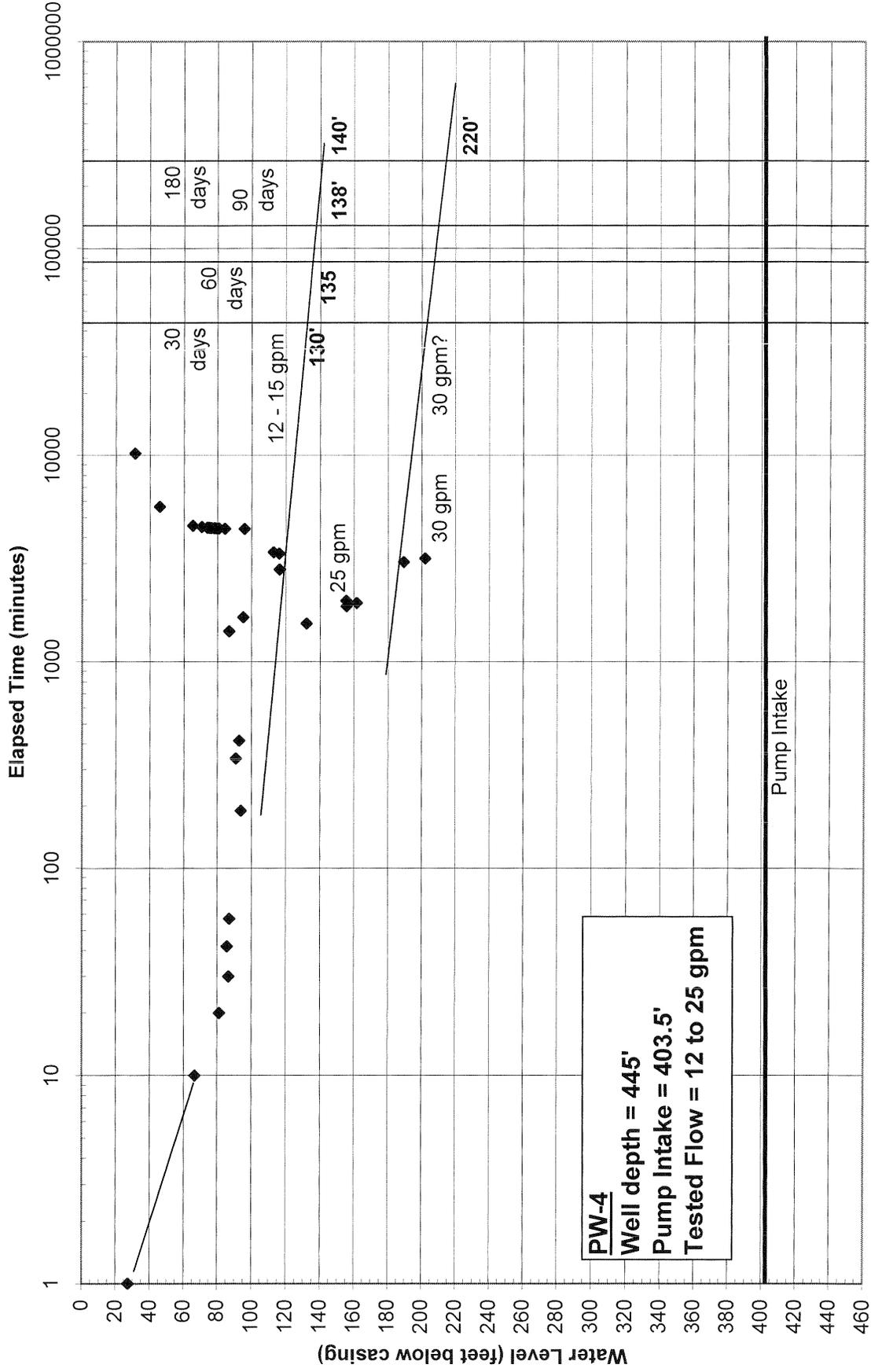


Figure 11 -PW-5 pumping test response during the 2006 pumping test

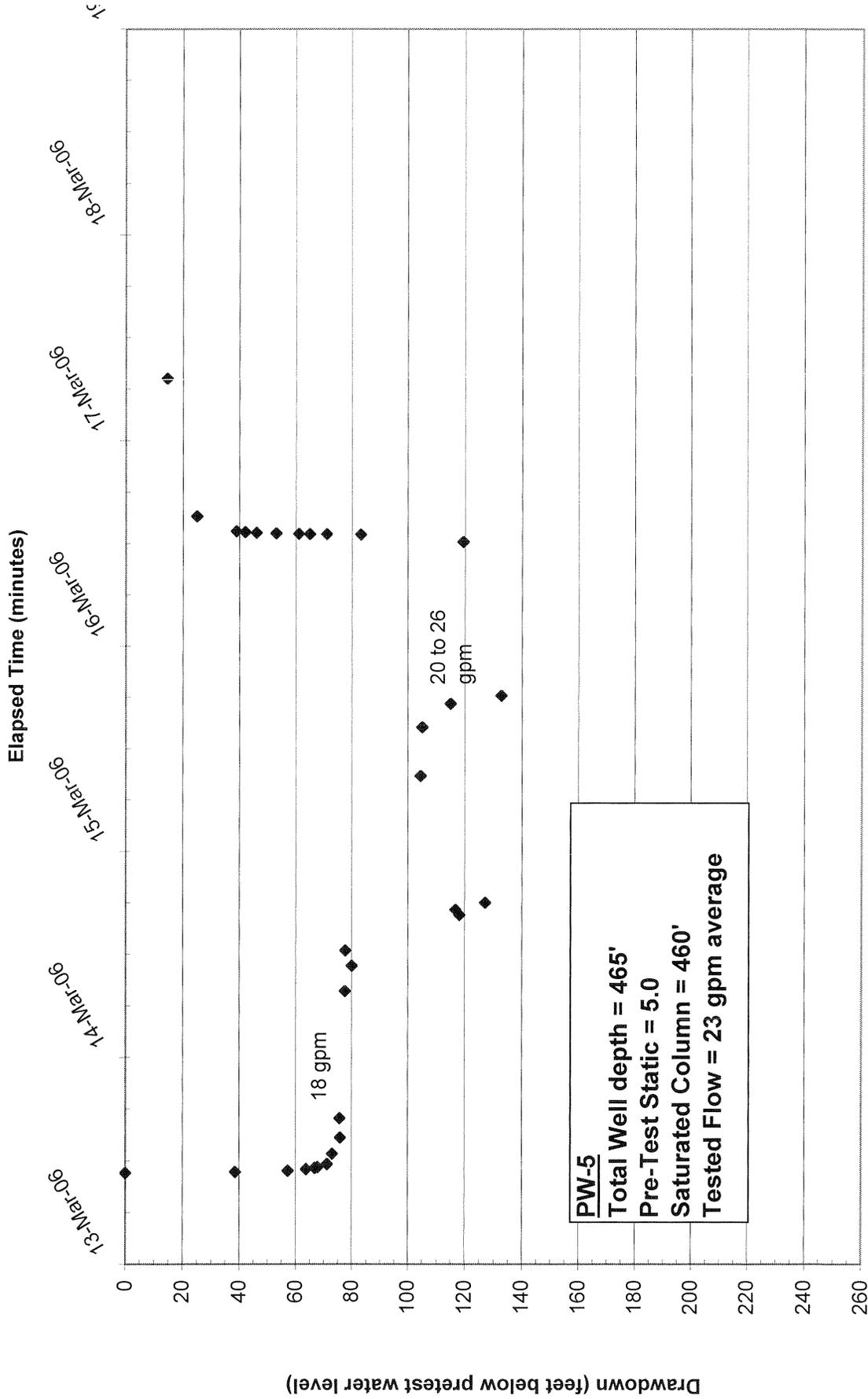


Figure 12 -PW-5 30, 60, 90 and 180 day drought projections during the 2006 pumping test

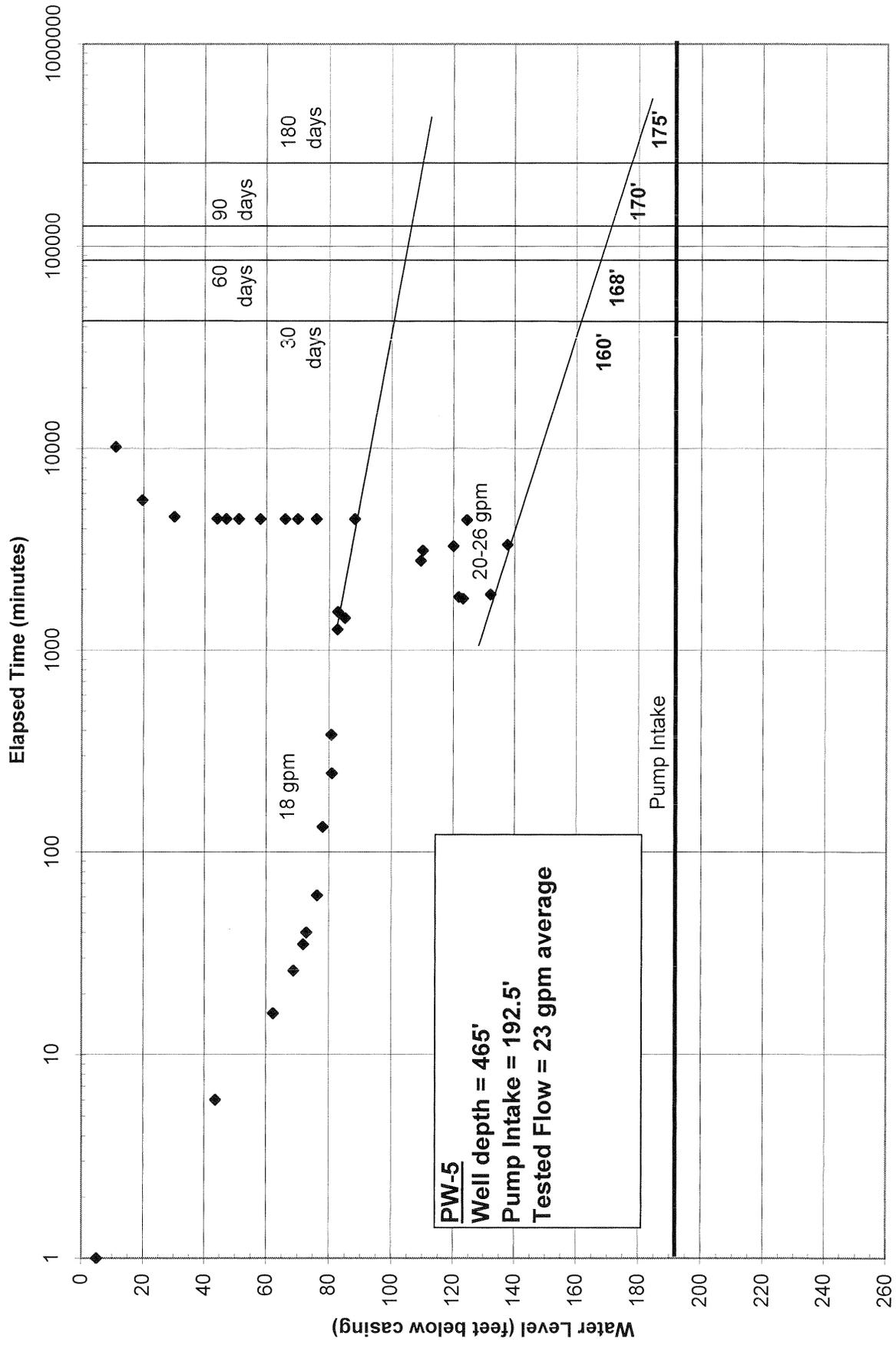


Figure 13 - PW-9 pumping test response during the 2006 pumping test

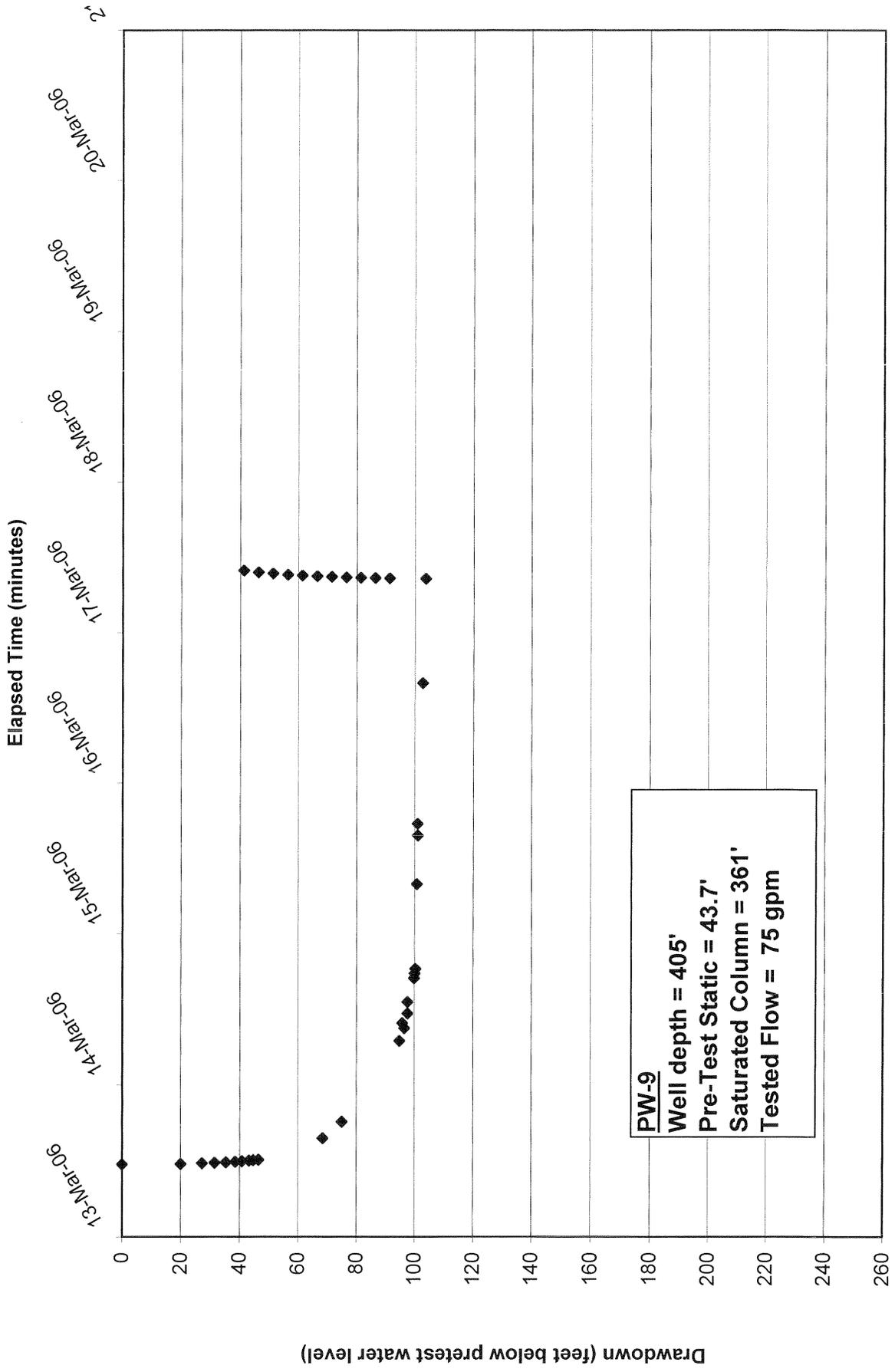


Figure 14 - PW-9 30, 60, 90 and 180 day drought projection during the 2006 pumping test

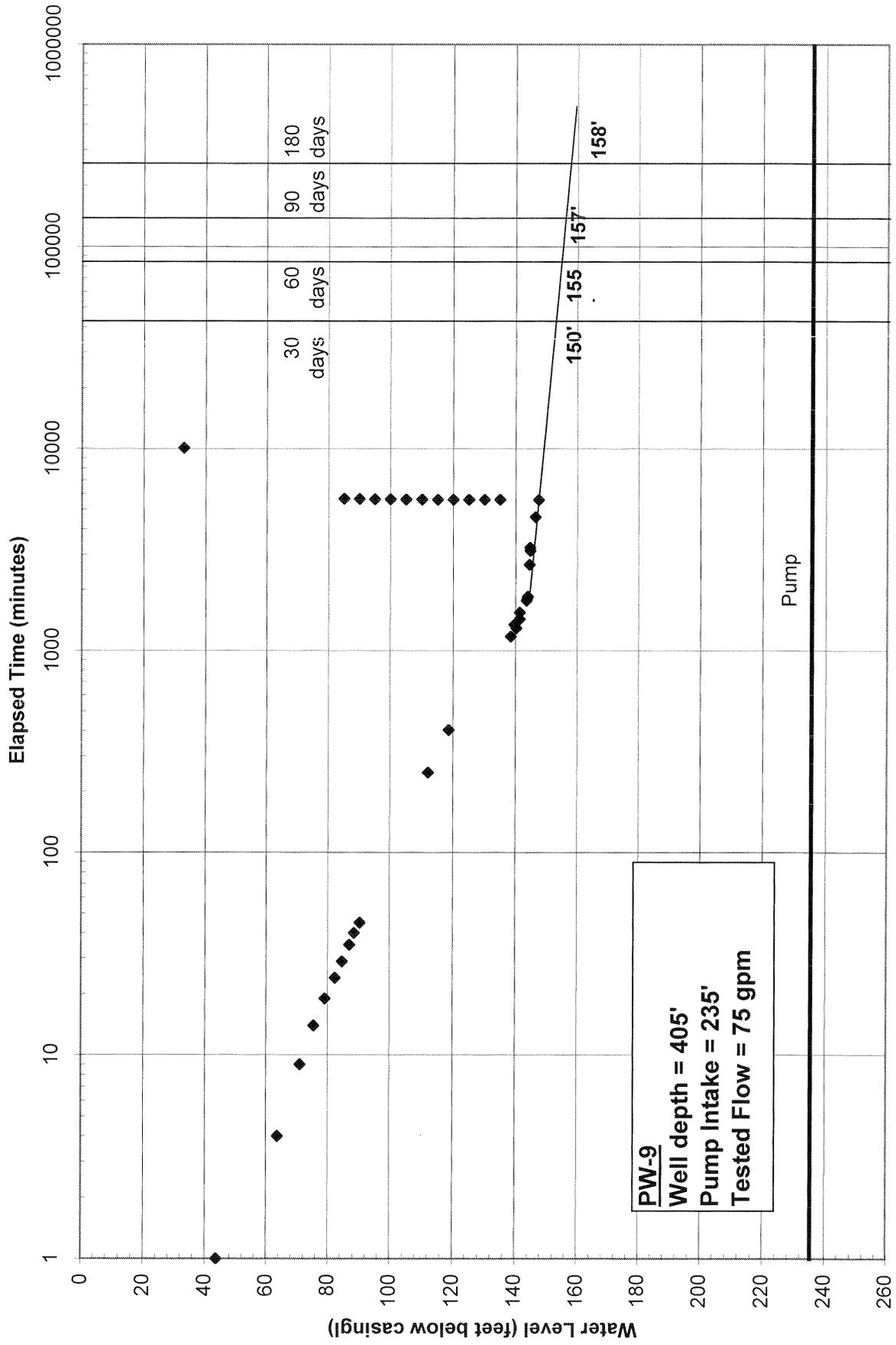


Figure 15 - PW-11 pumping test response during the 2006 pumping test

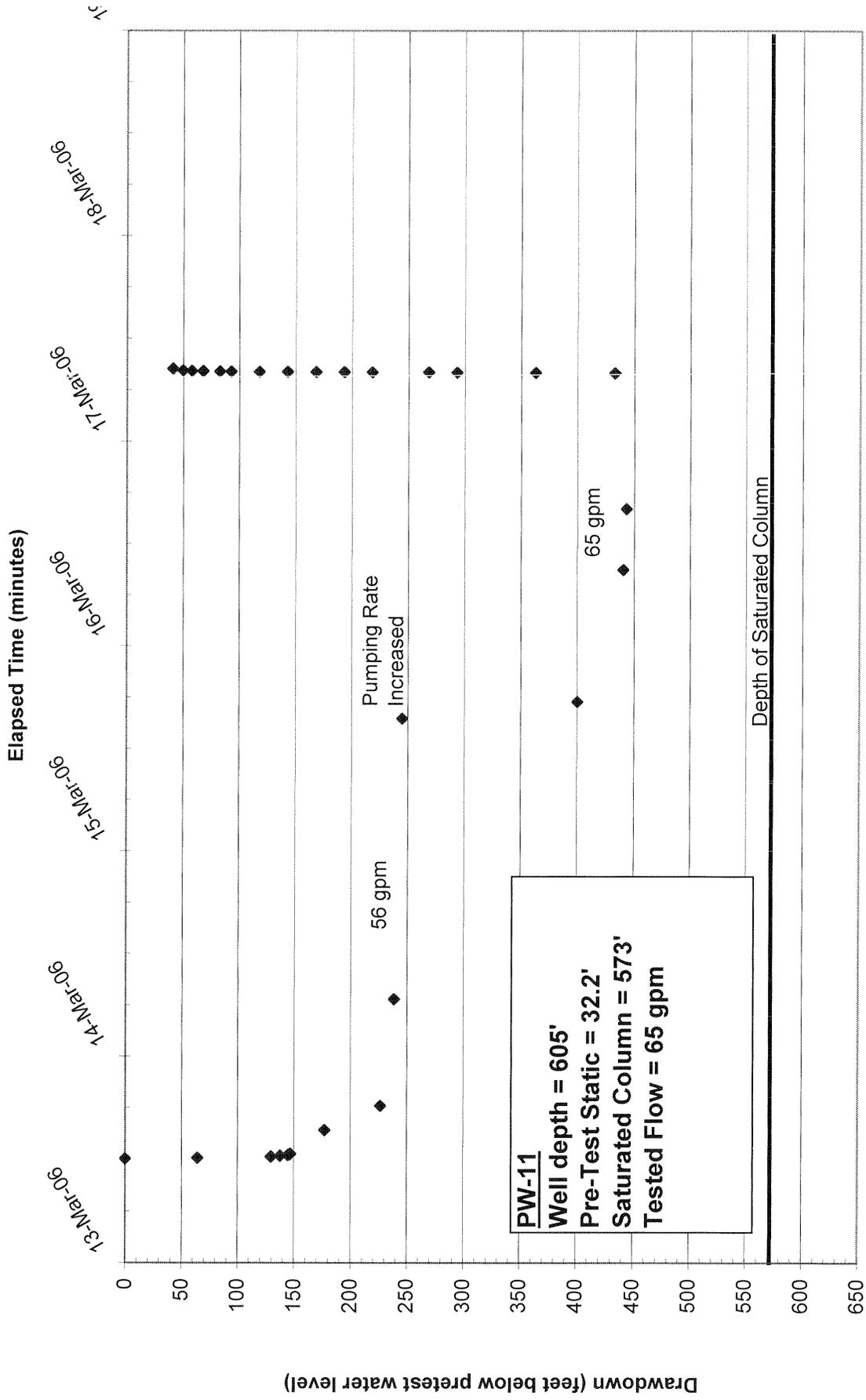


Figure 16 - PW-11 30, 60 and 180 day drought projections during the 2006 pumping test

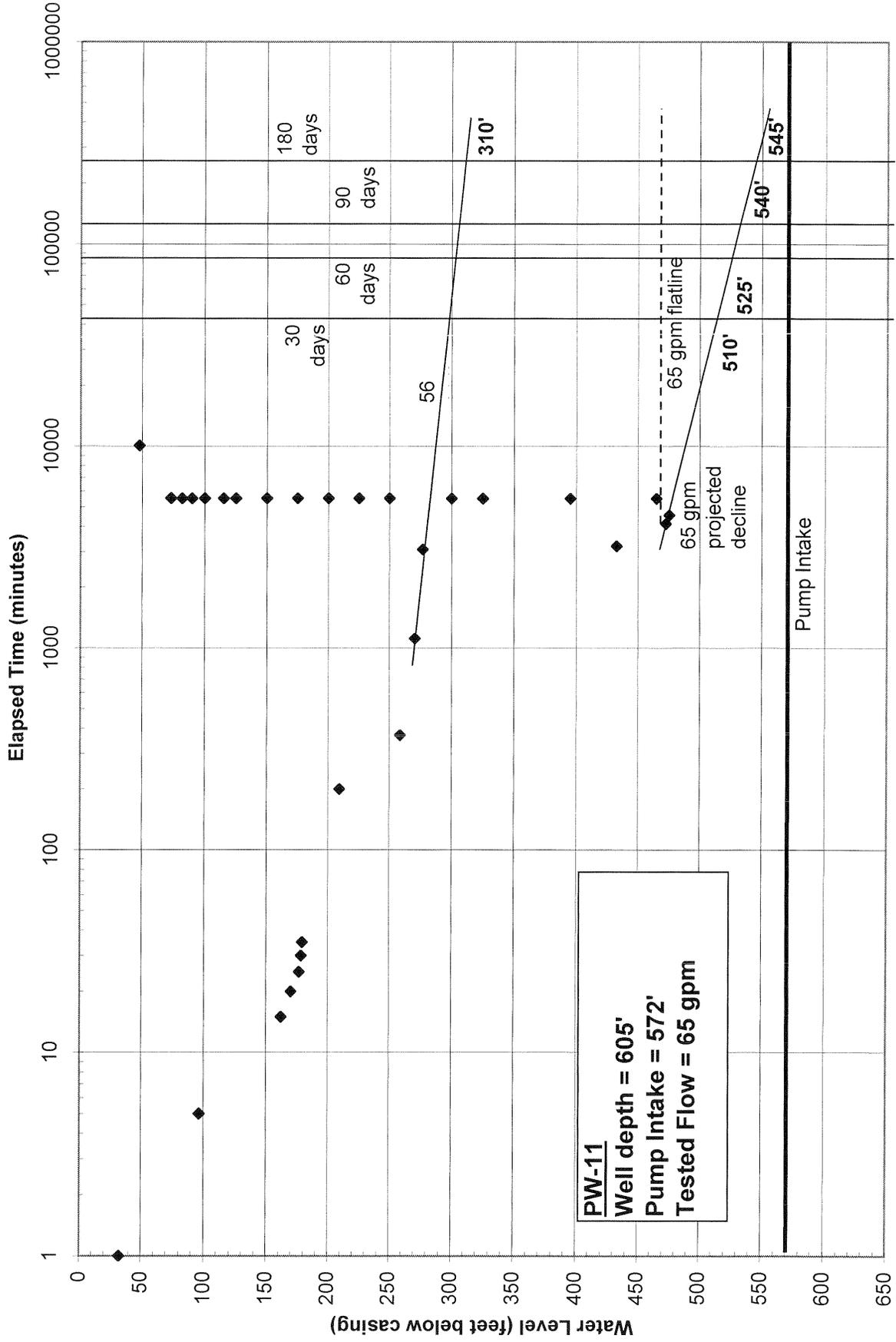


Figure 17 - Water level record for Well 3 during the 2006 pumping test

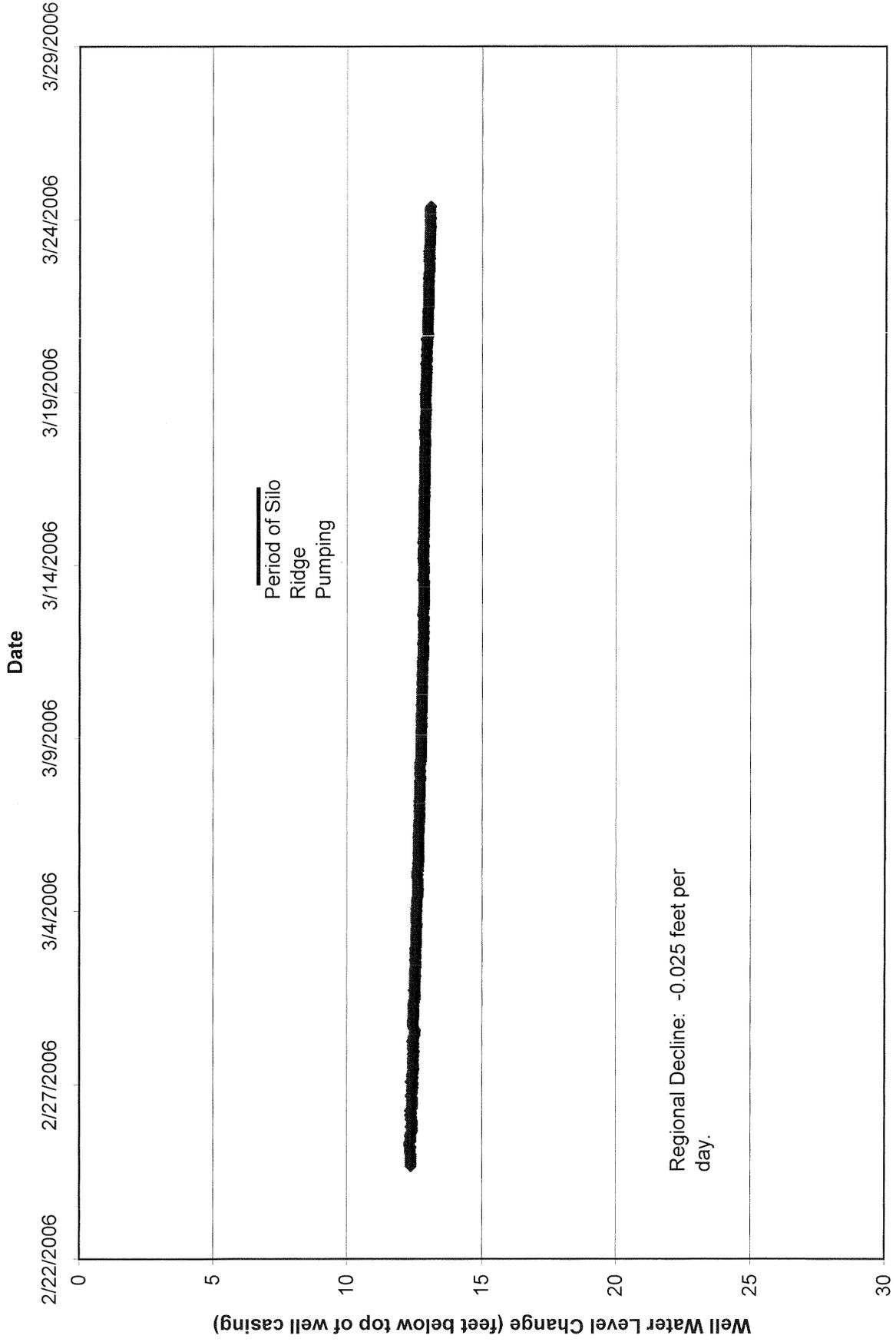


Figure 18 - Water level record for Well 6 during the 2006 pumping test

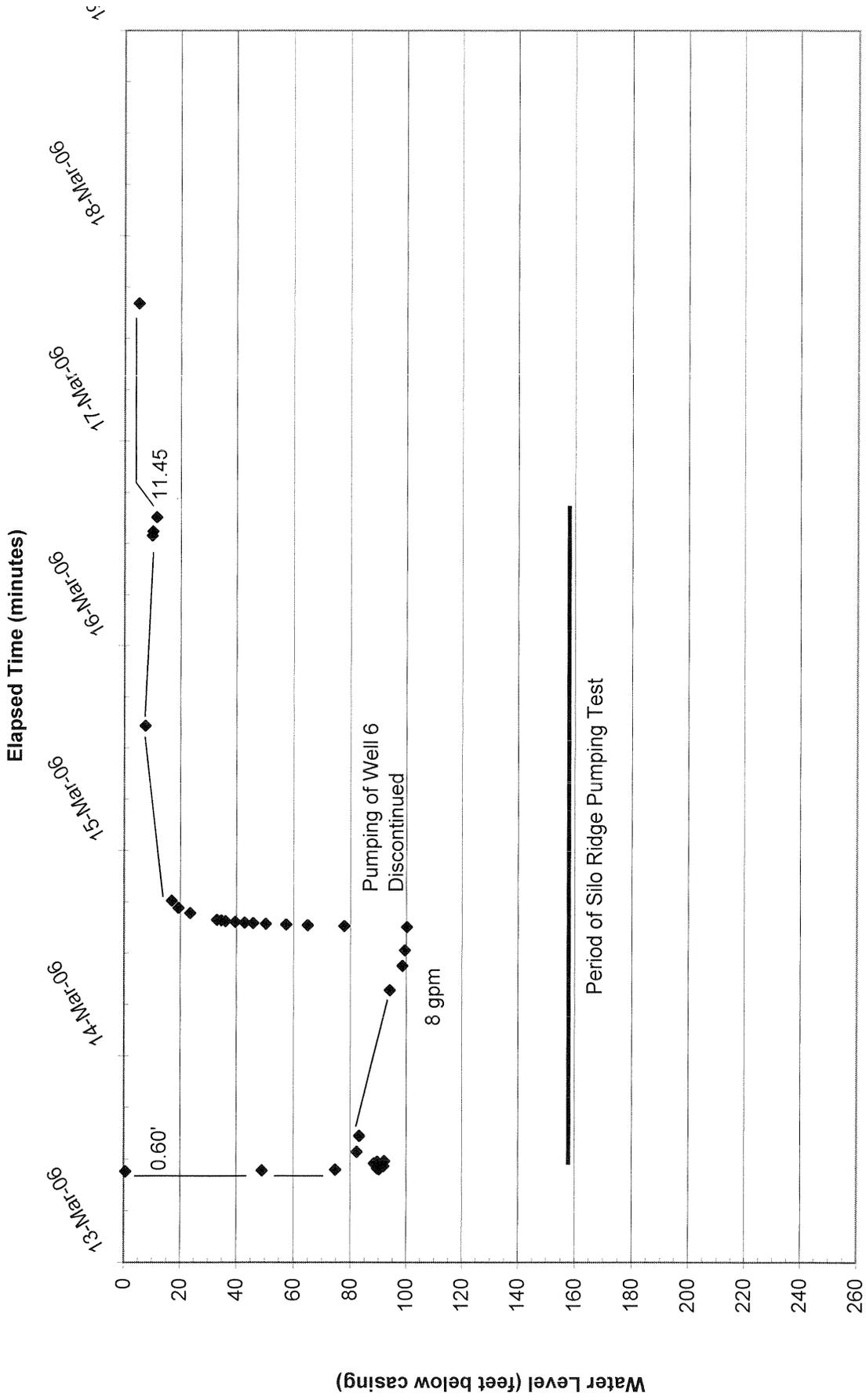


Figure 19: Water level record for Well 7 during the 2006 pumping test

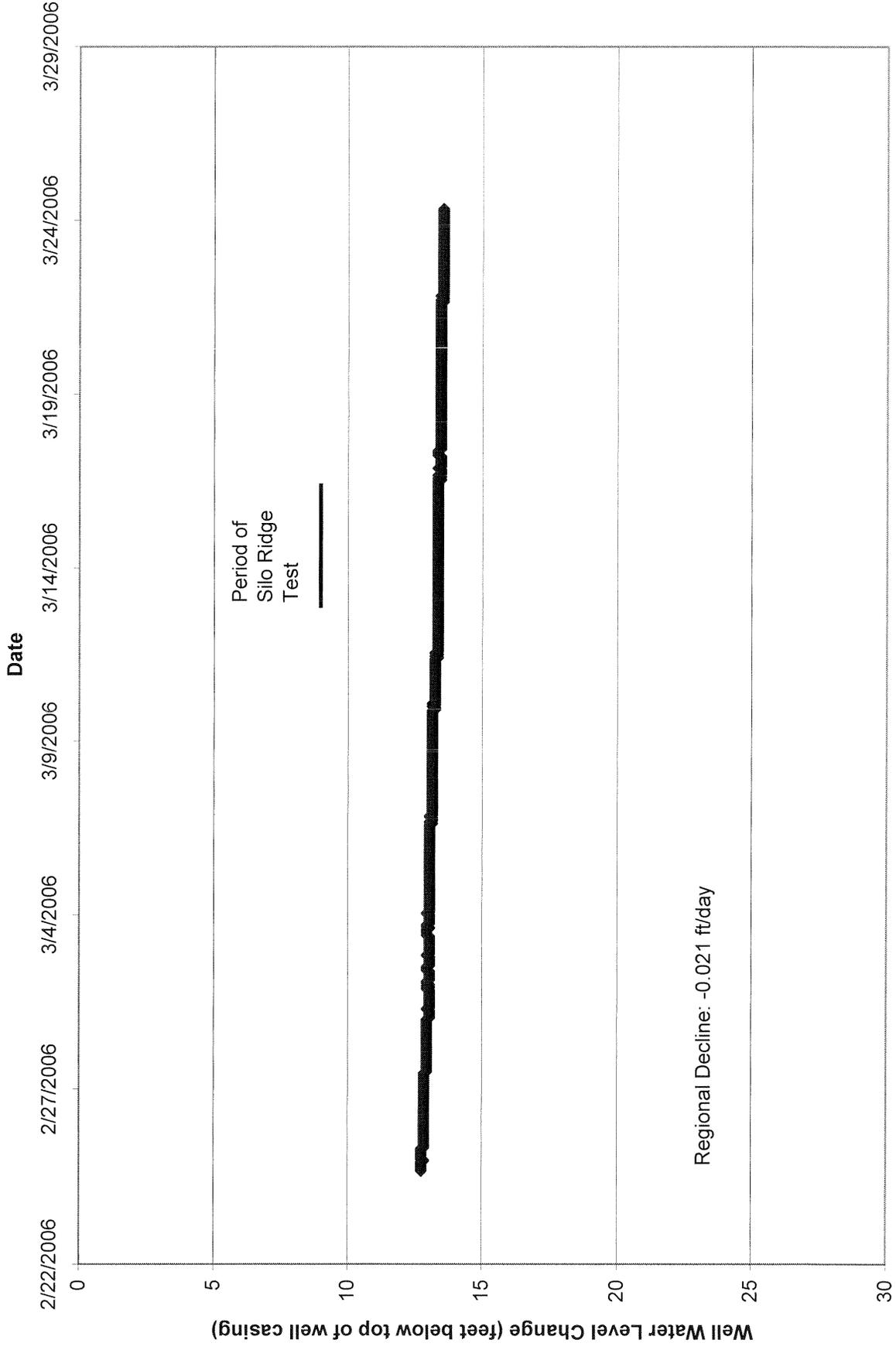


Figure 20 - Water level record for Well 8 during the 2006 pumping test

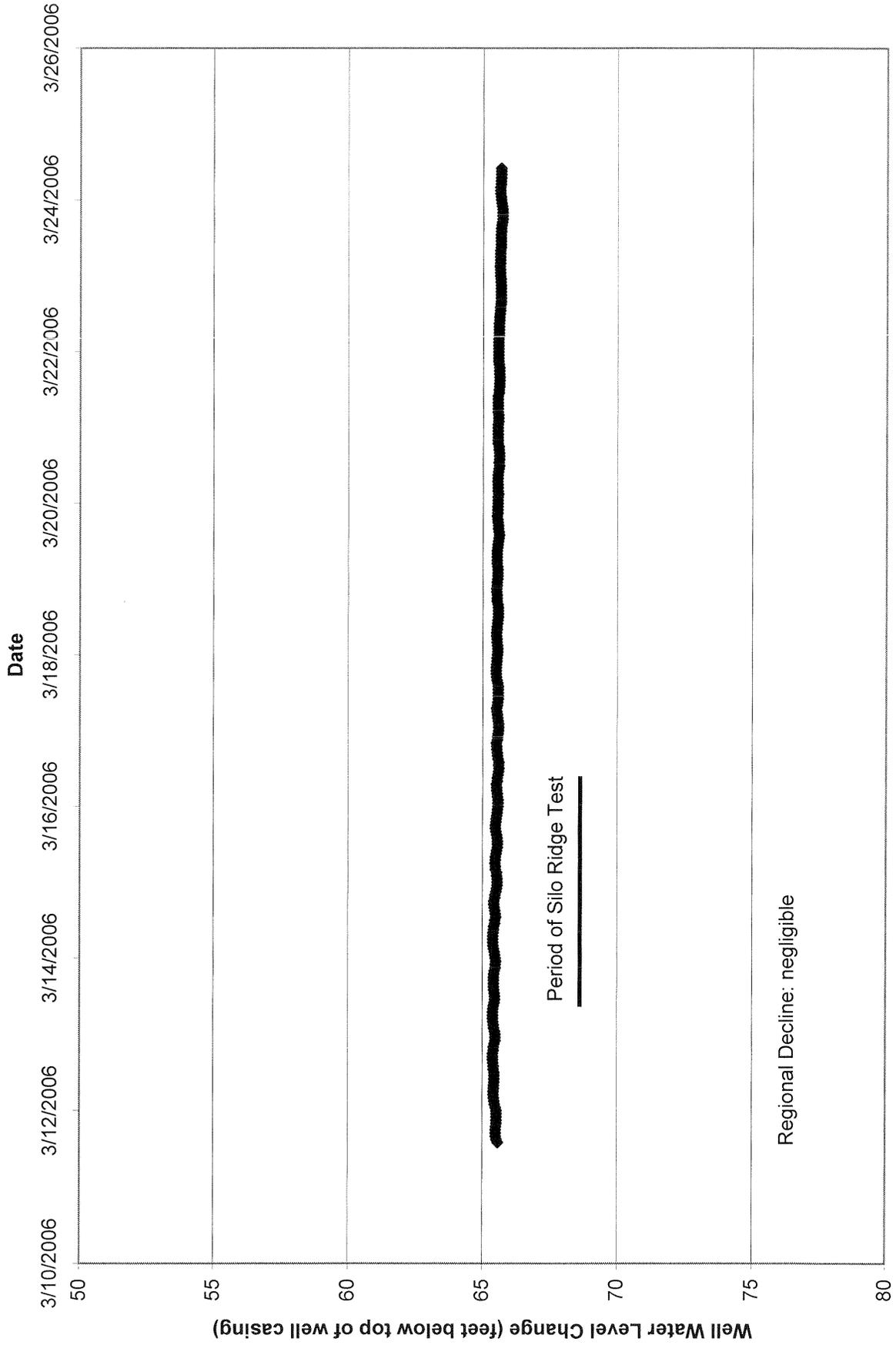


Figure 21 - Water level record for Well 10 during the 2006 pumping test

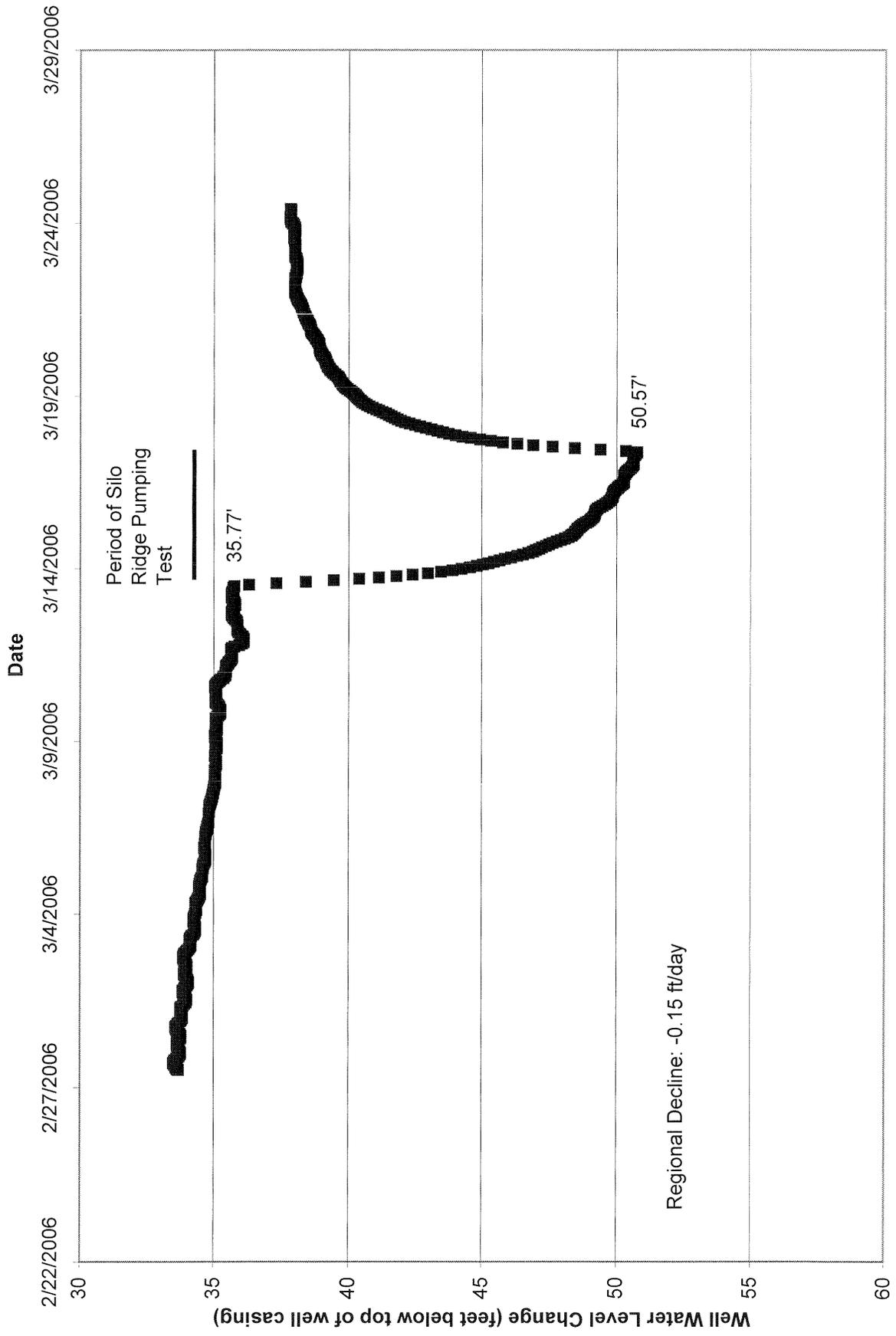


Figure 22: Water level record for Well 12 during the 2006 pumping test

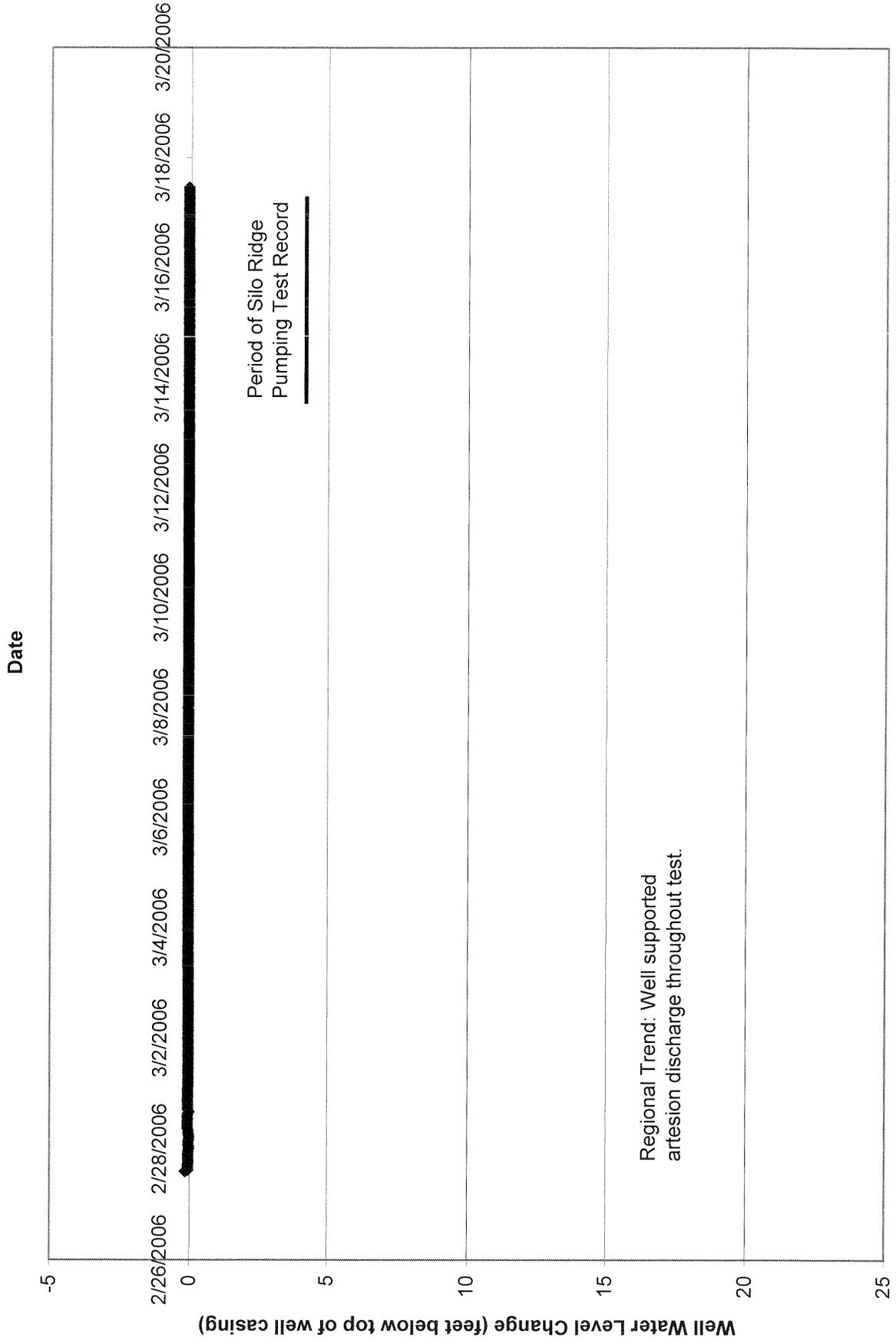


Figure 23: Well water level record for Well 13 during the 2006 pumping test

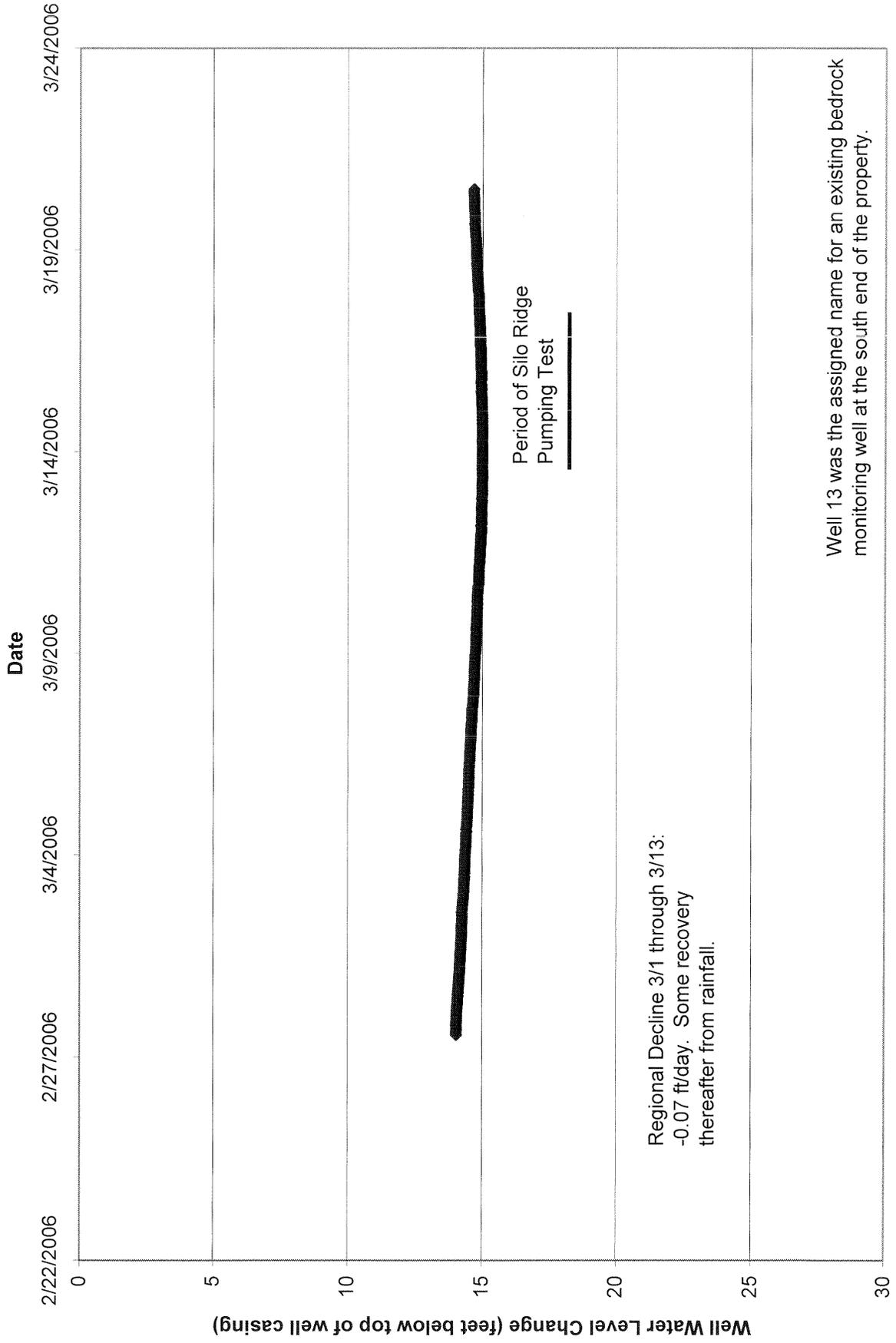


Figure 24: Water Level Record for Monitoring Well 14 during the 2006 pumping test

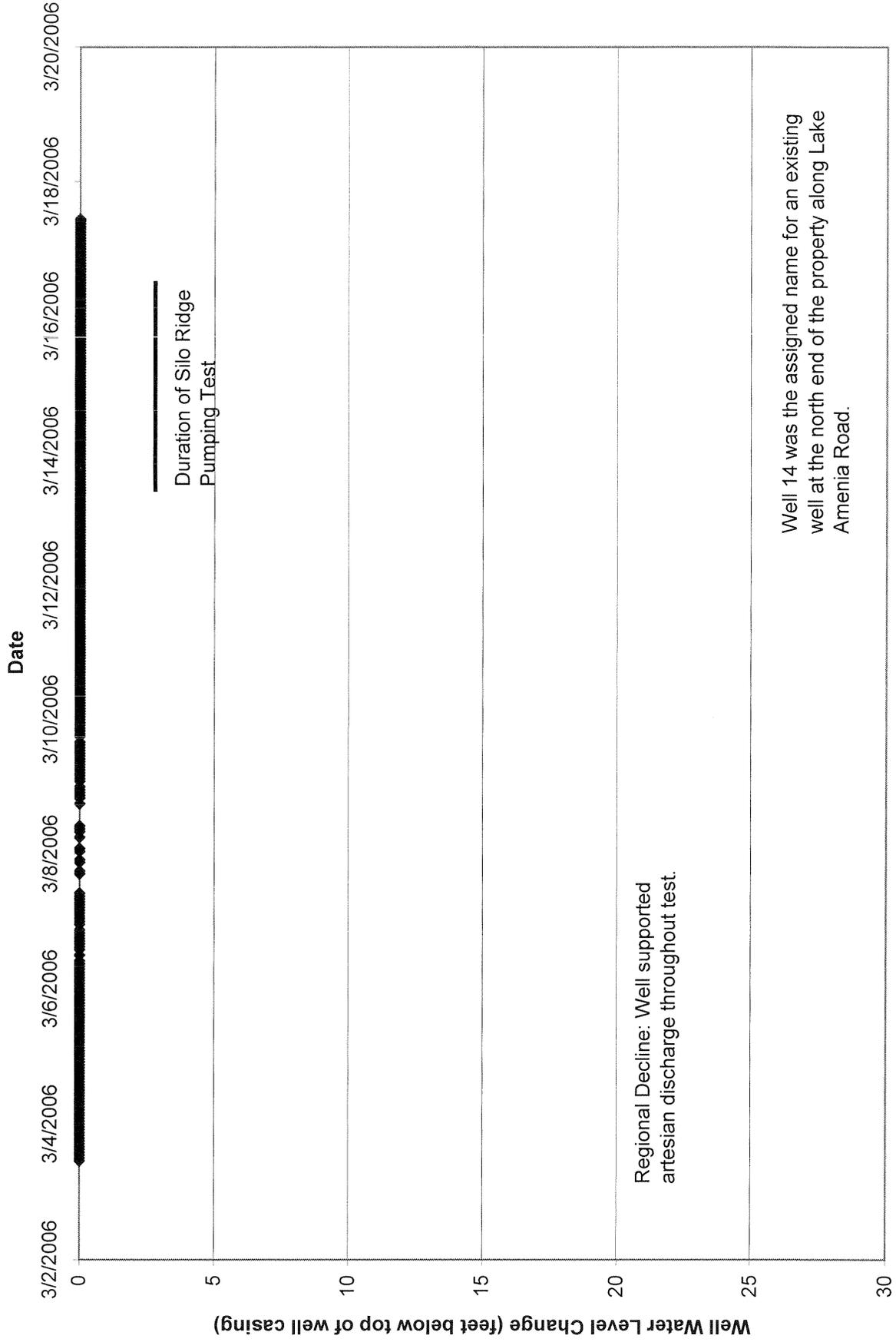


Figure 25: Water level record for Well 15 during the 2006 pumping test

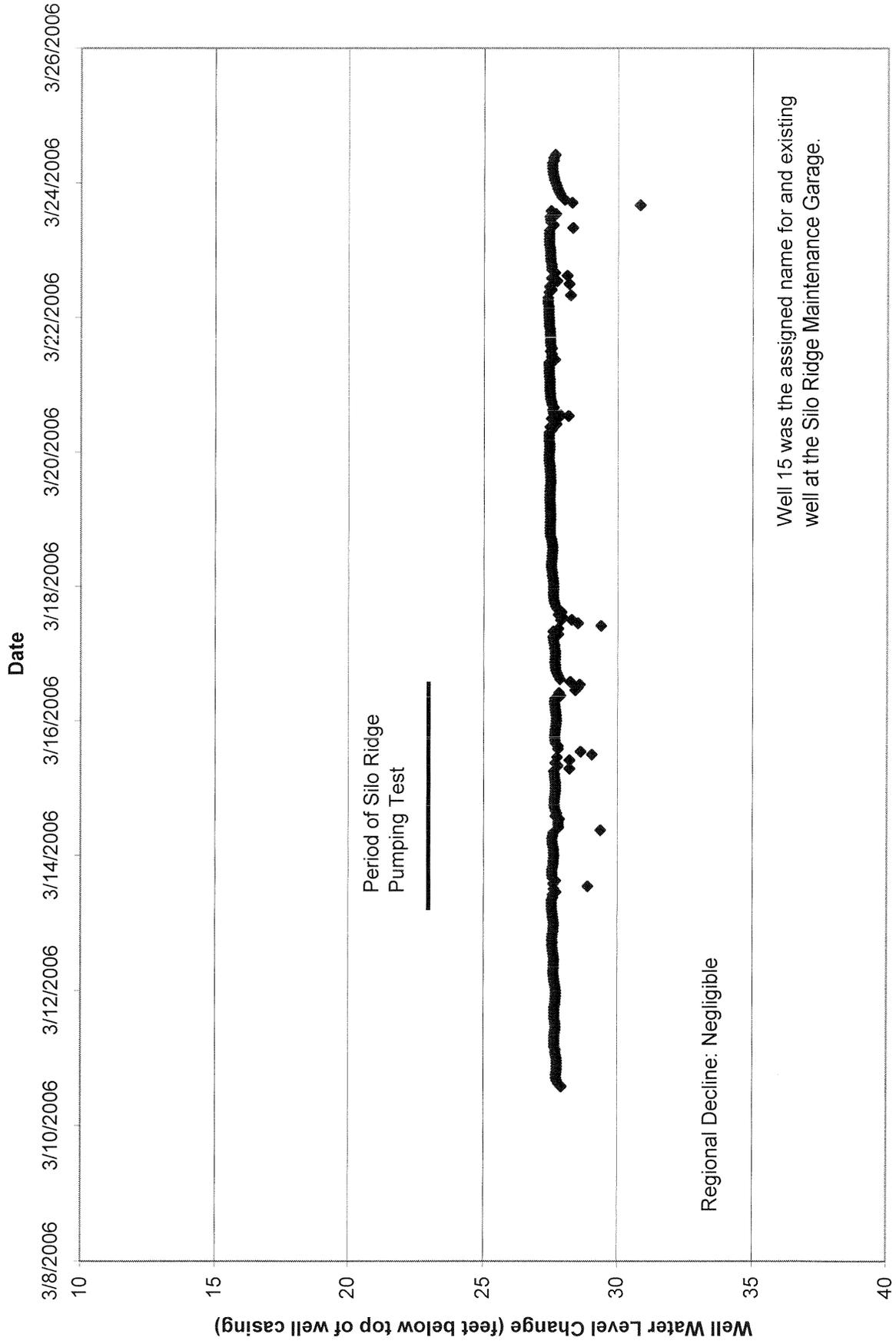


Figure 26: Water level record for Well A6D during the 2006 pumping test

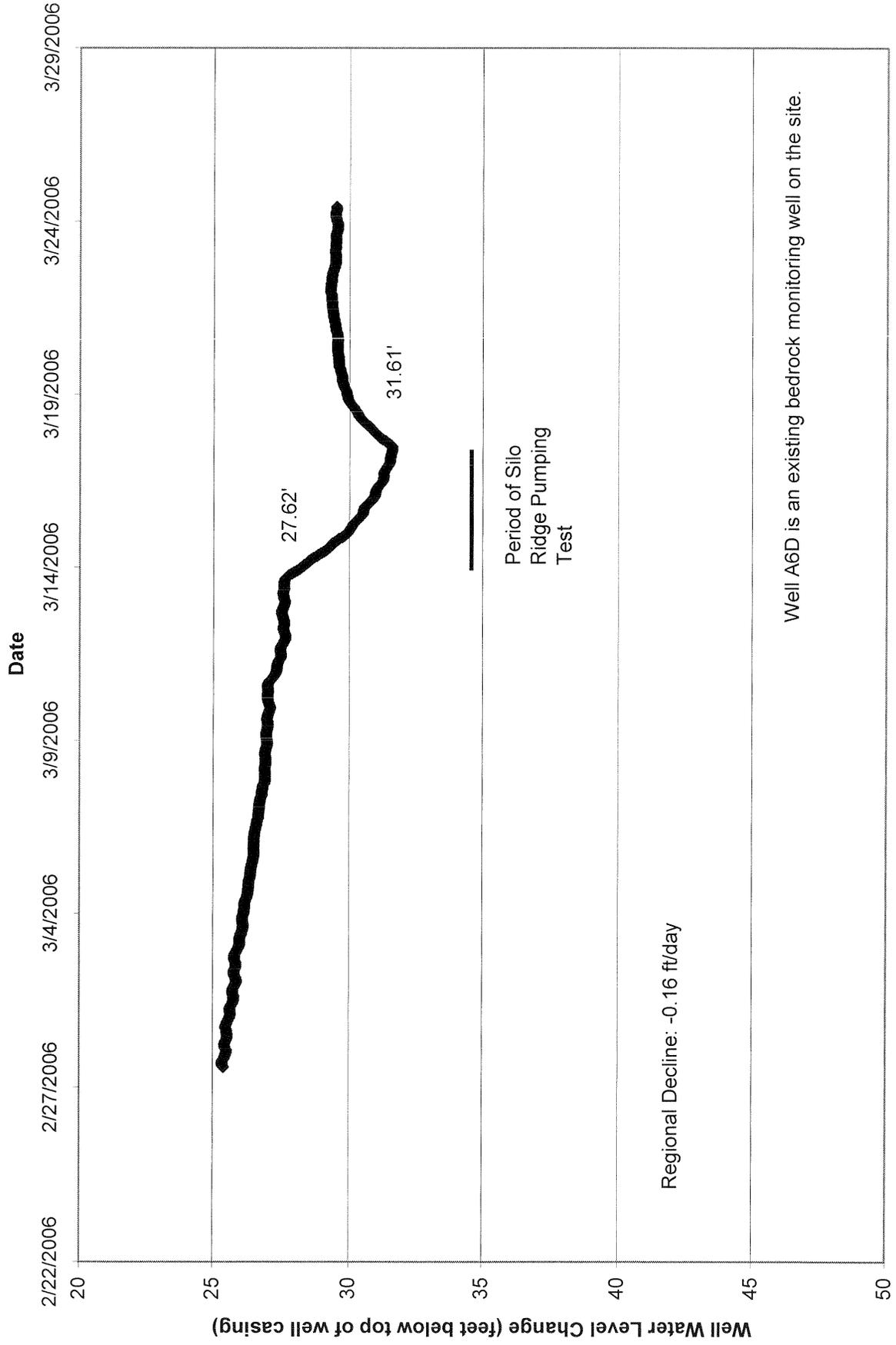


Figure 27: Water level record for domestic well at off-site Segalla rental during the 2006 pumping test

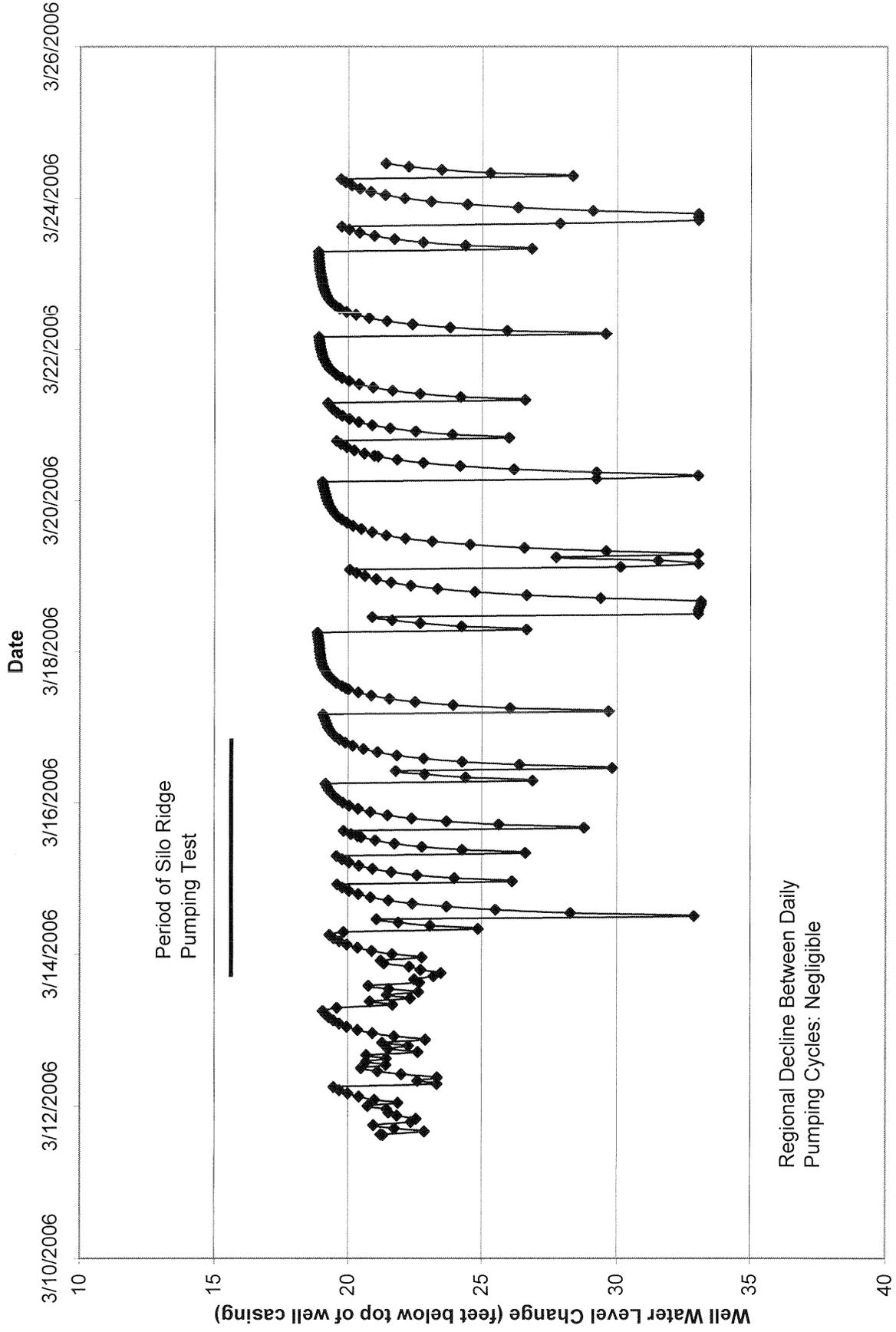


Figure 28: Well water level record for Pumping Well 9 during the 2007 test

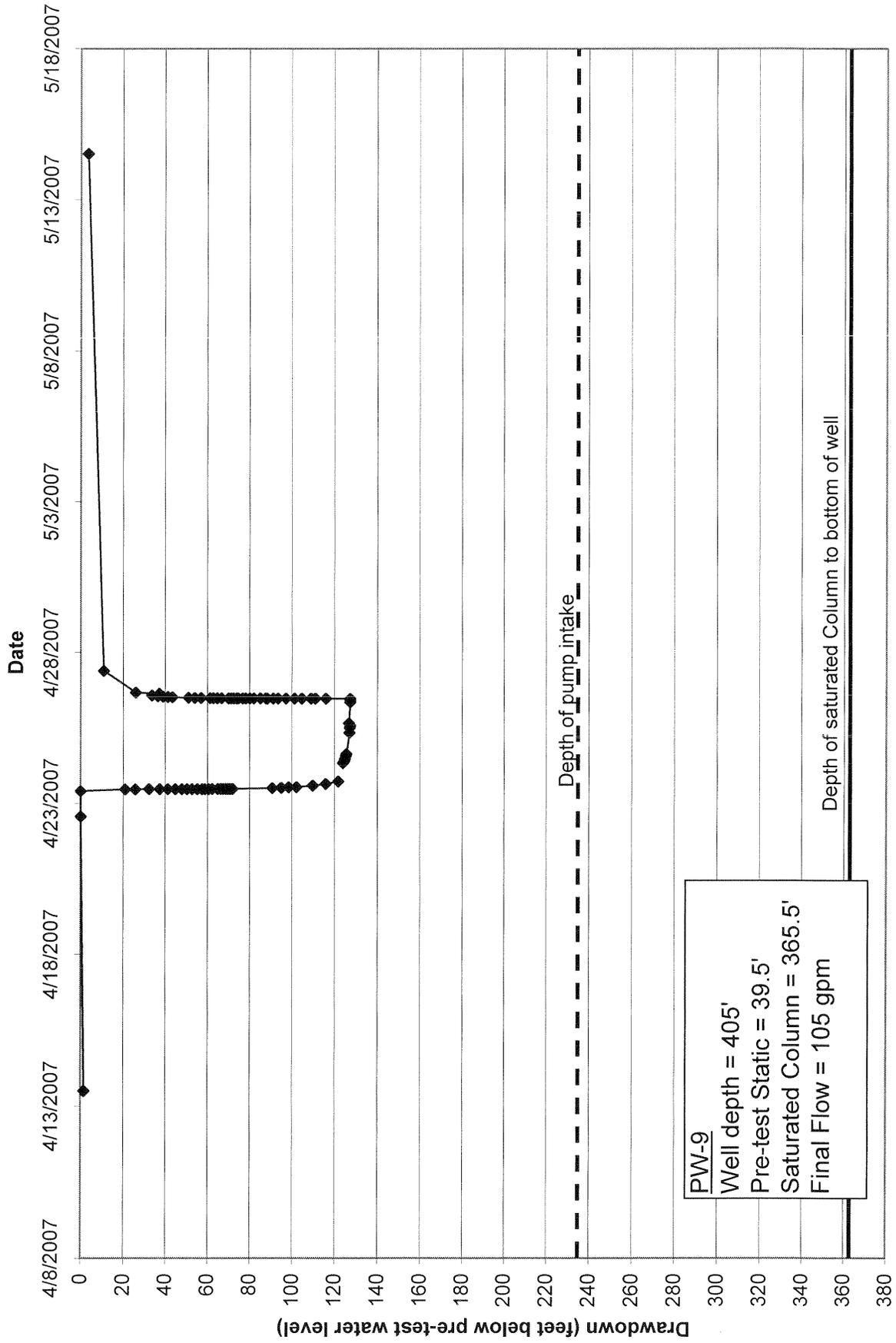


Figure 29: PW-9 30, 60, 90 and 180 day drought projections during the 2007 pumping test

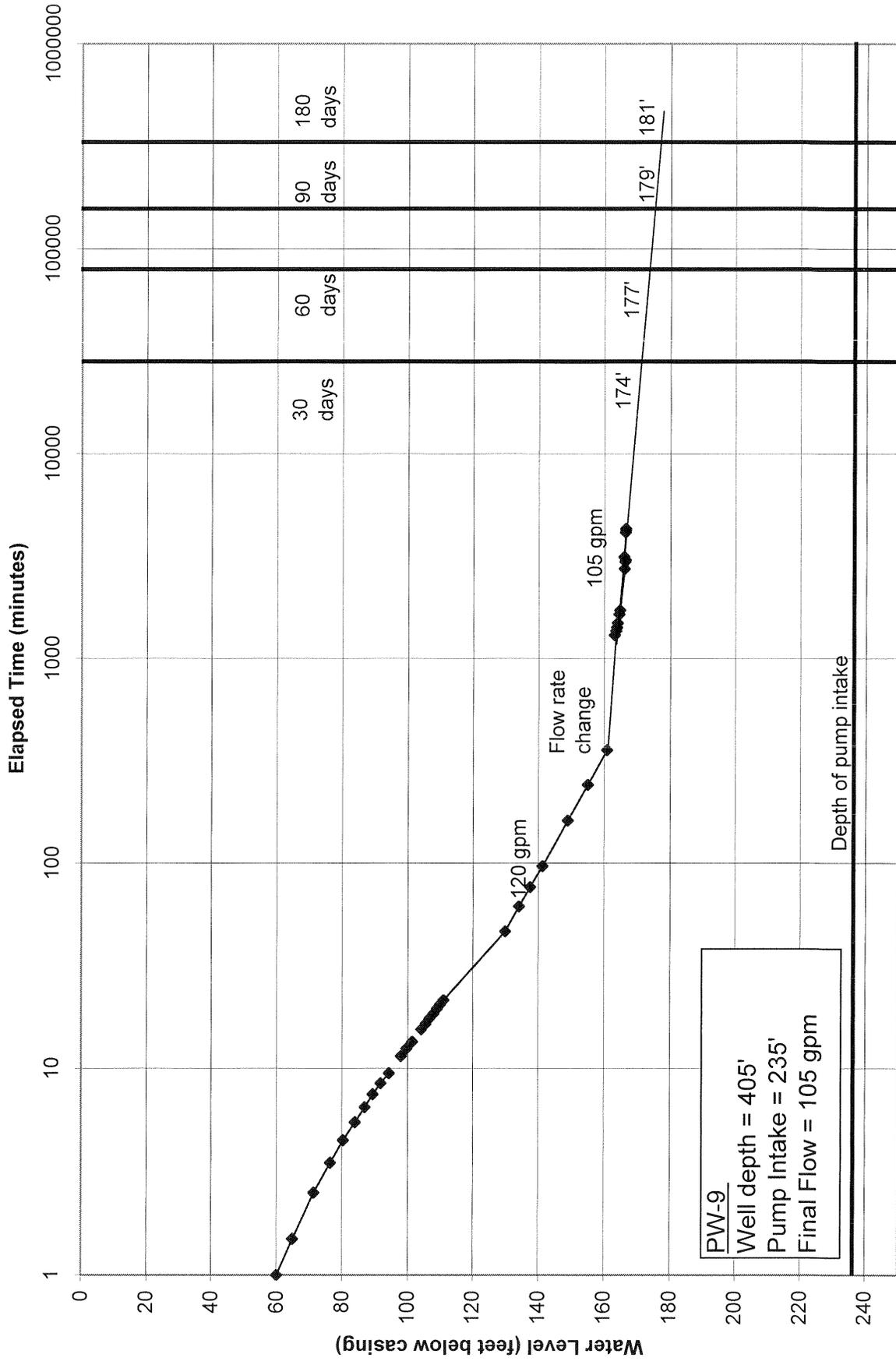


Figure 30: PW-11 pumping test response during the 2007 pumping test

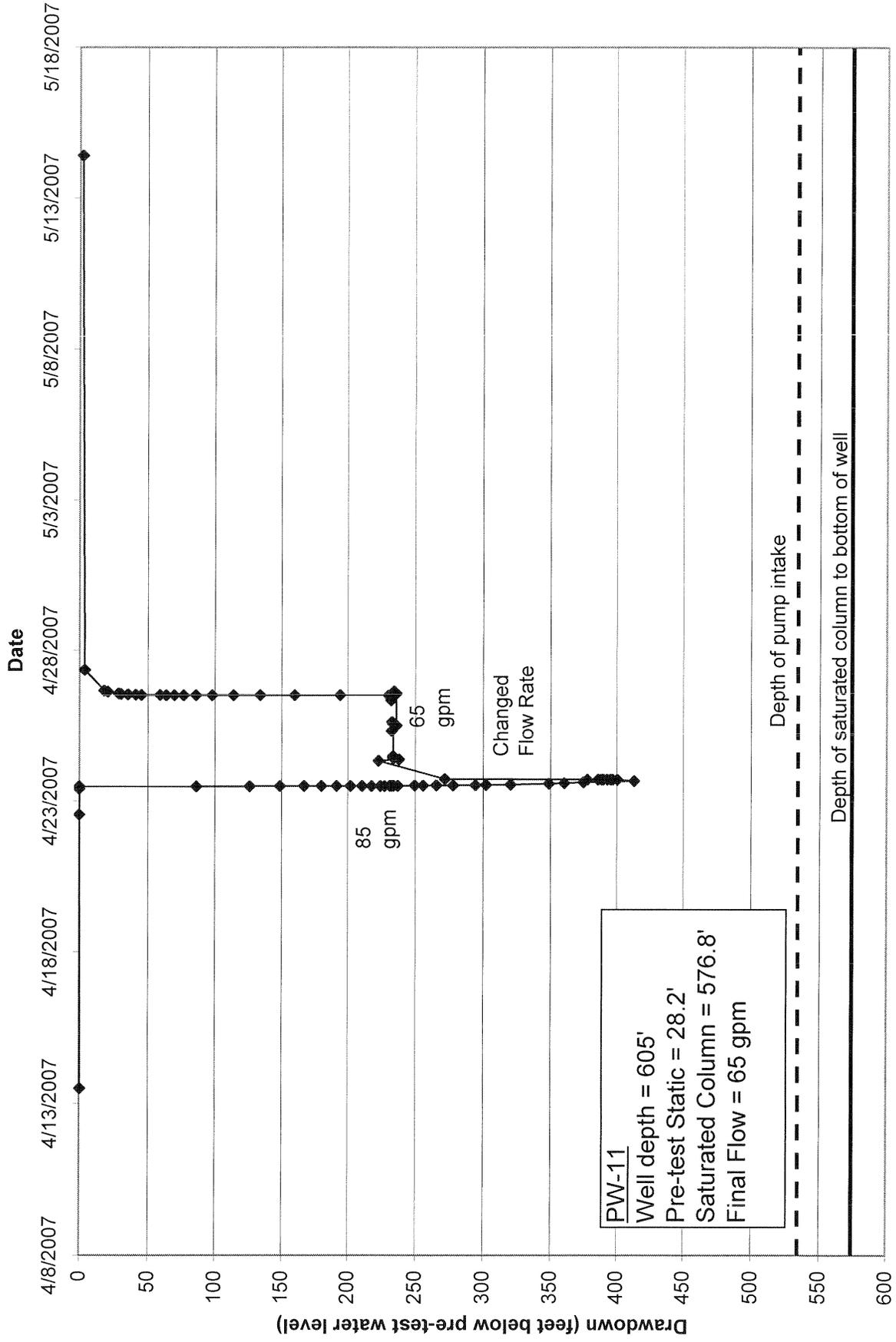


Figure 31: PW-11 30, 60, 90 and 180 day drought projections during the 2007 pumping test

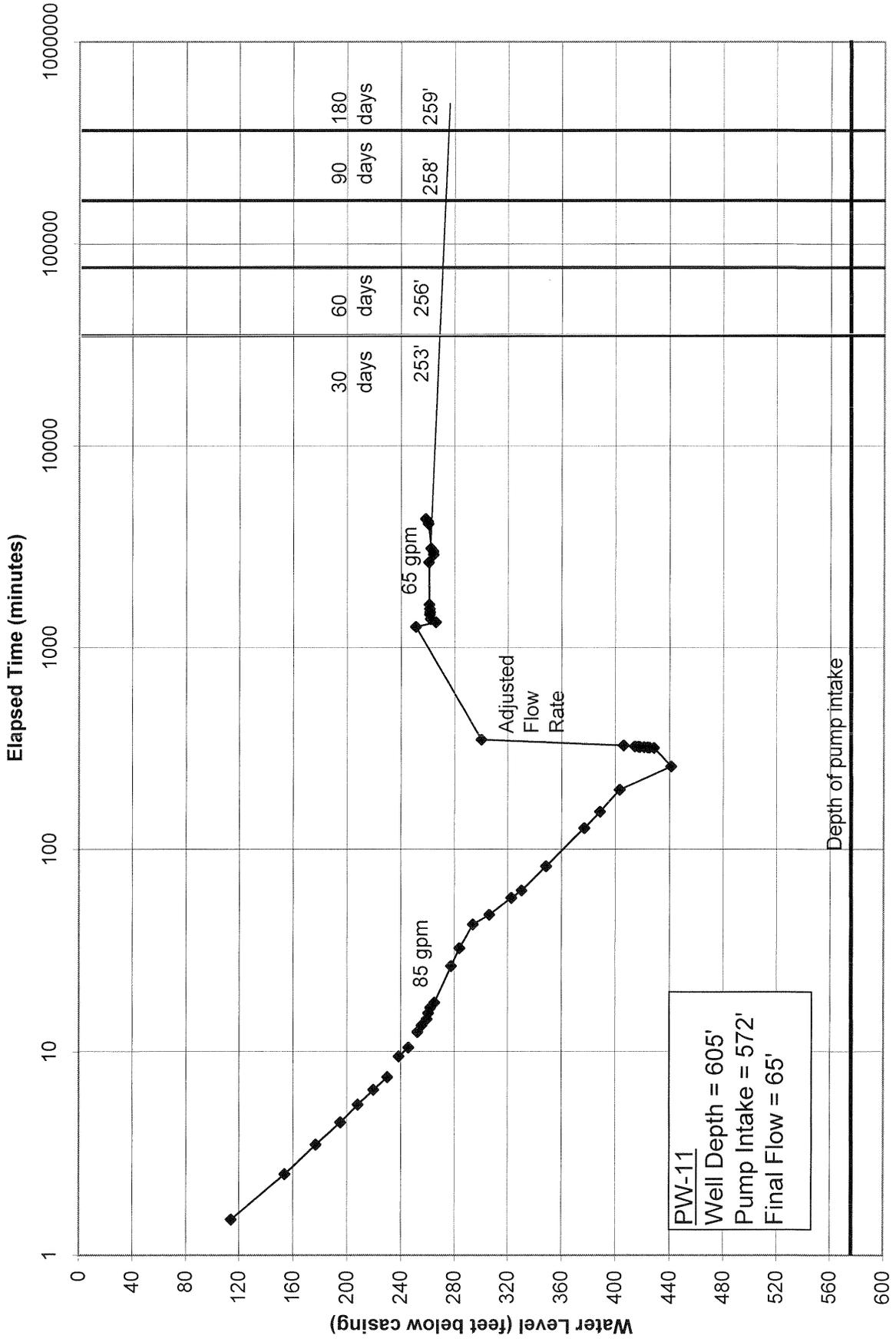


Figure 32 - Water Level Record for Well 10 during 2007 test

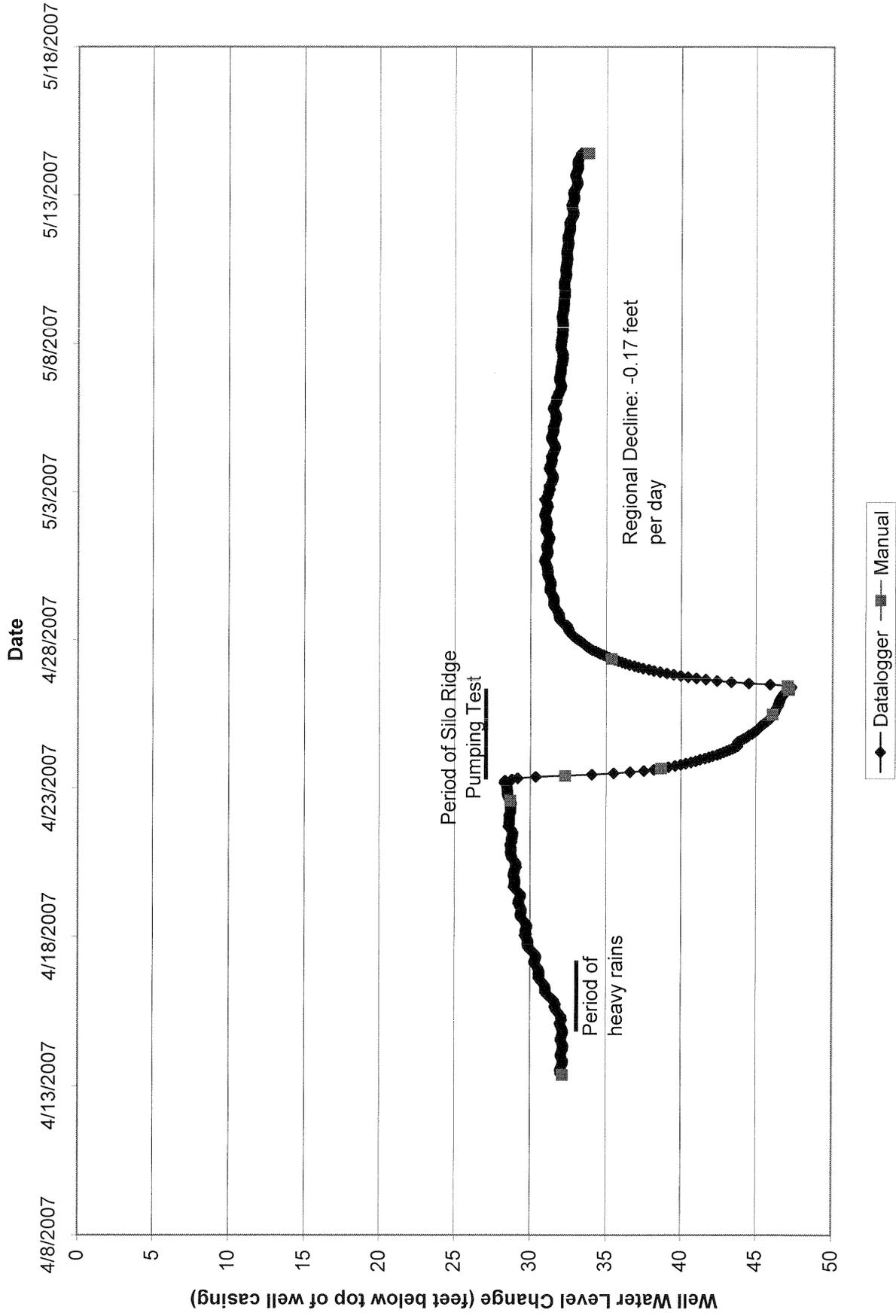
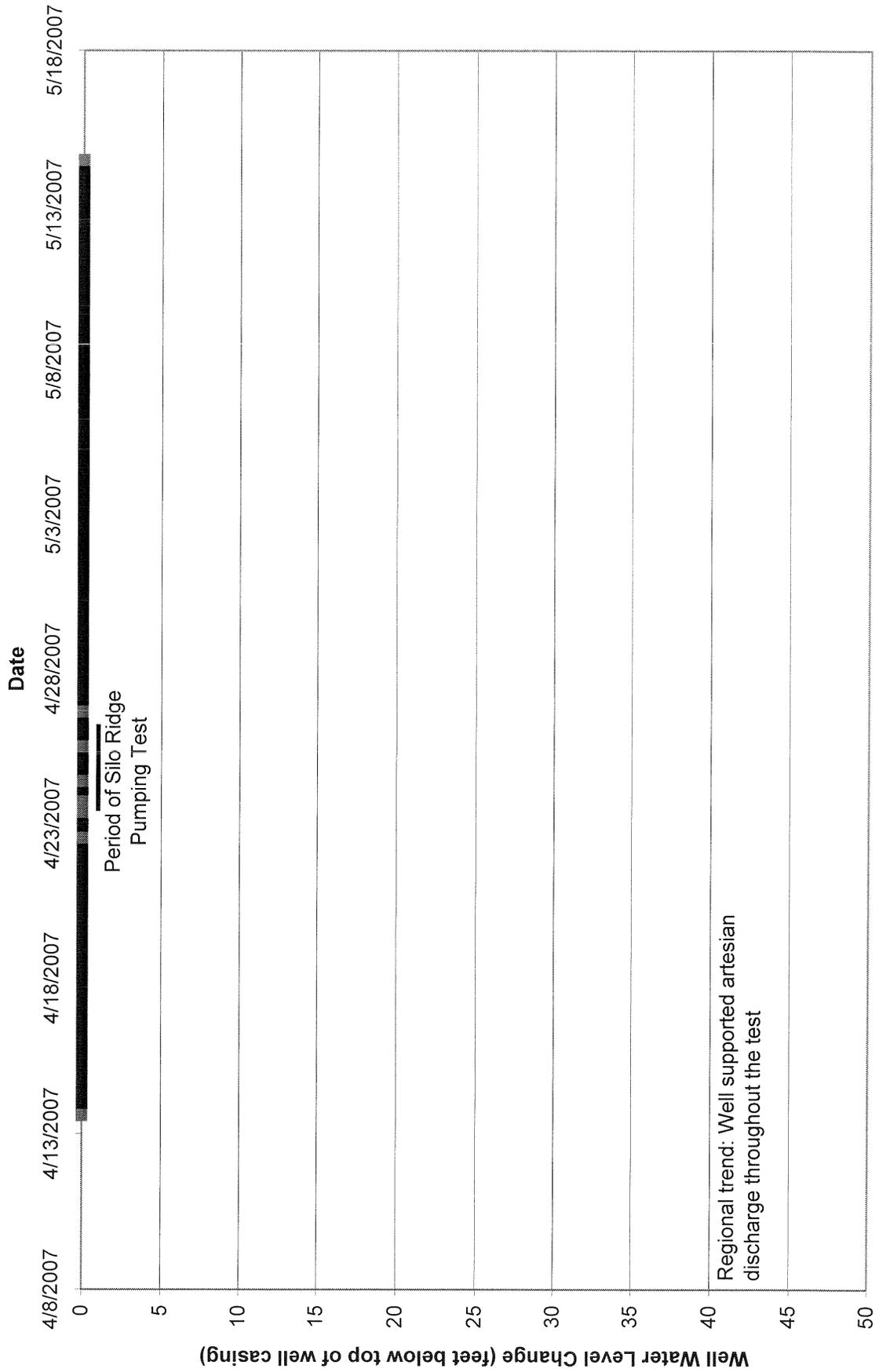


Figure 33: Water level record for Well 12 during 2007 test



◆ Datalogger    ■ Manual

Figure 34: Water level record for Well 13 during the 2007 test

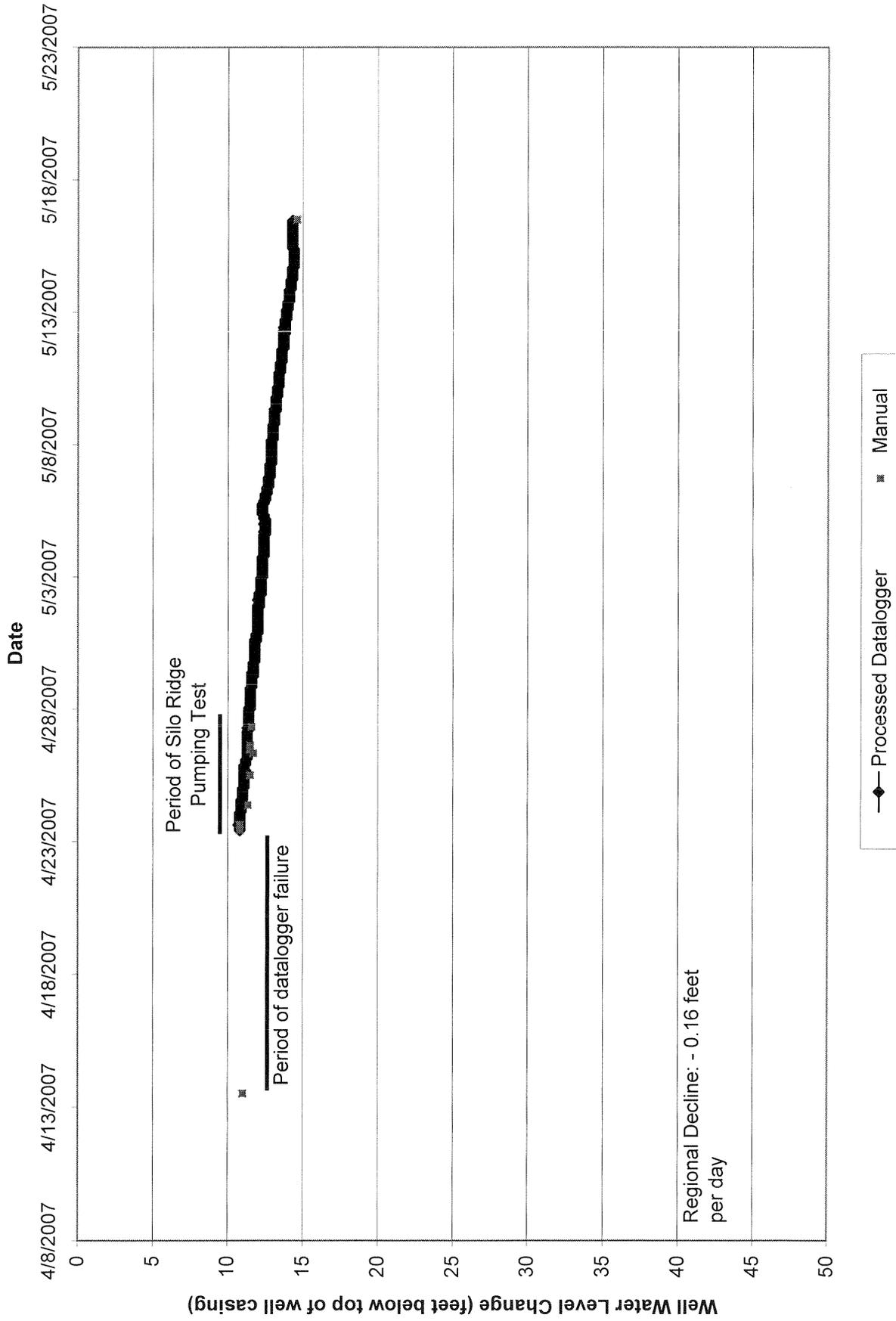


Figure 35: Water level record for Well A6D during the 2007 test

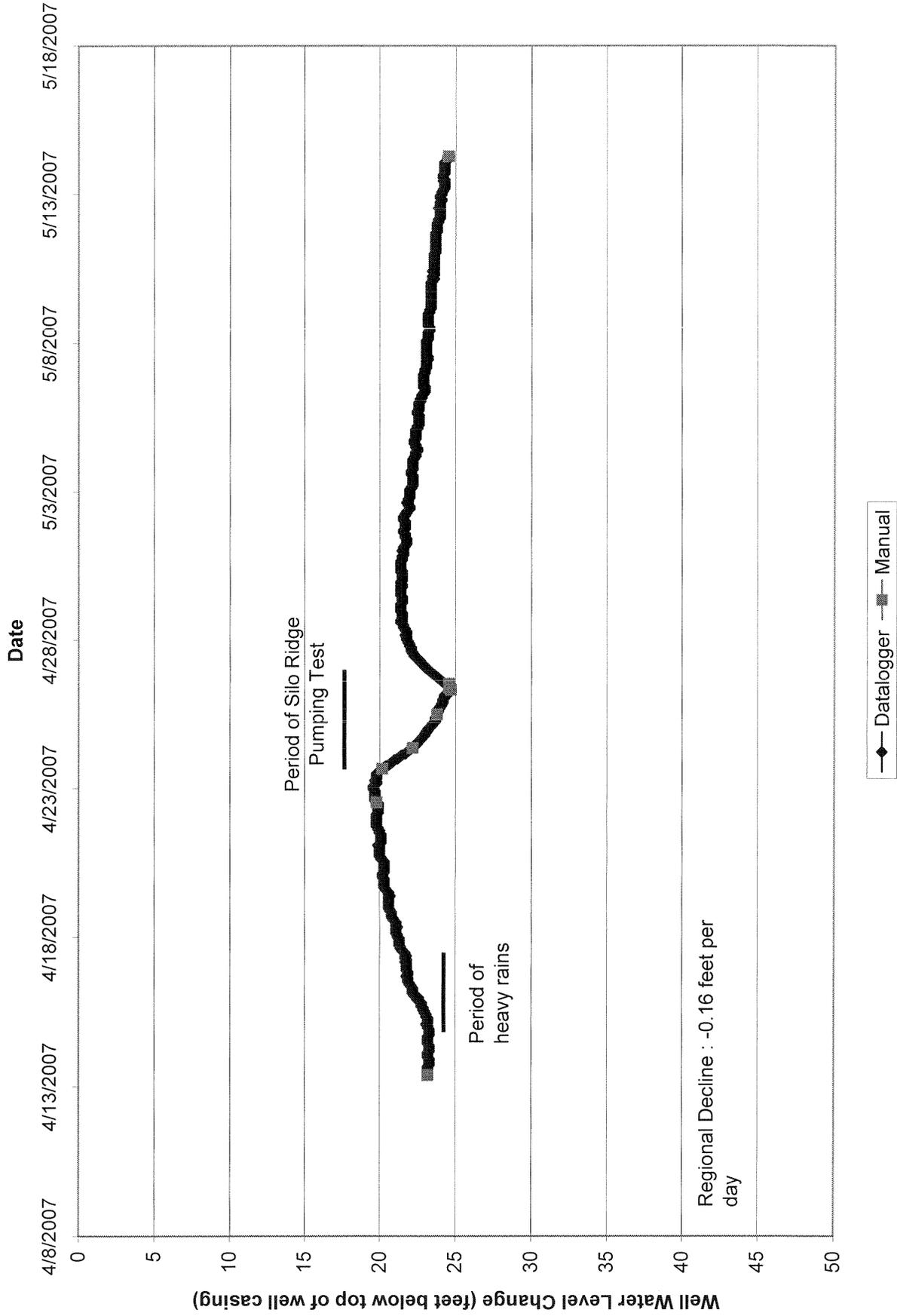


Figure 36: Water level record for Well PW 2 during the 2007 test

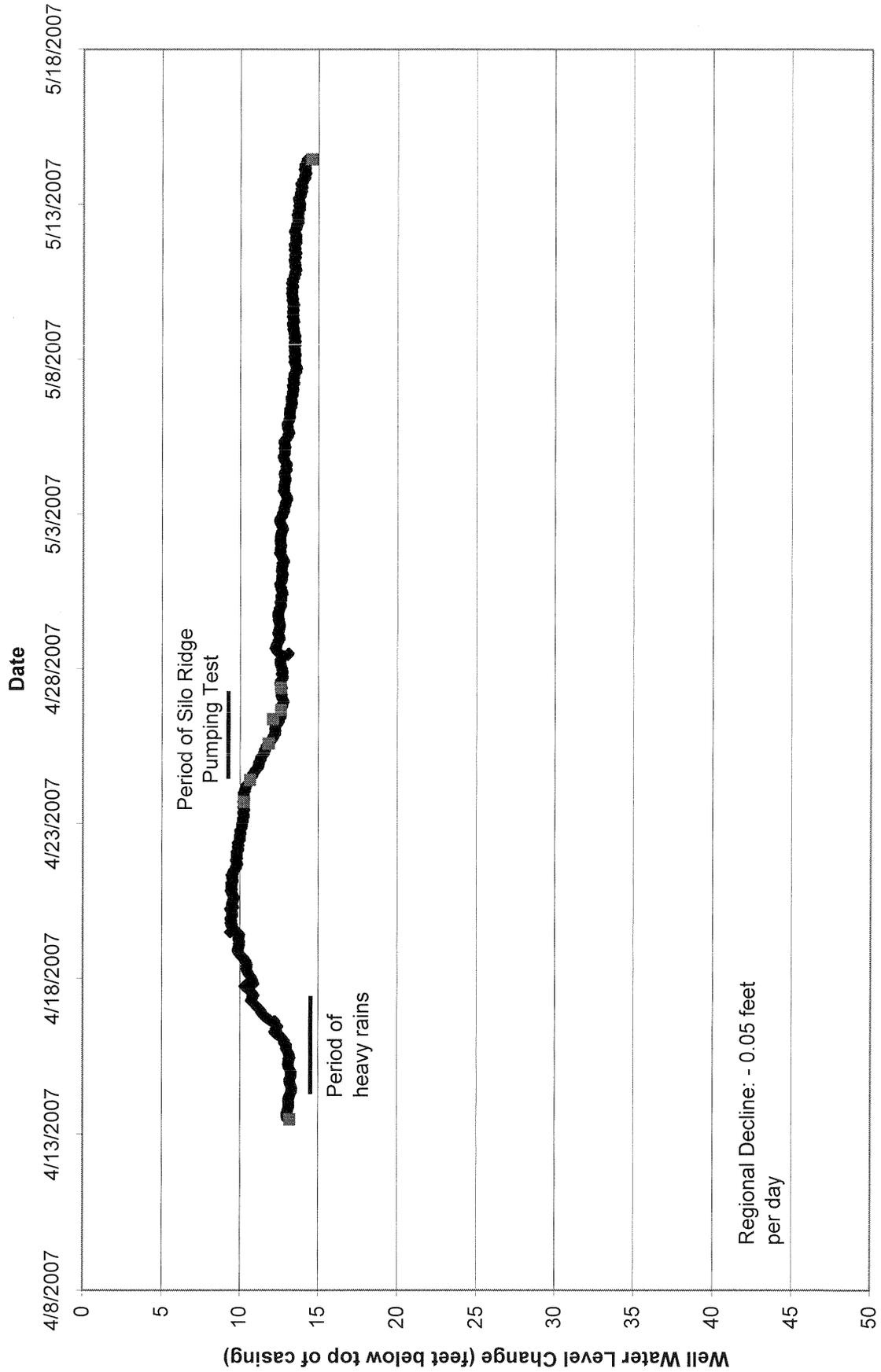
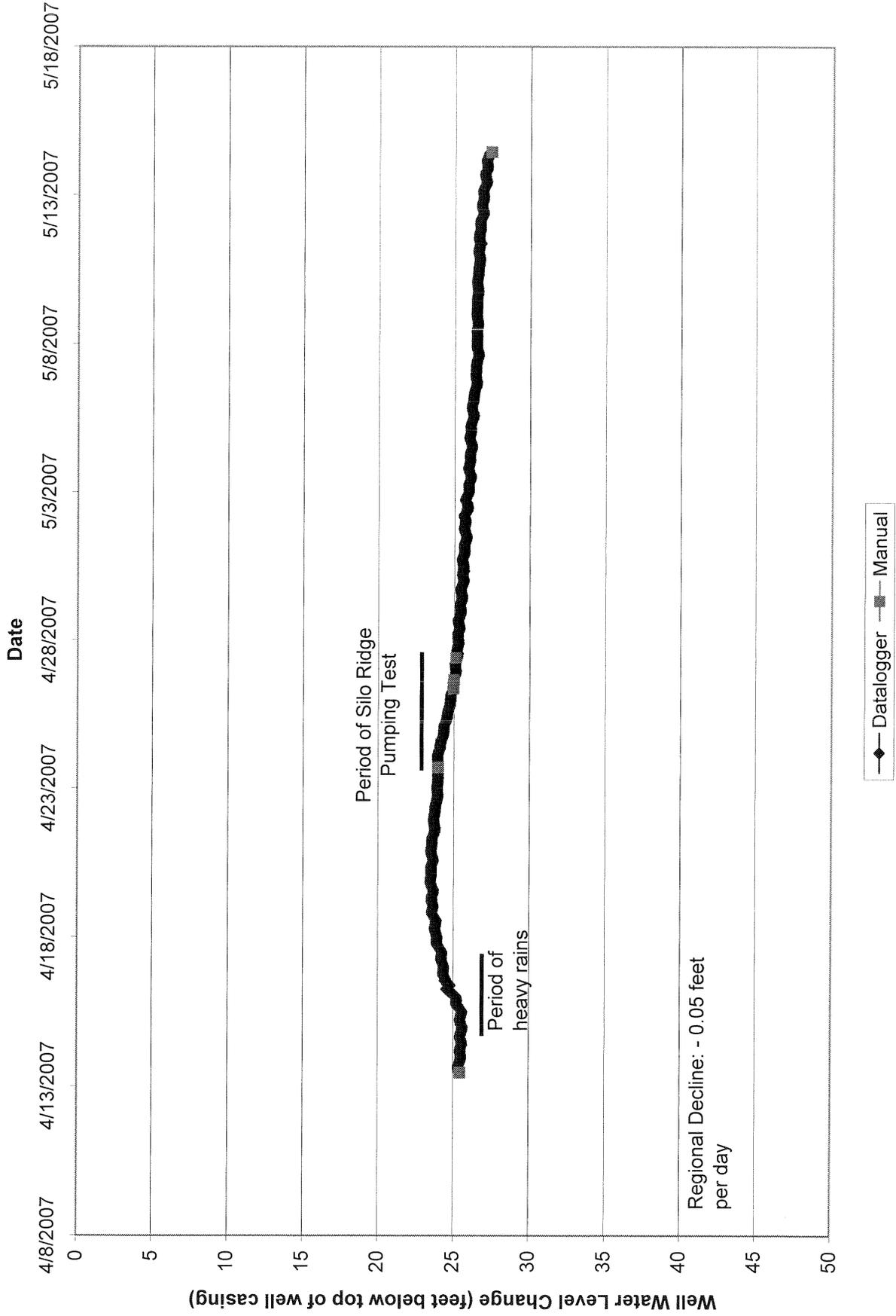


Figure 37: Well water level for Well PW 4 during the 2007 test



# **TABLES**

Table 1 - Summary of production well yields and drawdown during the 2006 and 2007 pumping tests

Well Number	Flow rate at end of test (gpm)	Well Water Level (feet below casing)						Pump Depth
		72-Hour	30 day*	60 day*	90 day*	180 day*		
PW-1	80	98.9	125	130	135	145	207	
PW-2	100	158	175	178	182	190	257	
PW-4	15	89	130	135	138	140	403	
PW-5	23	140	160	168	170	175	192	
PW-9**	105	166	174	177	179	181	235	
PW-11**	65	258	253	256	258	259	572	
<b>Total:</b>	<b>388</b>							

\*From projections of 72-hour test drawdown data during 2006 pumping test (Figures 6, 8, 10, 12, 14, 16).

\*\*Projections of 72-hour test drawdown data during the 2007 pumping test (Figures 29 & 31)

Table 2 - Precipitation during the 2006 pumping test

Observation Dates	Observations	Cummulative Water Depth Recorded in Bucket* (inches)	Estimated Average Daily Precipitation (inches)	Daily Record
February 27, 2006		0.00	0.00	February 27, 2006
			0.00	February 28, 2006
			0.00	March 1, 2006
March 2, 2006		0.00	0.00	March 2, 2006
			0.00	March 3, 2006
			0.00	March 4, 2006
			0.00	March 5, 2006
			0.00	March 6, 2006
			0.00	March 7, 2006
			0.00	March 8, 2006
			0.00	March 9, 2006
March 10, 2006		0.00	0.00	March 10, 2006
			0.00	March 11, 2006
			0.00	March 12, 2006
March 13, 2006	light rain	0.13	<b>0.13</b>	March 13, 2006
March 14, 2006	AM Rain	0.63	<b>0.50</b>	March 14, 2006
March 15, 2006	dry	0.50	0.00	March 15, 2006
March 16, 2006	dry	0.25	0.00	March 16, 2006
March 17, 2006	dry	0.00	0.00	March 17, 2006
			0.00	March 18, 2006
			0.00	March 19, 2006
March 20, 2006		0.00	0.00	March 20, 2006

\* daily evaporation rate in bucket estimated at 0.13 to 0.25 inches/day.

Table 3 - Summary of the 2006 pumping test drawdown in monitored wells near test

<i>Monitored Well</i>	<i>Water Level at Start of Test (feet below casing)</i>	<i>72-hour drawdown* (feet)</i>
Well 3	12.99	0.00
Well 6	0.60	10.85
Well 7	12.25	0.00
Well 8	65.51	0.00
Well 10	35.15	14.80
Well 12	0.00	0.00
Well 13	15.75	0.00
Well 14	0.00	0.00
Well 15	27.91	0.00
Well A6D	26.11	3.35
Segalla Rental	21.52	0.00

\*After correction for regional decline in each observed well, and after 90 hours observation for monitored wells near production wells PW-9 and PW-11.

Table 4 - Stage gauge and weir water depth data during the 2006 pumping test

SG-1 (H)	
Date & Time	Elevation below top of stake (feet)
2/23/06 11:00	0.92
3/10/06 11:00	0.92
3/13/06 17:00	0.79
3/14/06 12:35	0.81
3/15/06 14:50	0.83
3/16/06 15:25	0.86

SG-2 (J1) W1	
Date & Time	Elevation below top of stake (feet)
2/23/06 11:00	1.10
3/10/06 13:00	1.06
3/13/06 17:30	1.04
3/14/06 23:35	1.04
3/15/06 15:13	1.06
3/16/06 15:52	1.07

SG-3 (J2)	
Date & Time	Elevation below top of stake (feet)
2/23/06 11:00	1.25
3/10/06 13:00	1.41
3/13/06 17:30	1.44
3/14/06 11:40	1.40
3/15/06 15:15	1.45
3/16/06 15:53	1.47

SG-4 (Z)	
Date & Time	Elevation below top of stake (feet)
2/23/06 11:00	1.46*
3/10/06 13:00	1.83
3/13/06 17:43	1.77
3/14/06 11:30	1.43
3/15/06 16:57	1.52
3/16/06 16:32	1.47

\*stake moved prior to next reading

SG-5 (K)	
Date & Time	Elevation below top of stake (feet)
2/23/2006 NA	1.07
3/10/2006 NA	1.10
3/13/06 15:42	1.08
3/14/06 11:30	1.13
3/15/06 16:53	1.15
3/16/06 16:30	1.14

SG-6	
Date & Time	Elevation below top of stake (feet)
2/23/2006 NA	NA
3/11/2006 NA	2.24
3/13/06 15:05	2.25
3/14/06 11:00	2.24
3/15/06 14:15	2.24
3/16/2006 NA	NA

SG-7	
Date & Time	Elevation below top of stake (feet)
2/23/2006 NA	NA
3/11/06 NA	2.27
3/13/06 15:00	2.24
3/14/06 10:55	2.25
3/15/06 14:19	2.24
3/16/2006 NA	NA

SG-8	
Date & Time	Elevation below top of stake (feet)
2/23/2006 NA	NA
3/11/06 NA	DRY
3/13/2006 NA	DRY
3/14/2006 NA	DRY
3/15/06 14:42	DRY
3/16/2006 NA	DRY

Weir 1 (Pump House)	
Date & Time	Depth of Water (feet)
3/1/06 NA	0.38
3/13/2006 NA	0.08
3/14/06 11:30	0.08
3/15/06 16:55	0.07
3/16/06 16:30	0.06

Weir 1 (Pump House)	
Date & Time	Depth of Water (feet)
3/1/06 NA	0.06
3/13/2006 NA	0.08
3/14/06 11:35	0.10
3/15/06 15:13	0.08
3/16/06 15:51	0.06

Table 5 - NYS DOH Sub-Part 5 Laboratory Results

Contaminants	MCL*	PW-1 results (Clubhouse Well)	PW-2 Results	PW-4 Results	PW-5 Results	PW-9 Results	PW-11 Results
Asbestos	7MF/>10um S/L 10*6	ND	ND	ND	ND	ND	ND
Antimony-Total	0.006 mg/L	ND	ND	ND	ND	ND	ND
Arsenic	0.05 mg/L	ND	ND	ND	<0.003	ND	ND
Barium	2 mg/L	0.0094	0.0061	0.013	0.0069	ND	ND
Beryllium-Total	0.004 mg/L	ND	ND	ND	ND	ND	ND
Cadmium	0.005 mg/L	ND	ND	ND	ND	ND	ND
Chromium	0.1 mg/L	ND	ND	ND	ND	ND	ND
Cyanide-Total	0.2 mg/L	ND	ND	ND	ND	ND	ND
Mercury	0.002 mg/L	ND	ND	ND	ND	ND	ND
Selenium	0.05 mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	0.1 mg/l	ND	ND	ND	ND	ND	ND
Thallium-Total	0.002 mg/L	ND	ND	ND	ND	ND	ND
Fluoride	2.2 mg/L	ND	0.2	ND	ND	ND	ND
Chloride	250 mg/L	10	2	3	2	2	3
Iron	0.3 mg/L	<b>0.88</b>	<b>0.43</b>	<b>2.2</b>	<b>1.8</b>	0.086	0.095
Manganese	0.3 mg/L	0.21	0.23	<b>0.37</b>	<b>0.31</b>	0.024	0.2
Sodium	No designated limits	5.5	ND	ND	ND	ND	ND
Sulfate	250 mg/L	30	19	27	27	25	24
Zinc	5 mg/L	0.024	0.12	0.31	0.27	0.02	0.029
Color	15.0 PtCoU (DL)	Nd	ND	ND	ND	ND	ND
Odor	3 TON	ND	ND	ND	ND	ND	ND
Turbidity	1 NTU	<b>3.8</b>	<b>1.2</b>	<b>3.5</b>	<b>5.5</b>	0.3	ND
Corrosivity	No Table 1-7 MCL	0.2	-0.2	-0.52	-0.57	-0.07	-0.18
Alkalinity	No Table 1-7 MCL	126	129	102	98	107	75
Calcium, Total	No Table 1-7 MCL	48	41	37	35	35	29
ph	6.5-8.5 Units	7.86	7.49	7.32	7.29	7.81	7.89
Total Dissolved Solids	500 mg/L	214	130	147	85	172	109
Lead	0.015 mg/L	<b>0.016</b>	<b>0.02</b>	<b>0.015</b>	<b>0.016</b>	0.001	0.004
Nickel-Total	0.1 mg/L	ND	0.0073	ND	ND	ND	ND
Copper	1.3 mg/L	ND	ND	ND	ND	ND	ND
Nitrate	10 mg/L (As Nitrogen)	ND	ND	ND	ND	ND	0.06
Nitrite	1 mg/L (As Nitrogen)	ND	ND	ND	ND	ND	ND
Total Nitrate and Nitrite	10 mg/L (As Nitrogen)	ND	ND	ND	ND	ND	0.06
Benzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Bromobenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Bromochloromethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
Bromomethane	5.0 ug/L	ND	ND	ND	ND	ND	ND

Sample Date: March 16, 2006

The Hazen Companies  
May 2007

Table 5 - NYS DOH Sub-Part 5 Laboratory Results

Contaminants	MCL*	PW-1 results (Clubhouse Well)	PW-2 Results	PW-4 Results	PW-5 Results	PW-9 Results	PW-11 Results
n-Butylbenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	5.0 ug/L	ND	ND	ND	ND	ND	ND
Chlorobenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Chloroethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
Chloromethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	5.0 ug/L	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Dibromomethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5.0 ug/L	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.0 ug/L	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	5.0 ug/L	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	5.0 ug/L	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Trans-1,3-Dichloropropene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Methylene Chloride	5.0 ug/L	ND	ND	ND	ND	ND	ND
n-Propylbenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Styrene	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Toluene	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND

The Hazen Companies

May 2007

Sample Date: March 16, 2006

Table 5 - NYS DOH Sub-Part 5 Laboratory Results

Contaminants	MCL*	PW-1 results (Clubhouse Well)	PW-2 Results	PW-4 Results	PW-5 Results	PW-9 Results	PW-11 Results
1,2,4-Trichlorobenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
Trichloroethene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	5.0 ug/L	ND	ND	ND	ND	ND	ND
m-Xylene	5.0 ug/L	ND	ND	ND	ND	ND	ND
o-Xylene	5.0 ug/L	ND	ND	ND	ND	ND	ND
p-Xylene	5.0 ug/L	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	NA	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NA	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	NA	ND	ND	ND	ND	ND	ND
Bromoform (Tribromomethane)	NA	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	100 ug/L	ND	ND	ND	ND	ND	ND
Vinyl chloride	2.0 ug/L	ND	ND	ND	ND	ND	ND
Alachlor	2.0 ug/L	ND	ND	ND	ND	ND	ND
Aldicarb	3.0 ug/L	ND	ND	ND	ND	ND	ND
Aldicarb sulfone	2.0 ug/L	ND	ND	ND	ND	ND	ND
Aldicarb sulfoxide	4.0 ug/L	ND	ND	ND	ND	ND	ND
Atrazine	3.0 ug/L	ND	ND	ND	ND	ND	ND
Carbofuran	40 ug/L	ND	ND	ND	ND	ND	ND
Chlorodane	2.0 ug/L	ND	ND	ND	ND	ND	ND
Dibromochloropropane (DBCP)	0.2 ug/L	ND	ND	ND	ND	ND	ND
2,4-D	50 ug/L	ND	ND	ND	ND	ND	ND
Endrin	2.0 ug/L	ND	ND	ND	ND	ND	ND
Ethylene dibromide (EDB)	0.05 ug/L	ND	ND	ND	ND	ND	ND
Heptachlor	0.4 ug/L	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	0.2 ug/L	ND	ND	ND	ND	ND	ND
Lindane	0.2 ug/L	ND	ND	ND	ND	ND	ND
Methoxychlor	40.0 ug/L	ND	ND	ND	ND	ND	ND
PCB 1016	0.5 ug/L	Absence	Absence	Absence	Absence	Absence	Absence
PCB 1221	0.5 ug/L	Absence	Absence	Absence	Absence	Absence	Absence
PCB 1232	0.5 ug/L	Absence	Absence	Absence	Absence	Absence	Absence
PCB 1242	0.5 ug/L	Absence	Absence	Absence	Absence	Absence	Absence

The Chazen Companies

May 2007

Sample Date: March 16, 2006

Table 5 - NYS DOH Sub-Part 5 Laboratory Results

Contaminants	MCL*	PW-1 results (Clubhouse Well)	PW-2 Results	PW-4 Results	PW-5 Results	PW-9 Results	PW-11 Results
PCB 1248	0.5 ug/L	Absence	Absence	Absence	Absence	Absence	Absence
PCB 1260	0.5 ug/L	Absence	Absence	Absence	Absence	Absence	Absence
Pentachlorophenol	1.0 ug/L	ND	ND	ND	ND	ND	ND
Toxaphene	3.00 ug/L	ND	ND	ND	ND	ND	ND
2,4,5-TP(Silvex)	10 ug/L	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.2 ug/L	ND	ND	ND	ND	ND	ND
Di(2-ethylhexyl)phthalate	6.0 ug/L	ND	ND	ND	ND	ND	ND
Dinoseb	7.0 ug/L	ND	ND	ND	ND	ND	ND
Diquat	20 ug/L	ND	NOT ANALYZED				
Hexachlorobenzene	1.0 ug/L	ND	ND	ND	ND	ND	ND
Methomyl	50 ug/L	ND	ND	ND	ND	ND	ND
Oxamyl vydate	200 ug/L	ND	ND	ND	ND	ND	ND
Simazine	4.0 ug/L	ND	ND	ND	ND	ND	ND
2,3,7,8-TCDD (dioxin)	30 pg/L	ND	NOT ANALYZED				
Aldrin	5.0 ug/L	ND	ND	ND	ND	ND	ND
Butachlor	50 ug/L	ND	ND	ND	ND	ND	ND
Carbaryl	50 ug/L	ND	ND	ND	ND	ND	ND
Dalapon	50 ug/L	ND	ND	ND	ND	ND	ND
Di(2-ethylhexyl)adipate	400 ug/L	ND	ND	ND	ND	ND	ND
Dicamba	50 ug/L	ND	ND	ND	ND	ND	ND
Dieldrin	5.0 ug/L	ND	ND	ND	ND	ND	ND
Endothal	50 ug/L	ND	NOT ANALYZED				
Glyphosate	50 ug/L	ND	NOT ANALYZED				
Hexachlorocyclopentadiene	50 ug/L	ND	ND	ND	ND	ND	ND
3-Hydroxycarbofuran	50 ug/L	ND	ND	ND	ND	ND	ND
Metolachlor	50 ug/L	ND	ND	ND	ND	ND	ND
Metribuzin	50 ug/L	ND	ND	ND	ND	ND	ND
Picloram	50 ug/L	ND	ND	ND	ND	ND	ND
Propachlor	50 ug/L	ND	ND	ND	ND	ND	ND
Total coliform	Any positive sample	Absent	Absent	Absent	Absent	Absent	Absent
<i>Escherichia coli (E. coli)</i>	Any positive sample	Absent	Absent	Absent	Absent	Absent	Absent
Radium-226	5 picocuries per liter	0.33 +/-0.15	1.15 +/-0.3	0.21 +/-0.16	0.3 +/-0.13	0.35 +/-0.18	0.13 +/-0.1
Radium-228	5 picocuries per liter	1.6 +/-1.51	1.3 +/-1.29	-1.0 +/-1.26	2.5 +/-1.42	2.0 +/-1.11	2.9 +/-1.9
Gross Alpha	15 picocuries per liter	3.0 +/-1.5	1.7 +/-1.1	2.3 +/-1.4	12.7 +/-3.1	1.4 +/-1	0.8 +/-0.9
Gross Beta	50 picocuries per liter	3.6 +/-0.9	2.6 +/-0.9	6.5 +/-1.1	16.7 +/-1.7	3.0 +/-0.9	2.4 +/-0.8
Methyl tert butyl ether	10 ug/L	ND	ND	ND	ND	ND	ND

The Chazen Companies  
May 2007

Contaminants	MCL*	PW-1 results (Clubhouse Well)	PW-2 Results	PW-4 Results	PW-5 Results	PW-9 Results	PW-11 Results
Radon In Water	40,000 picocuries per liter	1300	560	1700	1500	1200	2200

Results not meeting MCLs are presented in **BOLD**

ND - not detected above method detection limit

\* = MCL from Subpart 5-1.

Table 6: Summary of drawdown in monitored wells near test during 2007 pumping test

Monitored Well	Water level at start of test (feet below casing)	72 hour drawdown* (feet below casing)
Well 10	28.69	17.87
Well 12	Artesian	Artesian
Well 13	10.8	0.22
Well A6D	19.58	4.63
Well PW2	10.25	2.22
Well PW4	23.95	1.03

\* After correction for regional decline in each observed well and after 90 hours observation for monitored wells near production well PW-9 and PW-11

Table 7: Precipitation during the 2007 pumping test

Observation Dates	Observations	Cummulative Water Depth Recorded in Bucket** (inches)	Estimated Average Daily Precipitation (inches)	Daily Record
April 13, 2007	Sunny Warm		0.00	April 13, 2007
			0.00*	April 14, 2007
	Flooding Period		3.51*	April 15, 2007
	Flooding Period		1.47*	April 16, 2007
			0.00*	April 17, 2007
			0.00*	April 18, 2007
			0.00*	April 19, 2007
			0.00*	April 20, 2007
			0.00*	April 21, 2007
April 22, 2007	Sunny, Warm 85deg	0.00	0.00	April 22, 2007
April 23, 2007	Sunny, Warm 85deg	0.00	0.00	April 23, 2007
April 24, 2007	Sunny, Warm 70deg	0.00	0.00	April 24, 2007
April 25, 2007	Warm, PM rain	0.03	0.04	April 25, 2007
April 26, 2007	Cool, PM rain	0.03	0.04	April 26, 2007
April 27, 2007	Cool, AM frost & rain	0.11	0.13	April 27, 2007
April 28, 2007	Sunny, Cool	0.00	0.00	April 28, 2007

\* Precipitation not measured by TCC, data measured from Harlem Valley, Wingdale, New York (Source: [www.wunderground.com](http://www.wunderground.com))

\*\* Bucket placed on site for daily measurements beginning on April 22, 2007. Daily evaporation rate in bucket estimated at 0.20 inches/day.

Table 8: Staff Gauge and Weir Water Depth Data

SG-4	
Date & Time	Elevation below top of stake (feet)
4/13/2007 13:00	1.41
4/23/2007 16:50	1.7
4/24/2007 9:42	1.71
4/25/2007 10:51	1.81
4/26/2007 8:47	1.87
4/26/2007 13:42	1.9
4/27/2007 9:36	1.99
5/14/2007 10:40	2.01

SG-5	
Date & Time	Elevation below top of stake (feet)
4/13/2007 13:05	1.87
4/23/2007 16:52	1.32
4/24/2007 9:40	1.31
4/25/2007 10:35	1.31
4/26/2007 8:45	1.31
4/26/2007 13:41	1.31
4/27/2007 9:34	1.31
5/14/2007 10:41	Dammed

Weir 1	
Date & Time	Depth of water (feet)
4/23/2007 14:35	0.3
4/24/2007 9:44	0.3
4/25/2007 10:47	0.29
4/26/2007 8:42	0.29
4/27/2007 13:38	0.28
5/14/2007 10:38	Dammed

# **APPENDICES**

## **APPENDIX A – WELL LOGS**



(1) COUNTY Dutchess  
 (2) TOWN Amenia

(3) DEC Well Number  
DU 6840

**WATER WELL COMPLETION REPORT**

(4) OWNER  
Higher Ground Country Club Management Co. LLC  
 (5) ADDRESS  
P.O. Box 86 Route 22 Amenia, N.Y. 12501  
 (6) LOCATION OF WELL (See Instructions On Reverse)  
 Show Lat/Long if available and method used:  
 GPS  Map Interpolation  
N41°49.885' W073°34.480' well#1  
Chazen well#2

**LOG \***  
 Ground Surface EL. \_\_\_\_\_ ft. above sea level  
 Top Of Casing is located +2 ft. above (+) or below (-) ground surface

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 345'  
 (8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) \_\_\_\_\_ DATE MEASURED \_\_\_\_\_

**TOP OF WELL**

**CASINGS**  
 (9) DIAMETER 7 in. | in. | in. | in.  
 (10) LENGTH 275 ft. | ft. | ft. | ft. | in.  
 (11) GROUT TYPE / SEALING \_\_\_\_\_ (12) GROUT / SEALING INTERVAL (feet) FROM 0 TO 275

0'-10' Sand + Gravel  
10'-110' Hardpan  
110'-150' Soft yellow Sandstone  
150'-180' Limestone  
180'-270' Soft yellow Sandstone  
270'-285' cavernous Void Water Bearing  
285'-345' Grey Schist

**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) \_\_\_\_\_

0-275 Steel Casing  
275-345 open Hole

**YIELD TEST**  
 (18) DATE 12/28/05 (19) DURATION OF TEST 4 hours  
 (20) LIFT METHOD  Pump  Air Lift  Bail (21) STABILIZED DISCHARGE (GPM) 125  
 (22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing) \_\_\_\_\_ (23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) \_\_\_\_\_  
 (24) RECOVERY (Time in hours/minutes) \_\_\_\_\_ (25) Was the water produced during the test discharged away from immediate area? Yes \_\_\_ No

**PUMP INSTALLATION**  
 (26) PUMP INSTALLED? YES \_\_\_ NO   
 (27) DATE \_\_\_\_\_ (28) PUMP INSTALLER \_\_\_\_\_  
 (29) TYPE \_\_\_\_\_ (30) MAKE \_\_\_\_\_ (31) MODEL \_\_\_\_\_  
 (32) MAXIMUM CAPACITY (GPM) \_\_\_\_\_ (33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet) \_\_\_\_\_

(34) METHOD OF DRILLING Air Percussion  Rotary  Cable Tool  Other \_\_\_\_\_ (35) USE OF WATER (See instructions for choices) Test  
 (36) DATE DRILLING WORK STARTED 12/23/05 (37) DATE DRILLING WORK COMPLETED 12/28/05

(38) DATE REPORT FILED \_\_\_\_\_ (39) REGISTERED COMPANY Albert M. Hyatt + Sons (40) DEC REGISTRATION NO. NYRD 10194

(41) CERTIFIED DRILLER (Print name) Rex Hyatt (42) CERTIFIED DRILLER SIGNATURE Rex Hyatt

345'  
**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.

**OWNER COPY**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



(1) COUNTY Dutchess  
 (2) TOWN Amenia

(3) DEC Well Number  
D06844

**WATER WELL COMPLETION REPORT**

(4) OWNER  
Higher Ground Country Club Management Co, LLC

(5) ADDRESS  
P.O. Box 86 Route 22 Amenia N.Y. 12501

(6) LOCATION OF WELL (See Instructions On Reverse)  
 Show Lat/Long if available and method used:  
 GPS  Map Interpolation  
N 41° 50.157 W 073° 34.081 Well #2  
Chazen Well #3

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 505'  
 (8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 9' DATE MEASURED 1/4/06

(9) DIAMETER  
7 in.

(10) LENGTH  
41 ft.

(11) GROUT TYPE / SEALING  
Bentonite  
 (12) GROUT / SEALING INTERVAL (feet) FROM 10 TO 41

(13) MAKE & MATERIAL  
 (14) OPENINGS

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

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

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

(18) DATE  
12/30/05  
 (19) DURATION OF TEST  
-1 hour

(20) LIFT METHOD  
 Pump  Air Lift  Bail  
 (21) STABILIZED DISCHARGE (GPM)  
1

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

(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   
 (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 Air Percussion  
 Rotary  Cable Tool  Other  
 (35) USE OF WATER (See instructions for choices) Test

(36) DATE DRILLING WORK STARTED  
12/30/05  
 (37) DATE DRILLING WORK COMPLETED  
12/30/05

(38) DATE REPORT FILED 12/31/05  
 (39) REGISTERED COMPANY Albert M. Hyatt + Sons  
 (40) DEC REGISTRATION NO. NYRD 10194

(41) CERTIFIED DRILLER (Print name)  
Rex Hyatt  
 (42) CERTIFIED DRILLER SIGNATURE  
Rex Hyatt

LOG \*  
 Ground Surface EL. \_\_\_\_\_ ft. above sea level  
 Top Of Casing is located +1 ft. above (+) or below (-) ground surface

TOP OF WELL

0'-15'	0'-41'
Sandy Till	Steel Cases
15'-25'	41'-505'
Silt	open hole
25'-34'	in Bedrock
Hardpan	
34'-505'	
Shale	

505'  
 BOTTOM OF HOLE

OWNER COPY

\* 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.

(1) COUNTY Dutchess  
 (2) TOWN Amenia



(3) DEC Well Number  
DU6845

**WATER WELL COMPLETION REPORT**

(4) OWNER  
Higher Ground Country Club Management CO, LLC

(5) ADDRESS  
P.O. Box 86 Route 22 Amenia, NY. 12501

(6) LOCATION OF WELL (See Instructions On Reverse)  
 Show Lat/Long if available and method used:  
 GPS  Map Interpolation  
N 41° 49.966' W 073° 34.519 Well# 3  
Chazen well# 4

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 445'

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 92' DATE MEASURED 1/6/06

**CASINGS**

(9) DIAMETER 7 in.

(10) LENGTH 102 ft.

(11) GROUT TYPE / SEALING Bentonite

(12) GROUT / SEALING INTERVAL (feet) FROM 10' TO 102'

**SCREENS**

(13) MAKE & MATERIAL

(14) OPENINGS

(15) DIAMETER

(16) LENGTH

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

**YIELD TEST**

(18) DATE 1/4/06

(19) DURATION OF TEST 1 hour

(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) 325'

(24) RECOVERY (Time in hours/minutes)

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

**PUMP INSTALLATION**

(26) PUMP INSTALLED? YES  NO

(27) DATE

(28) PUMP INSTALLER

(29) TYPE

(30) MAKE

(31) MODEL

(32) MAXIMUM CAPACITY (GPM)

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

(34) METHOD OF DRILLING Air Percussion  
 Rotary  Cable Tool  Other

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

(36) DATE DRILLING WORK STARTED 1/4/06

(37) DATE DRILLING WORK COMPLETED 1/4/06

(38) DATE REPORT FILED 1/6/06

(39) REGISTERED COMPANY Albert M. Hyatt + Sons

(40) DEC REGISTRATION NO. NYRD 10194

(41) CERTIFIED DRILLER (Print name) Rex Hyatt

(42) CERTIFIED DRILLER SIGNATURE Rex Hyatt

LOG \*

Ground Surface EL. \_\_\_\_\_ ft. above sea level

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

TOP OF WELL

0'-15'  
Clay/Fill

15'-90'  
Soft schist

90'-390'  
Schist

390'-445'  
Soft casing

Schist

Water Bearing

0'-102'  
Steel Case

102'-445'  
open hole

445'  
 BOTTOM OF HOLE

**OWNER COPY**

\* 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.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



(1) COUNTY Dutchess  
 (2) TOWN Amenia

(3) DEC Well Number  
DU 6848

**WATER WELL COMPLETION REPORT**

(4) OWNER <u>Higher Ground Country Club Management CO, LLC</u>		LOG * Ground Surface EL. _____ ft. above sea level	
(5) ADDRESS <u>P.O. Box 86 Route 22 Amenia, N.Y. 12501</u>			
(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: <u>N 41° 50.313 W 073° 34.383 Well #4</u> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Map Interpolation <u>Chazen well #5</u>		Top Of Casing is located <u>+1</u> ft. above (+) or below (-) ground surface	
(7) DEPTH OF WELL BELOW LAND SURFACE (feet) <u>465'</u>	(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) <u>Flowing</u> DATE MEASURED <u>1/6/06</u>	TOP OF WELL	
<b>CASINGS</b>			
(9) DIAMETER <u>7 in.</u>	(10) LENGTH <u>61 ft.</u>	"0'-13" Soil 13'-40' hardpan 40'-230' Shale 230'-235' Soft Fractured Caving Shale 235'-465' Shale	
(11) GROUT TYPE / SEALING <u>Bentonite</u>	(12) GROUT / SEALING INTERVAL (feet) FROM <u>10'</u> TO <u>61'</u>		
<b>SCREENS</b>		"0-61" Steel Cases 61'-465' open hole	
(13) MAKE & MATERIAL	(14) OPENINGS		
(15) DIAMETER	(16) LENGTH	465' BOTTOM OF HOLE	
(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)			
<b>YIELD TEST</b>			
(18) DATE <u>1/6/06</u>	(19) DURATION OF TEST <u>1 hour</u>	OWNER COPY	
(20) LIFT METHOD <input type="checkbox"/> Pump <input checked="" type="checkbox"/> Air Lift <input type="checkbox"/> Bail	(21) STABILIZED DISCHARGE (GPM) <u>20</u>		
(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)	(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) <u>220'</u>	OWNER COPY	
(24) RECOVERY (Time in hours/minutes)	(25) Was the water produced during the test discharged away from immediate area? Yes ___ No <input checked="" type="checkbox"/>		
<b>PUMP INSTALLATION</b>			
(26) PUMP INSTALLED? YES ___ NO <input checked="" type="checkbox"/>	(27) DATE	(28) PUMP INSTALLER	
(29) TYPE	(30) MAKE	(31) MODEL	
(32) MAXIMUM CAPACITY (GPM)	(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)		
(34) METHOD OF DRILLING <input type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input checked="" type="checkbox"/> Other <u>percussion</u>	(35) USE OF WATER (See instructions for choices) <u>Test</u>		
(36) DATE DRILLING WORK STARTED <u>1/5/06</u>	(37) DATE DRILLING WORK COMPLETED <u>1/6/06</u>		
(38) DATE REPORT FILED <u>1/7/06</u>	(39) REGISTERED COMPANY <u>Albert M. Hyatt + Sons</u>	(40) DEC REGISTRATION NO. <u>NYRD 10194</u>	
(41) CERTIFIED DRILLER (Print name) <u>Rex Hyatt</u>	(42) CERTIFIED DRILLER SIGNATURE <u>Rex Hyatt</u>		

\* 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

OWNER COPY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



(1) COUNTY Dutchess  
 (2) TOWN Amenia

(3) DEC Well Number  
DU 6849

WATER WELL COMPLETION REPORT

(4) OWNER  
Higher Ground Country Club Management Co, LLC

(5) ADDRESS  
P.O. Box 86 Route 22 Amenia, N.Y. 12501

(6) LOCATION OF WELL (See Instructions On Reverse)  
 Show Lat/Long if available and method used:  
 GPS  Map Interpolation  
N 41° 50.300 W 073° 34.332 Well # 5  
Chazen well 6

(7) DEPTH OF WELL BELOW LAND SURFACE (feet)  
465'

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) Flowing DATE MEASURED 1/9/06

LOG \*  
 Ground Surface EL. \_\_\_\_\_ ft. above sea level

Top Of Casing is located + 2 ft. above (+) or below (-) ground surface.

CASINGS

(9) DIAMETER  
7 in.

(10) LENGTH  
105 ft.

(11) GROUT TYPE / SEALING  
Bentonite

(12) GROUT / SEALING INTERVAL (feet) FROM 10' TO 105'

SCREENS

(13) MAKE & MATERIAL

(14) OPENINGS

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

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

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

YIELD TEST

(18) DATE  
1/6/06

(19) DURATION OF TEST  
1 hour

(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)  
150'

(24) RECOVERY (Time in hours/minutes)

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

PUMP INSTALLATION

(26) PUMP INSTALLED? YES \_\_\_ NO

(27) DATE

(28) PUMP INSTALLER

(29) TYPE

(30) MAKE

(31) MODEL

(32) MAXIMUM CAPACITY (GPM)

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

(34) METHOD OF DRILLING Compressed Air Percussion  
 Rotary  Cable Tool  Other PERCUSSION

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

(36) DATE DRILLING WORK STARTED  
1/6/06

(37) DATE DRILLING WORK COMPLETED  
1/9/06

(38) DATE REPORT FILED  
1/9/06

(39) REGISTERED COMPANY  
Albert M. Hyatt + Sons

(40) DEC REGISTRATION NO.  
NYRD 10194

(41) CERTIFIED DRILLER (Print name)  
Rex Hyatt

(42) CERTIFIED DRILLER SIGNATURE  
Rex Hyatt

TOP OF WELL

0'-10'	0'-105'
Soft Soil	Steel Case
10'-76'	105'-465'
Hard pan	open Hole
76'-150'	
Schist	
150'-155'	
Fractured Water Bearing Caving Schist	
155'-465'	
Schist	

465'  
 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 (sulfur, salt, methane). Describe...

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



(1) COUNTY Dutchess  
 (2) TOWN Amenia

(3) DEC Well Number  
DU 6854

**WATER WELL COMPLETION REPORT**

(4) OWNER  
Higher Ground Country Club Management Co, LLC

(5) ADDRESS  
P.O. Box 86 Route 22 Amenia, N.Y. 12501

(6) LOCATION OF WELL (See Instructions On Reverse)  
 Show Lat/Long if available and method used:  
 GPS  Map Interpolation  
N 41° 50.396 W 073° 34.198 Well # 6  
Chazen well # 7

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 465'  
 (8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) Dry hole DATE MEASURED 1/11/06

LOG \*  
 Ground Surface EL. \_\_\_\_\_ ft. above sea level  
 Top Of Casing is located +1 ft. above (+) or below (-) ground surface

**CASINGS**  
 (9) DIAMETER 7 in.  
 (10) LENGTH 41 ft.  
 (11) GROUT TYPE / SEALING Bentonite  
 (12) GROUT / SEALING INTERVAL (feet) FROM 10' TO 41'

TOP OF WELL  
0'-17'  
Clay Till  
17'-465'  
Shale  
0'-41'  
Steel Cas  
41'-465'  
open hole

**SCREENS**  
 (13) MAKE & MATERIAL  
 (14) OPENINGS  
 (15) DIAMETER  
 (16) LENGTH  
 (17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)

**YIELD TEST**  
 (18) DATE 1/10/06  
 (19) DURATION OF TEST 1 hour  
 (20) LIFT METHOD  Pump  Air Lift  Bail  
 (21) STABILIZED DISCHARGE (GPM) Dry hole  
 (22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)  
 (23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing)  
 (24) RECOVERY (Time in hours/minutes)  
 (25) Was the water produced during the test discharged away from immediate area? Yes \_\_\_ No \_\_\_

**PUMP INSTALLATION**  
 (26) PUMP INSTALLED? YES \_\_\_ NO   
 (27) DATE  
 (28) PUMP INSTALLER  
 (29) TYPE  
 (30) MAKE  
 (31) MODEL  
 (32) MAXIMUM CAPACITY (GPM)  
 (33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

(34) METHOD OF DRILLING Air Percussion  
 Rotary  Cable Tool  Other  
 (35) USE OF WATER (See instructions for choices) Test  
 (36) DATE DRILLING WORK STARTED 1/9/06  
 (37) DATE DRILLING WORK COMPLETED 1/10/06

(38) DATE REPORT FILED 1/11/06  
 (39) REGISTERED COMPANY Albert M. Hyatt + Sons  
 (40) DEC REGISTRATION NO. NYRD 10194

(41) CERTIFIED DRILLER (Print name) Rex Hyatt  
 (42) CERTIFIED DRILLER SIGNATURE Rex Hyatt

465  
 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.

**OWNER COPY**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



(1) COUNTY Dutchess  
 (2) TOWN Amenia

(3) DEC Well Number  
DU 6855

WATER WELL COMPLETION REPORT

(4) OWNER <u>Higher Ground Country Club Management Co, LLC</u>		LOG *	
(5) ADDRESS <u>P.O. Box 86 Route 22 Amenia, NY 12501</u>			
(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Map Interpolation <u>N41°50.246 W 073°34.229 well# 7</u> <u>Chazen well# 8</u>		Ground Surface EL. _____ ft. above sea level	
(7) DEPTH OF WELL BELOW LAND SURFACE (feet) <u>525'</u>		Top Of Casing is located <u>+1</u> ft. above (+) or below (-) ground surface	
(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) <u>19'</u>		DATE MEASURED <u>1/19/06</u>	
<b>CASINGS</b>			
(9) DIAMETER		TOP OF WELL	
(10) LENGTH		0-9' Soft Clay 9'-28' Hardpan 28'-525' Shale Water Bearing Fracture at 290'	
(11) GROUT TYPE / SEALING			
(12) GROUT / SEALING INTERVAL (feet) FROM _____ TO _____		0-41' Steel Cas 41'-525' open hole in Bedrock	
<b>SCREENS</b>			
(13) MAKE & MATERIAL		(14) OPENINGS	
(15) DIAMETER			
(16) LENGTH			
(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)			
<b>YIELD TEST</b>			
(18) DATE <u>1/11/06</u>		(19) DURATION OF TEST <u>1 hour</u>	
(20) LIFT METHOD <input type="checkbox"/> Pump <input checked="" type="checkbox"/> Air Lift <input type="checkbox"/> Bail		(21) STABILIZED DISCHARGE (GPM) <u>7</u>	
(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)		(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) <u>290'</u>	
(24) RECOVERY (Time in hours/minutes)		(25) Was the water produced during the test discharged away from immediate area? Yes ___ No <input checked="" type="checkbox"/>	
<b>PUMP INSTALLATION</b>			
(26) PUMP INSTALLED? YES ___ NO <input checked="" type="checkbox"/>		(27) DATE	
(29) TYPE		(28) PUMP INSTALLER	
(30) MAKE		(31) MODEL	
(32) MAXIMUM CAPACITY (GPM)		(33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)	
(34) METHOD OF DRILLING <u>Air Percussion</u> <input type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input checked="" type="checkbox"/> Other _____		(35) USE OF WATER (See instructions for choices) <u>Test</u>	
(36) DATE DRILLING WORK STARTED <u>1/11/06</u>		(37) DATE DRILLING WORK COMPLETED <u>1/11/06</u>	
(38) DATE REPORT FILED <u>1/12/06</u>		(39) REGISTERED COMPANY <u>Albert M. Hyatt + Sons</u>	
(40) DEC REGISTRATION NO. <u>NYRD 10194</u>			
(41) CERTIFIED DRILLER (Print name) <u>Rex Hyatt</u>		(42) CERTIFIED DRILLER SIGNATURE <u>Rex Hyatt</u>	
* 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.		<u>525'</u>	
		BOTTOM OF HOLE	
<b>OWNER COPY</b>			

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



(1) COUNTY Dutchess  
 (2) TOWN Amenia

(3) DEC Well Number  
DUG861

WATER WELL COMPLETION REPORT

(4) OWNER <u>Higher Ground Country Club Management Co LLC</u>		LOG *										
(5) ADDRESS <u>P.O. Box 86 Route 22 Amenia N.Y. 12501</u>												
(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: <u>N 41° 49.530' W 073° 34.449 well# 8</u> <u>Chazen well# 9</u>		Ground Surface EL. _____ ft. above sea level										
<input checked="" type="checkbox"/> GPS <input type="checkbox"/> Map Interpolation		Top Of Casing is located <u>+1</u> ft. above (+) or below (-) ground surface										
(7) DEPTH OF WELL BELOW LAND SURFACE (feet) <u>405'</u>	(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) <u>40'</u>	DATE MEASURED <u>1/24/06</u>										
<b>CASINGS</b>												
(9) DIAMETER <u>7 in.</u>	(10) LENGTH <u>102 ft.</u>	TOP OF WELL <table border="1"> <tr> <td><u>0'-15'</u> Clay Till</td> <td><u>0'-102'</u> Steel Case</td> </tr> <tr> <td><u>15'-95'</u> Soft Schist</td> <td><u>102'-405'</u> open hole</td> </tr> <tr> <td><u>95'-230'</u> Limestone</td> <td><u>in Bedrock</u></td> </tr> <tr> <td><u>230'-270'</u> Fractured Caving Limestone</td> <td></td> </tr> <tr> <td><u>270'-405'</u> Limestone</td> <td></td> </tr> </table>	<u>0'-15'</u> Clay Till	<u>0'-102'</u> Steel Case	<u>15'-95'</u> Soft Schist	<u>102'-405'</u> open hole	<u>95'-230'</u> Limestone	<u>in Bedrock</u>	<u>230'-270'</u> Fractured Caving Limestone		<u>270'-405'</u> Limestone	
<u>0'-15'</u> Clay Till	<u>0'-102'</u> Steel Case											
<u>15'-95'</u> Soft Schist	<u>102'-405'</u> open hole											
<u>95'-230'</u> Limestone	<u>in Bedrock</u>											
<u>230'-270'</u> Fractured Caving Limestone												
<u>270'-405'</u> Limestone												
(11) GROUT TYPE / SEALING <u>Bentonite</u>	(12) GROUT / SEALING INTERVAL (feet) FROM <u>10'</u> TO <u>102'</u>											
<b>SCREENS</b>												
(13) MAKE & MATERIAL	(14) OPENINGS											
(15) DIAMETER in.	(16) LENGTH ft.											
(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)												
<b>YIELD TEST</b>												
(18) DATE <u>1/24/06</u>	(19) DURATION OF TEST <u>11 hours</u>											
(20) LIFT METHOD <input type="checkbox"/> Pump <input checked="" type="checkbox"/> Air Lift <input type="checkbox"/> Bail	(21) STABILIZED DISCHARGE (GPM) <u>75</u>											
(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)	(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) <u>250'</u>											
(24) RECOVERY (Time in hours/minutes)	(25) Was the water produced during the test discharged away from immediate area? Yes ___ No <input checked="" type="checkbox"/>											
<b>PUMP INSTALLATION</b>												
(26) PUMP INSTALLED? YES ___ NO <input checked="" type="checkbox"/>	(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 <u>Air Percussion</u> <input type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input checked="" type="checkbox"/> Other	(35) USE OF WATER (See instructions for choices) <u>Test</u>											
(36) DATE DRILLING WORK STARTED <u>1/19/06</u>	(37) DATE DRILLING WORK COMPLETED <u>1/24/06</u>											
(38) DATE REPORT FILED <u>1/25/06</u>	(39) REGISTERED COMPANY <u>Albert M. Hyatt + Sons</u>	(40) DEC REGISTRATION NO. <u>NYRD 10194</u>										
(41) CERTIFIED DRILLER (Print name) <u>Rex Hyatt</u>	(42) CERTIFIED DRILLER SIGNATURE <u>Rex Hyatt</u>											
* 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.												
		405' BOTTOM OF HOLE										
<b>OWNER COPY</b>												

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



(1) COUNTY Dutchess  
 (2) TOWN Amenia

(3) DEC Well Number  
DU 6864

**WATER WELL COMPLETION REPORT**

(4) OWNER  
Higher Ground Country Club Management Co, LLC

(5) ADDRESS  
P.O. Box 86 Route 22 Amenia, NY. 12501

(6) LOCATION OF WELL (See Instructions On Reverse)  
 Show Lat/Long if available and method used:  
 GPS  Map Interpolation  
N41°49.450' W 073°34.440' well # 9  
Chazen well # 10

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 465'

(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 30' DATE MEASURED 1/27/06

**CASINGS**

(9) DIAMETER 7 in.

(10) LENGTH 62 ft.

(11) GROUT TYPE / SEALING Bentonite

(12) GROUT / SEALING INTERVAL (feet) FROM 10' TO 62'

**SCREENS**

(13) MAKE & MATERIAL

(14) OPENINGS

(15) DIAMETER

(16) LENGTH

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

**YIELD TEST**

(18) DATE 1/25/06

(19) DURATION OF TEST 2 hours

(20) LIFT METHOD  Pump  Air Lift  Bail

(21) STABILIZED DISCHARGE (GPM) 0.5 1/2 GPM

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

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

(24) RECOVERY (Time in hours/minutes)

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

**PUMP INSTALLATION**

(26) PUMP INSTALLED? YES  NO

(27) DATE

(28) PUMP INSTALLER

(29) TYPE

(30) MAKE

(31) MODEL

(32) MAXIMUM CAPACITY (GPM)

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

(34) METHOD OF DRILLING Compressed Air  
 Rotary  Cable Tool  Other percussive

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

(36) DATE DRILLING WORK STARTED 1/25/06

(37) DATE DRILLING WORK COMPLETED 1/26/06

(38) DATE REPORT FILED 1/27/06

(39) REGISTERED COMPANY Albert M. Hyatt + Sons

(40) DEC REGISTRATION NO. NYRD 10194

(41) CERTIFIED DRILLER (Print name) Rex Hyatt

(42) CERTIFIED DRILLER SIGNATURE Rex Hyatt

LOG \*

Ground Surface EL. \_\_\_\_\_ ft. above sea level

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

TOP OF WELL

0'-40'	0'-62'
Clay	Steel Case
40-50	62'-465'
yellow ocher	open hole
50'-465'	in Bedrock

465'

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



(1) COUNTY Dutchess  
 (2) TOWN Amenia

(3) DEC Well Number  
DU 6869

**WATER WELL COMPLETION REPORT**

(4) OWNER  
Higher Ground Country Club Management Co, LLC

(5) ADDRESS  
P.O. Box 86 Route 22 Amenia N.Y. 12501 ~~well # 10~~

(6) LOCATION OF WELL (See Instructions On Reverse)  
 Show Lat/Long if available and method used:  
 GPS  Map Interpolation  
N 41° 49.640' W 073° 34.397' well # 10  
Chazen well # 11

(7) DEPTH OF WELL BELOW LAND SURFACE (feet) 605'  
 (8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) 28' DATE MEASURED 1/30/06

LOG \*  
 Ground Surface EL. \_\_\_\_\_ ft. above sea level  
 Top Of Casing is located +1 ft. above (+) or below (-) ground surface

**CASINGS**  
 (9) DIAMETER 7 in.  
 (10) LENGTH 225 ft.  
 (11) GROUT TYPE / SEALING Bentonite  
 (12) GROUT / SEALING INTERVAL (feet) FROM 10' TO 225'

TOP OF WELL  
0'-190'  
hardpan  
190'-220'  
rotten rock  
220'-605'  
Shale  
0'-225'  
Steel Case  
225'-605'  
open hole  
in Bedrock

**SCREENS**  
 (13) MAKE & MATERIAL  
 (14) OPENINGS  
 (15) DIAMETER  
 (16) LENGTH  
 (17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)

**YIELD TEST**  
 (18) DATE 1/27/06  
 (19) DURATION OF TEST 4 hours  
 (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) Bottom  
 (24) RECOVERY (Time in hours/minutes)  
 (25) Was the water produced during the test discharged away from immediate area? Yes \_\_\_ No

**PUMP INSTALLATION**  
 (26) PUMP INSTALLED? YES \_\_\_ NO   
 (27) DATE  
 (28) PUMP INSTALLER  
 (29) TYPE  
 (30) MAKE  
 (31) MODEL  
 (32) MAXIMUM CAPACITY (GPM)  
 (33) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)

(34) METHOD OF DRILLING Air Percussion  
 Rotary  Cable Tool  Other  
 (35) USE OF WATER (See instructions for choices) Test  
 (36) DATE DRILLING WORK STARTED 1/27/06  
 (37) DATE DRILLING WORK COMPLETED 1/30/06

(38) DATE REPORT FILED 2/1/06  
 (39) REGISTERED COMPANY Albert M. Hyatt + Sons  
 (40) DEC REGISTRATION NO. NYRD 10194

(41) CERTIFIED DRILLER (Print name) Rex Hyatt  
 (42) CERTIFIED DRILLER SIGNATURE Rex Hyatt

605'  
 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.

**OWNER COPY**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



(1) COUNTY Dutchess  
 (2) TOWN Amenia

(3) DEC Well Number  
DU 6880

**WATER WELL COMPLETION REPORT**

(4) OWNER <u>Higher Ground Country Club Management Co, LLC</u>		LOG *
(5) ADDRESS <u>P.O. Box 86 Route 22 Amenia, N.Y. 12501</u>		
(6) LOCATION OF WELL (See Instructions On Reverse) Show Lat/Long if available and method used: <u>N 41° 49.501 W 073° 34.280</u> <u>well #11</u> <u>Chazen well #12</u>		Ground Surface EL. _____ ft. above sea level  Top Of Casing is located <u>+1</u> ft. above (+) or below (-) ground surface
(7) DEPTH OF WELL BELOW LAND SURFACE (feet) <u>465'</u>	(8) DEPTH TO GROUNDWATER BELOW LAND SURFACE (feet) <u>over Flowing</u> DATE MEASURED <u>2/1/06</u>	TOP OF WELL  0'-60' wet clay 60'-70' Sand + Gravel 70'-75' hard pan 75-85 Sand + Gravel 85'-110' yellow ochre 110'-465' Limestone  0'-114' Steel Case 114'-465' open hole in Bedrock
CASINGS		
(9) DIAMETER <u>7 in.</u>	(10) LENGTH <u>114 ft.</u>	
(11) GROUT TYPE / SEALING <u>Bentonite</u>	(12) GROUT / SEALING INTERVAL (feet) FROM <u>10</u> TO <u>114'</u>	
SCREENS		
(13) MAKE & MATERIAL	(14) OPENINGS	
(15) DIAMETER in.	(16) LENGTH ft.	
(17) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)		
YIELD TEST		
(18) DATE <u>2/1/06</u>	(19) DURATION OF TEST <u>2 hours</u>	
(20) LIFT METHOD <input type="checkbox"/> Pump <input checked="" type="checkbox"/> Air Lift <input type="checkbox"/> Bail	(21) STABILIZED DISCHARGE (GPM) <u>2</u>	
(22) STATIC LEVEL PRIOR TO TEST (feet/inches below top of casing)	(23) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) <u>Bottom</u>	
(24) RECOVERY (Time in hours/minutes)	(25) Was the water produced during the test discharged away from immediate area? Yes ___ No <input checked="" type="checkbox"/>	
PUMP INSTALLATION		
(26) PUMP INSTALLED? - YES ___ NO <input checked="" type="checkbox"/>	(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 <u>Air Percussion</u> <input type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input checked="" type="checkbox"/> Other _____		(35) USE OF WATER (See instructions for choices) <u>Test</u>
(36) DATE DRILLING WORK STARTED <u>1/30/06</u>	(37) DATE DRILLING WORK COMPLETED <u>2/2/06</u>	
(38) DATE REPORT FILED <u>2/3/06</u>	(39) REGISTERED COMPANY <u>Albert M. Hyatt + Sons</u>	(40) DEC REGISTRATION NO. <u>NYRD 10194</u>
(41) CERTIFIED DRILLER (Print name) <u>Rex Hyatt</u>	(42) CERTIFIED DRILLER SIGNATURE <u>Rex Hyatt</u>	
* 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.		465' BOTTOM OF HOLE
OWNER COPY		

**APPENDIX B – NYSDOH  
SUB-PART 5 ANALYSES**

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

Reported:  
04/07/06 09:46

**PW-2**  
**6C17088-01 (Drinking Water)**

Date Sampled: 03/16/06 09:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>								
Alkalinity as CaCO <sub>3</sub>	129	0	mg/l	03/23/06 12:00	03/23/06 12:00	SM18-2320B	RN	
Chloride	2	250	mg/l	03/21/06 10:30	03/21/06 10:30	EPA 325.3	KAL	
Corrosivity	-0.20	0	SI	03/31/06 00:00	03/31/06 00:00	Calculation	IC	Corr., pHDW
Nitrate as N	<0.05	10	mg/l	03/17/06 00:00	03/17/06 00:00	EPA 353.2	IC	
Nitrite as N	<0.02	1	mg/l	03/17/06 12:48	03/17/06 14:36	"	IC	
pH	7.49	0	pH Units	03/17/06 14:25	03/17/06 14:25	EPA 150.1	JP	pHD
Total Dissolved Solids	130	500	mg/l	03/23/06 00:00	03/23/06 00:00	EPA 160.1	IC	
Sulfate as SO <sub>4</sub>	19	250	mg/l	03/28/06 09:00	03/28/06 09:00	SM18-4500SO4-D	KAL	
<b>Miscellaneous Physical/Conventional Chemistry Parameters</b>								
Asbestos	<0.190	7	S/L10 <sup>6</sup>	03/18/06 00:00	03/28/06 00:00	ELAP 198.2		EMSL*
Temperature	19.6	0	°C	03/17/06 14:25	03/17/06 14:25	EPA 150.1	JP	
<b>Chemical and Physical Parameters by APHA/ASTM/EPA Methods</b>								
Color	<5.00	0	Pt Co	03/17/06 15:00	03/18/06 15:00	SM20, 2120B	RN	
Odor	<1	3	T.O.N.	03/17/06 12:00	03/17/06 12:00	EPA 140.1	RN	ROT
Turbidity	1.20	0	NTU	03/17/06 12:50	03/17/06 12:50	EPA 180.1	IC	
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								
Benzene	<0.5	5	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	TB
Bromobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromochloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromomethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
n-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
sec-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
tert-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Carbon tetrachloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
2-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
4-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	

Eastern Laboratory Services, Ltd.

*Irene Chu*

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-2**  
**6C17088-01 (Drinking Water)**

Date Sampled: 03/16/06 09:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								TB
Dibromomethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,4-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Dichlorodifluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
trans-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
2,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
trans-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Ethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Hexachlorobutadiene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Isopropylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
p-Isopropyltoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Methylene chloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
n-Propylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Styrene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,1,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,2,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Tetrachloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Toluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	

Eastern Laboratory Services, Ltd.



Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

**PW-2**  
**6C17088-01 (Drinking Water)**

Date Sampled: 03/16/06 09:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								TB
1,1,1-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	EPA 502.2	CY	
1,1,2-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichlorofluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3,5-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Vinyl chloride	<0.5	2	ug/l	03/22/06 00:00	"	"	CY	
m,p-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
o-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Methyl tert-butyl ether	<0.5	10	ug/l	03/22/06 00:00	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (PID)</i>		92.0 %	80-120		"	"	CY	
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		94.0 %	80-120		"	"	CY	
Chloroform	<0.5	80	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	
Bromodichloromethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Chlorodibromomethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Bromoform	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Total Trihalomethanes	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		94.0 %	80-120		"	"	CY	
<b>EPA 504.1 Microextractables</b>								TB
1,2-Dibromoethane (EDB)	<0.01	0.05	ug/l	03/22/06 00:00	03/23/06 22:55	EPA 504.1	PDB	
1,2-Dibromo-3-chloropropane	<0.01	0.2	ug/l	03/22/06 00:00	"	"	PDB	
<i>Surrogate: Tetrachloro-meta-xylene</i>		119 %	70-130		"	"	PDB	
<b>EPA 508 Pesticides and PCB Screen</b>								
Chlordane (tech)	<0.10	2	ug/l	03/23/06 00:00	03/30/06 05:08	EPA 508	PDB	
Toxaphene	<0.25	3	ug/l	03/23/06 00:00	"	"	PDB	
PCBs as Aroclors (screen)	Absence	0.5	ug/l	03/23/06 00:00	"	"	PDB	
<i>Surrogate: beta-BHC</i>		110 %	70-130		"	"	PDB	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	Reported: 04/07/06 09:46
---	---	-----------------------------

**PW-2**  
**6C17088-01 (Drinking Water)**

Date Sampled: 03/16/06 09:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 515.3 Herbicides (NY)</b>								<b>BNCH*</b>
2,4-D	<0.5	70	ug/l	03/22/06 08:15	03/23/06 00:00	EPA 515.3		
Dalapon	<3.0	200	ug/l	03/22/06 08:15	"	"		
Dicamba	<0.3	50	ug/l	03/22/06 08:15	"	"		
Dinoseb	<0.5	7	ug/l	03/22/06 08:15	"	"		
Pentachlorophenol	<0.3	1	ug/l	03/22/06 08:15	"	"		
Picloram	<0.3	500	ug/l	03/22/06 08:15	"	"		
2,4,5-TP (Silvex)	<0.3	50	ug/l	03/22/06 08:15	"	"		
<b>EPA 525.2 Semivolatile Organic Compounds</b>								
Alachlor	<0.10	2	ug/l	03/20/06 00:00	03/20/06 00:00	EPA 525.2	RJH	
Aldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
Atrazine	<0.10	3	ug/l	03/20/06 00:00	"	"	RJH	
Benzo (a) pyrene	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Di(2-ethylhexyl)adipate	<2.00	400	ug/l	03/20/06 00:00	"	"	RJH	
Di(2-ethylhexyl)phthalate	<2.00	6	ug/l	03/20/06 00:00	"	"	RJH	
Butachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Endrin	<0.10	2	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor	<0.10	0.4	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor epoxide	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorobenzene	<0.10	1	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorocyclopentadiene	<0.10	50	ug/l	03/20/06 00:00	"	"	RJH	
HCH-gamma (Lindane)	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Methoxychlor	<0.10	40	ug/l	03/20/06 00:00	"	"	RJH	
Metolachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Metribuzin	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Propachlor	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Simazine	<0.10	4	ug/l	03/20/06 00:00	"	"	RJH	
Dieldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	104 %		70-130		"	"	RJH	
Surrogate: Triphenyl phosphate	103 %		70-130		"	"	RJH	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-2**  
**6C17088-01 (Drinking Water)**

Date Sampled: 03/16/06 09:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 525.2 Semivolatile Organic Compounds</b>								
<i>Surrogate: Perylene-d12</i>		64.2 %	70-130		"	EPA 525.2	RJH	SURR
<b>EPA 531.1 Carbamate Pesticides</b>								
Aldicarb sulfoxide	<1.0	4	ug/l	03/27/06 00:00	03/28/06 00:00	EPA 531.1	IC	
Aldicarb sulfone	<1.0	2	ug/l	03/27/06 00:00	"	"	IC	
Oxamyl	<1.0	200	ug/l	03/27/06 00:00	"	"	IC	
Methomyl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
3-Hydroxycarbofuran	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
Aldicarb	<1.0	3	ug/l	03/27/06 00:00	"	"	IC	
Carbofuran	<1.0	40	ug/l	03/27/06 00:00	"	"	IC	
Carbaryl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
<b>Cyanide by Semi-Automated Spectrophotometry and FIA</b>								
Cyanide (total)	<0.010	0.2	mg/l	03/24/06 00:00	03/27/06 00:00	EPA 335.4	RN	
<b>Fluoride by Ion Selective Electrode</b>								
Fluoride	0.2	2	mg/l	03/27/06 13:30	03/27/06 13:30	SM18-4500F-C	KAL	
<b>Mercury by EPA 245.1</b>								
Mercury	<0.0002	0.002	mg/l	03/30/06 00:00	03/30/06 16:10	EPA 245.1	JD	
<b>Metals by EPA 200 Series Methods</b>								
Antimony	<0.0050	0.006	mg/l	03/27/06 00:00	03/27/06 14:02	EPA 200.9	JD	
Thallium	<0.002	0.002	mg/l	03/22/06 00:00	03/22/06 14:46	"	JD	
<b>Drinking Water Metals by EPA 200 Series Methods</b>								
Silver	<0.0010	0.1	mg/l	03/20/06 00:00	03/29/06 02:53	EPA 200.7	JD	
Arsenic	<0.005	0.01	mg/l	03/20/06 11:13	03/20/06 16:08	EPA 200.9	JD	
Barium	0.0061	2	mg/l	03/20/06 00:00	03/29/06 02:53	EPA 200.7	JD	
Beryllium	<0.0010	0.004	mg/l	03/20/06 00:00	"	"	JD	
Calcium	41	0	mg/l	03/22/06 00:00	03/22/06 09:25	"	JD	
Cadmium	<0.0020	0.005	mg/l	03/20/06 00:00	03/29/06 02:53	"	JD	
Chromium	<0.0050	0.1	mg/l	03/20/06 00:00	"	"	JD	
Copper	<0.25	1.3	mg/l	03/22/06 00:00	03/22/06 09:25	"	JD	
Iron	0.43	0.3	mg/l	03/22/06 00:00	"	"	JD	

Eastern Laboratory Services, Ltd.

*Irene Chu*

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

**PW-2**  
**6C17088-01 (Drinking Water)**

Date Sampled: 03/16/06 09:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Drinking Water Metals by EPA 200 Series Methods</b>								
Manganese	0.23	0.05	mg/l	03/22/06 00:00	"	EPA 200.7	JD	
Sodium	<5.0	0	mg/l	03/22/06 00:00	"	"	JD	
Nickel	0.0073	0.1	mg/l	03/20/06 00:00	03/29/06 02:53	"	JD	
Lead	0.020	0.015	mg/l	03/28/06 00:00	03/28/06 12:41	EPA 200.9	JD	LDR
Selenium	<0.005	0.05	mg/l	04/05/06 00:00	04/05/06 12:40	"	JD	
Zinc	0.12	5	mg/l	03/22/06 00:00	03/22/06 09:25	EPA 200.7	JD	

- BNCH\* = Analysis performed by PA DEP#39-401, NY DOH#11827
- Corr. = For corrosivity a slight positive number usually indicates a non-corrosive condition, while a negative number tends toward corrosion.
- EMSL\* = Analyzed by NYS DOH#11606, PA DEP#282
- LDR = The reported value is above the high calibration standard, but within the linear dynamic range of the instrument and is considered an accurate value.
- pHD = The maximum holding time is 1 hour according to NY ELAP or 15 minutes according to PA Critical Elements.
- pHDW = The MCL for pH is 6.4-8.5.
- ROT = Received and analyzed out of holding time.
- SURR = Surrogate recovery was outside method limits.
- TB = Trip Blank not analyzed - sample results did not exceed the MDL for this method.

**PW-4**  
**6C17088-02 (Drinking Water)**

Date Sampled: 03/16/06 08:40  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>								
Alkalinity as CaCO <sub>3</sub>	102	0	mg/l	03/23/06 12:00	03/23/06 12:00	SM18-2320B	RN	
Chloride	3	250	mg/l	03/21/06 10:30	03/21/06 10:30	EPA 325.3	KAL	
Corrosivity	-0.52	0	SI	03/31/06 00:00	03/31/06 00:00	Calculation	IC	Corr., pHDW
Nitrate as N	<0.05	10	mg/l	03/17/06 00:00	03/17/06 00:00	EPA 353.2	IC	
Nitrite as N	<0.02	1	mg/l	03/17/06 12:48	03/17/06 16:48	"	IC	
pH	7.32	0	pH Units	03/17/06 14:35	03/17/06 14:35	EPA 150.1	JP	pHD
Total Dissolved Solids	147	500	mg/l	03/23/06 00:00	03/23/06 00:00	EPA 160.1	IC	
Sulfate as SO <sub>4</sub>	27	250	mg/l	03/28/06 09:00	03/28/06 09:00	SM18-4500SO4-D	KAL	

**Miscellaneous Physical/Conventional Chemistry Parameters**

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	Reported: 04/07/06 09:46
---	---	-----------------------------

**PW-4**  
**6C17088-02 (Drinking Water)**

Date Sampled: 03/16/06 08:40  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Miscellaneous Physical/Conventional Chemistry Parameters</b>								
Asbestos	<0.970	7	S/L10 <sup>6</sup>	03/18/06 00:00	03/28/06 00:00	ELAP 198.2		AA, EMSL*
Temperature	19.7	0	°C	03/17/06 14:35	03/17/06 14:35	EPA 150.1	JP	
<b>Chemical and Physical Parameters by APHA/ASTM/EPA Methods</b>								
Color	<5.00	0	Pt Co	03/17/06 15:00	03/18/06 15:00	SM20, 2120B	RN	
Odor	<1	3	T.O.N.	03/17/06 12:00	03/17/06 12:00	EPA 140.1	RN	ROT
Turbidity	3.50	0	NTU	03/17/06 12:50	03/17/06 12:50	EPA 180.1	IC	
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								
Benzene	<0.5	5	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	TB
Bromobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromochloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromomethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
n-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
sec-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
tert-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Carbon tetrachloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
2-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
4-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Dibromomethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,4-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Dichlorodifluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

**PW-4**  
**6C17088-02 (Drinking Water)**

Date Sampled: 03/16/06 08:40  
 Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								<b>TB</b>
trans-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	EPA 502.2	CY	
1,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
2,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
trans-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Ethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Hexachlorobutadiene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Isopropylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
p-Isopropyltoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Methylene chloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
n-Propylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Styrene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,1,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,2,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Tetrachloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Toluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,1-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,2-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichlorofluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3,5-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Vinyl chloride	<0.5	2	ug/l	03/22/06 00:00	"	"	CY	
m,p-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	Reported: 04/07/06 09:46
---	---	-----------------------------

**PW-4**  
**6C17088-02 (Drinking Water)**

Date Sampled: 03/16/06 08:40  
 Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								TB
o-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	EPA 502.2	CY	
Methyl tert-butyl ether	<0.5	10	ug/l	03/22/06 00:00	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (PID)</i>		89.0 %	80-120		"	"	CY	
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		90.0 %	80-120		"	"	CY	
Chloroform	<0.5	80	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	
Bromodichloromethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Chlorodibromomethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Bromoform	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Total Trihalomethanes	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		90.0 %	80-120		"	"	CY	
<b>EPA 504.1 Microextractables</b>								TB
1,2-Dibromoethane (EDB)	<0.01	0.05	ug/l	03/22/06 00:00	03/23/06 23:29	EPA 504.1	PDB	
1,2-Dibromo-3-chloropropane	<0.01	0.2	ug/l	03/22/06 00:00	"	"	PDB	
<i>Surrogate: Tetrachloro-meta-xylene</i>		116 %	70-130		"	"	PDB	
<b>EPA 508 Pesticides and PCB Screen</b>								
Chlordane (tech)	<0.10	2	ug/l	03/23/06 00:00	03/30/06 05:30	EPA 508	PDB	
Toxaphene	<0.25	3	ug/l	03/23/06 00:00	"	"	PDB	
PCBs as Aroclors (screen)	Absence	0.5	ug/l	03/23/06 00:00	"	"	PDB	
<i>Surrogate: beta-BHC</i>		83.6 %	70-130		"	"	PDB	
<b>EPA 515.3 Herbicides (NY)</b>								BNCH*
2,4-D	<0.5	70	ug/l	03/22/06 08:15	03/23/06 00:00	EPA 515.3		
Dalapon	<3.0	200	ug/l	03/22/06 08:15	"	"		
Dicamba	<0.3	50	ug/l	03/22/06 08:15	"	"		
Dinoseb	<0.5	7	ug/l	03/22/06 08:15	"	"		
Pentachlorophenol	<0.3	1	ug/l	03/22/06 08:15	"	"		
Picloram	<0.3	500	ug/l	03/22/06 08:15	"	"		
2,4,5-TP (Silvex)	<0.3	50	ug/l	03/22/06 08:15	"	"		
<b>EPA 525.2 Semivolatile Organic Compounds</b>								

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

**PW-4**  
**6C17088-02 (Drinking Water)**

Date Sampled: 03/16/06 08:40  
 Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 525.2 Semivolatile Organic Compounds</b>								
Alachlor	<0.10	2	ug/l	03/20/06 00:00	03/20/06 00:00	EPA 525.2	RJH	
Aldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
Atrazine	<0.10	3	ug/l	03/20/06 00:00	"	"	RJH	
Benzo (a) pyrene	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Di(2-ethylhexyl)adipate	<2.00	400	ug/l	03/20/06 00:00	"	"	RJH	
Di(2-ethylhexyl)phthalate	<2.00	6	ug/l	03/20/06 00:00	"	"	RJH	
Butachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Endrin	<0.10	2	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor	<0.10	0.4	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor epoxide	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorobenzene	<0.10	1	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorocyclopentadiene	<0.10	50	ug/l	03/20/06 00:00	"	"	RJH	
HCH-gamma (Lindane)	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Methoxychlor	<0.10	40	ug/l	03/20/06 00:00	"	"	RJH	
Metolachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Metribuzin	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Propachlor	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Simazine	<0.10	4	ug/l	03/20/06 00:00	"	"	RJH	
Dieldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
<i>Surrogate: 1,3-Dimethyl-2-nitrobenzene</i>		93.2 %		70-130	"	"	RJH	
<i>Surrogate: Triphenyl phosphate</i>		106 %		70-130	"	"	RJH	
<i>Surrogate: Perylene-d12</i>		79.6 %		70-130	"	"	RJH	
<b>EPA 531.1 Carbamate Pesticides</b>								
Aldicarb sulfoxide	<1.0	4	ug/l	03/27/06 00:00	03/28/06 00:00	EPA 531.1	IC	
Aldicarb sulfone	<1.0	2	ug/l	03/27/06 00:00	"	"	IC	
Oxamyl	<1.0	200	ug/l	03/27/06 00:00	"	"	IC	
Methomyl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
3-Hydroxycarbofuran	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
Aldicarb	<1.0	3	ug/l	03/27/06 00:00	"	"	IC	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

**PW-4**  
**6C17088-02 (Drinking Water)**

Date Sampled: 03/16/06 08:40  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 531.1 Carbamate Pesticides</b>								
Carbofuran	<1.0	40	ug/l	03/27/06 00:00	"	EPA 531.1	IC	
Carbaryl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
<b>Cyanide by Semi-Automated Spectrophotometry and FIA</b>								
Cyanide (total)	<0.010	0.2	mg/l	03/24/06 00:00	03/27/06 00:00	EPA 335.4	RN	
<b>Fluoride by Ion Selective Electrode</b>								
Fluoride	<0.2	2	mg/l	03/27/06 13:30	03/27/06 13:30	SM18-4500F-C	KAL	
<b>Mercury by EPA 245.1</b>								
Mercury	<0.0002	0.002	mg/l	03/30/06 00:00	03/30/06 16:10	EPA 245.1	JD	
<b>Metals by EPA 200 Series Methods</b>								
Antimony	<0.0050	0.006	mg/l	03/27/06 00:00	03/27/06 14:02	EPA 200.9	JD	
Thallium	<0.002	0.002	mg/l	03/22/06 00:00	03/22/06 14:55	"	JD	
<b>Drinking Water Metals by EPA 200 Series Methods</b>								
Silver	<0.0010	0.1	mg/l	03/20/06 00:00	03/29/06 02:56	EPA 200.7	JD	
Arsenic	<0.005	0.01	mg/l	03/20/06 11:13	03/20/06 16:08	EPA 200.9	JD	
Barium	0.013	2	mg/l	03/20/06 00:00	03/29/06 02:56	EPA 200.7	JD	
Beryllium	<0.0010	0.004	mg/l	03/20/06 00:00	"	"	JD	
Calcium	37	0	mg/l	03/22/06 00:00	03/22/06 09:31	"	JD	
Cadmium	<0.0020	0.005	mg/l	03/20/06 00:00	03/29/06 02:56	"	JD	
Chromium	<0.0050	0.1	mg/l	03/20/06 00:00	"	"	JD	
Copper	<0.25	1.3	mg/l	03/22/06 00:00	03/22/06 09:31	"	JD	
Iron	2.2	0.3	mg/l	03/22/06 00:00	"	"	JD	
Manganese	0.37	0.05	mg/l	03/22/06 00:00	"	"	JD	
Sodium	<5.0	0	mg/l	03/22/06 00:00	"	"	JD	
Nickel	<0.0020	0.1	mg/l	03/20/06 00:00	03/29/06 02:56	"	JD	
Lead	0.015	0.015	mg/l	03/28/06 00:00	03/28/06 12:41	EPA 200.9	JD	
Selenium	<0.005	0.05	mg/l	04/05/06 00:00	04/05/06 12:40	"	JD	
Zinc	0.31	5	mg/l	03/22/06 00:00	03/22/06 09:31	EPA 200.7	JD	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

- AA = Sample received after holding time expired. Sample analyzed at client's request. Unable to achieve required analytical sensitivity, due to interfering particulate in sample.
- BNCH\* = Analysis performed by PA DEP#39-401, NY DOH#11827
- Corr. = For corrosivity a slight positive number usually indicates a non-corrosive condition, while a negative number tends toward corrosion.
- EMSL\* = Analyzed by NYS DOH#11606, PA DEP#282
- pHD = The maximum holding time is 1 hour according to NY ELAP or 15 minutes according to PA Critical Elements.
- pHDW = The MCL for pH is 6.4-8.5.
- ROT = Received and analyzed out of holding time.
- TB = Trip Blank not analyzed - sample results did not exceed the MDL for this method.

**PW-5**  
**6C17088-03 (Drinking Water)**

Date Sampled: 03/16/06 11:15  
 Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>								
Alkalinity as CaCO <sub>3</sub>	98	0	mg/l	03/23/06 12:00	03/23/06 12:00	SM18-2320B	RN	
Chloride	2	250	mg/l	03/21/06 10:30	03/21/06 10:30	EPA 325.3	KAL	
Corrosivity	-0.57	0	SI	03/31/06 00:00	03/31/06 00:00	Calculation	IC	Corr., pHDW
Nitrate as N	<0.05	10	mg/l	03/17/06 00:00	03/17/06 00:00	EPA 353.2	IC	
Nitrite as N	<0.02	1	mg/l	03/17/06 12:48	03/17/06 16:48	"	IC	
pH	7.29	0	pH Units	03/17/06 15:20	03/17/06 15:20	EPA 150.1	JP	pHD
Total Dissolved Solids	85.0	500	mg/l	03/23/06 00:00	03/23/06 00:00	EPA 160.1	IC	
Sulfate as SO <sub>4</sub>	27	250	mg/l	03/28/06 09:00	03/28/06 09:00	SM18-4500SO4-D	KAL	
<b>Miscellaneous Physical/Conventional Chemistry Parameters</b>								
Asbestos	<4.80	7	S/L10*6	03/18/06 00:00	03/28/06 00:00	ELAP 198.2		AAa, EMSL*
Temperature	18.6	0	°C	03/17/06 15:20	03/17/06 15:20	EPA 150.1	JP	
<b>Chemical and Physical Parameters by APHA/ASTM/EPA Methods</b>								
Color	<5.00	0	Pt Co	03/17/06 15:00	03/18/06 15:00	SM20, 2120B	RN	
Odor	<1	3	T.O.N.	03/17/06 12:00	03/17/06 12:00	EPA 140.1	RN	ROT
Turbidity	5.50	0	NTU	03/17/06 12:50	03/17/06 12:50	EPA 180.1	IC	
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								
Benzene	<0.5	5	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	TB
Bromobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromochloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromomethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
n-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	

Eastern Laboratory Services, Ltd.

*Irene Chu*

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

**PW-5**  
**6C17088-03 (Drinking Water)**

Date Sampled: 03/16/06 11:15  
 Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								<b>TB</b>
sec-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	EPA 502.2	CY	
tert-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Carbon tetrachloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
2-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
4-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Dibromomethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,4-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Dichlorodifluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
trans-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
2,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
trans-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Ethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Hexachlorobutadiene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Isopropylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
p-Isopropyltoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Methylene chloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-5**  
**6C17088-03 (Drinking Water)**

Date Sampled: 03/16/06 11:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								TB
n-Propylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	EPA 502.2	CY	
Styrene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,1,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,2,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Tetrachloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Toluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,1-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,2-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichlorofluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3,5-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Vinyl chloride	<0.5	2	ug/l	03/22/06 00:00	"	"	CY	
m,p-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
o-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Methyl tert-butyl ether	<0.5	10	ug/l	03/22/06 00:00	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (PID)</i>		90.0 %		80-120	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		92.0 %		80-120	"	"	CY	
Chloroform	<0.5	80	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	
Bromodichloromethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Chlorodibromomethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Bromoform	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Total Trihalomethanes	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		92.0 %		80-120	"	"	CY	
<b>EPA 504.1 Microextractables</b>								TB
1,2-Dibromoethane (EDB)	<0.01	0.05	ug/l	03/22/06 00:00	03/24/06 00:04	EPA 504.1	PDB	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-5**  
**6C17088-03 (Drinking Water)**

Date Sampled: 03/16/06 11:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 504.1 Microextractables</b>								TB
1,2-Dibromo-3-chloropropane	<0.01	0.2	ug/l	03/22/06 00:00	"	EPA 504.1	PDB	
<i>Surrogate: Tetrachloro-meta-xylene</i>		123 %	70-130		"	"	PDB	
<b>EPA 508 Pesticides and PCB Screen</b>								
Chlordane (tech)	<0.10	2	ug/l	03/23/06 00:00	03/30/06 05:53	EPA 508	PDB	
Toxaphene	<0.25	3	ug/l	03/23/06 00:00	"	"	PDB	
PCBs as Aroclors (screen)	Absence	0.5	ug/l	03/23/06 00:00	"	"	PDB	
<i>Surrogate: beta-BHC</i>		102 %	70-130		"	"	PDB	
<b>EPA 515.3 Herbicides (NY)</b>								BNCH*
2,4-D	<0.5	70	ug/l	03/22/06 08:15	03/23/06 00:00	EPA 515.3		
Dalapon	<3.0	200	ug/l	03/22/06 08:15	"	"		
Dicamba	<0.3	50	ug/l	03/22/06 08:15	"	"		
Dinoseb	<0.5	7	ug/l	03/22/06 08:15	"	"		
Pentachlorophenol	<0.3	1	ug/l	03/22/06 08:15	"	"		
Picloram	<0.3	500	ug/l	03/22/06 08:15	"	"		
2,4,5-TP (Silvex)	<0.3	50	ug/l	03/22/06 08:15	"	"		
<b>EPA 525.2 Semivolatile Organic Compounds</b>								
Alachlor	<0.10	2	ug/l	03/20/06 00:00	03/20/06 00:00	EPA 525.2	RJH	
Aldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
Atrazine	<0.10	3	ug/l	03/20/06 00:00	"	"	RJH	
Benzo (a) pyrene	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Di(2-ethylhexyl)adipate	<2.00	400	ug/l	03/20/06 00:00	"	"	RJH	
Di(2-ethylhexyl)phthalate	<2.00	6	ug/l	03/20/06 00:00	"	"	RJH	
Butachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Endrin	<0.10	2	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor	<0.10	0.4	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor epoxide	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorobenzene	<0.10	1	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorocyclopentadiene	<0.10	50	ug/l	03/20/06 00:00	"	"	RJH	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

Reported:  
04/07/06 09:46

**PW-5**  
**6C17088-03 (Drinking Water)**

Date Sampled: 03/16/06 11:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 525.2 Semivolatile Organic Compounds</b>								
HCH-gamma (Lindane)	<0.10	0.2	ug/l	03/20/06 00:00	"	EPA 525.2	RJH	
Methoxychlor	<0.10	40	ug/l	03/20/06 00:00	"	"	RJH	
Metolachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Metribuzin	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Propachlor	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Simazine	<0.10	4	ug/l	03/20/06 00:00	"	"	RJH	
Dieldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
<i>Surrogate: 1,3-Dimethyl-2-nitrobenzene</i>		95.6 %		70-130	"	"	RJH	
<i>Surrogate: Triphenyl phosphate</i>		46.2 %		70-130	"	"	RJH	SURR
<i>Surrogate: Perylene-d12</i>		44.8 %		70-130	"	"	RJH	SURR
<b>EPA 531.1 Carbamate Pesticides</b>								
Aldicarb sulfoxide	<1.0	4	ug/l	03/27/06 00:00	03/28/06 00:00	EPA 531.1	IC	
Aldicarb sulfone	<1.0	2	ug/l	03/27/06 00:00	"	"	IC	
Oxamyl	<1.0	200	ug/l	03/27/06 00:00	"	"	IC	
Methomyl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
3-Hydroxycarbofuran	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
Aldicarb	<1.0	3	ug/l	03/27/06 00:00	"	"	IC	LLFM
Carbofuran	<1.0	40	ug/l	03/27/06 00:00	"	"	IC	
Carbaryl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
<b>Cyanide by Semi-Automated Spectrophotometry and FIA</b>								
Cyanide (total)	<0.010	0.2	mg/l	03/24/06 00:00	03/27/06 00:00	EPA 335.4	RN	
<b>Fluoride by Ion Selective Electrode</b>								
Fluoride	<0.2	2	mg/l	03/27/06 13:30	03/27/06 13:30	SM18-4500F-C	KAL	
<b>Mercury by EPA 245.1</b>								
Mercury	<0.0002	0.002	mg/l	03/30/06 00:00	03/30/06 16:10	EPA 245.1	JD	
<b>Metals by EPA 200 Series Methods</b>								
Antimony	<0.0050	0.006	mg/l	03/20/06 00:00	03/27/06 14:02	EPA 200.9	JD	

Eastern Laboratory Services, Ltd.

*Irene Chu*

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

Page 16 of 35

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	Reported: 04/07/06 09:46
---	---	-----------------------------

**PW-5**  
**6C17088-03 (Drinking Water)**

Date Sampled: 03/16/06 11:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Drinking Water Metals by EPA 200 Series Methods</b>								
Silver	<0.0010	0.1	mg/l	03/20/06 00:00	03/29/06 03:00	EPA 200.7	JD	
Arsenic	<0.003	0.01	mg/l	03/20/06 00:00	04/04/06 12:27	EPA 200.9	JD	
Barium	0.0069	2	mg/l	03/20/06 00:00	03/29/06 03:00	EPA 200.7	JD	
Beryllium	<0.0010	0.004	mg/l	03/20/06 00:00	"	"	JD	
Calcium	35	0	mg/l	03/20/06 00:00	03/20/06 09:45	"	JD	
Cadmium	<0.0020	0.005	mg/l	03/20/06 00:00	03/29/06 03:00	"	JD	
Chromium	<0.0050	0.1	mg/l	03/20/06 00:00	"	"	JD	
Copper	<0.25	1.3	mg/l	03/20/06 00:00	"	"	JD	
Iron	1.8	0.3	mg/l	03/20/06 00:00	"	"	JD	LDR
Manganese	0.31	0.05	mg/l	03/20/06 00:00	"	"	JD	LDR
Sodium	<5.0	0	mg/l	03/20/06 00:00	03/20/06 09:45	"	JD	
Nickel	<0.0020	0.1	mg/l	03/20/06 00:00	03/29/06 03:00	"	JD	
Lead	0.016	0.015	mg/l	03/20/06 00:00	03/28/06 17:05	EPA 200.9	JD	
Selenium	<0.005	0.05	mg/l	03/20/06 00:00	04/05/06 12:40	"	JD	
Zinc	0.27	5	mg/l	03/20/06 00:00	03/29/06 03:00	EPA 200.7	JD	

- AAa = Unable to achieve required analytical sensitivity, due to interfering particulate in sample.
- BNCH\* = Analysis performed by PA DEP#39-401, NY DOH#11827
- Corr. = For corrosivity a slight positive number usually indicates a non-corrosive condition, while a negative number tends toward corrosion.
- EMSL\* = Analyzed by NYS DOH#11606, PA DEP#282
- LDR = The reported value is above the high calibration standard, but within the linear dynamic range of the instrument and is considered an accurate value.
- LLFM = Matrix spike % Recovery below acceptance limits.
- pHD = The maximum holding time is 1 hour according to NY ELAP or 15 minutes according to PA Critical Elements.
- pHDW = The MCL for pH is 6.4-8.5.
- ROT = Received and analyzed out of holding time.
- SURR = Surrogate recovery was outside method limits.
- TB = Trip Blank not analyzed - sample results did not exceed the MDL for this method.

**PW-9**  
**6C17088-04 (Drinking Water)**

Date Sampled: 03/16/06 10:40  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
---------	--------	-----	-------	----------	----------	--------	---------	-------

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	Reported: 04/07/06 09:46
---	---	-----------------------------

**PW-9**  
**6C17088-04 (Drinking Water)**

Date Sampled: 03/16/06 10:40  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>								
Alkalinity as CaCO <sub>3</sub>	107	0	mg/l	03/23/06 12:00	03/23/06 12:00	SM18-2320B	RN	
Chloride	2	250	mg/l	03/21/06 10:30	03/21/06 10:30	EPA 325.3	KAL	
Corrosivity	-0.07	0	SI	03/31/06 00:00	03/31/06 00:00	Calculation	IC	Corr., pHDW
Nitrate as N	<0.05	10	mg/l	03/17/06 00:00	03/17/06 00:00	EPA 353.2	IC	
Nitrite as N	<0.02	1	mg/l	03/17/06 12:48	03/17/06 16:48	"	IC	
pH	7.81	0	pH Units	03/17/06 15:28	03/17/06 15:28	EPA 150.1	JP	pHD
Total Dissolved Solids	172	500	mg/l	03/23/06 00:00	03/23/06 00:00	EPA 160.1	IC	
Sulfate as SO <sub>4</sub>	25	250	mg/l	03/28/06 09:00	03/28/06 09:00	SM18-4500SO4-D	KAL	
<b>Miscellaneous Physical/Conventional Chemistry Parameters</b>								
Asbestos	<0.120	7	S/L10 <sup>6</sup>	03/18/06 00:00	03/28/06 00:00	ELAP 198.2		EMSL*
Temperature	18.2	0	°C	03/17/06 15:28	03/17/06 15:28	EPA 150.1	JP	
<b>Chemical and Physical Parameters by APHA/ASTM/EPA Methods</b>								
Color	<5.00	0	Pt Co	03/17/06 15:00	03/18/06 15:00	SM20, 2120B	RN	
Odor	<1	3	T.O.N.	03/17/06 12:00	03/17/06 12:00	EPA 140.1	RN	ROT
Turbidity	0.300	0	NTU	03/17/06 12:50	03/17/06 12:50	EPA 180.1	IC	
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								
Benzene	<0.5	5	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	TB
Bromobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromochloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromomethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
n-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
sec-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
tert-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Carbon tetrachloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
2-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
4-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

Reported:  
04/07/06 09:46

**PW-9**  
**6C17088-04 (Drinking Water)**

Date Sampled: 03/16/06 10:40  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								
Dibromomethane	<0.5	5	ug/l	03/22/06 00:00	"	EPA 502.2	CY	TB
1,2-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,4-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Dichlorodifluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
trans-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
2,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
trans-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Ethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Hexachlorobutadiene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Isopropylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
p-Isopropyltoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Methylene chloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
n-Propylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Styrene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,1,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,2,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Tetrachloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Toluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	

Eastern Laboratory Services, Ltd.

*Irene Chu*

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

Page 19 of 35

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	Reported: 04/07/06 09:46
---	---	-----------------------------

**PW-9**  
**6C17088-04 (Drinking Water)**

Date Sampled: 03/16/06 10:40  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								TB
1,1,1-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	EPA 502.2	CY	
1,1,2-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichlorofluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3,5-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Vinyl chloride	<0.5	2	ug/l	03/22/06 00:00	"	"	CY	
m,p-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
o-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Methyl tert-butyl ether	<0.5	10	ug/l	03/22/06 00:00	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (PID)</i>		92.0 %		80-120	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		94.0 %		80-120	"	"	CY	
Chloroform	<0.5	80	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	
Bromodichloromethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Chlorodibromomethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Bromoform	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Total Trihalomethanes	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		94.0 %		80-120	"	"	CY	
<b>EPA 504.1 Microextractables</b>								TB
1,2-Dibromoethane (EDB)	<0.01	0.05	ug/l	03/22/06 00:00	03/24/06 00:38	EPA 504.1	PDB	
1,2-Dibromo-3-chloropropane	<0.01	0.2	ug/l	03/22/06 00:00	"	"	PDB	
<i>Surrogate: Tetrachloro-meta-xylene</i>		105 %		70-130	"	"	PDB	
<b>EPA 508 Pesticides and PCB Screen</b>								
Chlordane (tech)	<0.10	2	ug/l	03/23/06 00:00	03/30/06 06:16	EPA 508	PDB	
Toxaphene	<0.25	3	ug/l	03/23/06 00:00	"	"	PDB	
PCBs as Aroclors (screen)	Absence	0.5	ug/l	03/23/06 00:00	"	"	PDB	
<i>Surrogate: beta-BHC</i>		87.7 %		70-130	"	"	PDB	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-9**  
**6C17088-04 (Drinking Water)**

Date Sampled: 03/16/06 10:40  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 515.3 Herbicides (NY)</b>								BNCH*
2,4-D	<0.5	70	ug/l	03/22/06 08:15	03/23/06 00:00	EPA 515.3		
Dalapon	<3.0	200	ug/l	03/22/06 08:15	"	"		
Dicamba	<0.3	50	ug/l	03/22/06 08:15	"	"		
Dinoseb	<0.5	7	ug/l	03/22/06 08:15	"	"		
Pentachlorophenol	<0.3	1	ug/l	03/22/06 08:15	"	"		
Picloram	<0.3	500	ug/l	03/22/06 08:15	"	"		
2,4,5-TP (Silvex)	<0.3	50	ug/l	03/22/06 08:15	"	"		
<b>EPA 525.2 Semivolatile Organic Compounds</b>								
Alachlor	<0.10	2	ug/l	03/20/06 00:00	03/20/06 00:00	EPA 525.2	RJH	
Aldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
Atrazine	<0.10	3	ug/l	03/20/06 00:00	"	"	RJH	
Benzo (a) pyrene	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Di(2-ethylhexyl)adipate	<2.00	400	ug/l	03/20/06 00:00	"	"	RJH	
Di(2-ethylhexyl)phthalate	<2.00	6	ug/l	03/20/06 00:00	"	"	RJH	
Butachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Endrin	<0.10	2	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor	<0.10	0.4	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor epoxide	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorobenzene	<0.10	1	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorocyclopentadiene	<0.10	50	ug/l	03/20/06 00:00	"	"	RJH	
HCH-gamma (Lindane)	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Methoxychlor	<0.10	40	ug/l	03/20/06 00:00	"	"	RJH	
Metolachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Metribuzin	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Propachlor	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Simazine	<0.10	4	ug/l	03/20/06 00:00	"	"	RJH	
Dieldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	94.0 %		70-130		"	"	RJH	
Surrogate: Triphenyl phosphate	108 %		70-130		"	"	RJH	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-9**  
**6C17088-04 (Drinking Water)**

Date Sampled: 03/16/06 10:40  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 525.2 Semivolatile Organic Compounds</b>								
<i>Surrogate: Perylene-d12</i>	81.4 %		70-130		"	EPA 525.2	RJH	
<b>EPA 531.1 Carbamate Pesticides</b>								
Aldicarb sulfoxide	<1.0	4	ug/l	03/27/06 00:00	03/28/06 00:00	EPA 531.1	IC	
Aldicarb sulfone	<1.0	2	ug/l	03/27/06 00:00	"	"	IC	
Oxamyl	<1.0	200	ug/l	03/27/06 00:00	"	"	IC	
Methomyl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
3-Hydroxycarbofuran	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
Aldicarb	<1.0	3	ug/l	03/27/06 00:00	"	"	IC	
Carbofuran	<1.0	40	ug/l	03/27/06 00:00	"	"	IC	
Carbaryl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
<b>Cyanide by Semi-Automated Spectrophotometry and FIA</b>								
Cyanide (total)	<0.010	0.2	mg/l	03/24/06 00:00	03/27/06 00:00	EPA 335.4	RN	
<b>Fluoride by Ion Selective Electrode</b>								
Fluoride	<0.2	2	mg/l	03/27/06 13:30	03/27/06 13:30	SM18-4500F-C	KAL	
<b>Mercury by EPA 245.1</b>								
Mercury	<0.0002	0.002	mg/l	03/30/06 00:00	03/30/06 16:10	EPA 245.1	JD	
<b>Metals by EPA 200 Series Methods</b>								
Antimony	<0.0050	0.006	mg/l	03/27/06 00:00	03/27/06 14:02	EPA 200.9	JD	
Thallium	<0.002	0.002	mg/l	03/22/06 00:00	03/22/06 15:00	"	JD	
<b>Drinking Water Metals by EPA 200 Series Methods</b>								
Silver	<0.0010	0.1	mg/l	03/20/06 00:00	03/29/06 03:03	EPA 200.7	JD	
Arsenic	<0.005	0.01	mg/l	03/20/06 11:13	03/20/06 16:08	EPA 200.9	JD	
Barium	<0.0020	2	mg/l	03/20/06 00:00	03/29/06 03:03	EPA 200.7	JD	
Beryllium	<0.0010	0.004	mg/l	03/20/06 00:00	"	"	JD	
Calcium	35	0	mg/l	03/22/06 00:00	03/22/06 09:38	"	JD	
Cadmium	<0.0020	0.005	mg/l	03/20/06 00:00	03/29/06 03:03	"	JD	
Chromium	<0.0050	0.1	mg/l	03/20/06 00:00	"	"	JD	
Copper	<0.25	1.3	mg/l	03/22/06 00:00	03/22/06 09:38	"	JD	
Iron	0.086	0.3	mg/l	03/22/06 00:00	"	"	JD	

Eastern Laboratory Services, Ltd.

*Irene Chu*

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NFLAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

**PW-9**  
**6C17088-04 (Drinking Water)**

Date Sampled: 03/16/06 10:40  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Drinking Water Metals by EPA 200 Series Methods</b>								
Manganese	0.024	0.05	mg/l	03/22/06 00:00	"	EPA 200.7	JD	
Sodium	<5.0	0	mg/l	03/22/06 00:00	"	"	JD	
Nickel	<0.0020	0.1	mg/l	03/20/06 00:00	03/29/06 03:03	"	JD	
Lead	0.001	0.015	mg/l	03/28/06 00:00	03/28/06 12:41	EPA 200.9	JD	
Selenium	<0.005	0.05	mg/l	04/05/06 00:00	04/05/06 12:40	"	JD	
Zinc	0.020	5	mg/l	03/22/06 00:00	03/22/06 09:38	EPA 200.7	JD	

- BNCH\* = Analysis performed by PA DEP#39-401, NY DOH#11827
- Corr. = For corrosivity a slight positive number usually indicates a non-corrosive condition, while a negative number tends toward corrosion.
- EMSL\* = Analyzed by NYS DOH#11606, PA DEP#282
- pHD = The maximum holding time is 1 hour according to NY ELAP or 15 minutes according to PA Critical Elements.
- pHDW = The MCL for pH is 6.4-8.5.
- ROT = Received and analyzed out of holding time.
- TB = Trip Blank not analyzed - sample results did not exceed the MDL for this method.

**PW-11**  
**6C17088-05 (Drinking Water)**

Date Sampled: 03/16/06 10:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>								
Alkalinity as CaCO3	75	0	mg/l	03/23/06 12:00	03/23/06 12:00	SM18-2320B	RN	
Chloride	3	250	mg/l	03/21/06 10:30	03/21/06 10:30	EPA 325.3	KAL	
Corrosivity	-0.18	0	SI	03/31/06 00:00	03/31/06 00:00	Calculation	IC	Corr., pHDW
Nitrate as N	0.06	10	mg/l	03/17/06 00:00	03/17/06 00:00	EPA 353.2	IC	
Nitrite as N	<0.02	1	mg/l	03/17/06 12:48	03/17/06 16:48	"	IC	
pH	7.89	0	pH Units	03/17/06 15:35	03/17/06 15:35	EPA 150.1	JP	pHD
Total Dissolved Solids	109	500	mg/l	03/23/06 00:00	03/23/06 00:00	EPA 160.1	IC	
Sulfate as SO4	24	250	mg/l	03/28/06 09:00	03/28/06 09:00	SM18-4500SO4-D	KAL	

**Miscellaneous Physical/Conventional Chemistry Parameters**

Asbestos	<0.120	7	S/L10 <sup>6</sup>	03/18/06 00:00	03/28/06 00:00	ELAP 198.2		EMSL*
Temperature	18.3	0	°C	03/17/06 15:35	03/17/06 15:35	EPA 150.1	JP	

**Chemical and Physical Parameters by APHA/ASTM/EPA Methods**

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-11**  
**6C17088-05 (Drinking Water)**

Date Sampled: 03/16/06 10:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Chemical and Physical Parameters by APHA/ASTM/EPA Methods</b>								
Color	<5.00	0	Pt Co	03/17/06 15:00	03/18/06 15:00	SM20, 2120B	RN	
Odor	<1	3	T.O.N.	03/17/06 12:00	03/17/06 12:00	EPA 140.1	RN	ROT
Turbidity	<0.200	0	NTU	03/17/06 12:50	03/17/06 12:50	EPA 180.1	IC	
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								
Benzene	<0.5	5	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	TB
Bromobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromochloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromomethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
n-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
sec-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
tert-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Carbon tetrachloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
2-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
4-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Dibromomethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,4-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Dichlorodifluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
trans-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-11**  
**6C17088-05 (Drinking Water)**

Date Sampled: 03/16/06 10:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								
<b>TB</b>								
2,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	EPA 502.2	CY	
1,1-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
trans-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Ethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Hexachlorobutadiene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Isopropylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
p-Isopropyltoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Methylene chloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
n-Propylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Styrene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,1,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,2,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Tetrachloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Toluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,1-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,2-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichlorofluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3,5-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Vinyl chloride	<0.5	2	ug/l	03/22/06 00:00	"	"	CY	
m,p-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
o-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Methyl tert-butyl ether	<0.5	10	ug/l	03/22/06 00:00	"	"	CY	
<hr/>								
Surrogate: Chlorofluorobenzene (PID)		90.0 %		80-120	"	"	CY	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

Reported:  
04/07/06 09:46

**PW-11**  
**6C17088-05 (Drinking Water)**

Date Sampled: 03/16/06 10:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								TB
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		92.0 %	80-120		"	EPA 502.2	CY	
Chloroform	<0.5	80	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	
Bromodichloromethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Chlorodibromomethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Bromoform	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Total Trihalomethanes	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		92.0 %	80-120		"	"	CY	
<b>EPA 504.1 Microextractables</b>								TB
1,2-Dibromoethane (EDB)	<0.01	0.05	ug/l	03/22/06 00:00	03/24/06 01:13	EPA 504.1	PDB	
1,2-Dibromo-3-chloropropane	<0.01	0.2	ug/l	03/22/06 00:00	"	"	PDB	
<i>Surrogate: Tetrachloro-meta-xylene</i>		115 %	70-130		"	"	PDB	
<b>EPA 508 Pesticides and PCB Screen</b>								
Chlordane (tech)	<0.10	2	ug/l	03/23/06 00:00	03/30/06 06:38	EPA 508	PDB	
Toxaphene	<0.25	3	ug/l	03/23/06 00:00	"	"	PDB	
PCBs as Aroclors (screen)	Absence	0.5	ug/l	03/23/06 00:00	"	"	PDB	
<i>Surrogate: beta-BHC</i>		89.3 %	70-130		"	"	PDB	
<b>EPA 515.3 Herbicides (NY)</b>								BNCH*
2,4-D	<0.5	70	ug/l	03/22/06 08:15	03/23/06 00:00	EPA 515.3		
Dalapon	<3.0	200	ug/l	03/22/06 08:15	"	"		
Dicamba	<0.3	50	ug/l	03/22/06 08:15	"	"		
Dinoseb	<0.5	7	ug/l	03/22/06 08:15	"	"		
Pentachlorophenol	<0.3	1	ug/l	03/22/06 08:15	"	"		
Picloram	<0.3	500	ug/l	03/22/06 08:15	"	"		
2,4,5-TP (Silvex)	<0.3	50	ug/l	03/22/06 08:15	"	"		
<b>EPA 525.2 Semivolatile Organic Compounds</b>								
Alachlor	<0.10	2	ug/l	03/20/06 00:00	03/20/06 00:00	EPA 525.2	RJH	
Aldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
Atrazine	<0.10	3	ug/l	03/20/06 00:00	"	"	RJH	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

**PW-11**  
**6C17088-05 (Drinking Water)**

Date Sampled: 03/16/06 10:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 525.2 Semivolatile Organic Compounds</b>								
Benzo (a) pyrene	<0.10	0.2	ug/l	03/20/06 00:00	"	EPA 525.2	RJH	
Di(2-ethylhexyl)adipate	<2.00	400	ug/l	03/20/06 00:00	"	"	RJH	
Di(2-ethylhexyl)phthalate	<2.00	6	ug/l	03/20/06 00:00	"	"	RJH	
Butachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Endrin	<0.10	2	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor	<0.10	0.4	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor epoxide	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorobenzene	<0.10	1	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorocyclopentadiene	<0.10	50	ug/l	03/20/06 00:00	"	"	RJH	
HCH-gamma (Lindane)	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Methoxychlor	<0.10	40	ug/l	03/20/06 00:00	"	"	RJH	
Metolachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Metribuzin	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Propachlor	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Simazine	<0.10	4	ug/l	03/20/06 00:00	"	"	RJH	
Dieldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
<i>Surrogate: 1,3-Dimethyl-2-nitrobenzene</i>		97.6 %		70-130	"	"	RJH	
<i>Surrogate: Triphenyl phosphate</i>		104 %		70-130	"	"	RJH	
<i>Surrogate: Perylene-d12</i>		78.6 %		70-130	"	"	RJH	
<b>EPA 531.1 Carbamate Pesticides</b>								
Aldicarb sulfoxide	<1.0	4	ug/l	03/27/06 00:00	03/28/06 00:00	EPA 531.1	IC	
Aldicarb sulfone	<1.0	2	ug/l	03/27/06 00:00	"	"	IC	
Oxamyl	<1.0	200	ug/l	03/27/06 00:00	"	"	IC	
Methomyl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
3-Hydroxycarbofuran	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
Aldicarb	<1.0	3	ug/l	03/27/06 00:00	"	"	IC	
Carbofuran	<1.0	40	ug/l	03/27/06 00:00	"	"	IC	
Carbaryl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	

**Cyanide by Semi-Automated Spectrophotometry and FIA**

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

**PW-11**  
**6C17088-05 (Drinking Water)**

Date Sampled: 03/16/06 10:15  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Cyanide by Semi-Automated Spectrophotometry and FIA</b>								
Cyanide (total)	<0.010	0.2	mg/l	03/24/06 00:00	03/27/06 00:00	EPA 335.4	RN	
<b>Fluoride by Ion Selective Electrode</b>								
Fluoride	<0.2	2	mg/l	03/27/06 13:30	03/27/06 13:30	SM18-4500F-C	KAL	
<b>Mercury by EPA 245.1</b>								
Mercury	<0.0002	0.002	mg/l	03/30/06 00:00	03/30/06 16:10	EPA 245.1	JD	
<b>Metals by EPA 200 Series Methods</b>								
Antimony	<0.0050	0.006	mg/l	03/27/06 00:00	03/27/06 14:02	EPA 200.9	JD	
Thallium	<0.002	0.002	mg/l	03/22/06 00:00	03/22/06 15:13	"	JD	
<b>Drinking Water Metals by EPA 200 Series Methods</b>								
Silver	<0.0010	0.1	mg/l	03/20/06 00:00	03/29/06 03:07	EPA 200.7	JD	
Arsenic	<0.005	0.01	mg/l	03/20/06 11:13	03/20/06 16:08	EPA 200.9	JD	
Barium	<0.0020	2	mg/l	03/20/06 00:00	03/29/06 03:07	EPA 200.7	JD	
Beryllium	<0.0010	0.004	mg/l	03/20/06 00:00	"	"	JD	
Calcium	29	0	mg/l	03/22/06 00:00	03/22/06 09:59	"	JD	
Cadmium	<0.0020	0.005	mg/l	03/20/06 00:00	03/29/06 03:07	"	JD	
Chromium	<0.0050	0.1	mg/l	03/20/06 00:00	"	"	JD	
Copper	<0.25	1.3	mg/l	03/22/06 00:00	03/22/06 09:59	"	JD	
Iron	0.095	0.3	mg/l	03/22/06 00:00	"	"	JD	
Manganese	0.20	0.05	mg/l	03/22/06 00:00	"	"	JD	
Sodium	<5.0	0	mg/l	03/22/06 00:00	"	"	JD	
Nickel	<0.0020	0.1	mg/l	03/20/06 00:00	03/29/06 03:07	"	JD	
Lead	0.004	0.015	mg/l	03/28/06 00:00	03/28/06 12:41	EPA 200.9	JD	
Selenium	<0.005	0.05	mg/l	04/05/06 00:00	04/05/06 12:40	"	JD	
Zinc	0.029	5	mg/l	03/22/06 00:00	03/22/06 09:59	EPA 200.7	JD	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

- BNCH\* = Analysis performed by PA DEP#39-401, NY DOH#11827  
 Corr. = For corrosivity a slight positive number usually indicates a non-corrosive condition, while a negative number tends toward corrosion.  
 EMSL\* = Analyzed by NYS DOH#11606, PA DEP#282  
 pHD = The maximum holding time is 1 hour according to NY ELAP or 15 minutes according to PA Critical Elements.  
 pHDW = The MCL for pH is 6.4-8.5.  
 ROT = Received and analyzed out of holding time.  
 TB = Trip Blank not analyzed - sample results did not exceed the MDL for this method.

**PW-1 Clubhouse Well**  
**6C17088-06 (Drinking Water)**

Date Sampled: 03/16/06 07:45  
 Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Conventional Chemistry Parameters by APHA/EPA Methods</b>								
Alkalinity as CaCO3	126	0	mg/l	03/23/06 12:00	03/23/06 12:00	SM18-2320B	RN	
Chloride	10	250	mg/l	03/21/06 10:30	03/21/06 10:30	EPA 325.3	KAL	
Corrosivity	0.20	0	SI	03/31/06 00:00	03/31/06 00:00	Calculation	IC	Corr., pHDW
Nitrate as N	<0.05	10	mg/l	03/17/06 00:00	03/17/06 00:00	EPA 353.2	IC	
Nitrite as N	<0.02	1	mg/l	03/17/06 12:48	03/17/06 14:36	"	IC	
pH	7.86	0	pH Units	03/17/06 15:20	03/17/06 15:20	EPA 150.1	JP	pHD
Total Dissolved Solids	214	500	mg/l	03/23/06 00:00	03/23/06 00:00	EPA 160.1	IC	
Sulfate as SO4	30	250	mg/l	03/28/06 09:00	03/28/06 09:00	SM18-4500SO4-D	KAL	
<b>Miscellaneous Physical/Conventional Chemistry Parameters</b>								
Asbestos	<0.240	7	S/L10 <sup>6</sup>	03/18/06 00:00	03/28/06 00:00	ELAP 198.2		AA, EMSL*
Temperature	19.7	0	°C	03/17/06 15:20	03/17/06 15:20	EPA 150.1	JP	
<b>Chemical and Physical Parameters by APHA/ASTM/EPA Methods</b>								
Color	<5.00	0	Pt Co	03/17/06 15:00	03/18/06 15:00	SM20, 2120B	RN	
Odor	<1	3	T.O.N.	03/17/06 12:00	03/17/06 12:00	EPA 140.1	RN	ROT
Turbidity	3.80	0	NTU	03/17/06 12:50	03/17/06 12:50	EPA 180.1	IC	
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								
Benzene	<0.5	5	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	TB
Bromobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromochloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Bromomethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
n-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
sec-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.

PA 08380      NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-1 Clubhouse Well**  
**6C17088-06 (Drinking Water)**

Date Sampled: 03/16/06 07:45  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								TB
tert-Butylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	EPA 502.2	CY	
Carbon tetrachloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Chloromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
2-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
4-Chlorotoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Dibromomethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,4-Dichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Dichlorodifluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
trans-1,2-Dichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
2,2-Dichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
cis-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
trans-1,3-Dichloropropene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Ethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Hexachlorobutadiene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Isopropylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
p-Isopropyltoluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Methylene chloride	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
n-Propylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	

Eastern Laboratory Services, Ltd.

*Irene Chu*

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

Page 30 of 35

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-1 Clubhouse Well**  
**6C17088-06 (Drinking Water)**

Date Sampled: 03/16/06 07:45  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 502.2 Volatile Organic Compounds (NY List)</b>								TB
Styrene	<0.5	5	ug/l	03/22/06 00:00	"	EPA 502.2	CY	
1,1,1,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,2,2-Tetrachloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Tetrachloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Toluene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trichlorobenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,1-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,1,2-Trichloroethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichloroethene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Trichlorofluoromethane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,3-Trichloropropane	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,2,4-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
1,3,5-Trimethylbenzene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Vinyl chloride	<0.5	2	ug/l	03/22/06 00:00	"	"	CY	
m,p-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
o-Xylene	<0.5	5	ug/l	03/22/06 00:00	"	"	CY	
Methyl tert-butyl ether	<0.5	10	ug/l	03/22/06 00:00	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (PID)</i>		88.0 %		80-120	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		91.0 %		80-120	"	"	CY	
Chloroform	<0.5	80	ug/l	03/22/06 00:00	03/22/06 00:00	EPA 502.2	CY	
Bromodichloromethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Chlorodibromomethane	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Bromoform	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
Total Trihalomethanes	<0.5	80	ug/l	03/22/06 00:00	"	"	CY	
<i>Surrogate: Chlorofluorobenzene (ELCD)</i>		91.0 %		80-120	"	"	CY	
<b>EPA 504.1 Microextractables</b>								TB
1,2-Dibromoethane (EDB)	<0.01	0.05	ug/l	03/22/06 00:00	03/24/06 01:47	EPA 504.1	PDB	
1,2-Dibromo-3-chloropropane	<0.01	0.2	ug/l	03/22/06 00:00	"	"	PDB	

Eastern Laboratory Services, Ltd.

*Irene Chu*

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Monian	<b>Reported:</b> 04/07/06 09:46
---	---	------------------------------------

**PW-1 Clubhouse Well  
6C17088-06 (Drinking Water)**

Date Sampled: 03/16/06 07:45  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 504.1 Microextractables</b>								TB
<i>Surrogate: Tetrachloro-meta-xylene</i>		118 %	70-130		"	EPA 504.1	PDB	
<b>EPA 508 Pesticides and PCB Screen</b>								
Chlordane (tech)	<0.10	2	ug/l	03/23/06 00:00	03/30/06 07:01	EPA 508	PDB	
Toxaphene	<0.25	3	ug/l	03/23/06 00:00	"	"	PDB	
PCBs as Aroclors (screen)	Absence	0.5	ug/l	03/23/06 00:00	"	"	PDB	
<i>Surrogate: beta-BHC</i>		80.6 %	70-130		"	"	PDB	
<b>EPA 515.3 Herbicides (NY)</b>								BNCH*
2,4-D	<0.5	70	ug/l	03/22/06 08:15	03/23/06 00:00	EPA 515.3		
Dalapon	<3.0	200	ug/l	03/22/06 08:15	"	"		
Dicamba	<0.3	50	ug/l	03/22/06 08:15	"	"		
Dinoseb	<0.5	7	ug/l	03/22/06 08:15	"	"		
Pentachlorophenol	<0.3	1	ug/l	03/22/06 08:15	"	"		
Picloram	<0.3	500	ug/l	03/22/06 08:15	"	"		
2,4,5-TP (Silvex)	<0.3	50	ug/l	03/22/06 08:15	"	"		
<b>EPA 525.2 Semivolatile Organic Compounds</b>								
Alachlor	<0.10	2	ug/l	03/20/06 00:00	03/20/06 00:00	EPA 525.2	RJH	
Aldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
Atrazine	<0.10	3	ug/l	03/20/06 00:00	"	"	RJH	
Benzo (a) pyrene	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Di(2-ethylhexyl)adipate	<2.00	400	ug/l	03/20/06 00:00	"	"	RJH	
Di(2-ethylhexyl)phthalate	<2.00	6	ug/l	03/20/06 00:00	"	"	RJH	
Butachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Endrin	<0.10	2	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor	<0.10	0.4	ug/l	03/20/06 00:00	"	"	RJH	
Heptachlor epoxide	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorobenzene	<0.10	1	ug/l	03/20/06 00:00	"	"	RJH	
Hexachlorocyclopentadiene	<0.10	50	ug/l	03/20/06 00:00	"	"	RJH	
HCH-gamma (Lindane)	<0.10	0.2	ug/l	03/20/06 00:00	"	"	RJH	

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.

PA 08380

NY 11216

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-1 Clubhouse Well  
6C17088-06 (Drinking Water)**

Date Sampled: 03/16/06 07:45  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>EPA 525.2 Semivolatile Organic Compounds</b>								
Methoxychlor	<0.10	40	ug/l	03/20/06 00:00	"	EPA 525.2	RJH	
Metolachlor	<2.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Metribuzin	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Propachlor	<1.00	50	ug/l	03/20/06 00:00	"	"	RJH	
Simazine	<0.10	4	ug/l	03/20/06 00:00	"	"	RJH	
Dieldrin	<0.10	5	ug/l	03/20/06 00:00	"	"	RJH	
<i>Surrogate: 1,3-Dimethyl-2-nitrobenzene</i>		97.4 %		70-130	"	"	RJH	
<i>Surrogate: Triphenyl phosphate</i>		107 %		70-130	"	"	RJH	
<i>Surrogate: Perylene-d12</i>		67.6 %		70-130	"	"	RJH	SURR
<b>EPA 531.1 Carbamate Pesticides</b>								
Aldicarb sulfoxide	<1.0	4	ug/l	03/27/06 00:00	03/28/06 00:00	EPA 531.1	IC	
Aldicarb sulfone	<1.0	2	ug/l	03/27/06 00:00	"	"	IC	
Oxamyl	<1.0	200	ug/l	03/27/06 00:00	"	"	IC	
Methomyl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
3-Hydroxycarbofuran	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
Aldicarb	<1.0	3	ug/l	03/27/06 00:00	"	"	IC	
Carbofuran	<1.0	40	ug/l	03/27/06 00:00	"	"	IC	
Carbaryl	<1.0	0	ug/l	03/27/06 00:00	"	"	IC	
<b>EPA 547 Glyphosate by HPLC</b>								
Glyphosate	<0.05	700	mg/l	03/17/06 00:00	03/17/06 00:00	EPA 547	IC	
<b>EPA 548.1 Endothall</b>								
Endothall	<0.05	0.1	mg/l	03/21/06 16:30	03/29/06 10:20	EPA 548.1		FCOL*
<b>EPA 549.2 Diquat by HPLC</b>								
Diquat	<0.8	20	ug/l	03/17/06 00:00	03/22/06 00:00	EPA 549.2	IC	
<b>EPA 1613 Dioxin</b>								
2,3,7,8-TCDD	<5	30	pg/l	03/21/06 00:00	03/23/06 05:18	EPA 1613B		PACE*

Eastern Laboratory Services, Ltd.

*Irene Chu*

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

Page 33 of 35

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

**PW-1 Clubhouse Well  
6C17088-06 (Drinking Water)**

Date Sampled: 03/16/06 07:45  
Date Received: 03/17/06 12:48

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Cyanide by Semi-Automated Spectrophotometry and FIA</b>								
Cyanide (total)	<0.010	0.2	mg/l	03/24/06 00:00	03/27/06 00:00	EPA 335.4	RN	
<b>Fluoride by Ion Selective Electrode</b>								
Fluoride	<0.2	2	mg/l	03/27/06 13:30	03/27/06 13:30	SM18-4500F-C	KAL	
<b>Mercury by EPA 245.1</b>								
Mercury	<0.0002	0.002	mg/l	03/30/06 00:00	03/30/06 16:10	EPA 245.1	JD	
<b>Metals by EPA 200 Series Methods</b>								
Antimony	<0.0050	0.006	mg/l	03/27/06 00:00	03/27/06 14:02	EPA 200.9	JD	
Thallium	<0.002	0.002	mg/l	03/22/06 00:00	03/22/06 15:17	"	JD	
<b>Drinking Water Metals by EPA 200 Series Methods</b>								
Silver	<0.0010	0.1	mg/l	03/20/06 00:00	03/29/06 03:21	EPA 200.7	JD	
Arsenic	<0.005	0.01	mg/l	03/20/06 11:13	03/20/06 16:08	EPA 200.9	JD	
Barium	0.0094	2	mg/l	03/20/06 00:00	03/29/06 03:21	EPA 200.7	JD	
Beryllium	<0.0010	0.004	mg/l	03/20/06 00:00	"	"	JD	
Calcium	48	0	mg/l	03/22/06 00:00	03/22/06 10:06	"	JD	
Cadmium	<0.0020	0.005	mg/l	03/20/06 00:00	03/29/06 03:21	"	JD	
Chromium	<0.0050	0.1	mg/l	03/20/06 00:00	"	"	JD	
Copper	<0.25	1.3	mg/l	03/22/06 00:00	03/22/06 10:06	"	JD	
Iron	0.88	0.3	mg/l	03/22/06 00:00	"	"	JD	
Manganese	0.21	0.05	mg/l	03/22/06 00:00	"	"	JD	
Sodium	5.5	0	mg/l	03/22/06 00:00	"	"	JD	
Nickel	<0.0020	0.1	mg/l	03/20/06 00:00	03/29/06 03:21	"	JD	
Lead	0.016	0.015	mg/l	03/28/06 00:00	03/28/06 12:41	EPA 200.9	JD	
Selenium	<0.005	0.05	mg/l	04/05/06 00:00	04/05/06 12:40	"	JD	
Zinc	0.024	5	mg/l	03/22/06 00:00	03/22/06 10:06	EPA 200.7	JD	

Eastern Laboratory Services, Ltd.

*Irene Chu*

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

Page 34 of 35

## Certificate of Analysis

Chazen Companies  
21 Fox Street  
Poughkeepsie NY, 12601

Project: Sub Part 5  
Project No: Silo Ridge/10454.01  
Project Manager: Monian

**Reported:**  
04/07/06 09:46

- AA = Sample received after holding time expired. Sample analyzed at client's request. Unable to achieve required analytical sensitivity, due to interfering particulate in sample.
- BNCH\* = Analysis performed by PA DEP#39-401, NY DOH#11827
- Corr. = For corrosivity a slight positive number usually indicates a non-corrosive condition, while a negative number tends toward corrosion.
- EMSL\* = Analyzed by NYS DOH#11606, PA DEP#282
- FCOL\* = Analysis performed by NYS DOH#10552, PA DEP#20-073
- PACE\* = Analysis performed by NYS DOH #11647
- pHD = The maximum holding time is 1 hour according to NY ELAP or 15 minutes according to PA Critical Elements.
- pHDW = The MCL for pH is 6.4-8.5.
- ROT = Received and analyzed out of holding time.
- SURR = Surrogate recovery was outside method limits.
- TB = Trip Blank not analyzed - sample results did not exceed the MDL for this method.

Eastern Laboratory Services, Ltd.



Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380

NY 11216

Page 35 of 35

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Total Coliform Project No: [none] Project Manager: Monian	<b>Reported:</b> 04/07/06 09:53
---	--	------------------------------------

**Silo Ridge PW-1  
6C17087-01 (Drinking Water)**

Date Sampled: 03/16/06 07:45  
Date Received: 03/17/06 12:35

Analyte	Result	MCL	Analyzed	Method	Analyst	Notes
---------	--------	-----	----------	--------	---------	-------

**Total Coliform P/A by SM9223B**

Total Coliforms	Absence	Absence	03/17/06 12:45	SM18-9223B	KM	
E. Coli	Absence	Absence	"	"	KM	

Interpretation of Total Coliform results indicate that the sample was tested and is currently IN COMPLIANCE with the bacteriological drinking water standards, as established under the Safe Drinking Water Act of the Environmental Protection Agency.

Eastern Laboratory Services, Ltd.

*Kimberly Murray*

Reviewed by Kimberly Murray, Microbiology Supervisor

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

CT PH-0318      MD 313  
PA 08380      NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Total Coliform Project No: [none] Project Manager: Monian	Reported: 04/07/06 09:53
---	--	-----------------------------

**Silo Ridge PW-2**  
**6C17087-02 (Drinking Water)**

Date Sampled: 03/16/06 07:15  
 Date Received: 03/17/06 12:35

Analyte	Result	MCL	Analyzed	Method	Analyst	Notes
---------	--------	-----	----------	--------	---------	-------

**Total Coliform P/A by SM9223B**

Total Coliforms	Absence	Absence	03/17/06 12:45	SM18-9223B	KM	
E. Coli	Absence	Absence	"	"	KM	

Interpretation of Total Coliform results indicate that the sample was tested and is currently IN COMPLIANCE with the bacteriological drinking water standards, as established under the Safe Drinking Water Act of the Environmental Protection Agency.

Eastern Laboratory Services, Ltd.

*Kimberly Murray*

Reviewed by Kimberly Murray, Microbiology Supervisor

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

CT PH-0318      MD 313  
 PA 08380      NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Total Coliform Project No: [none] Project Manager: Monian	<b>Reported:</b> 04/07/06 09:53
---	--	------------------------------------

**Silo Ridge PW-4  
6C17087-03 (Drinking Water)**

Date Sampled: 03/16/06 08:40  
Date Received: 03/17/06 12:35

Analyte	Result	MCL	Analyzed	Method	Analyst	Notes
---------	--------	-----	----------	--------	---------	-------

**Total Coliform P/A by SM9223B**

Total Coliforms	Absence	Absence	03/17/06 12:45	SM18-9223B	KM	
E. Coli	Absence	Absence	"	"	KM	

Interpretation of Total Coliform results indicate that the sample was tested and is currently IN COMPLIANCE with the bacteriological drinking water standards, as established under the Safe Drinking Water Act of the Environmental Protection Agency.

Eastern Laboratory Services, Ltd.

*Kimberly Murray*

Reviewed by Kimberly Murray, Microbiology Supervisor

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

CT PH-0318      MD 313  
PA 08380      NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Total Coliform Project No: [none] Project Manager: Monian	<b>Reported:</b> 04/07/06 09:53
---	--	------------------------------------

**Silo Ridge PW-5**  
**6CI7087-04 (Drinking Water)**

Date Sampled: 03/16/06 11:15  
 Date Received: 03/17/06 12:35

Analyte	Result	MCL	Analyzed	Method	Analyst	Notes
---------	--------	-----	----------	--------	---------	-------

**Total Coliform P/A by SM9223B**

Total Coliforms	Absence	Absence	03/17/06 12:45	SM18-9223B	KM	
E. Coli	Absence	Absence	"	"	KM	

Interpretation of Total Coliform results indicate that the sample was tested and is currently IN COMPLIANCE with the bacteriological drinking water standards, as established under the Safe Drinking Water Act of the Environmental Protection Agency.

Eastern Laboratory Services, Ltd.

*Kimberly Murray*

Reviewed by Kimberly Murray, Microbiology Supervisor

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

CT PH-0318      MD 313  
 PA 08380      NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Total Coliform Project No: [none] Project Manager: Monian	Reported: 04/07/06 09:53
---	--	-----------------------------

**Silo Ridge PW-11**  
**6C17087-05 (Drinking Water)**

Date Sampled: 03/16/06 10:15  
Date Received: 03/17/06 12:35

Analyte	Result	MCL	Analyzed	Method	Analyst	Notes
---------	--------	-----	----------	--------	---------	-------

**Total Coliform P/A by SM9223B**

Total Coliforms	Absence	Absence	03/17/06 12:45	SM18-9223B	KM	
E. Coli	Absence	Absence	"	"	KM	

Interpretation of Total Coliform results indicate that the sample was tested and is currently IN COMPLIANCE with the bacteriological drinking water standards, as established under the Safe Drinking Water Act of the Environmental Protection Agency.

Eastern Laboratory Services, Ltd.

*Kimberly Murray*

Reviewed by Kimberly Murray, Microbiology Supervisor

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

CT PH-0318      MD 313  
PA 08380      NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Total Coliform Project No: [none] Project Manager: Monian	<b>Reported:</b> 04/07/06 09:53
---	--	------------------------------------

**Silo Ridge PW-9**  
**6C17087-06 (Drinking Water)**

Date Sampled: 03/16/06 10:40  
 Date Received: 03/17/06 12:35

Analyte	Result	MCL	Analyzed	Method	Analyst	Notes
---------	--------	-----	----------	--------	---------	-------

**Total Coliform P/A by SM9223B**

Total Coliforms	Absence	Absence	03/17/06 12:45	SM18-9223B	KM	
E. Coli	Absence	Absence	"	"	KM	

Interpretation of Total Coliform results indicate that the sample was tested and is currently IN COMPLIANCE with the bacteriological drinking water standards, as established under the Safe Drinking Water Act of the Environmental Protection Agency.

Eastern Laboratory Services, Ltd.

*Kimberly Murray*

Reviewed by Kimberly Murray, Microbiology Supervisor

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

CT PH-0318      MD 313  
 PA 08380      NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Yong Wang	<b>Reported:</b> 04/07/06 09:44
---	--	------------------------------------

**PW-2**  
**6C17089-01 (Drinking Water)**

Date Sampled: 03/16/06 09:15  
Date Received: 03/17/06 13:04

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Radiologicals by EPA/SM/ASTM Methods</b>								
Gross Alpha	1.7+/-1.1	0	pCi/L	03/27/06 00:00	04/01/06 00:00	EPA 900		WST* <MD, Alpha
Gross Beta	2.6+/-0.9	0	pCi/L	03/27/06 00:00	"	EPA 900.0		Beta
Radium 226	1.15+/-0.3	0	pCi/L	03/28/06 00:00	03/31/06 00:00	7500 RaB Mod.		Radiu
Radium 228	1.3+/-1.29	0	pCi/L	03/30/06 00:00	04/03/06 00:00	EPA 904.0		Radiu
Radon	560	40000	pCi/L	03/21/06 00:00	03/21/06 00:00	SM 7500 Rn-B		

- <MD = Analyte detected below quantitation limit.
- ACCU\* = Analysis performed by NYS DOH #11769, PA DEP #19-36
- Alpha = The MCL for Gross Alpha is 15 pCi/L after exclusion of Uranium.
- Beta = The MCL is 50 pCi/L with an actual of 4 mrem/year using the assumption that this is in compliance and no man made radioactive material is present.
- Radiu = Radium 226 and 228 combined has a MCL of 5.
- WST\* = Analysis performed by NYS DOH #11179, PA DEP #68757.

**PW-4**  
**6C17089-02 (Drinking Water)**

Date Sampled: 03/16/06 08:40  
Date Received: 03/17/06 13:04

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Radiologicals by EPA/SM/ASTM Methods</b>								
Gross Alpha	2.3+/-1.4	0	pCi/L	03/27/06 00:00	04/01/06 00:00	EPA 900		WST* <MD, Alpha
Gross Beta	6.5+/-1.1	0	pCi/L	03/27/06 00:00	"	EPA 900.0		Beta
Radium 226	0.21+/-0.16	0	pCi/L	03/28/06 00:00	03/31/06 00:00	7500 RaB Mod.		<MD, Radiu
Radium 228	-1.0+/-1.26	0	pCi/L	03/30/06 00:00	04/03/06 00:00	EPA 904.0		<MD, Radiu
Radon	1700	40000	pCi/L	03/21/06 00:00	03/21/06 00:00	SM 7500 Rn-B		

- <MD = Analyte detected below quantitation limit.
- ACCU\* = Analysis performed by NYS DOH #11769, PA DEP #19-36
- Alpha = The MCL for Gross Alpha is 15 pCi/L after exclusion of Uranium.
- Beta = The MCL is 50 pCi/L with an actual of 4 mrem/year using the assumption that this is in compliance and no man made radioactive material is present.
- Radiu = Radium 226 and 228 combined has a MCL of 5.
- WST\* = Analysis performed by NYS DOH #11179, PA DEP #68757.

Eastern Laboratory Services, Ltd.

*Irene Chu*

Reviewed by Irene Chu, Laboratory Director

The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.

PA 08380      NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Yong Wang	<b>Reported:</b> 04/07/06 09:44
---	--	------------------------------------

**PW-5**  
**6C17089-03 (Drinking Water)**

Date Sampled: 03/16/06 11:15  
Date Received: 03/17/06 13:04

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Radiologicals by EPA/SM/ASTM Methods</b>								
Gross Alpha	12.7+/-3.1	0	pCi/L	03/27/06 00:00	04/01/06 00:00	EPA 900		Alpha
Gross Beta	16.7+/-1.7	0	pCi/L	03/27/06 00:00	"	EPA 900.0		Beta
Radium 226	0.30+/-0.13	0	pCi/L	03/28/06 00:00	03/31/06 00:00	7500 RaB Mod.		Radiu
Radium 228	2.5+/-1.42	0	pCi/L	03/30/06 00:00	04/03/06 00:00	EPA 904.0		Radium
Radon	1500	40000	pCi/L	03/21/06 00:00	03/21/06 00:00	SM 7500 Rn-B		

ACCU\* = Analysis performed by NYS DOH #11769, PA DEP #19-36  
 Alpha = The MCL for Gross Alpha is 15 pCi/L after exclusion of Uranium.  
 Beta = The MCL is 50 pCi/L with an actual of 4 mrem/year using the assumption that this is in compliance and no man made radioactive material is present.  
 Radium = Radium 226 and 228 combined has a MCL of 5.  
 WST\* = Analysis performed by NYS DOH #11179, PA DEP #68757.

**PW-9**  
**6C17089-04 (Drinking Water)**

Date Sampled: 03/16/06 10:40  
Date Received: 03/17/06 13:04

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
<b>Radiologicals by EPA/SM/ASTM Methods</b>								
Gross Alpha	1.4+/-1	0	pCi/L	03/27/06 00:00	04/01/06 00:00	EPA 900		<MD, Alpha
Gross Beta	3.0+/-0.9	0	pCi/L	03/27/06 00:00	"	EPA 900.0		Beta
Radium 226	0.35+/-0.18	0	pCi/L	04/03/06 00:00	04/06/06 00:00	7500 RaB Mod.		Radium
Radium 228	2.0+/-1.11	0	pCi/L	03/30/06 00:00	04/03/06 00:00	EPA 904.0		Radium
Radon	1200	40000	pCi/L	03/21/06 00:00	03/21/06 00:00	SM 7500 Rn-B		

<MD = Analyte detected below quantitation limit.  
 ACCU\* = Analysis performed by NYS DOH #11769, PA DEP #19-36  
 Alpha = The MCL for Gross Alpha is 15 pCi/L after exclusion of Uranium.  
 Beta = The MCL is 50 pCi/L with an actual of 4 mrem/year using the assumption that this is in compliance and no man made radioactive material is present.  
 Radium = Radium 226 and 228 combined has a MCL of 5.  
 WST\* = Analysis performed by NYS DOH #11179, PA DEP #68757.

**PW-11**  
**6C17089-05 (Drinking Water)**

Date Sampled: 03/16/06 10:15  
Date Received: 03/17/06 13:04

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Analyst	Notes
---------	--------	-----	-------	----------	----------	--------	---------	-------

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAP.

PA 08380 NY 11216

## Certificate of Analysis

Chazen Companies 21 Fox Street Poughkeepsie NY, 12601	Project: Sub Part 5 Project No: Silo Ridge/10454.01 Project Manager: Yong Wang	Reported: 04/07/06 09:44
---	--	-----------------------------

**Radiologicals by EPA/SM/ASTM Methods**

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Notes
Gross Alpha	0.8+/-0.9	0	pCi/L	03/27/06 00:00	04/01/06 00:00	EPA 900	<MD, Alpha
Gross Beta	2.4+/-0.8	0	pCi/L	03/27/06 00:00	"	EPA 900.0	Beta
Radium 226	0.13+/-0.1	0	pCi/L	04/03/06 00:00	04/06/06 00:00	7500 RaB Mod.	Radiu
Radium 228	2.9+/-1.9	0	pCi/L	03/30/06 00:00	04/03/06 00:00	EPA 904.0	Radiu
Radon	2200	40000	pCi/L	03/21/06 00:00	03/21/06 00:00	SM 7500 Rn-B	

- <MD = Analyte detected below quantitation limit.
- ACCU\* = Analysis performed by NYS DOH #11769, PA DEP #19-36
- Alpha = The MCL for Gross Alpha is 15 pCi/L after exclusion of Uranium.
- Beta = The MCL is 50 pCi/L with an actual of 4 mrem/year using the assumption that this is in compliance and no man made radioactive material is present.
- Radiu = Radium 226 and 228 combined has a MCL of 5.
- WST\* = Analysis performed by NYS DOH #11179, PA DEP #68757.

**PW-1 Clubhouse Well**  
**6C17089-06 (Drinking Water)**

Date Sampled: 03/16/06 07:45  
 Date Received: 03/17/06 13:04

Analyte	Result	MCL	Units	Prepared	Analyzed	Method	Notes
---------	--------	-----	-------	----------	----------	--------	-------

**Radiologicals by EPA/SM/ASTM Methods**

Gross Alpha	3.0+/-1.5	0	pCi/L	03/27/06 00:00	04/01/06 00:00	EPA 900	Alpha
Gross Beta	3.6+/-0.9	0	pCi/L	03/27/06 00:00	"	EPA 900.0	Beta
Radium 226	0.33+/-0.15	0	pCi/L	04/03/06 00:00	04/06/06 00:00	7500 RaB Mod.	Radiu
Radium 228	1.6+/-1.51	0	pCi/L	03/30/06 00:00	04/06/06 17:44	EPA 904.0	Radiu
Radon	1300	40000	pCi/L	03/21/06 00:00	03/21/06 00:00	SM 7500 Rn-B	

- ACCU\* = Analysis performed by NYS DOH #11769, PA DEP #19-36
- Alpha = The MCL for Gross Alpha is 15 pCi/L after exclusion of Uranium.
- Beta = The MCL is 50 pCi/L with an actual of 4 mrem/year using the assumption that this is in compliance and no man made radioactive material is present.
- Radiu = Radium 226 and 228 combined has a MCL of 5.
- WST\* = Analysis performed by NYS DOH #11179, PA DEP #68757.

Eastern Laboratory Services, Ltd.

Irene Chu

Reviewed by Irene Chu, Laboratory Director

*The results in this report apply to the samples, as received by the laboratory, analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. The test results meet all requirements of NELAC.*

PA 08380 NY 11216

## **APPENDIX C – MPA ANALYSES**

PW-2



**ENVIRONMENTAL ASSOCIATES LTD.**

# Water Source ID Sheet

Name of Next-Day Service	Tracking Number	Date Shipped
--------------------------	-----------------	--------------

SEND ALL SAMPLES FOR NEXT-DAY DELIVERY BY UPS or FED.EX. (Please Do Not Use Fed Ex. Pickup Code)

**Client Information**

City/ Utility	Silo Ridge Country Club	
Contact Person	Robert Calvers	
Address	Rte. 22 Amenia, NY	
Phone		
FAX		
Send report to above address	Yes	No <input checked="" type="checkbox"/>

Agency/Engineering Firm	Chazen	
Contact Person	Dan Michaud	
Address	21 Fox Street Poughkeepsie, NY 12601	
Phone	(845) 454-3980	
FAX	(845) 454-9026	
Send report to above address	Yes <input checked="" type="checkbox"/>	No

**Billing Information**

NOTE: -----> To Insure Proper Billing Please Include P.O.# !!

Address is the same as City/ Utility  Agency/Engineering Firm  (Check one only)  
 If address is different, please make changes below.

Office
Contact Person
Address
Phone

Purchase Order No.  
 Are Voucher Forms Required  
 If voucher is needed, it must be furnished with this form.

E07471	
Yes	No <input checked="" type="checkbox"/>
Req. #	
FAX#	Special Instructions

**Sample Information**

NOTE: -----> \*The total number of gallons sampled must be\*\*  
 \* recorded for us to process samples.

Collector of Sample	Don Michaud
Date Sampled	3/16/06
Water Source Location	PW-2
Sample Taken From	Sample Tap @ Well

Meter Reading
Finish
Start
Total Gallons -->

**Water Source ID**

In order to speed sample processing please fill out this section. (please indicate with a mark)

Tests Requested: Select Method: Select Method:

Drinking Water:	Giardia & Cryptosporidium:	EPA-ICR <input checked="" type="checkbox"/>	EPA1623
	Enteric Virus Analysis:	EPA-ICR	Other

Microscopic Particle Analysis to Determine Filter Plant Efficiency	
Microscopic Particle Analysis to determine Groundwater under Surface Water Influence	<input checked="" type="checkbox"/>
Microscopic Particle Analysis to Characterize Source Water	

Algal Analysis	Laser Particle Counting	Other
----------------	-------------------------	-------

Waste Water & Biosolids:	Enteric Viruses	Salmonella	Coliform
	Helminth Ova	Coliphage	Giardia & Crypto.

I Surface Water:	Impoundment	River	Other
II Filtered Water:	Type Filter Plant		
III Ground Water:	Spring	Infill Gallery	Artesian Well
	Dug Well		
IV Waste Water:	Influent	Effluent	Biosolid

Field Measurements	Date	Turbidity	pH	Total Cl	Free Cl	Water Temp	TC/100ml	FC/100ml	HPC/ml
Setup	3/15/06	clear	6.23	75 (ug)		9.24			
Pickup	3/16/06	clear	6.70	198 (ug)		9.80			

Comments

\*\*\* PLEASE INDICATE WHETHER RUSH SERVICE IS REQUIRED\*\*\*

Please indicate the requested rush service:

1 day	2 days
3 days	Weekend

Telephone Result	Yes	No	Telephone No.
FAX Result	Yes	No	FAX No.

**REPORT: PARTICULATES, GIARDIA, AND CRYPTOSPORIDIUM**

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



Filter ID: 24208 Client: The Chazen Companies

Station/Body of water: PW-2

**RECEIPT OF FILTER:**

Date Received: 3/17/2006 # of filters: 2 Type: 1µm Carrier: UPS Overnight

**COLLECTION:**

Collector: Dan Michaud Date collected: 3/16/2006  
 Temperature: 9.80 °C Turbidity:           
 Water Type: Ground Water

**FILTER PROCESSING**

Color of water around filter: cloudy Total volume of sediment: 3 ml  
 Filter color: grey Volume of sediment/100 gallons: 0.4 ml/100gal.  
 Color of sediment: grey IFA equivalent liter volume examined: 227l  
 # gallons filtered: 840 Phase equivalent gallon volume examined: 58gal.

**GIARDIA/CRYPTOSPORIDIUM # Observed Calc. #/100 Gallons**

Giardia cyst confirmed:	<u>0</u>	<u>0</u>
Giardia cyst presumptive:	<u>0</u>	<u>0</u>
Cryptosporidium oocyst confirmed:	<u>0</u>	<u>0</u>
Cryptosporidium oocyst presumptive:	<u>0</u>	<u>0</u>

**ANALYSIS OF PARTICULATES:**

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

**PARTICULATE DEBRIS**

	Quantity	Description
Large part. 5 µm & larger	<u>EH</u>	<u>fine silt &amp; sand</u>
Small part. up to 5 µm	<u>EH</u>	<u>fine amorphous debris</u>
Plant debris	<u>NF</u>	<u>        </u>

**PROTOZOANS**

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

**OTHER ORGANISMS**

Nematodes	<u>NF</u>	<u>        </u>
Nematode eggs	<u>NF</u>	<u>        </u>
Rotifers	<u>NF</u>	<u>        </u>
Crustaceans	<u>NF</u>	<u>        </u>
Crustacean eggs	<u>NF</u>	<u>        </u>
Insects	<u>NF</u>	<u>        </u>
Other	<u>R</u>	<u>2/100gal. plant debris w/out chlorophyll</u>

**ALGAE**

Green Algae	<u>M</u>	<u>33/100gal. Oocystis</u>
Diatoms	<u>NF</u>	<u>        </u>
Blue-Green Algae	<u>NF</u>	<u>        </u>
Flagellated Algae	<u>NF</u>	<u>        </u>

**COMMENTS:**

Sediment = to 227 liters examined by IFA for Giardia and Cryptosporidium was negative (limit of detection =  $< 1$  cysts / 100 L). Primary surface water indicators observed: green algae. 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 = 9 low risk).

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

*handwritten initials*



PWS ID#	Well ID#	Utility Name	EAL Sample ID:
	PW-2	The Chazen Companies	24208

**EPA Relative Surface Water Risk Factors**

Date: 3/16/2006

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	33	M	9	
Insects/larvae	0	NF	0	
Rotifers	0	NF	0	
Plant Debris (with chloro.)	0	NF	0	
Secondary Particulates			EPA Relative Risk = 9	Low Risk
Amatodes	0	NF		
Crustaceans	0	NF		
amoeba	0	NF		
non-photo. flag. & ciliates	0	NF		
photosynthetic flagellates	0	NF		
Other:	2	R		no relative risk factor assigned

**COMMENTS:** Sediment = to 227 liters examined by IFA for Giardia and Cryptosporidium was negative ( limit of detection = < 1 cysts / 100 L). Primary surface water indicators observed: green algae. 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= 9 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.

*Jeffrey*

**DATE: April 10, 2006**

Environmental Associates, Ltd.

PW-11



**ENVIRONMENTAL ASSOCIATES LTD.**

# Water Source ID Sheet

Name of Next-Day Service	Tracking Number	Date Shipped
--------------------------	-----------------	--------------

SEND ALL SAMPLES FOR NEXT-DAY DELIVERY BY UPS or FED.EX. (Please Do Not Use Fed Ex. Pickup Code)

**Client Information**

City/ Utility	Silo Ridge Country Club
Contact Person	Rob Caerens
Address	Rte. 22 Amenia, NY
Phone	
FAX	
Send report to above address	Yes <input type="checkbox"/> No <input type="checkbox"/>

Agency/Engineering Firm	Chazen
Contact Person	Dan michaud
Address	21 Fox Street Poughkeepsie, NY 12604
Phone	(845) 454-3980
FAX	(845) 454-4024
Send report to above address	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

**Billing Information**

NOTE: -----> To Insure Proper Billing Please Include P.O.# !!

Address is the same as City/ Utility  Agency/Engineering Firm  (Check one only)  
 If address is different, please make changes below.

Office
Contact Person
Address
Phone

Purchase Order No.	E07471
Are Voucher Forms Required	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If voucher is needed, it must be furnished with this form.	Req. #
FAX#	Special Instructions

**Sample Information**

Collector of Sample	Dan michaud
Date Sampled	3/16/06
Water Source Location	PW-11
Sample Taken From	Sample Tap @ well

NOTE: -----> \*The total number of gallons sampled must be\*\*  
 \* recorded for us to process samples.

Meter Reading
Finish
Start
Total Gallons -->

**Water Source ID**

In order to speed sample processing please fill out this section. (please indicate with a mark)

Tests Requested:	Select Method:	Select Method:
Drinking Water:	Giardia & Cryptosporidium: EPA-ICR <input checked="" type="checkbox"/>	EPA1623
	Enteric Virus Analysis: EPA-ICR	Other
	Microscopic Particle Analysis to Determine Filter Plant Efficiency	
	Microscopic Particle Analysis to determine Groundwater under Surface Water Influence <input checked="" type="checkbox"/>	
	Microscopic Particle Analysis to Characterize Source Water	
	Algal Analysis	Laser Particle Counting
		Other
Waste Water & Biosolids:	Enteric Viruses	Salmonella
	Helminth Ova	Coliform
		Giardia & Crypto.

I Surface Water:	Impoundment	River	Other
II Filtered Water:	Type Filter Plant		
III Ground Water:	Spring	Infill Gallery	Artesian Well
	Dug Well		
IV Waste Water:	Influent	Effluent	Biosolid
Field Measurements	Date	Turbidity	pH
	3/15/06	Clear	7.25
Setup			Total Cl- 71 (aks)
Pickup	3/16/06	clear	6.82
			Free Cl- 136 (aks)
			Water Temp 9.50°C
			8.7°C
			TC/100ml
			FC/100ml
			HPC/ml
Comments			

\*\*\* PLEASE INDICATE WHETHER RUSH SERVICE IS REQUIRED\*\*\*

1 day	2 days
3 days	Weekend
Please indicate the requested rush service:	
Telephone Result	Yes <input type="checkbox"/> No <input type="checkbox"/>
Telephone No.	
FAX Result	Yes <input type="checkbox"/> No <input type="checkbox"/>
FAX No.	

**REPORT: PARTICULATES, GIARDIA, AND CRYPTOSPORIDIUM**

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



Filter ID: 24209 Client: The Chazen Companies  
 Station/Body of water: PW-11

**RECEIPT OF FILTER:**

Date Received: 3/17/2006 # of filters: 2 Type: 1µm Carrier: UPS Overnight

**COLLECTION:**

Collector: Dan Michaud Date collected: 3/16/2006  
 Temperature: 8.71 °C Turbidity: \_\_\_\_\_  
 Water Type: Ground Water

**FILTER PROCESSING**

Color of water around filter: cloudy Total volume of sediment: 0.8 ml  
 Filter color: grey Volume of sediment/100 gallons: 0.1 ml/100gal  
 Color of sediment: tan IFA equivalent liter volume examined: 227L  
 # gallons filtered: 840 Phase equivalent gallon volume examined: 8gal

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

**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	<u>EH</u>	<u>fine silt &amp; sand</u>
Small part. up to 5 µm	<u>EH</u>	<u>fine amorphous debris</u>
Plant debris	<u>NF</u>	_____

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

OTHER ORGANISMS	Quantity	Description
Nematodes	<u>NF</u>	_____
Nematode eggs	<u>NF</u>	_____
Rotifers	<u>NF</u>	_____
Crustaceans	<u>NF</u>	_____
Crustacean eggs	<u>NF</u>	_____
Insects	<u>NF</u>	_____
Other	<u>NF</u>	_____

ALGAE	Quantity	Description
Green Algae	<u>EH</u>	<u>964/100gal. Botryococcus</u>
Diatoms	<u>EH</u>	<u>452/100gal. Melosira</u> <u>Pinnularia, Tabellaria</u>
Blue-Green Algae	<u>NF</u>	_____
Flagellated Algae	<u>R</u>	<u>12/100gal. Chlorella</u>

**COMMENTS:**

Sediment = to 227 liters examined by IFA for Giardia and Cryptosporidium was negative ( limit of detection =  $< 1$  cysts / 100 L). Primary surface water indicators observed: green algae and diatoms. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a high risk of surface contamination (EPA risk factors= 30 high risk).

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



PWS ID#	Well ID#	Utility Name	EAL Sample ID:
	PW-11	The Chazen Companies	24209

**EPA Relative Surface Water Risk Factors**

te: 3/16/2006

Primary Particulates	#/100 gallon	Relative Frequency	Relative Risk Factor	Comments
Giardia (confirmed)	0	NF	0	
Protozoa (confirmed)	0	NF	0	
Algae	452	EH	16	
Insects/larvae	964	EH	14	
Filterers	0	NF	0	
Inert Debris (with chloro.)	0	NF	0	
EPA Relative Risk = 30			High Risk	
Secondary Particulates				
Plant matter	0	NF		
Algae	0	NF		
Protozoa	0	NF		
Micro-photosynthetic flagellates	0	NF		
Artificial	12	R		
Other:	0	NF		no relative risk factor assigned

REMARKS: Sediment = to 227 liters examined by IFA for Giardia and Cryptosporidium was negative (limit of detection = < 1 cysts / 100 L). Primary surface water indicators observed: green algae and diatoms. Based upon microscopic particulate analysis and the proposed EPA risk factors associated with bio-indicators there is a high risk of surface contamination (EPA risk factors= 30 high 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.

REVIEWED BY:

DATE: April 10, 2006

Environmental Associates, Ltd.

Spring Pond



**ENVIRONMENTAL ASSOCIATES LTD.**

# Water Source ID Sheet

Name of Next-Day Service	Tracking Number	Date Shipped
--------------------------	-----------------	--------------

SEND ALL SAMPLES FOR NEXT-DAY DELIVERY BY UPS or FED.EX. (Please Do Not Use Fed Ex. Pickup Code)

### Client Information

City/Utility	Slo Ridge Country Club	
Contact Person	Robert Caenens	
Address	Rte. 22 Amenia, NY	
Phone		
FAX		
Send report to above address	Yes	No <input checked="" type="checkbox"/>

Agency/Engineering Firm	Chazen	
Contact Person	Dan Michaud	
Address	21 Fox Street Poughkeepsie, NY 12601	
Phone	(845) 454-3980	
FAX	(845) 454-4026	
Send report to above address	Yes <input checked="" type="checkbox"/>	No

### Billing Information

NOTE: -----> To Insure Proper Billing Please Include P.O.# !!

Address is the same as City/Utility  Agency/Engineering Firm  (Check one only)  
If address is different, please make changes below.

Office
Contact Person
Address
Phone

Purchase Order No.		
Are Voucher Forms Required	Yes	No
If voucher is needed, it must be furnished with this form.	Req. #	
FAX#	Special Instructions	

### Sample Information

Collector of Sample	Dan Michaud
Date Sampled	3/14/00
Water Source Location	Spring Pond
Sample Taken From	

NOTE: -----> \*The total number of gallons sampled must be\*\*  
\* recorded for us to process samples.

Meter Reading

Finish
Start
Total Gallons -->

### Water Source ID

In order to speed sample processing please fill out this section.

(please indicate with a mark)

Tests Requested:

Select Method:

Select Method:

Drinking Water:

Giardia & Cryptosporidium:

EPA-ICR

EPA1623

Enteric Virus Analysis:

EPA-ICR

Other

Microscopic Particle Analysis to Determine Filter Plant Efficiency

Microscopic Particle Analysis to determine Groundwater under Surface Water Influence

Microscopic Particle Analysis to Characterize Source Water

Algal Analysis

Laser Particle Counting

Other

Waste Water & Biosolids:

Enteric Viruses

Salmonella

Coliform

Helminth Ova

Coliphage

Giardia & Crypto.

I	Surface Water:	Impoundment	POND		River	Other	
II	Filtered Water:	Type Filter Plant					
III	Ground Water:	Spring	Infill Gallery		Artesian Well	Dug Well	
		If Well:	Depth	Distance From River/Stream/Lake			
IV	Waste Water:	Influent	Effluent		Biosolid		
Field Measurements	Date	Turbidity	pH	Water Temp	TC/100ml	FC/100ml	HPC/ml
Setup	3/14/00	Clear	7.02	78 (LWS)	7.93		
Pickup	3/14/00	Clear	7.02	78 (LWS)	7.93		
Comments							

\*\*\* PLEASE INDICATE WHETHER RUSH SERVICE IS REQUIRED\*\*\*

Please indicate the requested rush service:

1 day

2 days

3 days

Weekend

Telephone Result

Yes

No

Telephone No.

FAX Result

Yes

No

FAX No.

MAIN OFFICE



**ENVIRONMENTAL ASSOCIATES LTD.**

**Laboratory Results**  
for Microscopic Particulate Analysis

24 Oak Brook Drive • Ithaca • NY • 14850-8717 • Phone (607) 272-8902 • Fax (607) 256-7092

ACCOUNT NO. The Chazen Companies  
AD-7529

21 Fox Street  
Poughkeepsie

NY 12601

**CONTACT**

Mr. Dan Michaud  
Phone 1 (845) 454-3980 Fax 1 (845) 454-4026

P.O. No.

<b>SAMPLE No. 24210</b>	<b>SAMPLE SITE</b> SPRING POND	<b>CLIENT IDENTIFICATION</b>
-------------------------	--------------------------------	------------------------------

**SAMPLE DATA**

**FILTER SAMPLE**

WATER TYPE ..... Surface water  
 DATE COLLECTED ..... Mar 16, 2006  
 DATE RECEIVED ..... Mar 17, 2006  
 RECEIPT TEMPERATURE ... 3.4°C  
 ELUTION START DATE/TIME.. Mar 17, 2006 11:00am

SAMPLE COLLECTOR..... Dan Michaud  
 AMOUNT COLLECTED..... 100 gal (378.54 L)  
 TURBIDITY ..... data not submitted  
 pH ..... 7.62  
 FILTER COLOR ..... brown

TOTAL VOLUME OF SEDIMENT ..... 6 ml  
 SEDIMENT PER UNIT VOLUME ..... 1.6 ml/100L  
 PHASE EQUIVALENT VOLUME ..... 0.2L

**SAMPLE NOTES**

Sample condition was acceptable.

DEFINITION  
 ANALYSIS TYPE  
 RESULTS

**ANALYSIS TYPE**

SW ICR

**METHOD** MPA for Filtration Plant Optimization  
(MPA/FPO)(EPA/910/R/96/001)

**Method Remarks** MPA/FPO compares type, size, & quantities of particles in raw water and treated water. Particle count/size distribution was performed on sample concentrate by Met-One Particle Counter.

**RESULTS**

**SEDIMENT COMPOSITION**

Particle size in µm

Average Diameter of  
Algae: 6.9 µm

**Particle Sizes**

2 to 5 µm	6.12E8 PER 100L
5 to 10 µm	2.61E8 PER 100L
10 to 20 µm	1.17E8 PER 100L
20 to 100 µm	8.93E5 PER 100L
<b>Total Particles</b>	<b>9.9E8 PER 100L</b>

**ANALYSIS OF PARTICULATES**

**Rating Key†**

(EH) Extremely Heavy	>20 per field
(H) Heavy	10-20 per field
(M) Moderate	4-9 per field
(R) Rare	<1-3 per field
(ND) None Detected	0 per field

†Analysis at 100X

ALGAE	Rating	Description
Green Algae	R	2.32E7/100L Chlorella, Ankistrodesmus, Microspora
Blue-Green Algae	R	8.24E7/100L Oscillatoria, Anabaena
Diatoms	R	1.33E8/100L Navicula, Synedra, Achnanthes
Flagellated Algae	R	6.34E6/100L Dinobryon

**PARTICULATE DEBRIS**

Rating	Description
Large particles ≥5µm EH	silt & sand
Small particles ≤ 5µm EH	fine amorphous debris
Plant debris	ND

**OTHER ORGANISMS**

Rotifers	ND
Rotifer Eggs	ND
Iron Bacteria	ND
Crustaceans	ND
Crustacean Parts	ND
Crustacean Eggs	ND
Insects	ND
Nematodes	ND
Nematode eggs	ND
Annelids	ND
Other	ND

**PROTOZOANS**

Other Coccidia	ND
Other Protozoans	ND

**TOTAL ALGAE PER 100L**

**2.45E8**

**COMMENTS**

All limitations of analytical methods, laboratory dilutions, and instruments apply.

TECHNICIAN Dr. Madelyn Stafford-Glase

ANALYSIS DATE April 7, 2006

REPORT CERTIFICATION BY

*Jeff Runyan*  
Jeff Runyan

DATE April 7, 2006



# ENVIRONMENTAL ASSOCIATES LTD.

## Laboratory Results for *Giardia* & *Cryptosporidium* Analysis

24 Oak Brook Drive • Ithaca • NY • 14850-8717 • Phone (607) 272-8902 • Fax (607) 256-7092

ACCOUNT NO. **The Chazen Companies**

**CONTACT**

AD-7529 21 Fox Street  
Poughkeepsie

NY 12601

Mr. Dan Michaud  
1 (845) 454-3980 FAX 1 (845) 454-4026



P.O. No.

**SAMPLE No. 24210**

<b>SAMPLE SITE</b>	SPRING POND	<b>CLIENT IDENTIFICATION</b>	
--------------------	-------------	------------------------------	--

**SAMPLE DATA**

**FILTER SAMPLE**

<b>WATER TYPE:</b>	Surface water	<b>SAMPLE COLLECTOR:</b>	Dan Michaud
<b>DATE COLLECTED:</b>	Mar 16, 2006	<b>AMOUNT COLLECTED:</b>	100 gal (378.54 L)
<b>DATE RECEIVED:</b>	Mar 17, 2006	<b>TURBIDITY:</b>	data not submitted
<b>RECEIPT TEMPERATURE:</b>	3.4°C	<b>pH:</b>	7.62
<b>ELUTION START DATE/TIME:</b>	Mar 17, 2006 11:00am	<b>FILTER COLOR:</b>	brown
<b>TOTAL VOLUME OF SEDIMENT:</b>	6 ml	<b>SAMPLE NOTES</b>	
<b>SEDIMENT PER UNIT VOLUME:</b>	1.6 ml/100L	Sample condition was acceptable.	

**ANALYSIS TYPE**

**SW ICR**

**METHOD** ICR Protozoan Method  
(EPA/600/R-95/178)

**Method Remarks**

ICR Protozoan Method employs an immunofluorescent stain for *Giardia* and *Cryptosporidium*. Positive and Negative Controls were stained and examined concurrently.

**RESULTS**

ANALYTE		Cysts Observed	Result per 100L
<i>Giardia</i>	Empty <i>Giardia</i> Cysts Detected .....	0	ND
	<i>Giardia</i> Cysts with Amorphous Structure .....	0	ND
	<i>Giardia</i> Cysts with One Internal Structure .....	0	ND
	<i>Giardia</i> Cysts with More than One Internal Structure .....	0	ND
	<b>Total IFA <i>Giardia</i> Count per 100L</b>	<b>0</b>	<b>ND</b>
ANALYTE		Oocysts Observed	Result per 100L
<i>Cryptosporidium</i>	Empty <i>Cryptosporidium</i> Oocysts Detected .....	0	ND
	<i>Cryptosporidium</i> Oocysts with Amorphous Structure .....	0	ND
	<i>Cryptosporidium</i> Oocysts with Internal Structure .....	0	ND
	<b>Total IFA <i>Cryptosporidium</i> Count per 100L</b>	<b>0</b>	<b>ND</b>
<b>COMMENTS</b>	<b>EQUIVALENT VOLUME EXAMINED:</b> 32 L	<b>DETECTION LIMIT PER 100L:</b>	<3.13

All limitations of analytical methods, laboratory dilutions, and instruments apply.

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

TECHNICIAN Jeff Runyan, Senior Analyst

DATE COMPLETED March 24, 2006

ANALYSIS CERTIFIED BY Jeff Runyan

DATE CERTIFIED April 7, 2006

REPORT: PARTICULATES, GIARDIA, AND CRYPTOSPORIDIUM

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



Filter ID: 26927 Client: The Chazen Companies

Station/Body of water: MW11-Sample tap

RECEIPT OF FILTER:

Date Received: 4/26/2007 # of filters: 2 Type: 1µm Carrier: DHL

COLLECTION:

Collector: Colleen Wells Date collected: 4/25/2007
Temperature: 11.14 °C Turbidity:
Water Type: Ground Water

FILTER PROCESSING

Color of water around filter: clear Total volume of sediment: 0.01 ml
Filter color: white Volume of sediment/100 gallons: 0.002 ml/100gal.
Color of sediment: tan IFA equivalent liter volume examined: 100.1L
# gallons filtered: 538.75 Phase equivalent gallon volume examined: 102gal

GIARDIA/CRYPTOSPORIDIUM

# Observed Calc. #/100 Gallons

Table with 2 columns: Giardia/Cryptosporidium type and counts. Rows include Giardia cyst confirmed, Giardia cyst presumptive, Cryptosporidium oocyst confirmed, and 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

Table with 2 columns: Quantity and Description for Particulate Debris. Rows include Large part. 5 µm & larger, Small part. up to 5 µm, and Plant debris.

PROTOZOANS

Table with 2 columns: Quantity and Description for Protozoans. Rows include Other Coccidia and Other protozoans.

OTHER ORGANISMS

Table with 2 columns: Quantity and Description for Other Organisms. Rows include Nematodes, Nematode eggs, Rotifers, Crustaceans, Crustacean eggs, Insects, and Other.

ALGAE

Table with 2 columns: Quantity and Description for Algae. Rows include Green Algae, Diatoms, Blue-Green Algae, and Flagellated Algae.

COMMENTS:

Sediment = to 100.1 liters examined by IFA for Giardia and Cryptosporidium was negative ( limit of detection = < 1 cysts / 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).

PWS ID#	Well ID#	Utility Name	EAL Sample ID:
	MW11-Sample tap	The Chazen Companies	26927



**EPA Relative Surface Water Risk Factors**

4/25/2007

Primary Particulates	#/100 gallon	Relative Frequency	Relative Risk Factor	Comments
Giardia (confirmed)	0	NF	0	
Cryptosporidia (confirmed)	0	NF	0	
Coliforms	0	NF	0	
Free Algae	0	NF	0	
Insects/larvae	0	NF	0	
Filters	0	NF	0	
Oil Debris (with chloro.)	0	NF	0	
EPA Relative Risk = 0			Low Risk	
Secondary Particulates				
Plant matter	0	NF		
Clay minerals	0	NF		
Organic debris	0	NF		
Micro-organisms	0	NF		
Artificial materials	0	NF		
Other:	0	NF		

**REMARKS:** Sediment = to 100.1 liters examined by IFA for Giardia and Cryptosporidium was negative (limit of detection = < 1 cysts / 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).

REFERENCE: Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate

L072692

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.

*Jeffrey*

REVIEWED BY:

DATE:

May 9, 2007

Environmental Associates, Ltd.

REPORT: PARTICULATES, GIARDIA, AND CRYPTOSPORIDIUM

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



Filter ID: 26928 Client: The Chazen Companies

Station/Body of water: Well 9-Sample tap

RECEIPT OF FILTER:

Date Received: 4/26/2007 # of filters: 2 Type: 1µm Carrier: DHI

COLLECTION:

Collector: Colleen Wells Date collected: 4/25/2007
Temperature: 11.58 °C Turbidity: -----
Water Type: Ground Water

FILTER PROCESSING

Color of water around filter: clear Total volume of sediment: 0.1 ml
Filter color: off-white Volume of sediment/100 gallons: 0.02 ml/100gal
Color of sediment: tan IFA equivalent liter volume examined: 100.1l
# gallons filtered: 528.75 Phase equivalent gallon volume examined: 100gal

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

Table with 4 columns: PARTICULATE DEBRIS, Quantity, Description, PROTOZOANS, Quantity, Description. Rows include Large part, Small part, Plant debris, OTHER ORGANISMS (Nematodes, Rotifers, Crustaceans, Insects, Other), and ALGAE (Green, Diatoms, Blue-Green, Flagellated).

COMMENTS:

Sediment = to 100.1 liters examined by IFA for Giardia and Cryptosporidium was negative ( limit of detection = < 1 cysts / 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).

PWS ID#	Well ID#	Utility Name	EAL Sample ID.
	Well 9-Sample tap	The Chazen Companies	26928



**EPA Relative Surface Water Risk Factors**

Date: 4/25/2007

Primary Particulates	#/100 gallon	Relative Frequency	Relative Risk Factor	Comments
Giardia (confirmed)	0	NF	0	
Cryptosporidia (confirmed)	0	NF	0	
Protozoans	0	NF	0	
Free Algae	0	NF	0	
Insects/larvae	0	NF	0	
Filterers	0	NF	0	
Total Debris (with chloro.)	0	NF	0	
EPA Relative Risk = 0			Low Risk	

Secondary Particulates				
Plant material	0	NF		
Algae	0	NF		
Protozoa	0	NF		
Free photo. flag. & ciliates	0	NF		
Photosynthetic flagellates	0	NF		
Other:	0	NF		

**COMMENTS:** Sediment = to 100.1 liters examined by IFA for Giardia and Cryptosporidium was negative (limit of detection = < 1 cysts / 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).

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.

IT REVIEWED BY: *Jeff Ferguson* DATE: **May 9, 2007** Environmental Associates, Ltd.