

**Total Maximum Daily Load
for
Ammonia**

**in Big Slough Creek
near
Rosholt, South Dakota**

**developed in accordance with
Section 303(d) of the federal Clean Water Act**

Prepared by

South Dakota Department of Environment and Natural Resources

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INTRODUCTION

Section 303(d) of the federal Clean Water Act requires states to develop Total Maximum Daily Loads (TMDLs) for waters at levels necessary to achieve and maintain water quality standards. TMDLs are calculations of the amount of pollution a waterbody can receive and still maintain applicable water quality standards. TMDLs are necessary for waters that do not meet or are not expected to meet water quality standards with the application of technology-based controls for point sources. TMDLs address specific waterbodies, segments of waterbodies, or even entire watersheds, and are pollutant specific. TMDLs must allow for seasonal variations and a margin of safety, which accounts for any lack of knowledge concerning the relationship between pollutant loads and water quality. The TMDL calculation can be represented by the following equation.

$$TMDL = \sum WLA + \sum LA + MOS$$

where $TMDL$ = The total maximum daily pollutant load of the receiving stream. This represents the allowable pollutant loading the stream can receive while maintaining applicable water quality standards. TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate terms.

$\sum WLA$ = The sum of wasteload allocations for this segment of the receiving stream. This represents the portion of the receiving stream's loading capacity that is allocated to one or more existing or future point sources dischargers.

$\sum LA$ = The sum of load allocations for this segment of the receiving stream. This represents the portion of the stream's loading capacity that is allocated to one or more existing or future nonpoint sources or pollution or to natural background sources.

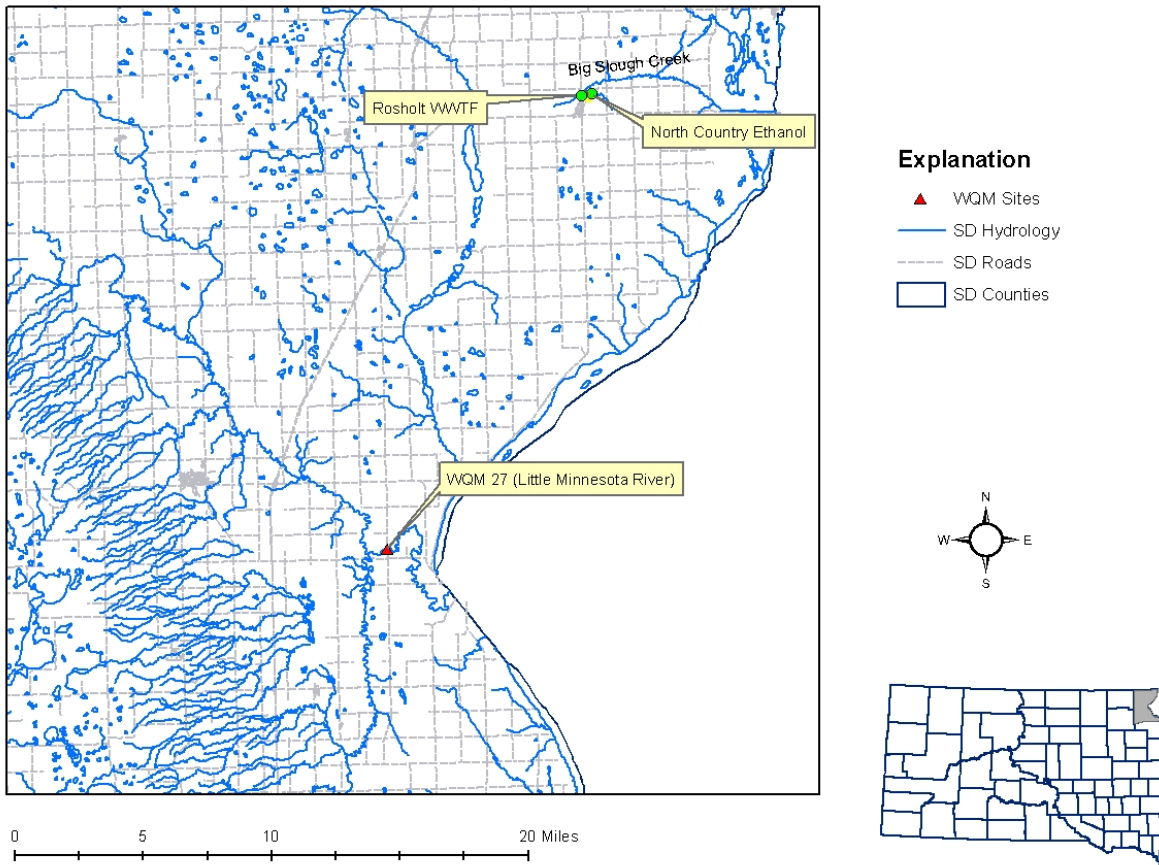
MOS = A margin of safety that accounts for the uncertainty about the relationship between the pollutant loads and the quality of the receiving stream. In the case of this TMDL, the margin of safety is not explicitly expressed, but is implicit in the conservative assumptions within the calculations or water quality models.

In accordance with the procedures and requirements outlined above, a TMDL is being developed for ammonia in Big Slough Creek near Rosholt, to ensure that surface water quality standards are maintained.

GEOGRAPHICAL EXTENT

Big Slough Creek is located in the Red River Basin in the northeast portion of the state. Figure 1 shows Big Slough Creek in the area the TMDL is being developed.

Figure 1: Big Slough Creek TMDL Area



TMDLs related to ammonia are usually relatively narrow in their spatial extent. Past experience has shown that due to the decay and transformation of organic pollutants such as ammonia, most adverse effects are generally exhibited within 10 miles of pollutant loading. While this rule of thumb can certainly vary depending on the source of the pollutant, fate and transport characteristics, hydrologic conditions, and other factors, it has generally held true in past instances.

TMDL TARGETS AND CONDITIONS

Every TMDL begins with a target, or endpoint, which is the water quality required in the stream. In this instance, the target is the surface water quality standards for ammonia. The South Dakota Surface Water Quality Standards (SDSWQS) specify the maximum allowable ammonia concentrations applicable to waters classified for fish life propagation. Also specified are the beneficial uses assigned to specific waters. Big Slough Creek was recently surveyed and found to support additional beneficial uses, beyond those currently assigned. Table 1 shows the current and proposed beneficial uses and applicable surface water quality standards for ammonia and other parameters that apply to this segment of Big Slough Creek, as specified in the Administrative Rules of South Dakota (ARSD), Chapters 74:51:01 and 74:51:03. SDSWQS for toxic pollutants also apply.

Table 1: SDSWQS Applicable to Big Slough Creek Near Rosholt

Beneficial Use	Significant Parameter	Surface Water Quality Standards
Warmwater semipermanent fish life propagation	<ul style="list-style-type: none"> • Chlorine, total residual (mg/L) • Hydrogen sulfide, undisassociated (mg/L) • Nitrogen, total ammonia as N (mg/L) • Oxygen, dissolved (mg/L) • pH (s.u.) • Solids, suspended (mg/l) • Temperature (°F) 	<ul style="list-style-type: none"> • 0.019 (acute)/0.011 (chronic) • 0.002 • equation based standard* • ≥5.0 • 6.5 – 9.0 • 90 (30-day ave)/158 (dly max) • 90
Limited-contact recreation	<ul style="list-style-type: none"> • Coliform, fecal (per 100mL) May 1- September 30 • Oxygen, dissolved (mg/L) 	<ul style="list-style-type: none"> • 1,000 (geo. mean)/2,000 (1 sample) • ≥5.0
Fish and wildlife propagation, recreation, and stock watering	<ul style="list-style-type: none"> • Alkalinity (as CaCO₃) • Conductivity (µmhos/cm @25 °C) • Nitrogen, nitrates as N (mg/L) • pH (s.u.) • Solids, total dissolved (mg/L) • Total petroleum hydrocarbons (mg/L) • Oil and grease (mg/L) 	<ul style="list-style-type: none"> • 750 (30-day ave)/1,313 (dly max) • 4,000 (30-day ave)/7000 (dly max) • 50 (30-day ave)/88 (dly max) • 6.0 - 9.5 • 2,500 (30-day ave)/4,375 (dly max) • 10 • 10
Irrigation	<ul style="list-style-type: none"> • Conductivity (µmhos/cm @25 °C) • Sodium adsorption ratio 	<ul style="list-style-type: none"> • 2,500/4,375 • 10

* The equations to determine the 30-day average and daily maximum standards can be found in Appendix A of ARSD Chapter 74:51:01.

Just as all TMDLs have a target, they also have specific conditions under which they are evaluated. Critical conditions are those at which the surface water quality standards are most likely to be violated. The TMDL is developed for these critical conditions to be conservative, thereby assuring water quality standards are maintained under less critical conditions. Critical conditions can be defined by several factors, including, but not limited to the following:

- stream flow (e.g. high, low)
- storm event occurrence and intensity
- ambient water quality conditions (e.g. pH, temperature, etc.)
- diurnal variations in water column conditions
- temporal occurrence of pollutant loadings from natural and human-induced activities

This TMDL is being developed on a seasonal basis, to account for seasonal variation in the factors listed above and whether Early Life Stages are present or absent. Using the procedures, data, and methodologies outlined below, the critical conditions are defined for each season in order to develop the TMDL and its respective components.

DATA AND MONITORING

The department maintains a statewide network of fixed monitoring stations to gain a historic record of water quality for various streams around the state. This water quality monitoring (WQM) network consists of 137 monitoring stations, which are sampled at monthly, quarterly, or seasonal intervals. The goal of this sampling is to collect reliable water quality data that reflects actual stream conditions; to collect data to determine the effectiveness of controls on point and

nonpoint sources of pollution; and to collect data to evaluate the appropriateness of current beneficial use designations.

Water quality samples are collected at a WQM station on the Little Minnesota River. Ambient water temperature, pH, and ammonia data at WQM 27, located near Browns Valley, MN, was obtained to represent instream conditions of Big Slough Creek. A description of the station is listed below.

WQM 27 – At east-west Roberts County Road 33 bridge. Three miles south and 8.5 miles east from HWYs 10 and 81, about 5.3 miles northeast of Peever.

Figure 1 shows the location of the water quality monitoring station described above.

SEASON SELECTION

TMDLs have been developed for each season. Season selection is based on the presence or absence of ELS and salmonids. The SDSWQS specify the dates for ELS based on the beneficial use classification of the receiving water.

The presence or absence of salmonids is based on the beneficial use classification of the receiving water body and is also specified in the SDSWQS. The SDSWQS indicate a waterbody with the beneficial use classification of either coldwater permanent or coldwater marginal fish life propagation is suitable for supporting salmonids. Waterbodies with the beneficial use classifications of warmwater permanent, warmwater semipermanent, or warmwater marginal fish life propagation will likely not have salmonids.

The total allowable ammonia varies depending on whether salmonids and ELS are present or absent. The equations to determine the total allowable ammonia concentration in the water body are as follows (SDSWQS, Chapter 74:51:01, Appendix A):

Equation 1: Daily Maximum (Salmonids present)

$$\frac{0.275}{(1+10^{(7.204-pH)})} + \frac{39.0}{(1+10^{(pH-7.204)})}$$

Equation 2: Daily Maximum (Salmonids NOT present)

$$\frac{0.411}{(1+10^{(7.204-pH)})} + \frac{58.4}{(1+10^{(pH-7.204)})}$$

Equation 3: 30-day Average (Early Life Stages Present)

$$\left[\frac{0.0577}{(1+10^{(7.688-pH)})} + \frac{2.487}{(1+10^{(pH-7.688)})} \right] \times \text{MIN}(2.85, 1.45 \times 10^{0.028(25-T)})$$

Equation 4: 30-day Average (Early Life Stages Absent)

$$\left[\frac{0.0577}{(1+10^{(7.688-pH)})} + \frac{2.487}{(1+10^{(pH-7.688)})} \right] \times [1.45 \times 10^{0.028((25-MAX(T,7)))]$$

For this TMDL, equations 2, 3, and 4 will be used to determine the total ammonia concentration allowed in Big Slough Creek. Ambient water quality data for the Little Minnesota River is included in Attachment 1. Table 2 shows the season selection.

Table 2: Season Selection for Big Slough Creek	
Season	Month
ELS absent	January
	February
ELS present	March
	April
	May
	June
	July
	August
	September
	October
ELS absent	November
	December

TMDL DETERMINATION

Developing the TMDL for Big Slough Creek for ammonia is a matter of determining the maximum ammonia loading that can occur without causing applicable SDSWQS for ammonia to be exceeded.

40 CFR 130.2(f) defines a term called *loading capacity*. This is the maximum amount of loading a waterbody can receive without violating water quality standards, and is essentially equivalent to the TMDL. The ammonia TMDL (or loading capacity) for Big Slough Creek near Rosholt can be determined by Equation 5.

Equation 5:

$$\begin{aligned} \text{TMDL} &= \text{Loading Capacity} = \text{Allowable total ammonia in Big Slough Creek (lbs/day)} \\ &= \text{Allowable total ammonia (mg/L)} \times \text{Critical stream flow (cfs)} \times 5.3934 \text{ (conversion factor)} \end{aligned}$$

The TMDL development therefore involves determining the allowable total ammonia and the critical stream flow. Determination of these values is outlined below.

Allowable Total Ammonia

The SDSWQS specify the total ammonia concentration that is allowed at given pH and temperature conditions (ARSD Chapter 74:51:01, Appendix A). Using 80th percentile ambient seasonal instream water temperature and pH data collected from WQM 27, the allowable seasonal instream total ammonia-nitrogen concentrations were determined. These values are summarized below.

Table 3: Allowable Seasonal Instream Total Ammonia Concentrations for Big Slough Creek

Season	Temperature (°C)	pH (s.u.)	Allowable Total Ammonia	
			30-day Average (mg/L) ¹	Daily Maximum (mg/L) ²
March 1-October 31	21.82	8.09	1.33	7.08
November 1 – February 29	2.00	7.85	4.85	11.10

¹ To determine the 30-day average allowable total ammonia, Equation 3 was used for the March 1 – October 31 season and Equation 4 was used for the November 1 – February 29.

² Equation 2 was used to determine the daily maximum allowable total ammonia.

Critical Flow Conditions

Ammonia loading to Big Slough Creek occurs from both point and nonpoint sources, at both high and low flows. However, critical conditions for ammonia presumably occur when stream flows are relatively low. This TMDL will therefore focus on low stream flow conditions. Should it be determined that water quality standards are violated at other flow conditions, a separate TMDL would be necessary for those conditions.

The SDSWQS at ARSD §74:51:01:30 specify that surface water quality standards apply to low quality fishery waters when flows meet or exceed the minimum 7-day average low flow that can be expected to occur once every 5 years (7Q5). The 7Q5 is therefore the minimum, or critical, flow for which the SDSWQS must be maintained (although all Surface Water Discharge permit limits remain in force below this minimum flow).

There are no flow monitoring stations on Big Slough Creek. Therefore, in accordance with ARSD §74:51:01:30, 1.0 cfs was used in TMDL development. The following table summarizes the flow data:

Table 4: Seasonal Critical Low Flow Values for Big Slough Creek

Season	Seasonal 7Q5 Low Flow (cfs)	Flow from Point Sources¹ (cfs)	Ratio of Point Source flow to 7Q5 flow	Ratio of 7Q5 allowed under Mixing Zone Procedures²	Critical Low Flow⁴(cfs)
March 1 – October 31	1.00	0.66	0.66	1.00	1.66
November 1 – February 29	1.00	0.66	0.66	1.00	1.66

¹ Flows from point sources dischargers include: town of Rosholt WWTF (0.24 cfs) and North Country Ethanol (0.42 cfs) – see Attachment 2 for explanation.

² See SDDENR’s Mixing Zone and Dilution Implementation Procedures. Pierre, SD, August 1998.

³ The critical low flow value is determined by multiplying the 7Q5 by the allowed dilution ratio, and adding the expected flow from the point source(s).

Loading Capacity

Having determined both the allowable total ammonia and the critical stream flow as described above, the seasonal loading capacities (or TMDLs) can be calculated. Continuing with Equation 5, the following table summarizes the seasonal ammonia loading capacities of Big Slough Creek for which applicable surface water quality standards for ammonia will be maintained. The allowable total ammonia is based on the SDSWQS for ammonia as specified in Appendix A of ARSD Chapter 74:51:01. A sample calculation is included for the ELS present season.

Table 5: Seasonal Ammonia Loading Capacities of Big Slough Creek

Season	Allowable Total Ammonia		Critical Low Flow (cfs)	Total Ammonia Loading Capacity	
	30-day Average (mg/L)	Daily Maximum (mg/L)		30-day Average (lbs/day)	Daily Maximum (lbs/day)
March 1 – October 31	1.33	7.08	1.66	11.91	63.39
November 1 – February 29	4.85	11.10	1.66	43.42	99.38

Sample calculation for ELS present season, 30-day average ammonia loading capacity:

$$\begin{aligned}
 TMDL &= \text{Loading Capacity} = \text{Allowable total ammonia} \times \text{Critical stream flow} \times 5.3934 \\
 &= 1.33 \times 1.66 \times 5.3934 = 11.91 \text{ lbs of total ammonia/day}
 \end{aligned}$$

LOAD ALLOCATION

At low stream flow conditions, it is assumed that there is very little nonpoint source runoff to the stream. The load allocation, which is comprised of nonpoint source loadings and natural background concentrations, is then reduced to the natural background water quality in the stream. Table 6 summarizes the calculation of the ammonia load allocation, using background 80th percentile ammonia data, upstream critical flow values, and Equation 5.

Table 6: Seasonal Total Ammonia Load Allocation for Big Slough Creek

Season	Background Total Ammonia (mg/L) *	Upstream Critical Flow (cfs) **	Total Ammonia Load Allocation (lbs/day) ***
March 1 – October 31	0.09	1.00	0.49
November 1 – February 29	0.49	1.00	2.64

* Background ammonia values were obtained from WQM 27 on the Little Minnesota River.

** Critical flow values correspond to the seasonal 7Q5 flows multiplied by the mixing zone factor (see Table 4).

*** The total ammonia load allocation was computed by using Equation 5, substituting the background ammonia concentration for the allowable ammonia concentration.

WASTELOAD ALLOCATION

Having computed the loading capacity (TMDL) and load allocation of Big Slough Creek for ammonia, the determination of the wasteload allocation is simply a matter of solving the following equation:

$$TMDL = \sum WLA + \sum LA + MOS$$

Solving for $\sum WLA$:

$$\sum WLA = TMDL - \sum LA - MOS$$

Summarized in the following table are seasonal ammonia wasteload allocations for Big Slough Creek calculated using the equation presented above.

Table 7: Seasonal Total Ammonia Wasteload Allocation for Big Slough Creek

Season	TMDL			Margin of Safety	ΣWLA	
	30-day Avg (lbs/d)	Daily Max (lbs/d)	ΣLA (lbs/day)		30-day Avg (lbs/d)	Daily Max (lbs/d)
March 1 – October 31	11.91	63.39	0.49	Implicit in conservative assumptions and modeling techniques	11.42	62.90
November 1 – February 29	43.42	99.38	2.64		40.78	96.74

The total ammonia wasteload allocation for Big Slough Creek was then distributed to the point source dischargers in the TMDL location. As stated above in a footnote for Table 4, there are

two point sources, the town of Rosholt WWTF and North Country Ethanol. The wasteload allocation was split up between the two dischargers based on expected facility flow rates and a Notice of Violation (NOV) issued to North County Ethanol in October 2006. The NOV specified that ammonia concentrations discharged from the North County Ethanol facility shall not exceed 1.0 mg/L as a 30-day average or 1.8 mg/L as a daily maximum. Below in Table 8 are the assigned wasteload allocations for both point source discharges.

Table 8: Point Source Wasteload Allocations for Big Slough Creek

Permittee	Point Source		TMDL		
	30-day Avg (mg/L)	Daily Max (mg/L)	Flow (cfs)	30-day Avg (lbs/day)	Daily Max (lbs/day)
<i>Town of Rosholt</i>					
March 1 – October 31	7.1	45.5	0.24	9.16	58.83
November 1 – February 29	29.8	71.6	0.24	38.52	92.67
<i>North County Ethanol</i>					
March 1 – October 31	1.0	1.8	0.42	2.26	4.07
November 1 – February 29	1.0	1.8	0.42	2.26	4.07

CONCLUSIONS

Using the data and methodologies described above, the ammonia TMDL, wasteload allocation, and load allocation for Big Slough Creek near Rosholt were determined. These values, specified in pounds per day, are summarized in Table 7. These values represent reasonable estimations based on procedures specified by the SDSWQS and other department guidelines. Both 30-day average and daily maximum loads have been developed, to ensure the surface water quality standards for ammonia are maintained.

TMDL Implementation

Nonpoint source ammonia loads at critical low flows are assumed to be primarily due to natural background levels of ammonia. The load allocation is based on 80th percentile ambient historical measurements of ammonia loads. Upstream conditions are meeting the SDSWQS for ammonia. Unless conditions affecting ammonia loading in the watershed change, the load allocation at low flows is not expected to be exceeded. Therefore, no nonpoint source water quality controls are currently necessary to implement this TMDL.

Point source ammonia loads at critical low flow conditions are primarily due to discharges from the town of Rosholt’s municipal wastewater treatment facility and North Country Ethanol. Water quality controls on these point source loadings will be required in order to meet the wasteload allocation. The implementation mechanisms for point source controls are Surface Water Discharge permits, issued by the South Dakota Department of Environment and Natural Resources. Permittees discharging to this segment of Big Slough Creek or its tributaries are summarized in Table 9.

The wasteload allocation will be allocated among the surface water discharge permittees. The approximate timeframe for implementation will be mid 2007.

Table 9: Surface Water Discharge permittees in the Big Slough Creek Area

Permittee	Permit Number	Receiving Water	Expiration Date
Town of Rosholt	SD0020524	Big Slough Creek	06/30/1999
North Country Ethanol	SD0027855	Unnamed tributary of Big Slough Creek	03/31/2007

Post Monitoring and TMDL Revision

In order to assess the adequacy of the TMDL, post-implementation water quality monitoring is necessary. Effluent compliance monitoring required by the town of Rosholt and North Country Ethanol's Surface Water Discharge permits will show if the wasteload allocation is being met.

Revisions to this TMDL could occur if the results of post-implementation monitoring consistently reveal violations of the surface water quality standards, or if monitoring shows ammonia loads consistently exceed allocated values. In addition, new point source discharges could necessitate the revision of the TMDL. All revisions would include proper public participation requirements.

REFERENCES

- South Dakota Department of Environment and Natural Resources.** *Ambient Surface Water Quality Monitoring Stations*. January 2002. Pierre, S.D. 78 pp.
- South Dakota Department of Environment and Natural Resources.** *Mixing Zone and Dilution Implementation Procedures*. Pierre, SD, August 1998.
- South Dakota Department of Environment and Natural Resources, Division of Environmental Services.** *South Dakota Surface Water Quality Standards*, Chapters 74:51:01, *Uses Assigned to Lakes*, Chapter 74:51:02, and *Uses Assigned to Streams*, Chapter 74:51:03, revised through July 7, 2004. Pierre, S.D. 153 pp.
- South Dakota Department of Water and Natural Resources, Office of Water Quality.** *Wasteload Allocation Procedures*. Pierre, SD, 1986.
- U.S. Environmental Protection Agency. Office of Water** *Technical Guidance Manual for Performing Wasteload Allocation, Book VI*. Washington DC, August 1986.
- U.S. Environmental Protection Agency. Office of Wetlands, Oceans and Watersheds.** *Guidance for Water Quality-based Decisions: The TMDL Process*. Publication EPA 440/4-91-001. April 1991 Washington, D.C. 58pp.
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ATTACHMENT 1 - WATER QUALITY DATA

WQM 27 Raw Data

Water Temperature					
Site	Date		Parameter	Value	Units
460710	7/23/68		TEMPERATURE, WATER	17.7	deg C
460710	4/7/69		TEMPERATURE, WATER	3.88	deg C
460710	7/9/69		TEMPERATURE, WATER	24.4	deg C
460710	3/16/70		TEMPERATURE, WATER	0.99	deg C
460710	7/6/70		TEMPERATURE, WATER	25	deg C
460710	10/21/70		TEMPERATURE, WATER	8.88	deg C
460710	12/1/70		TEMPERATURE, WATER	1.5	deg C
460710	2/16/71		TEMPERATURE, WATER	1.99	deg C
460710	3/23/71		TEMPERATURE, WATER	0.5	deg C
460710	4/20/71		TEMPERATURE, WATER	17.5	deg C
460710	5/19/71		TEMPERATURE, WATER	9	deg C
460710	7/14/71		TEMPERATURE, WATER	24	deg C
460710	8/26/71		TEMPERATURE, WATER	15	deg C
460710	9/9/71		TEMPERATURE, WATER	17.2	deg C
460710	10/14/71		TEMPERATURE, WATER	12.2	deg C
460710	2/16/72		TEMPERATURE, WATER	0.55	deg C
460710	3/28/72		TEMPERATURE, WATER	1.11	deg C
460710	6/20/72		TEMPERATURE, WATER	17.9	deg C
460710	8/24/72		TEMPERATURE, WATER	17.9	deg C
460710	10/26/72		TEMPERATURE, WATER	8.05	deg C
460710	3/26/73		TEMPERATURE, WATER	6.11	deg C
460710	8/6/73		TEMPERATURE, WATER	22.2	deg C
460710	9/26/73		TEMPERATURE, WATER	-9.7	deg C
460710	11/14/73		TEMPERATURE, WATER	5	deg C
460710	3/26/74		TEMPERATURE, WATER	0	deg C
460710	6/18/74		TEMPERATURE, WATER	24.5	deg C
460710	7/16/74		TEMPERATURE, WATER	22	deg C
460710	8/4/74		TEMPERATURE, WATER	19	deg C
460710	9/17/74		TEMPERATURE, WATER	17	deg C
460710	10/28/74		TEMPERATURE, WATER	12	deg C
460710	11/18/74		TEMPERATURE, WATER	3	deg C
460710	12/16/74		TEMPERATURE, WATER	0	deg C
460710	1/6/75		TEMPERATURE, WATER	0	deg C
460710	2/11/75		TEMPERATURE, WATER	0	deg C
460710	5/5/75		TEMPERATURE, WATER	11.7	deg C
460710	6/9/75		TEMPERATURE, WATER	13.9	deg C
460710	7/7/75		TEMPERATURE, WATER	22.2	deg C
460710	8/4/75		TEMPERATURE, WATER	24.4	deg C
460710	9/16/75		TEMPERATURE, WATER	15	deg C
460710	10/8/75		TEMPERATURE, WATER	13.3	deg C
460710	11/4/75		TEMPERATURE, WATER	10	deg C
460710	12/1/75		TEMPERATURE, WATER	0	deg C
460710	2/12/76		TEMPERATURE, WATER	0	deg C
460710	3/30/76		TEMPERATURE, WATER	5.56	deg C
460710	4/6/76		TEMPERATURE, WATER	8.89	deg C

460710	5/3/76		TEMPERATURE, WATER	7.78	deg C
460710	6/7/76		TEMPERATURE, WATER	20	deg C
460710	7/8/76		TEMPERATURE, WATER	23.89999	deg C
460710	8/2/76		TEMPERATURE, WATER	16.69999	deg C
460710	9/7/76		TEMPERATURE, WATER	20	deg C
460710	10/4/76		TEMPERATURE, WATER	11.1	deg C
460710	11/1/76		TEMPERATURE, WATER	6.67	deg C
460710	12/7/76		TEMPERATURE, WATER	0	deg C
460710	1/5/77		TEMPERATURE, WATER	0	deg C
460710	2/28/77		TEMPERATURE, WATER	0	deg C
460710	3/2/77		TEMPERATURE, WATER	0	deg C
460710	4/5/77		TEMPERATURE, WATER	1.11	deg C
460710	5/17/77		TEMPERATURE, WATER	20	deg C
460710	6/14/77		TEMPERATURE, WATER	18.29998	deg C
460710	7/6/77		TEMPERATURE, WATER	24.39999	deg C
460710	8/2/77		TEMPERATURE, WATER	20	deg C
460710	9/20/77		TEMPERATURE, WATER	14.4	deg C
460710	10/12/77		TEMPERATURE, WATER	5.6	deg C
460710	11/15/77		TEMPERATURE, WATER	2.2	deg C
460710	12/13/77		TEMPERATURE, WATER	0	deg C
460710	1/10/78		TEMPERATURE, WATER	0	deg C
460710	2/13/78		TEMPERATURE, WATER	0	deg C
460710	3/20/78		TEMPERATURE, WATER	0	deg C
460710	4/10/78		TEMPERATURE, WATER	5	deg C
460710	5/8/78		TEMPERATURE, WATER	10.6	deg C
460710	6/19/78		TEMPERATURE, WATER	20	deg C
460710	7/10/78		TEMPERATURE, WATER	18.89999	deg C
460710	8/14/78		TEMPERATURE, WATER	25.59999	deg C
460710	9/18/78		TEMPERATURE, WATER	12.77778	deg C
460710	10/17/78		TEMPERATURE, WATER	6.66667	deg C
460710	11/14/78		TEMPERATURE, WATER	0	deg C
460710	12/11/78		TEMPERATURE, WATER	1.11	deg C
460710	1/9/79		TEMPERATURE, WATER	0	deg C
460710	2/20/79		TEMPERATURE, WATER	0	deg C
460710	3/12/79		TEMPERATURE, WATER	0	deg C
460710	4/24/79		TEMPERATURE, WATER	10.6	deg C
460710	5/15/79		TEMPERATURE, WATER	10.6	deg C
460710	6/12/79		TEMPERATURE, WATER	15.6	deg C
460710	7/10/79		TEMPERATURE, WATER	25.59999	deg C
460710	8/14/79		TEMPERATURE, WATER	17.79998	deg C
460710	9/11/79		TEMPERATURE, WATER	18.29998	deg C
460710	10/10/79		TEMPERATURE, WATER	7.78	deg C
460710	11/14/79		TEMPERATURE, WATER	0.56	deg C
460710	12/13/79		TEMPERATURE, WATER	0	deg C
460710	1/15/80		TEMPERATURE, WATER	0.56	deg C
460710	2/14/80		TEMPERATURE, WATER	0	deg C
460710	3/11/80		TEMPERATURE, WATER	1.11	deg C
460710	4/1/80		TEMPERATURE, WATER	5.56	deg C
460710	6/10/80		TEMPERATURE, WATER	23.29998	deg C

460710	7/15/80		TEMPERATURE, WATER	24.39999	deg C
460710	8/14/80		TEMPERATURE, WATER	18.89999	deg C
460710	9/11/80		TEMPERATURE, WATER	15.6	deg C
460710	10/14/80		TEMPERATURE, WATER	6.7	deg C
460710	12/9/80		TEMPERATURE, WATER	0	deg C
460710	1/14/81		TEMPERATURE, WATER	0	deg C
460710	2/12/81		TEMPERATURE, WATER	0	deg C
460710	3/12/81		TEMPERATURE, WATER	5.56	deg C
460710	4/9/81		TEMPERATURE, WATER	13.3	deg C
460710	5/12/81		TEMPERATURE, WATER	14.4	deg C
460710	6/9/81		TEMPERATURE, WATER	20	deg C
460710	11/17/81		TEMPERATURE, WATER	8.88889	deg C
460710	4/15/82		TEMPERATURE, WATER	8.88889	deg C
460710	5/14/82		TEMPERATURE, WATER	14.44444	deg C
460710	7/13/82		TEMPERATURE, WATER	20	deg C
460710	8/16/82		TEMPERATURE, WATER	22	deg C
460710	10/13/82		TEMPERATURE, WATER	8.8	deg C
460710	11/16/82		TEMPERATURE, WATER	0.4	deg C
460710	12/6/82		TEMPERATURE, WATER	0.8	deg C
460710	1/13/83		TEMPERATURE, WATER	0.1	deg C
460710	2/16/83		TEMPERATURE, WATER	0.9	deg C
460710	3/8/83		TEMPERATURE, WATER	0	deg C
460710	4/11/83		TEMPERATURE, WATER	8	deg C
460710	6/7/83		TEMPERATURE, WATER	16.89999	deg C
460710	7/18/83		TEMPERATURE, WATER	25.39999	deg C
460710	8/17/83		TEMPERATURE, WATER	27.69999	deg C
460710	8/17/83		TEMPERATURE, WATER	23.69999	deg C
460710	9/8/83		TEMPERATURE, WATER	18.29998	deg C
460710	10/12/83		TEMPERATURE, WATER	7.22	deg C
460710	12/14/83		TEMPERATURE, WATER	1.11	deg C
460710	1/11/84		TEMPERATURE, WATER	0.56	deg C
460710	2/15/84		TEMPERATURE, WATER	0.56	deg C
460710	3/14/84		TEMPERATURE, WATER	0	deg C
460710	5/16/84		TEMPERATURE, WATER	19	deg C
460710	7/10/84		TEMPERATURE, WATER	23	deg C
460710	8/14/84		TEMPERATURE, WATER	24	deg C
460710	9/4/84		TEMPERATURE, WATER	16	deg C
460710	10/10/84		TEMPERATURE, WATER	14	deg C
460710	11/13/84		TEMPERATURE, WATER	3	deg C
460710	12/11/84		TEMPERATURE, WATER	0	deg C
460710	1/16/85		TEMPERATURE, WATER	0	deg C
460710	2/13/85		TEMPERATURE, WATER	0	deg C
460710	4/15/85		TEMPERATURE, WATER	14	deg C
460710	5/15/85		TEMPERATURE, WATER	14	deg C
460710	6/6/85		TEMPERATURE, WATER	17	deg C
460710	7/9/85		TEMPERATURE, WATER	21	deg C
460710	8/13/85		TEMPERATURE, WATER	18	deg C
460710	9/5/85		TEMPERATURE, WATER	21	deg C
460710	10/16/85		TEMPERATURE, WATER	9	deg C

460710	11/13/85		TEMPERATURE, WATER	2	deg C
460710	12/10/85		TEMPERATURE, WATER	1	deg C
460710	1/14/86		TEMPERATURE, WATER	1.7	deg C
460710	2/11/86		TEMPERATURE, WATER	1	deg C
460710	3/11/86		TEMPERATURE, WATER	0	deg C
460710	4/15/86		TEMPERATURE, WATER	2.5	deg C
460710	5/13/86		TEMPERATURE, WATER	19	deg C
460710	6/10/86		TEMPERATURE, WATER	20	deg C
460710	7/21/86		TEMPERATURE, WATER	25	deg C
460710	8/13/86		TEMPERATURE, WATER	20	deg C
460710	9/8/86		TEMPERATURE, WATER	16	deg C
460710	10/15/86		TEMPERATURE, WATER	7.22	deg C
460710	11/13/86		TEMPERATURE, WATER	1	deg C
460710	12/9/86		TEMPERATURE, WATER	0.56	deg C
460710	1/13/87		TEMPERATURE, WATER	2.22	deg C
460710	2/10/87		TEMPERATURE, WATER	2.22	deg C
460710	3/5/87		TEMPERATURE, WATER	7.78	deg C
460710	4/13/87		TEMPERATURE, WATER	10	deg C
460710	5/12/87		TEMPERATURE, WATER	16.69999	deg C
460710	6/8/87		TEMPERATURE, WATER	19	deg C
460710	7/15/87		TEMPERATURE, WATER	22	deg C
460710	8/11/87		TEMPERATURE, WATER	26	deg C
460710	10/20/87		TEMPERATURE, WATER	6.7	deg C
460710	11/17/87		TEMPERATURE, WATER	3.33	deg C
460710	12/15/87		TEMPERATURE, WATER	1.11	deg C
460710	1/13/88		TEMPERATURE, WATER	0.56	deg C
460710	2/9/88		TEMPERATURE, WATER	0	deg C
460710	3/15/88		TEMPERATURE, WATER	0	deg C
460710	4/12/88		TEMPERATURE, WATER	11.1	deg C
460710	5/11/88		TEMPERATURE, WATER	14.4	deg C
460710	6/14/88		TEMPERATURE, WATER	21.09999	deg C
460710	10/15/88		TEMPERATURE, WATER	5.6	deg C
460710	1/10/89		TEMPERATURE, WATER	0.56	deg C
460710	2/16/89		TEMPERATURE, WATER	1.7	deg C
460710	3/21/89		TEMPERATURE, WATER	0.5	deg C
460710	4/18/89		TEMPERATURE, WATER	5.56	deg C
460710	5/16/89		TEMPERATURE, WATER	19.89999	deg C
460710	6/13/89		TEMPERATURE, WATER	16.09999	deg C
460710	7/12/89		TEMPERATURE, WATER	22.19999	deg C
460710	8/21/89		TEMPERATURE, WATER	21.69999	deg C
460710	9/12/89		TEMPERATURE, WATER	15	deg C
460710	10/17/89		TEMPERATURE, WATER	8.8	deg C
460710	11/14/89		TEMPERATURE, WATER	4.44	deg C
460710	12/12/89		TEMPERATURE, WATER	2.2	deg C
460710	1/16/90		TEMPERATURE, WATER	12.2	deg C
460710	2/13/90		TEMPERATURE, WATER	0	deg C
460710	3/13/90		TEMPERATURE, WATER	2.78	deg C
460710	4/10/90		TEMPERATURE, WATER	7.78	deg C
460710	5/15/90		TEMPERATURE, WATER	16.09999	deg C

460710	6/12/90		TEMPERATURE, WATER	22.79998	deg C
460710	7/16/90		TEMPERATURE, WATER	19.39999	deg C
460710	8/13/90		TEMPERATURE, WATER	18.29998	deg C
460710	9/10/90		TEMPERATURE, WATER	18.29998	deg C
460710	10/10/90		TEMPERATURE, WATER	8.33	deg C
460710	1/16/91		TEMPERATURE, WATER	1.67	deg C
460710	4/9/91		TEMPERATURE, WATER	11.7	deg C
460710	7/16/91		TEMPERATURE, WATER	26.09999	deg C
460710	10/17/91		TEMPERATURE, WATER	11.7	deg C
460710	1/15/92		TEMPERATURE, WATER	-0.55999	deg C
460710	4/15/92		TEMPERATURE, WATER	8.7	deg C
460710	7/15/92		TEMPERATURE, WATER	21.09999	deg C
460710	10/8/92		TEMPERATURE, WATER	8.89	deg C
460710	1/20/93		TEMPERATURE, WATER	-0.55555	deg C
460710	4/14/93		TEMPERATURE, WATER	4.44	deg C
460710	7/14/93		TEMPERATURE, WATER	18.29998	deg C
460710	10/6/93		TEMPERATURE, WATER	10.55555	deg C
460710	1/12/94		TEMPERATURE, WATER	-0.55554	deg C
460710	4/18/94		TEMPERATURE, WATER	14	deg C
460710	7/11/94		TEMPERATURE, WATER	23.33332	deg C
460710	10/18/94		TEMPERATURE, WATER	15.55556	deg C
460710	1/10/95		TEMPERATURE, WATER	-1.1111	deg C
460710	4/17/95		TEMPERATURE, WATER	2.22222	deg C
460710	7/11/95		TEMPERATURE, WATER	23.33332	deg C
460710	1/22/96		TEMPERATURE, WATER	0	deg C
460710	4/16/96		TEMPERATURE, WATER	7.77778	deg C
460710	7/10/96		TEMPERATURE, WATER	20	deg C
460710	10/21/96		TEMPERATURE, WATER	7.77778	deg C
460710	7/16/97		TEMPERATURE, WATER	26.11111	deg C
460710	7/16/97		TEMPERATURE, WATER	26.11109	deg C
460710	10/20/97		TEMPERATURE, WATER	10.55556	deg C
460710	10/20/97		TEMPERATURE, WATER	10.55556	deg C
460710	4/20/98		TEMPERATURE, WATER	14.4444	deg C
460710	7/20/98		TEMPERATURE, WATER	28.3333	deg C
460710	10/20/98		TEMPERATURE, WATER	6.7	deg C
460710	1/13/99		TEMPERATURE, WATER	1.6	deg C
460710	4/14/99		TEMPERATURE, WATER	10	deg C
460710	7/14/99		TEMPERATURE, WATER	26.1	deg C
460710	10/14/99		TEMPERATURE, WATER	9.4	deg C
460710	1/10/00		TEMPERATURE, WATER	-0.6	deg C
460710	4/12/00		TEMPERATURE, WATER	2.8	deg C
460710	7/11/00		TEMPERATURE, WATER	26.1	deg C
460710	1/9/01		TEMPERATURE, WATER	1.1	deg C
460710	4/9/01		TEMPERATURE, WATER	5	deg C
460710	7/12/01		TEMPERATURE, WATER	21.6	deg C
460710	10/11/01		TEMPERATURE, WATER	10.5	deg C
460710	1/10/02		TEMPERATURE, WATER	0.6	deg C
460710	4/11/02		TEMPERATURE, WATER	0.6	deg C
460710	7/15/02		TEMPERATURE, WATER	26.6	deg C

460710	10/10/02		TEMPERATURE, WATER	12.2	deg C
460710	1/9/03		TEMPERATURE, WATER	3	deg C
460710	4/9/03		TEMPERATURE, WATER	7.2	deg C
460710	7/15/03		TEMPERATURE, WATER	23.9	deg C
460710	10/8/03		TEMPERATURE, WATER	16.1	deg C
460710	1/13/04		TEMPERATURE, WATER	-1.1	deg C
460710	4/14/04		TEMPERATURE, WATER	11.1	deg C
460710	7/14/04		TEMPERATURE, WATER	23	deg C
460710	10/14/04		TEMPERATURE, WATER	7	deg C
460710	1/13/05		TEMPERATURE, WATER	-4	deg C
460710	4/13/05		TEMPERATURE, WATER	12.4	deg C

pH				
Site	Date	Parameter	Value	Units
460710	7/9/69	PH	8	S.U.
460710	3/16/70	PH	7.2	S.U.
460710	7/6/70	PH	7.9	S.U.
460710	10/21/70	PH	7.8	S.U.
460710	12/1/70	PH	7.5	S.U.
460710	2/16/71	PH	7.5	S.U.
460710	3/23/71	PH	7.5	S.U.
460710	4/20/71	PH	8	S.U.
460710	7/14/71	PH	7.6	S.U.
460710	8/26/71	PH	7.7	S.U.
460710	9/9/71	PH	7.7	S.U.
460710	10/14/71	PH	7.4	S.U.
460710	2/16/72	PH	7.5	S.U.
460710	6/20/72	PH	8.2	S.U.
460710	8/24/72	PH	8.2	S.U.
460710	10/26/72	PH	7.5	S.U.
460710	3/26/73	PH	8.2	S.U.
460710	8/6/73	PH	7.5	S.U.
460710	8/4/74	PH	7.5	S.U.
460710	9/17/74	PH	7.5	S.U.
460710	10/28/74	PH	7.5	S.U.
460710	11/18/74	PH	7.3	S.U.
460710	12/16/74	PH	7.8	S.U.
460710	1/6/75	PH	7.5	S.U.
460710	2/11/75	PH	7.5	S.U.
460710	5/5/75	PH	8	S.U.
460710	6/9/75	PH	8	S.U.
460710	7/7/75	PH	8	S.U.
460710	8/4/75	PH	7.5	S.U.
460710	10/8/75	PH	8	S.U.
460710	11/4/75	PH	7.5	S.U.
460710	12/1/75	PH	7.5	S.U.
460710	2/12/76	PH	7.5	S.U.
460710	3/30/76	PH	7.5	S.U.
460710	4/6/76	PH	8	S.U.

460710	5/3/76	PH	8	S.U.
460710	6/7/76	PH	7.5	S.U.
460710	8/2/76	PH	7.5	S.U.
460710	9/7/76	PH	7.5	S.U.
460710	10/4/76	PH	7.5	S.U.
460710	11/1/76	PH	7.5	S.U.
460710	11/15/77	PH	7.2	S.U.
460710	2/13/78	PH	5.65	S.U.
460710	5/8/78	PH	7.25	S.U.
460710	6/19/78	PH	7.45	S.U.
460710	7/10/78	PH	7.35	S.U.
460710	8/14/78	PH	7.25	S.U.
460710	9/18/78	PH	7.05	S.U.
460710	10/17/78	PH	7.45	S.U.
460710	11/14/78	PH	7.9	S.U.
460710	12/11/78	PH	7.35	S.U.
460710	1/9/79	PH	7.1	S.U.
460710	2/20/79	PH	7.2	S.U.
460710	3/12/79	PH	7.15	S.U.
460710	4/24/79	PH	8.05	S.U.
460710	5/15/79	PH	7.95	S.U.
460710	6/12/79	PH	8.05	S.U.
460710	7/10/79	PH	8.2	S.U.
460710	8/14/79	PH	7.5	S.U.
460710	9/11/79	PH	7.95	S.U.
460710	10/10/79	PH	7.95	S.U.
460710	11/14/79	PH	7.2	S.U.
460710	12/13/79	PH	7.1	S.U.
460710	1/15/80	PH	6.8	S.U.
460710	2/14/80	PH	6.8	S.U.
460710	3/11/80	PH	7.4	S.U.
460710	4/1/80	PH	7.7	S.U.
460710	6/10/80	PH	7.6	S.U.
460710	7/15/80	PH	7.4	S.U.
460710	8/14/80	PH	7.3	S.U.
460710	9/11/80	PH	7.1	S.U.
460710	10/14/80	PH	6.9	S.U.
460710	12/9/80	PH	7.6	S.U.
460710	1/14/81	PH	7.4	S.U.
460710	2/12/81	PH	7.3	S.U.
460710	3/12/81	PH	7.1	S.U.
460710	4/9/81	PH	7.4	S.U.
460710	5/12/81	PH	7.3	S.U.
460710	6/9/81	PH	7.4	S.U.
460710	11/17/81	PH	7.1	S.U.
460710	4/15/82	PH	7.9	S.U.
460710	5/14/82	PH	8.1	S.U.
460710	7/13/82	PH	7.8	S.U.
460710	8/16/82	PH	7.8	S.U.

460710	10/13/82	PH	8.1	S.U.
460710	11/16/82	PH	8	S.U.
460710	2/16/83	PH	7.65	S.U.
460710	3/8/83	PH	7.65	S.U.
460710	4/11/83	PH	8.4	S.U.
460710	6/7/83	PH	7.75	S.U.
460710	7/18/83	PH	7.75	S.U.
460710	8/17/83	PH	8.15	S.U.
460710	8/17/83	PH	7.4	S.U.
460710	9/8/83	PH	7.6	S.U.
460710	10/12/83	PH	7.4	S.U.
460710	12/14/83	PH	7.2	S.U.
460710	1/11/84	PH	7.4	S.U.
460710	2/15/84	PH	7.7	S.U.
460710	3/14/84	PH	7.4	S.U.
460710	5/16/84	PH	8.3	S.U.
460710	7/10/84	PH	7.75	S.U.
460710	9/4/84	PH	7.7	S.U.
460710	11/13/84	PH	7.85	S.U.
460710	1/16/85	PH	7	S.U.
460710	4/15/85	PH	8.05	S.U.
460710	6/6/85	PH	8	S.U.
460710	8/13/85	PH	7.1	S.U.
460710	10/16/85	PH	7.6	S.U.
460710	1/14/86	PH	7.86	S.U.
460710	3/11/86	PH	7.29	S.U.
460710	5/13/86	PH	8.1	S.U.
460710	7/21/86	PH	8.3	S.U.
460710	9/8/86	PH	8	S.U.
460710	11/13/86	PH	7.8	S.U.
460710	1/13/87	PH	7.6	S.U.
460710	3/5/87	PH	7.6	S.U.
460710	4/13/87	PH	7.9	S.U.
460710	5/12/87	PH	7.7	S.U.
460710	6/8/87	PH	7.6	S.U.
460710	7/15/87	PH	7.7	S.U.
460710	8/11/87	PH	7.7	S.U.
460710	10/20/87	PH	7.6	S.U.
460710	11/17/87	PH	7.5	S.U.
460710	12/15/87	PH	7.4	S.U.
460710	10/15/88	PH	7.45	S.U.
460710	3/21/89	PH	7.57	S.U.
460710	4/18/89	PH	7.8	S.U.
460710	5/16/89	PH	8.24	S.U.
460710	6/13/89	PH	8.02	S.U.
460710	7/12/89	PH	7.73	S.U.
460710	8/21/89	PH	7.51	S.U.
460710	9/12/89	PH	8.46	S.U.
460710	10/17/89	PH	7.79	S.U.

460710	11/14/89	PH	7.98	S.U.
460710	12/12/89	PH	7.52	S.U.
460710	1/16/90	PH	7.38	S.U.
460710	3/13/90	PH	8.11	S.U.
460710	4/10/90	PH	7.99	S.U.
460710	5/15/90	PH	7.79	S.U.
460710	6/12/90	PH	8.25	S.U.
460710	7/16/90	PH	7.37	S.U.
460710	8/13/90	PH	7.46	S.U.
460710	9/10/90	PH	7.56	S.U.
460710	10/10/90	PH	7.78	S.U.
460710	1/16/91	PH	6.9	S.U.
460710	4/9/91	PH	8.49	S.U.
460710	7/16/91	PH	8.1	S.U.
460710	10/17/91	PH	7.98	S.U.
460710	1/15/92	PH	7.85	S.U.
460710	4/15/92	PH	8.39	S.U.
460710	7/15/92	PH	8.3	S.U.
460710	10/8/92	PH	7.4	S.U.
460710	1/20/93	PH	7.84	S.U.
460710	4/14/93	PH	7.92	S.U.
460710	7/14/93	PH	7.94	S.U.
460710	10/6/93	PH	7.94	S.U.
460710	1/12/94	PH	7.64	S.U.
460710	4/18/94	PH	7.55	S.U.
460710	7/11/94	PH	7.41	S.U.
460710	10/18/94	PH	8.62	S.U.
460710	1/10/95	PH	7.53	S.U.
460710	4/17/95	PH	7.87	S.U.
460710	7/11/95	PH	7.82	S.U.
460710	1/22/96	PH	7.98	S.U.
460710	4/16/96	PH	8.62	S.U.
460710	7/10/96	PH	8.02	S.U.
460710	10/21/96	PH	8	S.U.
460710	7/16/97	PH	8	S.U.
460710	10/20/97	PH	7.66	S.U.
460710	4/20/98	PH	8.12	S.U.
460710	7/20/98	PH	7.82	S.U.
460710	10/20/98	PH	8.72	S.U.
460710	1/13/99	PH	8.08	S.U.
460710	4/14/99	PH	8.11	S.U.
460710	7/14/99	PH	7.76	S.U.
460710	10/14/99	PH	8.44	S.U.
460710	1/10/00	PH	8.03	S.U.
460710	4/12/00	PH	8.36	S.U.
460710	7/11/00	PH	7.64	S.U.
460710	1/9/01	PH	7.99	S.U.
460710	4/9/01	PH	7.61	S.U.
460710	7/12/01	PH	7.69	S.U.

460710	10/11/01	PH	7.25	S.U.
460710	1/10/02	PH	7	S.U.
460710	4/11/02	PH	7.02	S.U.
460710	7/15/02	PH	7.63	S.U.
460710	10/10/02	PH	7.42	S.U.
460710	4/9/03	PH	8.02	S.U.
460710	7/15/03	PH	7.2	S.U.
460710	10/8/03	PH	7.59	S.U.
460710	1/13/04	PH	7.78	S.U.
460710	4/14/04	PH	8.32	S.U.
460710	7/14/04	PH	8.09	S.U.
460710	10/14/04	PH	8.27	S.U.
460710	1/13/05	PH	7.9	S.U.
460710	4/13/05	PH	8.28	S.U.

Ammonia Nitrogen				
Site	Date	Parameter	Value	Units
460710	9/17/74	NITROGEN, AMMONIA (NH3) AS NH3	0.021	mg/l
460710	10/28/74	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	11/18/74	NITROGEN, AMMONIA (NH3) AS NH3	0.17	mg/l
460710	12/16/74	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/6/75	NITROGEN, AMMONIA (NH3) AS NH3	0.37	mg/l
460710	2/11/75	NITROGEN, AMMONIA (NH3) AS NH3	0.53	mg/l
460710	5/5/75	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	6/9/75	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	7/7/75	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	8/4/75	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	10/8/75	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	11/4/75	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	12/1/75	NITROGEN, AMMONIA (NH3) AS NH3	0.41	mg/l
460710	2/12/76	NITROGEN, AMMONIA (NH3) AS NH3	1.28	mg/l
460710	3/30/76	NITROGEN, AMMONIA (NH3) AS NH3	0.12	mg/l
460710	4/6/76	NITROGEN, AMMONIA (NH3) AS NH3	0.14	mg/l
460710	5/3/76	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	6/7/76	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	7/8/76	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	8/2/76	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	9/7/76	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	10/4/76	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	11/1/76	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	12/7/76	NITROGEN, AMMONIA (NH3) AS NH3	0.3	mg/l
460710	1/5/77	NITROGEN, AMMONIA (NH3) AS NH3	0.4	mg/l
460710	2/28/77	NITROGEN, AMMONIA (NH3) AS NH3	0.25	mg/l
460710	3/2/77	NITROGEN, AMMONIA (NH3) AS NH3	0.28	mg/l
460710	4/5/77	NITROGEN, AMMONIA (NH3) AS NH3	0.51	mg/l
460710	5/17/77	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	6/14/77	NITROGEN, AMMONIA (NH3) AS NH3	0.15	mg/l
460710	7/6/77	NITROGEN, AMMONIA (NH3) AS NH3	0.16	mg/l
460710	8/2/77	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l

460710	9/20/77	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	10/12/77	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	11/15/77	NITROGEN, AMMONIA (NH3) AS NH3	0.33	mg/l
460710	12/13/77	NITROGEN, AMMONIA (NH3) AS NH3	0.45	mg/l
460710	1/10/78	NITROGEN, AMMONIA (NH3) AS NH3	0.56	mg/l
460710	2/13/78	NITROGEN, AMMONIA (NH3) AS NH3	1.23	mg/l
460710	3/20/78	NITROGEN, AMMONIA (NH3) AS NH3	1.95	mg/l
460710	4/10/78	NITROGEN, AMMONIA (NH3) AS NH3	0.16	mg/l
460710	5/8/78	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	6/19/78	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	7/10/78	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	8/14/78	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	9/18/78	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l
460710	10/17/78	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	11/14/78	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	12/11/78	NITROGEN, AMMONIA (NH3) AS NH3	0.35	mg/l
460710	1/9/79	NITROGEN, AMMONIA (NH3) AS NH3	0.51	mg/l
460710	2/20/79	NITROGEN, AMMONIA (NH3) AS NH3	0.36	mg/l
460710	3/12/79	NITROGEN, AMMONIA (NH3) AS NH3	0.31	mg/l
460710	4/24/79	NITROGEN, AMMONIA (NH3) AS NH3	0.09	mg/l
460710	5/15/79	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	6/12/79	NITROGEN, AMMONIA (NH3) AS NH3	0.12	mg/l
460710	7/10/79	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	8/14/79	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	9/11/79	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	10/10/79	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	11/14/79	NITROGEN, AMMONIA (NH3) AS NH3	0.11	mg/l
460710	12/13/79	NITROGEN, AMMONIA (NH3) AS NH3	0.13	mg/l
460710	1/15/80	NITROGEN, AMMONIA (NH3) AS NH3	0.79	mg/l
460710	2/14/80	NITROGEN, AMMONIA (NH3) AS NH3	0.64	mg/l
460710	3/11/80	NITROGEN, AMMONIA (NH3) AS NH3	0.62	mg/l
460710	4/1/80	NITROGEN, AMMONIA (NH3) AS NH3	0.28	mg/l
460710	6/10/80	NITROGEN, AMMONIA (NH3) AS NH3	0.45	mg/l
460710	7/15/80	NITROGEN, AMMONIA (NH3) AS NH3	0.1	mg/l
460710	8/14/80	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	9/11/80	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	10/14/80	NITROGEN, AMMONIA (NH3) AS NH3	0.09	mg/l
460710	12/9/80	NITROGEN, AMMONIA (NH3) AS NH3	0.22	mg/l
460710	1/14/81	NITROGEN, AMMONIA (NH3) AS NH3	0.37	mg/l
460710	2/12/81	NITROGEN, AMMONIA (NH3) AS NH3	0.44	mg/l
460710	3/12/81	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	4/9/81	NITROGEN, AMMONIA (NH3) AS NH3	0.1	mg/l
460710	5/12/81	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	6/9/81	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l
460710	11/17/81	NITROGEN, AMMONIA (NH3) AS NH3	0.09	mg/l
460710	4/15/82	NITROGEN, AMMONIA (NH3) AS NH3	0.13	mg/l
460710	5/14/82	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	7/13/82	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	8/16/82	NITROGEN, AMMONIA (NH3) AS NH3	0.09	mg/l

460710	10/13/82	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	11/16/82	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	12/6/82	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/13/83	NITROGEN, AMMONIA (NH3) AS NH3	0.11	mg/l
460710	2/16/83	NITROGEN, AMMONIA (NH3) AS NH3	0.2	mg/l
460710	3/8/83	NITROGEN, AMMONIA (NH3) AS NH3	0.34	mg/l
460710	4/11/83	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	6/7/83	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	7/18/83	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	8/17/83	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	8/17/83	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	9/8/83	NITROGEN, AMMONIA (NH3) AS NH3	0.25	mg/l
460710	10/12/83	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	12/14/83	NITROGEN, AMMONIA (NH3) AS NH3	0.31	mg/l
460710	1/11/84	NITROGEN, AMMONIA (NH3) AS NH3	0.46	mg/l
460710	2/15/84	NITROGEN, AMMONIA (NH3) AS NH3	0.67	mg/l
460710	3/14/84	NITROGEN, AMMONIA (NH3) AS NH3	0.62	mg/l
460710	5/16/84	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	7/10/84	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	8/14/84	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	9/4/84	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	10/10/84	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	11/13/84	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	12/11/84	NITROGEN, AMMONIA (NH3) AS NH3	0.14	mg/l
460710	1/16/85	NITROGEN, AMMONIA (NH3) AS NH3	0.55	mg/l
460710	2/13/85	NITROGEN, AMMONIA (NH3) AS NH3	0.46	mg/l
460710	4/15/85	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	5/15/85	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	6/6/85	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	7/9/85	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	8/13/85	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	9/5/85	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	10/16/85	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	12/10/85	NITROGEN, AMMONIA (NH3) AS NH3	0.9	mg/l
460710	1/14/86	NITROGEN, AMMONIA (NH3) AS NH3	0.65	mg/l
460710	2/11/86	NITROGEN, AMMONIA (NH3) AS NH3	0.48	mg/l
460710	3/11/86	NITROGEN, AMMONIA (NH3) AS NH3	0.41	mg/l
460710	4/15/86	NITROGEN, AMMONIA (NH3) AS NH3	0.28	mg/l
460710	5/13/86	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	6/10/86	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	7/21/86	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	8/13/86	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	9/8/86	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	10/15/86	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	11/13/86	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	12/9/86	NITROGEN, AMMONIA (NH3) AS NH3	0.17	mg/l
460710	1/13/87	NITROGEN, AMMONIA (NH3) AS NH3	0.15	mg/l
460710	2/10/87	NITROGEN, AMMONIA (NH3) AS NH3	0.11	mg/l
460710	3/5/87	NITROGEN, AMMONIA (NH3) AS NH3	0.09	mg/l

460710	4/13/87	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	5/12/87	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	6/8/87	NITROGEN, AMMONIA (NH3) AS NH3	0.11	mg/l
460710	7/15/87	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	8/11/87	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	10/20/87	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	11/17/87	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	12/15/87	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l
460710	1/13/88	NITROGEN, AMMONIA (NH3) AS NH3	0.44	mg/l
460710	2/9/88	NITROGEN, AMMONIA (NH3) AS NH3	0.44	mg/l
460710	3/15/88	NITROGEN, AMMONIA (NH3) AS NH3	0.31	mg/l
460710	4/12/88	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	5/11/88	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	6/14/88	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	10/15/88	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	1/10/89	NITROGEN, AMMONIA (NH3) AS NH3	0.57	mg/l
460710	2/16/89	NITROGEN, AMMONIA (NH3) AS NH3	0.45	mg/l
460710	3/21/89	NITROGEN, AMMONIA (NH3) AS NH3	0.78	mg/l
460710	4/18/89	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	5/16/89	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	6/13/89	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	7/12/89	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	8/21/89	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	9/12/89	NITROGEN, AMMONIA (NH3) AS NH3	0.13	mg/l
460710	10/17/89	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	11/14/89	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	12/12/89	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l
460710	1/16/90	NITROGEN, AMMONIA (NH3) AS NH3	0.41	mg/l
460710	2/13/90	NITROGEN, AMMONIA (NH3) AS NH3	0.27	mg/l
460710	3/13/90	NITROGEN, AMMONIA (NH3) AS NH3	0.32	mg/l
460710	4/10/90	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	5/15/90	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	6/12/90	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	7/16/90	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	8/13/90	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	9/10/90	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	10/10/90	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/16/91	NITROGEN, AMMONIA (NH3) AS NH3	0.47	mg/l
460710	4/9/91	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	7/16/91	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	10/17/91	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/15/92	NITROGEN, AMMONIA (NH3) AS NH3	0.16	mg/l
460710	4/15/92	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	7/15/92	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	10/8/92	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/20/93	NITROGEN, AMMONIA (NH3) AS NH3	0.42	mg/l
460710	4/14/93	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	7/14/93	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	10/6/93	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	

460710	1/12/94	NITROGEN, AMMONIA (NH3) AS NH3	0.28	mg/l
460710	4/18/94	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	7/11/94	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	10/18/94	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/10/95	NITROGEN, AMMONIA (NH3) AS NH3	0.15	mg/l
460710	4/17/95	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	7/11/95	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/22/96	NITROGEN, AMMONIA (NH3) AS NH3	0.33	mg/l
460710	4/16/96	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	7/10/96	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	10/21/96	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	7/16/97	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	10/20/97	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	4/20/98	NITROGEN, AMMONIA (NH3) AS NH3	*non-detect	mg/l
460710	7/20/98	NITROGEN, AMMONIA (NH3) AS NH3	*non-detect	mg/l
460710	10/20/98	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	1/13/99	NITROGEN, AMMONIA (NH3) AS NH3	0.31	mg/l
460710	4/14/99	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	mg/l
460710	7/14/99	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	10/14/99	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/10/00	NITROGEN, AMMONIA (NH3) AS NH3	0.19	mg/l
460710	4/12/00	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	7/11/00	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	1/9/01	NITROGEN, AMMONIA (NH3) AS NH3	0.49	mg/l
460710	4/9/01	NITROGEN, AMMONIA (NH3) AS NH3	0.15	mg/l
460710	7/12/01	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	10/11/01	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/10/02	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l
460710	4/11/02	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	7/15/02	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	10/10/02	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/9/03	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	4/9/03	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	7/15/03	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	10/8/03	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/13/04	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l
460710	4/14/04	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	7/14/04	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	10/14/04	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	
460710	1/13/05	NITROGEN, AMMONIA (NH3) AS NH3	0.49	mg/l
460710	4/13/05	NITROGEN, AMMONIA (NH3) AS NH3	*Non-detect	

WQM 27 Reduced Data

Water Temperature (November - February)				
Site	Date	Parameter	Value	Units
460710	11/14/73	TEMPERATURE, WATER	5	deg C
460710	11/18/74	TEMPERATURE, WATER	3	deg C
460710	11/04/75	TEMPERATURE, WATER	10	deg C
460710	11/01/76	TEMPERATURE, WATER	6.67	deg C
460710	11/15/77	TEMPERATURE, WATER	2.2	deg C
460710	11/14/78	TEMPERATURE, WATER	0	deg C
460710	11/14/79	TEMPERATURE, WATER	0.56	deg C
460710	11/17/81	TEMPERATURE, WATER	8.88889	deg C
460710	11/16/82	TEMPERATURE, WATER	0.4	deg C
460710	11/13/84	TEMPERATURE, WATER	3	deg C
460710	11/13/85	TEMPERATURE, WATER	2	deg C
460710	11/13/86	TEMPERATURE, WATER	1	deg C
460710	11/17/87	TEMPERATURE, WATER	3.33	deg C
460710	11/14/89	TEMPERATURE, WATER	4.44	deg C
460710	12/01/70	TEMPERATURE, WATER	1.5	deg C
460710	12/16/74	TEMPERATURE, WATER	0	deg C
460710	12/01/75	TEMPERATURE, WATER	0	deg C
460710	12/07/76	TEMPERATURE, WATER	0	deg C
460710	12/13/77	TEMPERATURE, WATER	0	deg C
460710	12/11/78	TEMPERATURE, WATER	1.11	deg C
460710	12/13/79	TEMPERATURE, WATER	0	deg C
460710	12/09/80	TEMPERATURE, WATER	0	deg C
460710	12/06/82	TEMPERATURE, WATER	0.8	deg C
460710	12/14/83	TEMPERATURE, WATER	1.11	deg C
460710	12/11/84	TEMPERATURE, WATER	0	deg C
460710	12/10/85	TEMPERATURE, WATER	1	deg C
460710	12/09/86	TEMPERATURE, WATER	0.56	deg C
460710	12/15/87	TEMPERATURE, WATER	1.11	deg C
460710	12/12/89	TEMPERATURE, WATER	2.2	deg C
460710	01/06/75	TEMPERATURE, WATER	0	deg C
460710	01/05/77	TEMPERATURE, WATER	0	deg C
460710	01/10/78	TEMPERATURE, WATER	0	deg C
460710	01/09/79	TEMPERATURE, WATER	0	deg C
460710	01/15/80	TEMPERATURE, WATER	0.56	deg C
460710	01/14/81	TEMPERATURE, WATER	0	deg C
460710	01/13/83	TEMPERATURE, WATER	0.1	deg C
460710	01/11/84	TEMPERATURE, WATER	0.56	deg C
460710	01/16/85	TEMPERATURE, WATER	0	deg C
460710	01/14/86	TEMPERATURE, WATER	1.7	deg C
460710	01/13/87	TEMPERATURE, WATER	2.22	deg C
460710	01/13/88	TEMPERATURE, WATER	0.56	deg C
460710	01/10/89	TEMPERATURE, WATER	0.56	deg C

460710	01/16/90	TEMPERATURE, WATER	12.2	deg C
460710	01/16/91	TEMPERATURE, WATER	1.67	deg C
460710	01/15/92	TEMPERATURE, WATER	-	deg C
460710	01/20/93	TEMPERATURE, WATER	0.55999	deg C
460710	01/12/94	TEMPERATURE, WATER	-	deg C
460710	01/10/95	TEMPERATURE, WATER	0.55554	deg C
460710	01/22/96	TEMPERATURE, WATER	-1.1111	deg C
460710	01/13/99	TEMPERATURE, WATER	0	deg C
460710	01/10/00	TEMPERATURE, WATER	1.6	deg C
460710	01/09/01	TEMPERATURE, WATER	-0.6	deg C
460710	01/10/02	TEMPERATURE, WATER	1.1	deg C
460710	01/09/03	TEMPERATURE, WATER	0.6	deg C
460710	01/09/03	TEMPERATURE, WATER	3	deg C
460710	01/13/04	TEMPERATURE, WATER	-1.1	deg C
460710	01/13/05	TEMPERATURE, WATER	-4	deg C
460710	02/16/71	TEMPERATURE, WATER	1.99	deg C
460710	02/16/72	TEMPERATURE, WATER	0.55	deg C
460710	02/11/75	TEMPERATURE, WATER	0	deg C
460710	02/12/76	TEMPERATURE, WATER	0	deg C
460710	02/28/77	TEMPERATURE, WATER	0	deg C
460710	02/13/78	TEMPERATURE, WATER	0	deg C
460710	02/20/79	TEMPERATURE, WATER	0	deg C
460710	02/14/80	TEMPERATURE, WATER	0	deg C
460710	02/12/81	TEMPERATURE, WATER	0	deg C
460710	02/16/83	TEMPERATURE, WATER	0.9	deg C
460710	02/15/84	TEMPERATURE, WATER	0.56	deg C
460710	02/13/85	TEMPERATURE, WATER	0	deg C
460710	02/11/86	TEMPERATURE, WATER	1	deg C
460710	02/10/87	TEMPERATURE, WATER	2.22	deg C
460710	02/09/88	TEMPERATURE, WATER	0	deg C
460710	02/16/89	TEMPERATURE, WATER	1.7	deg C
460710	02/13/90	TEMPERATURE, WATER	0	deg C
		50th Percentile	0.56	
		80th Percentile	1.996	

Water Temperature (March - October)				
Site	Date	Parameter	Value	Units
460710	03/16/70	TEMPERATURE, WATER	0.99	deg C
460710	03/23/71	TEMPERATURE, WATER	0.5	deg C
460710	03/28/72	TEMPERATURE, WATER	1.11	deg C
460710	03/26/73	TEMPERATURE, WATER	6.11	deg C
460710	03/26/74	TEMPERATURE, WATER	0	deg C
460710	03/30/76	TEMPERATURE, WATER	5.56	deg C
460710	03/02/77	TEMPERATURE, WATER	0	deg C

460710	03/20/78	TEMPERATURE, WATER	0	deg C
460710	03/12/79	TEMPERATURE, WATER	0	deg C
460710	03/11/80	TEMPERATURE, WATER	1.11	deg C
460710	03/12/81	TEMPERATURE, WATER	5.56	deg C
460710	03/08/83	TEMPERATURE, WATER	0	deg C
460710	03/14/84	TEMPERATURE, WATER	0	deg C
460710	03/11/86	TEMPERATURE, WATER	0	deg C
460710	03/05/87	TEMPERATURE, WATER	7.78	deg C
460710	03/15/88	TEMPERATURE, WATER	0	deg C
460710	03/21/89	TEMPERATURE, WATER	0.5	deg C
460710	03/13/90	TEMPERATURE, WATER	2.78	deg C
460710	04/07/69	TEMPERATURE, WATER	3.88	deg C
460710	04/20/71	TEMPERATURE, WATER	17.5	deg C
460710	04/06/76	TEMPERATURE, WATER	8.89	deg C
460710	04/05/77	TEMPERATURE, WATER	1.11	deg C
460710	04/10/78	TEMPERATURE, WATER	5	deg C
460710	04/24/79	TEMPERATURE, WATER	10.6	deg C
460710	04/01/80	TEMPERATURE, WATER	5.56	deg C
460710	04/09/81	TEMPERATURE, WATER	13.3	deg C
460710	04/15/82	TEMPERATURE, WATER	8.88889	deg C
460710	04/11/83	TEMPERATURE, WATER	8	deg C
460710	04/15/85	TEMPERATURE, WATER	14	deg C
460710	04/15/86	TEMPERATURE, WATER	2.5	deg C
460710	04/13/87	TEMPERATURE, WATER	10	deg C
460710	04/12/88	TEMPERATURE, WATER	11.1	deg C
460710	04/18/89	TEMPERATURE, WATER	5.56	deg C
460710	04/10/90	TEMPERATURE, WATER	7.78	deg C
460710	04/09/91	TEMPERATURE, WATER	11.7	deg C
460710	04/15/92	TEMPERATURE, WATER	8.7	deg C
460710	04/14/93	TEMPERATURE, WATER	4.44	deg C
460710	04/18/94	TEMPERATURE, WATER	14	deg C
460710	04/17/95	TEMPERATURE, WATER	2.22222	deg C
460710	04/16/96	TEMPERATURE, WATER	7.77778	deg C
460710	04/20/98	TEMPERATURE, WATER	14.4444	deg C
460710	04/14/99	TEMPERATURE, WATER	10	deg C
460710	04/12/00	TEMPERATURE, WATER	2.8	deg C
460710	04/09/01	TEMPERATURE, WATER	5	deg C
460710	04/11/02	TEMPERATURE, WATER	0.6	deg C
460710	04/09/03	TEMPERATURE, WATER	7.2	deg C
460710	04/14/04	TEMPERATURE, WATER	11.1	deg C
460710	04/13/05	TEMPERATURE, WATER	12.4	deg C
460710	05/19/71	TEMPERATURE, WATER	9	deg C
460710	05/05/75	TEMPERATURE, WATER	11.7	deg C
460710	05/03/76	TEMPERATURE, WATER	7.78	deg C
460710	05/17/77	TEMPERATURE, WATER	20	deg C
460710	05/08/78	TEMPERATURE, WATER	10.6	deg C
460710	05/15/79	TEMPERATURE, WATER	10.6	deg C
460710	05/12/81	TEMPERATURE, WATER	14.4	deg C
460710	05/14/82	TEMPERATURE, WATER	14.44444	deg C

460710	05/16/84	TEMPERATURE, WATER	19	deg C
460710	05/15/85	TEMPERATURE, WATER	14	deg C
460710	05/13/86	TEMPERATURE, WATER	19	deg C
460710	05/12/87	TEMPERATURE, WATER	16.69999	deg C
460710	05/11/88	TEMPERATURE, WATER	14.4	deg C
460710	05/16/89	TEMPERATURE, WATER	19.89999	deg C
460710	05/15/90	TEMPERATURE, WATER	16.09999	deg C
460710	06/20/72	TEMPERATURE, WATER	17.9	deg C
460710	06/18/74	TEMPERATURE, WATER	24.5	deg C
460710	06/09/75	TEMPERATURE, WATER	13.9	deg C
460710	06/07/76	TEMPERATURE, WATER	20	deg C
460710	06/14/77	TEMPERATURE, WATER	18.29998	deg C
460710	06/19/78	TEMPERATURE, WATER	20	deg C
460710	06/12/79	TEMPERATURE, WATER	15.6	deg C
460710	06/10/80	TEMPERATURE, WATER	23.29998	deg C
460710	06/09/81	TEMPERATURE, WATER	20	deg C
460710	06/07/83	TEMPERATURE, WATER	16.89999	deg C
460710	06/06/85	TEMPERATURE, WATER	17	deg C
460710	06/10/86	TEMPERATURE, WATER	20	deg C
460710	06/08/87	TEMPERATURE, WATER	19	deg C
460710	06/14/88	TEMPERATURE, WATER	21.09999	deg C
460710	06/13/89	TEMPERATURE, WATER	16.09999	deg C
460710	06/12/90	TEMPERATURE, WATER	22.79998	deg C
460710	07/23/68	TEMPERATURE, WATER	17.7	deg C
460710	07/09/69	TEMPERATURE, WATER	24.4	deg C
460710	07/06/70	TEMPERATURE, WATER	25	deg C
460710	07/14/71	TEMPERATURE, WATER	24	deg C
460710	07/16/74	TEMPERATURE, WATER	22	deg C
460710	07/07/75	TEMPERATURE, WATER	22.2	deg C
460710	07/08/76	TEMPERATURE, WATER	23.89999	deg C
460710	07/06/77	TEMPERATURE, WATER	24.39999	deg C
460710	07/10/78	TEMPERATURE, WATER	18.89999	deg C
460710	07/10/79	TEMPERATURE, WATER	25.59999	deg C
460710	07/15/80	TEMPERATURE, WATER	24.39999	deg C
460710	07/13/82	TEMPERATURE, WATER	20	deg C
460710	07/18/83	TEMPERATURE, WATER	25.39999	deg C
460710	07/10/84	TEMPERATURE, WATER	23	deg C
460710	07/09/85	TEMPERATURE, WATER	21	deg C
460710	07/21/86	TEMPERATURE, WATER	25	deg C
460710	07/15/87	TEMPERATURE, WATER	22	deg C
460710	07/12/89	TEMPERATURE, WATER	22.19999	deg C
460710	07/16/90	TEMPERATURE, WATER	19.39999	deg C
460710	07/16/91	TEMPERATURE, WATER	26.09999	deg C
460710	07/15/92	TEMPERATURE, WATER	21.09999	deg C
460710	07/14/93	TEMPERATURE, WATER	18.29998	deg C
460710	07/11/94	TEMPERATURE, WATER	23.33332	deg C
460710	07/11/95	TEMPERATURE, WATER	23.33332	deg C
460710	07/10/96	TEMPERATURE, WATER	20	deg C
460710	07/16/97	TEMPERATURE, WATER	26.11111	deg C

460710	07/16/97	TEMPERATURE, WATER	26.11109	deg C
460710	07/20/98	TEMPERATURE, WATER	28.3333	deg C
460710	07/14/99	TEMPERATURE, WATER	26.1	deg C
460710	07/11/00	TEMPERATURE, WATER	26.1	deg C
460710	07/12/01	TEMPERATURE, WATER	21.6	deg C
460710	07/15/02	TEMPERATURE, WATER	26.6	deg C
460710	07/15/03	TEMPERATURE, WATER	23.9	deg C
460710	07/14/04	TEMPERATURE, WATER	23	deg C
460710	08/26/71	TEMPERATURE, WATER	15	deg C
460710	08/24/72	TEMPERATURE, WATER	17.9	deg C
460710	08/06/73	TEMPERATURE, WATER	22.2	deg C
460710	08/04/74	TEMPERATURE, WATER	19	deg C
460710	08/04/75	TEMPERATURE, WATER	24.4	deg C
460710	08/02/76	TEMPERATURE, WATER	16.69999	deg C
460710	08/02/77	TEMPERATURE, WATER	20	deg C
460710	08/14/78	TEMPERATURE, WATER	25.59999	deg C
460710	08/14/79	TEMPERATURE, WATER	17.79998	deg C
460710	08/14/80	TEMPERATURE, WATER	18.89999	deg C
460710	08/16/82	TEMPERATURE, WATER	22	deg C
460710	08/17/83	TEMPERATURE, WATER	27.69999	deg C
460710	08/17/83	TEMPERATURE, WATER	23.69999	deg C
460710	08/14/84	TEMPERATURE, WATER	24	deg C
460710	08/13/85	TEMPERATURE, WATER	18	deg C
460710	08/13/86	TEMPERATURE, WATER	20	deg C
460710	08/11/87	TEMPERATURE, WATER	26	deg C
460710	08/21/89	TEMPERATURE, WATER	21.69999	deg C
460710	08/13/90	TEMPERATURE, WATER	18.29998	deg C
460710	09/09/71	TEMPERATURE, WATER	17.2	deg C
460710	09/26/73	TEMPERATURE, WATER	-9.7	deg C
460710	09/17/74	TEMPERATURE, WATER	17	deg C
460710	09/16/75	TEMPERATURE, WATER	15	deg C
460710	09/07/76	TEMPERATURE, WATER	20	deg C
460710	09/20/77	TEMPERATURE, WATER	14.4	deg C
460710	09/18/78	TEMPERATURE, WATER	12.77778	deg C
460710	09/11/79	TEMPERATURE, WATER	18.29998	deg C
460710	09/11/80	TEMPERATURE, WATER	15.6	deg C
460710	09/08/83	TEMPERATURE, WATER	18.29998	deg C
460710	09/04/84	TEMPERATURE, WATER	16	deg C
460710	09/05/85	TEMPERATURE, WATER	21	deg C
460710	09/08/86	TEMPERATURE, WATER	16	deg C
460710	09/12/89	TEMPERATURE, WATER	15	deg C
460710	09/10/90	TEMPERATURE, WATER	18.29998	deg C
460710	10/21/70	TEMPERATURE, WATER	8.88	deg C
460710	10/14/71	TEMPERATURE, WATER	12.2	deg C
460710	10/26/72	TEMPERATURE, WATER	8.05	deg C
460710	10/28/74	TEMPERATURE, WATER	12	deg C
460710	10/08/75	TEMPERATURE, WATER	13.3	deg C
460710	10/04/76	TEMPERATURE, WATER	11.1	deg C
460710	10/12/77	TEMPERATURE, WATER	5.6	deg C

460710	10/17/78	TEMPERATURE, WATER	6.66667	deg C
460710	10/10/79	TEMPERATURE, WATER	7.78	deg C
460710	10/14/80	TEMPERATURE, WATER	6.7	deg C
460710	10/13/82	TEMPERATURE, WATER	8.8	deg C
460710	10/12/83	TEMPERATURE, WATER	7.22	deg C
460710	10/10/84	TEMPERATURE, WATER	14	deg C
460710	10/16/85	TEMPERATURE, WATER	9	deg C
460710	10/15/86	TEMPERATURE, WATER	7.22	deg C
460710	10/20/87	TEMPERATURE, WATER	6.7	deg C
460710	10/15/88	TEMPERATURE, WATER	5.6	deg C
460710	10/17/89	TEMPERATURE, WATER	8.8	deg C
460710	10/10/90	TEMPERATURE, WATER	8.33	deg C
460710	10/17/91	TEMPERATURE, WATER	11.7	deg C
460710	10/08/92	TEMPERATURE, WATER	8.89	deg C
460710	10/06/93	TEMPERATURE, WATER	10.55555	deg C
460710	10/18/94	TEMPERATURE, WATER	15.55556	deg C
460710	10/21/96	TEMPERATURE, WATER	7.77778	deg C
460710	10/20/97	TEMPERATURE, WATER	10.55556	deg C
460710	10/20/97	TEMPERATURE, WATER	10.55556	deg C
460710	10/20/98	TEMPERATURE, WATER	6.7	deg C
460710	10/14/99	TEMPERATURE, WATER	9.4	deg C
460710	10/11/01	TEMPERATURE, WATER	10.5	deg C
460710	10/10/02	TEMPERATURE, WATER	12.2	deg C
460710	10/08/03	TEMPERATURE, WATER	16.1	deg C
460710	10/14/04	TEMPERATURE, WATER	7	deg C
		50th Percentile	14.44	
		80th Percentile	21.82	

pH (November - February)				
Site	Date	Parameter	Value	Units
460710	11/18/74	PH	7.3	S.U.
460710	11/4/75	PH	7.5	S.U.
460710	11/1/76	PH	7.5	S.U.
460710	11/15/77	PH	7.2	S.U.
460710	11/14/78	PH	7.9	S.U.
460710	11/14/79	PH	7.2	S.U.
460710	11/17/81	PH	7.1	S.U.
460710	11/16/82	PH	8	S.U.
460710	11/13/84	PH	7.85	S.U.
460710	11/13/86	PH	7.8	S.U.
460710	11/17/87	PH	7.5	S.U.
460710	11/14/89	PH	7.98	S.U.
460710	12/1/70	PH	7.5	S.U.
460710	12/16/74	PH	7.8	S.U.
460710	12/1/75	PH	7.5	S.U.
460710	12/11/78	PH	7.35	S.U.

460710	12/13/79	PH	7.1	S.U.
460710	12/9/80	PH	7.6	S.U.
460710	12/14/83	PH	7.2	S.U.
460710	12/15/87	PH	7.4	S.U.
460710	12/12/89	PH	7.52	S.U.
460710	1/6/75	PH	7.5	S.U.
460710	1/9/79	PH	7.1	S.U.
460710	1/15/80	PH	6.8	S.U.
460710	1/14/81	PH	7.4	S.U.
460710	1/11/84	PH	7.4	S.U.
460710	1/16/85	PH	7	S.U.
460710	1/14/86	PH	7.86	S.U.
460710	1/13/87	PH	7.6	S.U.
460710	1/16/90	PH	7.38	S.U.
460710	1/16/91	PH	6.9	S.U.
460710	1/15/92	PH	7.85	S.U.
460710	1/20/93	PH	7.84	S.U.
460710	1/12/94	PH	7.64	S.U.
460710	1/10/95	PH	7.53	S.U.
460710	1/22/96	PH	7.98	S.U.
460710	1/13/99	PH	8.08	S.U.
460710	1/10/00	PH	8.03	S.U.
460710	1/9/01	PH	7.99	S.U.
460710	1/10/02	PH	7	S.U.
460710	1/13/04	PH	7.78	S.U.
460710	1/13/05	PH	7.9	S.U.
460710	2/16/71	PH	7.5	S.U.
460710	2/16/72	PH	7.5	S.U.
460710	2/11/75	PH	7.5	S.U.
460710	2/12/76	PH	7.5	S.U.
460710	2/13/78	PH	5.65	S.U.
460710	2/20/79	PH	7.2	S.U.
460710	2/14/80	PH	6.8	S.U.
460710	2/12/81	PH	7.3	S.U.
460710	2/16/83	PH	7.65	S.U.
460710	2/15/84	PH	7.7	S.U.
	50th Percentile		7.50	
	80th Percentile		7.848	

pH (March - October)				
Site	Date	Parameter	Value	Units
460710	3/16/70	PH	7.2	S.U.
460710	3/23/71	PH	7.5	S.U.
460710	3/26/73	PH	8.2	S.U.

460710	3/30/76	PH	7.5	S.U.
460710	3/12/79	PH	7.15	S.U.
460710	3/11/80	PH	7.4	S.U.
460710	3/12/81	PH	7.1	S.U.
460710	3/8/83	PH	7.65	S.U.
460710	3/14/84	PH	7.4	S.U.
460710	3/11/86	PH	7.29	S.U.
460710	3/5/87	PH	7.6	S.U.
460710	3/21/89	PH	7.57	S.U.
460710	3/13/90	PH	8.11	S.U.
460710	4/20/71	PH	8	S.U.
460710	4/6/76	PH	8	S.U.
460710	4/24/79	PH	8.05	S.U.
460710	4/1/80	PH	7.7	S.U.
460710	4/9/81	PH	7.4	S.U.
460710	4/15/82	PH	7.9	S.U.
460710	4/11/83	PH	8.4	S.U.
460710	4/15/85	PH	8.05	S.U.
460710	4/13/87	PH	7.9	S.U.
460710	4/18/89	PH	7.8	S.U.
460710	4/10/90	PH	7.99	S.U.
460710	4/9/91	PH	8.49	S.U.
460710	4/15/92	PH	8.39	S.U.
460710	4/14/93	PH	7.92	S.U.
460710	4/18/94	PH	7.55	S.U.
460710	4/17/95	PH	7.87	S.U.
460710	4/16/96	PH	8.62	S.U.
460710	4/20/98	PH	8.12	S.U.
460710	4/14/99	PH	8.11	S.U.
460710	4/12/00	PH	8.36	S.U.
460710	4/9/01	PH	7.61	S.U.
460710	4/11/02	PH	7.02	S.U.
460710	4/9/03	PH	8.02	S.U.
460710	4/14/04	PH	8.32	S.U.
460710	4/13/05	PH	8.28	S.U.
460710	5/5/75	PH	8	S.U.
460710	5/3/76	PH	8	S.U.
460710	5/8/78	PH	7.25	S.U.
460710	5/15/79	PH	7.95	S.U.
460710	5/12/81	PH	7.3	S.U.
460710	5/14/82	PH	8.1	S.U.
460710	5/16/84	PH	8.3	S.U.
460710	5/13/86	PH	8.1	S.U.
460710	5/12/87	PH	7.7	S.U.
460710	5/16/89	PH	8.24	S.U.
460710	5/15/90	PH	7.79	S.U.
460710	6/20/72	PH	8.2	S.U.
460710	6/9/75	PH	8	S.U.
460710	6/7/76	PH	7.5	S.U.

460710	6/19/78	PH	7.45	S.U.
460710	6/12/79	PH	8.05	S.U.
460710	6/10/80	PH	7.6	S.U.
460710	6/9/81	PH	7.4	S.U.
460710	6/7/83	PH	7.75	S.U.
460710	6/6/85	PH	8	S.U.
460710	6/8/87	PH	7.6	S.U.
460710	6/13/89	PH	8.02	S.U.
460710	6/12/90	PH	8.25	S.U.
460710	7/9/69	PH	8	S.U.
460710	7/6/70	PH	7.9	S.U.
460710	7/14/71	PH	7.6	S.U.
460710	7/7/75	PH	8	S.U.
460710	7/10/78	PH	7.35	S.U.
460710	7/10/79	PH	8.2	S.U.
460710	7/15/80	PH	7.4	S.U.
460710	7/13/82	PH	7.8	S.U.
460710	7/18/83	PH	7.75	S.U.
460710	7/10/84	PH	7.75	S.U.
460710	7/21/86	PH	8.3	S.U.
460710	7/15/87	PH	7.7	S.U.
460710	7/12/89	PH	7.73	S.U.
460710	7/16/90	PH	7.37	S.U.
460710	7/16/91	PH	8.1	S.U.
460710	7/15/92	PH	8.3	S.U.
460710	7/14/93	PH	7.94	S.U.
460710	7/11/94	PH	7.41	S.U.
460710	7/11/95	PH	7.82	S.U.
460710	7/10/96	PH	8.02	S.U.
460710	7/16/97	PH	8	S.U.
460710	7/20/98	PH	7.82	S.U.
460710	7/14/99	PH	7.76	S.U.
460710	7/11/00	PH	7.64	S.U.
460710	7/12/01	PH	7.69	S.U.
460710	7/15/02	PH	7.63	S.U.
460710	7/15/03	PH	7.2	S.U.
460710	7/14/04	PH	8.09	S.U.
460710	8/26/71	PH	7.7	S.U.
460710	8/24/72	PH	8.2	S.U.
460710	8/6/73	PH	7.5	S.U.
460710	8/4/74	PH	7.5	S.U.
460710	8/4/75	PH	7.5	S.U.
460710	8/2/76	PH	7.5	S.U.
460710	8/14/78	PH	7.25	S.U.
460710	8/14/79	PH	7.5	S.U.
460710	8/14/80	PH	7.3	S.U.
460710	8/16/82	PH	7.8	S.U.
460710	8/17/83	PH	8.15	S.U.
460710	8/17/83	PH	7.4	S.U.

460710	8/13/85	PH	7.1	S.U.
460710	8/11/87	PH	7.7	S.U.
460710	8/21/89	PH	7.51	S.U.
460710	8/13/90	PH	7.46	S.U.
460710	9/9/71	PH	7.7	S.U.
460710	9/17/74	PH	7.5	S.U.
460710	9/7/76	PH	7.5	S.U.
460710	9/18/78	PH	7.05	S.U.
460710	9/11/79	PH	7.95	S.U.
460710	9/11/80	PH	7.1	S.U.
460710	9/8/83	PH	7.6	S.U.
460710	9/4/84	PH	7.7	S.U.
460710	9/8/86	PH	8	S.U.
460710	9/12/89	PH	8.46	S.U.
460710	9/10/90	PH	7.56	S.U.
460710	10/21/70	PH	7.8	S.U.
460710	10/14/71	PH	7.4	S.U.
460710	10/26/72	PH	7.5	S.U.
460710	10/28/74	PH	7.5	S.U.
460710	10/8/75	PH	8	S.U.
460710	10/4/76	PH	7.5	S.U.
460710	10/17/78	PH	7.45	S.U.
460710	10/10/79	PH	7.95	S.U.
460710	10/14/80	PH	6.9	S.U.
460710	10/13/82	PH	8.1	S.U.
460710	10/12/83	PH	7.4	S.U.
460710	10/16/85	PH	7.6	S.U.
460710	10/20/87	PH	7.6	S.U.
460710	10/15/88	PH	7.45	S.U.
460710	10/17/89	PH	7.79	S.U.
460710	10/10/90	PH	7.78	S.U.
460710	10/17/91	PH	7.98	S.U.
460710	10/8/92	PH	7.4	S.U.
460710	10/6/93	PH	7.94	S.U.
460710	10/18/94	PH	8.62	S.U.
460710	10/21/96	PH	8	S.U.
460710	10/20/97	PH	7.66	S.U.
460710	10/20/98	PH	8.72	S.U.
460710	10/14/99	PH	8.44	S.U.
460710	10/11/01	PH	7.25	S.U.
460710	10/10/02	PH	7.42	S.U.
460710	10/8/03	PH	7.59	S.U.
460710	10/14/04	PH	8.27	S.U.
	50th Percentile		7.75	
	80th Percentile		8.09	

Ammonia (November - February)				
Site	Date	Parameter	Value	Units
460710	11/18/74	NITROGEN, AMMONIA (NH3) AS NH3	0.17	mg/l
460710	11/04/75	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	11/01/76	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	11/15/77	NITROGEN, AMMONIA (NH3) AS NH3	0.33	mg/l
460710	11/14/78	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	11/14/79	NITROGEN, AMMONIA (NH3) AS NH3	0.11	mg/l
460710	11/17/81	NITROGEN, AMMONIA (NH3) AS NH3	0.09	mg/l
460710	11/16/82	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	11/13/84	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	11/13/86	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	11/17/87	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	11/14/89	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	12/16/74	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	12/01/75	NITROGEN, AMMONIA (NH3) AS NH3	0.41	mg/l
460710	12/07/76	NITROGEN, AMMONIA (NH3) AS NH3	0.3	mg/l
460710	12/13/77	NITROGEN, AMMONIA (NH3) AS NH3	0.45	mg/l
460710	12/11/78	NITROGEN, AMMONIA (NH3) AS NH3	0.35	mg/l
460710	12/13/79	NITROGEN, AMMONIA (NH3) AS NH3	0.13	mg/l
460710	12/09/80	NITROGEN, AMMONIA (NH3) AS NH3	0.22	mg/l
460710	12/06/82	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	12/14/83	NITROGEN, AMMONIA (NH3) AS NH3	0.31	mg/l
460710	12/11/84	NITROGEN, AMMONIA (NH3) AS NH3	0.14	mg/l
460710	12/10/85	NITROGEN, AMMONIA (NH3) AS NH3	0.9	mg/l
460710	12/09/86	NITROGEN, AMMONIA (NH3) AS NH3	0.17	mg/l
460710	12/15/87	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l
460710	12/12/89	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l
460710	01/06/75	NITROGEN, AMMONIA (NH3) AS NH3	0.37	mg/l
460710	01/05/77	NITROGEN, AMMONIA (NH3) AS NH3	0.4	mg/l
460710	01/10/78	NITROGEN, AMMONIA (NH3) AS NH3	0.56	mg/l
460710	01/09/79	NITROGEN, AMMONIA (NH3) AS NH3	0.51	mg/l
460710	01/15/80	NITROGEN, AMMONIA (NH3) AS NH3	0.79	mg/l
460710	01/14/81	NITROGEN, AMMONIA (NH3) AS NH3	0.37	mg/l
460710	01/13/83	NITROGEN, AMMONIA (NH3) AS NH3	0.11	mg/l
460710	01/11/84	NITROGEN, AMMONIA (NH3) AS NH3	0.46	mg/l
460710	01/16/85	NITROGEN, AMMONIA (NH3) AS NH3	0.55	mg/l
460710	01/14/86	NITROGEN, AMMONIA (NH3) AS NH3	0.65	mg/l
460710	01/13/87	NITROGEN, AMMONIA (NH3) AS NH3	0.15	mg/l
460710	01/13/88	NITROGEN, AMMONIA (NH3) AS NH3	0.44	mg/l
460710	01/10/89	NITROGEN, AMMONIA (NH3) AS NH3	0.57	mg/l
460710	01/16/90	NITROGEN, AMMONIA (NH3) AS NH3	0.41	mg/l
460710	01/16/91	NITROGEN, AMMONIA (NH3) AS NH3	0.47	mg/l
460710	01/15/92	NITROGEN, AMMONIA (NH3) AS NH3	0.16	mg/l
460710	01/20/93	NITROGEN, AMMONIA (NH3) AS NH3	0.42	mg/l
460710	01/12/94	NITROGEN, AMMONIA (NH3) AS NH3	0.28	mg/l
460710	01/10/95	NITROGEN, AMMONIA (NH3) AS NH3	0.15	mg/l
460710	01/22/96	NITROGEN, AMMONIA (NH3) AS NH3	0.33	mg/l

460710	01/13/99	NITROGEN, AMMONIA (NH3) AS NH3	0.31	mg/l
460710	01/10/00	NITROGEN, AMMONIA (NH3) AS NH3	0.19	mg/l
460710	01/09/01	NITROGEN, AMMONIA (NH3) AS NH3	0.49	mg/l
460710	01/10/02	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l
460710	01/09/03	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	01/13/04	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l
460710	01/13/05	NITROGEN, AMMONIA (NH3) AS NH3	0.49	mg/l
460710	02/11/75	NITROGEN, AMMONIA (NH3) AS NH3	0.53	mg/l
460710	02/12/76	NITROGEN, AMMONIA (NH3) AS NH3	1.28	mg/l
460710	02/28/77	NITROGEN, AMMONIA (NH3) AS NH3	0.25	mg/l
460710	02/13/78	NITROGEN, AMMONIA (NH3) AS NH3	1.23	mg/l
460710	02/20/79	NITROGEN, AMMONIA (NH3) AS NH3	0.36	mg/l
460710	02/14/80	NITROGEN, AMMONIA (NH3) AS NH3	0.64	mg/l
460710	02/12/81	NITROGEN, AMMONIA (NH3) AS NH3	0.44	mg/l
460710	02/16/83	NITROGEN, AMMONIA (NH3) AS NH3	0.2	mg/l
460710	02/15/84	NITROGEN, AMMONIA (NH3) AS NH3	0.67	mg/l
460710	02/13/85	NITROGEN, AMMONIA (NH3) AS NH3	0.46	mg/l
460710	02/11/86	NITROGEN, AMMONIA (NH3) AS NH3	0.48	mg/l
460710	02/10/87	NITROGEN, AMMONIA (NH3) AS NH3	0.11	mg/l
460710	02/09/88	NITROGEN, AMMONIA (NH3) AS NH3	0.44	mg/l
460710	02/16/89	NITROGEN, AMMONIA (NH3) AS NH3	0.45	mg/l
460710	02/13/90	NITROGEN, AMMONIA (NH3) AS NH3	0.27	mg/l
		50th Percentile	0.31	
		80th Percentile	0.49	

Ammonia Nitrogen (March - October)				
Site	Date	Parameter	Value	Units
460710	03/30/76	NITROGEN, AMMONIA (NH3) AS NH3	0.12	mg/l
460710	03/02/77	NITROGEN, AMMONIA (NH3) AS NH3	0.28	mg/l
460710	03/20/78	NITROGEN, AMMONIA (NH3) AS NH3	1.95	mg/l
460710	03/12/79	NITROGEN, AMMONIA (NH3) AS NH3	0.31	mg/l
460710	03/11/80	NITROGEN, AMMONIA (NH3) AS NH3	0.62	mg/l
460710	03/12/81	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	03/08/83	NITROGEN, AMMONIA (NH3) AS NH3	0.34	mg/l
460710	03/14/84	NITROGEN, AMMONIA (NH3) AS NH3	0.62	mg/l
460710	03/11/86	NITROGEN, AMMONIA (NH3) AS NH3	0.41	mg/l
460710	03/05/87	NITROGEN, AMMONIA (NH3) AS NH3	0.09	mg/l
460710	03/15/88	NITROGEN, AMMONIA (NH3) AS NH3	0.31	mg/l
460710	03/21/89	NITROGEN, AMMONIA (NH3) AS NH3	0.78	mg/l
460710	03/13/90	NITROGEN, AMMONIA (NH3) AS NH3	0.32	mg/l
460710	04/06/76	NITROGEN, AMMONIA (NH3) AS NH3	0.14	mg/l
460710	04/05/77	NITROGEN, AMMONIA (NH3) AS NH3	0.51	mg/l
460710	04/10/78	NITROGEN, AMMONIA (NH3) AS NH3	0.16	mg/l
460710	04/24/79	NITROGEN, AMMONIA (NH3) AS NH3	0.09	mg/l
460710	04/01/80	NITROGEN, AMMONIA (NH3) AS NH3	0.28	mg/l

460710	04/09/81	NITROGEN, AMMONIA (NH3) AS NH3	0.1	mg/l
460710	04/15/82	NITROGEN, AMMONIA (NH3) AS NH3	0.13	mg/l
460710	04/11/83	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	04/15/85	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	04/15/86	NITROGEN, AMMONIA (NH3) AS NH3	0.28	mg/l
460710	04/13/87	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	04/12/88	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	04/18/89	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	04/10/90	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	04/09/91	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	04/15/92	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	04/14/93	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	04/18/94	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	04/17/95	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	04/16/96	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	04/20/98	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*non-detect
460710	04/14/99	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	04/12/00	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	04/09/01	NITROGEN, AMMONIA (NH3) AS NH3	0.15	mg/l
460710	04/11/02	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	04/09/03	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	04/14/04	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	04/13/05	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	05/05/75	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	05/03/76	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	05/17/77	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	05/08/78	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	05/15/79	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	05/12/81	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	05/14/82	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	05/16/84	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	05/15/85	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	05/13/86	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	05/12/87	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	05/11/88	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	05/16/89	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	05/15/90	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	06/09/75	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	06/07/76	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	06/14/77	NITROGEN, AMMONIA (NH3) AS NH3	0.15	mg/l
460710	06/19/78	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	06/12/79	NITROGEN, AMMONIA (NH3) AS NH3	0.12	mg/l
460710	06/10/80	NITROGEN, AMMONIA (NH3) AS NH3	0.45	mg/l
460710	06/09/81	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l
460710	06/07/83	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	06/06/85	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	06/10/86	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	06/08/87	NITROGEN, AMMONIA (NH3) AS NH3	0.11	mg/l
460710	06/14/88	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l

460710	06/13/89	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	06/12/90	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	07/07/75	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	07/08/76	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	07/06/77	NITROGEN, AMMONIA (NH3) AS NH3	0.16	mg/l
460710	07/10/78	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	07/10/79	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	07/15/80	NITROGEN, AMMONIA (NH3) AS NH3	0.1	mg/l
460710	07/13/82	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	07/18/83	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	07/10/84	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	07/09/85	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	07/21/86	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	07/15/87	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	07/12/89	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	07/16/90	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	07/16/91	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	07/15/92	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	07/14/93	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	07/11/94	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	07/11/95	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	07/10/96	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	07/16/97	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	07/20/98	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*non-detect
460710	07/14/99	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	07/11/00	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	07/12/01	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	07/15/02	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	07/15/03	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	07/14/04	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	08/04/75	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	08/02/76	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	08/02/77	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	08/14/78	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	08/14/79	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	08/14/80	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	08/16/82	NITROGEN, AMMONIA (NH3) AS NH3	0.09	mg/l
460710	08/17/83	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	08/17/83	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	08/14/84	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	08/13/85	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	08/13/86	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	08/11/87	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	08/21/89	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	08/13/90	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	09/17/74	NITROGEN, AMMONIA (NH3) AS NH3	0.021	mg/l
460710	09/07/76	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	09/20/77	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	09/18/78	NITROGEN, AMMONIA (NH3) AS NH3	0.23	mg/l

460710	09/11/79	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	09/11/80	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	09/08/83	NITROGEN, AMMONIA (NH3) AS NH3	0.25	mg/l
460710	09/04/84	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	09/05/85	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	09/08/86	NITROGEN, AMMONIA (NH3) AS NH3	0.07	mg/l
460710	09/12/89	NITROGEN, AMMONIA (NH3) AS NH3	0.13	mg/l
460710	09/10/90	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	10/28/74	NITROGEN, AMMONIA (NH3) AS NH3	0.05	mg/l
460710	10/08/75	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	10/04/76	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	10/12/77	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/17/78	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/10/79	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/14/80	NITROGEN, AMMONIA (NH3) AS NH3	0.09	mg/l
460710	10/13/82	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/12/83	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	10/10/84	NITROGEN, AMMONIA (NH3) AS NH3	0.02	mg/l
460710	10/16/85	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/15/86	NITROGEN, AMMONIA (NH3) AS NH3	0.04	mg/l
460710	10/20/87	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/15/88	NITROGEN, AMMONIA (NH3) AS NH3	0.03	mg/l
460710	10/17/89	NITROGEN, AMMONIA (NH3) AS NH3	0.08	mg/l
460710	10/10/90	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/17/91	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/08/92	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/06/93	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/18/94	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/21/96	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/20/97	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/20/98	NITROGEN, AMMONIA (NH3) AS NH3	0.06	mg/l
460710	10/14/99	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/11/01	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/10/02	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/08/03	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
460710	10/14/04	NITROGEN, AMMONIA (NH3) AS NH3	0.01	*Non-detect
		50th Percentile	0.04	
		80th Percentile	0.09	

ATTACHMENT 2 – POINT SOURCE DISCHARGERS FLOW DATA

Rosholt Water Balance Calculations						
Primary Pond Surface Area		3.47		151153.2		
Secondary Pond Surface Area		2.03		88426.8		
Artificial Wetland Surface Area		5.25		228690		
	Total Area	10.75	Acres	468270	Square ft	
Population		419	people			
Average inflow ¹		110	gal/person/day			
System inflow		46090	gal/day	16822850		
Average annual precipitation ²		22.2	in/yr	17753	gal/day	
Average annual evaporation ³		34	in/yr	27190	gal/day	
Primary Pond Seepage ⁴		0.0625	in/day	5889	gal/day	
Secondary Pond Seepage ⁴		0.125	in/day	6890	gal/day	
Additional Pond Seepage ⁴		0.125	in/day	17819	gal/day	
Water budget	Inflow > Seepage + Evaporation - Precipitation					
		46090		40034		
Excess gallons per day =		6056		2210531	Gallons per year	
Estimated discharge flow rate based on 14 days of discharge per year				0.24 cfs		
¹ Based on estimated inflow from monitoring records						
² data obtained from weather.com for Rosholt, SD						
³ NRCS Mean Annual Evaporation from Shallow Lakes and Reservoirs, 1982						
⁴ SDDENR Recommended Design Criteria Manual for Wastewater Collection and Treatment Facilities, 1991						

North Country Ethanol Discharge Monitoring Report Flow Data

DMR Date	Flow rate, 30DA AVG, MGD	Flow rate, DAILY MX, MGD	
4/30/2002	0.025	0.05	
5/31/2002	0.05	0.085	
6/30/2002	0.046	0.085	
7/31/2002	0.066	0.09	
8/31/2002	0.058	0.078	
9/30/2002	0.054	0.069	
10/31/2002	0.07	0.081	
11/30/2002	0.048	0.061	
12/31/2002	0.042	0.049	
10/31/2004	0.005	0.005	
11/30/2004	0.002	0.007	
3/31/2005	133	158	
4/30/2005	0.181008	0.265536	
5/31/2005	0.184032	0.25344	
6/30/2005	0.213264	0.279648	
7/31/2005	0.17928	0.286704	
8/31/2005	0.171504	0.223056	
9/30/2005	0.168048	0.216576	
10/31/2005	0.16056	0.216576	
11/30/2005	0.134	0.197	
12/31/2005	0.14	0.2	
1/31/2006	0.16	0.22	
2/28/2006	0.15	0.2	
3/31/2006	0.14	0.2	
4/30/2006	0.13	0.25	
5/31/2006	0.12	0.13	
6/30/2006	0.15	0.32	
7/31/2006	0.17	0.25	
8/31/2006	0.18	0.3	
9/30/2006	0.19	0.29	
50th Percentile	0.14	0.20	
80th Percentile	0.18	0.27	mgd
	0.28	0.42	cfs

The 80th Percentile daily maximum flow rate (0.42 cfs) was used for the expected flow rate from the North County Ethanol facility.