Effects of Combining Absorbic and Evaporative Disposal Methods on Drainfield Sizing in Arid and Semiarid Areas

Final Project Report

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Introduction

Septic tanks and associated drainfields are used throughout the United States as on-site wastewater treatment and disposal systems for individual residences or small communities. In many locations, drainfields are strictly dependent on soil absorption of the effluent from the septic tanks. In Texas, on-site wastewater treatment facilities are under the regulatory authority of the Texas Natural Resources Conservation Commission (TNRCC). Under TNRCC (2001) guidance, drainfield design is based on either absorption only or evapotranspiration only. Absorption drainfields, which dispose of water through gravity flow and capillary action, are preferred in areas with permeable soils and relatively deep water tables, while evapotranspiration drainfields, which lose water only upward to the atmosphere, are required with impermeable soils or shallow water tables. In actuality, absorption fields also lose water upward due to evapotranspiration, but this process is ignored in the current TNRCC guidance. The annual precipitation in Texas varies from approximately 8 in/yr in the west to 56 in/yr in the east. In the more arid portions of western Texas, permeable soils allow absorption drainfields; however, hydrologically speaking, neglecting the additional water lost to evapotranspiration may result in significantly over-designed drainfield installations. Potential evaporation in the more arid regions in Texas can be three to four times greater than annual precipitation. Septic system regulators and installers in the western half of Texas have suggested that current TNRCC (2001) design standards for absorption and evapotranspiration systems result in oversized systems. Thus, considering the combined effects of evapotranspiration and absorption in West Texas drainfields might be sufficient to warrant a significant change in the TNRCC design criteria.

In an effort to address these concerns, research sponsored by the Texas On-Site Wastewater Treatment Research Council was performed by the Texas Tech University Water

Resources Center (TTUWRC) to demonstrate the combined contributions of evapotranspiration and absorption in septic tank drainfields. The field site constructed for this study included drainfield units built for absorption only (AB), evapotranspiration only (ET), and combined evapotranspiration and absorption (ETA) fields. The primary purpose of the research was to determine whether the size of ETA systems can be reduced due to the combined effect of evapotranspiration and absorption in arid and semi-arid regions of Texas. The specific objectives of this research project were to (1) construct and operate the field test site, (2) observe flow rates under severe, controlled loading conditions during the experimental period, (3) compare observed loading rates between drainfield types and with current TNRCC standards, (4) evaluate weather effects on ET fields, (5) report observed water quality associated with each drainfield type, and (6) recommend a new loading rate for combined ETA systems. As is shown in the following section, little recent research has been reported on these issues. This project is the first to quantify the combined effects of evapotranspiration and absorption, and as such may be applicable for regulatory guidance in other arid regions.

Background

According to a survey by Brown (1979), many different types of on-site wastewater treatment and disposal systems have been used throughout the United States: septic tanks, blackwater systems, integrated blackwater/greywater recycle devices, elevated sand mounds, evapotranspiration beds, wastewater incinerators, grinder pumps, home aerobic plants, greywater systems, composting toilets, tile fields, evapotranspiration/absorption beds, vacuum sewers and pressure sewers. In Texas, the majority of on-site wastewater treatment and disposal is accomplished by conventional septic tanks with AB or ET drainfields. Currently, the AB and ET systems are both authorized in the Texas Administrative Code (TNRCC 2001) with statewide

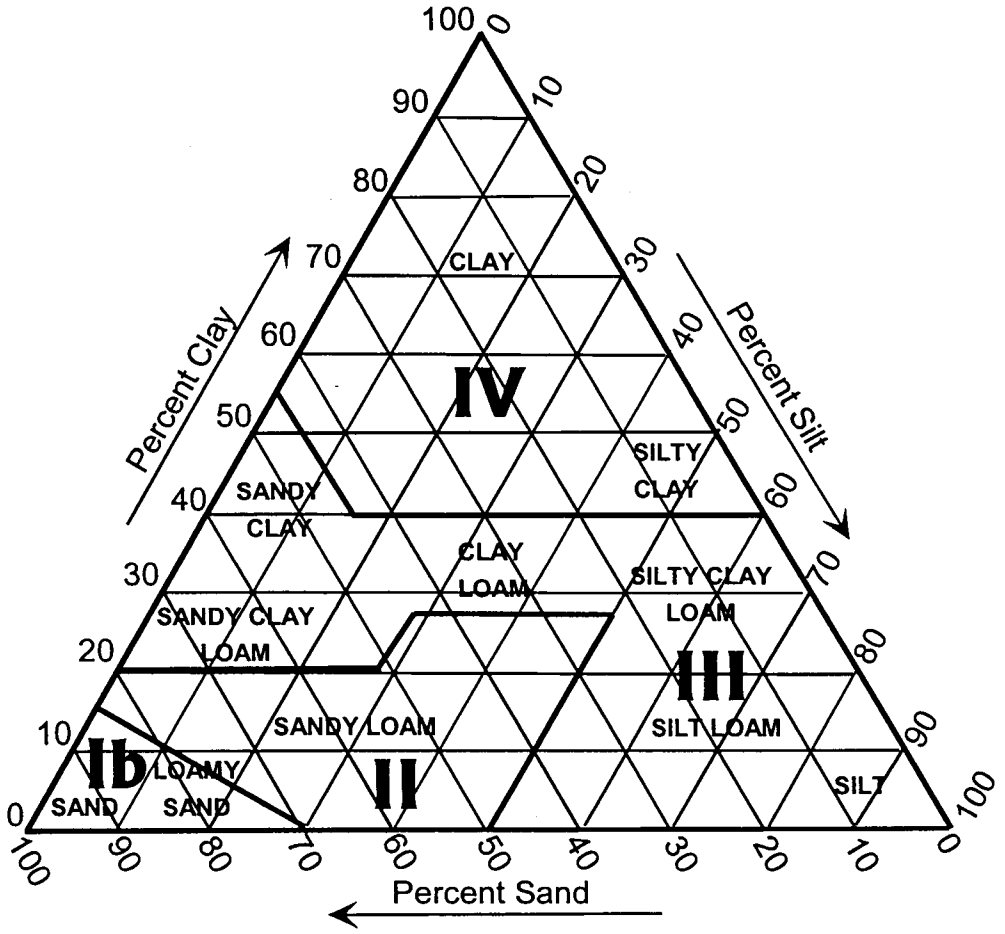
design requirements. An AB field is a subsurface leaching trench that receives effluent from the septic tank and distributes it over a given area where it is allowed to seep into the soil. The filtering action of the soil, combined with bacterial action, removes additional pathogenic organisms and other harmful material from the effluent, thus completing the treatment process. The trenches in these systems are composed of gravel-size porous media, perforated drainlines, permeable geotextile barriers, and native soil backfill. Design loading rates are based on soil type, as is discussed in more detail later in this section. Few failures have been noted due to the conservative nature of the design standards. An ET field may be used in soils that are classified as unsuitable for absorption fields. A typical ET trench cross-section is similar to that described for absorption, with the addition of an impermeable geomembrane liner for the bottom and sides of the trench. Loading rates are defined by the average evaporation rate for the site of interest.

ET systems have been used extensively and have been the subject of some reported research. ET rates from saturated soils are controlled by atmospheric temperature, soil temperature in the trench, wind exposure, relative humidity, porous media in the trench, depth of effluent in the trench, and type of vegetation. Bernhart (1973, 1978) did some of the first intensive studies of ET systems in the Toronto, Canada area during the early 1960's, followed in the late 1970's by evaluation of units in operation in Canada and the United States. A major finding was that the potential evapotranspiration for a shallow ET bed with sandy backfill material could be 200 to 250 percent greater than local lake evaporation (Bernhart 1973). A study near Chesapeake Bay indicated that grass could transpire water at the annual rate of 0.08 gpd/ft^2 (0.12 in/d) of bed area (Lomax and Lane 1979). Bennett and Linstedt (1978) reported cold weather water losses for ET trenches in Colorado and northern Nevada to be 0.03 gpd/ ft^2 (0.05 in/d). Hines et al. (1977) insisted that an average Colorado home producing 200 gpd of

wastewater required an ET bed of 5000 to 7500 ft^2 (0.027 to 0.040 gpd/ft^2). The ET bed area required for two operating Colorado ET systems in Colorado was 4000 ft^2 for a three-bedroom house and 5300 ft^2 for a four-bedroom house (Church 1997).

Since ET trenches are typically lined along the bottom and sides of the excavation, the area through which ET occurs is simply the product of the length and width of the trench, making it easy to compare ET loading rates to local evaporation rates. Recognizing that unlined absorption beds also allow capillary action to move water both vertically and laterally, it is apparent that the area through which ET might occur from an unlined AB trench could be much larger than the product of the trench length and width. Discussion of the soil characteristics that affect both absorption and evapotranspiration in a combined ETA unit is thus worthwhile processes in order to justify regulatory credit for both processes.

Soil characteristics greatly impact both the amount of water transported through different types of soil and the suitability of these soils for long-term wastewater absorption systems. TNRCC (2001) requires that a complete site evaluation must be performed on every tract of land where an on-site sewage facility (OSSF) will be installed. Information obtained during the site evaluation must be used to determine the type and size of the OSSF. As shown in Figure 1, TNRCC (2001) uses five soil classes that are based on the sand, silt, and clay percentages to determine the suitability for AB or ET drainfields. Assumed correlation between particle size distribution and infiltration rate (or hydraulic conductivity as might be reported in a county soil survey) accounts for the differences in long-term acceptance rate (LTAR) shown in Table 1. An infiltration or percolation test can also provide initial information about the soil's potential to absorb effluent. However, conventional infiltrometer tests often involve less head and duration than might actually be felt by an AB unit (Otis et al. 1977), so that the LTAR is not necessarily



Note: Class **Ia** soils contain >30% gravel, and are not shown here.

Figure 1. USDA Soil Textural Classification with TNRCC Soil Classes

Table 1. Long-Term Application Rates
Based on Soil Classification (TNRCC 2001)

Soil Class	LTAR (gpd/ ft^2)
Ia	>0.50
Ib	0.38
II	0.25
III	0.20
IV	0.10

equal to the value obtained from the short-term test.

Climate affects the required depth of an ET drainfield (Parker et al. 1977). A drainfield in an arid climate with less than 20 inches of annual precipitation could operate with 24 inches of permeable soil below the trench. With less than 10 inches of annual precipitation, the bottom of the trench could contact the restrictive soil layer. In humid climate conditions, an ET only system could require a drainfield so large as to be impractical.

Capillary action also impacts the overall effectiveness of ET drainfields. Kaplan (1991) stated that capillary rise from a leach field to the surface was negligible except under special circumstances and could take a considerable amount of time. As a soil becomes more saturated, the capillary flow rate in the saturated portion increases. For the highest capillary action in a Colorado ET drainfield, it was determined that the backfill should be an imported select medium-fine sand. The pores in the sand must be such that water could rise by capillary action at least to the height of the ET bed (Bennett et al. 1975; Otis 1985). A balance must be maintained between having pores sufficiently small for capillary action, but not small enough to adversely affect the hydraulic conductivity (Bennett et al. 1975). Bernhart (1973) noted that capillary rise occurred best through sand with a grain size of 0.02 to 0.04 in. In a well-designed ET drainfield, the expected capillary rise is 8 to 12 in. Based on a Colorado study, the ideal sand for good capillary action in an ET drainfield would have d_{50} of 0.0047 to 0.007 in with a uniformity coefficient less than or equal to 4 (Bennett et al. 1975). Hart (1997) recommended that the drainfield soil should have capillarity equal to or less than that of the undisturbed surrounding soil. Kaplan (1991) noted capillary rise in sands of 1 to 2 ft and up to 4 ft in clay soils. Lateral capillary movement has not been discussed in drainfield trench research but could have substantial impact on available evapotranspiration area.

TNRCC Drainfield Requirements

According to current criteria for effluent disposal systems in Texas (TNRCC 2001), acceptable standard disposal methods shall consist of a drainfield to disperse the effluent either into adjacent soil (AB field) or into the surrounding air through evapotranspiration (ET field). AB fields may be installed if all the soil and site criteria are determined to be suitable under the current standards. These standards require that field slopes might range from 0 to 30 percent. Subsurface soil texture should be TNRCC class Ib, II, or III along the sidewall and two feet below the bottom of the excavation. No restrictive horizon may intersect the sidewall or be within 24 inches below the bottom of the proposed excavation. For class II or III soils, the gravel (d > 2 mm [0.0066 in]) portion must be less than 30 percent. No indication of seasonal groundwater may be within 24 in of the bottom of the proposed excavation. Furthermore, there must be 2 ft of suitable soil from the bottom of the excavation to either a restrictive horizon or to groundwater. No surface flooding potential is allowed at an AB field site. The absorptive area is calculated by including both the bottom area and the lower 1 ft along the walls of the excavated trench, as shown in Equation 1 (TNRCC 2001):

$$A_{AB} = LW + 2(L + W)H \tag{1}$$

where A_{AB} = absorptive area (ft^2), L = excavation length (ft), W = excavation width (ft), and H = 1.0 ft. The second term in Equation 1 attempts to conservatively recognize that some water leaves through the sides of the trench and then moves downward. It should be noted that the design procedure allows flexibility in the actual number and dimensions of trenches, and in the type of fluid distribution system and porous media used, as long as the absorptive area and LTAR values are met. More details are provided in the standards (TNRCC 2001).

An ET drainfield may be used in soils of classes Ia and IV, and at sites where conditions are unsuitable for standard subsurface AB systems with respect to texture, restrictive horizons, or shallow groundwater (TNRCC 2001). An impermeable liner must be placed between the excavated soil and constructed ET bed in all Class Ia soils, where seasonal groundwater tables penetrate the excavation, and where a minimum of 2 ft of suitable soil does not exist between the excavated surface and either a restrictive horizon or groundwater. The top of the liner should be a minimum of 2 in above the natural grade to prevent surface water runoff or groundwater intrusion. Sizing these beds is critical as an undersized bed could restrict the homeowner's water usage or result in a potential health hazard if wastewater ponds on the ground surface. In ET system sizing, Equation 2 is used to calculate the top surface area:

$$A_{ET} = \frac{1.6Q}{R_{et}} \tag{2}$$

where A_{ET} = total top surface area of the excavations (ft^2), Q = estimated daily water usage (gpd), and R_{et} = net local evaporation rate (in/d). This equation considers only vertical ET loss.

ET systems should be backfilled with Class II soil and have a vegetative cover to take maximum advantage of transpiration (TNRCC 2001). In addition, ET systems must be divided into two or more equal excavations connected by flow control valves, with minimum spacing between trenches of 3 ft. One excavation may be removed from service for an extended period of time to allow it to dry out and to decompose accumulated biological material that might plug the porous media. If one of the trenches is removed from service, the daily water usage must be reduced to prevent overloading the trenches still in operation. Normally, a trench must be removed from service for two to three months for biological breakdown to occur.

Methodology

The study's working hypothesis stated that a combined ETA system provides greater system capacity than ET only or AB only systems. The field study was designed to include all three trench types on a TNRCC class II-III soil typical of the Southern High Plains of Texas. The experimental plan included three replicates of the three trench types that received a consistent artificial wastewater; these drainfield units were referred to as ABW, ETW, and ETAW. A second set of three replicates of the three trench typess, representing hydraulic experimental controls, received only clean groundwater supply, and were referred to as AB, ET, and ETA units. The clean water units were originally intended to allow quantification of the impact of microbial growth on water movement within the trenches and surrounding soil. Once the number of drainfield units was determined, decisions about field layout, system design and construction, and operational procedures were made. The following sections provide the outcome of those decisions. Details of the design and construction of the overall research facility were described by Ingram (2000).

Site Description

A 2-ac plot at Reese Center (formerly Reese Air Force Base), located approximately 11 miles west of Texas Tech University in Lubbock, Texas, was selected for the test facility. The system included artificial wastewater mixing tanks, septic tanks, header tanks, and eighteen drainfields. A simplified process flow diagram is shown in Figure 2. A topographic survey of the site was performed, and the units were laid out perpendicular to the 1.5 percent slope toward the southeast to take facilitate uniform water depth in each unit. A random selection process was used to configure the units to avoid any bias due to soil heterogeneities. The control building and septic tanks were then located. A plan view of the test site is shown in Figure 3.

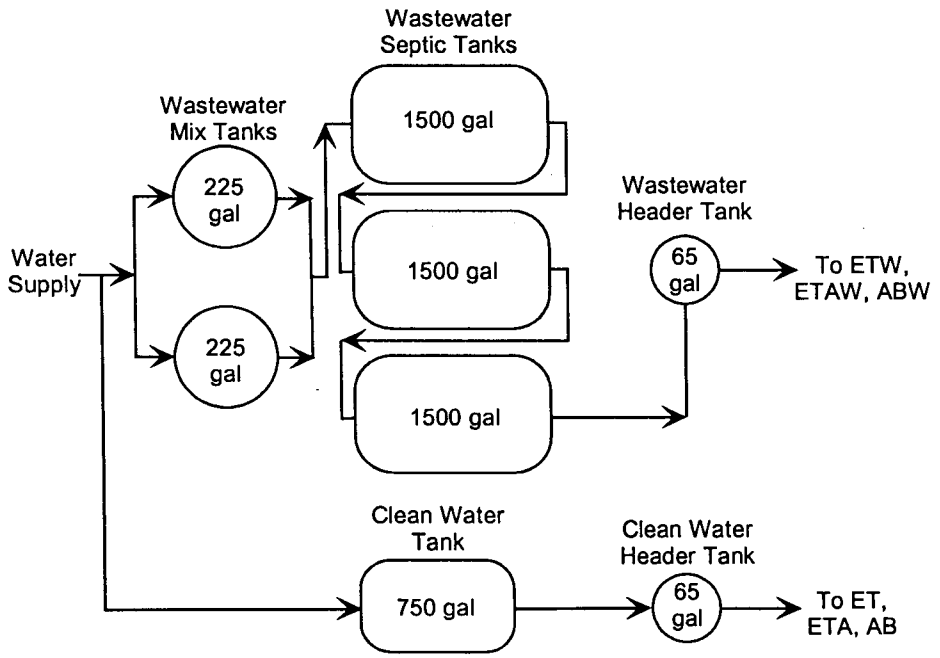


Figure 2. Simplified Process Flow Diagram

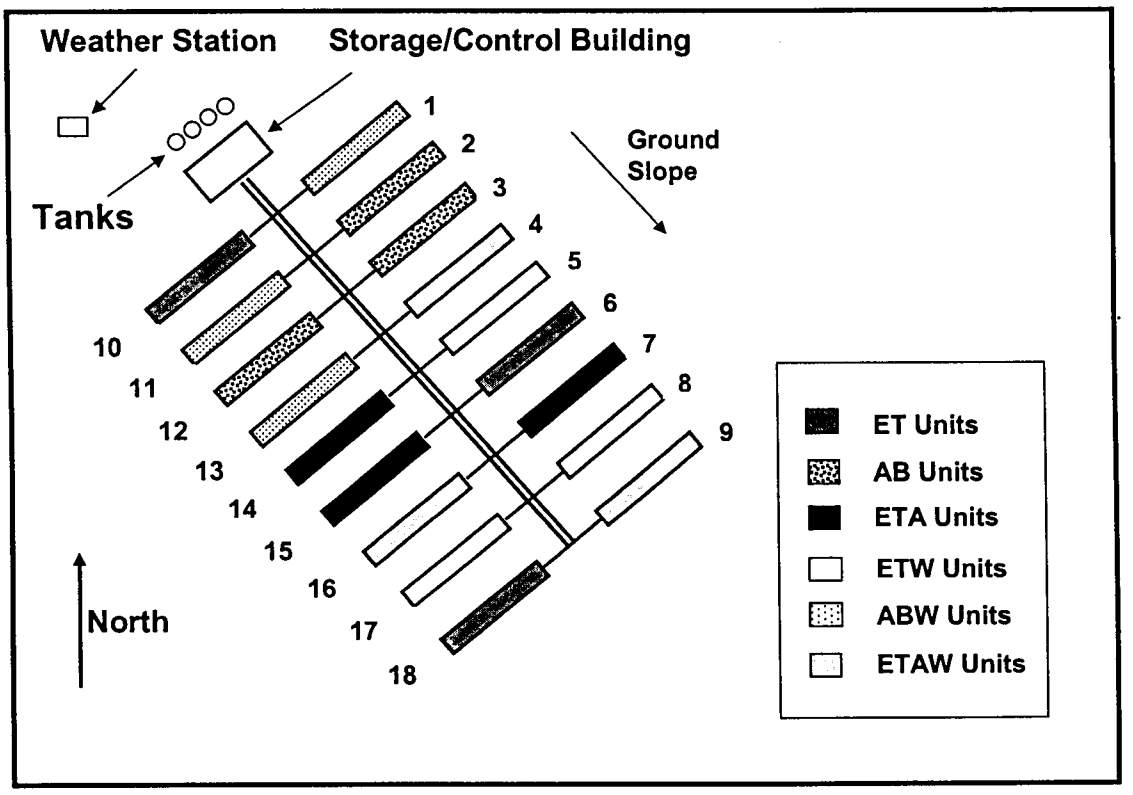


Figure 3. Field Site Layout (not to scale)

Two-day, double-ring infiltrometer tests were initiated in each non-ET-only trench within a few hours of initial excavation during June 24-26, 1999. The observed infiltration rates are shown in Table 2. As the infiltrometers were installed, soil samples were taken from the trench bottoms to a depth of 3 ft below the trenches. These samples were analyzed for percentages of sand, silt, and clay. Based on these percentages, the soils were classified according to Figure 1, and the results each test unit are tabulated for the unlined fields in Table 2. In addition to determining the soil composition, the initial moisture content for each depth interval was determined as shown in Table 3.

The cross-sectional views of each trench type are shown in Figure 4. Each trench was excavated to a width of 36 in, a depth of 24 in, and a length of 20 ft. These trenches were spaced at a distance of 26 ft from centerline to centerline. After the trenches were excavated, the field piping was installed. The feed line in each trench was a 4-in perforated PVC pipe running the length of the trench, with 0.5-in perforations every 6 in at the 4 and 8 o'clock positions. A support pipe at the mid-point kept the 20-foot length of pipe level. The top of the feed line was approximately 16 inches from the trench bottom. Two perforated vertical riser pipes were also installed at opposite ends of each trench. One riser allowed the fluid level to be visually monitored and provided access for sample collection. The second riser was wrapped with geotextile, and a level sensing system was installed. The gravel in each trench was carefully placed using a semi-cylindrical guide form provided by the subcontractor. After geofabric was laid over the gravel and PVC distribution pipe, the trenches were backfilled with native soil from the excavation. High density polyethylene (HDPE) 60-mil membranes were placed over the AB and ABW fields and covered with at least 3 in of native soil. The ET and ETW trenches were completely lined along their bottoms and sides with the same HDPE liner. All disturbed surface

Table 2. Infiltration Rates for Unlined Drainfields

Unit and Type	Infiltration Rates (in/hr)[1]			Unit Average (in/hr)[2]	Std. Dev. (in/hr)[2]	Flow rate (gpd)[3]
	Site A	Site B	Site C			
1 ABW	0.04	0.09	0.16	0.10	0.06	88
2 AB	0.05	0.01	0.02	0.03	0.02	24
3 AB	0.07	0.02	0.01	0.04	0.03	32
4 ETAW	0.21	0.19	0.20	0.20	0.01	178
7 ETA	0.40	0.54	0.21	0.38	0.17	345
9 ETAW	0.28	0.48	0.12	0.29	0.18	264
11 ABW	0.08	0.12	0.03	0.08	0.04	67
12 AB	0.12	0.03	0.03	0.06	0.05	54
13 ABW	0.35	0.17	0.24	0.25	0.09	228
14 ETA	0.48	0.56	0.80	0.61	0.17	550
15 ETA	0.03	0.33	0.45	0.27	0.21	242
16 ETAW	0.55	0.87	0.66	0.69	0.16	623

Notes: 1. The infiltration rates were determined after 24 hours of saturation.
2. The unit average and standard deviation were calculated from sites A,B, C.
3. The estimated vertical flow rate was calculated using a bottom area of 60 ft^2.

soils were revegetated by reseeding with commonly used turfgrass.

The facility also included a control building, septic tanks, and associated plumbing along with electrical and water supplies. The polyethylene septic tanks were placed upslope of the drainfields. The tank system initially included a 750-gal clean water storage tank and a 1500-gal wastewater septic tank. It was later determined that to maintain a 3-d retention time at the higher than expected initial acceptance rates in the ABW and ETAW units, two additional 1500-gal wastewater septic tanks were required. The portable control building was placed on location, and the final plumbing and electrical connections required for the system were made. Two 225-gal mixing tanks were put in the control building for preparation of the artificial wastewater. Pressurized 65-gal header tanks were installed for both the clean water and septic effluent feed systems to provide sufficient pressure to interact with the solenoid valves at each trench unit. Water level control systems, each consisting of three sensing probes and a relay (Omega LVC

Table 3. Soil Composition, Classification, and Moisture Content

Unlined Units	Sample Depth (ft)	Soil Composition (%)			TNRCC Soil Class	Moisture Content (%)
		Sand	Silt	Clay		
1 ABW	0 – 1	56.94	21.32	21.75	III	12.5
	1 – 2	60.79	18.99	20.22	II-III	11.3
	2 – 3	77.54	11.22	11.25	II	11.0
2 AB	0 – 1	57.84	17.80	24.36	III	10.1
	1 – 2	60.21	18.00	21.79	III	10.6
	2 – 3	68.82	15.60	15.57	II	10.2
3 AB	0 – 1	61.34	16.80	21.86	III	9.3
	1 – 2	59.56	16.32	24.12	III	13.0
	2 – 3	66.09	18.03	15.87	II	1.7
4 ETAW	0 – 1	61.49	21.96	16.55	II	8.5
	1 – 2	57.38	16.47	26.16	III	12.9
	2 – 3	67.60	18.62	13.78	II	7.2
7 ETA	0 – 1	61.64	21.58	16.78	II	9.6
	1 – 2	61.21	14.32	24.47	III	8.7
	2 – 3	68.34	16.18	15.47	II	8.1
9 ETAW	0 – 1	66.08	19.26	14.66	II	8.3
	1 – 2	58.61	18.81	22.59	III	9.3
	2 – 3	66.39	14.49	19.12	II	9.7
11 ABW	0 – 1	58.36	15.74	25.90	III	4.6
	1 – 2	58.54	23.28	18.17	II	4.8
	2 – 3	68.10	21.89	10.01	II	3.0
12 AB	0 – 1	58.68	19.38	21.95	III	10.3
	1 – 2	56.44	20.79	22.77	III	4.8
	2 – 3	65.80	17.66	16.54	II	10.1
13 ABW	0 – 1	54.85	23.65	21.50	III	7.7
	1 – 2	48.25	20.70	31.05	III	12.2
	2 – 3	63.66	17.17	19.18	II	6.0
14 ETA	0 – 1	63.43	21.43	15.14	II	7.0
	1 – 2	62.44	15.45	22.10	III	10.0
	2 – 3	47.28	33.32	19.41	II	7.0
15 ETA	0 – 1	66.06	14.42	19.52	II	7.3
	1 – 2	65.00	15.28	19.73	II	8.6
	2 – 3	68.28	13.97	17.74	II	9.0
16 ETAW	0 – 1	64.59	17.60	17.80	II	8.5
	1 – 2	62.49	10.81	26.70	III	11.4
	2 – 3	62.14	19.91	17.95	II	11.8

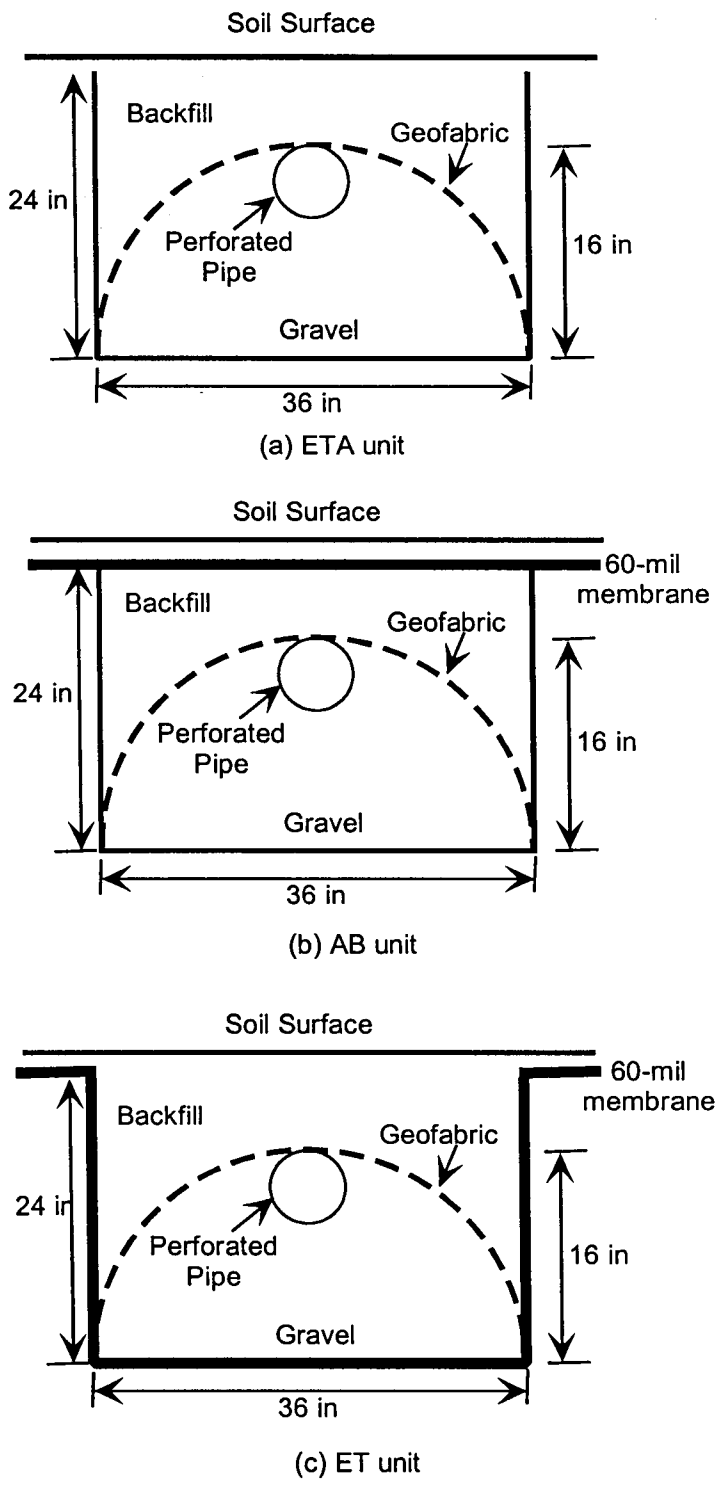


Figure 4. Trench Cross-Sections for (a) Combined ETA, (b) AB Only, and (c) ET Only

511) switch that activated a solenoid valve (at trench) or pump (at tank), were installed in each unit, each header tank, and in two of the septic tanks. In each trench, the control system maintained the water level within 0.5 in of the top of the gravel envelope.

Weather Station

An on-site weather station monitored precipitation and climatic conditions during the test period. Its main purposes were calculation of daily evapotranspiration and precipitations rates for evaluation of the drainfield units' responses to weather changes. The weather station was a GroWeather™ model manufactured by Davis Instruments (Davis 1997). Air temperature, humidity, and dew point were measured using the temperature/humidity sensor. In addition, the GroWeather™ recorded solar radiation, barometric pressure, precipitation, wind speed and wind direction. All weather records could be viewed by using the keyboard unit mounted in the control building. A data logger was connected to this unit to record weather conditions every thirty minutes and to calculate evapotranspiration each hour. Evapotranspiration was calculated from hourly averages of solar radiation, air temperature, vapor pressure, and wind speed using a Penman-type equation calibrated by Pruitt and Doorenbos (1977). The data logger was downloaded daily to a computer using the GroWeatherLink™ software. Backup weather data was also available from a second weather station at Reese Center maintained by the Texas Tech University Wind Engineering Research Center.

Artificial Wastewater

ASTM Standard D 5905 (1997) provided an artificial wastewater mixture that was initially considered for use in this project. Test volumes of that mixture, shown in Table 4, were prepared and analyzed for five-day biochemical oxygen demand (BOD_5), chemical oxygen demand (COD), total Kjeldahl nitrogen (TKN), and total suspended solids (TSS). The ASTM

Table 4. Artificial Wastewater Formula

Ingredient	Concentration in Raw Mixture	
	ASTM D 5905	TTUWRC
Reduced Calorie Beer	240 mL/L	2.51 mL/L
Flour	800 mg/L	53 mg/L
Kaolin-USP Grade	160 mg/L	40 mg/L
Ocean Salts	400 mg/L	0 mg/L
Triton X	40 mL/L	24 mg/L
Urea	0 mg/L	65 mg/L

Table 5. Septic Tank Influent Composition

Parameter	Concentration (mg/L)	
	ASTM D 5905	TTUWRC
BOD_5	>570	195
COD	3500	502
TKN	30	32
TSS	232	87

standard mixture was found to be dissimilar to typical domestic wastewater, with high COD and no ammonium. Therefore, it was decided to add urea as the most typical nitrogen source in wastewater and refine concentrations of other ingredients to achieve an effluent that would closely mimic the effluent from an actual septic tank. Ocean salts were not needed to increase ionic strength because the groundwater supply had sufficient dissolved solids content. The resulting TTUWRC formula and major components are listed in Tables 4 and 5 for comparison with the ASTM standard.

Operation

The units were operated from Fall 1999 through May 2001. The units were brought on-line in a staggered fashion from late September into November, as it was anticipated that initially high hydraulic loading rates might challenge the capacity of the water well supplying the site. Declining rates were expected later in the study. The daily operational procedure began with

recording the flow totalizer readings for each trench and the wastewater septic tank outlet. A set of daily readings was also taken from the weather station monitor as a backup to the weather data logger system. All readings were taken at the same time each day to provide consistent data. Artificial wastewater was mixed once or twice daily depending on the loading demanded by the wastewater units.

Initially, water samples were collected twice per week from each unit, with less frequency later in the test duration. COD was measured twice each week during the first six months of operation, then weekly for the remainder of the test period. All analytical methods were taken from APHA (1998), and the method numbers are shown in brackets in the following sentences. BOD_5 [5210 B], TKN [4500 D], pH [1500 B], suspended and dissolved solids were initially measured weekly during the first six months, then bi-weekly through the end of test. The solids analyses included total solids (TS [2540 B]), total fixed solids (TFS [2540 E]), total volatile solids (TVS [2540 E]), total suspended solids (TSS [2540 D]), total fixed suspended solids (TFSS [2540 E]), total volatile suspended solids (TVSS [2540 E]), and total dissolved solids (TDS [2540]). These water quality parameters were measured to insure that influent to the drainfields remained similar to typical wastewater effluent.

Results

Seasonal Loading Variations

Operation of the units began in September 1999 and continued through May 2001. It was quickly found that the required clean water inflow for the ETA and AB units continued to increase for several weeks with no sign of eventual decrease, while the inflow demand for the wastewater ETAW and ABW units peaked than began declining within a few weeks. The demands of the clean water ETA and AB units were soon high enough to make the total demand

for all units approach the capacity of the single groundwater well supplying the site. The clean water ETA and AB units were shut off, and eventually only one clean water ET unit was kept on line. These reductions insured that the water well and the wastewater system could meet the hydraulic requirements of the wastewater units for the duration of the project. Over the test period, the control valves and flow meters for several of the units required repair or replacement, causing occasional short periods of missing data.

Seasonal climatic changes were most visible in the measured precipitation data, calculated evapotranspiration from weather station data, and the performance of the ET and ETW units. First, daily precipitation values for the entire test duration are shown in Figure 5. The total precipitation for the complete test duration was 24.09 in, with 15.64 in during the calendar 2000 year and 19.87 in during the last 12 months of operation (June 1 2000 to May 31 2001). For comparison, the average annual precipitation amount for Lubbock for 1941 to

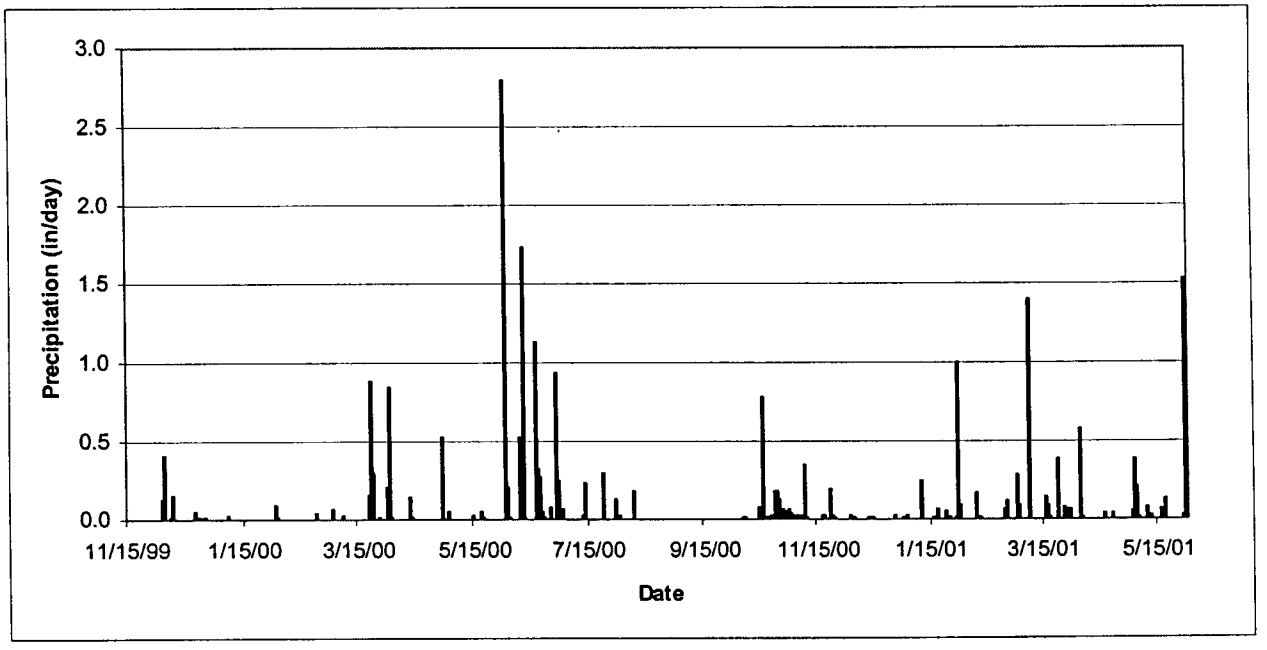


Figure 5. Daily Precipitation Depths During Complete Test Duration

2000 was 18.48 in (HPUWCD 2001). Next, Figure 6 compares the average monthly evapotranspiration data calculated by the weather station with the average monthly water uptake rates (converted to in/d ±95% confidence intervals) for the ET and ETW units for the year 2000. The monthly average histogram format was selected because plots of the actual daily values of all three variables are quite noisy and difficult to view on a single graph. The total evapotranspiration measured by the weather station was 71.76 in, which compared well to the total average uptake from the clean water ET units of 71.92 in. The total average uptake from the three ETW units was 89.32 in, 24 percent above the weather station annual value. The ETW units showed especially high uptake rates in April through June. The evapotranspiration rate used by the TNRCC (2001) in Equation 2 for the Lubbock area is 0.21 in/d, shown also in Figure 6, which converts to 76.65 in/yr. Bernhart (1973) found that water losses from ETW trenches could significantly exceed local evaporation rates.

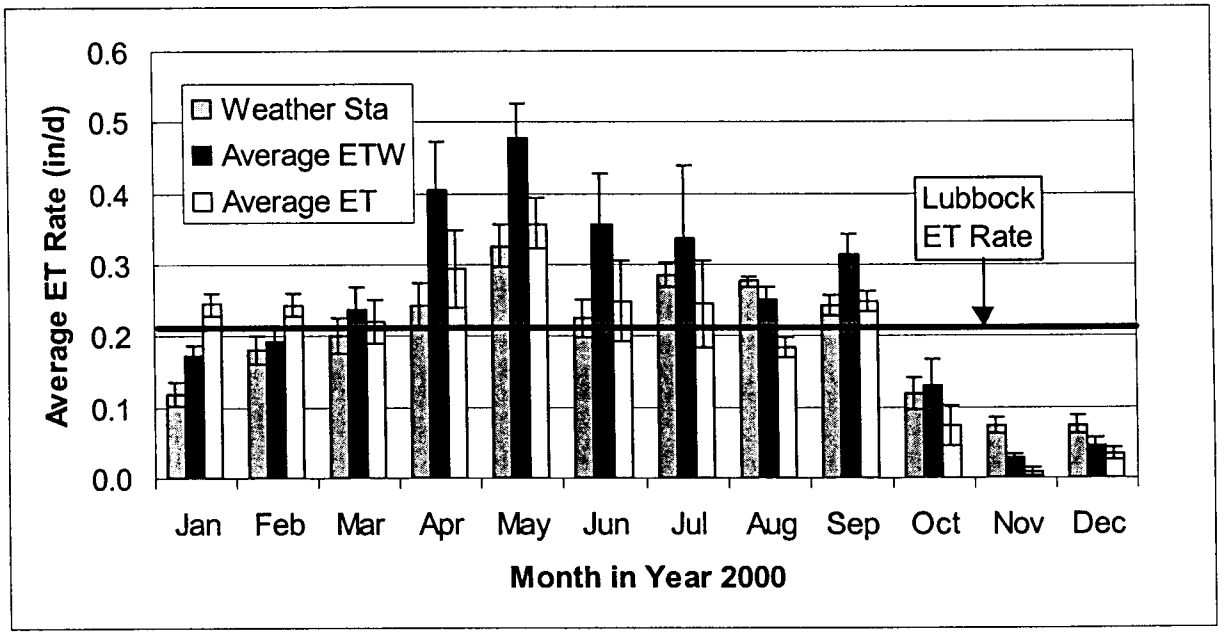


Figure 6. Comparison of Weather Station Evapotranspiration with ET and ETW Unit Averages

The amounts of water demanded by the ABW and ETAW units also varied significantly from day to day, so quarterly averages among the three replicates were selected to represent seasonal variations. Figure 7 compares the ABW and ETAW quarterly loading rates for the entire test duration. The quarters were defined as Winter (December through February), Spring (March through May), Summer (June through August) and Fall (September through November). The loading rates were found using Equation 1, with L = 20 ft, W = 3 ft, and H = 1 ft. As shown in the data, climatic changes had a definite effect on the flow rate. The loading rates can also be compared to the TNRCC (2001) design rates for soil class II-III of 0.20 to 0.25 gpd/ft^2, which are well below the observed loading rates. The ABW loading rate declined during the first four quarters, stabilized, and then increased in the final quarter. The ETAW rate declined for the first four quarters in similar proportions as the ABW rate, changed little for the fifth quarter, then declined

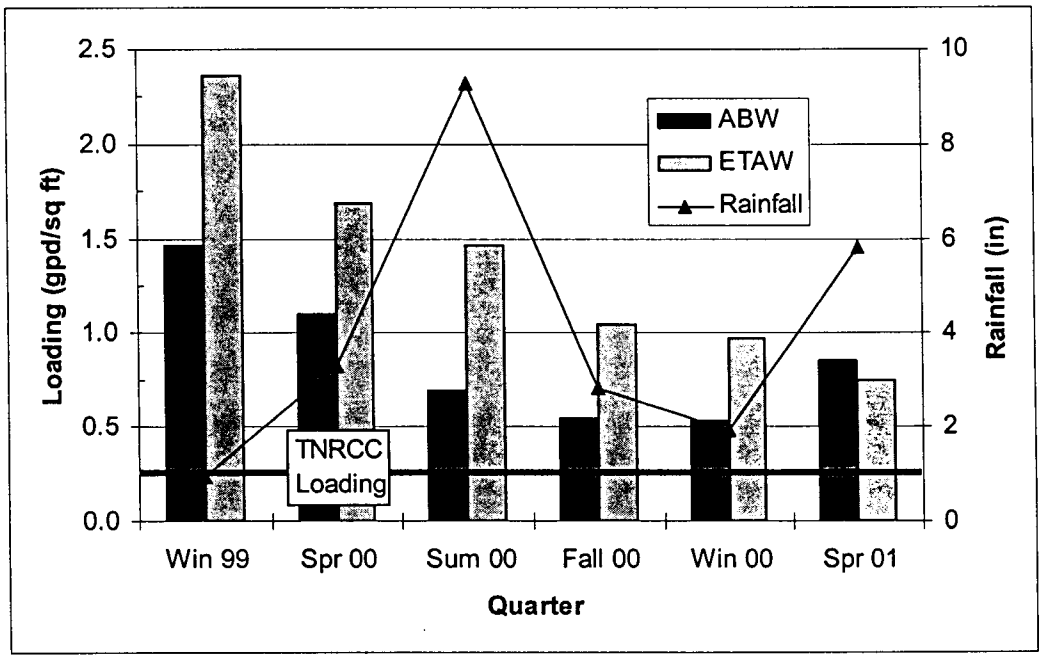


Figure 7. Seasonal Variations in ABW and ETAW Loadings Compared to Rainfall

again in the Spring 2001 quarter. It is likely that the ETAW fields were somewhat inhibited by the relatively high rainfall in the Spring 2001 quarter.

Long-Term Average Loading Rates

One goal of these tests was to represent long-term loading conditions for the different trench types. Conventional wisdom has been that trench acceptance rates slowly decline over several years or more, but the project duration allowed less than two years of operation. With that limitation, the average loading rates for the different systems were calculated separately over the final 12 months of operation to represent long-term conditions with allowance for seasonal effects. Table 6 shows the overall averages for each unit type. Figures 8 and 9 show the average flow rates and loading rates (with 95% confidence intervals), respectively, for each replicate of the ETW, ABW and ETAW types. The mean flow rates and loading rates for the three ABW and ETAW replicates were significantly different, while the three ETW replicates were similar. The overall average loading rates were compared to the TNRCC (2001) guidelines. For ETW fields, the allowable loading rate was calculated based on local average net evaporation rates, with the value for Lubbock at 0.21 in/d (TNRCC 2001), which converts to 0.13 gpd/ft^2. The average ETW loading rate of 0.11 gpd/ft^2 converted to 0.18 in/d, which compares well with the

Table 6. Summary of Field Performance

Drainfield Type	Average Flow (gpd)	95% Confidence Interval	Average Load (gpd/ft^2)	95% Confidence Interval
ET*	5.9	0.63	0.10	0.01
ETW	6.5	0.40	0.11	0.01
ABW	68.3	25.8	0.64	0.24
ETAW	113.2	18.5	1.07	0.17

*Only unit 6 used due to earlier shutdowns of 10 and 18.

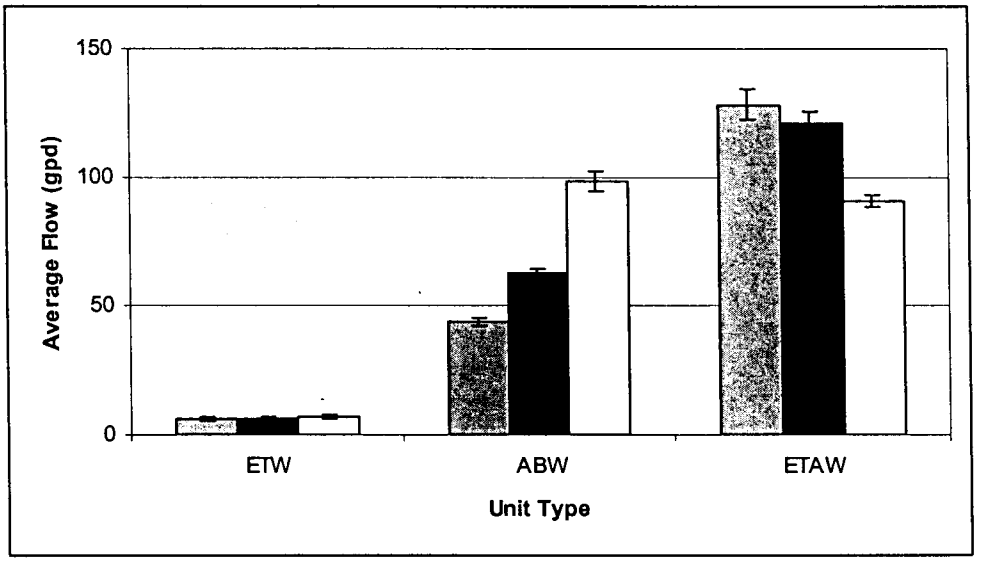


Figure 8. Average Flow Rate for Each Unit Type

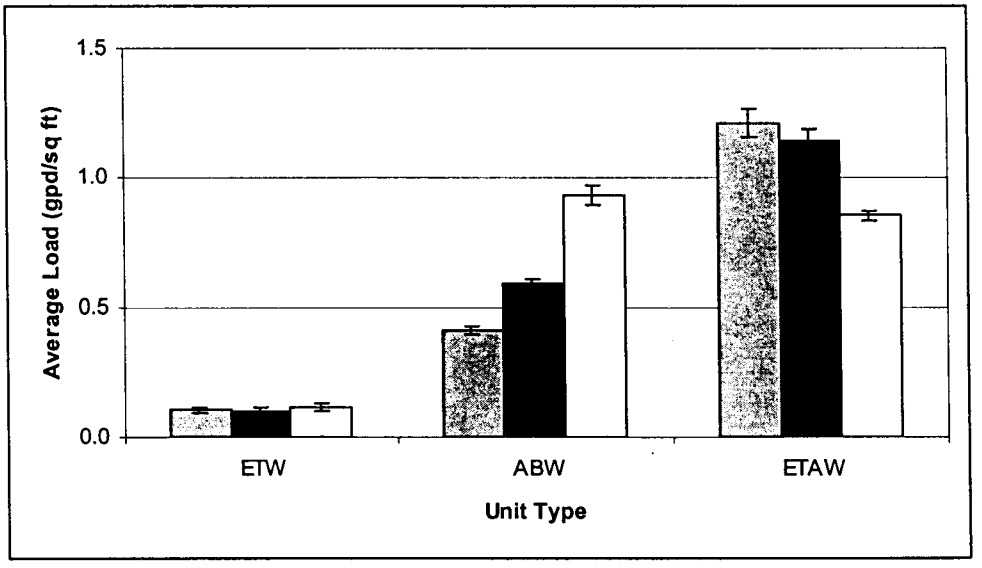


Figure 9. Average Loading Rates for Each Unit Type

guidelines. According to the TNRCC (2001) ABW effluent loading requirement, class II-III soils are allowed only 0.20 to 0.25 gpd/ft^2, using the application area in Equation 1. It is obvious that absorptive capacity for the ABW units exceeded the recommended guidelines by a factor of 2 to 3, which could be seen as a typical safety factor. However, ABW only fields are

rarely, if ever, constructed with membranes to prevent evapotranspiration as done in this study. The ETAW fields showed an average capacity 4 to 5 times greater than the guidelines in a much more typical installation.

Comparison of the ETW, ABW, and ETAW loading rates demonstrated the contribution of lateral capillary migration and evapotranspiration. The average flow rates delivered to each field were 6.5, 68.3, and 113 gpd, respectively. The difference between the ABW and ETAW flow rates was caused by the effects of evapotranspiration, not just vertically through the 60 ft^2 trench area, but also through an area surrounding the rectangular trench that was caused by lateral movement of water followed by evapotranspiration. Figure 10 depicts a representation of that additional area. The ETAW fields lost an average of 45 gpd more than the ABW fields over the last year of operation. Assuming that the evapotranspiration rate is similar in the ETW and ETAW fields, the total area required for the evapotranspiration component of the ETAW fields was 415 ft^2. Assuming the shape of the evapotranspiration area was given by the combination of rectangular and circular shapes shown in Figure 10, the width of the additional area for evapotranspiration was approximately 5.8 ft. This calculated width compared well with the visual observations of dampened soil surrounding the ETAW fields. The combination of

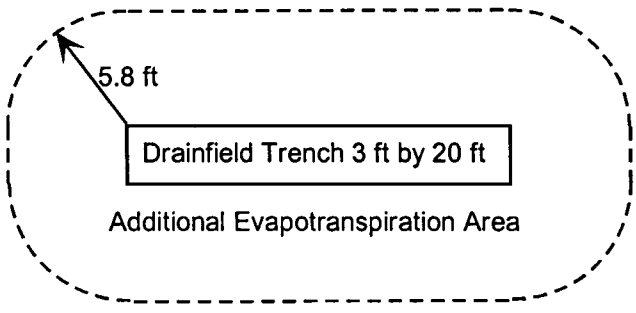


Figure 10. Evapotranspiration Area for Wastewater ETA Fields

absorption and evapotranspiration led to a much greater hydraulic loading capacity than either component alone. Based on these findings, if the last 12 months of operation represented long-term behavior, the allowable loading rate for class II-III soils in combined ETAW drainfields could be easily be doubled to 0.40 to 0.50 gpd/ft^2 and still remain below the capacity of the system. In addition, the spacing between trenches should be greater than 12 ft to take greatest advantage of lateral evapotranspiration area.

Water Quality Results

Septic tank effluent supplied to the units appears to have been within the range of accepted water quality values for typical wastewater effluent for the duration of the study. Continued operation may have led to further reduced loading rates, which could be related to the degree of treatment that occurred in the septic tank and drainfield units. However, the duration of this study was not sufficient to permit examination of these effects. The data from the chemical analyses were averaged over the last 12 months of operation to represent the long-term conditions in the system. The annual average values with 95 percent confidence intervals are shown in Table 7. The total dissolved solids remained near 600 mg/L from the wastewater head tank through the three drainfield types, with slight increases in the ETW and ETAW fields. While not evident from the period of operation for this study, there exists the potential in ET systems to produce high salt concentrations in surface soil, perhaps limiting the growth of plants over these fields. Figures 11 and 12 show more significant differences in the BOD_5, COD, TKN, and sulfate. In general, evapotranspiration systems produce water with better quality characteristics at least in regard to organic treatment. The greater detention time in the ETW fields produced water with lower BOD_5 concentrations as well as lower sulfate, probably due to anaerobic degradation. However, since evapotranspiration systems are lined, treatment may be

Table 7. Summary of Water Quality Parameters for June 2000 through May 2001

Parameter	Average Values (mg/L except pH)				95% Confidence Interval			
	WWHT	ABW	ETAW	ETW	WWHT	ABW	ETAW	ETW
TFSS	5.2	5.9	5.6	7.8	3.0	1.6	1.3	1.7
TFS	383	380	395	443	18	13	13	16
TVSS	6.6	5.3	7.5	5.6	1.0	0.6	1.5	0.8
TVS	197	168	210	162	16	9	16	14
TSS	11.8	11.3	13.1	13.4	3.2	1.8	2.2	2.3
TDS	571	538	591	593	32	19	24	20
TKN	31.2	28.9	29.7	28.0	1.1	1.1	0.8	1.0
BOD_5	195	149	168	99	18	15	17	16
COD	287	204	256	100	10	17	13	12
pH	7.3	7.3	7.3	7.3	0.04	0.03	0.09	0.03
Sulfate	127.2	66.5	90.5	44.6	61.4	37.9	36.7	38.4

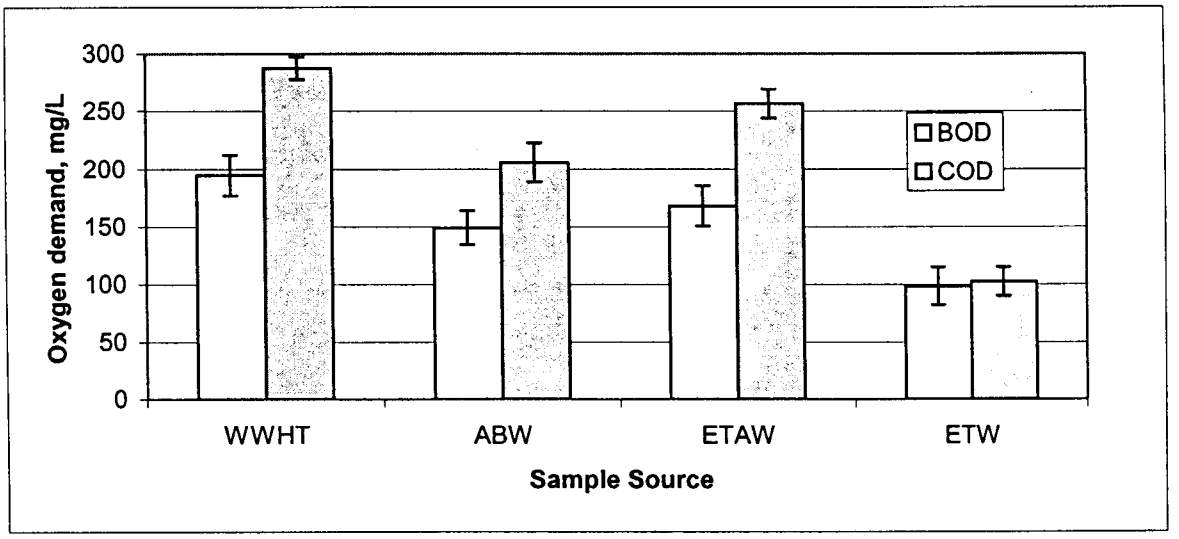


Figure 11. Biochemical and Chemical Oxygen Demand in Different Units

of little importance, as groundwater is not affected.

Conclusions and Recommendations

The primary objective of the two-year study was to determine if the combination of evapotranspiration and absorption in a drainfield could reduce the required size of septic system drainfields in semi-arid northwestern Texas. The study required design and construction of a

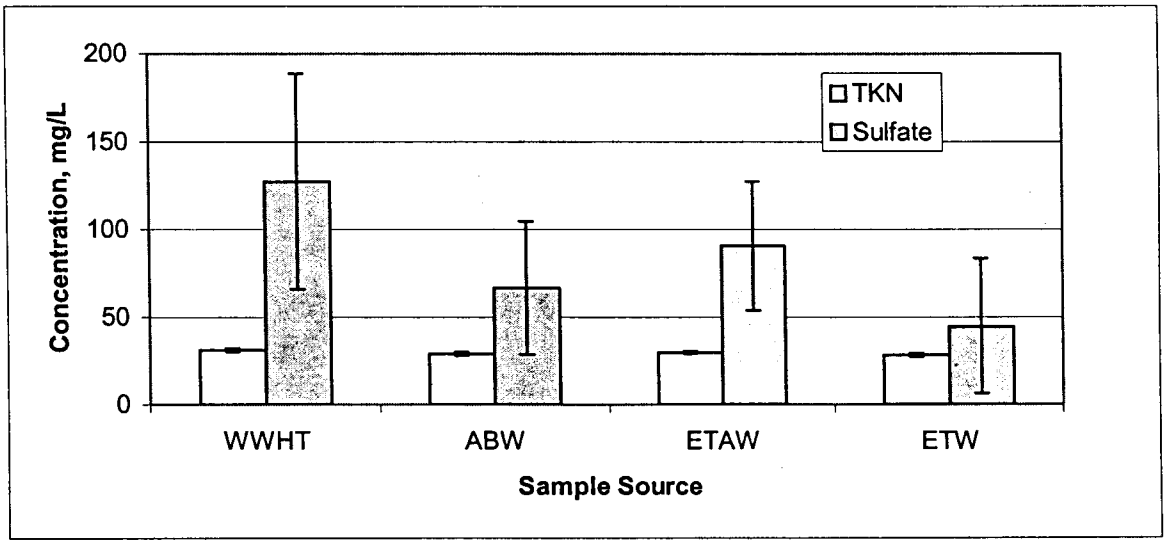


Figure 12. TKN and Sulfate Concentration in Different Units

field site at which controlled addition of an artificial wastewater was made to drainfield trenches built for evapotranspiration (ET) only, absorption (AB) only, and combined evapotranspiration and absorption (ETA). In addition, an appropriate artificial wastewater mixture was designed to best represent a domestic wastewater. As a secondary concern, water quality data were collected during the experiments to observe whether any significant differences were evident between drainfield types.

The results confirmed that the combination of climate and soil conditions at the test site, which is typical of the High Plains of Texas, allowed much greater hydraulic loading rates than the current TNRCC (2001) standards for these soil types. Absorption and evapotranspiration both contributed to the greater capacity. The results could be used to establish TNRCC standards for combined ETA drainfields in arid and semi-arid regions of the state, primarily the portion of the state that receives less than 20 in/yr average rainfall. It is recommended that the TNRCC set ETA loading rates for soil classes II-III at 0.40 to 0.50 gpd/ft^2, which are twice the loading currently allowed for AB systems. The trenches used for a combined system in these soils

should be separated by at least 15 ft to optimize the lateral evapotranspiration area beyond the trench.

Several qualifications to the findings of this study should be noted. It is possible that the limited duration of the field tests might have been insufficient to accurately represent the typical 10-yr or longer life of a septic system drainfield. The only response to that concern is to replicate the experiments over longer time periods. A second concern could be the severe loading conditions used in these tests. The trenches were kept at or near full (to the top of the gravel layer) with the septic tank effluent as a representation of a "worst case" situation. It might be possible that seasonal wetting and drying of the trenches and surrounding soils could lead to clogging as biological material sloughs and moves in the pore space. Similar experiments could be performed with a more cyclic loading schedule. Third, the simple, traditional trench cross-section and distribution system used in the tests may not reflect the performance of other distribution systems that may be popular with local installers. The experiments could be repeated with other drainfield types.

Acknowledgments

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APPENDIX A. Flow Data

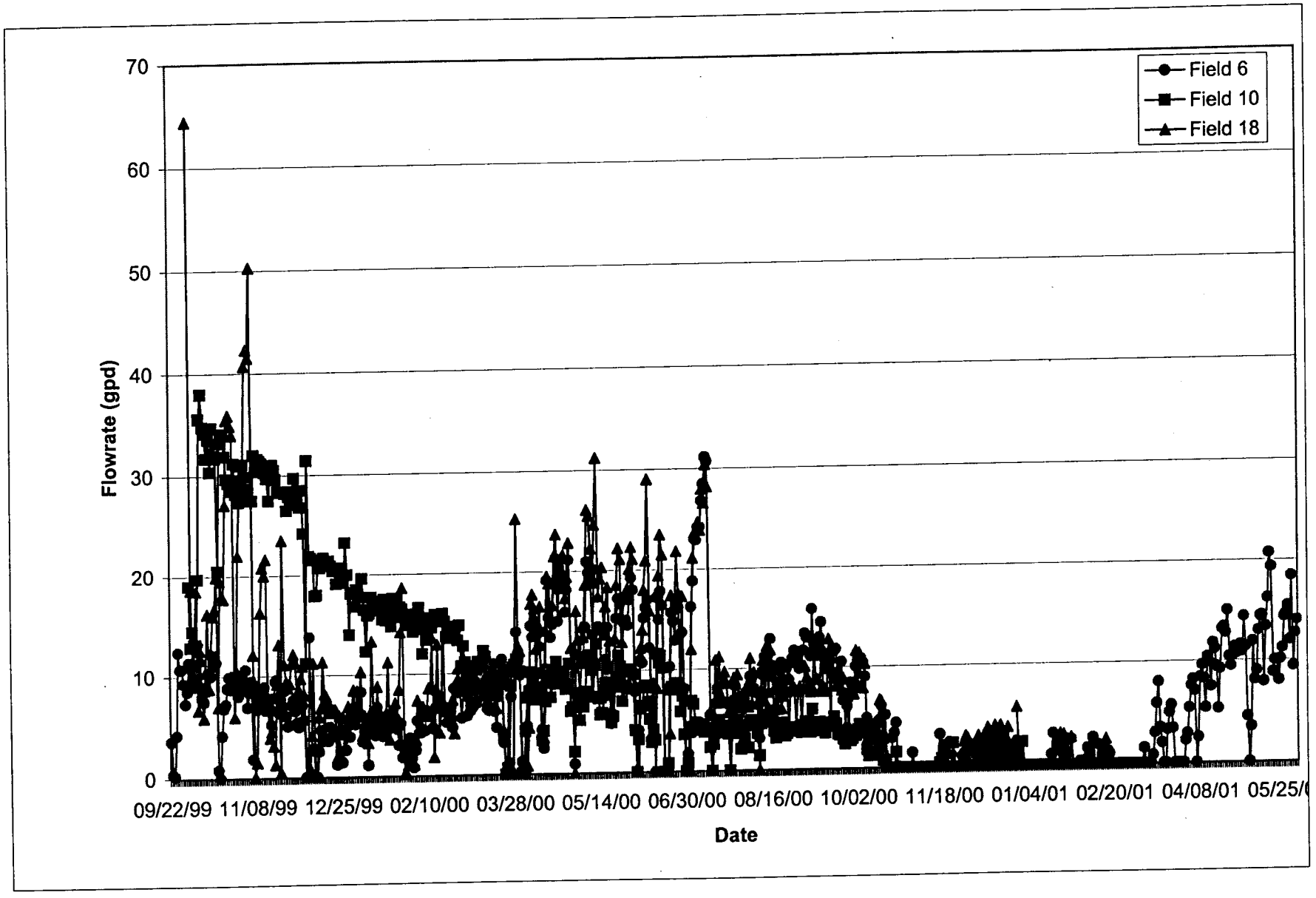

Figure A.1. Flow Rate - Clean Water ET Fields

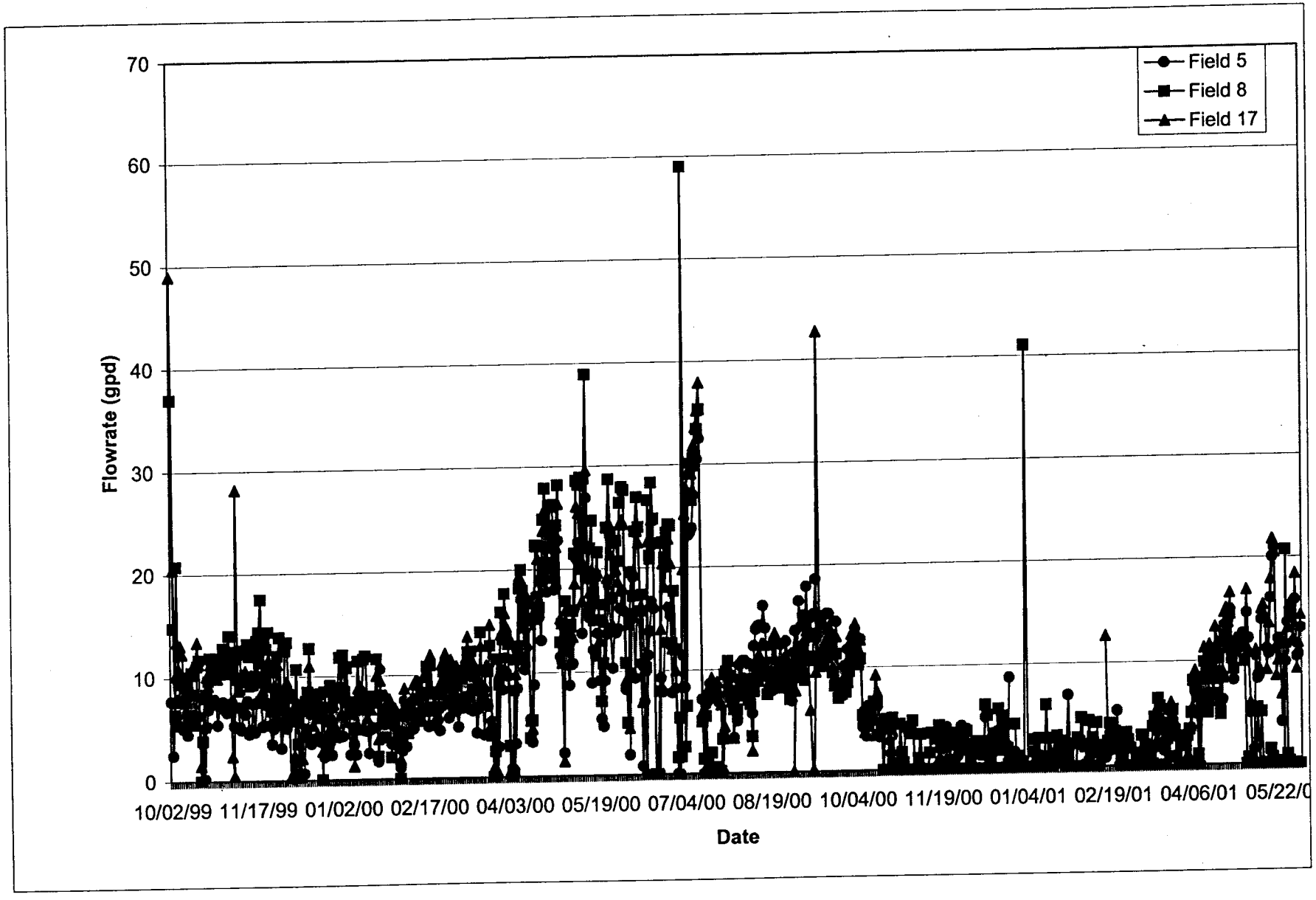

Figure A.2. Flow Rate - Wastewater ETW Fields

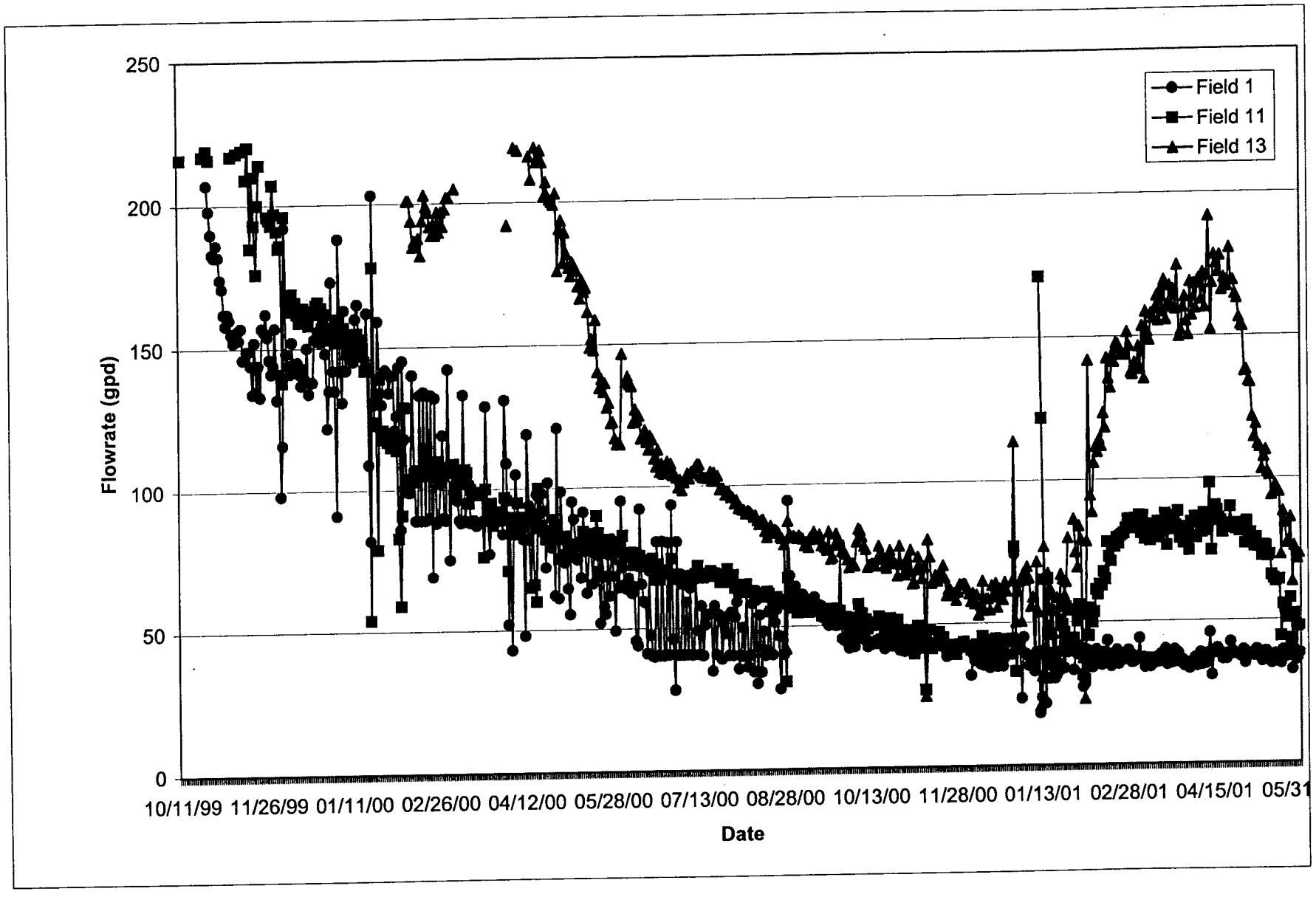

Figure A.3. Flow Rate - Wastewater ABW Fields

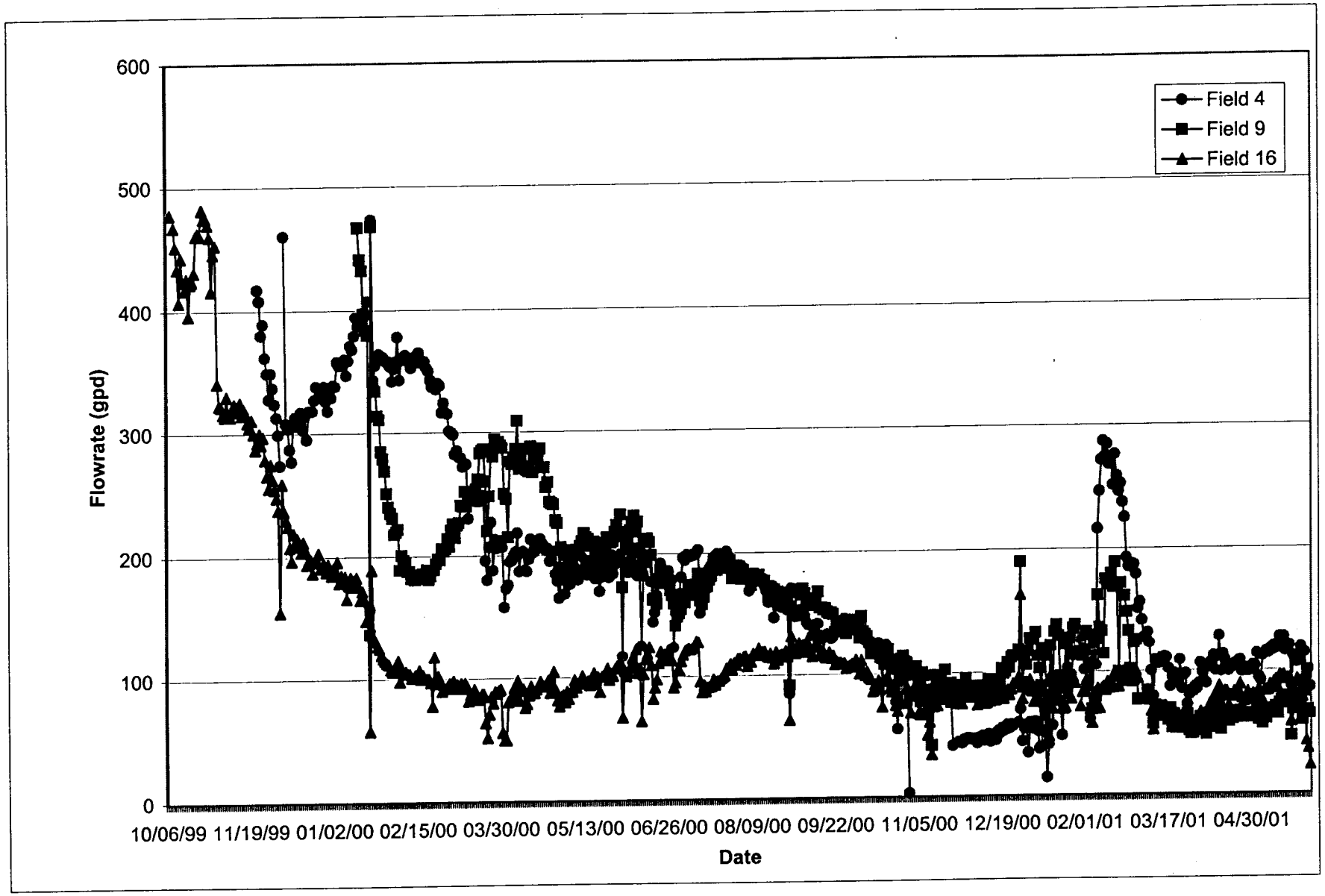

Figure A.4. Flow Rate - Wastewater ETAW Fields

Table A.1. Clean Water ET Units (6, 10, 18) Loading Data

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	6	10	18	Average		6	10	18	Average
09/22/99	3.6			3.6		0.06	0.00	0.00	0.02
09/23/99	0.4			0.4		0.01	0.00	0.00	0.00
09/24/99	0.2			0.2		0.00	0.00	0.00	0.00
09/25/99	4.2			4.2		0.07	0.00	0.00	0.02
09/26/99	12.4			12.4		0.21	0.00	0.00	0.07
09/27/99	10.7			10.7		0.18	0.00	0.00	0.06
09/28/99	10.7			10.7		0.18	0.00	0.00	0.06
09/29/99	9.3			9.3		0.16	0.00	0.00	0.05
09/30/99	7.3			7.3		0.12	0.00	0.00	0.04
10/01/99	8.5			8.5		0.14	0.00	0.00	0.05
10/02/99	11.4	19.0	64.4	31.6		0.19	0.32	1.07	0.53
10/03/99	9.4	12.9	18.6	13.6		0.16	0.22	0.31	0.23
10/04/99	10.6	14.5	10.3	11.8		0.18	0.24	0.17	0.20
10/05/99	9.0	13.2	13.1	11.8		0.15	0.22	0.22	0.20
10/06/99	9.4	13.2	18.5	13.7		0.16	0.22	0.31	0.23
10/07/99	13.2	19.7	6.7	13.2		0.22	0.33	0.11	0.22
10/08/99	11.5	35.6	12.6	19.9		0.19	0.59	0.21	0.33
10/09/99	7.8	38.0	8.6	18.1		0.13	0.63	0.14	0.30
10/10/99	7.5	34.8	5.9	16.1		0.13	0.58	0.10	0.27
10/11/99	9.0	34.2	10.4	17.9		0.15	0.57	0.17	0.30
10/12/99	8.6	31.7	16.2	18.8		0.14	0.53	0.27	0.31
10/13/99	10.3	33.6	8.8	17.6		0.17	0.56	0.15	0.29
10/14/99	10	30.4	12.4	17.6		0.17	0.51	0.21	0.29
10/15/99	11	34.7	16	20.6		0.18	0.58	0.27	0.34
10/16/99	12.1	32	16.7	20.3		0.20	0.53	0.28	0.34
10/17/99	11.4	31.7	19.9	21.0		0.19	0.53	0.33	0.35
10/18/99	0.8	20.5	7	9.4		0.01	0.34	0.12	0.16
10/19/99	0	33.2	19.5	17.6	Reading was zero.	0.00	0.55	0.33	0.29
10/20/99	4.1	33.7	18	18.6		0.07	0.56	0.30	0.31
10/21/99	6.8	34.1	17.7	19.5		0.11	0.57	0.30	0.33
10/22/99	7.2	31.9	27.1	22.1		0.12	0.53	0.45	0.37
10/23/99	8.8	29.7	35.5	24.7		0.15	0.50	0.59	0.41
10/24/99	9.9	29.3	35.9	25.0		0.17	0.49	0.60	0.42
10/25/99	8.7	28.5	34.9	24.0		0.15	0.48	0.58	0.40
10/26/99	10	29.3	34	24.4		0.17	0.49	0.57	0.41
10/27/99	9.2	31.2	6	15.5		0.15	0.52	0.10	0.26
10/28/99	9.2	28.2	10.5	16.0		0.15	0.47	0.18	0.27
10/29/99	8	29.6	22	19.9		0.13	0.49	0.37	0.33
10/30/99	9	27.6	27.4	21.3		0.15	0.46	0.46	0.36
10/31/99	9.6	31	27.8	22.8		0.16	0.52	0.46	0.38
11/01/99	8.8	31.1	29	23.0		0.15	0.52	0.48	0.38
11/02/99	10.6	29.9	40.7	27.1		0.18	0.50	0.68	0.45
11/03/99	6.9	28.7	42.3	26.0		0.12	0.48	0.71	0.43
11/04/99	8.4	28.4	41.5	26.1		0.14	0.47	0.69	0.44
11/05/99	9.5	27.5	50.3	29.1		0.16	0.46	0.84	0.49
11/06/99	1.8	27.5	12.1	13.8		0.03	0.46	0.20	0.23
11/07/99	9.1	32	0.1	13.7		0.15	0.53	0.00	0.23
11/08/99	6.7	30.4	1.5	12.9		0.11	0.51	0.03	0.21
11/09/99	8.1	31.6	8.6	16.1		0.14	0.53	0.14	0.27
11/10/99	7.6	31.4	16.3	18.4		0.13	0.52	0.27	0.31
11/11/99	8.1	31.2	20.8	20.0		0.14	0.52	0.35	0.33
11/12/99	8.9	30.6	20	19.8		0.15	0.51	0.33	0.33
11/13/99	6.6	30.3	21.6	19.5		0.11	0.51	0.36	0.33
11/14/99	7.8	29.7	6.7	14.7		0.13	0.50	0.11	0.25
11/15/99	6.8	27.5	3.9	12.7		0.11	0.46	0.07	0.21
11/16/99	5.2	30.4	4.5	13.4		0.09	0.51	0.08	0.22
11/17/99	7.8	31	3.1	14.0		0.13	0.52	0.05	0.23
11/18/99	9.4	30.5	1.3	13.7		0.16	0.51	0.02	0.23
11/19/99	9.6	29.6	9.2	16.1		0.16	0.49	0.15	0.27
11/20/99	6.3	28.4	13.1	15.9		0.11	0.47	0.22	0.27
11/21/99	6.9	28.3	0.5	11.9		0.12	0.47	0.01	0.20
11/22/99	6.9	28.4	23.5	19.6		0.12	0.47	0.39	0.33

Table A.1. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	6	10	18	Average		6	10	18	Average
11/23/99	8.5	28.4	11.1	16.0		0.14	0.47	0.19	0.27
11/24/99	6	28.2	9.4	14.5		0.10	0.47	0.16	0.24
11/25/99	5	26.5	8.8	13.4		0.08	0.44	0.15	0.22
11/26/99	5.1	27.9	9.2	14.1		0.09	0.47	0.15	0.23
11/27/99	7.1	27.6	11.2	15.3		0.12	0.46	0.19	0.26
11/28/99	7.6	28.4	12.1	16.0		0.13	0.47	0.20	0.27
11/29/99	6.5	29.7	11.3	15.8		0.11	0.50	0.19	0.26
11/30/99	5.3	27.1	8.2	13.5		0.09	0.45	0.14	0.23
12/01/99	4.9	27.5	8.6	13.7		0.08	0.46	0.14	0.23
12/02/99	5.4	26.8	9.7	14.0		0.09	0.45	0.16	0.23
12/03/99	7.1	28.5	10.9	15.5		0.12	0.48	0.18	0.26
12/04/99	5.6	24.2	8.1	12.6		0.09	0.40	0.14	0.21
12/05/99	0	11.2	0	3.7	Reading was zero.	0.00	0.19	0.00	0.06
12/06/99	0	31.4	0.5	10.6		0.00	0.52	0.01	0.18
12/07/99	13.8	21.9	0.8	12.2		0.23	0.37	0.01	0.20
12/08/99	2.6	21.7	4.1	9.5		0.04	0.36	0.07	0.16
12/09/99	2.8	21.5	11.2	11.8		0.05	0.36	0.19	0.20
12/10/99	0	17.9	0	6.0	Reading was zero.	0.00	0.30	0.00	0.10
12/11/99	0	18	0	6.0		0.00	0.30	0.00	0.10
12/12/99	2.5	21.4	5.9	9.9		0.04	0.36	0.10	0.17
12/13/99	4.6	20.7	6.8	10.7		0.08	0.35	0.11	0.18
12/14/99	3.5	21.4	11.3	12.1		0.06	0.36	0.19	0.20
12/15/99	6.9	21.7	8.2	12.3		0.12	0.36	0.14	0.20
12/16/99	3.7	21.1	7.9	10.9		0.06	0.35	0.13	0.18
12/17/99	3.5	21	6.3	10.3		0.06	0.35	0.11	0.17
12/18/99	4.9	21.4	7	11.1		0.08	0.36	0.12	0.19
12/19/99	3.9	20.9	6.3	10.4		0.07	0.35	0.11	0.17
12/20/99	4.5	20.4	6.6	10.5		0.08	0.34	0.11	0.18
12/21/99	4.5	20.4	6.6	10.5		0.08	0.34	0.11	0.18
12/22/99	1.2	19.1	1.9	7.4		0.02	0.32	0.03	0.12
12/23/99	4.2	20.7	6	10.3		0.07	0.35	0.10	0.17
12/24/99	2.5	20.3	4.7	9.2		0.04	0.34	0.08	0.15
12/25/99	1.4	19.8	5.9	9.0		0.02	0.33	0.10	0.15
12/26/99	5.4	19.2	4.2	9.6		0.09	0.32	0.07	0.16
12/27/99	2.6	23.2	4.8	10.2		0.04	0.39	0.08	0.17
12/28/99	5.2	20	6.9	10.7		0.09	0.33	0.12	0.18
12/29/99	3.9	14	6.3	8.1		0.07	0.23	0.11	0.13
12/30/99	5.2	18.1	6.7	10.0		0.09	0.30	0.11	0.17
12/31/99	5.2	18.2	8.5	10.6		0.09	0.30	0.14	0.18
01/01/00	5.1	16.8	5.4	9.1		0.09	0.28	0.09	0.15
01/02/00	5.8	18.5	8.4	10.9		0.10	0.31	0.14	0.18
01/03/00	6	18	6.8	10.3		0.10	0.30	0.11	0.17
01/04/00	8.3	17.7	10.3	12.1		0.14	0.30	0.17	0.20
01/05/00	3.4	19.6	4.1	9.0		0.06	0.33	0.07	0.15
01/06/00	4.5	16.5	6	9.0		0.08	0.28	0.10	0.15
01/07/00	4	12.3	5.6	7.3		0.07	0.21	0.09	0.12
01/08/00	1.1	15.9	3.3	6.8		0.02	0.27	0.06	0.11
01/09/00	4.5	16.1	6.2	8.9		0.08	0.27	0.10	0.15
01/10/00	5	17.7	13.3	12.0		0.08	0.30	0.22	0.20
01/11/00	5.9	17.3	5.3	9.5		0.10	0.29	0.09	0.16
01/12/00	4	16.8	5.6	8.8		0.07	0.28	0.09	0.15
01/13/00	6.8	17.2	8.8	10.9		0.11	0.29	0.15	0.18
01/14/00	4.9	16.4	5.5	8.9		0.08	0.27	0.09	0.15
01/15/00	4.1	17	6.1	9.1		0.07	0.28	0.10	0.15
01/16/00	3.9	15.5	5.4	8.3		0.07	0.26	0.09	0.14
01/17/00	4.9	17.5	5.9	9.4		0.08	0.29	0.10	0.16
01/18/00	4.2	15.4	6.2	8.6		0.07	0.26	0.10	0.14
01/19/00	4.6	16.4	11.2	10.7		0.08	0.27	0.19	0.18
01/20/00	5.9	17.2	3.6	8.9		0.10	0.29	0.06	0.15
01/21/00	4.8	14.8	6.4	8.7		0.08	0.25	0.11	0.14
01/22/00	5.6	17.6	5.8	9.7		0.09	0.29	0.10	0.16
01/23/00	5.3	16	7.2	9.5		0.09	0.27	0.12	0.16
01/24/00	4.6	17.6	5.8	9.3		0.08	0.29	0.10	0.16

Table A.1. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	6	10	18	Average		6	10	18	Average
01/25/00	3	15.7	8.5	9.1		0.05	0.26	0.14	0.15
01/26/00	5.2	16.7	14.2	12.0		0.09	0.28	0.24	0.20
01/27/00	1.8	16.5	18.6	12.3		0.03	0.28	0.31	0.21
01/28/00	2.6	15.7	0.2	6.2		0.04	0.26	0.00	0.10
01/29/00	3.1	15.1	0.2	6.1		0.05	0.25	0.00	0.10
01/30/00	2.7	14.9	1.1	6.2		0.05	0.25	0.02	0.10
01/31/00	3.7	16	2.4	7.4		0.06	0.27	0.04	0.12
02/01/00	1.7	15.5	3.5	6.9		0.03	0.26	0.06	0.12
02/02/00	0.8	14.2	1.1	5.4		0.01	0.24	0.02	0.09
02/03/00	2.5	15.1	3.5	7.0		0.04	0.25	0.06	0.12
02/04/00	5.4	15.8	7.4	9.5		0.09	0.26	0.12	0.16
02/05/00	4.2	16.6	5.9	8.9		0.07	0.28	0.10	0.15
02/06/00	4.2	14.8	4.9	8.0		0.07	0.25	0.08	0.13
02/07/00	4.5	12	6.8	7.8		0.08	0.20	0.11	0.13
02/08/00	4.4	14.5	6.2	8.4		0.07	0.24	0.10	0.14
02/09/00	6.4	13.4	6.2	8.7		0.11	0.22	0.10	0.14
02/10/00	5.8	15.6	8.6	10.0		0.10	0.26	0.14	0.17
02/11/00	5.8	15.6	8.6	10.0		0.10	0.26	0.14	0.17
02/12/00	4.6	14.6	13.6	10.9		0.08	0.24	0.23	0.18
02/13/00	4.6	15.3	1.8	7.2		0.08	0.26	0.03	0.12
02/14/00	6.7	15.9	8.5	10.4		0.11	0.27	0.14	0.17
02/15/00	6.6	15.4	12.9	11.6		0.11	0.26	0.22	0.19
02/16/00	7.8	15.9	4.2	9.3		0.13	0.27	0.07	0.16
02/17/00	6.6	15.2	6.9	9.6		0.11	0.25	0.12	0.16
02/18/00	6.8	16	15.2	12.7		0.11	0.27	0.25	0.21
02/19/00	6.3	15.2	6.3	9.3		0.11	0.25	0.11	0.15
02/20/00	5.2	13.7	6.6	8.5		0.09	0.23	0.11	0.14
02/21/00	5.3	14.3	6.6	8.7		0.09	0.24	0.11	0.15
02/22/00	6.2	13.5	5.8	8.5		0.10	0.23	0.10	0.14
02/23/00	4.7	13.9	7.4	8.7		0.08	0.23	0.12	0.14
02/24/00	8.5	14.6	4.1	9.1		0.14	0.24	0.07	0.15
02/25/00	8.4	14.7	9.1	10.7		0.14	0.25	0.15	0.18
02/26/00	8.1	13.3	10.5	10.6		0.14	0.22	0.18	0.18
02/27/00	8.3	14.8	8.8	10.6		0.14	0.25	0.15	0.18
02/28/00	5.6	10.7	9.2	8.5		0.09	0.18	0.15	0.14
02/29/00	8.4	12.7	8.8	10.0		0.14	0.21	0.15	0.17
03/01/00	8.2	11.1	9.2	9.5		0.14	0.19	0.15	0.16
03/02/00	5.8	10.2	7.8	7.9		0.10	0.17	0.13	0.13
03/03/00	7.8	9.9	8.7	8.8		0.13	0.17	0.15	0.15
03/04/00	6.3	10.2	7.3	7.9		0.11	0.17	0.12	0.13
03/05/00	6.6	10.5	8.5	8.5		0.11	0.18	0.14	0.14
03/06/00	8.1	10.7	9.6	9.5		0.14	0.18	0.16	0.16
03/07/00	7	10.4	8.7	8.7		0.12	0.17	0.15	0.15
03/08/00	8.1	11.1	8.5	9.2		0.14	0.19	0.14	0.15
03/09/00	9.7	11	11.1	10.6		0.16	0.18	0.19	0.18
03/10/00	7.7	10.8	8.7	9.1		0.13	0.18	0.15	0.15
03/11/00	9.3	12.2	10.9	10.8		0.16	0.20	0.18	0.18
03/12/00	8.2	11.6	9.6	9.8		0.14	0.19	0.16	0.16
03/13/00	6.5	8.1	7.3	7.3		0.11	0.14	0.12	0.12
03/14/00	6.3	9.2	6.9	7.5		0.11	0.15	0.12	0.12
03/15/00	6.6	9	9	8.2		0.11	0.15	0.15	0.14
03/16/00	10.9	9.6	10.5	10.3		0.18	0.16	0.18	0.17
03/17/00	6.2	8.5	7.8	7.5		0.10	0.14	0.13	0.13
03/18/00	4.6	9.1	6.5	6.7		0.08	0.15	0.11	0.11
03/19/00	7.6	8.9	8.4	8.3		0.13	0.15	0.14	0.14
03/20/00	8.6	9.2	10.1	9.3		0.14	0.15	0.17	0.16
03/21/00	11.3	9.6	11	10.6		0.19	0.16	0.18	0.18
03/22/00	3.1	3.6	4.3	3.7		0.05	0.06	0.07	0.06
03/23/00	0	0	0	0.0	Reading was zero.	0.00	0.00	0.00	0.00
03/24/00	0	0.6	0	0.2		0.00	0.01	0.00	0.00
03/25/00	1.1	10.1	0	3.7		0.02	0.17	0.00	0.06
03/26/00	7.6	8.7	0.1	5.5		0.13	0.15	0.00	0.09
03/27/00	9.9	10.5	0.2	6.9		0.17	0.18	0.00	0.11

Table A.1. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	6	10	18	Average		6	10	18	Average
03/28/00	9.9	10.8	11.1	10.6		0.17	0.18	0.19	0.18
03/29/00	14	11.3	25.3	16.9		0.23	0.19	0.42	0.28
03/30/00	10.8	11.5	12.6	11.6		0.18	0.19	0.21	0.19
03/31/00	9.7	10.1	12.1	10.6		0.16	0.17	0.20	0.18
04/01/00	1.2	0.1		0.7	Sensor problem at 18.	0.02	0.00	0.00	0.01
04/02/00	0	0.2	0	0.1	Reading was zero.	0.00	0.00	0.00	0.00
04/03/00	0	4.2	0	1.4		0.00	0.07	0.00	0.02
04/04/00	4.7	7.5	0.8	4.3		0.08	0.13	0.01	0.07
04/05/00	8.4	8.1	4.5	7.0		0.14	0.14	0.08	0.12
04/06/00	14.6	10	16.8	13.8		0.24	0.17	0.28	0.23
04/07/00	13.5	9.3	17.7	13.5		0.23	0.16	0.30	0.23
04/08/00	15.1	9.9	16.3	13.8		0.25	0.17	0.27	0.23
04/09/00	9.4	7.3	12.3	9.7		0.16	0.12	0.21	0.16
04/10/00	13.8	8.1	14.8	12.2		0.23	0.14	0.25	0.20
04/11/00	12.5	8.5	16.5	12.5		0.21	0.14	0.28	0.21
04/12/00	4.3	3.3	4.2	3.9		0.07	0.06	0.07	0.07
04/13/00	2.5	4.2	3.5	3.4		0.04	0.07	0.06	0.06
04/14/00	10.3	7.1	14.1	10.5		0.17	0.12	0.24	0.18
04/15/00	19.1	9.6	19.5	16.1		0.32	0.16	0.33	0.27
04/16/00	15.4	9.4	18.8	14.5		0.26	0.16	0.31	0.24
04/17/00	13.4	7.5	15.2	12.0		0.22	0.13	0.25	0.20
04/18/00	14.7	8.9	16.6	13.4		0.25	0.15	0.28	0.22
04/19/00	18.9	10.2	21.5	16.9		0.32	0.17	0.36	0.28
04/20/00	21.3	11	23.7	18.7		0.36	0.18	0.40	0.31
04/21/00	15	8.8	18.3	14.0		0.25	0.15	0.31	0.23
04/22/00	19.2	9.5	20.5	16.4		0.32	0.16	0.34	0.27
04/23/00	18.8	9.8	21.3	16.6		0.31	0.16	0.36	0.28
04/24/00	19.6	10	21.6	17.1		0.33	0.17	0.36	0.28
04/25/00	15.9	8.3	17.3	13.8		0.27	0.14	0.29	0.23
04/26/00	18.1	8.7	19.4	15.4		0.30	0.15	0.32	0.26
04/27/00	21.1	10.8	22.8	18.2		0.35	0.18	0.38	0.30
04/28/00	9.9	6.1	12.3	9.4		0.17	0.10	0.21	0.16
04/29/00	10	6.5	12.3	9.6		0.17	0.11	0.21	0.16
04/30/00	0.9	2.1	0	1.0	Reading was zero.	0.02	0.04	0.00	0.02
05/01/00	11.7	7.9	16	11.9		0.20	0.13	0.27	0.20
05/02/00	11.4	6.5	13.2	10.4		0.19	0.11	0.22	0.17
05/03/00	7.8	5.2	10.8	7.9		0.13	0.09	0.18	0.13
05/04/00	10.8	6.9	14.4	10.7		0.18	0.12	0.24	0.18
05/05/00	11.5	6.5	13.4	10.5		0.19	0.11	0.22	0.17
05/06/00	14.4	8	18.6	13.7		0.24	0.13	0.31	0.23
05/07/00	20.9	11.2	26.1	19.4		0.35	0.19	0.43	0.32
05/08/00	19.8	11.6	25.5	19.0		0.33	0.19	0.43	0.32
05/09/00	19.3	10.1	22.2	17.2		0.32	0.17	0.37	0.29
05/10/00	13.6	7.5	18.8	13.3		0.23	0.13	0.31	0.22
05/11/00	20.1	10.6	24.6	18.4		0.34	0.18	0.41	0.31
05/12/00		12.7	31.2	21.9	High bad reading.	0.00	0.21	0.52	0.24
05/13/00	14.4	7.3	17.4	13.0		0.24	0.12	0.29	0.22
05/14/00	14.1	5.7	19.2	13.0		0.23	0.09	0.32	0.22
05/15/00	7.2	5.9	20.3	11.1		0.12	0.10	0.34	0.19
05/16/00	11	7.6	13.6	10.7		0.18	0.13	0.23	0.18
05/17/00	11.1	8.8	16.4	12.1		0.19	0.15	0.27	0.20
05/18/00	14.3	10.3	18.3	14.3		0.24	0.17	0.31	0.24
05/19/00	9.4	8.5	13	10.3		0.16	0.14	0.22	0.17
05/20/00	4.8	4.9	6.2	5.3		0.08	0.08	0.10	0.09
05/21/00	5.7	5.5	8.8	6.7		0.09	0.09	0.15	0.11
05/22/00	10.5	8.4	13.2	10.7		0.18	0.14	0.22	0.18
05/23/00	15.2	9.4	18.5	14.4		0.25	0.16	0.31	0.24
05/24/00	17.2	11.5	22.2	17.0		0.29	0.19	0.37	0.28
05/25/00	16.6	10.4	21.1	16.0		0.28	0.17	0.35	0.27
05/26/00	10.1	7	12.8	10.0		0.17	0.12	0.21	0.17
05/27/00	14.8	9.9	17.4	14.0		0.25	0.17	0.29	0.23
05/28/00	15	8.5	17.7	13.7		0.25	0.14	0.30	0.23
05/29/00	14.5	8.2	18.1	13.6		0.24	0.14	0.30	0.23
05/30/00	17	10	20.1	15.7		0.28	0.17	0.33	0.26

Table A.1. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	6	10	18	Average		6	10	18	Average
05/31/00	19.2	10.1	22.3	17.2		0.32	0.17	0.37	0.29
06/01/00	18	9.6	21.1	16.2		0.30	0.16	0.35	0.27
06/02/00	7.9	4.1	8.6	6.9		0.13	0.07	0.14	0.11
06/03/00	0	0	0.4	0.1	Reading was zero.	0.00	0.00	0.01	0.00
06/04/00	4.1	3.2	0	2.4	Reading was zero.	0.07	0.05	0.00	0.04
06/05/00	11	6.2	12.2	9.8		0.18	0.10	0.20	0.16
06/06/00	10.7	6.5	14	10.4		0.18	0.11	0.23	0.17
06/07/00	15.2	8.3	18	13.8		0.25	0.14	0.30	0.23
06/08/00	16.2	8.5	20.9	15.2		0.27	0.14	0.35	0.25
06/09/00	17	6.9	29	17.6		0.28	0.12	0.48	0.29
06/10/00	12.2	5.2	15.9	11.1		0.20	0.09	0.27	0.18
06/11/00	3.3	2.9	3.3	3.2		0.06	0.05	0.05	0.05
06/12/00	8	4.1	8.7	6.9		0.13	0.07	0.15	0.12
06/13/00	0	3.1	0	1.0	Reading was zero.	0.00	0.05	0.00	0.02
06/14/00	17.2	11.6	8.2	12.3		0.29	0.19	0.14	0.21
06/15/00	15	10.7	19.4	15.0		0.25	0.18	0.32	0.25
06/16/00	17.8	11.4	23.5	17.6		0.30	0.19	0.39	0.29
06/17/00	16.4	10.2	21.5	16.0		0.27	0.17	0.36	0.27
06/18/00	0	0	0	0.0	Reading was zero, rain.	0.00	0.00	0.00	0.00
06/19/00	0	0	0	0.0		0.00	0.00	0.00	0.00
06/20/00	0	0.8	0	0.3		0.00	0.01	0.00	0.00
06/21/00	10.3	8	3.7	7.3		0.17	0.13	0.06	0.12
06/22/00	15.7	8.3	17.4	13.8		0.26	0.14	0.29	0.23
06/23/00	14.8	8.1	16.1	13.0		0.25	0.14	0.27	0.22
06/24/00	12.9	8.6	16.1	12.5		0.22	0.14	0.27	0.21
06/25/00	17.1	8.7	21.8	15.9		0.28	0.15	0.36	0.26
06/26/00	16.2	8.3	17.6	14.0		0.27	0.14	0.29	0.23
06/27/00	7.8	5.9	8.8	7.5		0.13	0.10	0.15	0.13
06/28/00	13.7	7.4	17.3	12.8		0.23	0.12	0.29	0.21
06/29/00	8.1	3.6	7.1	6.3		0.14	0.06	0.12	0.10
06/30/00	0	0	0	0.0	Reading was zero.	0.00	0.00	0.00	0.00
07/01/00	1.7	0.8	0	0.8		0.03	0.01	0.00	0.01
07/02/00	4.4	3.8	0.1	2.8		0.07	0.06	0.00	0.05
07/03/00	16.2	6.9	12	11.7		0.27	0.12	0.20	0.19
07/04/00	18.8	6.6	21.1	15.5		0.31	0.11	0.35	0.26
07/05/00	23	4.8	23.6	17.1	Reading was very high.	0.38	0.08	0.39	0.29
07/06/00	22.9	4.7	23.9	17.2		0.38	0.08	0.40	0.29
07/07/00	24.2	4	24.7	17.6		0.40	0.07	0.41	0.29
07/08/00	24.2	4	23.9	17.4		0.40	0.07	0.40	0.29
07/09/00	26.8	4.6	28	19.8		0.45	0.08	0.47	0.33
07/10/00	28.5	3.8	26.6	19.6		0.48	0.06	0.44	0.33
07/11/00	31.1	3.8	30.4	21.8		0.52	0.06	0.51	0.36
07/12/00	30.7	4.2	28.2	21.0		0.51	0.07	0.47	0.35
07/13/00	5.5	2.3	5.8	4.5		0.09	0.04	0.10	0.08
07/14/00	0	0	0	0.0	Reading was zero.	0.00	0.00	0.00	0.00
07/15/00	5	2.6	5.5	4.4		0.08	0.04	0.09	0.07
07/16/00	6.6	4.2	10.9	7.2		0.11	0.07	0.18	0.12
07/17/00	8.1	4.1	8.1	6.8		0.13	0.07	0.13	0.11
07/18/00	7.3	5	11.2	7.8		0.12	0.08	0.19	0.13
07/19/00	6.9	3.7	6.7	5.8		0.11	0.06	0.11	0.10
07/20/00	6.8	4.2	8.8	6.6		0.11	0.07	0.15	0.11
07/21/00	6.7	4.4	9.7	6.9		0.11	0.07	0.16	0.12
07/22/00	6.6	4.4	8.6	6.5		0.11	0.07	0.14	0.11
07/23/00	6.5	3.6	5.7	5.3		0.11	0.06	0.10	0.09
07/24/00	0	0	0	0.0	Reading was zero.	0.00	0.00	0.00	0.00
07/25/00	5.5	3.6	5.9	5.0		0.09	0.06	0.10	0.08
07/26/00	6.9	4.3	9.1	6.8		0.11	0.07	0.15	0.11
07/27/00	8.3	4.9	8.5	7.2		0.14	0.08	0.14	0.12
07/28/00	5.8	4.3	9.4	6.5		0.10	0.07	0.16	0.11
07/29/00	6.6	3.7	6.3	5.5		0.11	0.06	0.10	0.09
07/30/00	3.5	2.1	2.8	2.8		0.06	0.03	0.05	0.05
07/31/00	7.3	3.7	7.3	6.1		0.12	0.06	0.12	0.10
08/01/00	3.8	2.9	6.4	4.4		0.06	0.05	0.11	0.07
08/02/00	7.7	4.4	8.2	6.8		0.13	0.07	0.14	0.11

Table A.1. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	6	10	18	Average		6	10	18	Average
08/03/00	7.8	2.2	6.2	5.4		0.13	0.04	0.10	0.09
08/04/00	9.2	4.7	11	8.3		0.15	0.08	0.18	0.14
08/05/00	9	4.9	6.5	6.8		0.15	0.08	0.11	0.11
08/06/00	8	4.4	9.6	7.3		0.13	0.07	0.16	0.12
08/07/00	7.8	4.5	7.8	6.7		0.13	0.08	0.13	0.11
08/08/00	7.5	3.6	6.6	5.9		0.13	0.06	0.11	0.10
08/09/00	3.1	1.4	0	1.5	Reading was zero.	0.05	0.02	0.00	0.02
08/10/00	9.4	4.5	7.8	7.2		0.16	0.08	0.13	0.12
08/11/00	9.7	5.4	10.8	8.6		0.16	0.09	0.18	0.14
08/12/00	11.1	5.3	6.8	7.7		0.19	0.09	0.11	0.13
08/13/00	11.2	5.1	12.2	9.5		0.19	0.08	0.20	0.16
08/14/00	11.3	5.2	7.6	8.0		0.19	0.09	0.13	0.13
08/15/00	12.9	5.8	11.8	10.2		0.21	0.10	0.20	0.17
08/16/00	10.2	4.7	9.2	8.0		0.17	0.08	0.15	0.13
08/17/00	9.6	3.8	4.2	5.9		0.16	0.06	0.07	0.10
08/18/00	7.8	3.1	8	6.3		0.13	0.05	0.13	0.11
08/19/00	8.5	3.4	5.9	5.9		0.14	0.06	0.10	0.10
08/20/00	9.7	3.7	8	7.1		0.16	0.06	0.13	0.12
08/21/00	10.5	4.6	6	7.0		0.18	0.08	0.10	0.12
08/22/00	8.6	3.4	7.2	6.4		0.14	0.06	0.12	0.11
08/23/00	10.1	3.3	8	7.1		0.17	0.06	0.13	0.12
08/24/00	10	3.5	7.6	7.0		0.17	0.06	0.13	0.12
08/25/00	8.8	3.7	3.9	5.5		0.15	0.06	0.07	0.09
08/26/00	10.4	4.1	7.8	7.4		0.17	0.07	0.13	0.12
08/27/00	10.9	3.8	7.9	7.5		0.18	0.06	0.13	0.13
08/28/00	11.7	4.1	8	7.9		0.19	0.07	0.13	0.13
08/29/00	10.5	3.8	4.4	6.2		0.18	0.06	0.07	0.10
08/30/00	11.2	3.7	7.7	7.5		0.19	0.06	0.13	0.13
08/31/00	9.9	3.7	8.1	7.2		0.17	0.06	0.13	0.12
09/01/00	10.2	3.6	4.3	6.0		0.17	0.06	0.07	0.10
09/02/00	11.7	4.3	7.9	8.0		0.19	0.07	0.13	0.13
09/03/00	13.4	4.7	10.1	9.4		0.22	0.08	0.17	0.16
09/04/00	13	4.2	9.1	8.8		0.22	0.07	0.15	0.15
09/05/00	13	3.8	8.4	8.4		0.22	0.06	0.14	0.14
09/06/00	11.1	3.6	7.6	7.4		0.18	0.06	0.13	0.12
09/07/00	15.8	5.9	8	9.9		0.26	0.10	0.13	0.17
09/08/00	11.6	3.7	11.6	9.0		0.19	0.06	0.19	0.15
09/09/00	12.5	4.5	8.9	8.6		0.21	0.08	0.15	0.14
09/10/00	11.1	4.5	8.8	8.1		0.18	0.08	0.15	0.14
09/11/00	13	4.6	7.6	8.4		0.22	0.08	0.13	0.14
09/12/00	14.5	4.5	12.1	10.4		0.24	0.08	0.20	0.17
09/13/00	11.3	4.5	8.1	8.0		0.19	0.08	0.13	0.13
09/14/00	9.8	3.5	7.9	7.1		0.16	0.06	0.13	0.12
09/15/00	11.5	4.4	7.6	7.8		0.19	0.07	0.13	0.13
09/16/00	11.5	4.1	12.8	9.5		0.19	0.07	0.21	0.16
09/17/00	10.6	4.4	4.6	6.5		0.18	0.07	0.08	0.11
09/18/00	11.8	4.2	11.8	9.3		0.20	0.07	0.20	0.15
09/19/00	11.5	5.1	9	8.5		0.19	0.08	0.15	0.14
09/20/00	11.8	4.4	8.1	8.1		0.20	0.07	0.13	0.13
09/21/00	9.4	3.4	8.9	7.2		0.16	0.06	0.15	0.12
09/22/00	8.3	3.3	8.1	6.6		0.14	0.06	0.13	0.11
09/23/00	10.5	3.7	7.7	7.3		0.18	0.06	0.13	0.12
09/24/00	6.7	2.9	8.9	6.2		0.11	0.05	0.15	0.10
09/25/00	7.4	2.4	4.1	4.6		0.12	0.04	0.07	0.08
09/26/00	6.1	2.7	7.2	5.3		0.10	0.04	0.12	0.09
09/27/00	6.9	2.7	4.1	4.6		0.12	0.04	0.07	0.08
09/28/00	8.4	2.7	7.8	6.3		0.14	0.04	0.13	0.11
09/29/00	8.3	2.9	7.9	6.4		0.14	0.05	0.13	0.11
09/30/00	8.4	3.2	7.3	6.3		0.14	0.05	0.12	0.10
10/01/00	10	3.2	11.6	8.3		0.17	0.05	0.19	0.14
10/02/00	10.6	3.8	8.2	7.5		0.18	0.06	0.14	0.13
10/03/00	10.8	4.3	11.4	8.8		0.18	0.07	0.19	0.15
10/04/00	10.8	3.4	8	7.4		0.18	0.06	0.13	0.12
10/05/00	10.4	3.7	7.9	7.3		0.17	0.06	0.13	0.12

Table A.1. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	6	10	18	Average		6	10	18	Average
10/06/00	9	3.9	10.3	7.7		0.15	0.06	0.17	0.13
10/07/00	4.9	1.8	2.9	3.2		0.08	0.03	0.05	0.05
10/08/00	3.3	1.2	3.2	2.6		0.06	0.02	0.05	0.04
10/09/00	3.6	1.4	4.4	3.1		0.06	0.02	0.07	0.05
10/10/00	3.8	1.2	3	2.7		0.06	0.02	0.05	0.04
10/11/00	2.4	1.3	4	2.6		0.04	0.02	0.07	0.04
10/12/00	4.1	1.4	3.2	2.9		0.07	0.02	0.05	0.05
10/13/00	4.5	1.3	3.6	3.1		0.08	0.02	0.06	0.05
10/14/00	4.7	2.5	6.7	4.6		0.08	0.04	0.11	0.08
10/15/00	6.1	2	6.6	4.9		0.10	0.03	0.11	0.08
10/16/00	1.3	0.7	2.9	1.6		0.02	0.01	0.05	0.03
10/17/00	5.2	0.7	3.1	3.0		0.09	0.01	0.05	0.05
10/18/00	0	0	0	0.0	Reading was zero.	0.00	0.00	0.00	0.00
10/19/00	0	0	0	0.0		0.00	0.00	0.00	0.00
10/20/00	0	0	0	0.0		0.00	0.00	0.00	0.00
10/21/00	2.9	0	0	1.0		0.05	0.00	0.00	0.02
10/22/00	3.4	0	0	1.1		0.06	0.00	0.00	0.02
10/23/00	4.4	1.5	0	2.0		0.07	0.03	0.00	0.03
10/24/00	0	0	0	0.0		0.00	0.00	0.00	0.00
10/25/00	0	0	0.1	0.0		0.00	0.00	0.00	0.00
10/26/00	0	0	0	0.0		0.00	0.00	0.00	0.00
10/27/00	0	0	0	0.0		0.00	0.00	0.00	0.00
10/28/00	0	0	0	0.0		0.00	0.00	0.00	0.00
10/29/00	0	0	0	0.0		0.00	0.00	0.00	0.00
10/30/00	0	0	0	0.0		0.00	0.00	0.00	0.00
10/31/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/01/00	1.4	0	0	0.5		0.02	0.00	0.00	0.01
11/02/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/03/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/04/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/05/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/06/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/07/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/08/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/09/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/10/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/11/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/12/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/13/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/14/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/15/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/16/00	3.2	0.4	0	1.2		0.05	0.01	0.00	0.02
11/17/00	1	0.8	0	0.6		0.02	0.01	0.00	0.01
11/18/00	2.1	1.5	0	1.2		0.03	0.03	0.00	0.02
11/19/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/20/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/21/00	2.4	0	0	0.8		0.04	0.00	0.00	0.01
11/22/00	1.2	0	0	0.4		0.02	0.00	0.00	0.01
11/23/00	2.2	2.3	0	1.5		0.04	0.04	0.00	0.03
11/24/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/25/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/26/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/27/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/28/00	1	0	0	0.3		0.02	0.00	0.00	0.01
11/29/00	1.3	0.8	2.5	1.5		0.02	0.01	0.04	0.03
11/30/00	2.3	0	3	1.8		0.04	0.00	0.05	0.03
12/01/00	1.2	0	2.8	1.3		0.02	0.00	0.05	0.02
12/02/00	2.2	0	0	0.7		0.04	0.00	0.00	0.01
12/03/00	1.9	0	2	1.3		0.03	0.00	0.03	0.02
12/04/00	0	0	0	0.0		0.00	0.00	0.00	0.00
12/05/00	1.1	0	2.2	1.1		0.02	0.00	0.04	0.02
12/06/00	1.1	0	0	0.4		0.02	0.00	0.00	0.01
12/07/00	1.2	1.4	3	1.9		0.02	0.02	0.05	0.03
12/08/00	2.1	0.7	0	0.9		0.04	0.01	0.00	0.02

Table A.1. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	6	10	18	Average		6	10	18	Average
12/09/00	1.3	0	2.7	1.3		0.02	0.00	0.04	0.02
12/10/00	1.2	0.7	3	1.6		0.02	0.01	0.05	0.03
12/11/00	1.3	0.8	0	0.7		0.02	0.01	0.00	0.01
12/12/00	3.2	2.1	3.8	3.0		0.05	0.04	0.06	0.05
12/13/00	3.3	2	0.1	1.8		0.05	0.03	0.00	0.03
12/14/00	0	0.7	3.1	1.3		0.00	0.01	0.05	0.02
12/15/00	0	0	0	0.0	Reading was zero.	0.00	0.00	0.00	0.00
12/16/00	1.2	0	4	1.7		0.02	0.00	0.07	0.03
12/17/00	2.3	1.4	0.1	1.3		0.04	0.02	0.00	0.02
12/18/00	1.2	0.8	3.4	1.8		0.02	0.01	0.06	0.03
12/19/00	3.3	2.3	4	3.2		0.05	0.04	0.07	0.05
12/20/00	0.7	0.7	0	0.5		0.01	0.01	0.00	0.01
12/21/00	1.9	0.8	2.9	1.9		0.03	0.01	0.05	0.03
12/22/00	2.1	1.5	2.8	2.1		0.04	0.03	0.05	0.04
12/23/00	0.9	0.7	3.8	1.8		0.01	0.01	0.06	0.03
12/24/00	1.1	0.8	0.1	0.7		0.02	0.01	0.00	0.01
12/25/00	1.9	0.7	0	0.9		0.03	0.01	0.00	0.01
12/26/00					Heavy snow.	0.00	0.00	0.00	0.00
12/27/00						0.00	0.00	0.00	0.00
12/28/00	2.4	1.9	5.8	3.4		0.04	0.03	0.10	0.06
12/29/00	0.5	0	1.3	0.6		0.01	0.00	0.02	0.01
12/30/00	0	0	0	0.0		0.00	0.00	0.00	0.00
12/31/00	0	2.3	0	0.8		0.00	0.04	0.00	0.01
01/01/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/02/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/03/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/04/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/05/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/06/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/07/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/08/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/09/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/10/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/11/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/12/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/13/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/14/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/15/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/16/01	1		0	0.5	Zero at 18, missed at 10.	0.02	0.00	0.00	0.01
01/17/01	3.1		0	1.5		0.05	0.00	0.00	0.02
01/18/01	0	Off Line	0	0.0	Off line at 10.	0.00	Off Line	0.00	0.00
01/19/01	2	Off Line	0	1.0		0.03	Off Line	0.00	0.02
01/20/01	1.9	Off Line	0	1.0		0.03	Off Line	0.00	0.02
01/21/01	0	Off Line	3.1	1.6		0.00	Off Line	0.05	0.03
01/22/01	1.1	Off Line	0	0.5		0.02	Off Line	0.00	0.01
01/23/01	0.9	Off Line	3	2.0		0.02	Off Line	0.05	0.03
01/24/01	2.5	Off Line	0	1.3		0.04	Off Line	0.00	0.02
01/25/01	0	Off Line	2.5	1.3		0.00	Off Line	0.04	0.02
01/26/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
01/27/01	2.5	Off Line	2.7	2.6		0.04	Off Line	0.04	0.04
01/28/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
01/29/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
01/30/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
01/31/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/01/01	0.3	Off Line	0.2	0.3		0.01	Off Line	0.00	0.00
02/02/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/03/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/04/01	0.4	Off Line	0	0.2		0.01	Off Line	0.00	0.00
02/05/01	1.6	Off Line	0.1	0.9		0.03	Off Line	0.00	0.01
02/06/01	0.9	Off Line	0	0.5		0.02	Off Line	0.00	0.01
02/07/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/08/01	2.6	Off Line	0.1	1.3		0.04	Off Line	0.00	0.02
02/09/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/10/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00

Table A.1. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	6	10	18	Average		6	10	18	Average
02/11/01	1.9	Off Line	0	1.0		0.03	Off Line	0.00	0.02
02/12/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/13/01	0.8	Off Line	0	0.4		0.01	Off Line	0.00	0.01
02/14/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/15/01	1.4	Off Line	2.5	2.0		0.02	Off Line	0.04	0.03
02/16/01	1.3	Off Line	0	0.7		0.02	Off Line	0.00	0.01
02/17/01	1	Off Line	0	0.5		0.02	Off Line	0.00	0.01
02/18/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/19/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/20/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/21/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/22/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/23/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/24/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/25/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/26/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/27/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
02/28/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
03/01/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
03/02/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
03/03/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
03/04/01	0	Off Line	0	0.0		0.00	Off Line	0.00	0.00
03/05/01	0	Off Line	Off Line	0.0	Off line at 18.	0.00	Off Line	Off Line	0.00
03/06/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/07/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/08/01	1.5	Off Line	Off Line	1.5		0.03	Off Line	Off Line	0.03
03/09/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/10/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/11/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/12/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/13/01	0.8	Off Line	Off Line	0.8		0.01	Off Line	Off Line	0.01
03/14/01	3	Off Line	Off Line	3.0		0.05	Off Line	Off Line	0.05
03/15/01	5.9	Off Line	Off Line	5.9		0.10	Off Line	Off Line	0.10
03/16/01	8	Off Line	Off Line	8.0		0.13	Off Line	Off Line	0.13
03/17/01	3.5	Off Line	Off Line	3.5		0.06	Off Line	Off Line	0.06
03/18/01	2	Off Line	Off Line	2.0		0.03	Off Line	Off Line	0.03
03/19/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/20/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/21/01	3.3	Off Line	Off Line	3.3		0.06	Off Line	Off Line	0.06
03/22/01	5	Off Line	Off Line	5.0		0.08	Off Line	Off Line	0.08
03/23/01	5.7	Off Line	Off Line	5.7		0.10	Off Line	Off Line	0.10
03/24/01	3.4	Off Line	Off Line	3.4		0.06	Off Line	Off Line	0.06
03/25/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/26/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/27/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/28/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/29/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/30/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
03/31/01	2.2	Off Line	Off Line	2.2		0.04	Off Line	Off Line	0.04
04/01/01	2.9	Off Line	Off Line	2.9		0.05	Off Line	Off Line	0.05
04/02/01	5.4	Off Line	Off Line	5.4		0.09	Off Line	Off Line	0.09
04/03/01	7.6	Off Line	Off Line	7.6		0.13	Off Line	Off Line	0.13
04/04/01	8.2	Off Line	Off Line	8.2		0.14	Off Line	Off Line	0.14
04/05/01	7.1	Off Line	Off Line	7.1		0.12	Off Line	Off Line	0.12
04/06/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
04/07/01	2.5	Off Line	Off Line	2.5		0.04	Off Line	Off Line	0.04
04/08/01	8.4	Off Line	Off Line	8.4		0.14	Off Line	Off Line	0.14
04/09/01	9.6	Off Line	Off Line	9.6		0.16	Off Line	Off Line	0.16
04/10/01	8.3	Off Line	Off Line	8.3		0.14	Off Line	Off Line	0.14
04/11/01	5.4	Off Line	Off Line	5.4		0.09	Off Line	Off Line	0.09
04/12/01	10.4	Off Line	Off Line	10.4		0.17	Off Line	Off Line	0.17
04/13/01	9.9	Off Line	Off Line	9.9		0.17	Off Line	Off Line	0.17
04/14/01	7.5	Off Line	Off Line	7.5		0.13	Off Line	Off Line	0.13
04/15/01	11.8	Off Line	Off Line	11.8		0.20	Off Line	Off Line	0.20

Table A.1. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	6	10	18	Average		6	10	18	Average
04/16/01	11.2	Off Line	Off Line	11.2		0.19	Off Line	Off Line	0.19
04/17/01	9.4	Off Line	Off Line	9.4		0.16	Off Line	Off Line	0.16
04/18/01	5.3	Off Line	Off Line	5.3		0.09	Off Line	Off Line	0.09
04/19/01	9.2	Off Line	Off Line	9.2		0.15	Off Line	Off Line	0.15
04/20/01	13.2	Off Line	Off Line	13.2		0.22	Off Line	Off Line	0.22
04/21/01	13.4	Off Line	Off Line	13.4		0.22	Off Line	Off Line	0.22
04/22/01	12.8	Off Line	Off Line	12.8		0.21	Off Line	Off Line	0.21
04/23/01	15	Off Line	Off Line	15.0		0.25	Off Line	Off Line	0.25
04/24/01	10.4	Off Line	Off Line	10.4		0.17	Off Line	Off Line	0.17
04/25/01	9.5	Off Line	Off Line	9.5		0.16	Off Line	Off Line	0.16
04/26/01	10.5	Off Line	Off Line	10.5		0.18	Off Line	Off Line	0.18
04/27/01	11.4	Off Line	Off Line	11.4		0.19	Off Line	Off Line	0.19
04/28/01	10.7	Off Line	Off Line	10.7		0.18	Off Line	Off Line	0.18
04/29/01	11.4	Off Line	Off Line	11.4		0.19	Off Line	Off Line	0.19
04/30/01	11.6	Off Line	Off Line	11.6		0.19	Off Line	Off Line	0.19
05/01/01	10.9	Off Line	Off Line	10.9		0.18	Off Line	Off Line	0.18
05/02/01	14.4	Off Line	Off Line	14.4		0.24	Off Line	Off Line	0.24
05/03/01	11.4	Off Line	Off Line	11.4		0.19	Off Line	Off Line	0.19
05/04/01	4.5	Off Line	Off Line	4.5		0.08	Off Line	Off Line	0.08
05/05/01	0	Off Line	Off Line	0.0		0.00	Off Line	Off Line	0.00
05/06/01	3.5	Off Line	Off Line	3.5		0.06	Off Line	Off Line	0.06
05/07/01	11.9	Off Line	Off Line	11.9		0.20	Off Line	Off Line	0.20
05/08/01	8.1	Off Line	Off Line	8.1		0.13	Off Line	Off Line	0.13
05/09/01	9	Off Line	Off Line	9.0		0.15	Off Line	Off Line	0.15
05/10/01	13	Off Line	Off Line	13.0		0.22	Off Line	Off Line	0.22
05/11/01	14.4	Off Line	Off Line	14.4		0.24	Off Line	Off Line	0.24
05/12/01	14.5	Off Line	Off Line	14.5		0.24	Off Line	Off Line	0.24
05/13/01	7.9	Off Line	Off Line	7.9		0.13	Off Line	Off Line	0.13
05/14/01	13.4	Off Line	Off Line	13.4		0.22	Off Line	Off Line	0.22
05/15/01	16.2	Off Line	Off Line			0.27	Off Line	Off Line	0.27
05/16/01	20.7	Off Line	Off Line			0.35	Off Line	Off Line	0.35
05/17/01	19.3	Off Line	Off Line			0.32	Off Line	Off Line	0.32
05/18/01	8.8	Off Line	Off Line			0.15	Off Line	Off Line	0.15
05/19/01	10	Off Line	Off Line			0.17	Off Line	Off Line	0.17
05/20/01	10	Off Line	Off Line			0.17	Off Line	Off Line	0.17
05/21/01	8	Off Line	Off Line			0.13	Off Line	Off Line	0.13
05/22/01	10.1	Off Line	Off Line			0.17	Off Line	Off Line	0.17
05/23/01	11.2	Off Line	Off Line			0.19	Off Line	Off Line	0.19
05/24/01	14.3	Off Line	Off Line			0.24	Off Line	Off Line	0.24
05/25/01	14.6	Off Line	Off Line			0.24	Off Line	Off Line	0.24
05/26/01	15.4	Off Line	Off Line			0.26	Off Line	Off Line	0.26
05/27/01	12	Off Line	Off Line			0.20	Off Line	Off Line	0.20
05/28/01	18.4	Off Line	Off Line			0.31	Off Line	Off Line	0.31
05/29/01	9.4	Off Line	Off Line			0.16	Off Line	Off Line	0.16
05/30/01	12.7	Off Line	Off Line			0.21	Off Line	Off Line	0.21
05/31/01	14	Off Line	Off Line			0.23	Off Line	Off Line	0.23

Table A.2. Wastewater ETW Units (5, 8, 17) Loading Data

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	5	8	17	Average		5	8	17	Average
10/02/99	7.7	37.0	49.0	31.2		0.13	0.62	0.82	0.52
10/03/99	2.5	14.8	20.5	12.6		0.04	0.25	0.34	0.21
10/04/99	7.6	6.4	10.2	8.1		0.13	0.11	0.17	0.13
10/05/99	5.4	20.8	13.5	13.2		0.09	0.35	0.23	0.22
10/06/99	6.3	9.4	10.9	8.9		0.11	0.16	0.18	0.15
10/07/99	8.1	10.1	13.1	10.4		0.14	0.17	0.22	0.17
10/08/99	7.5	9.8	12.3	9.9		0.13	0.16	0.21	0.16
10/09/99	5.0	5.3	9.2	6.5		0.08	0.09	0.15	0.11
10/10/99	6.5	7.7	6.8	7.0		0.11	0.13	0.11	0.12
10/11/99	4.5	8.5	10.3	7.8		0.08	0.14	0.17	0.13
10/12/99	6.5	6.4	9.0	7.3		0.11	0.11	0.15	0.12
10/13/99	6.7	10.5	10.3	9.2		0.11	0.18	0.17	0.15
10/14/99	8.3	8.4	10.4	9.0		0.14	0.14	0.17	0.15
10/15/99	5.9	5.5	11.6	7.7		0.10	0.09	0.19	0.13
10/16/99	8.5	11.1	13.4	11.0		0.14	0.19	0.22	0.18
10/17/99	6.3	11.7	11.3	9.8		0.11	0.20	0.19	0.16
10/18/99	0	0	1.5	0.5		0.00	0.00	0.03	0.01
10/19/99	0	3.9	0.4	1.4		0.00	0.07	0.01	0.02
10/20/99	0.2	8	5.3	4.5		0.00	0.13	0.09	0.08
10/21/99	5.3	8.4	10.1	7.9		0.09	0.14	0.17	0.13
10/22/99	6.9	9.7	9.2	8.6		0.12	0.16	0.15	0.14
10/23/99	7.5	11.9	11.3	10.2		0.13	0.20	0.19	0.17
10/24/99	7.4	11	10.8	9.7		0.12	0.18	0.18	0.16
10/25/99	7.9	11.5	11.9	10.4		0.13	0.19	0.20	0.17
10/26/99	7.6	11.5	11.9	10.3		0.13	0.19	0.20	0.17
10/27/99	5.4	11.8	9.9	9.0		0.09	0.20	0.17	0.15
10/28/99	7.3	10.8	10.5	9.5		0.12	0.18	0.18	0.16
10/29/99	7.5	10.6	10.4	9.5		0.13	0.18	0.17	0.16
10/30/99	7.6	12.8	10.5	10.3		0.13	0.21	0.18	0.17
10/31/99	6.8	11.8	11.8	10.1		0.11	0.20	0.20	0.17
11/01/99	6.6	12.1	11.3	10.0		0.11	0.20	0.19	0.17
11/02/99	7.3	14	11.6	11.0		0.12	0.23	0.19	0.18
11/03/99	6.9	10.4	10.5	9.3		0.12	0.17	0.18	0.15
11/04/99	7.6	11	2.4	7.0		0.13	0.18	0.04	0.12
11/05/99	5.3	11.8	0.5	5.9		0.09	0.20	0.01	0.10
11/06/99	7.1	12.5	28.2	15.9		0.12	0.21	0.47	0.27
11/07/99	7.1	9.8	8.7	8.5		0.12	0.16	0.15	0.14
11/08/99	5.2	9.6	8.9	7.9		0.09	0.16	0.15	0.13
11/09/99	4.9	12.6	10.3	9.3		0.08	0.21	0.17	0.15
11/10/99	7.1	12.4	10.1	9.9		0.12	0.21	0.17	0.16
11/11/99	6.4	12.3	10.6	9.8		0.11	0.21	0.18	0.16
11/12/99	7.7	13.2	9.6	10.2		0.13	0.22	0.16	0.17
11/13/99	4.5	12	9.2	8.6		0.08	0.20	0.15	0.14
11/14/99	4.9	12.5	10.2	9.2		0.08	0.21	0.17	0.15
11/15/99	7.4	12.3	9.3	9.7		0.12	0.21	0.16	0.16
11/16/99	4.7	10.1	10.1	8.3		0.08	0.17	0.17	0.14
11/17/99	7.5	13.5	9.9	10.3		0.13	0.23	0.17	0.17
11/18/99	7.5	14.3	11.4	11.1		0.13	0.24	0.19	0.18
11/19/99	7.9	17.5	13.9	13.1		0.13	0.29	0.23	0.22
11/20/99	5.2	9.5	8.7	7.8		0.09	0.16	0.15	0.13
11/21/99	5.3	13.3	10.7	9.8		0.09	0.22	0.18	0.16
11/22/99	7.3	12.7	9.2	9.7		0.12	0.21	0.15	0.16
11/23/99	7.5	14.3	11.6	11.1		0.13	0.24	0.19	0.19
11/24/99	5.3	11.1	9.1	8.5		0.09	0.19	0.15	0.14
11/25/99	3.5	6.7	6.8	5.7		0.06	0.11	0.11	0.09
11/26/99	5	10.5	6.7	7.4		0.08	0.18	0.11	0.12
11/27/99	5.7	10.5	9.1	8.4		0.10	0.18	0.15	0.14
11/28/99	5.9	12	11.2	9.7		0.10	0.20	0.19	0.16
11/29/99	6.6	13.8	8.8	9.7		0.11	0.23	0.15	0.16
11/30/99	3.1	7.6	6.9	5.9		0.05	0.13	0.12	0.10
12/01/99	5.3	7.5	7.6	6.8		0.09	0.13	0.13	0.11
12/02/99	6.1	12.5	6.9	8.5		0.10	0.21	0.12	0.14

Table A.2. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	5	8	17	Average		5	8	17	Average
12/03/99	5	13.3	9.5	9.3		0.08	0.22	0.16	0.15
12/04/99	6.4	8.3	8	7.6		0.11	0.14	0.13	0.13
12/05/99			0.3	0.3	High reading at 5, zero at 8.	0.00	0.00	0.01	0.00
12/06/99		6.5	0.6	3.6	Relay was defective at 5.	0.00	0.11	0.01	0.04
12/07/99	0.1	5.7	2.4	2.7		0.00	0.10	0.04	0.05
12/08/99	1.5	10.7	7.6	6.6		0.03	0.18	0.13	0.11
12/09/99	1.7	3.5	6.2	3.8		0.03	0.06	0.10	0.06
12/10/99	0.2	0.3	0.9	0.5		0.00	0.01	0.02	0.01
12/11/99	0.4	7.3	2.1	3.3		0.01	0.12	0.04	0.05
12/12/99	0.6	6.7	7	4.8		0.01	0.11	0.12	0.08
12/13/99	5	7.6	7.7	6.8		0.08	0.13	0.13	0.11
12/14/99	4.1	8.5	7.7	6.8		0.07	0.14	0.13	0.11
12/15/99	8	12.7	11	10.6		0.13	0.21	0.18	0.18
12/16/99	3.5	6.5	6.7	5.6		0.06	0.11	0.11	0.09
12/17/99	3.7	6.4	5.3	5.1		0.06	0.11	0.09	0.09
12/18/99	4	7.3	7.5	6.3		0.07	0.12	0.13	0.10
12/19/99	3.9	7.4	6	5.8		0.07	0.12	0.10	0.10
12/20/99	4.2	8.3	6.3	6.3		0.07	0.14	0.11	0.10
12/21/99	4.2	8.3	6.3	6.3		0.07	0.14	0.11	0.10
12/22/99	3.6	0	2.8	2.1		0.06	0.00	0.05	0.04
12/23/99	2.2	8.5	6.3	5.7		0.04	0.14	0.11	0.09
12/24/99	3.6	7	5.7	5.4		0.06	0.12	0.10	0.09
12/25/99	2.4	3.6	4.7	3.6		0.04	0.06	0.08	0.06
12/26/99	3.6	9.1	4.2	5.6		0.06	0.15	0.07	0.09
12/27/99	2.4	4.2	5.9	4.2		0.04	0.07	0.10	0.07
12/28/99	4.2	7.9	7.3	6.5		0.07	0.13	0.12	0.11
12/29/99	5.9	8.8	5.1	6.6		0.10	0.15	0.09	0.11
12/30/99	4.3	8.9	8.5	7.2		0.07	0.15	0.14	0.12
12/31/99	4.1	11.8	8.5	8.1		0.07	0.20	0.14	0.14
01/01/00	6.1	8.3	6.3	6.9		0.10	0.14	0.11	0.12
01/02/00	4.2	12	8.7	8.3		0.07	0.20	0.15	0.14
01/03/00	6.2	8.5	8.6	7.8		0.10	0.14	0.14	0.13
01/04/00	6.5	10.9	10.8	9.4		0.11	0.18	0.18	0.16
01/05/00	5.5	7.5	6.6	6.5		0.09	0.13	0.11	0.11
01/06/00	2.4	6.7	6.4	5.2		0.04	0.11	0.11	0.09
01/07/00	5.3	7.2	6.5	6.3		0.09	0.12	0.11	0.11
01/08/00	3.4	4.9	1.3	3.2		0.06	0.08	0.02	0.05
01/09/00	2.4	7.2	7.3	5.6		0.04	0.12	0.12	0.09
01/10/00	6.6	11.4	8.8	8.9		0.11	0.19	0.15	0.15
01/11/00	4.8	8	9	7.3		0.08	0.13	0.15	0.12
01/12/00	4.8	8	6.8	6.5		0.08	0.13	0.11	0.11
01/13/00	7.2	11.6	8.5	9.1		0.12	0.19	0.14	0.15
01/14/00	4.7	11.9	8	8.2		0.08	0.20	0.13	0.14
01/15/00	4.7	7.1	5.9	5.9		0.08	0.12	0.10	0.10
01/16/00	2.5	7.6	7.3	5.8		0.04	0.13	0.12	0.10
01/17/00	4.8	7.7	6.7	6.4		0.08	0.13	0.11	0.11
01/18/00	5	8	7.6	6.9		0.08	0.13	0.13	0.11
01/19/00	5	7.8	7.4	6.7		0.08	0.13	0.12	0.11
01/20/00	5	11.6	10	8.9		0.08	0.19	0.17	0.15
01/21/00	1.7	2.2	3.9	2.6		0.03	0.04	0.07	0.04
01/22/00	10.6	8.1	9.5	9.4		0.18	0.14	0.16	0.16
01/23/00	4	5.4	5.9	5.1		0.07	0.09	0.10	0.09
01/24/00	5.1	5.5	6.9	5.8		0.09	0.09	0.12	0.10
01/25/00	5.8	4	8.1	6.0		0.10	0.07	0.14	0.10
01/26/00	4.2	5.6	7.4	5.7		0.07	0.09	0.12	0.10
01/27/00	5.7	6.2	7.7	6.5		0.10	0.10	0.13	0.11
01/28/00	3.4	2.1	5.8	3.8		0.06	0.04	0.10	0.06
01/29/00	3.8	6.2	5.5	5.2		0.06	0.10	0.09	0.09
01/30/00	5.6	3.5	6.8	5.3		0.09	0.06	0.11	0.09
01/31/00	3.3	3.4	5.2	4.0		0.06	0.06	0.09	0.07
02/01/00	3.1	4	4.3	3.8		0.05	0.07	0.07	0.06
02/02/00	1.1	0	1.9	1.0		0.02	0.00	0.03	0.02
02/03/00	2.7	4.1	6.1	4.3		0.05	0.07	0.10	0.07

Table A.2. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	5	8	17	Average		5	8	17	Average
02/04/00	7.5	6.2	8.7	7.5		0.13	0.10	0.15	0.12
02/05/00	3.1	6.6	7.1	5.6		0.05	0.11	0.12	0.09
02/06/00	5.3	4.4	6.2	5.3		0.09	0.07	0.10	0.09
02/07/00	5.2	6.8	7.4	6.5		0.09	0.11	0.12	0.11
02/08/00	5.2	6.3	7.6	6.4		0.09	0.11	0.13	0.11
02/09/00	4.8	6.2	9.1	6.7		0.08	0.10	0.15	0.11
02/10/00	6.1	7.7	9.4	7.7		0.10	0.13	0.16	0.13
02/11/00	6.1	7.7	9.4	7.7		0.10	0.13	0.16	0.13
02/12/00	5.6	5.8	7.6	6.3		0.09	0.10	0.13	0.11
02/13/00	5.5	8.3	8.5	7.4		0.09	0.14	0.14	0.12
02/14/00	7.4	8.1	9.8	8.4		0.12	0.14	0.16	0.14
02/15/00	7.5	6.5	9.8	7.9		0.13	0.11	0.16	0.13
02/16/00	7.1	10.8	11.1	9.7		0.12	0.18	0.19	0.16
02/17/00	5	6.5	8.5	6.7		0.08	0.11	0.14	0.11
02/18/00	7	10.9	11.9	9.9		0.12	0.18	0.20	0.17
02/19/00	7.4	6.5	8.4	7.4		0.12	0.11	0.14	0.12
02/20/00	5.1	6.8	7.1	6.3		0.09	0.11	0.12	0.11
02/21/00	5.4	6.5	8.2	6.7		0.09	0.11	0.14	0.11
02/22/00	5.6	6.8	8.3	6.9		0.09	0.11	0.14	0.12
02/23/00	4.6	8.3	9.1	7.3		0.08	0.14	0.15	0.12
02/24/00	6.9	8.1	11	8.7		0.12	0.14	0.18	0.14
02/25/00	7	10.3	11	9.4		0.12	0.17	0.18	0.16
02/26/00	9.4	10.1	12	10.5		0.16	0.17	0.20	0.18
02/27/00	8.5	9.8	11.6	10.0		0.14	0.16	0.19	0.17
02/28/00	5.8	9.1	8.8	7.9		0.10	0.15	0.15	0.13
02/29/00	7.2	9.8	11.4	9.5		0.12	0.16	0.19	0.16
03/01/00	6.9	9.2	10.8	9.0		0.12	0.15	0.18	0.15
03/02/00	7	7.6	8.9	7.8		0.12	0.13	0.15	0.13
03/03/00	6.4	9.2	10.8	8.8		0.11	0.15	0.18	0.15
03/04/00	4.9	7.6	9.8	7.4		0.08	0.13	0.16	0.12
03/05/00	6.9	7.5	9.6	8.0		0.12	0.13	0.16	0.13
03/06/00	9.2	9.6	10.6	9.8		0.15	0.16	0.18	0.16
03/07/00	6.7	10.3	10.5	9.2		0.11	0.17	0.18	0.15
03/08/00	6.8	9.9	11.6	9.4		0.11	0.17	0.19	0.16
03/09/00	9.1	12.1	13.6	11.6		0.15	0.20	0.23	0.19
03/10/00	6.6	7.8	10.3	8.2		0.11	0.13	0.17	0.14
03/11/00	9.2	12.2	11.5	11.0		0.15	0.20	0.19	0.18
03/12/00	6.4	8.5	11.2	8.7		0.11	0.14	0.19	0.15
03/13/00	8.9	10.4	9.8	9.7		0.15	0.17	0.16	0.16
03/14/00	4.3	8.4	8.5	7.1		0.07	0.14	0.14	0.12
03/15/00	6.6	8.6	9.3	8.2		0.11	0.14	0.16	0.14
03/16/00	10.2	14	12.7	12.3		0.17	0.23	0.21	0.21
03/17/00	7.1	7.7	8.1	7.6		0.12	0.13	0.14	0.13
03/18/00	4.1	7	8.9	6.7		0.07	0.12	0.15	0.11
03/19/00	8.2	10.3	10.8	9.8		0.14	0.17	0.18	0.16
03/20/00	6.8	10.2	10.7	9.2		0.11	0.17	0.18	0.15
03/21/00	10.9	12.7	14.7	12.8		0.18	0.21	0.25	0.21
03/22/00	5.4	4	5.2	4.9		0.09	0.07	0.09	0.08
03/23/00	0	0	0.9	0.3		0.00	0.00	0.02	0.01
03/24/00	0	2.5	0.9	1.1		0.00	0.04	0.02	0.02
03/25/00	0	11.4	3.3	4.9		0.00	0.19	0.06	0.08
03/26/00	2.9	8.9	10	7.3		0.05	0.15	0.17	0.12
03/27/00	10.3	15.9	13.8	13.3		0.17	0.27	0.23	0.22
03/28/00	8.4	13.3	13.5	11.7		0.14	0.22	0.23	0.20
03/29/00	11.5	17.7	15.8	15.0		0.19	0.30	0.26	0.25
03/30/00	10.1	13.5	14.5	12.7		0.17	0.23	0.24	0.21
03/31/00	9.7	12.8	13.7	12.1		0.16	0.21	0.23	0.20
04/01/00	0	3	0.5	1.2		0.00	0.05	0.01	0.02
04/02/00	0.8	0	0.8	0.5		0.01	0.00	0.01	0.01
04/03/00	0.6	8.3	0.6	3.2		0.01	0.14	0.01	0.05
04/04/00	3.2	11.3	9.9	8.1		0.05	0.19	0.17	0.14
04/05/00	8.5	12.6	12.5	11.2		0.14	0.21	0.21	0.19
04/06/00	12.7	18.2	19.4	16.8		0.21	0.30	0.32	0.28
04/07/00	17.1	20	19.1	18.7		0.29	0.33	0.32	0.31

Table A.2. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	5	8	17	Average		5	8	17	Average
04/08/00	15	18	17.5	16.8		0.25	0.30	0.29	0.28
04/09/00	10.3	11.4	14.4	12.0		0.17	0.19	0.24	0.20
04/10/00	12.4	16.9	17.5	15.6		0.21	0.28	0.29	0.26
04/11/00	14.5	16.7	17.1	16.1		0.24	0.28	0.29	0.27
04/12/00	5.5	3.7	5.4	4.9		0.09	0.06	0.09	0.08
04/13/00	3.3	5.4	4.6	4.4		0.06	0.09	0.08	0.07
04/14/00	8.8	15.2	15.9	13.3		0.15	0.25	0.27	0.22
04/15/00	17.4	22.4	22.3	20.7		0.29	0.37	0.37	0.35
04/16/00	17.4	22.3	21.1	20.3		0.29	0.37	0.35	0.34
04/17/00	15.4	16.3	17	16.2		0.26	0.27	0.28	0.27
04/18/00	13.1	18.9	19.3	17.1		0.22	0.32	0.32	0.29
04/19/00	20.2	24.9	23.8	23.0		0.34	0.42	0.40	0.38
04/20/00	22.5	27.9	25.8	25.4		0.38	0.47	0.43	0.42
04/21/00	17.8	22.2	19.2	19.7		0.30	0.37	0.32	0.33
04/22/00	19.8	23.7	23.9	22.5		0.33	0.40	0.40	0.37
04/23/00	20.7	26.1	23.5	23.4		0.35	0.44	0.39	0.39
04/24/00	22	26.3	22.9	23.7		0.37	0.44	0.38	0.40
04/25/00	18	22.1	19.3	19.8		0.30	0.37	0.32	0.33
04/26/00	18.2	24.3	22.2	21.6		0.30	0.41	0.37	0.36
04/27/00	22.8	28.2	26.4	25.8		0.38	0.47	0.44	0.43
04/28/00	11.5	12.9	15.2	13.2		0.19	0.22	0.25	0.22
04/29/00	11	14.7	10.9	12.2		0.18	0.25	0.18	0.20
04/30/00	2.2	12.5	1.4	5.4		0.04	0.21	0.02	0.09
05/01/00	13.1	16.9	16	15.3		0.22	0.28	0.27	0.26
05/02/00	10.7	14.4	13.2	12.8		0.18	0.24	0.22	0.21
05/03/00	8.7	13.1	10.8	10.9		0.15	0.22	0.18	0.18
05/04/00	13	14.6	14.4	14.0		0.22	0.24	0.24	0.23
05/05/00	10.8	15.9	13.4	13.4		0.18	0.27	0.22	0.22
05/06/00	16.1	21.5	18.6	18.7		0.27	0.36	0.31	0.31
05/07/00	21	28.6	26.1	25.2		0.35	0.48	0.43	0.42
05/08/00	22.6	28.2	25.5	25.4		0.38	0.47	0.43	0.42
05/09/00	20.6	28.9	22.2	23.9		0.34	0.48	0.37	0.40
05/10/00	13.7	20	16.9	16.9		0.23	0.33	0.28	0.28
05/11/00	22.2	28.8	23	24.7		0.37	0.48	0.38	0.41
05/12/00	26.9	38.9	29.6	31.8		0.45	0.65	0.49	0.53
05/13/00	15.7	19.1	16.3	17.0		0.26	0.32	0.27	0.28
05/14/00	15.2	22	17.7	18.3		0.25	0.37	0.30	0.31
05/15/00	8.9	24.7	19.9	17.8		0.15	0.41	0.33	0.30
05/16/00	12.1	16.8	15	14.6		0.20	0.28	0.25	0.24
05/17/00	11.5	19.3	16.6	15.8		0.19	0.32	0.28	0.26
05/18/00	13.7	21.6	19.6	18.3		0.23	0.36	0.33	0.31
05/19/00	9.1	15	13	12.4		0.15	0.25	0.22	0.21
05/20/00	5.4	7.1	7.4	6.6		0.09	0.12	0.12	0.11
05/21/00	4.7	10.8	9.5	8.3		0.08	0.18	0.16	0.14
05/22/00	9.1	16.5	14.8	13.5		0.15	0.28	0.25	0.22
05/23/00	13.6	24	19.1	18.9		0.23	0.40	0.32	0.32
05/24/00	18.4	28.7	24.5	23.9		0.31	0.48	0.41	0.40
05/25/00	13.8	23.5	21.4	19.6		0.23	0.39	0.36	0.33
05/26/00	10.3	17.1	14.5	14.0		0.17	0.28	0.24	0.23
05/27/00	14	22.5	19.7	18.7		0.23	0.38	0.33	0.31
05/28/00	13.7	22.7	19.9	18.8		0.23	0.38	0.33	0.31
05/29/00	14.1	20.7	18.7	17.8		0.23	0.34	0.31	0.30
05/30/00	16.1	26.4	24.3	22.3		0.27	0.44	0.41	0.37
05/31/00	17.7	27.9	24.7	23.4		0.30	0.47	0.41	0.39
06/01/00	15.8	27.6	24.3	22.6		0.26	0.46	0.41	0.38
06/02/00	8.2	10.8	9.1	9.4		0.14	0.18	0.15	0.16
06/03/00	0	5	0	1.7		0.00	0.08	0.00	0.03
06/04/00	1.9	14.5	4.5	7.0		0.03	0.24	0.08	0.12
06/05/00	9.8	19.6	15.5	15.0		0.16	0.33	0.26	0.25
06/06/00	19.1	17.3	15.3	17.2		0.32	0.29	0.25	0.29
06/07/00	9.3	23.6	19.4	17.4		0.16	0.39	0.32	0.29
06/08/00	15.1	26.9	23.6	21.9		0.25	0.45	0.39	0.36
06/09/00	15.4	24	22.5	20.6		0.26	0.40	0.38	0.34
06/10/00	10.7	15.8	16.2	14.2		0.18	0.26	0.27	0.24

Table A.2. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	5	8	17	Average		5	8	17	Average
06/11/00	0.8	17.4	7	8.4		0.01	0.29	0.12	0.14
06/12/00	7	10.6	10.1	9.2		0.12	0.18	0.17	0.15
06/13/00	0	10.3	0	3.4		0.00	0.17	0.00	0.06
06/14/00	11.5	26.6	22.6	20.2		0.19	0.44	0.38	0.34
06/15/00	13.8	21.2	20.9	18.6		0.23	0.35	0.35	0.31
06/16/00	16.7	28.3	24.7	23.2		0.28	0.47	0.41	0.39
06/17/00	16	24.8	22.4	21.1		0.27	0.41	0.37	0.35
06/18/00	0	0	0	0.0	Reading was zero, in error.	0.00	0.00	0.00	0.00
06/19/00	0	0	0	0.0	Reading was zero, in error.	0.00	0.00	0.00	0.00
06/20/00	0	8	0	2.7	Reading was zero, in error.	0.00	0.13	0.00	0.04
06/21/00	9.3	22.4	14	15.2		0.16	0.37	0.23	0.25
06/22/00	7.9	22.5	20.4	16.9		0.13	0.38	0.34	0.28
06/23/00	12.7	21	18.1	17.3		0.21	0.35	0.30	0.29
06/24/00	12.7	23.4	20.1	18.7		0.21	0.39	0.33	0.31
06/25/00	16.1	24.2	22.8	21.0		0.27	0.40	0.38	0.35
06/26/00	15.3	24.1	20.4	19.9		0.26	0.40	0.34	0.33
06/27/00	7.8	12.6	12.1	10.8		0.13	0.21	0.20	0.18
06/28/00	12.3	17.7	17.7	15.9		0.20	0.29	0.29	0.26
06/29/00	8.2	12	10	10.1		0.14	0.20	0.17	0.17
06/30/00	0	1.6	0	0.5	Reading was zero, in error.	0.00	0.03	0.00	0.01
07/01/00	0	5.4	0	1.8	Reading was zero, in error.	0.00	0.09	0.00	0.03
07/02/00	2.6	1.7	8.4	4.2		0.04	0.03	0.14	0.07
07/03/00	11.4	59	19.8	30.1		0.19	0.98	0.33	0.50
07/04/00	8.3	2.6	25.2	12.0		0.14	0.04	0.42	0.20
07/05/00	30.1	6.5	27.7	21.4		0.50	0.11	0.46	0.36
07/06/00	23.1	26.8	29.1	26.3		0.39	0.45	0.48	0.44
07/07/00	23.4	27.2	29.6	26.7		0.39	0.45	0.49	0.45
07/08/00	23.8	26.5	29.1	26.5		0.40	0.44	0.48	0.44
07/09/00	27	30.6	31.8	29.8		0.45	0.51	0.53	0.50
07/10/00	29.8	30.8	33.6	31.4		0.50	0.51	0.56	0.52
07/11/00	30.5	33.4	35.2	33.0		0.51	0.56	0.59	0.55
07/12/00	32.5	35.3	37.9	35.2		0.54	0.59	0.63	0.59
07/13/00	7.1	5	5.9	6.0		0.12	0.08	0.10	0.10
07/14/00	0	1.4	0	0.5	Reading was zero, in error.	0.00	0.02	0.00	0.01
07/15/00	6.6	5.5	5.7	5.9		0.11	0.09	0.09	0.10
07/16/00	6.9	0.1	8.1	5.0		0.12	0.00	0.14	0.08
07/17/00	8.6	0.2	8	5.6		0.14	0.00	0.13	0.09
07/18/00	8.4	2	9.2	6.5		0.14	0.03	0.15	0.11
07/19/00	8.6	0.2	8.2	5.7		0.14	0.00	0.14	0.09
07/20/00	8.5	0.6	7.7	5.6		0.14	0.01	0.13	0.09
07/21/00	8.3	0.2	8.8	5.8		0.14	0.00	0.15	0.10
07/22/00	6.8	0.1	7.8	4.9		0.11	0.00	0.13	0.08
07/23/00	6.9	0.2	6.6	4.6		0.12	0.00	0.11	0.08
07/24/00	0	3.3	0	1.1	Reading was zero, in error.	0.00	0.06	0.00	0.02
07/25/00	6.7	9.5	4.5	6.9		0.11	0.16	0.08	0.11
07/26/00	8.5	9.8	7.9	8.7		0.14	0.16	0.13	0.15
07/27/00	10.5	10.8	8.8	10.0		0.18	0.18	0.15	0.17
07/28/00	7.2	9.3	7.9	8.1		0.12	0.15	0.13	0.14
07/29/00	9.5	7.4	6.9	7.9		0.16	0.12	0.12	0.13
07/30/00	3.4	6.1	3.4	4.3		0.06	0.10	0.06	0.07
07/31/00	9.1	7.4	6.6	7.7		0.15	0.12	0.11	0.13
08/01/00	5	6.1	5.7	5.6		0.08	0.10	0.10	0.09
08/02/00	10.4	7.9	7.8	8.7		0.17	0.13	0.13	0.14
08/03/00	8.8	8.9	8.9	8.9		0.15	0.15	0.15	0.15
08/04/00	10.8	8.8	9.1	9.6		0.18	0.15	0.15	0.16
08/05/00	10.8	9	9.1	9.6		0.18	0.15	0.15	0.16
08/06/00	10.6	7.4	8.5	8.8		0.18	0.12	0.14	0.15
08/07/00	10.5	7	7.8	8.4		0.18	0.12	0.13	0.14
08/08/00	9.1	6.6	8	7.9		0.15	0.11	0.13	0.13
08/09/00	5.7	3.5	2.1	3.8		0.09	0.06	0.03	0.06
08/10/00	12.2	7.8	9.4	9.8		0.20	0.13	0.16	0.16
08/11/00	13.8	8.8	10.3	11.0		0.23	0.15	0.17	0.18
08/12/00	14.1	8.8	11.2	11.4		0.23	0.15	0.19	0.19
08/13/00	14.2	9.6	11.3	11.7		0.24	0.16	0.19	0.20

Table A.2. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	5	8	17	Average		5	8	17	Average
08/14/00	14.2	9.3	12.4	12.0		0.24	0.15	0.21	0.20
08/15/00	16.1	10.5	12.4	13.0		0.27	0.18	0.21	0.22
08/16/00	13.9	9.6	12.3	11.9		0.23	0.16	0.21	0.20
08/17/00	10.6	7.5	9.7	9.3		0.18	0.13	0.16	0.15
08/18/00	10.6	7.9	7.9	8.8		0.18	0.13	0.13	0.15
08/19/00	9.9	8.2	8	8.7		0.16	0.14	0.13	0.14
08/20/00	12.4	8.8	9.6	10.3		0.21	0.15	0.16	0.17
08/21/00	9.6	9.5	13.4	10.8		0.16	0.16	0.22	0.18
08/22/00	10.6	8.1	10	9.6		0.18	0.13	0.17	0.16
08/23/00	10.3	9.1	9.5	9.6		0.17	0.15	0.16	0.16
08/24/00	12.3	8.1	9.1	9.8		0.21	0.13	0.15	0.16
08/25/00	10.5	8.9	10.1	9.8		0.18	0.15	0.17	0.16
08/26/00	10.7	8.7	11	10.1		0.18	0.14	0.18	0.17
08/27/00	12.6	9.6	11	11.1		0.21	0.16	0.18	0.18
08/28/00	11	10.2	10	10.4		0.18	0.17	0.17	0.17
08/29/00	9	7		8.0	Flowmeter out of order.	0.15	0.12	0.00	0.09
08/30/00	6.8	8		7.4	Bad high reading.	0.11	0.13	0.00	0.08
08/31/00	11.5	9.1	0	6.9	Reading was zero.	0.19	0.15	0.00	0.11
09/01/00	13.6	10.1	7.8	10.5		0.23	0.17	0.13	0.18
09/02/00	11.5	10.8	11.2	11.2		0.19	0.18	0.19	0.19
09/03/00	16.5	12	11.2	13.2		0.28	0.20	0.19	0.22
09/04/00	14	10.2	10.6	11.6		0.23	0.17	0.18	0.19
09/05/00	15.1	11.3	11.5	12.6		0.25	0.19	0.19	0.21
09/06/00	12.4	8.8	9.8	10.3		0.21	0.15	0.16	0.17
09/07/00	17.9	14.1	13.6	15.2		0.30	0.23	0.23	0.25
09/08/00	13.3	11.1	10.8	11.7		0.22	0.19	0.18	0.20
09/09/00	14.8	10.9	5.9	10.5		0.25	0.18	0.10	0.18
09/10/00	14.9	10.7	0	8.5	Reading was zero, in error.	0.25	0.18	0.00	0.14
09/11/00	15.2	13	0	9.4	Reading was zero, in error.	0.25	0.22	0.00	0.16
09/12/00	18.6	13.3	9.6	13.8		0.31	0.22	0.16	0.23
09/13/00	13.2	10.8	42.7	22.2		0.22	0.18	0.71	0.37
09/14/00	11.4	10.1	10.5	10.7		0.19	0.17	0.18	0.18
09/15/00	15	11.1	11.7	12.6		0.25	0.18	0.19	0.21
09/16/00	12.2	10.1	11	11.1		0.20	0.17	0.18	0.19
09/17/00	13.9	11	11.8	12.2		0.23	0.18	0.20	0.20
09/18/00	15.2	11	12.8	13.0		0.25	0.18	0.21	0.22
09/19/00	15.2	12.1	13.9	13.7		0.25	0.20	0.23	0.23
09/20/00	13.3	11.4	12.8	12.5		0.22	0.19	0.21	0.21
09/21/00	11.4	9.5	10	10.3		0.19	0.16	0.17	0.17
09/22/00	10.1	8.2	9.1	9.1		0.17	0.14	0.15	0.15
09/23/00	14.4	11.3	13	12.9		0.24	0.19	0.22	0.22
09/24/00	9.7	7	7.7	8.1		0.16	0.12	0.13	0.14
09/25/00	7.7	7.3	7.7	7.6		0.13	0.12	0.13	0.13
09/26/00	8	7.4	7.5	7.6		0.13	0.12	0.13	0.13
09/27/00	10.1	8.3	9.1	9.2		0.17	0.14	0.15	0.15
09/28/00	8.5	7.6	8.9	8.3		0.14	0.13	0.15	0.14
09/29/00	11.7	8.5	10	10.1		0.20	0.14	0.17	0.17
09/30/00	10.3	9.6	11.1	10.3		0.17	0.16	0.18	0.17
10/01/00	12.1	10.8	13.2	12.0		0.20	0.18	0.22	0.20
10/02/00	12.2	10.9	13.1	12.1		0.20	0.18	0.22	0.20
10/03/00	13.7	12	14.2	13.3		0.23	0.20	0.24	0.22
10/04/00	12.8	11.3	13.3	12.5		0.21	0.19	0.22	0.21
10/05/00	11.2	10.2	12.8	11.4		0.19	0.17	0.21	0.19
10/06/00	12.7	10.8	12.6	12.0		0.21	0.18	0.21	0.20
10/07/00	4.2	5.3	5	4.8		0.07	0.09	0.08	0.08
10/08/00	5.7	4.4	3.7	4.6		0.09	0.07	0.06	0.08
10/09/00	3.3	4.7	4.7	4.2		0.06	0.08	0.08	0.07
10/10/00	6.2	4.3	4.7	5.1		0.10	0.07	0.08	0.08
10/11/00	5.8	5.3	5	5.4		0.10	0.09	0.08	0.09
10/12/00	3.3	4.8	5.1	4.4		0.06	0.08	0.09	0.07
10/13/00	5.2	6.6	6.7	6.2		0.09	0.11	0.11	0.10
10/14/00	6.6	6.3	9.2	7.4		0.11	0.11	0.15	0.12
10/15/00	6.1	6.5	7.5	6.7		0.10	0.11	0.13	0.11
10/16/00	3.2	3.4	3.9	3.5		0.05	0.06	0.07	0.06

Table A.2. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	5	8	17	Average		5	8	17	Average
10/17/00	4.4	4.2	4.9	4.5		0.07	0.07	0.08	0.07
10/18/00	0	0	0	0.0	Reading was zero, in error.	0.00	0.00	0.00	0.00
10/19/00	0	4.2	0	1.4	Reading was zero, in error.	0.00	0.07	0.00	0.02
10/20/00	0	4.9	0	1.6	Reading was zero, in error.	0.00	0.08	0.00	0.03
10/21/00	4	4.7	3	3.9		0.07	0.08	0.05	0.07
10/22/00	1.6	4	4	3.2		0.03	0.07	0.07	0.05
10/23/00	3.3	5	4.9	4.4		0.05	0.08	0.08	0.07
10/24/00	0	0.6	0	0.2	Reading was zero, in error.	0.00	0.01	0.00	0.00
10/25/00	0	0	0.1	0.0	Reading was zero, in error.	0.00	0.00	0.00	0.00
10/26/00	0	0	0	0.0	Reading was zero, in error.	0.00	0.00	0.00	0.00
10/27/00	0	4.4	0	1.5	Reading was zero, in error.	0.00	0.07	0.00	0.02
10/28/00	0	1.7	0	0.6		0.00	0.03	0.00	0.01
10/29/00	0	0.7	0	0.2		0.00	0.01	0.00	0.00
10/30/00	0	4.1	0	1.4		0.00	0.07	0.00	0.02
10/31/00	0	4.1	0	1.4		0.00	0.07	0.00	0.02
11/01/00	0	3.7	0	1.2		0.00	0.06	0.00	0.02
11/02/00	0	3.5	0	1.2		0.00	0.06	0.00	0.02
11/03/00	0	4.7	0	1.6		0.00	0.08	0.00	0.03
11/04/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/05/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/06/00	0	1.1	0	0.4		0.00	0.02	0.00	0.01
11/07/00	0	3.4	0	1.1		0.00	0.06	0.00	0.02
11/08/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/09/00	0.1	0	0	0.0		0.00	0.00	0.00	0.00
11/10/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/11/00	0	0	0	0.0		0.00	0.00	0.00	0.00
11/12/00		1.6		1.6	17 overflowed, high reading.	0.00	0.03	0.00	0.01
11/13/00	0	3.5	0	1.2		0.00	0.06	0.00	0.02
11/14/00	0	3.5	0.1	1.2		0.00	0.06	0.00	0.02
11/15/00	0	2.9	0	1.0		0.00	0.05	0.00	0.02
11/16/00	0	3.2	0	1.1		0.00	0.05	0.00	0.02
11/17/00	0	4.2	1.1	1.8		0.00	0.07	0.02	0.03
11/18/00	0	2.2	2.1	1.4		0.00	0.04	0.03	0.02
11/19/00	3	0.6	0	1.2		0.05	0.01	0.00	0.02
11/20/00	1	2.1	0	1.0		0.02	0.03	0.00	0.02
11/21/00	4	2.5	0.5	2.3		0.07	0.04	0.01	0.04
11/22/00	2.2	2.3	0.4	1.6		0.04	0.04	0.01	0.03
11/23/00	0.9	0.7	0	0.5	Reading was zero.	0.02	0.01	0.00	0.01
11/24/00	3.5	0.7	0	1.4		0.06	0.01	0.00	0.02
11/25/00	0.8	0.7	0	0.5		0.01	0.01	0.00	0.01
11/26/00	1	3.4	0	1.5		0.02	0.06	0.00	0.02
11/27/00	1.2	2.3	0	1.2		0.02	0.04	0.00	0.02
11/28/00	2.7	2.1	0	1.6		0.04	0.04	0.00	0.03
11/29/00	4.1	3.7	0	2.6		0.07	0.06	0.00	0.04
11/30/00	2.7	2.7	0	1.8		0.05	0.04	0.00	0.03
12/01/00	2.3	2.1	0	1.5		0.04	0.04	0.00	0.02
12/02/00	3.8	3.6	0	2.5		0.06	0.06	0.00	0.04
12/03/00	2.4	1.8	0	1.4		0.04	0.03	0.00	0.02
12/04/00	0.8	0.7	0	0.5		0.01	0.01	0.00	0.01
12/05/00	1.9	1.4	0	1.1		0.03	0.02	0.00	0.02
12/06/00	1.9	2.2	0	1.4		0.03	0.04	0.00	0.02
12/07/00	2.1	2.6	0	1.6		0.03	0.04	0.00	0.03
12/08/00	2.2	2.1	0	1.4		0.04	0.04	0.00	0.02
12/09/00	2.2	2.1	0	1.4		0.04	0.04	0.00	0.02
12/10/00	2.1	2.6	0	1.6		0.03	0.04	0.00	0.03
12/11/00	2.3	1.3	0	1.2		0.04	0.02	0.00	0.02
12/12/00	4.9	6.1	0	3.7		0.08	0.10	0.00	0.06
12/13/00	5.2	5.1	0	3.4		0.09	0.08	0.00	0.06
12/14/00	0.6	2	0	0.9		0.01	0.03	0.00	0.01
12/15/00	0.8	1.6	0	0.8		0.01	0.03	0.00	0.01
12/16/00	2	2.7	0	1.6		0.03	0.04	0.00	0.03
12/17/00	2.1	3.3	0	1.8		0.03	0.06	0.00	0.03
12/18/00	3.5	2.8	0	2.1		0.06	0.05	0.00	0.04
12/19/00	3.6	5.7	0	3.1		0.06	0.09	0.00	0.05

Table A.2. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	5	8	17	Average		5	8	17	Average
12/20/00	2.3	1.7	0	1.3		0.04	0.03	0.00	0.02
12/21/00	2.1	5	0	2.4		0.03	0.08	0.00	0.04
12/22/00	4	3.1	0	2.4		0.07	0.05	0.00	0.04
12/23/00	2.3	2	0	1.4		0.04	0.03	0.00	0.02
12/24/00	0.6	1.9	0	0.8		0.01	0.03	0.00	0.01
12/25/00	8.7	0.9	0	3.2		0.14	0.01	0.00	0.05
12/26/00				#DIV/0!	Bad weather-heavy snow.	0.00	0.00	0.00	0.00
12/27/00				#DIV/0!		0.00	0.00	0.00	0.00
12/28/00	1.5	4.2		2.9	Water didn't flow to 17.	0.03	0.07	0.00	0.03
12/29/00	0.1	0	0	0.0	Reading was zero.	0.00	0.00	0.00	0.00
12/30/00		1.1	0	0.5		0.00	0.02	0.00	0.01
12/31/00	0.1	0.6	0	0.2		0.00	0.01	0.00	0.00
01/01/01	0	0.5	0	0.2		0.00	0.01	0.00	0.00
01/02/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/03/01	0	41	0	13.7		0.00	0.68	0.00	0.23
01/04/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/05/01	0.1	0	0	0.0		0.00	0.00	0.00	0.00
01/06/01	0.2	0	0	0.1		0.00	0.00	0.00	0.00
01/07/01	0	1.5	0	0.5		0.00	0.03	0.00	0.01
01/08/01	0	2.7	0	0.9		0.00	0.04	0.00	0.01
01/09/01	0	1.1	0	0.4		0.00	0.02	0.00	0.01
01/10/01	0.2	2.8	0	1.0		0.00	0.05	0.00	0.02
01/11/01	0	0	0	0.0		0.00	0.00	0.00	0.00
01/12/01	0	0.8	0	0.3		0.00	0.01	0.00	0.00
01/13/01	0	0.7	0	0.2		0.00	0.01	0.00	0.00
01/14/01	0.1	6	0	2.0		0.00	0.10	0.00	0.03
01/15/01	0	1	0	0.3		0.00	0.02	0.00	0.01
01/16/01	0	2.8	0	0.9		0.00	0.05	0.00	0.02
01/17/01	0	0	0	0.0	No meter.	0.00	0.00	0.00	0.00
01/18/01	0	0.7		0.3	Reading was zero.	0.00	0.01	0.00	0.00
01/19/01	0.4	0.9		0.7		0.01	0.02	0.00	0.01
01/20/01	1.7	3		2.3		0.03	0.05	0.00	0.03
01/21/01	1	1.6		1.3		0.02	0.03	0.00	0.01
01/22/01	0.6	1.6		1.1		0.01	0.03	0.00	0.01
01/23/01	2	2.5		2.3		0.03	0.04	0.00	0.03
01/24/01	0	0.6		0.3		0.00	0.01	0.00	0.00
01/25/01	2	1.6		1.8		0.03	0.03	0.00	0.02
01/26/01	6.9	1.1		4.0		0.12	0.02	0.00	0.04
01/27/01	0	2.2		1.1		0.00	0.04	0.00	0.01
01/28/01	0	0		0.0		0.00	0.00	0.00	0.00
01/29/01	0	0		0.0		0.00	0.00	0.00	0.00
01/30/01	0	0		0.0		0.00	0.00	0.00	0.00
01/31/01	0	2.8		1.4		0.00	0.05	0.00	0.02
02/01/01	0	2.4		1.2		0.00	0.04	0.00	0.01
02/02/01	0	4.7		2.3		0.00	0.08	0.00	0.03
02/03/01	0	2.1		1.1		0.00	0.04	0.00	0.01
02/04/01	0	1.9		0.9		0.00	0.03	0.00	0.01
02/05/01	0.3	0.1		0.2		0.00	0.00	0.00	0.00
02/06/01	0.6	4.4		2.5		0.01	0.07	0.00	0.03
02/07/01	1.5	1.7		1.6		0.03	0.03	0.00	0.02
02/08/01	1.7	2.8		2.3		0.03	0.05	0.00	0.03
02/09/01	0			0.0		0.00	0.00	0.00	0.00
02/10/01	0	4.2		2.1		0.00	0.07	0.00	0.02
02/11/01	1.5	2		1.8		0.03	0.03	0.00	0.02
02/12/01	0	1.3		0.7		0.00	0.02	0.00	0.01
02/13/01	0.8	1.1		1.0		0.01	0.02	0.00	0.01
02/14/01	1.6	1.3		1.5	New flowmeter at 17.	0.03	0.02	0.00	0.02
02/15/01	0.8	1.3	12.6	4.9		0.01	0.02	0.21	0.08
02/16/01	1.7	2.4	2.7	2.3		0.03	0.04	0.05	0.04
02/17/01	3.1	4.1	3.1	3.4		0.05	0.07	0.05	0.06
02/18/01	1.5	1.8	2.2	1.8		0.03	0.03	0.04	0.03
02/19/01	1.6	2.7	2.5	2.3		0.03	0.05	0.04	0.04
02/20/01	1.8	3.3	2.6	2.6		0.03	0.06	0.04	0.04
02/21/01	5.3	3	3.3	3.9		0.09	0.05	0.06	0.06

Table A.2. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	5	8	17	Average		5	8	17	Average
02/22/01	0	2.2	2.4	1.5		0.00	0.04	0.04	0.03
02/23/01	0	0.5	1.5	0.7		0.00	0.01	0.03	0.01
02/24/01	0	0	0	0.0		0.00	0.00	0.00	0.00
02/25/01	0	3.2	0	1.1		0.00	0.05	0.00	0.02
02/26/01	0	3.2	0	1.1		0.00	0.05	0.00	0.02
02/27/01	1.7	2.5	2.2	2.1		0.03	0.04	0.04	0.04
02/28/01	1.7	1.7	2.3	1.9		0.03	0.03	0.04	0.03
03/01/01	0	0	0	0.0	Readig was zero.	0.00	0.00	0.00	0.00
03/02/01	0	0	0	0.0		0.00	0.00	0.00	0.00
03/03/01	0	0	0	0.0		0.00	0.00	0.00	0.00
03/04/01	0	0.5	0	0.2		0.00	0.01	0.00	0.00
03/05/01	0	1.2	0	0.4		0.00	0.02	0.00	0.01
03/06/01	0.4	2.9	0.1	1.1		0.01	0.05	0.00	0.02
03/07/01	0	2.9	0	1.0	Reading was zero.	0.00	0.05	0.00	0.02
03/08/01	0	2	2.4	1.5		0.00	0.03	0.04	0.02
03/09/01	0	0	0	0.0		0.00	0.00	0.00	0.00
03/10/01	0	0	0	0.0		0.00	0.00	0.00	0.00
03/11/01	0	1.1	0	0.4		0.00	0.02	0.00	0.01
03/12/01	0	3.7	0	1.2		0.00	0.06	0.00	0.02
03/13/01	0.2	4.6	0.1	1.6		0.00	0.08	0.00	0.03
03/14/01	1.7	4.4	2.3	2.8		0.03	0.07	0.04	0.05
03/15/01	3.1	6.4	5.7	5.1		0.05	0.11	0.10	0.08
03/16/01	4.9	5.7	4.7	5.1		0.08	0.10	0.08	0.09
03/17/01	3	4	3.5	3.5		0.05	0.07	0.06	0.06
03/18/01	1.4	2	2.3	1.9		0.02	0.03	0.04	0.03
03/19/01	0	0	0	0.0		0.00	0.00	0.00	0.00
03/20/01	0	2.5	0	0.8		0.00	0.04	0.00	0.01
03/21/01	0	3.6	0.8	1.5		0.00	0.06	0.01	0.02
03/22/01	4.9	5.3	6	5.4		0.08	0.09	0.10	0.09
03/23/01	3.3	5.3	4.8	4.5		0.06	0.09	0.08	0.07
03/24/01	3.3	3.3	4.1	3.6		0.06	0.06	0.07	0.06
03/25/01	0	0.8	0	0.3		0.00	0.01	0.00	0.00
03/26/01	0	2.8	0	0.9		0.00	0.05	0.00	0.02
03/27/01	0	0	0	0.0		0.00	0.00	0.00	0.00
03/28/01	0	0	0	0.0		0.00	0.00	0.00	0.00
03/29/01	0	0	0	0.0		0.00	0.00	0.00	0.00
03/30/01	0	1.8	0	0.6		0.00	0.03	0.00	0.01
03/31/01	0	2.8	1	1.3		0.00	0.05	0.02	0.02
04/01/01	0	3.4	0.5	1.3		0.00	0.06	0.01	0.02
04/02/01	3.5	5	5.3	4.6		0.06	0.08	0.09	0.08
04/03/01	5.2	8.1	8.1	7.1		0.09	0.14	0.14	0.12
04/04/01	7	7.6	9.1	7.9		0.12	0.13	0.15	0.13
04/05/01	4.8	6.5	7.7	6.3		0.08	0.11	0.13	0.11
04/06/01	0	1	0	0.3		0.00	0.02	0.00	0.01
04/07/01	0	6.6	0	2.2		0.00	0.11	0.00	0.04
04/08/01	5.6	8.4	8.2	7.4		0.09	0.14	0.14	0.12
04/09/01	7.8	9.9	11.3	9.7		0.13	0.17	0.19	0.16
04/10/01	6.3	8.2	9.6	8.0		0.11	0.14	0.16	0.13
04/11/01	5.9	5	6.3	5.7		0.10	0.08	0.11	0.10
04/12/01	9.2	10.4	11.6	10.4		0.15	0.17	0.19	0.17
04/13/01	9	9.2	10.4	9.5		0.15	0.15	0.17	0.16
04/14/01	6	6.8	8.2	7.0		0.10	0.11	0.14	0.12
04/15/01	9.9	11.1	13.3	11.4		0.17	0.19	0.22	0.19
04/16/01	10.8	10.2	11.8	10.9		0.18	0.17	0.20	0.18
04/17/01	10.6	8.9	10.9	10.1		0.18	0.15	0.18	0.17
04/18/01	5.5	4.8	5.1	5.1		0.09	0.08	0.08	0.09
04/19/01	6.2	8.3	9	7.8		0.10	0.14	0.15	0.13
04/20/01	13.4	12.1	14.7	13.4		0.22	0.20	0.25	0.22
04/21/01	12.3	12.4	15.1	13.3		0.21	0.21	0.25	0.22
04/22/01	13.8	11.2	13.7	12.9		0.23	0.19	0.23	0.22
04/23/01	15	14.5	16.6	15.4		0.25	0.24	0.28	0.26
04/24/01	10.9	10.2	10.7	10.6		0.18	0.17	0.18	0.18
04/25/01	8.1	9.2	9.6	9.0		0.14	0.15	0.16	0.15
04/26/01	10.7	10.9	12.1	11.2		0.18	0.18	0.20	0.19

Table A.2. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	5	8	17	Average		5	8	17	Average
04/27/01	12	11.6	11.9	11.8		0.20	0.19	0.20	0.20
04/28/01	10.6	11.3	12.5	11.5		0.18	0.19	0.21	0.19
04/29/01	10.6	11.4	12.4	11.5		0.18	0.19	0.21	0.19
04/30/01	12.6	11.6	12.3	12.2		0.21	0.19	0.21	0.20
05/01/01	11	9.9	11.3	10.7		0.18	0.17	0.19	0.18
05/02/01	14.6	0	16.9	10.5		0.24	0.00	0.28	0.18
05/03/01	12.1	0.6	11	7.9		0.20	0.01	0.18	0.13
05/04/01	4.9	0	5.9	3.6		0.08	0.00	0.10	0.06
05/05/01	0	0.1	0	0.0		0.00	0.00	0.00	0.00
05/06/01	1.4	0	0	0.5		0.02	0.00	0.00	0.01
05/07/01	10.4	0	11	7.1		0.17	0.00	0.18	0.12
05/08/01	8.2	5.4	9	7.5		0.14	0.09	0.15	0.13
05/09/01	8.5	0	9.2	5.9		0.14	0.00	0.15	0.10
05/10/01	13.9	5	15	11.3		0.23	0.08	0.25	0.19
05/11/01	13.9	0	15.4	9.8		0.23	0.00	0.26	0.16
05/12/01	13.9	0.1	14.3	9.4		0.23	0.00	0.24	0.16
05/13/01	11.1	0.1	9.1	6.8		0.19	0.00	0.15	0.11
05/14/01	10.6	0	13.6	8.1		0.18	0.00	0.23	0.13
05/15/01	16	1.4	17.9	11.8		0.27	0.02	0.30	0.20
05/16/01	20	0.6	21.8	14.1		0.33	0.01	0.36	0.24
05/17/01	20.9	0.2	20.5	13.9		0.35	0.00	0.34	0.23
05/18/01	11	0	8.5	6.5		0.18	0.00	0.14	0.11
05/19/01	12	0	10	7.3	No readings, use 5/20/01.	0.20	0.00	0.17	0.12
05/20/01	12	0	10	7.3		0.20	0.00	0.17	0.12
05/21/01	4	0.1	6.7	3.6		0.07	0.00	0.11	0.06
05/22/01	10.7	0.2	10.2	7.0		0.18	0.00	0.17	0.12
05/23/01	9.8	20.7	11.6	14.0		0.16	0.35	0.19	0.23
05/24/01	13.6	0.9	13.1	9.2		0.23	0.01	0.22	0.15
05/25/01	13.4	0.2	15.4	9.7		0.22	0.00	0.26	0.16
05/26/01	15	0	14.6	9.9		0.25	0.00	0.24	0.16
05/27/01	11.7	0	12	7.9		0.20	0.00	0.20	0.13
05/28/01	15.8	0	18.4	11.4		0.26	0.00	0.31	0.19
05/29/01	10.3	0.1	9.1	6.5		0.17	0.00	0.15	0.11
05/30/01	10.5	0	11.6	7.4		0.18	0.00	0.19	0.12
05/31/01	13.1	0	14.3	9.1		0.22	0.00	0.24	0.15

Table A.3. Wastewater ABW Units (1, 11, 13) Loading Data

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	1	11	13	Average		1	11	13	Average
10/11/99					Set up noise.				
10/12/99		216		216			2.04		2.04
10/13/99					Set up noise.				
10/14/99					Set up noise.				
10/15/99					Set up noise.				
10/16/99					Set up noise.				
10/17/99					Set up noise.				
10/18/99					Set up noise.				
10/19/99					Set up noise.				
10/20/99					Set up noise.				
10/21/99					Set up noise.				
10/22/99					Set up noise.				
10/23/99					Set up noise.				
10/24/99		217		217	Set up noise.		2.05		2.05
10/25/99		217		217	Set up noise.		2.05		2.05
10/26/99	207	219		213		1.95	2.07		2.01
10/27/99	198	216		207		1.87	2.04		1.95
10/28/99	190			190	Set up noise.	1.79			1.79
10/29/99	183			183	Set up noise.	1.73			1.73
10/30/99	182			182	Set up noise.	1.72			1.72
10/31/99	186			186	Set up noise.	1.75			1.75
11/01/99	182			182	Set up noise.	1.72			1.72
11/02/99	174			174	Set up noise.	1.64			1.64
11/03/99	171			171	Set up noise.	1.61			1.61
11/04/99	162			162	Set up noise.	1.53			1.53
11/05/99	158			158	Set up noise.	1.49			1.49
11/06/99	162			162	Set up noise.	1.53			1.53
11/07/99	160			160	Set up noise.	1.51			1.51
11/08/99	155	217		186	Set up noise.	1.46	2.05		1.75
11/09/99	152			152	Set up noise.	1.43			1.43
11/10/99	153			153	Set up noise.	1.44			1.44
11/11/99	156	218		187		1.47	2.06		1.76
11/12/99	153			153	Set up noise.	1.44			1.44
11/13/99	157			157	Set up noise.	1.48			1.48
11/14/99	146	219		183		1.38	2.07		1.72
11/15/99	146			146	Set up noise.	1.38	0.00		0.69
11/16/99	149	209		179		1.41	1.97		1.69
11/17/99	149	220		185		1.41	2.08		1.74
11/18/99	144	185		165		1.36	1.75		1.55
11/19/99	134	210		172		1.26	1.98		1.62
11/20/99	152	193		173		1.43	1.82		1.63
11/21/99	135	176		156		1.27	1.66		1.47
11/22/99	144	200		172		1.36	1.89		1.62
11/23/99	133	214		174		1.25	2.02		1.64
11/24/99	157			157	Set up noise.	1.48			1.48
11/25/99	156			156	Set up noise.	1.47			1.47
11/26/99	162			162	Set up noise.	1.53			1.53
11/27/99	154	196		175		1.45	1.85		1.65
11/28/99	146	195		171		1.38	1.84		1.61
11/29/99	141	193		167		1.33	1.82		1.58
11/30/99	144	207		176		1.36	1.95		1.66
12/01/99	157	197		177		1.48	1.86		1.67
12/02/99	132	191		162		1.25	1.80		1.52
12/03/99	141	185		163		1.33	1.75		1.54
12/04/99	98	186		142		0.92	1.75		1.34
12/05/99	116	138		127		1.09	1.30		1.20
12/06/99	192	196		194		1.81	1.85		1.83
12/07/99	148	167		158		1.40	1.58		1.49
12/08/99	144	163		154		1.36	1.54		1.45
12/09/99	141	164		153		1.33	1.55		1.44
12/10/99	152	169		161		1.43	1.59		1.51
12/11/99	142	164		153		1.34	1.55		1.44

Table A.3. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	1	11	13	Average		1	11	13	Average
12/12/99	144	166		155		1.36	1.57		1.46
12/13/99	145	162		154		1.37	1.53		1.45
12/14/99	141	159		150		1.33	1.50		1.42
12/15/99	137	163		150		1.29	1.54		1.42
12/16/99	143	164		154		1.35	1.55		1.45
12/17/99	139	161		150		1.31	1.52		1.42
12/18/99	150	163		157		1.42	1.54		1.48
12/19/99	134	158		146		1.26	1.49		1.38
12/20/99	138	162		150		1.30	1.53		1.42
12/21/99	138	162		150		1.30	1.53		1.42
12/22/99	153	162		158		1.44	1.53		1.49
12/23/99	153	165		159		1.44	1.56		1.50
12/24/99	156	166		161		1.47	1.57		1.52
12/25/99	152	162		157		1.43	1.53		1.48
12/26/99	158	164		161		1.49	1.55		1.52
12/27/99	154	159		157		1.45	1.50		1.48
12/28/99	148	162		155		1.40	1.53		1.46
12/29/99	122	157		140		1.15	1.48		1.32
12/30/99	135	153		144		1.27	1.44		1.36
12/31/99	173	157		165		1.63	1.48		1.56
01/01/00	142	155		149		1.34	1.46		1.40
01/02/00	135	154		145		1.27	1.45		1.36
01/03/00	91	152		122		0.86	1.43		1.15
01/04/00	188	160		174		1.77	1.51		1.64
01/05/00	142	157		150		1.34	1.48		1.41
01/06/00	131	152		142		1.24	1.43		1.33
01/07/00	163	157		160		1.54	1.48		1.51
01/08/00	142	155		149		1.34	1.46		1.40
01/09/00	148	148		148		1.40	1.40		1.40
01/10/00	152	150		151		1.43	1.42		1.42
01/11/00	151	150		151		1.42	1.42		1.42
01/12/00	145	151		148		1.37	1.42		1.40
01/13/00	160	150		155		1.51	1.42		1.46
01/14/00	165	155		160		1.56	1.46		1.51
01/15/00	151	152		152		1.42	1.43		1.43
01/16/00	149	148		149		1.41	1.40		1.40
01/17/00	153	150		152		1.44	1.42		1.43
01/18/00	146	142		144		1.38	1.34		1.36
01/19/00	162	143		153		1.53	1.35		1.44
01/20/00	109	142		126		1.03	1.34		1.18
01/21/00	82	54		68	Set up noise.	0.77	0.51		0.64
01/22/00	203	178		191	Set up noise.	1.92	1.68		1.80
01/23/00	130	123		127	Set up noise.	1.23	1.16		1.19
01/24/00	132	124		128	Set up noise.	1.25	1.17		1.21
01/25/00	159	79		119	Set up noise.	1.50	0.75		1.12
01/26/00	134	139		137	Set up noise.	1.26	1.31		1.29
01/27/00	130	118		124	Set up noise.	1.23	1.11		1.17
01/28/00	141	121		131	Set up noise.	1.33	1.14		1.24
01/29/00	142	120		131	Set up noise.	1.34	1.13		1.24
01/30/00	141	117		129	Set up noise.	1.33	1.10		1.22
01/31/00	134	118		126	Set up noise.	1.26	1.11		1.19
02/01/00	140	115		128	Set up noise.	1.32	1.08		1.20
02/02/00	140	120		130	Set up noise.	1.32	1.13		1.23
02/03/00	121	116		119	Set up noise.	1.14	1.09		1.12
02/04/00	126	114		120	Set up noise.	1.19	1.08		1.13
02/05/00	143	83		113	Set up noise.	1.35	0.78		1.07
02/06/00	86	59		73	Set up noise.	0.81	0.56		0.68
02/07/00	145	91		118	Set up noise.	1.37	0.86		1.11
02/08/00	118	129		124	Set up noise.	1.11	1.22		1.17
02/09/00	104	104		104	Set up noise.	0.98	0.98		0.98
02/10/00	99	103	201	134		0.93	0.97	1.90	1.27
02/11/00	99	103	201	134		0.93	0.97	1.90	1.27
02/12/00	140	104	194	146		1.32	0.98	1.83	1.38

Table A.3. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	1	11	13	Average		1	11	13	Average
02/13/00	107	103	185	132		1.01	0.97	1.75	1.24
02/14/00	89	106	187	127		0.84	1.00	1.76	1.20
02/15/00	89	105	185	126		0.84	0.99	1.75	1.19
02/16/00	133	106	188	142		1.25	1.00	1.77	1.34
02/17/00	89	107	182	126		0.84	1.01	1.72	1.19
02/18/00	134	105	194	144		1.26	0.99	1.83	1.36
02/19/00	89	110	203	134		0.84	1.04	1.92	1.26
02/20/00	133	107	199	146		1.25	1.01	1.88	1.38
02/21/00	90	109	197	132		0.85	1.03	1.86	1.25
02/22/00	133	106	192	144		1.25	1.00	1.81	1.36
02/23/00	69	105	189	121		0.65	0.99	1.78	1.14
02/24/00	132	107	193	144		1.25	1.01	1.82	1.36
02/25/00	88	105	189	127		0.83	0.99	1.78	1.20
02/26/00	89	110	197	132		0.84	1.04	1.86	1.25
02/27/00	102	106	190	133		0.96	1.00	1.79	1.25
02/28/00	119	105	197	140		1.12	0.99	1.86	1.32
02/29/00	90	106	192	129		0.85	1.00	1.81	1.22
03/01/00	89	106	198	131		0.84	1.00	1.87	1.24
03/02/00	142	108	202	151		1.34	1.02	1.91	1.42
03/03/00	75	106	202	128		0.71	1.00	1.91	1.20
03/04/00	107	109		108	Bad high reading.	1.01	1.03	0.00	0.68
03/05/00	99	109		104	Bad high reading.	0.93	1.03	0.00	0.65
03/06/00	99	101	205	135		0.93	0.95	1.93	1.27
03/07/00	96	104		100	Bad high reading.	0.91	0.98	0.00	0.63
03/08/00	89	102		96	Bad high reading.	0.84	0.96	0.00	0.60
03/09/00	88	105		97	Bad high reading.	0.83	0.99	0.00	0.61
03/10/00	133	103		118	Bad high reading.	1.25	0.97	0.00	0.74
03/11/00	89	107		98	Bad high reading.	0.84	1.01	0.00	0.62
03/12/00	95	106		101	Bad high reading.	0.90	1.00	0.00	0.63
03/13/00	102	95		99	Bad high reading.	0.96	0.90	0.00	0.62
03/14/00	88	100		94	Bad high reading.	0.83	0.94	0.00	0.59
03/15/00	89	99		94	Bad high reading.	0.84	0.93	0.00	0.59
03/16/00	89	98		94	Bad high reading.	0.84	0.92	0.00	0.59
03/17/00	87	98		93	Bad high reading.	0.82	0.92	0.00	0.58
03/18/00	88	99		94	Bad high reading.	0.83	0.93	0.00	0.59
03/19/00	88	98		93	Bad high reading.	0.83	0.92	0.00	0.58
03/20/00	88	99		94	Bad high reading.	0.83	0.93	0.00	0.59
03/21/00	89	76		83	Bad high reading.	0.84	0.72	0.00	0.52
03/22/00	129	100		115	Bad high reading.	1.22	0.94	0.00	0.72
03/23/00	90	91		91	Bad high reading.	0.85	0.86	0.00	0.57
03/24/00	77	91		84	Bad high reading.	0.73	0.86	0.00	0.53
03/25/00	88	95		92	Bad high reading.	0.83	0.90	0.00	0.58
03/26/00	89	87		88	Bad high reading.	0.84	0.82	0.00	0.55
03/27/00	88	92		90	Bad high reading.	0.83	0.87	0.00	0.57
03/28/00	89	90		90	Bad high reading.	0.84	0.85	0.00	0.56
03/29/00	90	89		90	Bad high reading.	0.85	0.84	0.00	0.56
03/30/00	89	92		91	Bad high reading.	0.84	0.87	0.00	0.57
03/31/00	84	89		87	Bad high reading.	0.79	0.84	0.00	0.54
04/01/00	131	97		114	Bad high reading.	1.24	0.92	0.00	0.72
04/02/00	109	96		103	Bad high reading.	1.03	0.91	0.00	0.64
04/03/00	52	71	192	105		0.49	0.67	1.81	0.99
04/04/00	85	90		88	Bad high reading.	0.80	0.85	0.00	0.55
04/05/00	43	85		64	Bad high reading.	0.41	0.80	0.00	0.40
04/06/00	87	86		87	Bad high reading.	0.82	0.81	0.00	0.54
04/07/00	105	84	219	136		0.99	0.79	2.07	1.28
04/08/00	88	95		92	Bad high reading.	0.83	0.90	0.00	0.58
04/09/00	88	84	218	130		0.83	0.79	2.06	1.23
04/10/00	84	87		86	Bad high reading.	0.79	0.82	0.00	0.54
04/11/00	82	88		85	Bad high reading.	0.77	0.83	0.00	0.53
04/12/00	48	90		69	Bad high reading.	0.45	0.85	0.00	0.43
04/13/00	119	89		104	Bad high reading.	1.12	0.84	0.00	0.65
04/14/00	94	82		88	Bad high reading.	0.89	0.77	0.00	0.55
04/15/00	92	65	216	124		0.87	0.61	2.04	1.17
04/16/00	86	89	208	128		0.81	0.84	1.96	1.20

Table A.3. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	1	11	13	Average		1	11	13	Average
04/17/00	91	66		79	Bad high reading.	0.86	0.62	0.00	0.49
04/18/00	98	60	219	126		0.92	0.57	2.07	1.19
04/19/00	97	100	214	137		0.92	0.94	2.02	1.29
04/20/00	91	86	216	131		0.86	0.81	2.04	1.24
04/21/00	98	87	218	134		0.92	0.82	2.06	1.27
04/22/00	92	85	214	130		0.87	0.80	2.02	1.23
04/23/00	72	82	202	119		0.68	0.77	1.91	1.12
04/24/00	102	84	207	131		0.96	0.79	1.95	1.24
04/25/00	85	84	202	124		0.80	0.79	1.91	1.17
04/26/00	79	82	201	121		0.75	0.77	1.90	1.14
04/27/00	89	83	200	124		0.84	0.78	1.89	1.17
04/28/00	62	83	199	115		0.58	0.78	1.88	1.08
04/29/00	121	86	203	137		1.14	0.81	1.92	1.29
04/30/00	61	75	176	104		0.58	0.71	1.66	0.98
05/01/00	99	82	191	124		0.93	0.78	1.80	1.17
05/02/00	82	82	194	119		0.77	0.77	1.83	1.12
05/03/00	74	77	179	110		0.69	0.72	1.69	1.03
05/04/00	82	83	189	118		0.77	0.78	1.79	1.11
05/05/00	64	79	182	109		0.61	0.75	1.72	1.02
05/06/00	55	79	177	104		0.52	0.75	1.67	0.98
05/07/00	95	77	174	115		0.90	0.73	1.64	1.09
05/08/00	89	80	179	116		0.84	0.76	1.69	1.09
05/09/00	80	80	176	112		0.75	0.76	1.66	1.06
05/10/00	75	80	176	110		0.70	0.76	1.66	1.04
05/11/00	80	80	171	110		0.75	0.76	1.61	1.04
05/12/00	68	81	166	105		0.64	0.76	1.57	0.99
05/13/00	91	85	173	116		0.86	0.80	1.63	1.10
05/14/00	78	82	169	109		0.73	0.77	1.59	1.03
05/15/00	63	84	170	105		0.59	0.79	1.60	1.00
05/16/00	80	81	162	107		0.75	0.76	1.52	1.01
05/17/00	77	79	149	102		0.73	0.74	1.41	0.96
05/18/00	66	83	152	100		0.62	0.78	1.43	0.95
05/19/00	82	81	148	104		0.78	0.76	1.40	0.98
05/20/00	76	90	159	108		0.72	0.85	1.50	1.02
05/21/00	71	84	140	98		0.67	0.79	1.32	0.93
05/22/00	52	69	135	85		0.49	0.65	1.27	0.80
05/23/00	82	78	138	99		0.77	0.73	1.30	0.93
05/24/00	58	77	134	90		0.55	0.73	1.26	0.84
05/25/00	55	82	137	91		0.52	0.77	1.29	0.86
05/26/00	76	77	128	94		0.72	0.73	1.21	0.89
05/27/00	62	80	130	90		0.58	0.75	1.22	0.85
05/28/00	82	76	123	94		0.77	0.72	1.16	0.88
05/29/00	69	79	123	90		0.65	0.75	1.16	0.85
05/30/00	49	79	117	82		0.46	0.74	1.11	0.77
05/31/00	74	78	115	89		0.70	0.73	1.09	0.84
06/01/00	64.5	80.6	115.6	87		0.61	0.76	1.09	0.82
06/02/00	95	80.2	115	97		0.90	0.76	1.08	0.91
06/03/00	71.6	82.9	146.6	100		0.68	0.78	1.38	0.95
06/04/00	65.5	75.1		70	Flowmeter out of order.	0.62	0.71	0.00	0.44
06/05/00	63.9	75.1	136.7	92		0.60	0.71	1.29	0.87
06/06/00	67.9	76.6	138.6	94		0.64	0.72	1.31	0.89
06/07/00	65.5	77	136	93		0.62	0.73	1.28	0.88
06/08/00	62.4	76.8	135.3	92		0.59	0.72	1.28	0.86
06/09/00	64.7	72.3	122.7	87		0.61	0.68	1.16	0.82
06/10/00	45.6	76.7	127.3	83		0.43	0.72	1.20	0.78
06/11/00	43.9	73.5	123.6	80		0.41	0.69	1.17	0.76
06/12/00	92.1	75.7	125	98		0.87	0.71	1.18	0.92
06/13/00	65.6	72	117.1	85		0.62	0.68	1.10	0.80
06/14/00	59.5	73.5	118.1	84		0.56	0.69	1.11	0.79
06/15/00	59	74.2	120	84		0.56	0.70	1.13	0.80
06/16/00	41.1	73.6	115.8	77		0.39	0.69	1.09	0.72
06/17/00	70.2	72	113.1	85		0.66	0.68	1.07	0.80
06/18/00	47.5	74.2	117.9	80		0.45	0.70	1.11	0.75
06/19/00	40.2	74.7	116.7	77		0.38	0.70	1.10	0.73

Table A.3. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	1	11	13	Average		1	11	13	Average
06/20/00	39.9	67	109.9	72		0.38	0.63	1.04	0.68
06/21/00	80.5	69.9	107.1	86		0.76	0.66	1.01	0.81
06/22/00	40.4	72.7	113	75		0.38	0.69	1.07	0.71
06/23/00	40.3	67.1	105.2	71		0.38	0.63	0.99	0.67
06/24/00	80.6	70.6	108.2	86		0.76	0.67	1.02	0.82
06/25/00	40.3	69.2	104.6	71		0.38	0.65	0.99	0.67
06/26/00	40.7	69.8	107.6	73		0.38	0.66	1.02	0.69
06/27/00	80.2	70.6	108.8	87		0.76	0.67	1.03	0.82
06/28/00	40.5	69	106	72		0.38	0.65	1.00	0.68
06/29/00	93.4	74.5	108	92		0.88	0.70	1.02	0.87
06/30/00	46	67.6	103.9	72		0.43	0.64	0.98	0.68
07/01/00	28.2	67.8	104.3	67		0.27	0.64	0.98	0.63
07/02/00	80.4	69	103.1	84		0.76	0.65	0.97	0.79
07/03/00	40.4	67.2	99.6	69		0.38	0.63	0.94	0.65
07/04/00	40.4	67.2	102.3	70		0.38	0.63	0.97	0.66
07/05/00	68.7	65.5	98.6	78		0.65	0.62	0.93	0.73
07/06/00	40.4	67.2	101.4	70		0.38	0.63	0.96	0.66
07/07/00	59	67.6	103.1	77		0.56	0.64	0.97	0.72
07/08/00	40.5	67.9	104.5	71		0.38	0.64	0.99	0.67
07/09/00	63.9	67.7	102.6	78		0.60	0.64	0.97	0.74
07/10/00	40.4	68.4	105.1	71		0.38	0.65	0.99	0.67
07/11/00	40.4	68.5	104.7	71		0.38	0.65	0.99	0.67
07/12/00	67.1	69.1	106.7	81		0.63	0.65	1.01	0.76
07/13/00	48.9	71.9	107.6	76		0.46	0.68	1.02	0.72
07/14/00	40.5	68.3	107.5	72		0.38	0.64	1.01	0.68
07/15/00	57.6	67.6	103.8	76		0.54	0.64	0.98	0.72
07/16/00	40.1	67.5	103.1	70		0.38	0.64	0.97	0.66
07/17/00	50.8	69	103	74		0.48	0.65	0.97	0.70
07/18/00	54.2	68.4	102.8	75		0.51	0.65	0.97	0.71
07/19/00	54.6	68.9	103.2	76		0.52	0.65	0.97	0.71
07/20/00	54.8	70	104.9	77		0.52	0.66	0.99	0.72
07/21/00	34.7	68	101.8	68		0.33	0.64	0.96	0.64
07/22/00	57.6	69.2	104.7	77		0.54	0.65	0.99	0.73
07/23/00	40.4	68.9	101.6	70		0.38	0.65	0.96	0.66
07/24/00	54.5	68.9	103.5	76		0.51	0.65	0.98	0.71
07/25/00	53.5	65.8	98.7	73		0.50	0.62	0.93	0.69
07/26/00	38.8	68	99.1	69		0.37	0.64	0.93	0.65
07/27/00	51.4	67.8	98.9	73		0.48	0.64	0.93	0.69
07/28/00	47.7	65.9	96.7	70		0.45	0.62	0.91	0.66
07/29/00	53.8	70.6	97.9	74		0.51	0.67	0.92	0.70
07/30/00	40	65.8	97.7	68		0.38	0.62	0.92	0.64
07/31/00	55.2	66.9	95.8	73		0.52	0.63	0.90	0.69
08/01/00	40	68.4	95.8	68		0.38	0.65	0.90	0.64
08/02/00	53.4	63.8	93.6	70		0.50	0.60	0.88	0.66
08/03/00	58.8	65	94.8	73		0.55	0.61	0.89	0.69
08/04/00	35.3	62.2	91.9	63		0.33	0.59	0.87	0.60
08/05/00	40	64.1	92.3	65		0.38	0.60	0.87	0.62
08/06/00	49.7	62.1	91.4	68		0.47	0.59	0.86	0.64
08/07/00	39.6	63.7	91.2	65		0.37	0.60	0.86	0.61
08/08/00	64.2	65	90	73		0.61	0.61	0.85	0.69
08/09/00	35.9	62.1	90.9	63		0.34	0.59	0.86	0.59
08/10/00	39.9	62.7	90.6	64		0.38	0.59	0.85	0.61
08/11/00	58.1	62.6	89.8	70		0.55	0.59	0.85	0.66
08/12/00	34.2	62.4	88.8	62		0.32	0.59	0.84	0.58
08/13/00	59.1	60.1	89.3	69		0.56	0.57	0.84	0.66
08/14/00	30.1	61	87.5	60		0.28	0.58	0.83	0.56
08/15/00	54	60.8	86.2	67		0.51	0.57	0.81	0.63
08/16/00	34	60.7	87.4	61		0.32	0.57	0.82	0.57
08/17/00	48.3	61.8	87.7	66		0.46	0.58	0.83	0.62
08/18/00	39.8	60.4	83.7	61		0.38	0.57	0.79	0.58
08/19/00	41.4	62.3	81.5	62		0.39	0.59	0.77	0.58
08/20/00	55.3	61.5	83.2	67		0.52	0.58	0.78	0.63
08/21/00	40.5	55.2	85.5	60		0.38	0.52	0.81	0.57
08/22/00	40	59.6	83	61		0.38	0.56	0.78	0.57

Table A.3. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	1	11	13	Average		1	11	13	Average
08/23/00	51.4	60.3	84.1	65		0.48	0.57	0.79	0.62
08/24/00	55.9	60.3	83.8	67		0.53	0.57	0.79	0.63
08/25/00	46.7	58.7	83.1	63		0.44	0.55	0.78	0.59
08/26/00	28.1	59.3	81.6	56		0.27	0.56	0.77	0.53
08/27/00	46.3	58.1	81.1	62		0.44	0.55	0.77	0.58
08/28/00	40.1	58.4	78.9	59		0.38	0.55	0.74	0.56
08/29/00		30.6	42.1	36	Sensor problem.	0.00	0.29	0.40	0.23
08/30/00	94.3	67.1	87.1	83		0.89	0.63	0.82	0.78
08/31/00	67.8	59.7	82.5	70		0.64	0.56	0.78	0.66
09/01/00	62.7	56.4	81.5	67		0.59	0.53	0.77	0.63
09/02/00	63	57.8	81.8	68		0.59	0.55	0.77	0.64
09/03/00	64	58	81.3	68		0.60	0.55	0.77	0.64
09/04/00	60	54.7	81	65		0.57	0.52	0.76	0.62
09/05/00	60.9	57.8	81.9	67		0.57	0.55	0.77	0.63
09/06/00	58.4	56.6	81.2	65		0.55	0.53	0.77	0.62
09/07/00	60.9	56.3	80.8	66		0.57	0.53	0.76	0.62
09/08/00	59.2	55.6	78.5	64		0.56	0.52	0.74	0.61
09/09/00	59	57.5	79.7	65		0.56	0.54	0.75	0.62
09/10/00	56	54.8	77.7	63		0.53	0.52	0.73	0.59
09/11/00	59.1	56.7	81	66		0.56	0.53	0.76	0.62
09/12/00	56.9	56.1	81.1	65		0.54	0.53	0.77	0.61
09/13/00	60	59	83.1	67		0.57	0.56	0.78	0.64
09/14/00	57.5	56.2	80.6	65		0.54	0.53	0.76	0.61
09/15/00	54.9	55.3	80.8	64		0.52	0.52	0.76	0.60
09/16/00	57.2	56.5	82.2	65		0.54	0.53	0.78	0.62
09/17/00	52.9	53.5	78.3	62		0.50	0.50	0.74	0.58
09/18/00	54.3	54.2	78.4	62		0.51	0.51	0.74	0.59
09/19/00	52.6	53.5	77.7	61		0.50	0.50	0.73	0.58
09/20/00	51	53.9	76.7	61		0.48	0.51	0.72	0.57
09/21/00	50	55.9	83.1	63		0.47	0.53	0.78	0.59
09/22/00	52	51.4	73.5	59		0.49	0.48	0.69	0.56
09/23/00	52	51.4	74.2	59		0.49	0.48	0.70	0.56
09/24/00	50	53.3	78.4	61		0.47	0.50	0.74	0.57
09/25/00	50	56	82.4	63		0.47	0.53	0.78	0.59
09/26/00	50	53.2	79.4	61		0.47	0.50	0.75	0.57
09/27/00	78.7	55.1	79.4	71		0.74	0.52	0.75	0.67
09/28/00	45.2	51	76.2	57		0.43	0.48	0.72	0.54
09/29/00	44.7	52	75.9	58		0.42	0.49	0.72	0.54
09/30/00	45.6	52.9	75.1	58		0.43	0.50	0.71	0.55
10/01/00	43.5	50.6	73.2	56		0.41	0.48	0.69	0.53
10/02/00	41.9	49	70.4	54		0.40	0.46	0.66	0.51
10/03/00	44.6	50.5	71.7	56		0.42	0.48	0.68	0.52
10/04/00	43.6	50.1	71.8	55		0.41	0.47	0.68	0.52
10/05/00	42.4	48.4	71	54		0.40	0.46	0.67	0.51
10/06/00	45.1	52.6	79.4	59		0.43	0.50	0.75	0.56
10/07/00	47	57.4	84	63		0.44	0.54	0.79	0.59
10/08/00	46	54.2	83.4	61		0.43	0.51	0.79	0.58
10/09/00	47.4	54	81.2	61		0.45	0.51	0.77	0.57
10/10/00	44.8	51.5	77.9	58		0.42	0.49	0.73	0.55
10/11/00	44.9	52	76.8	58		0.42	0.49	0.72	0.55
10/12/00	42.3	48.6	70.4	54		0.40	0.46	0.66	0.51
10/13/00	43.8	49.7	71.2	55		0.41	0.47	0.67	0.52
10/14/00	43	49.7	71.6	55		0.41	0.47	0.68	0.52
10/15/00	43.6	50	71.6	55		0.41	0.47	0.68	0.52
10/16/00	44.3	50.4	70.7	55		0.42	0.48	0.67	0.52
10/17/00	43.3	50.9	73.1	56		0.41	0.48	0.69	0.53
10/18/00	45	52.8	77.8	59		0.42	0.50	0.73	0.55
10/19/00	44.7	50.8	73.2	56		0.42	0.48	0.69	0.53
10/20/00	44.1	50.8	74.4	56		0.42	0.48	0.70	0.53
10/21/00	41.4	48.2	71	54		0.39	0.45	0.67	0.51
10/22/00	42.6	46.5	70	53		0.40	0.44	0.66	0.50
10/23/00	42.9	48.9	75	56		0.40	0.46	0.71	0.52
10/24/00	43.9	52.2	76.2	57		0.41	0.49	0.72	0.54
10/25/00	42.4	47.7	72.3	54		0.40	0.45	0.68	0.51

Table A.3. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	1	11	13	Average		1	11	13	Average
10/26/00	42.8	48.4	72.2	54		0.40	0.46	0.68	0.51
10/27/00	43.5	46.9	71.4	54		0.41	0.44	0.67	0.51
10/28/00	44.1	51.6	67.2	54		0.42	0.49	0.63	0.51
10/29/00	40.9	46.1	77.7	55		0.39	0.43	0.73	0.52
10/30/00	43.1	48	71.1	54		0.41	0.45	0.67	0.51
10/31/00	40.6	45.5	67.4	51		0.38	0.43	0.64	0.48
11/01/00	40.4	45.4	67.4	51		0.38	0.43	0.64	0.48
11/02/00	43.7	47.4	73.3	55		0.41	0.45	0.69	0.52
11/03/00	41.8	45.7	68.6	52		0.39	0.43	0.65	0.49
11/04/00		47.9	76.2	62	Flowmeter out of order.	0.00	0.45	0.72	0.39
11/05/00		47.2	64.2	56	Flowmeter out of order.	0.00	0.45	0.61	0.35
11/06/00		39.7	64.5	52	Flowmeter out of order.	0.00	0.37	0.61	0.33
11/07/00		44.7	69.1	57	Flowmeter out of order.	0.00	0.42	0.65	0.36
11/08/00		49.4	73.8	62	Flowmeter out of order.	0.00	0.47	0.70	0.39
11/09/00		47.7	69.6	59	Flowmeter out of order.	0.00	0.45	0.66	0.37
11/10/00		41.4	66.1	54	Flowmeter out of order.	0.00	0.39	0.62	0.34
11/11/00		43.9	70.2	57	Flowmeter out of order.	0.00	0.41	0.66	0.36
11/12/00		27	24.7	26	Flowmeter out of order.	0.00	0.25	0.23	0.16
11/13/00		42.2	79.8	61	Flowmeter out of order.	0.00	0.40	0.75	0.38
11/14/00		47.9	73.7	61	Flowmeter out of order.	0.00	0.45	0.70	0.38
11/15/00		41.3	64.3	53	Flowmeter out of order.	0.00	0.39	0.61	0.33
11/16/00		42.3	65.5	54	Flowmeter out of order.	0.00	0.40	0.62	0.34
11/17/00		42.7	67.1	55	Flowmeter out of order.	0.00	0.40	0.63	0.35
11/18/00		43.2	65.1	54	Flowmeter out of order.	0.00	0.41	0.61	0.34
11/19/00		47	67.5	57	Flowmeter out of order.	0.00	0.44	0.64	0.36
11/20/00		44	68.7	56	Flowmeter out of order.	0.00	0.42	0.65	0.35
11/21/00		45.1	70.6	58	Flowmeter out of order.	0.00	0.43	0.67	0.36
11/22/00		42.2	66.2	54	Flowmeter out of order.	0.00	0.40	0.62	0.34
11/23/00	38.4	40.1	59.9	46		0.36	0.38	0.57	0.44
11/24/00	41.3	41.8	62.2	48		0.39	0.39	0.59	0.46
11/25/00	39.4	39.6	61.9	47		0.37	0.37	0.58	0.44
11/26/00	40	42.4	60.5	48		0.38	0.40	0.57	0.45
11/27/00	40	40.4	60.8	47		0.38	0.38	0.57	0.44
11/28/00		39.2	58.2	49	Flowmeter out of order.	0.00	0.37	0.55	0.31
11/29/00		41.6	61	51	Flowmeter out of order.	0.00	0.39	0.58	0.32
11/30/00		42.6	63.7	53	Flowmeter out of order.	0.00	0.40	0.60	0.33
12/01/00		41.6	63.6	53	Flowmeter out of order.	0.00	0.39	0.60	0.33
12/02/00		43.5	63.8	54	Flowmeter out of order.	0.00	0.41	0.60	0.34
12/03/00		41.8	63.6	53	Flowmeter out of order.	0.00	0.39	0.60	0.33
12/04/00		41.7	62.2	52	Flowmeter out of order.	0.00	0.39	0.59	0.33
12/05/00		41.6	60.4	51	Flowmeter out of order.	0.00	0.39	0.57	0.32
12/06/00	31.7	40.7	57.7	43		0.30	0.38	0.54	0.41
12/07/00	39.3	42.1	60.6	47		0.37	0.40	0.57	0.45
12/08/00	36.7	39.6	56.9	44		0.35	0.37	0.54	0.42
12/09/00	39.6	42.5	60	47		0.37	0.40	0.57	0.45
12/10/00	36.4	37.6	52.9	42		0.34	0.35	0.50	0.40
12/11/00	35.6	39	56.2	44		0.34	0.37	0.53	0.41
12/12/00	42	45.3	64.8	51		0.40	0.43	0.61	0.48
12/13/00	35.1	38.4	54.5	43		0.33	0.36	0.51	0.40
12/14/00	37	41.7	58.6	46		0.35	0.39	0.55	0.43
12/15/00	38.6	42.1	58.6	46		0.36	0.40	0.55	0.44
12/16/00	34.3	38.2	54.6	42		0.32	0.36	0.52	0.40
12/17/00	39.2	43.9	63.2	49		0.37	0.41	0.60	0.46
12/18/00	36.6	40.6	59.2	45		0.35	0.38	0.56	0.43
12/19/00	39.4	44.4	64	49		0.37	0.42	0.60	0.46
12/20/00	34.7	39.2	55.5	43		0.33	0.37	0.52	0.41
12/21/00	39.1	43.3	62.2	48		0.37	0.41	0.59	0.45
12/22/00	37.9	43	60.8	47		0.36	0.41	0.57	0.45
12/23/00	34.8	40.2	58.2	44		0.33	0.38	0.55	0.42
12/24/00	37.8	43.2	64.3	48		0.36	0.41	0.61	0.46
12/25/00	38.5	44.1	61.1	48		0.36	0.42	0.58	0.45
12/26/00					Bad weather-heavy snow.	0.00	0.00	0.00	0.00
12/27/00					Bad weather-heavy snow.	0.00	0.00	0.00	0.00
12/28/00	38.8	44.3	64.7	49		0.37	0.42	0.61	0.46

Table A.3. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	1	11	13	Average		1	11	13	Average
12/29/00	74	76.8	113.8	88		0.70	0.72	1.07	0.83
12/30/00	40.8	32.9	50.3	41		0.38	0.31	0.47	0.39
12/31/00	41.6	41.7	61.1	48		0.39	0.39	0.58	0.45
01/01/01	40.5	40.8	64.6	49		0.38	0.38	0.61	0.46
01/02/01	23.5		50.4	37	Relay out of order.	0.22	0.00	0.48	0.23
01/03/01	44.7		67.5	56	Relay out of order.	0.42	0.00	0.64	0.35
01/04/01	39		64.8	52	Relay out of order.	0.37	0.00	0.61	0.33
01/05/01	38.4		69.6	54	Relay out of order.	0.36	0.00	0.66	0.34
01/06/01	34.8		65.6	50	Relay out of order.	0.33	0.00	0.62	0.32
01/07/01	35.7		55.6	46	Relay out of order.	0.34	0.00	0.52	0.29
01/08/01	35.4		58.9	47	Relay out of order.	0.33	0.00	0.56	0.30
01/09/01	32.8		36.6	35	Relay out of order.	0.31	0.00	0.35	0.22
01/10/01	39.6		71.3	55	Relay out of order.	0.37	0.00	0.67	0.35
01/11/01	38.4		53.7	46	Relay out of order.	0.36	0.00	0.51	0.29
01/12/01	18.2	171.2	20.7	70		0.17	1.62	0.20	0.66
01/13/01	23.6	121.9	31.2	59		0.22	1.15	0.29	0.56
01/14/01	40.1	65	76.7	61		0.38	0.61	0.72	0.57
01/15/01	21.6	30.3	41.3	31		0.20	0.29	0.39	0.29
01/16/01	48.7	65.3	67.3	60		0.46	0.62	0.63	0.57
01/17/01	34.7	54.1	62	50		0.33	0.51	0.58	0.47
01/18/01	37.1	45.6	59.6	47		0.35	0.43	0.56	0.45
01/19/01	30.8	39.2	46	39		0.29	0.37	0.43	0.36
01/20/01	30.3	34.6	35.6	34		0.29	0.33	0.34	0.32
01/21/01	31.5	35.1	58.6	42		0.30	0.33	0.55	0.39
01/22/01	32.8	34.9	48.7	39		0.31	0.33	0.46	0.37
01/23/01	39.7	50.7	66.8	52		0.37	0.48	0.63	0.49
01/24/01	39.5	49	65.2	51		0.37	0.46	0.62	0.48
01/25/01	33.8	46.3	59.4	46		0.32	0.44	0.56	0.44
01/26/01	42.7	55.3	64.2	54		0.40	0.52	0.61	0.51
01/27/01	39.3	54	79.7	58		0.37	0.51	0.75	0.54
01/28/01					Frozen pipes.	0.00	0.00	0.00	0.00
01/29/01					Frozen pipes.	0.00	0.00	0.00	0.00
01/30/01	33.1	44.2	86.2	54		0.31	0.42	0.81	0.51
01/31/01	41.4	54.2	74.7	57		0.39	0.51	0.70	0.54
02/01/01	38.5	50.2	69.3	53		0.36	0.47	0.65	0.50
02/02/01	41.5	56	83.8	60		0.39	0.53	0.79	0.57
02/03/01	40.1	52.5	79.2	57		0.38	0.50	0.75	0.54
02/04/01	27.2	31.4	37.3	32		0.26	0.30	0.35	0.30
02/05/01	28.2	29.6	23.1	27		0.27	0.28	0.22	0.25
02/06/01	40.1	54	78.4	58		0.38	0.51	0.74	0.54
02/07/01	33.9	45.1	141.7	74		0.32	0.43	1.34	0.69
02/08/01	38.9	54.8	94.5	63		0.37	0.52	0.89	0.59
02/09/01	33.9	49.8	88.7	57		0.32	0.47	0.84	0.54
02/10/01	35.1	53.4	106	65		0.33	0.50	1.00	0.61
02/11/01	40.1	61.3	111.7	71		0.38	0.58	1.05	0.67
02/12/01	36.5	59.6	109.9	69		0.34	0.56	1.04	0.65
02/13/01	38.4	63.1	114.4	72		0.36	0.60	1.08	0.68
02/14/01	34.8	62.6	111.9	70		0.33	0.59	1.06	0.66
02/15/01	39.1	67.6	123.5	77		0.37	0.64	1.17	0.72
02/16/01	35.6	64.9	118.4	73		0.34	0.61	1.12	0.69
02/17/01	43.2	78.1	142.5	88		0.41	0.74	1.34	0.83
02/18/01	37.9	72.9	135.5	82		0.36	0.69	1.28	0.77
02/19/01	34.3	71.2	132.3	79		0.32	0.67	1.25	0.75
02/20/01	38.6	77	143.8	86		0.36	0.73	1.36	0.82
02/21/01	36.9	76.2	141.2	85		0.35	0.72	1.33	0.80
02/22/01	39.8	79.5	147.7	89		0.38	0.75	1.39	0.84
02/23/01	35	77.4	147.3	87		0.33	0.73	1.39	0.82
02/24/01	36.8	80	145.8	88		0.35	0.75	1.38	0.83
02/25/01	38.1	80.6	143.9	88		0.36	0.76	1.36	0.83
02/26/01	36.5	81.1	143.6	87		0.34	0.77	1.35	0.82
02/27/01	37	82.8	143.9	88		0.35	0.78	1.36	0.83
02/28/01	39.7	85.8	151.5	92		0.37	0.81	1.43	0.87
03/01/01	38.6	85.9	146.7	90		0.36	0.81	1.38	0.85
03/02/01	35.5	83.5	137.5	86		0.33	0.79	1.30	0.81

Table A.3. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	1	11	13	Average		1	11	13	Average
03/03/01	35.6	84.3	136.8	86		0.34	0.80	1.29	0.81
03/04/01	37.5	86.2	140.9	88		0.35	0.81	1.33	0.83
03/05/01	36.8	82.7	138.5	86		0.35	0.78	1.31	0.81
03/06/01	43.9	87.3	146.4	93		0.41	0.82	1.38	0.87
03/07/01	36.5	81	138.9	85		0.34	0.76	1.31	0.81
03/08/01	37.1	87.1	153.6	93		0.35	0.82	1.45	0.87
03/09/01	33.8	78.9	135.2	83		0.32	0.74	1.28	0.78
03/10/01	36.9	84.1	158.6	93		0.35	0.79	1.50	0.88
03/11/01	36.1	81.1	151.6	90		0.34	0.77	1.43	0.85
03/12/01	33.9	78.4	148.7	87		0.32	0.74	1.40	0.82
03/13/01	36.7	82.7	157.9	92		0.35	0.78	1.49	0.87
03/14/01	35	81.8	156.3	91		0.33	0.77	1.47	0.86
03/15/01	36.8	82.3	159.6	93		0.35	0.78	1.51	0.88
03/16/01	37.3	84.9	164.1	95		0.35	0.80	1.55	0.90
03/17/01	35.5	79.3	155.4	90		0.33	0.75	1.47	0.85
03/18/01	38.4	84	166.1	96		0.36	0.79	1.57	0.91
03/19/01	36.5	81.3	158.6	92		0.34	0.77	1.50	0.87
03/20/01	40	87.7	169.6	99		0.38	0.83	1.60	0.93
03/21/01	34.6	76.6	155.7	89		0.33	0.72	1.47	0.84
03/22/01	35.6	82.5	161.1	93		0.34	0.78	1.52	0.88
03/23/01	37.1	85.1	167.6	97		0.35	0.80	1.58	0.91
03/24/01	35.2	82	160.2	92		0.33	0.77	1.51	0.87
03/25/01	39.7	87	166.4	98		0.37	0.82	1.57	0.92
03/26/01	37.3	83.6	159.5	93		0.35	0.79	1.50	0.88
03/27/01	38.5	88.5	174.8	101		0.36	0.83	1.65	0.95
03/28/01	35.3	79.1	149.8	88		0.33	0.75	1.41	0.83
03/29/01	36.1	83	152	90		0.34	0.78	1.43	0.85
03/30/01	34.1	77.5	160.1	91		0.32	0.73	1.51	0.85
03/31/01	34.8	82	163.7	94		0.33	0.77	1.54	0.88
04/01/01	35	78.7	155.2	90		0.33	0.74	1.46	0.85
04/02/01	33.2	74.8	150.4	86		0.31	0.71	1.42	0.81
04/03/01	35.3	84.7	169	96		0.33	0.80	1.59	0.91
04/04/01	35.5	79.6	157.2	91		0.33	0.75	1.48	0.86
04/05/01	36.8	86.4	168.3	97		0.35	0.82	1.59	0.92
04/06/01	34	79.2	159.7	91		0.32	0.75	1.51	0.86
04/07/01	37.1	86.5	169.3	98		0.35	0.82	1.60	0.92
04/08/01	38.6	85.2	170.1	98		0.36	0.80	1.60	0.92
04/09/01	34.4	81	162.7	93		0.32	0.76	1.53	0.87
04/10/01	38.1	87.7	172.1	99		0.36	0.83	1.62	0.94
04/11/01	34.8	81.5	160	92		0.33	0.77	1.51	0.87
04/12/01	38.3	86.6	171.2	99		0.36	0.82	1.62	0.93
04/13/01	45.7	98.3	191.8	112		0.43	0.93	1.81	1.06
04/14/01	30.7	74.7	152.3	86		0.29	0.70	1.44	0.81
04/15/01	38.2	85.1	168.5	97		0.36	0.80	1.59	0.92
04/16/01	39	90.4	178.4	103		0.37	0.85	1.68	0.97
04/17/01	40	88.8	175.4	101		0.38	0.84	1.65	0.96
04/18/01	38.3	86	172.3	99		0.36	0.81	1.63	0.93
04/19/01	38.2	85	178.1	100		0.36	0.80	1.68	0.95
04/20/01	36.2	80.9	166	94		0.34	0.76	1.57	0.89
04/21/01	36.8	83.4	170.3	97		0.35	0.79	1.61	0.91
04/22/01	36.3	83.9	169.4	97		0.34	0.79	1.60	0.91
04/23/01	38.2	82.5	167.3	96		0.36	0.78	1.58	0.91
04/24/01	42.2	89.9	180.7	104		0.40	0.85	1.70	0.98
04/25/01	39	83.6	169.5	97		0.37	0.79	1.60	0.92
04/26/01	38	83.5	169.3	97		0.36	0.79	1.60	0.91
04/27/01	38.1	82	164.6	95		0.36	0.77	1.55	0.90
04/28/01	38.1	84	163.1	95		0.36	0.79	1.54	0.90
04/29/01	37.4	81.3	156.4	92		0.35	0.77	1.48	0.87
04/30/01	36.9	81.8	153.8	91		0.35	0.77	1.45	0.86
05/01/01	39.3	84.1	153.2	92		0.37	0.79	1.45	0.87
05/02/01	34.9	77	137.5	83		0.33	0.73	1.30	0.78
05/03/01	38.3	84.7	137.9	87		0.36	0.80	1.30	0.82
05/04/01	37.9	78.8	134	84		0.36	0.74	1.26	0.79
05/05/01	37.6	80.6	133.6	84		0.35	0.76	1.26	0.79

Table A.3. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	1	11	13	Average		1	11	13	Average
05/06/01	38.1	78.4	121.7	79		0.36	0.74	1.15	0.75
05/07/01	37.2	75.9	114.5	76		0.35	0.72	1.08	0.72
05/08/01	39.4	78.9	119.1	79		0.37	0.74	1.12	0.75
05/09/01	37.5	75.8	112.1	75		0.35	0.72	1.06	0.71
05/10/01	36.7	75.8	111	74		0.35	0.72	1.05	0.70
05/11/01	35.4	72.5	103.2	70		0.33	0.68	0.97	0.66
05/12/01	38.5	76.2	107.5	74		0.36	0.72	1.01	0.70
05/13/01	38.7	75.9	109.8	75		0.37	0.72	1.04	0.71
05/14/01	36.3	72.3	102.1	70		0.34	0.68	0.96	0.66
05/15/01	37.6	72.9	101	71		0.35	0.69	0.95	0.67
05/16/01	34.6	65.7	93.9	65		0.33	0.62	0.89	0.61
05/17/01	37.6	64.6	95.3	66		0.35	0.61	0.90	0.62
05/18/01	37.7	63.4	97.6	66		0.36	0.60	0.92	0.62
05/19/01	36	64	95	65	No reading, use 5/20/01.	0.34	0.60	0.90	0.61
05/20/01	36	64	95	65		0.34	0.60	0.90	0.61
05/21/01	34.5	44.1	73	51		0.33	0.42	0.69	0.48
05/22/01	39.2	55.4	88.2	61		0.37	0.52	0.83	0.57
05/23/01	38.2	53.9	84.1	59		0.36	0.51	0.79	0.55
05/24/01	36.7	50.5	77.1	55		0.35	0.48	0.73	0.52
05/25/01	37.1	51.3	77.8	55		0.35	0.48	0.73	0.52
05/26/01	41.2	57.5	85.9	62		0.39	0.54	0.81	0.58
05/27/01	32.3	43.1	63.5	46		0.30	0.41	0.60	0.44
05/28/01	39.2	51.9	76	56		0.37	0.49	0.72	0.53
05/29/01	35.6	48.4	72	52		0.34	0.46	0.68	0.49
05/30/01	36.5	47.3	71.2	52		0.34	0.45	0.67	0.49
05/31/01	38.1	47.7	73.1	53		0.36	0.45	0.69	0.50

Table A.4. Wastewater ETAW Units (4, 9, 16) Loading Data

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	4	9	16	Average		4	9	16	Average
10/06/99					Set up noise.	0.00	0.00	0.00	0.00
10/07/99					Set up noise.	0.00	0.00	0.00	0.00
10/08/99			478	478		0.00	0.00	7.97	2.66
10/09/99					Set up noise.	0.00	0.00	0.00	0.00
10/10/99			468	468		0.00	0.00	7.80	2.60
10/11/99			452	452		0.00	0.00	7.53	2.51
10/12/99			434	434		0.00	0.00	7.23	2.41
10/13/99			407	407		0.00	0.00	6.78	2.26
10/14/99			443	443		0.00	0.00	7.38	2.46
10/15/99			424	424		0.00	0.00	7.07	2.36
10/16/99			417	417		0.00	0.00	6.95	2.32
10/17/99			426	426		0.00	0.00	7.10	2.37
10/18/99			396	396		0.00	0.00	6.60	2.20
10/19/99			422	422		0.00	0.00	7.03	2.34
10/20/99			424	424		0.00	0.00	7.07	2.36
10/21/99			431	431		0.00	0.00	7.18	2.39
10/22/99			461	461		0.00	0.00	7.68	2.56
10/23/99			463	463		0.00	0.00	7.72	2.57
10/24/99			461	461		0.00	0.00	7.68	2.56
10/25/99			482	482		0.00	0.00	8.03	2.68
10/26/99			475	475		0.00	0.00	7.92	2.64
10/27/99			475	475		0.00	0.00	7.92	2.64
10/28/99			470	470		0.00	0.00	7.83	2.61
10/29/99			460	460		0.00	0.00	7.67	2.56
10/30/99			416	416		0.00	0.00	6.93	2.31
10/31/99			446	446		0.00	0.00	7.43	2.48
11/01/99			453	453		0.00	0.00	7.55	2.52
11/02/99			341	341		0.00	0.00	5.68	1.89
11/03/99			323	323		0.00	0.00	5.38	1.79
11/04/99			322	322		0.00	0.00	5.37	1.79
11/05/99			316	316		0.00	0.00	5.27	1.76
11/06/99			314	314		0.00	0.00	5.23	1.74
11/07/99			330	330		0.00	0.00	5.50	1.83
11/08/99			316	316		0.00	0.00	5.27	1.76
11/09/99			314	314		0.00	0.00	5.23	1.74
11/10/99			318	318		0.00	0.00	5.30	1.77
11/11/99			324	324		0.00	0.00	5.40	1.80
11/12/99			322	322		0.00	0.00	5.37	1.79
11/13/99			321	321		0.00	0.00	5.35	1.78
11/14/99			325	325		0.00	0.00	5.42	1.81
11/15/99			315	315		0.00	0.00	5.25	1.75
11/16/99			320	320	Set up noise.	0.00	0.00	5.33	1.78
11/17/99			316	316	Set up noise.	0.00	0.00	5.27	1.76
11/18/99			309	309	Set up noise.	0.00	0.00	5.15	1.72
11/19/99			305	305	Set up noise.	0.00	0.00	5.08	1.69
11/20/99			311	311	Set up noise.	0.00	0.00	5.18	1.73
11/21/99			300	300	Set up noise.	0.00	0.00	5.00	1.67
11/22/99			287	287	Set up noise.	0.00	0.00	4.78	1.59
11/23/99	417		293	355		6.95	0.00	4.88	3.94
11/24/99	408		300	354		6.80	0.00	5.00	3.93
11/25/99	380		291	336		6.33	0.00	4.85	3.73
11/26/99	389		297	343		6.48	0.00	4.95	3.81
11/27/99	362		279	321		6.03	0.00	4.65	3.56
11/28/99	349		266	308		5.82	0.00	4.43	3.42
11/29/99	328		256	292		5.47	0.00	4.27	3.24
11/30/99	349		275	312		5.82	0.00	4.58	3.47
12/01/99	337		263	300		5.62	0.00	4.38	3.33
12/02/99	324		255	290		5.40	0.00	4.25	3.22
12/03/99	313		248	281		5.22	0.00	4.13	3.12
12/04/99	299		238	269		4.98	0.00	3.97	2.98
12/05/99	274		155	215		4.57	0.00	2.58	2.38
12/06/99			259	259	Put in new transformer.	0.00	0.00	4.32	1.44

Table A.4. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	4	9	16	Average		4	9	16	Average
12/07/99	460		237	349		7.67	0.00	3.95	3.87
12/08/99	308		230	269		5.13	0.00	3.83	2.99
12/09/99	304		225	265		5.07	0.00	3.75	2.94
12/10/99	287		208	248		4.78	0.00	3.47	2.75
12/11/99	277		197	237		4.62	0.00	3.28	2.63
12/12/99	309		219	264		5.15	0.00	3.65	2.93
12/13/99	313		210	262		5.22	0.00	3.50	2.91
12/14/99	306		215	261		5.10	0.00	3.58	2.89
12/15/99	311		209	260		5.18	0.00	3.48	2.89
12/16/99	317		204	261		5.28	0.00	3.40	2.89
12/17/99	303		212	258		5.05	0.00	3.53	2.86
12/18/99	314		206	260		5.23	0.00	3.43	2.89
12/19/99	295		194	245		4.92	0.00	3.23	2.72
12/20/99	318		198	258		5.30	0.00	3.30	2.87
12/21/99	318		198	258		5.30	0.00	3.30	2.87
12/22/99	318		187	253		5.30	0.00	3.12	2.81
12/23/99	327		197	262		5.45	0.00	3.28	2.91
12/24/99	338		196	267		5.63	0.00	3.27	2.97
12/25/99	329		203	266		5.48	0.00	3.38	2.96
12/26/99	330		191	261		5.50	0.00	3.18	2.89
12/27/99	332		193	263		5.53	0.00	3.22	2.92
12/28/99	338		194	266		5.63	0.00	3.23	2.96
12/29/99	326		188	257		5.43	0.00	3.13	2.86
12/30/99	318		194	256		5.30	0.00	3.23	2.84
12/31/99	333		190	262		5.55	0.00	3.17	2.91
01/01/00	329		185	257		5.48	0.00	3.08	2.86
01/02/00	339		191	265		5.65	0.00	3.18	2.94
01/03/00	338		186	262		5.63	0.00	3.10	2.91
01/04/00	358		196	277		5.97	0.00	3.27	3.08
01/05/00	355		179	267		5.92	0.00	2.98	2.97
01/06/00	355		185	270		5.92	0.00	3.08	3.00
01/07/00	355		180	268		5.92	0.00	3.00	2.97
01/08/00	360		184	272		6.00	0.00	3.07	3.02
01/09/00	347		166	257		5.78	0.00	2.77	2.85
01/10/00	359		177	268		5.98	0.00	2.95	2.98
01/11/00	371		183	277		6.18	0.00	3.05	3.08
01/12/00	368		176	272		6.13	0.00	2.93	3.02
01/13/00	379		181	280	Set up noise.	6.32	0.00	3.02	3.11
01/14/00	394		183	289	Set up noise.	6.57	0.00	3.05	3.21
01/15/00	387	467	176	343		6.45	7.78	2.93	5.72
01/16/00	389	441	165	332		6.48	7.35	2.75	5.53
01/17/00	392	432	172	332		6.53	7.20	2.87	5.53
01/18/00	398	397	166	320		6.63	6.62	2.77	5.34
01/19/00	397	384	148	310		6.62	6.40	2.47	5.16
01/20/00	407	380	149	312		6.78	6.33	2.48	5.20
01/21/00	157	137	58	117		2.62	2.28	0.97	1.96
01/22/00	473	468	189	377		7.88	7.80	3.15	6.28
01/23/00	343	336	132	270		5.72	5.60	2.20	4.51
01/24/00	355	334	131	273		5.92	5.57	2.18	4.56
01/25/00	361	314	127	267		6.02	5.23	2.12	4.46
01/26/00	364	311	125	267		6.07	5.18	2.08	4.44
01/27/00	360	285	120	255		6.00	4.75	2.00	4.25
01/28/00	362	279	117	253		6.03	4.65	1.95	4.21
01/29/00	360	269	115	248		6.00	4.48	1.92	4.13
01/30/00	358	251	113	241		5.97	4.18	1.88	4.01
01/31/00	358	240	112	237		5.97	4.00	1.87	3.94
02/01/00	354	235	108	232		5.90	3.92	1.80	3.87
02/02/00	342	231	106	226		5.70	3.85	1.77	3.77
02/03/00	352	218	106	225		5.87	3.63	1.77	3.76
02/04/00	358	220	108	229		5.97	3.67	1.80	3.81
02/05/00	378	222	115	238		6.30	3.70	1.92	3.97
02/06/00	343	189	98	210		5.72	3.15	1.63	3.50
02/07/00	359	201	108	223		5.98	3.35	1.80	3.71

Table A.4. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	4	9	16	Average		4	9	16	Average
02/08/00	362	197	105	221		6.03	3.28	1.75	3.69
02/09/00	363	195	106	221		6.05	3.25	1.77	3.69
02/10/00	359	188	104	217		5.98	3.13	1.73	3.62
02/11/00	359	188	104	217		5.98	3.13	1.73	3.62
02/12/00	353	182	101	212		5.88	3.03	1.68	3.53
02/13/00	356	183	101	213		5.93	3.05	1.68	3.56
02/14/00	362	181	103	215		6.03	3.02	1.72	3.59
02/15/00	359	185	101	215		5.98	3.08	1.68	3.58
02/16/00	365	183	107	218		6.08	3.05	1.78	3.64
02/17/00	357	182	100	213		5.95	3.03	1.67	3.55
02/18/00	358	186	103	216		5.97	3.10	1.72	3.59
02/19/00	358	184	100	214		5.97	3.07	1.67	3.57
02/20/00	353	189	100	214		5.88	3.15	1.67	3.57
02/21/00	350	181	100	210		5.83	3.02	1.67	3.51
02/22/00	343	184	97	208		5.72	3.07	1.62	3.47
02/23/00	337	189	78	201		5.62	3.15	1.30	3.36
02/24/00	340	189	118	216		5.67	3.15	1.97	3.59
02/25/00	335	194	96	208		5.58	3.23	1.60	3.47
02/26/00	340	198	102	213		5.67	3.30	1.70	3.56
02/27/00	338	197	98	211		5.63	3.28	1.63	3.52
02/28/00	316	206	90	204		5.27	3.43	1.50	3.40
02/29/00	324	204	92	207		5.40	3.40	1.53	3.44
03/01/00	316	206	92	205		5.27	3.43	1.53	3.41
03/02/00	315	214	94	208		5.25	3.57	1.57	3.46
03/03/00	301	208	96	202		5.02	3.47	1.60	3.36
03/04/00	300	221	96	206		5.00	3.68	1.60	3.43
03/05/00	298	226	98	207		4.97	3.77	1.63	3.46
03/06/00	282	215	92	196		4.70	3.58	1.53	3.27
03/07/00	285	225	95	202		4.75	3.75	1.58	3.36
03/08/00	280	227	92	200		4.67	3.78	1.53	3.33
03/09/00	279	241	96	205		4.65	4.02	1.60	3.42
03/10/00	272	240	92	201		4.53	4.00	1.53	3.36
03/11/00	273	252	96	207		4.55	4.20	1.60	3.45
03/12/00	274	240	94	203		4.57	4.00	1.57	3.38
03/13/00	230	245	82	186		3.83	4.08	1.37	3.09
03/14/00	249	249	87	195		4.15	4.15	1.45	3.25
03/15/00	249	246	84	193		4.15	4.10	1.40	3.22
03/16/00	253	251	91	198		4.22	4.18	1.52	3.31
03/17/00	244	254	86	195		4.07	4.23	1.43	3.24
03/18/00	248	262	83	198		4.13	4.37	1.38	3.29
03/19/00	244	283	84	204		4.07	4.72	1.40	3.39
03/20/00	247	285	87	206		4.12	4.75	1.45	3.44
03/21/00	249	286	87	207		4.15	4.77	1.45	3.46
03/22/00	196	260	64	173		3.27	4.33	1.07	2.89
03/23/00	180	220	52	151		3.00	3.67	0.87	2.51
03/24/00	207	248	71	175		3.45	4.13	1.18	2.92
03/25/00	227	284	85	199		3.78	4.73	1.42	3.31
03/26/00	188	280	80	183		3.13	4.67	1.33	3.04
03/27/00	213	294	89	199		3.55	4.90	1.48	3.31
03/28/00	206	291	88	195		3.43	4.85	1.47	3.25
03/29/00	212	292	90	198		3.53	4.87	1.50	3.30
03/30/00	212	289	91	197		3.53	4.82	1.52	3.29
03/31/00	207	287	56	183		3.45	4.78	0.93	3.06
04/01/00	158	250	50	153		2.63	4.17	0.83	2.54
04/02/00	173	246	50	156		2.88	4.10	0.83	2.61
04/03/00	176	215	81	157		2.93	3.58	1.35	2.62
04/04/00	195	276	83	185		3.25	4.60	1.38	3.08
04/05/00	196	274	85	185		3.27	4.57	1.42	3.08
04/06/00	200	279	92	190		3.33	4.65	1.53	3.17
04/07/00	203	286	89	193		3.38	4.77	1.48	3.21
04/08/00	218	309	98	208		3.63	5.15	1.63	3.47
04/09/00	187	270	82	180		3.12	4.50	1.37	2.99
04/10/00	202	281	90	191		3.37	4.68	1.50	3.18
04/11/00	203	286	91	193		3.38	4.77	1.52	3.22

Table A.4. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	4	9	16	Average		4	9	16	Average
04/12/00	188	272	76	179		3.13	4.53	1.27	2.98
04/13/00	187	269	79	178		3.12	4.48	1.32	2.97
04/14/00	197	268	86	184		3.28	4.47	1.43	3.06
04/15/00	213	288	93	198		3.55	4.80	1.55	3.30
04/16/00	202	267	90	186		3.37	4.45	1.50	3.11
04/17/00	203	280	88	190		3.38	4.67	1.47	3.17
04/18/00	205	278	91	191		3.42	4.63	1.52	3.19
04/19/00	212	277	93	194		3.53	4.62	1.55	3.23
04/20/00	213	286	97	199		3.55	4.77	1.62	3.31
04/21/00	209	271	94	191		3.48	4.52	1.57	3.19
04/22/00	207	271	93	190		3.45	4.52	1.55	3.17
04/23/00	204	255	93	184		3.40	4.25	1.55	3.07
04/24/00	205	259	98	187		3.42	4.32	1.63	3.12
04/25/00	195	243	88	175		3.25	4.05	1.47	2.92
04/26/00	197	242	93	177		3.28	4.03	1.55	2.96
04/27/00	203	241	105	183		3.38	4.02	1.75	3.05
04/28/00	185	228	90	168		3.08	3.80	1.50	2.79
04/29/00	179	226	82	162		2.98	3.77	1.37	2.71
04/30/00	165	190	77	144		2.75	3.17	1.28	2.40
05/01/00	180.4	206.6	84.6	157		3.01	3.44	1.41	2.62
05/02/00	180	204.1	85.9	157		3.00	3.40	1.43	2.61
05/03/00	168.3	188	80.2	145		2.80	3.13	1.34	2.42
05/04/00	180.4	200	88.3	156		3.01	3.33	1.47	2.60
05/05/00	175.5	189.7	82.8	149		2.93	3.16	1.38	2.49
05/06/00	176.3	191.2	88.4	152		2.94	3.19	1.47	2.53
05/07/00	183.7	194.4	88.5	156		3.06	3.24	1.48	2.59
05/08/00	190.5	204.2	98	164		3.18	3.40	1.63	2.74
05/09/00	182.9	202.4	91.9	159		3.05	3.37	1.53	2.65
05/10/00	179.7	200.7	95	158		2.99	3.35	1.58	2.64
05/11/00	187.34	207.4	95.4	163		3.12	3.46	1.59	2.72
05/12/00	198.16	211	101.2	170		3.30	3.52	1.69	2.84
05/13/00	187.6	217.6	96.1	167		3.13	3.63	1.60	2.79
05/14/00	189	213.9	95.9	166		3.15	3.56	1.60	2.77
05/15/00	183.5	212.8	97	164		3.06	3.55	1.62	2.74
05/16/00	184.6	207.1	93.6	162		3.08	3.45	1.56	2.70
05/17/00	183	194.7	94.4	157		3.05	3.25	1.57	2.62
05/18/00	190.2	210.7	103.5	168		3.17	3.51	1.73	2.80
05/19/00	180.2	197	94.6	157		3.00	3.28	1.58	2.62
05/20/00	187	209.4	100.3	166		3.12	3.49	1.67	2.76
05/21/00	170.1	194.5	88.2	151		2.83	3.24	1.47	2.52
05/22/00	181.4	189.2	100.4	157		3.02	3.15	1.67	2.62
05/23/00	188.1	205.1	101.2	165		3.13	3.42	1.69	2.75
05/24/00	189.5	205.9	102.9	166		3.16	3.43	1.71	2.77
05/25/00	196	213.8	107.1	172		3.27	3.56	1.79	2.87
05/26/00	181.2	199	97.7	159		3.02	3.32	1.63	2.65
05/27/00	190.2	209.5	103.3	168		3.17	3.49	1.72	2.79
05/28/00	184.1	210.9	101	165		3.07	3.52	1.68	2.76
05/29/00	191.7	218.2	106.8	172		3.19	3.64	1.78	2.87
05/30/00	195.5	223.5	109	176		3.26	3.73	1.82	2.93
05/31/00	193.4	218	109.5	174		3.22	3.63	1.83	2.89
06/01/00	200.2	232.2	111.7	181		3.34	3.87	1.86	3.02
06/02/00	116.6	173.2	67.3	119		1.94	2.89	1.12	1.98
06/03/00	193.5	214.3	105.1	171		3.23	3.57	1.75	2.85
06/04/00	188.5	204.1	100.6	164		3.14	3.40	1.68	2.74
06/05/00	185	208.9	103.5	166		3.08	3.48	1.73	2.76
06/06/00	190.9	219.6	108.5	173		3.18	3.66	1.81	2.88
06/07/00	198.9	226.2	115.4	180		3.32	3.77	1.92	3.00
06/08/00	200.4	231.1	107.6	180		3.34	3.85	1.79	3.00
06/09/00	190.7	218	122.5	177		3.18	3.63	2.04	2.95
06/10/00	182.5	226.1	103.1	171		3.04	3.77	1.72	2.84
06/11/00	186	204.5	107.1	166		3.10	3.41	1.78	2.76
06/12/00	125.1	182.6	64.1	124		2.09	3.04	1.07	2.07
06/13/00	183.5	196.4	101.9	161		3.06	3.27	1.70	2.68
06/14/00	192.4	210.1	114.3	172		3.21	3.50	1.91	2.87

Table A.4. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	4	9	16	Average		4	9	16	Average
06/15/00	196	212.4	118.7	176		3.27	3.54	1.98	2.93
06/16/00	199	209.7	124	178		3.32	3.49	2.07	2.96
06/17/00	177.4	199	109.3	162		2.96	3.32	1.82	2.70
06/18/00	144.6	162.8	82.1	130		2.41	2.71	1.37	2.16
06/19/00	152.5	163.8	91.2	136		2.54	2.73	1.52	2.26
06/20/00	166.4	159.6	97.5	141		2.77	2.66	1.63	2.35
06/21/00	181.8	176.2	110.8	156		3.03	2.94	1.85	2.60
06/22/00	192	187	120.5	167		3.20	3.12	2.01	2.78
06/23/00	178	176.5	113.2	156		2.97	2.94	1.89	2.60
06/24/00	186.2	178.2	118.4	161		3.10	2.97	1.97	2.68
06/25/00	183	177.7	117.3	159		3.05	2.96	1.96	2.66
06/26/00	185.9	182.1	121.6	163		3.10	3.03	2.03	2.72
06/27/00	173	170.5	113.1	152		2.88	2.84	1.88	2.54
06/28/00	178.7	166.3	113.7	153		2.98	2.77	1.89	2.55
06/29/00	123.5	159.7	90.9	125		2.06	2.66	1.52	2.08
06/30/00	152.1	141.5	95	130		2.54	2.36	1.58	2.16
07/01/00	153.9	148.9	104.8	136		2.56	2.48	1.75	2.26
07/02/00	167.4	151.5	104.9	141		2.79	2.53	1.75	2.35
07/03/00	180.6	155	112.3	149		3.01	2.58	1.87	2.49
07/04/00	196.3	166.5	117.4	160		3.27	2.78	1.96	2.67
07/05/00	194.3	160.2	120.9	158		3.24	2.67	2.02	2.64
07/06/00	198.7	166.9	121.8	162		3.31	2.78	2.03	2.71
07/07/00	197.5	174.4	122.7	165		3.29	2.91	2.05	2.75
07/08/00	197.5	166.2	121.9	162		3.29	2.77	2.03	2.70
07/09/00	198.6	174.3	122.9	165		3.31	2.91	2.05	2.75
07/10/00	198.4	169.2	123.6	164		3.31	2.82	2.06	2.73
07/11/00	200	174.9	128.1	168		3.33	2.92	2.13	2.79
07/12/00	202.6	183.6	127.5	171		3.38	3.06	2.13	2.85
07/13/00	151.4	161.6	95.7	136		2.52	2.69	1.59	2.27
07/14/00	166.3	158.5	86.8	137		2.77	2.64	1.45	2.29
07/15/00	170.8	164.6	92.5	143		2.85	2.74	1.54	2.38
07/16/00	177.2	172.4	87.5	146		2.95	2.87	1.46	2.43
07/17/00	184.7	173.2	90.8	150		3.08	2.89	1.51	2.49
07/18/00	187.5	178.5	91.1	152		3.13	2.98	1.52	2.54
07/19/00	190.3	181.5	91.7	155		3.17	3.03	1.53	2.58
07/20/00	196.4	190.2	96.9	161		3.27	3.17	1.62	2.69
07/21/00	196.2	190.6	92.8	160		3.27	3.18	1.55	2.66
07/22/00	199.1	186.2	95.7	160		3.32	3.10	1.60	2.67
07/23/00	189.5	194.5	95.9	160		3.16	3.24	1.60	2.67
07/24/00	199.1	189.1	97.8	162		3.32	3.15	1.63	2.70
07/25/00	194.6	192.2	98.9	162		3.24	3.20	1.65	2.70
07/26/00	199.6	187.9	100.2	163		3.33	3.13	1.67	2.71
07/27/00	201.1	194.3	106.1	167		3.35	3.24	1.77	2.79
07/28/00	197.1	190.1	104.9	164		3.29	3.17	1.75	2.73
07/29/00	195.5	193.9	109.5	166		3.26	3.23	1.83	2.77
07/30/00	189.2	179.2	105	158		3.15	2.99	1.75	2.63
07/31/00	188.5	189.6	110.5	163		3.14	3.16	1.84	2.71
08/01/00	188	184.5	108.6	160		3.13	3.08	1.81	2.67
08/02/00	187.9	185.5	113.9	162		3.13	3.09	1.90	2.71
08/03/00	189.8	188.7	114	164		3.16	3.15	1.90	2.74
08/04/00	185.7	178.8	111.9	159		3.10	2.98	1.87	2.65
08/05/00	187.8	185.9	115.2	163		3.13	3.10	1.92	2.72
08/06/00	181.5	181.7	115.6	160		3.03	3.03	1.93	2.66
08/07/00	181.6	179.5	107.4	156		3.03	2.99	1.79	2.60
08/08/00	169	182.9	113	155		2.82	3.05	1.88	2.58
08/09/00	175.2	173.6	111	153		2.92	2.89	1.85	2.55
08/10/00	179.8	182.8	117.7	160		3.00	3.05	1.96	2.67
08/11/00	178.6	181.4	116.2	159		2.98	3.02	1.94	2.65
08/12/00	180.3	180.5	118.6	160		3.00	3.01	1.98	2.66
08/13/00	178.5	181.8	122.1	161		2.98	3.03	2.03	2.68
08/14/00	176.5	178.3	118.1	158		2.94	2.97	1.97	2.63
08/15/00	176.7	177.1	119.4	158		2.95	2.95	1.99	2.63
08/16/00	173.3	176.8	119.6	157		2.89	2.95	1.99	2.61
08/17/00	168.5	172.5	116	152		2.81	2.88	1.93	2.54

Table A.4. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	4	9	16	Average		4	9	16	Average
08/18/00	159.5	164.1	114.8	146		2.66	2.73	1.91	2.44
08/19/00	165.2	167.2	117.8	150		2.75	2.79	1.96	2.50
08/20/00	172.6	164.1	114.3	150		2.88	2.74	1.91	2.51
08/21/00	146.9	169.9	109.4	142		2.45	2.83	1.82	2.37
08/22/00	164.1	166.2	118.9	150		2.73	2.77	1.98	2.50
08/23/00	156.6	168.2	112.3	146		2.61	2.80	1.87	2.43
08/24/00	160.6	165.7	116.3	148		2.68	2.76	1.94	2.46
08/25/00	155.1	163.6	116.9	145		2.59	2.73	1.95	2.42
08/26/00	156.3	161.5	116.2	145		2.61	2.69	1.94	2.41
08/27/00	158.2	166.9	119.8	148		2.64	2.78	2.00	2.47
08/28/00	153.1	161.1	114.8	143		2.55	2.68	1.91	2.38
08/29/00	84.9	91.5	63.5	80		1.41	1.53	1.06	1.33
08/30/00	170.4	155.9	131.7	153		2.84	2.60	2.19	2.54
08/31/00	153.3	168.7	122.7	148		2.56	2.81	2.05	2.47
09/01/00	147.5	167.3	117.3	144		2.46	2.79	1.95	2.40
09/02/00	152.6	169.6	121	148		2.54	2.83	2.02	2.46
09/03/00	148.1	168.2	125.8	147		2.47	2.80	2.10	2.46
09/04/00	153.2	165.3	123.4	147		2.55	2.76	2.06	2.46
09/05/00	149.1	170.3	124.5	148		2.48	2.84	2.08	2.47
09/06/00	148.2	166.3	118.3	144		2.47	2.77	1.97	2.40
09/07/00	142.7	160.8	127.3	144		2.38	2.68	2.12	2.39
09/08/00	140.9	158.5	118.7	139		2.35	2.64	1.98	2.32
09/09/00	140.5	156.5	120.7	139		2.34	2.61	2.01	2.32
09/10/00	131.5	159.5	114.8	135		2.19	2.66	1.91	2.25
09/11/00	137.6	158.8	122.8	140		2.29	2.65	2.05	2.33
09/12/00	140.9	162.2	124.7	143		2.35	2.70	2.08	2.38
09/13/00	141.6	167.7	122.9	144		2.36	2.79	2.05	2.40
09/14/00	125.1	154.7	116.6	132		2.08	2.58	1.94	2.20
09/15/00	132.1	154.7	115.6	134		2.20	2.58	1.93	2.24
09/16/00	131	153.1	118.1	134		2.18	2.55	1.97	2.23
09/17/00	130.4	154.3	113.9	133		2.17	2.57	1.90	2.21
09/18/00	133	151.2	115.7	133		2.22	2.52	1.93	2.22
09/19/00	130.8	150.1	118.4	133		2.18	2.50	1.97	2.22
09/20/00	129.2	150.5	113.2	131		2.15	2.51	1.89	2.18
09/21/00	130.6	149.4	115.7	132		2.18	2.49	1.93	2.20
09/22/00	133.5	134.8	108.1	125		2.23	2.25	1.80	2.09
09/23/00	142.9	143.3	110.4	132		2.38	2.39	1.84	2.20
09/24/00	138.1	139.9	109.4	129		2.30	2.33	1.82	2.15
09/25/00	141	139.7	109.6	130		2.35	2.33	1.83	2.17
09/26/00	141.4	136.8	108.5	129		2.36	2.28	1.81	2.15
09/27/00	145.5	137.1	108.9	130		2.43	2.28	1.81	2.17
09/28/00	138	133.2	105.2	125		2.30	2.22	1.75	2.09
09/29/00	139.3	139.3	106.4	128		2.32	2.32	1.77	2.14
09/30/00	139.4	136.4	107.2	128		2.32	2.27	1.79	2.13
10/01/00	142.5	144.6	108.4	132		2.38	2.41	1.81	2.20
10/02/00	136.7	136.8	105.8	126		2.28	2.28	1.76	2.11
10/03/00	140.8	139.1	111.6	130		2.35	2.32	1.86	2.17
10/04/00	141.5	140.2	106.7	129		2.36	2.34	1.78	2.16
10/05/00	135.5	129.8	100.4	122		2.26	2.16	1.67	2.03
10/06/00	140.6	147.3	111.3	133		2.34	2.46	1.85	2.22
10/07/00	128.3	134.8	102.2	122		2.14	2.25	1.70	2.03
10/08/00	127.4	132.8	98.7	120		2.12	2.21	1.64	1.99
10/09/00	126.3	131.1	101.7	120		2.11	2.18	1.70	2.00
10/10/00	124.1	125.8	96.9	116		2.07	2.10	1.61	1.93
10/11/00	125.6	116.3	95.8	113		2.09	1.94	1.60	1.88
10/12/00	117.8	117.8	85.8	107		1.96	1.96	1.43	1.79
10/13/00	123	124.2	91.3	113		2.05	2.07	1.52	1.88
10/14/00	119.9	124.2	90.8	112		2.00	2.07	1.51	1.86
10/15/00	125.3	119.2	94.2	113		2.09	1.99	1.57	1.88
10/16/00	113.3	113.4	87.3	105		1.89	1.89	1.46	1.74
10/17/00	92.7	112.4	73.3	93		1.54	1.87	1.22	1.55
10/18/00	119.9	107.5	94	107		2.00	1.79	1.57	1.79
10/19/00	123.8	114.8	95.8	111		2.06	1.91	1.60	1.86
10/20/00	121.7	120.1	96	113		2.03	2.00	1.60	1.88

Table A.4. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	4	9	16	Average		4	9	16	Average
10/21/00	112.2	111.7	88.4	104		1.87	1.86	1.47	1.74
10/22/00	110.3	103.9	85.5	100		1.84	1.73	1.43	1.67
10/23/00	111.5	110.5	90.9	104		1.86	1.84	1.52	1.74
10/24/00	77	103.4	74.5	85		1.28	1.72	1.24	1.42
10/25/00	55	79.8	69.7	68		0.92	1.33	1.16	1.14
10/26/00	96	96.2	76.4	90		1.60	1.60	1.27	1.49
10/27/00	111.1	112.4	94.9	106		1.85	1.87	1.58	1.77
10/28/00	113.3	114.8	99.7	109		1.89	1.91	1.66	1.82
10/29/00	87.2	98.2	75.8	87		1.45	1.64	1.26	1.45
10/30/00	111.2	108.3	88.6	103		1.85	1.81	1.48	1.71
10/31/00	2.8	105.5	81.9	63		0.05	1.76	1.37	1.06
11/01/00		99.3	68.1	84	Flow meter out of order.	0.00	1.65	1.13	0.93
11/02/00		100.2	86.5	93	Flow meter out of order.	0.00	1.67	1.44	1.04
11/03/00		98.8	85.1	92	Flow meter out of order.	0.00	1.65	1.42	1.02
11/04/00		105.8	87.6	97	Flow meter out of order.	0.00	1.76	1.46	1.07
11/05/00		90.2	67.6	79	Flow meter out of order.	0.00	1.50	1.13	0.88
11/06/00		77	66.7	72	Flow meter out of order.	0.00	1.28	1.11	0.80
11/07/00		100.7	87.8	94	Flow meter out of order.	0.00	1.68	1.46	1.05
11/08/00		98	82.8	90	Flow meter out of order.	0.00	1.63	1.38	1.00
11/09/00		86.3	71.1	79	Flow meter out of order.	0.00	1.44	1.18	0.87
11/10/00		66.6	50.1	58	Flow meter out of order.	0.00	1.11	0.83	0.65
11/11/00		86.7	60.6	74	Flow meter out of order.	0.00	1.44	1.01	0.82
11/12/00		41.5	34.1	38	Flow meter out of order.	0.00	0.69	0.57	0.42
11/13/00		72.7	78.6	76	Flow meter out of order.	0.00	1.21	1.31	0.84
11/14/00		98.4	94.3	96	Flow meter out of order.	0.00	1.64	1.57	1.07
11/15/00		86.3	73.6	80	Flow meter out of order.	0.00	1.44	1.23	0.89
11/16/00		94.6	78.9	87	Flow meter out of order.	0.00	1.58	1.32	0.96
11/17/00		91.2	80.5	86	Flow meter out of order.	0.00	1.52	1.34	0.95
11/18/00		91.6	85.4	89	Flow meter out of order.	0.00	1.53	1.42	0.98
11/19/00		102.6	85.6	94	Flow meter out of order.	0.00	1.71	1.43	1.05
11/20/00		85.7	78.5	82	Flow meter out of order.	0.00	1.43	1.31	0.91
11/21/00		91.9	80.7	86	Flow meter out of order.	0.00	1.53	1.34	0.96
11/22/00	78.9	91.9	76.4	82		1.32	1.53	1.27	1.37
11/23/00	40.9	87.1	77.7	69		0.68	1.45	1.29	1.14
11/24/00		89.9	76.6	83	Bad flow reading.	0.00	1.50	1.28	0.93
11/25/00		79.1	75.2	77	Bad flow reading.	0.00	1.32	1.25	0.86
11/26/00	43.8	84.1	76.9	68		0.73	1.40	1.28	1.14
11/27/00	43.8	88.8	79.4	71		0.73	1.48	1.32	1.18
11/28/00	42.9	89	74.9	69		0.72	1.48	1.25	1.15
11/29/00	45.7	87.1	80.9	71		0.76	1.45	1.35	1.19
11/30/00	45.5	95.4	86	76		0.76	1.59	1.43	1.26
12/01/00	46.9	86	80.1	71		0.78	1.43	1.33	1.18
12/02/00	46.7	88.9	82.4	73		0.78	1.48	1.37	1.21
12/03/00	45.9	89.2	87.2	74		0.77	1.49	1.45	1.23
12/04/00	46.3	86.7	86.7	73		0.77	1.44	1.45	1.22
12/05/00	46	89	80.2	72		0.77	1.48	1.34	1.20
12/06/00	42.8	85.6	73.9	67		0.71	1.43	1.23	1.12
12/07/00	47	87.3	82.3	72		0.78	1.45	1.37	1.20
12/08/00	45.1	88.8	76.7	70		0.75	1.48	1.28	1.17
12/09/00	48.5	89.3	83.9	74		0.81	1.49	1.40	1.23
12/10/00	44.9	84.2	75.1	68		0.75	1.40	1.25	1.13
12/11/00	45.8	80.6	75.3	67		0.76	1.34	1.26	1.12
12/12/00	50	94.3	87	77		0.83	1.57	1.45	1.29
12/13/00	43.8	85.8	76.9	69		0.73	1.43	1.28	1.15
12/14/00	47.2	88.3	80.3	72		0.79	1.47	1.34	1.20
12/15/00	46.2	90.1	80.9	72		0.77	1.50	1.35	1.21
12/16/00	45.3	88.2	77.8	70		0.76	1.47	1.30	1.17
12/17/00	52.4	94.1	82.8	76		0.87	1.57	1.38	1.27
12/18/00	50.5	91.2	80.9	74		0.84	1.52	1.35	1.24
12/19/00	54.5	103.3	83.8	81		0.91	1.72	1.40	1.34
12/20/00	52.6	99	78.7	77		0.88	1.65	1.31	1.28
12/21/00	55.6	100.8	82.9	80		0.93	1.68	1.38	1.33
12/22/00	57.4	108.2	85.7	84		0.96	1.80	1.43	1.40
12/23/00	54.5	103.8	81.8	80		0.91	1.73	1.36	1.33

Table A.4. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	4	9	16	Average		4	9	16	Average
12/24/00	57.4	112.3	86.2	85		0.96	1.87	1.44	1.42
12/25/00	56.4	113.7	90.5	87		0.94	1.89	1.51	1.45
12/26/00					Bad weather- heavy snow.	0.00	0.00	0.00	0.00
12/27/00					Bad weather- heavy snow.	0.00	0.00	0.00	0.00
12/28/00	59.2	118.6	96.5	91		0.99	1.98	1.61	1.52
12/29/00	70	189.9	163.4	141		1.17	3.17	2.72	2.35
12/30/00	43.9	87.6	78.4	70		0.73	1.46	1.31	1.17
12/31/00	54.2	107.9	91.6	85		0.90	1.80	1.53	1.41
01/01/01	56.9	106	91.8	85		0.95	1.77	1.53	1.42
01/02/01	34.7	117.3	85.9	79		0.58	1.95	1.43	1.32
01/03/01	59	127.6	93.6	93		0.98	2.13	1.56	1.56
01/04/01	54.5	126.3	84.4	88		0.91	2.11	1.41	1.47
01/05/01	53.9	127.1	76.1	86		0.90	2.12	1.27	1.43
01/06/01	59.6	132.4	86.1	93		0.99	2.21	1.44	1.55
01/07/01	52.8	113.3	76.1	81		0.88	1.89	1.27	1.35
01/08/01	37.8	103	75.9	72		0.63	1.72	1.27	1.20
01/09/01	39.4	88.8	52.7	60		0.66	1.48	0.88	1.00
01/10/01	75.4	119.3	84.6	93		1.26	1.99	1.41	1.55
01/11/01	50.2	113	73.3	79		0.84	1.88	1.22	1.31
01/12/01	14.3	52.1	42.5	36		0.24	0.87	0.71	0.61
01/13/01	41.3	80.7	48.3	57		0.69	1.34	0.81	0.95
01/14/01	94.3	121.7	97.2	104		1.57	2.03	1.62	1.74
01/15/01	56.4	91.8	70.6	73		0.94	1.53	1.18	1.22
01/16/01	90.6	132.8	88.1	104		1.51	2.21	1.47	1.73
01/17/01	81.6	138.6	95.5	105		1.36	2.31	1.59	1.75
01/18/01	85.5	129.8	86.5	101		1.43	2.16	1.44	1.68
01/19/01	75.3	96.7	77.2	83		1.26	1.61	1.29	1.38
01/20/01	48.4	90.7	70.9	70		0.81	1.51	1.18	1.17
01/21/01	76	89.1	70.1	78		1.27	1.48	1.17	1.31
01/22/01	98.2	122.2	71.4	97		1.64	2.04	1.19	1.62
01/23/01	103.2	94.2	82.9	93		1.72	1.57	1.38	1.56
01/24/01	96.4	127.6	93.7	106		1.61	2.13	1.56	1.76
01/25/01	97.2	115.4	78.1	97		1.62	1.92	1.30	1.62
01/26/01	112.7	135.5	95.2	114		1.88	2.26	1.59	1.91
01/27/01	130.1	138.6	90.9	120		2.17	2.31	1.51	2.00
01/28/01					Frozen pipes.	0.00	0.00	0.00	0.00
01/29/01					Frozen pipes.	0.00	0.00	0.00	0.00
01/30/01	126.5	116.5	72.1	105		2.11	1.94	1.20	1.75
01/31/01	113.1	112.8	83.4	103		1.89	1.88	1.39	1.72
02/01/01	101.5	117.9	83.9	101		1.69	1.96	1.40	1.68
02/02/01	112.3	132.6	93	113		1.87	2.21	1.55	1.88
02/03/01	114.4	129.8	88.7	111		1.91	2.16	1.48	1.85
02/04/01	61.4	106.3	69.5	79		1.02	1.77	1.16	1.32
02/05/01	83.7	69.3	58.4	70		1.40	1.16	0.97	1.17
02/06/01	116.8	123.9	82	108		1.95	2.06	1.37	1.79
02/07/01	105.3	126.1	69.9	100		1.76	2.10	1.16	1.67
02/08/01	216	162.2	85.8	155		3.60	2.70	1.43	2.58
02/09/01	246.1	135.9	70.4	151		4.10	2.27	1.17	2.51
02/10/01	271.3	133	85.9	163		4.52	2.22	1.43	2.72
02/11/01	286.6	114.6	87.3	163		4.78	1.91	1.46	2.71
02/12/01	274.5	175.2	85.1	178		4.58	2.92	1.42	2.97
02/13/01	284.2	170.8	91.4	182		4.74	2.85	1.52	3.04
02/14/01	267.9	171.4	86.9	175		4.47	2.86	1.45	2.92
02/15/01	273.1	179.4	91.4	181		4.55	2.99	1.52	3.02
02/16/01	251.1	168.8	87	169		4.19	2.81	1.45	2.82
02/17/01	275.9	188.7	99.5	188		4.60	3.15	1.66	3.13
02/18/01	258.4	171	96	175		4.31	2.85	1.60	2.92
02/19/01	245.9	99.7	87.5	144		4.10	1.66	1.46	2.41
02/20/01	252.4	171.9	95.5	173		4.21	2.87	1.59	2.89
02/21/01	237.1	161.4	91.9	163		3.95	2.69	1.53	2.72
02/22/01	225	161.4	100.8	162		3.75	2.69	1.68	2.71
02/23/01	192.5	148.6	97.3	146		3.21	2.48	1.62	2.44
02/24/01	185.1	133	92.6	137		3.09	2.22	1.54	2.28
02/25/01	185	101.8	94.8	127		3.08	1.70	1.58	2.12

Table A.4. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	4	9	16	Average		4	9	16	Average
02/26/01	187.3		91.6	139		3.12	0.00	1.53	1.55
02/27/01	186.7	123.4	92.9	134		3.11	2.06	1.55	2.24
02/28/01	178.9	125.6	100.4	135		2.98	2.09	1.67	2.25
03/01/01	151	76.9	94	107		2.52	1.28	1.57	1.79
03/02/01	156.4			156	Flow meter out of order.	2.61	0.00	0.00	0.87
03/03/01	141.7			142	Flow meter out of order.	2.36	0.00	0.00	0.79
03/04/01	127.3			127	Flow meter out of order.	2.12	0.00	0.00	0.71
03/05/01	126.3			126	Flow meter out of order.	2.11	0.00	0.00	0.70
03/06/01	131.5	83.8	78.6	98		2.19	1.40	1.31	1.63
03/07/01	123	77.3	76.6	92		2.05	1.29	1.28	1.54
03/08/01	100.1	77.3	67.7	82		1.67	1.29	1.13	1.36
03/09/01	78.9	57.3	52.6	63		1.32	0.96	0.88	1.05
03/10/01	108.9	71.8	65.8	82		1.82	1.20	1.10	1.37
03/11/01	106	69	63.4	79		1.77	1.15	1.06	1.32
03/12/01	105.8	67.1	63.4	79		1.76	1.12	1.06	1.31
03/13/01	110.6	71	70.6	84		1.84	1.18	1.18	1.40
03/14/01	110.6	69.2	64.2	81		1.84	1.15	1.07	1.36
03/15/01	111.5	68.4	68.5	83		1.86	1.14	1.14	1.38
03/16/01	110.8	68.9	69.8	83		1.85	1.15	1.16	1.39
03/17/01	101.9	60.2	60.7	74		1.70	1.00	1.01	1.24
03/18/01	87	68.9	66.4	74		1.45	1.15	1.11	1.24
03/19/01	95.2	54.1	56.6	69		1.59	0.90	0.94	1.14
03/20/01	97.7	64	67.6	76		1.63	1.07	1.13	1.27
03/21/01	90.5	53.4	56	67		1.51	0.89	0.93	1.11
03/22/01	90	62.5	64.4	72		1.50	1.04	1.07	1.21
03/23/01	108.8	59	62.5	77		1.81	0.98	1.04	1.28
03/24/01	85.3	58.2	53.5	66		1.42	0.97	0.89	1.09
03/25/01	96.1	57.3	62.6	72		1.60	0.96	1.04	1.20
03/26/01	97.4	57.5	62.3	72		1.62	0.96	1.04	1.21
03/27/01	72.4	64.2	67.8	68		1.21	1.07	1.13	1.14
03/28/01	80.3	51.5	55.7	63		1.34	0.86	0.93	1.04
03/29/01	83.2	48.9	55.3	62		1.39	0.81	0.92	1.04
03/30/01	82.4	49.4	55.5	62		1.37	0.82	0.93	1.04
03/31/01	86.4	53.6	59.8	67		1.44	0.89	1.00	1.11
04/01/01	84.8	51.1	57.5	64		1.41	0.85	0.96	1.07
04/02/01	89	52.4	58.6	67		1.48	0.87	0.98	1.11
04/03/01	106.1	61.9	66	78		1.77	1.03	1.10	1.30
04/04/01	98.5	53.7	64	72		1.64	0.90	1.07	1.20
04/05/01	91.2	60.6	64.9	72		1.52	1.01	1.08	1.20
04/06/01	89.3	48.2	59	65		1.49	0.80	0.98	1.09
04/07/01	102.1	53.7	67.2	74		1.70	0.90	1.12	1.24
04/08/01	106	59	72.6	79		1.77	0.98	1.21	1.32
04/09/01	105.3	59	72.3	79		1.75	0.98	1.21	1.31
04/10/01	112.1	62.6	78.1	84		1.87	1.04	1.30	1.40
04/11/01	99.7	53.4	66.2	73		1.66	0.89	1.10	1.22
04/12/01	110.5	62.7	78.7	84		1.84	1.05	1.31	1.40
04/13/01	128.2	70.9	87	95		2.14	1.18	1.45	1.59
04/14/01	99.2	52.2	67.8	73		1.65	0.87	1.13	1.22
04/15/01	113.3	60.4	79.2	84		1.89	1.01	1.32	1.41
04/16/01	108.9	65.8	82.7	86		1.82	1.10	1.38	1.43
04/17/01	103.8	62.6	82.3	83		1.73	1.04	1.37	1.38
04/18/01	99.3	58.4	71.8	76		1.65	0.97	1.20	1.28
04/19/01	103.8	64.6	79.3	83		1.73	1.08	1.32	1.38
04/20/01	102	60.6	78.8	80		1.70	1.01	1.31	1.34
04/21/01	104.8	64	82.2	84		1.75	1.07	1.37	1.39
04/22/01	104.5	65.8	82.5	84		1.74	1.10	1.38	1.40
04/23/01	107.2	66.4	83.8	86		1.79	1.11	1.40	1.43
04/24/01	108.1	66.7	88.6	88		1.80	1.11	1.48	1.46
04/25/01	98.6	61.8	77.6	79		1.64	1.03	1.29	1.32
04/26/01	100.3	64.1	75	80		1.67	1.07	1.25	1.33
04/27/01	98.9	63.3	76.2	79		1.65	1.06	1.27	1.32
04/28/01	101.7	63.3	82.1	82		1.69	1.06	1.37	1.37
04/29/01	99.2	61.8	76	79		1.65	1.03	1.27	1.32
04/30/01	101	64.6	79	82		1.68	1.08	1.32	1.36

Table A.4. Continued

Date	Flow Rate (gpd)				Comments	Loading Rate (gpd/sq ft)			
	4	9	16	Average		4	9	16	Average
05/01/01	104	62.4	80.1	82		1.73	1.04	1.34	1.37
05/02/01	103.3	62.5	79.3	82		1.72	1.04	1.32	1.36
05/03/01	113.7	70.5	75.7	87		1.90	1.18	1.26	1.44
05/04/01	94.3	59.8	84.2	79		1.57	1.00	1.40	1.32
05/05/01	91.1	60	78.4	77		1.52	1.00	1.31	1.28
05/06/01	111.5	56.6	75	81		1.86	0.94	1.25	1.35
05/07/01	113.4	67	83.2	88		1.89	1.12	1.39	1.46
05/08/01	115.4	60.5	83.5	86		1.92	1.01	1.39	1.44
05/09/01	113.6	65.7	83.7	88		1.89	1.10	1.40	1.46
05/10/01	117	64.9	87.8	90		1.95	1.08	1.46	1.50
05/11/01	115.6	67.8	86.4	90		1.93	1.13	1.44	1.50
05/12/01	119.7	67.9	90	93		2.00	1.13	1.50	1.54
05/13/01	116.9	70	91.6	93		1.95	1.17	1.53	1.55
05/14/01	119.7	64.5	85.1	90		2.00	1.08	1.42	1.50
05/15/01	127	72.7	95.4	98		2.12	1.21	1.59	1.64
05/16/01	124.5	74.8	94.2	98		2.08	1.25	1.57	1.63
05/17/01	127	78.3	95.2	100		2.12	1.31	1.59	1.67
05/18/01	115.5	72.6	92.3	93		1.93	1.21	1.54	1.56
05/19/01	120	76	93	96	No reading, use 5/20/01.	2.00	1.27	1.55	1.61
05/20/01	120	76	93	96		2.00	1.27	1.55	1.61
05/21/01	86.8	46.5	58.1	64		1.45	0.78	0.97	1.06
05/22/01	111.2	67.6	84.6	88		1.85	1.13	1.41	1.46
05/23/01	111.4	69.7	80.5	87		1.86	1.16	1.34	1.45
05/24/01	105.9	68	92.1	89		1.77	1.13	1.54	1.48
05/25/01	107.1	74.6	89.7	90		1.79	1.24	1.50	1.51
05/26/01	118.6	79.5	61	86		1.98	1.33	1.02	1.44
05/27/01	90.7	59.2	77.7	76		1.51	0.99	1.30	1.26
05/28/01	114.1	81.7	90.8	96		1.90	1.36	1.51	1.59
05/29/01	94.1	65.6	42.1	67		1.57	1.09	0.70	1.12
05/30/01	100.4	67.7	36.1	68		1.67	1.13	0.60	1.13
05/31/01	85.7	64.2	22.5	57		1.43	1.07	0.38	0.96

APPENDIX B. Water Quality Data

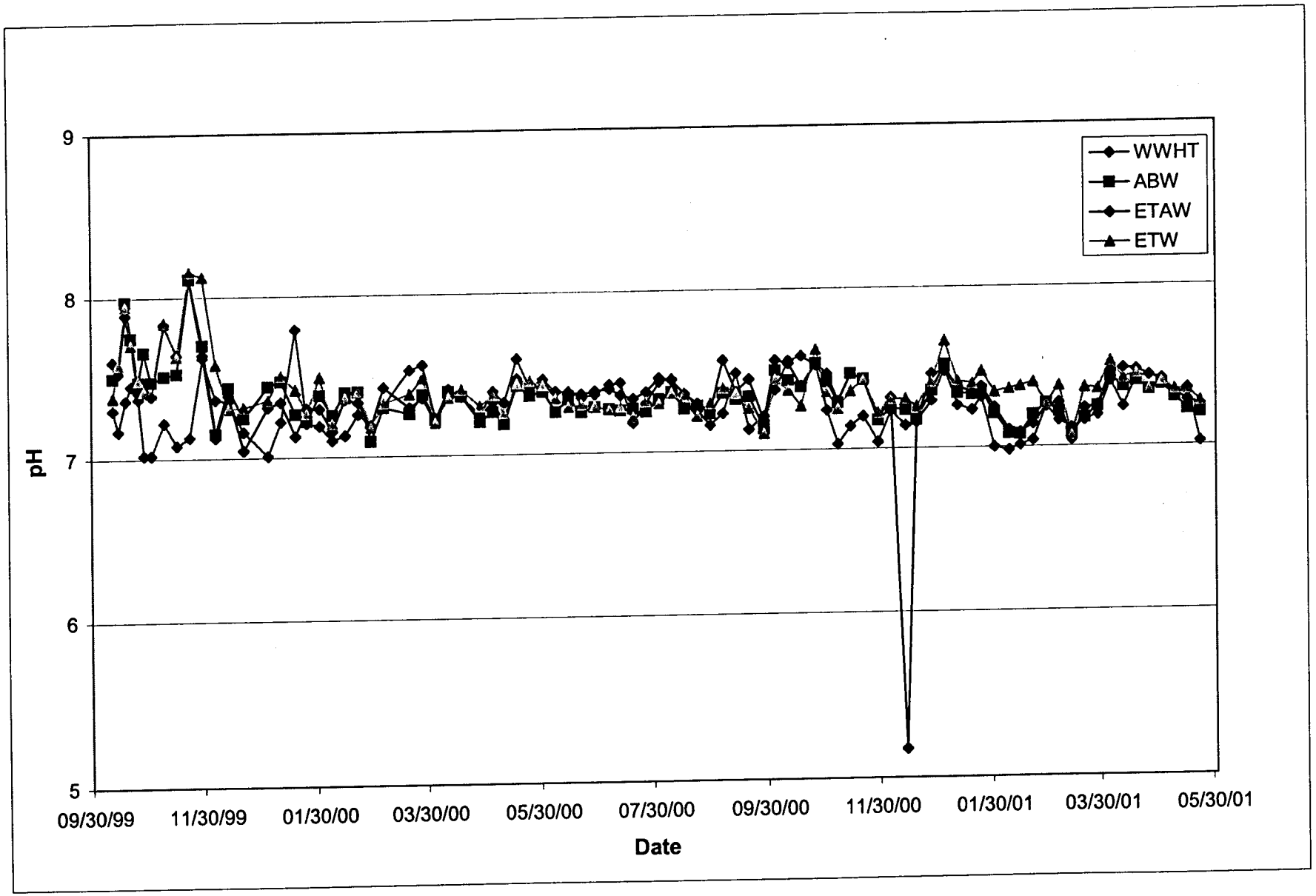

Figure B.1. pH at Wastewater Head Tank and Averaged by Unit Types

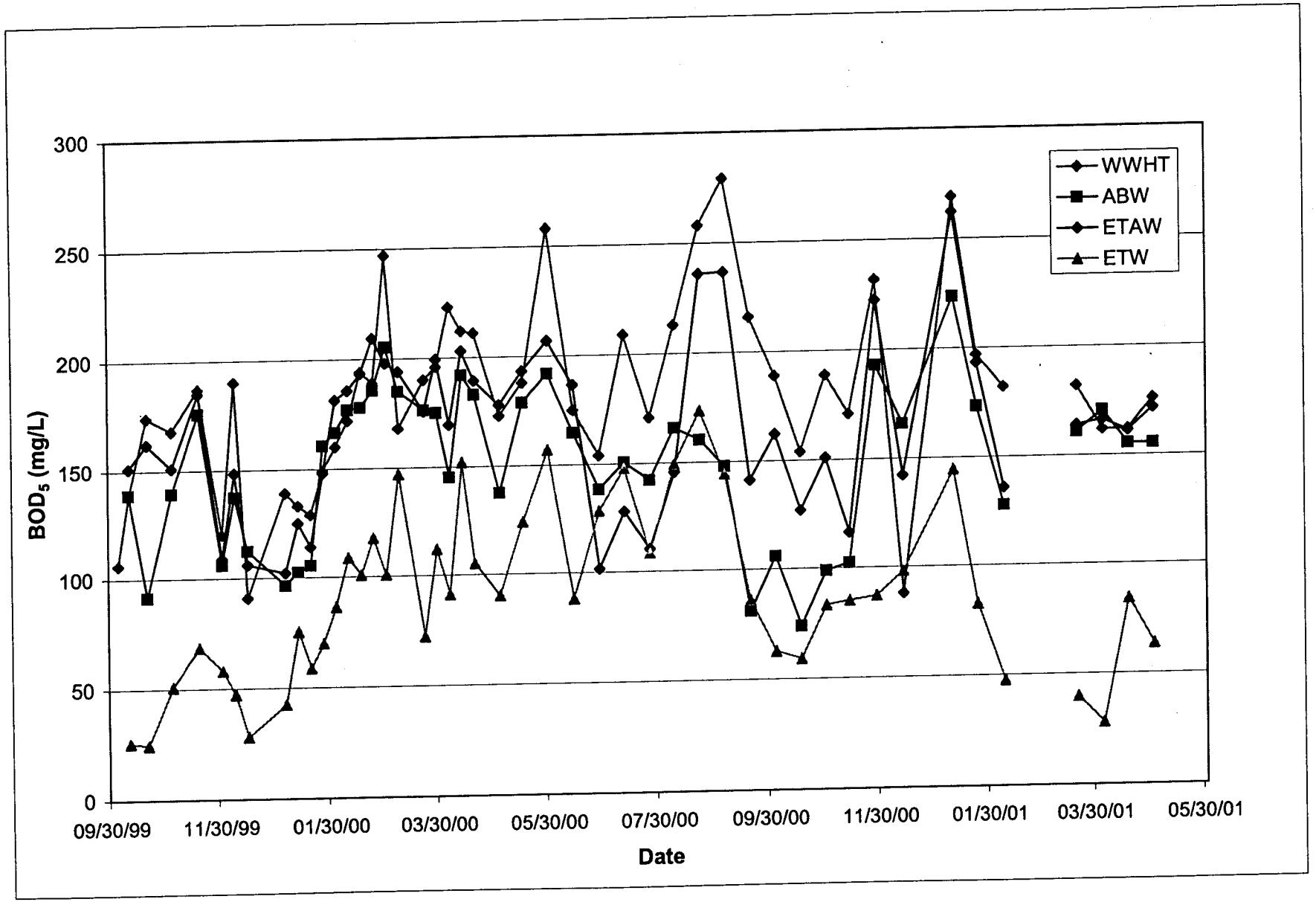

Figure B.2. BOD_5 at Wastewater Head Tank and Averaged by Unit Types

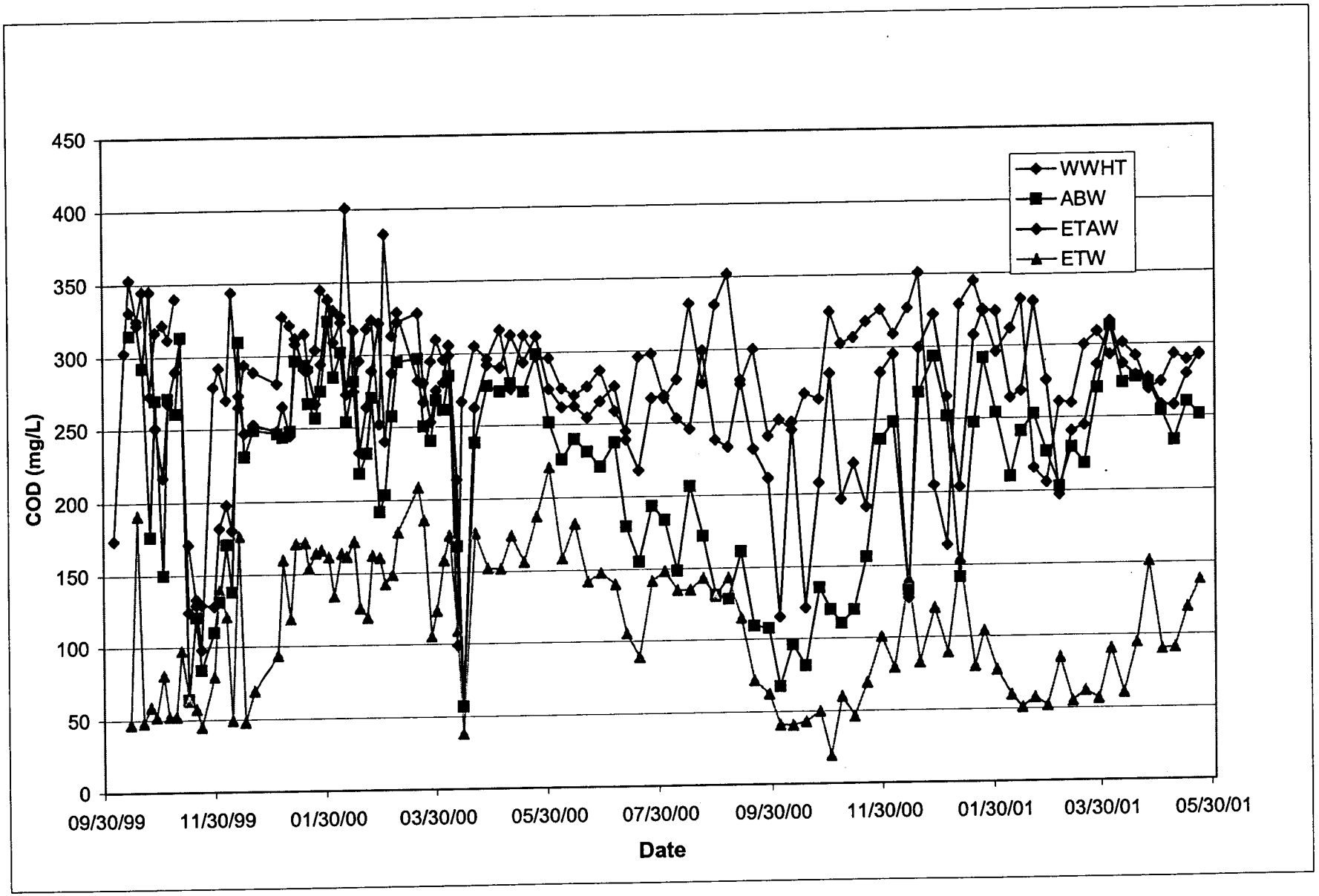

Figure B.3. COD at Wastewater Head Tank and Averaged by Unit Types

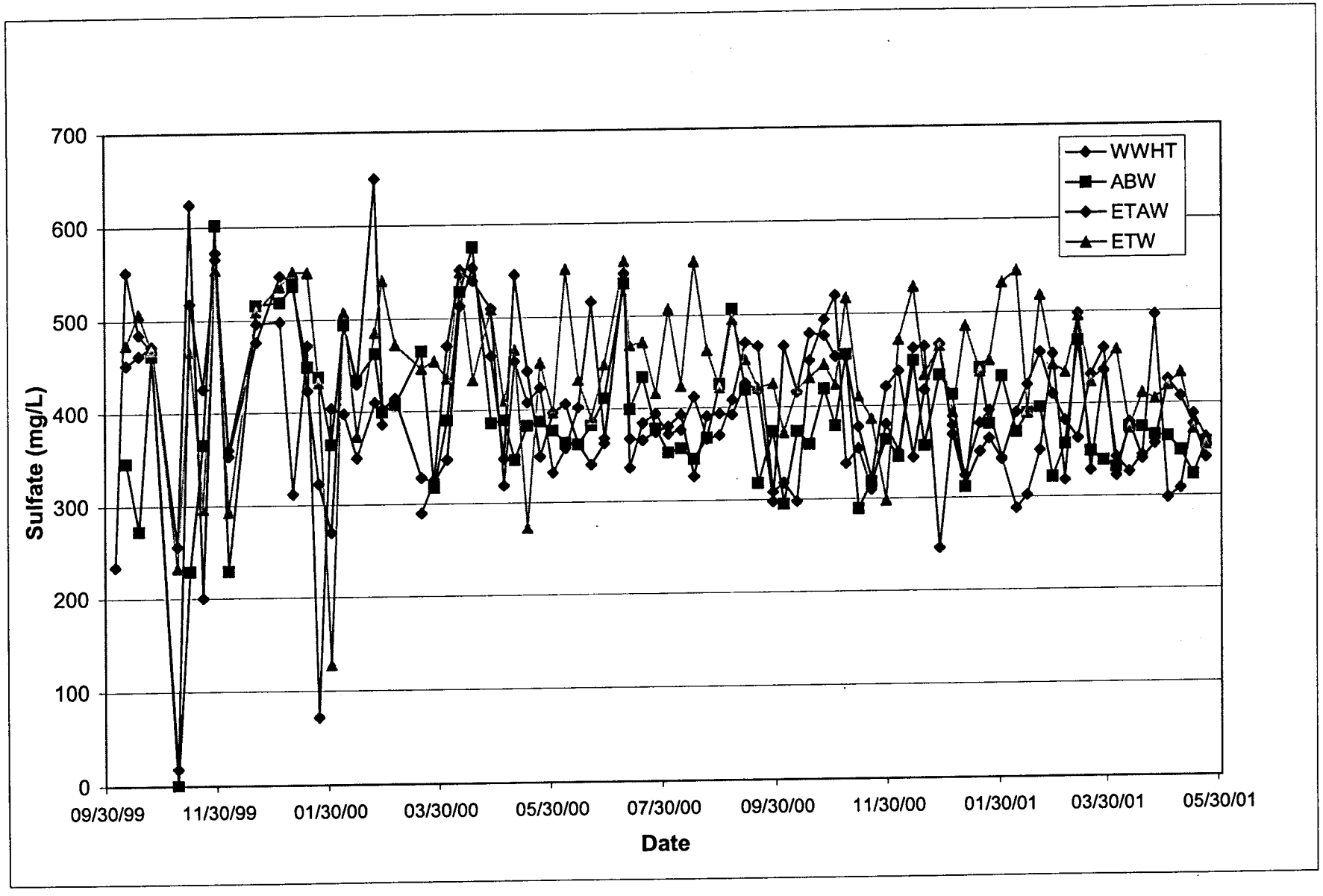

Figure B.4. Sulfate at Wastewater Head Tank and Averaged by Unit Types

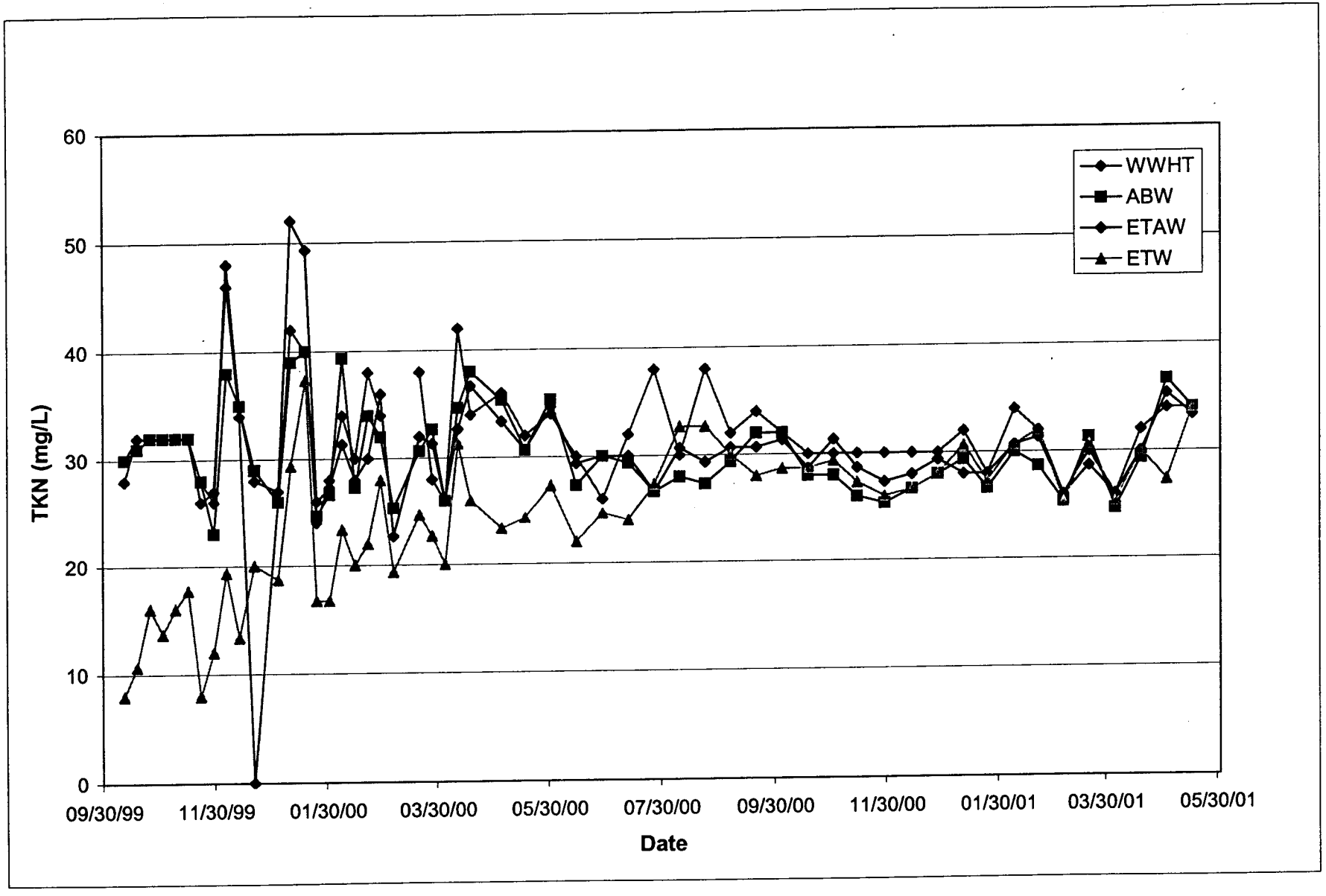

Figure B.5. TKN at Wastewater Head Tank and Averaged by Unit Types

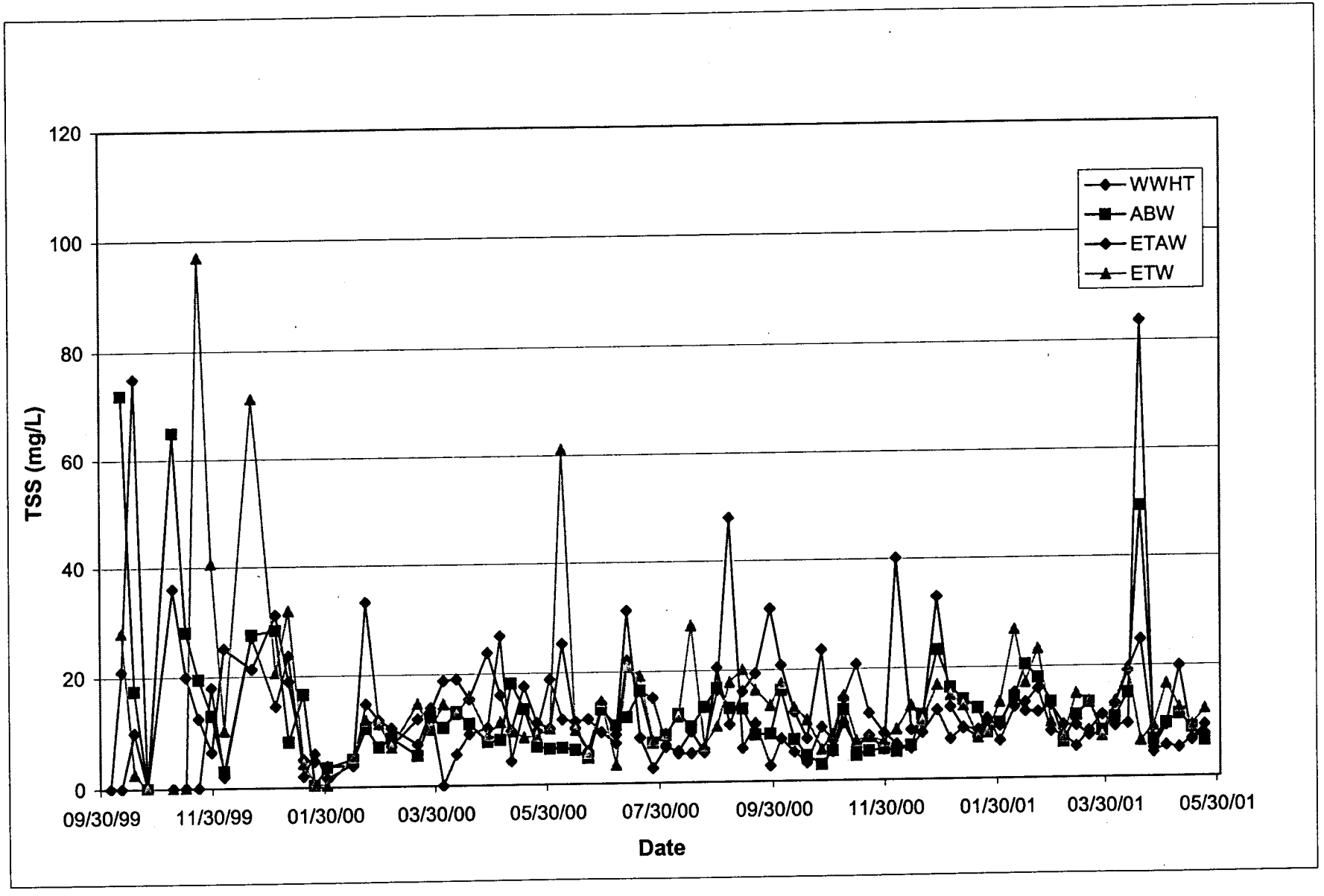

Figure B.6. TSS at Wastewater Head Tank and Averaged by Unit Types

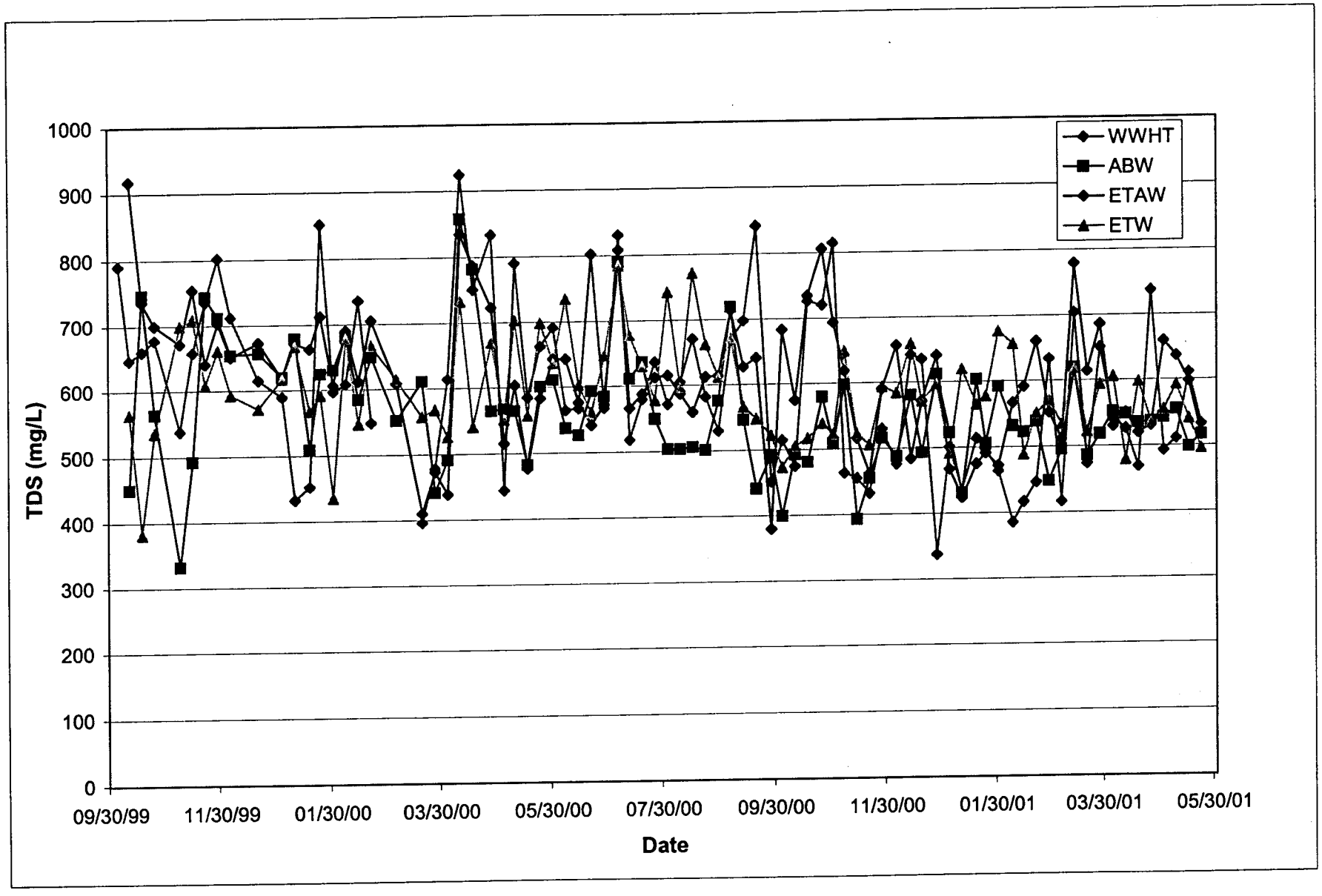

Figure B.7. TDS at Wastewater Head Tank and Averaged by Unit Types

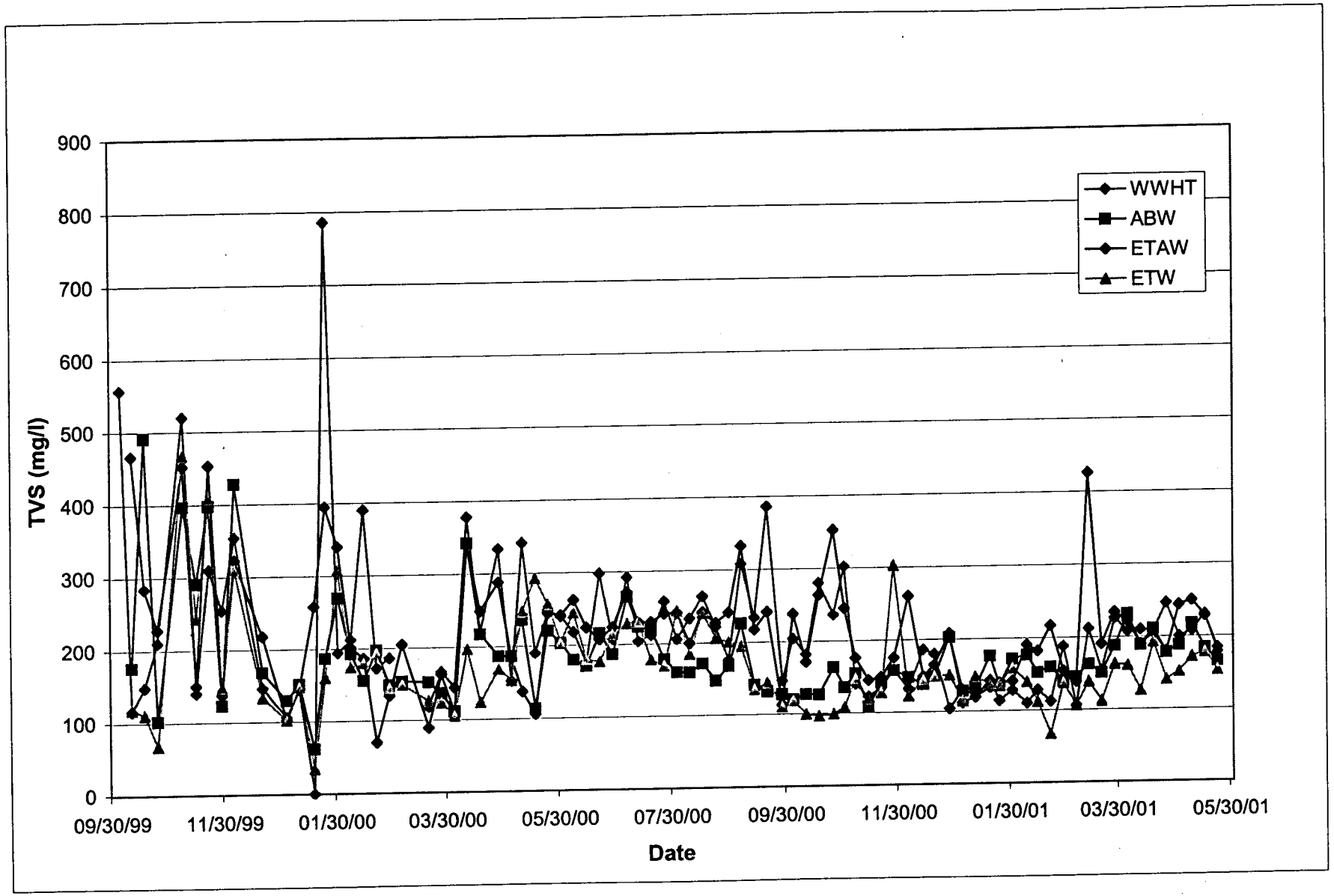

Figure B.8. TVS at Wastewater Head Tank and Averaged by Unit Types

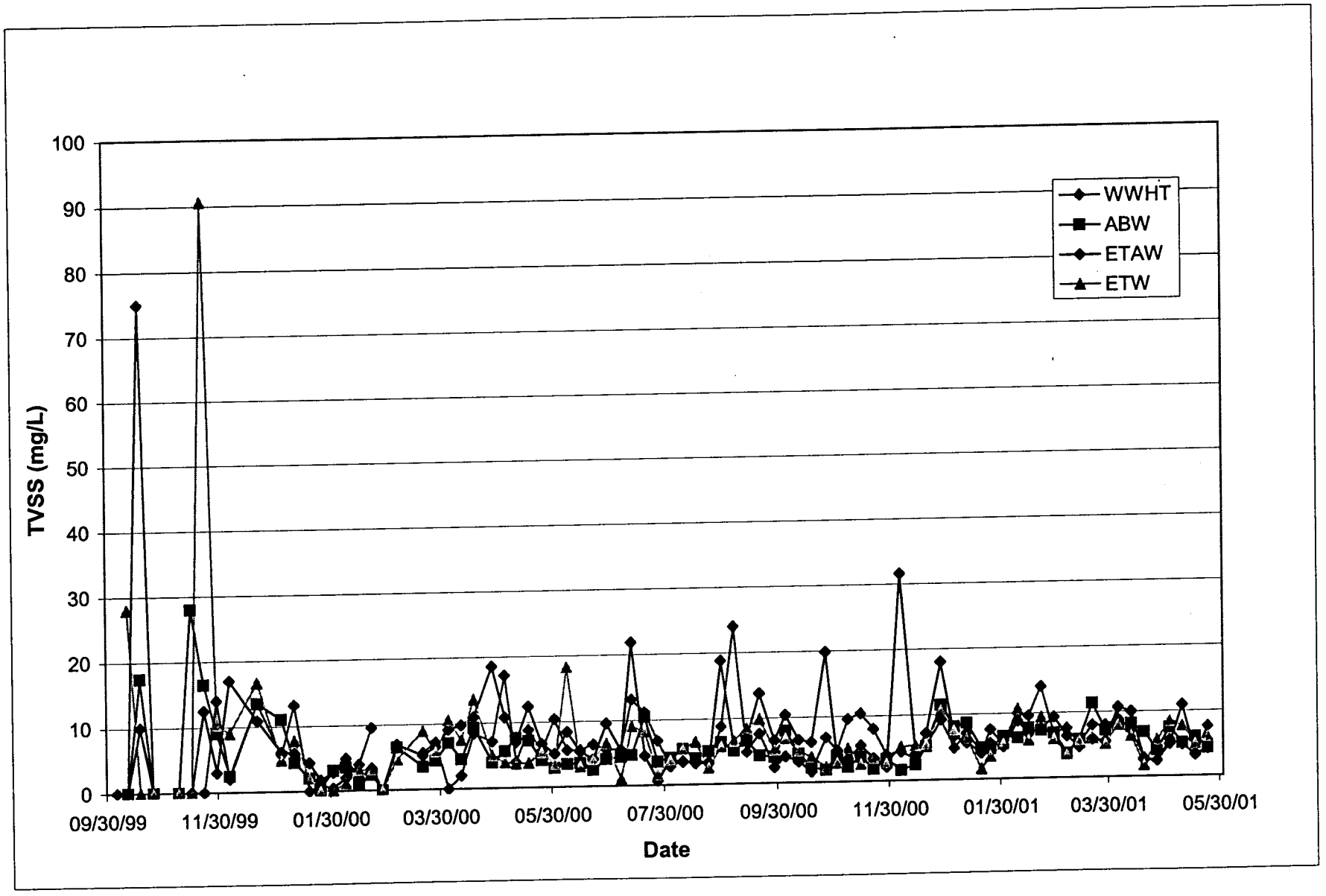

Figure B.9. TVSS at Wastewater Head Tank and Averaged by Unit Types

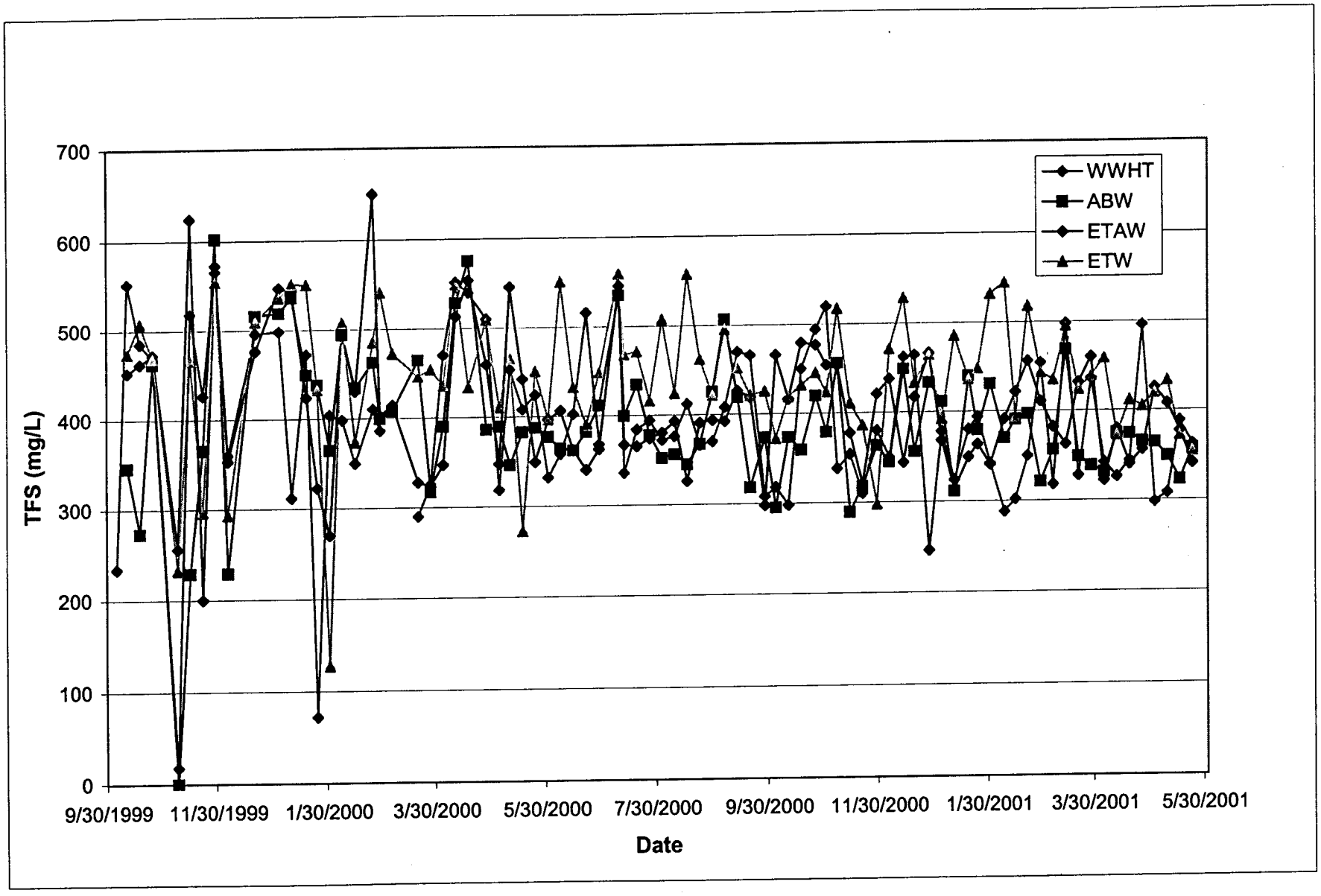

Figure B.10. TFS at Wastewater Head Tank and Averaged by Unit Types

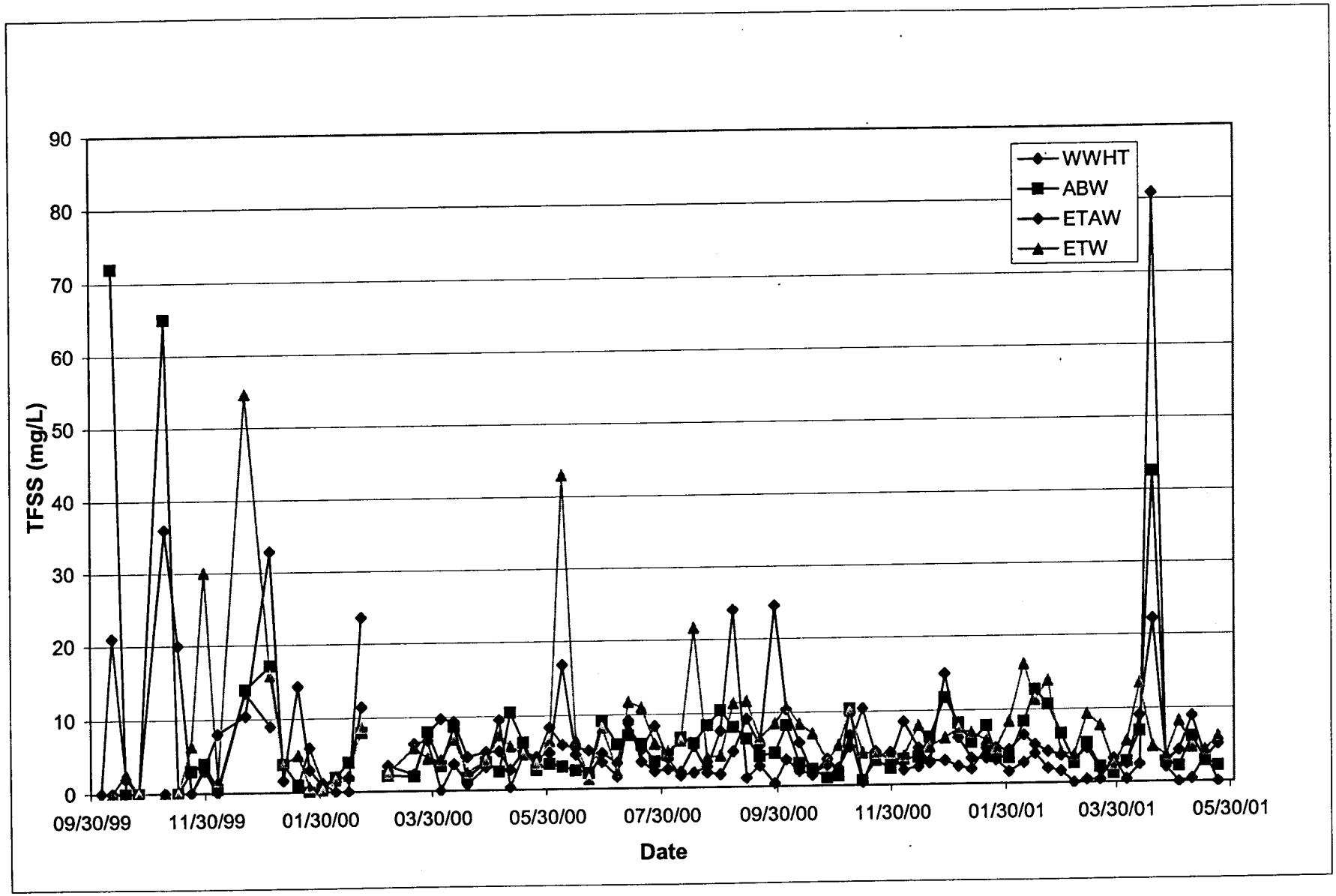

Figure B.11. TFSS at Wastewater Head Tank and Averaged by Unit Types

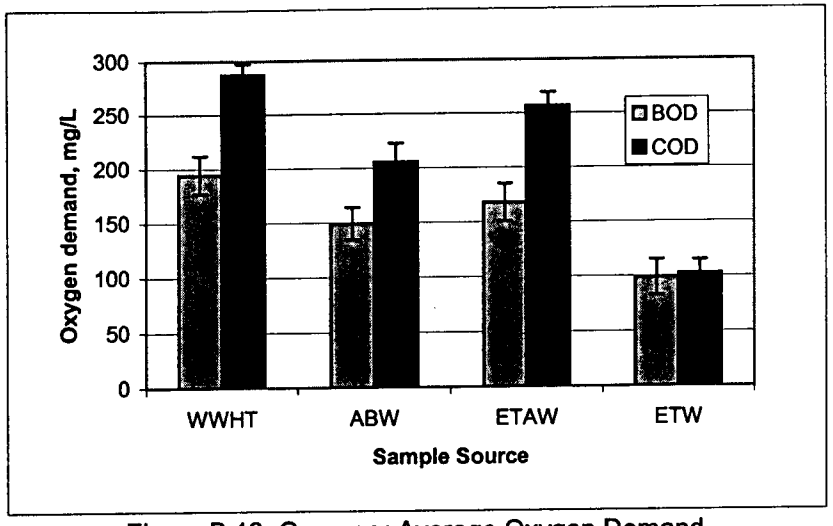

Figure B.12. One-year Average Oxygen Demand at Wastewater Head Tank and Each Unit Type

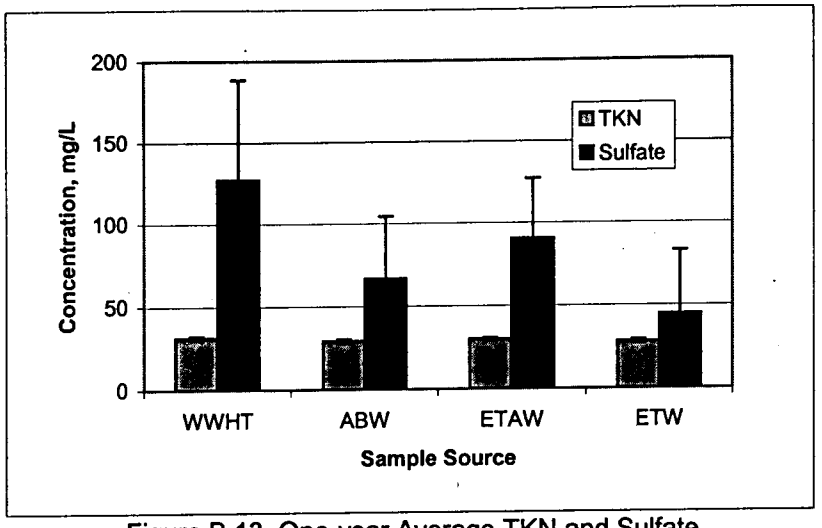

Figure B.13. One-year Average TKN and Sulfate at Wastewater Head Tank and Each Unit Type

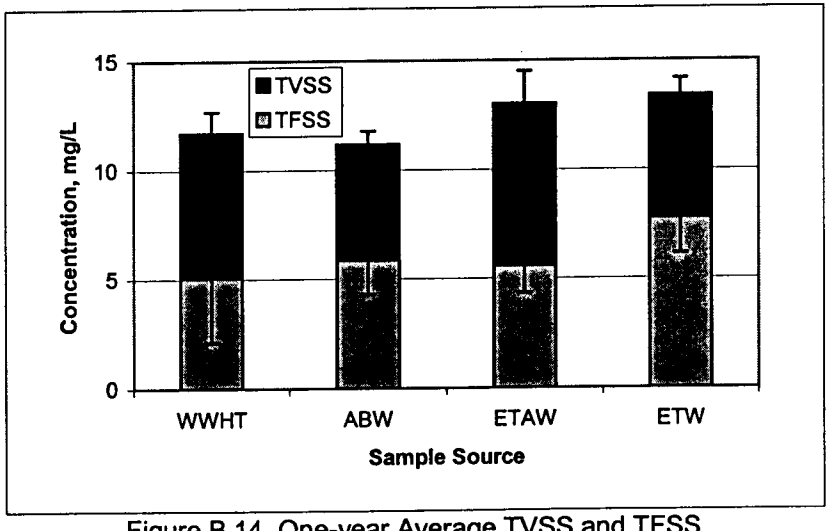

Figure B.14. One-year Average TVSS and TFSS at Wastewater Head Tank and Each Unit Type

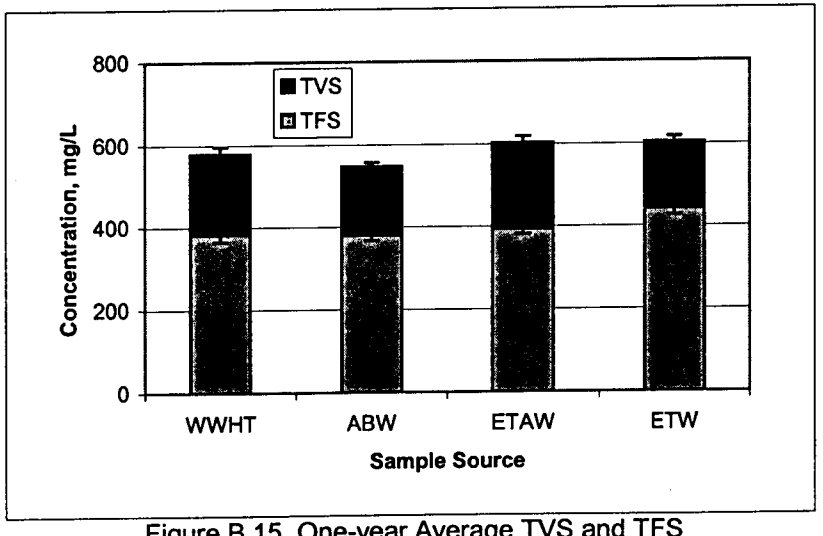

Figure B.15. One-year Average TVS and TFS at Wastewater Head Tank and Each Unit Type

Table B.1. Water Quality Data

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
10/05/99	WWHT		106				0	791	791	557	0	234	0
10/08/99	WWHT			174									
10/11/99	#2 AB			0	114	3							
10/11/99	#3 AB			0	115	3							
10/11/99	#10 ET			14	114	4							
10/11/99	#5 ETW	7.38	37	47	70.4	8	28	592	564	118	28	474	0
10/11/99	#11 ABW	7.50	139	315	92.4	30	72	522	450	176	0	346	72
10/11/99	#16 ETAW	7.60	151	331	9.29	30	0	918	918	466	0	452	0
10/11/99	WWHT	7.30	138	303	141	28	21	668	647	116	0	552	21
10/11/99	Clean Water			0	119	4							
10/14/99	#5 ETW	7.51		102									
10/14/99	#8 ETW	7.73		183									
10/14/99	#16 ETAW	7.53		322									
10/14/99	#17 ETW	7.51		288									
10/14/99	WWHT	7.17		353									
10/18/99	#1 ABW	7.98		310	95.0	30	0	392	392	392	0	0	0
10/18/99	#5 ETW	7.97		44		8	0	568	568	4	0	564	0
10/18/99	#8 ETW	7.96		38	84.6	12	0	576	576	72	0	504	0
10/18/99	#11 ABW	7.97		275		32	35	1136	1101	590	35	546	0
10/18/99	#16 ETAW	7.89		292		32	10	746	736	284	10	462	0
10/18/99	#17 ETW	7.91		62	67.6	12	8	710	702	256	0	454	8
10/18/99	WWHT	7.36		325		32	75	735	660	148	75	485	2
10/18/99	#6 ET			14	145	4							
10/18/99	#7 ETA			6	75.7	3							
10/18/99	#12 AB			7	71.6	3							
10/18/99	#14 ETA			9	87.7	3							
10/18/99	#15 ETA			10	74.8	3							
10/18/99	#18 ET			20	52.5	6							
10/21/99	#1 ABW	7.41	157	340									
10/21/99	#5 ETW	7.59	36.25	61									
10/21/99	#8 ETW	7.63	38.3	45									
10/21/99	#11 ABW	8.09	35.1	13									
10/21/99	#16 ETAW	7.73	162	345									
10/21/99	#17 ETW	7.90	35.9	70									
10/21/99	WWHT	7.45	174	345									
10/25/99	#1 ABW	7.44		266		32	0	452	452	0	0	452	0
10/25/99	#5 ETW	7.44		58	32.7	18	0	428	428	0	0	428	0
10/25/99	#8 ETW	7.50		52		15	0	548	548	20	0	528	0
10/25/99	#11 ABW	7.51		274	102	32	0	676	676	204	0	472	0
10/25/99	#16 ETAW	7.41		251	136	32	0	700	700	228	0	472	0
10/25/99	#17 ETW	7.52		46		15	0	632	632	182	0	450	0
10/25/99	WWHT	7.37		273	103	32	0	678	678	210	0	468	0
10/28/99	#1 ABW	7.37	154	288									
10/28/99	#5 ETW	7.42	16.4	64									
10/28/99	#8 ETW	7.43	48.1	130									
10/28/99	#11 ABW	7.95	5.7	12									
10/28/99	#16 ETAW	7.47	82.6	217									
10/28/99	#17 ETW	7.40	10.6	48									
10/28/99	WWHT	7.02	140	317									
11/01/99	#1 ABW	7.46		262		32							
11/01/99	#5 ETW	7.40		48		16							
11/01/99	#8 ETW	7.43		67		13							
11/01/99	#11 ABW	7.49		281		32							
11/01/99	#16 ETAW	7.39		268		32							
11/01/99	#17 ETW	7.39		42		12							
11/01/99	WWHT	7.02		322		32							
11/04/99	WWHT		168	312									
11/04/99	#1 ABW		144	249									
11/04/99	#5 ETW		50	79									
11/04/99	#8 ETW		22	48									
11/04/99	#11 ABW		135	273									
11/04/99	#16 ETAW		151	290									

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
11/04/99	#17 ETW		73	30									
11/08/99	WWHT	7.22		340	88.1	32	0	538	538	520	0	18	0
11/08/99	#1 ABW	7.45		306	133	32	38	140	102	140	0	0	38
11/08/99	#5 ETW	7.92		79	5.84	13	0	670	670	548	0	122	0
11/08/99	#8 ETW	7.85		110	na*	18	0	768	768	448	0	320	0
11/08/99	#11 ABW	7.57		321	80.3	32	92	654	562	654	0	0	92
11/08/99	#16 ETAW	7.83		312	73.0	32	36	708	672	452	0	256	36
11/08/99	#17 ETW	7.75		103	10.1	17	0	660	660	404	0	256	0
11/08/99	#2 AB			0	na*	4							
11/08/99	#3 AB			9	78.3	3							
11/08/99	#6 ET			6	116	2							
11/08/99	#10 ET			10	120	1							
11/08/99	#12 AB			2	132	2							
11/08/99	#14 ETA			7	109	1							
11/08/99	#15 ETA			3	na*	2							
11/08/99	#18 ET			10	98.3	2							
11/08/99	#7 ETA			7	101	2							
11/08/99	Clean Water			11	98.2	0							
11/11/99	#1 ABW		199	118									
11/11/99	#5 ETW		49.7	40									
11/11/99	#8 ETW		89.9	76									
11/11/99	#11 ABW		4	10									
11/11/99	#16 ETAW		162	124									
11/11/99	#17 ETW		79.9	73									
11/15/99	#1 ABW	7.51		117		32	16	554	538	554	16	0	0
11/15/99	#5 ETW	7.54		48		18	0	876	876	490	0	386	0
11/15/99	#8 ETW	7.65		75		20	0	574	574	96	0	478	0
11/15/99	#11 ABW	7.54		124		32	40	486	446	28	40	458	0
11/15/99	#16 ETAW	7.64		129		32	20	774	754	150	0	624	20
11/15/99	#17 ETW	7.71		49		15	0	680	680	146	0	534	0
11/15/99	WWHT	7.08		171		32	0	658	658	140	0	518	0
11/19/99	#1 ABW		177	88									
11/19/99	#4 ETAW		179	111									
11/19/99	#5 ETW		60.6	39									
11/19/99	#8 ETW		87.4	52									
11/19/99	#11 ABW		175	80									
11/19/99	#16 ETAW		191	147									
11/19/99	#17 ETW		57.4	44									
11/19/99	WWHT		187	133									
11/22/99	#1 ABW	8.19		100	64.1	28	0	667	667	460	0	207	0
11/22/99	#4 ETAW	8.02		126	68.4	24	4	564	560	564	4	0	0
11/22/99	#5 ETW	8.04		43	10.6	6	89	740	651	466	88	274	1
11/22/99	#8 ETW	8.20		71	2.23	10	188	658	470	506	170	152	18
11/22/99	#11 ABW	8.04		120	90.3	28	39	860	821	336	33	524	6
11/22/99	#16 ETAW	8.20		130	96.4	28	21	742	721	342	21	400	0
11/22/99	#17 ETW	8.23		124	3.81	8	14	716	702	252	14	464	0
11/22/99	WWHT	7.13		98	82.8	28	0	736	736	310	0	426	0
11/22/99	#6 ET			227	118	0							
11/22/99	#10 ET			48	118	0							
11/22/99	#18 ET			37	117	0							
11/22/99	Clean Water			78	119	0							
11/29/99	#1 ABW	7.76		53		24	14	670	656	32	14	638	0
11/29/99	#4 ETAW	7.70		137		26	6	630	624	54	0	576	6
11/29/99	#5 ETW	8.13		127		8	28	768	740	158	3	610	24
11/29/99	#8 ETW	8.20		182		14	52	632	580	112	14	520	38
11/29/99	#11 ABW	7.64		209		22	12	780	768	214	4	566	8
11/29/99	#16 ETAW	7.58		227		28	7	790	783	220	6	570	1
11/29/99	#17 ETW	8.05		109		14	42	706	664	172	14	534	28
11/29/99	WWHT	7.62		279		26	18	820	802	254	14	566	3
12/02/99	#1 ABW		100	183									
12/02/99	#4 ETAW		108	195									
12/02/99	#5 ETW		29.4	80									
12/02/99	#8 ETW		71.5	148									
12/02/99	#11 ABW		112	159									

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
12/02/99	#16 ETAW		110	201									
12/02/99	#17 ETW		44.4	134									
12/02/99	WWHT		120	292									
12/09/99	#1 ABW		125	304									
12/09/99	#4 ETAW		149	269									
12/09/99	#5 ETW		30.3	251									
12/09/99	#8 ETW		60.9	166									
12/09/99	#11 ABW		150	316									
12/09/99	#16 ETAW		148	277									
12/09/99	#17 ETW		50.8	113									
12/09/99	WWHT		190	344									
12/06/99	#6 ET			57	117	0							
12/06/99	#10 ET			8	112	0							
12/06/99	#18 ET			11	112	0							
12/06/99	Clean Water			9	116	8							
12/06/99	#1 ABW	7.13		151	74.9	42	4	668	664	428	3	240	1
12/06/99	#4 ETAW	7.13		202	93.6	52	42	662	620	380	27	282	15
12/06/99	#5 ETW	7.46		59	8.38	18	5	556	551	326	4	230	2
12/06/99	#8 ETW	7.76		51	1.27	20	4	634	630	96	3	538	1
12/06/99	#11 ABW	7.17		125	76.0	34	2	646	644	428	2	218	0
12/06/99	#16 ETAW	7.12		159	83.0	44	8	690	682	266	7	424	1
12/06/99	#17 ETW	7.52		38	2.17	20	22	620	598	508	20	112	2
12/06/99	WWHT	7.36		270	32.8	46	2	714	712	354	2	360	0
12/13/99	#1 ABW	7.44		227	62.7	36	15	702	687	144	2	558	13
12/13/99	#4 ETAW	7.43		252	74.0	36	9	490	481	80	3	410	6
12/13/99	#5 ETW	7.28		26	3.44	14	21	736	715	172	0	564	21
12/13/99	#8 ETW	7.34		64	1.80	12	28	740	712	180	20	560	9
12/13/99	#11 ABW	7.43		235	64.1	34	12	728	716	164	2	564	10
12/13/99	#16 ETAW	7.34		242	75.8	34	21	716	695	164	11	552	10
12/13/99	#17 ETW	7.29		54	3.79	14	17	720	703	140	2	580	14
12/13/99	WWHT	7.35		265	80.8	34	16	704	688	136	5	568	11
12/13/99	#6 ET			7	120	0							
12/13/99	#10 ET			2	116	0							
12/13/99	#18 ET			9	118	0							
12/13/99	Clean Water			5	117	0							
12/21/99	#1 ABW	7.30		269		28	26	688	662	140	17	548	9
12/21/99	#4 ETAW	7.04		240		28	19	704	685	186	10	518	9
12/21/99	#5 ETW	7.37		52		16	11	596	585	94	0	502	11
12/21/99	#8 ETW	7.28		141		18	101	616	515	114	10	502	92
12/21/99	#11 ABW	7.19		224		30	29	680	651	196	10	484	19
12/21/99	#16 ETAW	7.05		256		28	24	684	660	250	12	434	12
12/21/99	#17 ETW	7.28		88		26	101	716	615	192	40	524	61
12/21/99	WWHT	7.16		289		0	27	642	615	146	13	496	13
12/16/99	#1 ABW		95.9	241									
12/16/99	#4 ETAW		104	249									
12/16/99	#5 ETW		bd'	43									
12/16/99	#8 ETW		bd'	92									
12/16/99	#11 ABW		129	257									
12/16/99	#16 ETAW		108	256									
12/16/99	#17 ETW		bd'	73									
12/16/99	WWHT		90.8	294									
01/03/00	#1 ABW	7.53		251	66.4	26	22	644	622	130	9	514	13
01/03/00	#4 ETAW	7.27		273	89.9	28	0	632	632	100	0	532	16
01/03/00	#5 ETW	7.25		117	29.7	16	12	636	624	92	2	544	10
01/03/00	#8 ETW	7.35		214	26.2	22	32	638	606	106	8	532	24
01/03/00	#11 ABW	7.35		237	88.1	26	34	652	618	128	13	524	21
01/03/00	#16 ETAW	7.35		257	88.2	26	62	666	604	104	12	562	50
01/03/00	#17 ETW	7.46		149	35.3	18	18	640	622	108	4	532	14
01/03/00	WWHT	7.01		281	80.9	26	15	604	589	106	6	498	9
01/03/00	#6 ET			16	114	0							
01/03/00	#10 ET			18	112	0							
01/03/00	#18 ET			21	115	8							
01/03/00	Clean Water			14	114	10							
01/06/00	#1 ABW		89.7	246									

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
01/06/00	#4 ETAW		103	245									
01/06/00	#5 ETW		29.3	89									
01/06/00	#8 ETW		66.5	160									
01/06/00	#11 ABW		103	250									
01/06/00	#16 ETAW		101	245									
01/06/00	#17 ETW		31.8	107									
01/06/00	WWHT		139	327									
01/10/00	#1 ABW	7.53		285		40	14	690	676	140	9	550	6
01/10/00	#4 ETAW	7.36		310		44	3	686	683	140	1	546	2
01/10/00	#5 ETW	7.50		141		26	6	654	648	136	0	518	6
01/10/00	#8 ETW	7.49		199		30	4	712	708	150	2	562	2
01/10/00	#11 ABW	7.41		308		38	2	684	682	162	0	522	2
01/10/00	#16 ETAW	7.32		314		60	35	694	659	152	10	542	25
01/10/00	#17 ETW	7.52		173		32	86	730	644	156	21	574	65
01/10/00	WWHT	7.22		321		42	24	456	432	144	13	312	10
01/13/00	#1 ABW		94	300									
01/13/00	#4 ETAW		139	284									
01/13/00	#5 ETW		60.9	134									
01/13/00	#8 ETW		88.7	205									
01/13/00	#9 ETAW		119	297									
01/13/00	#11 ABW		111	287									
01/13/00	#16 ETAW		117	290									
01/13/00	#17 ETW		76.3	176									
01/13/00	WWHT		133	308									
01/18/00	#1 ABW	7.25		233	52.7	40	0	406	406	0	0	406	2
01/18/00	#4 ETAW	7.04		297	88.3	46	10	744	734	596	0	148	10
01/18/00	#5 ETW	7.79		114	21.9	32	1	558	557	0	0	592	9
01/18/00	#8 ETW	7.15		204	50.4	42	0	574	574	0	0	582	0
01/18/00	#9 ETAW	7.20		285	86.7	42	46	714	668	100	13	614	33
01/18/00	#11 ABW	7.28		301	72.0	40	4	616	612	124	4	492	0
01/18/00	#16 ETAW	7.15		287	82.1	60	0	586	586	78	0	508	0
01/18/00	#17 ETW	7.31		144	26.0	38	12	582	570	104	6	478	6
01/18/00	WWHT	7.79		315	82.8	40	2	454	452	0	0	472	1
01/18/00	#6 ET			0	113	4							
01/18/00	#10 ET			0	107	2							
01/18/00	#18 ET			0	108	6							
01/18/00	Clean Water			0	106	2							
01/20/00	#1 ABW		97	239									
01/20/00	#4 ETAW		122	261									
01/20/00	#5 ETW		42	122									
01/20/00	#8 ETW		86.3	221									
01/20/00	#9 ETAW		102	264									
01/20/00	#11 ABW		114	275									
01/20/00	#16 ETAW		118	275									
01/20/00	#17 ETW		47.8	150									
01/20/00	WWHT		128.8	292									
01/24/00	#1 ABW	7.26		257		24	0	602	602	116	0	486	0
01/24/00	#4 ETAW	7.36		303		22	1	596	595	132	0	464	3
01/24/00	#5 ETW	7.24		116		12	2	628	626	186	0	442	2
01/24/00	#8 ETW	7.29		212		18	0	490	490	54	0	436	0
01/24/00	#11 ABW	7.28		282		24	0	594	594	174	0	420	0
01/24/00	#13 ABW	7.23		294		26	1	678	677	270	1	408	0
01/24/00	#16 ETAW	7.26		297		28	6	724	718	362	5	362	0
01/24/00	#17 ETW	7.28		171		20	0	658	658	240	0	418	0
01/24/00	#9 ETAW	7.18		294		28	7	832	825	690	1	142	6
01/24/00	WWHT	7.21		304		24	6	858	852	786	0	72	6
01/27/00	#1 ABW		135	292									
01/27/00	#4 ETAW		146	359									
01/27/00	#5 ETW		49.6	129									
01/27/00	#8 ETW		88.4	197									
01/27/00	#9 ETAW		148	342									
01/27/00	#11 ABW		168	334									
01/27/00	#13 ABW		179	345									
01/27/00	#16 ETAW		150	315									

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
01/27/00	#17 ETW		71.2	159									
01/27/00	WWHT		149	345									
01/31/00	#6 ET			11	110	0							
01/31/00	#10 ET			0	104	0							
01/31/00	#18 ET			11	103	0							
01/31/00	Clean Hdr			13	85.2	0							
01/31/00	#1 ABW	7.53		264	78.5	28	7	850	843	674	6	176	1
01/31/00	#4 ETAW	7.25		322	79.2	28	7	826	819	732	6	94	1
01/31/00	#5 ETW	7.42		112	19.8	16	0	362	362	362	0	0	0
01/31/00	#8 ETW	7.54		177	22.8	18	0	394	394	394	0	0	0
01/31/00	#9 ETAW	7.31		307	68.6	26	1	456	455	20	1	436	0
01/31/00	#11 ABW	7.25		300	57.0	28	1	510	509	86	1	424	0
01/31/00	#13 ABW	7.36		291	85.6	24	2	542	540	48	2	494	0
01/31/00	#16 ETAW	7.33		298	75.3	28	3	548	545	268	1	280	2
01/31/00	#17 ETW	7.52		113	8.25	16	1	550	549	168	0	382	1
01/31/00	WWHT	7.19		338	68.9	28	2	598	596	194	0	404	1
02/03/00	#1 ABW		168	293									
02/03/00	#4 ETAW		190	339									
02/03/00	#5 ETW		84.6	143									
02/03/00	#8 ETW		96.2	188									
02/03/00	#9 ETAW		178	314									
02/03/00	#11 ABW		175	306									
02/03/00	#13 ABW		157	307									
02/03/00	#16 ETAW		176	315									
02/03/00	#17 ETW		77.9	161									
02/03/00	WWHT		160	331									
02/07/00	#1 ABW	7.36		230		44	6	688	682	164	4	524	2
02/07/00	#4 ETAW	7.08		284		36	3	712	709	190	1	522	2
02/07/00	#5 ETW	7.22		121		22	2	674	672	146	0	528	2
02/07/00	#8 ETW	7.24		173		26	2	674	672	166	0	508	2
02/07/00	#9 ETAW	7.16		256		28	9	676	667	188	6	488	3
02/07/00	#11 ABW	7.16		270		42	4	666	662	202	2	464	2
02/07/00	#13 ABW	7.25		262		32	7	706	699	212	5	494	2
02/07/00	#16 ETAW	7.23		279		30	9	704	695	226	8	478	1
02/07/00	#17 ETW	7.15		191		22	4	696	692	210	4	486	0
02/07/00	WWHT	7.10		327		34	2	610	608	212	2	398	0
02/10/00	#1 ABW		143	242									
02/10/00	#4 ETAW		205	305									
02/10/00	#5 ETW		84.3	114									
02/10/00	#8 ETW		129	202									
02/10/00	#9 ETAW		155	339									
02/10/00	#11 ABW		225	308									
02/10/00	#13 ABW		163	296									
02/10/00	#16 ETAW		197	307									
02/10/00	#17 ETW		113	200									
02/10/00	WWHT		172	401									
02/14/00	#1 ABW	7.34		167	58.5	28	3	600	597	192	1	408	2
02/14/00	#4 ETAW	7.30		237	66.8	26	3	578	575	126	2	452	1
02/14/00	#5 ETW	7.44		67	61.7	14	4	560	556	184	2	376	2
02/14/00	#8 ETW	7.33		164	36.9	22	4	396	392	96	3	300	2
02/14/00	#9 ETAW	7.41		226	50.1	28	4	504	500	76	4	428	0
02/14/00	#11 ABW	7.40		272	76.7	28	4	434	430	18	1	416	3
02/14/00	#13 ABW	7.45		217	78.5	26	8	734	726	256	1	478	7
02/14/00	#16 ETAW	7.35		236	77.7	30	5	766	761	356	0	410	5
02/14/00	#17 ETW	7.32		146	41.7	24	8	702	694	258	5	444	3
02/14/00	WWHT	7.13		275	79.6	30	4	740	736	390	4	350	0
02/14/00	#6 ET			1	111	0							
02/14/00	#10 ET			5	105	0							
02/14/00	#18 ET			6	102	0							
02/14/00	Clean Water			1	103	0							
02/17/00	#1 ABW		168	194									
02/17/00	#4 ETAW		189	267									
02/17/00	#5 ETW		69	81									
02/17/00	#8 ETW		133	153									

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
02/17/00	#9 ETAW		206	256									
02/17/00	#11 ABW		183	253									
02/17/00	#13 ABW		183	250									
02/17/00	#16 ETAW		185	269									
02/17/00	#17 ETW		100	123									
02/17/00	WWHT		194	296									
02/21/00	#1 ABW	7.39		241		28	14	796	782	496	2	300	11
02/21/00	#4 ETAW	7.31		285		28	23	846	823	28	3	818	20
02/21/00	#5 ETW	7.34		114		14	11	754	743	54	2	700	10
02/21/00	#8 ETW	7.46		199		22	17	710	693	406	3	304	14
02/21/00	#9 ETAW	7.50		273		32	9	804	795	44	1	760	8
02/21/00	#11 ABW	7.39		292		40	9	756	747	14	2	742	7
02/21/00	#13 ABW	7.42		279		34	8.8	428	419	82	3	346	6
02/21/00	#16 ETAW	7.19		309		30	12	510	498	138	6	372	6
02/21/00	#17 ETW	7.41		174		30	7.6	572	564	120	5	452	2
02/21/00	WWHT	7.26		318		38	33	582	549	172	10	410	24
02/21/00	Clean Water			2		10							
02/24/00	#1 ABW		174	247									
02/24/00	#4 ETAW		216	325									
02/24/00	#5 ETW		76.1	104									
02/24/00	#8 ETW		159	199									
02/24/00	#9 ETAW		196	293									
02/24/00	#11 ABW		168	317									
02/24/00	#13 ABW		215	12									
02/24/00	#16 ETAW		216	347									
02/24/00	#17 ETW		118	179									
02/24/00	WWHT		189	324									
02/28/00	#1 ABW	7.10		152	12.0	32	7	472	465	116	4	356	2
02/28/00	#4 ETAW	7.20		231	41.9	30	21	492	471	106	12	386	9
02/28/00	#5 ETW	7.17		112	19.8	28	10	624	614	128	4	496	6
02/28/00	#8 ETW	7.22		171	28.3	32	8	608	600	126	8	482	0
02/28/00	#9 ETAW	7.14		256	19.3	42	9	542	533	166	5	376	4
02/28/00	#11 ABW	7.05		212	26.3	32	4	596	592	142	4	454	0
02/28/00	#13 ABW	7.13		247	25.9	32	10	576	566	188	0	388	10
02/28/00	#16 ETAW	7.20		234	37.0	36	6	576	570	130	6	446	0
02/28/00	#17 ETW	7.15		144	29.0	24	16	826	810	180	10	646	6
02/28/00	WWHT	7.19		252	37.6	34	11	572	561	186	8	386	4
02/28/00	#6 ET			10	109	4							
02/28/00	#10 ET			17	106	6							
02/28/00	#18 ET			9	98.9	2							
02/28/00	Clean Water			13	102	12							
03/02/00	#1 ABW		181	218									
03/02/00	#4 ETAW		214	290									
03/02/00	#5 ETW		79.4	111									
03/02/00	#8 ETW		115	168									
03/02/00	#9 ETAW		178	279									
03/02/00	#11 ABW		204	285									
03/02/00	#13 ABW		231	270									
03/02/00	#16 ETAW		202	293									
03/02/00	#17 ETW		107	167									
03/02/00	WWHT		247	383									
03/06/00	#1 ABW	7.33		230		28	10	546	536	130	8	416	3
03/06/00	#4 ETAW	7.36		299		26	12	510	498	174	7	336	5
03/06/00	#5 ETW	7.32		129		16	8	684	676	132	4	552	3
03/06/00	#8 ETW	7.36		210		18	6	530	524	136	2	394	4
03/06/00	#9 ETAW	7.35		335		24	7	770	763	258	5	512	2
03/06/00	#11 ABW	7.31		332		24	14	458	444	112	10	346	4
03/06/00	#13 ABW	7.26		323		24	2	678	676	218	2	460	0
03/06/00	#16 ETAW	7.56		333		18	13	576	563	182	9	394	4
03/06/00	#17 ETW	7.30		195		24	7	650	643	180	7	470	0
03/06/00	WWHT	7.31		313									
03/06/00	Clean Water			15		4							
03/09/00	#1 ABW		157	254									
03/09/00	#4 ETAW		210	324									

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
03/09/00	#5 ETW		128	165									
03/09/00	#8 ETW		164	242									
03/09/00	#9 ETAW		192	337									
03/09/00	#11 ABW		200	317									
03/09/00	#13 ABW		198	320									
03/09/00	#16 ETAW		180	324									
03/09/00	#17 ETW		149	219									
03/09/00	WWHT		168	329									
03/20/00	#1 ABW	7.14		176	49.2	30	9	690	681	156	4	534	4
03/20/00	#4 ETAW	7.29		293	20.8	30	10	336	326	66	6	270	4
03/20/00	#5 ETW	7.30		147	31.6	22	15	656	641	124	7	532	8
03/20/00	#8 ETW	7.38		220	33.5	24	12	606	594	152	8	454	4
03/20/00	#9 ETAW	7.32		270	28.1	32	10	472	462	106	7	366	3
03/20/00	#11 ABW	7.29		290	18.5	30	3	682	679	188	3	494	0
03/20/00	#13 ABW	7.35		285	24.8	32	4	478	474	112	3	366	2
03/20/00	#16 ETAW	7.28		278	12.6	34	2	444	442	96	2	348	0
03/20/00	#17 ETW	7.46		191	51.6	28	18	454	436	102	12	352	6
03/20/00	WWHT	7.53		282	76.1	38	12	408	396	118	6	290	6
03/20/00	#6 ET			4	105.3	2	3	566	563	96	3	470	0
03/20/00	#10 ET			0	102.3	0	9	426	417	74	8	352	1
03/20/00	#18 ET			1	98.3	0	4	412	408	58	4	354	0
03/20/00	Clean Water			0	103.3	2	18	610	592	96	6	514	12
03/23/00	#1 ABW		174	213									
03/23/00	#4 ETAW		203	265									
03/23/00	#5 ETW		70.5	95									
03/23/00	#8 ETW		66.6	112									
03/23/00	#9 ETAW		154	231									
03/23/00	#11 ABW		172	253									
03/23/00	#13 ABW		183	255									
03/23/00	#16 ETAW		170	264									
03/23/00	#17 ETW		79.4	109									
03/23/00	WWHT		190	267									
03/27/00	#1 ABW	7.22		268		30	2	412	410	126	0	286	2
03/27/00	#4 ETAW	7.21		268		32	11	560	549	196	11	364	0
03/27/00	#5 ETW	7.40		101		16	12	644	632	160	5	484	7
03/27/00	#8 ETW	7.60		141		32	7	484	477	92	7	392	0
03/27/00	#9 ETAW	7.43		282		34	22	442	420	154	9	288	14
03/27/00	#11 ABW	7.41		263		34	12	458	446	136	7	322	5
03/27/00	#13 ABW	7.50		274		34	23	492	469	148	6	344	17
03/27/00	#16 ETAW	7.42		275		28	7	456	449	138	0	318	10
03/27/00	#17 ETW	7.44		127		20	11	604	593	118	5	486	6
03/27/00	WWHT	7.56		295		28	14	492	478	166	7	326	7
03/27/00	Clean Water			20		8							
03/30/00	#1 ABW		145	215									
03/30/00	#4 ETAW		187	270									
03/30/00	#5 ETW		130	165									
03/30/00	#8 ETW		135	168									
03/30/00	#9 ETAW		222	284									
03/30/00	#11 ABW		196	287									
03/30/00	#13 ABW		184	283									
03/30/00	#16 ETAW		189	287									
03/30/00	#17 ETW		71	142									
03/30/00	WWHT		196	310									
04/03/00	#1 ABW	7.28		265	7.91	24	5	426	421	90	5	336	0
04/03/00	#4 ETAW	7.20		309	6.66	26	14	468	454	108	3	360	10
04/03/00	#5 ETW	7.14		134	8.55	14	14	494	480	100	8	394	6
04/03/00	#8 ETW	7.21		233	6.87	22	20	382	362	84	16	298	4
04/03/00	#9 ETAW	7.24		287	7.09	26	14	470	456	114	10	356	4
04/03/00	#11 ABW	7.15		291	41.2	26	20	656	636	154	11	502	9
04/03/00	#13 ABW	7.24		299	8.73	28	6	422	416	90	6	332	0
04/03/00	#16 ETAW	7.18		321	10.2	26	28	434	406	108	14	326	15
04/03/00	#17 ETW	7.26		159	7.00	24	10	746	736	132	7	614	3
04/03/00	WWHT	7.23		296	31.0	26	0	614	614	144	0	470	0
04/03/00	#6 ET			40	105	2							

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
04/03/00	#10 ET			53	100	0							
04/03/00	#18 ET			43	104	0							
04/03/00	Clean Water			44	99.1	2							
04/06/00	#1 ABW		130	147									
04/06/00	#4 ETAW		174	219									
04/06/00	#5 ETW		63.2	74									
04/06/00	#8 ETW		132	147									
04/06/00	#9 ETAW		169	238									
04/06/00	#11 ABW		151	162									
04/06/00	#13 ABW		155	195									
04/06/00	#16 ETAW		165	184									
04/06/00	#17 ETW		78.0	106									
04/06/00	WWHT		223	299									
04/10/00	#1 ABW	7.32		43		34	7	796	789	256	2	540	5
04/10/00	#4 ETAW	7.36		49		30	7	806	799	330	3	476	4
04/10/00	#5 ETW	7.32		38		20	0	756	756	206	0	550	4
04/10/00	#8 ETW	7.34		40		46	17	708	691	158	10	550	7
04/10/00	#11 ABW	7.36		53		36	6	928	922	338	2	590	4
04/10/00	#13 ABW	7.50		75		34	27	890	863	434	10	456	17
04/10/00	#16 ETAW	7.42		61		34	16	872	856	346	7	526	10
04/10/00	#17 ETW	7.40		37		28	22	774	752	226	12	548	10
04/10/00	WWHT	7.36		99		42	6	930	924	378	2	552	4
04/10/00	#9 ETAW	7.44		62		34	34	884	850	346	19	538	14
04/10/00	Clean Water			7		2							
04/13/00	#1 ABW		154	195									
04/13/00	#4 ETAW		206	280									
04/13/00	#5 ETW		158	183									
04/13/00	#8 ETW		165	201									
04/13/00	#9 ETAW		193	258									
04/13/00	#11 ABW		193	260									
04/13/00	#13 ABW		229	261									
04/13/00	#16 ETAW		210	250									
04/13/00	#17 ETW		133	146									
04/13/00	WWHT		212	267									
04/17/00	#1 ABW	7.31			52.2	46	10	816	806	230	9	586	0
04/17/00	#4 ETAW	7.38			49.5	44	17	866	849	300	11	566	6
04/17/00	#5 ETW	7.43			5.24	24	18	734	716	184	14	550	4
04/17/00	#8 ETW	7.42			26.9	30	15	474	459	114	12	360	3
04/17/00	#9 ETAW	7.34			37.3	36	19	774	755	220	11	554	8
04/17/00	#11 ABW	7.36			38.5	36	5	666	661	102	5	564	0
04/17/00	#13 ABW	7.42			25.3	32	19	898	879	320	14	578	5
04/17/00	#16 ETAW	7.36			59.6	30	10	768	758	226	10	542	0
04/17/00	#17 ETW	7.36			10.9	24	15	462	447	72	14	390	0
04/17/00	WWHT	7.36			98.4	34	9	760	751	220	8	540	1
04/17/00	#6 ET				103	0							
04/17/00	#10 ET				93.4	0							
04/17/00	#18 ET				98.7	0							
04/17/00	Clean Water				102	2							
04/20/00	#1 ABW		175	252									
04/20/00	#4 ETAW		180	295									
04/20/00	#5 ETW		95.2	139									
04/20/00	#8 ETW		122	188									
04/20/00	#9 ETAW		189	295									
04/20/00	#11 ABW		188	285									
04/20/00	#13 ABW		186	296									
04/20/00	#16 ETAW		199	286									
04/20/00	#17 ETW		98.0	130									
04/20/00	WWHT		211	305									
04/27/00	#1 ABW	7.15		249			7	482	475	158	2	324	5
04/27/00	#4 ETAW	7.25		294			7	744	737	272	3	472	4
04/27/00	#5 ETW	7.26		133			9	682	673	158	4	524	5
04/27/00	#8 ETW	7.37		186			10	686	676	200	5	486	5
04/27/00	#9 ETAW	7.20		299			56	598	542	230	48	368	8
04/27/00	#11 ABW	7.18		289			9	442	433	108	6	334	3

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
04/27/00	#13 ABW	7.28		283			7	794	787	294	3	500	4
04/27/00	#16 ETAW	7.26		277			8	898	890	362	5	536	4
04/27/00	#17 ETW	7.27		137			8	666	658	148	6	518	2
04/27/00	WWHT	7.25		296			10	844	834	334	7	510	3
05/04/00	#1 ABW	7.13	109	229		34	4	734	731	231	3	503	1
05/04/00	#4 ETAW	7.26	199	326		36	24	519	495	171	17	348	7
05/04/00	#5 ETW	7.31	76.1	154		22	18	721	703	178	5	543	13
05/04/00	#8 ETW	7.43	111	218		26	11	482	471	153	5	329	7
05/04/00	#9 ETAW	7.40	181	300		32	11	479	468	168	6	311	5
05/04/00	#11 ABW	7.29	156	308		38	6	494	488	161	5	333	1
05/04/00	#13 ABW	7.37	148	301		34	15	498	483	167	9	331	5
05/04/00	#16 ETAW	7.32	154	311		32	14	596	582	212	9	384	4
05/04/00	#17 ETW	7.36	83.5	152		22	5	486	481	128	3	358	2
05/04/00	WWHT	7.39	173	316		36	27	470	444	152	17	319	10
05/10/00	#1 ABW	7.06		234			4	791	787	312	3	479	1
05/10/00	#4 ETAW	7.15		305			9	495	486	221	7	273	2
05/10/00	#5 ETW	7.26		140			9	750	740	243	5	507	5
05/10/00	#8 ETW	7.23		178			9	599	590	215	3	384	5
05/10/00	#9 ETAW	7.23		292			14	884	870	0	10	1093	3
05/10/00	#11 ABW	7.27		303			34	882	848	368	13	514	21
05/10/00	#13 ABW	7.23		283			16	74	58	29	7	46	9
05/10/00	#16 ETAW	7.21		283			7	461	454	190	3	271	3
05/10/00	#17 ETW	7.27		151			11	789	778	284	3	505	8
05/10/00	WWHT	7.32		275			4	795	790	342	4	453	0
05/17/00	#1 ABW	7.31	166	267	36.4	30	11	530	519	152	5	378	6
05/17/00	#4 ETAW	7.50	206	311	33.8	32	28	408	380	128	22	280	6
05/17/00	#5 ETW	7.41	106	180	6.37	23	12	512	500	128	6	384	6
05/17/00	#8 ETW	7.49	142	209	7.88	26	6	588	582	154	2	434	4
05/17/00	#9 ETAW	7.51	195	316	51.7	28	13	544	531	190	7	354	6
05/17/00	#11 ABW	7.42	186	308	14.7	32	11	380	369	156	7	224	4
05/17/00	#13 ABW	7.54	185	322	36.5	30	19	578	559	32	10	546	9
05/17/00	#16 ETAW	7.39	179	307	29.4	32	12	530	518	0	8	692	4
05/17/00	#17 ETW	7.41	124	173	5.64	24	7	596	589	596	3	0	4
05/17/00	WWHT	7.59	188	312	51.4	32	14	598	584	190	9	408	5
05/17/00	#6 ET	7.55		10	106	0	0	180	180	0	0	330	0
05/17/00	#10 ET	7.32		17	64.9	0							
05/17/00	#18 ET	7.40		21	80.2	0							
05/17/00	Clean Water	8.49		8	102	2							
05/24/00	#1 ABW	7.15		243			8	670	662	244	5	426	2
05/24/00	#4 ETAW	7.43		283			10	546	536	216	5	330	5
05/24/00	#5 ETW	7.41		297			8	666	658	220	3	446	5
05/24/00	#8 ETW	7.50		195			8	688	680	272	3	416	5
05/24/00	#9 ETAW	7.42		275			14	600	586	248	9	352	5
05/24/00	#11 ABW	7.51		251			6	606	600	244	3	362	3
05/24/00	#13 ABW	7.42		261			7	548	541	174	4	374	2
05/24/00	#16 ETAW	7.42		266			9	636	627	270	6	366	3
05/24/00	#17 ETW	7.44		171			10	768	758	278	10	490	0
05/24/00	WWHT	7.41		297			10	672	662	248	6	424	4
05/31/00	#1 ABW	7.34	155	178		34	4	552	548	166	2	386	2
05/31/00	#4 ETAW	7.37	199	269		36	17	736	719	272	7	464	10
05/31/00	#5 ETW	7.38	156	143		26	14	644	630	178	4	466	10
05/31/00	#8 ETW	7.47	176	172		28	7	582	575	202	3	380	4
05/31/00	#9 ETAW	7.40	213	270		34	7	596	589	226	4	370	2
05/31/00	#11 ABW	7.41	210	251		36	8	782	774	266	4	516	4
05/31/00	#13 ABW	7.40	211	250		36	6	518	512	178	3	340	4
05/31/00	#16 ETAW	7.46	209	247		34	6	628	622	226	4	402	3
05/31/00	#17 ETW	7.42	139	160		28	8	714	706	234	3	480	5
05/31/00	WWHT	7.46	258	296		34	19	710	691	240	10	470	8
06/07/00	#1 ABW	7.08		222			8	556	548	164	4	392	4
06/07/00	#4 ETAW	7.45		282			62	586	524	216	17	370	45
06/07/00	#5 ETW	7.36		202			89	810	721	242	24	568	64
06/07/00	#8 ETW	7.28		162			7	684	677	222	3	462	4
06/07/00	#9 ETAW	7.35		248			6	618	612	246	4	372	2
06/07/00	#11 ABW	7.34		238			7	490	483	174	4	316	3

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
06/07/00	#13 ABW	7.35		260			5	586	581	202	3	384	2
06/07/00	#16 ETAW	7.35		258			8	800	792	324	4	476	3
06/07/00	#17 ETW	7.38		182			88	894	806	270	28	624	60
06/07/00	WWHT	7.38		275			12	576	564	218	6	358	6
06/07/00	Clean Water			12		2							
06/14/00	#1 ABW	7.23	144	212	55.3	28	6	540	534	168	4	372	2
06/14/00	#4 ETAW	7.36	194	255	47.8	30	12	582	570	216	7	366	5
06/14/00	#5 ETW	7.25	82.6	138	1.31	20	14	720	706	182	4	538	10
06/14/00	#8 ETW	7.32	91.3	150	2.75	22	6	490	484	160	2	330	4
06/14/00	#9 ETAW	7.41	184	255	53.7	30	12	628	616	240	6	388	6
06/14/00	#11 ABW	7.42	192	259	40.2	28	6	528	522	174	4	354	2
06/14/00	#13 ABW	7.35	158	223	29.9	26	6	530	524	170	3	360	4
06/14/00	#16 ETAW	7.36	182	254	40.8	28	6	548	542	216	4	332	3
06/14/00	#17 ETW	7.29	90	138	16.6	24	9	626	617	198	3	428	6
06/14/00	WWHT	7.38	175	270	77.9	30	11	578	567	176	6	402	6
06/14/00	#6 ET	7.46	bd'	24	109	0							
06/14/00	#10 ET	7.33	bd'	56	77.0	0							
06/14/00	#18 ET	7.34	bd'	30	85.4	0							
06/14/00	Clean Water	8.13	bd'	15	98.8	2							
06/21/00	#1 ABW	7.16		176			5	592	587	182	3	410	2
06/21/00	#4 ETAW	7.36		276			7	592	585	214	7	378	0
06/21/00	#5 ETW	7.30		155			5	528	523	150	3	378	2
06/21/00	#8 ETW	7.32		159			8	580	572	190	8	390	0
06/21/00	#9 ETAW	7.37		271			6	530	524	192	2	338	4
06/21/00	#11 ABW	7.31		266			6	564	558	210	4	354	2
06/21/00	#13 ABW	7.29		221			3	638	635	256	1	382	2
06/21/00	#16 ETAW	7.36		250			5	520	515	216	3	304	2
06/21/00	#17 ETW	7.28		130			4	590	586	190	2	400	2
06/21/00	WWHT	7.34		276			12	814	802	298	6	516	5
06/28/00	#1 ABW	7.12	bd'	206		30	3	672	669	174	3	498	0
06/28/00	#4 ETAW	7.37	142	274		30	12	558	546	208	7	350	5
06/28/00	#5 ETW	7.25	61	117		24	14	818	804	254	3	564	11
06/28/00	#8 ETW	7.33	101.5	156		24	17	596	579	208	10	388	7
06/28/00	#9 ETAW	7.38	174	285		30	18	518	500	190	16	328	2
06/28/00	#11 ABW	7.38	140	258		30	18	540	522	186	5	354	13
06/28/00	#13 ABW	7.35	161	248		30	19	582	563	200	5	382	14
06/28/00	#16 ETAW	7.39	152	269		30	13	684	671	274	6	410	8
06/28/00	#17 ETW	7.29	72	146		26	14	572	558	180	7	392	7
06/28/00	WWHT	7.36	154	287		26	9	576	567	208	6	368	4
07/06/00	#1 ABW	7.22		160			6	818	812	264	6	554	0
07/06/00	#4 ETAW	7.48		234			16	808	792	274	6	534	10
07/06/00	#5 ETW	7.28		80			4	808	804	236	3	572	2
07/06/00	#8 ETW	7.30		124			6	776	770	232	0	544	5
07/06/00	#9 ETAW	7.38		247			6	824	818	250	6	574	0
07/06/00	#11 ABW	7.36		207			22	830	808	292	5	538	17
07/06/00	#13 ABW	7.23		172			4	754	750	240	2	514	1
07/06/00	#16 ETAW	7.32		236			5	820	815	290	4	530	1
07/06/00	#17 ETW	7.22		112			0	780	780	218	0	562	0
07/06/00	WWHT	7.42		259			7	838	831	292	6	546	2
07/12/00	#1 ABW	7.12	122	135	84.9	28	10	570	560	194	6	376	4
07/12/00	#4 ETAW	7.37	179	223	73.3	30	20	494	474	184	10	310	10
07/12/00	#5 ETW	7.28	82.8	65	1.5	22	16	692	676	222	4	470	12
07/12/00	#8 ETW	7.22	103	108	5.0	24	39	588	549	198	20	390	19
07/12/00	#9 ETAW	7.33	182	226	75.5	34	64	574	510	220	52	354	12
07/12/00	#11 ABW	7.35	167	186	61.6	32	20	618	598	240	5	378	15
07/12/00	#13 ABW	7.31	144	145	50.7	28	5	682	677	238	3	444	2
07/12/00	#16 ETAW	7.36	187	205	84.3	26	10	724	714	286	4	438	6
07/12/00	#17 ETW	7.34	113	94	21.5	26	7	816	809	272	3	544	4
07/12/00	WWHT	7.43	209	245	67.8	32	22	540	518	204	13	336	9
07/12/00	#6 ET	7.76	bd'	0	353.3	2							
07/12/00	#10 ET	7.24	bd'	0	14.1	0							
07/12/00	#18 ET	7.34	bd'	0	650.5	0							
07/12/00	Clean Water	7.95	bd'	0	110.2	0							
07/19/00	#1 ABW	7.28		168			22	546	524	174	13	372	9

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
07/19/00	#4 ETAW	7.30		280			8	504	496	192	4	312	4
07/19/00	#5 ETW	7.25		139			38	508	470	132	11	376	27
07/19/00	#8 ETW	7.20		160			12	710	698	204	7	506	5
07/19/00	#9 ETAW	7.31		268			3	636	633	260	3	376	0
07/19/00	#11 ABW	7.31		236			23	738	715	274	16	464	7
07/19/00	#13 ABW	7.22		176			5	676	671	210	3	466	2
07/19/00	#16 ETAW	7.38		254			14	646	632	238	7	408	7
07/19/00	#17 ETW	7.20		126			8	730	722	198	7	532	1
07/19/00	WWHT	7.18		296			16	596	580	212	11	384	5
07/26/00	#1 ABW	7.08	89.5	152		30	3	514	511	140	1	374	2
07/26/00	#4 ETAW	7.34	143	271		26	4	502	498	202	2	300	2
07/26/00	#5 ETW	7.25	98.5	138		24	12	508	496	166	2	342	10
07/26/00	#8 ETW	7.33	118	188		26	0	516	516	158	0	358	0
07/26/00	#9 ETAW	7.43	172	269		26	3	580	577	214	0	366	3
07/26/00	#11 ABW	7.32	137	238		28	16	636	620	236	9	400	7
07/26/00	#13 ABW	7.35	94.3	161		28	3	520	517	160	0	360	2
07/26/00	#16 ETAW	7.34	157	267		32	1	764	763	308	0	456	1
07/26/00	#17 ETW	7.35	74.1	119		22	11	732	721	184	2	548	8
07/26/00	WWHT	7.30	171	298		38	15	652	637	258	7	394	8
08/02/00	#1 ABW	7.07		118			9	534	525	148	5	386	4
08/02/00	#4 ETAW	7.43		257			7	758	751	274	4	484	3
08/02/00	#5 ETW	7.26		123			8	734	726	222	3	512	6
08/02/00	#8 ETW	7.35		158			6	778	772	274	3	504	3
08/02/00	#9 ETAW	7.55		243			4	516	512	208	3	308	1
08/02/00	#11 ABW	7.50		201			10	536	526	196	4	340	6
08/02/00	#13 ABW	7.41		127			6	466	460	136	3	330	3
08/02/00	#16 ETAW	7.39		259			8	592	584	244	4	348	4
08/02/00	#17 ETW	7.29		124			12	744	732	238	6	506	6
08/02/00	WWHT	7.43		267			7	578	571	206	3	372	4
08/09/00	#1 ABW	7.20	119	251	56.2	30	20	526	506	138	8	388	12
08/09/00	#4 ETAW	7.44	193	260	357.9	30	6	454	448	158	3	296	2
08/09/00	#5 ETW	7.34	125	136	4.2	24	14	640	626	174	4	466	9
08/09/00	#8 ETW	7.39	141	144	3.5	28	12	602	590	208	6	394	6
08/09/00	#9 ETAW	7.48	194	252	71.8	30	7	708	701	220	4	488	3
08/09/00	#11 ABW	7.48	163	219	68.8	34	12	550	538	190	6	360	6
08/09/00	#13 ABW	7.43	131	150	38.1	36	4	470	466	150	2	320	2
08/09/00	#16 ETAW	7.41	191	225	58.4	36	4	616	612	222	3	394	1
08/09/00	#17 ETW	7.36	126	125	7.6	26	10	584	574	172	6	412	4
08/09/00	WWHT	7.45	213	280	169.9	30	5	610	605	234	4	376	2
08/09/00	#6 ET	7.57	bd'	14	115.5	0							
08/09/00	#10 ET	7.31	bd'	5	85.6	4							
08/09/00	#18 ET	7.37	bd'	4	189.4	0							
08/09/00	Clean Water	8.48	bd'	7	124.1	0							
08/16/00	#1 ABW	7.18		114			11	468	457	126	6	342	5
08/16/00	#4 ETAW	7.28		319			13	566	553	256	4	310	8
08/16/00	#5 ETW	7.33		158			30	868	838	298	9	570	21
08/16/00	#8 ETW	7.42		148			9	784	775	242	3	542	6
08/16/00	#9 ETAW	7.47		295			7	588	581	244	4	344	4
08/16/00	#11 ABW	7.28		235			10	482	472	184	3	298	7
08/16/00	#13 ABW	7.33		168			9	598	589	204	3	394	6
08/16/00	#16 ETAW	7.31		285			7	550	543	226	2	324	5
08/16/00	#17 ETW	7.32		124			45	746	701	184	7	562	38
08/16/00	WWHT	7.27		332			5	676	671	264	3	412	2
08/23/00	#1 ABW	7.09	134	79		28	12	474	462	118	5	356	7
08/23/00	#4 ETAW	7.42	244	242		30	8	560	552	216	4	344	4
08/23/00	#5 ETW	7.23	179	125		24	8	600	592	188	2	412	6
08/23/00	#8 ETW	7.27	157	125		26	4	810	806	262	2	548	2
08/23/00	#9 ETAW	7.31	256	259		30	4	572	568	208	3	364	1
08/23/00	#11 ABW	7.41	206	174		32	18	516	498	168	6	348	12
08/23/00	#13 ABW	7.34	141	141		30	10	554	544	156	4	398	6
08/23/00	#16 ETAW	7.15	208	213		40	4	722	718	258	3	464	1
08/23/00	#17 ETW	7.15	185	140		28	7	596	589	170	3	426	4
08/23/00	WWHT	7.25	258	277		38	6	588	582	222	3	366	3
08/30/00	#1 ABW	7.07		65			7	548	541	120	7	428	0

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
08/30/00	#4 ETAW	7.18		272			6	614	608	246	2	368	3
08/30/00	#5 ETW	7.28		89			10	648	638	178	6	470	4
08/30/00	#8 ETW	7.31		87			7	568	561	150	3	418	4
08/30/00	#9 ETAW	7.19		236			48	636	588	244	47	392	1
08/30/00	#11 ABW	7.27		184			13	490	477	156	2	334	12
08/30/00	#13 ABW	7.35		136			30	740	710	226	10	514	20
08/30/00	#16 ETAW	7.37		191			8	654	646	234	7	420	1
08/30/00	#17 ETW	7.29		254			14	650	636	274	8	376	5
08/30/00	WWHT	7.16		331			16	546	530	176	9	370	8
09/06/00	#1 ABW	7.15		109	44.7	30	6	774	768	198	2	576	4
09/06/00	#4 ETAW	7.62		300	31.1	32	10	662	652	274	6	388	3
09/06/00	#5 ETW	7.40		72	6.7	26	31	688	657	156	8	532	22
09/06/00	#8 ETW	7.42		51	3.3	28	10	676	666	160	4	516	6
09/06/00	#9 ETAW	7.50		294	99.2	32	12	936	924	488	6	448	7
09/06/00	#11 ABW	7.48		226	59.0	32	25	800	775	296	10	504	15
09/06/00	#13 ABW	7.44		149	62.0	30	8	624	616	184	3	440	5
09/06/00	#16 ETAW	7.56		243	96.0	32	9	576	567	236	4	340	4
09/06/00	#17 ETW	7.34		222	32.5	28	13	706	693	268	7	438	6
09/06/00	WWHT	7.23		352	52.9	32	48	716	668	308	24	408	24
09/06/00	#6 ET	7.36		16	126.8	2							
09/06/00	#10 ET	7.26		20	109.3	2							
09/06/00	#18 ET	7.16		52	108.6	0							
09/06/00	Clean Water	7.44		20	153.8	4							
09/13/00	#1 ABW	7.02		71			8	548	540	122	4	426	4
09/13/00	#4 ETAW	7.43		222			19	604	585	200	6	404	13
09/13/00	#5 ETW	7.33		34			18	356	338	74	6	282	11
09/13/00	#8 ETW	7.41		28			12	604	592	116	6	488	6
09/13/00	#9 ETAW	7.36		235			15	670	655	222	8	448	7
09/13/00	#11 ABW	7.49		150			20	670	650	194	11	476	9
09/13/00	#13 ABW	7.44		107			11	460	449	106	4	354	6
09/13/00	#16 ETAW	7.30		237			14	656	642	230	6	426	8
09/13/00	#17 ETW	7.32		153			31	798	767	214	14	584	18
09/13/00	WWHT	7.48		276			6	704	698	234	5	470	1
09/20/00	#1 ABW	7.07		74		32	4	434	430	112	2	322	2
09/20/00	#4 ETAW	7.40		212		30	8	508	500	200	5	308	3
09/20/00	#5 ETW	7.23		38		26	12	662	650	154	6	508	7
09/20/00	#8 ETW	7.37		35		28	21	456	435	112	16	344	5
09/20/00	#9 ETAW	7.42		233		30	29	808	779	290	23	518	6
09/20/00	#11 ABW	7.50		135		32	15	552	537	174	7	378	8
09/20/00	#13 ABW	7.43		114		32	6	362	356	108	4	254	2
09/20/00	#16 ETAW	7.50		189		32	21	664	643	234	13	430	8
09/20/00	#17 ETW	7.18		114		30	16	574	558	164	8	410	8
09/20/00	WWHT	7.13		300		34	10	852	842	386	8	466	3
09/28/00	#1 ABW	6.86		45			10	472	462	118	3	354	6
09/28/00	#4 ETAW	7.20		130			78	382	304	102	11	280	68
09/28/00	#5 ETW	7.04		44			11	428	417	102	4	326	6
09/28/00	#8 ETW	7.19		27			8	612	604	118	2	494	6
09/28/00	#9 ETAW	7.14		103			6	386	380	100	4	286	2
09/28/00	#11 ABW	7.25		81			12	554	542	140	5	414	7
09/28/00	#13 ABW	7.29		76			4	476	472	124	4	352	0
09/28/00	#16 ETAW	7.20		113			9	464	455	136	5	328	4
09/28/00	#17 ETW	7.08		52			22	566	544	110	8	456	13
09/28/00	WWHT	7.21		240			3	454	451	146	2	308	0
10/04/00	#1 ABW	7.25		44	44.1	34	23	396	373	96	6	300	17
10/04/00	#4 ETAW	7.62		352	68.3	32	31	762	731	250	14	512	17
10/04/00	#5 ETW	7.44		38	20.9	28	20	476	456	114	7	362	13
10/04/00	#8 ETW	7.44		27	14.0	30	13	428	415	96	5	332	8
10/04/00	#9 ETAW	7.51		204	na[c]	30	13	566	553	202	7	364	6
10/04/00	#11 ABW	7.63		152	na[c]	32	16	464	448	148	9	316	7
10/04/00	#13 ABW	7.60		92	na[c]	30	10	386	376	116	8	270	1
10/04/00	#16 ETAW	7.54		192	na[c]	32	18	784	766	262	10	522	8
10/04/00	#17 ETW	7.43		57	na[c]	28	20	568	548	146	9	422	12
10/04/00	WWHT	7.37		251	na[c]	32	8	522	514	204	4	318	4
10/04/00	#6 ET	7.60		22	na[c]	2							

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
10/04/00	#10 ET	7.46		28	na[c]	2							
10/04/00	#18 ET	7.53		21	na[c]	0							
10/04/00	Clean Water	7.63		11	na[c]	4							
10/11/00	#1 ABW	7.27		42			4	430	426	90	3	340	2
10/11/00	#4 ETAW	7.61		131			9	648	639	198	5	450	4
10/11/00	#5 ETW	7.35		35			9	506	497	98	4	408	6
10/11/00	#8 ETW	7.44		53			16	502	486	100	6	402	10
10/11/00	#9 ETAW	7.45		107			6	440	434	116	5	324	1
10/11/00	#11 ABW	7.52		109			10	582	572	162	5	420	5
10/11/00	#13 ABW	7.50		93			8	488	480	128	6	360	2
10/11/00	#16 ETAW	7.54		126			22	674	652	200	10	474	12
10/11/00	#17 ETW	7.31		41			14	546	532	100	5	446	10
10/11/00	WWHT	7.55		244			5	480	475	182	3	298	2
10/18/00	#1 ABW	7.17	53.9	38		28	1	470	469	92	1	378	0
10/18/00	#4 ETAW	7.57	131	207		30	7	790	783	300	6	490	1
10/18/00	#5 ETW	7.31	58.5	36		26	13	512	499	96	5	416	8
10/18/00	#8 ETW	7.30	bd[a]	23		26	11	638	627	116	3	522	8
10/18/00	#9 ETAW	7.37	124	182		30	6	764	758	274	5	490	1
10/18/00	#11 ABW	7.53	91.5	174		30	8	542	534	174	4	368	5
10/18/00	#13 ABW	7.47	75.7	194		28	4	444	440	112	2	332	2
10/18/00	#16 ETAW	7.24	126	234		30	10	674	664	216	7	458	2
10/18/00	#17 ETW	7.20	59.5	91		28	9	434	425	78	3	356	6
10/18/00	WWHT	7.58	154	269		30	3	730	727	280	2	450	2
10/26/00	#1 ABW	7.62		35			2	528	526	126	2	402	1
10/26/00	#4 ETAW	7.53		449			62	1142	1080	616	54	526	8
10/26/00	#5 ETW	7.64		25			4	594	590	124	2	470	2
10/26/00	#8 ETW	7.69		21			4	398	394	76	2	322	2
10/26/00	#9 ETAW	7.39		211			3	698	695	224	2	474	1
10/26/00	#11 ABW	7.36		197			4	602	598	194	2	408	2
10/26/00	#13 ABW	7.62		128			2	618	616	170	2	448	1
10/26/00	#16 ETAW	7.67		188			6	648	642	218	4	430	2
10/26/00	#17 ETW	7.53		12			9	642	633	98	2	544	6
10/26/00	WWHT	7.52		265			10	730	720	236	7	494	3
11/01/00	#1 ABW	7.14	53.3	55	15.6	30	4	454	450	100	4	354	0
11/01/00	#4 ETAW	7.47	163	213	12.5	28	6	822	816	312	3	510	3
11/01/00	#5 ETW	7.33	bd[a]	88	3.0	26	10	678	668	136	2	542	7
11/01/00	#8 ETW	7.40	bd[a]	41	1.9	32	8	462	454	112	2	350	6
11/01/00	#9 ETAW	7.40	160	205	21.3	30	6	782	776	260	5	522	1
11/01/00	#11 ABW	7.57	135	167	5.5	32	10	414	404	134	6	280	4
11/01/00	#13 ABW	7.54	108	109	9.2	30	2	674	672	172	2	502	0
11/01/00	#16 ETAW	7.53	130	170	12.7	30	4	492	488	162	2	330	2
11/01/00	#17 ETW	7.33	83.1	51	2.7	28	8	454	446	76	5	378	3
11/01/00	WWHT	7.24	189	325	32.4	30	7	822	815	302	5	520	2
11/01/00	#6 ET	7.42	bd[a]	17	97.1	2	4	404	400	60	3	344	1
11/01/00	#10 ET	7.35	bd[a]	24	335.2	2	1	546	545	110	1	436	0
11/01/00	#18 ET	7.34	bd[a]	23	99.5	0	1	488	487	84	1	404	0
11/01/00	Clean Water	7.53	120	20	115.8	4	2	444	442	94	1	350	1
11/07/00	#1 ABW	7.20		56			6	690	684	166	1	524	6
11/07/00	#4 ETAW	7.33		329			11	584	573	174	4	410	7
11/07/00	#5 ETW	7.22		38			9	656	647	150	2	506	7
11/07/00	#8 ETW	7.30		60			16	670	654	168	7	502	10
11/07/00	#9 ETAW	7.26		173			10	600	590	152	3	448	7
11/07/00	#11 ABW	7.32		132			10	664	654	168	2	496	8
11/07/00	#13 ABW	7.34		171			22	478	456	130	4	348	18
11/07/00	#16 ETAW	7.30		160			10	704	694	202	4	502	6
11/07/00	#17 ETW	7.23		41			20	668	648	124	6	544	14
11/07/00	WWHT	7.03		303			15	478	463	140	10	338	5
11/14/00	#1 ABW	7.29	74.9	107		26	5	396	391	96	4	300	2
11/14/00	#4 ETAW	7.47	136	223		28	3	540	537	154	3	386	0
11/14/00	#5 ETW	7.33	72.2	26		24	5	568	563	122	1	446	4
11/14/00	#8 ETW	7.40	72.5	24		28	12	614	602	118	5	496	7
11/14/00	#9 ETAW	7.41	121	199		30	10	404	394	112	9	292	1
11/14/00	#11 ABW	7.56	127	191		28	6	370	364	106	5	264	0
11/14/00	#13 ABW	7.55	105	171		30	2	426	424	122	2	304	0

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
11/14/00	#16 ETAW	7.51	91.9	150		28	4	622	618	168	4	454	0
11/14/00	#17 ETW	7.34	110	158		24	4	406	402	116	2	290	2
11/14/00	WWHT	7.14	171	307		30	21	476	455	122	10	354	10
11/21/00	#1 ABW	7.36		188			2	524	522	158	2	366	0
11/21/00	#4 ETAW	7.33		294			10	470	460	144	4	326	6
11/21/00	#5 ETW	7.35		90			8	558	550	118	4	440	4
11/21/00	#8 ETW	7.51		46			8	468	460	102	4	366	4
11/21/00	#9 ETAW	7.46		289			8	530	522	164	3	366	4
11/21/00	#11 ABW	7.47		274			8	404	396	134	4	270	4
11/21/00	#13 ABW	7.46		248			6	452	446	134	0	318	6
11/21/00	#16 ETAW	7.50		265			6	410	404	138	3	272	3
11/21/00	#17 ETW	7.42		166			8	514	506	162	3	352	4
11/21/00	WWHT	7.20		318			12	444	432	134	8	310	4
11/29/00	#1 ABW	7.14	160	206		26	5	470	465	138	3	332	2
11/29/00	#4 ETAW	7.05	244	315		28	5	744	739	242	2	502	4
11/29/00	#5 ETW	7.14	76.8	47		22	3	538	535	132	2	406	2
11/29/00	#8 ETW	7.32	65.8	42		26	9	604	595	116	4	488	5
11/29/00	#9 ETAW	7.16	218	289		28	6	538	532	152	2	386	4
11/29/00	#11 ABW	7.18	216	279		28	8	570	562	176	4	394	4
11/29/00	#13 ABW	7.20	203	260		28	4	524	520	160	3	364	1
11/29/00	#16 ETAW	7.34	206	282		26	5	506	501	132	2	374	2
11/29/00	#17 ETW	7.20	118	149		24	9	660	651	660	2	0	6
11/29/00	WWHT	7.04	232	326		30	8	538	530	158	4	380	4
12/06/00	#1 ABW	7.21		38	132.3		4.8	430	425.2	132	2	298	2.8
12/06/00	#4 ETAW	7.34		59	120.8		110	1030	920	476	84.8	554	25.2
12/06/00	#5 ETW	7.28		40	150.8		4.8	522	517.2	104	0.8	418	4
12/06/00	#8 ETW	7.45		49	150.4		3.6	588	584.4	104	2.8	484	0.8
12/06/00	#9 ETAW	7.22		262	167.7		4.8	602	597.2	178	4.4	424	0.4
12/06/00	#11 ABW	7.25		331	57.4		6.4	490	483.6	154	1.2	336	5.2
12/06/00	#13 ABW	7.28		30	4.0		4	558	554	158	1.6	400	2.4
12/06/00	#16 ETAW	7.38		61	1.5		5.6	460	454.4	126	5.6	334	0
12/06/00	#17 ETW	7.18		333	227.3		18.8	670	651.2	158	12	512	6.8
12/06/00	WWHT	7.23		309	193.4		6.4	482	475.6	132	4.4	350	2
12/06/00	#6 ET	7.25		305	136.2		0	198	198	64	0	134	0
12/06/00	#10 ET	7.20		307	186.5								
12/06/00	#18 ET	7.32		121	3.8								
12/06/00	Clean Water	7.09		300	77.7								
12/14/00	#1 ABW	7.19	164	237		30	6	460	454	138	3	322	3
12/14/00	#4 ETAW	1.13	127	309		28	10	480	470	162	3	318	6
12/14/00	#5 ETW	7.26	93	68		22	7	658	651	156	3	502	4
12/14/00	#8 ETW	7.37	118	49		24	15	638	623	104	4	534	11
12/14/00	#9 ETAW	7.13	150	288		30	12	442	430	128	8	314	4
12/14/00	#11 ABW	7.24	179	289		30	8	472	464	142	3	330	5
12/14/00	#13 ABW	7.28	155	280		28	4	828	824	134	1	694	4
12/14/00	#16 ETAW	7.26	150	301		28	5	556	551	156	1	400	4
12/14/00	#17 ETW	7.28	83.1	131		24	18	722	704	172	9	550	10
12/14/00	WWHT	7.14	87.8	327		30	6	648	642	186	3	462	2
12/20/00	#1 ABW	7.10		253			16	562	546	162	4	400	12
12/20/00	#4 ETAW	7.03		336			11	652	641	176	7	476	4
12/20/00	#5 ETW	7.23		132			8	574	566	154	4	420	4
12/20/00	#8 ETW	7.30		96			6	464	458	112	2	352	4
12/20/00	#9 ETAW	7.16		321			11	570	559	174	9	396	2
12/20/00	#11 ABW	7.18		314			10	454	444	136	6	318	4
12/20/00	#13 ABW	7.24		313			8	498	490	148	5	350	3
12/20/00	#16 ETAW	7.29		310			8	522	514	144	6	378	2
12/20/00	#17 ETW	7.24		133			18	706	688	180	10	526	7
12/20/00	WWHT	7.16		351			8	644	636	180	5	464	3
12/28/00	#1 ABW	7.13		253		32	22	768	746	266	7	502	16
12/28/00	#4 ETAW	7.44		285		30	36	790	754	248	19	542	17
12/28/00	#5 ETW	7.45		61		22	13	680	667	170	8	510	5
12/28/00	#8 ETW	7.37		106		26	10	452	442	120	7	332	2
12/28/00	#9 ETAW	7.42		260		32	34	490	456	156	22	334	12
12/28/00	#11 ABW	7.44		256		30	27	610	583	184	15	426	12
12/28/00	#13 ABW	7.49		247		30	20	528	508	158	13	370	8

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
12/28/00	#16 ETAW	7.51		252		30	28	742	714	220	12	522	16
12/28/00	#17 ETW	7.40		101		24	28	710	682	160	17	550	11
12/28/00	WWHT	7.29		205	202.3		12	350	338	104	9	246	3
01/04/01	#1 ABW	7.39		281	245.7		27	566	539	142	13	424	14
01/04/01	#4 ETAW	7.42		65	5.9		8	548	540	116	2	432	6
01/04/01	#5 ETW	7.70		36	373.1		0	560	560	100	0	460	0
01/04/01	#8 ETW	7.59		191	266.6		11	454	443	106	6	348	5
01/04/01	#9 ETAW	7.47		275	322.9		19	472	453	112	13	360	6
01/04/01	#11 ABW	7.53		26	332.0		2	428	426	84	1	344	2
01/04/01	#13 ABW	7.63		118	226.8		20	624	604	158	11	466	9
01/04/01	#16 ETAW	7.53		271	243.3		12	420	408	108	5	312	7
01/04/01	#17 ETW	7.70		237	74.0		34	504	470	136	17	368	17
01/04/01	WWHT	7.49		164	6.9		7	508	501	130	5	378	2
01/04/01	#6 ET	7.32		274	87.4		10	372	362	96	9	276	1
01/04/01	#10 ET	7.25		303	372.5		7	384	377	98	5	286	2
01/04/01	#18 ET	8.39		38	398.6		8	428	420	92	4	336	4
01/11/01	#1 ABW	7.28	212	244		30	10	460	450	140	6	320	4
01/11/01	#4 ETAW	7.33	208	326		34	12	450	438	130	6	320	5
01/11/01	#5 ETW	7.38	149	62		24	17	774	757	182	3	592	14
01/11/01	#8 ETW	7.45	128	78		26	8	478	470	114	5	364	3
01/11/01	#9 ETAW	7.36	310	311		30	8	378	370	92	6	286	2
01/11/01	#11 ABW	7.42	205	222		28	20	456	436	130	12	326	8
01/11/01	#13 ABW	7.31	254	276		32	12	418	406	130	7	288	5
01/11/01	#16 ETAW	7.45	268	286		32	8	470	462	136	5	334	3
01/11/01	#17 ETW	7.41	157	99		28	15	646	631	146	11	500	4
01/11/01	WWHT	7.26	269	329		32	9	444	435	120	7	324	2
01/19/01	#1 ABW	7.22		291			20	542	522	150	7	392	13
01/19/01	#4 ETAW	7.30		325			9	444	435	136	6	308	4
01/19/01	#5 ETW	7.34		68			13	632	619	138	2	494	11
01/19/01	#8 ETW	7.45		107			6	594	588	138	2	456	5
01/19/01	#9 ETAW	7.28		341			7	522	515	134	4	388	3
01/19/01	#11 ABW	7.36		278			12	610	598	180	6	430	6
01/19/01	#13 ABW	7.40		307			6	696	690	198	2	498	4
01/19/01	#16 ETAW	7.42		310			6	480	474	128	2	352	4
01/19/01	#17 ETW	7.39		137			3	492	489	134	2	358	2
01/19/01	WWHT	7.23		345			9	522	513	142	4	380	5
01/24/01	#1 ABW	7.19	183	278		28	7	514	507	140	3	374	4
01/24/01	#4 ETAW	7.27	180	314		28	12	532	520	150	6	382	6
01/24/01	#5 ETW	7.43	73	52		24	10	484	474	164	5	320	5
01/24/01	#8 ETW	7.52	84.1	86		26	6	604	598	132	1	472	4
01/24/01	#9 ETAW	7.40	203	312		30	13	434	421	120	8	314	5
01/24/01	#11 ABW	7.44	137	214		28	9	500	491	114	6	386	4
01/24/01	#13 ABW	7.42	200	270		28	8	528	520	150	5	378	3
01/24/01	#16 ETAW	7.45	197	346		30	6	538	532	144	3	394	3
01/24/01	#17 ETW	7.46	90	93		24	9	668	659	116	4	552	5
01/24/01	WWHT	7.31	197	324		28	11	508	497	114	8	394	3
01/31/01	#1 ABW	7.12		216			10	568	558	170	8	398	2
01/31/01	#4 ETAW	7.26		252			12	432	420	130	2	302	10
01/31/01	#5 ETW	7.30		35			24	776	752	200	6	576	18
01/31/01	#8 ETW	7.38		82			7	600	593	152	4	448	3
01/31/01	#9 ETAW	7.08		279			10	514	504	152	7	362	2
01/31/01	#11 ABW	7.14		154			10	624	614	164	6	460	4
01/31/01	#13 ABW	7.36		261			10	614	604	180	5	434	5
01/31/01	#16 ETAW	7.39		262			6	498	492	140	6	358	1
01/31/01	#17 ETW	7.34		62			11	696	685	124	7	572	4
01/31/01	WWHT	7.00		296			7	470	463	128	5	342	2
02/08/01	#1 ABW	7.02	127	240	26.1	32	8	542	534	194	5	348	3
02/08/01	#4 ETAW	7.10	157	236	109.8	34	24	650	626	224	16	426	8
02/08/01	#5 ETW	7.32	bd'	52	2.4	24	53	710	657	152	12	558	40
02/08/01	#8 ETW	7.41	44.4	47	2.4	24	14	644	630	140	10	504	4
02/08/01	#9 ETAW	6.92	89.6	303	245.7	36	14	624	610	190	10	434	4
02/08/01	#11 ABW	7.04	92.2	242	24.8	32	28	560	532	154	9	406	20
02/08/01	#13 ABW	7.19	164	241	130.3	32	8	538	530	182	5	356	3
02/08/01	#16 ETAW	7.29	161	268	159.1	34	8	472	464	158	0	314	7

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
02/08/01	#17 ETW	7.35	50.9	54	5.4	26	14	698	684	126	10	572	4
02/08/01	WWHT	6.98	182	312	408.4	34	13	398	385	110	10	288	3
02/08/01	6 ET	7.38	52.5	10	411.6	2	2	396	394	68	1	328	1
02/08/01	10 ET	7.36	bd'	8	163.1	2	3	552	549	90	1	462	2
02/08/01	18 ET	7.42	bd'	6	436.2	2	4	470	466	88	2	382	2
02/08/01	Clean Water	7.49	bd'	3	162.8	4	3	384	381	64	1	320	2
02/14/01	#1 ABW	7.04		271			41	618	577	196	10	422	31
02/14/01	#4 ETAW	7.08		322			10	744	734	220	4	524	6
02/14/01	#5 ETW	7.37		68			26	578	552	124	7	454	19
02/14/01	#8 ETW	7.45		47			6	556	550	134	2	422	4
02/14/01	#9 ETAW	6.97		354			17	502	485	146	10	356	6
02/14/01	#11 ABW	7.09		182			10	458	448	118	4	340	6
02/14/01	#13 ABW	7.10		305			10	552	542	142	9	410	2
02/14/01	#16 ETAW	7.21		315			10	564	554	180	6	384	3
02/14/01	#17 ETW	7.31		58			19	382	363	78	8	304	11
02/14/01	WWHT	7.01		332			14	430	416	128	10	302	4
02/21/01	#1 ABW	7.18		212		30	6	546	540	164	4	382	2
02/21/01	#4 ETAW	7.20		260		32	8	666	658	216	4	450	3
02/21/01	#5 ETW	7.29		43		24	33	742	709	0	9	778	24
02/21/01	#8 ETW	7.58		70		26	15	546	531	120	7	426	8
02/21/01	#9 ETAW	6.91		293		36	20	804	784	280	14	524	6
02/21/01	#11 ABW	7.15		222		32	31	542	511	128	8	414	24
02/21/01	#13 ABW	7.26		247		34	16	580	564	186	10	394	6
02/21/01	#16 ETAW	7.31		275		34	8	548	540	154	4	394	3
02/21/01	#17 ETW	7.33		43		28	22	432	410	82	12	350	10
02/21/01	WWHT	7.04		216		32	16	462	446	112	14	350	2
02/28/01	#1 ABW	7.20		185			12	382	370	104	6	278	6
02/28/01	#4 ETAW	7.24		211			9	482	473	144	5	338	4
02/28/01	#5 ETW	7.25		77			14	704	690	168	7	536	8
02/28/01	#8 ETW	7.30		111			6	472	466	112	4	360	2
02/28/01	#9 ETAW	7.24		178			16	564	548	150	12	414	3
02/28/01	#11 ABW	7.20		219			14	542	528	164	10	378	4
02/28/01	#13 ABW	7.40		205			15	460	445	152	5	308	10
02/28/01	#16 ETAW	7.26		203			14	648	634	168	10	480	4
02/28/01	#17 ETW	7.24		67			10	564	554	132	7	432	3
02/28/01	WWHT	7.25		206			8	642	634	188	7	454	2
03/07/01	#1 ABW	7.18		208	172.8	28	3	508	505	140	3	368	0
03/07/01	#4 ETAW	7.14		250	199.5	26	6	426	420	124	5	302	2
03/07/01	#5 ETW	7.38		60	5.8	22	7	522	515	104	3	418	4
03/07/01	#8 ETW	7.41		54	3.3	24	3	474	471	98	2	376	2
03/07/01	#9 ETAW	7.26		249	240.1	28	10	422	412	96	8	326	3
03/07/01	#11 ABW	7.25		224	165.6	26	9	588	579	158	3	430	6
03/07/01	#13 ABW	7.21		257	200.3	26	7	410	403	138	5	272	2
03/07/01	#16 ETAW	7.41		223	173.1	28	12	714	702	196	7	518	5
03/07/01	#17 ETW	7.34		51	3.5	22	12	626	614	116	6	510	6
03/07/01	WWHT	7.16		261	257.2	26	8	424	416	106	8	318	0
03/07/01	6 ET	7.42		35	106.2	0	29	486	457	90	4	396	25
03/07/01	10 ET	7.47		22	413.5	0	4	624	620	94	2	530	2
03/07/01	18 ET	7.45		19	345.3	0	4	520	516	88	3	432	1
03/07/01	Clean Water	7.52		15	367.3	0	2	328	326	62	2	266	0
03/14/01	#1 ABW	7.12		164			14	580	566	146	8	434	6
03/14/01	#4 ETAW	7.03		243			8	694	686	222	0	472	7
03/14/01	#5 ETW	7.04		78			15	660	645	150	2	510	13
03/14/01	#8 ETW	7.12		56			14	578	564	132	6	446	8
03/14/01	#9 ETAW	7.06		239			14	1204	1190	912	10	292	5
03/14/01	#11 ABW	7.02		233			12	710	698	176	5	534	6
03/14/01	#13 ABW	7.11		259			8	604	596	166	4	438	4
03/14/01	#16 ETAW	7.03		252			6	468	462	144	4	324	2
03/14/01	#17 ETW	7.04		52			16	664	648	134	8	530	8
03/14/01	WWHT	7.11		260			6	710	704	212	5	498	0
03/21/01	#1 ABW	7.06	140	234		42	12	424	412	132	8	292	4
03/21/01	#4 ETAW	7.05	172	299		28	10	532	522	162	6	370	4
03/21/01	#5 ETW	7.35	bd'	55		24	15	568	553	118	6	450	9
03/21/01	#8 ETW	7.45	39.5	64		30	16	518	502	108	8	410	8

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
03/21/01	#9 ETAW	7.28	161	292		26	5	650	645	210	4	440	0
03/21/01	#11 ABW	7.25	169	272		30	10	564	554	160	10	404	0
03/21/01	#13 ABW	7.21	174	305		30	19	510	491	160	16	350	3
03/21/01	#16 ETAW	7.37	159	268		36	8	684	676	200	7	484	1
03/21/01	#17 ETW	7.29	40.3	50		26	10	522	512	110	5	412	6
03/21/01	WWHT	7.16	182	300		30	8	482	474	154	8	328	0
03/28/01	#1 ABW	7.25		253			5	454	449	146	4	308	1
03/28/01	#4 ETAW	7.20		289			9	584	575	196	4	388	5
03/28/01	#5 ETW	7.31		72			7	634	627	160	6	474	2
03/28/01	#8 ETW	7.46		118			12	660	648	198	7	462	6
03/28/01	#9 ETAW	7.26		368			9	696	687	236	7	460	2
03/28/01	#11 ABW	7.25		387			8	590	582	228	8	362	1
03/28/01	#13 ABW	7.23		299			12	536	524	190	10	346	2
03/28/01	#16 ETAW	7.29		291			6	802	796	270	5	532	0
03/28/01	#17 ETW	7.29		82			3	510	507	130	3	380	0
03/28/01	WWHT	7.19		309			11	662	651	226	8	436	3
04/04/01	#1 ABW	7.42	158	243	6.3	28	6	618	612	264	5	354	0
04/04/01	#4 ETAW	7.34	168	308	20.6	26	14	590	576	258	10	332	3
04/04/01	#5 ETW	7.57	17.8	54	3.9	20	14	550	536	144	9	406	5
04/04/01	#8 ETW	7.58	37.8	79	1.3	22	15	758	743	200	10	558	4
04/04/01	#9 ETAW	7.52	161	280	41.5	28	7	474	467	180	6	294	2
04/04/01	#11 ABW	7.44	180	278	14.2	28	13	588	575	248	10	340	4
04/04/01	#13 ABW	7.42	174	300	28.3	28	14	482	468	182	9	300	4
04/04/01	#16 ETAW	7.52	170	272	14.7	26	19	566	547	226	16	340	3
04/04/01	#17 ETW	7.42	28.7	48	2.5	22	12	550	538	138	4	412	7
04/04/01	WWHT	7.40	162	293	114.5	26	9	550	541	208	9	342	0
04/04/01	6 ET	7.51	bd'	14	122.9	2	2	432	430	70	0	362	2
04/04/01	Clean Water	7.63	bd'	5	99.9	2	2	358	356	70	0	288	2
04/11/01	#1 ABW	7.15		259			8	502	494	182	6	320	2
04/11/01	#4 ETAW	7.39		294			26	500	474	174	14	326	12
04/11/01	#5 ETW	7.41		124			23	522	499	130	6	392	17
04/11/01	#8 ETW	7.47		100			20	538	518	150	8	388	12
04/11/01	#9 ETAW	7.50		264			17	490	473	156	9	334	8
04/11/01	#11 ABW	7.44		283			18	722	704	232	9	490	9
04/11/01	#13 ABW	7.50		290			18	466	448	152	9	314	9
04/11/01	#16 ETAW	7.55		278			14	718	704	240	7	478	7
04/11/01	#17 ETW	7.37		60			16	436	420	98	4	338	11
04/11/01	WWHT	7.24		301			10	536	526	210	7	326	2
04/18/01	#1 ABW	7.21	148	247		28	7	686	679	242	6	444	0
04/18/01	#4 ETAW	7.51	169	286		32	74	460	386	184	8	276	66
04/18/01	#5 ETW	7.50	bd'	168		28	20	606	586	198	5	408	14
04/18/01	#8 ETW	7.45	94.8	166		28	0	530	530	164	0	366	0
04/18/01	#9 ETAW	7.41	156	279		32	0	668	668	248	0	420	0
04/18/01	#11 ABW	7.50	162	277		30	130	568	438	222	3	346	127
04/18/01	#13 ABW	7.49	156	298		32	11	500	489	168	11	332	0
04/18/01	#16 ETAW	7.49	159	265		32	0	506	506	182	0	324	0
04/18/01	#17 ETW	7.39	72.9	120		26	0	676	676	216	0	460	0
04/18/01	WWHT	7.42	162	292		32	84	552	468	208	3	344	81
04/25/01	#1 ABW	7.17		234			6	404	398	142	4	262	2
04/25/01	#4 ETAW	7.35		268			3	494	491	176	1	318	2
04/25/01	#5 ETW	7.32		91			6	594	588	158	5	436	1
04/25/01	#8 ETW	7.39		107			13	540	527	148	8	392	5
04/25/01	#9 ETAW	7.43		246			4	460	456	150	1	310	3
04/25/01	#11 ABW	7.49		261			4	710	706	210	3	500	1
04/25/01	#13 ABW	7.37		268			10	516	506	182	5	334	5
04/25/01	#16 ETAW	7.52		260			9	654	645	214	5	440	4
04/25/01	#17 ETW	7.33		72			8	502	494	116	4	386	4
04/25/01	WWHT	7.43		269			4	742	738	246	2	496	2
05/02/01	#1 ABW	7.12	122	195	3.8	38	13	544	531	156	11	388	2
05/02/01	#4 ETAW	7.38	170	265	17.2	38	12	548	536	190	8	358	5
05/02/01	#5 ETW	7.38	59.4	89	1.8	26	16	512	496	144	7	368	8
05/02/01	#8 ETW	7.44	103	126	1.6	28	25	706	681	194	11	512	14
05/02/01	#9 ETAW	7.38	185	258	15.9	34	8	720	712	260	4	460	4
05/02/01	#11 ABW	7.57	175	233	8.4	38	8	412	404	154	5	258	2

Table B.1. Continued

Sample Date	Sample ID #	pH	BOD_5 (mg/L)	COD (mg/L)	Sulfate (mg/L)	TKN (mg/L)	TSS (mg/L)	TS (mg/L)	TDS (mg/L)	TVS (mg/L)	TVSS (mg/L)	TFS (mg/L)	TFSS (mg/L)
05/02/01	#13 ABW	7.44	169	273	19.8	34	8	700	692	254	6	446	2
05/02/01	#16 ETAW	7.47	160	250	9.8	34	7	738	731	280	3	458	4
05/02/01	#17 ETW	7.38	27.6	58	2.2	28	10	494	484	116	7	378	3
05/02/01	WWHT	7.40	176	274	26.9	34	6	498	492	200	6	298	0
05/02/01	6 ET	7.46	19.5	19	97.4	2	2	440	438	92	1	348	1
05/02/01	Clean Water	7.59	bd[1]	1	88.3	2	0	372	372	64	0	308	0
05/09/01	#1 ABW	7.11		206			20	538	518	194	6	344	13
05/09/01	#4 ETAW	7.33		284			21	744	723	278	8	466	12
05/09/01	#5 ETW	7.32		109			14	618	604	146	8	472	6
05/09/01	#8 ETW	7.37		156			14	558	544	188	9	370	5
05/09/01	#9 ETAW	7.16		279			21	506	485	180	14	326	7
05/09/01	#11 ABW	7.37		279			7	548	541	220	4	328	3
05/09/01	#13 ABW	7.41		295			7	612	605	238	5	374	2
05/09/01	#16 ETAW	7.48		275			18	720	702	290	10	430	8
05/09/01	#17 ETW	7.34		92			10	640	630	182	7	458	3
05/09/01	WWHT	7.30		293			5	516	511	208	5	308	0
05/16/01	#1 ABW	7.11		200		38	3	528	525	184	2	344	0
05/16/01	#4 ETAW	7.30		295		36	8	608	600	222	3	386	5
05/16/01	#5 ETW	7.34		117		28	10	636	626	200	4	436	6
05/16/01	#8 ETW	7.37		163		30	8	500	492	176	5	324	3
05/16/01	#9 ETAW	7.23		301		34	7	518	511	194	4	324	4
05/16/01	#11 ABW	7.24		264		36	10	498	488	168	7	330	3
05/16/01	#13 ABW	7.31		289		36	14	494	480	200	9	294	5
05/16/01	#16 ETAW	7.30		283		36	4	688	684	268	3	420	1
05/16/01	#17 ETW	7.32		134		30	9	514	505	158	6	356	3
05/16/01	WWHT	7.35		289		34	7	618	611	230	3	388	4
05/23/01	#1 ABW	7.08		212			4	480	476	138	4	342	0
05/23/01	#4 ETAW	7.25		287			6	484	478	172	2	312	4
05/23/01	#5 ETW	7.28		231			8	500	492	148	5	352	3
05/23/01	#8 ETW	7.30		203			17	542	525	170	7	372	10
05/23/01	#9 ETAW	7.25		275			9	570	561	192	4	378	5
05/23/01	#11 ABW	7.25		297			9	648	639	208	5	440	4
05/23/01	#13 ABW	7.27		344			6	440	434	150	4	290	2
05/23/01	#16 ETAW	7.25		307			13	520	507	188	6	332	6
05/23/01	#17 ETW	7.23		189			11	482	471	142	6	340	5
05/23/01	WWHT	7.02		292			8	540	532	178	8	362	0

Notes: 1 bd = below detection for BOD5, typically less than 30 mg/L based on dilutions for higher concentrations
[1] na = data not available, sample collected but not run

APPENDIX C. Sample Weather Data

Index for Weather Data

Air Temp: Current air temperature reading of outside air, Degree F

Hi: Maximum air temperature since the last time the high register was cleared, Degree F

Low: Minimum air temperature since the last time the low register was cleared, Degree F

ET: Evapotranspiration, inch

- Measure of the amount of water vapor returns to the air in as given area
- Uses air temperature, relative humidity, wind run, and solar radiation data to estimate ET

Soil Temp: Measurement of Soil Temperature, Degree F

Leaf: Leaf Wetness

- Indicates whether the surface of foliage in the area is wet or dry
- Range 0 (dry) – 15 (wet)

Solar Rad: Solar Radiation, Watt/m^2

- Measurement of the intensity of the sun's radiation reaching the earth

Solar Energy: Langley

- Integration or summation of the solar radiation over a period of time gives amount of incident solar energy received during that time period.
- 1 Langley = 41.84 KJ/m^2 = 11.622 W hr/m^2 = 3.687 BTU/ft^2

Deg. Days: Growing Degree Days (Heat Unit), Degree F

- Provide a measure for calculating the effect of temperature on the development of plants and/or pests.

Bar: Barometric Pressure, in of Hg, mm of Hg, hectoPascals

- Current atmospheric pressure converts to the equivalent pressure at sea level

Wind Speed: Speed of Wind, Unit of MPH, Km/hr or m/s

Hi: Peak wind speed over a given period time, MPH

Wind Dir: Wind Direction

- The direction from which the wind is blowing

Wind Chill: Degree F

- Takes into account how the speed of the wind affects our perception of the air temperature

Run: Wind Run, Miles of Wind

- Measurement of the "amount" of wind, which passes a given point during the measurement period
- Example: Wind blows steady for 12 hours at 10 MPH
  Wind Run = 10 MPH x 12 hours = 120 miles

Rain: Rainfall, inch or mm

- Amount of rainfall or precipitation in that time period

Hi Rate: Rate of Rainfall, in

- Calculates amount of rain fall per time
- Interval of time between each 0.01-inch "rainfall" increment

Hum: Relative Humidity, %

- A humidity reading taking into account air temperature + pressure
- Relative humidity is ratio of amount of water vapor actually in the air and the capacity of air to hold water vapor

Dew Point: Degree F

- The temperature to which air must be cools to reach saturation (100% RH)
- Also a good indicator of the air's actual vapor content
- High dew point indicates high vapor content

T.H. Index: Temperature Humidity Index, Degree F

- Uses temperature of relative humidity to determine how hot air actually "feels"
- Kind of like heat index
- Only measures T.H. index when air temp > 68 Degree F
- Max value of T.H. index is 125 Degree F

A. Per: Average period between measurements

Batt Volts: Battery voltages

Table C.1. Sample Weather Data from On-Site Weather Station

Date	Time	Air Temp	Hi	Low	ET	Soil Temp	Leaf	Solar Rad	Solar Energy	Deg. Days	Bar	Wind Speed	Hi	Wind Dir	Wind Chill	Run	Rain	Hi Rate	Hum	Dew Point	T.H. Index	A. Per	Batt. Volts
06/01/00	12:00 AM	73.3	74.3	72.5	0.00318	---	--	0	0	0.2	30.01	8	15	SSW	70.3	4	0	0	63	60	73.3	30	11
06/01/00	12:30 AM	71.9	72.7	71.5	--	---	--	0	0	0.1	30.01	6	10	SSW	70.1	2.7	0	0	66	59.9	72	30	11
06/01/00	1:00 AM	71.7	72	71.2	0.00211	---	--	0	0	0.2	30.01	6	10	SSW	69.9	3.1	0	0	69	61	72	30	11
06/01/00	1:30 AM	71	71.3	70.7	--	200.5	--	0	0	0.1	30.01	6	9	S	69.1	2.9	0	0	70	60.7	71	30	11
06/01/00	2:00 AM	70.9	71.1	70.7	0.00174	191	--	0	0	0.1	30	4	7	S	70.9	2	0	0	69	60.2	71	30	11
06/01/00	2:30 AM	71.3	71.5	71	--	193.8	--	0	0	0.1	29.99	5	8	SSE	70.2	2.4	0	0	68	60.2	71	30	11
06/01/00	3:00 AM	71.3	71.5	71.1	0.00177	---	--	0	0	0.2	30	5	8	SSE	70.2	2.5	0	0	70	61	71	30	11
06/01/00	3:30 AM	71.3	72	71	--	---	--	0	0	0.1	29.99	7	10	SSE	68.7	3.2	0	0	67	59.8	71	30	10.75
06/01/00	4:00 AM	72.3	72.8	71.8	0.00306	---	--	0	0	0.2	30	10	15	SE	67.7	4.6	0	0	60	57.7	72	30	11
06/01/00	4:30 AM	72.6	72.8	72.2	--	---	--	0	0	0.1	30.01	11	17	SSE	67.7	5.5	0	0	61	58.4	73.1	30	11
06/01/00	5:00 AM	72.4	72.7	72.2	0.00432	---	--	0	0	0.2	30.02	13	24	SE	66.7	6.4	0	0	62	58.7	72	30	10.75
06/01/00	5:30 AM	72.1	72.5	71.8	--	---	--	0	0	0.1	30.04	14	19	SSE	66	6.5	0	0	63	58.8	72	30	11
06/01/00	6:00 AM	71.6	72.1	71.1	0.00402	---	--	0	0	0.2	30.04	10	17	SE	66.9	5.1	0	0	65	59.2	72	30	10.75
06/01/00	6:30 AM	70.7	71.3	70.2	--	---	--	0	0	0.1	30.05	11	16	SE	65.4	5.1	0	0	67	59.2	71	30	11
06/01/00	7:00 AM	69.6	70.3	69.3	0.00121	---	--	17	0.7	0.1	30.05	9	13	SE	65.2	4.1	0	0	69	59	70	30	11
06/01/00	7:30 AM	69.8	70.2	69.3	--	---	--	93	4.2	0.1	30.05	10	14	SE	64.7	4.7	0	0	70	59.6	70	30	10.75
06/01/00	8:00 AM	70.3	70.9	70	0.003	---	--	115	5	0.1	30.05	11	21	SE	64.8	5.4	0	0	72	60.9	70.4	30	11
06/01/00	8:30 AM	71.8	72.3	70.8	--	---	--	238	10.3	0.1	30.06	14	25	SSE	65.6	7	0	0	71	61.9	72.2	30	11
06/01/00	9:00 AM	72.2	73.3	71.6	0.01002	---	--	308	13.3	0.2	30.05	16	24	SE	65.3	7.4	0	0	69	61.5	72	30	11
06/01/00	9:30 AM	73.5	74.3	72.9	--	---	--	420	17.5	0.2	30.06	16	23	SSE	67.1	7.6	0	0	68	62.3	75.6	30	11
06/01/00	10:00 AM	74.7	75.7	73.8	0.01676	---	--	525	22.9	0.2	30.06	16	23	SSE	68.7	7.6	0	0	65	62.2	76	30	11
06/01/00	10:30 AM	76.8	77.9	75.2	--	---	--	596	25.9	0.2	30.06	14	22	SSE	72.2	6.9	0	0	62	62.8	77.4	30	10.75
06/01/00	11:00 AM	78.3	79.6	76.5	0.02361	---	--	748	31.6	0.3	30.06	13	21	SSE	74.4	6.4	0	0	54	60.3	78.4	30	10.75
06/01/00	11:30 AM	79.9	80.7	79.2	--	---	--	833	36.2	0.3	30.06	13	21	SSE	76.5	6.3	0	0	54	61.8	80.8	30	11
06/01/00	12:00 PM	80.5	81.5	79.3	0.02917	---	--	849	36.7	0.3	30.06	13	25	SSE	77.2	6.3	0	0	50	60.2	81	30	11
06/01/00	12:30 PM	80	81.2	79.4	--	---	--	439	18.6	0.3	30.07	13	20	SSE	76.6	6	0	0	51	60.3	80.2	30	11
06/01/00	1:00 PM	80.2	80.6	79.9	0.01813	---	--	393	16.9	0.3	30.07	12	22	SSE	77.1	5.9	0	0	49	59.3	80	30	10.75
06/01/00	1:30 PM	79.9	80.6	79.5	--	137.9	--	190	8.2	0.4	30.07	11	18	SSE	76.9	5.2	0	0	52	60.7	80.4	30	10.75
06/01/00	2:00 PM	78.7	79.8	76.9	0.01035	64.6	--	203	8.8	0.2	30.08	10	18	S	75.7	5.1	0	0	62	64.6	81	30	10.75
06/01/00	2:30 PM	75.9	76.9	75.1	--	37.6	--	215	9.3	0.3	30.07	9	17	SSW	72.8	4.1	0	0	71	65.8	78.1	30	11
06/01/00	3:00 PM	75.5	77.3	74.3	0.01349	63.9	--	597	25.1	0.2	30.05	4	10	S	75.5	2.1	0	0	66	63.4	77.2	30	10.75
06/01/00	3:30 PM	78.7	80.9	77.1	--	200.7	--	692	31.2	0.3	30.04	5	12	SSE	78	2.4	0	0	56	61.7	80.2	30	11
06/01/00	4:00 PM	80.9	82.2	76.5	0.01839	---	--	305	12.4	0.3	30.04	11	21	SE	78.2	5.4	0	0	64	67.6	83.8	30	10.75

Table C.1. Continued

Date	Time	Air Temp	Hi	Low	ET	Soil Temp	Leaf	Solar Rad	Solar Energy	Deg. Days	Bar	Wind Speed	Hi	Wind Dir	Wind Chill	Run	Rain	Hi Rate	Hum	Dew Point	T.H. Index	A. Per	Batt. Volts
06/01/00	4:30 PM	75.6	76.6	74.7	--	190	--	191	8.1	0.2	30.03	11	19	ENE	71.5	5.3	0.01	0	71	65.5	78.1	30	10.5
06/01/00	5:00 PM	73	74.5	72	0.00724	53.7	--	129	5.6	0.2	30.03	9	16	ENE	69.3	4.2	0.01	0.4	74	64.2	74.4	30	10.75
06/01/00	5:30 PM	74.8	75.8	73.6	--	---	--	146	6.3	0.2	30.03	9	17	NE	71.4	4.5	0	0	71	64.8	77	30	10.75
06/01/00	6:00 PM	74.9	76	74.4	0.00773	198.2	--	188	7.7	0.2	30.03	11	18	ENE	70.6	5.1	0	0	68	63.6	76.6	30	11
06/01/00	6:30 PM	77.1	78.2	75.9	--	---	--	256	10.9	0.3	30.02	9	16	ENE	74.2	4.5	0	0	65	64.4	78	30	11
06/01/00	7:00 PM	76.9	77.5	76.5	0.00918	---	--	199	8.7	0.2	30.02	8	13	ENE	74.5	4	0	0	67	65.1	78.4	30	11
06/01/00	7:30 PM	74.5	77.2	73.2	--	---	--	82	3.7	0.2	30.04	13	21	ENE	69.5	6.3	0.01	0	72	64.9	77	30	10.75
06/01/00	8:00 PM	71.4	73.4	69.7	0.00388	3.7	--	36	1.5	0.1	30.05	9	18	E	67.3	4.6	0.08	1.3	87	67.3	73	30	10.75
06/01/00	8:30 PM	67.6	69.8	66	--	-9.7	--	4	0.2	0.1	30.09	12	30	ESE	61	5.6	0.78	8	97	66.7	---	30	10.75
06/01/00	9:00 PM	65.1	66.8	64	0.00052	-10.4	--	0	0	0	30.13	6	13	SE	62.7	2.7	0.27	1.4	97	64.2	---	30	11
06/01/00	9:30 PM	62.7	64.3	62.2	--	-11.2	--	0	0	0	30.12	13	23	N	54.1	6.5	0.32	2.5	98	62.1	---	30	11
06/01/00	10:00 PM	62.2	62.5	61.9	0.00038	-9.5	--	0	0	0	30.15	15	25	N	52.3	7.3	0.24	1.8	99	61.9	---	30	11
06/01/00	10:30 PM	62.3	62.5	62.1	--	-14	--	0	0	0	30.15	13	21	N	53.6	6.4	0.8	3.4	99	62	---	30	11
06/01/00	11:00 PM	62.3	62.5	62	0.00027	-11.8	--	0	0	0	30.17	14	22	N	53	6.7	0.11	1.2	100	62.3	---	30	11
06/01/00	11:30 PM	62.5	62.7	62.3	--	-9.5	--	0	0	0	30.17	9	18	N	56.6	4.2	0.16	0.7	100	62.5	---	30	10.75
06/02/00	12:00 AM	62.5	62.7	62.1	0.00022	-10.4	--	0	0	0	30.17	8	13	NNE	57.7	3.8	0.06	0.3	100	62.5	---	30	11
06/02/00	12:30 AM	61.6	62.3	61.2	--	-12.8	--	0	0	0	30.16	11	17	NE	53.9	5.5	0.07	0.5	100	61.6	---	30	11
06/02/00	1:00 AM	61.2	61.4	61.1	0.00022	-9.9	--	0	0	0	30.15	7	15	NE	57.3	3.7	0.03	0.1	100	61.2	---	30	10.75
06/02/00	1:30 AM	61.3	61.6	61.1	--	-8.7	--	0	0	0	30.14	5	9	E	59.7	2.6	0.01	0.1	100	61.3	---	30	11
06/02/00	2:00 AM	61.9	62.3	61.5	0.00022	-7.4	--	0	0	0	30.17	6	13	SE	59.2	3	0.01	0	100	61.9	---	30	10.75
06/02/00	2:30 AM	62.1	62.3	61.9	--	-7.1	--	0	0	0	30.17	7	13	WNW	58.3	3.6	0.01	0	100	62.1	---	30	10.75
06/02/00	3:00 AM	62	62.1	61.9	0.00022	-6.5	--	0	0	0	30.16	6	10	NW	59.3	3	0	0	100	62	---	30	10.75
06/02/00	3:30 AM	62.1	62.2	61.9	--	-6.2	--	0	0	0	30.17	5	9	NW	60.5	2.4	0	0	99	61.8	---	30	10.75
06/02/00	4:00 AM	62	62.2	61.8	0.00028	-6.2	--	0	0	0	30.16	5	10	NNW	60.4	2.4	0	0	98	61.4	---	30	11
06/02/00	4:30 AM	61.8	61.9	61.7	--	-6.1	--	0	0	0	30.15	4	6	N	61.8	1.8	0	0	98	61.2	---	30	10.75
06/02/00	5:00 AM	61.9	62.1	61.7	0.0003	-6.2	--	0	0	0	30.14	5	8	N	60.3	2.3	0	0	98	61.3	---	30	10.75
06/02/00	5:30 AM	62	62.2	61.9	--	-6.3	--	0	0	0	30.15	4	8	N	62	2	0	0	98	61.4	---	30	10.75
06/02/00	6:00 AM	62	62.1	61.8	0.0003	-6.7	--	0	0	0	30.16	3	6	N	62	1.6	0	0	97	61.1	---	30	10.75
06/02/00	6:30 AM	61.7	62	61.4	--	-7.7	--	0	0	0	30.16	3	7	N	61.7	1.7	0.01	0	96	60.6	---	30	10.75
06/02/00	7:00 AM	61.4	61.6	61.1	0.00032	-9.9	--	0	0	0	30.17	3	5	NNE	61.4	1.2	0	0	97	60.5	---	30	10.75
06/02/00	7:30 AM	61.5	61.8	61.2	--	-11.9	--	31	1.3	0	30.18	2	5	NNE	61.5	1.2	0	0	96	60.4	---	30	10.75
06/02/00	8:00 AM	62.3	63.5	61.5	0.00258	83.9	--	173	7.8	0	30.18	4	8	NNE	62.3	2.1	0	0	94	60.6	---	30	10.75
06/02/00	8:30 AM	63.3	63.7	63.1	--	---	--	179	7.6	0	30.18	8	13	N	58.6	3.6	0	0	92	60.9	---	30	10.75
06/02/00	9:00 AM	63.6	63.9	63.2	0.0049	---	--	208	9	0	30.19	8	13	N	59	4	0	0	93	61.5	---	30	10.75

Table C.1. Continued

Date	Time	Air Temp	Hi	Low	ET	Soil Temp	Leaf	Solar Rad	Solar Energy	Deg. Days	Bar	Wind Speed	Hi	Wind Dir	Wind Chill	Run	Rain	Hi Rate	Hum	Dew Point	T.H. Index	A. Per	Batt. Volts
06/02/00	9:30 AM	64.5	65.3	63.7	--	---	--	239	10.3	0	30.2	8	12	N	60	3.8	0	0	92	62.1	---	30	10.75
06/02/00	10:00 AM	65.8	66.4	65.1	0.00713	---	--	274	11.9	0	30.2	8	12	N	61.6	3.7	0	0	89	62.5	---	30	10.75
06/02/00	10:30 AM	66.6	67	66	--	---	--	261	11.1	0	30.2	7	11	NNE	63.4	3.3	0	0	85	62	---	30	10.75
06/02/00	11:00 AM	67.4	68.1	66.8	0.00879	---	--	331	14.3	0.1	30.2	8	12	NNE	63.4	3.7	0	0	82	61.7	---	30	10.75
06/02/00	11:30 AM	67.9	68.5	67.5	--	---	--	283	12.2	0.1	30.21	7	10	NNE	64.9	3.3	0	0	81	61.9	---	30	11
06/02/00	12:00 PM	67.5	68.6	66.7	0.00607	160.6	--	83	3.8	0	30.21	7	12	ENE	64.4	3.5	0	0	85	62.8	---	30	11
06/02/00	12:30 PM	67.4	68.4	66.7	--	172.7	--	340	14.9	0.1	30.2	5	8	ENE	66.1	2.4	0	0	79	60.7	---	30	10.75
06/02/00	1:00 PM	69.2	70.2	68.4	0.01586	---	--	746	31.5	0	30.19	3	9	E	69.2	1.7	0	0	75	60.9	70	30	10.75
06/02/00	1:30 PM	71.1	71.7	70.1	--	---	--	1016	43.6	0.2	30.18	3	9	E	71.1	1.6	0	0	72	61.6	71.4	30	10.75
06/02/00	2:00 PM	72	72.7	71.6	0.02593	---	--	777	33.7	0.1	30.18	4	8	E	72	2.1	0	0	71	62.1	72.2	30	10.75
06/02/00	2:30 PM	70.9	71.6	70.4	--	79.5	--	216	9.3	0.1	30.18	5	9	E	69.8	2.3	0	0	76	63	72.2	30	10.75
06/02/00	3:00 PM	71	71.8	70.5	0.00923	187.3	--	369	15.8	0.2	30.18	4	7	E	71	1.7	0	0	72	61.5	71.4	30	10.75
06/02/00	3:30 PM	70.6	71.9	69	--	131.1	--	214	9.3	0.1	30.17	9	14	E	66.4	4.2	0	0	80	64.1	73	30	10.75
06/02/00	4:00 PM	69.9	71.1	69	0.0083	167.8	--	245	11	0.1	30.17	10	16	ENE	64.8	4.7	0	0	74	61.2	70.8	30	10.5
06/02/00	4:30 PM	72.1	73.3	71	--	---	--	714	31.6	0.1	30.16	11	16	ENE	67.1	5.2	0	0	69	61.4	72	30	11
06/02/00	5:00 PM	73.5	74.1	73	0.02347	---	--	822	35.2	0.2	30.16	11	17	ENE	68.9	5.1	0	0	69	62.7	75.8	30	10.75
06/02/00	5:30 PM	73.7	74.4	72.9	--	---	--	522	22.1	0.2	30.16	9	15	NE	70.1	4.2	0	0	72	64.1	76	30	11
06/02/00	6:00 PM	73.1	73.7	72.6	0.01542	---	--	441	19.3	0.2	30.15	9	15	ENE	69.4	4.2	0	0	69	62.3	73.9	30	11
06/02/00	6:30 PM	72.2	73.6	71	--	---	--	195	8.4	0.1	30.15	10	14	ENE	67.6	4.6	0	0	77	64.6	73.4	30	10.75
06/02/00	7:00 PM	70.9	71.3	70.6	0.00721	---	--	187	7.9	0.1	30.15	10	15	ENE	66	4.8	0	0	78	63.7	72.6	30	11
06/02/00	7:30 PM	70.8	71.6	70.1	--	---	--	231	10.7	0.2	30.16	10	17	ENE	65.9	5	0	0	81	64.7	73	30	11
06/02/00	8:00 PM	69.6	70.7	68.8	0.00517	---	--	119	5.1	0.1	30.16	10	16	NE	64.4	4.9	0	0	84	64.6	72	30	11
06/02/00	8:30 PM	69.1	69.5	68.5	--	---	--	102	4.3	0	30.18	9	15	ENE	64.6	4.2	0	0	84	64.1	71	30	10.75
06/02/00	9:00 PM	68.1	68.6	67.7	0.00161	---	--	6	0.3	0.1	30.18	7	11	ENE	65.1	3.4	0	0	86	63.8	70	30	11
06/02/00	9:30 PM	67.7	68	67.2	--	---	--	0	0	0.1	30.19	7	11	NE	64.6	3.6	0	0	88	64	---	30	11
06/02/00	10:00 PM	67	67.5	66.6	0.00017	---	--	0	0	0	30.2	7	11	ENE	63.9	3.4	0	0	91	64.3	---	30	10.75
06/02/00	10:30 PM	66.6	66.8	66.4	--	---	--	0	0	0	30.22	6	10	NE	64.3	3.1	0	0	92	64.2	---	30	10.75
06/02/00	11:00 PM	66.5	66.7	66.1	-5E-05	---	--	0	0	0.1	30.22	7	12	NE	63.3	3.5	0	0	92	64.1	---	30	10.75
06/02/00	11:30 PM	66.2	66.5	66	--	---	--	0	0	0	30.22	7	11	ENE	63	3.3	0	0	94	64.4	---	30	11
06/03/00	12:00 AM	66	66.3	65.7	-0.0002	---	--	0	0	0	30.23	6	9	NE	63.7	3	0	0	94	64.2	---	30	11
06/03/00	12:30 AM	66	66.2	65.8	--	---	--	0	0	0	30.22	6	10	NE	63.7	3.1	0	0	94	64.2	---	30	10.75
06/03/00	1:00 AM	66	66.2	65.7	-0.0003	62	--	0	0	0	30.22	6	9	ENE	63.7	2.9	0	0	96	64.8	---	30	11
06/03/00	1:30 AM	65.7	66	65.4	--	-5.9	--	0	0	0.1	30.21	6	10	NE	63.3	2.7	0	0	97	64.8	---	30	11
06/03/00	2:00 AM	65.6	65.8	65.3	-0.0004	-5.9	--	0	0	0	30.21	5	7	NE	64.2	2.5	0	0	97	64.7	---	30	11

Table C.1. Continued

Date	Time	Air Temp	Hi	Low	ET	Soil Temp	Leaf	Solar Rad	Solar Energy	Deg. Days	Bar	Wind Speed	Hi	Wind Dir	Wind Chill	Run	Rain	Hi Rate	Hum	Dew Point	T.H. Index	A. Per	Batt. Volts
06/03/00	2:30 AM	65.5	65.8	65.3	--	-6.1	--	0	0	0	30.2	6	9	NE	63.1	2.9	0	0	97	64.6	---	30	11
06/03/00	3:00 AM	65.4	65.6	65.1	-0.0004	-8.2	--	0	0	0	30.19	6	9	NE	63	2.8	0	0	97	64.5	---	30	10.75
06/03/00	3:30 AM	65	65.3	64.6	--	-12.5	--	0	0	0	30.18	5	10	NNE	63.6	2.7	0	0	97	64.1	---	30	11
06/03/00	4:00 AM	64.7	64.9	64.4	-0.0004	-13.1	--	0	0	0	30.18	5	10	NE	63.2	2.5	0	0	97	63.8	---	30	11
06/03/00	4:30 AM	64.5	64.7	64.3	--	-11.2	--	0	0	0	30.17	3	7	NE	64.5	1.7	0	0	98	63.9	---	30	11
06/03/00	5:00 AM	64.5	64.7	64.3	-0.0005	-13.4	--	0	0	0	30.17	3	6	NE	64.5	1.6	0	0	98	63.9	---	30	11
06/03/00	5:30 AM	64.6	64.8	64.4	--	-12.8	--	0	0	0	30.17	3	4	N	64.6	1.2	0	0	98	64	---	30	11
06/03/00	6:00 AM	64.5	64.8	64.4	-0.0005	-14.1	--	0	0	0	30.16	4	6	NNW	64.5	1.9	0	0	99	64.2	---	30	10.75
06/03/00	6:30 AM	64.5	64.6	64.3	--	-22.8	--	0	0	0	30.17	5	8	NNW	63	2.3	0	0	98	63.9	---	30	10.75
06/03/00	7:00 AM	64.6	64.8	64.4	-0.0017	-37.4	--	0	0	0	30.17	5	8	NNW	63.1	2.5	0	0	98	64	---	30	10.75
06/03/00	7:30 AM	64.7	65.1	64.5	--	-6.2	--	30	1.2	0	30.17	6	12	N	62.2	2.7	0.01	0	98	64.1	---	30	10.75
06/03/00	8:00 AM	64.5	64.8	64.3	-0.0008	-6.4	--	42	1.9	0	30.18	7	11	N	61	3.4	0	0	99	64.2	---	30	11
06/03/00	8:30 AM	64.4	64.6	64.2	--	-6.2	--	80	3.5	0	30.18	8	13	N	59.9	3.8	0	0	100	64.4	---	30	10.75
06/03/00	9:00 AM	64.6	65	64.3	0.00271	-6.9	--	117	5.1	0	30.19	8	11	N	60.2	3.8	0	0	99	64.3	---	30	10.75
06/03/00	9:30 AM	65.1	65.4	64.9	--	-32.2	--	180	7.8	0	30.19	8	12	NNE	60.7	4.1	0	0	98	64.5	---	30	10.75
06/03/00	10:00 AM	65.7	66.4	65.1	0.00585	52.4	--	259	11.1	0	30.18	7	11	NNE	62.4	3.5	0	0	96	64.5	---	30	10.75
06/03/00	10:30 AM	67.4	68.6	66.3	--	---	--	425	18.2	0.1	30.19	8	12	NNE	63.4	3.8	0	0	87	63.4	---	30	10.75
06/03/00	11:00 AM	68.9	69.4	68.5	0.01164	---	--	368	15.7	0	30.18	8	12	NNE	65.2	3.7	0	0	83	63.5	71	30	10.75
06/03/00	11:30 AM	70.6	72	69.4	--	---	--	758	34.7	0.2	30.17	7	14	NNE	67.9	3.5	0	0	77	63	72.4	30	10.75
06/03/00	12:00 PM	72.8	73.7	71.7	0.02584	---	--	1096	48.9	0.1	30.17	7	13	NNE	70.4	3.3	0	0	73	63.7	74.3	30	10.75
06/03/00	12:30 PM	73	74	72	--	---	--	780	33.3	0.2	30.16	6	11	N	71.3	2.7	0	0	66	61	73.6	30	11
06/03/00	1:00 PM	73.6	74.5	73	0.01908	---	--	432	17.9	0.2	30.15	4	9	NNE	73.6	2.1	0	0	67	62	75.4	30	10.75
06/03/00	1:30 PM	73.8	74.2	73.3	--	---	--	464	20.1	0.1	30.15	4	13	NNE	73.8	2.1	0	0	67	62.2	75.4	30	11
06/03/00	2:00 PM	74.4	74.7	74	0.01472	---	--	501	21.5	0.2	30.14	4	8	NW	74.4	1.9	0	0	67	62.7	75.4	30	11
06/03/00	2:30 PM	74.9	75.7	74.3	--	---	--	587	25.4	0.3	30.13	4	8	N	74.9	1.9	0	0	67	63.2	76.4	30	11
06/03/00	3:00 PM	75.8	77.1	75.1	0.02171	---	--	805	34.3	0.2	30.12	3	12	NNW	75.8	1.6	0	0	60	60.9	76	30	11
06/03/00	3:30 PM	76	77.1	75.5	--	---	--	392	17.4	0.2	30.11	4	7	NNE	76	1.8	0	0	63	62.5	76.6	30	10.75
06/03/00	4:00 PM	76	76.8	75.6	0.01432	---	--	512	21.3	0.2	30.09	5	11	ENE	75.2	2.3	0	0	68	64.7	77.6	30	10.75
06/03/00	4:30 PM	75.8	76.3	75.5	--	---	--	539	21.5	0.3	30.08	5	11	NE	74.9	2.7	0	0	65	63.2	77	30	11
06/03/00	5:00 PM	75.9	76.3	75.5	0.01468	---	--	342	14.7	0.2	30.07	6	12	ENE	74.5	2.9	0	0	68	64.6	77.6	30	11
06/03/00	5:30 PM	75.3	76.1	74.9	--	---	--	201	8.6	0.2	30.06	7	12	ENE	73.2	3.6	0	0	71	65.3	77	30	10.75
06/03/00	6:00 PM	75.8	76.6	74.8	0.01149	---	--	477	20.6	0.2	30.06	5	10	ENE	74.9	2.7	0	0	66	63.6	77.2	30	10.5
06/03/00	6:30 PM	76	76.8	75.2	--	---	--	354	15.1	0.3	30.06	3	8	E	76	1.6	0	0	63	62.5	76.6	30	11
06/03/00	7:00 PM	77.1	77.6	76.6	0.01131	---	--	462	20.7	0.2	30.06	4	8	NE	77.1	1.9	0	0	63	63.5	77.6	30	11

Table C.1. Continued

Date	Time	Air Temp	Hi	Low	ET	Soil Temp	Leaf	Solar Rad	Solar Energy	Deg. Days	Bar	Wind Speed	Hi	Wind Dir	Wind Chill	Run	Rain	Hi Rate	Hum	Dew Point	T.H. Index	A. Per	Batt. Volts
06/03/00	7:30 PM	76.3	77.8	75	--	---	--	201	8.2	0.2	30.07	7	11	ENE	74.4	3.3	0	0	69	65.4	77.8	30	10.75
06/03/00	8:00 PM	74.7	75.1	74.3	0.00567	---	--	117	5.1	0.2	30.07	7	13	ENE	72.5	3.4	0	0	72	65.1	77	30	10.75
06/03/00	8:30 PM	73.4	74.4	72.4	--	---	--	69	2.8	0.2	30.07	9	13	ENE	69.7	4.3	0	0	79	66.5	74.9	30	10.75
06/03/00	9:00 PM	71.8	72.7	71.1	0.00194	---	--	4	0.2	0.2	30.08	8	12	ENE	68.5	3.6	0	0	82	66	74	30	11
06/03/00	9:30 PM	70.6	71.2	70.1	--	---	--	0	0	0.1	30.08	6	10	ENE	68.7	3	0	0	84	65.5	73	30	10.75
06/03/00	10:00 PM	70	70.3	69.7	0.00069	---	--	0	0	0.1	30.08	6	10	ENE	68	2.8	0	0	86	65.6	72	30	10.75
06/03/00	10:30 PM	69.5	69.8	69.1	--	---	--	0	0	0.1	30.09	5	9	E	68.3	2.4	0	0	88	65.8	72	30	10.75
06/03/00	11:00 PM	69	69.2	68.6	0.00036	---	--	0	0	0.1	30.11	4	8	E	69	2	0	0	88	65.3	71	30	10.75
06/03/00	11:30 PM	68.3	68.7	68	--	---	--	0	0	0	30.1	2	5	E	68.3	0.9	0	0	90	65.3	70	30	10.75
06/04/00	12:00 AM	67.8	68.1	67.5	0.00006	---	--	0	0	0.1	30.1	3	5	E	67.8	1.2	0	0	92	65.4	---	30	11
06/04/00	12:30 AM	67.3	67.6	67.1	--	---	--	0	0	0	30.09	1	4	E	67.3	0.4	0	0	94	65.5	---	30	10.75
06/04/00	1:00 AM	67.3	67.5	67	-7E-05	---	--	0	0	0.1	30.08	4	7	ESE	67.3	2.2	0	0	93	65.2	---	30	11
06/04/00	1:30 AM	67.2	67.5	67	--	---	--	0	0	0	30.07	7	10	SE	64.1	3.1	0	0	94	65.4	---	30	11
06/04/00	2:00 AM	66.9	67.3	66.5	0.0001	---	--	0	0	0.1	30.06	7	12	SE	63.7	3.6	0	0	93	64.8	---	30	10.75
06/04/00	2:30 AM	66.5	66.8	66.2	--	---	--	0	0	0	30.05	5	9	ESE	65.1	2.5	0	0	94	64.7	---	30	11
06/04/00	3:00 AM	66.4	66.6	66.2	-9E-05	---	--	0	0	0	30.07	4	8	ESE	66.4	1.8	0	0	96	65.2	---	30	10.75
06/04/00	3:30 AM	66.6	66.8	66.4	--	---	--	0	0	0.1	30.06	3	6	ESE	66.6	1.3	0	0	96	65.4	---	30	11
06/04/00	4:00 AM	66.6	66.8	66.3	-0.0002	---	--	0	0	0	30.07	3	5	ESE	66.6	1.2	0	0	96	65.4	---	30	11
06/04/00	4:30 AM	66.1	66.5	65.7	--	101.3	--	0	0	0	30.07	2	5	ESE	66.1	1	0	0	97	65.2	---	30	11
06/04/00	5:00 AM	65.1	65.7	64.5	-0.0003	-6.2	--	0	0	0	30.06	1	4	ESE	65.1	0.7	0	0	99	64.8	---	30	11
06/04/00	5:30 AM	65.3	65.5	64.9	--	-6	--	0	0	0	30.06	4	6	SE	65.3	1.7	0	0	100	65.3	---	30	11
06/04/00	6:00 AM	65.3	65.5	65.1	-0.0004	-8	--	0	0	0	30.06	3	5	SE	65.3	1.4	0	0	100	65.3	---	30	11
06/04/00	6:30 AM	65.3	65.6	65	--	-25.6	--	0	0	0	30.07	2	5	SE	65.3	1.1	0	0	100	65.3	---	30	11
06/04/00	7:00 AM	65.3	65.6	65	-0.0018	-40.6	--	2	0.1	0	30.07	2	5	SE	65.3	1.2	0	0	100	65.3	---	30	10.75
06/04/00	7:30 AM	65.1	65.5	64.9	--	184.4	--	37	1.5	0.1	30.07	2	5	SE	65.1	0.8	0	0	100	65.1	---	30	11
06/04/00	8:00 AM	65.2	65.5	65	-0.0006	---	--	56	2.5	0	30.08	2	5	SSE	65.2	0.8	0	0	100	65.2	---	30	10.75
06/04/00	8:30 AM	65.4	65.6	65.2	--	---	--	106	4.6	0	30.08	2	5	SSE	65.4	1	0	0	100	65.4	---	30	10.75
06/04/00	9:00 AM	66.2	67	65.4	0.00397	---	--	200	8.7	0	30.07	1	4	SSE	66.2	0.3	0	0	95	64.7	---	30	10.75
06/04/00	9:30 AM	68	68.8	66.7	--	---	--	423	18.2	0.1	30.09	1	4	W	68	0.7	0	0	90	65	70	30	10.75
06/04/00	10:00 AM	69.6	70.9	68.4	0.01213	---	--	568	24.1	0	30.08	2	7	SW	69.6	1	0	0	84	64.6	72	30	10.75
06/04/00	10:30 AM	71.1	71.5	70.9	--	---	--	491	21.1	0.2	30.08	2	6	WSW	71.1	0.9	0	0	83	65.7	73	30	10.75
06/04/00	11:00 AM	72.4	73.2	71.3	0.0164	---	--	695	30	0.1	30.09	2	7	WSW	72.4	1.1	0	0	80	65.9	74	30	11
06/04/00	11:30 AM	73.9	74.5	73	--	---	--	731	31.3	0.2	30.1	3	8	W	73.9	1.2	0	0	76	65.9	76	30	10.75
06/04/00	12:00 PM	75	76	74	0.01986	---	--	597	26.6	0.2	30.11	3	8	N	75	1.2	0	0	65	62.4	76	30	11

Table C.1. Continued

Date	Time	Air Temp	Hi	Low	ET	Soil Temp	Leaf	Solar Rad	Solar Energy	Deg. Days	Bar	Wind Speed	Hi	Wind Dir	Wind Chill	Run	Rain	Hi Rate	Hum	Dew Point	T.H. Index	A. Per	Batt. Volts
06/04/00	12:30 PM	77.2	77.8	75.8	--	---	--	898	39.6	0.3	30.12	6	12	N	75.9	2.9	0	0	65	64.5	78	30	10.75
06/04/00	1:00 PM	77.6	78.6	76.8	0.02783	---	--	850	37.7	0.2	30.12	8	17	NNE	75.3	3.8	0	0	63	64	79.3	30	11
06/04/00	1:30 PM	77.8	78.5	77.2	--	---	--	768	34.5	0.3	30.11	8	16	N	75.5	3.9	0	0	64	64.7	79.4	30	10.75
06/04/00	2:00 PM	78.5	79	78.1	0.02545	---	--	763	32.3	0.3	30.11	8	16	NE	76.4	3.9	0	0	68	67.1	81	30	10.75
06/04/00	2:30 PM	79.1	80.9	78.3	--	---	--	882	37.5	0.3	30.11	9	17	NE	76.6	4.4	0	0	58	63.1	80.6	30	10.75
06/04/00	3:00 PM	80	81	78.4	0.03048	---	--	919	39.4	0.3	30.1	12	19	NE	76.8	5.9	0	0	67	68.1	82.7	30	10.75
06/04/00	3:30 PM	79	79.5	78.5	--	---	--	964	41.8	0.3	30.1	12	18	NE	75.5	5.6	0	0	64	65.8	81	30	10.5
06/04/00	4:00 PM	79.3	79.6	78.8	0.02946	---	--	854	38.4	0.3	30.09	11	18	NE	76.2	5	0	0	62	65.2	81	30	10.75
06/04/00	4:30 PM	79.7	80.2	79	--	---	--	863	36.2	0.3	30.09	11	17	NNE	76.7	5.4	0	0	59	64.1	81.8	30	10.75
06/04/00	5:00 PM	79.7	80.3	79.1	0.02624	---	--	680	28.4	0.3	30.09	12	22	NE	76.4	5.7	0	0	59	64.1	81.8	30	10.75
06/04/00	5:30 PM	79.3	79.9	78.6	--	---	--	596	25.2	0.3	30.09	13	21	NE	75.7	6.4	0	0	59	63.7	80.8	30	10.75
06/04/00	6:00 PM	78.9	79.2	78.6	0.02122	---	--	600	25.7	0.3	30.1	13	21	NE	75.2	6.6	0	0	59	63.4	80.8	30	11
06/04/00	6:30 PM	78.1	78.7	77.6	--	---	--	479	20.3	0.2	30.1	14	21	NE	73.9	6.6	0	0	60	63.1	79	30	10.75
06/04/00	7:00 PM	77.5	78.2	77	0.01488	---	--	377	15.8	0.3	30.1	14	21	NE	73.1	6.7	0	0	60	62.5	79	30	11
06/04/00	7:30 PM	76.5	77.2	76.1	--	---	--	260	11.9	0.3	30.11	13	20	ENE	72.1	6.3	0	0	61	62.1	77.2	30	11
06/04/00	8:00 PM	75.6	76.4	74.9	0.00727	---	--	147	6.1	0.2	30.13	11	19	ENE	71.5	5.4	0	0	63	62.1	76.6	30	10.75
06/04/00	8:30 PM	74.3	74.9	73.5	--	---	--	68	2.9	0.2	30.13	11	16	ENE	69.9	5.3	0	0	67	62.6	75.4	30	11
06/04/00	9:00 PM	72.8	73.6	71.9	0.00197	---	--	0	0	0.1	30.14	9	14	NE	69	4.1	0	0	71	62.9	74.1	30	11
06/04/00	9:30 PM	71.2	72.1	70	--	---	--	0	0	0.2	30.14	5	10	NE	70.1	2.6	0	0	78	64	72.6	30	11
06/04/00	10:00 PM	69.6	70.1	69.1	-0.0005	---	--	0	0	0.1	30.14	5	10	ENE	68.4	2.2	0	0	79	62.8	71.8	30	11
06/04/00	10:30 PM	69.7	69.9	69.3	--	---	--	0	0	0	30.16	6	9	ENE	67.7	2.7	0	0	80	63.3	72	30	10.75
06/04/00	11:00 PM	69.2	69.6	68.7	-0.0006	---	--	0	0	0.1	30.19	5	9	ENE	68	2.4	0	0	81	63.1	71	30	11
06/04/00	11:30 PM	68.3	69	66.6	--	---	--	0	0	0.1	30.19	4	8	NNE	68.3	2	0	0	87	64.3	70	30	10.75
06/05/00	12:00 AM	66	66.8	65.7	-0.0013	---	--	0	0	0	30.2	2	4	N	66	1.1	0	0	91	63.3	---	30	11
06/05/00	12:30 AM	65.4	66	64.8	--	23.9	--	0	0	0	30.2	2	3	N	65.4	0.8	0	0	92	63	---	30	10.75
06/05/00	1:00 AM	64.9	65.1	64.7	-0.0015	-28.1	--	0	0	0	30.19	2	4	N	64.9	1.1	0	0	94	63.1	---	30	10.75
06/05/00	1:30 AM	64.5	65	64	--	-9.7	--	0	0	0	30.19	2	4	N	64.5	1.1	0	0	95	63	---	30	11
06/05/00	2:00 AM	63.9	64.2	63.7	-0.0016	-6.3	--	0	0	0	30.2	3	5	N	63.9	1.4	0	0	96	62.7	---	30	11
06/05/00	2:30 AM	63.6	64	63	--	-5.8	--	0	0	0	30.21	2	4	N	63.6	1.1	0	0	96	62.4	---	30	11
06/05/00	3:00 AM	62.7	63	62.3	-0.0017	-5.6	--	0	0	0	30.21	3	4	N	62.7	1.3	0	0	98	62.1	---	30	10.75
06/05/00	3:30 AM	63.4	63.9	62.6	--	-5.6	--	0	0	0	30.21	3	4	N	63.4	1.3	0	0	98	62.8	---	30	10.75
06/05/00	4:00 AM	63.9	64.2	63.6	-0.0017	-5.6	--	0	0	0	30.21	3	5	N	63.9	1.4	0	0	97	63	---	30	11
06/05/00	4:30 AM	63.6	64.1	63.3	--	-5.6	--	0	0	0	30.22	2	4	N	63.6	0.8	0	0	97	62.7	---	30	11
06/05/00	5:00 AM	63.2	63.4	63	-0.0017	-5.5	--	0	0	0	30.22	2	4	N	63.2	1.2	0	0	98	62.6	---	30	10.75

Table C.1. Continued

Date	Time	Air Temp	Hi	Low	ET	Soil Temp	Leaf	Solar Rad	Solar Energy	Deg. Days	Bar	Wind Speed	Hi	Wind Dir	Wind Chill	Run	Rain	Hi Rate	Hum	Dew Point	T.H. Index	A. Per	Batt. Volts
06/05/00	5:30 AM	64	64.7	63.1	--	-6.6	--	0	0	0	30.23	5	10	N	62.5	2.4	0	0	97	63.1	---	30	10.75
06/05/00	6:00 AM	64.4	64.8	64	-0.0015	-4.7	--	0	0	0	30.24	8	14	NNE	59.9	3.9	0	0	94	62.6	---	30	11
06/05/00	6:30 AM	63.7	64.3	63.3	--	179.7	--	0	0	0	30.24	10	16	NE	57.1	4.7	0	0	91	61	---	30	11
06/05/00	7:00 AM	62.9	63.5	62.6	-0.001	---	--	2	0.1	0	30.25	10	15	NE	56.1	4.7	0	0	91	60.2	---	30	10.75
06/05/00	7:30 AM	62.5	62.7	62.3	--	---	--	54	2.4	0	30.26	9	16	NE	56.6	4.4	0	0	92	60.1	---	30	10.75
06/05/00	8:00 AM	62.8	63.1	62.5	0.00075	---	--	122	5.5	0	30.26	9	16	NE	57	4.4	0	0	89	59.5	---	30	10.75
06/05/00	8:30 AM	63.4	63.7	63	--	---	--	170	7.3	0	30.27	9	14	NE	57.7	4.6	0	0	87	59.5	---	30	10.75
06/05/00	9:00 AM	64.3	64.9	63.5	0.00589	---	--	248	10.7	0	30.28	10	16	NE	57.8	5.1	0	0	82	58.7	---	30	10.75
06/05/00	9:30 AM	64.6	65	64.3	--	---	--	267	11.6	0	30.28	12	18	NE	57.1	5.9	0	0	79	57.9	---	30	10.75
06/05/00	10:00 AM	64.5	64.8	64.3	0.00925	---	--	315	13.5	0	30.29	12	19	NE	57	6	0	0	78	57.5	---	30	11
06/05/00	10:30 AM	64.8	65.1	64.4	--	---	--	399	17.1	0	30.29	12	19	NE	57.4	5.8	0	0	78	57.8	---	30	10.75
06/05/00	11:00 AM	66	67.2	65	0.01498	---	--	603	25.7	0.1	30.28	11	17	NE	59.4	5.5	0	0	74	57.5	---	30	11
06/05/00	11:30 AM	66.8	67.5	66.3	--	---	--	631	27.8	0	30.29	10	16	NE	60.9	5.1	0	0	74	58.3	---	30	10.75
06/05/00	12:00 PM	66.8	67.6	66.3	0.01834	---	--	607	27.5	0	30.28	8	12	ENE	62.7	3.6	0	0	74	58.3	---	30	10.75
06/05/00	12:30 PM	68	68.5	67.2	--	---	--	761	32.7	0.1	30.29	8	14	ENE	64.1	4	0	0	74	59.4	68.8	30	10.75
06/05/00	1:00 PM	68.2	68.5	67.8	0.02064	---	--	646	27.6	0.1	30.28	6	11	E	66.1	2.7	0	0	75	60	69	30	10.75
06/05/00	1:30 PM	68.9	70.1	68.1	--	---	--	755	32.7	0	30.27	5	10	ESE	67.7	2.5	0	0	72	59.5	69.4	30	10.75
06/05/00	2:00 PM	70.1	70.6	69.7	0.02385	---	--	886	36	0.1	30.27	5	10	ESE	68.9	2.2	0	0	70	59.9	70	30	10.75
06/05/00	2:30 PM	71.1	71.7	70.4	--	---	--	898	38.3	0.2	30.25	4	10	E	71.1	2.1	0	0	69	60.4	71	30	10.75
06/05/00	3:00 PM	72.2	72.5	71.6	0.02425	---	--	746	32.8	0.1	30.25	4	10	ESE	72.2	2	0	0	67	60.6	72	30	10.75
06/05/00	3:30 PM	73	74.1	71.9	--	---	--	936	41.8	0.2	30.24	4	8	SE	73	1.9	0	0	64	60.1	73.4	30	10.75
06/05/00	4:00 PM	74.8	75.7	73.8	0.02678	---	--	941	39.1	0.2	30.24	5	12	SE	73.9	2.2	0	0	62	60.9	75.4	30	10.75
06/05/00	4:30 PM	74.4	75	74	--	---	--	431	18.1	0.2	30.22	3	8	ENE	74.4	1.4	0	0	60	59.6	74	30	10.25
06/05/00	5:00 PM	75.7	76.3	74.9	0.0177	---	--	716	31.1	0.2	30.21	3	7	ESE	75.7	1.5	0	0	56	58.9	76	30	10.5
06/05/00	5:30 PM	76.4	76.8	76	--	---	--	618	25.8	0.2	30.2	4	8	ESE	76.4	1.8	0	0	56	59.6	76	30	11
06/05/00	6:00 PM	76.3	77.1	75.8	0.01658	---	--	443	19.3	0.3	30.18	5	12	ESE	75.5	2.4	0	0	55	59	76	30	10.75
06/05/00	6:30 PM	77.1	77.6	76.6	--	---	--	503	22	0.2	30.18	6	10	ESE	75.8	2.9	0	0	55	59.7	77	30	10.75
06/05/00	7:00 PM	76.6	77.1	76.1	0.01263	---	--	313	13.9	0.3	30.16	6	12	E	75.2	2.8	0	0	55	59.2	77	30	10.75
06/05/00	7:30 PM	76.6	77.3	75.9	--	---	--	274	11.9	0.2	30.17	8	12	E	74.1	4	0	0	56	59.7	77	30	10.75
06/05/00	8:00 PM	75.7	76.2	75	0.00668	---	--	158	7.1	0.2	30.16	8	14	E	73.1	4.1	0	0	57	59.4	76	30	11
06/05/00	8:30 PM	74.4	75.1	73.6	--	---	--	91	3.8	0.2	30.17	8	13	ESE	71.6	3.8	0	0	61	60.1	74.2	30	10.75
06/05/00	9:00 PM	73.1	73.9	72.3	0.0025	---	--	23	1	0.2	30.18	8	12	ESE	70.1	3.9	0	0	64	60.2	73.4	30	11
06/05/00	9:30 PM	71.6	72.4	70.9	--	---	--	0	0	0.1	30.19	7	12	ESE	69	3.5	0	0	68	60.5	72	30	10.75
06/05/00	10:00 PM	70.5	71	70.1	0.00042	---	--	0	0	0.2	30.2	7	11	ESE	67.8	3.4	0	0	69	59.9	71	30	11