GROUNDWATER SUPPLY ASSESSMENT
PROPOSED GAN EDEN ESTATES
THOMPSON AND FALLSBURG, NEW YORK

PREPARED FOR:

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INTRODUCTION

HydroEnvironmental Solutions, Inc. (HES), on behalf of Gan Eden Estates (Gan Eden), represented by Mr. Larry Frenkel, has conducted two separate 72-hour pump tests on four test wells located on the proposed Gan Eden property, located in the towns of Thompson and Fallsburg, Sullivan County, New York at the intersection of County Roads 104 and 107 (**Figure 1**). The testing was conducted to determine the long-term yield and suitability for public supply usage of the proposed wells, according to the guidelines set forth by the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) for municipal supply wells.

BACKGROUND

Water Demand & Use

In 1989, Leggette, Brashears & Graham, Inc. (LBG) conducted an investigation into the availability of groundwater on the proposed Gan Eden Estates property. LBG performed a simultaneous pumping test of TW-3 and TW-5 in April of 1989, determining that the sustainable yield capacity of on-site test well TW-3 is less than 15 gallons per minute (gpm) and, therefore, not recommended for development (Leggette et al., 1989). However, test well TW-5, was determined to have a capacity of 140 gpm making it a reliable well source. Following the simultaneous pumping of TW-3 and TW-5, a third test well, TW-6, was pumped individually for 72-hours at rates of 150 and 200 gpm, demonstrating that TW-6 has a sustainable yield capacity of at least 200 gpm.

In 2008, HES conducted an 8-hour step-drawdown test on TW-5 and TW-6, and a 72-hour pump test on TW-6. From these two tests, HES concluded that TW-5 has a capacity of 150 gpm and the 72-hour pump test concluded that TW-6 can maintain a long term pumping rate of 210 gpm.

A summary of on-site well construction details is included on **Table 1** and a copy of the previous water supply assessment reports are included in **Appendix 1**.

The proposed development of Gan Eden Estates will supply water to town homes and apartments. For new community water supplies, the NYSDOH guidelines require development of two independent sources, each capable of delivering double the average daily demand of the project. In effect, the guidelines require development of four times the daily demand. Therefore, based on the pump testing outlined herein, consumptive supply for the new development will be provided, as required, by water supply wells TW-3, TW-5 and TW-8, the Primary Wells, with TW-6 acting as the Backup Well.

In accordance with New York State Department of Health (NYSDOH) Standards, the total on-site water supply provided by the Primary Wells and Backup Well respectively, will each need to provide two times the average daily demand, or 204.8 gpm. Based on past pump testing conducted in 2008, TW-5 and TW-6 have a capacity of 150 gpm and 210 gpm, respectively. Additionally, test wells TW-3 and TW-8 have tested capacities of less than 15 gpm and 45 gpm, respectively. Therefore, the four wells will be pumped at a safe yield during the 72-hour pumping test that provides the required 204.8 gpm for the project. Once it is established through testing that the Primary Wells are sufficient to provide water to the project, the highest yielding well, TW-6, will be considered the Backup Well as per NYSDOH Standards. Given the current project demand, these four wells are more than sufficient.

The water demand for the project is as follows:

Unit Type	Number of Units	Number of Bedrooms	Total Number Bedrooms
Town Homes	147	3	441
Apartments	124	3	372
Apartments	264	2	528
Total Number of Bedrooms	--	--	**1,341**

Based on NYSDOH water demand of 110 gallons per day per bedroom, the water demand for the project will be as follows:

1,341 bedrooms x 110 gpd/bedroom = 147,510 gpd

147,510 gpd/1,440 minutes/day = 102.4 gpm

Site Geology

The proposed Gan Eden Estates property lies above the Devonian Upper Walton bedrock formation comprised of a shale sandstone conglomerate (Fisher et al., 1970). The bedrock is not exposed in the vicinity of the site and is mantled by approximately 16 feet of unconsolidated glacial till (driller's logs). According to the Surficial Geologic Map of New York, the majority of the site is covered in glacial till of variable thickness (Cadwell, 1989).

PUMPING TEST STRUCTURE

72-Hour Pump Tests

The first 72-hour pumping test was conducted on test wells TW-3, TW-5 and TW-8 from October 17 through October 20, 2016 and the second 72-hour pump test was conducted on TW-6 and TW-8 from November 5 through November 11, 2016. TW-8 was tested twice with different pump depth settings in an attempt to maximize the well's yield based on available drawdown. An on-site and off-site well monitoring program was set up to document any hydrogeologic effects of sustained pumping of the test wells TW-3, TW-5, TW-6 and TW-8 during both pump tests. **Table 2** provides a list of off-site well monitoring locations including local residences approached by HES that provided access to their water supply wells. The raw water level data collected from the on-site and off-site wells is included as **Appendix 2** and **Appendix 3**, respectively.

During the 72-hour pump tests, after at least 24 hours of pumping, groundwater quality sampling was conducted at each test well (TW-8 was sampled once during the first test) for NYSDOH Drinking Water Standards (DWS) Full Part V analyzer and Micro Particulate Analysis (MPA). The results of the groundwater quality for the four test wells are summarized on **Table 3**.

Pumping Wells

Test well TW-3 was fitted with a submersible pump and 1-inch diameter PVC measuring tube. A 5 hp Goulds stainless steel submersible pump was set in TW-3 at a depth of 400 feet. A 15 hp *Goulds*™ stainless steel submersible pump, with 2 inch galvanized steel piping, was set in TW-5 at a depth of 300 feet. The TW-6 test well was fitted with a Grundfos 40hp stainless steel submersible pump and 3 inch galvanized steel piping at a depth of 220 feet. Test Well TW-8 was pumped during both pump tests but with the pump set at a different depth. For the first test a 7.5 hp Sta-Rite™ stainless steel submersible pump, with 2 inch galvanized steel piping, was set to a depth of 400 feet and then lowered to 700 feet for the second 72-hour test. The submersible pump settings were based upon the projected volume of water to be pumped from each well, available drawdown, and the former 1989 and 2008 pumping test results. The pumps were powered by portable diesel fueled electric generators. The pump settings for each of the test wells is included on **Table 1**.

Observation Wells

Before, during, and after the two 72-hour pumping tests, HES monitored selected wells and staff gauges on the subject site. One monitoring well, four piezometers (P-1, P-2, P-3 and P-4), and two test wells were monitored during the first pump test and three test wells were monitored during the second pump

test along with the piezometers and on-site monitoring well. The locations of these wells are shown on **Figure 2**. The Geologic Logs for P-1, P-2, P-3, P-4 and the drilled well, adjacent to two of the pumping wells, MW-1, are included in **Appendix 4**.

HES canvassed the off-site area surrounding the proposed Gan Eden Estates property with respect to pumping wells to obtain homeowner permission to monitor existing residential supply wells during the pumping test periods. Permission for a total of 12 off-site wells, including 11 residences and one Town of Fallsburg well, was granted to HES to monitor their supply wells during the pumping tests (**Table 2**). Initially 10 wells were monitored during the first 72-hour pump test and two more local residences requested to have their wells monitored prior to the start of the second pump test. Beginning several days before initiation of the two 72-hour pumping tests, HES monitored the off-site supply wells from the area surrounding the well field. All of these wells are individual residential supply wells with the exception of the Park Slope well which services a group of cottages and the Fallsburg Town well which supplies multiple residences in the area. The observation wells were monitored on a daily basis before, during and after the pumping test at set intervals using pressure transducer data loggers installed in each of these wells and manually at times as a cross-check to the transducers. The off-site monitoring well locations with respect to the site and test wells are shown on **Figure 2**.

Surface Water Monitoring

HES installed staff gauges in surface water bodies and kept photo logs of each gauge. A total of three staff gauges (SG-1, SG-2 and SG-3) were installed on- and off-site to monitor surface water impacts. SG-1 was installed on-site in a small flowing stream approximately 150 feet northeast of TW-5. SG-2 was installed on-site in a shallow pond between TW-3 and TW-5 and TW-6. SG-3 was installed off-site just off the bank of the Mongaup River where it passes beneath Columbia Hill Road to the north of the site. Locations of the three staff gauges are shown on **Figure 2**.

Rainfall Monitoring

Prior to the start of the first pumping test, HES installed a rain gauge located in the vicinity of the test wells. The location was in an open field area and at a distance from any interfering objects for accuracy. The gauge was recorded each day HES was on-site and emptied as needed. During the testing period, no rainfall was recorded, however, rainfall did occur during the time between the two tests. The measured rainfall totals and days rainfall was reported from The Weather Channel (www.weather.com) are shown in **Table 4**.

Water Quality

During pump testing, HES collected water quality samples from Test Wells TW-3, TW-5, TW-6 and TW-8. The samples were collected in appropriate laboratory supplied containers in accordance with industry accepted practices on October 20 and November 3 and 7, 2016 after pumping each of the wells for a least 22 hours. The samples were placed on ice in a cooler and transported to Phoenix Environmental Laboratories, Inc., a New York State certified laboratory located in Manchester, Connecticut for NYSDOH DWS Full Part V analyzer, Environmental Associates Ltd. located in Ithaca, New York for MPA and York Analytical Laboratories, Inc., located in Stamford, Connecticut, for potable water quality analysis. The test well groundwater quality laboratory analytical results are summarized on **Table 3** and the raw data is included in **Appendix 5**.

RESULTS OF PUMPING TEST

First 72-Hour Pump Test – October 14, 2016

Pumping Wells

The first 72-hour pumping test at TW-3, TW-5 and TW-8 began on October 17, 2016. The TW-5 pump was started at 10:40, the TW-3 pump was started at 11:45, and the TW-8 pump was started at 12:45. Pressure transducer data loggers measured the depth to water in the wells during the pumping test and calculated the drawdown, which is plotted versus time on an arithmetic graph. The initial pumping rates at each well were 26 gpm, 173 gpm and 34 gpm for TW-3, TW-5 and TW-8 respectively, and flow rates were then adjusted, if needed, to achieve stabilization. Flow rates were recorded periodically throughout the duration of the test and are shown on **Figure 26**. The hydrographs for the pumping wells during the first pump test are included on **Figures 3** through **5**. The pumps were turned off on October 20, 2016, in the same order they were turned on, starting with TW-5 at 10:50, TW-3 at 12:10 and TW-8 at 12:50. **Figures 3, 4** and **5** are hydrographs showing depth to water (in feet) versus time (in minutes) for TW-3, TW-5 and TW-8.

The TW-3 graph demonstrates that drawdown stabilization occurred during the last 16 hours of pumping, when the drawdown curve achieves a relatively flat slope, as recorded on the hydrograph (**Figure 3**). Stabilization at TW-3 was achieved by reducing the pumping rate to 14 gpm. Over the last 12 hours of testing, the drawdown in TW-3 was 3.01 feet; over the last six hours of testing the drawdown was 1.72 feet or 0.29 feet per hour. Stabilization is defined by NYSDOH as 0.5 feet drawdown per 100 feet of available drawdown in the well over the final 6 hours of pumping. The slow rate of drawdown over this period demonstrates that stabilization was achieved after the flow rate was reduced. Test well TW-3 recharged rapidly upon cessation of pumping with 60% recovery

within 17 minutes after pumping was stopped. The well was 95% recovered after only 107 minutes after the pump was turned off.

Pumping well TW-5 stabilized about 20 hours before the close of the test at a pumping rate of 171 gpm. The drawdown at TW-5 during the last 12 hours of pumping was 3.6 feet and 2.39 feet during the final 6 hours before shut down of the test (**Figure 4**). Drawdown of 0.40 feet per hour during the last 6 hours shows that stabilization did not occur during the pump test, however the 180-day drawdown analysis (**Appendix 6**) shows that TW-5 can be safely pumped at this flow rate as the projected 180 day drawdown does not fall below the 5% margin above the pump intake. Recharge for TW-5 was slower than TW-3, requiring 315 minutes, or 5 hours and 15 minutes to recover 60%. Full recovery was not achieved until October 23, 2016, at 19:11 (3 days and 8 hours) to recover 95%.

TW-8 stabilized about 18 hours before shut down at a pumping rate of 16 gpm. During the final 12 hours of pumping, depth to water in TW-8 dropped 4.57 feet and 3.02 feet during the last 6 hours of pumping (**Figure 5**). This drawdown rate of 0.5 feet per hour shows that stabilization was achieved at this pumping rate. After pump cessation, TW-8 took 21 minutes to recover 60% and 840 minutes, or 14 hours, to recover 95%.

Observation Wells

On-Site Wells

HES observed evidence of hydrogeologic influence (drawdown) on-site at the overburden monitoring well MW-1, two of the four piezometers (P-1 and P-2), and two bedrock test wells (TW-4 and TW-6). Water levels in these wells during the monitoring period demonstrated drawdown and fluctuations consistent with the pumping test. The hydrographs for the impacted on-site observation wells are shown as **Figures 6, 11** and **12**. The raw water level monitoring data for the on-site observation wells are included in **Appendix 2**. The data logger set in TW-4 was faulty and failed to collect any data so no hydrograph was generated; however, a measurement was made prior to starting the test and during the pump test using an electric tape water level meter. The depth to water before starting the test at TW-4 was 102.3 feet and on October 19, 2016, at 10:43 (2 days after the start of the test) the depth to water was 173.67 feet, indicating that TW-4 was affected by on-site pumping.

Off-Site Wells

The off-site monitoring program indicated that only two of the ten observations wells experienced drawdown effects due to on-site pumping during the first 72-hour pump test. The Dast Parrandeh Well (89 Main Street), located to the East of the subject site on County Road 104, shows an initial depth to water

level of 85 feet at the start of pumping and then a decline to 92 feet after one day of pumping (**Figure 16**). The observed straight line on the graph, starting on October 17, 2016, at 13:00, indicates that the water level in the well dropped below the data logger installed in the well; thus the data logger did not record the full extent of drawdown in the well during pumping. No hand held electric tape or data logger was able to measure the depth to water in the well below this level due to the presence of a blockage in the well, most likely a solid rubber pump stabilizer or other unknown blockage in the well annulus. The well head was housed inside a wooden shed and could not be removed without the risk of damaging the structure or the pump.

The Cole Well, located at 82 Main Street on the western side of County Road 104, directly across from the Dast Parrandeh well, was also affected during this pump test (**Figure 15**). Initial depth to water prior to pumping was 75 feet and dropped to a depth of 85 feet by the end of the pump test. Recharge in their well began immediately following shut down.

None of the other off-site private wells monitored demonstrated any appreciable drawdown as a result of the first pumping test, although variable fluctuation can be seen in many off-site wells. However, for each observed drop in water level in these monitored wells, an equal rate of recovery was observed to pre-pumping static or above pre-pumping levels. Hydrographs showing depth to water versus time for the off-site private wells during the first pump test are shown on **Figures 13** through **17**, and **Figures 19** through **22** and **Figure 24**. The raw water level monitoring data for all off-site wells are included in **Appendix 3**.

Surface Water Monitoring

None of the monitored surface water bodies observed any effects from this pump test (**Figure 25**). Discharge line locations were carefully selected to not to influence any nearby streams or water bodies (**Figure 2**). Although drawdown was observed in the shallow aquifer (MW-1) and wetland wells (P-1 and P-2) near TW-5 and TW-6, no measurable amount of surface water impacts were detected at any staff gauge location. Drawdown observed in MW-1 was 6.101 feet and in P-1 and P-2 was 1.089 feet and 0.673 feet respectively during pumping as shown on **Figures 11** and **12**.

<u>Second 72-Hour Pump Test – November 2, 2016</u>

Pumping Wells

The second 72-hour pumping test at TW-6 and TW-8 (with the pump set deeper in this well at 700 feet below grade) began on November 2, 2016. TW-8 was started at 14:40 and TW-6 started at 16:43. Pressure transducer data

loggers measured the depth to water in the wells during the pumping test and calculated the drawdown, which was plotted versus time on an arithmetic graph. The initial pumping rate for TW-6 was 285 gpm which was shortly reduced to 235 gpm. TW-8 was initially set to 33 gpm, then lowered to 23 gpm to allow the well to stabilize. **Figure 27** shows a plot of flow rate versus time for TW-6 and TW-8. The pumps were turned off on November 5, 2016, in the same order they were turned on, starting with TW-8 at 15:45, then TW-6 at 16:45. **Figure 7** and **8** are hydrographs showing depth to water (in feet) versus time (in minutes) for TW-6 and TW-8.

The graph for TW-6 demonstrates that water level stabilization occurred during the last 24 hours of pumping, when the drawdown curve achieves a relatively flat slope (**Figure 7**). Over the last 12 hours of testing, the drawdown in TW-6 was 2.47 feet; over the last six hours of testing the in this well was 1.334 feet or 0.22 feet per hour. The slow rate of drawdown over this period demonstrates that stabilization was achieved. Test well TW-6 recharged with 60% recovery in 346 minutes (5.7 hours) after pumping was stopped. The well reached 90% recovery by 06:50 on November 7, 2016; 39 hours after the pump was turned off.

TW-8 did not reach stabilization during the final 26 hours of the pump test **(Figure 8)**. Drawdown for the last 12 hours before testing stopped was 7.683 feet and 4.279 feet during the final 6 hours of pumping shows that TW-8 did not meet stabilization, however, the projected 180 day drawdown shows that TW-8 can safely be pumped at this flow rate as it does not infringe on the 5% margin over the pump intake (**Appendix 6**). After pumping stopped, TW-8 took 24 minutes to recover 60% and 614 minutes (10 hours and 14 minutes) to recover to 90% of static.

Observation Wells

On-Site Wells

HES observed evidence of hydrogeologic influence (drawdown) on-site in the overburden monitoring well MW-1, two of the four piezometers (P-1 and P-2), and test well TW-5. Water levels in these wells during the monitoring period demonstrated drawdown and fluctuations are consistent with the pumping test. The hydrographs for the on-site observation wells are shown as **Figures 9**, **10, 11** and **12**. The water level monitoring data for the on-site observation wells are included in **Appendix 2**. The P-2 data logger was moved to an off-site well before the test so measurements were collected manually using an electric tape water level meter. The data logger in TW-4 had failed and no data was collected during this pump test so it is undetermined if the second pump test influenced TW-4, although based on the findings after first pump test it is likely that drawdown due to pumping occurred in this well.

Off-Site Wells

The off-site monitoring program indicated that only three of the twelve observations wells experienced drawdown effects due to on-site pumping during the second 72-hour pump test. The Hobby Well (**Figure 18**) and Schneider Well (**Figure 23**) were added to the off-site well monitoring program before the start of the second pump test upon homeowner requests. Homeowner Mr. Chester Hobby (273 Mongaup Road) requested his potable well be monitored during the second 72-hour pump test after noticing changes in visual water quality during the first 72-hour pump test. Again, both the Cole Well and Dast Parrandeh Well, **Figures 15** and **16** respectively, were impacted during the pump test. The water level at the Dast Parrandeh Well had an initial depth of about 85 feet and dropped to 92 feet shortly after the start of the test. The straight line on the hydrograph where the water level appears to stabilize at 92 feet indicates that the water level in the well dropped beneath the data logger thus the data logger did not record the full extent of drawdown during pumping. The initial depth to water in the Cole Well prior to pumping was 73 feet and dropped to 82 feet at the end of the 72-hour test. Recharge at the Cole Well began immediately after the pumping had stopped. The Hobby Well, located just over a mile from the nearest pumping well on site, was also impacted during pumping. The initial depth to water prior to pumping in the Hobby Well was 12 feet and dropped to about 30 feet by the end of the test.

None of the other off-site private wells observed demonstrated appreciable drawdown as a result of the pumping test, although variable fluctuation was observed on the respective hydrographs. However, for each observed drop in water level in these monitored wells, an equal rate of recovery was observed to pre-pumping static or above pre-pumping levels. Hydrographs showing depth to water versus time for the off-site private wells during the second pump test are provided as **Figures 13** through **24**. The water level monitoring data for all off-site wells are included in **Appendix 3**.

Surface Water Monitoring

During the second pump test, none of the monitored surface water bodies observed any effects from pumping (**Figure 25**). Even though an appreciable amount of drawdown was observed in the shallow overburden aquifer (MW-1) and wetlands near TW-5 and TW-6, no measurable surface water impacts were detected at SG-1 which flows through the same wetland area monitored by P-1 and P-2.

<u>Rainfall Monitoring During Pump Tests</u>

The results of rainfall monitoring before, during and after testing, indicate that a total of 1.5 inches of rainfall was recorded by the on-site rain gauge

between October 24, 2016 and November 4, 2016. On October 24, 2016, 0.63 inches of rain water was collected in the rain gauge, 0.75 inches were observed on October 28, 2016, and 0.12 inches on November 4, 2016. After checking The Weather Channel (www.weather.com), four rain events occurred after the first pump test was completed. On October 22, 2016, 0.53 inches of rain were recorded, on October 24, 2016, 0.12 inches of rain were recorded, 0.79 inches of rain were recorded on October 27, 2016, and on October 30, 2016 0.11 inches of rainfall were recorded. Therefore, a total of 1.55 inches of rainfall fell during the test period.

According to the National Weather Service (www.weather.gov) the year-to-date rainfall in Binghamton, New York, (the local forecasting office for Hurleyville, New York) shows a lower than average rainfall prior to, and during, both pump tests. At the start of the first pump test the average year-to-date rainfall was at a deficit of the annual average approximately 7 inches, and was at approximately a 5 inch deficit from the average at the start of the second pump test. Rainfall for 2016 remained below average since Mid-March and remained below average throughout the rest of the year with a total annual rainfall of 4 inches below average.

Groundwater recharge effects can be observed on-site in the shallow monitoring well MW-1 (**Figure 11**) and piezometers P-1, P-2 and P-4 (**Figure 12**) hydrographs during the October 27, 2016, rain event. No recharge was recorded in any of the on-site bedrock test well hydrographs. Recharge was recorded in only two off-site wells, the Cole Well (**Figure 15**) and the Fallsburg Well H-1 (**Figure 24**) following the October 27, 2016, rain event. The results of rainfall monitoring are included on **Table 4**.

WATER QUALITY

On-Site Pumping Wells

During the end of the 72-hour pumping tests, test wells TW-3, TW-5, TW-6 and TW-8 were sampled for analysis according to the NYS Sanitary Code Part 5 and the requirements of the SCDOH, which includes the following parameters:

- Full inorganic and physical chemical analysis including nitrates and nitrites
- Microbiological for E. coli and total coliform
- Organic Compounds including methyl tertiary butyl ether (MTBE)
- Synthetic Organic Compounds
- Microscopic Particulate Analysis (MPA)

The water quality results for test wells TW-5 and TW-6 illustrate that the groundwater quality is suitable for potable public water supply according to the NYS Sanitary Code Part 5. Total coliform and concentrations of iron exceeded

NYSDOH standards in the water sample collected from TW-3. TW-8 was found to have a turbidity level slightly above NYSDOH standards possibly due to the presence of high concentrations of iron in the groundwater. Levels of iron were detected at concentrations of 0.31 milligrams per liter (mg/L) from TW-3 and 0.49 mg/L at TW-8, which exceeds its SCDOH drinking water standard of 0.30 mg/L. MPA results only found silt sized particulates in all four wells with no biological matter detected resulting in a United States Environmental Protection Agency (USEPA) risk factor of zero. The analytical results are summarized in **Table 3** and the data as provided by the laboratory are attached as **Appendix 5**.

Hobby Well

Mr. Chester Hobby reported impacts to his water quality during the first 72-hour pump test and was added to the off-site well monitoring program during the second test. As requested by the town of Fallsburg, HES collected a potable water sample during pumping and one week after cessation of the second test. The water samples were analyzed for iron, manganese and total dissolved solids (TDS). The results from the two sampling events are summarized below. The during pumping sample, collected on November 5, 2016, shows much higher iron concentration and trace concentrations of manganese when compared to the after pump test sample, collected on November 30, 2016. TDS was higher during the second round of testing, however, the potable water sample was collected from different locations during each sampling event. The November 5, 2016 sample was collected prior to treatment and the November 30, 2016, sample was collected from an outdoor spigot after treatment. The only water treatment at the Hobby residence appears to be an inline water filter. The laboratory analytical data is attached in **Appendix 5**.

Sampling Date	Iron (mg/L)	Manganese (mg/L)	TDS (mg/L)
November 5, 2016	4.56	0.036	70
November 30, 2016	0.0535	ND	104

ND = not detected above reporting limits

DISCUSSION OF RESULTS

The results of the two 72-hour pumping tests conducted on the previously installed supply wells TW-3, TW-5, TW-6 and TW-8 demonstrates that these wells are more than capable of meeting the water demands for the proposed project (1,341) bedrooms using TW-3, TW-5 and TW-8 as the primary wells with TW-6 as the backup well. The results of pump testing demonstrate that well stabilization was achieved at TW-3 at a pumping rate of 13 gpm, TW-5 at 171

gpm, TW-6 at 205 gpm and TW-8 at 22 gpm after the pump was lowered in the well for the second pump test. The wells had substantial remaining available drawdown at the end of pumping and a rapid recovery rate after shutdown indicates that the wells were not over-pumped at the prescribed pumping rate.

The results of the two 72-hour pump tests indicate that six of the on-site observation wells were impacted due to the pumping. Two piezometers (P-1 and P-2) were set in the wetlands near TW-5 and TW-6 and MW-1 located in the shallow overburden aquifer between test wells TW-5 and TW-6. The on-site drawdown impacts to the observation wells P-1 and P-2 was approximately 0.5 to 1 foot while about 6 feet of drawdown was observed in the overburden at MW-1. These three wells are all screened in the overburden material beneath the site and are an indication that pumping the bedrock aquifer at test well TW-5 and TW-6 did induce drawdown in the shallow unconsolidated aquifer at the site. Thus, the overburden aquifer is hydrogeologically connected to the bedrock aquifer at the site; however, none of the surface water bodies in the area were affected due to the pumping (with the exception of the northern most wetland). Observation wells P-1, P-2 and MW-1 are all located within 150 feet from pumping wells TW-5 and TW-6.

The most significant drawdown impact observed in an on-site observation well was at TW-6 during the first 72-hour pump test, and in TW-5 during the second 72-hour pump test, which experienced a drawdown of 100.37 feet and 124.05 feet, respectively. The significant drawdown at these two wells indicates that wells TW-6 and TW-5 draw water from the same fractures or water-bearing units in the bedrock aquifer. The hydrogeologic behavior of TW-5 and TW-6 mimicked each other during the pumping and the recovery periods of the two tests.

On-site test well TW-4, located to the east of TW-8, experienced drawdown due to pumping. During the second pump test, TW-3 was used as an on-site monitoring well, and no drawdown was observed during the 72-hour pumping period.

The results from off-site monitoring demonstrated that pumping did induce off-site impacts in the surrounding residential supply wells that were monitored. The two nearest private wells, Dast Parrandeh Well (89 Main Street) and Cole Well (82 Main Street), were impacted during both pump tests and the Hobby Well (273 Mongaup Road), who requested monitoring after a change in visual water quality during the first test, was also impacted during the second 72-hour pump test. The Dast Parrandeh Well, located 75 feet east of the site on the western side of County Road 104, experienced a drawdown of at least 7 feet before the water level dropped below the depth of the data logger set in the well. The Cole Well, located on the opposite side of County Road 104, experienced approximately 8 feet of drawdown during both pump tests. During the second

pump test, the Hobby Well, located approximately 1.03 miles northwest of the site at 273 Mongaup Road, experienced approximately 15 feet of drawdown during the pumping period. This amount of drawdown is significant and may have been enough to cause the change in water quality that the homeowner reported.

CONCLUSIONS

1. The 72-hour pumping testing confirms that TW-3 has the capacity of 14 gpm, TW-5 has a capacity of 171 gpm, TW-6 has a capacity of 205 gpm and TW-8 has a capacity of 22 gpm after the pump was lowered to a deeper point in the well. Since stabilization was reached in all four wells during pump testing based on both 180-day logarithmic plots and drawdown monitoring, these pumping rates can be maintained and sustained long-term.

2. On-site monitoring demonstrated that sustained pumping at the proposed wells induced drawdown in the three on-site overburden wells. The observed drawdown in these wells is an indication that pumping wells TW-5 and TW-6 are hydrogeologically connected to the overburden aquifer.

3. Off-site monitoring of residential and community supply wells surrounding the proposed Gan Eden Estates property demonstrated that sustained pumping of the Gan Eden Estates supply well, induced drawdown in three residential supply wells, two located immediately to the east of the site and one to the north of the site. Specifically, the Cole, Dast Parrandeh and Hobby Wells were affected by on-site pumping with drawdown ranging up to 15 feet. However, the test wells during both pump tests were pumped at twice the daily demand of the project, therefore, when the project demand of 102.4 gpm is pumped, it is likely that off-site drawdown will be proportionally less or non-existent. This also holds true for the on-site overburden and wetland wells.

4. All four wells either achieved stabilization during the pump test for a period of at least 6 hours or remained over the 5% margin above the pump intake when drawdown was projected over 180 days. The well recovery was fairly rapid in all four wells, and had substantial available drawdown at the end of 72 hours of pumping. Thus, the proposed supply wells were not overpumped and the rated capacities for these wells are considered conservative.

5. Rainfall that occurred prior to and during pump testing was not significant enough to induce recharge to the bedrock aquifer beneath the site as is supported by the hydrographs for the on-site bedrock wells.

RECOMMENDATIONS

Based on the results of the water supply assessment, including two separate 72-hour pump tests, HES recommends the following:

- Test wells TW-3, TW-5 and TW-8 be utilized as the main supply wells for the proposed development and that TW-6 should be utilized as the back-up supply well. This scenario will be in compliance with the NYSDEC requirement for double the daily demand of the proposed project with the best well out of service.

- Based on the results of the off-site well monitoring program, HES recommends that the Cole, Dast Parrandeh and Hobby Wells be fitted with 1-inch PVC drop tubes so that a data logger may be installed in these wells for long-term monitoring purposes following development and full-time use of the proposed on-site water supply. This will allow for quantitative proof that pumping the on-site supply wells (TW-3, TW-5 and TW-8) at the required rate of 102.4 gpm will not adversely impact these existing off-site supply wells.

- A formal water supply permit application should be forwarded to the NYSDEC with this Water Supply Assessment Report for final water supply approval.

- The Water Supply Assessment Report should be submitted to the Delaware River Basin Commission (DRBC) for review and approval of the water supply for the project.

- Based on the results of the on-site overburden aquifer and surface water monitoring, the proposed water supply treatment system should be designed to address the NYSDOH requirements of a community water supply under the influence of surface water.

REFERENCES

Fisher, Donald W., Yngvar W. Isachen, and Lawrence V. Rickard. (1970) Geologic Map of New York, Lower Hudson.

Leggette, Brashears & Graham, Inc. (1989) Ground-Water Supply Well Pumping Test Report, Gan Eden Estates Hurleyville, New York.

TABLES

TABLE 1

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, Sullivan County, New York

On-site Well Construction Details Pumping Rates

On-site Wells	Total Depth (feet)	Pump Setting (feet)	Pumping Rate (gpm)	Geology	
MW-1	23.3	~	~	5-7'	sand, fine to medium, brown, moist
				10-12'	sand and gravel, coarse sand, wet
TW-3	520	400	14	0-10'	till material
				10-520'	interbedded gray siltstone, red shale
TW-4	604	~	~	NA	NA
TW-5	380	350	171	0-16'	clay, silt and gravel
				16-380'	interbedded gray siltstone, red shale
TW-6	460	220	205	0-16'	clay, silt and gravel
				16-460'	interbedded gray siltstone, red shale
TW-8	700	400/700	16/22	0-8'	Clay
				8-700'	interbedded gray siltstone, red shale
PZ-1	1	~	~	0-1'	peat, silt, root matter
PZ-2	1.5	~	~	0-1.5'	peat, silt, root matter
PZ-3	1	~	~	0-1'	peat, silt, leaf matter
PZ-4	1.5	~	~	0-1.5'	silt, leaf matter

gpm = gallons per minute
~ = non-pumping well

TABLE 2

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, Sullivan County, New York

Summary of Off-Site Water Supply Wells

Map I.D.	Address	Last Name	Approximate Distance from Test Wells (miles)	Direction from Test Wells
1	1047 Old Liberty Road	Miller	0.69	Southwest
2	1059 Old Liberty Road	Betters	0.65	Southwest
3	1079 Old Liberty Road	Schneider	0.63	Southwest
4	1128 Old Liberty Road	Nestler	0.60	South
5	15 Whittaker Road	Mackney	0.55	Southeast
6	31 Whittaker Road	Gaor	0.64	Southeast
7	92 Whittaker Road	Chaussy	0.90	Southeast
8	82 Main Street	Cole	0.20	Southeast
9	89 Main Street	Dast Parrandeh	0.17	Southeast
10	273 Mongaup Road	Hobby	1.03	Northwest
11	Fallsburg Town Well (H-1)	--	0.90	Northwest
12	Park Slope	--	1.18	Northeast

Wells listed were monitored during the 72-hour pump tests.

TABLE 3

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, Sullivan County, New York

Results of Water Quality Analyses

Sample ID Phoenix ID Sampling Date Client Matrix	Reporting limit	Part 5, Subpart 5-1 Public Water Systems Limit	TW-3 BV60751 & BV78109 10/20 & 11/7/2016 Drinking Water	TW-5 BV60752 & BV75662 10/20 & 11/3/2016 Drinking Water	TW-6 BV75660 11/3/2016 Drinking Water	TW-8 BV60753 & BV75661 10/20 & 11/3/2016 Drinking Water
Compound			Result	Result	Result	Result
Miscellaneous/Inorganics						
Alkalinity-CaCO3	20.0	mg/L	40	67	55	61
Chloride	3.0	250 mg/L	52.2	13.1	13.400	13.2
Color, Apparent	1	Color Units	ND	ND	ND	ND
2,3,7,8-TCDD	5.00	pg/L	ND	ND	ND	ND
Escherichia Coli	1	0 MPN/100 mls	ND	ND	Absent	ND
Cyanide, Free	0.005	0.2 mg/L	ND	ND	ND	ND
Fluoride	0.10	2.2 mg/L	ND	ND	ND	0.12
Gross Alpha Water	3	pci/L	ND	ND	ND	4.34
Gross Beta Water	4	pci/L	ND	ND	ND	ND
Glyphosate	6.0	ug/L	ND	ND	ND	ND
Hardness (CaCO3)	0.1	mg/L	71.7	53.8	ND	25.9
Langelier Index		pH units	-2.15	-1.49	-4.760	-1.87
Nitrite as Nitrogen	0.004	1 mg/L	ND	ND	ND	ND
Nitrate as Nitrogen	0.05	10 mg/L	0.4700	0.1600	0.1800	0.1500
Odor at 60 Degrees C	1	T.O.N.	ND	ND	ND	ND
pH	0.10	pH Units	6.7200	7.2200	7.3400	7.2000
Propylene Glycol	7.0	mg/L	ND	ND	ND	ND
Radium 226	1	pci/L	ND	ND	ND	ND
Radium 228	1	pci/L	ND	ND	0.993	ND
Sulfate	3.0	250 mg/L	3.9	5.7	5.9	7.7
Total Cyanide (Drinking water)	0.005	0.2 mg/L	ND	ND	< 0.005	ND
Total Coliforms	1	0 MPN/100 mls	**16**	ND	Absent	ND
Tot. Diss. Solids	10	mg/L	140	92	59.00	110
Turbidity	0.20	5 NTU	1.12	0.86	1	**9.98**
Uranium, Total	1.0	ug/L	ND	ND	NT	2.94
Bromate	1.0	0.01 ug/L	ND	ND	ND	ND
Chlorite	0.010	1 mg/L	ND	ND	ND	ND
Radon	11.2	pCi/l	3,130	2,770	818	1,040
Heterotrophic Plate Count	10	CFU/ml	995	428	1	289
Metals, Total						
Antimony	0.0008	0.006 mg/L	ND	ND	ND	ND
Arsenic	0.0005	0.01 mg/L	ND	ND	ND	0.001
Barium	0.001	2 mg/L	0.257	0.126	ND	0.081
Beryllium	0.0003	0.004 mg/L	ND	ND	ND	ND
Cadmium	0.001	0.005 mg/L	ND	ND	ND	0.001
Calcium	0.005	mg/L	20.600	16.700	0.008	8.390
Chromium	0.001	0.1 mg/L	ND	ND	ND	0.001
Copper	0.002	1.3 mg/L	0.013	ND	ND	0.01
Iron	0.01	0.3 mg/L	**0.31**	0.03	ND	**0.49**
Lead	0.0010	0.015 mg/L	0.0022	ND	ND	0.0015
Magnesium	0.005	mg/L	4.93	2.95	ND	1.21
Manganese	0.001	0.3 mg/L	0.073	0.001	ND	0.016
Mercury	0.0002	0.002 mg/L	ND	ND	ND	ND
Nickel	0.001	mg/L	0.002	ND	ND	ND
Selenium	0.001	0.05 mg/L	ND	ND	0.001	0.001
Silver	0.001	0.1 mg/L	ND	ND	ND	ND
Sodium	0.1	mg/L	13.1	10.5	ND	18.8
Thallium	0.0007	0.002 mg/L	ND	ND	ND	ND
Zinc	0.001	5 mg/L	0.063	0.061	ND	0.457
PCBs By E508						
PCB-1016 (screen)	0.080	0.5 ug/l	ND	ND	ND	ND
PCB-1221 (screen)	0.10	0.5 ug/l	ND	ND	ND	ND
PCB-1232 (screen)	0.10	0.5 ug/l	ND	ND	ND	ND
PCB-1242 (screen)	0.10	0.5 ug/l	ND	ND	ND	ND
PCB-1248 (screen)	0.10	0.5 ug/l	ND	ND	ND	ND
PCB-1254 (screen)	0.10	0.5 ug/l	ND	ND	ND	ND
PCB-1260 (screen)	0.10	0.5 ug/l	ND	ND	ND	ND
PCB-1262 (screen)	0.10	0.5 ug/l	ND	ND	ND	ND
PCB-1268 (screen)	0.10	0.5 ug/l	ND	ND	ND	ND
Volatiles By E524.2						
1,1,1,2-Tetrachloroethane	0.50	5 ug/L	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	5 ug/L	ND	ND	ND	ND

TABLE 3

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, Sullivan County, New York

Results of Water Quality Analyses

Sample ID Phoenix ID Sampling Date Client Matrix	Reporting limit	Part 5, Subpart 5-1 Public Water Systems Limit	TW-3 BV60751 & BV78109 10/20 & 11/7/2016 Drinking Water	TW-5 BV60752 & BV75662 10/20 & 11/3/2016 Drinking Water	TW-6 BV75660 11/3/2016 Drinking Water	TW-8 BV60753 & BV75661 10/20 & 11/3/2016 Drinking Water
Compound			Result	Result	Result	Result
1,1,2,2-Tetrachloroethane	0.50	5 ug/L	ND	ND	ND	ND
1,1,2-Trichloroethane	0.50	5 ug/L	ND	ND	ND	ND
1,1-Dichloroethane	0.50	5 ug/L	ND	ND	ND	ND
1,1-Dichloroethene	0.50	5 ug/L	ND	ND	ND	ND
1,1-Dichloropropene	0.50	5 ug/L	ND	ND	ND	ND
1,2,3-Trichlorobenzene	0.50	5 ug/L	ND	ND	ND	ND
1,2,3-Trichloropropane	0.50	5 ug/L	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.50	5 ug/L	ND	ND	ND	ND
1,2,4-Trimethylbenzene	0.50	5 ug/L	ND	ND	ND	ND
1,2-Dichlorobenzene	0.50	5 ug/L	ND	ND	ND	ND
1,2-Dichloroethane	0.50	5 ug/L	ND	ND	ND	ND
1,2-Dichloropropane	0.50	5 ug/L	ND	ND	ND	ND
1,3,5-Trimethylbenzene	0.50	5 ug/L	ND	ND	ND	ND
1,3-Dichlorobenzene	0.50	5 ug/L	ND	ND	ND	ND
1,3-Dichloropropane	0.50	5 ug/L	ND	ND	ND	ND
1,4-Dichlorobenzene	0.50	5 ug/L	ND	ND	ND	ND
2,2-Dichloropropane	0.50	5 ug/L	ND	ND	ND	ND
2-Chlorotoluene	0.50	5 ug/L	ND	ND	ND	ND
4-Chlorotoluene	0.50	5 ug/L	ND	ND	ND	ND
Benzene	0.50	5 ug/L	ND	ND	ND	ND
Bromobenzene	0.50	5 ug/L	ND	ND	ND	ND
Bromochloromethane	0.50	5 ug/L	ND	ND	ND	ND
Bromodichloromethane	0.50	ug/L	ND	ND	ND	ND
Bromoform	0.50	ug/L	ND	ND	ND	ND
Bromomethane	0.50	5 ug/L	ND	ND	ND	ND
Carbon tetrachloride	0.50	5 ug/L	ND	ND	ND	ND
Chlorobenzene	0.50	5 ug/L	ND	ND	ND	ND
Chloroethane	0.50	5 ug/L	ND	ND	ND	ND
Chloroform	0.50	ug/L	ND	ND	ND	ND
Chloromethane	0.50	5 ug/L	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.50	5 ug/L	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.40	5 ug/L	ND	ND	ND	ND
Dibromochloromethane	0.50	ug/L	ND	ND	ND	ND
Dibromomethane	0.50	5 ug/L	ND	ND	ND	ND
Dichlorodifluoromethane	0.50	5 ug/L	ND	ND	ND	ND
Ethylbenzene	0.50	5 ug/L	ND	ND	ND	ND
Hexachlorobutadiene	0.50	5 ug/L	ND	ND	ND	ND
Isopropylbenzene	0.50	5 ug/L	ND	ND	ND	ND
m&p-Xylene	0.50	ug/L	ND	ND	ND	ND
Methyl t-butyl ether (MTBE)	0.50	10 ug/L	ND	ND	ND	ND
Methylene chloride	0.50	5 ug/L	ND	ND	ND	ND
Naphthalene	0.50	ug/L	ND	ND	ND	ND
n-Butylbenzene	0.50	5 ug/L	ND	ND	ND	ND
n-Propylbenzene	0.50	5 ug/L	ND	ND	ND	ND
o-Xylene	0.50	5 ug/L	ND	ND	ND	ND
p-Isopropyltoluene	0.50	5 ug/L	ND	ND	ND	ND
sec-Butylbenzene	0.50	5 ug/L	ND	ND	ND	ND
Styrene	0.50	5 ug/L	ND	ND	ND	ND
tert-Butylbenzene	0.50	5 ug/L	ND	ND	ND	ND
Tetrachloroethene	0.50	5 ug/L	ND	ND	ND	ND
Toluene	0.50	5 ug/L	ND	ND	ND	ND
Total Trihalomethanes	0.50	80 ug/L	ND	ND	ND	ND
Total Xylenes	0.50	ug/L	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.50	5 ug/L	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.40	5 ug/L	ND	ND	ND	ND
Trichloroethene	0.50	5 ug/L	ND	ND	ND	ND
Trichlorofluoromethane	0.50	5 ug/L	ND	ND	ND	ND
Vinyl chloride	0.50	2 ug/L	ND	ND	ND	ND
Semivolatile Organic By E525.3						
Benzo(a)pyrene	0.02	ug/L	ND	ND	ND	ND
Bis(2-ethylhexyl)adipate	0.60	ug/L	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	0.60	ug/L	ND	ND	ND	ND

TABLE 3

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, Sullivan County, New York

Results of Water Quality Analyses

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Compound			Result	Result	Result	Result
Pesticides By E508						
Aldrin	0.010	ug/L	ND	ND	ND	ND
Chlordane	0.010	2 ug/L	ND	ND	ND	ND
Dieldrin	0.010	ug/L	ND	ND	ND	ND
Endrin	0.010	2 ug/L	ND	ND	ND	ND
Heptachlor	0.010	0.4 ug/L	ND	ND	ND	ND
Heptachlor Epoxide	0.010	0.2 ug/L	ND	ND	ND	ND
Hexachlorobenzene	0.010	ug/L	ND	ND	ND	ND
Hexachlorocyclopentadiene	0.010	ug/L	ND	ND	ND	ND
Lindane	0.010	0.2 ug/L	ND	ND	ND	ND
Methoxychlor	0.010	40 ug/L	ND	ND	ND	ND
Propachlor	0.050	ug/L	ND	ND	ND	ND
Toxaphene	1.0	3 ug/L	ND	ND	ND	ND
Organophosphorus Pesticides By E507						
Alachlor	0.10	2 ug/L	ND	ND	ND	ND
Atrazine	0.10	3 ug/L	ND	ND	ND	ND
Butachlor	0.10	ug/L	ND	ND	ND	ND
Metolachlor	0.10	ug/L	ND	ND	ND	ND
Metribuzin	0.10	ug/L	ND	ND	ND	ND
Simazine	0.070	4 ug/L	ND	ND	ND	ND
Herbicides By E515.3						
2,4,5-T	0.50	ug/L	ND	ND	ND	ND
2,4,5-TP	0.20	10 ug/L	ND	ND	ND	ND
2,4-D	0.10	50 ug/L	ND	ND	ND	ND
Dalapon	1.0	ug/L	ND	ND	ND	ND
Dicamba	0.50	ug/L	ND	ND	ND	ND
Dichloroprop	0.50	ug/L	ND	ND	ND	ND
Dinoseb	0.20	7 ug/L	ND	ND	ND	ND
Pentachlorophenol	0.040	1 ug/L	ND	ND	ND	ND
Picloram	0.10	ug/L	ND	ND	ND	ND
Haloacetic Acids By E552.2						
Bromochloroacetic Acid	1.0	ug/L	ND	ND	ND	ND
Dibromoacetic Acid	1.0	ug/L	ND	ND	ND	ND
Dichloroacetic Acid	1.0	ug/L	ND	ND	ND	ND
Monobromoacetic Acid	1.0	ug/L	ND	ND	ND	ND
Monochloroacetic Acid	2.0	ug/L	ND	ND	ND	ND
Total Haloacetic Acids	1.0	60 ug/L	ND	ND	ND	ND
Trichloroacetic Acid	1.0	ug/L	ND	ND	ND	ND
Endothall By E548.1						
Endothall	9.0	ug/L	ND	ND	ND	ND
EDB and DBCP Analysis By E504.1						
1,2-Dibromo-3-Chloropropane (DBCP)	0.02	0.2 ug/L	ND	ND	ND	ND
1,2-Dibromoethane (EDB)	0.01	0.05 ug/L	ND	ND	ND	ND
Diquat By E549						
Diquat	0.40	20 ug/L	ND	ND	ND	ND
Carbamates HPLC By E531.2						
3-Hydroxycarbofuran	0.50	ug/L	ND	ND	ND	ND
Aldicarb	0.50	3 ug/L	ND	ND	ND	ND
Aldicarb Sulfone	0.80	2 ug/L	ND	ND	ND	ND
Aldicarb Sulfoxide	0.50	4 ug/L	ND	ND	ND	ND
Carbaryl	0.50	ug/L	ND	ND	ND	ND
Carbofuran	0.90	40 ug/L	ND	ND	ND	ND
Methomyl	0.50	ug/L	ND	ND	ND	ND
Oxamyl	2.0	ug/L	ND	ND	ND	ND
Asbestos in Water By E600/4-84						
Asbestos fibers (>0.5u and <10u)	6.40	7 MFL	ND	ND	ND	ND
Asbestos fibers (>10u)	0.768	7 MFL	ND	ND	ND	ND
MICROSCOPIC PARTICULATE ANALYSIS						
Particulate Debris						
Large particle (5um & larger)	Found/Not Found	~	fine silt	fine silt	fine silt	fine silt
Small particle (up to 5um)	Found/Not Found	~	fine brown amorphous	fine brown amorphous	fine brown amorphous	fine brown amorphous
Plant debris	Found/Not Found	~	NF	NF	NF	NF

TABLE 3

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, Sullivan County, New York

Results of Water Quality Analyses

Sample ID Phoenix ID Sampling Date Client Matrix	Reporting limit	Part 5, Subpart 5-1 Public Water Systems Limit	TW-3 BV60751 & BV78109 10/20 & 11/7/2016 Drinking Water	TW-5 BV60752 & BV75662 10/20 & 11/3/2016 Drinking Water	TW-6 BV75660 11/3/2016 Drinking Water	TW-8 BV60753 & BV75661 10/20 & 11/3/2016 Drinking Water
Compound			Result	Result	Result	Result
Protozoans						
Other Coccidia	Found/Not Found	~	NF	NF	NF	NF
Other protozoans	Found/Not Found	~	NF	NF	NF	NF
Algae						
Green Algae	Found/Not Found	~	NF	NF	NF	NF
Diatoms	Found/Not Found	~	NF	NF	NF	NF
Blue-Green Algae	Found/Not Found	~	NF	NF	NF	NF
Flagellated Algae	Found/Not Found		NF	NF	NF	NF
Other Organisms						
Nematodes	Found/Not Found	~	NF	NF	NF	NF
Nematode eggs	Found/Not Found	~	NF	NF	NF	NF
Rotifers	Found/Not Found	~	NF	NF	NF	NF
Crustaceans	Found/Not Found	~	NF	NF	NF	NF
Crustacean eggs	Found/Not Found	~	NF	NF	NF	NF
Insects	Found/Not Found	~	NF	NF	NF	NF
Other	Found/Not Found	~	NF	NF	NF	NF

Notes:

ND = not detected above reporting limits

NT = not tested

NF = not found

= Exceeds Limits

TABLE 4

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, Sullivan County, New York

On-site Rain Gauge Monitoring Log

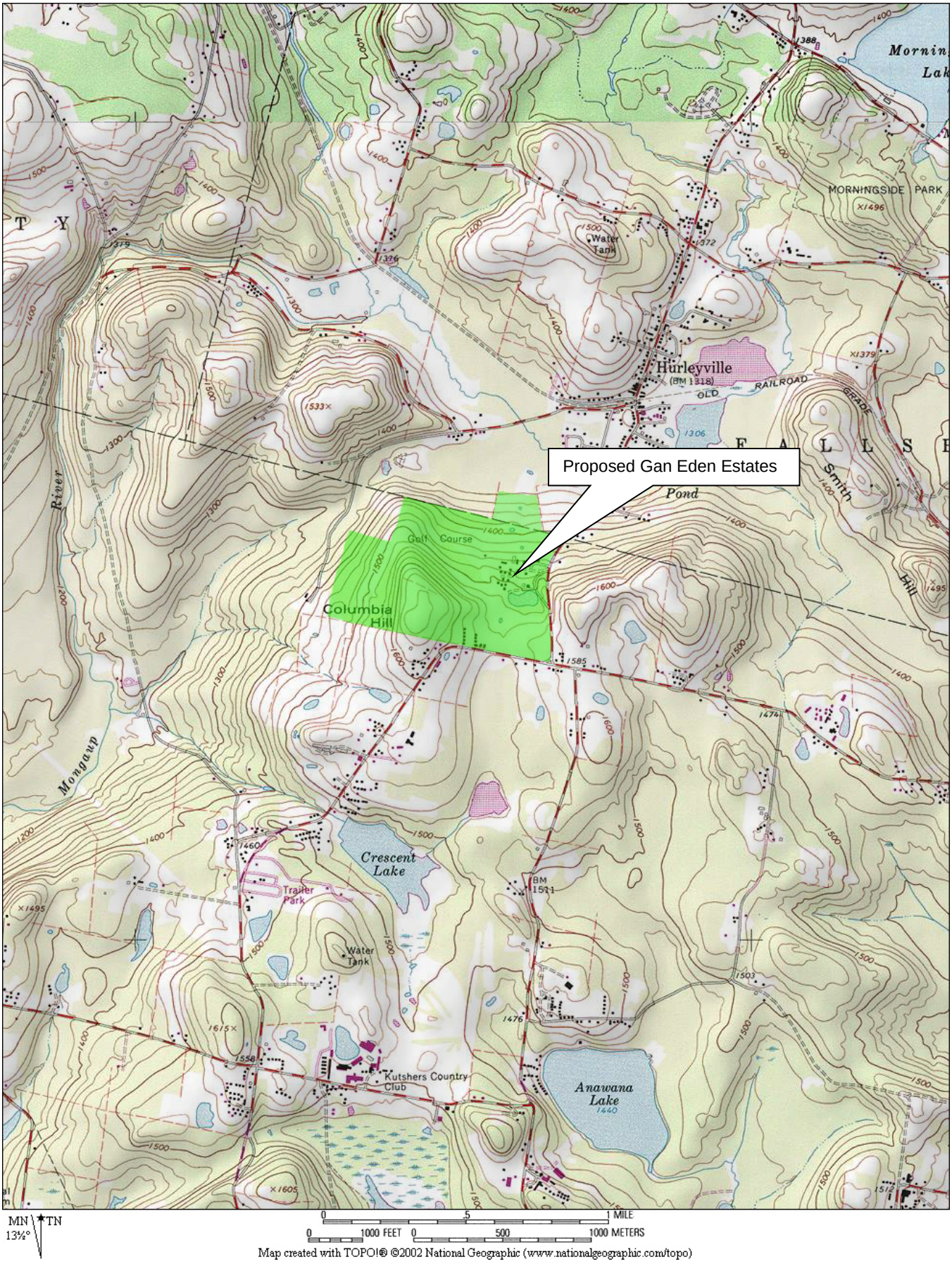
Date (Reported)	Date (Measured)	Rainfall Collected in Rain Gauge (in)
10/22/2016	10/24/2016	0.63
10/27/2016	10/28/2016	0.75
10/30/2016	11/04/2016	0.12
	Total:	**1.50**

Notes:
Reported = Date rain event was reported by weather station
Measured = Date rain gauge was measured by HES

FIGURES

FIGURE 1

Site Location Map



Map created with TOPO!® ©2002 National Geographic (www.nationalgeographic.com/topo)

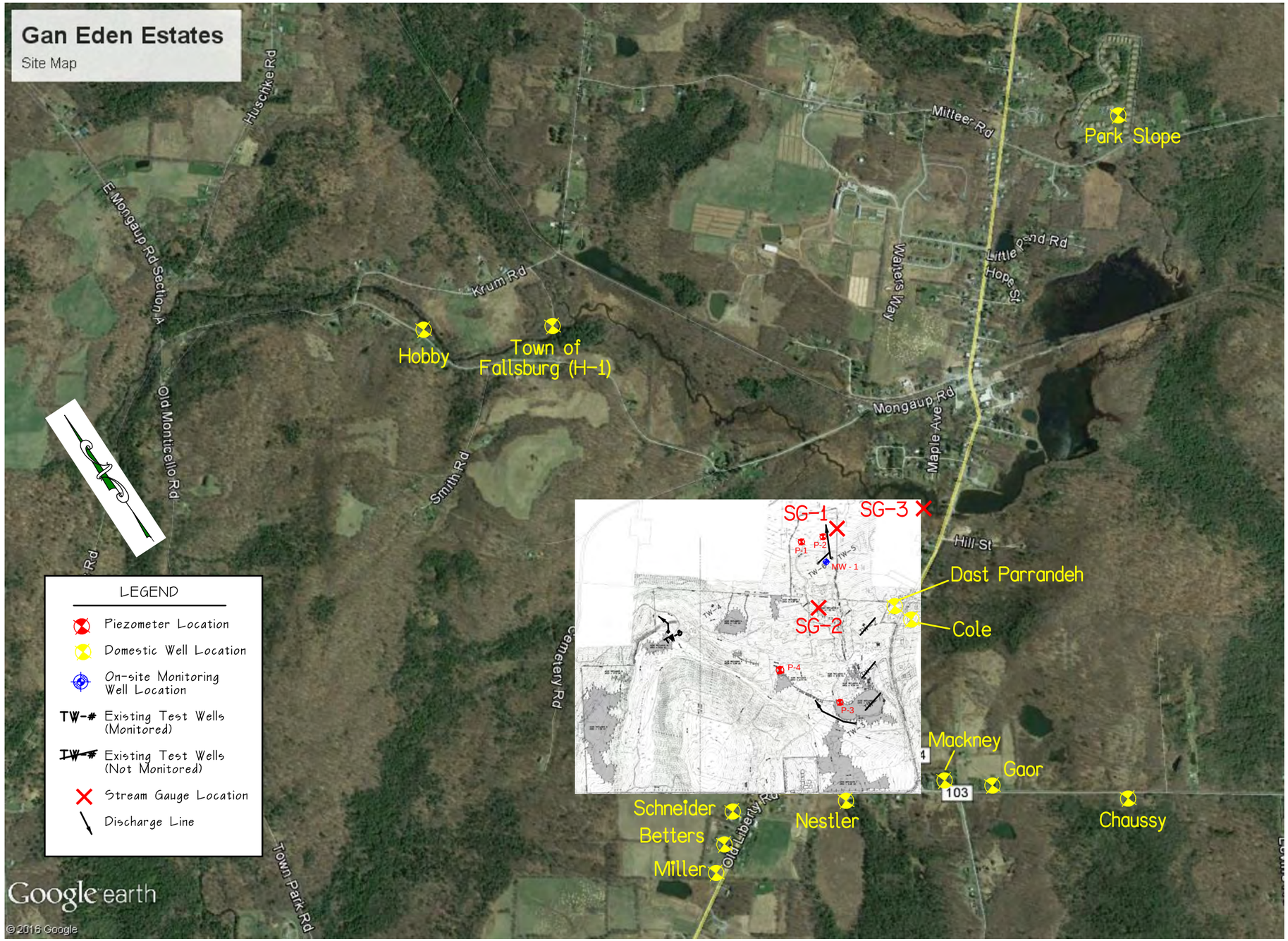


FIGURE 2

PROPOSED GAN EDEN ESTATES THOMPSON & FALLSBURG, NEW YORK	PUMPING AND OBSERVATION WELL LOCATION MAP	OCTOBER - NOVEMBER, 2016 SITE PLAN ADAPTED FROM: PAULUS SOKOLOWSKI AND SARTOR, LLC. CONSULTING EGINEERS CONSTRAINTS MAP DATED - 02/09/07	HydroEnvironmental SOLUTIONS, INC. One Deans Bridge Road Somers, New York 10589

Figure 3
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

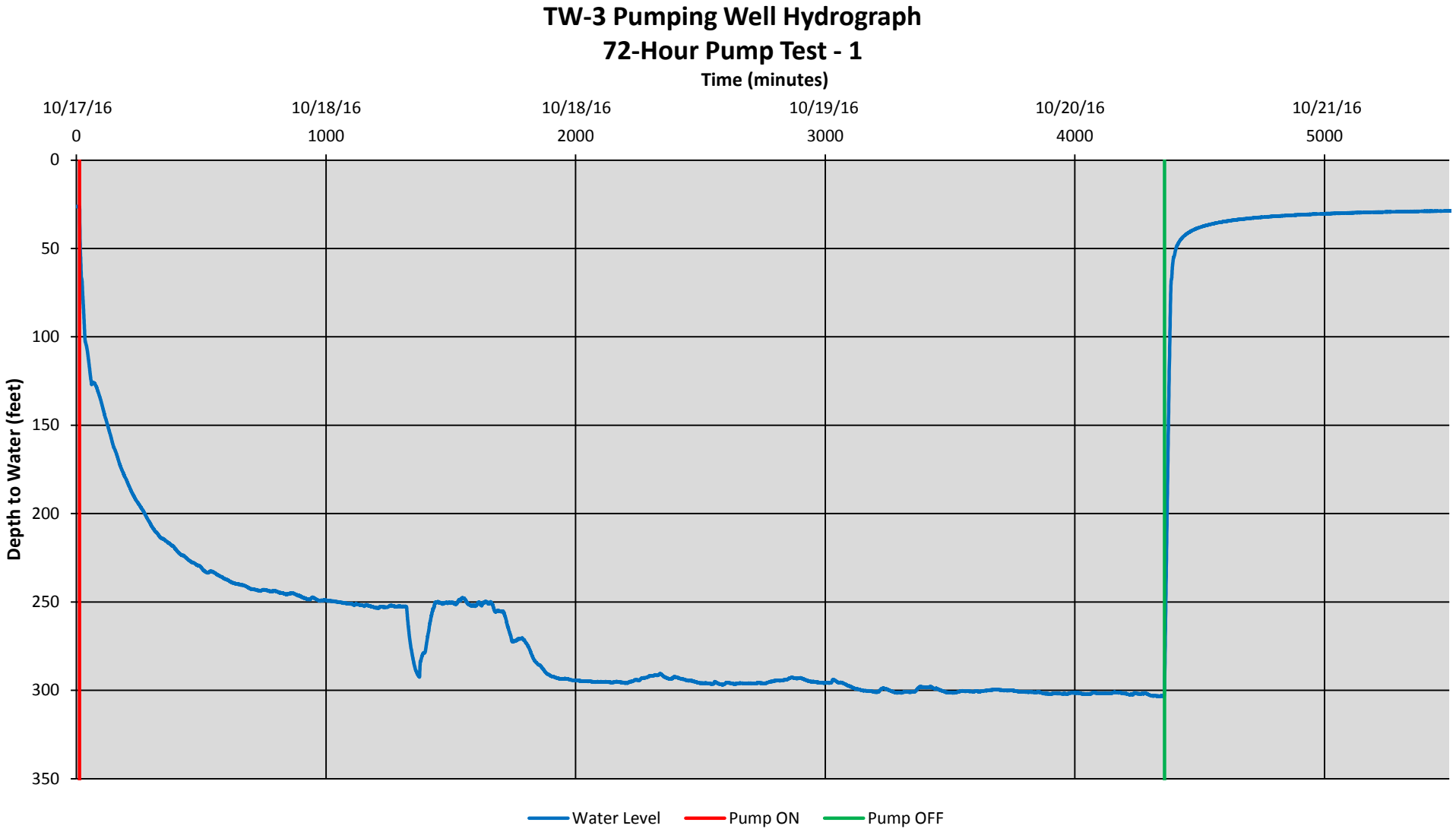


Figure 4
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

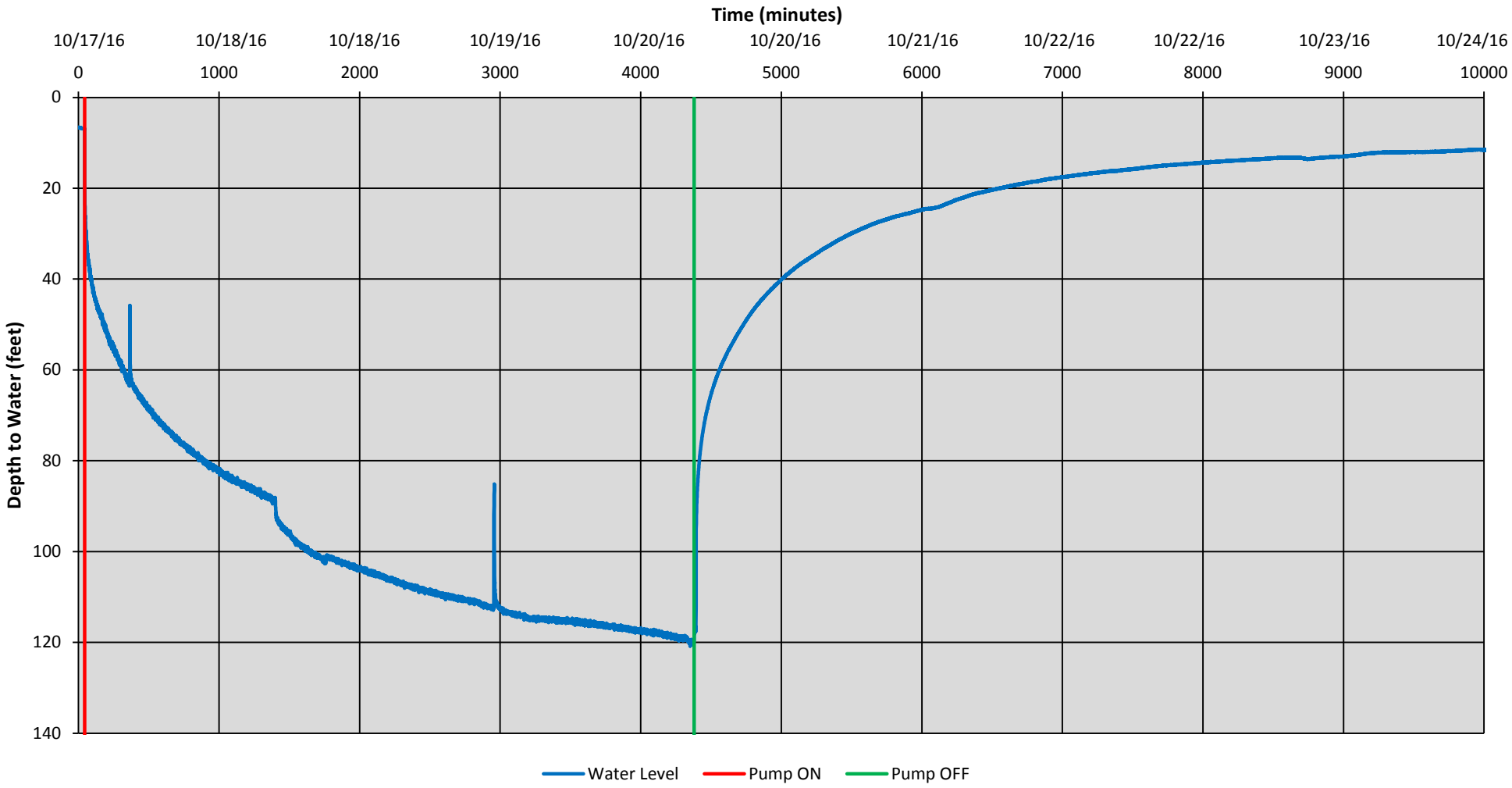


Figure 5
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

TW-8 Pumping Well Hydrograph
72-Hour Pump Test - 1

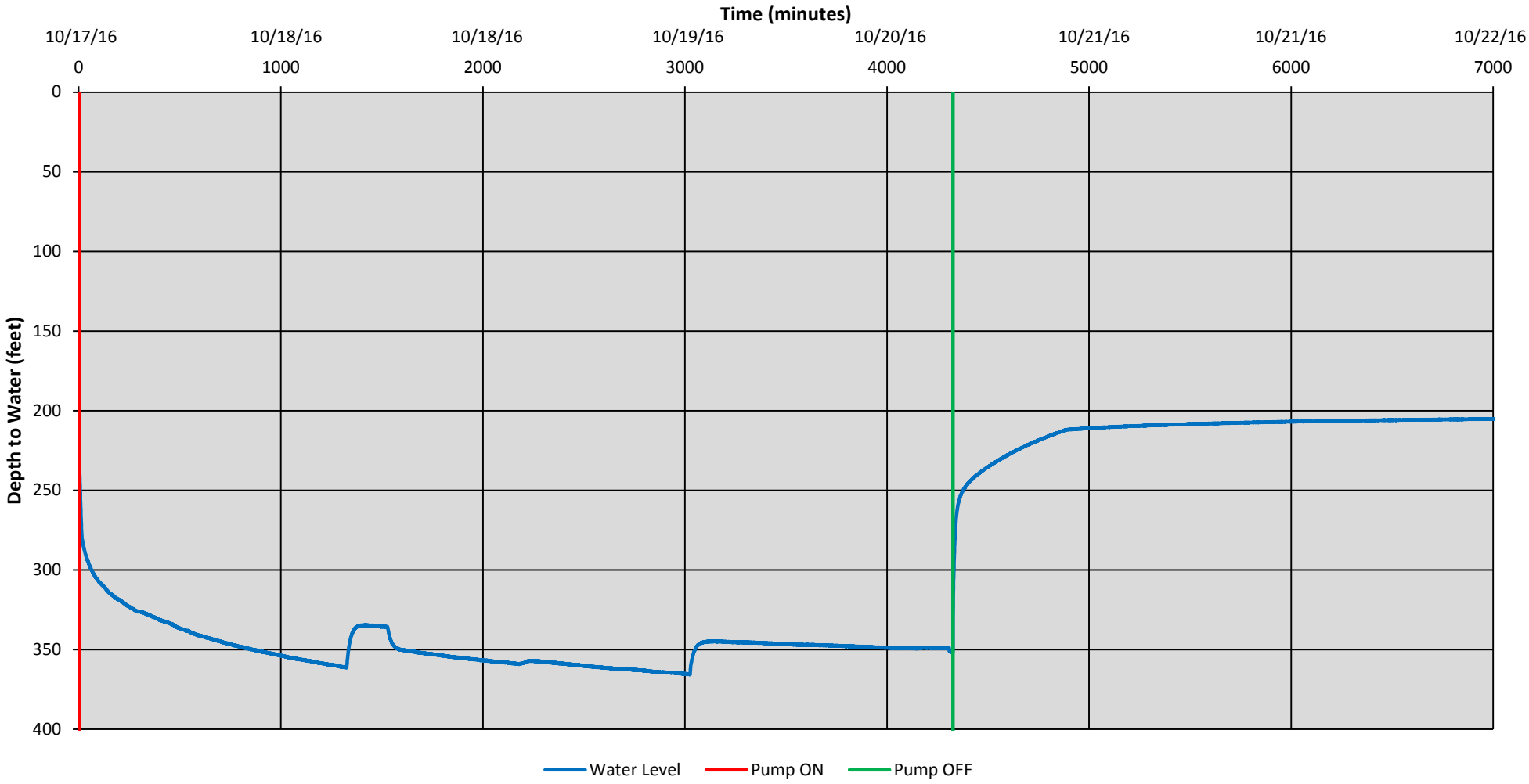


Figure 6
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

TW-6 Monitoring Well Hydrograph
72-Hour Pump Test - 1

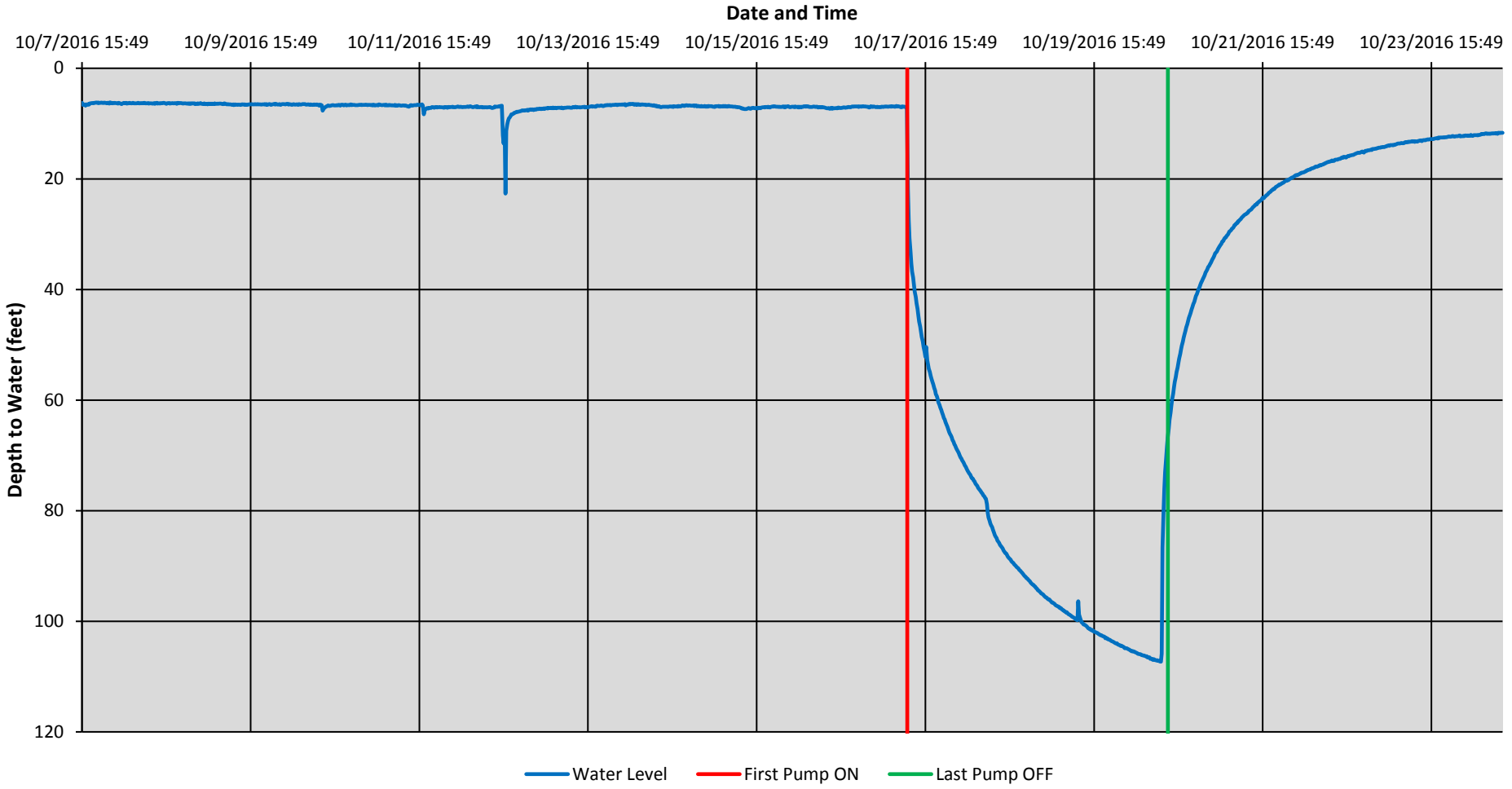


Figure 7
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

TW-6 Pumping Well Hydrograph
72-Hour Pump Test - 2

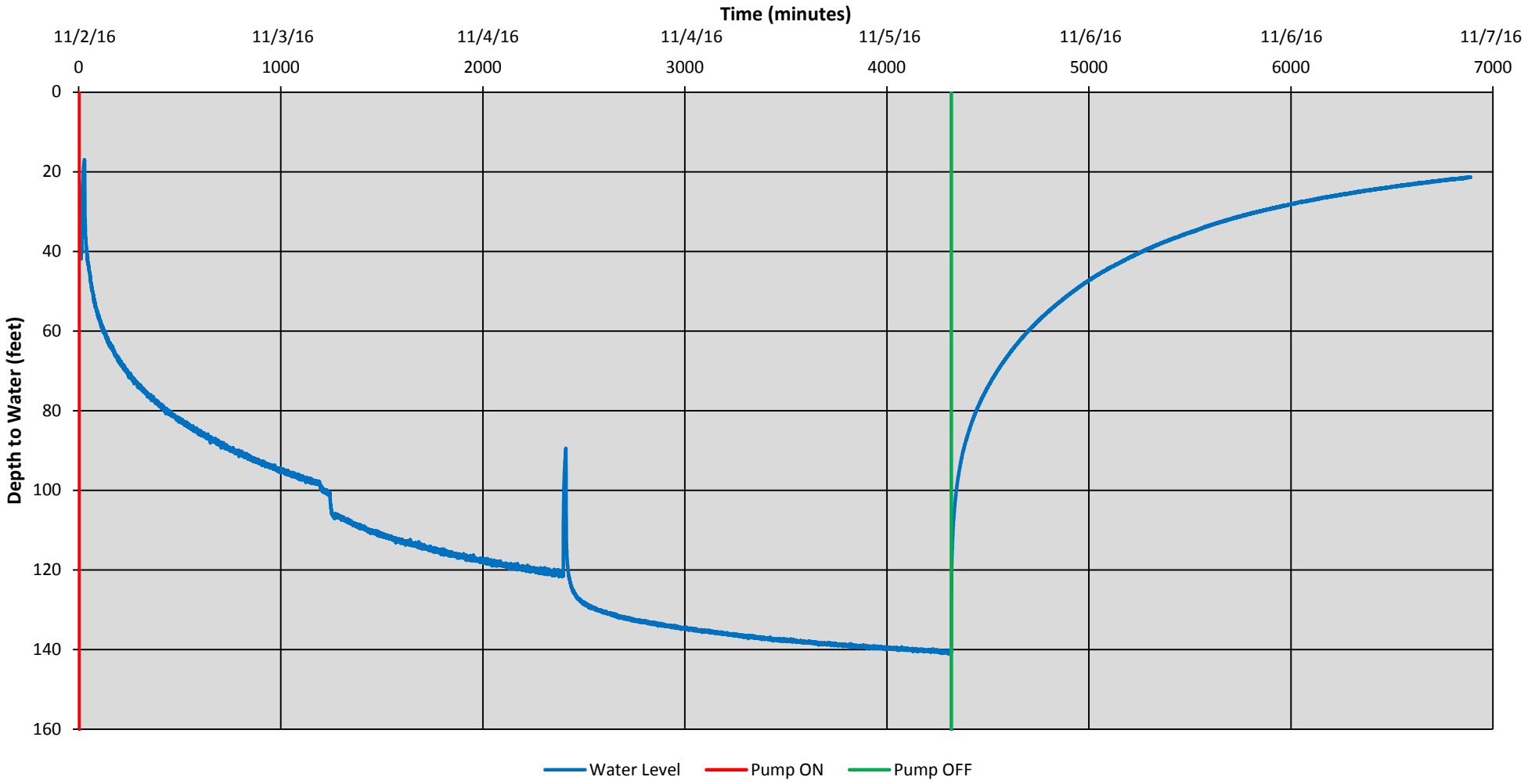


Figure 8
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

TW-8 Pumping Well Hydrograph
72-Hour Pump Test - 2

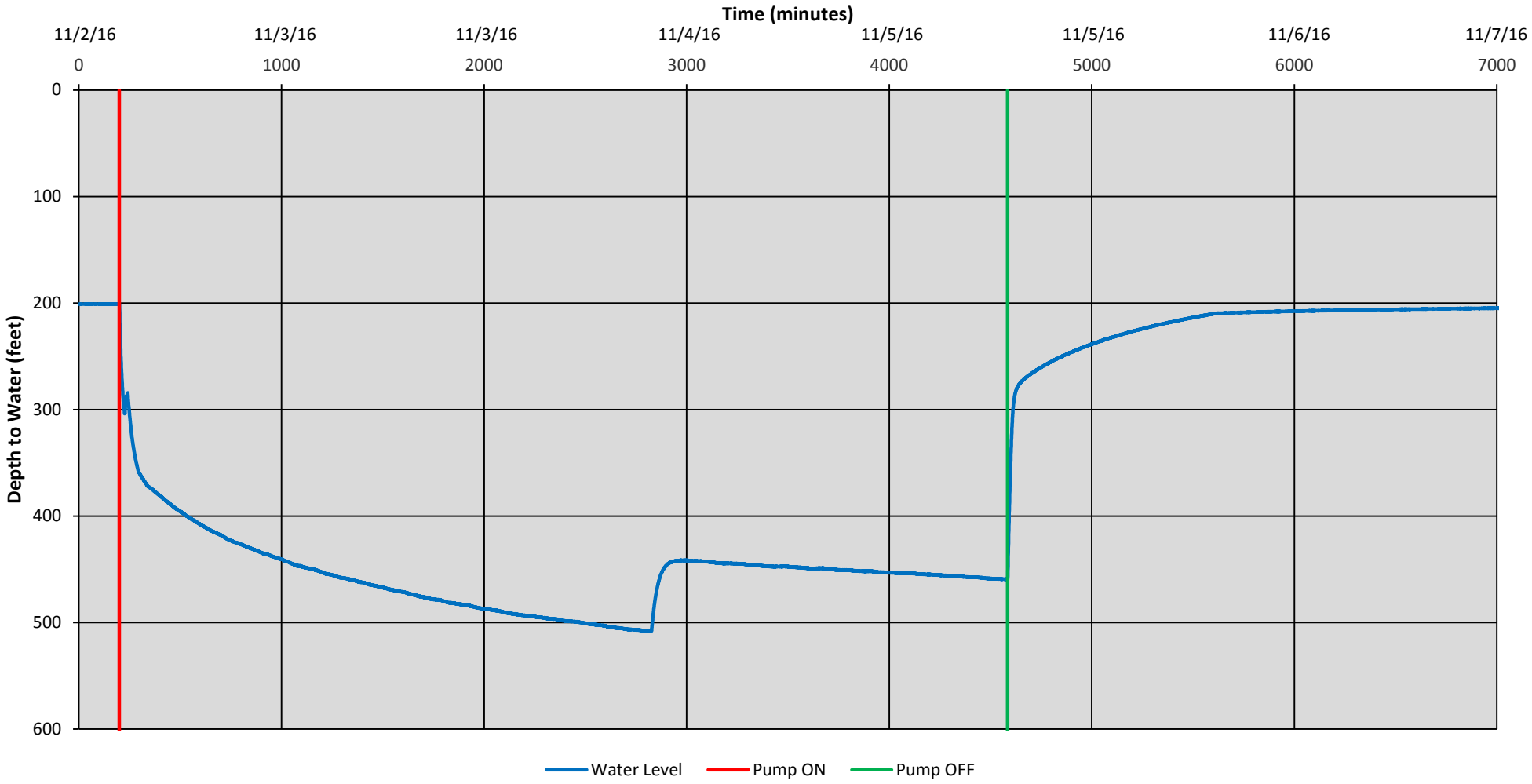


Figure 9
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

TW-5 Monitoring Well Hydrograph
72-Hour Pump Test - 2

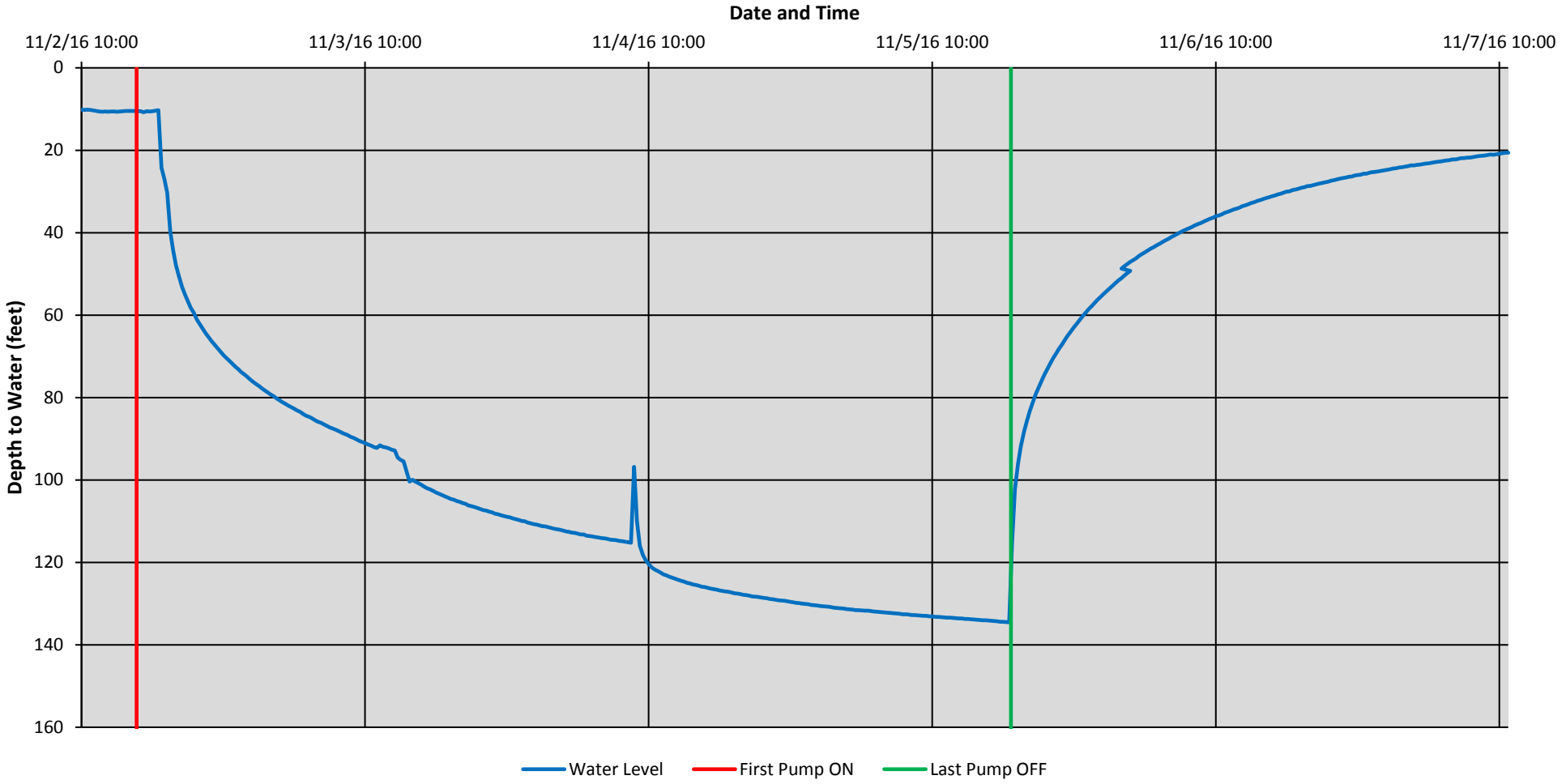


Figure 10
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

TW-3 Monitoring Well Hydrograph
72-Hour Pump Test - 2

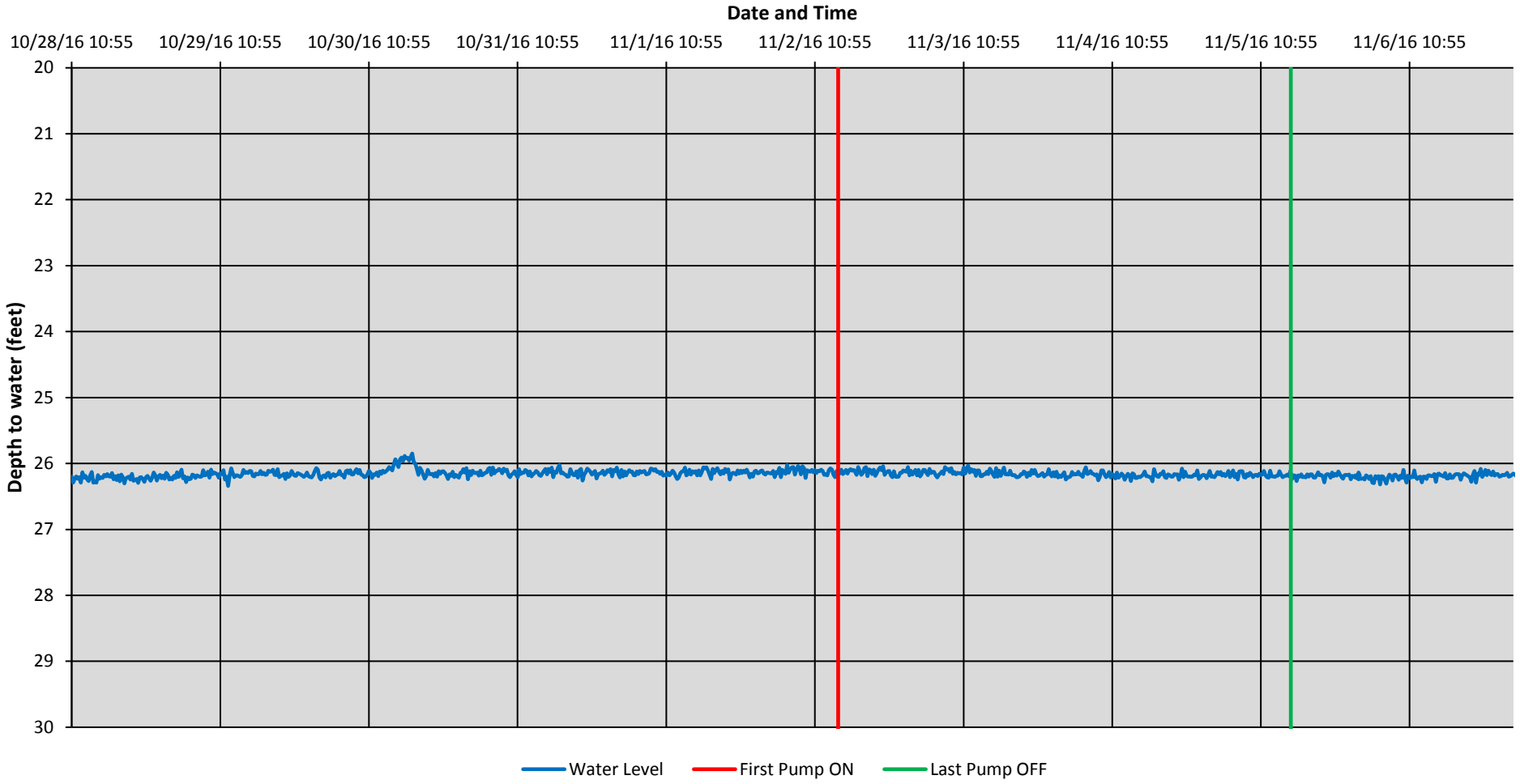


Figure 11
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

On-Site Monitor Well
MW-1 Well Hydrograph

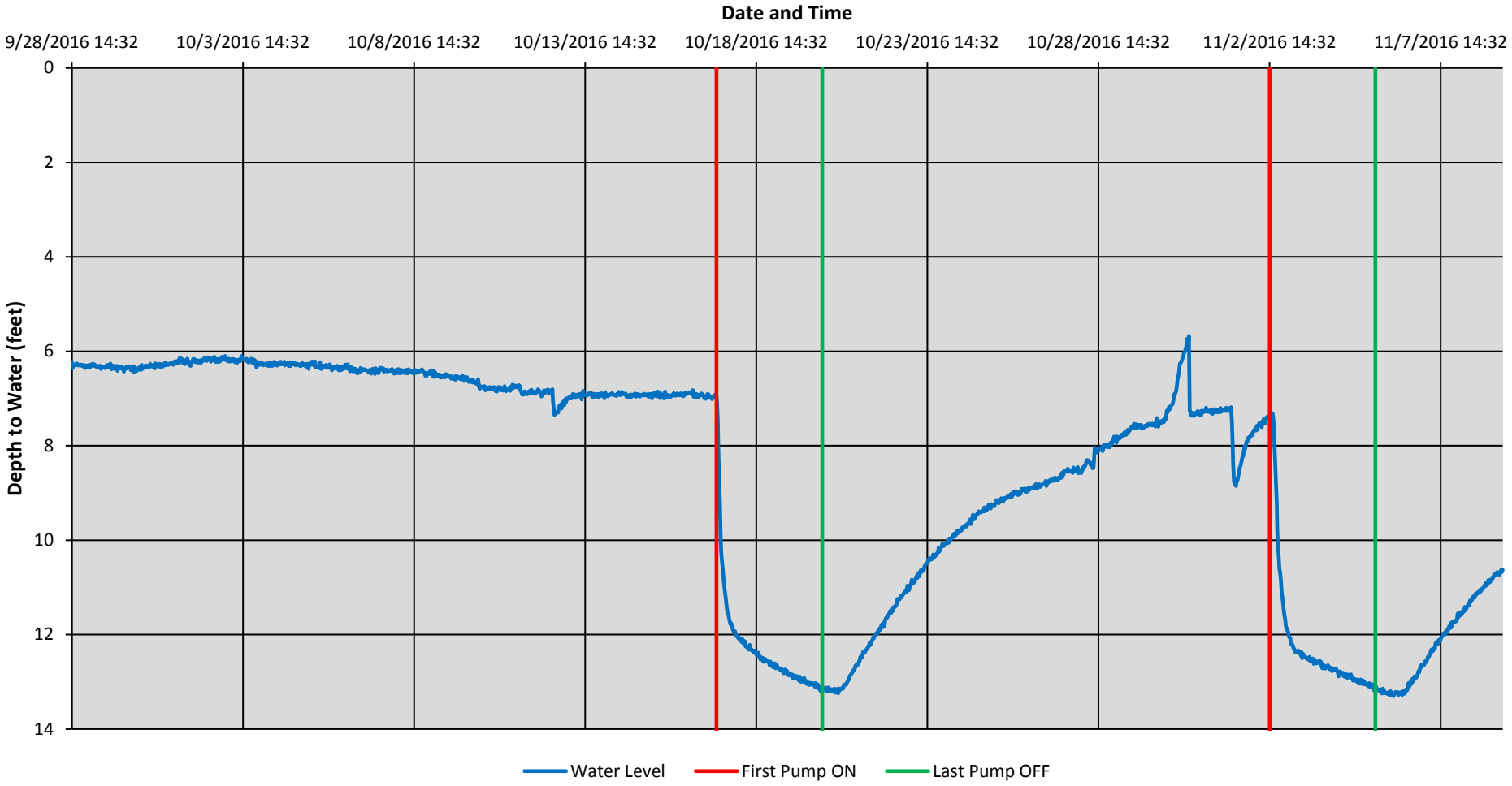


Figure 12
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

On-Site Monitor Wells
P-1, P-2, P-3 and P-4 Well Hydrograph

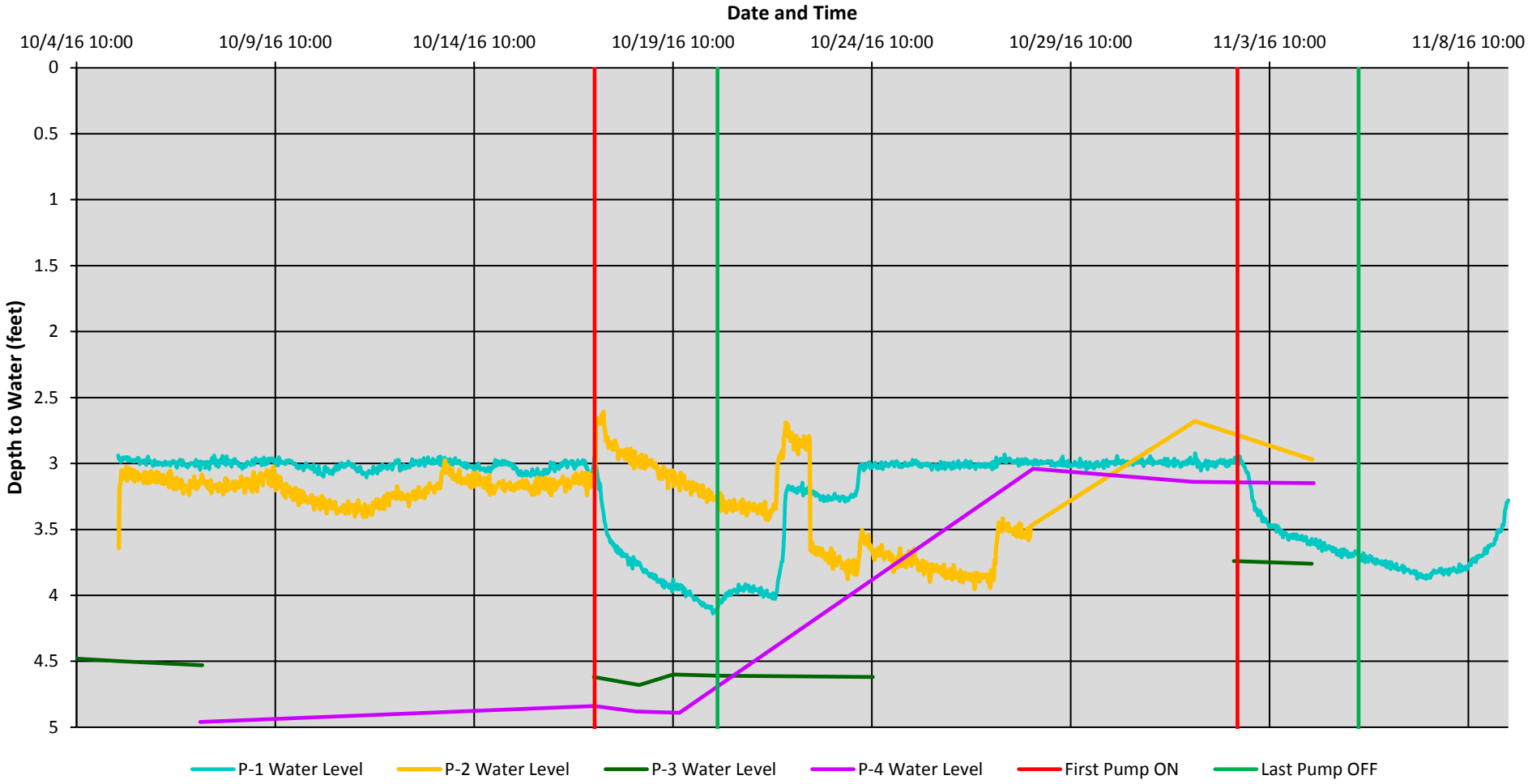


Figure 13
Proposed Gan Eden Estates Water Supply Assessment
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Off-Site Monitor Well
Betters Well Hydrograph

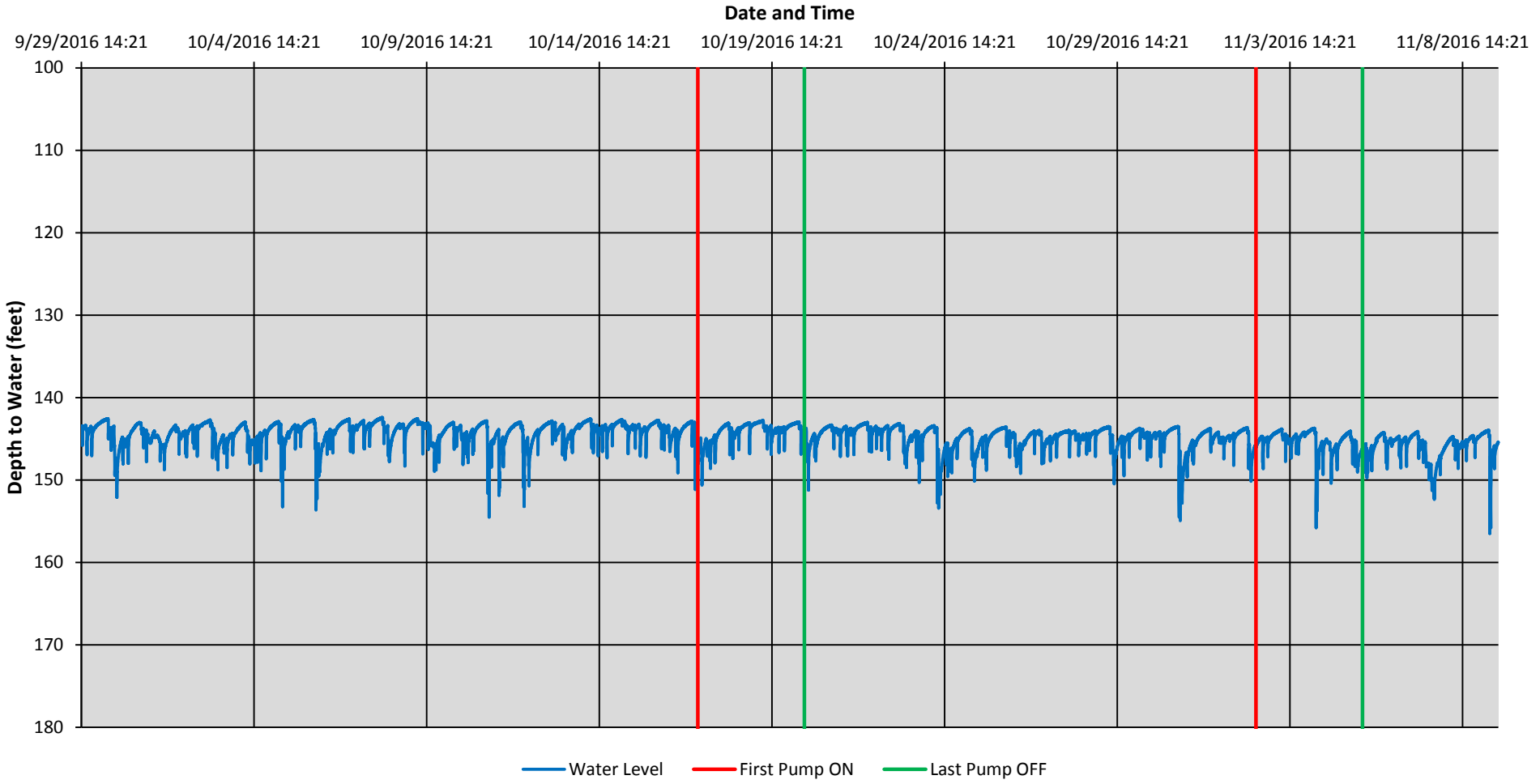

Figure 14
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

Off-Site Monitor Well
Chaussy Well Hydrograph

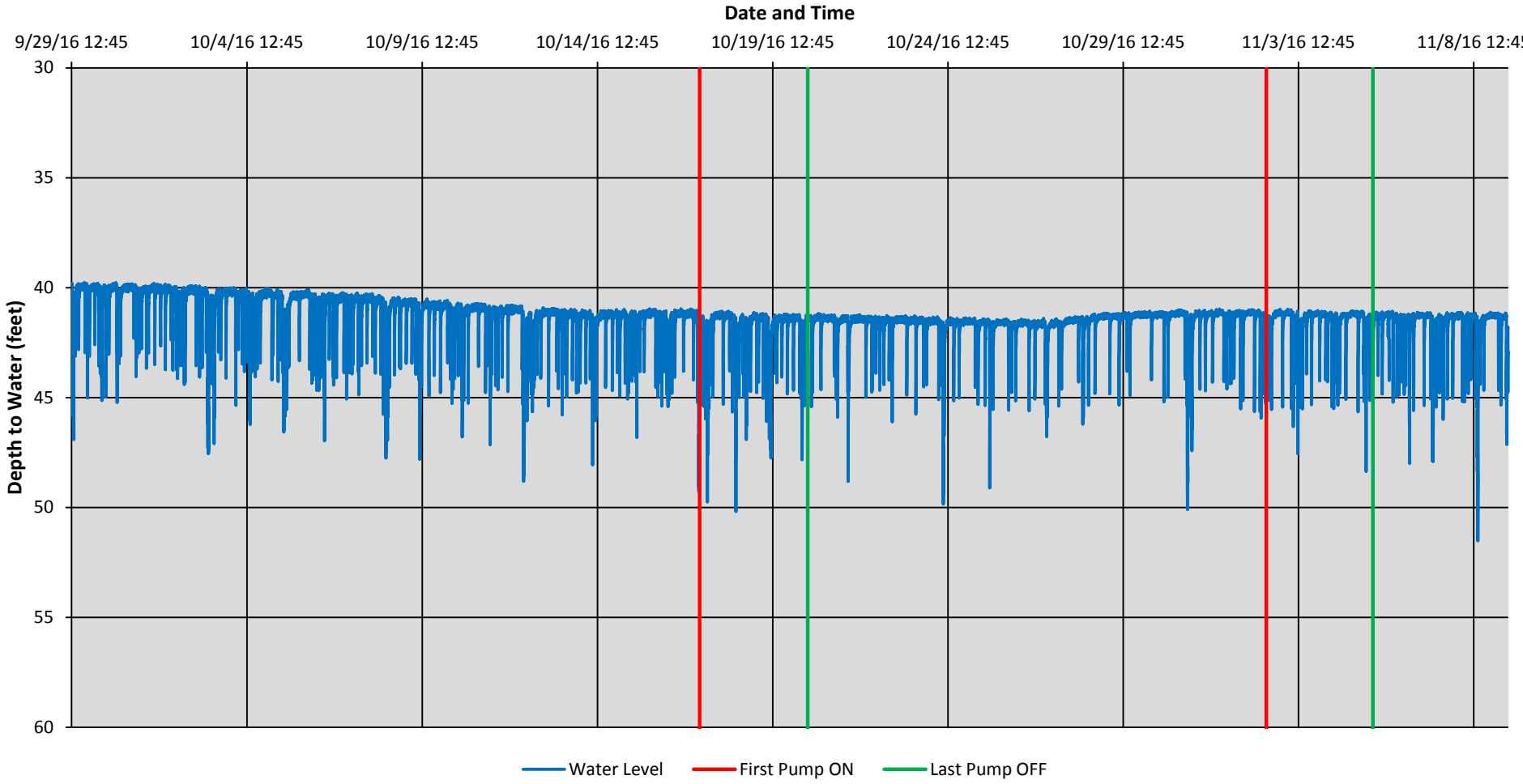

Figure 15
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

Off-Site Monitor Well
Cole Well Hydrograph

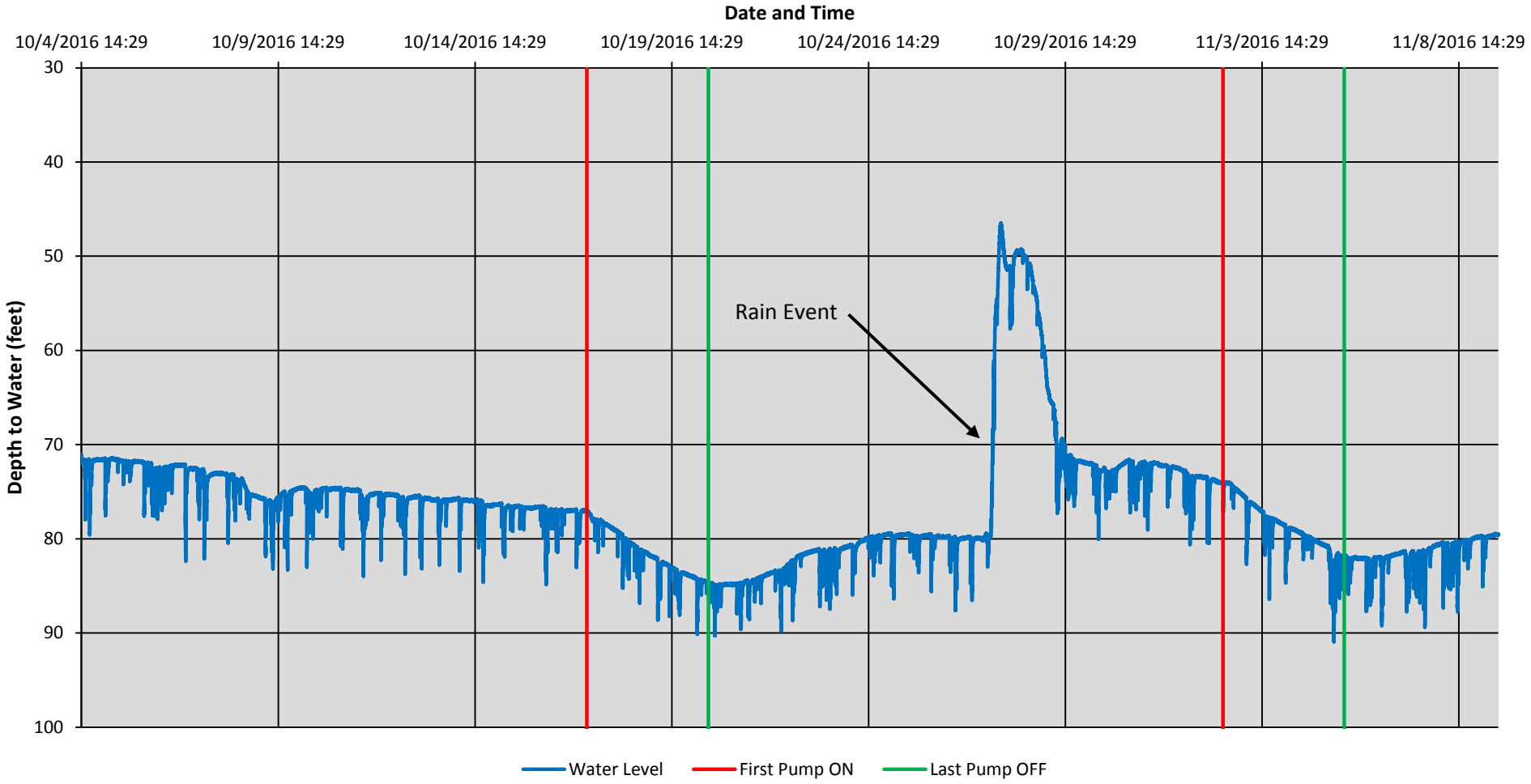

Figure 16
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

Off-Site Monitor Well
Dast Parrandeh Well Hydrograph

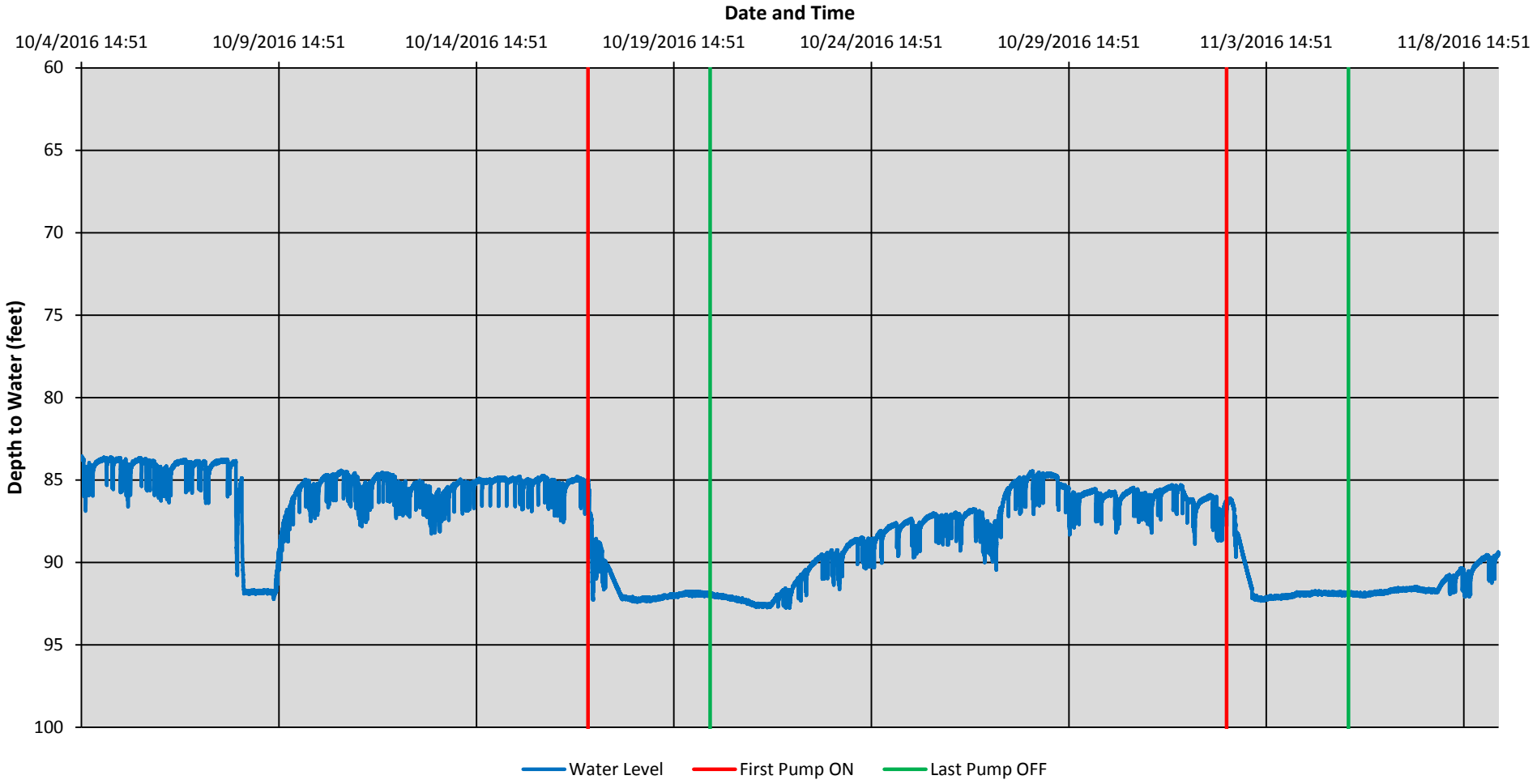

Figure 17
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

Off-Site Monitor Well
Gaor Well Hydrograph

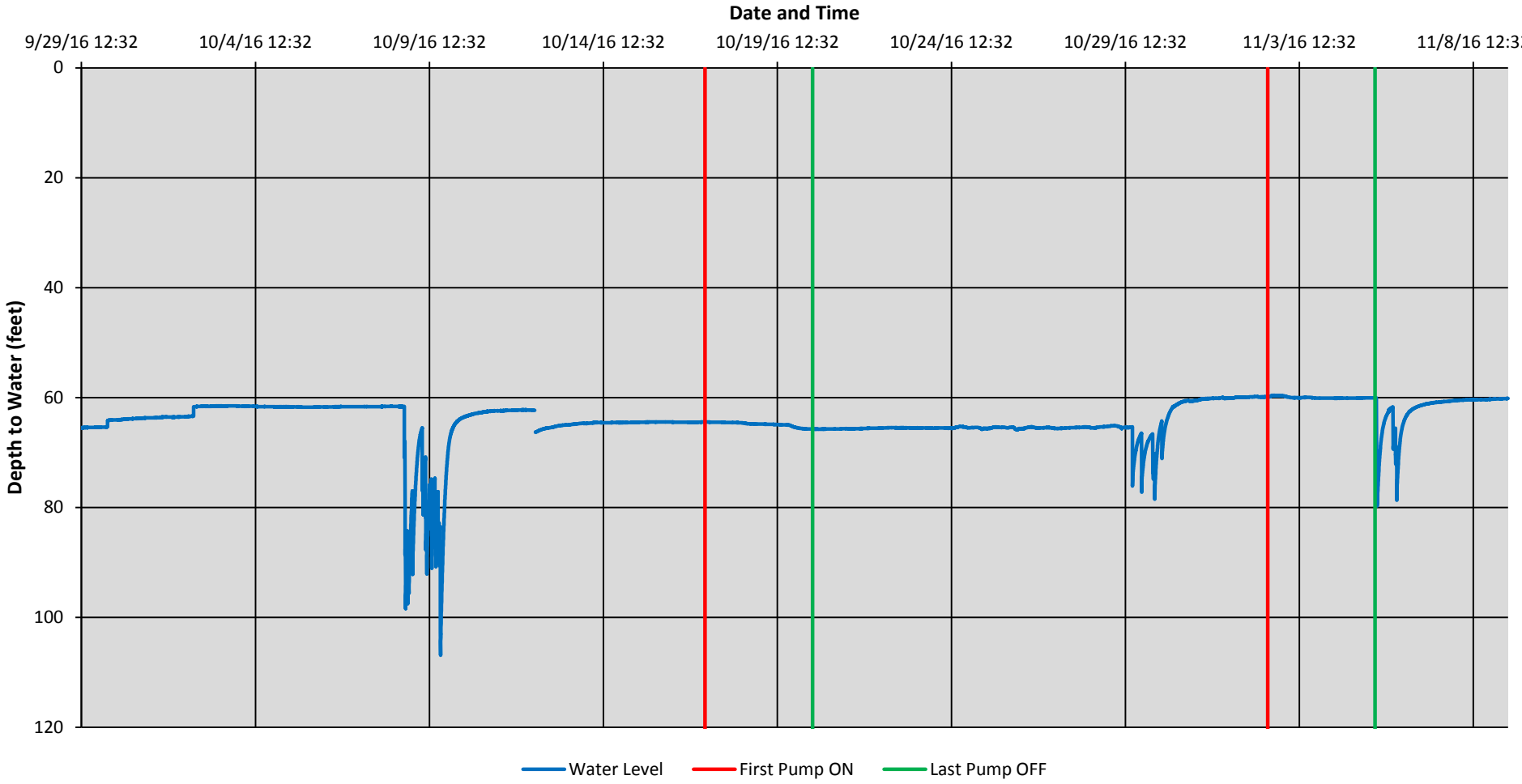

Figure 18
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

Off-Site Monitor Well
Hobby Well Hydrograph - Pump Test 2

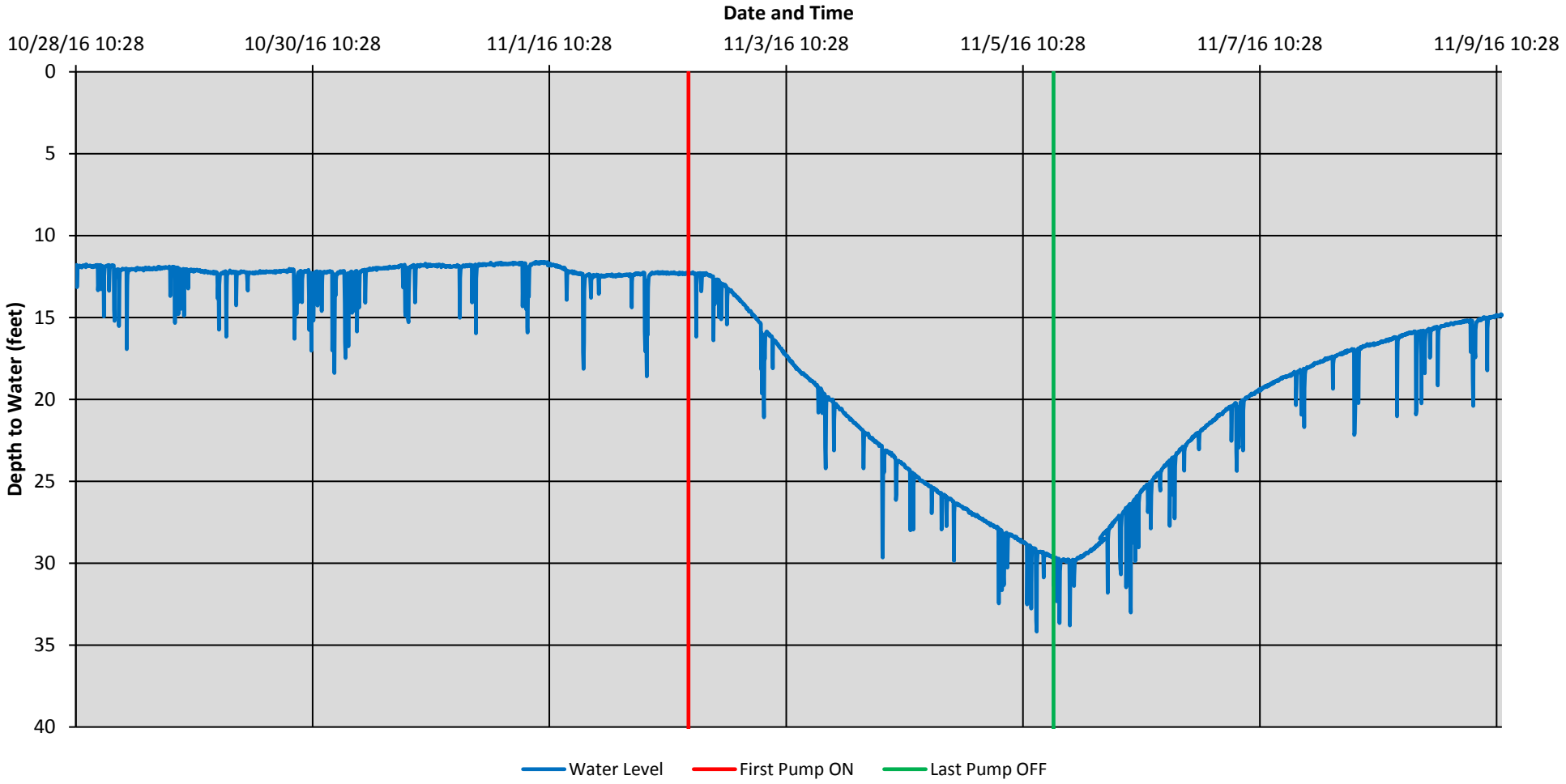

Figure 19
Proposed Gan Eden Estates Water Supply Assessment
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Off-Site Monitor Well
Mackney Well Hydrograph

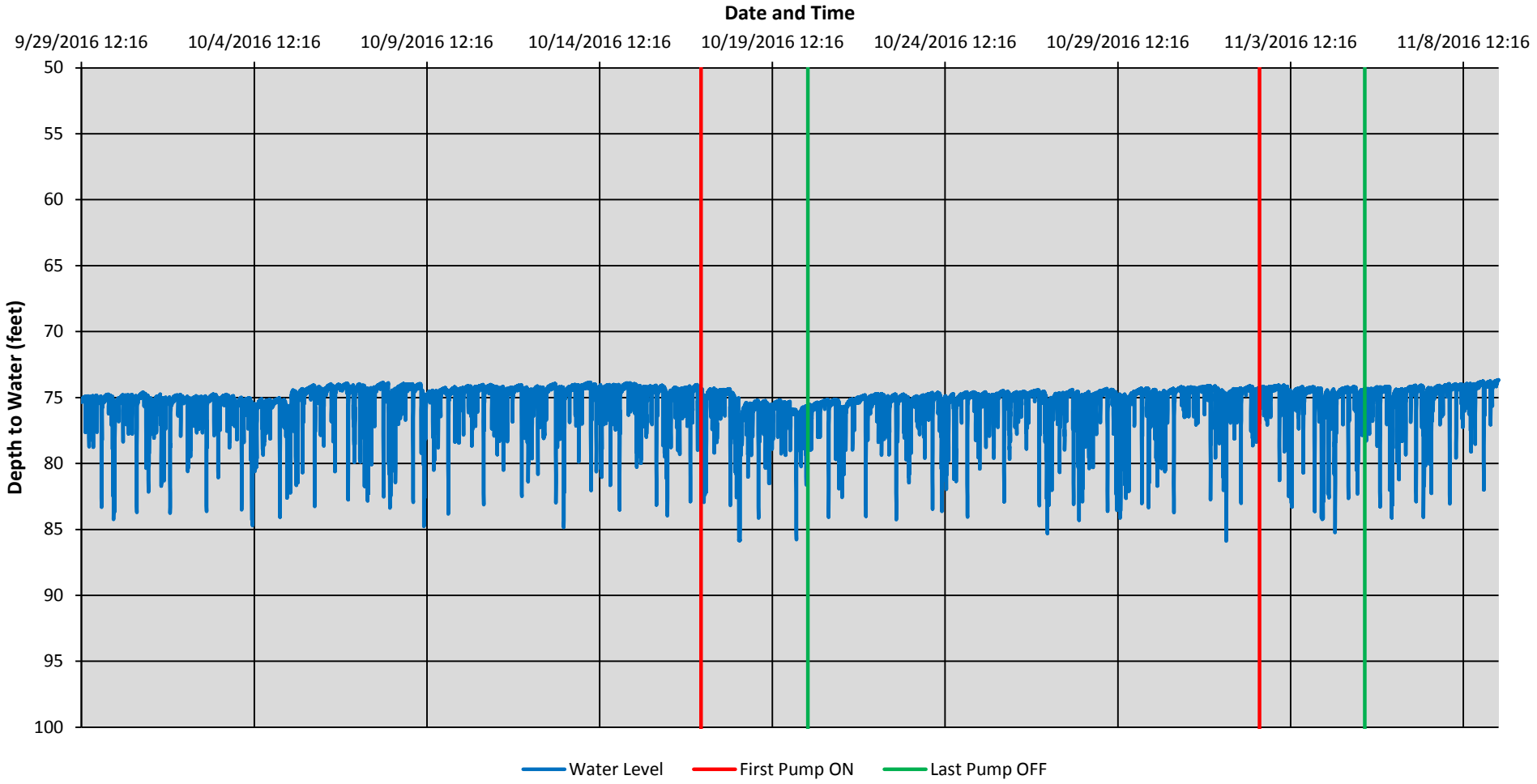

Figure 20
Proposed Gan Eden Estates Water Supply Assessment
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Off-Site Monitor Well
Miller Well Hydrograph

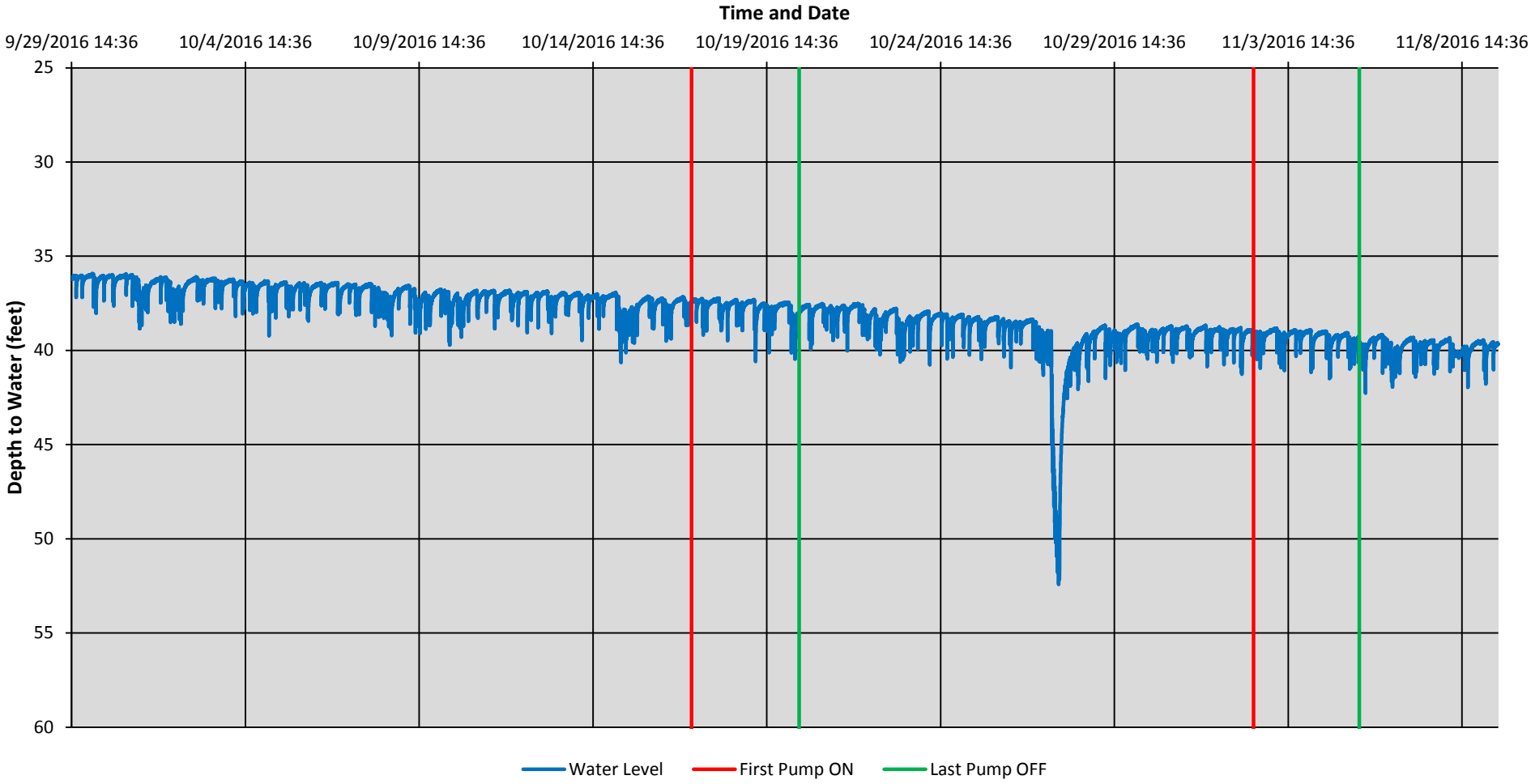

Figure 21
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

Off-Site Monitor Well
Nestler Well Hydrograph

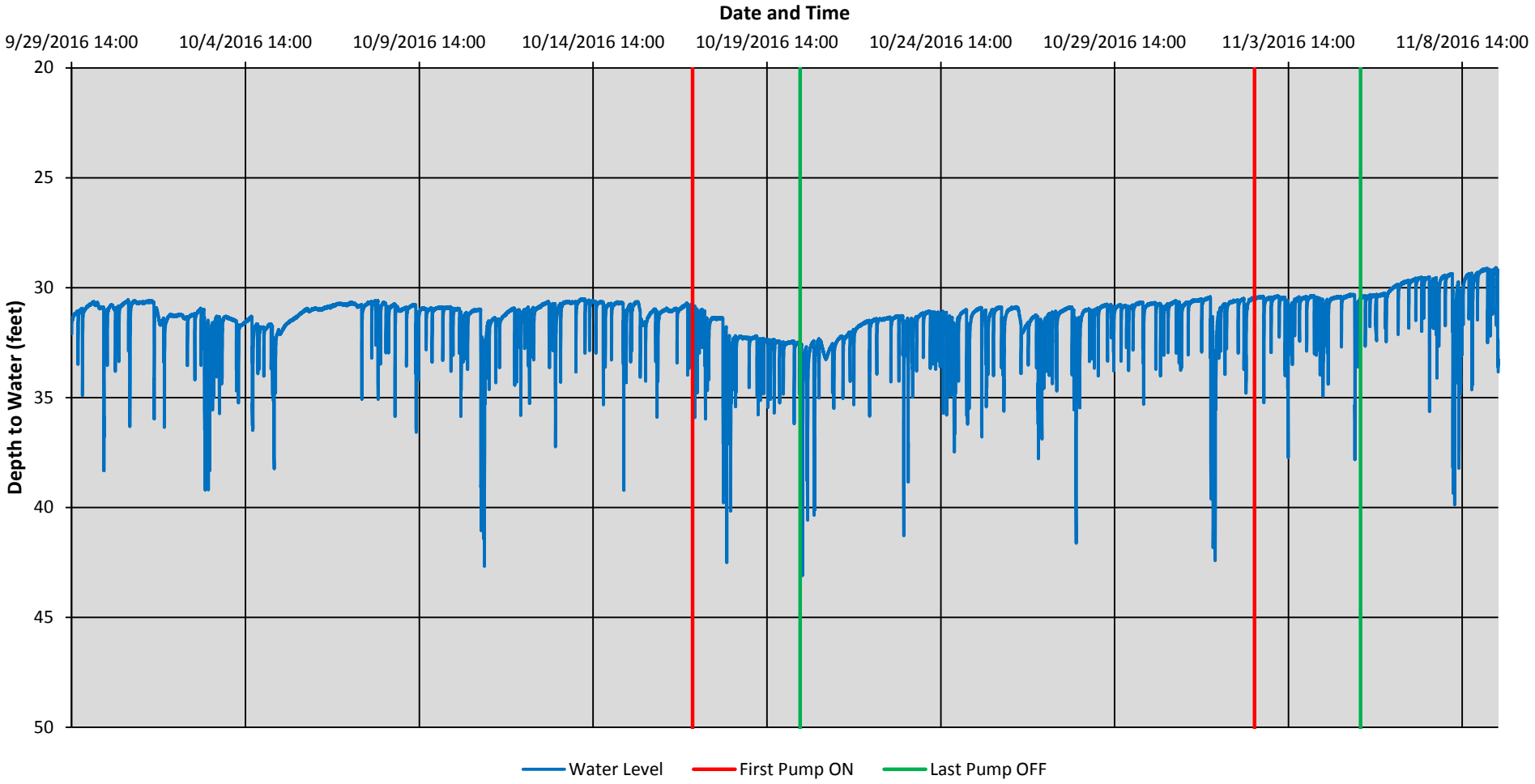

Figure 22
Proposed Gan Eden Estates Water Supply Assessment
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Off-Site Monitor Well
Park Slope Well - 1 Hydrograph

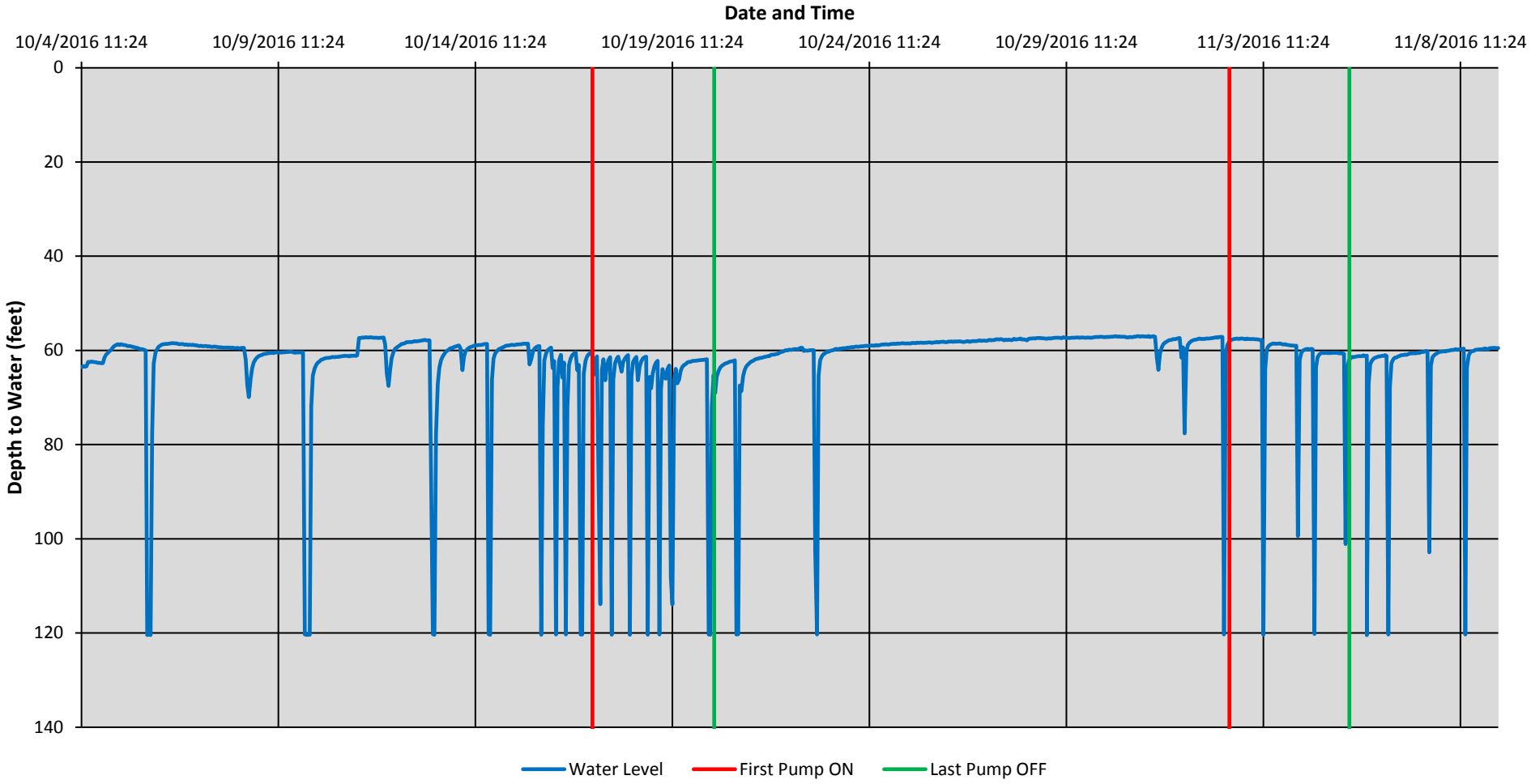

Figure 23
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

Off-Site Monitor Well
Schneider Well Hydrograph - Pump Test 2

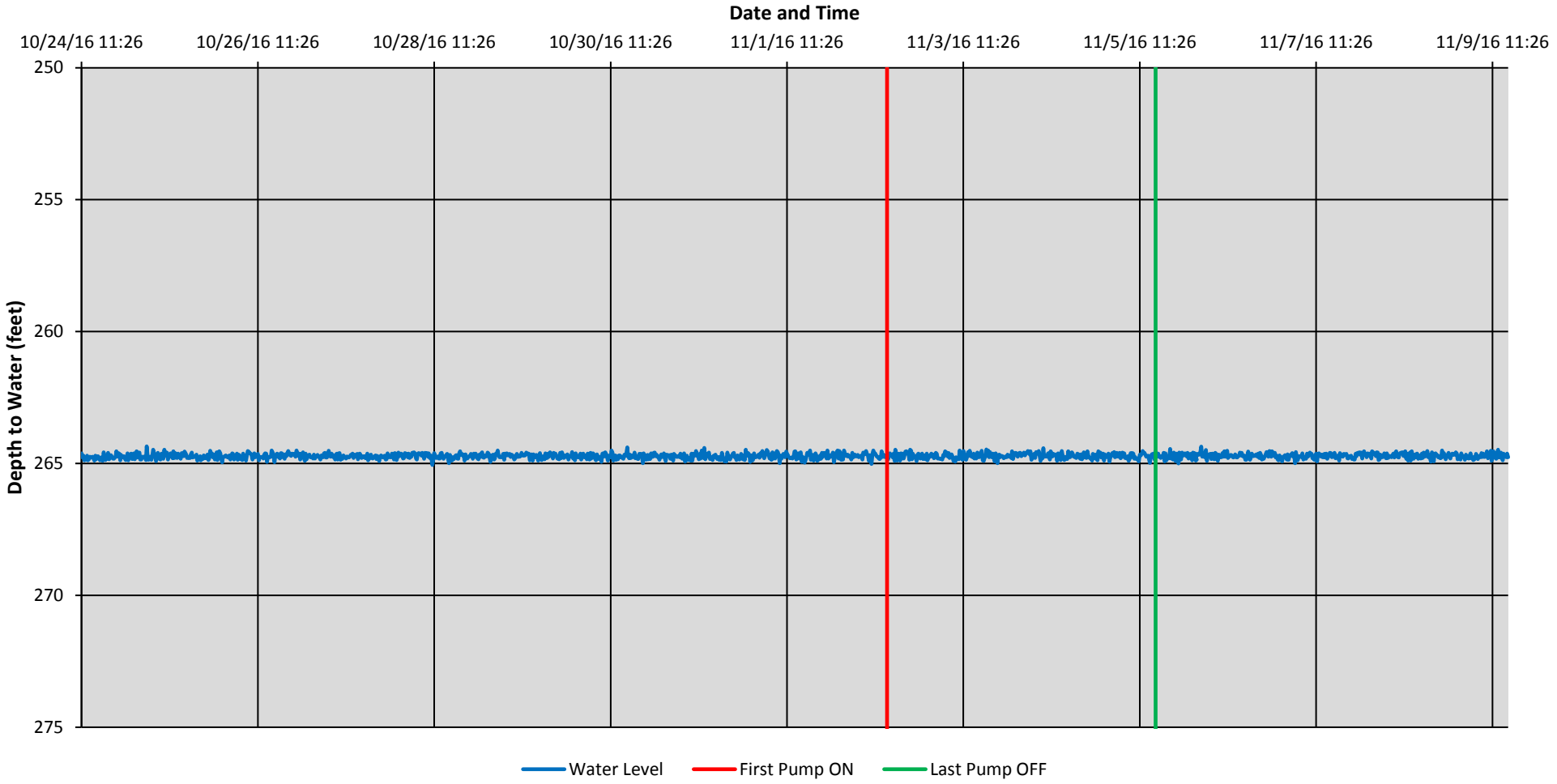

Figure 24
Proposed Gan Eden Estates Water Supply Assessment
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Off-Site Monitor Well
Fallsburg H-1 Well Hydrograph

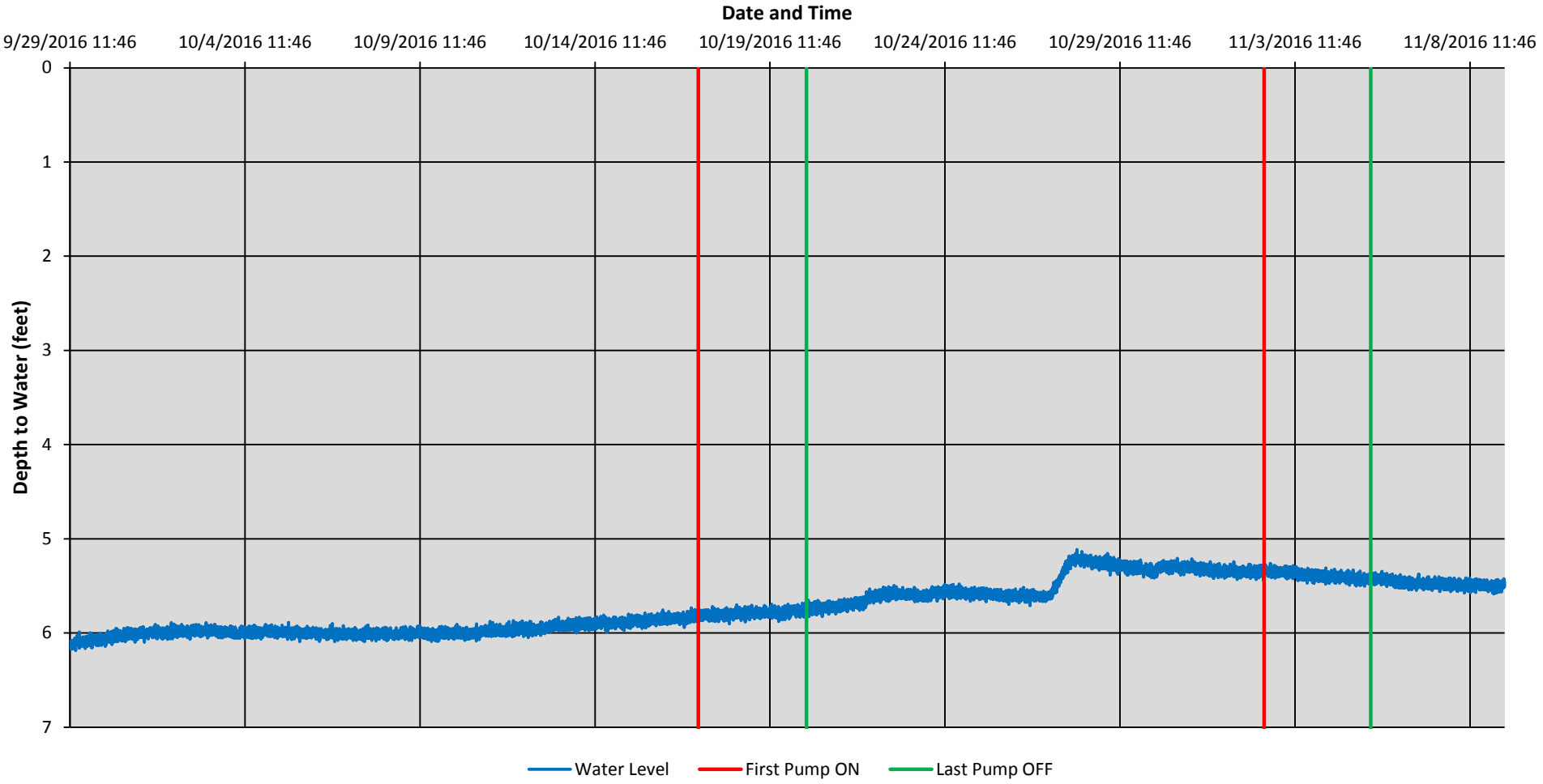

Figure 25
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

Stream Gauge Monitoring
SG-1, SG-2 and SG-3 Hydrograph

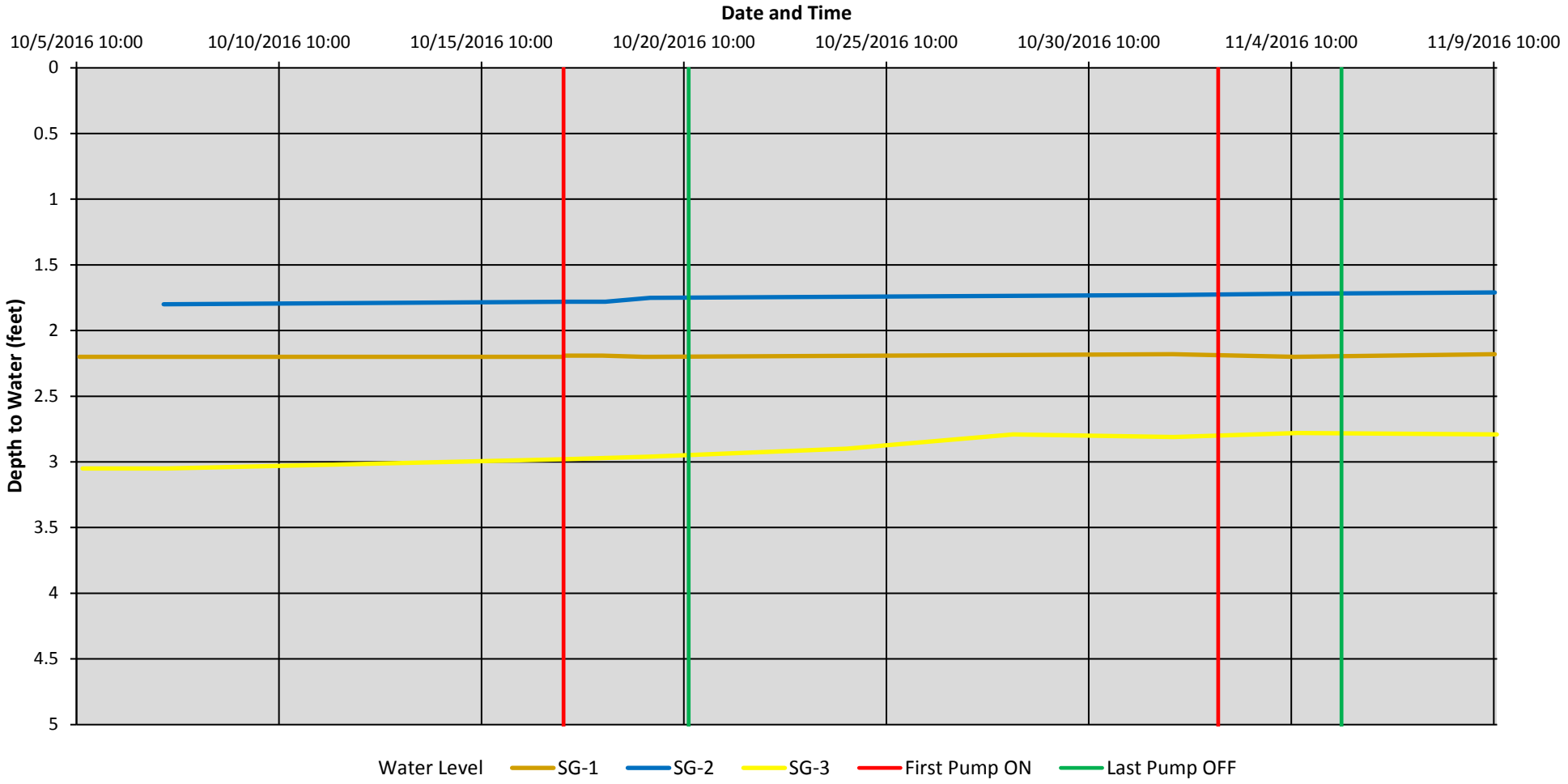

Figure 26
Proposed Gan Eden Estates Water Supply Assessment
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Pumping Rates
72-Hour Pump Test - 1

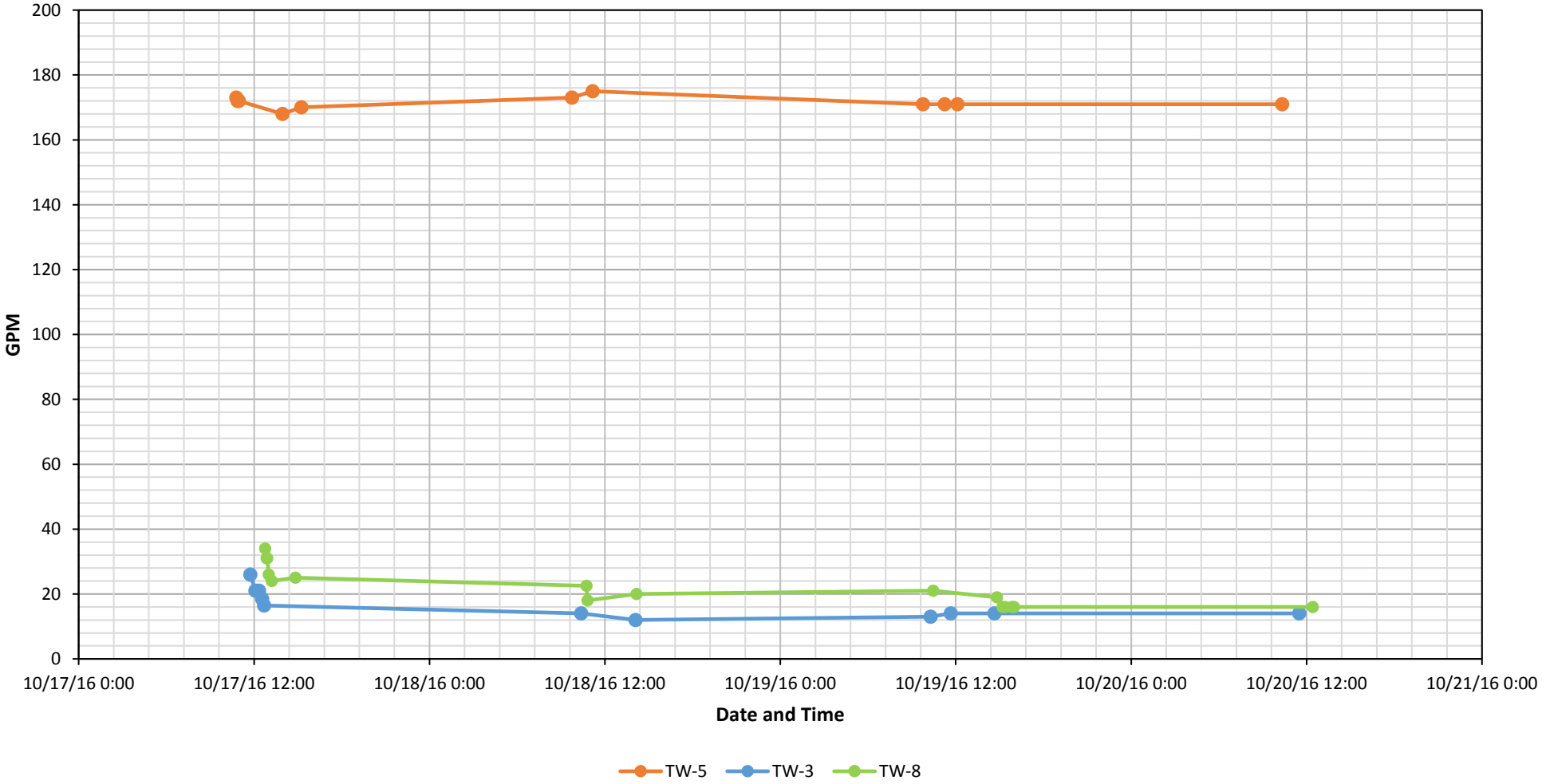
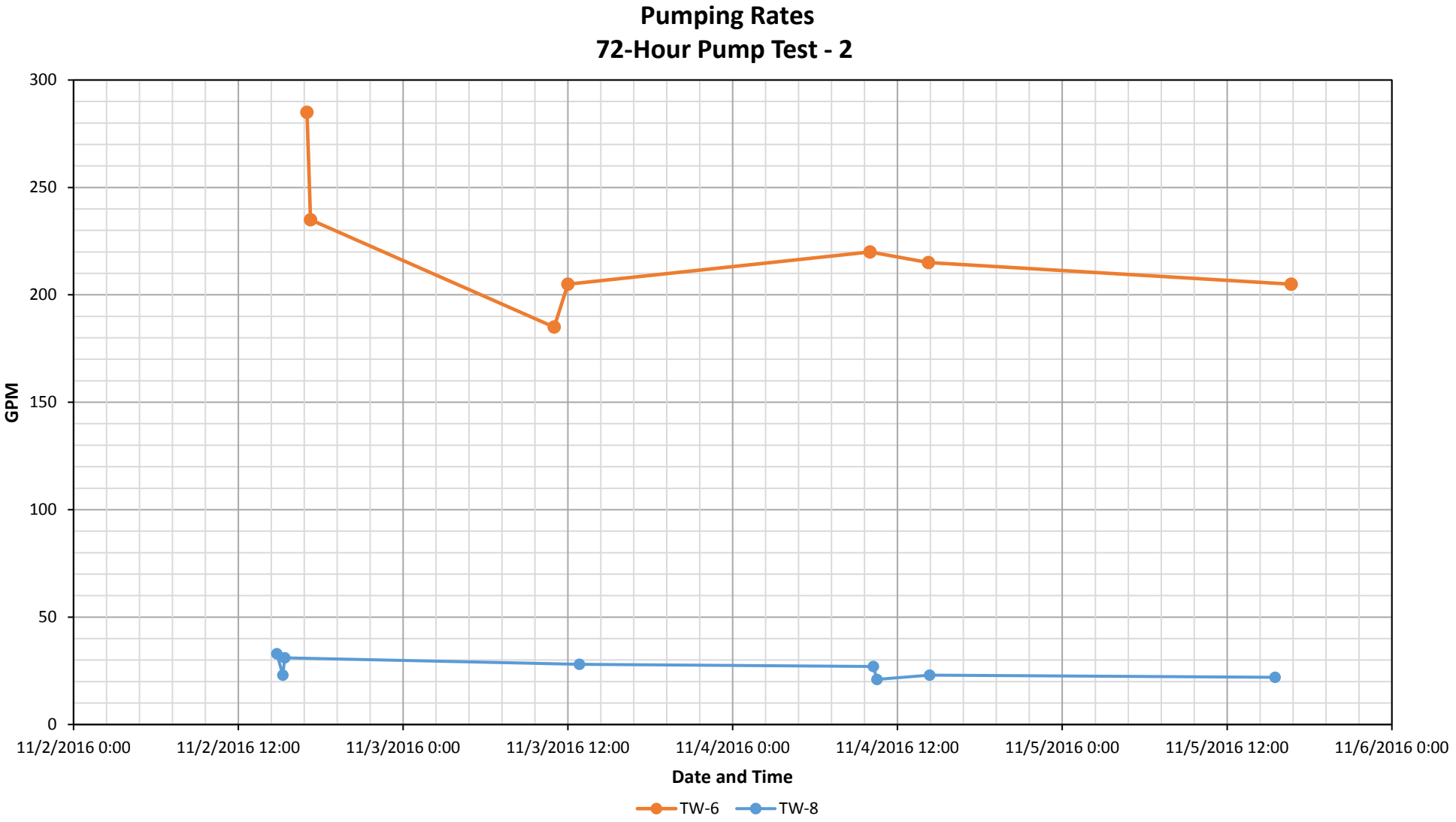


Figure 27
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York



APPENDICES

APPENDIX 1:

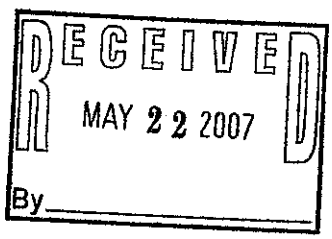
Water Supply Assessment Report - 1989 (LBG)
&
Groundwater Supply Assessment Report - 2008 (HES)

GROUND-WATER SUPPLY
WELL PUMPING TEST REPORT
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Prepared for

Gan Eden Estates

October 1989



LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
1123 Route 52, Suite 38
Fishkill, New York

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WELL PUMPING TEST REPORT
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

SUMMARY

Six wells were recently installed on the Gan Eden Estates property to supply a proposed 516-unit residential development. The proposed development would have an average water-supply requirement of about 116,625 gpd (gallons per day) or 81 gpm (gallons per minute). To meet New York State Department of Health (NYSDOH) guidelines, the project is required to develop double the daily demand, or 162 gpm.

Individual and multi-well pumping tests were conducted to determine which well has the highest yield and the maximum sustainable yield of the remaining wells. The results indicate that the highest-yielding well is Test Well 6 (TW6), which was tested at rates of up to 200 gpm. This yield is greater than double the daily demand of the project. A second well which is recommended for development is TW5, which was tested at rates of up to 140 gpm. TW5 would be capable of delivering more than 170 percent of the average daily demand of the project. The two wells fully meet the yield requirements of the NYSDOH.

INTRODUCTION

Leggette, Brashears & Graham, Inc., (LBG), was retained by Gan Eden Estates to investigate the availability of ground water on the proposed Gan Eden Estates property located in Hurleyville, New York (figure 1). The purpose of the investigation was to determine the maximum ground-water capacity available for site development. Our conclusions are based upon results of a 72-hour pumping test of supply wells drilled onsite. Special attention was directed to the long-term potential of the aquifer to provide a reliable water supply and to the possibility of water-level interference in neighboring offsite private wells.

WATER DEMAND

We understand that the current plan is for a development of 516 residential units. The type of units and associated water demands are listed in table 1. The estimated demand is derived according to NYSDOH guidelines and assumes that each service connection is individually metered. Table 1 indicates that the proposed development would have an average water-supply requirement of about 116,625 gpd or 81 gpm.

For new community water supplies, the NYSDOH guidelines require development of two independent sources, each capable of delivering the average daily demand of the project. In effect, the guidelines require development of double the daily demand. This requirement must be met with the best well out of service if wells are in bedrock and yields are less than 50 gpm.

WELL DRILLING

Six test wells have been drilled on the site (figure 1). Well data are summarized in table 2, and well logs are provided in Appendix A.

Prior to testing, the total estimated yield of the six test wells was approximately 535 gpm. However, it was anticipated that mutual drawdown interference among the wells would likely reduce the aggregate yield when the wells were operated simultaneously over the long term. Furthermore, because TW1, TW2 and TW4 each yield 15 gpm or less, they were not considered as sources for development of a community water supply. LBG conducted pumping tests to determine the actual well yield capacities.

Test Well 3

TW3 was drilled by Bowers Well Drilling (Bowers). The well log is included in Appendix A. The borehole was drilled to a depth of 520 feet and the driller estimated the well yield to be 30 gpm.

Test Well 5

TW5 was initially drilled by Bowers to a depth of 300 feet. The estimated yield of the well at 300 feet was 60 gpm. Eastern Well Drilling of New York, Inc. (Eastern) deepened the well from the original drilled depth to 380 feet. The drill bit encountered additional water-bearing fractures which collectively yield an estimated 175 to 200 gpm.

Test Well 6

TW6 was drilled by Eastern. The borehole was drilled to a depth of 460 feet and the driller estimated the well yield to be greater than 300 gpm.

PUMPING TEST PROGRAM

December 5 to 7, 1988 Preliminary Pumping Test

Prior to the simultaneous pumping test of TW3 and TW5 conducted in April 1989, a preliminary test was conducted on TW5. In November 1988 Eastern installed a 7.5 hp (horsepower) submersible pump in TW5 at a depth of 330 feet. A 1-inch

diameter access tube to allow manual measurements of water level was installed to a depth of 320 feet. A 45-hour pumping test of TW5 was conducted by LBG. The well was initially pumped at 75 gpm for the first hour of the test. During the 75-gpm pumping interval, the water level declined from a pre-test flowing condition to 17 feet below the top of casing. After one hour the pumping rate was increased to the pump's maximum capacity of 100 gpm. This rate was maintained during the remainder of the test. During the 100-gpm pumping interval the rate of water-level drawdown increased slightly. However, the drawdown generally stabilized at a slow rate of decline during the last 7.5 hours of pumping. At the end of the test the depth to water was 63.6 feet.

After the test was terminated, recovery measurements were made over a 24-hour period. The water level recovered from a pumping level of 63.6 feet at the end of the test to a depth of 11.7 feet in approximately 24 hours.

Projections of the water-level drawdown trend at both pumping rates indicates that the well can be pumped at a rate of at least 100 gpm over the long term.

Water-level plots for the preliminary test of TW5 are given in Appendix B.

During the December 5 to 7, 1988 preliminary pumping test of TW5 an onsite well monitoring program was conducted. The four onsite wells monitored were TW1, TW2, TW3 and TW4. The observed drawdown in TW1, TW2 and TW4 at the end of the December test was 18.1 feet, 4.5 feet, and 15.9 feet, respectively. TW3 experienced no measurable drawdown as a result of pumping TW5.

Simultaneous Pumping of TW3 and TW5

In April, Eastern installed a 7.5-hp submersible pump in TW3 at a depth of 380 feet. A 1-inch diameter access tube to allow manual measurements of water level was installed to a depth of 370 feet. Eastern also installed a 7.5-hp submer-

sible pump in TW5 at a depth of 150 feet and a 1-inch diameter access tube to allow manual measurements of water level.

TW3

TW3 was pumped at rates of 20, 17 and 15 gpm. The water level declined rapidly during the 20-gpm interval, from a pre-test level of 21.0 feet to 244.4 feet in six hours. After six hours of pumping, the rate was decreased to 17 gpm. The water level continued to decline and reached 258 feet 3290 minutes into the test. After 3330 minutes of pumping, the rate was decreased to 15 gpm and this rate was maintained for the remainder of the test. During this period the water level gradually rose to a depth of 189.3 feet, 4110 minutes after pumping began. Between 4110 and 4200 minutes of pumping, the water level declined to a depth of 192 feet. The test was terminated after 4200 minutes (70 hours) of pumping.

When pumping stopped, the water level in TW3 recovered rapidly and was 23.6 feet below the measuring point 24 hours after shutdown. Recovery continued, and in approximately 72 hours the water level recovered to a depth of 22.6 feet, only 1.6 feet lower than the pre-test static water level of 21.0 feet.

Plots of water level for the test of TW3 are given in Appendix C.

TW5

TW5 was pumped at rates of 125 and 140 gpm. The water level declined slowly during the 125-gpm interval, from a pre-test level of 6.2 feet to 56.7 feet after 1245 minutes of pumping. At 1305 minutes into the test the pumping rate was increased to 140 gpm and that rate was sustained for the remainder of the test. At this rate the yield and drawdown stabilized for the last six hours of the test. The final pumping water level was 82.0 feet, resulting in a total drawdown of 75.8 feet.

When pumping stopped, the water level in TW5 recovered rapidly and was 17.3 feet below the measuring point 24 hours after shutdown. Recovery continued, and in approximately 72 hours the water level had completely recovered.

Data from the April 1989 pumping test of TW5 and water-level plots are given in Appendix D.

April 17 to 20, 1989 Pumping Test

In April, Eastern installed a 20-hp submersible pump in TW6 at a depth of 320 feet. A 1-inch diameter access tube to allow manual measurements of water-level was installed at a depth of 310 feet.

TW6 was pumped for 72 hours at rates of 150 and 200 gpm. The water level declined slowly during the 150-gpm interval, from a pre-test level of 2.5 feet to 18.7 feet in 25 minutes. After 25 minutes of pumping the rate was increased to 200 gpm and that rate was maintained for the remainder of the test. AT this rate the yield and drawdown remained stabilized for more than the required final six hours of the test. The final pumping water level was 114.2 feet, resulting in a total drawdown of 111.7 feet.

When pumping stopped, the water level in TW6 recovered rapidly and was 20.2 feet below the measuring point less than 24 hours after shut down. Recovery continued and in approximately 72 hours the water level recovered to a depth of 7.6 feet from the measuring point, only 5.1 feet lower than the pre-test static water level of 2.5 feet.

Data from the pumping test of TW6 and water-level plots are included in Appendix E.

LONG-TERM YIELD OF WELL SUPPLY

Data from the pumping tests indicate that TW6 is the primary well source. TW6 can be pumped at rates up to 200 gpm. The test data indicate that at a rate of 200 gpm, the pumping water level will stabilize at a very slow rate of

decline and be approximately 114 feet below the top of casing after three days of pumping. Any additional water-level decline during longer periods of sustained pumping will probably be minimal, in light of the very slow stabilized rate of decline observed. The data from the test indicate that the pumping water level stabilized approximately 206 feet above the major water-bearing fractures penetrated by the borehole between 320 and 420 feet.

Pumping test data indicate that TW5 should be used as the secondary well source. TW5 can be pumped at rates up to 140 gpm. The test data indicate that at a rate of 140 gpm the pumping water level will stabilize at a very slow rate of decline, and reach a depth of approximately 82 feet below the top of casing after three days of pumping. Any additional water-level decline during longer periods of sustained pumping will probably be minimal, in light of the very slow stabilized rate of decline observed. Data from the test of TW5 indicate that the pumping water level stabilized approximately 218 feet above the major water-bearing fractures penetrated by the borehole between 300 and 340 feet.

Pumping test data indicate that TW3 cannot sustain prolonged pumping at rates of 20, 17 or 15 gpm. Because of the low yield capacity of this well it is not recommended for development as part of the proposed community water supply. Wells TW6 and TW5 are sufficient for the project needs.

WELL MONITORING PROGRAM

During both the single-well 72-hour pumping test of TW6 and the multiple-well 72-hour pumping test of TW3 and TW5, LBG conducted a water-level monitoring program. A network of onsite and offsite neighboring wells was monitored to evaluate the regional impact that might result from pumping the Gan Eden Estates wells.

Prior to the beginning of testing, homeowners were canvassed by LBG to solicit their participation in the

monitoring program. Water levels were measured in seven selected nearby private wells, in addition to all onsite wells. The wells monitored are shown in figure 1. Water levels measured in the monitoring wells are plotted in hydrographs shown in Appendix F. Table 3 summaries the available well data on the seven private wells monitored. All seven wells are completed in the bedrock aquifer.

The purpose of the study was to determine if pumping of TW6 or the combined pumping of TW3 and TW5 for 72 hours at maximum pumping rates would significantly affect water levels and yield of onsite test wells and existing neighborhood wells.

TW1, TW2, TW3, TW4, TW5 and TW7 were monitored during the 72-hour pumping test of TW6. Hydrographs for each of theses wells except TW3 and TW7, show an immediate decline in water level resulting from pumping TW6. Water levels generally stabilized at a very slow rate of decline. The data indicate a maximum drawdown of 112.4 feet in TW5, 51.9 feet in TW4, 10.7 feet in TW1 and 5.6 feet in TW2 as a result of pumping TW6 at rates up to 200 gpm. The water-level data measured in TW3 and TW7 indicate no drawdown as a result of pumping TW6.

TW1, TW2, TW4, TW6 and TW7 were monitored during the simultaneous 72-hour pumping test of TW3 and TW5. The hydrograph for each of these wells show an immediate decline in water level resulting from pumping both TW3 and TW5. The data indicate a maximum drawdown of 66.3 feet in TW6, 34.3 feet in TW4, 23.1 feet in TW7, 4.1 feet in TW1 and 1.4 feet in TW2.

Offsite monitoring wells OW1 through OW8 were monitored during both tests. The hydrograph for each of these wells shows that water levels did not decline during the 72-hour pumping test of TW6 in response to the pumping of TW6. During the test of TW6 the data indicate only minor water-level fluctuations observed probably were caused by pumping for domestic use.

During the multiple-well pumping test of TW3 and TW5, offsite observation wells OW1, OW2, OW3, OW4, and OW6 show no decline in water level resulting from pumping TW3 and TW5. Water levels remained generally stable, with only minor fluctuations. The hydrographs for OW1, OW2, OW3, OW4, and OW6 indicate a gradual decline in water level prior to, during and continuing after testing. Because this minor water-level decline was observed prior to and continued after testing, it is probably the result of a regional trend and not the result of pumping the Gan Eden Estates wells.

During the multiple-well pumping test, hydrographs for OW5, OW7 and OW8 show an immediate gradual decline resulting from pumping of TW3 and TW5. The water level in OW5 generally stabilized at a very slow rate of decline during the last 24 hours of the test. OW7 showed some fluctuation, probably caused by pumping to supply the homeowner's demand. However, the water level in OW7 appeared to be generally declining at a slow rate during the end of the multiple-well test. The data indicate a maximum drawdown of 5.8 feet in OW8, 3.9 feet in OW7 and 1.5 feet in OW5.

During the simultaneous pumping of TW3 and TW5, the observed drawdown in OW5, OW7 and OW8 probably resulted from pumping of TW3 and not TW5. TW3 is approximately 1,200 feet north of OW5, OW7 and OW8. TW5 is located more than 3,000 feet to the north of these observation wells. During the preliminary test of TW5 in December of 1988, no noticeable drawdown was observed in TW3. If drawdown interference effects resulting from pumping TW5 were not measured in TW3, it is likely that no drawdown effect would be observed in any offsite wells at distances greater than that to TW3. In addition, no noticeable drawdown was observed in TW3, TW7 or any of the offsite monitoring wells during the 72-hour pumping test of TW6, which is located approximately 25 feet from TW5. For these reasons, pumping of TW5 is not expected to induce noticeable drawdown in TW3, TW7 or any offsite observation wells.

Any approval by the New York State Department of Health and New York State Department of Environmental Conservation of the proposed water-supply system will be subject to review, and based, in part, on a requirement that no existing water supplies are adversely affected by the proposed community water-supply system. Any nearby users of ground water whose supply is adversely impacted by withdrawals from the Gan Eden Estates water-supply system could be offered a deeper well or a service connection by the developer of the system.

WATER QUALITY

Water samples were collected from TW5 and TW6 near the end of each pumping test. The samples were sent to Envirotest Laboratories, Inc., in Newburgh, New York and analyzed for all constituents required for a community water supply. Envirotest is a New York State Department of Health-certified laboratory. All constituents analyzed were found at level below permissible limits. Water-quality results for both wells are included in Appendix G.

CONCLUSIONS

Based on the results of pumping tests, TW6 has a sustainable yield capacity of 200 gpm and should be used as the primary well source. The simultaneous pumping test of TW3 and TW5 demonstrated that the sustainable yield capacity of TW3 is less than 15 gpm. Because of the low yield of TW3, it is not recommended for development. With a yield capacity of 140 gpm, TW5 is a reliable secondary well source.

The yield capacity of TW6 will meet the NYSDOH requirement for development of double the daily demand of the project. With TW6 out of service, the secondary source, TW5, will be capable of supplying more than 1.7 times the average daily demand of the project.

Based on the results of the well monitoring program conducted during the pumping test of TW5 in December of 1988, the pumping test of TW5 and the simultaneous pumping test of TW3 and TW5 in April of 1989, LBG states the following conclusions:

1. Wells TW5 and TW6 should not be pumped simultaneously, except for periods of a few hours to provide emergency supply.
2. Water-level interference observed in TW1, TW2, TW4 and TW7 is of no concern because these wells will be abandoned and grout sealed after obtaining local and state approvals for the Gan Eden Estates project.
3. Drawdown of less than 6 feet was measured in offsite observation wells OW5, OW7 and OW8 at the end of the 72-hour simultaneous pumping test of TW3 and TW5. The data indicate that the drawdown was likely the result of pumping TW3, and not TW5. TW3 is no recommended for development and will be properly abandoned and grout sealed.
4. Each of the offsite wells monitored is recommended to be monitored semiannually when TW5 and TW6 go on-line.

LEGGETTE, BRASHEARS & GRAHAM, INC.

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Senior Hydrogeologist

David Scott, CPG
Associate

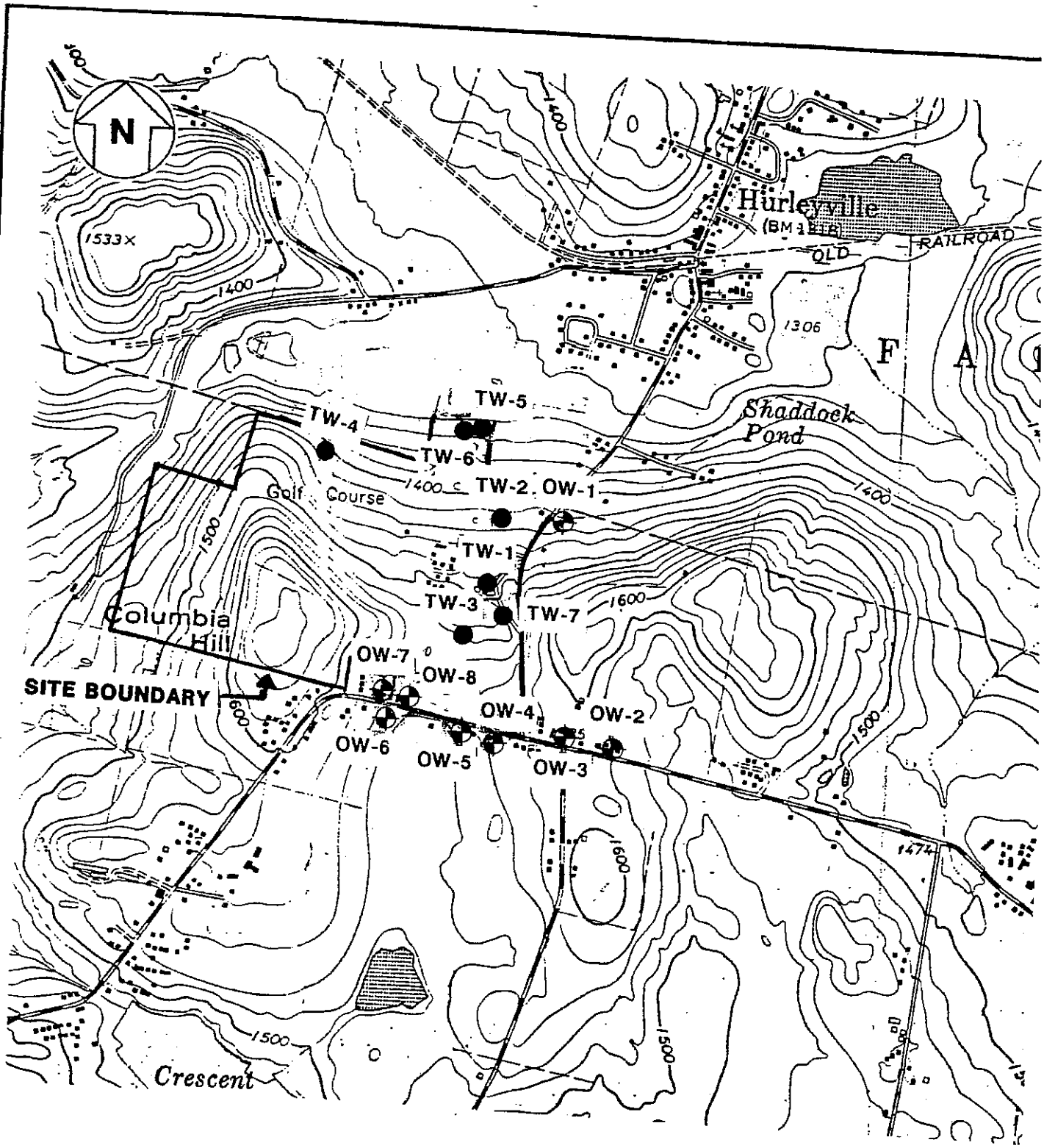
Reviewed by:

R. G. Slayback, CPG
President

gmm
October 17, 1989
89ganedn

FIGURE

LEGGETTE, BRASHEARS & GRAHAM, INC.



LEGEND

TW-1 ● TEST WELL

OW-1 ⊕ HOMEOWNER WELL (observation well)

0 2000

SCALE IN FEET

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

TEST WELL AND HOMEOWNER WELL LOCATIONS

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
203-762-1207

DATE: 5/19/89 FIGURE 1

TABLES

TABLE 1

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Estimated Water Demand

Type of unit	Number/Size of units	Number of persons per unit[1/]	Gallons per day per person (gpd)[2/]	Average daily demand (gpd)
Patio Homes (attached)	72 2.5 bedroom*	3	75	16,200
Townhouses	313 2.5 bedroom*	3	75	70,425
Semi-attached Homes	30 2 bedroom	2.5	75	5,625
Single-family Homes (detached)	29 4 bedroom	5	75	10,875
Apartments	72 2 bedroom	2.5	75	13,500
			TOTAL:	116,625

* Estimated average.
1/ NYSDOH guidelines.
2/ Assumes each service connection is individually metered.

TABLE 2

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Test Well Data

Test Well (TW)	Borehole Diameter (inches)	Depth (feet)	Preliminary Yield (gpm)
1	6	604	15
2	6	750	10
3	6	520	30
4	6	604	5
5	6	380	175 to 200
6	8	460	300+

TABLE 3

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Offsite Monitoring Well Data

Well ID	Well Owner	Well Depth (feet)	Pump Setting (feet)
OW1	Rodriguez	250	NA
OW2	Goar	600	450
OW3	Lounsbury	240	200
OW4	Crawford	NA	NA
OW5	Gohl	125	NA
OW6	Abraham	NA	NA
OW7	Halister	NA	NA
OW8	Halister	NA	NA

NA = not available.

APPENDIX A

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER [illegible] EDEN ESTATES

WELL NO. TEST WELL 5

DATE

PAGE 1 OF 1 PA

LOCATION GAN EDEN ESTATES
HURLEYVILLE NY

DATE COMPLETED March, 1989

DRILLING COMPANY Eastern Drilling

DRILLING METHOD AIR ROTARY

SAMPLING METHOD WASH CUTTINGS

SAMPLES EXAMINED BY TOM CUSACK

REFERENCE POINT grade level

ELEVATION OF R.P.

WELL CONSTRUCTION
SCREEN TYPE none
DIAM. SLOT NO.
SETTING
GRAVEL PACK SIZE
CASING 6 inch dia driven into competent rock
DEVELOPMENT AIR

PUMPING TEST
DATE April 24-27, 1989
DURATION 72-hour
STATIC WATER LEVEL 60.18 feet
PUMPING WATER LEVEL 82.05 feet
YIELD 140 gpm

REMARKS

DEPTH IN FEET FROM	TO	DESCRIPTION
0'	16'	Clayey silt and gravel
0'	40'	6" dia. CASING DRIVEN INTO COMPETENT ROCK
16-	380	interbedded gray siltstone, c shale
		borehole terminated at 380'
		major water bearing zone

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER GAN EDEN ESTATES

WELL NO. TEST WELL 6

DATE

LOCATION GAN EDEN ESTATES
HURLEYVILLE NY

DATE COMPLETED 9/1988

DRILLING COMPANY Eastern Well Drilling

DRILLING METHOD AIR ROTARY

SAMPLING METHOD WASH CUTTING

SAMPLES EXAMINED BY TOM CUSACK

REFERENCE POINT grade level

ELEVATION OF R.P.

WELL CONSTRUCTION
SCREEN TYPE None

DIAM. SLOT NO.

SETTING

GRAVEL PACK SIZE

CASING 8 inch dia. CASING driven an grouted in place.

DEVELOPMENT AIR

PUMPING TEST
DATE April 17-20, 1989

DURATION 72-hour

STATIC WATER LEVEL 2.46 feet

PUMPING WATER LEVEL 114.25

YIELD 200 gpm

REMARKS

DEPTH IN FEET FROM	TO	DESCRIPTION
0'	16'	Clayey silt and gravel
0'	10'	inch diameter outside CAS
0'	401	8 inch diameter CASING
0'	401	grout SEAL
16'	460'	interbedded gray sandstone, red shale
		borehole terminated at 460'
		major water bearing zone

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER [illegible] EDEN ESTATES

WELL NO. TEST WELL 3

DATE

LOCATION GAN EDEN ESTATES
HURLEYVILLE NY

DATE COMPLETED 8/1988

DRILLING COMPANY BILL BOWERS

DRILLING METHOD AIR ROTARY

SAMPLING METHOD WASH CUTTINGS

SAMPLES EXAMINED BY

REFERENCE POINT grade level

ELEVATION OF R.P.

WELL CONSTRUCTION
SCREEN TYPE none
DIAM. SLOT NO.
SETTING
GRAVEL PACK SIZE

CASING 40 feet 6 inch dia.
CASING DRIVEN INTO COMPETENT ROCK

DEVELOPMENT

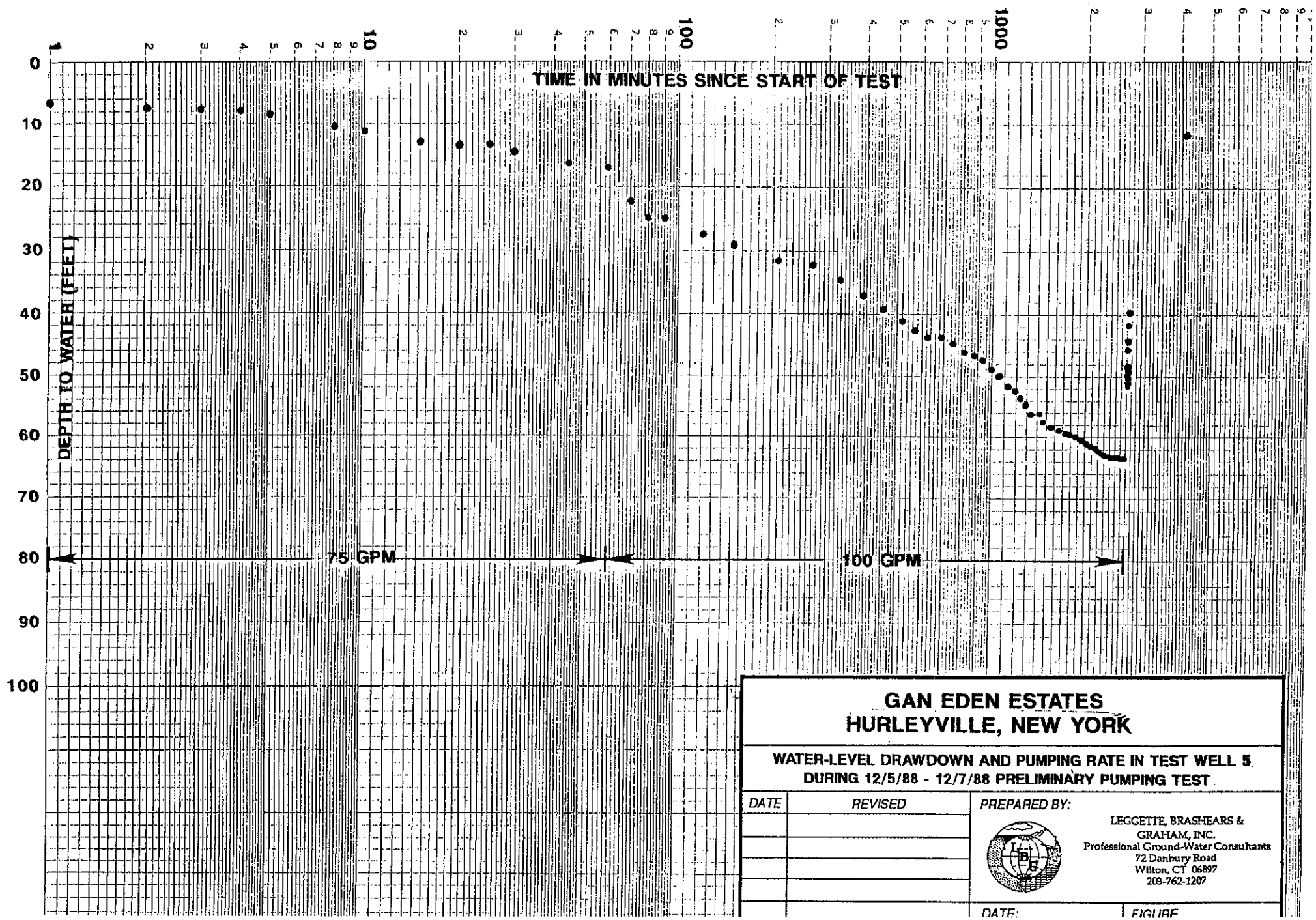
PUMPING TEST
DATE April 24-27, 1989
DURATION 70 hour
STATIC WATER LEVEL 21.0 feet
PUMPING WATER LEVEL 191 feet
YIELD 15 gpm
REMARKS. PUMPING water-level was not stabilized

DEPTH IN FEET FROM	TO	DESCRIPTION
0	10'	till material
0	40'	CASING installed
10'	520'	interbedded gray siltstone, red shale
		borehole terminated at 520'
		major water bearing zone

APPENDIX B

K&E SEMI-LOGARITHMIC 4 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

46 6012



GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

WATER-LEVEL DRAWDOWN AND PUMPING RATE IN TEST WELL 5 DURING 12/5/88 - 12/7/88 PRELIMINARY PUMPING TEST

DATE	REVISED

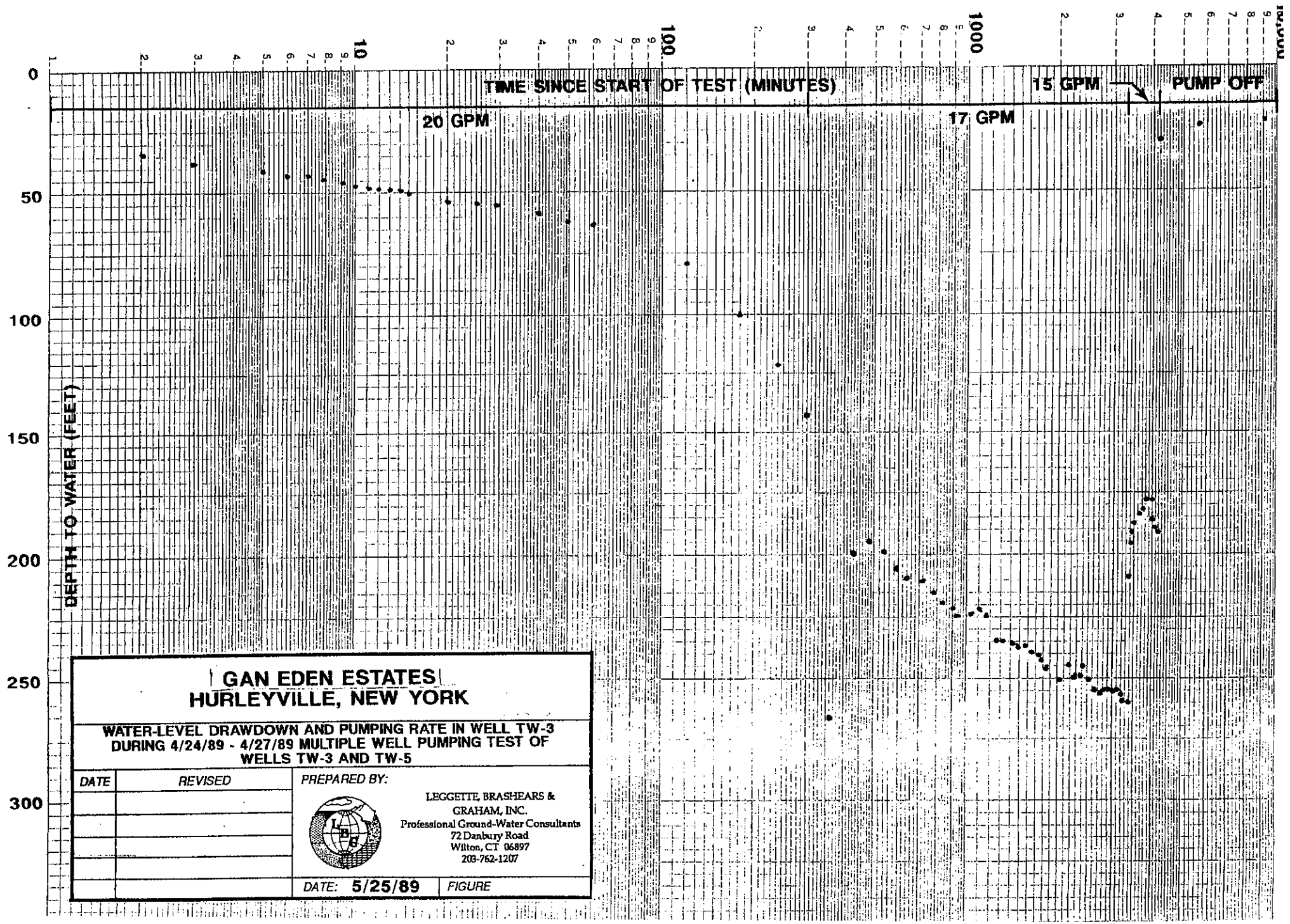
PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
203-762-1207

DATE:

FIGURE

APPENDIX C



GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

WATER-LEVEL DRAWDOWN AND PUMPING RATE IN WELL TW-3 DURING 4/24/89 - 4/27/89 MULTIPLE WELL PUMPING TEST OF WELLS TW-3 AND TW-5

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
203-762-1207

DATE: 5/25/89 | FIGURE

APPENDIX D

LEGGETTE, BRASHEARS & GRAHAM, INC.

TABLE

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Water-Level Data
Well TW-5
72-Hour Pumping Test
April 24 - 27, 1989

Date	Hour	Depth to Water (feet)	Time in minutes since start of test	Remarks
04-24-89	1200	--	0	pump on 125 gpm
	1201	--	1	
	1202	18.04	2	
	1203	18.69	3	
	1204	19.07	4	
	1205	19.64	5	
	1206	20.16	6	
	1207	20.53	7	
	1208	20.35	8	
	1209	20.47	9	
	1210	20.70	10	
	1211	20.95	11	
	1212	21.14	12	
	1213	21.39	13	
	1214	21.58	14	
	1215	21.78	15	
	1220	22.78	20	
	1225	25.32	25	
	1230	26.05	30	
	1235	26.87	35	
	1240	27.75	40	
	1245	28.42	45	
	1250	28.62	50	
	1255	29.14	55	
	1300	29.42	60	
	1350	33.72	110	
	1450	35.70	170	
	1600	38.38	240	
	1650	40.22	290	
	1745	41.03	345	
	1855	42.88	415	
04-24-89	2000	37.97	460	125 gpm

TABLE
(continued)

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Water-Level Data
Well TW-5
72-Hour Pumping Test
April 24 - 27, 1989

Date	Hour	Depth to Water (feet)	Time in minutes since start of test	Remarks
04-24-89	2105	39.07	525	125 gpm
	2200	49.00	580	
	2255	49.50	635	
04-25-89	0020	50.93	720	
	0115	51.59	775	
	0215	52.31	835	
	0310	53.57	890	
	0410	53.88	950	
	0545	54.74	1045	
	0650	55.53	1110	
	0845	56.73	1245	125 gpm
	0945	--	1305	140 gpm
	1000	60.92	1320	
	1135	63.02	1415	
	1230	64.61	1470	
	1355	65.77	1555	
	1525	67.14	1645	
	1710	68.56	1750	
	1955	70.03	1915	
	2133	70.84	2013	
	2255	71.14	2095	
04-26-89	0039	72.43	2199	
	0208	73.26	2288	
	0340	73.85	2380	
	0500	74.36	2460	
	0620	74.80	2540	
	0812	75.52	2655	
	0925	76.10	2725	
	1110	76.70	2830	
	1235	77.15	2915	
	1410	77.70	3010	
04-26-89	1530	78.07	3090	140 gpm

TABLE
(continued)

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Water-Level Data
Well TW-5
72-Hour Pumping Test
April 24 - 27, 1989

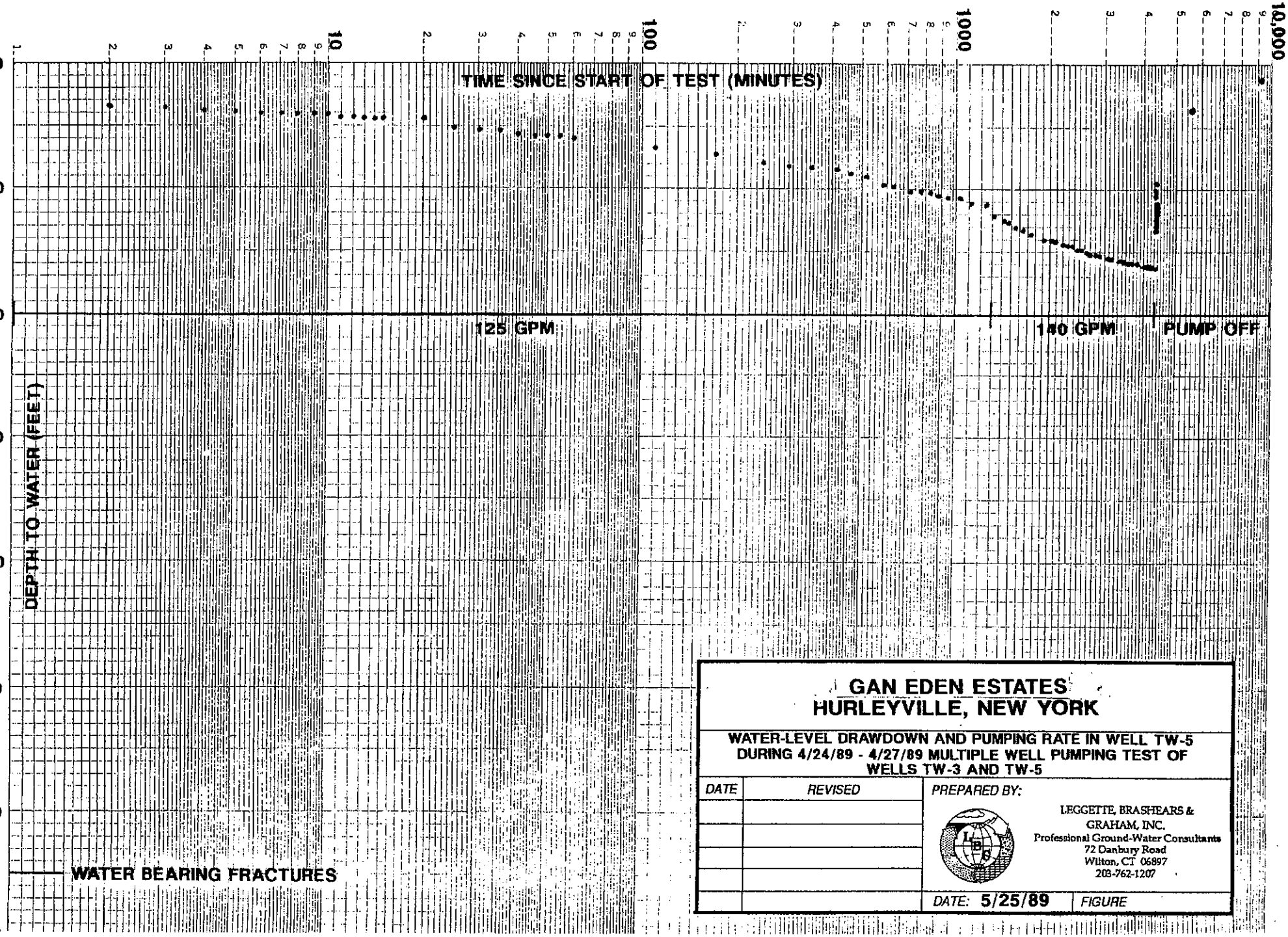
Date	Hour	Depth to Water (feet)	Time in minutes since start of test	Remarks
04-26-89	1715	78.47	3195	140 gpm
	1905	78.97	3305	
	2100	79.49	3420	
	2220	79.73	3500	
04-27-89	0010	80.10	3610	
	0150	80.40	3710	
	0320	80.76	3800	
	0500	80.90	3900	
	0625	81.25	3985	
	0725	81.37	4045	
	0825	81.70	4105	
	0925	81.77	4165	
	1025	81.81	4225	
	1140	82.00	4300	
	1200	82.05	4320	Pump off
	1201	66.09	4321	Recovery
	1202	64.67	4322	
	1203	63.43	4323	
	1204	62.39	4324	
	1205	61.55	4325	
	1206	60.79	4326	
	1207	60.29	4327	
	1208	59.69	4328	
	1209	59.13	4329	
	1210	--	4330	
	1211	58.17	4331	
	1212	57.77	4332	
	1213	57.42	4333	
	1214	56.92	4334	
04-27-89	1215	56.71	4335	Recovery

TABLE
(continued)

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Water-Level Data
Well TW-5
72-Hour Pumping Test
April 24 - 27, 1989

Date	Hour	Depth to Water (feet)	Time in minutes since start of test	Remarks
04-27-89	1225	53.43	4345	Recovery
	1235	51.56	4355	
	1245	50.00	4365	
	1300	47.80	4380	
04-28-89	1000	17.29	5640	
04-30-89	1935	6.77	9095	
05-01-89	1610	4.86	10330	



GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

WATER-LEVEL DRAWDOWN AND PUMPING RATE IN WELL TW-5 DURING 4/24/89 - 4/27/89 MULTIPLE WELL PUMPING TEST OF WELLS TW-3 AND TW-5

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
203-762-1207

DATE: 5/25/89 | FIGURE

APPENDIX E

LEGGETTE, BRASHEARS & GRAHAM, INC.

TABLE

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Water-Level Data
Well TW-6
72-Hour Pumping Test
April 17 - 20, 1989

Date	Hour	Depth to Water (feet)	Time in minutes since start of test	Remarks
04-17-89	1130	2.46	0	
	1200	--	1	pump on 150 gpm
	1202	10.46	2	
	1203	10.67	3	
	1204	12.06	4	
	1205	12.32	5	
	1206	12.62	6	
	1207	12.91	7	
	1208	13.32	8	
	1209	13.63	9	
	1210	14.38	10	
	1211	14.77	11	
	1213	15.66	13	
	1214	16.04	14	
	1215	16.30	15	
	1220	17.67	20	
	1225	18.69	25	
	1226	--	26	200 gpm
	1230	20.49	30	
	1235	24.18	35	
	1240	26.77	40	
	1245	28.50	45	
	1250	28.98	50	
	1255	30.00	55	
	1300	31.12	60	
	1315	33.89	75	
	1330	36.05	90	
	1400	39.19	120	
	1430	42.02	150	
	1510	45.45	190	
	1605	49.75	245	
04-17-89	1705	54.50	305	200 gpm

TABLE
(continued)

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Water-Level Data
Well TW-6
72-Hour Pumping Test
April 17 - 20, 1989

Date	Hour	Depth to Water (feet)	Time in minutes since start of test	Remarks
04-17-89	1800	57.70	360	200 gpm
	1929	61.91	449	
	2050	65.10	530	
	2155	67.46	595	
	2300	69.65	660	
	2355	71.05	715	
04-18-89	0125	73.60	805	
	0220	75.05	860	
	0330	76.61	930	
	0450	78.35	1010	
	0545	80.04	1065	
	0655	81.87	1135	
	0820	83.48	1220	
	0950	86.35	1310	
	1110	87.99	1390	
	1225	89.36	1465	
	1400	90.92	1560	
	1510	92.31	1630	
	1625	93.38	1715	
	1815	95.15	1815	
	1935	96.72	1895	
	2110	97.42	1990	
	2245	98.38	2085	
04-19-89	0020	99.33	2180	
	0150	100.31	2270	
	0400	101.85	2400	
	0605	103.05	2525	
	0920	104.59	2720	
	1050	105.09	2810	
	1225	106.09	2905	
04-19-89	1350	106.78	2990	200 gpm

TABLE
(continued)

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Water-Level Data
Well TW-6
72-Hour Pumping Test
April 17 - 20, 1989

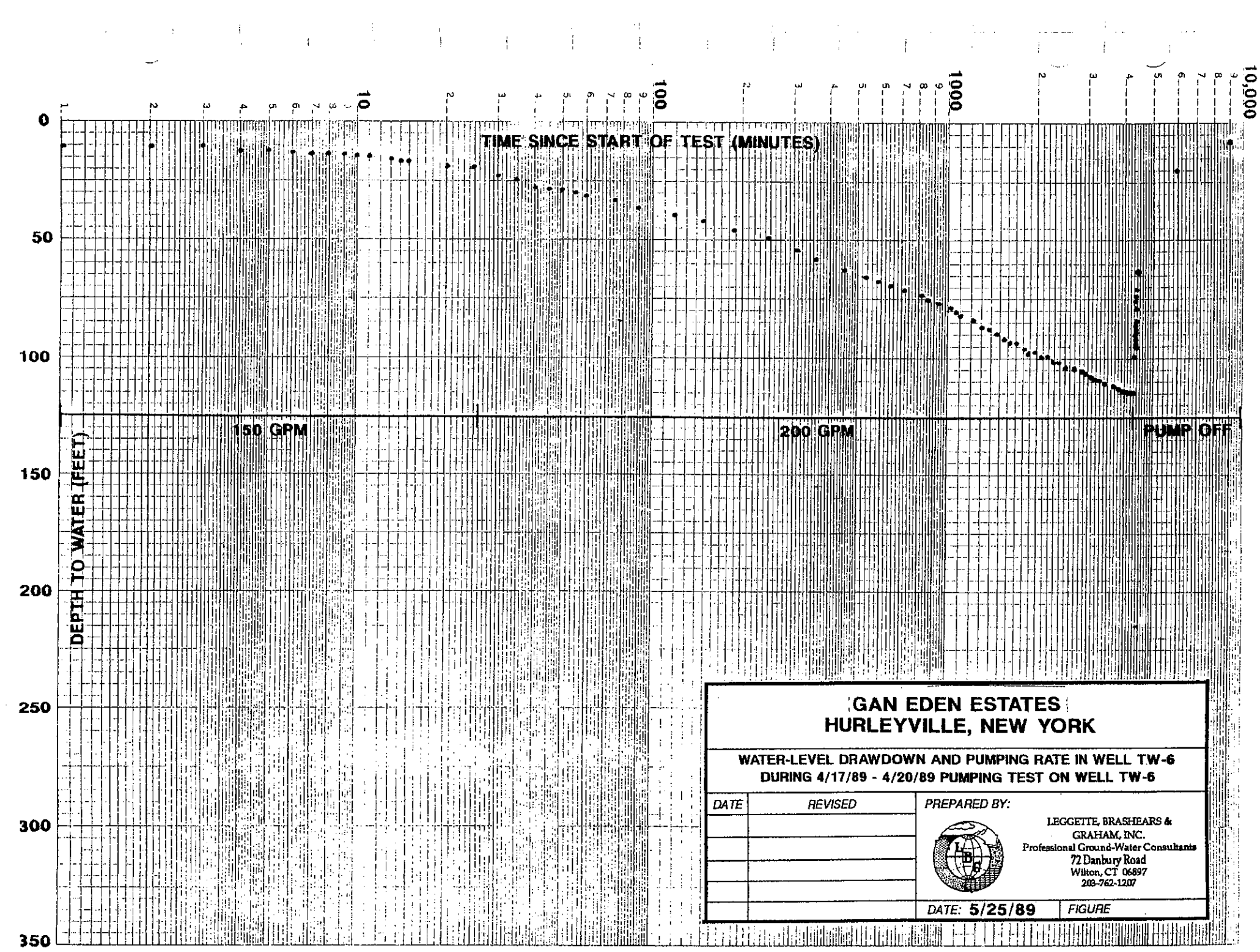
Date	Hour	Depth to Water (feet)	Time in minutes since start of test	Remarks
04-19-89	1530	107.70	3090	200 gpm
	1700	108.37	3180	
	1930	109.44	3330	
	2200	110.75	3480	
04-20-89	0100	111.91	3660	
	0240	112.40	3760	
	0350	112.76	3870	
	0520	113.19	3966	
	0700	113.52	4020	
	0800	113.92	4080	
	0900	114.23	4140	
	1010	114.19	4210	
	1100	114.29	4270	
	1200	114.25	4330	shut down
	1201	99.10	4331	Recovery
	1202	95.80	4332	
	1203	93.88	4333	
	1204	92.20	4334	
	1205	91.20	4335	
	1206	90.00	4336	
	1207	89.00	4337	
	1208	88.10	4338	
	1209	87.30	4339	
	1210	86.70	4340	
	1211	86.05	4341	
	1212	86.45	4342	
	1213	85.00	4343	
	1214	84.45	4344	
	1215	83.75	4345	
	1225	78.40	4355	
04-20-89	1235	76.19	4365	Recovery

TABLE
(continued)

GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

Water-Level Data
Well TW-6
72-Hour Pumping Test
April 17 - 20, 1989

Date	Hour	Depth to Water (feet)	Time in minutes since start of test	Remarks
04-20-89	1245	73.68	4375	Recovery
	1255	71.42	4385	
	1350	63.01	4440	
04-21-89	1420	20.22	5900	
04-23-89	1850	7.64	9070	



GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

WATER-LEVEL DRAWDOWN AND PUMPING RATE IN WELL TW-6
DURING 4/17/89 - 4/20/89 PUMPING TEST ON WELL TW-6

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
203-762-1207

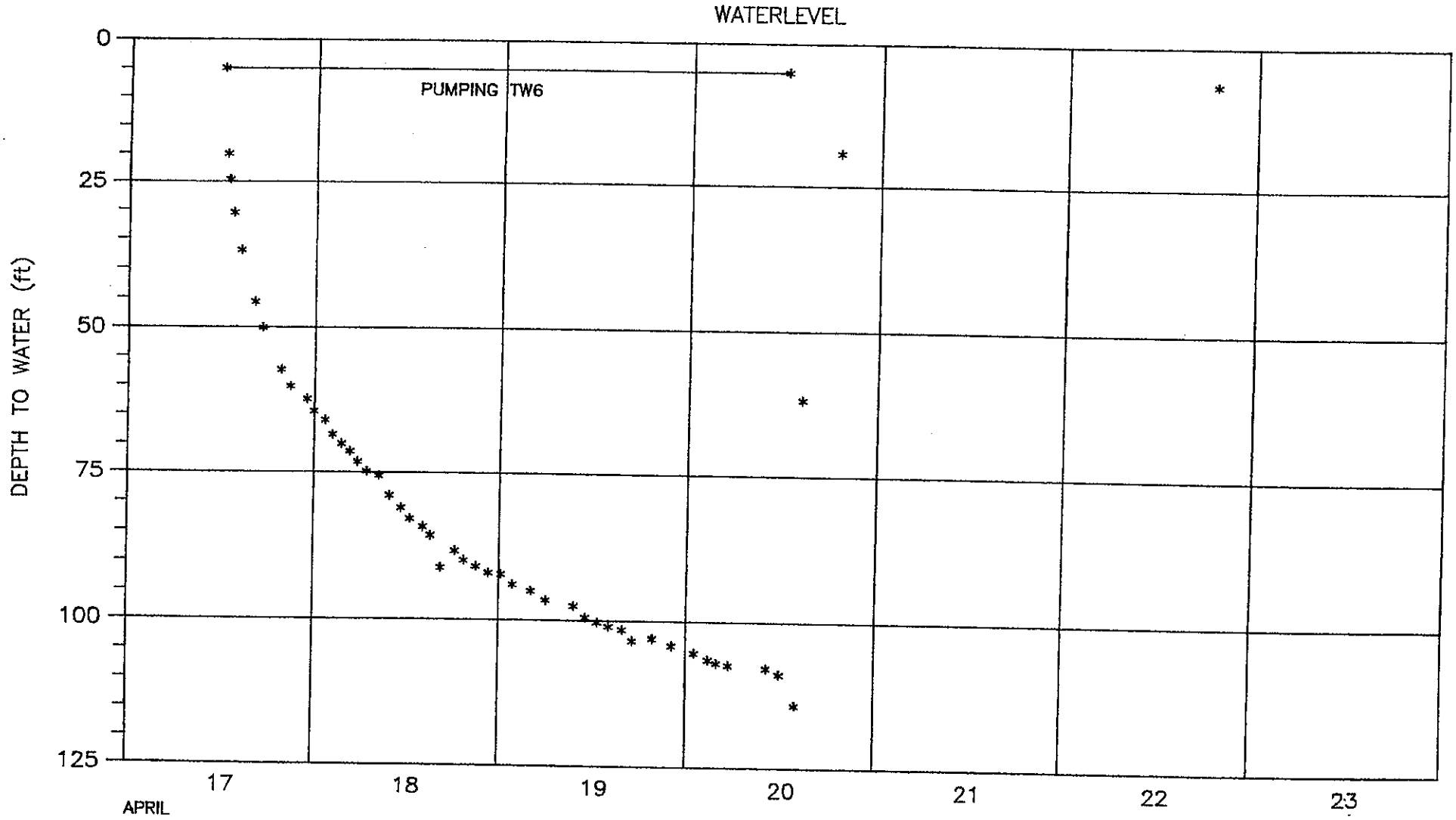
DATE: 5/25/89 | FIGURE

APPENDIX F

LEGGETTE, BRASHEARS & GRAHAM, INC.

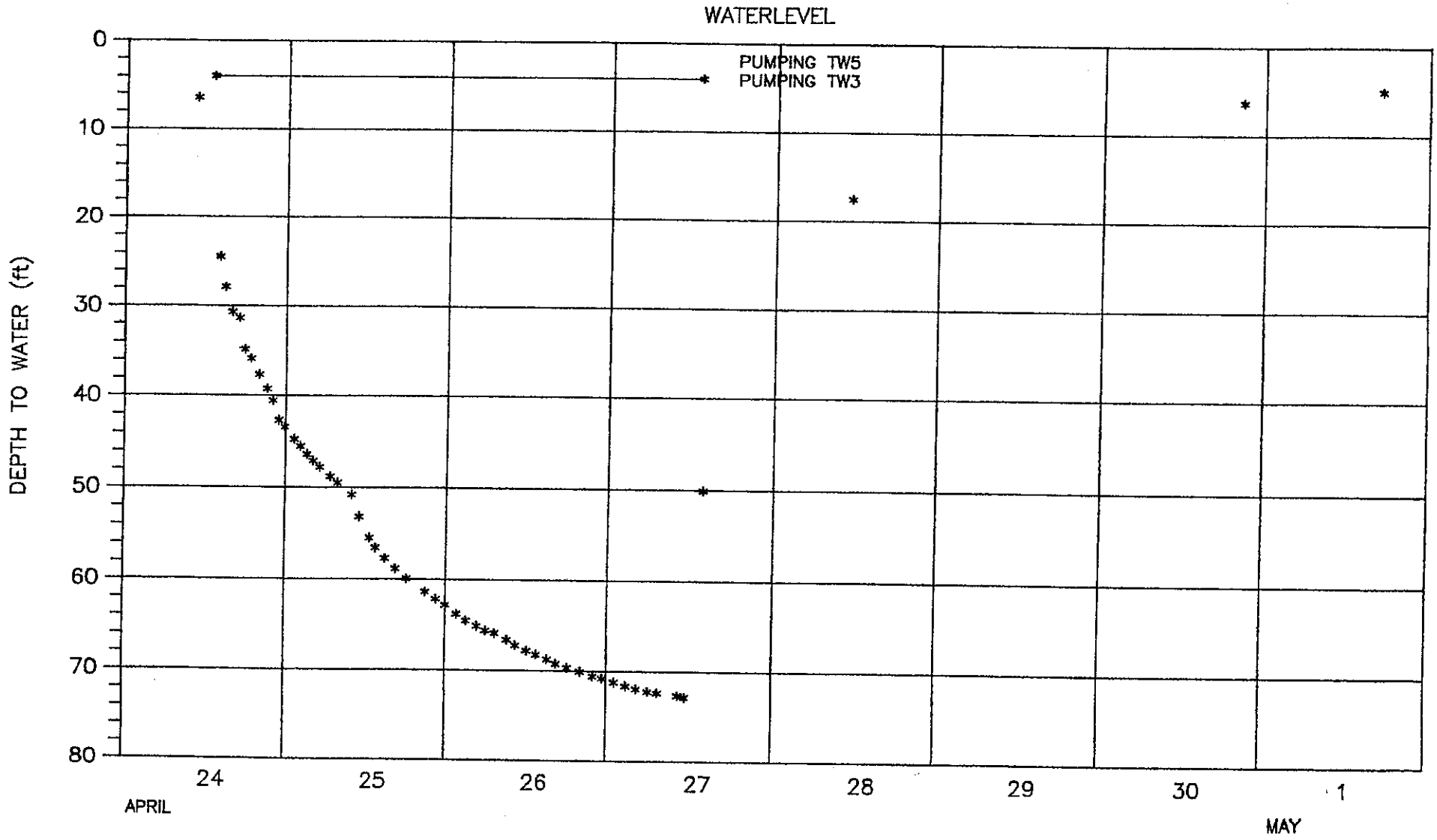
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF TW5



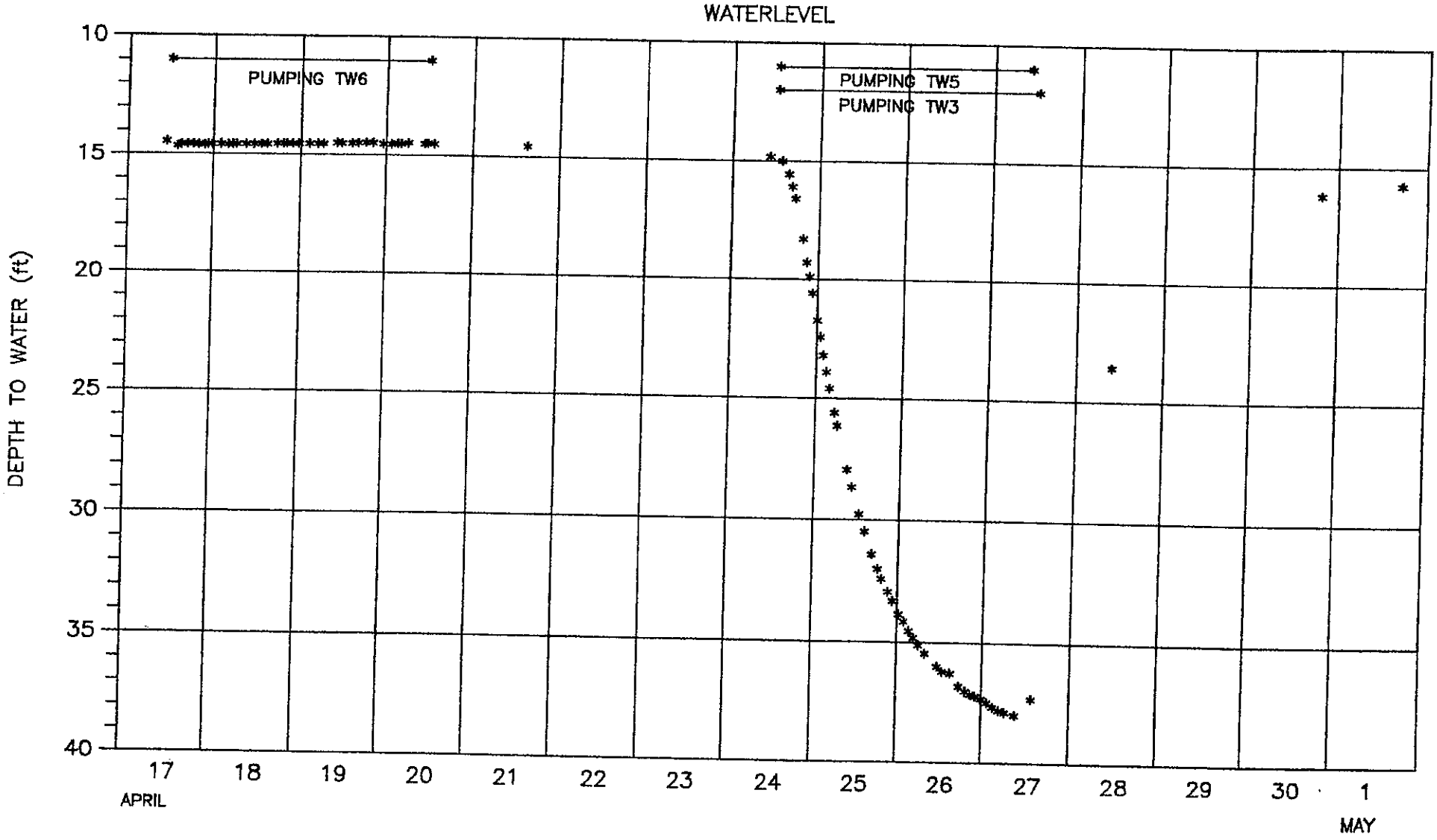
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF TW6



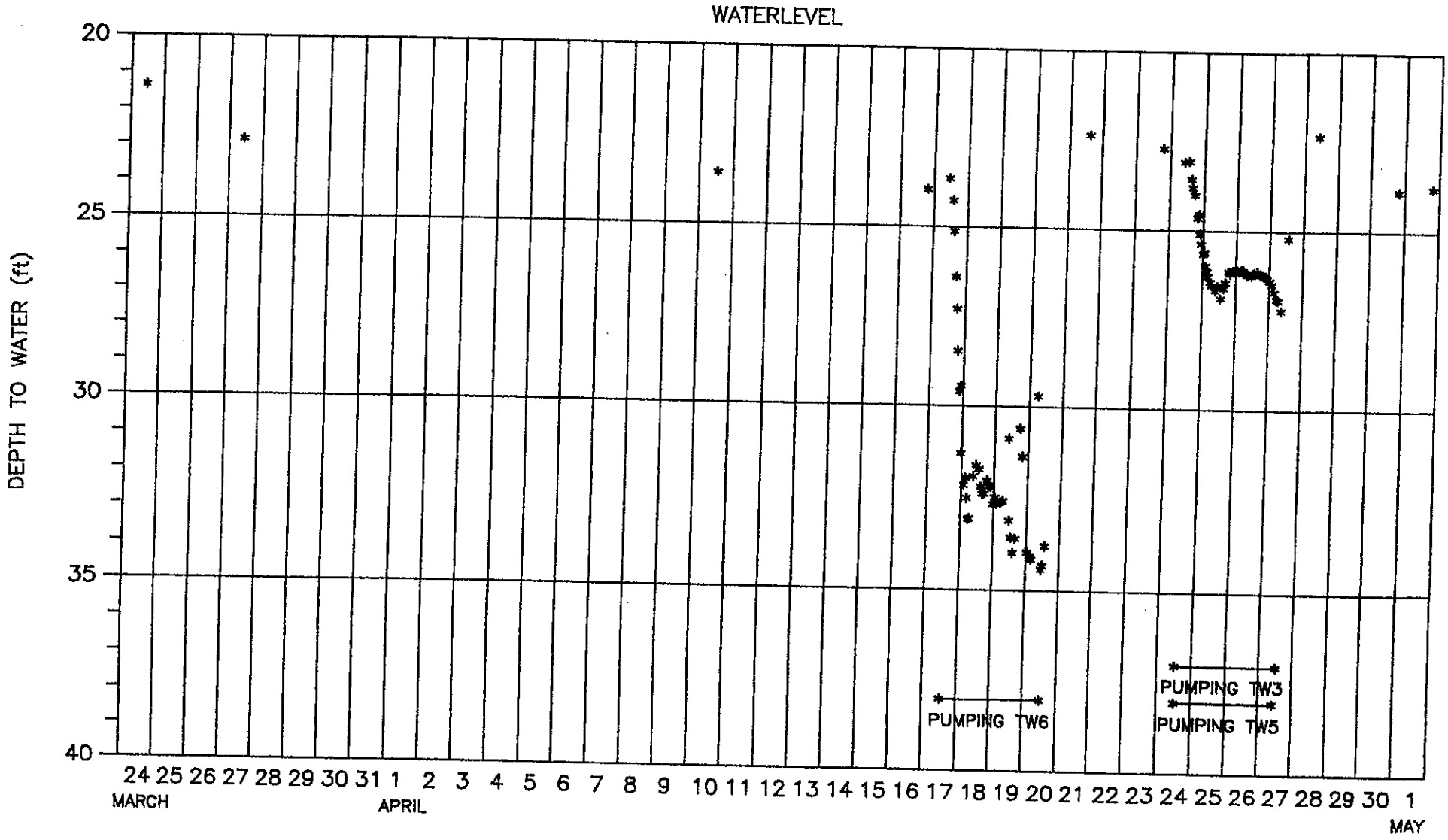
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF TW7



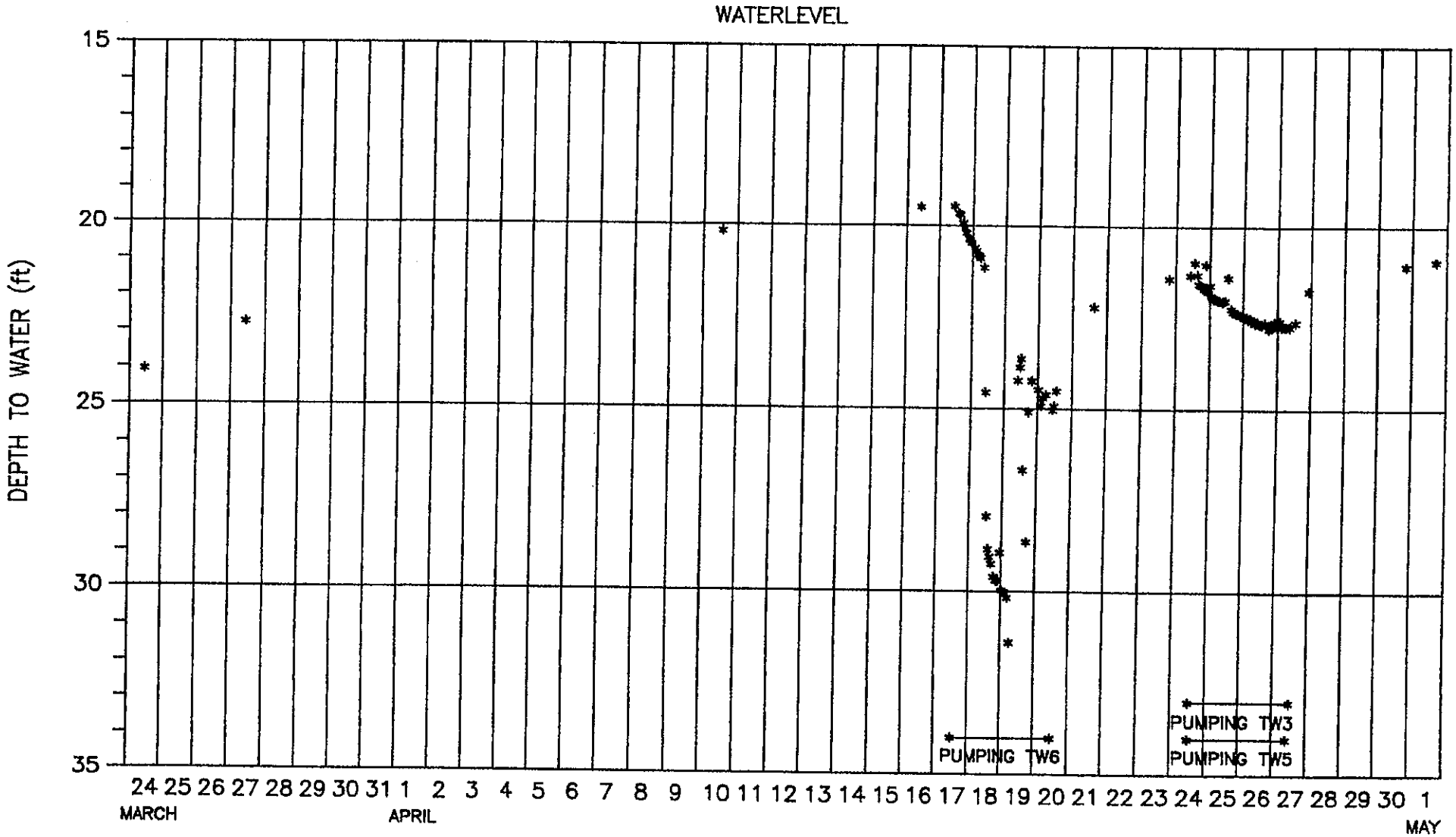
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF TW1



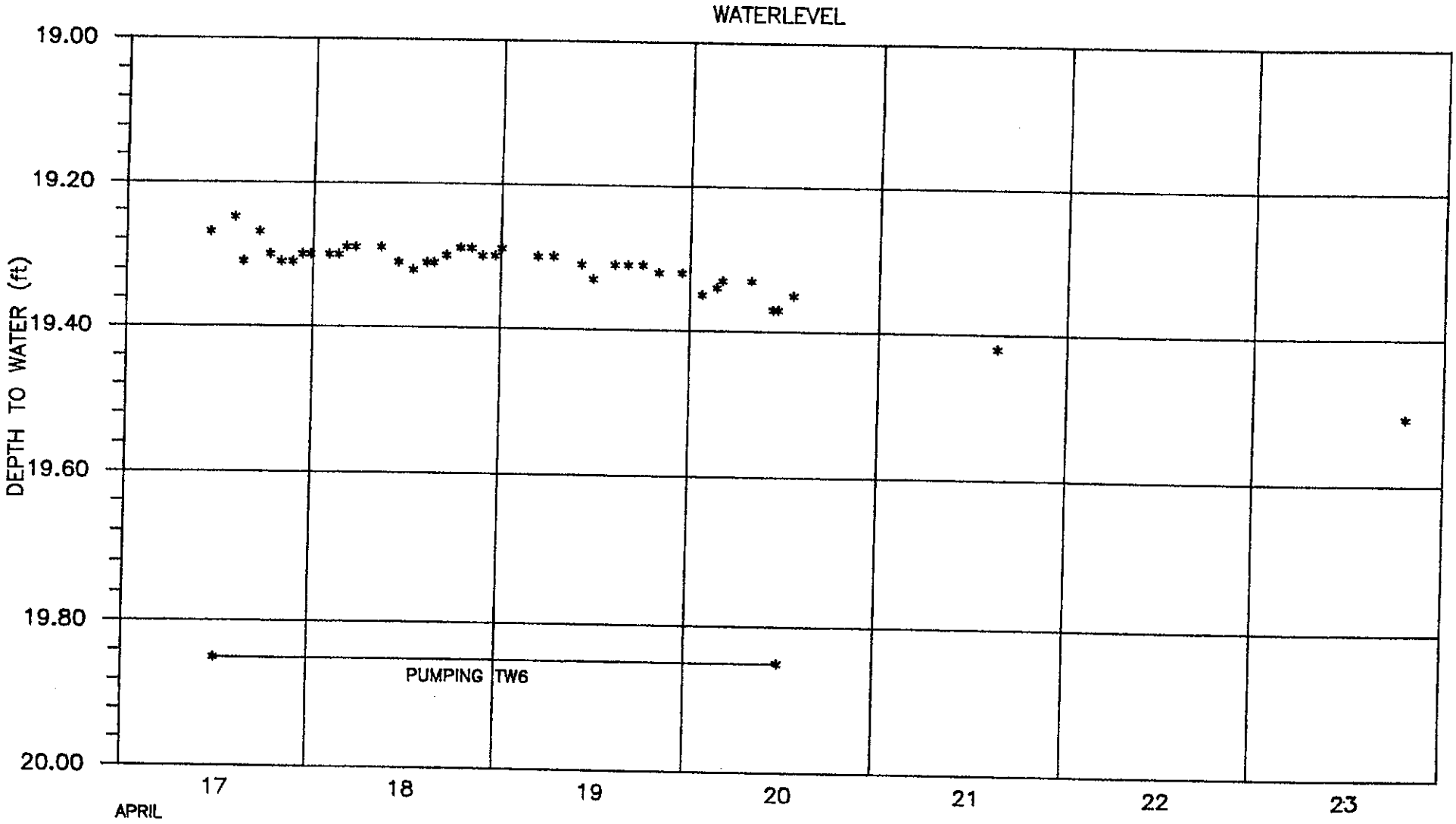
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF TW2



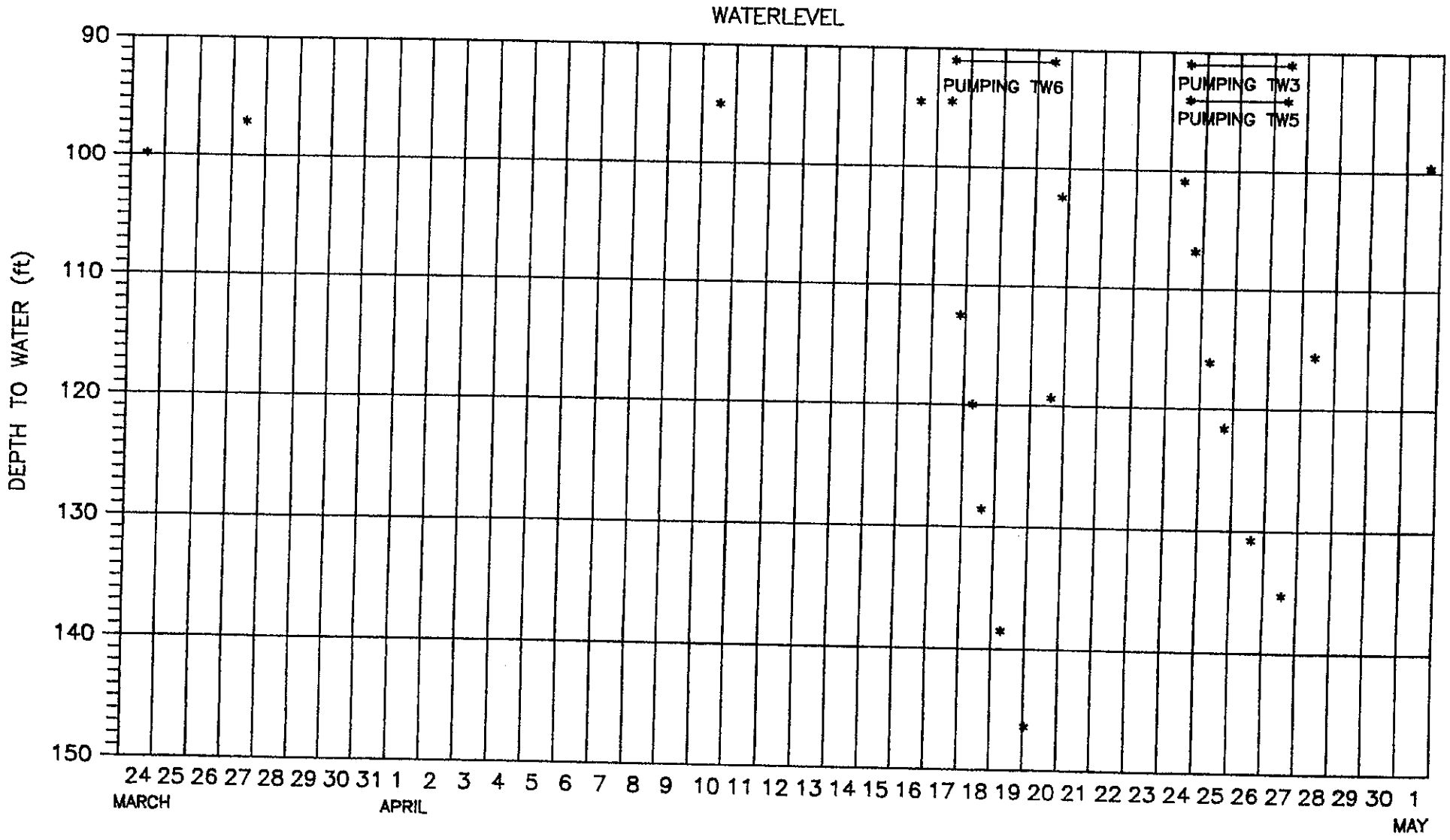
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF TW3



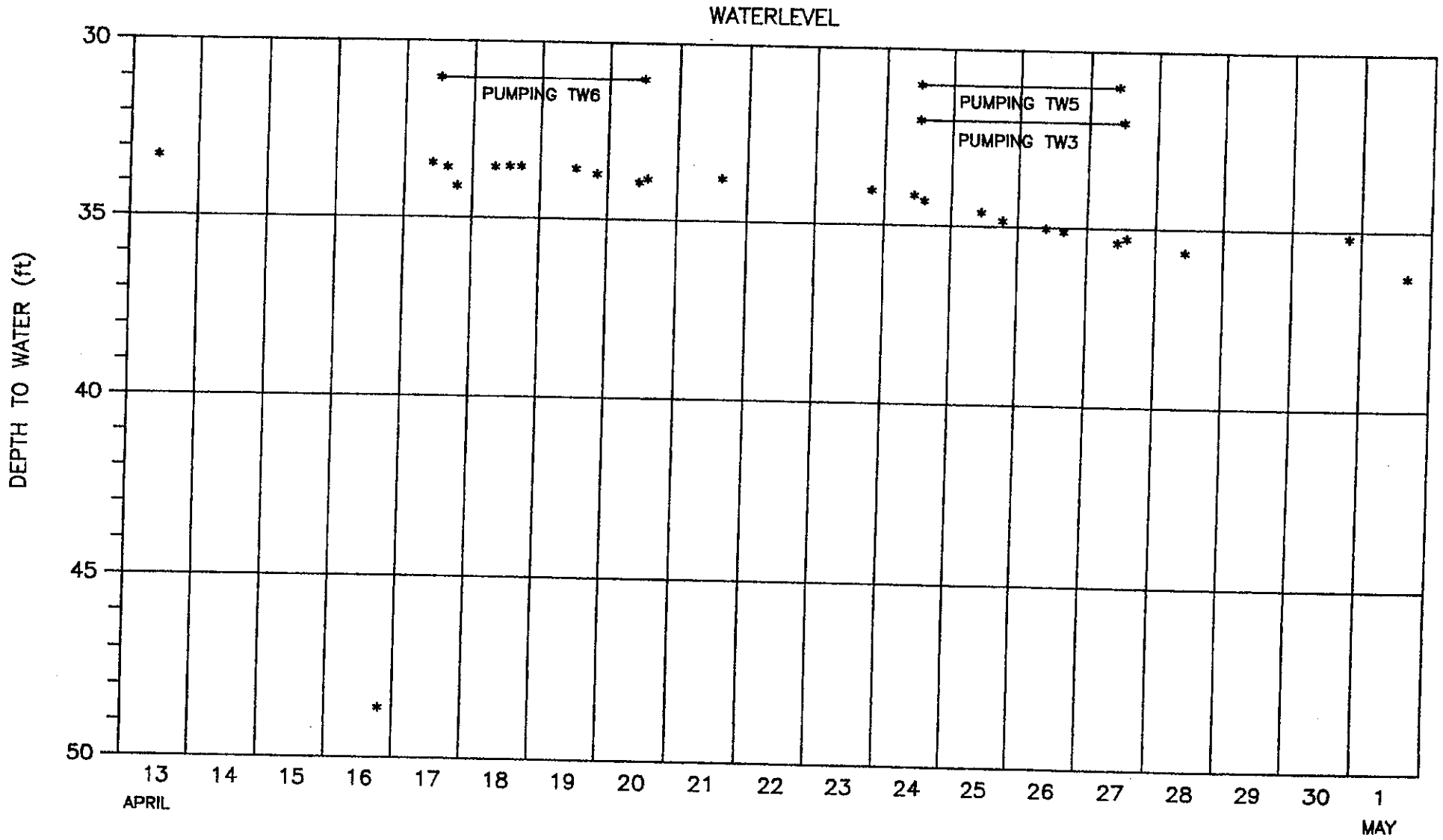
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF TW4



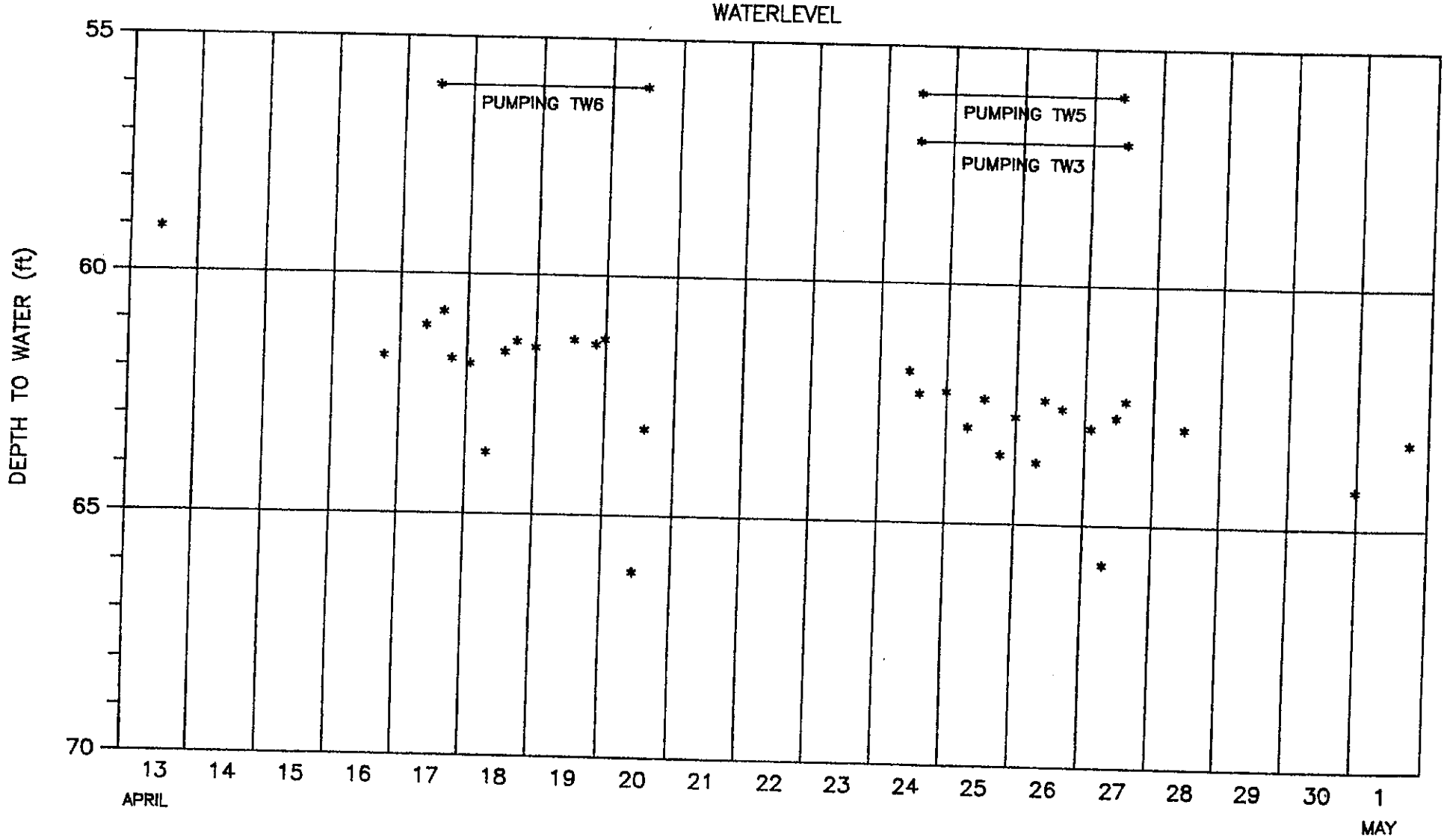
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF OW1



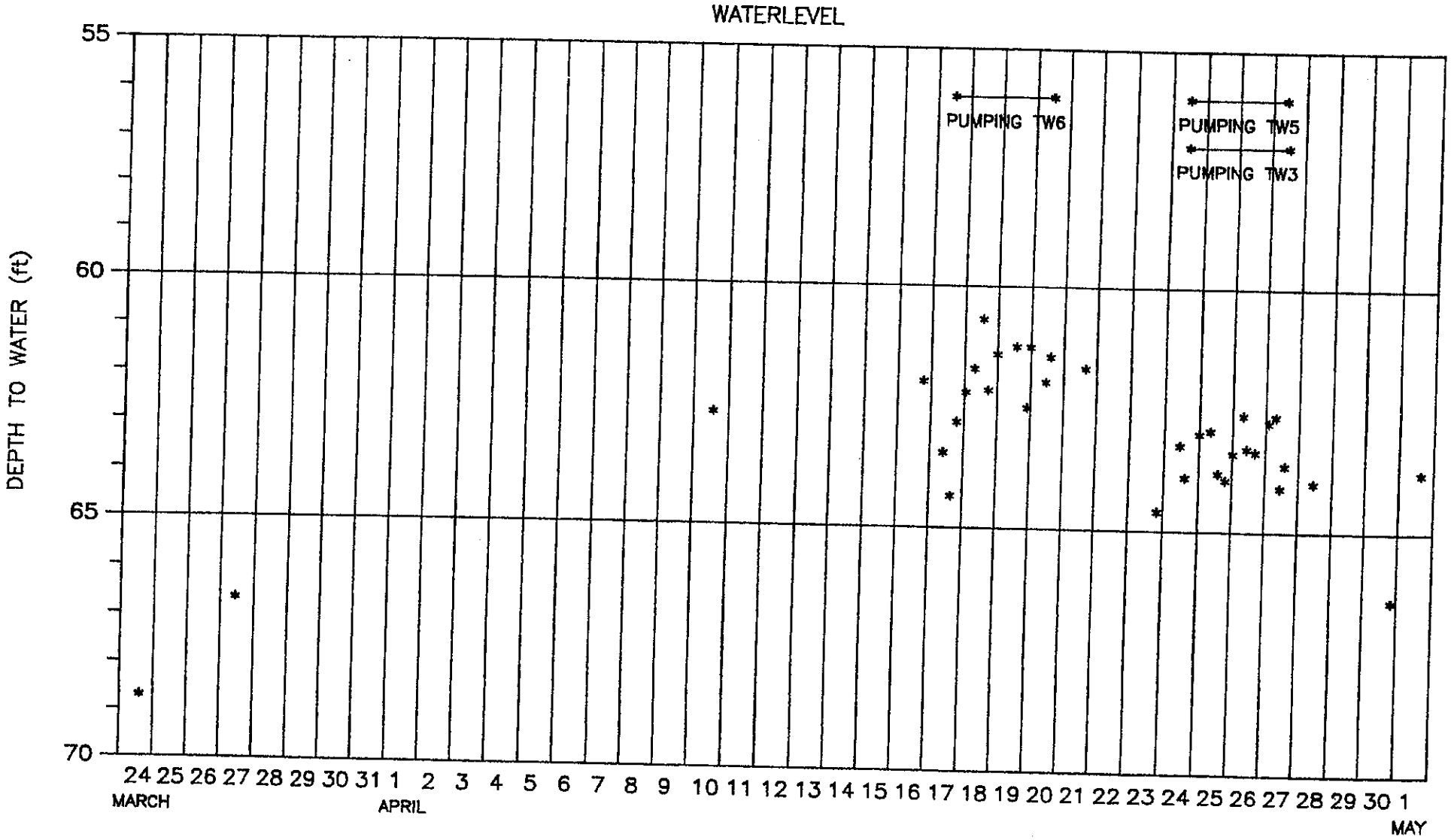
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF OW2



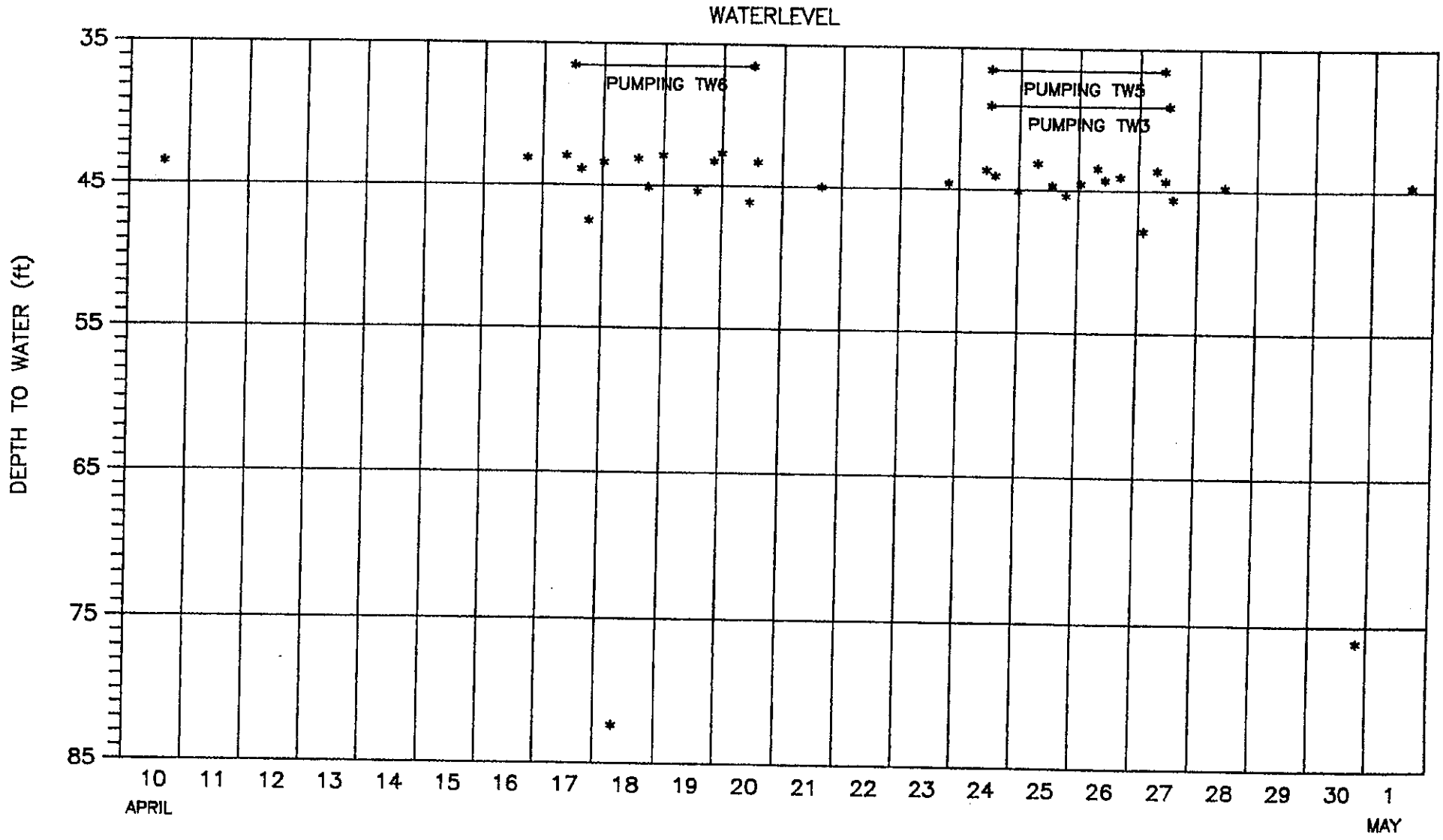
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF OW3



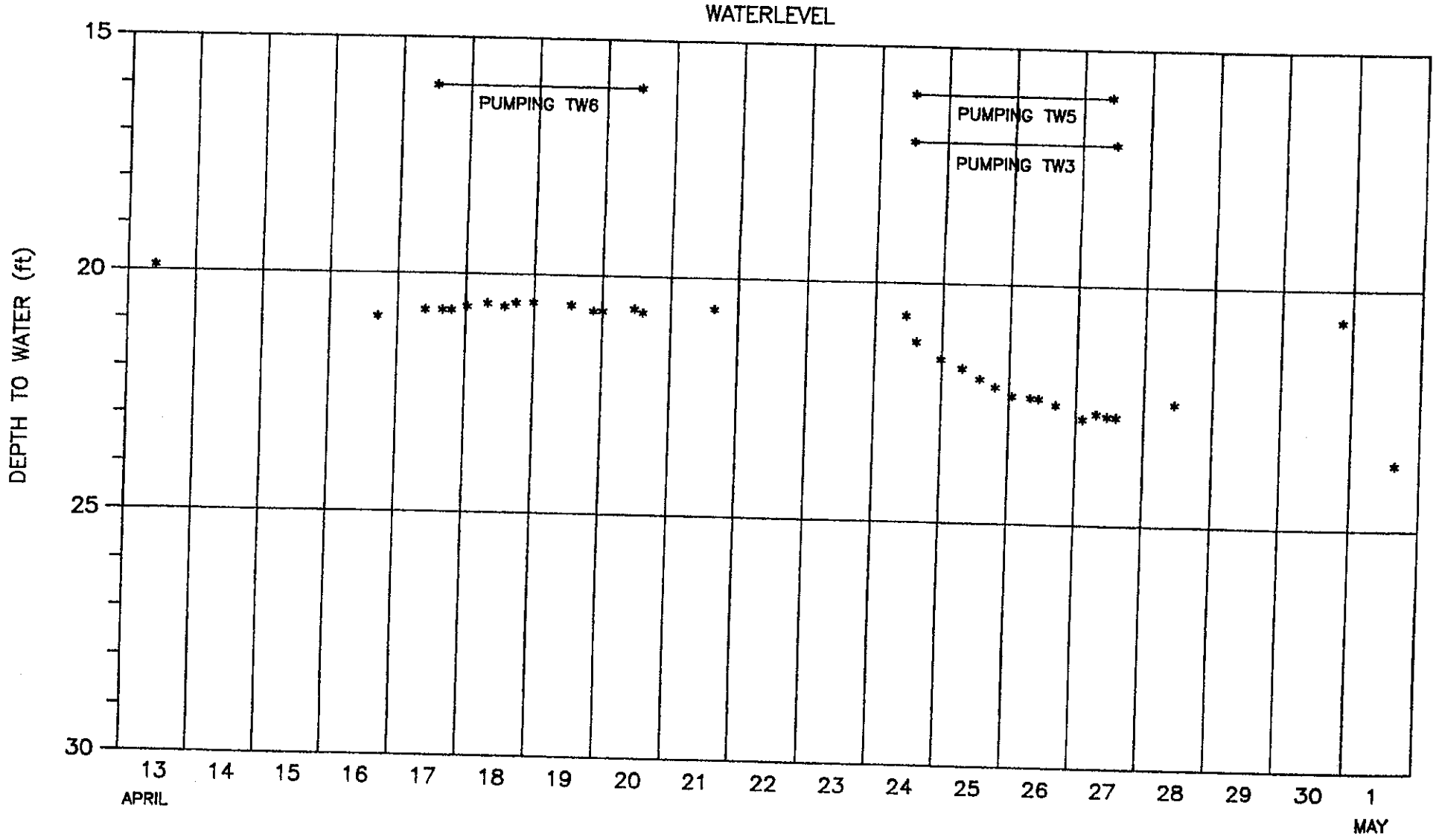
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF OW4



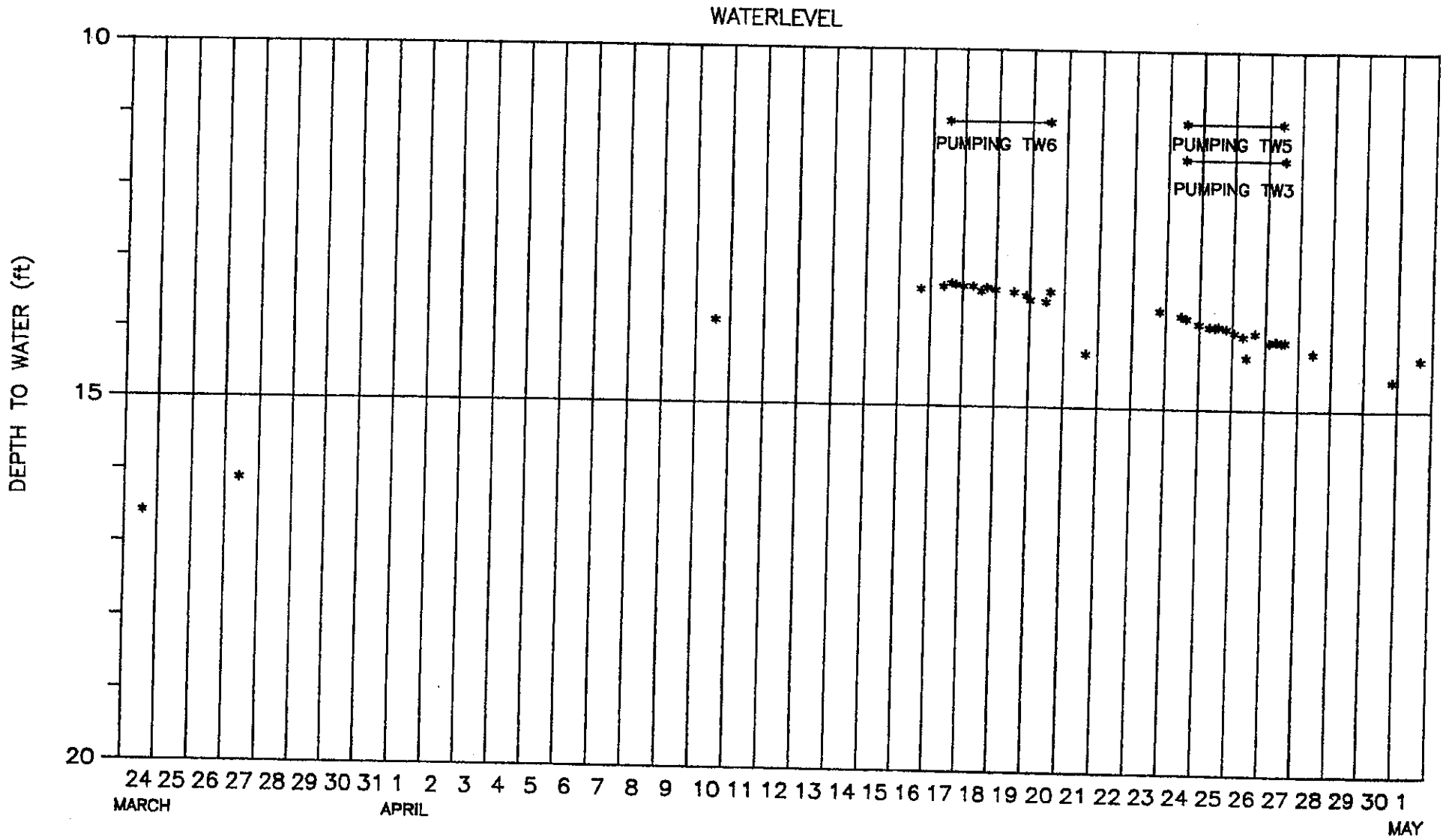
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF OW5



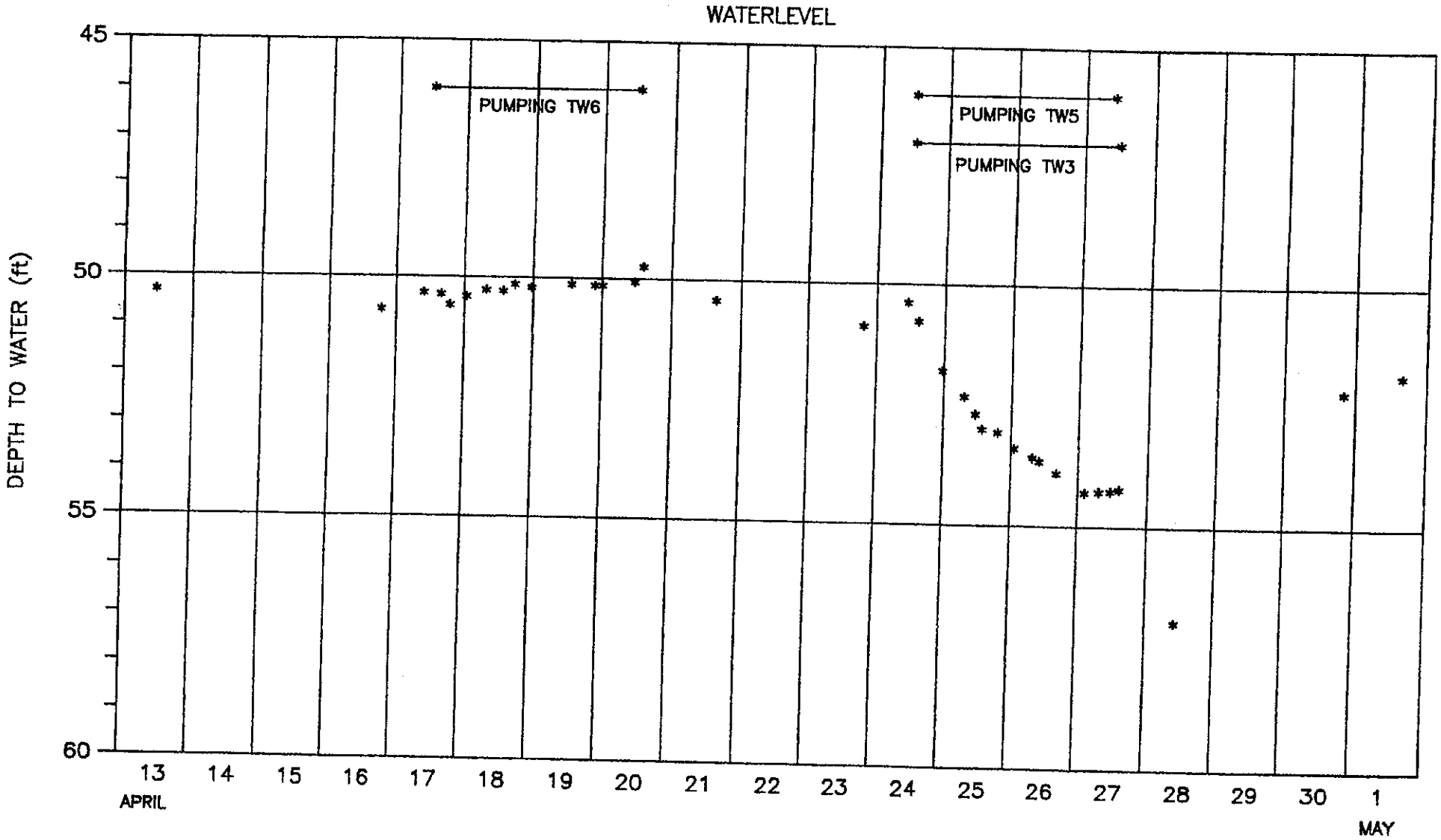
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF OW6



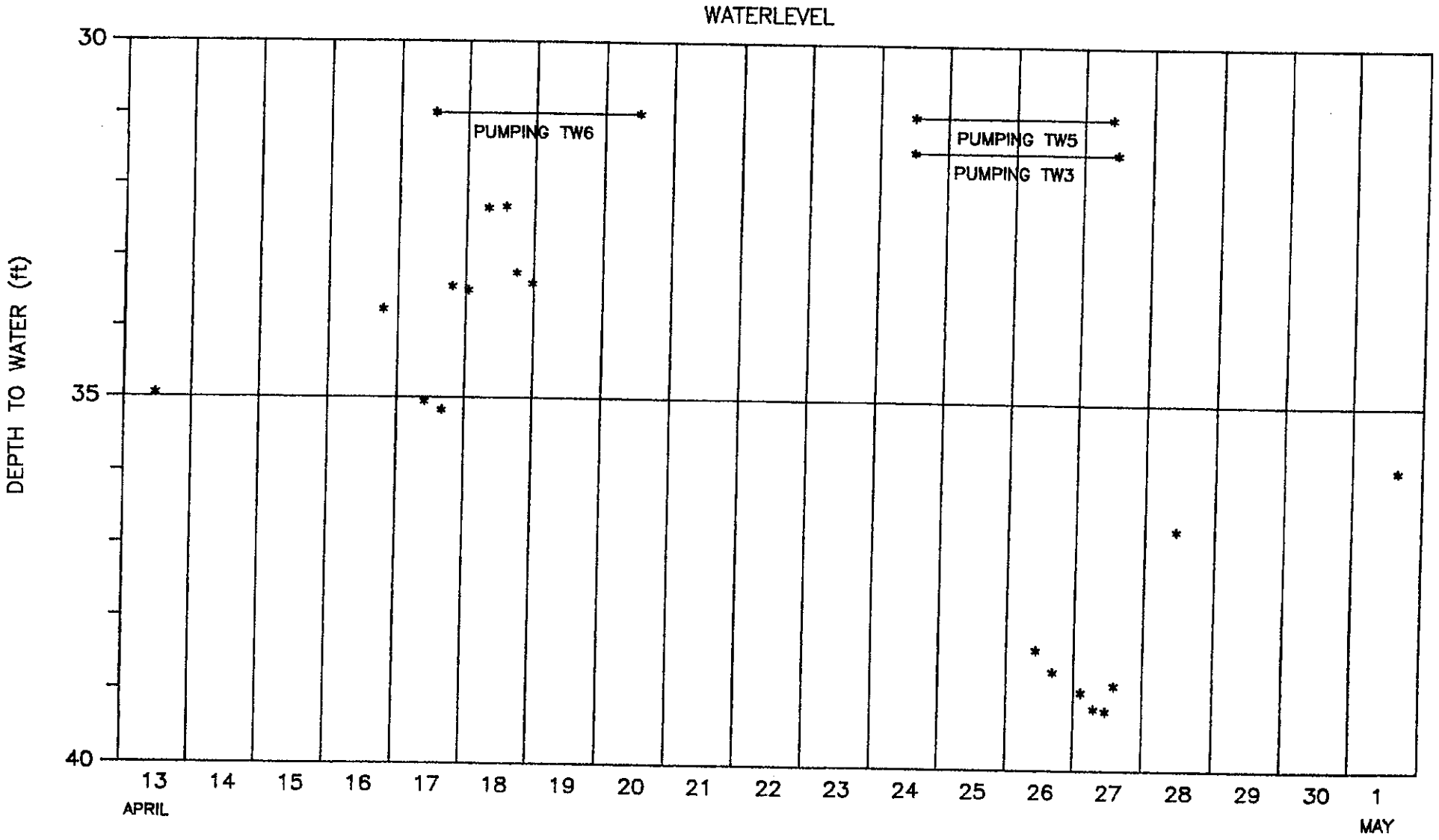
GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF OW7



GAN EDEN ESTATES
HURLEYVILLE, NEW YORK

HYDROGRAPH OF OW8



APPENDIX G

LEGGETTE, BRASHEARS & GRAHAM, INC.

EnviroTest Laboratories Inc.

315 Fullerton Avenu
Newburgh, NY 125
(914) 562-0890
Fax (914) 562-0841

LAB#: 71041-001 DATE REC'D: 88/12/07 DATE COLL'D: 88/12/07 STATUS: Closed
LNAME: LBG FNAME:
STREET: CITY: STATE: ZIP:
PL LOCATION: #1272 TW5

REPORT TO: same
BILL TO: same

\#95 flow

T COLI	<2/100 ml	Cr+6		COD	
F COLI	<2/100 ml	Phenol		HARD-T	
DOC		CN		Ca Hard	20
F	<0.20	B		SO3	
NO3	<0.20	Br		Cl	17
NO2		Color	5.0 PT-CO	Alk	65
T-PO4		Odor	1	BOD-Inf	
O-PO4		Turb	6.4 tu	BOD-Eff	
SO4	11	pH	7.5	BOD-S	
LAS		LI	-1.49	TSS-Inf	
SiO2		Cond		TSS-Eff	
H2S		NH3-T		MLSS	
NH3-C		TKN		MLVSS	
VSS		Ca		K	
B		Cr	<0.01	Se	<2.0 ug/l
V3		Co		Ag	<0.01
TDS	210	Cu	<0.01	Na	28
S		Au		Tl	
SOL		Fe	0.03	Sn	
G & O		Pb	<5.0 ug/l	Ti	
Al		Mg		V	
b		Mn	0.03	Zn	0.02
As	<5.0 ug/l	Hg	<0.4 ug/l	THM	
Ba	0.08	Mo		TOC	
e		Ni			
d	<2.0 ug/l	Pd			

Remarks: All results in mg/l unless otherwise indicated.

Ronald A. Bayer
Laboratory Director 12/23/88

PESTICIDE/HERBICIDE ORGANICS ANALYSIS DATA SHEET

Client Name: LBG/Kahane

Project Name: #1272

Sample Location: TW5

Matrix: Water

Method: Std Methods 509 A&B

Report Date: 12/22/88

Lab Number: 71041-001

Date Collected: 12/7/88

Date Received: 12/7/88

Date Extracted: 12/8/88
(Petsticide)

Date Analyzed: 12/8/88
(Pesticide)

Date Extracted: 12/13/88
(Herbicide)

Date Analyzed: 12/20/88
(Herbicide)

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
58-89-9	gamma-BHC (Lindane)	0.05		U
72-20-8	Endrin	0.05		U
72-43-5	Methoxychlor	0.50		U
8001-35-2	Toxaphene	1.0		U
94-75-7	2,4-D	0.05		U
93-72-1	2,4,5-TP (Silvex)	0.05		U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: Leggette, Brashears & Graham

Project Name:

Sample Location: TW5

Matrix: H20

Method: EPA 502.1 & 503.1

Lab Number: 71041-001

Date Collected: 12/7/88

Date Received: 12/7/88

Date Analyzed: 12/14/88

Report Date: 12/19/88
Report Date:

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	0.5	U	
108-86-1	Bromobenzene	0.5	U	
74-97-5	Bromochloromethane	0.5	U	
75-27-4	Bromodichloromethane	0.5	U	
75-25-2	Bromoform	0.5	U	
74-83-9	Bromomethane	0.5	U	
104-51-8	n-Butylbenzene	0.5	U	
135-98-8	sec-Butylbenzene	0.5	U	
98-06-6	tert-Butylbenzene	0.5	U	
56-23-5	Carbon tetrachloride	0.5	U	
108-90-7	Chlorobenzene	0.5	U	
75-003	Chloroethane	0.5	U	
67-66-3	Chloroform	0.5	U	
74-87-34	Chloromethane	0.5	U	
95-49-8	2-Chlorotoluene	0.5	U	
106-43-4	4-Chlorotoluene	0.5	U	
124-48-1	Dibromochloromethane	0.5	U	
106-93-4	1,2-Dibromoethane	0.5	U	
74-95-3	Dibromomethane	0.5	U	
95-50-1	1,2-Dichlorobenzene	0.5	U	
541-73-1	1,3-Dichlorobenzene	0.5	U	
106-46-7	1,4-Dichlorobenzene	0.5	U	
75-71-8	Dichlorodifluoromethane	0.5	U	
75-34-3	1,1-Dichloroethane	0.5	U	
107-02-2	1,2-Dichloroethane	0.5	U	
75-35-4	1,1-Dichloroethene	0.5	U	
156-59-2	cis-1,2-Dichloroethene	0.5	U	
156-60-0	trans-1,2-Dichloroethene	0.5	U	

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Q
78-87-5	1,2-Dichloropropane	0.5		
142-28-9	1,3-Dichloropropane	0.5		
590-20-7	2,2-Dichloropropane	0.5		
563-58-6	1,1-Dichloropropene	0.5		
100-41-4	Ethylbenzene	0.5		
87-68-3	Hexachlorobutadiene	0.5		
98-82-8	Isopropyl benzene	0.5		
99-87-6	4-Isopropyltoluene	0.5		
75-09-2	Methylene chloride	0.5		
91-20-3	Naphthalene	0.5		
103-65-1	n-Propylbenzene	0.5		
100-42-5	Styrene	0.5		
630-20-6	1,1,1,2-Tetrachloroethane	0.5		
79-34-5	1,1,2,2-Tetrachloroethane	0.5		
79-01-6	Tetrachloroethene	0.5		
108-88-3	Toluene	0.5		
87-61-6	1,2,3-Trichlorobenzene	0.5		
120-82-1	1,2,4-Trichlorobenzene	0.5		
71-55-6	1,1,1-Trichloroethane	0.5		
79-00-5	1,1,2-Trichloroethane	0.5		
79-01-6	Trichloroethene	0.5		
75-69-4	Trichlorofluoromethane	0.5		
96-18-4	1,2,3-Trichloropropane	0.5		
95-63-6	1,2,4-Trimethylbenzene	0.5		
108-67-8	1,3,5-Trimethylbenzene	0.5		
75-01-4	Vinyl chloride	0.5		
95-47-6	o-Xylene	0.5		
108-38-3	m-Xylene	0.5		
106-42-3	p-Xylene	0.5		

RADIOLOGICAL ANALYSIS

LBG/Kahane
Lab #71040-001, Order #1272
Sample ID: TW-5

Sample Received 12/7/88

Parameter	Detection Limit (pci/liter)	Activity (pci/liter)
Gross Alpha	1.4	5.4 ± 1.8
Gross Beta	0.8	7.3 ± 1.9
Radium 226	0.2	0.0 ± 0.1
Radium 228	2.0	1.3 ± 1.2

Radiological Analysis by Core Laboratories, Casper, Wyoming.

EnviroTest Laboratories Inc.

SAMPLE LOG

315 Fullerton Avenu
Newburgh, NY 125
(914) 562-0890

TURNAROUND _____

ETL Lab# 75313 Date Rec'd 4/27/89 Date Coll'd 4/27/8

Company LBG Phone Atlantic Realty

Name Hulpe/Hurley Title 90 Woodbridge Center

Address _____ Woodbridge NJ 07

City _____ State _____ Zip Mr. D. Kahane

Purchase Order/Project # 1260

Analysis Requested

Lab #	Cust. ID	Matrix	Analysis
01	TW-5	2	TDS, Turbidity

Comments _____

Signature Rob Baye

Date 4/27/89 Time

EnviroTest Laboratories Inc.

315 Fullerton Avenu
Newburgh, NY 125
(914) 562-0890
Fax (914) 562-0841

LAB#: 75313-001 DATE REC'D: 89/04/27 DATE COLL'D: 89/04/27 STATUS: Closed
LNAME: Atlantic Realty FNAME:
STREET: 90 Woodbridge Center Drive CITY: Woodbridge STATE: NY ZIP: 07095
PL LOCATION: same

REPORT TO: same
BILL TO: same

T COLI:		Cr+6 :		COD :	
COLI:		Phenol:		HARD-T :	
PC :		CN :		Ca Hard:	
F :		B :		SO3 :	
O3 :		Br :		Cl :	
O2 :		Color :		Alk :	
T-PO4 :		Odor :		BOD-Inf:	
O-PO4 :		Turb :	1.2 tu	BOD-Eff:	
O4 :		pH :		BOD-S :	
MBAS :		LI :		TSS-Inf:	
SiO2 :		Cond :		TSS-Eff:	
2S :		NH3-T :		MLSS :	
H3-C :		TKN :		MLVSS :	
SS :		Ca :		K :	
S :		Cr :		Se :	
VS :		Co :		Ag :	
TDS :	180 mg/l	Cu :		Na :	
S :		Au :		Tl :	
SOL :		Fe :		Sn :	
G & O :		Pb :		Ti :	
l :		Mg :		V :	
b :		Mn :		Zn :	
As :		Hg :		THM :	
Ba :		Mo :		TOC :	
Be :		Ni :			
Cd :		Pd :			

Remarks:

Ronald A. Bayer
Laboratory Director 5/3/89

EnviroTest Laboratories Inc.

1107

SAMPLE LOG

315 Fullerton Aven
Newburgh, NY 12
(914) 562-0890

TURNAROUND _____

ETL Lab# 75128 Date Rec'd 4-20-89 Date Coll'd 4-20-89

Company LBG Phone _____

Name Atlantic Realty Title Mr. D Kahane

Address 90 Woodbridge Ctr Dr.

City Woodbridge State NJ Zip 07095

Purchase Order/Project # Kahane # 1260

Analysis Requested

Lab #	Cust. ID	Matrix	Analysis
001 ✓	TW-6	water	NYS/PRI/Sec F Coli, T. Coli, Herb/Pe
			VOA 502.1, 503.1, 504 Radio
			Alpha. Beta 226-228

Comments _____

Signature _____

Date 4/20/89 Time _____

EnviroTest Laboratories Inc.

315 Fullerton Avenu
Newburgh, NY 125
(914) 562-0890
Fax (914) 562-0841

LAB#: 75128-001 DATE REC'D: 89/04/20 DATE COLL'D: 89/04/20 STATUS: Close
LNAME: Atlantic Realty FNAME:
TREET: 90 Woodbridge Ctr. Drive CITY: Woodbridge STATE: NJ ZIP: 07095
PL LOCATION: Kahane #1260 TW-6

REPORT TO: same
ILL TO: same

T COLI:	<2/100 ml	Cr+6 :		COD :	
COLI:	<2/100 ml	Phenol:		HARD-T :	
PC :		CN :		Ca Hard:	35
F :	<0.2	B :		SO3 :	
O3 :	0.23	Br :		Cl :	20
O2 :		Color :	10 Pt-Co	Alk :	69
T-PO4 :		Odor :	1	BOD-Inf:	
O-PO4 :		Turb :	1.2 tu	BOD-Eff:	
O4 :	9.3	pH :	7.6	BOD-S :	
MBAS :		LI :	-1.03	TSS-Inf:	
SiO2 :		Cond :		TSS-Eff:	
I2S :		NH3-T :		MLSS :	
IH3-C :		TKN :		MLVSS :	
SS :		Ca :		K :	
S :		Cr :	<0.01	Se :	<5.0 ug/l
VS :		Co :		Ag :	<0.01
TDS :	100	Cu :	<0.01	Na :	33
S :		Au :		Tl :	
SOL :		Fe :	0.04	Sn :	
G & O :		Pb :	<5.0 ug/l	Ti :	
l :		Mg :		V :	
b :		Mn :	0.01	Zn :	0.03
As :	<5.0 ug/l	Hg :	<0.4 ug/l	THM :	
Ba :	0.09	Mo :		TOC :	
Be :		Ni :			
Cd :	<2.0 ug/l	Pd :			

Remarks: All results in mg/l unless otherwise indicated. Results show sodi
was above the recommended level for low sodium diets. All other results reporte
on this sheet are within NY State Drinking
Water Standards.

Ronald A. Bayer
Laboratory Director 5/4/89

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: Leggette, Brashears & Graham

Project Name: Atlantic Realty

Sample Location: Kahane TW-6

Matrix: H20

Method: EPA 502.1 & 503.1

Lab Number: 75128-001

Date Collected: 4/20/89

Date Received: 4/20/89

Date Analyzed: 5/1/89

Date Reported: 5/4/89

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	0.5	U	
108-86-1	Bromobenzene	0.5	U	
74-97-5	Bromochloromethane	0.5	U	
75-27-4	Bromodichloromethane	0.5	U	
75-25-2	Bromoform	0.5	U	
74-83-9	Bromomethane	0.5	U	
104-51-8	n-Butylbenzene	0.5	U	
135-98-8	sec-Butylbenzene	0.5	U	
98-06-6	tert-Butylbenzene	0.5	U	
56-23-5	Carbon tetrachloride	0.5	U	
108-90-7	Chlorobenzene	0.5	U	
75-003	Chloroethane	0.5	U	
67-66-3	Chloroform	0.5	U	
74-87-34	Chloromethane	0.5	U	
95-49-8	2-Chlorotoluene	0.5	U	
106-43-4	4-Chlorotoluene	0.5	U	
124-48-1	Dibromochloromethane	0.5	U	
106-93-4	1,2-Dibromoethane	0.5	U	
74-95-3	Dibromomethane	0.5	U	
95-50-1	1,2-Dichlorobenzene	0.5	U	
541-73-1	1,3-Dichlorobenzene	0.5	U	
106-46-7	1,4-Dichlorobenzene	0.5	U	
75-71-8	Dichlorodifluoromethane	0.5	U	
75-34-3	1,1-Dichloroethane	0.5	U	
107-02-2	1,2-Dichloroethane	0.5	U	
590-20-7	2,2-Dichloropropane	0.5	U	
75-35-4	1,1-Dichloroethene	0.5	U	
156-59-2	cis-1,2-Dichloroethene	0.5	U	
540-59-0	trans-1,2-Dichloroethene	0.5	U	
78-87-5	1,2-Dichloropropane	0.5	U	
142-28-9	1,3-Dichloropropane	0.5	U	
590-20-7	2,2-Dichloropropane	0.5	U	
563-58-6	1,1-Dichloropropene	0.5	U	
100-41-4	Ethylbenzene	0.5	U	
87-68-3	Hexachlorobutadiene	0.5	U	
98-82-8	Isopropyl benzene	0.5	U	
99-87-6	4-Isopropyltoluene	0.5	U	
75-09-2	Methylene chloride	0.5	U	
91-20-3	Naphthalene	0.5	U	
103-65-1	n-Propylbenzene	0.5	U	
100-42-5	Styrene	0.5	U	
630-20-6	1,1,1,2-Tetrachloroethane	0.5	U	
96-18-4	1,2,3-Trichloropropane	0.5	U	
79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	
79-01-6	Tetrachloroethene	0.5	U	
108-88-3	Toluene	0.5	U	
87-61-6	1,2,3-Trichlorobenzene	0.5	U	
120-82-1	1,2,4-Trichlorobenzene	0.5	U	
71-55-6	1,1,1-Trichloroethane	0.5	U	
79-00-5	1,1,2-Trichloroethane	0.5	U	
79-01-6	Trichloroethene	0.5	U	
75-69-4	Trichlorofluoromethane	0.5	U	
96-18-4	1,2,3-Trichloropropane	0.5	U	
95-63-6	1,2,4-Trimethylbenzene	0.5	U	
108-67-8	1,3,5-Trimethylbenzene	0.5	U	
75-01-4	Vinyl chloride	0.5	U	
95-47-6	o-Xylene	0.5	U	
108-38-3	m-Xylene	0.5	U	
106-42-3	p-Xylene	0.5	U	

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: LBG/Atlantic Realty

Project Name: Kahane #1260

Sample Location: TW-6

Matrix: Water

Method: EPA 504

Lab Number: 75128-001

Date Collected: 4/20/89

Date Received: 4/20/89

Date Extracted: 4/25/89

Date Analyzed: 5/22/89

Report Date: 6/1/89

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
106-93-4	1,2-Dibromomethane	0.02		U
96-12-8	1,2-Dibromo-3-chloropropane	0.02		U

PESTICIDE/HERBICIDE ORGANICS ANALYSIS DATA SHEET

Client Name: LBG/Atlantic Realty

Project Name: Kahane #1260

Sample Location: TW-6

Matrix: Water

Method: Std Methods 509 A&B

Report Date: 5/9/89

Lab Number: 75128-001

Date Collected: 4/20/89

Date Received: 4/20/89

Date Extracted: 4/24/89 (Petsticide)

Date Analyzed: 4/24/89 (Pesticide)

Date Extracted: 4/27/89 (Herbicide)

Date Analyzed: 5/8/89 (Herbicide)

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
58-89-9	gamma-BHC (Lindane)	0.05		U
72-20-8	Endrin	0.05		U
72-43-5	Methoxychlor	0.50		U
8001-35-2	Toxaphene	1.0		U
94-75-7	2,4-D	0.05		U
93-72-1	2,4,5-TP (Silvex)	0.05		U

Western Atlas International
A Litton/Dresser Company

CORE LABORATORIES

LABORATORY TESTS RESULTS
05/09/89

JOB NUMBER: 891414 CUSTOMER: ENVIROTEST LABORATORIES INC. ATTN: DOUG TAWSE

SAMPLE NUMBER:0001 DATE RECEIVED:04/24/89 TIME RECEIVED:08:43 SAMPLE DATE:04/24/89 SAMPLE TIME:08:43

PROJECT ID:P.O. 3128 SAMPLE ID:75128-001 REM:

TEST DESCRIPTION	FINAL TEST RESULT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNIC
Gross Alpha, dissolved	0.0	pCi/l	EPA 900.0	05/08/89	DM
Gross Alpha, diss., error, +/-	1.3	pCi/l		05/08/89	DM
Gross Alpha, diss., LLD	1.0	pCi/l		05/08/89	DM
Gross Beta, dissolved	0.0	pCi/l	EPA 900.0	05/08/89	DM
Gross Beta, diss., error, +/-	1.4	pCi/l		05/08/89	DM
Gross Beta, diss., LLD	0.8	pCi/l		05/08/89	DM
Radium 226, dissolved	0.1	pCi/l	EPA 903.1	05/09/89	DF
Radium 226, diss., error, +/-	0.1	pCi/l		05/09/89	DF
Radium 226, diss., LLD	0.1	pCi/l		05/09/89	DF
Radium 228, dissolved	3.8	pCi/l	EPA 904.0	05/04/89	DF
Radium 228, diss., error, +/-	1.9	pCi/l		05/04/89	DF
Radium 228, diss., LLD	2.7	pCi/l		05/04/89	DF

APPROVED BY: _____

420 West 1st Street
Casper, WY 82601
(307) 235-5741

QUALITY ASSURANCE REPORT

05/09/89

JOB NUMBER: 891414 CUSTOMER: ENVIROTEST LABORATORIES INC. ATTN: DOUG TAWSE

Q.A. TYPE	Q.A. ID	BLANK VALUE	STANDARD VALUE	ANALYZED VALUE	BACKGROUND VALUE	SPIKE TRUE VALUE	SPIKE MEASURED VALUE	DUPLICATE SAMPLE ANALYSIS	DUPLICATE ANALYSIS	% RECOVERY	% RELATIV ERROR
Q.A. NUMBER:892929 05/04/89 08:59					Radium 228, dissolved						TECHNICIAN:I
Q.A. NUMBER:892930 05/04/89 08:59					Radium 228, diss., error, +/-						TECHNICIAN:I
Q.A. NUMBER:892931 05/04/89 08:59					Radium 228, diss., LLD						TECHNICIAN:I
Q.A. NUMBER:892999 05/08/89 13:22					Gross Alpha, dissolved						TECHNICIAN:I
DUPLICATE	891264-1							0.3	0		200.
DUPLICATE	891175-1							5.1	7.5		38.
DUPLICATE	891497-1							1	0.7		35.
Q.A. NUMBER:893000 05/08/89 13:31					Gross Alpha, diss., error, +/-						TECHNICIAN:D
DUPLICATE	891264-1							1.2	1.1		8.
DUPLICATE	891175-1							0.9	1.4		43.
DUPLICATE	891497-1							0.5	0.5		0.
Q.A. NUMBER:893001 05/08/89 13:40					Gross Alpha, diss., LLD						TECHNICIAN:DI
DUPLICATE	891264-1							1.1	1.1		0.
DUPLICATE	891175-1							1.8	2.3		24.
DUPLICATE	891497-1							1	1		0.
Q.A. NUMBER:893002 05/08/89 13:46					Gross Beta, dissolved						TECHNICIAN:DM
DUPLICATE	891264-1							0	1.2		200.
DUPLICATE	891175-1							47.6	36.8		25.5
DUPLICATE	891497-1							9.8	11.9		19.3
Q.A. NUMBER:893003 05/08/89 13:52					Gross Beta, diss., error, +/-						TECHNICIAN:DM
DUPLICATE	891264-1							1.5	1.6		6.4
DUPLICATE	891175-1							8.2	8.5		3.5
DUPLICATE	891497-1							3.2	3.3		3.0

APPROVED BY: Dan Arnold

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Western Atlas International
A Litton/Dresser Company

CORE LABORATORIES

QUALITY ASSURANCE REPORT
05/09/89

JOB NUMBER: 891414 CUSTOMER: ENVIROTEST LABORATORIES INC. ATTN: DOUG TAWSE

Q.A. TYPE	Q.A. ID	BLANK VALUE	STANDARD VALUE	ANALYZED VALUE	BACKGROUND VALUE	SPIKE TRUE VALUE	SPIKE MEASURED VALUE	DUPLICATE SAMPLE ANALYSIS	DUPLICATE ANALYSIS	% RECOVERY	% RELAT ERROR
Q.A. NUMBER:893003 05/08/89 13:52 Gross Beta, diss., error, +/- TECHNICIA											
Q.A. NUMBER:893004 05/08/89 13:57 Gross Beta, diss., LLD TECHNICIA											
DUPLICATE	891264-1							1.1	1.1		
DUPLICATE	891175-1							1.8	2.3		2
DUPLICATE	891497-1							1	1		
Q.A. NUMBER:893052 05/09/89 10:04 Radium 226, dissolved TECHNICIAN											
Q.A. NUMBER:893053 05/09/89 10:05 Radium 226, diss., error, +/- TECHNICIAN											
Q.A. NUMBER:893054 05/09/89 10:05 Radium 226, diss., LLD TECHNICIAN											

APPROVED BY: _____

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GROUNDWATER SUPPLY ASSESSMENT
PROPOSED GAN EDEN ESTATES
THOMPSON AND HURLEYVILLE, NEW YORK

PREPARED FOR:

PROPOSED GAN EDEN ESTATES
MR. LARRY FRENKEL
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SUFFERN, NEW YORK

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NOVEMBER 2008

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President

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INTRODUCTION

Larry Frenkel, on behalf of Gan Eden Estates (Gan Eden), retained HydroEnvironmental Solutions, Inc. (HES) to conduct two 8-hour step drawdown pump tests on two test wells and a 72-hour pump test on the highest yielding test well located on the proposed Gan Eden Estates property, in the towns of Thompson and Fallsburg within the hamlet of Hurleyville, New York at the intersection of County Roads 104 and 107 (**Figure 1**). The testing was conducted to determine the long-term yield and suitability for public supply usage of the proposed wells, according to the guidelines set by the New York State Department of Environmental Conservation (NYSDEC) and the Sullivan County Department of Health (SCDOH) for municipal supply wells.

BACKGROUND

Water Demand & Use

In 1989, Leggette, Brashears & Graham, Inc. (LBG) conducted an investigation into the availability of groundwater on the proposed Gan Eden Estates property. LBG performed a simultaneous pumping test of TW-3 and TW-5 in April of 1989, determining that the sustainable yield capacity of on-site test well TW-3 is less than 15 gallons per minute (gpm) and therefore not recommended for development (Leggette et al., 1989). However, test well TW-5, was discovered to have a capacity of 140 gpm making it a reliable well source. Following the simultaneous pumping of TW-3 and TW-5, a third test well, TW-6, was pumped individually for 72-hours at rates of 150 and 200 gpm, demonstrating that TW-6 has a sustainable yield capacity of at least 200 gpm. A summary of on-site well construction details is included on **Table 1** and a copy of the previous water supply assessment report is included in **Appendix 1**.

The proposed development of Gan Eden Estates will supply water to private homes, town homes and apartments. For new community water supplies, the NYSDEC guidelines require development of two independent sources, each capable of delivering the average daily demand of the project. In effect, the guidelines require development of double the daily demand. This requirement must be met with the best well out of service if the wells are in bedrock. Therefore, consumptive supply for the new development will be provided by water supply well TW-5, with TW-6 acting as the backup supply well.

Site Geology

The proposed Gan Eden Estates property lies above the Devonian Upper Walton bedrock formation comprised of a shale sandstone conglomerate (Fisher

et al., 1970). The bedrock is not exposed in the vicinity of the site and is mantled by approximately 16 feet of unconsolidated glacial till (driller's logs).

PUMPING TEST STRUCTURE

Step-Drawdown Test

Prior to conducting the 72-hour pumping test at test well TW-6, a preliminary 8-hour step drawdown test was conducted on test wells TW-5 and TW-6. On July 14, 2008, a 15 horsepower (hp) *Grundfos*™ 235 stainless steel submersible pump was set in TW-6 at a depth of 200 feet. During pump testing, TW-6 was monitored using a data logger to record water temperature, pressure and depth. Also, the well was periodically checked by hand measurement using an electric tape water level indicator. Test well TW-5 was also monitored during the test to determine the effects of pumping at TW-6. Similarly, on July 15, 2008 a 10 hp *Grundfos*™ stainless steel submersible pump was set in TW-5 at a depth of 200 feet. Both 8-hour step drawdown tests were performed at an initial pumping rate for a 2-hour period and then the pumping was increased for another 2-hour period, before reaching the final pumping rate for a duration of 4 hours. During the 8-hour period, both TW-5 and TW-6 were monitored using data loggers set to collect water level readings every 15 seconds. The pumping wells were allowed to fully recover before the start of each step drawdown test.

72-Hour Pump Test

A 72-hour pumping test was conducted on test well TW-6 from July 16 through July 19, 2008. During the pumping, test well TW-5 remained out of service and was monitored. An on-site and off-site well monitoring program was set up to document any hydrogeologic effects of sustained pumping of the test well TW-6. **Table 2** provides a list of residences approached by HES that provided access to their water supply wells. A summary of the raw data collected from the on-site and off-site wells is included as **Appendix 2** and **Appendix 3**, respectively.

Following the completion of the 72-hour pump test, pumping was restarted at each of the wells for the purpose of sampling each test well for NYSDOH Drinking Water Standards (DWS). The results of the groundwater quality for the two test wells are summarized on **Table 3**.

Rainfall Monitoring

Prior to the start of the pumping test, HES installed a rain gauge located in the vicinity of the test wells. The location was in an open field area and at a distance from any interfering sources for accuracy. The gauge was monitored

with measurements recorded daily and emptied as needed. During the testing period, minimal rainfall only fell on July 21 and 22, 2008. The measured rainfall totals during the testing period are shown in **Table 4**.

Pumping Well

Test well TW-6 was fitted with a submersible pump and 1-inch diameter PVC measuring tube. A 15 hp *Grundfos*™ stainless steel submersible pump was set in TW-6 at a depth of 200 feet. The submersible pump setting was based upon the projected volume of water to be pumped from each well and the former 1989 pumping test results. The pump was powered by a portable diesel fueled electric generator. The long-term pumping rate was based on by the field-test yields determined by the 8-hour step drawdown testing.

TW-6 was field test rated for 225 gpm by HES; therefore, a 72-hour pumping test of this well was designed at a conservative rate of 210 gpm. Following completion of the 72-hour pumping test, the well was monitored to document recovery.

Observation Wells

During, before and after the 72-hour pumping test, HES monitored selected wells in the vicinity of the subject site. One monitoring well, two piezometers (P-1 and P-2) and two test wells were monitored on-site during this time period. The locations of these wells are shown on **Figure 2**. The geologic logs for P-1, P-2 and the drilled well adjacent to the pumping wells, MW-1, is included in **Appendix 4**.

HES canvassed the area surrounding the Gan Eden Estates proposed well field to obtain homeowner permission to monitor residential supply wells during the pumping test period. A total of five off-site property owners granted permission to monitor their supply well during the pumping test (**Table 2**). Beginning several days before initiation of the 72-hour pumping test, HES monitored the residential off-site supply wells from the area surrounding the well field. All of these wells are individual residential supply wells with the exception of the Columbia Hill well which services a number of cottages for a small resort. The observation wells were monitored on a daily basis before, during and after the pumping test at set intervals using pressure transducer data loggers installed in each of these wells.

At the end of testing, HES collected a water quality samples from Test Wells TW-5 and TW-6. The samples were collected in appropriate laboratory supplied containers in accordance with industry accepted practices on July 20, 2008. The samples were placed on ice in a cooler and transported to Envirotest Laboratories, Inc., a New York State certified laboratory located in Newburgh,

New York. The groundwater quality laboratory analytical results are summarized on **Table 3** and the raw data is included in **Appendix 5**.

RESULTS OF PUMPING TEST

Step-Drawdown Test

The 8-hour step-drawdown pump test at test well TW-6 began at 10:00 AM on July 13, 2008, showing an initial drawdown of 37.86 feet to the depth to water at 125 gpm (**Figure 3**). When pumping increased to 150 gpm, the depth to water dropped to 60.34 feet and, finally, at the 225 gpm pumping rate the depth to water declined to a maximum of 75.84 feet before pumping was stopped.

Pumping at TW-5 began at 9:40 AM on July 14, 2008 at 50 gpm and the depth to water dropped to 21.49 feet (**Figure 4**). At 11:45 AM, the pumping was increased to 100 gpm and the water level dropped to 35.91 feet. The pumping was then increased to 150 gpm at 1:40 PM and the depth to water dropped to a maximum of 54.26 feet before pumping was stopped.

Projections of the 8-hour water level drawdown trend at 225 gpm for TW-6 and 150 gpm for TW-5 indicates that both wells can be pumped at their respective rates over the long-term. Both test wells showed excellent signs of recovery, with TW-6 recovering slightly faster than TW-5, providing further proof that TW-6 is the better supply well. Lastly, well interference effects were observed between the two wells during the step-drawdown tests. The hydrogeolgic behavior of these two wells during the step drawdown testing is shown on **Figures 3** and **4**, hydrographs of the two wells during this phase of testing.

72-Hour Pump Test

Pumping Well

The 72-hour pumping test at TW-6 began at 9:00 AM on July 15, 2008 at a pumping rate of 210 gpm. A pressure transducer data logger measured the depth to water in the well during the pumping test and calculated the drawdown, which is plotted versus time on a arithmetic graph. The pump was turned off at 10:00 AM on July 19, 2008 resulting in a total drawdown of 128.08 feet during the pumping period. **Figure 5** is a plot of drawdown (in feet) versus time (in minutes) for TW-6. The graph demonstrates that drawdown stabilization occurred during the last 12 hours of pumping, when the drawdown curve achieves a relatively flat slope, as recorded on the TW-6 hydrograph (**Figure 3**). Over the last 12 hours of testing, the drawdown in TW-6 was 5.497 feet; over the last six hours of testing the drawdown was 1.728 feet or 0.29 feet per hour. The very slow rate of

drawdown over this period demonstrates that stabilization was achieved. Test well TW-6 recharged rapidly upon cessation of pumping with 60% recovery within 180 minutes (3 hours) after pumping was stopped. The well was 95% recovered by 10:00 PM on July 21, 2008, 40 hours after the pump was turned off.

The estimated water demand value according to New York State Department of Health (NYSDOH) guidelines is 110 gallons per day (gpd) per bedroom. Therefore, the estimated daily demand that could be supported by the existing test wells based on the result of the step-drawdown and 72-hour pumping tests for the proposed Gan Eden Estates would be as follows:

Test Well TW-6

210 gpm x 1440 minutes per day = 302,400 gpd

302,400 gpd / 110 gpd/bedroom = 2,749 bedrooms

Test Well TW-5

150 gpm x 1440 minutes per day = 216,000 gpd

216,000 gpd / 110 gpd/bedroom = 1,963 bedrooms

Observation Wells

On-Site Wells

HES observed evidence of hydrogeologic influence (drawdown) on-site on the monitoring well MW-1, the two piezometers (P-1 and P-2) and two test wells (TW-3 and TW-4). Water levels in these wells during the monitoring period demonstrated drawdown and fluctuations consistent with the pumping test. The hydrographs for the on-site observation wells are shown as **Figures 6** through **9**. The water level monitoring data for the on-site observation wells are included in **Appendix 2**.

Off-Site Wells

The off-site monitoring program indicated that only one of the five observations wells experienced drawdown effects due to on-site pumping during testing at TW-6. The Sauer well, located to the East of the subject site on County Road 104, shows an initial depth to water level of 5 feet at the start of pumping with a decline to 12 feet after one day of pumping (**Figure 14**). The observed straight line on the graph indicates that the water level in the well dropped beneath the data logger installed in the well and thus the data logger did

not record the full extent of drawdown in the well during pumping. No hand held electric tape or data logger was able to measure the depth to water in the well below this level due to the presence of a blockage in the well, most likely a solid rubber pump stabilizer or other unknown blockage in the well annulus. However, immediately following pumping shutdown, the well experienced a rapid recovery as noted on the hydrograph at the end of pumping on July 19, 2008. Prior to pump test startup the Cole residence, located near the Sauer well on the western side of County Road 104, was approached to be included in the testing; however, neither the data logger nor a manual electric tape could be inserted past the pump stabilizer. Thus, this private off-site well could not be monitored during testing.

None of the other off-site private wells observed demonstrated appreciable drawdown as a result of the pumping test, although variable fluctuation can be seen. However, for each observed drop in water level in these monitored wells, an equal rate of recovery was observed to pre-pumping static or above pre-pumping levels. Hydrographs showing depth to water versus time for the off-site private wells are provided as **Figures 10** through **14**. The water level monitoring data for all off-site wells are included in **Appendix 3**.

Rainfall Monitoring

The results of rainfall monitoring before, during and after testing indicate that a total of 0.32 inches of rainfall fell between July 13, 2008 and July 22, 2008. Specifically, two localized thunderstorms dropped 0.26 inches of rain on July 21 and 0.06 inches on July 22. No appreciable groundwater recharge effects were noted on any of the on-site hydrographs during the pump testing period. That is, no rebound of on-site groundwater levels was noted on any of the hydrographs during the pumping test as a direct result of rainfall. The results of rainfall monitoring are included on **Table 4**.

WATER QUALITY

Following completion of the 72-hour pumping test, test wells TW-5 and TW-6 were sampled for analysis according to the NYS Sanitary Code Part 5 and the requirements of the SCDOH which includes the following parameters:

- Full inorganic and physical chemical analysis including nitrates and nitrites
- Microbiological for E. coli and total coliform
- Organic Compounds including methyl tertiary butyl ether (MTBE)
- Synthetic Organic Compounds

The water quality results for both test wells TW-5 and TW-6 illustrates that the groundwater is of very good quality and suitable for potable public water

supply according to the NYS Sanitary Code Part 5. Turbidity and color were found to be slightly high compared to NYSDOH standards due to the presence of iron in the groundwater. Iron levels were similarly high in both wells when compared to the SCDOH standard of 0.30 parts per million (ppm), with 0.99 ppm at TW-5 and 0.64 ppm at TW-6. The analytical results are summarized in **Table 3** and the data as provided by the laboratory are attached as **Appendix 5**.

DISCUSSION OF RESULTS

The results of the 8-hour step drawdown tests indicate that test well TW-6 can maintain a pumping rate of 225 gpm while TW-5 can maintain a rate of 150 gpm. The hydrographs plotted for these two wells (**Figure 3** and **Figure 4**) suggest that well stabilization would occur over time and that the amount of available drawdown in the wells will allow for long-term pumping at these capacities without overtaxing the fractured bedrock aquifer that the wells intersect.

The results of the 72-hour pumping test conducted on the previously installed supply wells TW-5 and TW-6 demonstrates that these wells are more than capable of meeting the water demands for up to 1,963 bedrooms using TW-5 as the primary well and as many as 2,749 bedrooms using TW-6 as the primary well. The results of pump testing demonstrate that well stabilization was achieved at TW-6 at a pumping rate of 210 gpm. The well had substantial remaining available drawdown at the end of pumping and a rapid recovery rate after shutdown indicating that the well was not over pumped at the prescribed pumping rate.

The results of the 72-hour pump test indicate that four of the five on-site observation wells were impacted due to the pumping at TW-6 as well as the piezometers set in the wetlands located on-site. Specifically, the on-site drawdown impacts to the observation wells were 3.52 feet at P-1, 3.65 feet at P-2 and 4.15 feet at MW-1. These wells are all screened in the overburden material beneath the site and are an indication that pumping the bedrock aquifer at test well TW-6 did induce drawdown in the shallow unconsolidated water table aquifer at the site. Thus, the overburden aquifer is hydrogeologically connected to the bedrock aquifer at the site. Observation wells P-1, P-2 and MW-1 are located approximately 64 feet, 60 feet and 160 feet, respectively from pumping well TW-6.

The most significant drawdown impact observed in an on-site observation well was at TW-5, which experienced a drawdown of 129.74 feet. The significant drawdown at TW-5 indicates that wells TW-5 and TW-6 draw water from the same fractures or water-bearing units in the bedrock aquifer. During pumping and the recovery period, TW-5 mimicked the hydrogeologic behavior of TW-6. On-site test well TW-3, located to the south of TW-6, experienced no drawdown

due to pumping, which is consistent with the off-site well locations upgradient from TW-6.

Finally, the results of off-site monitoring demonstrate that pumping well TW-6 at a rate of 210 gpm did not induce any off-site impacts at any of the surrounding residential supply wells monitored with the exception of the Sauer well. The Sauer well, located 75 feet east of the site on the western side of County Road 104, experienced a drawdown of at least 7 feet before the water level dropped below the depth of the data logger set in the well. However, at the end of pumping the well experienced rapid recovery. More than likely if TW-5 is selected as the primary supply well at a rate of 150 gpm drawdown impacts to the Sauer well will be reduced or possibly become non-existent. Nonetheless, any detectable on-site and off-site impacts would be considerably less if the pumping rate remained constant at 150 gpm rather than the testing rate at TW-6 of 210 gpm. The water level data plotted on the hydrographs (**Figures 5** through **14**) support this conclusion.

CONCLUSIONS

1. An 8-hour step drawdown test conducted on test well TW-6 demonstrated that the capacity of the well is 225 gpm while the same step drawdown test conducted on TW-5 indicated that this well has a capacity of 150 gpm.

2. A 72-hour pumping test conducted on test well TW-6 demonstrated that the capacity of the well is 210 gpm and that rate can be maintained long-term.

3. On-site monitoring demonstrated that sustained pumping at the proposed well induced drawdown in the three on-site overburden wells. The observed drawdown in these wells is an indication that the pumping well is hydrogeologically connected to the overburden water table aquifer.

4. Off-site monitoring of residential supply wells surrounding the proposed Gan Eden Estates property demonstrated that sustained pumping at the Gan Eden Estates well field induced drawdown in one residential supply well located east of the site. Pumping at the proposed rate of 150 gpm in TW-5 rather than the pump test rate of 210 gpm at TW-6 will likely eliminate or drastically reduce these effects.

5. Test well TW-6 achieved stabilization during the pump test for a period of at least 12 hours. The well recovered to 95% within 40 hours, and had substantial available drawdown at the end of 72 hours of pumping. Thus, the proposed supply well was not overpumped and the rated capacity for this well is considered conservative.

RECOMMENDATIONS

Based on the results of the water supply assessment, including separate 8-hour step drawdown tests and a 72-hour pump test, HES recommends that test well TW-5 be utilized as the main supply well for the proposed development and that TW-6 should be utilized as the back-up supply well. This scenario will be in compliance with the NYSDEC requirement for double the daily demand of the proposed project with the best well out of service. Based on the results of the off-site well monitoring program, HES recommends that the Sauer well be fitted with a 1-inch PVC drop tube so that a data logger may be installed in this well for long-term monitoring purposes following development and full-time use of the proposed on-site water supply. This will allow for qualitative proof that pumping the on-site supply well at the recommended rate of 150 gpm will not adversely impact this existing off-site supply well. A formal water supply permit application will be forwarded to the NYSDEC with this water supply assessment report.

REFERENCES

Fisher, Donald W., Yngvar W. Isachen, and Lawrence V. Rickard. (1970) Geologic Map of New York, Lower Hudson.

Leggette, Brashears & Graham, Inc. (1989) Ground-Water Supply Well Pumping Test Report, Gan Eden Estates Hurleyville, New York.

TABLES

Table 1

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, New York

On-site Well Construction Details

On-site Wells	Total Depth (feet)	Geology	
MW-1	12	5-7'	sand, fine to medium, brown, moist
		10-12'	sand and gravel, coarse sand, wet
TW-3	520	0-10'	till material
		10-520'	interbedded gray siltstone, red shale
TW-5	380	0-16'	clay, silt and gravel
		16-380'	interbedded gray siltstone, red shale
TW-6	460	0-16'	clay, silt and gravel
		16-460'	interbedded gray siltstone, red shale
PZ-1	12	0-2'	peat, silt, root matter
		2-12'	till, silty fine sand, red-brown, some fine gravel
PZ-2	14	0-2'	peat, silt, root matter
		2-14'	till, silty fine sand, red-brown, some fine gravel

Table 2

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, New York

Off-Site Well Location

Off-Site Wells	Well Depth (ft)	Pump Depth (ft)	Address
Columbia Hill	NA	NA	Columbia Hill Estates, Old Liberty Road
Crawford	NA	NA	1150 Old Liberty Road
Gaor	620	600	31 Whittaker Road
Indik	NA	NA	1140 Old Liberty Road
Sauer	NA	NA	County Road 104

NA = Not Available

Table 3

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, New York

Results of Water Quality Analyses

Method	Parameter / Description	TW-5 Result	TW-6 Result	Reporting Limit	Limit
SM18 9223	Coliform, Total	Absent	Absent	pos/neg	any positive
SM18 9223	E. coliform	Absent	Absent	pos/neg	any positive
EPA 245.1	Mercury (Hg)	ND	ND	0.0002	0.002
EPA 110.1	Color	50 units	50 units	2.5 units	15 units
SM18 2130B	Turbidity	17 NTU	22 NTU	0.1 NTU	5 NTU
EPA 140.1	Odor	1 unit	1 unit	1 unit	3 units
SM18 4500CNE	Cyanide, Total	0.01	0.01	0.01	0.2
600/R-93-116	Asbestos	ND	ND	NA	7x10^6 fibers/liter
EPA 200.7	Metals Analysis (ICP)				
	Iron (Fe)	990	640	100	300
	Manganese (Mn)	36	30	15	300
	Zinc (Zn)	92	140	20	500
	Sodium (Na)	9400	8200	5000	no designated limit
EPA 200.8	Metals Analysis (ICP)				
	Silver (Ag)	1	1	1.0	50
	Lead (Pb)	2.4	1.4	1.0	15
	Arsenic (As)	1	1	1.0	50
	Beryllium (Be)	1	1	1.0	4
	Cadmium (Cd)	1	1	1.0	5
	Chromium (Cr)	2	2	2.0	100
	Copper (Cu)	12	3.6	2.1	1300
	Nickel (Ni)	1.1	1.2	1.1	100
	Antimony (Sb)	2	2	2.0	6
	Titanium (Ti)	1	1	1.0	2
	Barium (Ba)	120	110	2.0	2000
	Selenium (Se)	5	5	5	10
EPA SM 2340B	Calcium Hardness as Calcium Carbonate	25	24	2.5	no designated limit
	Hardness as Calcium Carbonate	35	33	2.5	no designated limit
	Alkalinity	36	32	5	no designated limit
EPA SM 2320B	Total Dissolved Solids	92	82	5	no designated limit
EPA SM 2540C	Fluoride	0.2	0.2	0.2	2.2
EPA 4500 F C	pH	6.11	5.84	0.2	no designated limit
EPA SM 4500 H+ B	Heterotrophic Plate Count	4	15	2	no designated limit
EPA SM 9215B	Langelier Index	-3.1	-3.4		no designated limit
EPA SM 2330B	Volatile Organics				
EPA 524.2	Dichlorodifluoromethane	ND	ND	0.5	5
	Chloromethane	ND	ND	0.5	5
	Chlorobromomethane	ND	ND	0.5	5
	Vinyl chloride	ND	ND	0.5	5
	Bromomethane	ND	ND	0.5	5
	Chloroethane	ND	ND	0.5	5
	1,1-Dichloroethane	ND	ND	0.5	5
	Methylene chloride	ND	ND	1	5
	trans-1,2-Dichloroethene	ND	ND	0.5	5
	1,1-Dichloroethene	ND	ND	0.5	5
	2,2-Dichloropropane	ND	ND	0.5	5
	cis-1,2-Dichloroethene	ND	ND	0.5	5
	1,1,1-Trichloroethane	ND	ND	0.5	5
	1,1-Dichloropropene	ND	ND	0.5	5
	Carbon tetrachloride	ND	ND	0.5	5
	Benzene	ND	ND	0.5	5

All units in concentration of microgram/L (ppb) unless otherwise stated
ND = not detected above reporting limits
NTU = Nephelometric Turbidity Units

Table 3

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, New York

Results of Water Quality Analyses

Method	Parameter / Description	TW-5 Result	TW-6 Result	Reporting Limit	Limit
EPA 524.2 (cont.)	1,2-Dichloroethane	ND	ND	0.5	5
	Trichloroethene	ND	ND	0.5	5
	1,2-Dichloropropane	ND	ND	0.5	5
	Dibromomethane	ND	ND	0.5	5
	cis-1,3-Dichloropropene	ND	ND	0.5	5
	Toluene	0.64	0.68	0.5	5
	trans-1,3-Dichloropropene	ND	ND	0.5	5
	1,1,2-Trichloroethane	ND	ND	0.5	5
	Tetrachloroethene	ND	ND	0.5	5
	1,3-Dichloropropane	ND	ND	0.5	5
	Chlorobenzene	ND	ND	0.5	5
	1,1,1,2-Tetrachloroethane	ND	ND	0.5	5
	Ethylbenzene	ND	ND	0.5	5
	1,3,5-Trimethylbenzene	ND	ND	0.5	5
	m-Xylene & p-xylene	ND	ND	0.5	5
	4-Isopropyltoluene	ND	ND	0.5	5
	o-Xylene	ND	ND	0.5	5
	Styrene	ND	ND	0.5	5
	Isopropylbenzene	ND	ND	0.5	5
	1,1,2,2-Tetrachlorethane	ND	ND	0.5	5
	Bromobenzene	ND	ND	0.5	5
	1,2,3-Trichloropropane	ND	ND	0.5	5
	4-Chlorotoluene	ND	ND	0.5	5
	n-Propylbenzene	ND	ND	0.5	5
	2-Chlorotoluene	ND	ND	0.5	5
	tert-Butylbenzene	ND	ND	0.5	5
	1,2,4-Trimethylbenzene	ND	ND	0.5	5
	sec-Butylbenzene	ND	ND	0.5	5
	1,3-Dichlorobenzene	ND	ND	0.5	5
	1,4-Dichlorobenzene	ND	ND	0.5	5
	n-Butylbenzene	ND	ND	0.5	5
	1,2-Dichlorobenzene	ND	ND	0.5	5
	1,2,4-Trichlorobenzene	ND	ND	0.5	5
	Hexachlorobutadiene	ND	ND	0.5	5
	1,2,3-Trichlorbenzene	ND	ND	0.5	5
EPA 300.0	Ion Chromotography Analysis				
	Chloride	12	9.7	10.00	250
	Nitrate as N (NO3-N)	0.27	0.27	0.25	10
	Nitrite as N (NO2-N)	0.5	0.5	0.5	1
	Sulfate	7.6	7.8	5	250

All units in concentration of microgram/L (ppb) unless otherwise stated
ND = not detected above reporting limits
NTU = Nephelometric Turbidity Units

Table 4

Proposed Gan Eden Estates Water Supply
Thompson/Hurleyville, New York

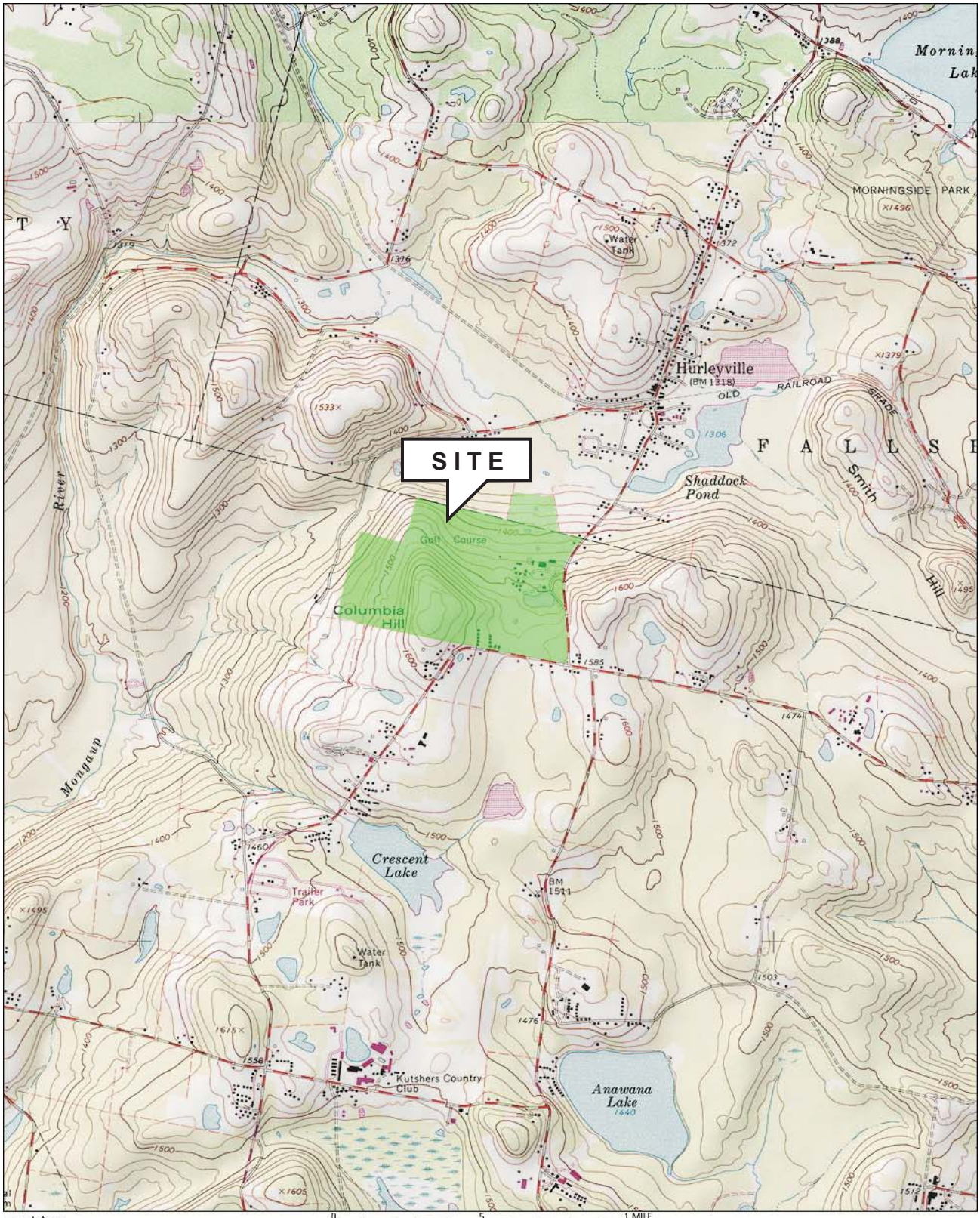
On-site Rain Gauge Monitoring Log

Date	Time	Rainfall (in)
7/21/2008	10:00 AM	0.26
7/22/2008	11:00 AM	0.06
	Total	0.32

FIGURES

FIGURE 1
SITE LOCATION MAP

Proposed Gan Eden Estates
Thompson & Hurleyville, New York



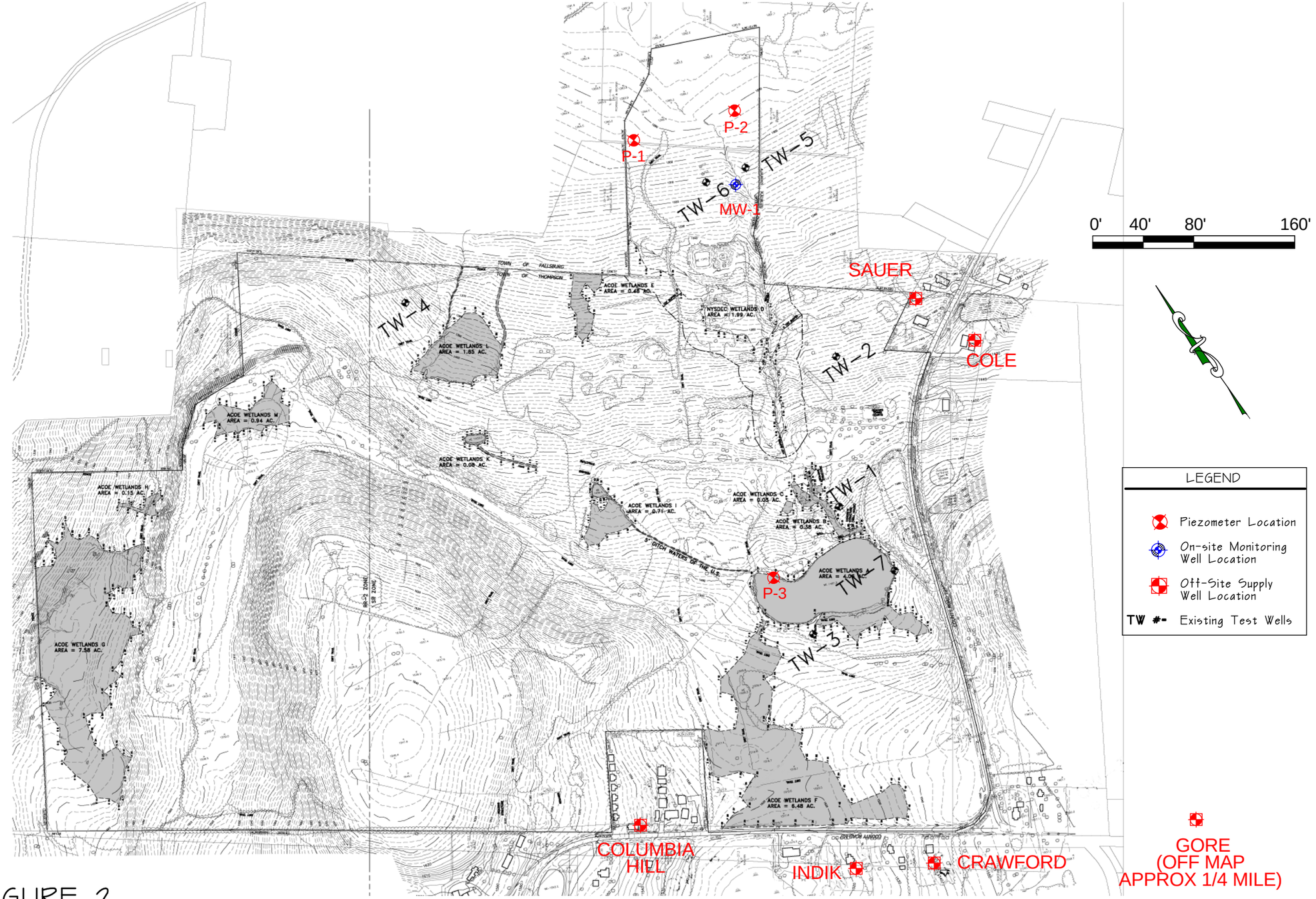


FIGURE 2

GAN EDEN ESTATES THOMPSON & HURLEYVILLE, NEW YORK	PUMPING AND OBSERVATION WELL LOCATION MAP	SEPTEMBER 2008 SITE PLAN ADAPTED FROM: PAULUS SOKOLOWSKI AND SARTOR, LLC. CONSULTING EGINEERS CONSTRAINTS MAP DATED - 02/09/07	HydroEnvironmental SOLUTIONS, INC. 293 Route 100 + Mill Pond Offices + Suite 205 Somers, New York 10589

Figure 3

Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

TW-6 Hydrograph
8-Hour Step-Drawdown Test
July 13, 2008

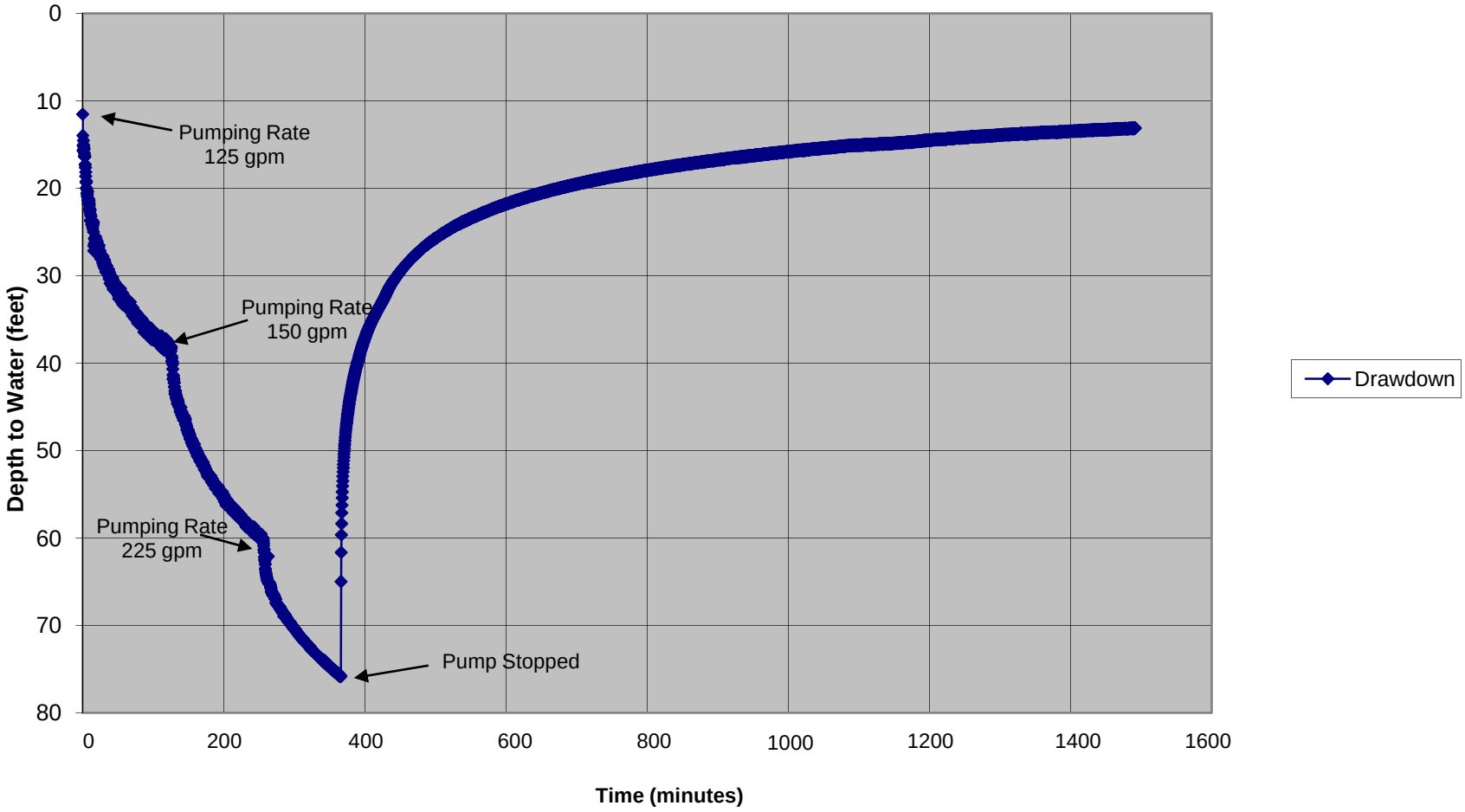


Figure 4

Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

TW-5 Hydrograph
8-Hour Step-Drawdown Test
July 14, 2008

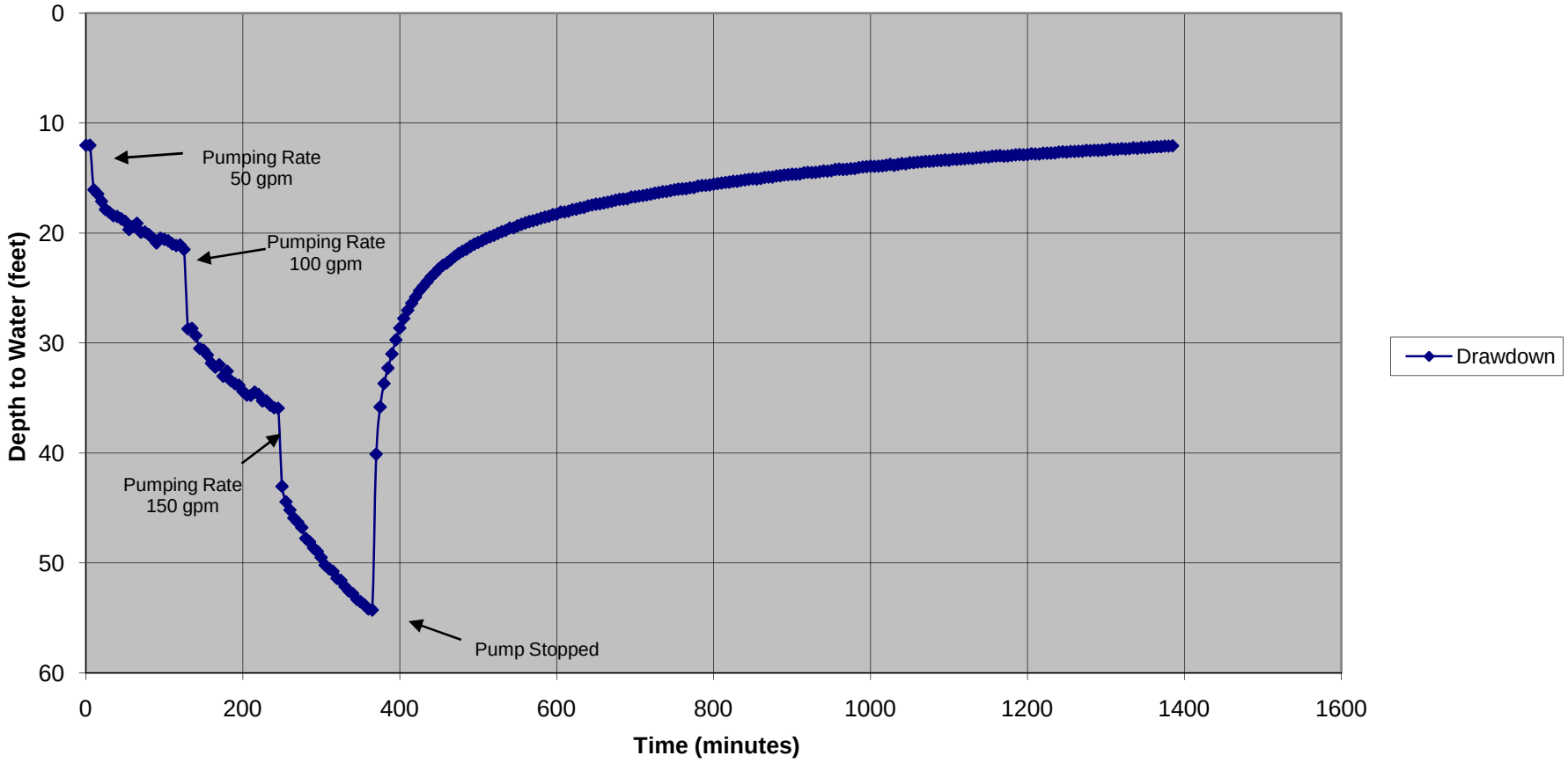


Figure 5

Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

TW-6 Hydrograph
72-Hour Pump Test

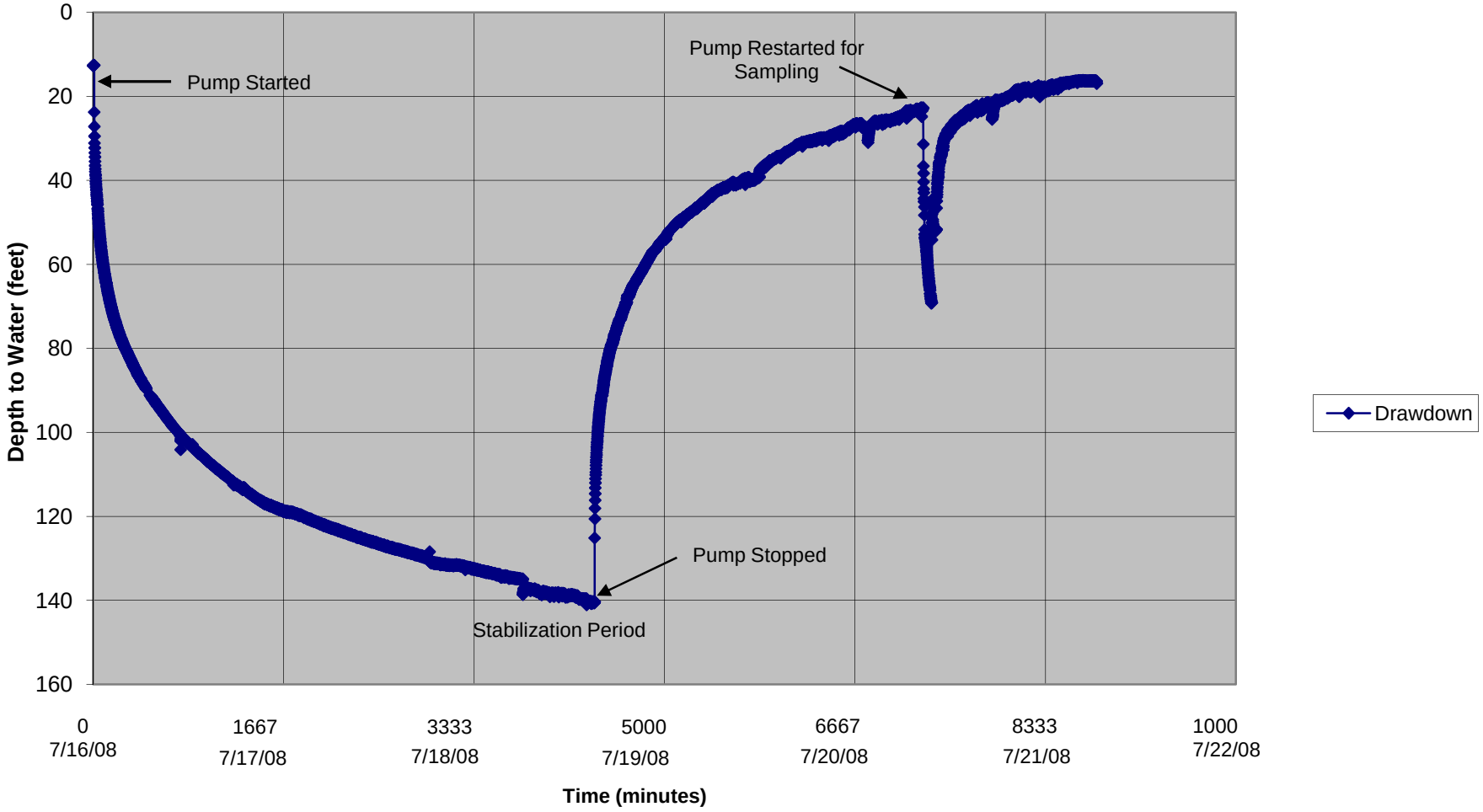


Figure 6

Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

MW-1 Hydrograph
72-Hour Pump Test

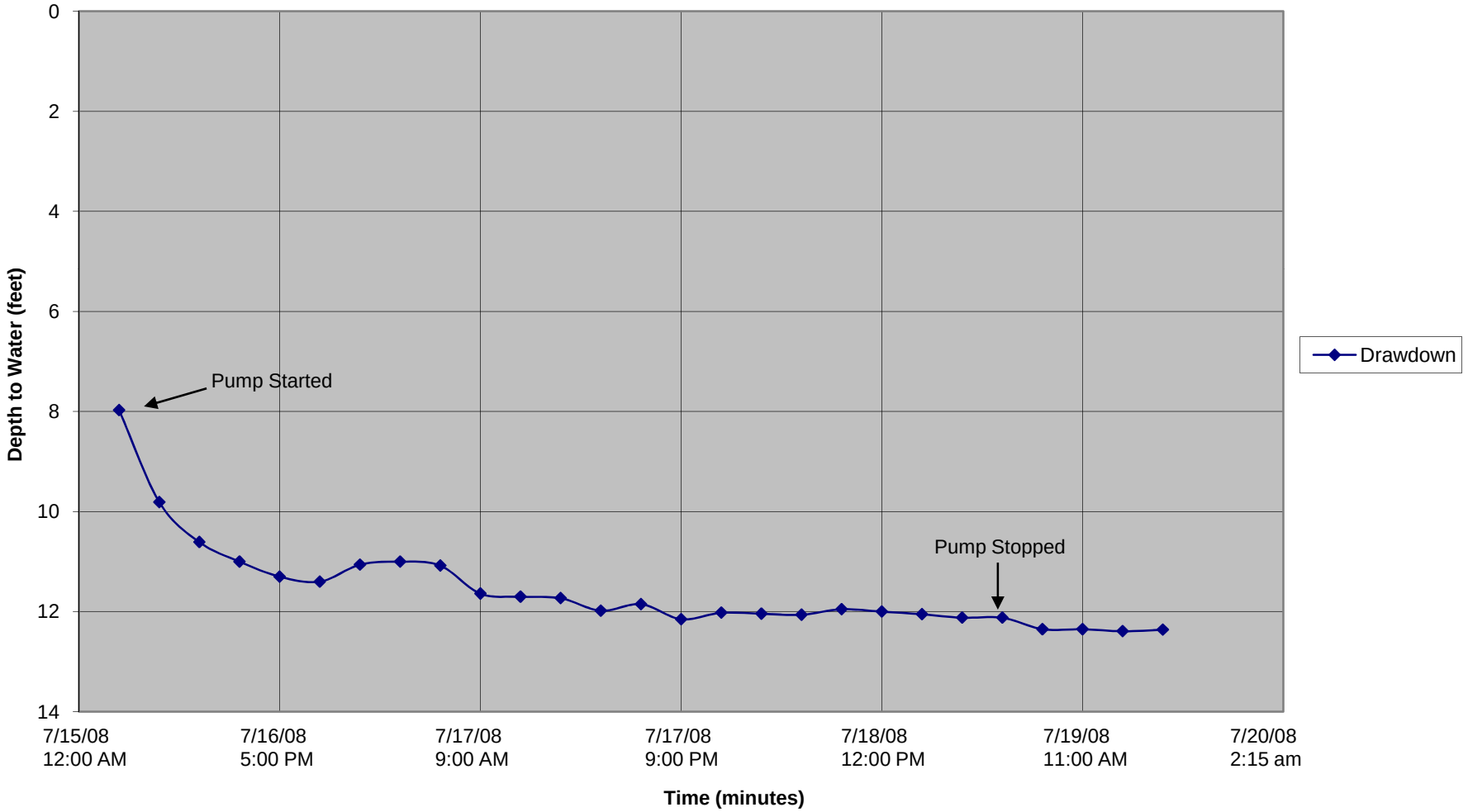


Figure 7

Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

P-1 & P-2 Hydrograph
72-Hour Pump Test

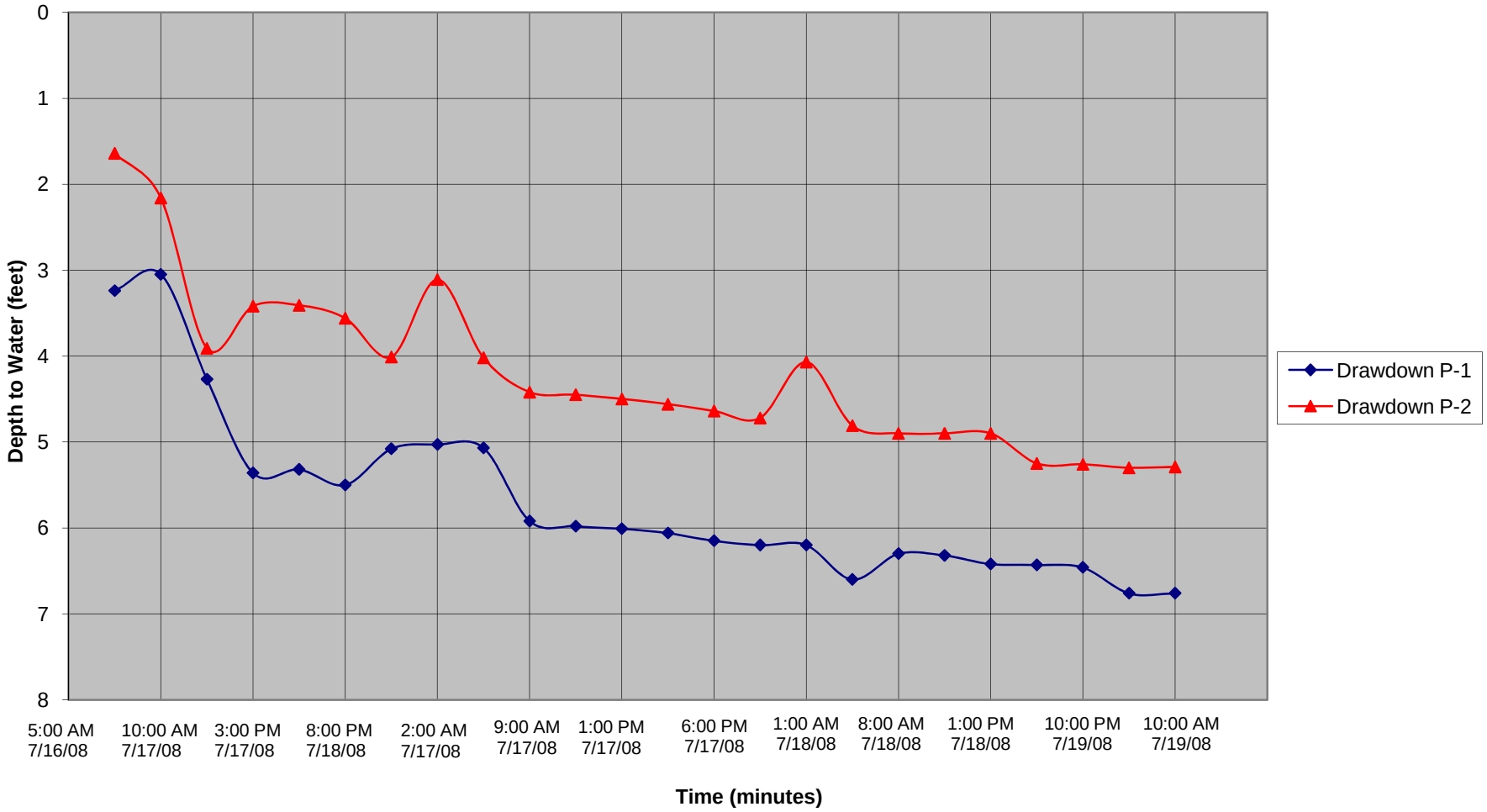


Figure 8

Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

TW-3 Hydrograph
72-Hour Pumping Test

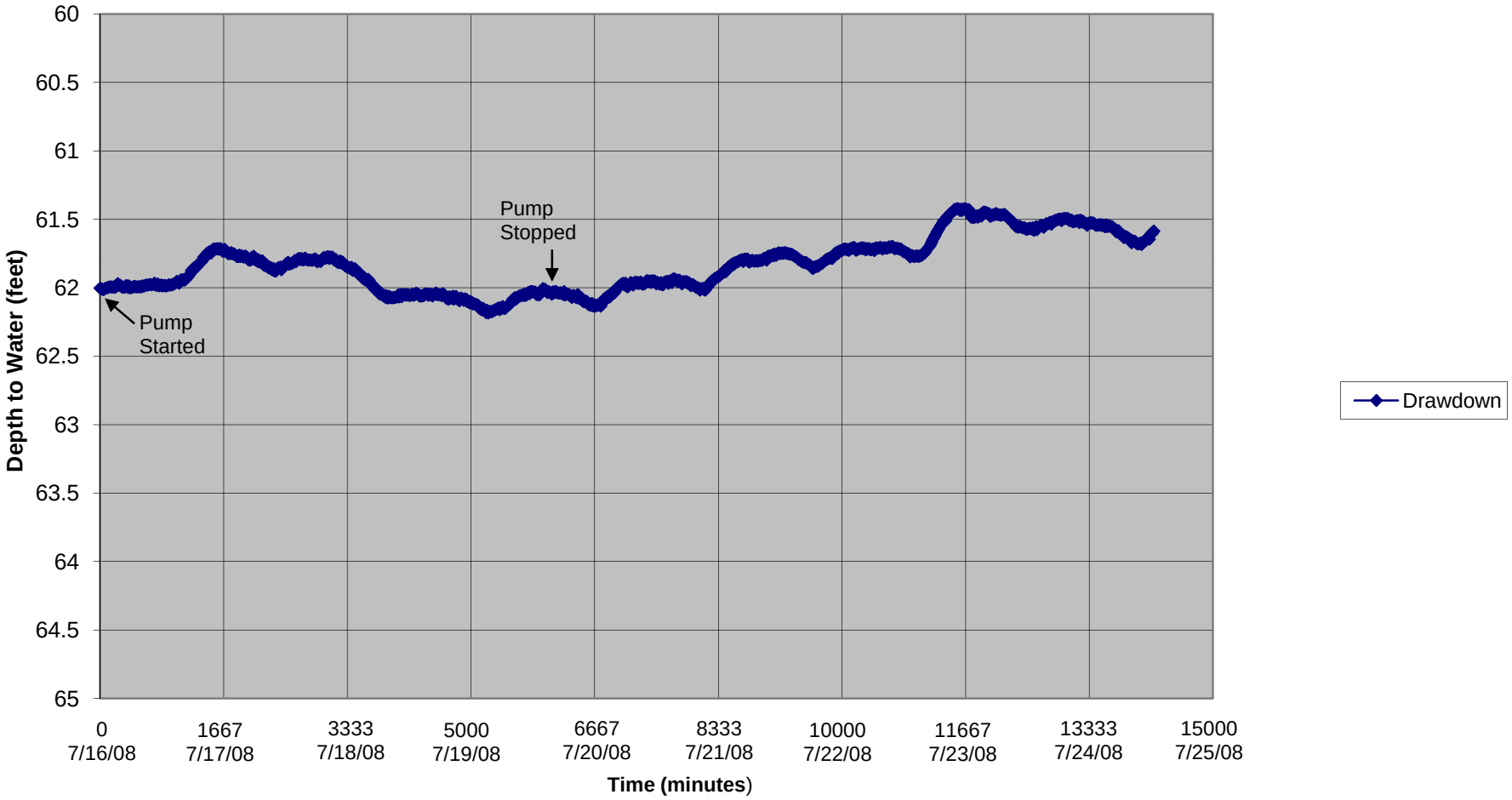


Figure 9

Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

TW-5 Hydrograph
72-Hour Pump Test

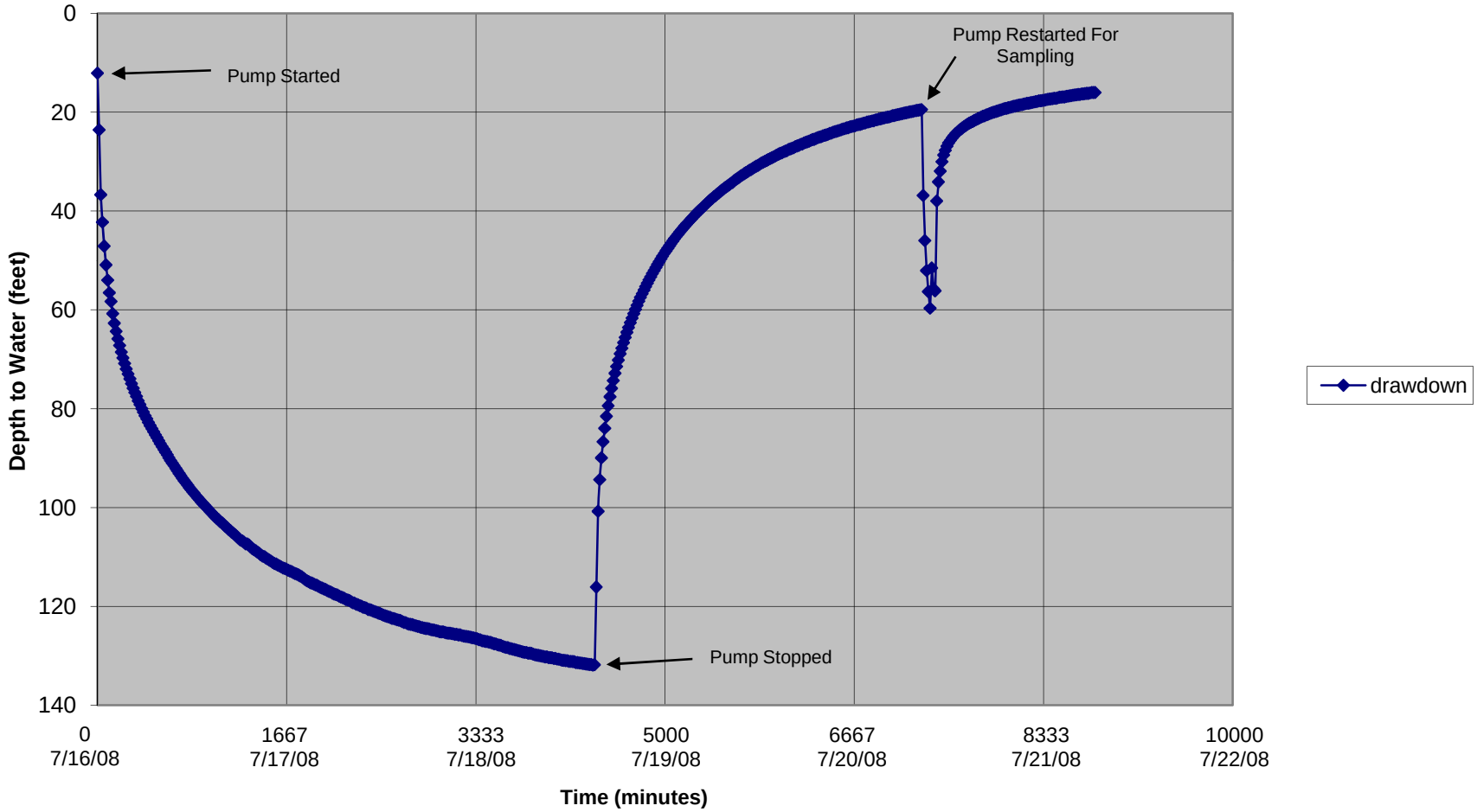


Figure 10

Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

Off-Site Monitor Well
Columbia Hill Well Hydrograph

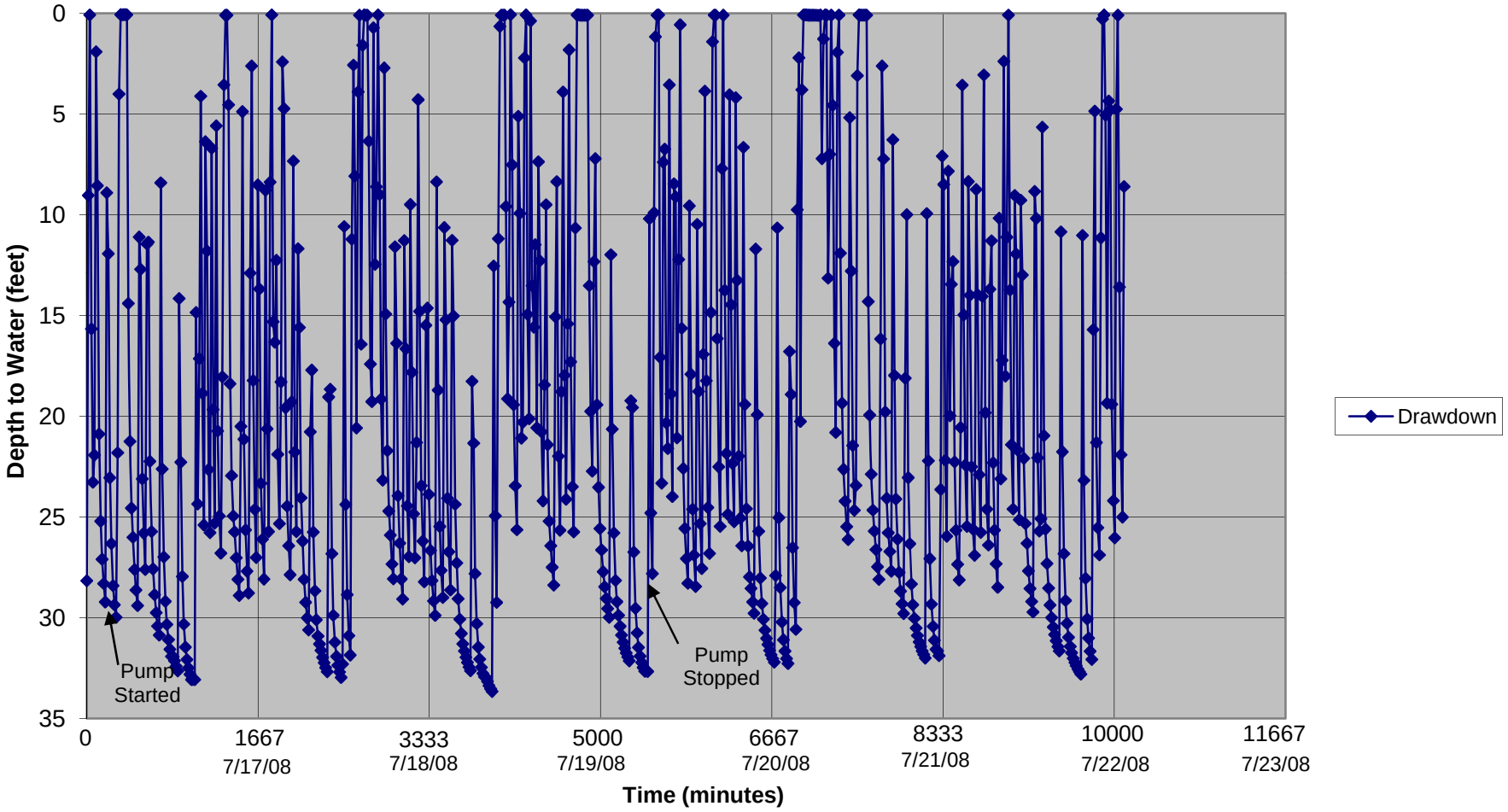


Figure 11

Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

Off-Site Monitor Well
Crawford Well Hydrograph

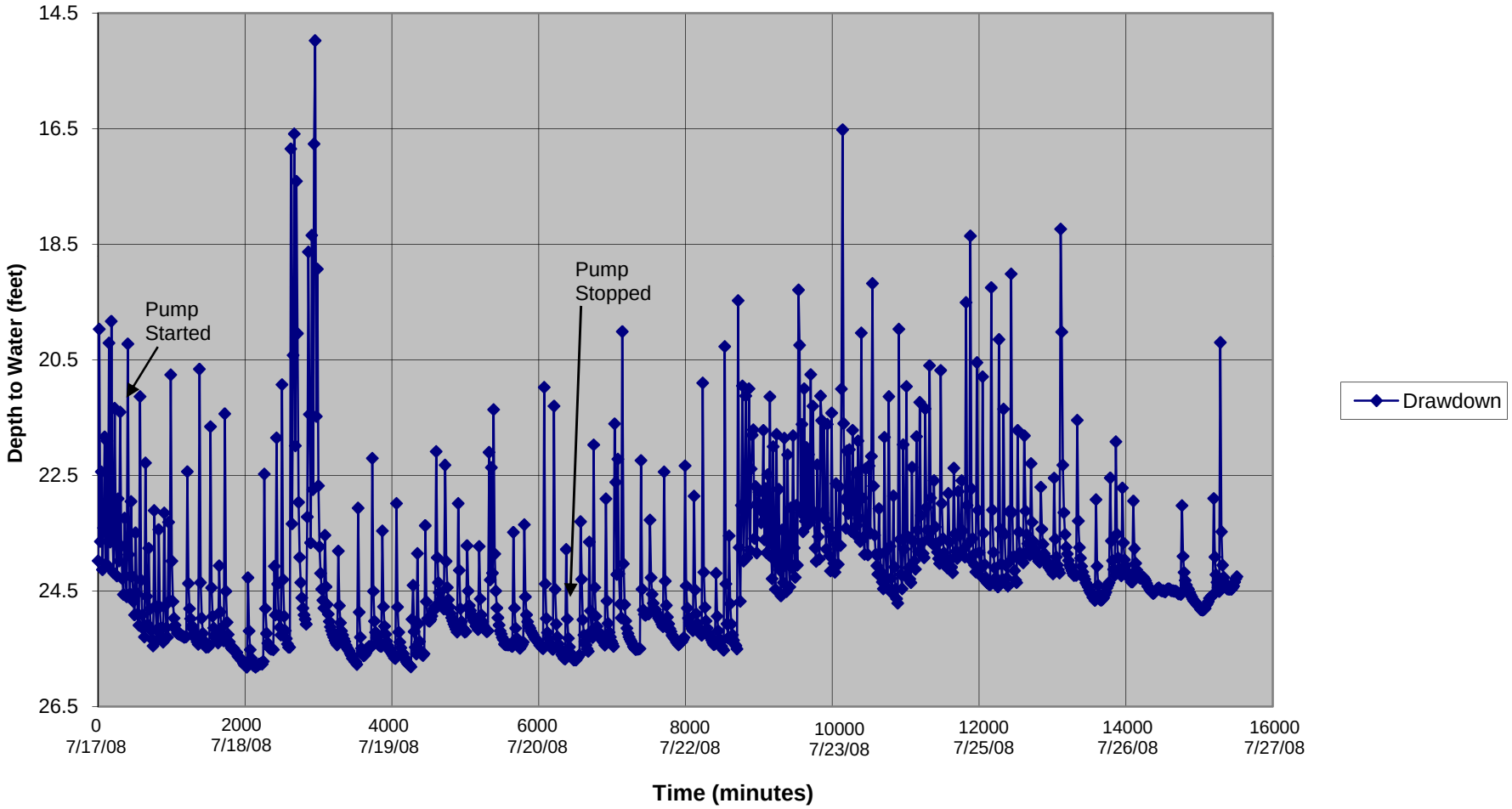


Figure 12

Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

Off-Site Monitor Well
Gaor Well Hydrograph

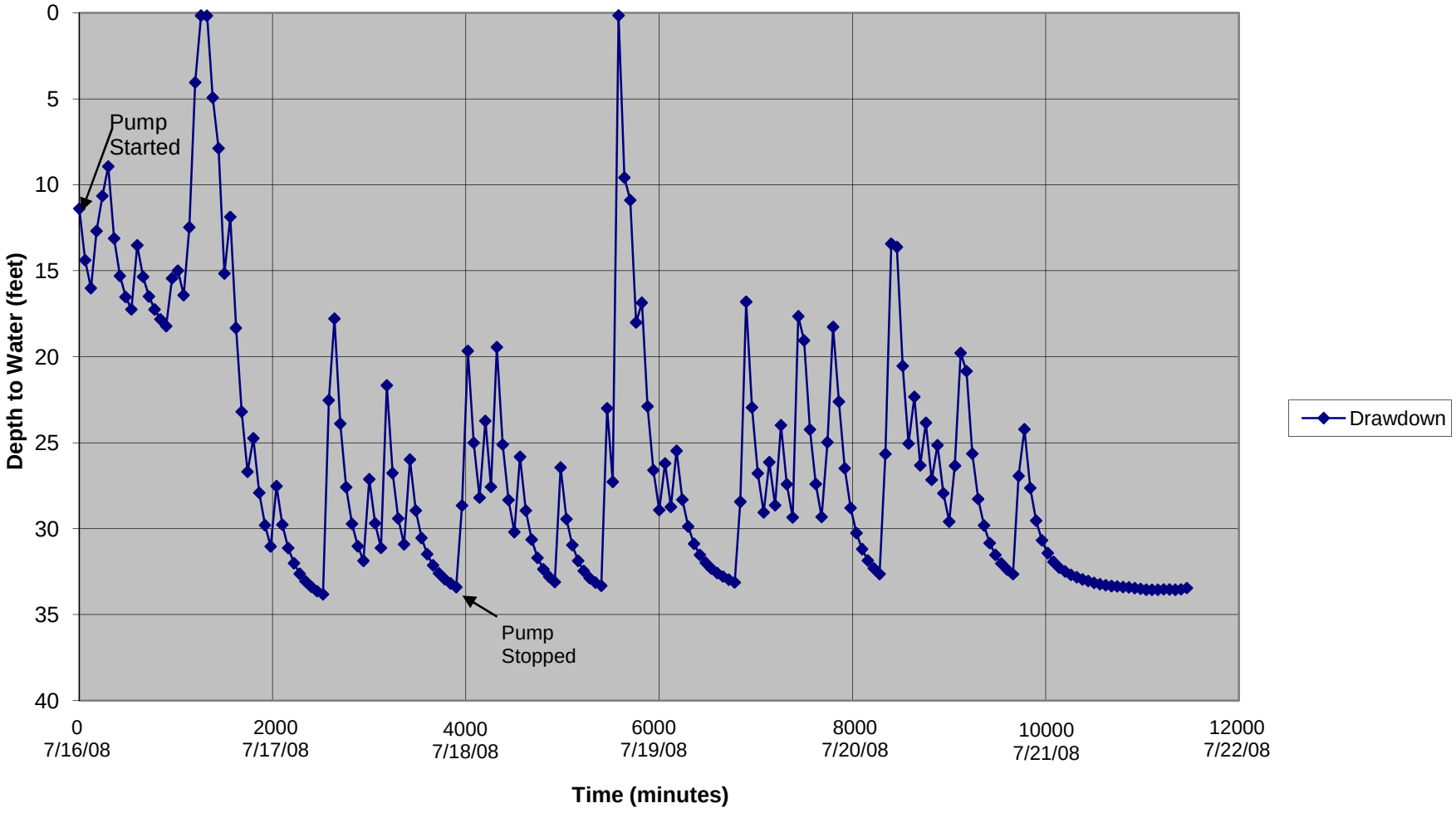


Figure 13

Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, New York

Off-Site Monitor Well
Indik Well Hydrograph

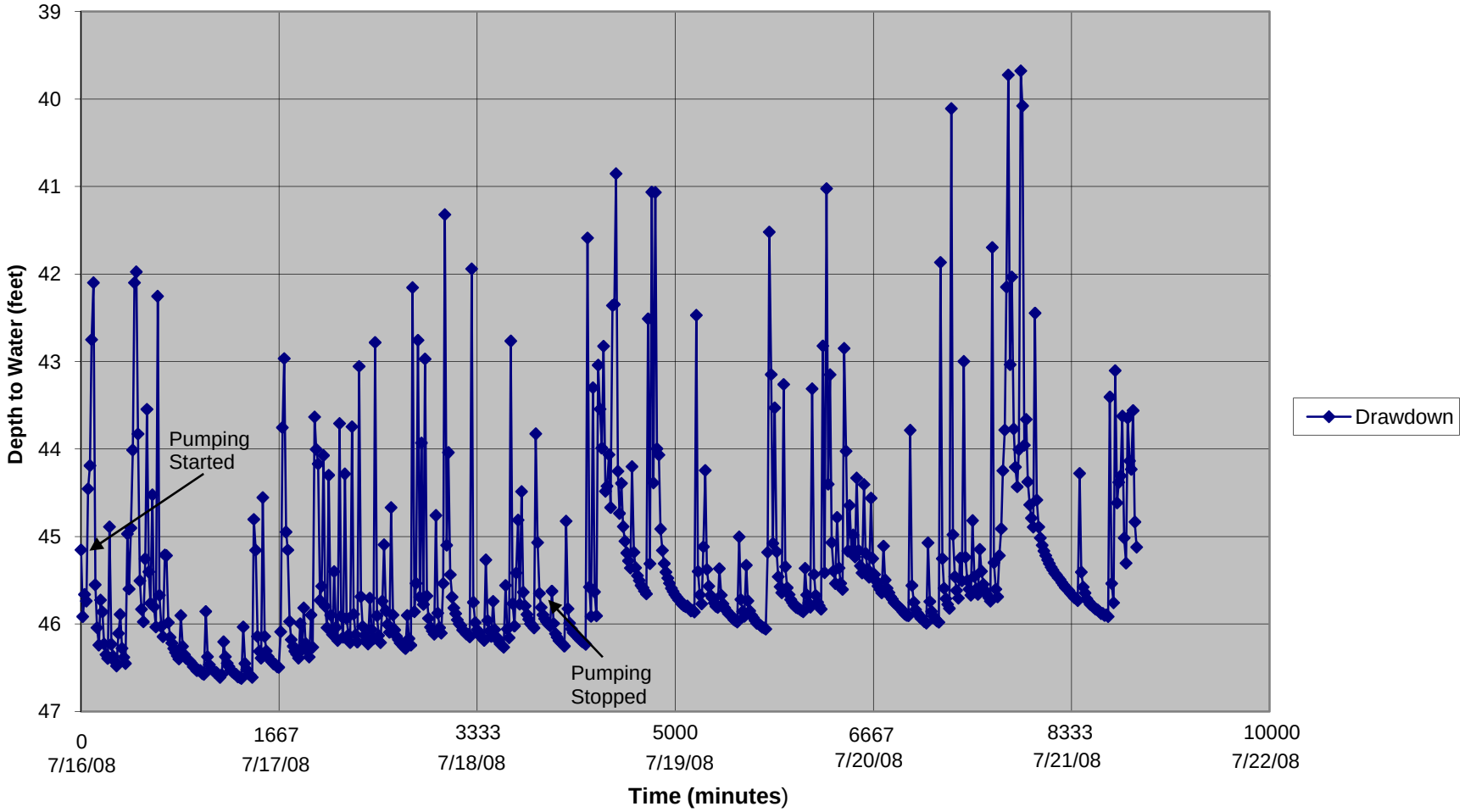
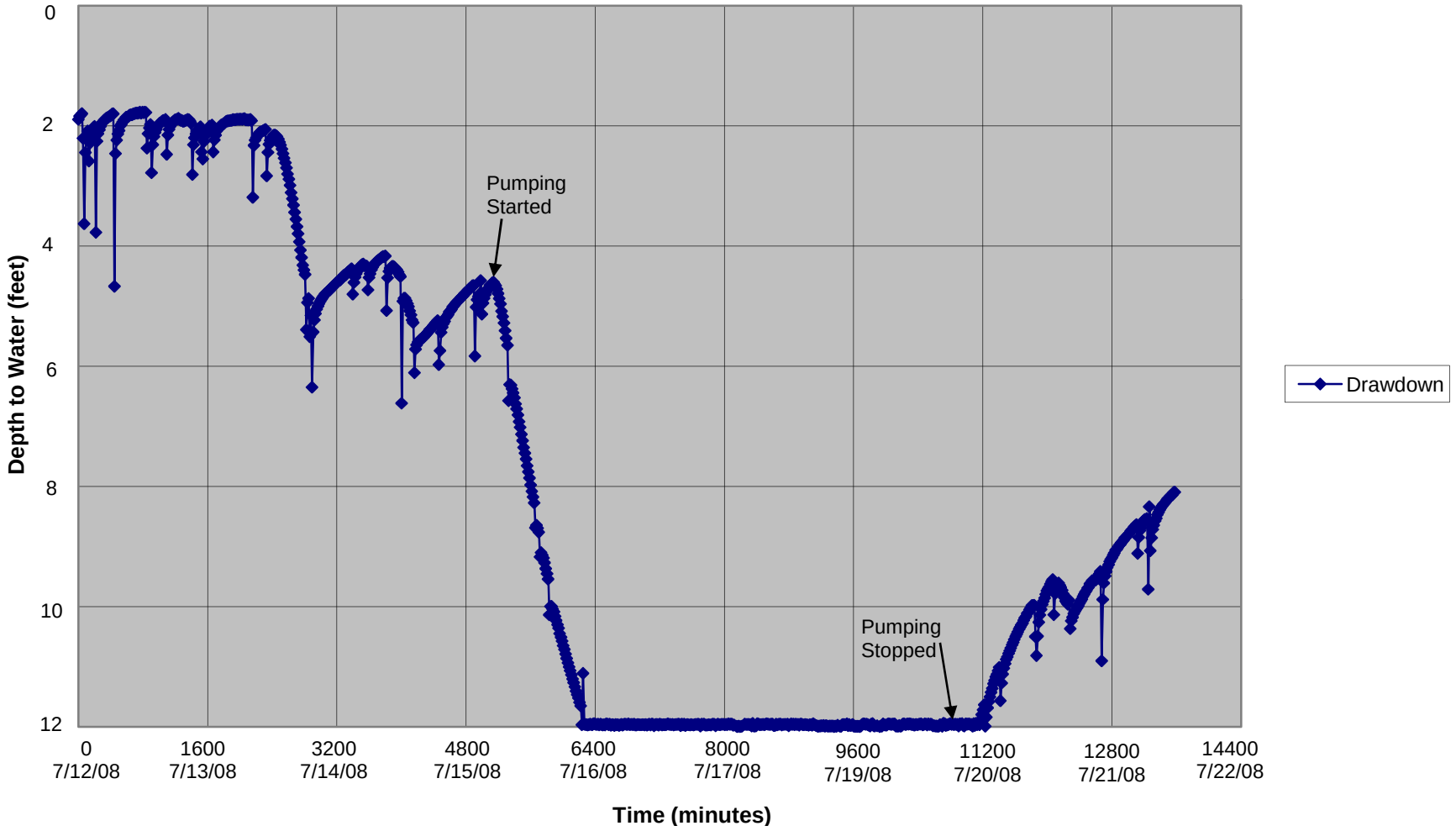


Figure 14

Proposed Gan Eden Estates Water Supply Assement
Thompson/Hurleyville, New York

Off-Site Monitor Well
Sauer Well Hydrograph



APPENDIX 2:

On-site Pumping Wells and Observation Wells Raw Data

APPENDIX 3:

Off-site Monitoring Wells
Raw Data

APPENDIX 4:

Geologic Logs

GEOLOGIC LOG

HydroEnvironmental SOLUTIONS, INC.

OWNER: Larry Frenkel

WELL NO.: MW-1

PAGE 1 **OF** 1 **PAGES**

SITE LOCATION: Gan Eden Estates
Thompson, NY

SCREEN SIZE & TYPE: 2" PVC

SLOT NO.: 20 **SETTING**: 2 - 23 ftbg

DATE COMPLETED: 7/7/08

SAND PACK SIZE & TYPE: No. 2

SETTING: 2 - 23ftbg

DRILLING COMPANY: ADT, Inc.
Troy, NY

CASING SIZE & TYPE: 2" PVC

DRILLING METHOD: Hollow Stem Auger – 4 ¾"

SETTING: 3ftbg – 3 ft above grade

SAMPLING METHOD: Split Spoon – 2"

SEAL TYPE: Bentonite

OBSERVER: WAC

SETTING:

REFERENCE POINT (RP): Grade

BACKFILL TYPE: Clean cuttings

ELEVATION OF RP:

STATIC WATER LEVEL:

STICK-UP: 2' Steel Casing

DEVELOPMENT METHOD:

SURFACE COMPLETION:

DURATION: – **YIELD**: –

REMARKS: **Start**: 11:30 **Finish**: 13:30

ABBREVIATIONS: SS = split spoon W = wash C = cuttings G = grab ST = shelby tube
REC = Recovery PPM = parts per million ftbg = feet below grade MC = macro core sampler

DEPTH (FEET)		SAMPLE TYPE	BLOW COUNT	REC. (FEET)	PID READING (PPM)	DESCRIPTION
FROM	TO					
5	7	SS	NA	-	-	SAND; fine to medium; brown; moist
10	12	SS	12-15-18-14	1	-	SAND; fine to medium; brown; GRADES to SAND; coarse and GRAVEL; fine to coarse; wet @ 7.5 ftbg

APPENDIX 5:

Water Quality Sampling Results

PHOENIX
Environmental Laboratories, Inc.

Friday, November 11, 2016

Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Project ID: GAN EDEN ESTATES
Sample ID#s: BV60751 - BV60754

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

November 11, 2016

SDG I.D.: GBV60751

Sample BV60751 was received past hold time for Heterotrophic Plate Count (SM9215B).
Sample BV60752 was received past hold time for Heterotrophic Plate Count (SM9215B).
Sample BV60753 was received past hold time for Heterotrophic Plate Count (SM9215B).

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

November 11, 2016

FOR: Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:	SV	10/20/16	11:45
Location Code:	HES-NY	Received by:	LB	10/21/16	9:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV60751
Phoenix ID: BV60751

Project ID: GAN EDEN ESTATES
Client ID: TW-3

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Escherichia Coli	<1	1	1	MPN/100 mls		0		10/21/16 10:15	KDB/KDB	SM9223B-04	
Heterotrophic Plate Count	134	0	1	CFU/ml				10/21/16 12:05	RM/RS	SM9215B-04	
Total Coliforms	16	1	1	MPN/100 mls		0		10/21/16 10:15	KDB/KDB	SW9223B	
Hardness (CaCO3)	71.7	0.1	1	mg/L				10/26/16		E200.7	
Alkalinity-CaCO3	40	20.0	1	mg/L				10/25/16	RR/EG	SM2320B-97	
Chloride	52.2	3.0	1	mg/L			250	10/21/16	BS/EG	E300.0	
Color, Apparent	< 1	1	1	Color Units			15	10/21/16 20:30	DH/KDB	SM2120B-01	
Cyanide, Free	< 0.005	0.005	1	mg/L		0.2		10/27/16	EG	E335.4/SW9014	
Fluoride	< 0.10	0.10	1	mg/L		4		10/21/16	BS/EG	E300.0	
Langelier Index	-2.15		1	pH units				10/25/16	SB	SM2330B-05	1
Nitrite as Nitrogen	< 0.004	0.004	1	mg/L		1		10/21/16 19:47	BS/EG	E300.0	
Nitrate as Nitrogen	0.47	0.05	1	mg/L		10		10/21/16 19:47	BS/EG	E300.0	
Odor at 60 Degrees C	< 1	1	1	T.O.N.			3	10/21/16 17:15	O	SM2150B-97	
pH	6.72	0.10	1	pH Units			6.5-8.5	10/25/16 03:21	RR/EG	SM4500-H B-00	1
Sulfate	3.9	3.0	1	mg/L			250	10/21/16	BS/EG	E300.0	
Total Cyanide (Drinking water)	< 0.005	0.005	1	mg/L		0.2		10/24/16	EG	E335.4	
Tot. Diss. Solids	140	10	1	mg/L			500	10/25/16	KH	SM2540C-97	
Turbidity	1.12	0.20	1	NTU			5	10/21/16 22:53	RWR	SM2130B-01	
Silver	< 0.001	0.001	1	mg/L			0.1	10/22/16	LK	E200.7	
Arsenic	< 0.0005	0.0005	1	mg/L		0.01		10/26/16	RS/TH	E200.9/SM3113B-10	
Barium	0.257	0.001	1	mg/L		2		10/22/16	LK	E200.7	
Beryllium	< 0.0003	0.0003	1	mg/L		0.004		10/22/16	LK	E200.7	
Calcium	20.6	0.005	1	mg/L				10/22/16	LK	E200.7	
Cadmium	< 0.001	0.001	1	mg/L		0.005		10/22/16	LK	E200.7	
Chromium	< 0.001	0.001	1	mg/L		0.1		10/22/16	LK	E200.7	
Copper	0.013	0.002	1	mg/L	1.3			10/22/16	LK	E200.7	
Iron	0.31	0.01	1	mg/L			0.3	10/22/16	LK	E200.7	

***** Iron exceeds Secondary Goal 0.3 *****

Project ID: GAN EDEN ESTATES
Client ID: TW-3

Phoenix I.D.: BV60751

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
Mercury	< 0.0002	0.0002	1	mg/L		0.002		10/24/16	RS	E245.1
Magnesium	4.93	0.005	1	mg/L				10/22/16	LK	E200.7
Manganese	0.073	0.001	1	mg/L			0.05	10/22/16	LK	E200.7
***** Manganese exceeds Secondary Goal 0.05 *****										
Sodium	13.1	0.1	1	mg/L				10/25/16	TH	E200.7
Nickel	0.002	0.001	1	mg/L				10/23/16	LK	E200.7
Lead	0.0022	0.0010	1	mg/L	0.015			10/22/16	LK	E200.5
Antimony	< 0.0008	0.0008	1	mg/L		0.006		10/25/16	RS	E200.9/SM3113B-10
Selenium	< 0.001	0.001	1	mg/L		0.05		10/24/16	RS	E200.9/SM3113B-10
Thallium	< 0.0007	0.0007	1	mg/L		0.002		10/24/16	RS	E200.9/SM3113B-10
Zinc	0.063	0.001	1	mg/L			5	10/22/16	LK	E200.7
Extraction for Pesticides	Completed							10/25/16	I/I	E507
Extraction for 525.2	Completed							10/25/16	E/E	E525.2
Extraction for Diquat	Completed							10/25/16	E/E	E549
Extraction for Haloacetic Acids	Completed							10/30/16	D/K	E552.2
Mercury DW Digestion	Completed							10/24/16	W/W	E245.1
Extraction of DW Pesticides	Completed							10/25/16	I/I	E508
Extraction of DW Herbicides	Completed							10/30/16	K/D	E515
Total Metal Digestion	Completed							10/21/16	CB/G/CB	E200.9
Total Metal Digestion	Completed							10/21/16	CB/G/CB	E200.5/E200.7
EDB and DBCP Analysis										
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	1	ug/L		0.2		10/25/16	JRB	E504.1
1,2-Dibromoethane (EDB)	ND	0.01	1	ug/L		0.02		10/25/16	JRB	E504.1
Organophosphorus Pesticides										
Alachlor	ND	0.10	1	ug/L		2		10/29/16	CE	E507
Atrazine	ND	0.10	1	ug/L		3		10/29/16	CE	E507
Butachlor	ND	0.10	1	ug/L				10/29/16	CE	E507
Metolachlor	ND	0.10	1	ug/L				10/29/16	CE	E507
Metribuzin	ND	0.10	1	ug/L				10/29/16	CE	E507
Simazine	ND	0.070	1	ug/L		4		10/29/16	CE	E507
QA/QC Surrogates										
% 1,3 Dimethyl-2-nitrobenzene	87		1	%	NA	NA	NA	10/29/16	CE	70 - 130 %
Pesticides										
Aldrin	ND	0.010	1	ug/L				10/26/16	CE	E508
Chlordane	ND	0.010	1	ug/L		2		10/26/16	CE	E508
Dieldrin	ND	0.010	1	ug/L				10/26/16	CE	E508
Endrin	ND	0.010	1	ug/L		2		10/26/16	CE	E508
Heptachlor	ND	0.010	1	ug/L		0.4		10/26/16	CE	E508
Heptachlor Epoxide	ND	0.010	1	ug/L		0.2		10/26/16	CE	E508
Hexachlorobenzene	ND	0.010	1	ug/L		1		10/26/16	CE	E508
Hexachlorocyclopentadiene	ND	0.010	1	ug/L		50		10/26/16	CE	E508
Lindane	ND	0.010	1	ug/L		0.2		10/26/16	CE	E508
Methoxychlor	ND	0.010	1	ug/L		40		10/26/16	CE	E508
Propachlor	ND	0.050	1	ug/L				10/26/16	CE	E508
Toxaphene	ND	1.0	1	ug/L		3		10/26/16	CE	E508
QA/QC Surrogates										
%DCBP (Surrogate Rec)	75		1	%	NA	NA	NA	10/26/16	CE	70 - 130 %

Project ID: GAN EDEN ESTATES
Client ID: TW-3

Phoenix I.D.: BV60751

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
PCB Screen											
PCB-1016 (screen)	ND	0.080	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1221 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1232 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1242 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1248 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1254 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1260 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1262 (screen)	ND	0.10	1	ug/l				10/25/16	AW	E508	1
PCB-1268 (screen)	ND	0.10	1	ug/l				10/25/16	AW	E508	1
QA/QC Surrogates											
%DCBP (Surrogate Rec)	84		1	%	NA	NA	NA	10/25/16	AW	30 - 150 %	
Herbicides											
2,4,5-T	ND	0.50	1	ug/L				11/03/16	CE	E515.3	1
2,4,5-TP	ND	0.20	1	ug/L		50		11/03/16	CE	E515.3	
2,4-D	ND	0.10	1	ug/L		70		11/03/16	CE	E515.3	
Dalapon	ND	1.0	1	ug/L		200		11/03/16	CE	E515.3	
Dicamba	ND	0.50	1	ug/L				11/03/16	CE	E515.3	
Dichloroprop	ND	0.50	1	ug/L				11/03/16	CE	E515.3	1
Dinoseb	ND	0.20	1	ug/L		7		11/03/16	CE	E515.3	
Pentachlorophenol	ND	0.040	1	ug/L		1		11/03/16	CE	E515.3	
Picloram	ND	0.10	1	ug/L		500		11/03/16	CE	E515.3	
QA/QC Surrogates											
% DCAA	87		1	%	NA	NA	NA	11/03/16	CE	70 - 130 %	
Volatiles											
1,1,1,2-Tetrachloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1,1-Trichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1,2,2-Tetrachloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1,2-Trichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1-Dichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1-Dichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1-Dichloropropene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,3-Trichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,3-Trichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,4-Trichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,4-Trimethylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2-Dichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2-Dichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2-Dichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,3,5-Trimethylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,3-Dichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,3-Dichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,4-Dichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
2,2-Dichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
2-Chlorotoluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
4-Chlorotoluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
Benzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
Bromobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Bromochloromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Bromodichloromethane	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Bromoform	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Bromomethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Carbon tetrachloride	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Chlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Chloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Chloroform	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Chloromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
cis-1,2-Dichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
cis-1,3-Dichloropropene	ND	0.40	1	ug/L		5		10/21/16	HM	E524.2
Dibromochloromethane	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Dibromomethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Dichlorodifluoromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Ethylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Hexachlorobutadiene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Isopropylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
m&p-Xylene	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Methyl t-butyl ether (MTBE)	ND	0.50	1	ug/L		10		10/21/16	HM	E524.2
Methylene chloride	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Naphthalene	ND	0.50	1	ug/L				10/21/16	HM	E524.2
n-Butylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
n-Propylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
o-Xylene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
p-Isopropyltoluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
sec-Butylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Styrene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
tert-Butylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Tetrachloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Toluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Total Trihalomethanes	ND	0.50	1	ug/L		80		10/21/16	HM	E524.2
Total Xylenes	ND	0.50	1	ug/L		10000		10/21/16	HM	E524.2
trans-1,2-Dichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
trans-1,3-Dichloropropene	ND	0.40	1	ug/L		5		10/21/16	HM	E524.2
Trichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Trichlorofluoromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Vinyl chloride	ND	0.50	1	ug/L		2		10/21/16	HM	E524.2
QA/QC Surrogates										
% 1,2-dichlorobenzene-d4	83		1	%	NA	NA	NA	10/21/16	HM	70 - 130 %
% Bromofluorobenzene	83		1	%	NA	NA	NA	10/21/16	HM	70 - 130 %
Semivolatile Organic										
Benzo(a)pyrene	ND	0.02	1	ug/L		0.2		10/26/16	MH	E525.3
Bis(2-ethylhexyl)adipate	ND	0.60	1	ug/L		400		10/26/16	MH	E525.3
Bis(2-ethylhexyl)phthalate	ND	0.60	1	ug/L		6		10/26/16	MH	E525.3
QA/QC Surrogates										
% 1,3-Dimethyl-2-nitrobenzene	88		1	%	NA	NA	NA	10/26/16	MH	70 - 130 %
% benzo(a)pyrene-d12	89		1	%	NA	NA	NA	10/26/16	MH	70 - 130 %
% Triphenylphosphate	103		1	%	NA	NA	NA	10/26/16	MH	70 - 130 %

Project ID: GAN EDEN ESTATES
Client ID: TW-3

Phoenix I.D.: BV60751

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Carbamates HPLC											
3-Hydroxycarbofuran	ND	0.50	1	ug/L				10/30/16	RM	E531.2	
Aldicarb	ND	0.50	1	ug/L		3		10/30/16	RM	E531.2	
Aldicarb Sulfone	ND	0.80	1	ug/L		2		10/30/16	RM	E531.2	
Aldicarb Sulfoxide	ND	0.50	1	ug/L		4		10/30/16	RM	E531.2	
Carbaryl	ND	0.50	1	ug/L				10/30/16	RM	E531.2	
Carbofuran	ND	0.90	1	ug/L		40		10/30/16	RM	E531.2	
Methomyl	ND	0.50	1	ug/L				10/30/16	RM	E531.2	
Oxamyl	ND	2.0	1	ug/L		200		10/30/16	RM	E531.2	
QA/QC Surrogates											
% BDMC	76		1	%	NA	NA	NA	10/30/16	RM	70 - 130 %	
Diquat											
Diquat	ND	0.40	1	ug/L		20		10/27/16	RM	E549	
Haloacetic Acids											
Bromochloroacetic Acid	ND	1.0	1	ug/L				11/02/16	PS	E552.2	
Dibromoacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
Dichloroacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
Monobromoacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
Monochloroacetic Acid	ND	2.0	1	ug/L		60		11/02/16	PS	E552.2	
Total Haloacetic Acids	ND	1.0	1	ug/L				11/02/16	PS	E552.2	1
Trichloroacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
QA/QC Surrogates											
% 2,3-DBPA	81		1	%	NA	NA	NA	11/02/16	PS	70 - 130 %	
Glyphosate	ND	6.0	1	ug/L		700		11/01/16	RM	E547	
Propylene Glycol	ND	7.0	1	mg/L				10/26/16	JRB	SW8015D MOD/1671	1
Endothall											
Endothall	ND	9.0		ug/L		100		10/27/16	*	E548.1	C
2,3,7,8-TCDD	ND	5.00		pg/L				11/04/16	*	E1613B	C
Gross Alpha Water	ND ± 2.05	3		pci/L		15		11/09/16	*	E900.0	C
Gross Beta Water	ND ± 1.31	4		pci/L				11/09/16	*	E900.0	C
Radium 226	ND ± 0.13	1		pci/L		5		11/08/16	*	7500 Ra B/903.0	C
Radium 228	ND ± 0.29	1		pci/L		5		11/07/16	*	7500 Ra D/904.0	C
Uranium, Total	ND	1.0		ug/L		30		10/31/16	*	E200.8	C

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference

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

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
AL = Action Level MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Maximum Contaminant Level (MCL) (Lower of): 40 CFR Part 141; Public Health Law, Section 225 Part 5. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Action Level (AL): (Lower of): 40 CFR Part 141.80; Public Health Law, Section 225 Part 5.

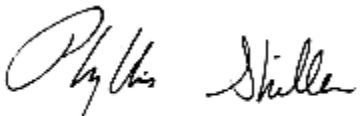
Secondary DW Maximum Contaminant Level Goal (MCLG): (Lower of): 40 CFR Part 141; 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

* See Attached.

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

2,3,7,8-TCDD (E1613B) was analyzed by NY certified lab #11647.
Gross Alpha Water (E900.0), Gross Beta Water (E900.0), Radium 226 (7500 Ra B/903.0), Radium 228 (7500 Ra D/904.0), Uranium, Total (E200.8) were analyzed by NY certified lab #11777.
Endothall (E548.1) was analyzed by NY certified lab #11398.

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



Phyllis Shiller, Laboratory Director
November 11, 2016
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

November 11, 2016

FOR: Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:	SV	10/20/16	11:00
Location Code:	HES-NY	Received by:	LB	10/21/16	9:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV60751
Phoenix ID: BV60752

Project ID: GAN EDEN ESTATES
Client ID: TW-5

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Escherichia Coli	<1	1	1	MPN/100 mls		0		10/21/16 10:15	KDB/KDB	SM9223B-04	
Heterotrophic Plate Count	3	0	1	CFU/ml				10/21/16 12:05	RM/RS	SM9215B-04	
Total Coliforms	<1	1	1	MPN/100 mls		0		10/21/16 10:15	KDB/KDB	SW9223B	
Hardness (CaCO3)	53.8	0.1	1	mg/L				10/26/16		E200.7	
Alkalinity-CaCO3	67	20.0	1	mg/L				10/25/16	RR/EG	SM2320B-97	
Chloride	13.1	3.0	1	mg/L			250	10/21/16	BS/EG	E300.0	
Color, Apparent	< 1	1	1	Color Units			15	10/21/16 20:30	DH/KDB	SM2120B-01	
Cyanide, Free	< 0.005	0.005	1	mg/L		0.2		10/27/16	EG	E335.4/SW9014	
Fluoride	< 0.10	0.10	1	mg/L		4		10/21/16	BS/EG	E300.0	
Langelier Index	-1.49		1	pH units				10/25/16	SB	SM2330B-05	1
Nitrite as Nitrogen	< 0.004	0.004	1	mg/L		1		10/21/16 19:58	BS/EG	E300.0	
Nitrate as Nitrogen	0.16	0.05	1	mg/L		10		10/21/16 19:58	BS/EG	E300.0	
Odor at 60 Degrees C	< 1	1	1	T.O.N.			3	10/21/16 17:15	O	SM2150B-97	
pH	7.22	0.10	1	pH Units			6.5-8.5	10/25/16 03:24	RR/EG	SM4500-H B-00	1
Sulfate	5.7	3.0	1	mg/L			250	10/21/16	BS/EG	E300.0	
Total Cyanide (Drinking water)	< 0.005	0.005	1	mg/L		0.2		10/24/16	EG	E335.4	
Tot. Diss. Solids	92	10	1	mg/L			500	10/25/16	KH	SM2540C-97	
Turbidity	0.86	0.20	1	NTU			5	10/21/16 22:54	RWR	SM2130B-01	
Silver	< 0.001	0.001	1	mg/L			0.1	10/22/16	LK	E200.7	
Arsenic	< 0.0005	0.0005	1	mg/L		0.01		10/26/16	RS/TH	E200.9/SM3113B-10	
Barium	0.126	0.001	1	mg/L		2		10/22/16	LK	E200.7	
Beryllium	< 0.0003	0.0003	1	mg/L		0.004		10/22/16	LK	E200.7	
Calcium	16.7	0.005	1	mg/L				10/22/16	LK	E200.7	
Cadmium	< 0.001	0.001	1	mg/L		0.005		10/22/16	LK	E200.7	
Chromium	< 0.001	0.001	1	mg/L		0.1		10/22/16	LK	E200.7	
Copper	< 0.002	0.002	1	mg/L	1.3			10/22/16	LK	E200.7	
Iron	0.03	0.01	1	mg/L			0.3	10/22/16	LK	E200.7	
Mercury	< 0.0002	0.0002	1	mg/L		0.002		10/24/16	RS	E245.1	

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
Magnesium	2.95	0.005	1	mg/L				10/22/16	LK	E200.7
Manganese	0.001	0.001	1	mg/L			0.05	10/22/16	LK	E200.7
Sodium	10.5	0.1	1	mg/L				10/25/16	TH	E200.7
Nickel	< 0.001	0.001	1	mg/L				10/22/16	LK	E200.7
Lead	< 0.0010	0.0010	1	mg/L	0.015			10/22/16	LK	E200.5
Antimony	< 0.0008	0.0008	1	mg/L		0.006		10/25/16	RS	E200.9/SM3113B-10
Selenium	< 0.001	0.001	1	mg/L		0.05		10/24/16	RS	E200.9/SM3113B-10
Thallium	< 0.0007	0.0007	1	mg/L		0.002		10/24/16	RS	E200.9/SM3113B-10
Zinc	0.061	0.001	1	mg/L			5	10/22/16	LK	E200.7
Extraction for Pesticides	Completed							10/25/16	I/I	E507
Extraction for 525.2	Completed							10/25/16	E/E	E525.2
Extraction for Diquat	Completed							10/25/16	E/E	E549
Extraction for Haloacetic Acids	Completed							10/30/16	D/K	E552.2
Mercury DW Digestion	Completed							10/24/16	W/W	E245.1
Extraction of DW Pesticides	Completed							10/25/16	I/I	E508
Extraction of DW Herbicides	Completed							10/30/16	K/D	E515
Total Metal Digestion	Completed							10/21/16	CB/G/CB	E200.9
Total Metal Digestion	Completed							10/21/16	CB/G/CB	E200.5/E200.7
EDB and DBCP Analysis										
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	1	ug/L		0.2		10/25/16	JRB	E504.1
1,2-Dibromoethane (EDB)	ND	0.01	1	ug/L		0.02		10/25/16	JRB	E504.1
Organophosphorus Pesticides										
Alachlor	ND	0.10	1	ug/L		2		10/29/16	CE	E507
Atrazine	ND	0.10	1	ug/L		3		10/29/16	CE	E507
Butachlor	ND	0.10	1	ug/L				10/29/16	CE	E507
Metolachlor	ND	0.10	1	ug/L				10/29/16	CE	E507
Metribuzin	ND	0.10	1	ug/L				10/29/16	CE	E507
Simazine	ND	0.070	1	ug/L		4		10/29/16	CE	E507
QA/QC Surrogates										
% 1,3 Dimethyl-2-nitrobenzene	83		1	%	NA	NA	NA	10/29/16	CE	70 - 130 %
Pesticides										
Aldrin	ND	0.010	1	ug/L				10/25/16	CE	E508
Chlordane	ND	0.010	1	ug/L		2		10/25/16	CE	E508
Dieldrin	ND	0.010	1	ug/L				10/25/16	CE	E508
Endrin	ND	0.010	1	ug/L		2		10/25/16	CE	E508
Heptachlor	ND	0.010	1	ug/L		0.4		10/25/16	CE	E508
Heptachlor Epoxide	ND	0.010	1	ug/L		0.2		10/25/16	CE	E508
Hexachlorobenzene	ND	0.010	1	ug/L		1		10/25/16	CE	E508
Hexachlorocyclopentadiene	ND	0.010	1	ug/L		50		10/25/16	CE	E508
Lindane	ND	0.010	1	ug/L		0.2		10/25/16	CE	E508
Methoxychlor	ND	0.010	1	ug/L		40		10/25/16	CE	E508
Propachlor	ND	0.050	1	ug/L				10/25/16	CE	E508
Toxaphene	ND	1.0	1	ug/L		3		10/25/16	CE	E508
QA/QC Surrogates										
%DCBP (Surrogate Rec)	74		1	%	NA	NA	NA	10/25/16	CE	70 - 130 %

Project ID: GAN EDEN ESTATES
Client ID: TW-5

Phoenix I.D.: BV60752

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
PCB Screen											
PCB-1016 (screen)	ND	0.080	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1221 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1232 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1242 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1248 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1254 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1260 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1262 (screen)	ND	0.10	1	ug/l				10/25/16	AW	E508	1
PCB-1268 (screen)	ND	0.10	1	ug/l				10/25/16	AW	E508	1
QA/QC Surrogates											
%DCBP (Surrogate Rec)	86		1	%	NA	NA	NA	10/25/16	AW	30 - 150 %	
Herbicides											
2,4,5-T	ND	0.50	1	ug/L				11/03/16	CE	E515.3	1
2,4,5-TP	ND	0.20	1	ug/L		50		11/03/16	CE	E515.3	
2,4-D	ND	0.10	1	ug/L		70		11/03/16	CE	E515.3	
Dalapon	ND	1.0	1	ug/L		200		11/03/16	CE	E515.3	
Dicamba	ND	0.50	1	ug/L				11/03/16	CE	E515.3	
Dichloroprop	ND	0.50	1	ug/L				11/03/16	CE	E515.3	1
Dinoseb	ND	0.20	1	ug/L		7		11/03/16	CE	E515.3	
Pentachlorophenol	ND	0.040	1	ug/L		1		11/03/16	CE	E515.3	
Picloram	ND	0.10	1	ug/L		500		11/03/16	CE	E515.3	
QA/QC Surrogates											
% DCAA	88		1	%	NA	NA	NA	11/03/16	CE	70 - 130 %	
Volatiles											
1,1,1,2-Tetrachloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1,1-Trichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1,2,2-Tetrachloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1,2-Trichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1-Dichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1-Dichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1-Dichloropropene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,3-Trichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,3-Trichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,4-Trichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,4-Trimethylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2-Dichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2-Dichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2-Dichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,3,5-Trimethylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,3-Dichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,3-Dichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,4-Dichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
2,2-Dichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
2-Chlorotoluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
4-Chlorotoluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
Benzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	

Project ID: GAN EDEN ESTATES
Client ID: TW-5

Phoenix I.D.: BV60752

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
Bromobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Bromochloromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Bromodichloromethane	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Bromoform	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Bromomethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Carbon tetrachloride	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Chlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Chloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Chloroform	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Chloromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
cis-1,2-Dichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
cis-1,3-Dichloropropene	ND	0.40	1	ug/L		5		10/21/16	HM	E524.2
Dibromochloromethane	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Dibromomethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Dichlorodifluoromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Ethylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Hexachlorobutadiene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Isopropylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
m&p-Xylene	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Methyl t-butyl ether (MTBE)	ND	0.50	1	ug/L		10		10/21/16	HM	E524.2
Methylene chloride	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Naphthalene	ND	0.50	1	ug/L				10/21/16	HM	E524.2
n-Butylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
n-Propylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
o-Xylene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
p-Isopropyltoluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
sec-Butylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Styrene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
tert-Butylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Tetrachloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Toluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Total Trihalomethanes	ND	0.50	1	ug/L		80		10/21/16	HM	E524.2
Total Xylenes	ND	0.50	1	ug/L		10000		10/21/16	HM	E524.2
trans-1,2-Dichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
trans-1,3-Dichloropropene	ND	0.40	1	ug/L		5		10/21/16	HM	E524.2
Trichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Trichlorofluoromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Vinyl chloride	ND	0.50	1	ug/L		2		10/21/16	HM	E524.2
QA/QC Surrogates										
% 1,2-dichlorobenzene-d4	85		1	%	NA	NA	NA	10/21/16	HM	70 - 130 %
% Bromofluorobenzene	84		1	%	NA	NA	NA	10/21/16	HM	70 - 130 %
Semivolatile Organic										
Benzo(a)pyrene	ND	0.02	1	ug/L		0.2		10/26/16	MH	E525.3
Bis(2-ethylhexyl)adipate	ND	0.60	1	ug/L		400		10/26/16	MH	E525.3
Bis(2-ethylhexyl)phthalate	ND	0.60	1	ug/L		6		10/26/16	MH	E525.3
QA/QC Surrogates										
% 1,3-Dimethyl-2-nitrobenzene	77		1	%	NA	NA	NA	10/26/16	MH	70 - 130 %
% benzo(a)pyrene-d12	85		1	%	NA	NA	NA	10/26/16	MH	70 - 130 %
% Triphenylphosphate	93		1	%	NA	NA	NA	10/26/16	MH	70 - 130 %

Project ID: GAN EDEN ESTATES
Client ID: TW-5

Phoenix I.D.: BV60752

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Carbamates HPLC											
3-Hydroxycarbofuran	ND	0.50	1	ug/L				10/30/16	RM	E531.2	
Aldicarb	ND	0.50	1	ug/L		3		10/30/16	RM	E531.2	
Aldicarb Sulfone	ND	0.80	1	ug/L		2		10/30/16	RM	E531.2	
Aldicarb Sulfoxide	ND	0.50	1	ug/L		4		10/30/16	RM	E531.2	
Carbaryl	ND	0.50	1	ug/L				10/30/16	RM	E531.2	
Carbofuran	ND	0.90	1	ug/L		40		10/30/16	RM	E531.2	
Methomyl	ND	0.50	1	ug/L				10/30/16	RM	E531.2	
Oxamyl	ND	2.0	1	ug/L		200		10/30/16	RM	E531.2	
QA/QC Surrogates											
% BDMC	91		1	%	NA	NA	NA	10/30/16	RM	70 - 130 %	
Diquat											
Diquat	ND	0.40	1	ug/L		20		10/27/16	RM	E549	
Haloacetic Acids											
Bromochloroacetic Acid	ND	1.0	1	ug/L				11/02/16	PS	E552.2	
Dibromoacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
Dichloroacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
Monobromoacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
Monochloroacetic Acid	ND	2.0	1	ug/L		60		11/02/16	PS	E552.2	
Total Haloacetic Acids	ND	1.0	1	ug/L				11/02/16	PS	E552.2	1
Trichloroacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
QA/QC Surrogates											
% 2,3-DBPA	78		1	%	NA	NA	NA	11/02/16	PS	70 - 130 %	
Glyphosate	ND	6.0	1	ug/L		700		11/01/16	RM	E547	
Propylene Glycol	ND	7.0	1	mg/L				10/26/16	JRB	SW8015D MOD/1671	1
Endothall											
Endothall	ND	9.0		ug/L		100		10/27/16	*	E548.1	C
2,3,7,8-TCDD	ND	5.00		pg/L				11/04/16	*	E1613B	C
Gross Alpha Water	ND ± 1.64	3		pci/L		15		11/01/16	*	E900.0	C
Gross Beta Water	ND ± 2.08	4		pci/L				11/01/16	*	E900.0	C
Radium 226	ND ± 0.21	1		pci/L		5		11/08/16	*	7500 Ra B/903.0	C
Radium 228	ND ± 0.39	1		pci/L		5		11/07/16	*	7500 Ra D/904.0	C
Uranium, Total	ND	1.0		ug/L		30		10/31/16	*	E200.8	C

Parameter	Result	RL/PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference

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

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
AL = Action Level MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Maximum Contaminant Level (MCL) (Lower of): 40 CFR Part 141; Public Health Law, Section 225 Part 5. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Action Level (AL): (Lower of): 40 CFR Part 141.80; Public Health Law, Section 225 Part 5.

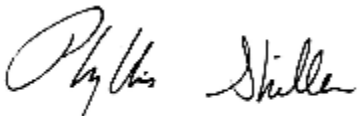
Secondary DW Maximum Contaminant Level Goal (MCLG): (Lower of): 40 CFR Part 141; 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

* See Attached.

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

2,3,7,8-TCDD (E1613B) was analyzed by NY certified lab #11647.
Gross Alpha Water (E900.0), Gross Beta Water (E900.0), Radium 226 (7500 Ra B/903.0), Radium 228 (7500 Ra D/904.0), Uranium, Total (E200.8) were analyzed by NY certified lab #11777.
Endothall (E548.1) was analyzed by NY certified lab #11398.

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



Phyllis Shiller, Laboratory Director
November 11, 2016
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Analysis Report

November 11, 2016

FOR: Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:	SV	10/20/16	12:45
Location Code:	HES-NY	Received by:	LB	10/21/16	9:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV60751
Phoenix ID: BV60753

Project ID: GAN EDEN ESTATES
Client ID: TW-8

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Escherichia Coli	<1	1	1	MPN/100 mls		0		10/21/16 10:15	KDB/KDB	SM9223B-04	
Heterotrophic Plate Count	599	0	1	CFU/ml				10/21/16 12:05	RM/RS	SM9215B-04	
Total Coliforms	<1	1	1	MPN/100 mls		0		10/21/16 10:15	KDB/KDB	SW9223B	
Hardness (CaCO3)	25.9	0.1	1	mg/L				10/26/16		E200.7	
Alkalinity-CaCO3	61	20.0	1	mg/L				10/25/16	RR/EG	SM2320B-97	
Chloride	13.2	3.0	1	mg/L			250	10/21/16	BS/EG	E300.0	
Color, Apparent	< 1	1	1	Color Units			15	10/21/16 20:30	DH/KDB	SM2120B-01	
Cyanide, Free	< 0.005	0.005	1	mg/L		0.2		10/27/16	EG	E335.4/SW9014	
Fluoride	0.12	0.10	1	mg/L		4		10/21/16	BS/EG	E300.0	
Langelier Index	-1.87		1	pH units				10/25/16	SB	SM2330B-05	1
Nitrite as Nitrogen	< 0.004	0.004	1	mg/L		1		10/21/16 20:08	BS/EG	E300.0	
Nitrate as Nitrogen	0.15	0.05	1	mg/L		10		10/21/16 20:08	BS/EG	E300.0	
Odor at 60 Degrees C	< 1	1	1	T.O.N.			3	10/21/16 17:15	O	SM2150B-97	
pH	7.20	0.10	1	pH Units			6.5-8.5	10/25/16 03:28	RR/EG	SM4500-H B-00	1
Sulfate	7.7	3.0	1	mg/L			250	10/21/16	BS/EG	E300.0	
Total Cyanide (Drinking water)	< 0.005	0.005	1	mg/L		0.2		10/24/16	EG	E335.4	
Tot. Diss. Solids	110	10	1	mg/L			500	10/25/16	KH	SM2540C-97	
Turbidity	9.98	0.20	1	NTU			5	10/21/16 22:55	RWR	SM2130B-01	
***** Turbidity exceeds Secondary Goal 5 *****											
Silver	< 0.001	0.001	1	mg/L			0.1	10/22/16	LK	E200.7	
Arsenic	0.0008	0.0005	1	mg/L		0.01		10/26/16	RS/TH	E200.9/SM3113B-10	
Barium	0.081	0.001	1	mg/L		2		10/22/16	LK	E200.7	
Beryllium	< 0.0003	0.0003	1	mg/L		0.004		10/22/16	LK	E200.7	
Calcium	8.39	0.005	1	mg/L				10/22/16	LK	E200.7	
Cadmium	0.001	0.001	1	mg/L		0.005		10/22/16	LK	E200.7	
Chromium	0.001	0.001	1	mg/L		0.1		10/22/16	LK	E200.7	
Copper	0.010	0.002	1	mg/L	1.3			10/22/16	LK	E200.7	

Project ID: GAN EDEN ESTATES
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Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
Iron	0.49	0.01	1	mg/L			0.3	10/22/16	LK	E200.7
***** Iron exceeds Secondary Goal 0.3 *****										
Mercury	< 0.0002	0.0002	1	mg/L		0.002		10/24/16	RS	E245.1
Magnesium	1.21	0.005	1	mg/L				10/22/16	LK	E200.7
Manganese	0.016	0.001	1	mg/L			0.05	10/22/16	LK	E200.7
Sodium	18.8	0.1	1	mg/L				10/25/16	TH	E200.7
Nickel	< 0.001	0.001	1	mg/L				10/22/16	LK	E200.7
Lead	0.0015	0.0010	1	mg/L	0.015			10/22/16	LK	E200.5
Antimony	< 0.0008	0.0008	1	mg/L		0.006		10/25/16	RS	E200.9/SM3113B-10
Selenium	0.001	0.001	1	mg/L		0.05		10/24/16	RS	E200.9/SM3113B-10
Thallium	< 0.0007	0.0007	1	mg/L		0.002		10/24/16	RS	E200.9/SM3113B-10
Zinc	0.457	0.001	1	mg/L			5	10/22/16	LK	E200.7
Extraction for Pesticides	Completed							10/25/16	I/I	E507
Extraction for 525.2	Completed							10/25/16	E/E	E525.2
Extraction for Diquat	Completed							10/25/16	E/E	E549
Extraction for Haloacetic Acids	Completed							10/30/16	D/K	E552.2
Mercury DW Digestion	Completed							10/24/16	W/W	E245.1
Extraction of DW Pesticides	Completed							10/25/16	I/I	E508
Extraction of DW Herbicides	Completed							10/30/16	K/D	E515
Total Metal Digestion	Completed							10/21/16	CB/G/CB	E200.9
Total Metal Digestion	Completed							10/21/16	CB/G/CB	E200.5/E200.7
EDB and DBCP Analysis										
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	1	ug/L		0.2		10/25/16	JRB	E504.1
1,2-Dibromoethane (EDB)	ND	0.01	1	ug/L		0.02		10/25/16	JRB	E504.1
Organophosphorus Pesticides										
Alachlor	ND	0.10	1	ug/L		2		10/29/16	CE	E507
Atrazine	ND	0.10	1	ug/L		3		10/29/16	CE	E507
Butachlor	ND	0.10	1	ug/L				10/29/16	CE	E507
Metolachlor	ND	0.10	1	ug/L				10/29/16	CE	E507
Metribuzin	ND	0.10	1	ug/L				10/29/16	CE	E507
Simazine	ND	0.070	1	ug/L		4		10/29/16	CE	E507
QA/QC Surrogates										
% 1,3 Dimethyl-2-nitrobenzene	92		1	%	NA	NA	NA	10/29/16	CE	70 - 130 %
Pesticides										
Aldrin	ND	0.010	1	ug/L				10/25/16	CE	E508
Chlordane	ND	0.010	1	ug/L		2		10/25/16	CE	E508
Dieldrin	ND	0.010	1	ug/L				10/25/16	CE	E508
Endrin	ND	0.010	1	ug/L		2		10/25/16	CE	E508
Heptachlor	ND	0.010	1	ug/L		0.4		10/25/16	CE	E508
Heptachlor Epoxide	ND	0.010	1	ug/L		0.2		10/25/16	CE	E508
Hexachlorobenzene	ND	0.010	1	ug/L		1		10/25/16	CE	E508
Hexachlorocyclopentadiene	ND	0.010	1	ug/L		50		10/25/16	CE	E508
Lindane	ND	0.010	1	ug/L		0.2		10/25/16	CE	E508
Methoxychlor	ND	0.010	1	ug/L		40		10/25/16	CE	E508
Propachlor	ND	0.050	1	ug/L				10/25/16	CE	E508
Toxaphene	ND	1.0	1	ug/L		3		10/25/16	CE	E508
QA/QC Surrogates										

Project ID: GAN EDEN ESTATES
Client ID: TW-8

Phoenix I.D.: BV60753

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
%DCBP (Surrogate Rec)	80		1	%	NA	NA	NA	10/25/16	CE	70 - 130 %	
PCB Screen											
PCB-1016 (screen)	ND	0.080	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1221 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1232 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1242 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1248 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1254 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1260 (screen)	ND	0.10	1	ug/l		0.5		10/25/16	AW	E508	1
PCB-1262 (screen)	ND	0.10	1	ug/l				10/25/16	AW	E508	1
PCB-1268 (screen)	ND	0.10	1	ug/l				10/25/16	AW	E508	1
QA/QC Surrogates											
%DCBP (Surrogate Rec)	88		1	%	NA	NA	NA	10/25/16	AW	30 - 150 %	
Herbicides											
2,4,5-T	ND	0.50	1	ug/L				11/03/16	CE	E515.3	1
2,4,5-TP	ND	0.20	1	ug/L		50		11/03/16	CE	E515.3	
2,4-D	ND	0.10	1	ug/L		70		11/03/16	CE	E515.3	
Dalapon	ND	1.0	1	ug/L		200		11/03/16	CE	E515.3	
Dicamba	ND	0.50	1	ug/L				11/03/16	CE	E515.3	
Dichloroprop	ND	0.50	1	ug/L				11/03/16	CE	E515.3	1
Dinoseb	ND	0.20	1	ug/L		7		11/03/16	CE	E515.3	
Pentachlorophenol	ND	0.040	1	ug/L		1		11/03/16	CE	E515.3	
Picloram	ND	0.10	1	ug/L		500		11/03/16	CE	E515.3	
QA/QC Surrogates											
% DCAA	90		1	%	NA	NA	NA	11/03/16	CE	70 - 130 %	
Volatiles											
1,1,1,2-Tetrachloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1,1-Trichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1,2,2-Tetrachloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1,2-Trichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1-Dichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1-Dichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,1-Dichloropropene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,3-Trichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,3-Trichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,4-Trichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2,4-Trimethylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2-Dichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2-Dichloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,2-Dichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,3,5-Trimethylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,3-Dichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,3-Dichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
1,4-Dichlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
2,2-Dichloropropane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
2-Chlorotoluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	
4-Chlorotoluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2	

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
Benzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Bromobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Bromochloromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Bromodichloromethane	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Bromoform	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Bromomethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Carbon tetrachloride	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Chlorobenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Chloroethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Chloroform	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Chloromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
cis-1,2-Dichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
cis-1,3-Dichloropropene	ND	0.40	1	ug/L		5		10/21/16	HM	E524.2
Dibromochloromethane	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Dibromomethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Dichlorodifluoromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Ethylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Hexachlorobutadiene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Isopropylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
m&p-Xylene	ND	0.50	1	ug/L				10/21/16	HM	E524.2
Methyl t-butyl ether (MTBE)	ND	0.50	1	ug/L		10		10/21/16	HM	E524.2
Methylene chloride	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Naphthalene	ND	0.50	1	ug/L				10/21/16	HM	E524.2
n-Butylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
n-Propylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
o-Xylene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
p-Isopropyltoluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
sec-Butylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Styrene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
tert-Butylbenzene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Tetrachloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Toluene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Total Trihalomethanes	ND	0.50	1	ug/L		80		10/21/16	HM	E524.2
Total Xylenes	ND	0.50	1	ug/L		10000		10/21/16	HM	E524.2
trans-1,2-Dichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
trans-1,3-Dichloropropene	ND	0.40	1	ug/L		5		10/21/16	HM	E524.2
Trichloroethene	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Trichlorofluoromethane	ND	0.50	1	ug/L		5		10/21/16	HM	E524.2
Vinyl chloride	ND	0.50	1	ug/L		2		10/21/16	HM	E524.2
QA/QC Surrogates										
% 1,2-dichlorobenzene-d4	83		1	%	NA	NA	NA	10/21/16	HM	70 - 130 %
% Bromofluorobenzene	85		1	%	NA	NA	NA	10/21/16	HM	70 - 130 %

Semivolatile Organic

Benzo(a)pyrene	ND	0.02	1	ug/L		0.2		10/26/16	MH	E525.3
Bis(2-ethylhexyl)adipate	ND	0.60	1	ug/L		400		10/26/16	MH	E525.3
Bis(2-ethylhexyl)phthalate	ND	0.60	1	ug/L		6		10/26/16	MH	E525.3
QA/QC Surrogates										
% 1,3-Dimethyl-2-nitrobenzene	81		1	%	NA	NA	NA	10/26/16	MH	70 - 130 %
% benzo(a)pyrene-d12	84		1	%	NA	NA	NA	10/26/16	MH	70 - 130 %

Project ID: GAN EDEN ESTATES
Client ID: TW-8

Phoenix I.D.: BV60753

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
% Triphenylphosphate	98		1	%	NA	NA	NA	10/26/16	MH	70 - 130 %	
Carbamates HPLC											
3-Hydroxycarbofuran	ND	0.50	1	ug/L				10/30/16	RM	E531.2	
Aldicarb	ND	0.50	1	ug/L		3		10/30/16	RM	E531.2	
Aldicarb Sulfone	ND	0.80	1	ug/L		2		10/30/16	RM	E531.2	
Aldicarb Sulfoxide	ND	0.50	1	ug/L		4		10/30/16	RM	E531.2	
Carbaryl	ND	0.50	1	ug/L				10/30/16	RM	E531.2	
Carbofuran	ND	0.90	1	ug/L		40		10/30/16	RM	E531.2	
Methomyl	ND	0.50	1	ug/L				10/30/16	RM	E531.2	
Oxamyl	ND	2.0	1	ug/L		200		10/30/16	RM	E531.2	
QA/QC Surrogates											
% BDMC	93		1	%	NA	NA	NA	10/30/16	RM	70 - 130 %	
Diquat											
Diquat	ND	0.40	1	ug/L		20		10/27/16	RM	E549	
Haloacetic Acids											
Bromochloroacetic Acid	ND	1.0	1	ug/L				11/02/16	PS	E552.2	
Dibromoacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
Dichloroacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
Monobromoacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
Monochloroacetic Acid	ND	2.0	1	ug/L		60		11/02/16	PS	E552.2	
Total Haloacetic Acids	ND	1.0	1	ug/L				11/02/16	PS	E552.2	1
Trichloroacetic Acid	ND	1.0	1	ug/L		60		11/02/16	PS	E552.2	
QA/QC Surrogates											
% 2,3-DBPA	103		1	%	NA	NA	NA	11/02/16	PS	70 - 130 %	
Glyphosate	ND	6.0	1	ug/L		700		11/01/16	RM	E547	
Propylene Glycol	ND	7.0	1	mg/L				10/26/16	JRB	SW8015D MOD/1671	1
Endothall											
Endothall	ND	9.0		ug/L		100		10/27/16	*	E548.1	C
2,3,7,8-TCDD	ND	5.00		pg/L				11/04/16	*	E1613B	C
Gross Alpha Water	4.34 ± 2.24	3		pci/L		15		11/09/16	*	E900.0	C
Gross Beta Water	ND ± 1.93	4		pci/L				11/09/16	*	E900.0	C
Radium 226	ND ± 0.13	1		pci/L		5		11/08/16	*	7500 Ra B/903.0	C
Radium 228	ND ± 0.56	1		pci/L		5		11/07/16	*	7500 Ra D/904.0	C
Uranium, Total	2.94	1.0		ug/L		30		10/31/16	*	E200.8	C

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference

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

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
AL = Action Level MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Maximum Contaminant Level (MCL) (Lower of): 40 CFR Part 141; Public Health Law, Section 225 Part 5. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Action Level (AL): (Lower of): 40 CFR Part 141.80; Public Health Law, Section 225 Part 5.

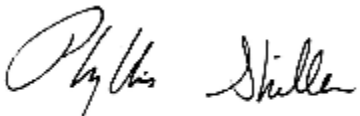
Secondary DW Maximum Contaminant Level Goal (MCLG): (Lower of): 40 CFR Part 141; 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

* See Attached.

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

2,3,7,8-TCDD (E1613B) was analyzed by NY certified lab #11647.
Gross Alpha Water (E900.0), Gross Beta Water (E900.0), Radium 226 (7500 Ra B/903.0), Radium 228 (7500 Ra D/904.0), Uranium, Total (E200.8) were analyzed by NY certified lab #11777.
Endothall (E548.1) was analyzed by NY certified lab #11398.

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



Phyllis Shiller, Laboratory Director
November 11, 2016
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Analysis Report

November 11, 2016

FOR: Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	SV	10/20/16	
Location Code:	HES-NY	Received by:	LB	10/21/16	9:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV60751
Phoenix ID: BV60754

Project ID: GAN EDEN ESTATES
Client ID: TRIP BLANK

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EDB and DBCP Analysis							
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	ug/L	1	10/25/16	JRB	E504.1
1,2-Dibromoethane (EDB)	ND	0.01	ug/L	1	10/25/16	JRB	E504.1

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level

Comments:

TRIP BLANK INCLUDED.

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

Phyllis Shiller, Laboratory Director
November 11, 2016
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

November 11, 2016

QA/QC Data

SDG I.D.: GBV60751

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 363812A (mg/L), QC Sample No: BV53714 (BV60751, BV60752, BV60753)													
ICP Metals - Aqueous													
Barium	BRL	0.001				93.0			102			85 - 115	20
Beryllium	BRL	0.0003				96.9			96.6			85 - 115	20
Cadmium	BRL	0.001				94.6			98.0			85 - 115	20
Calcium	BRL	0.01				104			NC			85 - 115	20
Chromium	BRL	0.001				95.5			101			85 - 115	20
Copper	BRL	0.002				97.2			100			85 - 115	20
Iron	BRL	0.01				96.1			100			85 - 115	20
Lead	BRL	0.0010				92.2			96.3			85 - 115	20
Magnesium	BRL	0.01				97.8			92.5			85 - 115	20
Manganese	BRL	0.001				96.7			101			85 - 115	20
Nickel	BRL	0.001				95.2			101			85 - 115	20
Silver	BRL	0.001				91.7			94.7			85 - 115	20
Sodium	BRL	0.1				99.9			NC			85 - 115	20
Comment:													
This batch does not include a duplicate.													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 363817A (mg/L), QC Sample No: BV58998 (BV60751, BV60752, BV60753)													
Antimony	BRL	0.002				91.7			116			85 - 115	20
Arsenic	BRL	0.001				88.9			107			85 - 115	20
Selenium	BRL	0.001				101			105			85 - 115	20
Thallium	BRL	0.001				89.0			87.6			85 - 115	20
Comment:													
This batch does not include a duplicate.													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 364024 (mg/L), QC Sample No: BV60767 (BV60751, BV60752, BV60753)													
Mercury	BRL	0.0002	<0.0002	<0.0002	NC	100			88.9			85 - 115	20

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NY # 11301

QA/QC Report

November 11, 2016

QA/QC Data

SDG I.D.: GBV60751

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 363946 (mg/L), QC Sample No: BV53910 (BV60751, BV60752, BV60753)													
Alkalinity-CaCO3	BRL	5.00	71	73	NC	102						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 363939 (pH), QC Sample No: BV53910 (BV60751, BV60752, BV60753)													
pH			7.23	7.04	2.70	99.0						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 363906 (NTU), QC Sample No: BV53910 (BV60751, BV60752, BV60753)													
Turbidity	BRL	0.20	0.36	0.41	NC	99.8						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 364585 (mg/L), QC Sample No: BV60378 (BV60751, BV60752, BV60753)													
Free Cyanide	BRL	0.01	<0.005	<0.01	NC	97.3			97.5			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 363855 (mg/L), QC Sample No: BV60752 (BV60751, BV60752, BV60753)													
Total Cyanide (Drinking water)	BRL	0.01	<0.005	<0.01	NC	98.8			100			85 - 115	20
QA/QC Batch 364080 (mg/L), QC Sample No: BV60767 (BV60751, BV60752, BV60753)													
Chloride	BRL	3.0	9.2	9.3	NC	92.3			99.7			90 - 110	20
Fluoride	BRL	0.10	<0.10	<0.10	NC	91.8			100			90 - 110	20
Nitrate as Nitrogen	BRL	0.05	0.05	<0.05	NC	103			102			90 - 110	20
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	99.6			90.1			90 - 110	20
Sulfate	BRL	3.0	7.3	7.2	NC	97.9			99.9			90 - 110	20
QA/QC Batch 364204 (mg/L), QC Sample No: BV62239 (BV60751, BV60752, BV60753)													
Tot. Diss. Solids	BRL	10	160	160	0	93.0						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 364180 (mg/L), QC Sample No: BV63140 (BV60751, BV60752, BV60753)													
Alkalinity-CaCO3	BRL	5.00	78	74	NC	104						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 364177 (pH), QC Sample No: BV63140 (BV60751, BV60752, BV60753)													
pH			8.24	7.53	9.00	99.0						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

November 11, 2016

QA/QC Data

SDG I.D.: GBV60751

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 364196 (ug/L), QC Sample No: BV54566 (BV60751, BV60752, BV60753)											
Semivolatile Organic Compounds - Drinking Water											
Benzo(a)pyrene	ND	0.02	92			94	94	0.0	70 - 130	20	
Bis(2-ethylhexyl)adipate	ND	0.60	106			111	111	0.0	70 - 130	20	
Bis(2-ethylhexyl)phthalate	ND	0.60	102			114	99	14.1	70 - 130	20	
% 1,3-Dimethyl-2-nitrobenzene	87	%	92			87	87	0.0	70 - 130	20	
% benzo(a)pyrene-d12	82	%	87			86	85	1.2	70 - 130	20	
% Triphenylphosphate	98	%	103			100	100	0.0	70 - 130	20	
Comment:											
Tap water, collected and dechlorinated in sample containers, was used as the matrix spike and matrix spike duplicate.											
QA/QC Batch 364172 (ug/L), QC Sample No: BV60120 (BV60751, BV60752, BV60753)											
Pesticides - Drinking Water											
a-Chlordane	ND	0.010	91			80			70 - 130	20	
Aldrin	ND	0.010	98			88			70 - 130	20	
Chlordane	ND	0.010	92			81			70 - 130	20	
Dieldrin	ND	0.010	86			76			70 - 130	20	
Endrin	ND	0.010	103			87			70 - 130	20	
g-BHC	ND	0.010	96			84			70 - 130	20	
g-Chlordane	ND	0.010	92			81			70 - 130	20	
Heptachlor	ND	0.010	96			85			70 - 130	20	
Heptachlor epoxide	ND	0.010	93			80			70 - 130	20	
Hexachlorobenzene	ND	0.010	81			75			70 - 130	20	
Hexachlorocyclopentadiene	ND	0.010	63			60			70 - 130	20	l,m
Methoxychlor	ND	0.010	99			90			70 - 130	20	
Propachlor	ND	0.050	83			83			70 - 130	20	
Toxaphene	ND	1.0	NA			NA			70 - 130	20	
% DCBP	72	%	81			71			70 - 130	20	
QA/QC Batch 363844 (ug/L), QC Sample No: BV60378 (BV60751, BV60752, BV60753, BV60754)											
EDB and DBCP Analysis - Drinking Water											
1,2-Dibromo-3-Chloropropane (DB	ND	0.02	113	112	0.9				70 - 130	20	
1,2-Dibromoethane (EDB)	ND	0.01	104	103	1.0				70 - 130	20	
Comment:											
This batch consists of a Blank, LCS and LCSD.											
QA/QC Batch 364095 (mg/L), QC Sample No: BV60378 (BV60751, BV60752, BV60753)											
Glycols - Drinking Water											
Propylene glycol	ND	7.0	122	120	1.7	119	108	9.7	70 - 130	30	
QA/QC Batch 364173 (ug/L), QC Sample No: BV60378 (BV60751, BV60752, BV60753)											
Organophosphorus Pesticides - Drinking Water											
Alachlor	ND	0.10	96			93			70 - 130	20	
Atrazine	ND	0.10	89			86			70 - 130	20	
Butachlor	ND	0.10	99			97			70 - 130	20	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Metolachlor	ND	0.10	95			92			70 - 130	20	
Metribuzin	ND	0.10	97			95			70 - 130	20	
Simazine	ND	0.070	99			97			70 - 130	20	
% 1,3 Dimethyl-2-nitrobenzene	85	%	84			81			70 - 130	20	
QA/QC Batch 364197 (ug/L), QC Sample No: BV60378 (BV60751, BV60752, BV60753)											
Diquat - Drinking Water											
Diquat	ND	0.40	80			89					
QA/QC Batch 364899 (ug/L), QC Sample No: BV60751 (BV60751, BV60752, BV60753)											
Herbicides - Drinking Water											
2,4,5-T	ND	0.50	114			121			70 - 130	20	
2,4,5-TP	ND	0.20	98			105			70 - 130	20	
2,4-D	ND	0.10	110			117			70 - 130	20	
Dalapon	ND	1.0	103			107			70 - 130	20	
Dicamba	ND	0.50	125			118			70 - 130	20	
Dichloroprop	ND	0.50	96			96			70 - 130	20	
Dinoseb	ND	0.20	109			91			70 - 130	20	
Pentachlorophenol	ND	0.040	91			94			70 - 130	20	
Picloram	ND	0.10	128			138			70 - 130	20	m
% DCAA (Surrogate Rec)	84	%	108			89			70 - 130	20	
QA/QC Batch 364056 (ug/L), QC Sample No: BV60751 (BV60751, BV60752, BV60753)											
Volatiles - Drinking Water											
1,1,1,2-Tetrachloroethane	ND	0.50	95	89	6.5				70 - 130	30	
1,1,1-Trichloroethane	ND	0.50	95	88	7.7				70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	101	96	5.1				70 - 130	30	
1,1,2-Trichloroethane	ND	0.50	98	88	10.8				70 - 130	30	
1,1-Dichloroethane	ND	0.50	100	94	6.2				70 - 130	30	
1,1-Dichloroethene	ND	0.50	91	83	9.2				70 - 130	30	
1,1-Dichloropropene	ND	0.40	96	90	6.5				70 - 130	30	
1,2,3-Trichlorobenzene	ND	0.50	101	89	12.6				70 - 130	30	
1,2,3-Trichloropropane	ND	0.50	96	90	6.5				70 - 130	30	
1,2,4-Trichlorobenzene	ND	0.50	94	85	10.1				70 - 130	30	
1,2,4-Trimethylbenzene	ND	0.50	94	86	8.9				70 - 130	30	
1,2-Dichlorobenzene	ND	0.50	98	90	8.5				70 - 130	30	
1,2-Dichloroethane	ND	0.50	105	97	7.9				70 - 130	30	
1,2-Dichloropropane	ND	0.50	101	91	10.4				70 - 130	30	
1,3,5-Trimethylbenzene	ND	0.50	94	85	10.1				70 - 130	30	
1,3-Dichlorobenzene	ND	0.50	96	86	11.0				70 - 130	30	
1,3-Dichloropropane	ND	0.50	97	89	8.6				70 - 130	30	
1,4-Dichlorobenzene	ND	0.50	93	85	9.0				70 - 130	30	
2,2-Dichloropropane	ND	0.50	96	100	4.1				70 - 130	30	
2-Chlorotoluene	ND	0.50	96	83	14.5				70 - 130	30	
4-Chlorotoluene	ND	0.50	94	87	7.7				70 - 130	30	
Benzene	ND	0.50	99	88	11.8				70 - 130	30	
Bromobenzene	ND	0.50	95	88	7.7				70 - 130	30	
Bromochloromethane	ND	0.50	100	88	12.8				70 - 130	30	
Bromodichloromethane	ND	0.50	103	93	10.2				70 - 130	30	
Bromoform	ND	0.50	105	91	14.3				70 - 130	30	
Bromomethane	ND	0.50	103	89	14.6				70 - 130	30	
Carbon tetrachloride	ND	0.50	99	91	8.4				70 - 130	30	
Chlorobenzene	ND	0.50	92	83	10.3				70 - 130	30	
Chloroethane	ND	0.50	101	92	9.3				70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Chloroform	ND	0.50	100	93	7.3				70 - 130	30
Chloromethane	ND	0.50	103	93	10.2				70 - 130	30
cis-1,2-Dichloroethene	ND	0.50	94	83	12.4				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	99	91	8.4				70 - 130	30
Dibromochloromethane	ND	0.50	125	94	28.3				70 - 130	30
Dibromomethane	ND	0.50	93	88	5.5				70 - 130	30
Dichlorodifluoromethane	ND	0.50	116	99	15.8				70 - 130	30
Ethylbenzene	ND	0.50	94	85	10.1				70 - 130	30
Hexachlorobutadiene	ND	0.40	97	91	6.4				70 - 130	30
Isopropylbenzene	ND	0.50	95	83	13.5				70 - 130	30
m&p-Xylene	ND	0.50	92	84	9.1				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	0.50	99	91	8.4				70 - 130	30
Methylene chloride	ND	0.50	94	87	7.7				70 - 130	30
Naphthalene	ND	0.50	97	88	9.7				70 - 130	30
n-Butylbenzene	ND	0.50	99	92	7.3				70 - 130	30
n-Propylbenzene	ND	0.50	94	87	7.7				70 - 130	30
o-Xylene	ND	0.50	93	83	11.4				70 - 130	30
p-Isopropyltoluene	ND	0.50	97	89	8.6				70 - 130	30
sec-Butylbenzene	ND	0.50	100	93	7.3				70 - 130	30
Styrene	ND	0.50	97	87	10.9				70 - 130	30
tert-Butylbenzene	ND	0.50	96	86	11.0				70 - 130	30
Tetrachloroethene	ND	0.50	99	94	5.2				70 - 130	30
Toluene	ND	0.50	96	88	8.7				70 - 130	30
trans-1,2-Dichloroethene	ND	0.50	97	91	6.4				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	97	88	9.7				70 - 130	30
Trichloroethene	ND	0.50	97	90	7.5				70 - 130	30
Trichlorofluoromethane	ND	0.50	101	88	13.8				70 - 130	30
Vinyl chloride	ND	0.50	103	91	12.4				70 - 130	30
% 1,2-dichlorobenzene-d4	88	%	96	93	3.2				70 - 130	30
% Bromofluorobenzene	90	%	96	93	3.2				70 - 130	30

Comment:

This batch consists of a blank, LCS and LCSD.

QA/QC Batch 364890A (ug/L), QC Sample No: BV60897 (BV60751, BV60752, BV60753)

Haloacetic Acids - Drinking Water

Bromochloroacetic Acid	ND	1.0	110						70 - 130	20
Dibromoacetic Acid	ND	1.0	99						70 - 130	20
Dichloroacetic Acid	ND	1.0	111						70 - 130	20
Monobromoacetic Acid	ND	1.0	110						70 - 130	20
Monochloroacetic Acid	ND	2.0	112						70 - 130	20
Trichloroacetic Acid	ND	1.0	93						70 - 130	20
% 2,3-DBPA	70	%	95						70 - 130	20

Comment:

This batch does not include a duplicate.

QA/QC Batch 365629 (ug/L), QC Sample No: BV67263 (BV60751, BV60752, BV60753)

Carbamates HPLC - Drinking Water

3-Hydroxycarbofuran	ND	0.50	100	107	6.8	103	107	3.8	70 - 130	20
Aldicarb	ND	0.50	83	84	1.2	87	86	1.2	70 - 130	20
Aldicarb Sulfone	ND	0.80	87	92	5.6	93	97	4.2	70 - 130	20
Aldicarb Sulfoxide	ND	0.50	94	96	2.1	87	89	2.3	70 - 130	20
Carbaryl	ND	0.50	118	120	1.7	112	114	1.8	70 - 130	20
Carbofuran	ND	0.90	89	88	1.1	89	94	5.5	70 - 130	20

QA/QC Data

SDG I.D.: GBV60751

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Methomyl	ND	0.50	84	86	2.4	84	90	6.9	70 - 130	20
Oxamyl	ND	2.0	101	104	2.9	99	102	3.0	70 - 130	20
% BDMC	95	%	97	87	10.9	96	99	3.1	70 - 130	20
QA/QC Batch 365292 (ug/L), QC Sample No: BV67708 (BV60751, BV60752, BV60753)										
Glyphosate - Drinking Water										
Glyphosate	ND	6.0	88	92	4.4	91	93	2.2	70 - 130	20

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.

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

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 11, 2016

Sample Criteria Exceedances Report

GBV60751 - HES-NY

Criteria: NY: DWP5

State: NY

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
BV60751	E-COLIQ	Escherichia Coli	NY / NY Part 5, Subpart 5 DW / Microbiological	<1	1	0		MPN/100 mls
BV60751	FE-DW	Iron	EPA / 40 CFR 141 DW / 143.3 Secondary Goals	0.31	0.01	0.3	0.06	mg/L
BV60751	FE-DW	Iron	NY / NY Part 5, Subpart 5 DW / Inorganics	0.31	0.01	0.3	0.3	mg/L
BV60751	MN-DW	Manganese	EPA / 40 CFR 141 DW / 143.3 Secondary Goals	0.073	0.001	0.05	0.01	mg/L
BV60752	E-COLIQ	Escherichia Coli	NY / NY Part 5, Subpart 5 DW / Microbiological	<1	1	0		MPN/100 mls
BV60752	T-COLIQ	Total Coliforms	NY / NY Part 5, Subpart 5 DW / Microbiological	<1	1	0		MPN/100 mls
BV60753	E-COLIQ	Escherichia Coli	NY / NY Part 5, Subpart 5 DW / Microbiological	<1	1	0		MPN/100 mls
BV60753	FE-DW	Iron	EPA / 40 CFR 141 DW / 143.3 Secondary Goals	0.49	0.01	0.3	0.06	mg/L
BV60753	FE-DW	Iron	NY / NY Part 5, Subpart 5 DW / Inorganics	0.49	0.01	0.3	0.3	mg/L
BV60753	T-COLIQ	Total Coliforms	NY / NY Part 5, Subpart 5 DW / Microbiological	<1	1	0		MPN/100 mls
BV60753	TURB-WM6	Turbidity	EPA / 40 CFR 141 DW / 141.63 Biologicals MCLs	9.98	0.20	5	5	NTU

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY Temperature Narration

November 11, 2016

SDG I.D.: GBV60751

The samples in this delivery group were received at 2°C.
(Note acceptance criteria is above freezing up to 6°C)

PHOENIX
Environmental Laboratories, Inc.

NY/NJ CHAIN OF CUSTODY RECORD

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

Temp 2 cool Pg 1 of 1

Data Delivery:
☒ Fax #: 914-276-2664
☒ Email: WCanavan@hesny.com

Customer:
Address: HYDROENVIRONMENTAL SOLUTIONS
ONE DEANS BRIDGE ROAD
SOMERS, NEW YORK 10589

Project: Gun Eden Estates
Report to: ← SAME
Invoice to: ← SAME

Project P.O:
Phone #: 914-276-2560
Fax #: 914-276-2664

Sampler's Signature: [signature] Date: 10/20/16

Client Sample - Information - Identification

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

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
60751	TW-3	GW	10/20/16	11:45
60752	TW-5	"	"	11:00
60753	TW-8	"	"	12:45
60754	Trip Blank			

Analysis Request

NYS Full Part 5	(2) VOAs - HCl	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 1250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 1500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
		See Attachment									
	X										

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	10/21/16	9:46

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

NJ
☐ Res. Criteria
☐ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ GW Criteria

NY
☐ TAGM 4046 GW
☐ TAGM 4046 SCIL
☐ NY375 Unrestricted Soil
☐ NY375 Residential Soil
☐ NY375 Restricted Non-Residential Soil

Data Format
☒ Phoenix Std Report
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ NJ Hazsite EDD
☐ NY EZ EDD (ASP)
☐ Other

Data Package
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B) *
☐ Other

Comments, Special Requirements or Regulations:
Exclude Bromate and Chlorite
SPC received past hold. Run per Client
(MJP)

State where samples were collected: NY

Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
Manchester, CT 06040
(860) 645-1102

CONTAINER ORDER

Company: HydroEnvironmental Solutions
One Deans Bridge Rd.
Somers, NY

Project: NY State Full part 5
Contact: William Canavan
Date: 10/19/16

NON Chlorinated System

#Set	Sets	Total	Container	Preservative	Parameter
2	3	6	40ml Vials	AS IS	504 (EDB)
1	3	3	32oz Amber	AS IS	508 (Pest/PCB)
2	3	6	32oz Amber	AS IS	515 (Herbicides)
2	3	6	32oz Amber	K citrate/EDTA	525 (Semi Volatiles)
3	3	9	40ml Vials	HCL	524 (Volatiles)
2	3	6	60ml Amber Vials	C6H7KO7	531 (Carbamates)
2	3	6	60ml Amber Vials	Na2S2O3	547 (Glyphosate)
2	3	6	8oz Amber	Na2S2O3	548 (Endothall)
2	3	6	500ml Brown Plastic	Na2S2O3	549 (Diquat)
1	3	3	950ml Plastic	AS IS	Asbestos
2	3	6	32oz Amber	AS IS	Dioxin
1	3	3	120ml Sterile	THIO	Total Coliform
1	3	3	120ml Sterile	THIO	SPC
2	3	6	40ml Vials	AS IS	Radon
5	3	15	950ml Plastic	HNO3	Gross Alpha, Gross Beta, Ra226, Ra228, Uranium
1	3	3	4oz. Amber	NH4CL	HAA5
1	3	3	500ml Plastic	HNO3	Total Metals* & Hardness
1	3	3	250ml Plastic	NAOH	Total Cyanide
1	3	3	950ml Plastic	AS IS	Wet Chemistry***
1	3	3	120ml Plastic	AS IS	Alkalinity
2	3	6	40ml Vials	AS IS	Propylene Glycol
1	3	3	120ml Plastic	EDA	Bromate (OL bottle)
1	3	3	120ml Plastic	EDA	Chlorite (OL bottle)

Also included:
2 AS IS vials with Reagent Water for 504 TRIP BLANK (must be submitted)
*metals: MG, AS, BA, CD, CR, HG, SE, AG, CU, FE, MN, NA, SB, BE, NI, TI, CA, ZN, PB
*** Color, Turbidity, PH, TDS, Chloride, Fluoride, Sulfate, Nitrate, Nitrite, Free Chlorine, Odor

GBV 60751

Lori Bailey

From: Lori Bailey
Sent: Friday, October 21, 2016 04:37 PM
To: 'William A. Canavan'
Subject: RE: Samples for Gan Eden Estates

Ok, thank you! Just for future reference Radon has a 4 day holding time, and I have to ship it to Colorado. Asbestos only has a 48 hour holding time. Neither lab is open to receive samples on the weekend.

Have a great weekend.

Lori Bailey

Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester, CT 06040
Ph: 1-860-645-1102
Fx: 1-860-645-0823

From: William A. Canavan [mailto:wcanavan@hesny.com]
Sent: Friday, October 21, 2016 4:27 PM
To: Lori Bailey
Cc: Steven M. Verdibello
Subject: RE: Samples for Gan Eden Estates

Tnx Lori.

We will resample. We will make sure we get on the same page before the next round.

From: Lori Bailey [mailto:lori@phoenixlabs.com]
Sent: Friday, October 21, 2016 4:16 PM
To: William A. Canavan <wcanavan@hesny.com>
Cc: Steven M. Verdibello <sVerdibello@hesny.com>
Subject: Samples for Gan Eden Estates

Hello,

Several samples for a full part 5 were dropped off this morning for the above mentioned project. Unfortunately, the Radon and Asbestos will be past hold by the time it reaches the sub-lab that we use to process these analysis.

These labs will not process these past the holding times, so you will have to resample for those 2 parameters.

The sample id's are as follows:

TW-3
TW-5
TW-8

Please let me know if you have any questions.

Thank you,

Lori Bailey
Phoenix Environmental Labs

PHOENIX
Environmental Laboratories, Inc.

Wednesday, November 23, 2016

Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Project ID: GAN EDEN ESTATES
Sample ID#s: BV78109 - BV78110

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

November 23, 2016

FOR: Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		11/07/16	12:00
Location Code:	HES-NY	Received by:	B	11/07/16	16:12
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV78109
Phoenix ID: BV78109

Project ID: GAN EDEN ESTATES
Client ID: TW-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Heterotrophic Plate Count	995	10	CFU/ml	10	11/07/16 17:50	CB/RM	SM9215B-04	
Bromate	<1.0	1.0	ug/L		11/10/16	*	E317.0	C
Chlorite	<0.010	0.010	mg/L		11/15/16	*	E300.0	C
Radon	3130 ± 58	11.2	pCi/l		11/08/16	*	7500 Rn B	C
Asbestos in Water								
Asbestos fibers (>0.5u and <10u)	ND	6.40	MFL		11/11/16	*	E600/4-84	C
Asbestos fibers (>10u)	ND	0.768	MFL		11/11/16	*	E600/4-84	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level

Comments:

Asbestos in Water (E600/4-84) was analyzed by NY certified lab #10851.
Radon (7500 Rn B) was analyzed by NY certified lab #11417.
Bromate (E317.0), Chlorite (E300.0) were analyzed by NY certified lab #11398.

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

Phyllis Shiller, Laboratory Director
November 23, 2016
Reviewed and Released by: Bobbi Aloisa, Vice President

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

November 23, 2016

FOR: Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:		11/05/16	14:30
Location Code:	HES-NY	Received by:	B	11/07/16	16:12
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV78109
Phoenix ID: BV78110

Project ID: GAN EDEN ESTATES
Client ID: POTABLE WELL HOBBY

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
Tot. Diss. Solids	70	10	1	mg/L			500	11/09/16	KH	SM2540C-97
Iron	4.56	0.01	1	mg/L			0.3	11/08/16	LK	E200.7
***** Iron exceeds Secondary Goal 0.3 *****										
Manganese	0.036	0.001	1	mg/L			0.05	11/08/16	LK	E200.7
Total Metal Digestion	Completed							11/11/16	AG	E200.5/E200.7

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
AL = Action Level MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal

Comments:

Maximum Contaminant Level (MCL) (Lower of): 40 CFR Part 141; Public Health Law, Section 225 Part 5. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Action Level (AL): (Lower of): 40 CFR Part 141.80; Public Health Law, Section 225 Part 5.

Secondary DW Maximum Contaminant Level Goal (MCLG): (Lower of): 40 CFR Part 141; 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

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

Phyllis Shiller, Laboratory Director
November 23, 2016
Reviewed and Released by: Bobbi Aloisa, Vice President

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

November 23, 2016

QA/QC Data

SDG I.D.: GBV78109

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 365904A (mg/L), QC Sample No: BV78110 (BV78110)													
ICP Metals - Aqueous													
Iron	BRL	0.01				98.5			NC			85 - 115	20
Manganese	BRL	0.001				98.5			103			85 - 115	20

Comment:

This batch does not include a duplicate.

Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

November 23, 2016

QA/QC Data

SDG I.D.: GBV78109

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 366133 (mg/L), QC Sample No: BV77054 (BV78110)													
Tot. Diss. Solids	BRL	10	240	240	0	97.0						85 - 115	20

Comment:

Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

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

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 23, 2016

Wednesday, November 23, 2016

Criteria: None

State: NY

Sample Criteria Exceedances Report

GBV78109 - HES-NY

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
BV78110	FE-DW	Iron	EPA / 40 CFR 141 DW / 143.3 Secondary Goals	4.56	0.01	0.3	0.06	mg/L

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY Temperature Narration

November 23, 2016

SDG I.D.: GBV78109

The samples in this delivery group were received at 4°C.
(Note acceptance criteria is above freezing up to 6°C)

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

NY/NJ CHAIN OF CUSTODY RECORD

Temp 4 °C Pg of

PHOENIX *Environmental Laboratories, Inc.*

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

Contact Options:
[X] Fax: (914) 276-2664
[X] Phone: (914) 276-2560
[ ] Email:

Customer: HydroEnvironmental Solutions, Inc.
Address: One Deans Bridge Road
Somers, New York, 10589

Project: Gon Eden Estates
Report to: ← Sam
Invoice to: ← Sam

Project P.O:

This section MUST be completed with Bottle Quantities.

Sampler's Signature: Client Sample - Information - Identification Date: 11/7/16

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Asbestos	Radon, SPC	Bromide, Chloride	Total Fe, Mn, TDS	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [X] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [X] 250ml [ ] 500ml [X] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
78109	TW-3	GW	11/7/16	12:00	X	X						2		3				1
78110	Potable Well - Hobby	DW	11/5/16	14:30			X							1		1		

Relinquished by:	Accepted by:	Date:	Time:
		2W	11/7/16
		11-7-16	14:50
	Krysta Bunce	11-7-16	16:12

Comments, Special Requirements or Regulations:

Turnaround:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[ ] 5 Days
[X] 10 Days
[ ] Other
* SURCHARGE APPLIES

NJ
[ ] Res. Criteria
[ ] Non-Res. Criteria
[ ] Impact to GW Soil Cleanup Criteria
[ ] GW Criteria

NY
[ ] NY 375 GWP
[ ] NY375 Unrestricted Use Soil
[ ] NY375 Residential Soil
[ ] Restricted/Residential
[ ] Commercial
[ ] Industrial

Data Format
[X] Phoenix Std Report
[X] Excel
[ ] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] NJ Hazsite EDD
[ ] NY EZ EDD (ASP)
[ ] Other

Data Package
[ ] NJ Reduced Deliv. *
[ ] NY Enhanced (ASP B) *
[ ] Other

State where samples were collected: NY

Eastern Analytical Services, Inc.

Water Sample Report

Date Collected: 11/07/2016
Collected By: Not Given
Date Received: 11/08/2016
Date Analyzed: 11/11/2016
Analyzed By: Ghayath Elias
Signature:
Analyte: Asbestos Fibers
Analytical Method: EPA 100.1/100.2
NVLAP Lab No: 101646-0
NYS Lab Number: 10851

Client: Phoenix Environmental Laboratories, Inc.
P.O. Box 370
Manchester, CT 06040

Sample ID# / Lab ID#	Sample Location	Sample Notes	Vol. (mls)	Concentration - 19k ≥0.5 µm < 10.0 µm	Vol. (mls)	Concentration - 10kX ≥10.0 µm
BV78109 2464714	Not Given	Drinking Water	5.	BDL< 6.40E+00 MFL	5.	BDL< 7.68E-01 MFL

MFL = Million Fibers per Liter
Liability Limited to Cost of Analysis.
Results Applicable to Those Items Tested. Samples received in acceptable condition unless otherwise noted.
This Report Must Not be Used by the Client to Claim Product Endorsement by NVLAP or Any Agency of the US Government.
AIHA Accreditation No. 418 Rhode Island DOH No. AAL-072T3 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AAS-2095

Eastern Analytical Services, Inc.

Water Sample Report

Date Received:	11/08/2016	**Analytical Method:**	EPA 100.1/100.2	**Filter Type:**	0.10µ MCE
Date Collected:	11/07/2016	**Instrument:**	JEOL 100CXII	**Filter Manufacturer:**	Advantec
Date Analyzed:	11/11/2016	**Accelerating Voltage:**	100 kV	**Filter Lot No:**	41002200
Analyzed By:	Ghayath Elias	**Magnification:**	19 kX	**Effective Filtration Area:**	960 mm²
Client:	Phoenix Environmental	**No of Grid Openings:**	3	**Filter Loading:**	Medium
Sample No:	BV78109	**Grid Opening Area:**	0.010 mm²	**Volume:**	5. milliliters
Lab No:	2464714	**Area Analyzed:**	0.030 mm²	**Minimum Detection Limit**	6.40E+00 MFL

Grid Opening	Structure No.	Structure Type	No. of Fibers	Length	Width	SAED	Negative ID	EDS	Spectra File Name
1D6	0	No Structure							
1P2	0	No Structure							
1I3	0	No Structure							

Total Number of Asbestos Structures ≥ 0.5µm < 10.0 µm:	0	**Total Number of Asbestos Structures ≥ 10.0 µm:**	0
Associated Concentration:	BDL< 6.40E+00 MF	**Associated Concentration:**	BDL< 7.68E-01 MFL

Eastern Analytical Services, Inc.

Water Sample Report

Date Received:	11/08/2016	**Analytical Method:**	EPA 100.1/100.2	**Filter Type:**	0.µ MCE
Date Collected:	11/07/2016	**Instrument:**	JEOL 100CXII	**Filter Manufacturer:**	Advantec
Date Analyzed:	11/11/2016	**Accelerating Voltage:**	100 kV	**Filter Lot No:**	41002200
Analyzed By:	Ghayath Elias	**Magnification:**	10 kX	**Effective Filtration Area:**	960 mm²
Client:	Phoenix Environmental	**No of Grid Openings:**	25	**Filter Loading:**	Medium
Sample No:	BV78109	**Grid Opening Area:**	0.010 mm²	**Volume:**	5. milliliters
Lab No:	2464714	**Area Analyzed:**	0.250 mm²	**Minimum Detection Limit**	7.68E-01 MFL

Grid Opening	Structure No.	Structure Type	No. of Fibers	Length	Width	SAED	Negative ID	EDS	Spectra File Name
2K1	0	No Structure							
2F6	0	No Structure							
2E8	0	No Structure							
2J3	0	No Structure							
2D7	0	No Structure							
2D8	0	No Structure							
2I2	0	No Structure							
2I3	0	No Structure							
2D3	0	No Structure							
2E1	0	No Structure							
2A8	0	No Structure							
2B6	0	No Structure							
3I3	0	No Structure							
3I5	0	No Structure							
3J4	0	No Structure							
3J1	0	No Structure							
3P8	0	No Structure							
3Q6	0	No Structure							
3V3	0	No Structure							
3X1	0	No Structure							
3K2	0	No Structure							
3K3	0	No Structure							

Eastern Analytical Services, Inc.

Water Sample Report

Total Number of Asbestos Structures ≥ 0.5µm < 10.0 µm:	0	**Total Number of Asbestos Structures ≥ 10.0 µm:**	0
Associated Concentration:	BDL< 6.40E+00 MF	**Associated Concentration:**	BDL< 7.68E-01 MFL

PHOENIX
Environmental Laboratories, Inc.

Thursday, December 01, 2016

Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Project ID: GAN EDEN ESTATES
Sample ID#s: BV75660 - BV75663

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

December 01, 2016

SDG I.D.: GBV75660

Sample BV75660 was analyzed past hold time for Heterotrophic Plate Count (SM9215B).

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 01, 2016

FOR: Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:		11/03/16	12:00
Location Code:	HES-NY	Received by:	DL	11/03/16	19:27
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV75660
Phoenix ID: BV75660

Project ID: GAN EDEN ESTATES
Client ID: TW-6

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Escherichia Coli	Absent	0	1	/100 mls		0		11/03/16 19:50	CB/CB	SM9223B-04	
Heterotrophic Plate Count	1	0	1	CFU/ml				11/03/16 20:25	CB/RM	SM9215B-04	
Total Coliforms	Absent	0	1	/100 mls		0		11/03/16 19:50	CB/CB	SM9223B-04	
Hardness (CaCO3)	< 0.1	0.1	1	mg/L				11/06/16		E200.7	
Alkalinity-CaCO3	55	20.0	1	mg/L				11/04/16	RR/EG	SM2320B-97	
Chloride	13.4	3.0	1	mg/L			250	11/04/16	BS/EG	E300.0	
Color, Apparent	< 1	1	1	Color Units			15	11/03/16 19:54	O	SM2120B-01	
Cyanide, Free	< 0.005	0.005	1	mg/L		0.2		11/04/16	EG	E335.4/SW9014	
Fluoride	< 0.10	0.10	1	mg/L		4		11/04/16	BS/EG	E300.0	
Langelier Index	-4.76		1	pH units				11/07/16	DL	SM2330B-05	1
Nitrite as Nitrogen	< 0.004	0.004	1	mg/L		1		11/04/16 07:49	BS/EG	E300.0	
Nitrate as Nitrogen	0.18	0.05	1	mg/L		10		11/04/16 07:49	BS/EG	E300.0	
Odor at 60 Degrees C	< 1.00	1.00	1	T.O.N.			3	11/03/16 20:58	DH/TB	SM2150B-97	
pH	7.34	0.10	1	pH Units			6.5-8.5	11/04/16 05:39	RR/EG	SM4500-H B-00	1
Sulfate	5.9	3.0	1	mg/L			250	11/04/16	BS/EG	E300.0	
Total Cyanide (Drinking water)	< 0.005	0.005	1	mg/L		0.2		11/07/16	EG	E335.4	
Tot. Diss. Solids	59	10	1	mg/L			500	11/07/16	KH	SM2540C-97	
Turbidity	1.03	0.200	1	NTU			5	11/04/16 05:39	RR/EG	SM2130B-01	
Silver	< 0.001	0.001	1	mg/L			0.1	11/05/16	LK	E200.7	
Arsenic	< 0.0005	0.0005	1	mg/L		0.01		11/08/16	RS	E200.9/SM3113B-10	
Barium	< 0.001	0.001	1	mg/L		2		11/05/16	LK	E200.7	
Beryllium	< 0.0003	0.0003	1	mg/L		0.004		11/05/16	LK	E200.7	
Calcium	0.008	0.005	1	mg/L				11/05/16	LK	E200.7	
Cadmium	< 0.001	0.001	1	mg/L		0.005		11/05/16	LK	E200.7	
Chromium	< 0.001	0.001	1	mg/L		0.1		11/05/16	LK	E200.7	
Copper	< 0.002	0.002	1	mg/L	1.3			11/05/16	LK	E200.7	
Iron	< 0.01	0.01	1	mg/L			0.3	11/05/16	LK	E200.7	
Mercury	< 0.0002	0.0002	1	mg/L		0.002		11/07/16	RS	E245.1	

Ver 1

Project ID: GAN EDEN ESTATES
Client ID: TW-6

Phoenix I.D.: BV75660

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Magnesium	< 0.005	0.005	1	mg/L				11/05/16	LK	E200.7	
Manganese	< 0.001	0.001	1	mg/L			0.05	11/05/16	LK	E200.7	
Sodium	< 0.1	0.1	1	mg/L				11/05/16	LK	E200.7	
Nickel	< 0.001	0.001	1	mg/L				11/05/16	LK	E200.7	
Lead	< 0.0010	0.0010	1	mg/L	0.015			11/05/16	LK	E200.5	
Antimony	< 0.0008	0.0008	1	mg/L		0.006		11/07/16	RS	E200.9/SM3113B-10	
Selenium	0.001	0.001	1	mg/L		0.05		11/08/16	RS	E200.9/SM3113B-10	
Thallium	< 0.0007	0.0007	1	mg/L		0.002		11/07/16	RS	E200.9/SM3113B-10	
Zinc	< 0.001	0.001	1	mg/L			5	11/05/16	LK	E200.7	
Extraction for 525.3	Completed							11/08/16	E/E	E525.3	
Extraction for Diquat	Completed							11/07/16	E/E	E549	
Extraction for Haloacetic Acids	Completed							11/11/16	D/K	E552.2	
Mercury DW Digestion	Completed							11/07/16	W/W	E245.1	
Extraction of DW PCB	Completed							11/04/16	I/I	E508	
Extraction of DW Herbicides	Completed							11/08/16	D/D	E515	
Total Metal Digestion	Completed							11/04/16	AG/RT/BF	E200.9	
Total Metal Digestion	Completed							11/04/16	RT/BF	E200.5/E200.7	
EDB and DBCP Analysis											
1,2-Dibromo-3-Chloropropane (DBCP)	ND	0.02	1	ug/L		0.2		11/08/16	JRB	E504.1	
1,2-Dibromoethane (EDB)	ND	0.01	1	ug/L		0.02		11/08/16	JRB	E504.1	
PCB Screen											
PCB-1016 (screen)	ND	0.080	1	ug/l		0.5		11/04/16	AW	E508	1
PCB-1221 (screen)	ND	0.10	1	ug/l		0.5		11/04/16	AW	E508	1
PCB-1232 (screen)	ND	0.10	1	ug/l		0.5		11/04/16	AW	E508	1
PCB-1242 (screen)	ND	0.10	1	ug/l		0.5		11/04/16	AW	E508	1
PCB-1248 (screen)	ND	0.10	1	ug/l		0.5		11/04/16	AW	E508	1
PCB-1254 (screen)	ND	0.10	1	ug/l		0.5		11/04/16	AW	E508	1
PCB-1260 (screen)	ND	0.10	1	ug/l		0.5		11/04/16	AW	E508	1
PCB-1262 (screen)	ND	0.10	1	ug/l				11/04/16	AW	E508	1
PCB-1268 (screen)	ND	0.10	1	ug/l				11/04/16	AW	E508	1
QA/QC Surrogates											
%DCBP (Surrogate Rec)	108		1	%	NA	NA	NA	11/04/16	AW	30 - 150 %	
Herbicides											
2,4,5-T	ND	0.50	1	ug/L				11/18/16	CE	E515.3	1
2,4,5-TP	ND	0.20	1	ug/L		50		11/18/16	CE	E515.3	
2,4-D	ND	0.10	1	ug/L		70		11/18/16	CE	E515.3	
Dalapon	ND	1.0	1	ug/L		200		11/18/16	CE	E515.3	
Dicamba	ND	0.50	1	ug/L				11/18/16	CE	E515.3	
Dichloroprop	ND	0.50	1	ug/L				11/18/16	CE	E515.3	1
Dinoseb	ND	0.20	1	ug/L		7		11/18/16	CE	E515.3	
Pentachlorophenol	ND	0.040	1	ug/L		1		11/18/16	CE	E515.3	
Picloram	ND	0.10	1	ug/L		500		11/18/16	CE	E515.3	
QA/QC Surrogates											
% DCAA	80		1	%	NA	NA	NA	11/18/16	CE	70 - 130 %	
Volatiles											
1,1,1,2-Tetrachloroethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2	

Ver 1

Project ID: GAN EDEN ESTATES
Client ID: TW-6

Phoenix I.D.: BV75660

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,1,2,2-Tetrachloroethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,1,2-Trichloroethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,1-Dichloroethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,1-Dichloroethene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,1-Dichloropropene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,2,3-Trichlorobenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,2,3-Trichloropropane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,2,4-Trichlorobenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,2,4-Trimethylbenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,2-Dichlorobenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,2-Dichloroethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,2-Dichloropropane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,3,5-Trimethylbenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,3-Dichlorobenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,3-Dichloropropane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
1,4-Dichlorobenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
2,2-Dichloropropane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
2-Chlorotoluene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
4-Chlorotoluene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Benzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Bromobenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Bromochloromethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Bromodichloromethane	ND	0.50	1	ug/L				11/04/16	HM	E524.2
Bromoform	ND	0.50	1	ug/L				11/04/16	HM	E524.2
Bromomethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Carbon tetrachloride	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Chlorobenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Chloroethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Chloroform	ND	0.50	1	ug/L				11/04/16	HM	E524.2
Chloromethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
cis-1,2-Dichloroethene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
cis-1,3-Dichloropropene	ND	0.40	1	ug/L		5		11/04/16	HM	E524.2
Dibromochloromethane	ND	0.50	1	ug/L				11/04/16	HM	E524.2
Dibromomethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Dichlorodifluoromethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Ethylbenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Hexachlorobutadiene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Isopropylbenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
m&p-Xylene	ND	0.50	1	ug/L				11/04/16	HM	E524.2
Methyl t-butyl ether (MTBE)	ND	0.50	1	ug/L		10		11/04/16	HM	E524.2
Methylene chloride	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Naphthalene	ND	0.50	1	ug/L				11/04/16	HM	E524.2
n-Butylbenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
n-Propylbenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
o-Xylene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
p-Isopropyltoluene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
sec-Butylbenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Styrene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2

Project ID: GAN EDEN ESTATES
Client ID: TW-6

Phoenix I.D.: BV75660

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
tert-Butylbenzene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Tetrachloroethene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Toluene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Total Trihalomethanes	ND	0.50	1	ug/L		80		11/04/16	HM	E524.2
Total Xylenes	ND	0.50	1	ug/L		10000		11/04/16	HM	E524.2
trans-1,2-Dichloroethene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
trans-1,3-Dichloropropene	ND	0.40	1	ug/L		5		11/04/16	HM	E524.2
Trichloroethene	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Trichlorofluoromethane	ND	0.50	1	ug/L		5		11/04/16	HM	E524.2
Vinyl chloride	ND	0.50	1	ug/L		2		11/04/16	HM	E524.2
QA/QC Surrogates										
% 1,2-dichlorobenzene-d4	89		1	%	NA	NA	NA	11/04/16	HM	70 - 130 %
% Bromofluorobenzene	86		1	%	NA	NA	NA	11/04/16	HM	70 - 130 %
Semivolatile Organic										
Benzo(a)pyrene	ND	0.02	1	ug/L		0.2		11/10/16	MH	E525.3
Bis(2-ethylhexyl)adipate	ND	0.60	1	ug/L		400		11/10/16	MH	E525.3
Bis(2-ethylhexyl)phthalate	ND	0.60	1	ug/L		6		11/10/16	MH	E525.3
Organophosphorus Pesticides										
Alachlor	ND	0.05	1	ug/L		2		11/10/16	MH	E525.3
Atrazine	ND	0.05	1	ug/L		3		11/10/16	MH	E525.3
Butachlor	ND	0.05	1	ug/L				11/10/16	MH	E525.3
Metolachlor	ND	0.05	1	ug/L				11/10/16	MH	E525.3
Metribuzin	ND	0.05	1	ug/L				11/10/16	MH	E525.3
Simazine	ND	0.05	1	ug/L		4		11/10/16	MH	E525.3
Pesticides										
Aldrin	ND	0.05	1	ug/L				11/10/16	MH	E525.3
Chlordane	ND	0.20	1	ug/L		2		11/10/16	MH	E525.3
Dieldrin	ND	0.03	1	ug/L				11/10/16	MH	E525.3
Endrin	ND	0.01	1	ug/L		2		11/10/16	MH	E525.3
Heptachlor	ND	0.04	1	ug/L		0.4		11/10/16	MH	E525.3
Heptachlor Epoxide	ND	0.02	1	ug/L		0.2		11/10/16	MH	E525.3
Hexachlorobenzene	ND	0.05	1	ug/L		1		11/10/16	MH	E525.3
Hexachlorocyclopentadiene	ND	0.05	1	ug/L		50		11/10/16	MH	E525.3
Lindane	ND	0.02	1	ug/L		0.2		11/10/16	MH	E525.3
Methoxychlor	ND	0.05	1	ug/L		40		11/10/16	MH	E525.3
Propachlor	ND	0.05	1	ug/L				11/10/16	MH	E525.3
QA/QC Surrogates										
% 1,3-Dimethyl-2-nitrobenzene	101		1	%	NA	NA	NA	11/10/16	MH	70 - 130 %
% benzo(a)pyrene-d12	97		1	%	NA	NA	NA	11/10/16	MH	70 - 130 %
% Triphenylphosphate	106		1	%	NA	NA	NA	11/10/16	MH	70 - 130 %
Carbamates HPLC										
3-Hydroxycarbofuran	ND	0.50	1	ug/L				11/15/16	RM	E531.2
Aldicarb	ND	0.50	1	ug/L		3		11/15/16	RM	E531.2
Aldicarb Sulfone	ND	0.80	1	ug/L		2		11/15/16	RM	E531.2
Aldicarb Sulfoxide	ND	0.50	1	ug/L		4		11/15/16	RM	E531.2
Carbaryl	ND	0.50	1	ug/L				11/15/16	RM	E531.2

Project ID: GAN EDEN ESTATES
Client ID: TW-6

Phoenix I.D.: BV75660

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Carbofuran	ND	0.90	1	ug/L		40		11/15/16	RM	E531.2	
Methomyl	ND	0.50	1	ug/L				11/15/16	RM	E531.2	
Oxamyl	ND	2.0	1	ug/L		200		11/15/16	RM	E531.2	
QA/QC Surrogates											
% BDMC	88		1	%	NA	NA	NA	11/15/16	RM	70 - 130 %	
Diquat											
Diquat	ND	0.40	1	ug/L		20		11/08/16	RM	E549	
Haloacetic Acids											
Bromochloroacetic Acid	ND	1.0	1	ug/L				11/16/16	PS	E552.2	
Dibromoacetic Acid	ND	1.0	1	ug/L		60		11/16/16	PS	E552.2	
Dichloroacetic Acid	ND	1.0	1	ug/L		60		11/16/16	PS	E552.2	
Monobromoacetic Acid	ND	1.0	1	ug/L		60		11/16/16	PS	E552.2	
Monochloroacetic Acid	ND	2.0	1	ug/L		60		11/16/16	PS	E552.2	
Total Haloacetic Acids	ND	1.0	1	ug/L				11/16/16	PS	E552.2	1
Trichloroacetic Acid	ND	1.0	1	ug/L		60		11/16/16	PS	E552.2	
QA/QC Surrogates											
% 2,3-DBPA	83		1	%	NA	NA	NA	11/16/16	PS	70 - 130 %	
Glyphosate	ND	6.0	1	ug/L		700		11/11/16	RM	E547	
Propylene Glycol	ND	7.0	1	mg/L				11/04/16	JRB	SW8015D MOD/1671	1
Endothall											
Endothall	<9.0	9.0		ug/L		100		11/10/16	*	E548.1	C
Asbestos in Water											
Asbestos fibers (>0.5u and <10u)	ND	1.92		MFL				11/09/16	*	E600/4-84	C
Asbestos fibers (>10u)	ND	0.240		MFL				11/09/16	*	E600/4-84	C
Bromate	<1.0	1.0		ug/L		10		11/10/16	*	E317.0	C
Chlorite	<0.010	0.010		mg/L		1		11/10/16	*	E300.0	C
2,3,7,8-TCDD	ND	5.00		pg/L				11/17/16	*	E1613B	C
Gross Alpha Water	ND ± 1.2	3		pci/L		15		11/14/16	*	E900.0	C
Gross Beta Water	ND ± 2.22	4		pci/L				11/14/16	*	E900.0	C
Radium 226	ND ± 0.11	1		pci/L		5		11/25/16	*	7500 Ra B/903.0	C
Radium 228	0.993 ± 0.52	1		pci/L		5		11/23/16	*	7500 Ra D/904.0	C
Radon	818 ± 44	21		pCi/l				11/07/16	*	7500 Rn B	C

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference

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

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
AL = Action Level MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Maximum Contaminant Level (MCL) (Lower of): 40 CFR Part 141; Public Health Law, Section 225 Part 5. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Action Level (AL): (Lower of): 40 CFR Part 141.80; Public Health Law, Section 225 Part 5.

Secondary DW Maximum Contaminant Level Goal (MCLG): (Lower of): 40 CFR Part 141; 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

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

Asbestos in Water (E600/4-84) was analyzed by NY certified lab #10851.
Radon (7500 Rn B) was analyzed by NY certified lab #11417.
2,3,7,8-TCDD (E1613B) was analyzed by NY certified lab #11647.
Gross Alpha Water (E900.0), Gross Beta Water (E900.0), Radium 226 (7500 Ra B/903.0), Radium 228 (7500 Ra D/904.0) were analyzed by NY certified lab #11777.
Bromate (E317.0), Chlorite (E300.0), Endothall (E548.1) were analyzed by NY certified lab #11398.

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

Phyllis Shiller, Laboratory Director
December 01, 2016
Reviewed and Released by: Bobbi Aloisa, Vice President

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 01, 2016

FOR: Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:		11/03/16	13:00
Location Code:	HES-NY	Received by:	DL	11/03/16	19:27
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV75660
Phoenix ID: BV75661

Project ID: GAN EDEN ESTATES
Client ID: TW-8

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Heterotrophic Plate Count	289	0	1	CFU/ml				11/03/16 20:25	CB/RM	SM9215B-04	
Asbestos in Water											
Asbestos fibers (>0.5u and <10u)	ND	1.92		MFL				11/09/16	*	E600/4-84	C
Asbestos fibers (>10u)	ND	0.226		MFL				11/09/16	*	E600/4-84	C
Bromate	<1.0	1.0		ug/L		10		11/10/16	*	E317.0	C
Chlorite	<0.010	0.010		mg/L		1		11/10/16	*	E300.0	C
Radon	1040 ± 49	21		pCi/l				11/07/16	*	7500 Rn B	C

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
AL = Action Level MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal

Comments:

Maximum Contaminant Level (MCL) (Lower of): 40 CFR Part 141; Public Health Law, Section 225 Part 5. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Action Level (AL): (Lower of): 40 CFR Part 141.80; Public Health Law, Section 225 Part 5.

Secondary DW Maximum Contaminant Level Goal (MCLG): (Lower of): 40 CFR Part 141; 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

Asbestos in Water (E600/4-84) was analyzed by NY certified lab #10851.
Radon (7500 Rn B) was analyzed by NY certified lab #11417.
Bromate (E317.0), Chlorite (E300.0) were analyzed by NY certified lab #11398.

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

December 01, 2016

Reviewed and Released by: Bobbi Aloisa, Vice President

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 01, 2016

FOR: Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:		11/03/16	13:30
Location Code:	HES-NY	Received by:	DL	11/03/16	19:27
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV75660
Phoenix ID: BV75662

Project ID: GAN EDEN ESTATES
Client ID: TW-5

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Heterotrophic Plate Count	428	0	1	CFU/ml				11/03/16 20:25	CB/RM	SM9215B-04	
Asbestos in Water											
Asbestos fibers (>0.5u and <10u)	ND	1.92		MFL				11/09/16	*	E600/4-84	C
Asbestos fibers (>10u)	ND	0.240		MFL				11/09/16	*	E600/4-84	C
Bromate	<1.0	1.0		ug/L		10		11/10/16	*	E317.0	C
Chlorite	<0.010	0.010		mg/L		1		11/10/16	*	E300.0	C
Radon	2770 ± 75	21		pCi/l				11/07/16	*	7500 Rn B	C

Project ID: GAN EDEN ESTATES
Client ID: TW-5

Phoenix I.D.: BV75662

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
AL = Action Level MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal

Comments:

Maximum Contaminant Level (MCL) (Lower of): 40 CFR Part 141; Public Health Law, Section 225 Part 5. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Action Level (AL): (Lower of): 40 CFR Part 141.80; Public Health Law, Section 225 Part 5.

Secondary DW Maximum Contaminant Level Goal (MCLG): (Lower of): 40 CFR Part 141; 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

Asbestos in Water (E600/4-84) was analyzed by NY certified lab #10851.
Radon (7500 Rn B) was analyzed by NY certified lab #11417.
Bromate (E317.0), Chlorite (E300.0) were analyzed by NY certified lab #11398.

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

Phyllis Shiller, Laboratory Director

December 01, 2016

Reviewed and Released by: Bobbi Aloisa, Vice President

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 01, 2016

FOR: Attn: Mr. William Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Rd
Somers NY 10589

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:		11/03/16	
Location Code:	HES-NY	Received by:	DL	11/03/16	19:27
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV75660
Phoenix ID: BV75663

Project ID: GAN EDEN ESTATES
Client ID: TRIP BLANK

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Volatile Library Search	Completed							11/04/16	HM		1
Volatiles											
1,1,1,2-Tetrachloroethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,1,1-Trichloroethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,1,2,2-Tetrachloroethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,1,2-Trichloroethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,1-Dichloroethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,1-Dichloroethene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,1-Dichloropropene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,2,3-Trichlorobenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,2,3-Trichloropropane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,2,4-Trichlorobenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,2,4-Trimethylbenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,2-Dichlorobenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,2-Dichloroethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,2-Dichloropropane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,3,5-Trimethylbenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,3-Dichlorobenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,3-Dichloropropane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
1,4-Dichlorobenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
2,2-Dichloropropane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
2-Chlorotoluene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
4-Chlorotoluene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
Benzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
Bromobenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
Bromochloromethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2	
Bromodichloromethane	ND	0.50	1	ug/L				11/03/16	HM	E524.2	

Project ID: GAN EDEN ESTATES
Client ID: TRIP BLANK

Phoenix I.D.: BV75663

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
Bromoform	ND	0.50	1	ug/L				11/03/16	HM	E524.2
Bromomethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Carbon tetrachloride	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Chlorobenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Chloroethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Chloroform	ND	0.50	1	ug/L				11/03/16	HM	E524.2
Chloromethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
cis-1,2-Dichloroethene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
cis-1,3-Dichloropropene	ND	0.40	1	ug/L		5		11/03/16	HM	E524.2
Dibromochloromethane	ND	0.50	1	ug/L				11/03/16	HM	E524.2
Dibromomethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Dichlorodifluoromethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Ethylbenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Hexachlorobutadiene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Isopropylbenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
m&p-Xylene	ND	0.50	1	ug/L				11/03/16	HM	E524.2
Methyl t-butyl ether (MTBE)	ND	0.50	1	ug/L		10		11/03/16	HM	E524.2
Methylene chloride	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Naphthalene	ND	0.50	1	ug/L				11/03/16	HM	E524.2
n-Butylbenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
n-Propylbenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
o-Xylene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
p-Isopropyltoluene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
sec-Butylbenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Styrene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
tert-Butylbenzene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Tetrachloroethene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Toluene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Total Trihalomethanes	ND	0.50	1	ug/L		80		11/03/16	HM	E524.2
Total Xylenes	ND	0.50	1	ug/L		10000		11/03/16	HM	E524.2
trans-1,2-Dichloroethene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
trans-1,3-Dichloropropene	ND	0.40	1	ug/L		5		11/03/16	HM	E524.2
Trichloroethene	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Trichlorofluoromethane	ND	0.50	1	ug/L		5		11/03/16	HM	E524.2
Vinyl chloride	ND	0.50	1	ug/L		2		11/03/16	HM	E524.2
QA/QC Surrogates										
% 1,2-dichlorobenzene-d4	87		1	%	NA	NA	NA	11/03/16	HM	70 - 130 %
% Bromofluorobenzene	85		1	%	NA	NA	NA	11/03/16	HM	70 - 130 %

Project ID: GAN EDEN ESTATES
Client ID: TRIP BLANK

Phoenix I.D.: BV75663

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference

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

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
AL = Action Level MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Maximum Contaminant Level (MCL) (Lower of): 40 CFR Part 141; Public Health Law, Section 225 Part 5. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Action Level (AL): (Lower of): 40 CFR Part 141.80; Public Health Law, Section 225 Part 5.

Secondary DW Maximum Contaminant Level Goal (MCLG): (Lower of): 40 CFR Part 141; 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

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

Phyllis Shiller, Laboratory Director
December 01, 2016
Reviewed and Released by: Bobbi Aloisa, Vice President

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT ID: TRIP BLANK

Lab Name: Phoenix Environmental Labs Client: HES-NY

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GBV75660

Matrix:(soil/water) WATER Lab Sample ID: BV75663

Sample wt/vol: 5 (g/mL) mL Lab File ID: 1103B29.D

Level: (low/med) Date Received: 11/03/16

% Moisture: not dec. 100 Date Analyzed: 11/03/16

GC Column: rtx-vms ID: 0.18 (mm) Dilution Factor: 1

Purge Volume 5000 (uL) Soil Aliquot Vol (uL): n.a.

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/KG) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

December 01, 2016

QA/QC Data

SDG I.D.: GBV75660

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 365797 (mg/L), QC Sample No: BV72856 (BV75660)													
Mercury	BRL	0.0002	<0.0002	<0.0002	NC	87.5			86.5			85 - 115	20
QA/QC Batch 365678 (mg/L), QC Sample No: BV72856 (BV75660)													
Antimony	BRL	0.002	<0.0008	<0.002	NC	104			113			85 - 115	20
Arsenic	BRL	0.001	<0.001	<0.001	NC	101			113			85 - 115	20
Selenium	BRL	0.001	<0.001	<0.001	NC	110			119			85 - 115	20
Thallium	BRL	0.001	<0.0007	<0.001	NC	101			102			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 365696A (mg/L), QC Sample No: BV75512 (BV75660)													
ICP Metals - Aqueous													
Barium	BRL	0.001				98.2			97.8			85 - 115	20
Beryllium	BRL	0.0003				104			102			85 - 115	20
Cadmium	BRL	0.001				97.2			96.0			85 - 115	20
Calcium	BRL	0.01				106			NC			85 - 115	20
Chromium	BRL	0.001				98.1			97.4			85 - 115	20
Copper	BRL	0.002				105			99.7			85 - 115	20
Iron	BRL	0.01				99.6			97.2			85 - 115	20
Lead	BRL	0.0010				97.5			97.2			85 - 115	20
Magnesium	BRL	0.01				98.9			86.5			85 - 115	20
Manganese	BRL	0.001				99.2			98.7			85 - 115	20
Nickel	BRL	0.001				97.8			96.6			85 - 115	20
Silver	BRL	0.001				101			97.8			85 - 115	20
Sodium	BRL	0.1				103			NC			85 - 115	20
Comment:													
This batch does not include a duplicate.													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													

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NY # 11301

QA/QC Report

December 01, 2016

QA/QC Data

SDG I.D.: GBV75660

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 365628 (mg/L), QC Sample No: BV75512 (BV75660)													
Chloride	BRL	3.0	10.7	10.6	NC	96.6			101			90 - 110	20
Fluoride	BRL	0.10	0.69	0.68	1.50	101			97.2			90 - 110	20
Nitrate as Nitrogen	BRL	0.05	0.08	0.09	NC	104			96.6			90 - 110	20
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	102			95.2			90 - 110	20
Sulfate	BRL	3.0	3.8	3.7	NC	103			100			90 - 110	20
QA/QC Batch 365830 (mg/L), QC Sample No: BV75521 (BV75660)													
Tot. Diss. Solids	BRL	10	710	700	1.40	91.0						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 365611 (mg/L), QC Sample No: BV75660 (BV75660)													
Alkalinity-CaCO3	BRL	5.00	55	53	NC	98.9						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 365565 (mg/L), QC Sample No: BV75660 (BV75660)													
Free Cyanide	BRL	0.01	<0.005	<0.01	NC	98.0			97.5			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 365606 (pH), QC Sample No: BV75660 (BV75660)													
pH			7.34	7.29	0.70	98.6						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 365716 (mg/L), QC Sample No: BV75660 (BV75660)													
Total Cyanide (Drinking water)	BRL	0.01	<0.005	<0.01	NC	96.2			95.0			85 - 115	20
QA/QC Batch 365616 (NTU), QC Sample No: BV75660 (BV75660)													
Turbidity	BRL	0.200	1.03	0.92	NC	93.5						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													

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NY # 11301

QA/QC Report

December 01, 2016

QA/QC Data

SDG I.D.: GBV75660

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 365902 (ug/L), QC Sample No: BV67708 (BV75660)											
Semivolatile Organic Compounds - Drinking Water											
Alachlor	ND	0.05	120			118	127	7.3	70 - 130	20	
Aldrin	ND	0.05	100			100	103	3.0	70 - 130	20	
Atrazine	ND	0.05	103			103	103	0.0	70 - 130	20	
Benzo(a)pyrene	ND	0.02	103			110	110	0.0	70 - 130	20	
Bis(2-ethylhexyl)adipate	ND	0.60	107			108	115	6.3	70 - 130	20	
Bis(2-ethylhexyl)phthalate	ND	0.60	108			111	112	0.9	70 - 130	20	
Butachlor	ND	0.05	138			132	153	14.7	70 - 130	20	l,m
Chlordane	ND	0.03	90			88	91	3.4	70 - 130	20	
Dieldrin	ND	0.03	104			102	103	1.0	70 - 130	20	
Endrin	ND	0.01	108			107	115	7.2	70 - 130	20	
Heptachlor	ND	0.04	108			107	119	10.6	70 - 130	20	
Heptachlor Epoxide	ND	0.02	96			94	97	3.1	70 - 130	20	
Hexachlorobenzene	ND	0.05	81			78	83	6.2	60 - 130	20	
Hexachlorocyclopentadiene	ND	0.05	74			79	86	8.5	60 - 130	20	
Lindane	ND	0.02	100			99	99	0.0	70 - 130	20	
Methoxychlor	ND	0.05	121			129	144	11.0	70 - 130	20	m
Metolachlor	ND	0.05	117			114	121	6.0	70 - 130	20	
Metribuzin	ND	0.05	105			108	117	8.0	70 - 130	20	
Propachlor	ND	0.05	112			110	114	3.6	70 - 130	20	
Simazine	ND	0.05	107			104	104	0.0	70 - 130	20	
% 1,3-Dimethyl-2-nitrobenzene	95	%	98			98	98	0.0	70 - 130	20	
% benzo(a)pyrene-d12	90	%	92			96	94	2.1	70 - 130	20	
% Triphenylphosphate	97	%	101			102	102	0.0	70 - 130	20	

Comment:

Alpha and gamma chlordane were spiked and analyzed instead of technical chlordane. Gamma chlordane recovery is reported as chlordane in the LCS.Tap water, collected and dechlorinated in sample containers, was used as the MS and MSD.

QA/QC Batch 365985 (ug/L), QC Sample No: BV68505 (BV75660)											
Herbicides - Drinking Water											
2,4,5-T	ND	0.50	95			102			70 - 130	20	
2,4,5-TP	ND	0.20	90			95			70 - 130	20	
2,4-D	ND	0.10	130			130			70 - 130	20	
Dalapon	ND	1.0	90			100			70 - 130	20	
Dicamba	ND	0.50	90			99			70 - 130	20	
Dichloroprop	ND	0.50	97			103			70 - 130	20	
Dinoseb	ND	0.20	87			98			70 - 130	20	
Pentachlorophenol	ND	0.040	85			91			70 - 130	20	
Picloram	ND	0.10	108			112			70 - 130	20	
% DCAA (Surrogate Rec)	86	%	80			86			70 - 130	20	

QA/QC Data

SDG I.D.: GBV75660

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 365724 (ug/L), QC Sample No: BV72669 (BV75660)										
EDB and DBCP Analysis - Drinking Water										
1,2-Dibromo-3-Chloropropane (DB	ND	0.02	100	103	3.0	102	97	5.0	70 - 130	20
1,2-Dibromoethane (EDB)	ND	0.01	99	100	1.0	99	85	15.2	70 - 130	20
QA/QC Batch 365553 (ug/L), QC Sample No: BV73364 (BV75660)										
Pesticides - Drinking Water										
% DCBP	109	%	104			115			70 - 130	20
QA/QC Batch 365561 (ug/L), QC Sample No: BV75443 (BV75660, BV75663)										
Volatiles - Drinking Water										
1,1,1,2-Tetrachloroethane	ND	0.50	88	91	3.4				70 - 130	30
1,1,1-Trichloroethane	ND	0.50	88	87	1.1				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	101	99	2.0				70 - 130	30
1,1,2-Trichloroethane	ND	0.50	85	90	5.7				70 - 130	30
1,1-Dichloroethane	ND	0.50	90	88	2.2				70 - 130	30
1,1-Dichloroethene	ND	0.50	94	91	3.2				70 - 130	30
1,1-Dichloropropene	ND	0.40	91	89	2.2				70 - 130	30
1,2,3-Trichlorobenzene	ND	0.50	89	94	5.5				70 - 130	30
1,2,3-Trichloropropane	ND	0.50	89	90	1.1				70 - 130	30
1,2,4-Trichlorobenzene	ND	0.50	89	89	0.0				70 - 130	30
1,2,4-Trimethylbenzene	ND	0.50	91	91	0.0				70 - 130	30
1,2-Dichlorobenzene	ND	0.50	91	92	1.1				70 - 130	30
1,2-Dichloroethane	ND	0.50	92	90	2.2				70 - 130	30
1,2-Dichloropropane	ND	0.50	89	86	3.4				70 - 130	30
1,3,5-Trimethylbenzene	ND	0.50	92	91	1.1				70 - 130	30
1,3-Dichlorobenzene	ND	0.50	93	90	3.3				70 - 130	30
1,3-Dichloropropane	ND	0.50	89	91	2.2				70 - 130	30
1,4-Dichlorobenzene	ND	0.50	92	91	1.1				70 - 130	30
2,2-Dichloropropane	ND	0.50	92	88	4.4				70 - 130	30
2-Chlorotoluene	ND	0.50	91	89	2.2				70 - 130	30
4-Chlorotoluene	ND	0.50	89	89	0.0				70 - 130	30
Benzene	ND	0.50	91	88	3.4				70 - 130	30
Bromobenzene	ND	0.50	94	94	0.0				70 - 130	30
Bromochloromethane	ND	0.50	91	90	1.1				70 - 130	30
Bromodichloromethane	ND	0.50	85	86	1.2				70 - 130	30
Bromoform	ND	0.50	81	86	6.0				70 - 130	30
Bromomethane	ND	0.50	85	83	2.4				70 - 130	30
Carbon tetrachloride	ND	0.50	93	92	1.1				70 - 130	30
Chlorobenzene	ND	0.50	88	88	0.0				70 - 130	30
Chloroethane	ND	0.50	96	86	11.0				70 - 130	30
Chloroform	ND	0.50	91	90	1.1				70 - 130	30
Chloromethane	ND	0.50	96	90	6.5				70 - 130	30
cis-1,2-Dichloroethene	ND	0.50	89	81	9.4				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	87	84	3.5				70 - 130	30
Dibromochloromethane	ND	0.50	88	91	3.4				70 - 130	30
Dibromomethane	ND	0.50	91	91	0.0				70 - 130	30
Dichlorodifluoromethane	ND	0.50	119	115	3.4				70 - 130	30
Ethylbenzene	ND	0.50	95	94	1.1				70 - 130	30
Hexachlorobutadiene	ND	0.40	88	91	3.4				70 - 130	30
Isopropylbenzene	ND	0.50	94	92	2.2				70 - 130	30
m&p-Xylene	ND	0.50	93	93	0.0				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	0.50	99	100	1.0				70 - 130	30

QA/QC Data

SDG I.D.: GBV75660

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Methylene chloride	ND	0.50	89	92	3.3				70 - 130	30	
Naphthalene	ND	0.50	96	97	1.0				70 - 130	30	
n-Butylbenzene	ND	0.50	99	97	2.0				70 - 130	30	
n-Propylbenzene	ND	0.50	91	90	1.1				70 - 130	30	
o-Xylene	ND	0.50	90	93	3.3				70 - 130	30	
p-Isopropyltoluene	ND	0.50	94	91	3.2				70 - 130	30	
sec-Butylbenzene	ND	0.50	101	99	2.0				70 - 130	30	
Styrene	ND	0.50	93	93	0.0				70 - 130	30	
tert-Butylbenzene	ND	0.50	94	93	1.1				70 - 130	30	
Tetrachloroethene	ND	0.50	92	86	6.7				70 - 130	30	
Toluene	ND	0.50	87	85	2.3				70 - 130	30	
trans-1,2-Dichloroethene	ND	0.50	91	89	2.2				70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	82	82	0.0				70 - 130	30	
Trichloroethene	ND	0.50	91	89	2.2				70 - 130	30	
Trichlorofluoromethane	ND	0.50	99	96	3.1				70 - 130	30	
Vinyl chloride	ND	0.50	102	100	2.0				70 - 130	30	
% 1,2-dichlorobenzene-d4	90	%	112	108	3.6				70 - 130	30	
% Bromofluorobenzene	90	%	103	105	1.9				70 - 130	30	
Comment:											
This batch consists of a blank, LCS and LCSD.											
QA/QC Batch 366600A (ug/L), QC Sample No: BV75660 (BV75660)											
Haloacetic Acids - Drinking Water											
Bromochloroacetic Acid	ND	1.0	114			107			70 - 130	20	
Dibromoacetic Acid	ND	1.0	111			107			70 - 130	20	
Dichloroacetic Acid	ND	1.0	124			119			70 - 130	20	
Monobromoacetic Acid	ND	1.0	109			102			70 - 130	20	
Monochloroacetic Acid	ND	2.0	102			107			70 - 130	20	
Trichloroacetic Acid	ND	1.0	100			97			70 - 130	20	
% 2,3-DBPA	91	%	104			91			70 - 130	20	
QA/QC Batch 365896 (ug/L), QC Sample No: BV75660 (BV75660)											
Diquat - Drinking Water											
Diquat	ND	0.40	84			91	87	4.5			
QA/QC Batch 365671 (mg/L), QC Sample No: BV75908 (BV75660)											
Glycols - Drinking Water											
Propylene glycol	ND	7.0	131	132	0.8	122	132	7.9	70 - 130	30	l,m
QA/QC Batch 366772 (ug/L), QC Sample No: BV80141 (BV75660)											
Glyphosate - Drinking Water											
Glyphosate	ND	6.0	119	118	0.8	121	117	3.4	70 - 130	20	
QA/QC Batch 366972 (ug/L), QC Sample No: BV81491 (BV75660)											
Carbamates HPLC - Drinking Water											
3-Hydroxycarbofuran	ND	0.50	102	105	2.9	113	124	9.3	70 - 130	20	
Aldicarb	ND	0.50	75	82	8.9	90	90	0.0	70 - 130	20	
Aldicarb Sulfone	ND	0.80	86	87	1.2	97	97	0.0	70 - 130	20	
Aldicarb Sulfoxide	ND	0.50	87	95	8.8	106	106	0.0	70 - 130	20	
Carbaryl	ND	0.50	109	113	3.6	130	129	0.8	70 - 130	20	
Carbofuran	ND	0.90	82	89	8.2	98	96	2.1	70 - 130	20	
Methomyl	ND	0.50	78	83	6.2	91	89	2.2	70 - 130	20	
Oxamyl	ND	2.0	94	97	3.1	110	111	0.9	70 - 130	20	
% BDMC	84	%	94	71	27.9	72	103	35.4	70 - 130	20	r

QA/QC Data

SDG I.D.: GBV75660

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

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

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
December 01, 2016

Thursday, December 01, 2016

Criteria: NY: DWP5

State: NY

Sample Criteria Exceedances Report

GBV75660 - HES-NY

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

NY Temperature Narration

December 01, 2016

SDG I.D.: GBV75660

The samples in this delivery group were received at 6°C.
(Note acceptance criteria is above freezing up to 6°C)

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

NY/NJ CHAIN OF CUSTODY RECORD

Temp 0 °C Pg of

PHOENIX *Environmental Laboratories, Inc.*

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

Contact Options:
☒ Fax: (914) 276-2664
☒ Phone: (914) 276-2560
☐ Email:

Customer: HydroEnvironmental Solutions, Inc.
Address: One Deans Bridge Road
Somers, New York, 10589

Project: Glen Eden Estates
Report to: ← Same
Invoice to: ← Same

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature _____ Date: 11/3/16

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NYS Full Part 5	Asbestos Analysis SPL	Bromate, Chlorite	8260 VOA +HCL	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial ☒ As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is ☒ 250ml [ ] 500ml ☒ 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
75660	TW-6	GW	11/3/16	12:00	X							See Attached						
75661	TW-8	1	1	13:00		X	X					2		3				1
75662	TW-5	1	1	13:30		X	X					2		3				1
75663	Trip Blank							X										

Relinquished by:	Accepted by:	Date:	Time:
	Martin Rowan	11/3/16	5:23 PM
Martin Rowan	TFD	11/3/16	19:27

Comments, Special Requirements or Regulations:

(2) 250ML Plastic - Bromate - Chlorite
(1) 950ML Plastic - Asbestos

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

NJ
☐ Res. Criteria
☐ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ GW Criteria

NY
☐ NY 375 GWP
☐ NY375 Unrestricted Use Soil
☐ NY375 Residential Soil
☐ Restricted/Residential
☐ Commercial
☐ Industrial

Data Format
☒ Phoenix Std Report
☒ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ NJ Hazsite EDD
☐ NY EZ EDD (ASP)
☐ Other

Data Package
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B) *
☐ Other

State where samples were collected: NY

Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
Manchester, CT 06040
(860) 645-1102

75660

CONTAINER ORDER

Company: HydroEnvironmental Solutions
One Deans Bridge Rd.
Somers, NY

Project: NY State Full part 5
Contact: William Canavan
Date: 10/19/16

NON Chlorinated System

#Set	Sets	Total	Container	Preservative	Parameter
2	3	6	40ml Vials	AS IS	504 (EDB)
1	3	3	32oz Amber	AS IS	508 (Pest/PCB)
2	3	6	32oz Amber	AS IS	515 (Herbicides)
2	3	6	32oz Amber	K citrate/EDTA	525 (Semi Volatiles)
3	3	9	40ml Vials	HCL	524 (Volatiles)
2	3	6	60ml Amber Vials	C6H7KO7	531 (Carbamates)
2	3	6	60ml Amber Vials	Na2S2O3	547 (Glyphosate)
2	3	6	8oz Amber	Na2S2O3	548 (Endothall)
2	3	6	500ml Brown Plastic	Na2S2O3	549 (Diquat)
1	3	3	950ml Plastic	AS IS	Asbestos
2	3	6	32oz Amber	AS IS	Dioxin
1	3	3	120ml Sterile	THIO	Total Coliform
1	3	3	120ml Sterile	THIO	SPC
2	3	6	40ml Vials	AS IS	Radon
5	3	15	950ml Plastic	HNO3	Gross Alpha, Gross Beta, Ra226, Ra228, Uranium
1	3	3	4oz. Amber	NH4CL	HAA5
1	3	3	500ml Plastic	HNO3	Total Metals* & Hardness
1	3	3	250ml Plastic	NAOH	Total Cyanide
1	3	3	950ml Plastic	AS IS	Wet Chemistry***
1	3	3	120ml Plastic	AS IS	Alkalinity
2	3	6	40ml Vials	AS IS	Propylene Glycol
1	3	3	120ml Plastic	EDA	Bromate (OL bottle)
1	3	3	120ml Plastic	EDA	Chlorite (OL bottle)

Also included:
2 AS IS vials with Reagent Water for 504 TRIP BLANK (must be submitted)
*metals: MG, AS, BA, CD, CR, HG, SE, AG, CU, FE, MN, NA, SB, BE, NI, TI, CA, ZN, PB
*** Color, Turbidity, PH, TDS, Chloride, Fluoride, Sulfate, Nitrate, Nitrite, Free Chlorine, Odor

Eastern Analytical Services, Inc.

Water Sample Report

Date Collected: 11/03/2016
Collected By: Not Given
Date Received: 11/04/2016
Date Analyzed: 11/09/2016
Analyzed By: Ghayath Elias
Signature:
Analyte: Asbestos Fibers
Analytical Method: EPA 100.1/100.2
NVLAP Lab No: 101646-0
NYS Lab Number: 10851

Client: Phoenix Environmental Laboratories, Inc.
P.O. Box 370
Manchester, CT 06040

Sample ID# / Lab ID#	Sample Location	Sample Notes	Vol. (mls)	Concentration - 19k ≥0.5 µm < 10.0 µm	Vol. (mls)	Concentration - 10kX ≥10.0 µm
75660 2463516	Not Given	Drinking Water	50.	BDL< 1.92E+00 MFL	50.	BDL< 2.40E-01 MFL
75661 2463517	Not Given	Drinking Water	25.	BDL< 1.92E+00 MFL	25.	BDL< 2.26E-01 MFL
75662 2463518	Not Given	Drinking Water	50.	BDL< 1.92E+00 MFL	50.	BDL< 2.40E-01 MFL

MFL = Million Fibers per Liter
Liability Limited to Cost of Analysis.
Results Applicable to Those Items Tested. Samples received in acceptable condition unless otherwise noted.
This Report Must Not be Used by the Client to Claim Product Endorsement by NVLAP or Any Agency of the US Government.
AIHA Accreditation No. 418 Rhode Island DOH No. AAL-072T3 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AAS-2095

Eastern Analytical Services, Inc.

Water Sample Report

Date Received:	11/04/2016	**Analytical Method:**	EPA 100.1/100.2	**Filter Type:**	0.10µ MCE
Date Collected:	11/03/2016	**Instrument:**	JEOL 100CXII	**Filter Manufacturer:**	Advantec
Date Analyzed:	11/09/2016	**Accelerating Voltage:**	100 kV	**Filter Lot No:**	41002200
Analyzed By:	Ghayath Elias	**Magnification:**	19 kX	**Effective Filtration Area:**	960 mm²
Client:	Phoenix Environmental	**No of Grid Openings:**	1	**Filter Loading:**	Light
Sample No:	75660	**Grid Opening Area:**	0.010 mm²	**Volume:**	50. milliliters
Lab No:	2463516	**Area Analyzed:**	0.010 mm²	**Minimum Detection Limit**	1.92E+00 MFL

Grid Opening	Structure No.	Structure Type	No. of Fibers	Length	Width	SAED	Negative ID	EDS	Spectra File Name
1P8	0	No Structure							

Total Number of Asbestos Structures ≥ 0.5µm < 10.0 µm:	0	**Total Number of Asbestos Structures ≥ 10.0 µm:**	0
Associated Concentration:	BDL< 1.92E+00 MF	**Associated Concentration:**	BDL< 2.40E-01 MFL

Eastern Analytical Services, Inc.

Water Sample Report

Date Received:	11/04/2016	**Analytical Method:**	EPA 100.1/100.2	**Filter Type:**	0.10µ MCE
Date Collected:	11/03/2016	**Instrument:**	JEOL 100CXII	**Filter Manufacturer:**	Advantec
Date Analyzed:	11/09/2016	**Accelerating Voltage:**	100 kV	**Filter Lot No:**	41002200
Analyzed By:	Ghayath Elias	**Magnification:**	19 kX	**Effective Filtration Area:**	960 mm²
Client:	Phoenix Environmental	**No of Grid Openings:**	2	**Filter Loading:**	Medium
Sample No:	75661	**Grid Opening Area:**	0.010 mm²	**Volume:**	25. milliliters
Lab No:	2463517	**Area Analyzed:**	0.020 mm²	**Minimum Detection Limit**	1.92E+00 MFL

Grid Opening	Structure No.	Structure Type	No. of Fibers	Length	Width	SAED	Negative ID	EDS	Spectra File Name
1P8	0	No Structure							
1N7	0	No Structure							

Total Number of Asbestos Structures ≥ 0.5µm < 10.0 µm: 0

Associated Concentration: BDL< 1.92E+00 MF

Total Number of Asbestos Structures ≥ 10.0 µm: 0

Associated Concentration: BDL< 2.26E-01 MFL

Eastern Analytical Services, Inc.

Water Sample Report

Date Received:	11/04/2016	**Analytical Method:**	EPA 100.1/100.2	**Filter Type:**	0.10µ MCE
Date Collected:	11/03/2016	**Instrument:**	JEOL 100CXII	**Filter Manufacturer:**	Advantec
Date Analyzed:	11/09/2016	**Accelerating Voltage:**	100 kV	**Filter Lot No:**	41002200
Analyzed By:	Ghayath Elias	**Magnification:**	19 kX	**Effective Filtration Area:**	960 mm²
Client:	Phoenix Environmental	**No of Grid Openings:**	1	**Filter Loading:**	Medium
Sample No:	75662	**Grid Opening Area:**	0.010 mm²	**Volume:**	50. milliliters
Lab No:	2463518	**Area Analyzed:**	0.010 mm²	**Minimum Detection Limit**	1.92E+00 MFL

Grid Opening	Structure No.	Structure Type	No. of Fibers	Length	Width	SAED	Negative ID	EDS	Spectra File Name
1V1	0	No Structure							

Total Number of Asbestos Structures ≥ 0.5µm < 10.0 µm:	0	**Total Number of Asbestos Structures ≥ 10.0 µm:**	0
Associated Concentration:	BDL< 1.92E+00 MF	**Associated Concentration:**	BDL< 2.40E-01 MFL

Eastern Analytical Services, Inc.

Water Sample Report

Date Received:	11/04/2016	**Analytical Method:**	EPA 100.1/100.2	**Filter Type:**	0.10µ MCE
Date Collected:	11/03/2016	**Instrument:**	JEOL 100CXII	**Filter Manufacturer:**	Advantec
Date Analyzed:	11/09/2016	**Accelerating Voltage:**	100 kV	**Filter Lot No:**	41002200
Analyzed By:	Ghayath Elias	**Magnification:**	10 kX	**Effective Filtration Area:**	960 mm²
Client:	Phoenix Environmental	**No of Grid Openings:**	8	**Filter Loading:**	Light
Sample No:	75660	**Grid Opening Area:**	0.010 mm²	**Volume:**	50. milliliters
Lab No:	2463516	**Area Analyzed:**	0.080 mm²	**Minimum Detection Limit**	2.40E-01 MFL

Grid Opening	Structure No.	Structure Type	No. of Fibers	Length	Width	SAED	Negative ID	EDS	Spectra File Name
2R2	0	No Structure							
2R1	0	No Structure							
2K6	0	No Structure							
2K7	0	No Structure							
2H3	0	No Structure							
2C8	0	No Structure							
2D6	0	No Structure							

Total Number of Asbestos Structures ≥ 0.5µm < 10.0 µm: 0

Associated Concentration: BDL< 1.92E+00 MF

Total Number of Asbestos Structures ≥ 10.0 µm: 0

Associated Concentration: BDL< 2.40E-01 MFL

Eastern Analytical Services, Inc.

Water Sample Report

Date Received:	11/04/2016	**Analytical Method:**	EPA 100.1/100.2	**Filter Type:**	0.10µ MCE
Date Collected:	11/03/2016	**Instrument:**	JEOL 100CXII	**Filter Manufacturer:**	Advantec
Date Analyzed:	11/09/2016	**Accelerating Voltage:**	100 kV	**Filter Lot No:**	41002200
Analyzed By:	Ghayath Elias	**Magnification:**	10 kX	**Effective Filtration Area:**	960 mm²
Client:	Phoenix Environmental	**No of Grid Openings:**	17	**Filter Loading:**	Medium
Sample No:	75661	**Grid Opening Area:**	0.010 mm²	**Volume:**	25. milliliters
Lab No:	2463517	**Area Analyzed:**	0.170 mm²	**Minimum Detection Limit**	2.26E-01 MFL

Grid Opening	Structure No.	Structure Type	No. of Fibers	Length	Width	SAED	Negative ID	EDS	Spectra File Name
2P7	0	No Structure							
2P8	0	No Structure							
2V2	0	No Structure							
2V3	0	No Structure							
2J5	0	No Structure							
2J8	0	No Structure							
2K4	0	No Structure							
2K6	0	No Structure							
2H8	0	No Structure							
2N3	0	No Structure							
3D5	0	No Structure							
3D8	0	No Structure							
3E4	0	No Structure							
3E6	0	No Structure							
3P6	0	No Structure							

Total Number of Asbestos Structures ≥ 0.5µm < 10.0 µm: 0

Associated Concentration: BDL< 1.92E+00 MF

Total Number of Asbestos Structures ≥ 10.0 µm: 0

Associated Concentration: BDL< 2.26E-01 MFL

Eastern Analytical Services, Inc.

Water Sample Report

Date Received:	11/04/2016	**Analytical Method:**	EPA 100.1/100.2	**Filter Type:**	0.10µ MCE
Date Collected:	11/03/2016	**Instrument:**	JEOL 100CXII	**Filter Manufacturer:**	Advantec
Date Analyzed:	11/09/2016	**Accelerating Voltage:**	100 kV	**Filter Lot No:**	41002200
Analyzed By:	Ghayath Elias	**Magnification:**	19 kX	**Effective Filtration Area:**	960 mm²
Client:	Phoenix Environmental	**No of Grid Openings:**	8	**Filter Loading:**	Medium
Sample No:	75662	**Grid Opening Area:**	0.010 mm²	**Volume:**	50. milliliters
Lab No:	2463518	**Area Analyzed:**	0.080 mm²	**Minimum Detection Limit**	2.40E-01 MFL

Grid Opening	Structure No.	Structure Type	No. of Fibers	Length	Width	SAED	Negative ID	EDS	Spectra File Name
2D8	0	No Structure							
2E6	0	No Structure							
2H3	0	No Structure							
2I1	0	No Structure							
3K4	0	No Structure							
3K6	0	No Structure							
3J5	0	No Structure							

Total Number of Asbestos Structures ≥ 0.5µm < 10.0 µm:	0	**Total Number of Asbestos Structures ≥ 10.0 µm:**	0
Associated Concentration:	BDL< 1.92E+00 MF	**Associated Concentration:**	BDL< 2.40E-01 MFL

Bobbi Aloisa

From: Bobbi Aloisa
Sent: Thursday, December 01, 2016 12:03 PM
To: wcanavan@hesny.com
Cc: Bobbi Aloisa
Subject: SPC holdtime
Attachments: GBV75660-COC-1.pdf

Hi William
On the attached chain, the first sample TW-6, the SPC has an 8 hour hold time. The SPC was received at the lab with about 30 minutes left on the hold time. The lab was not able to set this SPC within that time frame. It was set about 25 minutes past hold time.

I apologize for any inconvenience this may cause.

Bobbi
Bobbi Aloisa
Vice President
Director of Client Services
Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester, CT 06040
Ph: 860-645-8728

Technical Report

prepared for:

Hydro Environmental Solutions
One Deans Bridge Road
Somers NY, 10589
Attention: Bill Canavan

Report Date: 12/06/2016
Client Project ID: 273 Mongaup Rd.
York Project (SDG) No.: 16L0006

Report Date: 12/06/2016
Client Project ID: 273 Mongaup Rd.
York Project (SDG) No.: 16L0006

Hydro Environmental Solutions
One Deans Bridge Road
Somers NY, 10589
Attention: Bill Canavan

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on December 01, 2016 and listed below. The project was identified as your project: **273 Mongaup Rd.**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

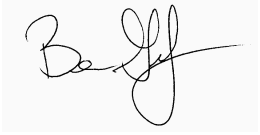
The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
16L0006-01	Potable Well	Drinking Water	11/30/2016	12/01/2016

General Notes for York Project (SDG) No.: 16L0006

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
9. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By: 

Date: 12/06/2016

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: **Potable Well** **York Sample ID:** **16L0006-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16L0006	273 Mongaup Rd.	Drinking Water	November 30, 2016 3:00 pm	12/01/2016

Iron by EPA 200.7

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 200.7

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-89-6	**Iron**	**0.0535**		mg/L	0.0162	0.0222	1	EPA 200.7	12/02/2016 13:28	12/02/2016 19:06	KV
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Manganese by EPA 200.7

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 200.7

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-96-5	Manganese	ND		mg/L	0.00111	0.00556	1	EPA 200.7	12/02/2016 13:28	12/02/2016 19:06	KV
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Total Dissolved Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Total Dissolved Solids	**104**		mg/L	10.0	10.0	1	SM 2540C	12/02/2016 20:34	12/06/2016 00:32	AA
								Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		

Notes and Definitions

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

YORK ANALYTICAL LABORATORIES
120 RESEARCH DR.
STRATFORD, CT 06615
(203) 325-1371
FAX (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 16L0006

YOUR Information

Company: HydroEnvironmental Solutions
Address: 1 Deans Bridge Rd. Somers, NY 10589
Phone No. 914-276-2560
Contact Person: Bill Canavan
E-Mail Address: wcanavan@hesny.com

Report To:

Company: Same
Address:
Phone No.
Attention:
E-Mail Address:

Invoice To:

Company: Same
Address:
Phone No.
Attention:
E-Mail Address:

YOUR Project ID

273 Morgan Rd.

Purchase Order No.

Samples from: CT ___ NY X NJ ___

Turn-Around Time

- RUSH - Same Day ☐
- RUSH - Next Day ☐
- RUSH - Two Day ☐
- RUSH - Three Day ☐
- RUSH - Four Day ☐
- Standard(5-7 Days) ☒

Report Type

- Summary Report X
- Summary w/ QA Summary
- CT RCP Package
- CTRCP DQA/DUE Pkg
- NY ASP A Package
- NY ASP B Package
- NJDEP Red. Deliv.

Electronic Data Deliverables (EDD)

- Simple Excel
- NYSDEC EQuIS
- EQuIS (std)
- EZ-EDD (EQuIS)
- NJDEP SRP HazSite EDD
- GIS/KEY (std)
- Other

York Regulatory Comparison

Excel Spreadsheet

Compare to the following Regs. (please fill in):

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature)

Steve Verdibello
Name (printed)

Matrix Codes

S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part360-Expanded No Dioxin/Furans	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part360-Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
Potable Well	11/30/16	DW	Fe, Mn, TDS	(1) Plastic - unpreserved
				(1) Plastic - HNO_3

Comments

Preservation Check those Applicable

Special Instructions

Field Filtered ☐
Lab to Filter ☐

4°C ___ Frozen ___ HCl ___ MeOH ___ HNO_3 ___ H_2SO_4 ___ NaOH ___
ZnAc ___ Ascorbic Acid ___ Other ___

Samples Relinquished By	Date/Time	Samples Received By	Date/Time
	12/1/16; 8:30		12-1-16 8:30
Samples Relinquished By	Date/Time	Samples Received in LAB by	Date/Time
		TC Mahon	12/1/16 1534

Temperature on Receipt 2.5 °C

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

FL NELAP-E87851

REPORT: MICROSCOPIC PARTICULATE ANALYSIS

Client: Bill Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Road
Somers NY 10589

FILTER ID: 45315

Station/Body of water: Gan Eden Estates TW-3

RECEIPT OF FILTER:

Date Received: 11/8/2016 # of filters: 1 Type: bulk sample Carrier: FedEx

COLLECTION:

Collector:	Chris Lafonte	Date & Time Collected:	11/7/2016 12:00
Temperature:	na °F	Turbidity:	na
Water Type:	Ground Water (GW)	Date & Time Processed:	11/8/2016 11:15 AM
		Date Analyzed:	11/15/2016

FILTER PROCESSING

Color of water around filter:	clear	Total volume of sediment:	0.05
Filter color:	N/A	Volume of sediment/100 gallons:	1.89
Color of sediment:	black	Phase equivalent gallon volume examined:	0.88
# gallons filtered:	2.64172		

ANALYSIS OF PARTICULATES:

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

PARTICULATE DEBRIS	Quantity	Description
Large part. 5 μm & larger	EH	fine silt
Small part. up to 5 μm	EH	fine brown amorphous
Plant debris	NF	

OTHER ORGANISMS	Quantity	Description
Nematodes	NF	
Nematode eggs	NF	
Rotifers	NF	
Crustaceans	NF	
Crustacean eggs	NF	
Insects	NF	
Other	NF	

PROTOZOANS	Quantity	Description
Other Coccidia	NF	
Other protozoans	NF	

ALGAE	Quantity	Description
Green Algae	NF	
Diatoms	NF	
Blue-Green Algae	NF	
Flagellated Algae	NF	

COMMENTS:

No biological indicators of significance 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). Volumes collected and processing followed the NYSDOH method.

Environmental Associates Ltd. certifies that all quality control elements associated with the above data have been met except as may be noted in the comments section. Results relate only to the sample.

REPORT REVIEWED BY: Susan N. Bartos **DATE:** November 21, 2016

President & Lab Director

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

ACCREDITED IN ACCORDANCE WITH nelac
FL NELAP-E87851

REPORT: MICROSCOPIC PARTICULATE ANALYSIS
EPA 910/9-92-029

Date: 11/7/2016

EAL Sample ID:	Well ID#	Utility Name
45315	Gan Eden Estates TW-3	HydroEnvironmental Solutions, Inc.

EPA Relative Surface Water Risk Factors

Primary Particulates	#/100 gallon	Relative Frequency	Relative Risk Factor	Comments
Diatoms	0	NF	0	
Other Algae	0	NF	0	
Insects/larvae	0	NF	0	
Rotifers	0	NF	0	
Plant Debris (with chloro.)	0	NF	0	
		EPA Relative Risk = 0		Low Risk
Secondary Particulates				
Nematodes	0	NF		
Crustaceans	0	NF		
Amoeba	0	NF		
Non-photo. flag. & ciliates	0	NF		
Photosynthetic flagellates	0	NF		
Other:	0	NF		

COMMENTS: No biological indicators of significance 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). Volumes collected and processing followed the NYSDOH method.

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

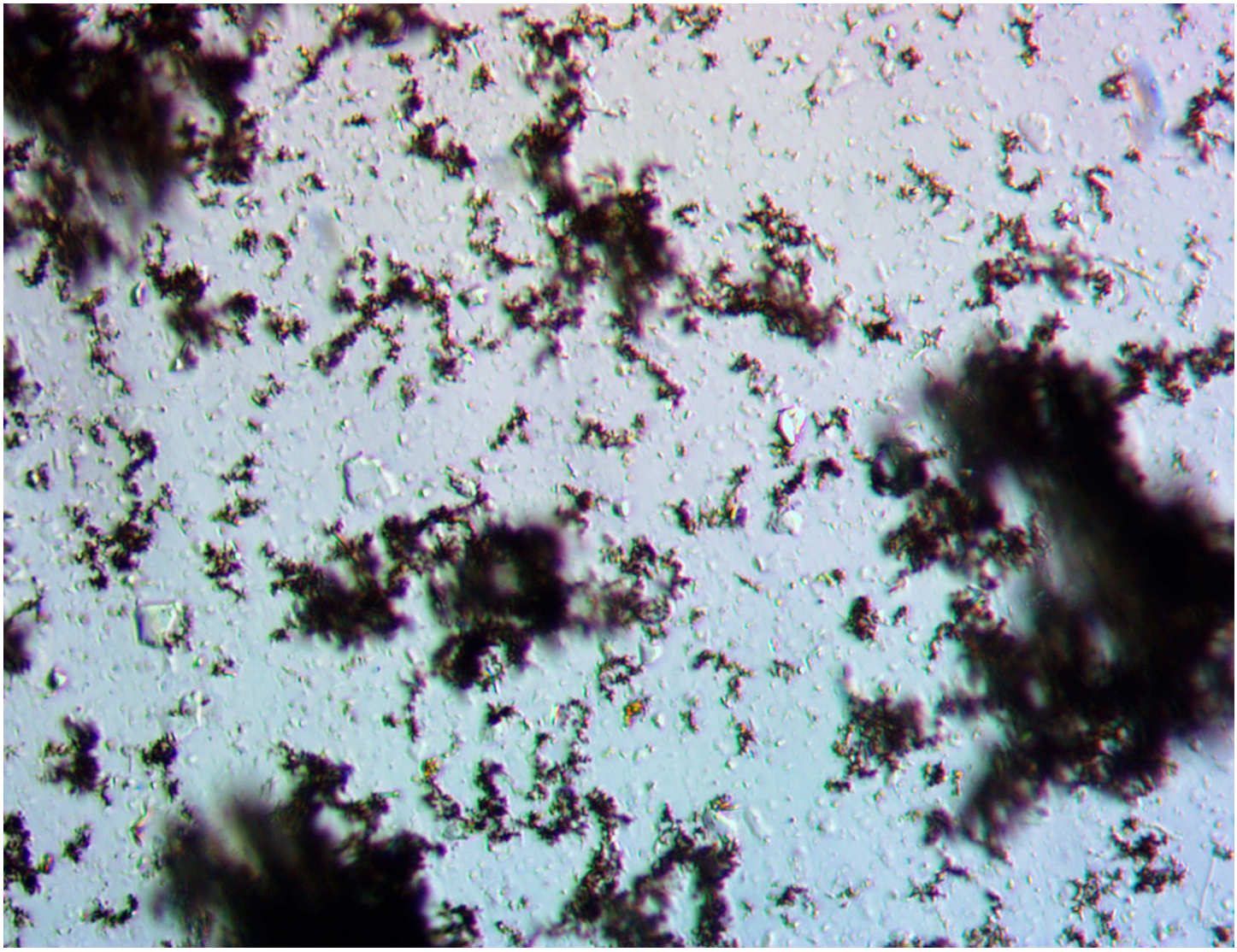
Environmental Associates Ltd. certifies that all quality control elements associated with the above data have been met except as may be noted in the comments section. Results relate only to the sample.

REPORT REVIEWED BY: Susan N. Boutros **DATE:** November 21, 2016

Dr. Susan Boutros President & Lab Director

Environmental Associates, Ltd.

45315 **Client** HydroEnvironmental Solutions, Inc.



45315A Typical sediment 400X

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

FL NELAP-E87851

REPORT: MICROSCOPIC PARTICULATE ANALYSIS

Client: Bill Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Road
Somers NY 10589

FILTER ID: 45302

Station/Body of water: Gan Eden Estates TW-5

RECEIPT OF FILTER:

Date Received: 11/5/2016 # of filters: 1 Type: bulk sample Carrier: FedEx

COLLECTION:

Collector: Chris Lafonte
Temperature: na °F
Water Type: Ground Water (GW)

Date & Time Collected: 11/3/2016 13:30
Turbidity: na
Date & Time Processed: 11/5/2016 11:00 AM
Date Analyzed: 11/15/2016

FILTER PROCESSING

Color of water around filter: clear
Filter color: N/A
Color of sediment: brown
gallons filtered: 2.64172

Total volume of sediment: 0.04
Volume of sediment/100 gallons: 1.52
Phase equivalent gallon volume examined: 1.32

ANALYSIS OF PARTICULATES:

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

PARTICULATE DEBRIS	Quantity	Description
Large part. 5 μm & larger	EH	fine silt
Small part. up to 5 μm	EH	fine brown amorphous
Plant debris	NF	

OTHER ORGANISMS		
Nematodes	NF	
Nematode eggs	NF	
Rotifers	NF	
Crustaceans	NF	
Crustacean eggs	NF	
Insects	NF	
Other	NF	

PROTOZOANS	Quantity	Description
Other Coccidia	NF	
Other protozoans	NF	

ALGAE		
Green Algae	NF	
Diatoms	NF	
Blue-Green Algae	NF	
Flagellated Algae	NF	

COMMENTS:

No biological indicators of significance 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). Volumes collected and processing followed the NYSDOH method.

Environmental Associates Ltd. certifies that all quality control elements associated with the above data have been met except as may be noted in the comments section. Results relate only to the sample.

REPORT REVIEWED BY: Susan N. Bartos **DATE:** November 21, 2016

President & Lab Director

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

ACCREDITED IN ACCORDANCE WITH nelac
FL NELAP-E87851

REPORT: MICROSCOPIC PARTICULATE ANALYSIS
EPA 910/9-92-029

Date: 11/3/2016

EAL Sample ID:	Well ID#	Utility Name
45302	Gan Eden Estates TW-5	HydroEnvironmental Solutions, Inc.

EPA Relative Surface Water Risk Factors

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

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

COMMENTS: No biological indicators of significance 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). Volumes collected and processing followed the NYSDOH method.

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

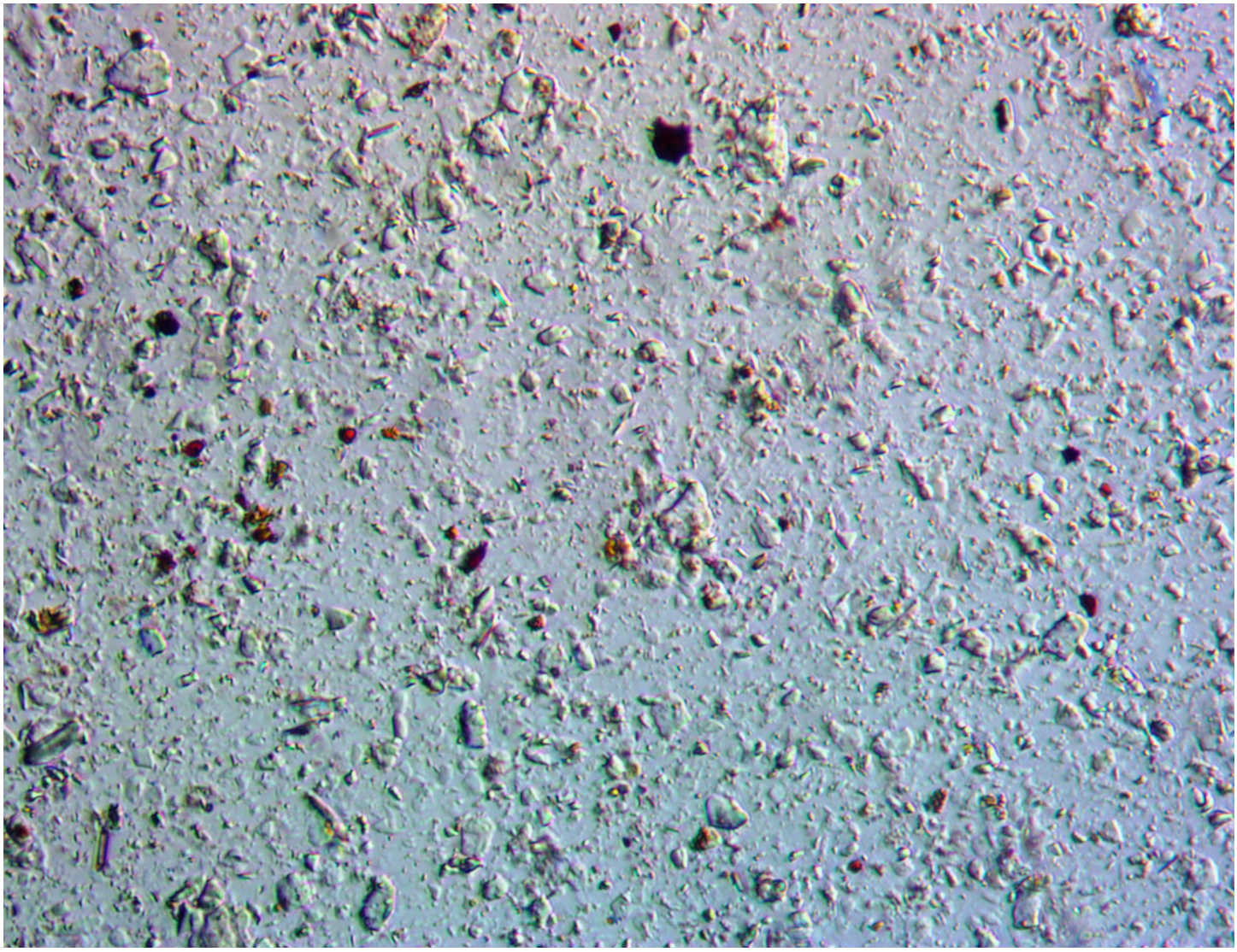
Environmental Associates Ltd. certifies that all quality control elements associated with the above data have been met except as may be noted in the comments section. Results relate only to the sample.

REPORT REVIEWED BY: Susan N. Boutros **DATE:** November 21, 2016

Dr. Susan Boutros President & Lab Director

Environmental Associates, Ltd.

45302 **Client** HydroEnvironmental Solutions, Inc.



45302A Typical sediment 400X

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

FL NELAP-E87851

REPORT: MICROSCOPIC PARTICULATE ANALYSIS

Client: Bill Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Road
Somers NY 10589

FILTER ID: 45301

Station/Body of water: Gan Eden Estates TW-8

RECEIPT OF FILTER:

Date Received: 11/5/2016 # of filters: 1 Type: bulk sample Carrier: FedEx

COLLECTION:

Collector: Chris Lafonte
Temperature: na °F
Water Type: Ground Water (GW)

Date & Time Collected: 11/3/2016 12:00
Turbidity: na
Date & Time Processed: 11/5/2016 11:00 AM
Date Analyzed: 11/15/2016

FILTER PROCESSING

Color of water around filter: clear
Filter color: N/A
Color of sediment: brown
gallons filtered: 2.64172

Total volume of sediment: 0.4
Volume of sediment/100 gallons: 15.15
Phase equivalent gallon volume examined: 0.07

ANALYSIS OF PARTICULATES:

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

PARTICULATE DEBRIS	Quantity	Description
Large part. 5 μm & larger	EH	fine silt
Small part. up to 5 μm	EH	fine brown amorphous
Plant debris	NF	

OTHER ORGANISMS		
Nematodes	NF	
Nematode eggs	NF	
Rotifers	NF	
Crustaceans	NF	
Crustacean eggs	NF	
Insects	NF	
Other	NF	

PROTOZOANS	Quantity	Description
Other Coccidia	NF	
Other protozoans	NF	

ALGAE		
Green Algae	NF	
Diatoms	NF	
Blue-Green Algae	NF	
Flagellated Algae	NF	

COMMENTS:

No biological indicators of significance 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). Volumes collected and processing followed the NYSDOH method.

Environmental Associates Ltd. certifies that all quality control elements associated with the above data have been met except as may be noted in the comments section. Results relate only to the sample.

REPORT REVIEWED BY: Susan N. Bartos **DATE:** November 21, 2016

President & Lab Director

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

ACCREDITED IN ACCORDANCE WITH nelac
FL NELAP-E87851

REPORT: MICROSCOPIC PARTICULATE ANALYSIS
EPA 910/9-92-029

Date: 11/3/2016

EAL Sample ID:	Well ID#	Utility Name
45301	Gan Eden Estates TW-8	HydroEnvironmental Solutions, Inc.

EPA Relative Surface Water Risk Factors

Primary Particulates	#/100 gallon	Relative Frequency	Relative Risk Factor	Comments
Diatoms	0	NF	0	
Other Algae	0	NF	0	
Insects/larvae	0	NF	0	
Rotifers	0	NF	0	
Plant Debris (with chloro.)	0	NF	0	
		EPA Relative Risk = 0		Low Risk
Secondary Particulates				
Nematodes	0	NF		
Crustaceans	0	NF		
Amoeba	0	NF		
Non-photo. flag. & ciliates	0	NF		
Photosynthetic flagellates	0	NF		
Other:	0	NF		

COMMENTS: No biological indicators of significance 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). Volumes collected and processing followed the NYSDOH method.

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

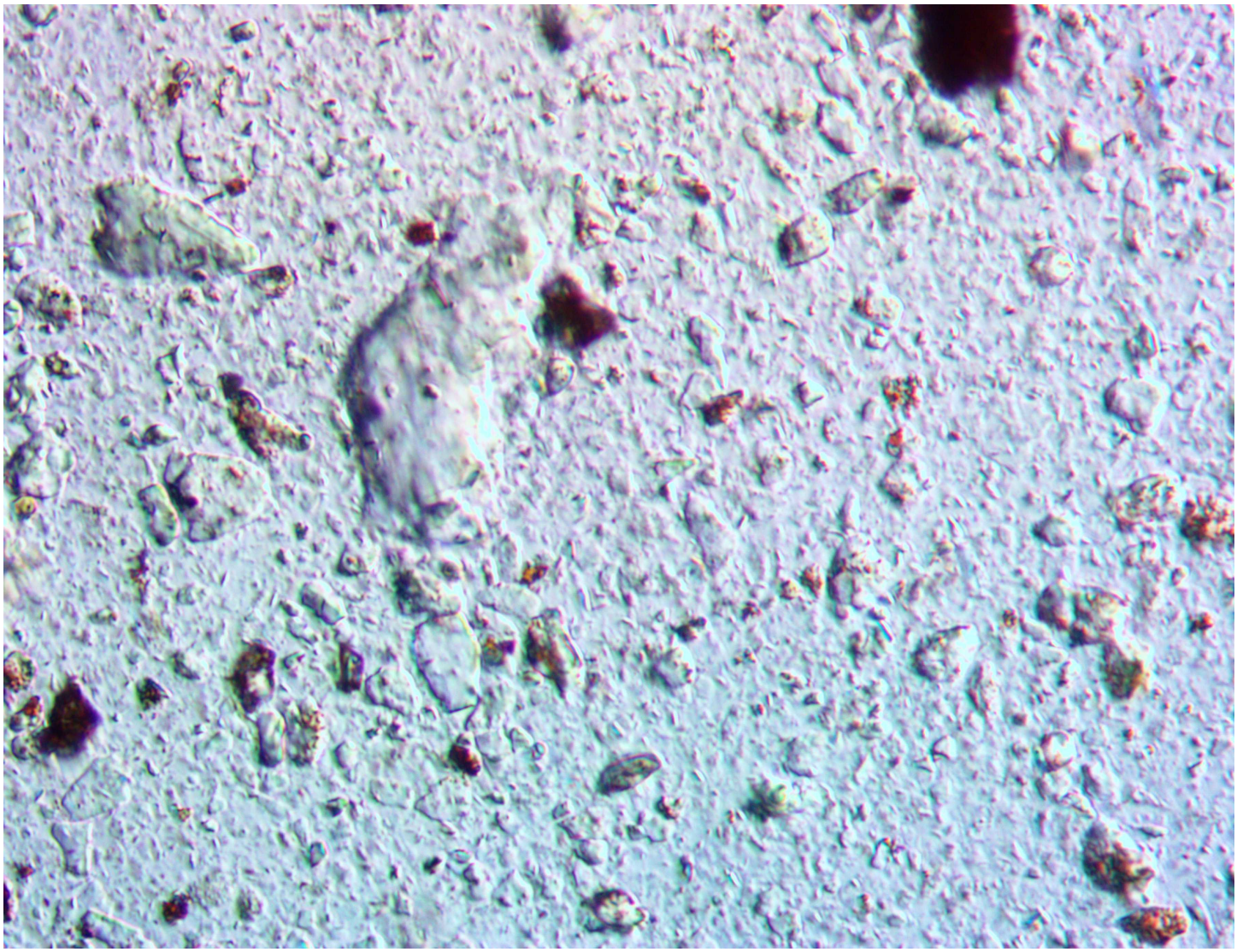
Environmental Associates Ltd. certifies that all quality control elements associated with the above data have been met except as may be noted in the comments section. Results relate only to the sample.

REPORT REVIEWED BY: Susan N. Boutros **DATE:** November 21, 2016

Dr. Susan Boutros President & Lab Director

Environmental Associates, Ltd.

45301 **Client** HydroEnvironmental Solutions, Inc.



45301A Typical sediment 400X

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

ACCREDITED IN ACCORDANCE WITH nelac FL NELAP-E87851

REPORT: MICROSCOPIC PARTICULATE ANALYSIS

Client: Bill Canavan
HydroEnvironmental Solutions, Inc.
One Deans Bridge Road
Somers NY 10589

FILTER ID: 45300

Station/Body of water: Gan Eden Estates TW-6

RECEIPT OF FILTER:

Date Received: 11/5/2016 # of filters: 1 Type: bulk sample Carrier: FedEx

COLLECTION:

Collector: Chris Lafonte
Temperature: na °F
Water Type: Ground Water (GW)

Date & Time Collected: 11/3/2016 11:30
Turbidity: na
Date & Time Processed: 11/5/2016 11:00 AM
Date Analyzed: 11/15/2016

FILTER PROCESSING

Color of water around filter: clear
Filter color: N/A
Color of sediment: light brown
gallons filtered: 2.64172

Total volume of sediment: 0.1
Volume of sediment/100 gallons: 0.38
Phase equivalent gallon volume examined: 2.64

ANALYSIS OF PARTICULATES:

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

PARTICULATE DEBRIS	Quantity	Description
Large part. 5 μm & larger	EH	fine silt
Small part. up to 5 μm	EH	fine brown amorphous
Plant debris	NF	

OTHER ORGANISMS		
Nematodes	NF	
Nematode eggs	NF	
Rotifers	NF	
Crustaceans	NF	
Crustacean eggs	NF	
Insects	NF	
Other	NF	

PROTOZOANS	Quantity	Description
Other Coccidia	NF	
Other protozoans	NF	

ALGAE		
Green Algae	NF	
Diatoms	NF	
Blue-Green Algae	NF	
Flagellated Algae	NF	

COMMENTS:

No biological indicators of significance 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). Volumes collected and processing followed the NYSDOH method.

Environmental Associates Ltd. certifies that all quality control elements associated with the above data have been met except as may be noted in the comments section. Results relate only to the sample.

REPORT REVIEWED BY: Susan N. Bartos **DATE:** November 21, 2016

President & Lab Director

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24 Oak Brook Drive, Ithaca, NY 14850
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ACCREDITED IN ACCORDANCE WITH nelac
FL NELAP-E87851

REPORT: MICROSCOPIC PARTICULATE ANALYSIS
EPA 910/9-92-029

Date: 11/3/2016

EAL Sample ID:	Well ID#	Utility Name
45300	Gan Eden Estates TW-6	HydroEnvironmental Solutions, Inc.

EPA Relative Surface Water Risk Factors

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

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

COMMENTS: No biological indicators of significance 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). Volumes collected and processing followed the NYSDOH method.

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

Environmental Associates Ltd. certifies that all quality control elements associated with the above data have been met except as may be noted in the comments section. Results relate only to the sample.

REPORT REVIEWED BY: Susan N. Boutros **DATE:** November 21, 2016

Dr. Susan Boutros President & Lab Director

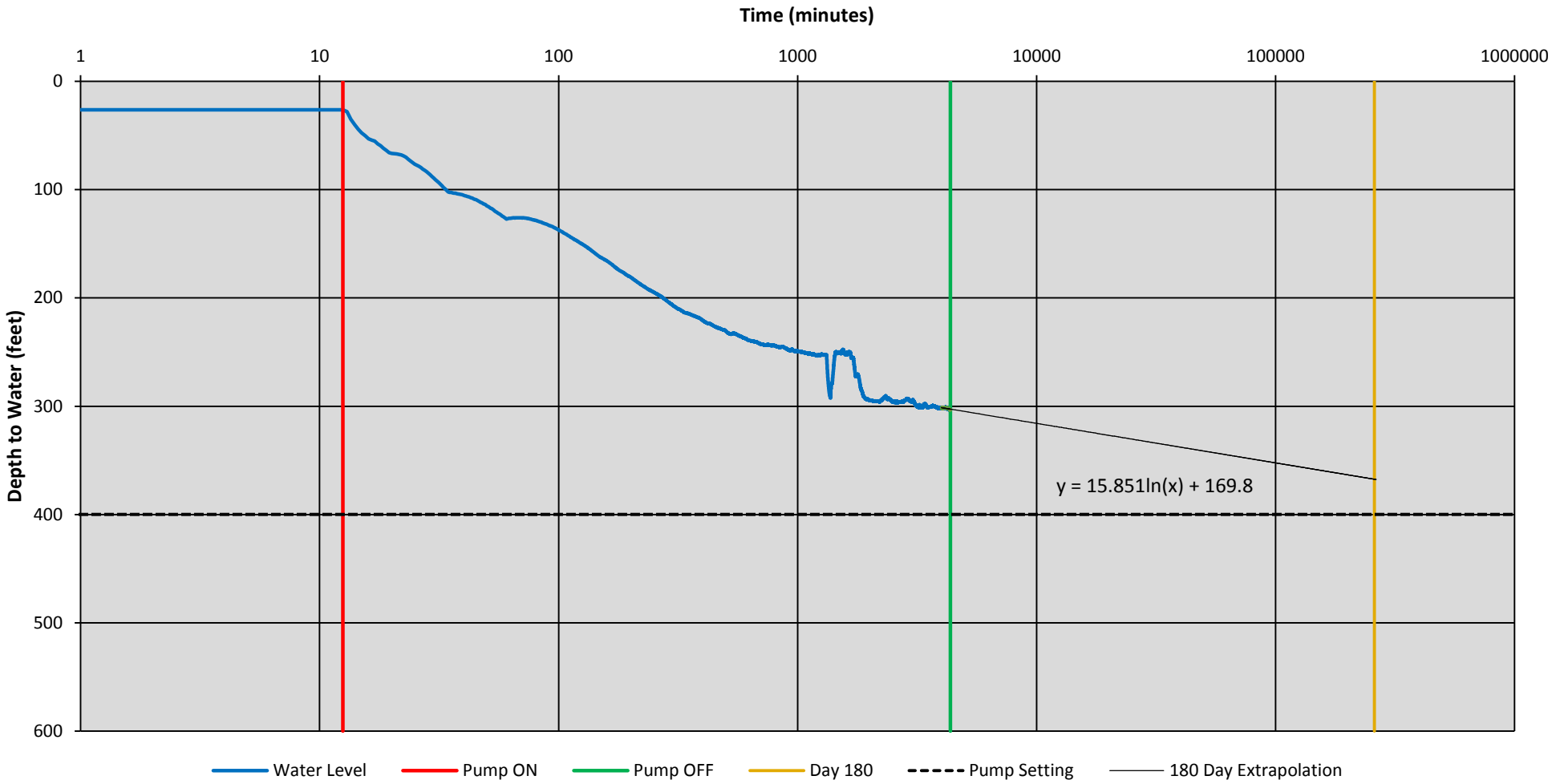
Environmental Associates, Ltd.

APPENDIX 6:

180-Day Drawdown Analysis

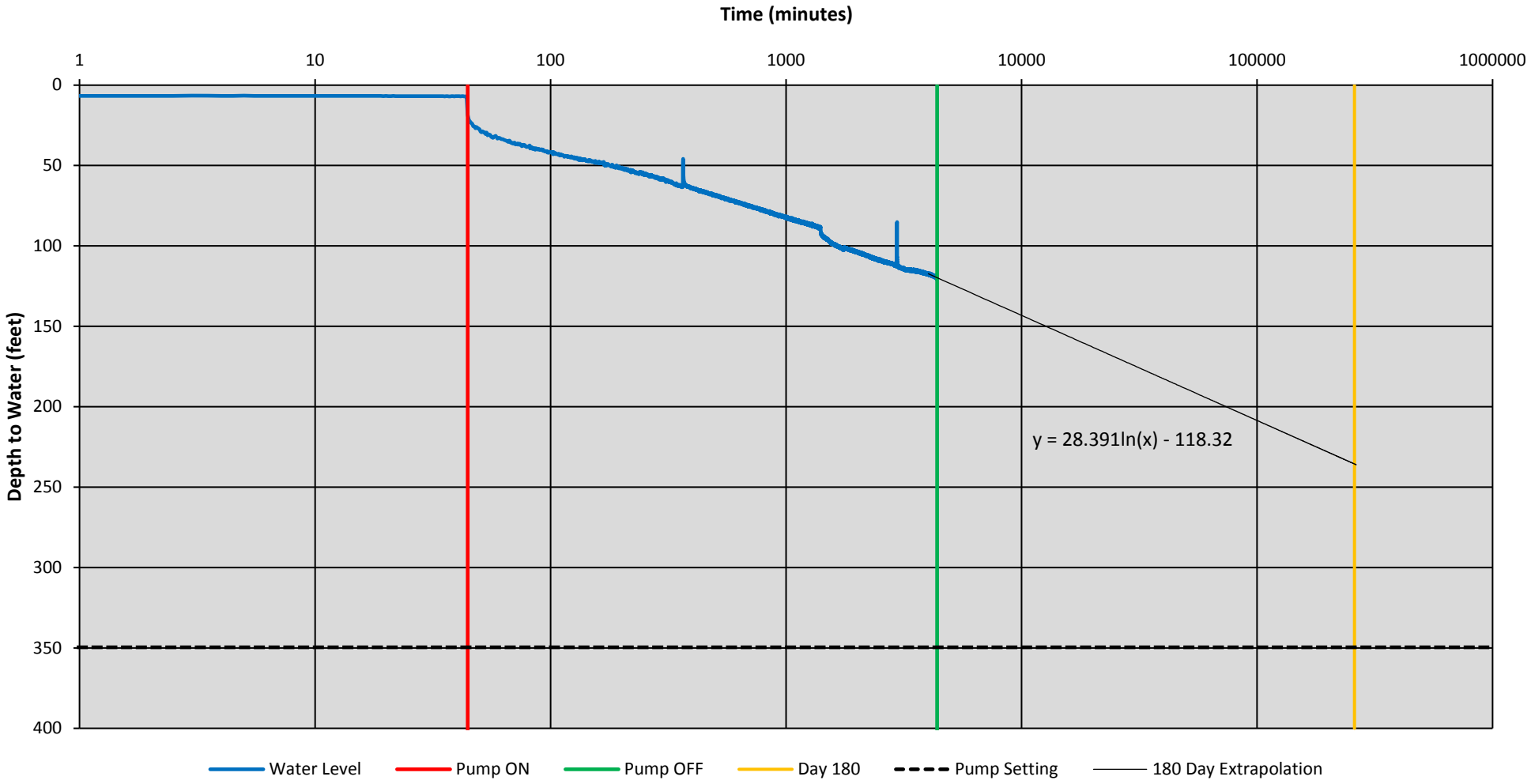
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

TW-3 Pumping Well Hydrograph
72-Hour Pump Test - 1
(180-Day Drawdown Extrapolation)



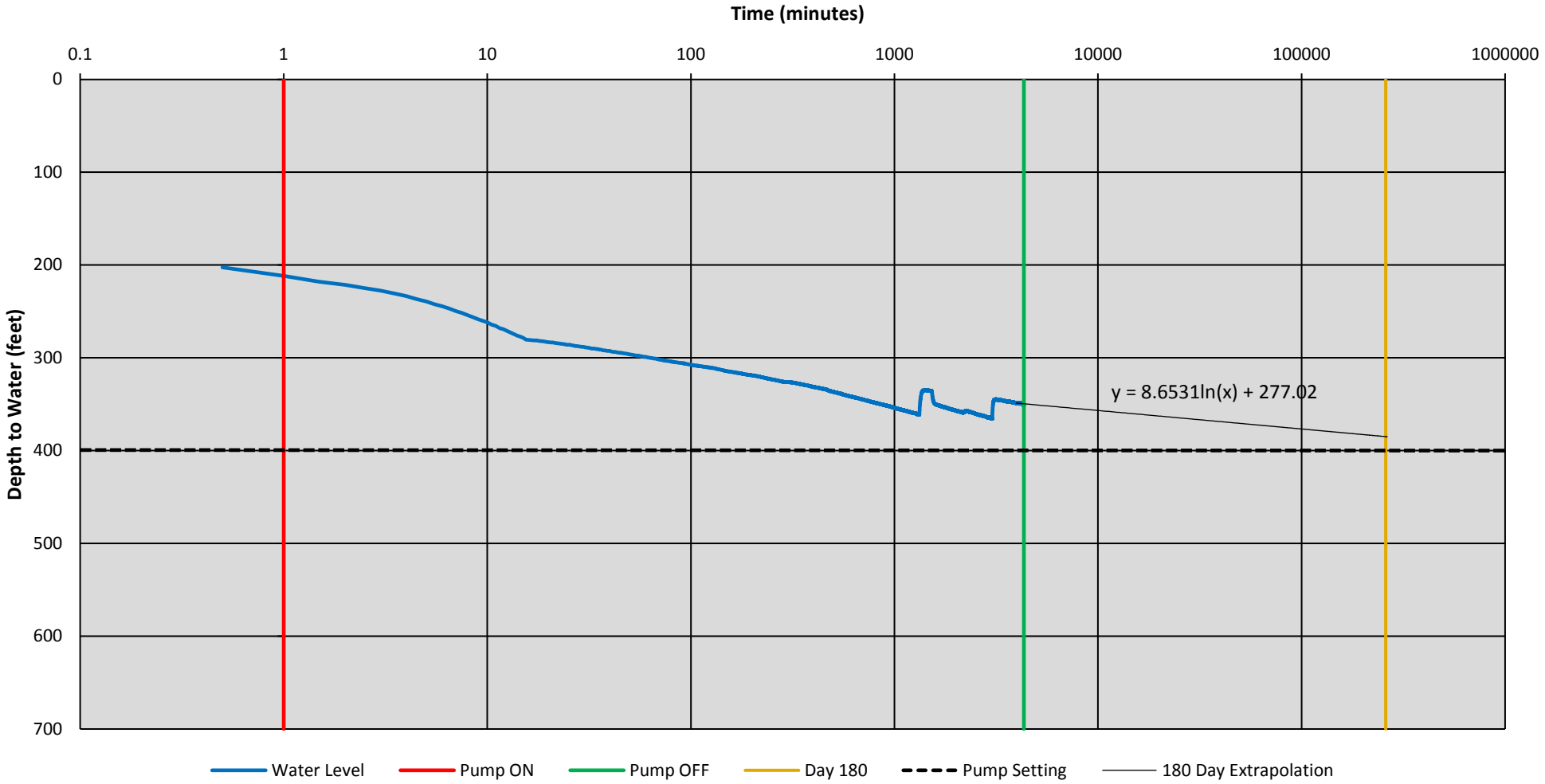
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

TW-5 Pumping Well Hydrograph
72-Hour Pump Test - 1
(180 Day Drawdown Extrapolation)



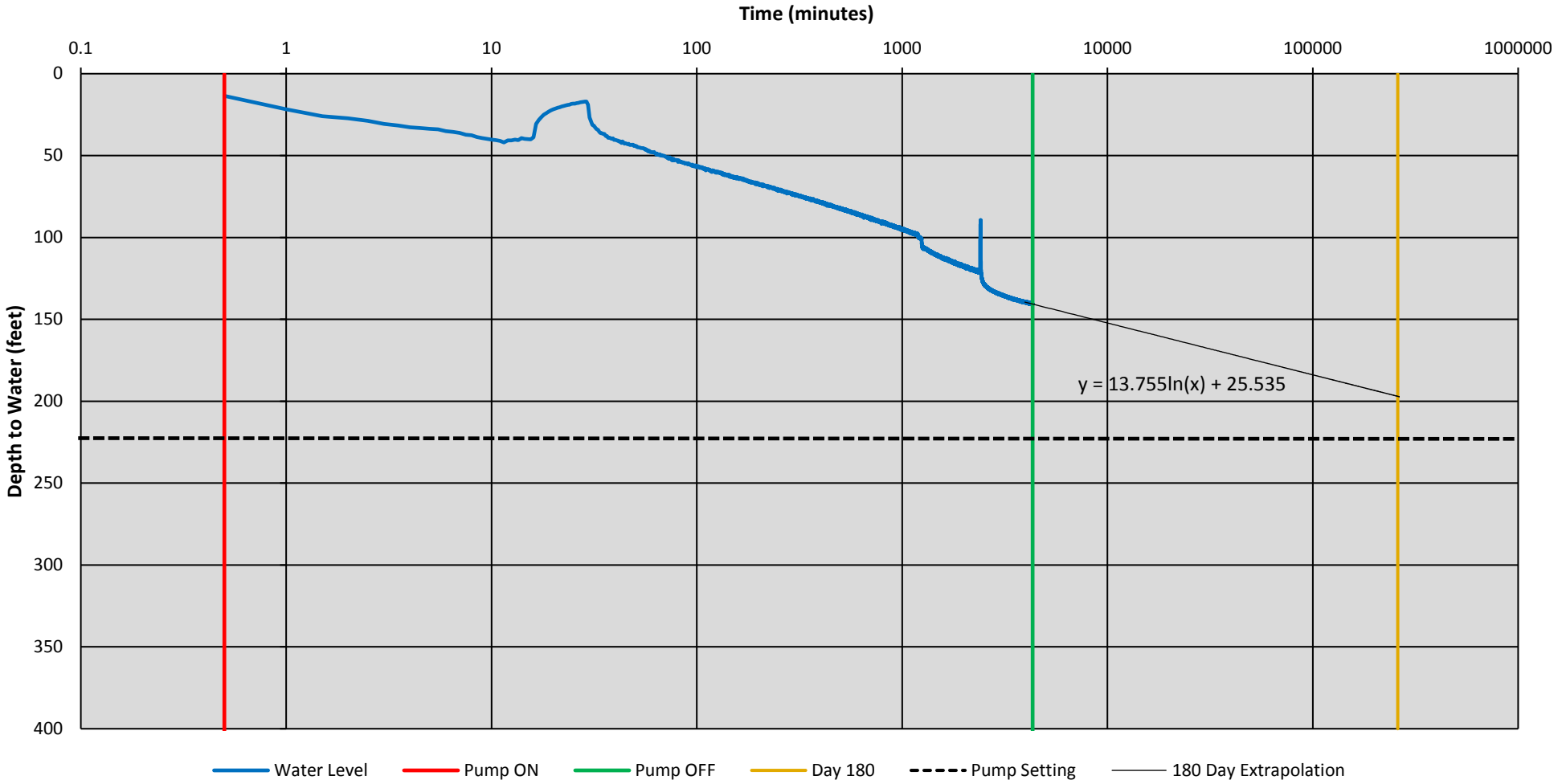
Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

TW-8 Pumping Well Hydrograph
72-Hour Pump Test - 1
(180 Day Drawdown Extrapolation)



Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

TW-6 Pumping Well Hydrograph
72-Hour Pump Test - 2
(180 Day Drawdown Extrapolation)



Proposed Gan Eden Estates Water Supply Assessment
Thompson/Hurleyville, Sullivan County, New York

TW-8 Pumping Well Hydrograph
72-Hour Pump Test - 2
(180 Day Drawdown Extrapolation)