

# US EPA Environmental Technology Initiative

## Onsite Wastewater Technology Testing Report

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**Massachusetts Alternative Septic System Test Center**  
**Air Station Cape Cod, Massachusetts 02542**  
**Telephone: 508-563-6757**  
**MASSTC@cape.com**

-- August, 2004 -

### **Amphidrome®**

### **Sequencing Batch Reactor**

Technology Vendor

**F.R. Mahony & Associates, Inc.**  
**273 Weymouth Street**  
**Rockland, MA 02370**  
**Telephone: 781-982-9300**  
**Facsimile: 781-982-1056**  
**Email - info@frmahony.com**

*The Massachusetts Alternative Septic System Test Center (MASSTC) is operated by the Barnstable County Department of Health and the Environment (BCDHE) with support from the United States Environmental Protection Agency (USEPA), The Massachusetts Department of Environmental Protection (MDEP) and Barnstable County. The mention of any products or proprietary methods within this document does not constitute an endorsement of same by these agencies. Opinions expressed herein do not necessarily reflect those of the supporting agencies. The Test Center can be contacted through George Heufelder, Barnstable County Department of Health and the Environment, Box 427, Barnstable, Massachusetts 02630 – Phone 508-375-6616, or visit the website at <http://www.buzzardsbay.org/etimain.htm>.*

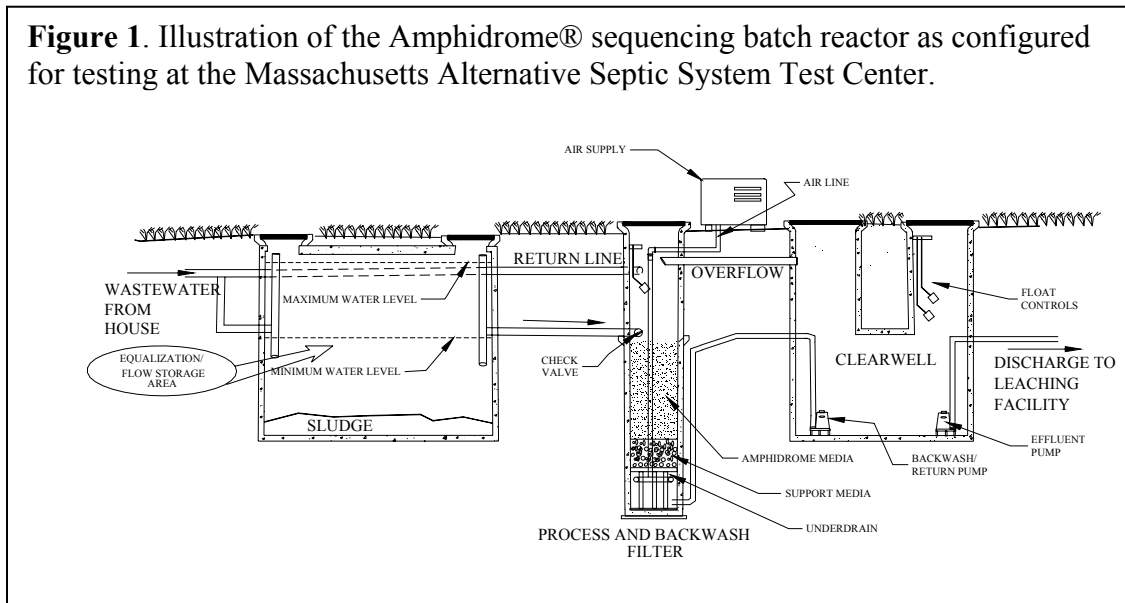
# 1. Technology Description

## General

The Amphidrome® belongs to a broad class of treatment units called sequencing batch reactors (SBRs). These units process wastewater in “batches” and usually discharge the treated batch of wastewater over a short period of time to ready itself for the incoming load.

## Components

The Amphidrome, as configured during these tests, consisted of a 1,500 gallon septic tank (anoxic chamber), a cylindrical reactor vessel (2 ft in diameter x 10 ft in height), and a 500 gallon clearwell from which the final treated effluent was pumped to the soil absorption system (Figure 1). All three replicates were supplied process and backwash air using pumps located remote to the unit and in the same housing. Based on the results of these tests, the vendor recommends the use of a 2,000 gallon septic tank for residential applications in this design-flow range.



## Siting Considerations and Installation Notes

Relative component elevations are critical to proper system performance. Height of the reactor vessel may complicate some shallow-to-groundwater installations. Installation requires significant training and/or oversight by manufacturer. Above ground components include a blower with housing (variously sized), and an electrical control with an audio and visual alarm. The control panel contains programmable logic controllers (PLC) that require manufacturer's adjustments. Design considerations include the location of access

manhole covers for routine maintenance and sampling, and situating the blower to minimize possibility for noise disturbance.

### Theory of Operation

This system directs wastewater back and forth between the septic tank (anoxic tank) and the "clear well," passing it through an aggressively aerated reactor vessel. During this aeration part of the cycle, the effluent is nitrified (ammonium is converted to nitrate). At preset intervals, the air supply to the reactor vessel is shut off, allowing anoxic conditions to develop and enabling denitrification (i.e., conversion of nitrate to nitrogen gas) to occur. When the wastewater "batch" is adequately treated (cycled a number of times), it is discharged to the Soil Absorption System (SAS) at predetermined intervals. Processes are time-controlled using a series of programmable logic controllers.

## **2. Costs**

Non-Standard Components: \$8,000 (with clearwell, claim). Components + Installation: \$10,000 more than conventional (claim). Electrical: \$90 per year actual (assuming \$0.10/KWh and 2.3 KWh/day). These electrical costs reflect the system loaded continually at the peak (330 gpd) design flow. The vendor claims that under more typical actual flows, electrical costs will decrease based on the decreased pumping and air supply needs. O&M: Quarterly inspection of motors, air flow, effluent and sludge. A service contract is required in Massachusetts (Approximately \$400 per year minimum, but varies). Septic tank pumping varies with location. Other Costs: Quarterly effluent quality monitoring is required for some permits (\$300 or more annually). Design and permitting costs vary. Replacement: Pumps and blowers (\$300) have a one-year warranty by Amphidrome.

## **3. ETI Testing Protocol Synopsis**

The testing duration was two years. The technology was installed in triplicate, with identical components. The Amphidrome received wastewater at the rate of 330 gallons per day, throughout the two-year testing period. The 330 gallon per day volume is the Massachusetts Department of Environmental Protection (MA DEP) minimum design flow for a new residential house of three bedrooms or less.

Delivery of the wastewater was apportioned into fifteen equal doses of 22 gallons each, on a schedule which was designed to mimic the pattern of wastewater use in a typical residence (35% of flow in the morning; 25% flow during midday; 40% in the evening; see ETI QAPP and NSF/ANSI Standard 40). Periodic calibration of dose volumes delivered to each technology ensured equal dosing to each replicate and to different technologies.

Effluent from the technology flowed to a distribution box and exited to the soil absorption system (SAS) through a single 4' pipe. The resulting load to the SAS was approximately 3 gal/day/sq ft. Pan Lysimeters were installed at depths of one, two and

five feet beneath each SAS to collect leachate for analysis. A polyethylene liner with sump collected all leachate from the three technology replicates.

The technologies were sampled at two-week intervals. During each sampling event, technology influent wastewater was sampled at the common source. Technology effluent was sampled at the distribution box. Influent wastewater and technology effluent were sampled using automated samplers, programmed to obtain fifteen flow-weighted samples and composited over a twenty-four hour period. Since the discharge of this technology occurs in a single event, a sample container was positioned at the discharge point to collect a single sample from each unit.

Composite and discrete samples were kept refrigerated at 4 degrees centigrade either by ice packed in the sampler or by use of a refrigerated sampler. Analysis for pH and specific conductance were conducted at MAASTC during sample processing. Subsamples for BOD<sub>5</sub> and fecal coliform were sent to the Barnstable County Department of Health and the Environment laboratory. Subsamples for nitrogen and phosphorus analysis: ammonium (NH<sub>4</sub>), nitrate plus nitrite (NO<sub>x</sub>), dissolved organic nitrogen, (DON), particulate organic nitrogen (PON), alkalinity, orthophosphate (PO<sub>4</sub>) and total phosphorus (TP); were sent to the Coastal Systems Laboratory at the School for Marine Science University of Massachusetts, Dartmouth (SMAST).

Electrical usage was measured by a single electric meter for all three units and recorded monthly. Kilowatt usage was then divided by three to calculate individual unit use.

#### Mechanical and other non-quantitative performance monitoring.

Alarms, mechanical failures, unusual sounds, and smells were recorded in a logbook as they occurred. Restorative measures taken by the technology vendor to address non-normal conditions were also recorded and appear in Section 6 “Operation and Maintenance” section of this report.

#### Technology Operating History.

The three replicate systems were installed in early December, 1999, and their operation was officially started for the beginning of testing on February 14, 2000. In early November, 2000, operation of one replicate system (referred to as “B-1”) was ceased in order to prepare the unit for testing under a different set of protocols referred to as the Environmental Technology Verification Program Protocols. These later results are reported under a different cover. The two remaining units were operated and tested until April, 2002.

## **4. Testing Objectives**

The Amphidrome was tested to demonstrate removal of nitrogen from the influent wastewater.

## 5. Contaminant Removal Performance Summary for Amphidrome®

### Biochemical Oxygen Demand (BOD<sub>5</sub> Removal)

BOD<sub>5</sub> effluent data suggest that the Amphidrome® system requires little startup time for the reduction of this constituent. The mean BOD<sub>5</sub> at the discharges (combining all three units) was 17.9 mg/l (n=134) versus a mean influent level of 195 mg/l (n= 58)

**Table 1.** Biochemical Oxygen Demand (5-day) removal performance of the Amphidrome® system during testing at the Massachusetts Alternative Septic System Test Center - February, 1999- March 2001.

BOD (mg/l)	Replicate 1	Replicate 2	Replicate 3	Influent	Mean	%Removal
Average	19.5	18.4	16.9	194.6	17.9	90.8%
Median	13.5	15.0	15.0	182.5		
Standard Deviation	19.2	14.1	11.2	65.1		
Maximum	89.0	88.0	74.0	385.0		
Minimum	2.0	3.2	5.0	83.0		
Count	20	57	57	58		

representing a 90.3% removal rate (Table 1, Appendix 1, Appendix 2). Excursions from the secondary-treatment standard of 30 mg/l appear related to a sludge buildup in the system that began after approximately eighteen months of operation. Following the removal of sludge from the first (anoxic) tank of units #2 and #3 (B-2 and B-3) on August 3, 2001, the removal performance of the system for this constituent returned within a few weeks (BOD was 5 mg/l or less on August 28, 2001). The failure of a process blower on the third replicate system (B-3) caused the BOD levels after March 26, 2001 to exceed the secondary standard of 30 mg/l.

### Total Suspended Solids (TSS) Removal

The removal of suspended solids by the Amphidrome followed a similar trend as treatment for BOD, with only minor exception (Table 2, Appendix 1, and Appendix 2). Following approximately eighteen months of operation sludge accumulation of sludge in the anoxic chamber resulted in increased carryover of suspended solids to the discharge. Similar to the trend with BOD, suspended solids decreased in the discharges following the removal of sludge from the anoxic chamber on August 3, 2001. The single high TSS value (42.7 mg/l) at B-3 (replicate #3) on August 28, 2001 is unexplained, but could be due to an inadvertent mislabeling/switching of the sample bottle B-3 with that of B-1. This is corroborated by the BOD level at B-1 (which was not being tested under the ETI protocols at the time) which shows a concurrent BOD of 22 mg/l, more likely to coincide

**Table 2.** Total Suspended Solids (TSS) removal performance of the Amphidrome® system during testing at the Massachusetts Alternative Septic System Test Center. February, 1999-March 2001.

TSS (mg/l)	Replicate 1	Replicate 2	Replicate 3	Influent	Mean	% Removal
Average	9.2	7.3	7.0	172.6	7.5	95.7%
Median	5.0	4.9	4.0	167.5		
Standard Deviation	11.0	9.2	8.1	55.2		
Maximum	47.0	55.8	42.7	364.7		
Minimum	1.0	0.9	0.0	72.0		
Count	20	56	56	56		

with the higher TSS. Likewise, the BOD of 5.0 mg/l noted at B-3 more likely coincided with a TSS of 2.9 mg/l which was reported to be observed at the B-1 discharge (Appendix 1, Appendix 2).

#### Total Nitrogen Removal

With a single exception, all three replicates of this technology were consistent with each other for the first eight months of operation. The single exception observed on June 14, 2000 at B-2 (Replicate #2) is unexplained and may be due to laboratory error since it is highly inconsistent with both the replicates and values noted on dates either side of this observation.

**Table 3.** Total Nitrogen (TN) removal performance of the Amphidrome® system during testing at the Massachusetts Alternative Septic System Test Center. February, 1999-March 2001. Data below exclude a start-up period of February 23-May 2, 2000.

Total Nitrogen (mg/l)	Replicate 1	Replicate 2	Replicate 3	Influent	Mean	%Removal
Average	8.3	11.1	11.2	34.5	10.81	68.7%
Median	8.6	9.4	8.9	34.6		
Standard Deviation	1.4	5.6	6.8	3.9		
Maximum	9.9	32.4	38.5	42.3		
Minimum	5.8	6.4	6.7	23.9		
Count	13	50	50	48		

For the calculation of nitrogen removal, data following a start-up period was used. For purposes of this report, "start-up" is considered as that period during which the total nitrogen level (mg/l) in the discharge exceeds 19 mg/l. In the case of the Amphidrome, there is a clear demarcation of start-up at the 12 week sampling event (Appendix 1, Appendix 2). Prior to this (on May 2, 2/000), all units show a Total Nitrogen (TN) level exceeding 22 mg/l. On May 17, 2000, no replicate discharged levels of TN exceeding 13 mg/l. Thus, when the Amphidrome is started during colder months, at least a 12 week start-up appears to be required. In the period following start-up (May 17, 2001 to April 24, 2001), the average TN discharged (excluding the one aberrant value of 27.3 mg/l observed at B-2 on June 14, 2000) was 9.14 mg/l (n=61). Following this date, however, and until sludge accumulation in the anoxic tank was removed on August 3, 2001, TN levels averaging 20.3 mg/l (n=14) were discharged. This observation suggests that the nitrogen removing capability of the system is even more sensitive to the buildup and accumulation of sludge in the anoxic chamber compared with BOD and TSS. Again, following the removal of accumulated sludge on August 3, 2001, treatment for nitrogen resumed with average levels of 8.6 mg/l (n=36) observed until the end of sampling on April 23, 2002. This average excludes two high (26.3 and 37.8 mg/l) levels observed at B-3 due to a failure of a process blower in early April of that year.

Our data indicate that, following a start-up period which may vary depending on ambient temperature, this system is capable of achieving discharge levels of < 12 mg/l, provided that sludge levels are not allowed to accumulate, and the system components are otherwise maintained in accordance with the manufacturer's recommendations. The reason for the lower mean nitrogen levels in Replicate #1 compared with #2 and #3 (Table 3) is that this unit was halted prior to the accumulation of sludge<sup>1</sup>.

Fecal Coliform Removal

Fecal coliform is often used as a surrogate measure of public health significance. Wastewater treatment systems that remove fecal coliform are thought to concurrently reduce the discharge of human pathogens. In general, there is 1- 2log (90-99%) removal of fecal coliform in the Amphidrome system, with no apparent seasonal trends in performance.

**Table4.** Fecal Coliform removal performance of the Amphidrome® system during testing at the Massachusetts Alternative Septic System Test Center. February, 1999- March 2001.

Fecal Coliform CFU/100 ml	Replicate 1	Replicate 2	Replicate 3	Influent	Mean	%Removal
Log Mean	3.4E+04	3.9E+04	2.9E+04	3.2E+06	3.3E+04	96.7
Maximum	2.7E+05	5.4E+05	1.1E+06	2.6E+07		
Minimum	4.0E+03	8.0E+02	3.0E+03	3.0E+05		

<sup>1</sup> B-1 or Replicate #1 was cleaned and restarted for testing under Environmental Technology Verification Protocols which will be reported under separate cover.

## **6. Operation and Maintenance Monitoring – Amphidrome**

In general, the Amphidrome System requires that the operator of the system begin with an approximate set of settings for the various cycles that may not reflect settings for optimum performance. Accordingly, at any site, a period of adjustment must occur. During our testing, between the period 3/17/2000 – 5/18/2000, the operator made adjustments at least 12 times. The vendor collected and analyzed many discharge samples throughout the testing period using field test kits. This practice was presumably to indicate what field adjustments were necessary to the operating parameters. Adjustments were periodically made to all units during the entire testing period. The relatively high number of adjustments were made presumably due to the fact that the units installed were among the first units designed for single-family usage.

During the testing period, a float switch was replaced (8/15/01), and a motor was replaced (11/13/01). The vendor believed that the motor replacement resulted from an electrical surge, possibly a strike by lightning.

The Programmable Logic Controllers installed in the three units tested did not have internal clocks. The lack of this feature resulted in occasional disruption of the cycle times at times when the facility experienced power failures. Internal clock mechanisms will presumably be placed in any models sold after our testing dates.

The noise generation of the unit was difficult to measure due to the fact that the blowers for all three units were placed in the same housing and operated simultaneously.

### Maintenance

The components of the Amphidrome must only be serviced by qualified personnel. Sludge levels can be determined using a standard “sludge judge” or other manual type device, or using various electronic devices. The manufacture states that annual pumping is recommended on systems configured similar to the units tested. The reactor vessel can easily be inspected by opening the circular top, which allows access to control and alarm floats for inspection and testing. Similarly, the clearwell is accessed by opening the top, which allows inspection of both pumps and control floats. The electrical panel houses the PLC and controls for access by a computer or similar device. Manual overrides of pumps and blowers, as well as alarm switches were easily accessible for inspection/testing. As with all advance treatment units in Massachusetts, the unit must be under a contract for the operation maintenance for the life of the system. DEP requires that the operator of this system must hold a Class 4 Wastewater Treatment Plant Operator certification.



# APPENDIX 1

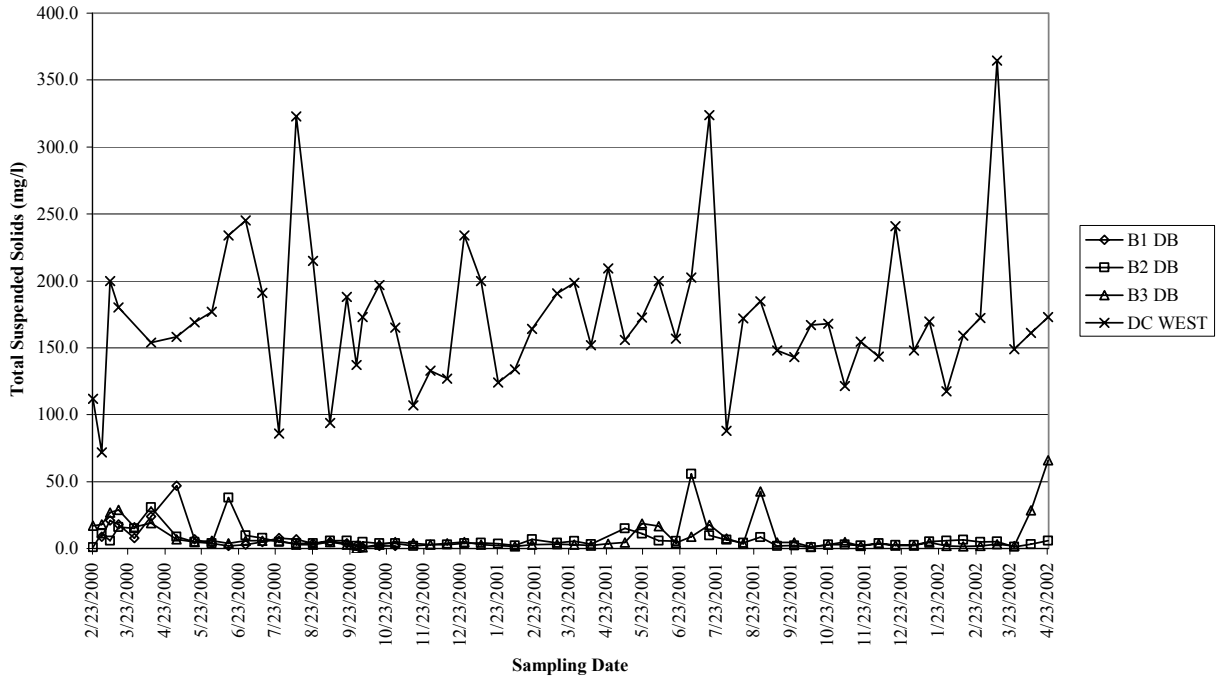
## Graphs of Major Wastewater Constituents At Discharge

### **Amphidrome® Sequencing Batch Reactor**

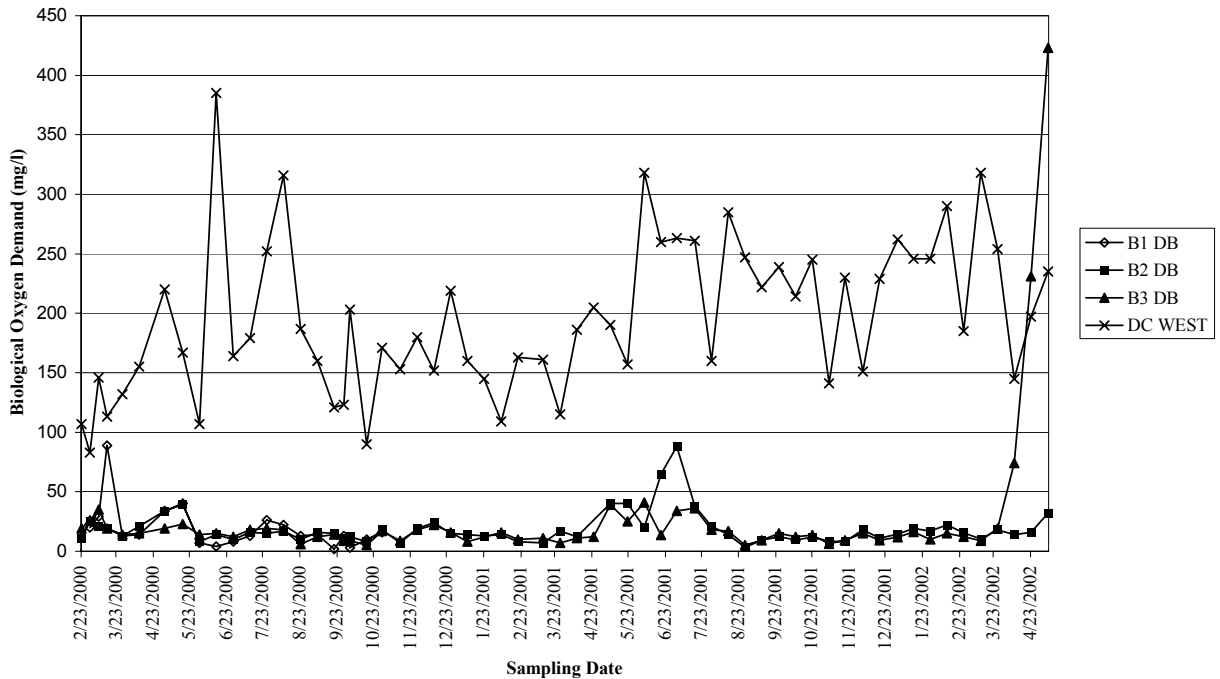
Technology Vendor

F.R. Mahony & Associates, Inc.  
273 Weymouth Street  
Rockland, MA 02370

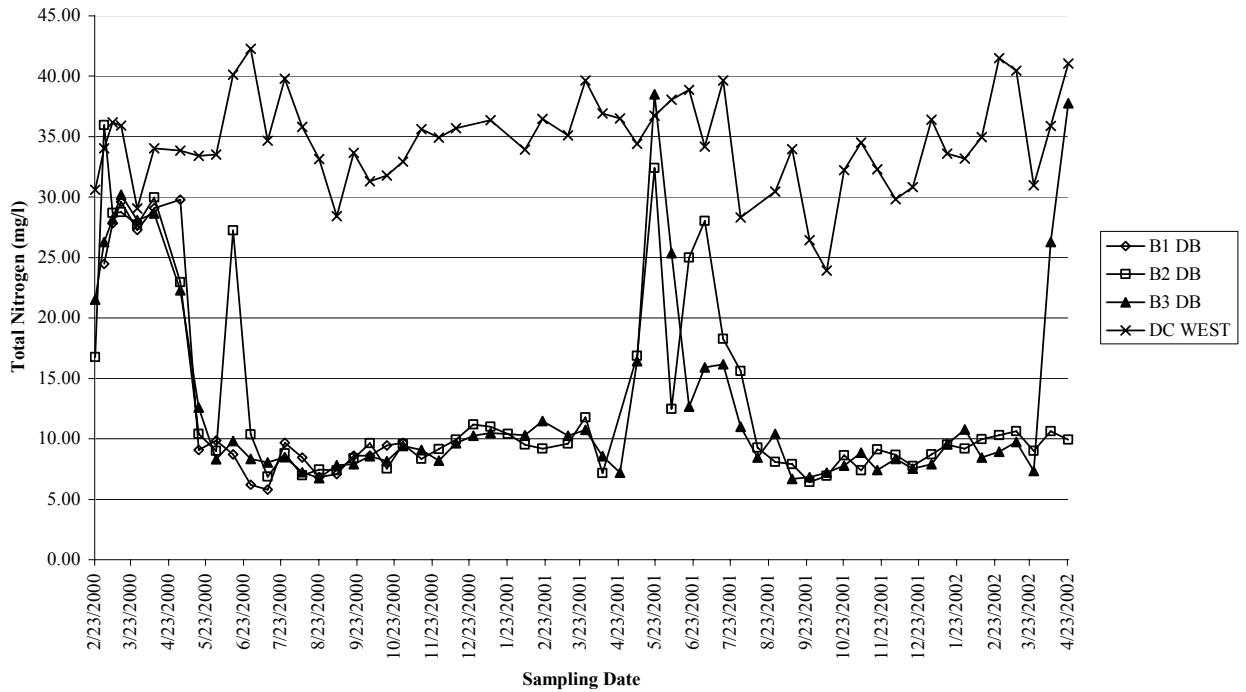
**Total Suspended Solids (TSS) Concentrations of Amphidrome Discharge vs. Influent During Testing at the Massachusetts Alternative Septic System Test Center February, 1999 - March 2001. B1 DB, B2 DB, B3 DB = Replicates 1-3 respectively, DCWEST = Influent**



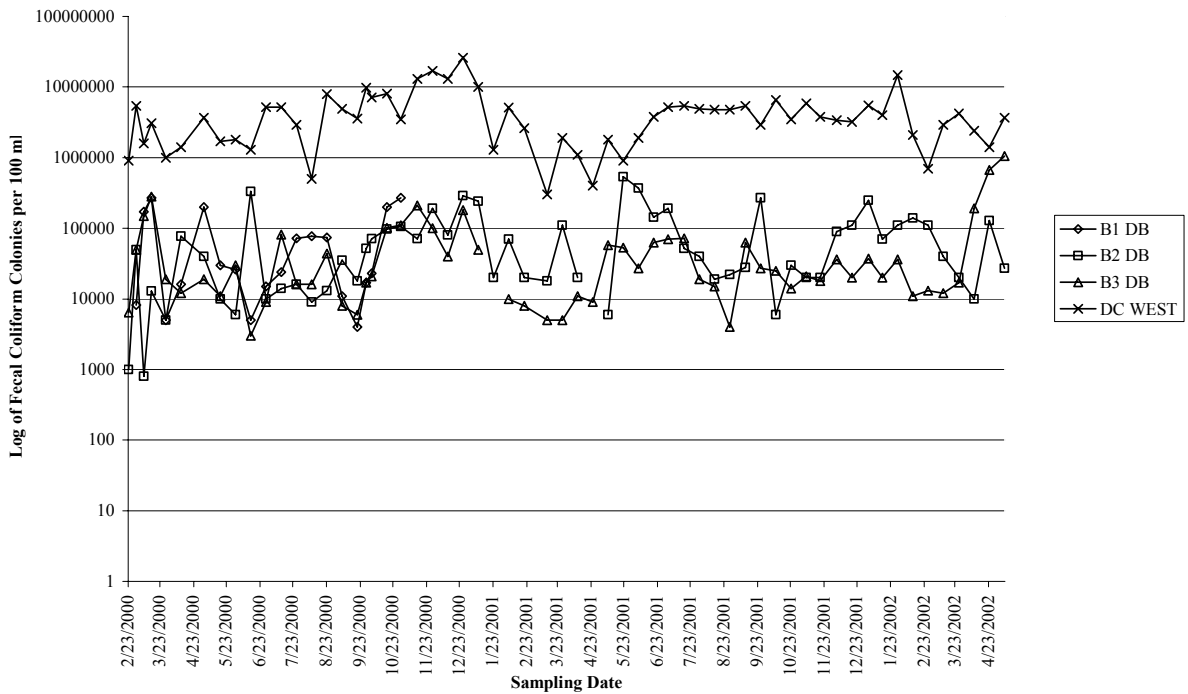
**BOD(5day) Concentrations of Amphidrome Discharge vs. Influent During Testing at the Massachusetts Alternative Septic System Test Center February, 1999 - March 2001. B1 DB, B2 DB, B3 DB = Replicates 1-3 respectively, DCWEST = Influent**



**Total Nitrogen Concentrations of Amphidrome Discharge vs. Influent During Testing at the Massachusetts Alternative Septic System Test Center February, 1999 - March 2001. B1 DB, B2 DB, B3 DB = Replicates 1-3 respectively, DCWEST = Influent**



**Fecal Coliform Densities (cfu/100 ml) Amphidrome Discharge vs. Influent During Testing at the Massachusetts Alternative Septic System Test Center February, 1999 - March 2001. B1 DB, B2 DB, B3 DB = Replicates 1-3 respectively, DCWEST = Influent**



# APPENDIX 2

## Tables of All Wastewater Constituents Monitored in Conjunction with Testing

### **Amphidrome® Sequencing Batch Reactor**

Technology Vendor

F.R. Mahony & Associates, Inc.  
273 Weymouth Street  
Rockland, MA 02370

#### **Key:**

B1DB, B2DB, and B3DB represent the discharges of units #1-3 accordingly  
BSU = Sump data – a composite collection in a sump situated beneath all three soil  
absorption systems.

B1 1 FT, B1 2 FT, B1 5 FT – Pan lysimeters collections beneath the B1 soil  
absorption system at 1 ft, 2 ft, and 5 ft respectively. Similar for system B2 and B3.

DCWEST – samples at the relevant influent location.

Location	Date	pH	Alkalinity (mg/l)	BOD5 (mg/l)	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	PON (mg/l)	Total Nitrogen (mg/l)	POC (mg/l)	PO <sub>4</sub> (mg/l)	TP (mg/l)	Sp Cond (uS)	TSS (mg/l)
DC WEST	6/9/99	7.30	205.0	108.0	1.90E+06	0.5	27.0	0.1	6.5	34.1	64.6	3.4	5.3	518	135.0
DC WEST	6/23/99	7.39	192.0	145.0	4.20E+06	2.4	30.8	0.0	8.0	41.2	63.8	3.9	5.5	485	142.0
DC WEST	7/7/99	7.21	171.0	210.0	8.40E+06	1.0	23.1	0.0	11.2	35.3	97.0	3.9	5.0	418	
DC WEST	7/21/99	7.24	190.0	136.0	1.00E+04	1.4	26.7	0.1	6.4	34.4	63.1	3.7	5.4	503	141.0
DC WEST	8/11/99	7.31	185.0	140.0	4.40E+06	0.5	31.6	0.1	10.3	42.5	95.3	4.2	6.1	573	215.0
DC WEST	8/30/99	7.28	172.0	110.0	3.10E+06	1.6	24.7	0.1	5.0	31.3	43.7	3.7	4.8	516	91.0
DC WEST	9/22/99	7.47	195.0	172.0	3.40E+06	0.3	35.9	0.0	10.1	46.3	92.9	4.3	5.7	569	210.0
DC WEST	10/13/99	7.18	163.0	205.0	2.30E+06	1.8	24.7	0.0	3.3	29.8	31.6	3.4	4.8	488	47.0
DC WEST	11/3/99	7.33	175.0	231.0	5.00E+05	3.9	24.3	0.0	7.0	35.2	65.2	3.3	4.9	594	148.0
DC WEST	11/18/99	7.48		128.0	2.20E+06		23.0	0.1	5.3	28.4	52.2			595	121.0
DC WEST	12/14/99	7.33	173.0	168.0	3.40E+06	0.0	29.2	0.1	5.2	34.5	58.2	3.6	5.3	550	151.0
DC WEST	12/21/99	7.38	182.0	153.0	1.90E+06	3.5	26.2	0.0	3.8	33.6	35.9	3.6	5.8	582	70.0
DC WEST QA	12/21/99	7.36	179.0	182.0	2.04E+06	1.3	27.9	0.1	3.9	33.1	32.4	3.7	5.8	514	64.0
DC WEST	1/12/00	7.46	180.0	156.0	1.90E+06	1.0	27.9	0.1	3.7	32.6	28.0	3.8	5.3	552	50.0
DC WEST	2/2/00	7.35	147.0	170.0	3.70E+06	3.2	24.9	0.0	5.6	33.7	72.5	3.7		514	130.0
DC WEST QA	2/2/00		149.0	127.0	1.48E+06	2.1	26.4	0.0	5.7	34.1	58.9	3.3			96.0
DC WEST	2/16/00	7.54	168.0	140.0	3.30E+06	3.6	22.8	0.1	6.9	33.4	70.3	3.0		548	140.0
DC WEST	2/23/00	7.35	164.0	107.0	9.00E+05	2.9	22.3	0.1	5.3	30.6	50.2	2.9		1000	112.0
DC WEST	3/1/00	7.43	171.0	83.0	5.40E+06	3.1	23.5	0.0	7.4	34.0	78.5	3.1	5.9	575	72.0
DC WEST	3/8/00	7.31	176.0	146.0	1.60E+06	2.2	25.5	0.0	8.5	36.2	94.9	3.0	5.2	540	200.0
DC WEST	3/15/00	7.28	179.0	113.0	3.10E+06	3.0	23.1	0.1	9.7	35.9	91.9	3.4	4.5	595	180.0
DC WEST	3/28/00	7.45	157.0	132.0	1.00E+06	2.9	22.0	0.0	4.1	29.1	33.4	2.9	5.5	555	
DC WEST	4/11/00	7.47	170.0	155.0	1.40E+06	2.6	22.7	0.1	8.7	34.0	72.1	2.7	5.6	561	154.0
DC WEST	4/19/00	7.81	159.0	345.0	1.20E+06	3.8	22.7	0.1	7.3	33.9	71.4	3.5		552	232.0
DC WEST	5/2/00	7.47	159.0	220.0	3.70E+06	3.8	22.7	0.1	7.3	33.8	71.4	3.5	5.7	552	158.0
DC WEST	5/17/00	7.43	167.0	167.0	1.70E+06	3.6	22.1	0.1	7.6	33.4	74.1	2.8	3.9	561	169.0
DC WEST QA	5/17/00		147.0	180.0	1.50E+06	4.3	21.8	0.1	8.2	34.3	78.5	2.8	3.9		172.0
DC WEST	5/31/00	7.50	170.0	107.0	1.80E+06	5.1	20.3	0.1	8.0	33.5	80.0	2.7	4.9	566	177.0
DC WEST	6/14/00	7.13	129.0	385.0	1.30E+06	0.1	30.0	0.2	9.8	40.1	106.9	3.7	5.4	577	234.0
DC WEST	6/28/00	7.27	163.0	164.0	5.20E+06	6.1	24.5	0.2	11.4	42.3	112.9	3.7	5.8	655	245.0
DC WEST	7/12/00	7.04	60.4	179.0	5.20E+06	1.4	23.9	0.1	9.3	34.7	93.2	2.4	3.5	528	191.0
DC WEST	7/26/00	7.46	189.0	252.0	2.90E+06	4.2	29.0	0.0	6.6	39.8	58.3	4.4	6.1	657	86.0
DC WEST QA	7/26/00		188.0	283.0	4.00E+05	6.1	26.0	0.1	7.9	40.0	63.7	4.1	6.5		141.0
DC WEST	8/9/00	7.25	169.0	316.0	5.00E+05	4.9	19.7	0.1	11.1	35.8	162.5	3.2		592	323.0
DC WEST	8/23/00	7.30	151.0	187.0	8.00E+06	0.0	23.1	0.0	10.0	33.1	109.2	3.4	5.5	606	215.0
DC WEST QA	8/23/00	7.38	158.0	174.0	8.50E+06	6.5	24.4	0.0	11.5	42.5	139.3	3.2	4.9	650	272.0
DC WEST	9/6/00	7.50	144.0	160.0	4.90E+06	0.2	21.1	0.0	7.1	28.4	54.9	2.6	4.2	610	94.0
DC WEST	9/20/00	7.36	127.0	121.0	3.60E+06	2.6	21.4	0.0	9.7	33.7	86.7	3.0	5.3	544	188.0
DC WEST	10/3/00	7.24	139.0	203.0	7.10E+06	0.6	23.0	0.0	7.8	31.3	82.4	3.5	5.3	604	173.0
DC WEST QA	10/3/00	7.51	137.0	150.0	7.20E+06	0.4	25.7	0.0	8.6	34.6	86.7	3.7	5.3	608	184.0
DC WEST	10/17/00	7.09	189.0	90.0	8.10E+06	0.6	21.5	0.1	9.6	31.8	85.8	2.7	4.9	549	197.0
DC WEST	10/30/00	7.32	156.5	171.0	3.50E+06	3.6	21.1	0.1	8.1	32.9	80.3	2.9	3.4	463	165.0
DC WEST	11/14/00	7.29	163.5	153.0	1.30E+07	4.7	23.8	0.0	7.1	35.6	53.1	3.0	5.1	486	107.0

Location	Date	pH	Alkalinity (mg/l)	BOD5 (mg/l)	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	PON (mg/l)	Total Nitrogen (mg/l)	POC (mg/l)	PO <sub>4</sub> (mg/l)	TP (mg/l)	Sp Cond (uS)	TSS (mg/l)
DC WEST	11/28/00	7.45	184.5	180.0	1.70E+07	3.8	24.5	0.0	6.6	34.9	65.0	3.2	4.8	538	133.0
DC WEST	12/12/00	7.57	183.5	152.0	1.30E+07	1.8	27.1	0.0	6.7	35.7	60.5	3.1	4.6	558	127.0
DC WEST QA	12/12/00	7.59	185.0	144.0	1.50E+07	0.3	27.2	0.0	6.0	33.5	52.3	3.3	4.4	565	112.0
DC WEST	1/9/01	7.56	180.0	160.0	1.00E+07	5.5	22.6	0.1	8.2	36.4	84.9	3.6	4.6	555	200.0
DC WEST	1/23/01	7.56	184.5	138.0	1.30E+06		27.1	0.1	7.1	34.3	69.9	3.6	4.9	514	122.5
DC WEST	2/6/01	7.53	179.5	109.0	5.10E+06	3.2	24.0	0.1	6.7	33.9	71.5	3.3	4.5	775	134.0
DC WEST	2/20/01	7.45	185.5	163.0	2.60E+06	5.5	23.5	0.1	7.5	36.5	74.2	3.5	4.9	526	164.2
DC WEST	3/13/01	7.43	169.5	114.0	3.00E+05	2.6	24.0	0.1	8.4	35.1	84.9	3.6	5.8	977	190.5
DC WEST QA	3/13/01	7.45	171.5	168.0	7.00E+05	2.9	24.0	0.1	8.4	35.4	85.0	3.6	5.7	993	191.0
DC WEST	3/27/01	7.48	177.5	115.0	1.90E+06	3.3	26.9	0.1	9.3	39.6	89.1	3.6	5.4	837	198.5
DC WEST	4/10/01	7.48	181.5	186.0	1.10E+06	4.1	24.9	0.1	7.8	36.9	72.3	3.9	5.0	501	152.0
DC WEST	4/24/01	7.54	195.0	205.0	4.00E+05	1.0	26.6	0.1	8.9	36.5	88.0	3.2	5.1	533	209.5
DC WEST	5/8/01	7.60	174.0	190.0	1.80E+06	1.8	25.3	0.1	7.3	34.4	77.0	3.0	5.1	514	156.0
DC WEST	5/22/01	7.46	173.0	157.0	9.00E+05	2.1	27.0	0.0	7.6	36.7	83.1	3.8	3.9	526	172.7
DC WEST	6/5/01	7.59	187.0	318.0	1.90E+06	1.0	28.1	0.1	8.8	38.0	87.4	3.3	4.5	507	199.7
DC WEST	6/19/01	7.46	183.5	260.0	3.80E+06	1.5	29.6	0.0	7.7	38.9	71.6	3.3	3.6	526	157.0
DC WEST QA	6/19/01	7.47	186.0	281.0	1.00E+07	1.6	29.8	0.1	7.9	39.3	72.2	3.2	3.5	508	163.7
DC WEST	7/2/01	7.27	185.0	263.0	5.20E+06	5.2	19.9	0.0	9.0	34.2	88.5	3.2	3.8	539	202.4
DC WEST	7/17/01	7.22	188.0	261.0	5.40E+06	1.7	25.3	0.1	12.6	39.7	148.8	3.3	6.1	515	288.0
DC WEST	7/31/01	7.46	169.0	160.0	4.90E+06	0.6	22.7	0.1	5.0	28.3	41.1	2.8	3.7	471	88.0
DC WEST	8/28/01	7.34	179.5	247.0	4.80E+06	3.9	17.9	0.1	8.5	30.4	83.1	2.9	3.3	497	184.7
DC WEST	9/11/01	7.38	194.0	222.0	5.40E+06	4.3	21.8	0.2	7.7	34.0	66.1	3.3	4.4	474	148.0
DC WEST QA	9/11/01	7.39	193.5	179.0	7.00E+06	3.9	22.0	0.1	5.4	31.4	60.3	3.4	4.6	516	119.5
DC WEST	9/25/01	7.26	187.5	239.0	2.90E+06	1.6	19.0	0.1	5.7	26.4	66.1	3.3	5.0	499	142.9
DC WEST	10/9/01	7.68	181.5	139.0	6.60E+06	6.0	15.5	0.1	2.4	23.9	26.5	2.9	4.4	520	66.3
DC WEST	10/23/01	7.15	185.5	245.0	3.50E+06	7.5	17.6	0.1	7.1	32.2	65.5	3.0	3.1	532	168.0
DC WEST QA	10/23/01	7.23	183.0	153.0	4.00E+06	6.8	18.0	0.0	7.1	32.0	72.3	2.8	3.0	539	101.0
DC WEST	11/6/01	7.21	188.0	141.0	5.90E+06	2.6	24.8	0.2	6.9	34.5	63.1	3.3	5.8	521	121.5
DC WEST	11/19/01	7.45	183.0	230.0	3.10E+06	3.1	22.0	0.0	7.2	32.3	71.2	3.1	5.6	449	154.5
DC WEST	12/4/01	7.43	186.5	151.0	3.40E+06	1.9	22.0	0.0	5.8	29.8	72.5	3.5	6.5	500	143.5
DC WEST	12/18/01	7.40	359.5	229.0	3.20E+06	2.1	21.1	0.1	7.6	30.8	139.9	2.8	5.0	485	241.0
DC WEST	1/2/02	7.43	198.5	262.0	5.50E+06	4.0	24.7	0.0	7.6	36.4	68.1	3.6	5.9	529	148.0
DC WEST QA	1/2/02	7.49	198.0	262.0	4.90E+06	3.7	24.6	0.0	1.9	30.2	16.4	3.7	7.1	548	32.0
DC WEST	1/15/02	7.62	188.5	246.0	4.00E+06	2.6	23.1	0.1	7.8	33.6	80.0	3.7	6.8	640	169.5
DC WEST	1/29/02	7.48	188.5	246.0	1.48E+07	2.0	25.6	0.0	5.5	33.2	56.9	3.4	7.5	578	117.5
DC WEST	2/12/02	7.43	191.5	290.0	2.10E+06	2.7	25.9	0.1	6.3	35.0	75.0	3.5	5.1	578	159.2
DC WEST	2/26/02	7.45	188.5	185.0	7.00E+05	4.1	24.5	0.1	12.8	41.5	81.0	3.3	5.5	514	172.3
DC WEST	3/12/02	7.30	189.0	318.0	2.90E+06	0.9	28.1	0.1	11.3	40.5	186.6	4.1	7.9	590	364.7
DC WEST QA	3/12/02	7.31	189.0	479.0	1.80E+06	1.1	27.9	0.1	14.0	43.0	184.5	3.8	6.0	590	405.0
DC WEST	3/26/02	7.40	184.0	254.0	4.20E+06	0.9	24.5	0.2	5.5	31.0	70.5	3.9	5.8	503	149.0
DC WEST	4/9/02	7.39	192.5	145.0	2.40E+06	4.8	24.3	0.1	6.7	35.9	78.0	3.5	5.6	571	161.2
DC WEST	4/23/02	7.39	198.0	197.0	1.40E+06	0.8	25.2	0.1	15.0	41.0	81.3	3.4	5.8	572	173.0

Location	Date	pH	Alkalinity (mg/l)	BOD5 (mg/l)	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	PON (mg/l)	Total Nitrogen (mg/l)	POC (mg/l)	PO <sub>4</sub> (mg/l)	TP (mg/l)	Sp Cond (uS)	TSS (mg/l)
<b>B1 Dbox</b>															
B1 DB	3/1/00	6.63	218.0	20.0	8200	2.5	20.7	0.1	1.2	24.5	7.8	2.6	3.5	481	9.0
B1 DB	3/8/00	7.54	186.0	29.0	172000	0.6	25.0	0.0	2.3	27.8	12.2	3.2	3.4	585	21.0
B1 DB QA	3/8/00	7.67	188.0	32.0	230000	0.3	25.0	0.0	0.6	25.9	3.5	3.0		558	7.0
B1 DB	3/15/00	7.32	188.0	89.0	270000	3.3	25.2	0.0	1.2	29.6	9.2	4.0	4.4	623	18.0
B1 DB	3/28/00	7.87	182.0	13.0	5000	1.5	24.7	0.1	1.0	27.3	5.7	2.6	3.8	616	8.0
B1 DB	4/11/00	7.79	180.0	14.0	16000	4.5	22.6	0.2	1.8	29.1	9.9	2.7	3.3	627	24.0
B1 DB	5/2/00	7.60	154.0	34.0	200000	2.6	17.5	5.4	4.2	29.8	21.5	3.1	3.9	577	47.0
B1 DB	5/17/00	7.02	103.0	40.0	30000	1.2	2.1	5.3	0.6	9.1	3.1	2.9	3.8	461	7.0
B1 DB	5/31/00	7.25	124.0	7.0	26000	1.4	3.0	5.3	0.2	9.9	1.6	3.4	3.6	499	4.0
B1 DB	6/14/00	7.03	92.0	4.0	5000	1.3	1.9	5.4	0.2	8.7	1.0	2.9	3.0	417	2.0
B1 DB QA	6/14/00	7.03	98.0	6.0	890000	0.9	2.0	5.8	0.2	8.8	1.2	3.0	3.1	417	3.0
B1 DB	6/28/00	7.09	127.0	8.0	15000	1.7	2.5	1.8	0.2	6.2	1.4	2.9	3.0	512	3.0
B1 DB	7/12/00	6.74	119.0	13.0	24000	1.4	2.0	2.1	0.4	5.8	2.3	2.4	2.6	469	5.0
B1 DB	7/26/00	7.19	136.0	26.0	72000	1.2	6.1	1.8	0.6	9.7	3.3	3.7	3.8	511	8.0
B1 DB	8/9/00	7.16	146.0	22.0	77000	1.0	5.6	1.5	0.4	8.4	2.5	3.8		544	7.0
B1 DB	8/23/00	7.08	110.0	13.0	74000	2.3	2.9	1.3	0.3	6.8	2.0	4.3	4.4	514	4.0
B1 DB	9/6/00	7.26	113.0	14.0	11000	0.2	4.4	2.2	0.3	7.1	2.1	3.6	3.7	519	5.0
B1 DB	9/20/00	7.09	112.0	2.0	4000	0.7	5.8	1.8	0.3	8.6	1.7	3.7	4.0	499	4.0
B1 DB	10/3/00	6.99	109.5	3.0	23000	0.4	5.5	2.5	0.2	8.6	1.2	4.1	4.2	515	1.0
B1 DB	10/17/00	6.91	130.0	10.0	200000	0.9	4.2	4.2	0.2	9.4	0.9	3.3	3.4	487	2.0
B1 DB	10/30/00	6.87	103.5	16.0	270000	0.6	3.4	5.6	0.1	9.7	0.8	4.0	4.1	410	2.0
B1 DB	2/6/01	7.34	183.5	12.0	11000	0.3	23.7	0.4	0.4	24.8	2.2	3.3	3.3	559	4.3
B1 DB QA	2/6/01	7.30	182.0	10.0	48000	8.4	24.9	0.4	0.1	33.9	0.9	3.4	3.2	519	1.8
B1 DB	2/20/01	7.42	174.0	9.0	23000	2.7	20.2	1.6	0.8	25.3	3.6	3.2	3.6	545	10.7
B1 DB	3/13/01	7.20	149.0	9.0	27000	0.7	17.9	3.5	0.7	22.8	3.6	3.5	3.6	657	7.4
B1 DB	3/27/01	7.10	117.5	10.0	8000	2.2	11.3	7.1	0.4	21.0	2.4	3.5	3.5	458	4.2
B1 DB	4/10/01	7.16	105.0	7.0	500	0.9	8.6	10.0	0.1	19.5	1.1	3.6	3.7	453	3.4
B1 DB	4/24/01	7.00	93.5	10.0	500	1.7	5.1	8.2	0.1	15.1	1.0	3.9	4.1	456	1.2
B1 DB	5/8/01	6.88	106.0	18.0	22000	4.0	0.1	4.7	0.9	9.8	7.0	3.7	3.8	441	2.3
B1 DB QA	5/8/01	6.95	106.0	16.0	7000	0.8	5.9	7.0	0.2	13.9	1.3	3.5	3.6	440	3.1
B1 DB	5/22/01	6.83	111.0	4.0	310000	5.1	0.7	5.5	0.2	11.5	1.2	4.1	4.2	465	2.9
B1 DB	6/5/01	7.44	107.0	19.0	10000	0.4	6.0	5.5	0.2	12.1	1.6	4.4	4.5	424	1.8
B1 DB	6/19/01	7.45	245.0	245.0	240000	0.6	22.5	0.1	7.4	30.5	37.1	5.0	5.1	617	87.7
B1 DB	8/14/01	6.97	167.5	80.0	17000	2.0	16.4	2.5	2.7	23.6	17.1	4.4	4.4	505	46.2
B1 DB	8/28/01	7.30	117.5	22.0	14000	8.9	6.3	1.6		16.8		5.2	5.3	458	2.9
B1 DB QA	8/28/01	7.32	118.5	18.5	36000	0.4	6.5	9.4	0.4	16.8	3.5	5.7	5.8	456	15.2

Location	Date	pH	Alkalinity (mg/l)	BOD5 (mg/l)	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	PON (mg/l)	Total Nitrogen (mg/l)	POC (mg/l)	PO <sub>4</sub> (mg/l)	TP (mg/l)	Sp Cond (uS)	TSS (mg/l)
B2 DB	2/23/00	8.03	164.0	11.0	1000	0.7	15.5	0.1	0.5	16.8	3.9	1.5		518	1.0
B2 DB	3/1/00	7.83	193.0	25.0	50000	3.5	29.0	0.0	3.4	35.9	17.0	3.4		648	11.0
B2 DB	3/8/00	7.50	191.0	21.0	800	1.6	26.6	0.0	0.5	28.7	2.7	3.2		598	6.0
B2 DB	3/15/00	7.45	195.0	19.0	12900	2.7	24.3	0.1	1.7	28.7	8.2	3.3	3.9	626	16.0
B2 DB	3/28/00	7.87	185.0	13.0	5000	1.0	25.5	0.1	1.1	27.7	7.1	2.8	4.1	620	15.0
B2 DB QA	3/28/00		185.0		100000	0.9	25.7	0.1	1.3	28.1	8.3	2.9	4.1		18.0
B2 DB	4/11/00	7.86	185.0	21.0	77000	3.6	23.9	0.2	2.3	30.0	13.6	2.9	3.4	635	31.0
B2 DB	5/2/00	7.55	129.0	34.0	40000	0.3	13.3	8.5	0.8	23.0	4.0	3.0	3.2	555	9.0
B2 DB	5/17/00	7.08	104.0	39.0	10000	1.6	2.4	6.0	0.4	10.4	2.3	3.0	3.4	469	5.0
B2 DB	5/31/00	7.21	116.0	8.0	6000	1.5	1.7	5.4	0.5	9.0	3.8	3.4	3.7	494	4.0
B2 DB	6/14/00	7.23	158.0	14.0	330000	1.4	22.9	0.1	2.9	27.3	17.5	5.2	5.2	625	38.0
B2 DB	6/28/00	7.25	136.0	10.0	10000	2.3	5.6	1.9	0.6	10.4	4.4	3.0		563	10.0
B2 DB QA	6/28/00		136.8	11.0	50000	2.2	5.7	1.8	0.5	10.2	3.7	3.2	3.3		8.0
B2 DB	7/12/00	6.84	125.0	16.0	14000	1.6	2.7	2.0	0.6	6.9	3.7	3.2	3.3	474	8.0
B2 DB	7/26/00	7.22	119.0	15.0	16000	1.5	2.8	4.0	0.5	8.8	2.7	3.6	3.8	499	5.0
B2 DB	8/9/00	7.29	129.0	17.0	9000	0.8	2.8	3.0	0.3	7.0	2.1	3.9		507	4.0
B2 DB	8/23/00	7.12	113.0	10.0	13000	0.4	4.2	2.4	0.3	7.4	2.0	3.8	4.0	514	4.0
B2 DB	9/6/00	7.39	103.0	16.0	35000	0.1	4.0	3.3		7.4	2.2	3.8	3.9	522	6.0
B2 DB	9/20/00	7.18	101.0	15.0	18000	0.8	3.5	3.5	0.5	8.4	2.6	3.5	4.0	480	6.0
B2 DB	10/3/00	7.08	112.5	12.0	71000	0.5	6.5	2.2	0.4	9.6	2.5	4.4	4.5	519	5.0
B2 DB	10/17/00	7.06	133.0	8.0	97000	0.8	3.3	3.2	0.2	7.5	1.3	3.4	3.8	464	4.0
B2 DB	10/30/00	6.99	118.0	18.0	106000	1.4	4.6	3.3	0.3	9.6	1.7	3.4	3.4	411	4.0
B2 DB	11/14/00	6.68	65.5	7.0	71000	0.1	3.2	5.0	0.1	8.4	0.9	3.0	3.0	389	2.0
B2 DB	11/28/00	7.02	107.0	19.0	190000	1.1	2.8	5.1	0.3	9.2	1.5	3.3	3.7	402	3.0
B2 DB	12/12/00	6.82	105.5	24.0	80000	0.1	4.0	5.6	0.2	9.9	1.3	3.8	3.8	474	3.0
B2 DB	12/26/00	6.99	120.0	15.0	290000	0.2	6.7	4.1	0.3	11.2	1.5	3.7	3.8	413	4.0
B2 DB	1/9/01	6.98	109.5	14.0	240000	0.6	5.9	4.3	0.3	11.0	1.9	3.8	3.9	480	4.3
B2 DB	1/23/01	6.86	98.0	13.0	20000	0.2	3.5	6.2	0.4	10.4	2.2	4.1	4.1	437	3.6
B2 DB QA	1/23/01	7.08	97.5	7.0	40000	2.0	3.7	4.9	0.3	10.9	1.9	3.7	3.4	437	3.6
B2 DB	2/6/01	6.89	106.5	14.0	70000	0.6	3.7	5.0	0.2	9.5	1.1	3.5	3.6	460	2.3
B2 DB	2/20/01	6.95	116.0	8.0	20000	2.1	3.0	3.8	0.3	9.2	1.8	3.7	3.7	449	6.8
B2 DB	3/13/01	6.71	83.0	7.0	18000	0.3	4.4	4.5	0.4	9.6	2.0	3.8	3.8	607	4.3
B2 DB	3/27/01	7.02	110.5	17.0	110000	2.1	5.4	3.7	0.5	11.8	2.6	3.7	4.2	424	5.7
B2 DB	4/10/01	7.05	103.0	12.0	20000	0.6	1.0	5.2	0.3	7.2	1.6	4.6	4.6	423	3.2
B2 DB	5/8/01	7.00	195.0	40.0	6000	13.9	2.4	0.2	0.4	16.9	2.9	6.3	6.3	547	15.0
B2 DB	5/22/01	6.98	177.0	40.0	540000	7.8	23.3	0.7	0.6	32.4	4.5	5.6	5.6	548	11.3
B2 DB	6/5/01	6.92	96.0	20.0	370000	0.7	4.0	7.6	0.1	12.5	0.7	5.9	6.1	426	6.0
B2 DB	6/19/01	7.11	186.5	65.0	144000	1.4	22.5	0.3	0.8	25.0	5.5	5.7	5.8	537	5.7



Location	Date	pH	Alkalinity (mg/l)	BOD5 (mg/l)	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	PON (mg/l)	Total Nitrogen (mg/l)	POC (mg/l)	PO <sub>4</sub> (mg/l)	TP (mg/l)	Sp Cond (uS)	TSS (mg/l)
B2 DB	7/2/01	7.16	236.5	88.0	190000	2.6	22.5	0.7	2.2	28.0	14.4	6.4	6.5	603	55.8
B2 DB	7/17/01	7.04	176.4	37.9	52000	1.6	11.4	4.7	0.6	18.3	4.0	5.3	5.3	533	9.8
B2 DB	7/31/01	7.15	120.0	21.0	40000	0.8	6.8	7.5	0.5	15.6	3.0	4.3	4.3	404	6.4
B2 DB	8/14/01	7.08	105.5	14.0	19000	1.1	2.4	5.6	0.2	9.3	1.7	3.7	3.7	419	4.2
B2 DB	8/28/01	7.04	112.5	3.2	22000	4.4	1.8	1.6	0.2	8.1	1.7	3.8	4.0	405	8.4
B2 DB	9/11/01	7.14	125.5	9.2	28000	0.8	2.4	4.5	0.1	7.9	1.0	3.5	3.6	402	1.9
B2 DB	9/25/01	6.56	122.0	12.0	270000	1.3	1.8	3.2	0.1	6.4	1.0	3.8	4.0	382	2.3
B2 DB QA	9/25/01	6.91	114.0	8.8	27000	0.2	2.0	4.5		6.7		3.8	3.9	391	2.2
B2 DB	10/9/01	7.04	104.5	9.6	6000	0.1	1.2	5.5	0.2	7.0	1.0	4.0	4.3	425	0.9
B2 DB	10/23/01	6.98	107.5	11.8	30000	1.4	1.7	5.4	0.1	8.6	1.0	3.8	3.8	430	3.0
B2 DB	11/6/01	6.73	109.0	8.5	20000	0.3	3.5	3.4	0.2	7.4	1.4	4.0	4.1	423	2.8
B2 DB	11/19/01	6.95	102.5	8.1	20000	0.8	3.2	4.9	0.2	9.1	0.9	3.8	3.9	337	2.1
B2 DB	12/4/01	7.12	107.5	18.0	90000	1.9	2.1	4.4	0.4	8.7	2.3	4.3	4.9	352	4.1
B2 DB QA	12/4/01	7.21	105.5	10.0	63000	1.5	2.3	4.4	0.3	8.6	2.2	4.1	4.8	395	4.3
B2 DB	12/18/01	7.01	104.0	11.2	110000	0.3	2.6	4.7	0.1	7.7	0.9	3.6	3.9	408	2.5
B2 DB	1/2/02	6.99	105.5	14.4	250000	1.3	2.1	5.0	0.3	8.7	1.8	4.0	4.2	430	2.7
B2 DB	1/15/02	7.00	109.5	19.1	70000	1.2	3.5	4.5	0.4	9.5	2.4	3.9	4.6	517	5.3
B2 DB	1/29/02	7.01	121.0	17.0	110000	0.8	3.0	4.9	0.6	9.2	2.8	3.5	4.4	488	5.9
B2 DB QA	1/29/02	7.01	107.0	15.9	52000	1.1	3.1	5.3	0.9	10.4	4.1	3.9	4.3	489	8.7
B2 DB	2/12/02	6.85	104.0	22.0	140000	1.6	2.5	5.4	0.5	10.0	3.6	3.9	4.3	409	6.5
B2 DB	2/26/02	6.88	113.5	15.3	110000	2.0	3.9	4.1	0.4	10.3	2.4	3.6	3.8	437	4.9
B2 DB	3/12/02	6.94	118.0	10.2	40000	0.6	6.3	3.6	0.3	10.6	2.0	3.9	3.9	450	5.4
B2 DB	3/26/02	6.76	119.0	18.0	20000	0.8	4.3	3.7	0.2	9.0	1.5	3.9	4.0	432	1.5
B2 DB QA	3/26/02	6.79	119.5	19.0	240000	1.1	4.5	3.5	0.2	9.2	1.6	4.0	5.1	434	3.8
B2 DB	4/9/02	6.88	124.5	14.0	10000	1.5	5.5	3.3	0.2	10.6	1.6	3.8	4.0	461	3.3
B2 DB	4/23/02	6.95	164.5	16.0	128000	1.1	7.5	0.9	0.4	9.9	2.9	4.3	5.1	493	6.0
B2 DB	5/7/02	6.71		32.0	27000	0.7		2.2	0.2	3.1	1.6	4.4	4.9	439	

**B3 Dbox**

Location	Date	pH	Alkalinity (mg/l)	BOD5 (mg/l)	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	PON (mg/l)	Total Nitrogen (mg/l)	POC (mg/l)	PO <sub>4</sub> (mg/l)	TP (mg/l)	Sp Cond (uS)	TSS (mg/l)
B3 DB	2/23/00	7.38	173.0	19.0	6400	1.6	18.4	0.1	1.5	21.5	8.3	0.2		594	17.0
B3 DB QA	2/23/00		163.0	24.0	10000	0.5	15.8	0.1	0.7	17.0	5.3	1.6			42.0
B3 DB	3/1/00	7.39	178.0	26.0	50000	2.1	21.9	0.0	2.3	26.3	12.2	2.9	3.0	615	18.0
B3 DB QA	3/1/00			25.0	270000	0.9	22.9	0.0	2.5	26.3	12.5	2.5			21.0
B3 DB	3/8/00	7.44	184.0	35.0	150000	1.8	23.5	0.0	2.8	28.2	12.6	3.2		593	27.0
B3 DB	3/15/00	7.32	191.0	19.0	280000	2.6	22.6	2.6	2.4	30.2	13.2	3.1	4.0	610	29.0
B3 DB	3/28/00	7.90	187.0	14.0	19000	2.6	24.2	0.0	1.3	28.1	7.2	3.0	4.7	622	16.0
B3 DB	4/11/00	7.77	189.0	15.0	12000	2.3	24.5	0.5	1.4	28.7	7.5	2.8	3.3	640	19.0
B3 DB	5/2/00	7.16	58.0	19.0	19000	1.1	1.5	19.2	0.5	22.3	2.9	3.2	3.8	509	7.0
B3 DB	5/17/00	7.03	88.0	23.0	11000	1.5	1.5	9.2	0.4	12.6	2.1	2.9	4.0	466	5.0
B3 DB	5/31/00	7.14	140.0	14.0	30000	1.3	4.4	2.1	0.5	8.3	4.3	3.1	3.4	518	6.0
B3 DB	6/14/00	7.15	118.0	15.0	3000	2.1	6.2	1.2	0.4	9.8	2.3	3.0	3.3	522	4.0
B3 DB	6/28/00	7.10	148.0	12.0	9000	1.1	6.2	0.7	0.4	8.4	2.3	3.8	4.1	571	6.0
B3 DB	7/12/00	6.76	135.0	18.0	81000	1.1	4.9	1.5	0.6	8.0	3.2	4.3	4.5	488	6.0
B3 DB	7/26/00	7.07	128.0	19.0	16000	0.7	4.8	2.6	0.4	8.5	2.4	3.7	3.8	506	6.0
B3 DB	8/9/00	7.18	139.0	18.0	16000	1.2	4.1	1.7	0.2	7.2	1.4	4.3		537	3.0
B3 DB	8/23/00	7.06	118.0	6.0	44000	1.1	4.4	1.0	0.2	6.8	1.4	3.6	3.9	507	3.0
B3 DB	9/6/00	7.24	111.0	12.0	8000	0.3	5.2	2.2	0.2	7.8	1.7	3.7	3.8	523	5.0
B3 DB	9/20/00	7.06	108.0	14.0	6000	2.2	4.4	1.0	0.3	7.9	1.5	3.7	3.8	496	3.0
B3 DB	10/3/00	6.88	113.0	9.0	21000	0.2	5.8	2.4	0.2	8.6	1.5	4.0	4.2	506	1.0
B3 DB	10/17/00	6.95	134.0	5.0	101000	0.5	3.1	4.4	0.2	8.2	1.0	3.3	3.4	461	3.0
B3 DB	10/30/00	6.91	111.5	17.0	110000	0.8	3.5	5.0	0.2	9.4	1.2	3.4	3.5	416	5.0
B3 DB	11/14/00	6.67	103.0	9.0	210000	0.8	4.2	3.9	0.2	9.1	1.5	3.0	3.4	399	4.0
B3 DB	11/28/00	6.92	109.0	18.0	100000	0.6	2.6	4.7	0.3	8.2	1.6	3.2	3.6	401	3.0
B3 DB	12/12/00	6.82	105.0	22.0	40000	0.5	3.0	5.9	0.3	9.7	1.7	3.8	3.8	455	4.0
B3 DB QA	12/12/00	6.97	103.0	24.0	40000			5.9	0.3		1.9	3.7	3.8	454	5.0
B3 DB	12/26/00	6.88	104.0	16.0	180000	0.1	3.9	5.9	0.4	10.3	2.2	3.7	3.9	437	5.0
B3 DB	1/9/01	6.92	86.0	8.0	50000	0.7	2.3	7.2	0.3	10.5	1.7	3.9	4.2	443	2.8
B3 DB	2/6/01	6.78	100.5	16.0	10000	0.4	3.1	6.6	0.2	10.3	1.2	3.5	3.6	435	1.8
B3 DB	2/20/01	6.81	115.5	10.0	8000	3.2	3.5	4.5	0.2	11.5	1.6	3.8	3.8	459	3.0
B3 DB	3/13/01	6.62	89.0	11.0	5000	0.2	5.1	4.7	0.2	10.3	1.6	3.7	3.8	603	3.3
B3 DB	3/27/01	7.01	104.5	7.0	5000	1.7	3.6	5.2	0.2	10.7	1.4	3.6	3.8	383	3.0
B3 DB	4/10/01	7.02	116.0	11.0	11000	1.5	2.4	4.4	0.2	8.5	1.3	5.2	5.2	442	2.2
B3 DB	4/24/01	7.08	120.5	12.0	9000	0.2	3.3	3.5	0.2	7.2	1.5	3.7	3.9	438	3.5
B3 DB QA	4/24/01	7.12	120.0		11000	2.1	3.1	4.2	0.3	9.7	1.5	3.6	3.7	441	4.2
B3 DB	5/8/01	6.88	193.5	39.0	58000	5.6	8.4	0.8	1.6	16.4	11.0	5.1	5.9	466	4.6
B3 DB	5/22/01	7.01	218.5	25.0	53000	1.7	35.2	0.3	1.4	38.5	8.1	5.3	5.3	691	18.7
B3 DB	6/5/01	7.08	184.5	41.0	27000	0.7	22.8	1.1	0.8	25.4	5.3	4.4	4.5	519	16.7

Location	Date	pH	Alkalinity (mg/l)	BOD5 (mg/l)	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	PON (mg/l)	Total Nitrogen (mg/l)	POC (mg/l)	PO <sub>4</sub> (mg/l)	TP (mg/l)	Sp Cond (uS)	TSS (mg/l)
B3 DB	6/19/01	6.94	104.5	13.8	63000	0.6	4.9	6.8	0.3	12.7	1.5	6.3	6.5	429	4.3
B3 DB	7/2/01	6.99	174.0	34.0	70000	1.8	12.3	1.3	0.5	15.9	3.7	4.4	4.4	520	8.8
B3 DB	7/17/01	6.93	128.5	36.1	72000	1.9	10.2	2.8	1.2	16.2	7.1	6.3	6.3	538	17.8
B3 DB	7/31/01	7.19	134.0	18.0	19000	0.5	4.4	5.7	0.4	11.0	2.8	5.9	6.0	459	7.6
B3 DB	8/14/01	7.05	121.0	17.0	15000	1.0	3.1	4.1	0.3	8.5	2.0	3.1	3.2	423	3.7
B3 DB	8/28/01	6.99	111.5	5.0	4000	4.5	1.4	1.6	3.0	10.4	17.4	4.0	4.1	422	42.7
B3 DB	9/11/01	7.04	116.5	9.1	63000	0.5	1.9	4.0	0.3	6.7	2.0	3.5	3.7	407	4.7
B3 DB QA	9/11/01	7.28	115.5	8.0	44000	0.4	1.9	3.9	0.2	6.4	1.3	3.7	3.8	397	17.2
B3 DB	9/25/01	6.56	121.0	15.0	27000	0.3	2.4	4.0	0.1	6.8	0.9	3.6	3.7	395	4.7
B3 DB	10/9/01	6.99	115.5	12.0	25000	0.2	1.7	5.2	0.1	7.2	0.9	3.1	3.6	432	1.5
B3 DB	10/23/01	6.93	114.0	13.8	14000	1.2	2.1	4.3	0.1	7.8	1.2	3.4	3.4	435	2.8
B3 DB QA	10/23/01	7.00	113.0	13.3	19000	1.0	2.3	4.4	0.1	7.8	1.0	3.1	3.1	427	2.5
B3 DB	11/6/01	6.75	112.0	6.4	21000	0.1	3.9	4.7	0.1	8.9	1.1	3.9	4.1	425	5.1
B3 DB	11/19/01	6.92	101.0	9.2	18000	1.0	1.1	5.1	0.1	7.4	0.8	3.8	4.3	357	2.1
B3 DB	12/4/01	6.85	104.5	15.0	36000	1.4	1.5	5.2	0.2	8.3	1.4	4.5	5.0	395	3.5
B3 DB	12/18/01	7.00	105.5	9.1	20000	0.3	2.3	4.9	0.1	7.5	0.9	3.5	3.7	421	2.3
B3 DB QA	12/18/01	7.02	362.5	9.2	24000	0.4	2.1	4.4	0.1	6.9	0.9	3.6	4.0	411	1.9
B3 DB	1/2/02	6.93	107.5	11.8	37000	1.1	2.0	4.6	0.2	7.9	1.1	3.8	4.2	413	2.4
B3 DB	1/15/02	6.99	112.5	16.3	20000	1.3	3.7	4.4	0.2	9.6	1.1	3.8	4.4	519	4.5
B3 DB	1/29/02	6.98	108.0	10.0	36000	3.7	2.2	4.8	0.2	10.8	1.0	3.8	4.4	496	2.1
B3 DB	2/12/02	6.89	9.0	15.0	11000	3.0	0.4	4.9	0.1	8.4	0.8	3.8	4.1	424	1.7
B3 DB QA	2/12/02	7.05	106.0	15.0	31000	11.4	3.1	4.6	0.1	19.2	0.9	3.8	4.3	433	1.7
B3 DB	2/26/02	6.90	120.0	12.0	13000	1.1	4.3	3.4	0.1	8.9	0.8	3.2	3.4	427	2.1
B3 DB	3/12/02	6.93	116.5	9.0	12000	1.0	5.2	3.4	0.1	9.7	1.1	4.2	4.2	449	3.3
B3 DB	3/26/02	6.83	118.5	19.0	17000	0.5	3.5	3.3	0.1	7.3	1.3	3.9	4.0	426	1.9
B3 DB	4/9/02	7.21	188.5	74.0	192000	4.2	19.6	0.2	2.3	26.3	12.8	5.7	6.6	561	28.6
B3 DB QA	4/9/02	7.26	192.0	82.0	260000	2.4	20.3	0.3	2.2	25.2	11.8	5.8	6.6	560	25.8
B3 DB	4/23/02	6.94	256.0	231.0	670000	2.3	29.6	0.1	5.7	37.8	32.0	6.6	7.4	651	65.8
B3 DB	5/7/02	6.27		423.0	1050000	0.7		0.3	1.8		10.9	3.8	5.3	567	

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B1 1FT	3/28/00	7.16	1.00E+03	0.8	23.2	0.2	24.2	2.1		638
B1 1FT	4/11/00	7.18	1.10E+03	4.3	24.0	0.3	28.6	2.4		638
B1 1FT	5/2/00	6.35	6.80E+03	1.6	6.0	36.0	43.6	3.4		575
B1 1FT	5/17/00	5.96	4.00E+02	1.7	0.0	34.7	36.4	2.7		539
B1 1FT	5/31/00	6.77	2.30E+03	0.7	0.0	18.4	19.1	3.2	3.3	495
B1 1FT	6/14/00	6.90	3.80E+03	0.5	0.0	15.0	15.5	3.0	3.2	512
B1 1FT	6/28/00	6.78	7.90E+03	1.0	0.1	12.4	13.4	3.0	3.2	476
B1 1FT	7/12/00	6.93	2.90E+03	1.1	0.0	10.0	11.1	2.9	3.0	461
B1 1FT	7/26/00	6.71	2.40E+03	1.7	0.0	14.6	16.4	3.5		500
B1 1FT	8/9/00	6.72	4.50E+03	0.3	0.0	13.1	13.4	3.5		528
B1 1FT	8/23/00	6.73	7.20E+03	1.6	0.0	12.3	13.9	3.6		516
B1 1FT	9/6/00	6.78	8.00E+02	0.8	0.0	10.6	11.4	4.0		516
B1 1FT	9/20/00	6.83	3.40E+03	0.0	0.0	12.2	12.3	3.7		488
B1 1FT	10/3/00	6.79	3.10E+03	0.4	0.0	12.9	13.3	3.9		466
B1 1FT	10/17/00	6.79	1.00E+04	0.3	0.1	14.2	14.6	3.5		435
B1 1FT	10/30/00	6.93	8.10E+03	1.3	0.0	12.2	13.5	3.7		420
B1 1FT	11/14/00			0.8	0.3	7.6	8.7	2.9		
B1 1FT	1/23/01	6.74	4.00E+03	0.7	0.0	8.0	8.7	2.0		282
B1 1FT	2/6/01	6.73	8.00E+03	1.7	8.3	15.6	25.6	3.2		502
B1 1FT	5/8/01	6.46	2.00E+02	1.0	0.1	12.7	13.7	3.6		427

#### B1 2 FT

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B1 2FT	4/11/00	7.16	8.00E+02	4.8	23.8	0.8	29.5	2.2		650
B1 2FT	5/2/00	6.23	1.62E+04	1.1	4.5	33.8	39.5	2.7		561
B1 2FT	5/17/00	6.06	3.00E+03	1.3	0.0	35.1	36.4	3.0		537
B1 2FT	5/31/00	6.85	1.00E+03	0.8	0.0	11.3	12.1	2.8	2.8	484
B1 2FT	6/14/00	6.98	1.30E+04	0.6	0.0	11.8	12.4	3.2		498
B1 2FT	6/28/00	6.76	1.00E+03	1.2	0.0	9.9	11.0	3.0	3.2	454
B1 2FT	7/12/00	6.91	2.17E+04	1.3	0.0	7.6	8.9	2.8	3.0	465
B1 2FT	7/26/00	6.75	1.00E+03	1.5	0.0	12.4	13.9	3.2		497
B1 2FT	8/9/00	6.71	3.20E+03	0.5	0.0	14.5	14.9	3.7	3.8	537
B1 2FT	8/23/00	6.71	8.30E+03	0.9	0.0	11.2	12.1	3.7	3.8	509
B1 2FT	9/6/00	6.68	4.60E+03	1.1	0.0	11.7	12.8	3.9	4.1	521
B1 2FT	9/20/00	6.78	5.40E+03	0.6	0.0	13.2	13.8	3.8	4.0	493
B1 2FT	10/3/00	6.71	1.30E+04	0.4	0.0	12.2	12.5	4.1	4.2	463
B1 2FT	10/17/00	6.77	2.18E+04	0.8	0.0	16.5	17.3	3.5		448
B1 2FT	10/30/00	6.84	7.90E+03	1.0	0.0	12.9	13.9	3.7	4.3	426
B1 2FT	11/14/00			0.6	0.0	10.3	10.9	2.9		
B1 2FT	2/6/01	6.74	3.12E+03	2.8	5.2	13.3	21.3	3.1	3.1	486
B1 2FT	5/8/01	6.46	5.00E+01	0.6	0.0	13.1	13.7	3.6	3.7	415

#### B1 5 FT

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B1 5FT	4/11/00	7.11	2.20E+03	0.6	21.4	3.4	25.4	2.0		608
B1 5FT	5/2/00	5.79	4.60E+03	1.5	3.3	39.5	44.3	1.6		554
B1 5FT	5/17/00	6.43	5.00E+02	2.2	0.0	13.9	16.2	2.4		470
B1 5FT	5/31/00	6.68	5.90E+03	0.0	0.0	17.3	17.3	3.2	3.4	506
B1 5FT	6/14/00	6.95	2.20E+03	1.0	0.0	10.6	11.7	2.8		472
B1 5FT	6/28/00	6.81	3.00E+03	0.7	0.0	7.7	8.4	2.5	2.6	475

**B1 5 FT**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B1 5FT	7/12/00	6.89	1.06E+03	0.3	0.0	6.3	6.7	2.7	2.8	460
B1 5FT	7/26/00	6.76	3.60E+03	0.8	0.0	10.9	11.7	3.2	3.3	511
B1 5FT	8/9/00	6.77	6.20E+03	1.0	0.0	11.9	12.9	3.3	3.4	553
B1 5FT	8/23/00	6.75	1.10E+03	0.6	0.0	8.3	9.0	3.3	3.4	507
B1 5FT	9/6/00	6.79	1.80E+03	2.3	0.0	8.2	10.5	3.7	3.9	513
B1 5FT	9/20/00	6.87	2.10E+03	0.5	0.0	9.6	10.1	3.6	3.8	487
B1 5FT	10/3/00	6.80	4.00E+02	0.2	0.0	8.8	9.0	3.8	3.8	460
B1 5FT	10/17/00	6.81	1.04E+04	0.4	0.0	8.9	9.4	3.3		445
B1 5FT	10/30/00	7.03	7.40E+03	0.6	0.0	8.4	9.1	3.5	3.7	406
B1 5FT	1/23/01	7.19	5.00E+01	0.1	0.0	11.9	12.0	2.5		282
B1 5FT	2/6/01	6.82	2.10E+02	1.4	0.0	19.8	21.2	2.2	2.3	412
B1 5FT	5/8/01	6.38	5.00E+00	0.2	0.0	7.9	8.1	1.4	1.5	232

**B2 1 FT**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B2 1FT	4/11/00	7.31	1.20E+03	4.4	22.2	2.6	29.2	2.4		609
B2 1FT	5/2/00	6.23	6.00E+02	2.4	3.8	38.5	44.7	1.6		589
B2 1FT	5/17/00	6.54	8.00E+02	0.1	0.0	18.5	18.6	3.1	3.1	489
B2 1FT	5/31/00	6.68	2.40E+03	0.5	0.0	16.4	16.8	2.9	3.1	498
B2 1FT	6/14/00	6.74	1.00E+07	1.2	0.0	18.8	20.1	3.3		526
B2 1FT	6/28/00	6.37	3.00E+03	2.3	0.1	26.1	28.5	2.7	2.8	531
B2 1FT	7/12/00	6.74	1.00E+03	0.6	0.0	10.0	10.6	3.1	3.2	466
B2 1FT	7/26/00	6.76	9.00E+03	0.2	0.0	11.2	11.5	3.3		467
B2 1FT	8/9/00	6.77	3.00E+03	0.7	0.0	9.4	10.2	3.4		532
B2 1FT	8/23/00	6.74	1.53E+04	0.2	0.0	10.0	10.3	3.6		501
B2 1FT	9/6/00	6.68	1.90E+03	1.2	0.0	12.5	13.7	3.8		522
B2 1FT	9/20/00	6.86	4.00E+03	1.0	0.0	11.4	12.3	3.7		472
B2 1FT	10/3/00	6.67	1.62E+04	0.4	0.0	12.2	12.6	4.1		469
B2 1FT	10/17/00	6.90	2.62E+04	0.8	0.1	8.5	9.3	3.8		440
B2 1FT	10/30/00	6.85	1.20E+05	1.2	0.0	11.0	12.1	3.6		421
B2 1FT	11/14/00	6.80	1.70E+05	0.7	0.0	8.9	9.5	3.0		350
B2 1FT	11/28/00	6.74	4.20E+04	0.8	0.0	10.0	10.8	3.3		403
B2 1FT	12/12/00	6.75	3.90E+04	1.1	0.0	12.6	13.7	3.7		417
B2 1FT	12/26/00	6.70	1.90E+04	1.7	0.0	13.2	15.0	3.6		433
B2 1FT	1/9/01	6.52	4.40E+04	1.0	0.0	16.6	17.6	3.8		461
B2 1FT	1/23/01	6.41	2.00E+03	2.0	0.0	13.9	15.9	3.7		408
B2 1FT	2/6/01	6.47	3.00E+03	0.5	0.0	19.7	20.2	3.7		454
B2 1FT	3/13/01	7.27	1.00E+02	2.0	0.0	15.4	17.4	3.9		492
B2 1FT	3/27/01	6.76	3.10E+03	1.6	0.0	16.1	17.7	3.5		345
B2 1FT	4/10/01	6.77	9.00E+02	1.1	0.0	6.1	7.2	3.9		406
B2 1FT	4/24/01	6.67	1.30E+03	0.2	0.0	9.9	10.1	3.8		440
B2 1FT	5/8/01	5.86	1.10E+03	0.7	0.1	41.6	42.4	6.3		579
B2 1FT	5/22/01	5.45	8.00E+02	4.1	0.0	43.4	47.6	5.7		645
B2 1FT	6/5/01	5.88	4.00E+02	2.4	0.0	28.1	30.5	5.2		468
B2 1FT	6/19/01	5.78	1.20E+03	2.2	0.0	39.4	41.6	5.4		536
B2 1FT	7/2/01	5.19	1.85E+03	4.7	0.1	52.3	57.0	7.1		593

**B2 1 FT**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B2 1FT	7/17/01	5.77	2.80E+03	1.0	0.0	49.6	50.6	5.8		557
B2 1FT	7/31/01	6.29	3.00E+03	2.7	0.0	26.3	29.0	5.1		464
B2 1FT	8/14/01	6.15	2.30E+03	0.1	0.0	30.8	30.9	5.1		532
B2 1FT	8/28/01	6.31	5.60E+03	0.9	0.0	10.1	11.0	3.7		395
B2 1FT	9/11/01	6.44	6.50E+03	0.6	0.0	10.3	10.9	3.5		397
B2 1FT	9/25/01	6.76	4.80E+03	0.1	0.0	8.2	8.3	3.8		380
B2 1FT	10/9/01	6.93	5.20E+03	0.9	0.0	6.1	7.0	3.9		372
B2 1FT	10/23/01	6.79	5.60E+03	0.3	0.0	10.9	11.2	3.8		391
B2 1FT	11/6/01	6.73	8.90E+03	8.7	0.0	2.0	10.7	3.8		400
B2 1FT	11/19/01	6.78	4.60E+03	7.4	0.0	1.8	9.1	3.8		363
B2 1FT	12/4/01	6.87	9.20E+03	8.0	0.0	2.1	10.1	4.0		378
B2 1FT	12/18/01	6.81	3.90E+03	1.5	0.0	12.1	13.6	3.7		398
B2 1FT	1/2/02	6.76	1.39E+04	0.6	0.1	10.5	11.1	3.9		413
B2 1FT	1/15/02	6.74	9.00E+03	0.6	0.0	18.9	19.4	3.8		508
B2 1FT	1/29/02	6.67	1.00E+03	0.7	0.0	14.1	14.9	4.0		534
B2 1FT	2/12/02	6.67	7.00E+03	0.8	0.0	15.4	16.2	3.7		429
B2 1FT	2/26/02	6.57	7.00E+03	0.4	0.0	16.9	17.4	3.8		458
B2 1FT	3/12/02	6.51	1.00E+03	0.4	0.0	16.5	17.0	3.7		415
B2 1FT	3/26/02	6.42	5.00E+01	0.5	0.0	14.3	14.8	4.0		396
B2 1FT	4/9/02	6.40	1.50E+03	0.8	0.0	16.0	16.8	4.0		450
B2 1FT	4/23/02	6.40	1.30E+03	0.7	0.0	16.1	16.7	4.4		459
B2 1FT	5/7/02	6.28	2.80E+03	0.5		21.0	21.5	3.8		470

**B2 2 FT**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B2 2FT	4/11/00	7.20	8.00E+02	0.6	23.0	0.6	24.2	2.2		619
B2 2FT	5/2/00	6.32	6.10E+03	1.6	5.3	35.3	42.2			587
B2 2FT	5/17/00	6.54	5.00E+02	0.5	0.0	17.4	17.8	2.6	2.9	462
B2 2FT	5/31/00	6.76	9.00E+02	1.1	0.0	11.9	13.0	2.8	3.0	483
B2 2FT	6/14/00	6.77	1.00E+07	1.3	0.0	17.2	18.5	3.1	3.2	528
B2 2FT	6/28/00	6.47	5.00E+02	1.6	0.0	19.2	20.8	2.9	3.0	493
B2 2FT	7/12/00	6.93	2.00E+03	0.8	0.0	7.6	8.3	2.9	2.9	456
B2 2FT	7/26/00	6.75	6.10E+03	1.1	0.0	9.4	10.6	3.1	3.3	453
B2 2FT	8/9/00	6.82	5.50E+03	0.3	0.0	10.6	10.9	3.3	3.4	546
B2 2FT	8/23/00	6.77	1.15E+04	0.4	0.0	9.4	9.9	3.5	3.6	506
B2 2FT	9/6/00	6.67	6.50E+03	1.0	0.0	13.7	14.7	3.6	3.7	535
B2 2FT	9/20/00	6.76	1.10E+04	0.5	0.0	8.0	8.4	3.6	3.7	448
B2 2FT	10/3/00	6.73	1.43E+04	0.1	0.0	15.0	15.1	3.9	3.9	483
B2 2FT	10/17/00	6.82	2.50E+04	0.5	0.0	11.3	11.8	3.7		453
B2 2FT	10/30/00	6.85	5.00E+04	1.1	0.0	14.7	15.8	3.7	3.7	440
B2 2FT	11/14/00	6.75	5.00E+03	0.7	0.0	11.6	12.3	2.9	3.6	394
B2 2FT	11/28/00	6.75	8.10E+03	0.9	0.0	11.2	12.1	3.2	3.9	408
B2 2FT	12/12/00	6.82	5.30E+03	0.4	0.0	13.5	13.9	3.7	3.9	434
B2 2FT	12/26/00	6.83	1.90E+04	1.1	0.0	12.9	14.0	3.6	3.8	442
B2 2FT	1/9/01	6.69	9.00E+03	0.5	0.0	13.7	14.3	3.5	3.5	448
B2 2FT	1/23/01	6.45	5.00E+02		0.0	13.8	13.9	3.5	3.8	418
B2 2FT	2/6/01	6.58	1.50E+03	0.4	0.0	12.2	12.6	3.6	3.6	445
B2 2FT	2/20/01	6.67	1.30E+03	0.8	0.0	10.2	11.0	3.6	3.7	462
B2 2FT	3/13/01	7.04	3.00E+02	1.1	0.0	11.8	12.9	3.7	3.9	480

**B2 2 FT**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B2 2FT	3/27/01	6.69	8.00E+02	0.3	0.0	15.1	15.4	3.6	3.9	347
B2 2FT	4/10/01	6.70	4.00E+02	1.3	0.0	7.1	8.4	3.5	3.6	398
B2 2FT	4/24/01	6.71	1.70E+03	0.1	0.0	8.3	8.4	3.7	4.1	438
B2 2FT	5/8/01	6.15	3.50E+03	1.2	0.2	30.0	31.5	5.7	5.8	538
B2 2FT	5/22/01	5.86	3.80E+03	4.7	0.0	32.3	37.0	4.9	5.3	544
B2 2FT	6/5/01	6.03	1.70E+03	0.3	0.0	15.8	16.2	5.0	5.5	405
B2 2FT	6/19/01	5.94	2.40E+03	1.7	0.0	41.0	42.7	5.2	5.9	527
B2 2FT	7/2/01	5.44	4.40E+03	5.2	0.0	38.7	44.0	5.0	5.5	540
B2 2FT	7/17/01	5.88	3.20E+03	8.3	0.0	35.4	43.7	5.3	5.7	540
B2 2FT	7/31/01	6.26	3.80E+03	0.3	0.0	31.6	31.9	5.2	5.5	498
B2 2FT	8/14/01	6.08	4.20E+03	1.0	0.0	29.2	30.2	5.1	5.3	566
B2 2FT	8/28/01	6.48	9.00E+02	0.5	0.0	9.2	9.7	4.4	4.5	392
B2 2FT	9/11/01	6.67	3.20E+03	0.4	0.0	9.9	10.3	3.7	3.7	390
B2 2FT	9/25/01	6.49	1.90E+03	1.0	0.0	8.8	9.9	2.9	3.8	402
B2 2FT	10/9/01	6.96	2.00E+02	0.8	0.0	6.8	7.6	3.3	3.9	366
B2 2FT	10/23/01	6.88	3.80E+03	0.5	0.0	11.0	11.5	3.8	3.8	398
B2 2FT	11/6/01	6.84	6.90E+03	9.5	0.0	2.1	11.6	3.8	3.8	385
B2 2FT	11/19/01	6.83	5.20E+03	7.6	0.0	1.7	9.4	3.8	3.9	348
B2 2FT	12/4/01	6.84	5.00E+03	8.0	0.0	1.8	9.8	4.1	4.1	380
B2 2FT	12/18/01	6.87	3.50E+03	0.2	0.0	11.6	11.8	3.7	3.7	398
B2 2FT	1/2/02	6.69	1.05E+04	1.0	0.1	9.4	10.5	3.9	3.9	412
B2 2FT	1/15/02	6.80	5.00E+03	0.8	0.0	14.6	15.3	4.0	4.5	516
B2 2FT	1/29/02	6.68	1.00E+03	1.1	0.0	12.0	13.1	4.0	4.1	519
B2 2FT	2/12/02	6.70	2.80E+02	0.6	0.0	14.0	14.7	3.7	4.2	437
B2 2FT	2/26/02	6.41	3.10E+03	0.8	0.1	16.7	17.6	3.8	3.8	466
B2 2FT	3/12/02	6.52	7.00E+02	0.6	0.0	14.8	15.4	3.8	3.8	419
B2 2FT	3/26/02	6.50	3.00E+02	0.6	0.0	13.0	13.6	4.0	4.0	401
B2 2FT	4/9/02	6.46	9.00E+02	0.5	0.0	13.9	14.4	4.0	4.5	402
B2 2FT	4/23/02	6.40	1.50E+03	0.5	0.0	13.8	14.3	4.3	4.3	455
B2 2FT	5/7/02	6.29	2.40E+03	0.1		18.7	18.7	3.9	4.2	446

**B2 5 FT**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B2 5FT	5/2/00	6.36	2.10E+03	2.7	8.3	19.6	30.5	2.3		476
B2 5FT	5/17/00	6.49	1.00E+03	0.5	0.0	9.8	10.3	1.2	1.2	407
B2 5FT	5/31/00	6.77	1.00E+01	0.5	0.0	7.3	7.9	2.1	2.1	464
B2 5FT	6/14/00	6.95	1.00E+07	0.1	0.0	7.3	7.4	2.2		485
B2 5FT	6/28/00	6.57	2.00E+03	1.2	0.0	11.4	12.6	2.6	2.9	478
B2 5FT	7/12/00	6.85	1.10E+03	0.3	0.0	5.6	5.9	2.5	2.5	449
B2 5FT	7/26/00	6.79	7.20E+03	0.8	0.0	6.3	7.1	2.7	2.7	497
B2 5FT	8/9/00	6.78	3.80E+03	0.3	0.0	6.4	6.7	2.9	3.1	516
B2 5FT	8/23/00	6.79	4.70E+03	0.3	0.0	6.2	6.5	3.3	3.3	502
B2 5FT	9/6/00	6.85	2.10E+03	0.1	0.0	7.7	7.8	3.5	3.6	508
B2 5FT	9/20/00	6.84	2.80E+03	0.7	0.0	5.8	6.5	3.5	3.9	482
B2 5FT	10/3/00	6.75	2.00E+02	0.5	0.0	5.9	6.4	3.6	3.6	456
B2 5FT	10/17/00	6.84	1.44E+04	0.5	0.0	5.8	6.2	0.1		431
B2 5FT	10/30/00	6.85	6.40E+03	0.8	0.0	6.0	6.8	3.3	3.5	420
B2 5FT	11/14/00	6.95	3.70E+03	0.7	0.0	6.0	6.7	2.7	3.4	369
B2 5FT	11/28/00	6.94	2.40E+03	0.6	0.0	5.8	6.4	3.1	3.7	399

**B2 5 FT**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B2 5FT	12/12/00	6.97	1.80E+03	0.3	0.0	6.8	7.1	3.6	3.7	405
B2 5FT	12/26/00	7.07	3.30E+03	0.6	0.0	5.5	6.1	3.6	3.8	417
B2 5FT	1/9/01	6.79	1.70E+03	0.3	0.0	6.9	7.3	3.6	3.6	429
B2 5FT	1/23/01	6.85	5.00E+01	2.7	0.0	9.3	12.1	3.6	3.7	401
B2 5FT	2/6/01	7.08	5.00E+00	0.3	0.0	9.7	10.0	3.4	3.4	424
B2 5FT	3/27/01	6.85	5.00E+00	0.8	0.0	12.7	13.5	3.5	3.7	355
B2 5FT	4/10/01	7.08	5.00E+00	1.6	0.0	6.2	7.9	3.8	3.8	397
B2 5FT	4/24/01	6.75	2.00E+01	0.5	0.0	9.5	10.1	3.7	4.1	420
B2 5FT	5/8/01	6.51	8.80E+01	1.1	0.0	7.4	8.5	6.0	6.1	436
B2 5FT	5/22/01	6.23	1.40E+02	1.0	0.0	11.6	12.6	5.4	5.4	428
B2 5FT	6/5/01	6.12	2.80E+01	0.8	0.0	9.0	9.9	4.8	5.3	376
B2 5FT	6/19/01	6.33	7.00E+02	4.2	0.0	10.0	14.2	4.7	5.3	386
B2 5FT	7/2/01	6.06	1.31E+03	2.3	0.0	36.6	39.0	4.8	5.3	415
B2 5FT	7/17/01	6.28	6.30E+02	1.7	0.0	19.0	20.7	4.9	4.9	461
B2 5FT	7/31/01	6.32	4.70E+02	1.9	0.0	14.0	15.9	5.0	5.1	438
B2 5FT	8/28/01	6.41	4.50E+03	1.5	0.0	7.5	9.0	4.1		393
B2 5FT	9/11/01	6.50	2.00E+02	0.2	0.0	6.0	6.3	3.8	3.8	386
B2 5FT	9/25/01	6.59	5.00E+02	0.7	0.0	6.4	7.1	3.6	3.7	399
B2 5FT	10/9/01	6.95	1.00E+02	0.0	0.0	6.7	6.8	3.4	3.6	366
B2 5FT	10/23/01	6.94	1.00E+02	0.7	0.0	6.1	6.9	3.7	3.7	395
B2 5FT	11/6/01	7.05	5.00E+01	5.7	0.0	1.2	6.9	3.7	3.8	365
B2 5FT	11/19/01	7.00	1.00E+02	6.1	0.0	1.4	7.5	3.8	3.9	367
B2 5FT	12/4/01	7.06	4.00E+01	5.5	0.0	1.3	6.8	3.8	3.9	370
B2 5FT	12/18/01	7.13	9.00E+01	0.3	0.0	6.5	6.8	3.6	3.7	389
B2 5FT	1/2/02	7.02	5.00E+01	0.9	0.0	6.8	7.7	3.6	3.6	415
B2 5FT	1/15/02	7.01	1.40E+02	1.3	0.0	7.6	8.9	3.5	4.0	502
B2 5FT	1/29/02	6.89	3.00E+01	1.0	0.0	8.7	9.7	3.9	4.0	525
B2 5FT	2/12/02	6.90	4.00E+01	0.7	0.0	8.4	9.1	3.6	4.2	416
B2 5FT	2/26/02	6.70	2.80E+02	1.1	0.0	7.8	8.9	3.7	3.8	422
B2 5FT	3/12/02	6.68	1.50E+02	0.5	0.0	6.8	7.2	3.7	3.8	396
B2 5FT	3/26/02	6.53	1.20E+02	0.4	0.0	7.4	7.8	3.7	4.2	379
B2 5FT	4/9/02	6.76	5.00E+00	1.0	0.0	9.4	10.3	4.0	4.2	388
B2 5FT	4/23/02	6.54	1.00E+01	0.6	0.0	8.0	8.6	4.1	4.1	426
B2 5FT	5/7/02	6.46	1.00E+01	1.2		9.5	10.7	3.8	3.9	426
B2 5FT QA	5/2/00		1.00E+04	0.0	9.0	19.9	28.9	0.3		

**B3 1 FT**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B3 1FT	3/28/00	7.02	9.00E+02	0.6	26.3	0.2	27.0	2.8		685
B3 1FT	4/11/00	7.19	8.00E+02	4.0	26.2	0.3	30.5	2.7		681
B3 1FT	5/2/00	5.92	2.70E+03	1.2	0.9	34.8	36.8	2.6		519
B3 1FT	5/17/00	6.68	2.40E+03	0.1	0.0	13.8	13.9	2.6	3.3	445
B3 1FT	5/31/00	6.78	1.80E+03	0.9	0.1	14.0	14.9	2.9	3.0	495
B3 1FT	6/14/00	6.85	6.00E+02	0.5	0.1	11.5	12.0	2.7	3.3	483
B3 1FT	6/28/00	6.69	1.20E+03	1.4	0.1	11.9	13.4	2.7	2.8	485
B3 1FT	7/12/00	6.85	1.00E+03	0.5	0.1	8.1	8.6	2.8	3.0	458
B3 1FT	7/26/00	6.79		0.8	0.1	9.5	10.4	3.4		477
B3 1FT	8/9/00	6.77	1.40E+03	0.4	0.1	9.0	9.5	3.7		527
B3 1FT	8/23/00	6.76	8.30E+03	0.9	0.2	8.3	9.5	3.7		489
B3 1FT	9/6/00	6.70	4.00E+02	0.1	0.1	11.3	11.5	4.0		528



**B3 1 FT**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B3 1FT	9/20/00	6.85	1.60E+03	0.7	0.4	8.6	9.7	4.1		488
B3 1FT	10/3/00	6.78	1.09E+04	0.6	1.6	5.6	7.7	4.3		473
B3 1FT	10/17/00	6.77	3.58E+04	0.6	0.2	9.9	10.7	3.6		436
B3 1FT	10/30/00	7.04	1.20E+04	1.2	0.3	8.0	9.5	3.6		427
B3 1FT	11/14/00	6.79	2.20E+04				0.0			369
B3 1FT	11/28/00	6.81	3.20E+04	0.8	0.2	7.2	8.2	3.4		404
B3 1FT	12/12/00	6.82	1.10E+04	0.7	0.4	7.9	9.0	3.7		447
B3 1FT	12/26/00	6.93	1.20E+04	1.0	0.3	7.1	8.4	3.6		429
B3 1FT	1/9/01	6.75	4.00E+03	0.5	0.3	9.1	9.9	3.8		453
B3 1FT	1/23/01	6.59	1.00E+03		0.3	9.0	9.3	3.8		399
B3 1FT	2/6/01	6.64	7.00E+02	1.5	0.1	13.3	15.0	3.8		431
B3 1FT	2/20/01	6.66	4.00E+02	0.8	0.0	9.3	10.1	3.9		465
B3 1FT	3/13/01	6.75	5.00E+01	1.5	1.1	8.3	10.9	3.7		481
B3 1FT	3/27/01	6.74	5.60E+02	1.5	0.1	11.0	12.6	3.6		350
B3 1FT	4/10/01	6.85	5.20E+02		0.0		0.0	4.6		424
B3 1FT	4/24/01	6.65	5.20E+02	0.3	0.1	11.9	12.4	4.3		449
B3 1FT	5/8/01	6.56	7.80E+02	0.5	0.1	11.6	12.2	5.1		458
B3 1FT	5/22/01	5.93	5.00E+01	3.8	3.1	38.2	45.0	7.6		653
B3 1FT	6/5/01	5.41	2.00E+03	2.4	0.7	23.5	26.6	5.1		627
B3 1FT	6/19/01	5.48	8.00E+03	1.0	0.6	35.1	36.7	6.0		448
B3 1FT	7/2/01	6.21	1.00E+02	6.6	0.1	32.6	39.3	5.3		478
B3 1FT	7/17/01	6.37	7.80E+03	0.8	0.2	25.5	26.5	5.9		493
B3 1FT	7/31/01	6.46	8.00E+02	3.6	0.0	15.5	19.1	5.6		447
B3 1FT	8/14/01	6.36	1.60E+04	0.1	0.5	16.8	17.4	5.3		516
B3 1FT	8/28/01	6.49	8.20E+03	0.2	0.2	8.8	9.3	3.6		398
B3 1FT	9/11/01	6.62	3.80E+03	0.5	0.0	6.1	6.6	4.6		393
B3 1FT	9/25/01	6.53	2.70E+03	0.7	0.1	10.4	11.1	3.9		401
B3 1FT	10/9/01	6.91	2.30E+03	0.3	0.2	6.5	7.0	3.3		374
B3 1FT	10/23/01	6.64	3.90E+03	0.3	0.4	8.1	8.8	3.8		397
B3 1FT	11/6/01	6.83	1.90E+03	7.1	0.1	1.5	8.7	4.2		396
B3 1FT	11/19/01	6.74	3.60E+03	6.9	0.1	1.5	8.5	4.1		371
B3 1FT	12/4/01	6.92	5.30E+03	7.1	0.1	1.5	8.7	4.0		373
B3 1FT	12/18/01	6.77	6.10E+03	0.5	0.4	7.6	8.5	3.6		360
B3 1FT	1/2/02	6.67	1.62E+04	0.6	0.4	6.7	7.8	3.9		416
B3 1FT	1/15/02	6.77	1.00E+03	0.8	0.1	9.5	10.4	3.7		490
B3 1FT	1/29/02	6.74	3.00E+02	1.2	0.0	6.8	8.0	3.7		521
B3 1FT	2/12/02	6.74	1.80E+03	1.4	0.0	7.2	8.6	3.7		428
B3 1FT	2/26/02	6.50	5.00E+02	0.4	0.1	15.5	15.9	3.8		459
B3 1FT	3/12/02	6.61	1.00E+02	0.7	0.2	7.8	8.7	4.1		398
B3 1FT	3/26/02	6.47	1.10E+03	0.6	0.1	7.0	7.7	3.8		391
B3 1FT	4/9/02	5.98	4.50E+04	3.1	0.4	47.7	51.1	6.7		533
B3 1FT	4/23/02	5.49	3.60E+04	0.9	0.4	59.8	61.1	6.9		662
B3 1FT	5/7/02	4.91	1.80E+04	1.0		73.4	74.4	5.4		727

**B3 2 FT**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B3 2FT	3/28/00	7.03	3.50E+03	0.3	23.7	0.8	24.8	2.0		659
B3 2FT	4/11/00	7.10	1.20E+04	1.3	23.6	4.3	29.1	2.3		638
B3 2FT	5/2/00	5.58	6.00E+02	2.5	2.5	44.9	49.9	1.8		587
B3 2FT	5/17/00	6.68	1.40E+03	0.5	0.0	12.6	13.2	2.6		439
B3 2FT	5/31/00	6.84	5.60E+03	0.9	0.0	14.8	15.7	2.8	3.0	490
B3 2FT	6/14/00	6.91	2.00E+02	0.6	0.0	12.0	12.7	2.7	2.9	489
B3 2FT	6/28/00	6.64	2.00E+02	1.5	0.0	13.3	14.9	2.9		497
B3 2FT	7/12/00	6.84	5.10E+03	0.4	0.0	8.7	9.1	2.7	2.8	457
B3 2FT	7/26/00	6.72	1.80E+03	0.5	0.0	11.2	11.7	3.4		506
B3 2FT	8/9/00	6.78	3.10E+03	0.2	0.0	8.9	9.1	3.5	3.7	541
B3 2FT	8/23/00	6.79	5.60E+03	1.9	0.0	9.1	11.0	3.5	3.6	504
B3 2FT	9/6/00	6.73	1.60E+03	0.3	0.0	11.0	11.3	4.0	4.1	530
B3 2FT	9/20/00	6.89	4.20E+03	0.5	0.0	10.1	10.6	3.9	4.1	490
B3 2FT	10/3/00	6.82	2.70E+03	0.1	0.0	11.2	11.3	4.1	4.1	477
B3 2FT	10/17/00	6.84	1.99E+04	0.3	0.0	13.1	13.4	3.5		447
B3 2FT	10/30/00	6.88	4.30E+03	1.1	0.0	11.5	12.6	3.5	3.8	431
B3 2FT	11/14/00	6.89	7.10E+03	0.9	0.0	10.3	11.2	2.9		377
B3 2FT	11/28/00	6.81	2.60E+03	0.2	0.0	9.7	9.9	3.1	3.8	400
B3 2FT	12/12/00	6.92	2.10E+03	0.4	0.0	10.3	10.7	3.7	3.8	426
B3 2FT	12/26/00	6.98	1.50E+03	0.9	0.0	8.5	9.4	3.6	3.9	422
B3 2FT	1/9/01	6.96	3.00E+02	1.9	0.0	7.5	9.4	3.8	3.9	446
B3 2FT	1/23/01	6.66	5.00E+01	0.7	0.0	9.0	9.7	3.8	4.1	400
B3 2FT	2/6/01	6.73	7.00E+01	1.5	0.0	16.5	18.0	3.7	3.7	411
B3 2FT	2/20/01	6.77	4.10E+02	0.9	0.0	14.9	15.7	3.8	4.0	475
B3 2FT	3/13/01	7.21	5.00E+00	0.8	0.0	9.6	10.4	3.9	4.1	462
B3 2FT	3/27/01	6.86	1.00E+02	8.8	0.0	2.7	11.5	3.5	3.6	355
B3 2FT	4/10/01	6.88	4.00E+01	1.3	0.0	6.1	7.5	4.0	4.0	405
B3 2FT	4/24/01	6.77	1.30E+02	0.2	0.0	10.3	10.5	4.2	4.6	457
B3 2FT	5/8/01	6.61	4.20E+02	0.5	0.0	10.6	11.1	4.7	4.7	456
B3 2FT	5/22/01	6.39	4.00E+02	0.4	0.3	30.1	30.8	6.0	6.1	564
B3 2FT	6/5/01	5.69	4.80E+03	0.4	0.0	41.8	42.2	3.0	3.4	556
B3 2FT	6/19/01	5.64	5.60E+03	2.7	0.0	27.2	30.0	4.2	4.8	427
B3 2FT	7/2/01	6.24	2.45E+03	4.2	0.0	30.3	34.5	5.0	5.4	459
B3 2FT	7/17/01	6.44	2.00E+03	0.5	0.0	19.8	20.3	5.3	5.6	457
B3 2FT	7/31/01	6.54	9.00E+02	0.9	0.0	17.6	18.5	5.1	5.3	452
B3 2FT	8/14/01	6.48	1.26E+04	0.5	0.0	14.8	15.4	5.1	5.3	515
B3 2FT	8/28/01	6.45	2.00E+03	1.0	0.0	8.5	9.5	3.6	3.7	403
B3 2FT	9/11/01	6.67	1.80E+03	0.3	0.0	6.1	6.5	4.5	4.6	383
B3 2FT	9/25/01	6.55	3.10E+03	1.7	0.0	8.6	10.3	3.9	4.0	422
B3 2FT	10/9/01	6.86	1.30E+03	0.1	0.0	7.2	7.2	3.3	3.6	380
B3 2FT	10/23/01	6.71	6.00E+02	1.0	0.0	8.8	9.8	3.8	3.8	408
B3 2FT	11/6/01	6.86	2.00E+02	8.0	0.0	1.8	9.8	4.1	4.1	404
B3 2FT	11/19/01	6.91	5.00E+02	6.9	0.0	1.5	8.4	4.0	4.2	380
B3 2FT	12/4/01	6.92	1.00E+02	7.4	0.0	1.6	9.0	3.9	4.0	283
B3 2FT	12/18/01	6.91	1.50E+02	0.4	0.0	7.4	7.7	3.6	3.8	388
B3 2FT	1/2/02	6.80	5.40E+02	0.5	0.0	7.3	7.8	3.7	3.8	414
B3 2FT	1/15/02	6.93	9.00E+01	1.2	0.0	9.2	10.4	3.7	4.0	474
B3 2FT	1/29/02	6.92	1.90E+02	1.2	0.0	6.6	7.9	3.7	4.0	504
B3 2FT	2/12/02	6.88	1.30E+02	0.2	0.0	7.9	8.1	3.7	4.0	420
B3 2FT	2/26/02	6.61	5.50E+02	0.2	0.1	13.4	13.7	3.6	3.6	471
B3 2FT	3/12/02	6.70	8.00E+01	0.9	0.0	10.8	11.7	3.7	3.7	401
B3 2FT	3/26/02	6.62	5.00E+01	0.4	0.0	9.4	9.7	3.7	3.7	397
B3 2FT	4/9/02	6.52	5.20E+04	0.2	1.2	31.0	32.3	5.4	5.5	499
B3 2FT	4/23/02	5.99	9.00E+03	0.9	0.0	26.0	27.0	5.6	5.7	466
B3 2FT	5/7/02	5.59	5.30E+04	1.0		50.5	51.5	3.7	4.0	560

**B3 5 FT**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B3 5FT	3/28/00	7.08	3.40E+02	1.3	21.5	0.3	23.0	0.2		652
B3 5FT	4/11/00	7.18	2.20E+02	0.3	22.6	2.0	24.9	1.1		615
B3 5FT	5/2/00	5.86	2.80E+02	1.6	2.8	53.0	57.4	1.2		667
B3 5FT	5/17/00	6.58	1.00E+03	0.4	0.0	10.2	10.6	2.0		427
B3 5FT	5/31/00	6.77	2.10E+03	0.6	0.0	6.6	7.2	2.5	2.7	461
B3 5FT	6/14/00	6.83	5.00E+01	2.4	0.0	3.2	5.6	2.3		407
B3 5FT	6/28/00	6.73	8.60E+02	1.0	0.0	6.0	7.0	2.5	2.7	461
B3 5FT	7/12/00	6.76	3.00E+02	0.3	0.0	5.0	5.3	2.5	2.6	444
B3 5FT	7/26/00	6.76	1.44E+03	0.4	0.0	7.2	7.6	3.0	3.3	493
B3 5FT	8/9/00	6.83	1.00E+03	0.0	0.0	6.8	6.8	3.1	3.4	527
B3 5FT	8/23/00	6.74	2.30E+03	0.3	0.0	7.6	7.9	3.4	3.5	507
B3 5FT	9/6/00	6.75	3.00E+02		0.0		0.0	3.6	3.8	511
B3 5FT	9/20/00	6.94	8.00E+02	0.1	0.0	9.1	9.2	3.7	3.9	486
B3 5FT	10/3/00	6.83	6.00E+02	0.5	0.0	9.6	10.1	3.9	4.0	471
B3 5FT	10/17/00	6.92	6.00E+02	0.6	0.0	9.6	10.3	6.3		441
B3 5FT	10/30/00	6.99	4.00E+02	1.0	0.0	7.7	8.7	3.5	3.8	414
B3 5FT	11/14/00	6.90	8.00E+02	0.4	0.0	6.7	7.1	2.8	3.6	371
B3 5FT	11/28/00	6.90	3.00E+02	0.1	0.0	7.6	7.7	2.9	3.6	395
B3 5FT	12/12/00	7.03	5.00E+01	0.4	0.0	9.6	10.0	3.5	3.5	412
B3 5FT	12/26/00	7.37	1.00E+01	1.0	0.0	10.0	11.1	3.4	3.6	424
B3 5FT	1/23/01	7.14	5.00E+00				0.0			434
B3 5FT	2/20/01		5.00E+00				0.0			
B3 5FT	3/13/01		1.10E+03				0.0			
B3 5FT	3/27/01	7.04	5.00E+00	9.3	0.0	3.0	12.3	3.5	3.7	348
B3 5FT	4/10/01		5.00E+00		0.0		0.0	3.7		
B3 5FT	4/24/01	6.99	5.00E+00	0.1	0.0	11.4	11.6	4.0	4.4	464
B3 5FT	5/8/01	6.71	1.20E+01	0.6	0.0	5.3	5.9	4.9	5.0	437
B3 5FT	5/22/01	6.44	2.00E+00	1.5	0.0	7.4	8.9	7.7	7.8	422
B3 5FT	6/5/01	5.68	9.20E+02	1.2	0.0	57.4	58.6	3.8	4.2	554
B3 5FT	6/19/01	5.83	3.20E+02	0.6	0.0	26.6	27.3	3.9	4.2	464
B3 5FT	7/2/01	6.37	2.00E+02	1.5	0.0	27.7	29.3	4.3	4.7	506
B3 5FT	7/17/01	6.46	3.00E+02	1.2	0.0	22.1	23.3	5.2	5.5	465
B3 5FT	7/31/01	6.46	2.10E+03	6.7	0.0	10.1	16.9	4.7	4.9	427
B3 5FT	8/28/01	6.49	5.00E+01	1.4	0.0	7.7	9.1	3.5		396
B3 5FT	9/11/01	6.58	4.00E+02	0.5	0.0	4.8	5.3	4.4	4.5	392
B3 5FT	9/25/01	6.59	5.00E+02	0.6	0.0	7.9	8.5	3.8	3.8	397
B3 5FT	10/9/01	6.95	3.00E+02	0.2	0.0	6.8	7.1	3.8	3.9	382
B3 5FT	10/23/01	6.85	1.00E+02	0.7	0.0	11.4	12.1	3.5	3.6	426
B3 5FT	11/6/01	7.00	5.00E+01	7.4	0.0	1.6	9.0	4.0	4.0	408
B3 5FT	11/19/01	6.90	6.00E+01	6.6	0.0	1.3	7.9	3.9	4.1	377
B3 5FT	12/4/01	7.00	2.00E+01	4.8	0.0	1.5	6.3	4.2	4.3	382
B3 5FT	12/18/01	7.04	2.00E+01	0.1	0.0	6.4	6.6	3.6	3.8	373
B3 5FT	1/2/02	6.79	3.70E+02	1.0	0.0	6.3	7.4	3.7	3.7	410
B3 5FT	1/15/02	6.97	8.00E+01	0.6	0.0	8.2	8.8	3.8	4.3	480
B3 5FT	1/29/02	6.91	1.20E+02	1.2	0.0	8.8	10.0	3.7	4.0	495
B3 5FT	2/12/02	6.90	4.00E+01	0.1	0.0	6.5	6.6	3.7	4.2	408
B3 5FT	2/26/02	6.73	7.10E+02	0.1	0.0	12.6	12.7	3.7	3.7	458
B3 5FT	3/12/02	6.69	5.00E+01	0.9	0.0	6.0	6.9	3.8	3.8	387
B3 5FT	3/26/02	6.68	5.00E+00	0.4	0.0	7.2	7.6	3.7	3.7	369
B3 5FT	4/9/02	6.72	5.60E+02	0.1	0.0	12.7	12.8	4.4	4.5	428
B3 5FT	4/23/02	6.18	1.20E+02	0.2	0.0	25.5	25.8	3.5	3.6	483
B3 5FT	5/7/02	5.87	3.50E+02	0.2		31.2	31.4	4.1	4.5	505

**B SUMP**

Location	Date	pH	FC #/100 ml	DON (mg/l)	NH <sub>4</sub> (mg/l)	NO <sub>x</sub> (mg/l)	Total Nitrogen (mg/l)	PO <sub>4</sub> (mg/l)	TDP (mg/l)	Sp Cond (uS)
B SU	3/28/00	6.94	7.00E+01	0.2	18.6	0.4	19.2	0.6		570
B SU	4/11/00	7.08	4.20E+02	0.0	22.6	2.4	24.9	1.3		566
B SU	5/2/00	6.20	1.80E+03	0.9	5.7	24.1	30.7	1.2		518
B SU	5/17/00	6.35	1.00E+01	0.1	0.0	12.9	12.9	1.5	1.9	391
B SU	5/31/00	6.63	4.00E+02	0.8	0.0	8.8	9.6	2.2	2.3	448
B SU	6/14/00	6.67	1.20E+03	0.0	0.0		0.0	2.0	2.1	453
B SU	6/28/00	6.67	5.00E+01	0.1	0.0	11.2	11.2	2.3	2.5	439
B SU	7/12/00	6.62	4.00E+01	0.6	0.0	5.6	6.2	2.2	2.6	441
B SU	7/26/00	6.66	1.20E+02	1.1	0.0	7.0	8.1	2.5		486
B SU	8/9/00	6.63	4.00E+01	0.4	0.0	6.4	6.8	2.7	2.8	508
B SU	8/23/00	6.57	2.70E+02	0.2	0.0	6.0	6.2	2.9	3.0	443
B SU	9/6/00	6.77	8.00E+01	0.4	0.0	7.2	7.7	3.4	3.4	494
B SU	9/20/00	6.82	1.20E+02	0.5	0.0	6.9	7.4	3.2		467
B SU	10/3/00	6.72	2.80E+02	0.3	0.0	8.0	8.2	2.5	2.5	446
B SU	10/17/00	6.69	1.90E+02	0.1	0.0	8.7	8.8	2.8		414
B SU	10/30/00	6.91	2.20E+02	0.4	0.0	8.8	9.1	3.0	3.8	406
B SU	11/14/00	6.78	4.00E+01	0.5	0.0	7.4	7.9	2.4	3.1	368
B SU	11/28/00	6.74	2.00E+01	0.2	0.0	7.4	7.6	2.6	3.4	379
B SU	12/12/00	6.82	4.00E+01	0.3	0.0	8.9	9.2	3.0	3.3	398
B SU	12/26/00	6.85	4.00E+01	0.7	0.0	6.8	7.6	3.0	3.1	369
B SU	1/9/01	6.80	9.00E+01	0.2	0.0	8.9	9.1	3.0	3.0	432
B SU	1/23/01	6.49	1.00E+01		0.0	9.8	9.8	3.2	3.2	399
B SU	2/6/01	6.61	2.00E+01	0.1	0.1	10.2	10.4	2.9	2.9	421
B SU	2/20/01	6.67	2.00E+01	2.7	0.8	8.7	12.2	3.2	3.2	447
B SU	3/13/01	6.87	5.00E+00	0.4	0.1	9.7	10.2	2.1	3.0	418
B SU	3/27/01	6.70	5.00E+00	0.8	0.0	7.3	8.1	2.7	3.0	270
B SU	4/10/01	6.59	2.00E+00	0.2	0.0	5.6	5.8	2.7	2.7	307
B SU	4/24/01	6.71	1.00E+00	4.0	0.0	4.9	9.0	3.0	3.3	379
B SU	5/8/01	6.50	1.00E+01	0.4	0.0	6.6	6.9	4.0	4.0	438
B SU	5/22/01	6.29	8.00E+00	2.6	3.7	16.6	22.9	4.7	4.8	479
B SU	6/5/01	6.16	8.00E+00	1.9	0.0	8.6	10.5	3.7	4.0	402
B SU	6/19/01	6.23	1.00E+01	3.7	0.0	14.4	18.1	3.7	4.2	319
B SU	7/2/01	6.21	5.80E+01	1.2	0.0	15.0	16.1	4.1	4.5	427
B SU	7/17/01	6.22	1.60E+01	1.4	0.0	15.1	16.4	4.1	4.5	405
B SU	7/31/01	6.34	1.46E+02	3.1	0.0	12.5	15.6	3.2	3.4	399
B SU	8/14/01	6.32	5.00E+01	0.3	0.0	12.9	13.3	3.1	3.2	427
B SU	8/28/01	6.40	2.00E+01	1.4	0.0	6.3	7.7	2.6	2.6	354
B SU	9/11/01	6.57	7.00E+01	0.2	0.0	6.3	6.6	3.0	3.1	375
B SU	9/25/01	6.57	5.00E+00	2.7	0.0	4.3	7.0	3.5	3.6	390
B SU	10/9/01	6.81	5.00E+00	0.0	0.0	6.8	6.8	3.1	3.3	340
B SU	10/23/01	6.62	2.00E+01	0.1	0.0	8.0	8.1	3.3	3.4	386
B SU	11/6/01	6.78	5.00E+00	1.0	0.0	7.1	8.2	3.6	3.6	399
B SU	11/19/01	6.81	5.00E+00	0.6	0.0	7.7	8.4	3.4	3.4	374
B SU	12/4/01	6.83	1.00E+01		0.0		0.0	3.2	3.2	375
B SU	12/18/01	6.91	1.00E+01	0.5	0.0	7.9	8.4	3.2	3.2	393
B SU	1/2/02	6.68	1.00E+02	0.6	0.0	7.0	7.6	3.3	3.3	401
B SU	1/15/02	6.83	4.00E+01	0.5	0.0	6.8	7.3	3.1	3.3	417
B SU	1/29/02	6.77	6.00E+01	0.3	0.0	7.8	8.1	3.3	3.4	460
B SU	2/12/02	6.79	1.00E+01	0.4	0.0	7.4	7.8	3.0	3.9	401
B SU	2/26/02	6.69	5.00E+00	0.4	0.1	40.9	41.4	3.3	3.4	410
B SU	3/12/02	6.67	1.00E+01	0.3	0.0	7.9	8.2	3.2	3.3	367
B SU	3/26/02	6.57	2.00E+01	0.4	0.0	8.2	8.6	3.2	3.9	355
B SU	4/9/02	6.59	5.00E+00	0.2	0.0	7.8	8.0	2.8	3.8	348
B SU	4/23/02	6.44	8.50E+02	0.3	0.0	15.0	15.3	4.0	4.0	453
B SU	5/7/02	6.04	2.90E+02	3.3		24.3	27.5	4.2	4.4	490