

2010 Water Quality Monitoring Report



Prepared for

**Clearwater
River
Watershed
District**



Wenck

January 2011

2010 Water Quality Monitoring Report



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Prepared for:

**CLEARWATER RIVER WATERSHED
DISTRICT**

Box 481
Annandale, Minnesota 55389

Prepared by:

WENCK ASSOCIATES, INC.
1800 Pioneer Creek Center
P.O. Box 249
Maple Plain, Minnesota 55359-0249
(763) 479-4200

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1.0 Introduction

The Clearwater River Watershed District (CRWD) has conducted a stream, precipitation, and lake monitoring program since 1980 (Appendix A). Ongoing monitoring is critical to establish baseline water quality and hydrologic data and to assess long-term water quality trends within the CRWD. Lake water quality has generally improved dramatically since the early 1980s, and in stream nutrient and sediment loads were reduced as the result of the CRWD's Chain of Lakes Restoration Project and other District initiatives (Appendix B and C). However, some water bodies do not meet state water quality standards for designated uses (recreation or drinking water for example).

The CRWD, in partnership with the Minnesota Pollution Control Agency (MPCA), began a Total Maximum Daily Load (TMDL) study in 2003 to address the District's impaired waters. The TMDL process establishes the amount of a given pollutant that the water body can assimilate while still meeting its designated uses. The TMDL studies are nearing final approval and the required nutrient, bacteria and oxygen demand load reductions have been quantified. The CRWD has identified a suite of implementation strategies in the watershed needed to meet water quality goals for impaired waters and to protect water quality of all CRWD waters.

The monitoring program going forward will:

1. Track progress towards water quality goals for impaired waters,
2. Fill data gaps identified in the TMDLs, and evaluate water quality through annual monitoring program,
3. Continue to provide baseline water quality data and calibration data sets to refine TMDL load reductions, and
4. Track long-term trends in all CRWD waters monitored ensuring early detection of declining trends.

As shown in Table 1.1, the TMDLs are complete and were approved by the MPCA. Further, the CRWD developed the required CRWD Watershed-wide Implementation Plan which was approved by the MPCA in May of 2009. Following the completion of the TMDLs, the CRWD undertook a revision of its Watershed Management Plan to reflect the recommendations in the TMDL and expand on them. TMDL reports can be found at the MPCA website at <http://www.pca.state.mn.us/water/tmdl>. The Watershed Management Plan will be available at the CWRD web site upon completion.

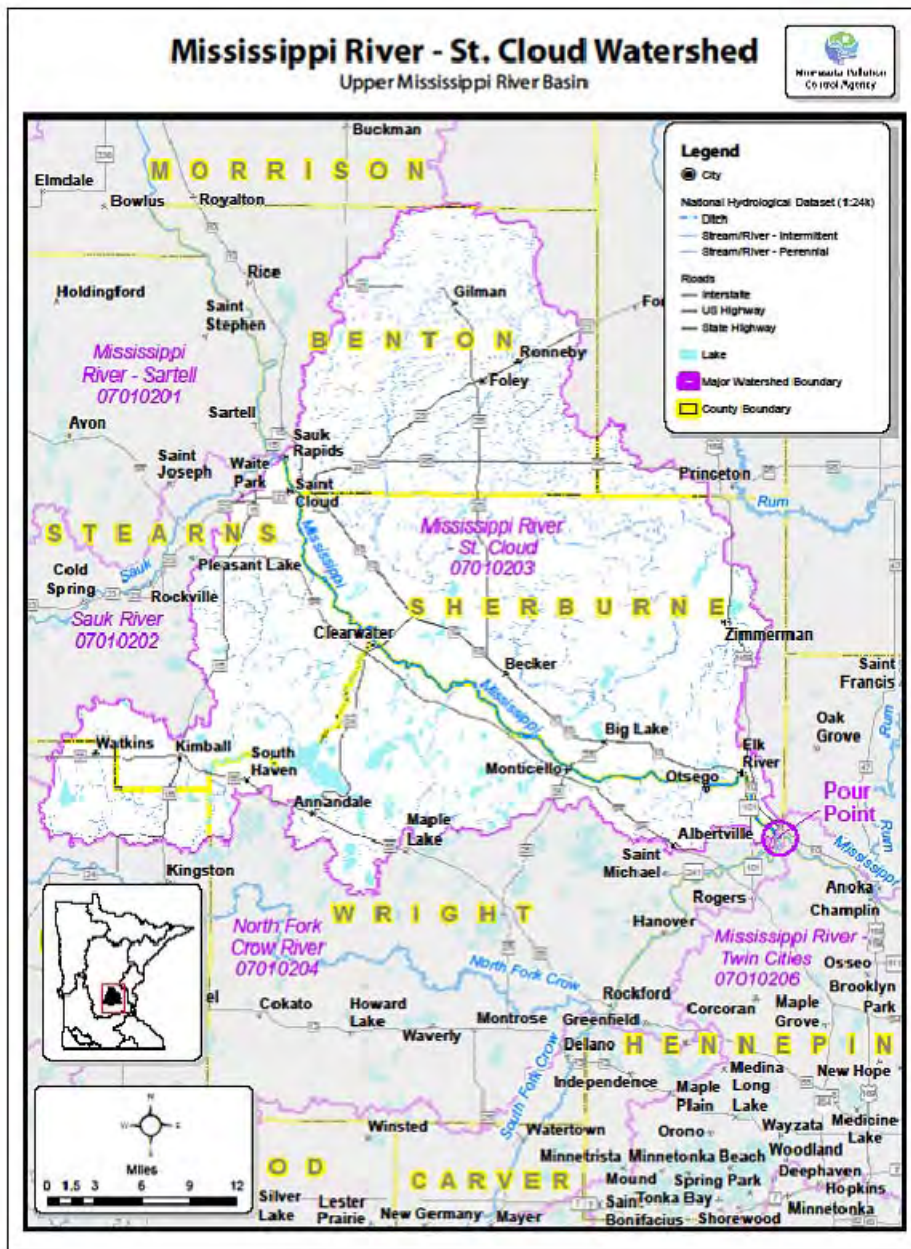
Table 1.1 Impaired Waters in CRWD

| Water | Impairment and Impaired Use | TMDL Status |
|---|--|---|
| Clear Lake (47-0095) | Nutrients, aquatic life and recreation | EPA Approved. |
| Lake Betsy (47-0042) | | |
| Union Lake (86-0298) | | |
| Scott Lake (86-0297) | | |
| Lake Louisa (86-0282) | | |
| Lake Marie (73-0014) | | |
| The Clearwater River, Clear Lake to Lake Betsy | Dissolved oxygen and bacteria, aquatic life & recreation | EPA Approved. |
| Lake Caroline (86-0281) | Nutrients, aquatic life and recreation | |
| Lake Augusta (86-0284) | | |
| Swartout Lake (86-0208) | | |
| Lake Albion (86-0212) | | |
| Henshaw Lake (86-0213) | | |
| The Clearwater River, Grass Lake to the Mississippi | Dissolved oxygen, aquatic life and recreation | Under consideration at MPCA for de-listing as data collected did not support the presence of an impairment. |

Another TMDL effort is underway for the larger 8-digit hydrologic unit code (HUC) 07010203, which includes CRWD as well as the Sauk and Elk River watersheds (Figure 1.1). This process began in 2009 under the MPCA's new approach to TMDLs called the watershed approach. The

watershed approach is a 10-year rotation for assessing waters of the state on the level of Minnesota's major watersheds (8-digit HUCs). This process is scheduled to be completed in 2013, is being led by the Elk River Watershed Association (ERWSA) and may result in new impairments and TMDLs within the CRWD based on indices of biotic integrity. Future funding for TMDL related efforts will also largely be controlled by this process; as such it is important for CRWD to remain strongly involved in this process.

Figure 1.1 Geographic Coverage of 8-Digit HUC Watershed TMDL Currently Underway



To meet lake water quality goals, nutrient loads must be managed from both watershed sources and internal nutrient cycling sources. Several of the watershed management strategies identified for lakes will also assist with meeting bacteria and dissolved oxygen goals for the Clearwater River. Projects and programs to achieve water quality goals were identified in the CRWD Watershed-wide Implementation Plan and are expanded upon in the CRWD's Watershed Management Plan which has been submitted to BWSR for approval.

The CRWD has applied for grants in 2009 and 2010 to fund eight of the projects/ programs identified. The CRWD received grants for four of the projects including two stream restorations, one stormwater reclamation and reuse project as well as a stream channel/ wetland restoration of the Kingston Wetland. Projects and their status are described in Section 5 of this report.

The 2010 CRWD monitoring plan is found in Appendix A, and summarized below:

- ❖ Fourteen lakes were monitored in 2010. Additional sampling efforts in 2010 included better characterization of internal nutrient cycling by measuring the anoxic period explicitly through collection of additional temperature and dissolved profile data on selected lakes as well as collecting lake bottom samples to be analyzed for phosphorus and iron. The lakes monitored by CRWD in 2010 included Albion Lake, Lake Augusta, Lake Betsy, Lake Caroline, Cedar Lake, Clear Lake, Clearwater Lake West, Henshaw Lake, Lake Louisa, Lake Marie, Pleasant Lake, Scott Lake, Swartout Lake, and Union Lake.
- ❖ Lake sediment cores were collected from Lake Augusta and Scott Lake to measure release rates to quantify internal nutrient cycling.
- ❖ Long-term Clearwater River monitoring stations CR-28.2 located upstream of Lake Betsy and CR 10.5 located at the Grass Lake Dam were sampled as well as Warner Creek near its inflow to Clearwater Lake at WR-0.2. Two inlet streams that flow into Clear Lake were also sampled in 2010.

- ❖ Citizen Precipitation Recorders (CPRs) maintained precipitation records in Watkins, Kimball, and Annandale. Citizen volunteers also measured Secchi depths in CRWD lakes in 2010.

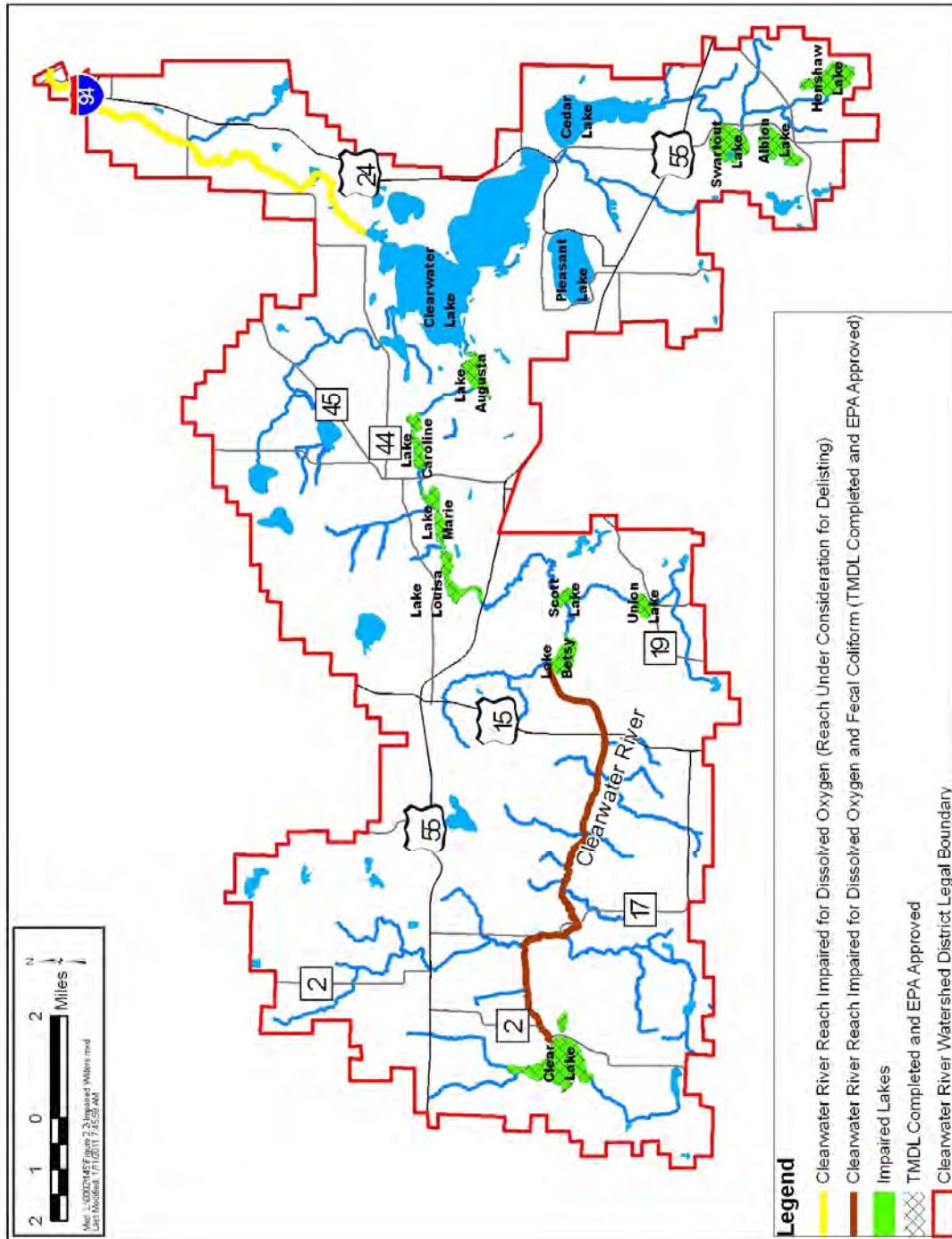
Figure 1.2 shows the monitoring locations. Figure 1.3 shows locations of impaired water bodies in the CRWD.

Monitoring continued in the Cedar Lake subwatershed in 2010 to track progress on the Cedar Chain of Lakes Improvement Project #06-1. Samples were collected from Albion Lake, Cedar Lake, Henshaw Lake, and Swartout Lake as well as from selected tributary streams in the subwatershed. Vegetation surveys were also conducted on Swartout and Henshaw Lakes.

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Figure 1.3 Impaired Water Bodies in CRWD



2.0 Hydrology

2.1 PRECIPITATION

Total annual precipitation during 2010 was four to eight inches above normal throughout the District. Precipitation was well above normal during the months of June, August, September, and December. Spring precipitation was slightly below normal but runoff from snowmelt was high. Table 2.1 summarizes 2010 precipitation levels and Appendix D contains summary charts for each station and the precipitation records for the CRWD.

Table 2.1 Clearwater River Watershed District 2010 Precipitation Records and Normals (inches)

| | 2010 St. Cloud (Saint Cloud WSO Airport) | 1971-2000 Normal (St. Cloud) | 2010 Watkins (Meeker) | 2010 Kimball (Meeker) | 1971-2000 Normal (Litchfield) | 2010 Annandale/ Corinna (Wright) | 1971-2000 Normal (Cokato) |
|--------------|---|---------------------------------|--------------------------|--------------------------|----------------------------------|--|------------------------------|
| January | 0.72 | 0.76 | 0.61 | 0.48 | 0.79 | 0.55 | 0.93 |
| February | 0.77 | 0.59 | 0.95 | 1.16 | 0.67 | 0.93 | 0.70 |
| March | 1.21 | 1.50 | 1.54 | 1.30 | 1.55 | 1.58 | 1.69 |
| April | 1.43 | 2.13 | 1.12 | 0.73 | 2.35 | 1.52 | 2.33 |
| May | 2.05 | 2.97 | 2.25 | 3.39 | 3.37 | 2.15 | 3.30 |
| June | 4.92 | 4.51 | 6.96 | 5.97 | 4.89 | 6.60 | 4.62 |
| July | 3.15 | 3.34 | 2.60 | 3.16 | 4.02 | 2.83 | 4.04 |
| August | 6.36 | 3.93 | 5.94 | 5.43 | 3.67 | 5.06 | 4.00 |
| September | 7.16 | 2.93 | 5.78 | 8.51 | 2.92 | 5.94 | 2.78 |
| October | 2.59 | 2.24 | 2.88 | 2.89 | 2.15 | 2.50 | 2.23 |
| November | 1.02 | 1.54 | 1.11 | 0.85 | 1.50 | 0.78 | 1.73 |
| December | 2.46 | 0.69 | 2.62 | 2.69 | 0.68 | 2.50 | 0.71 |
| Total | 33.84 | 27.13 | 34.36 | 36.56 | 28.56 | 32.94 | 29.06 |

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Below Normal Precipitation

Above Normal Precipitation

2.2 RUNOFF AND DISCHARGE

In 2010, spring precipitation was slightly below normal but coincided with snowmelt to cause high flows in the Clearwater River in March. Above average precipitation in August and September led to high flows again in late summer and fall.

Runoff over the upper watershed was 7.9 inches at CR 28.2 and 13 inches at CR10.5 in the lower watershed, which was much larger in 2010 compared to the long term average runoff at CR 10.5 of 7.7 inches.

Average flows at CR 28.2 and CR10.5 were 54.6 cfs and 217.5 cfs respectively. Table 2.2 summarizes the runoff volumes and average flows for the monitoring stations. Table B-1 in Appendix B compares the long-term precipitation to runoff for the CRWD as recorded at CR 10.5. Figure B-1 in Appendix B compares historic annual runoff and precipitation in the CRWD.

Table 2.2 2010 Runoff Volume and Average Flow

| Station | Tributary Sub-watershed Area (acres) | Runoff Volume (ac-ft) | Runoff Over Watershed (inches) | Average Flow (cfs) |
|---------|--------------------------------------|-----------------------|--------------------------------|--------------------|
| CR 10.5 | 99,200 | 107,870 | 13.0 | 217.54 |
| CR 28.2 | 33,977 | 22,370 | 7.9 | 54.60 |
| WR0.2 | 12,667 | 2,835 | 2.7 | 5.60 |
| CLN | 1,055 | 1,089 | 12.4 | 2.37 |
| CLS | 1,404 | 808 | 6.9 | 1.76 |

Total runoff over the watershed was higher in 2010 than in recent years as shown in Table B-2 in Appendix B. However, the majority of the runoff occurred in June, September, and the end of October. There was little runoff in the watershed during most of the summer until August, September, and October, when precipitation events initiated another high flow event. Monitoring efforts were expanded in 2010 to add continuous monitoring at two sites, which allowed for better quantification of seasonal runoff.

Continuous Flow Sites

In 2010, two sites were monitored continuously. Rating curves were established for stations CR30.0, located just upstream of the Kingston Wetland, and at CLN, located on a tributary stream on the north side of Clear Lake. Figures 2.1 and 2.2 show the continuous flow record between late spring and early fall at each site.

Figure 2.1 Continuous Flow Monitoring at CR30.0

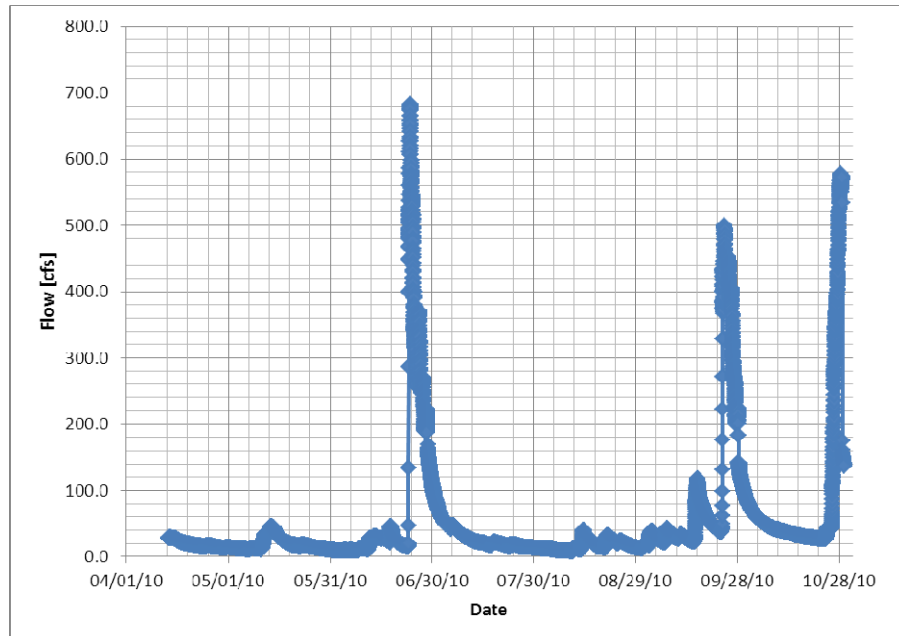
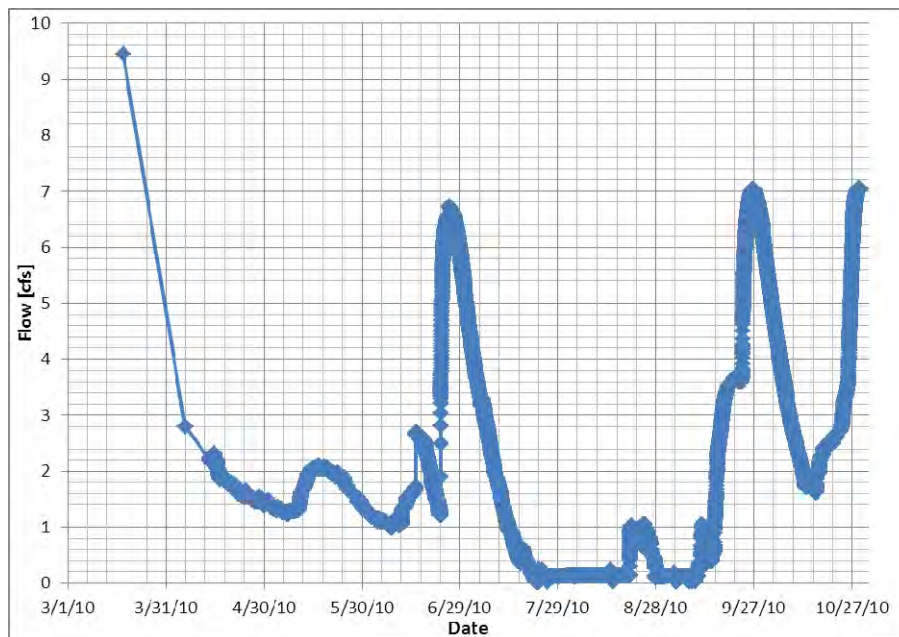


Figure 2.2 Continuous Flow Monitoring at Clear Lake North (CLN)



Flow monitoring began in early April at CR30.0 after large spring runoff events. This data was used to determine the continuous flow at CR28.2 to better predict the nutrient loading at that monitoring station.

Continuous monitoring began at CLN in early April. This data was used to determine the continuous flow rate at CLN and CLS, which is located on a tributary stream on the south side of Clear Lake, as well as the nutrient loading at both locations.

3.0 Water Quality

3.1 STREAM WATER QUALITY

CRWD lies in the NCHF Ecoregion but is close to the border with the Western Corn Belt Plains (WCBP) Ecoregion as demonstrated in Figure 3.1. The watersheds tributary to stations CLN, CLS, and CR28.2 have characteristics similar to the nearby WCBP ecoregion. For this reason, typical concentrations from both ecoregions are provided for comparison to mean concentrations at CRWD stream monitoring stations (Table 3.1).

Figure 3.1 Clearwater River Watershed District Ecoregions

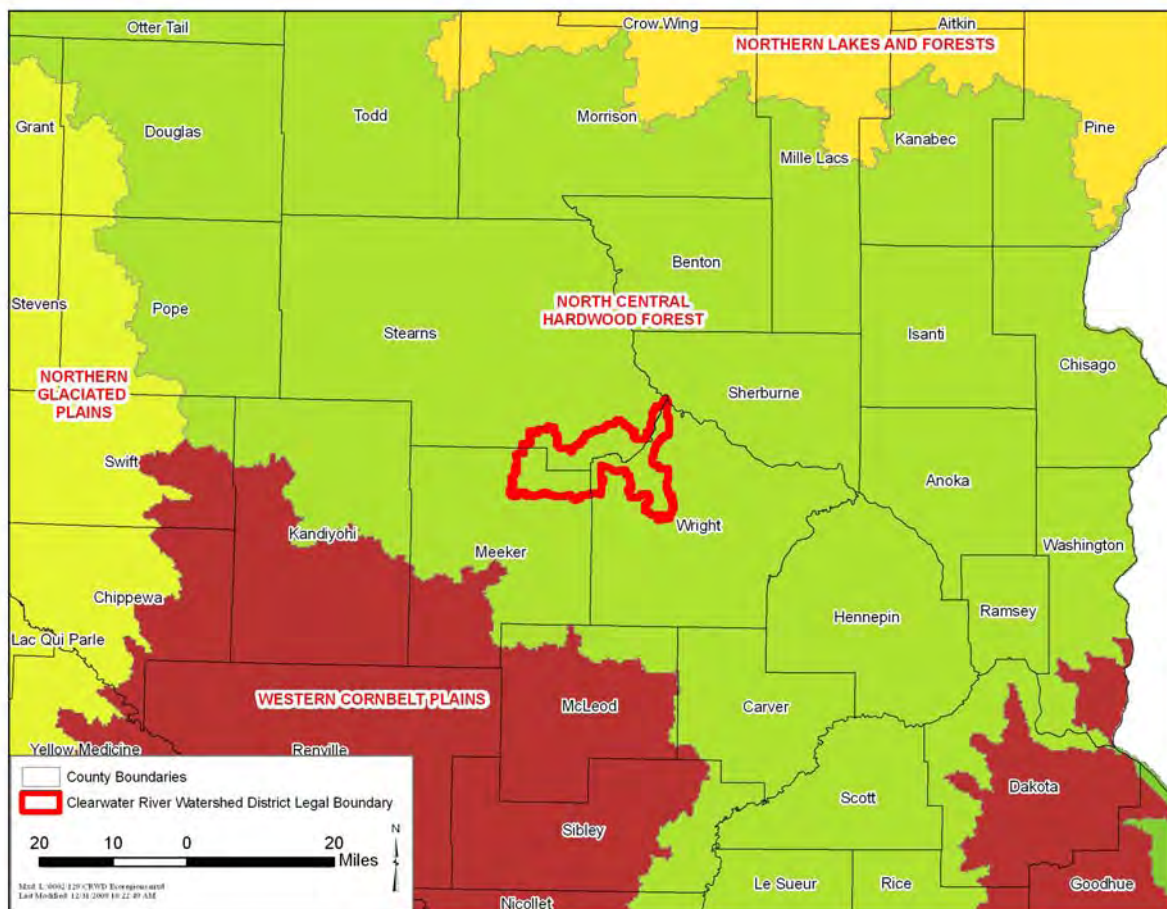


Table 3.1 2010 CRWD Mean Concentrations and Ecoregion Typical Range

| Monitoring Location | 2010 Flow-Weighted Mean TP (µg/L) |
|------------------------------|--|
| CR 10.5 | 32 |
| CR 28.2 | 258 |
| WR0.2 | 95 |
| CLN | 333 |
| CLS | 303 |
| NCHF Ecoregion Typical Range | 60-150 |
| WCBP Ecoregion Typical Range | 160-330 |

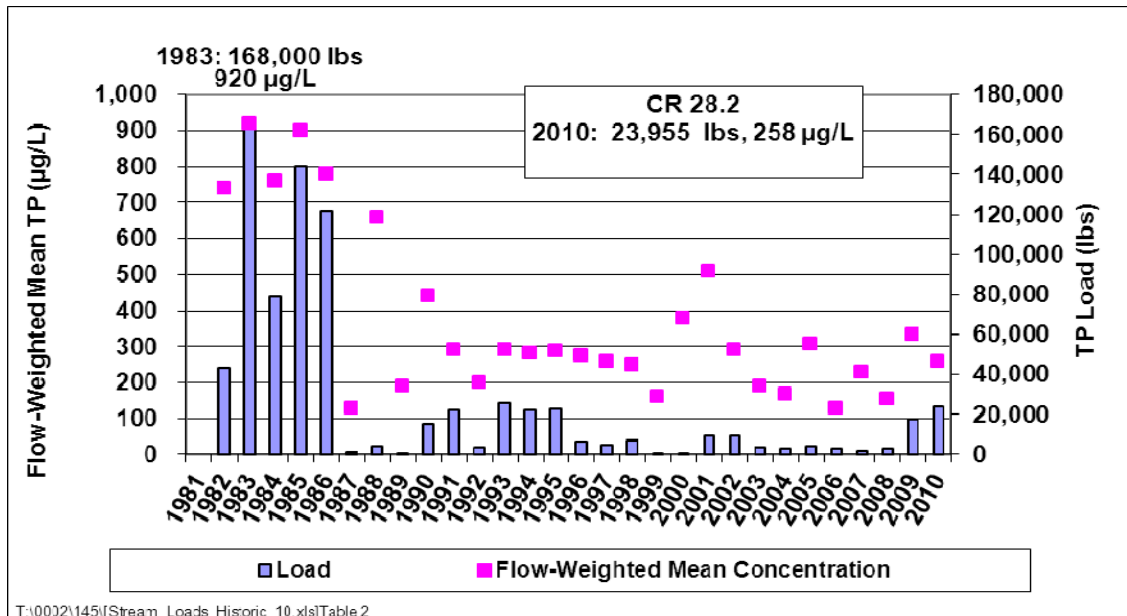
| Monitoring Location | 2010 Flow-Weighted Mean TSS (mg/L) |
|------------------------------|---|
| CR 10.5 | 1.1 |
| CR 28.2 | 3.5 |
| WR0.2 | 5.5 |
| CLN | 1.3 |
| CLS | 4.7 |
| NCHF Ecoregion Typical Range | 4.8-16 |
| WCBP Ecoregion Typical Range | 10-61 |

3.1.1 Phosphorus Concentrations and Phosphorus Loads

Baseline total phosphorus (TP) concentrations in the Clearwater River remain low as compared with conditions monitored in the early 1980s. Flow-weighted mean total phosphorus concentrations at CR 28.2, just upstream of Lake Betsy, ranged from 740 to 920 µg/L in the early 1980s. The concentration was down to 258 µg/L in 2010, which is lower than concentrations seen in the early 1980s, but higher than in some recent years.

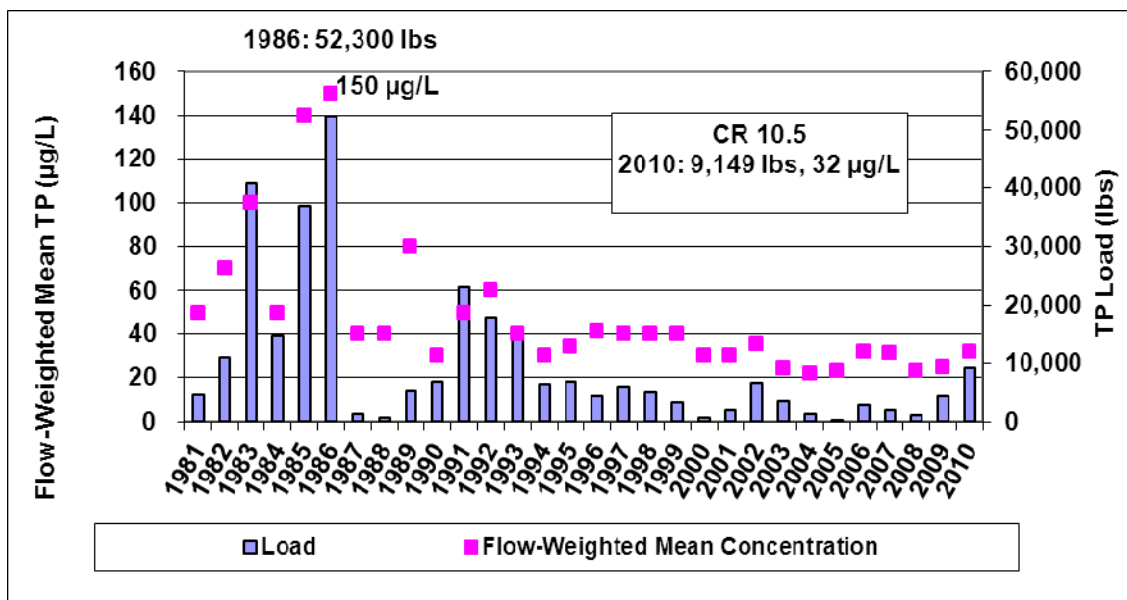
The TP load at CR 28.2 in 2010 was 23,955 lbs, higher than TP loads in recent years, but still far below the high TP loads observed in the early 1980s. The increased TP load in 2010 is due primarily to high flow events following the large storm events in June, September, and the end of October. Figure 3.2 shows the historical phosphorus load and flow-weighted mean concentration at CR 28.2.

Figure 3.2 Historical Total Phosphorus Loading and Mean Concentration at CR 28.2



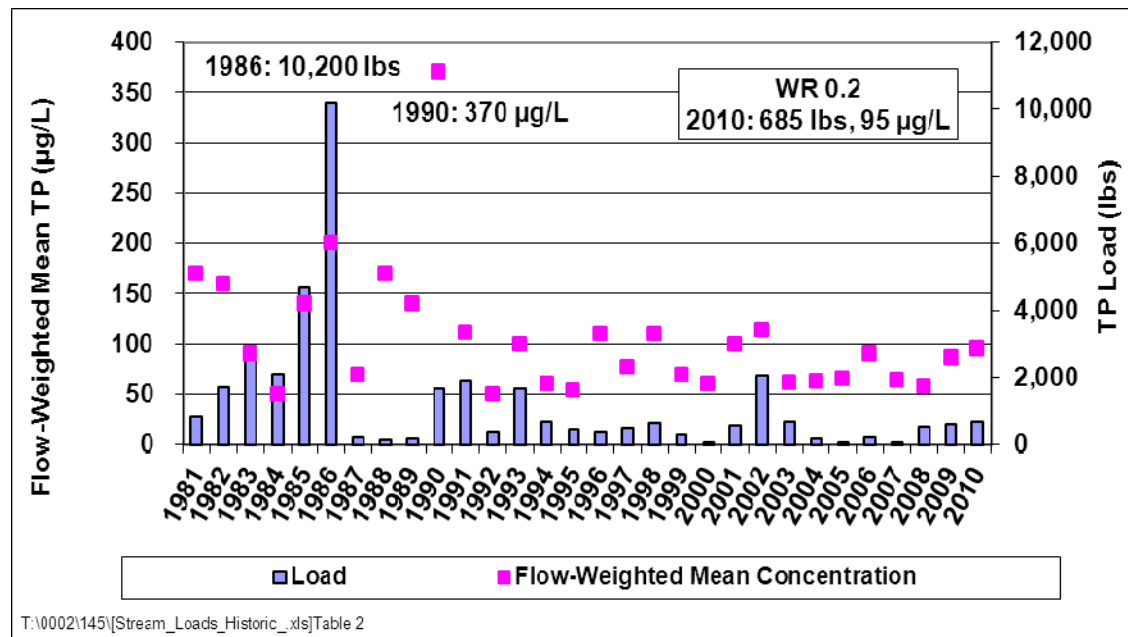
Flow-weighted mean TP concentrations and phosphorus loads at CR 10.5 were calculated using flows over the dam calculated using stage measurements taken at the dam and an equation for flow over the weir. The estimated mean phosphorus concentration at CR 10.5 in 2010 was 32 $\mu\text{g/L}$ and the estimated total phosphorus load was 9,149 lbs (Figure 3.3). While this is higher than loads observed in recent years, the load is well below historic levels.

Figure 3.3 Historical Total Phosphorus Loading and Mean Concentration at CR 10.5



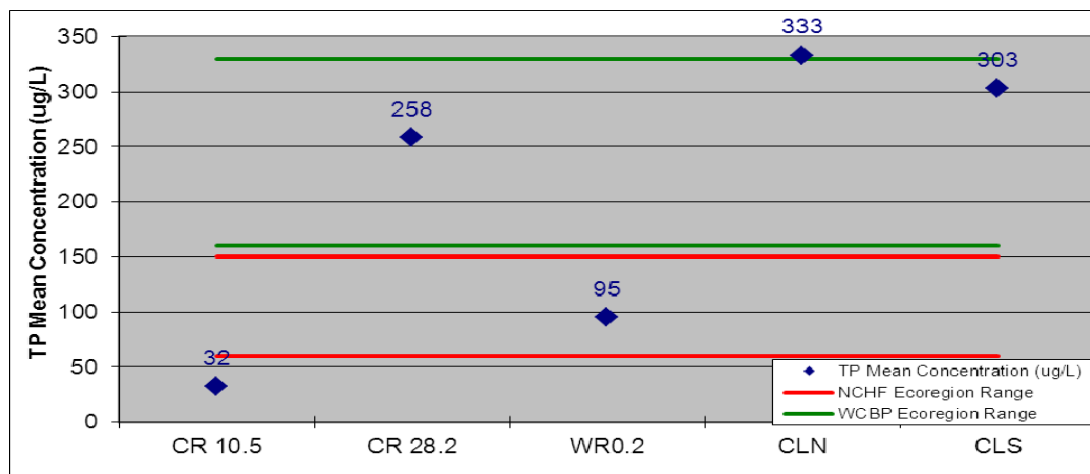
In 2010, the flow-weighted mean TP concentration at WR 0.2 was 95 µg/L and the total phosphorus loads was 685 lbs at WR 0.2 (Figure 3.4), similar to concentrations and loads observed in recent years.

Figure 3.4 Historical Total Phosphorus Loading and Mean Concentration at WR-0.2



As demonstrated in Table 3.1 and Figure 3.5, flow-weighted mean phosphorus concentrations at WR0.2 and CR 10.5 were close to, or within, the typical range for both the NCHF Ecoregion. CR28.2, CLN, and CLS were within the range of the WCBP Ecoregion.

Figure 3.5 2010 Phosphorus Mean Concentrations in the District



As demonstrated in Table 3.2 phosphorus loading rates varied throughout the watershed. The loading rate from the upper watershed monitoring stations, CR 28.2, CLN, and CLS were 0.705 lbs/acre, 0.901 lbs/acre, and 0.295 lbs/ acre, respectively. This was higher than loading rates observed at lower watershed stations CR10.5 and WR0.2, which were 0.092 lbs/acre and 0.054 lbs/acre, respectively. Loading rates for the upper most portion of the watershed likely are the truest measurement of watershed phosphorus export as loading data collected downstream reflects the sedimentation of phosphorus in District Lakes.

Table 3.2 2010 Phosphorus Loading Rates by Tributary Watershed

| Site | Watershed Area (acres) | Phosphorus Load (lbs) | Phosphorus Loading Rate (lbs/acre) |
|--------|------------------------|-----------------------|------------------------------------|
| CR10.5 | 99,200 | 9,149 | 0.092 |
| CR28.2 | 33,977 | 23,955 | 0.705 |
| WR0.2 | 12,667 | 685 | 0.054 |
| CLN | 1,055 | 951 | 0.901 |
| CLS | 1,404 | 414 | 0.295 |

Soluble reactive phosphorus (SRP) (the dissolved form of phosphorus readily used by algae) was also monitored in 2010. Table 3.3 shows the ratio of the flow-weighted means of SRP to total phosphorus (TP) as a percentage at each monitoring site.

Table 3.3 Comparison of SRP to TP

| Site | % of TP as SRP |
|--------|----------------|
| CR10.5 | 45% |
| CR28.2 | 75% |
| WR0.2 | 23% |
| CLN | 83% |
| CLS | 50% |

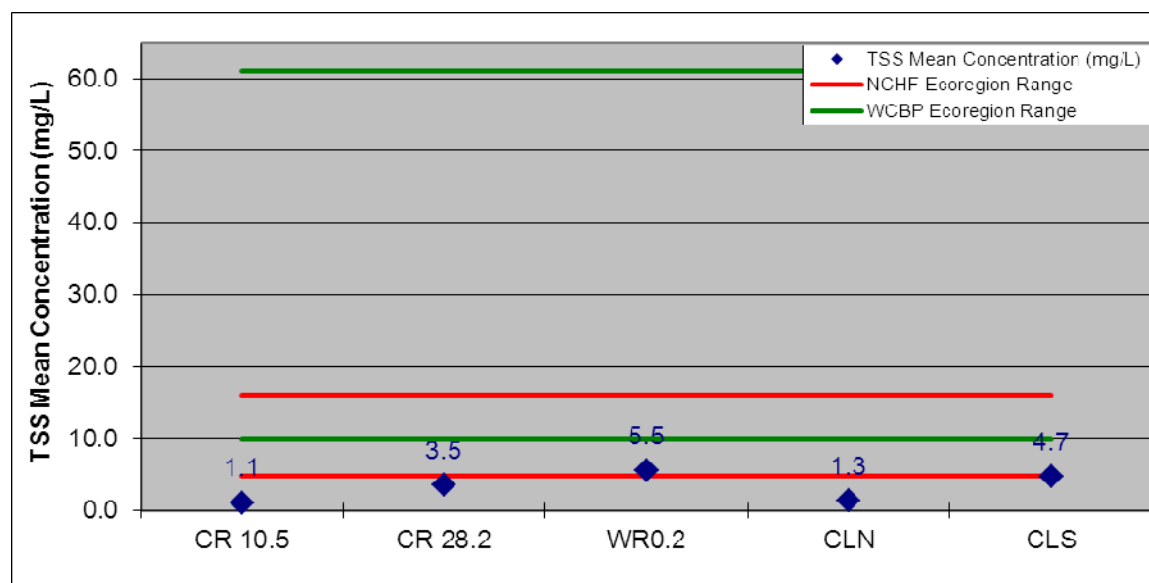
SRP made up the majority of TP at stations CR28.2 and CLN, 75% and 83%, respectively. The high ratio at CR28.2 and CLN indicate the export of soluble phosphorus from the large wetlands upstream of both of these stations. These values are within the ranges of those observed historically, with the higher percentage of SRP likely due to low flow during late summer in

2010. The values potentially indicate the export of soluble phosphorus from wetlands in the upper watershed. Expanded monitoring upstream of these wetlands would help to verify the export of soluble phosphorus from the wetlands. Such monitoring is part of the work plan for the Kingston Wetland Feasibility Study and Restoration Project described in Section 5.

3.1.2 Total Suspended Solids

Samples were also analyzed for total suspended solids (TSS) in 2010. Mean concentrations of TSS are compared to typical Ecoregion concentrations in Figure 3.6. Mean concentrations were near or below typical concentrations in the NCHF Ecoregion at all sites. The water clarity at these stations is expected to be good.

Figure 3.6 2010 Total Suspended Solids Mean Concentrations in the District

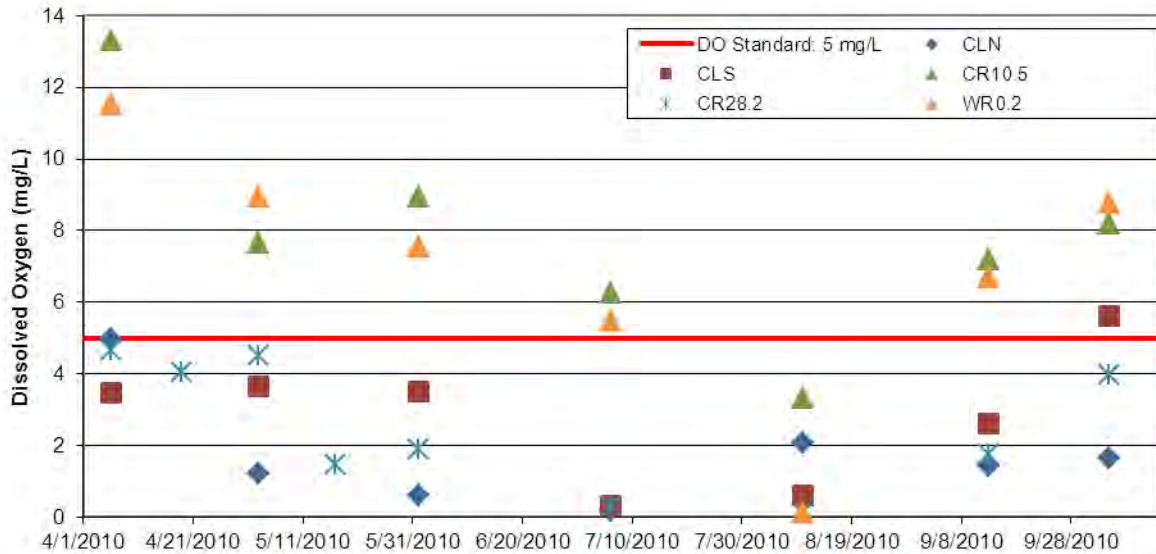


3.1.3 Additional Parameters

Dissolved oxygen was also measured at each stream monitoring location and concentrations are compared to the MPCA standard for impairment of 5 mg/L in Figure 3.7. Concentrations were below the impairment standard at all stations except CR10.5 and WR0.2, which were only impaired in the early part of August. The data collected at CR28.2 reflect the conclusions drawn in the TMDL, that low-flow DO violations occur downstream of Kingston Wetland and are driven primarily by wetland sediment oxygen demand (SOD). Stations CLN and CLS are also

located on ditches flowing through wetland areas, so low DO is also likely due to wetland SOD. DO data is collected to track progress towards TMDL implementation.

Figure 3.7 2010 Dissolved Oxygen Concentrations and Comparison to Standard



Measurements of most probable number (MPN) of colony forming units (CFU) per 100 mL of *E. coli* were taken at two stream locations as a surrogate measurement of fecal coliform. Data was collected at CR 28.2 to track TMDL implementation progress. Data was collected by CRWD at CR0.1 at the request of the MPCA. Table 3.4 shows the monthly geometric means of *E. coli* at stations CR0.1 and CR28.2.

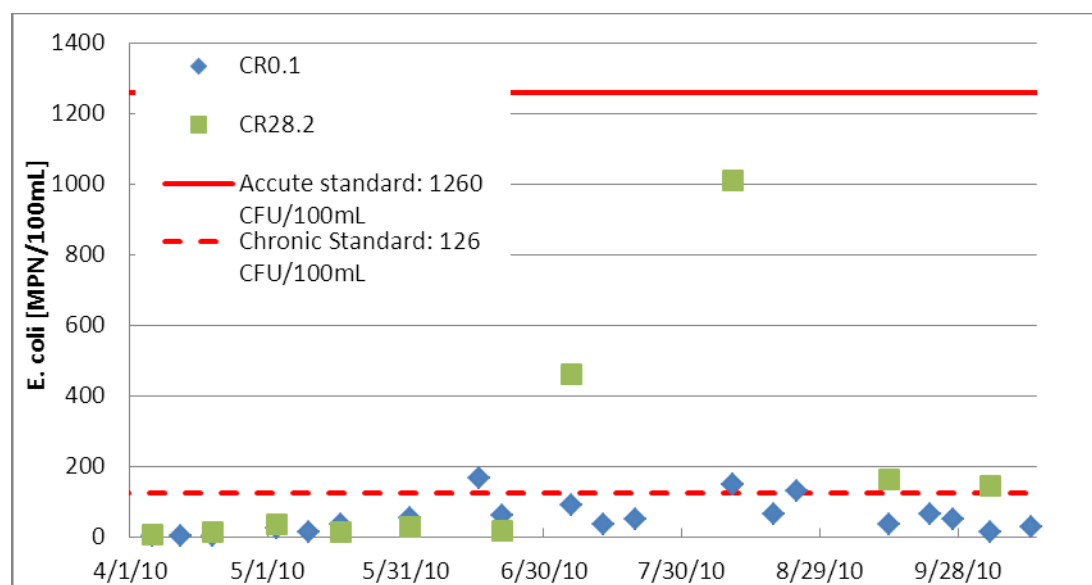
Table 3.4 *E. coli* Monthly Geometric Means

| CR0.1 | <i>E. coli</i> Geometric Mean MPN/100mL | # of Measurements |
|--------------|--|------------------------------|
| April | 2 | 3 |
| May | 22 | 3 |
| June | 81 | 3 |
| July | 55 | 3 |
| August | 117 | 4 |
| September | 49 | 3 |
| October | 17 | 3 |

| CR28.2 | E. coli Geometric Mean MPN/100mL | # of Measurements |
|---------------|---|------------------------------|
| April | 10 | 2 |
| May | 23 | 2 |
| June | 22 | 2 |
| July | 461 | 1 |
| August | 1011 | 1 |
| September | 162 | 1 |
| October | 145 | 1 |

CR0.1 did not exceed the Minnesota monthly chronic standard of 126 CFU/100mL during any of the months E. coli was measured. CR28.2 exceeded chronic standard during the months of July through October, with a spike of 1,011 MPN/100 mL in the month of August. However, the number of samples taken at each site was below the recommended five per calendar month. No measurements at either site exceeded the acute standard of 1260 CFU/100mL. Figure 3.8 shows the E. coli measurements during 2010.

Figure 3.8 2010 E. coli Measurements



Additional stream water quality data is found in Appendix B, including summaries of historical phosphorus loads, stream flows, and flow-weighted mean concentrations.

3.2 LAKE WATER QUALITY

CRWD sampled fourteen lakes in 2010. Parameters analyzed in 2010 include surface total phosphorus, soluble reactive phosphorus, chlorophyll-a, and a field reading of Secchi depth. Surface samples characterize lake water quality. Samples for total phosphorus, soluble reactive phosphorus, and total iron were collected near the lake bottom. Water temperature and dissolved oxygen profiles were also collected at each lake to better characterize the period of anoxia and to help quantify internal loading.

3.2.1 2010 Monitoring Results

Water quality of the lakes monitored in 2010 was generally comparable to monitoring data collected in recent years. Summer average (June 1 to September 30) values were compared with the MPCA eutrophication standards for phosphorus, chlorophyll-a, and Secchi disk depth, based on Ecoregion and lake type. The MPCA uses separate standards for shallow (less than 15 foot maximum depth or 80% of lake area less than 15 feet deep) and deep lakes (greater than 15 foot maximum depth). The appropriate standards for lakes monitored in the CRWD, which is in the North Central Hardwood Forest Ecoregion, are shown in Table 3.5. The MPCA standards are also used as the TMDL goals for summer average concentrations and Secchi depth in District lakes.

Table 3.5 MPCA Standards for Lakes in the North Central Hardwood Forest Ecoregion

| | Total Phosphorus | Chlorophyll-a | Secchi Depth |
|--|-----------------------------|----------------------|-------------------------------|
| Lake Category | µg/L | µg/L | meters (not less than) |
| Shallow Lakes | 60 | 20 | 1 |
| Deep Lakes | 40 | 14 | 1.4 |
| Source: Minnesota Pollution Control Agency | | | |

Figures 3.9 and 3.10 compare the average total phosphorus concentrations in lakes sampled in 2010 to the TMDL goal.

Figure 3.9 2010 Summer Average Total In-Lake Phosphorus Concentrations (Deep Lakes)

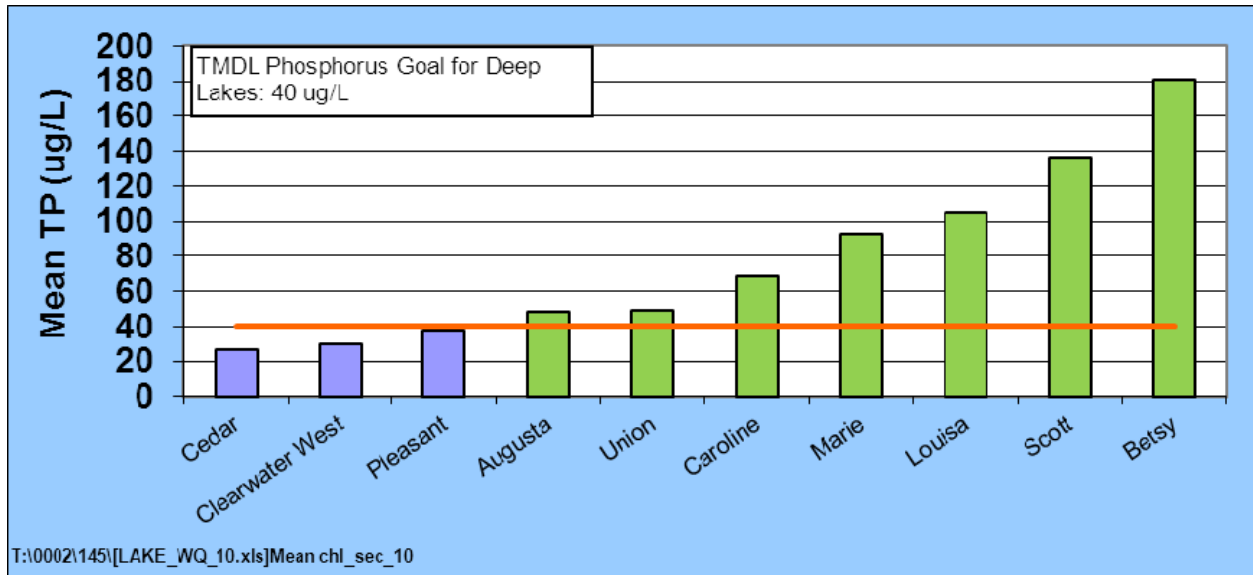
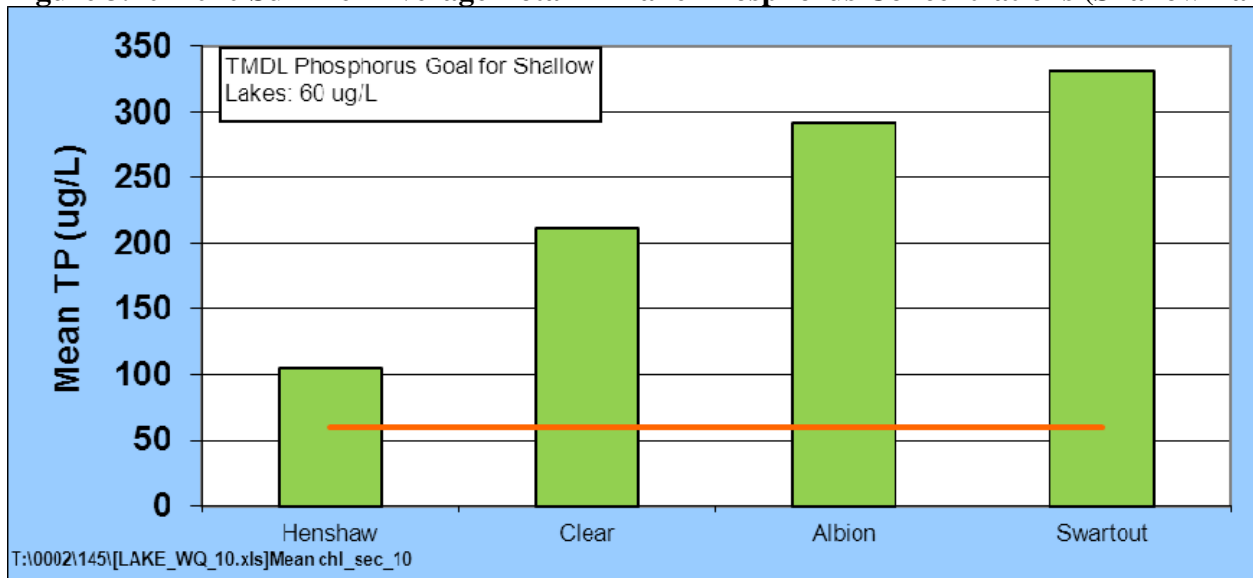


Figure 3.10 2010 Summer Average Total In-Lake Phosphorus Concentrations (Shallow Lakes)



Based on the 2010 monitoring data for each lake, Albion, Augusta, Betsy, Caroline, Clear, Henshaw, Louisa, Marie, Scott, Swartout, and Union Lakes were above the TMDL goal for total phosphorus. In general, summer average phosphorus concentrations were higher in some lakes in 2010 than historically, likely due to increased nutrient loads from increased runoff in the watershed. Summer average concentrations also may have been higher due to the September monitoring event occurring after some lakes began to mix and bottom phosphorus was

incorporated into the surface. Summer average phosphorus concentrations were notably higher in 2010 than recent years in Albion, Caroline, and Union Lakes.

Figures 3.11 and 3.12 compare the most recent summer average chlorophyll-a concentrations for fourteen CRWD lakes to the appropriate chlorophyll-a TMDL goal. All but one of lakes monitored had chlorophyll-a concentrations above the TMDL goal.

Summer average chlorophyll-a concentrations in 2010 were likely higher because of large storm events in June and September, which led to large runoff, increasing nutrient loading to the lakes.

Figure 3.11 2010 Summer Average Chlorophyll-a Concentrations (Deep Lakes)

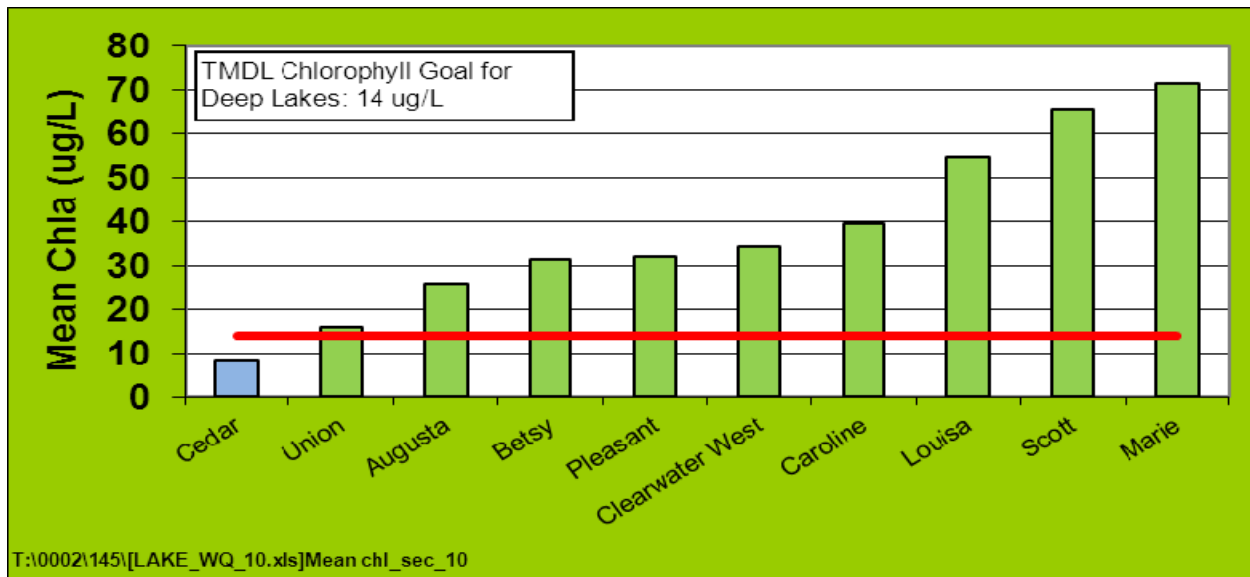
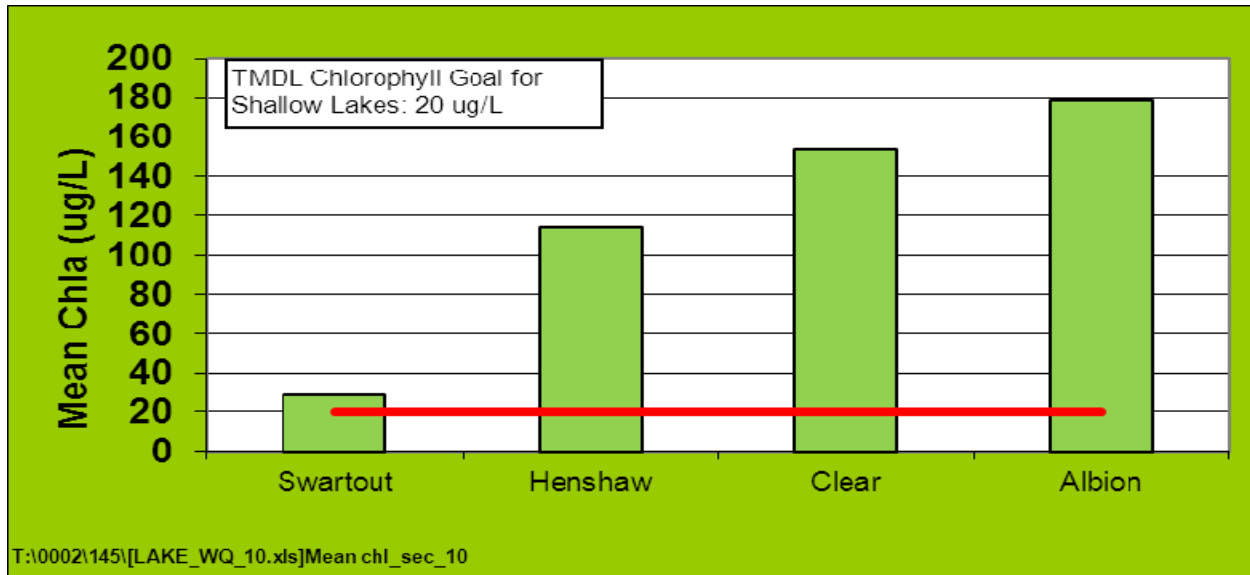


Figure 3.12 2010 Summer Average Chlorophyll-a Concentrations (Shallow Lakes)



Figures 3.13 and 3.14 compare the 2010 Secchi disk depth for fourteen CRWD lakes to the appropriate Secchi TMDL goal. The most recent average Secchi depths demonstrate that Albion, Betsy, Clear, Henshaw, Louisa, Marie, Scott, and Union Lakes are below the TMDL goal for Secchi depth. Summer average Secchi depths were notably lower than in recent years in Albion and Union Lakes, most likely due to summer algal blooms.

Figure 3.13 2010 Summer Average In-Lake Secchi Depth (Deep Lakes)

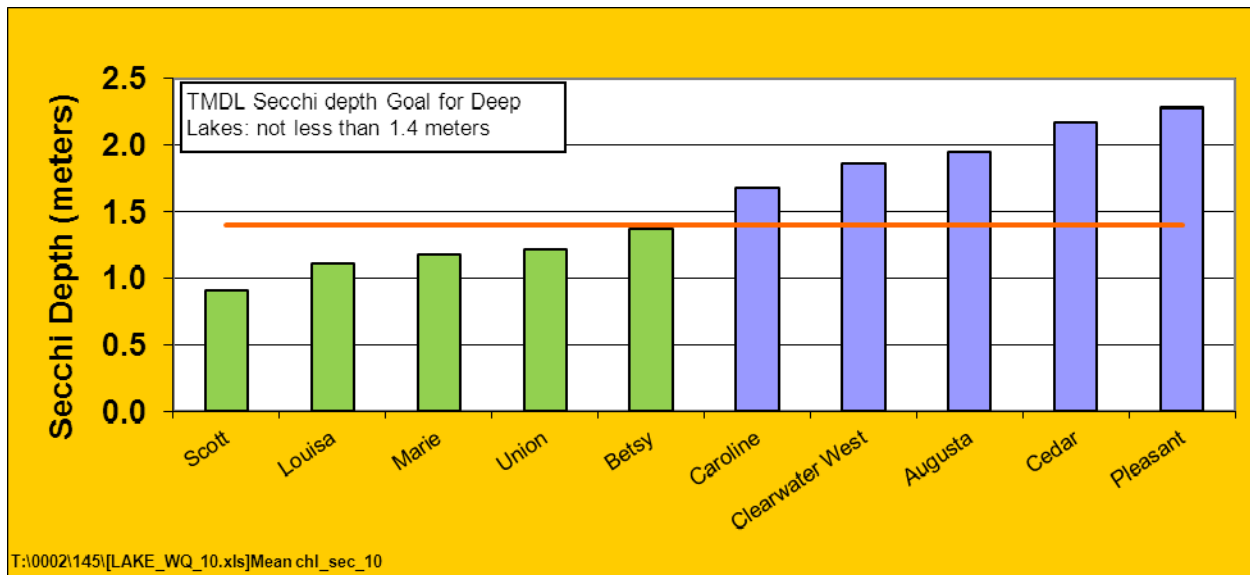
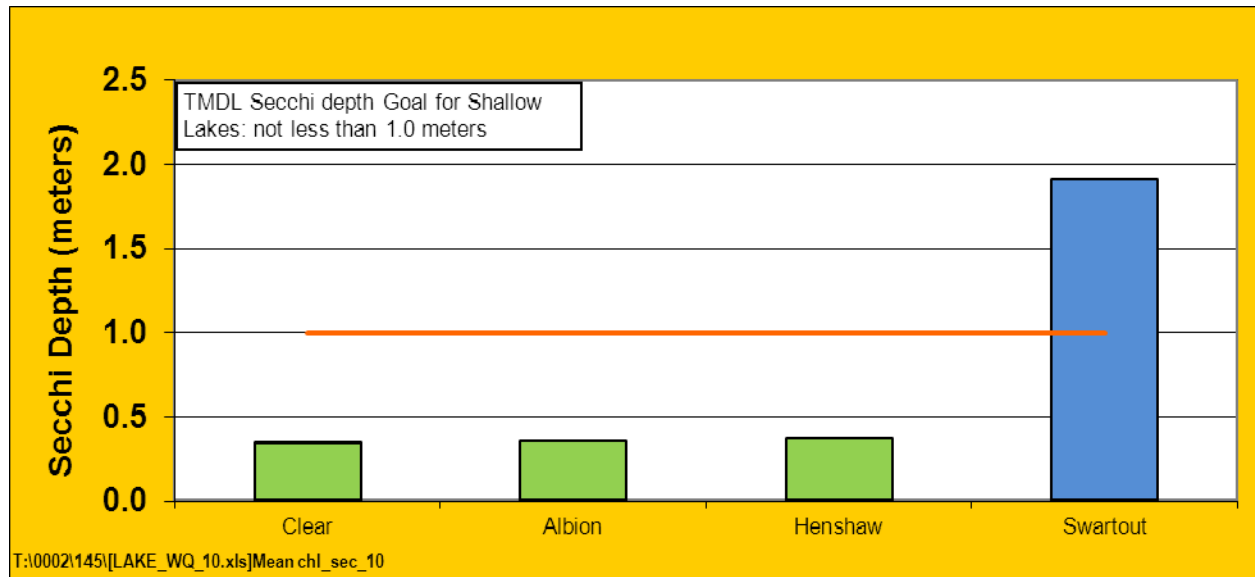


Figure 3.14 2010 Summer Average In-Lake Secchi Depth (Shallow Lakes)



Water quality observed in lakes monitored during 2010 (Table 3.6) is within ranges seen in recent years with the exception of a few measurements that fell outside the historical range means.

Table 3.6 2010 Mean In-Lake Total Phosphorus, Chlorophyll-a, and Secchi Depth, and Historical Ranges

| Lake | Total Phosphorus ug/L | | Chlorophyll-a ug/L | | Secchi Depth (meters) | |
|-----------------|-----------------------|-----------------------|--------------------|-----------------------|-----------------------|-----------------------|
| | 2010 Mean | Historical Range Mean | 2010 Mean | Historical Range Mean | 2010 Mean | Historical Range Mean |
| Albion | 292 | 130-296 | 179 | 60-204 | 0.4 | 0.5-1.2 |
| Augusta | 48 | 28-300 | 26 | 4-73 | 1.9 | 1.1-1.9 |
| Betsy | 181 | 120-700 | 32 | 4-170 | 1.4 | 0.5-2.4 |
| Caroline | 68 | 36-300 | 40 | 3-55 | 1.7 | 0.8-1.9 |
| Cedar | 26 | 19-58 | 9 | 3-20 | 2.2 | 1.1-3.0 |
| Clear | 211 | 80-307 | 153 | 17-134 | 0.3 | 0.3-1.2 |
| Clearwater West | 30 | 25-160 | 34 | 4-77 | 1.9 | 1.4-2.6 |
| Henshaw | 105 | 90-390 | 114 | 25-178 | 0.4 | 0.2-0.9 |
| Louisa | 105 | 33-440 | 55 | 4-101 | 1.1 | 0.6-1.5 |
| Marie | 93 | 69-360 | 72 | 4-153 | 1.2 | 0.6-2.3 |
| Pleasant | 38 | 15-51 | 32 | 4-12 | 2.3 | 2.0-3.0 |
| Scott | 137 | 82-660 | 66 | 3-223 | 0.9 | 0.5-1.9 |
| Swartout | 330 | 200-421 | 29 | 144-832 | 1.9 | 0.2-1.0 |
| Union | 49 | 25-88 | 16 | 7-39 | 1.2 | 1.0-2.3 |

Above TMDL Goal

T:\0002\145\LAKE_WQ_10.xls]Historical Table

Table 3.7 compares CRWD lakes to MPCA impairment standards and identifies phosphorus trends in each lake. Overall, based on the most recent monitoring data for all lakes within CRWD, water quality in most lakes is generally good and appears to be remaining stable or improving. However, water quality does not meet TMDL goals in 11 lakes.

Table 3.7 Lake Trend and Impairment Summary

| Lake | Last Monitored | Phosphorus Trend | Use |
|-----------------|-----------------------|----------------------------|------------|
| Albion | 2010 | Recent Increasing Trend | Impaired |
| Augusta | 2010 | Recent Stable Trend | Full Use* |
| Bass | 2009 | Stable Trend | Full Use |
| Betsy | 2010 | Recent Increasing Trend | Impaired |
| Caroline | 2010 | Recent Stable Trend | Impaired |
| Cedar | 2010 | Recent Stable Trend | Full Use |
| Clear | 2010 | Stable to Decreasing Trend | Impaired |
| Clearwater East | 2009 | Recent Stable Trend | Full Use |
| Clearwater West | 2010 | Recent Stable Trend | Full Use |
| Grass | 2009 | Decreasing Trend | Full Use |
| Henshaw | 2010 | Recent Decreasing Trend | Impaired |
| Little Mud | 2009 | Decreasing Trend | Full Use |
| Louisa | 2010 | Recent Stable Trend | Impaired |
| Marie | 2010 | Recent Stable Trend | Impaired |
| Nixon | 2009 | Recent Stable Trend | Full Use |
| Otter | 2009 | Stable Trend | Full Use |
| Pleasant | 2010 | Stable Trend | Full Use |
| School Section | 2009 | Stable Trend | Full Use |
| Scott | 2010 | Stable to Decreasing Trend | Impaired |
| Swartout | 2010 | Stable to Increasing Trend | Impaired |
| Union | 2010 | Decreasing Trend | Full Use |
| Wiegand | 2009 | Decreasing Trend | Full Use |

T:\0002\145\LAKE_WQ_10.xls]Summary

*TMDL Impaired

Lake report cards are included in Appendix C. Citizen Secchi depths are found in Appendix E.

Water quality lab reports are in Appendix F, and field notes are in Appendix G.

4.0 Cedar Lake Project #06-1

4.1 INTRODUCTION

The Cedar Chain of Lakes Restoration Project #06-1 began in 2007 as a response to a petition by lake shore residents to address the declining water quality and severe algae blooms in Cedar Lake. The goal of the project was to reduce the phosphorus load to Cedar Lake to 1,000 lbs and the in-lake summer average phosphorus concentration in Cedar Lake to 20 ug/L. An additional goal of the project was to further reduce phosphorus loading from upstream lakes by reducing the carp population of the lakes.

Several projects were implemented in 2007-2010 to reduce in lake phosphorus concentrations in Swartout, Albion, Henshaw, and Cedar Lakes. The projects that have been implemented include watershed BMPs such as tile inlet buffers and buffer strips, rough fish management activities, and the construction of the Segner Pond treatment wetland.

An evaluation of the Cedar Lake Project #06-1 was conducted in November 2009. The evaluation determined that further activities will be necessary to fully meet project goals and recommended the implementation of additional activities as needed.

The evaluation recommended that the following activities, as well as others to be identified through further evaluation may be required:

- Eliminate ISTS discharges;
- Aggressive curly leaf pondweed control;
- Removal of cormorants on Swartout Lake;
- Carp population reduction;
- Fish migration barriers between Albion and Swartout, and Henshaw and Swartout Lakes;

- Install fish barriers between Highway 55 and Cedar Lake, and Swartout Lake outlet at CR 6 to prevent upstream migration;
- Treat Swartout wetland outlet to remove phosphorus;
- Increase residence time on wetland between Swartout and Highway 55;
- Watershed best management practices;
- Buffer tile lines, ditches and streams;
- Lake shore management in Cedar, Swartout, Albion and Henshaw Lakes
- Ecological management of Henshaw, Albion and Swartout Lakes;
- Isolate Swartout Lake;
- Isolate wetland treatment system in the Highway 55 wetland;
- Install sedimentation basins;
- Promote Ag BMPS (P Testing and fertilizer application);
- Replace tile intakes with filters;
- Tile intake buffers;
- Buffer tributaries;
- Buffer stream banks
- Tile discharge management;
- Riparian pasture/grazing management;
- Lakeshore septic upgrade;
- Lakeshore restoration (shore land erosion);
- Shallow Lakes Management Plans;
- Public outreach; and
- Other activities as indicated by future project monitoring and evaluation.

4.2 MONITORING

As part of the evaluation of Project #06-1, monitoring was also recommended to continue in 2010. Cedar Lake, Swartout Lake, Albion Lake, and Henshaw Lake were monitored four times from June to September in 2010 as part of the project. Tributary streams to the lakes were also monitored while they were flowing at five locations in 2010.

4.2.1 Lake Monitoring

Cedar Lake

As shown on the Cedar Lake Report Card in Appendix C, the 2010 summer average total phosphorus concentration was below the TMDL goal concentration and was within the range seen in recent years. Total phosphorus and chlorophyll-a concentrations were lower than they were in 2009, even though runoff was generally greater across the watershed in 2010. Secchi depth was also improved in the lake from recent years.

While overall water quality appears to be stable or slightly improving in Cedar Lake, lake shore residents notified CRWD of a severe algal bloom in May 2010. The algal blooms resulted in reduced water clarity in the lake that continued through early July. The photo below shows a mass of blue-green algae that had accumulated on the western shoreline of the lake on May 19, 2010.



Cedar Lake Algal Bloom-May 19, 2010

A sample of the algae was collected and sent to a laboratory for analysis. The analysis determined that the algae bloom was comprised primarily of three different species of the cyanophyta division of algae (blue-green algae). While some blue green algae species may produce dangerous blooms that may be toxic or harmful to animals and humans, the three species

identified in the sample are species that do not typically produce toxic or harmful blooms. This algal bloom was similar to other blooms that occurred early in the season in previous years on Cedar Lake. These blooms are likely due to a pulse of nutrients to the lake that are incorporated by the algae. The pulse of nutrients may be from external runoff to the lake. Another possibility is that the source of the nutrient pulse is from the senescence of curly-leaf pondweed, which is present in small areas of the lake.

By early August, lake water clarity had improved and lake residents noted that the late summer water clarity was the best they had seen in recent years. Secchi disk data collected by CRWD and lakeshore residents substantiate these observations, as lake water clarity generally improved later in the monitoring season in 2010.

Although internal loading of phosphorus is not suspected to make up a significant portion of the phosphorus load in Cedar Lake, it is likely that there is some internal loading of phosphorus in the lake. Elevated concentrations of phosphorus near the lake bottom indicate potential for internal loading. Temperature and dissolved oxygen profile data indicate that the lake is stratified during most of the time period from June to November.

It is suspected that curly leaf pondweed may also contribute to internal loading in the lake by making phosphorus from buried lake sediment available in the water column during the growing season. Small areas of the lake containing curly leaf pondweed have been treated in recent years in an attempt to control the spread of the plant in the lake.

Cedar Lake was also sampled four times from June to September by a lake shore resident as part of a volunteer lake monitoring program. As shown in Table 4.1, the 2010 summer averages for total phosphorus, chlorophyll-a, and Secchi depth were very similar from both monitoring programs.

Table 4.1 2010 Cedar Lake Monitoring Data

| | Date | Total Phosphorus (ug/L) | Chlorophyll-a (ug/L) | Secchi Depth (m) |
|---|--------------|-------------------------|----------------------|------------------|
| CRWD Sampling Results | 6/16/10 7:10 | 40 | 10 | 2.1 |
| | 7/7/10 6:15 | 24 | 3 | 1.2 |
| | 8/17/10 7:14 | 17 | 11 | 2.9 |
| | 9/21/10 7:30 | 24 | 10 | 2.4 |
| | 2010 Average | 26 | 9 | 2.2 |
| Volunteer Lake Sampling Results | 6/27/2010 | 33 | 12 | 3.7 |
| | 7/24/2010 | 20 | 5 | 1.5 |
| | 8/22/2010 | 28 | 7 | 2.1 |
| | 9/26/2010 | 29 | 10 | 3.0 |
| | 2010 Average | 28 | 9 | 2.6 |
| T:\0002\146\Cedar_2010 Comparison\Table | | | | |

Swartout Lake

Summer average phosphorus concentrations remained well above TMDL goals in Swartout Lake in 2010 but were slightly lower than seen in previous years. Chlorophyll-a concentrations were only slightly above TMDL goals and were well below the long term range for the lake.

Secchi disk depth was dramatically improved in 2010, as the summer average met the TMDL goal and the Secchi disk could be seen on the bottom of the lake in 11.5 feet of water during an early summer monitoring event.

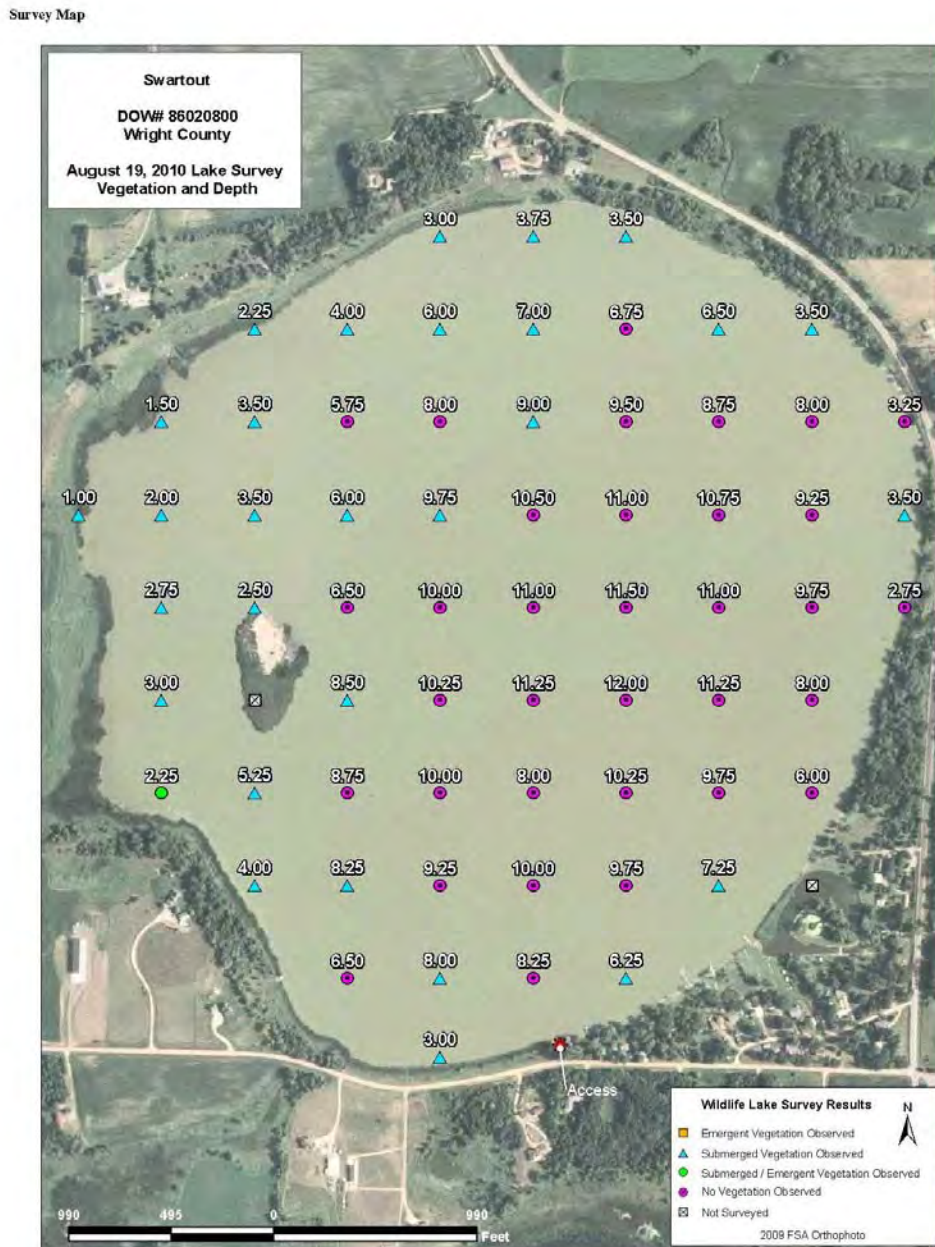
The increase in water clarity is most likely due to an extensive fish kill that occurred in the late winter that dramatically reduced the rough fish, especially carp, population in the lake. Photos below show the large numbers of dead fish at the Swartout Lake outlet around ice out for the lake. A lake survey conducted by the MN DNR on April 21, 2010 found only four species of fish and no carp, indicating that the winterkill was extensive. With a reduced carp and rough fish population causing less disturbance to bottom sediments, the water clarity improved and also allowed for improved submergent vegetation growth in the lake in 2010.



Swartout fish kill – spring 2010.

A vegetation survey conducted with the MN DNR on August 19, 2010 found submergent vegetation growing at 30 of 64 sample points across the lake. The submergent vegetation included 11 species with sago pondweed, muskgrass, and coontail being the most common species observed. Figure 4.1 shows the water depth and submergent vegetation coverage as inventoried in 2010. In general, submergent vegetation was found at nearly all sample points that were less than seven feet deep. For comparison, in 2005 there was not any submergent vegetation found at any of the 64 sample points.

Figure 4.1 Swartout Lake Depth and Vegetation Coverage



The dramatic improvement in water clarity and submergent vegetation growth due to decreased rough fish populations in 2010 are an indication of the role that rough fish play in decreasing water quality in shallow lakes, especially in Swartout Lake. The reduction in the carp population in Swartout Lake in 2010 allowed for a drastic improvement to the ecological health of the lake.

In 2010, large numbers of white pelicans, double crested cormorants, and various other shorebirds were noted to be nesting on the island in Swartout Lake. Lake shore residents had concerns about the foul odors emanating from the island and the potential for water quality issues in the lake from bird wastes. Two site visits were conducted to document and approximate the numbers of birds on the island and to collect samples to be analyzed for bacteria and total phosphorus near the island and in the center of the lake for comparison. Water quality parameters from the two sample events are summarized in Table 4.2 below.

Table 4.2 2010 Swartout Island Monitoring

| Sampling Location | Date | Total Phosphorus (ug/L) | Ortho Phosphorus (ug/L) | Ammonia Nitrogen (mg/L) | E. coli (MPN/100 mL) |
|--------------------------|-------------|--------------------------------|--------------------------------|--------------------------------|-----------------------------|
| Near Island | 8/2/2010 | 581 | 126 | 0.135 | 597.4 |
| Mid Lake | 8/2/2010 | 366 | 129 | <0.02 | 14.4 |
| Near Island | 9/21/2010 | 291 | 55 | 0.02 | 9.8 |
| Mid Lake | 9/21/2010 | 251 | 41 | <0.02 | 5.2 |

The results from the August 2 sample event show that total phosphorus, ammonia nitrogen, and E. coli concentrations were significantly higher in the sample collected near the island. Results from the September 21 sample event indicate that total phosphorus concentrations were only slightly higher near the island and ammonia nitrogen and E. coli concentrations were similar at both sampling locations. These monitoring results indicate that bird wastes from the island running into the lake may elevate total phosphorus, ammonia, and E. coli concentrations directly adjacent to the island, but do not likely impact the overall lake.

An attempt was made to quantify the estimated impact of the nesting colony of birds on the total phosphorus load to Swartout Lake. In order to calculate this estimate, literature values for the phosphorus content in bird wastes were multiplied by the estimated population of birds on the island. Using this method, it was estimated that the potential load of phosphorus to the lake was approximately 9.5 lbs. This would represent a very small portion (0.12%) of the total phosphorus load to the lake, which is estimated to be 7,982 lbs. Even though elevated phosphorus concentrations were observed near the island during one of the sample events, it is

likely that the export of phosphorus from the island to the lake is diluted quickly as it mixes with the lake and does not represent a significant phosphorus source to the lake.

Albion Lake

In recent years, summer average phosphorus and chlorophyll-a concentrations in Albion Lake had decreased and water clarity had improved since the start of the Project. In 2010, summer average phosphorus and chlorophyll-a concentrations increased while water clarity decreased.

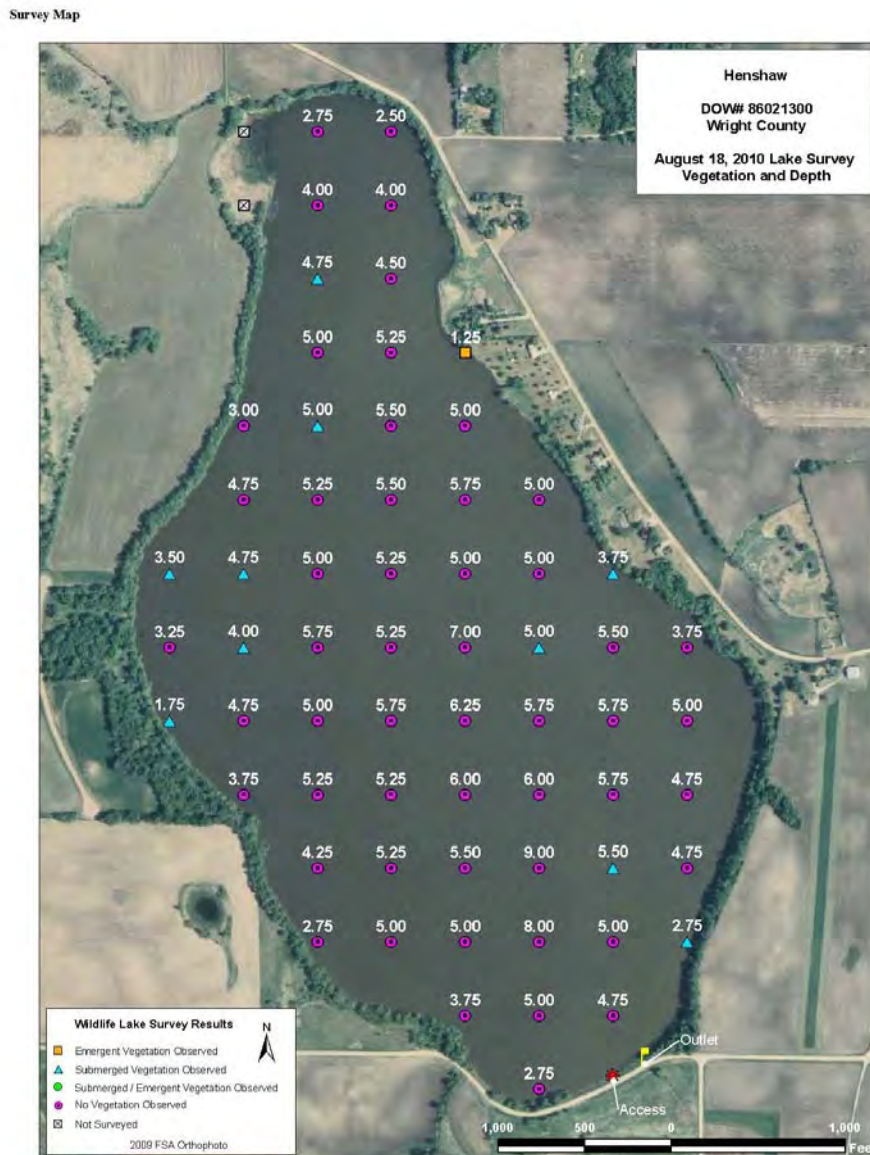
Although there were no fish population assessments conducted in Albion Lake in 2010, the apparent decreased water quality in Albion Lake may be related to an increase in rough fish populations in the lake. As shown in the Albion Lake Report Card in Appendix C, 2010 water quality was similar to 2006, when a MN DNR fish population assessment documented carp and other rough fish in the lake.

Henshaw Lake

Summer average phosphorus concentrations remained above the TMDL goal in Henshaw Lake in 2010, but were on the low end of the historical range for the lake. Summer average chlorophyll-a concentrations increased from 2009 while Secchi depth decreased.

A vegetation inventory conducted on the lake by the MN DNR on August 18, 2010 found submergent aquatic vegetation at only 12 of 53 sample points with sago pondweed and muskgrass the most common species observed. Figure 4.2 shows the submergent vegetation coverage and depth as inventoried. It is likely that turbid water and resuspension of sediments limits vegetation growth in Henshaw Lake.

Figure 4.2 Henshaw Lake Depth and Vegetation Coverage



While an extensive winterkill occurred on nearby Swartout Lake in 2010, a fish inventory conducted by the MN DNR April 16, 2010 found high densities of young carp and bullheads in Henshaw Lake, indicating that Henshaw Lake did not extensively winterkill. The presence of a large population of rough fish in the lake likely contributed to the apparent decline in water quality in Henshaw Lake in 2010.

The 2010 monitoring results and apparent connection of lake water quality to the status of fish communities in Swartout, Albion, and Henshaw Lakes further prove that when addressing impairments in shallow lakes it is also necessary to address the health of the biological communities in the lake. To improve the quality of shallow lakes, it is beneficial to restore the health of biological communities in the lake, including fish, plants, and zooplankton. Ideally, shallow lake management plans incorporating water level management to promote vegetation growth, and more drastic fish community management strategies, such as lake drawdowns or the application of Rotenone to promote rough fish kills, would be implemented. However, efforts to implement these strategies have been met with limited success so the implementation strategies have been limited thus far to rough fish barriers and harvesting, and watershed BMPs. Fish barriers that have been installed in the Cedar Lake Watershed are shown on Figure 4.3.

Stream Monitoring

Five tributary streams in the Cedar Lake subwatershed were also monitored in 2010. Locations of the monitored tributary streams are shown on Figure 4.3. Overall, stream flow in these tributaries was higher in 2010 than in recent years due to a large runoff from snowmelt in early spring and above normal precipitation during summer and fall. Most of the tributary streams were flowing for longer periods in 2010 than in the past years that the streams were monitored. The calculated phosphorus loads, average phosphorus concentrations, and runoff at each stream location monitored from 2007-2010 are shown below in Table 4.3.

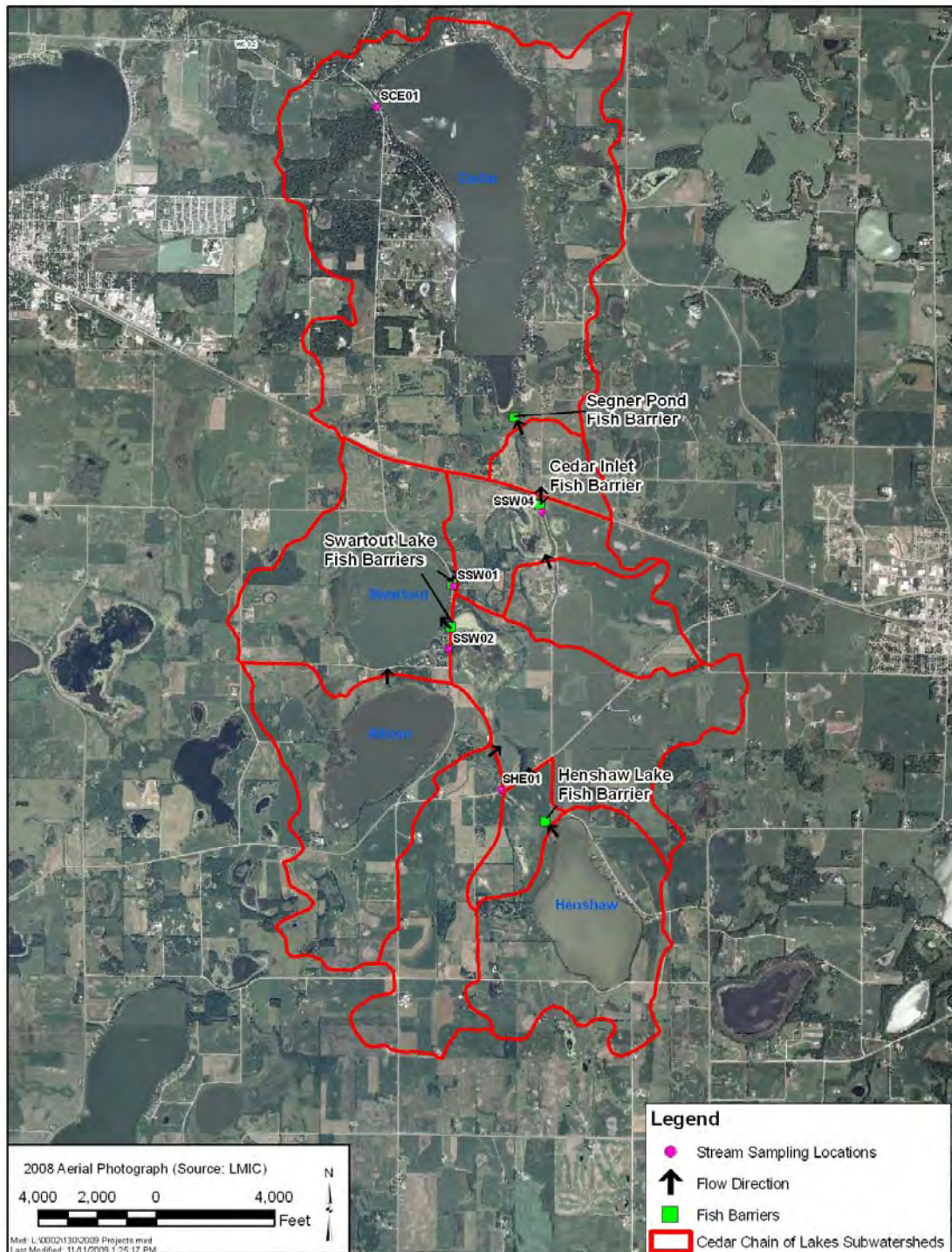
Table 4.3 Tributary Stream Data 2007-2010

| Site | Mean TP Concentration (ug/L) | | | | TP Load (lbs) | | | | Runoff (in) | | | |
|-------|------------------------------|------|------|------|---------------|------|------|------|-------------|------|------|------|
| | 2007 | 2008 | 2009 | 2010 | 2007 | 2008 | 2009 | 2010 | 2007 | 2008 | 2009 | 2010 |
| SCE01 | 38 | 28 | 34 | 32 | 121 | 199 | 136 | 160 | 1.6 | 3.6 | 2 | 2.47 |
| SHE01 | 283 | 222 | 195 | 153 | 81 | 247 | 61 | 198 | 1.2 | 4.5 | 1.3 | 5.27 |
| SSW01 | 232 | 159 | 276 | 225 | 98 | 698 | 602 | 839 | 0.7 | 7 | 3.5 | 5.95 |
| SSW02 | 96 | 301 | 345 | 267 | 292 | 858 | 739 | 624 | 0.5 | 4.7 | 3.5 | 3.83 |
| SSW04 | 58 | 201 | 265 | 251 | 870 | 1011 | 512 | 1149 | 1.2 | 4 | 1.5 | 3.66 |

Overall, total phosphorus concentrations were lower at these monitoring locations than in previous years. However, as a result of the higher stream flow and higher runoff at each of the sites throughout the season, total external phosphorus loading to Cedar Lake and the other upper

watershed lakes was slightly higher at most locations in 2010 than in the previous years since 2007.

Figure 4.3 Stream Monitoring Locations



The overall external phosphorus load to Cedar Lake, as measured at monitoring site SSW04, was 1,149 lbs in 2010, slightly higher than the project goal of 1000 lbs. However, even with the higher external phosphorus load from the upper watershed, summer average phosphorus concentrations did not increase in Cedar Lake in 2010. This is an indication that a proportion of the phosphorus load to Cedar Lake is removed as the water is diverted into Segner Pond before entering the lake. Therefore, it appears that the Project has been effective in recent years in reducing the external load of phosphorus to Cedar Lake and maintaining the water quality in Cedar Lake.

5.0 Progress towards TMDL Water Quality Goals

The CRWD TMDL addresses water quality impairments in lakes and streams and identifies load reduction goals necessary to meet water quality standards. The CRWD Watershed-wide Implementation Plan was developed and approved by the MPCA in May of 2009. The 10-year plan identifies strategies and sets priorities to meet water quality goals in impaired waters.

The plan identifies the upper watershed as a high priority for implementing both capital and programmatic BMPs. Because of the flow-through nature of the Clearwater Chain of Lakes, the water quality in lakes upper watershed lakes like Clear Lake and Lake Betsy are primary drivers of water quality in downstream lakes like Clearwater Lake. The loads from these upper watershed lakes and their tributary watersheds are the primary driver of impairments in lakes further downstream. Clear Lake, Lake Betsy, and the tributary watersheds are targeted for intensive BMPs to not only improve water quality in those lakes, but to also reduce the load to downstream water bodies. All lakes will eventually be targeted, but the greatest impact will be made by initially focusing the efforts on improvements in the upstream end of the District and working downstream.

In 2010, the District implemented several BMPs identified in the CRWD Watershed-wide Implementation Plan to achieve water quality goals. In addition to implementing BMPs, supplemental water quality and hydrologic monitoring was conducted in accordance with recommendations of the implementation plan throughout the District to fill data gaps and better focus the implementation efforts. Upstream watersheds tributary to Clear Lake and Lake Betsy and other impaired lakes were the primary focus of additional monitoring. Additional monitoring tasks are described in Section 5.1.8 and Section 5.1.9.

5.1 TMDL IMPLEMENTATION PROJECTS AND PROGRAMS

Through the process of implementation, priority projects and programs are identified and implemented. In 2009, five priority projects were developed to the concept stage in order to apply for grants. Three additional projects were developed in 2010. Table 5.1 provides summary information for these projects and selected projects are described in more detail below.

To date, the CRWD has won three of the seven grants for which it has applied. The CRWD won a grant in partnership with the City of Kimball to construct a stormwater reclamation and reuse facility in the city limits to protect Willow Creek (a trout stream) and to reduce nutrient loads to Lake Betsy. The CRWD also secured two Minnesota Conservation Corps grants to restore two sections of stream in the upper watershed.

The grant application process and background work needed to secure these grants is under review.

Table 5.1 Priority Implementation Projects

| Project | Potential TP Reduction (lbs/yr) | Estimated Cost of TP Reduction (\$/lb) | Estimated Expense | Status |
|--|---|---|--------------------------|---|
| Watkins Impoundment | 796 | \$811/lb | \$645,882 | Hold for grant funds: Land was acquired for this project. An initial grant application for \$351,906 scored highly but was not selected due to amount requested. Conducted additional feasibility work and completed another grant application which was not awarded. Will continue to seek grant funding for implementation. |
| City of Kimball Stormwater Reclamation and Reuse | 257 | \$444/lb | \$114,000 | Implemented. Secured grant funds and partner contribution from the City of Kimball. Construction of the project was substantially completed November 2009. Final plantings and site stabilization scheduled for Spring 2011. Follow up monitoring will be required. |
| Fertilizer Field Trial | 600 | \$295/lb | \$177,000 | Implemented in 2010 on approximately 1,000 acres. District funds were used. Grant applications have been unsuccessful to date. |
| Lake Betsy Hypolimnetic Withdrawal | 480 | \$525/lb | \$315,000 | Additional data was collected to characterize internal load in 2009 and 2010. Future grant applications are scheduled for 2011. |
| Clear Lake V-Notch Weir | 588 | \$128/lb | \$75,000 | CRWD is working towards securing an easement for the project. Monitoring data was collected in 2010. |
| Kingston Wetland Restoration | 1,970 | \$375/lb | \$739,000 | A \$404,300 grant was secured for this project. The workplan is under review with the EPA. We are scheduled to begin monitoring in 2011. |
| Conservation Corps Streambank Restoration | TP load reduction associated with sediment load reduction | -- | \$65,275 | Implemented in 2010. CRWD secured a \$28,875 grant for the project from Conservation Corps Minnesota. Work was completed along 2,800 linear feet of streambank. Opportunities to continue this work will be explored in 2011. |

5.1.1 Watkins Impoundment

The proposed project is the construction of an impoundment on a 20-acre CRWD-owned parcel of land northeast of the city to treat runoff discharged from the city's storm drainage system. The impoundment would be created by constructing an earthen dike across the creek that runs west to east across the parcel. Two subwatersheds totalling 740 acres of urban and agricultural land

drains through this creek to a nearby ditch. A sheet pile weir with a V-notch outlet point would control discharge from the impoundment. The impoundment is sized to store runoff from the 0.5 inch event, which would provide an annual nutrient removal efficiency of 25%. The impoundment would also potentially provide some removal of bacterial load from the agricultural land and biological oxygen demand currently stressing the Clearwater River.

The filter consists of 3/4 inch to 3 inch diameter limestone wrapped in geotextile fabric and staked in place at the outlet of the structure. As the water passes through the filter, the phosphorus comes in contact with and binds to the calcium in the limestone, and is removed from the water.

No grant funds were awarded for this project. In 2010, CRWD worked towards securing the land and conceptual design, and will continue to seek grant funding for this project.

5.1.2 City of Kimball

This project targets phosphorus removal for Lake Betsy and protection of the Willow Creek trout habitat by infiltrating the 1.5-inch storm event off 428 acres in and around the City of Kimball. Stormwater runoff from the City of Kimball drains untreated into Willow Creek, a trout stream. Willow Creek is tributary to Lake Betsy, which is impaired by excess nutrients.

It is estimated that this project will reduce phosphorus discharged to Willow Creek and Lake Betsy by 244 pounds annually, or about 3 percent of the 8,300 pound annual load reduction required for Lake Betsy. Kimball is one of two urban areas tributary to Lake Betsy, making it a targeted area for load reduction in the TMDL.

A grant was awarded for this project in 2009 and construction began on the project in 2010, with substantial completion of construction that year. Final stabilization will occur in the spring of 2011 when the project will come on line. The project consisted of a shallow basin to collect stormwater for irrigation of a near-by baseball field and infiltration to recharge shallow groundwater. The project also included limestone check dams and a rain garden. Education and

outreach curriculum centered around the project will be developed and implemented by the school district with support of CRWD staff.

5.1.3 Fertilizer Field Trial

The proposed soil testing and fertilizer application field trial includes systematic soil tests on up to 10,000 acres of critical cropland to determine the proper amount of fertilizer to be applied to each field. The applicator will use GPS to apply the correct amount of fertilizer in each grid of the fields based on the results of the soil tests.

This project began in 2010 on a selected 1,000 acres of land in the western portion of the watershed district tributary to Clear Lake and Lake Betsy. Monitoring results from initial soil testing and fertilizer application in 2010 have not yet been received. Analysis of the data will be used to recommend additional parcels for testing in 2011.

Monitoring will be conducted at drain tile outlets from selected fields. Samples will also be collected from two tile outlets in fields that are not a part of the field trial to be used as background data for comparison. The results will be publicized to encourage wider application of this technique.

This field trial will demonstrate the feasibility and utility of systematic soil testing in reducing fertilizer application and thus phosphorus load in agricultural runoff. This technology can be implemented throughout the agricultural areas of the state to cut down on fertilizer costs and reduce runoff of nutrients into adjacent water bodies.

The outcomes of the field trial are a reduction in phosphorus from fertilizer exported to impaired waters from cropland, and a quantification, evaluation, and publication of the load reduction achieved.

5.1.4 Lake Betsy Hypolimnetic Withdrawal

This proposed project would pump nutrient-rich water from the lake hypolimnion and use it to irrigate a nearby farm field. Intensive monitoring will be completed to evaluate the effectiveness of the BMP in reducing internal load. Lake inflows and outflows will be monitored for flow and quality, while weekly temperature and dissolved oxygen profiles and bi weekly nutrient profiles will be taken to evaluate impact on lake water quality. Volume and timing of withdrawals will be tracked to estimate load reduction.

The proposed project will assess the cost-effectiveness of lake hypolimnetic withdrawal and irrigation as an internal phosphorus load management BMP, and evaluate its transferability to lakes in the Clearwater River Watershed District and elsewhere.

While this project was not implemented in 2010, monitoring efforts have continued on Lake Betsy to better quantify internal nutrient loading in the lake and better determine the feasibility of this proposed project.

5.1.5 Clear Lake V-Notch Weir

The proposed project will impound water by installing a V-notch weir on a Clear Lake tributary stream south of the lake. This will allow phosphorus to settle out of agricultural runoff before discharging to Clear Lake. The targeted load reduction for this project is 600-800 pounds of phosphorus annually. The phosphorus load removed through the proposed project represents a significant component of the required load reduction from watershed sources to Clear Lake. The V-notch impoundment will catch water from smaller runoff events while allowing controlled overflow of stormwater during larger storm events.

While this proposed project was not constructed in 2010, the District made progress on the project in 2010 by working towards securing an easement on the property and collecting monitoring data. Monitoring data in 2010 indicated that a large proportion of the total phosphorus consists of soluble phosphorus. Since the proposed weir construction will only reduce the particulate phosphorus component in water temporarily detained by the weir, it would

be beneficial to implement additional features of the project to reduce the soluble phosphorus as well.

5.1.6 Kingston Wetland Restoration

The purpose of the Kingston Wetland Feasibility Study and Restoration Project is to design and implement a restoration of the dissolved oxygen impaired Clearwater River and its 460 acre riparian Kingston Wetland to improve main channel dissolved oxygen concentrations in a DO impaired reach of the Clearwater River, reduce the seasonal export of soluble phosphorus to impaired lakes, and improve stream and wetland habitat.

Improvements in DO will be achieved by mitigating sediment oxygen demand in the wetland complex. The project also targets a 1,970 lb/year phosphorus reduction to downstream lakes by preventing soluble phosphorus export from the riparian wetland.

Monitoring will be conducted before and after the project is implemented.

A grant in the amount of \$404,300 was awarded for this project in 2010. Monitoring and project design is scheduled to begin in 2011 as soon as the contract is executed with the MPCA.

5.1.7 Clearwater River Channel Stabilization

The purpose of this project is to stabilize the channel and bank in a reach of the Clearwater River that has an extensive tree canopy that does not allow for any ground vegetation, which has caused sloughing and incision of the channel banks. The outcomes of the project are to stop soil loss from the bank area by restoring vegetation, stop soil loss from the channel by installing bank toe protection and grade control, and installing grade control structures that will aerate water.

It is estimated that the project will reduce sediment transport in the stream from 147 tons/year to 10 tons/year which will also result in an associated reduction in phosphorus load. The project will also aid in rearing the channel which will increase dissolved oxygen concentrations in the

stream. Some of the stream stabilization efforts will be in conjunction with pasture management to target bacteria load reductions as well as phosphorus load reductions.

The CRWD applied for and was awarded a grant in the amount of \$28,875 from Conservation Corps Minnesota in 2010 to complete this work. The CRWD contributed matching funds for equipment purchase, design, coordination, and construction oversight.

The Conservation Corps crews began work in 2010 and were responsible for thinning trees, building and installing brush bundles, fabricating grade control structures from felled logs, live stake harvesting and installation, seeding slopes, and installing erosion control fabric along approximately 2,800 linear feet in the project area. The CRWD will explore opportunities to continue this work in 2011. Figure 5.1 shows the project area as well as photos of the streambank following completion of the work.

Figure 5.1 Channel Stabilization Project Area



5.1.8 Expanded Monitoring

Additional monitoring tasks were performed in 2010 in order to better quantify internal loading of nutrients in CRWD lakes, to fill data gaps identified in the TMDL study, and to better calibrate water quality models. These monitoring efforts will assist in designing BMPs and load reduction projects, making implementation more efficient and effective.

5.1.9 Expanded Lake Water Quality Monitoring

Samples were collected near the bottom at each of the monitored lakes and analyzed for total phosphorus, soluble reactive phosphorus, and total iron. A summary of surface and bottom phosphorus concentrations, bottom iron concentrations, and a DO/temperature profile at each lake for each monitoring date is found in Appendix H.

Analysis of these parameters in bottom samples is helpful in estimating internal nutrient cycling in lakes. In-lake nutrient cycling is an important component of the whole lake nutrient budget. Phosphorus builds up in lake-bottom sediments due to increases in phosphorus load export from the tributary watershed.

Lake profile data, in which temperature and dissolved oxygen were recorded at 1 meter increments in each lake helps to identify the period of stratification in lakes. This data also allows quantification of the period of anoxia, defined as dissolved oxygen levels less than 2 mg/L, in each lake. Internal loading can be a result of sediment anoxia, where weakly bound phosphorus is released into the water column in a form readily available for phytoplankton production.

Table 5.2 provides a summary of conditions in CRWD lakes which can be used to determine the potential for in-lake nutrient cycling in each lake sampled in 2010. Generally, lakes which have high bottom phosphorus concentrations and periods of anoxia from stratification are susceptible to internal nutrient cycling.

Table 5.2 2010 Summer Average Concentrations and Lake Stratification Patterns

| Lake Name | Surface Summer Average TP (µg/L) | Surface Summer Average OP (µg/L) | Bottom Summer Average TP (µg/L) | Bottom Summer Average OP (µg/L) | Lake Stratification Pattern |
|-----------------|----------------------------------|----------------------------------|---------------------------------|---------------------------------|-----------------------------|
| Albion | 292 | 22 | 230 | 22 | Mixed |
| Augusta | 48 | 17 | 470 | 416 | Strongly Stratifies |
| Betsy | 181 | 112 | 1480 | 1244 | Weakly Stratifies |
| Caroline | 68 | 26 | 1645 | 1500 | Strongly Stratifies |
| Cedar | 26 | 21 | 167 | 183 | Strongly Stratifies |
| Clear | 211 | 48 | 238 | 153 | Polymictic |
| Clearwater West | 30 | 19 | 121 | 70 | Strongly Stratifies |
| Henshaw | 105 | 22 | 110 | 21 | Mixed |
| Louisa | 105 | 40 | 1323 | 1215 | Strongly Stratifies |
| Marie | 93 | 32 | 1200 | 1099 | Stratifies |
| Pleasant | 38 | 17 | 184 | 145 | Stratifies |
| Scott | 137 | 80 | 286 | 202 | Polymictic |
| Swartout | 330 | 214 | 365 | 233 | Polymictic |
| Union | 49 | 16 | 1079 | 1031 | Stratifies |

Lake stratification patterns identified in Table 5.2 vary between water bodies. Lake stratification can drive anoxia, which can drive internal loading in deeper lakes. Identifying the stratification and anoxic period can guide design of efforts to reduce internal loading.

Mixed and Polymictic: In mixed water bodies, water temperature is fairly uniform from top to bottom in the lake. As a result, oxygen enriched water from near the surface is able to mix throughout the water column, and anoxia is typically not present. Polymictic lakes are lakes that develop a weak stratification and mix periodically throughout the growing season. As a result of the frequent mixing, anoxic conditions would likely occur infrequently.

Stratified: In stratified lakes a warm surface layer forms during summer months and the lake maintains a cooler lower layer in the lake and prevents mixing between the two layers. This does not allow oxygen enriched water to reach the bottom layer and anoxia can develop below the thermocline.

Lakes with high bottom phosphorus concentrations that experience anoxic conditions during periods when the lake is stratified have a high potential for internal loading. Lakes with the highest bottom concentrations of phosphorus in 2010 include Betsy, Caroline, Louisa, Marie, and Union. Based on the presence of high bottom phosphorus concentrations, lake stratification patterns and associated periods of anoxia during a given year, these lakes have a high potential for internal loading. Shallow lakes such as Henshaw, Albion and Swartout can load internally throughout the season based on disturbance of bottom sediments from wind and rough fish.

As shown on the Lake Report Cards in Appendix C, the bottom phosphorus concentrations in most lakes generally increases throughout the summer. This is especially evident in Betsy, Caroline, Augusta, Louisa, Marie, and Union Lakes. The bottom phosphorus concentrations in these lakes typically decrease after mixing with the entire water column during fall turnover.

5.2 INTERNAL LOAD ESTIMATION

One TMDL implementation plan recommendation was to verify the predicted high internal loads in some District lakes by measuring release rates and to better characterize the anoxic factor through collecting more temperature and DO profile measurements during the growing season annually. The anoxic factor can change annually with weather conditions, especially in shallow polymictic lakes.

In March 2010, sediment cores were collected at Augusta and Scott Lakes. The sediment cores were analyzed for phosphorus content and the phosphorus release rate under oxic and anoxic conditions from each lake was quantified. Similar sampling and analysis was conducted at Betsy and Clear Lakes in 2009.

The analysis of the sediment phosphorus content allows for the phosphorus to be characterized into two categories, redox-sensitive and biologically labile phosphorus, and refractory phosphorus. Redox-sensitive and biologically labile phosphorus is the form of phosphorus that is subject to recycling in the lake while refractory phosphorus is strongly bound and does not

readily cycle back into the lake. Data from the analysis of the sediment cores collected in 2010 and 2009 is summarized in Table 5.3.

Table 5.3 CRWD Lake Sediment Analysis Summary

| Lake | Phosphorus Release Rate (mg/m²/day) | | Total Phosphorus (mg/g) | Redox-sensitive and biologically labile P (mg/g) | Percentage of redox-sensitive and biologically labile P | Refractory P (mg/g) |
|----------------|---|---------------|--------------------------------|---|--|----------------------------|
| | Oxic | Anoxic | | | | |
| Augusta (2010) | Not detected | 4.50 | 1.098 | 0.583 | 53.1% | 0.540 |
| Scott (2010) | Not detected | 30.00 | 1.237 | 0.635 | 51.3% | 0.665 |
| Betsy (2009) | Not detected | 19 | 1.419 | 0.753 | 53.1% | 0.694 |
| Clear (2009) | Not detected | 2.4 | 1.462 | 0.353 | 24.1% | 0.861 |

As observed in Betsy and Clear Lakes in 2009, phosphorus release was not detected from sediments under oxic conditions for either Augusta or Scott Lake. The sediment core analysis indicates that the phosphorus release rate from bottom sediments under anoxic conditions in Scott Lake is much higher than the release rate from Augusta Lake sediments. Analysis of the phosphorus content shows that the phosphorus content is similar in both lakes and the percentage of redox-sensitive and biologically labile phosphorus is also similar in both lakes. These results indicate that under anoxic conditions, internal loading of phosphorus can potentially result in a significant loading of phosphorus to both lakes.

The additional data collected on Augusta and Scott Lakes allows for the estimation of internal phosphorus loading in each lake. The measured release rates used in conjunction with additional temperature and DO profiles to define the summer stratification period were used to characterize internal loading. Similar data was collected in 2009 from Betsy and Clear Lake. Table 5.4 shows the predicted internal load and annual load allocations for Augusta, Scott, Betsy, and Clear Lakes as identified in the 2009 CRWD Lake Nutrient TMDL, the 2010 estimated internal phosphorus loads in the four lakes, as well as the 2009 estimated internal phosphorus load in Betsy and Clear Lakes. Some variability in the annual internal phosphorus load from year to year is expected, and is caused by variability in the depth of stratification and area of anoxia in the lakes.

Table 5.4 Predicted and Estimated Internal Phosphorus Loads

| Lake | Predicted Internal Load* (lbs/year) | Annual Phosphorus Load Allocation* (lbs/year) | Annual Phosphorus Internal Load Allocation* (lbs/year) | 2009 Estimated Internal Phosphorus Load (lbs/year) | 2010 Estimated Internal Phosphorus Load (lbs/year) |
|-------------|--|--|---|---|---|
| Augusta | 880 | 4,109 | 697 | -- | 506 |
| Scott | 59 | 2,535 | 59 | -- | 1,120 |
| Betsy | 7,080 | 2,868 | 354 | 1,354 | 1,849 |
| Clear | 8,364 | 1,250 | 21 | 76 | 142 |

*From CRWD Lake Nutrient TMDLs, 2009

The 2010 estimated internal phosphorus load in Lake Augusta was less than the modeled predicted internal load average and was less than the TMDL annual phosphorus internal load allocation for the lake. The 2010 estimated internal phosphorus load in Scott Lake was significantly higher than both the modeled average and the TMDL annual phosphorus internal load allocation for the lake. The result is that the TMDL predicted a much lower internal phosphorus load to Scott Lake than what was measured in 2010.

While the 2009 estimated internal phosphorus loads in Lake Betsy and Clear Lake appeared to be less than the modeled average they still are above the TMDL annual phosphorus internal load allocation for each lake.

Summaries of these lakes, including Lake Report Cards summarizing general lake information, historical and current water quality, and identifying TMDL goals are found in Appendix C.

6.0 Conclusions

1. Annual precipitation was above normal at monitored locations in 2010, and was above normal in most months. Significant precipitation events occurred throughout the year, especially in August, September, and October.
2. Runoff over the watershed at CR 28.2 was 7.9 inches, and at CR 10.5 was 13.0 inches. The higher than normal runoff in both portions of the watershed is due primarily to high flow events following snow melt and significant precipitation events throughout the year.
3. The Clearwater River phosphorus load was estimated at 9,149 pounds at CR 10.5, higher than loads in recent years due to increased runoff from above average precipitation, but similar to historical averages in years with similar precipitation. The upper watershed load at CR 28.2 was 23,955 pounds, which was significantly higher than loads measured in recent years due to increased runoff. Flow-weighted average concentrations were 32 µg/L and 258 µg/L at CR 10.5 and CR28.2, respectively. These concentrations were lower than historical averages at both sites and similar to concentrations seen in recent years.
4. Soluble phosphorus makes up a majority of total phosphorus at monitoring stations downstream of wetlands, indicating the export of soluble phosphorus from the wetlands. Expanded monitoring upstream of these wetlands would help to verify the export of soluble phosphorus from the wetlands. Projects implemented to reduce phosphorus should also contain a component to reduce soluble phosphorus if possible.

5. With the exception of the 11 lakes that are impaired in the watershed, the water quality of CRWD lakes is generally good. Water quality has generally improved or remained stable in the majority of the lakes in the CRWD in recent years.
6. Additional lake monitoring efforts conducted in 2010 confirm the impact of internal loading of nutrients in some CRWD lakes, as evidenced by monitoring data showing high bottom phosphorus concentrations and high phosphorus release rates from lake sediments. Monitoring data indicates that lakes especially susceptible to internal nutrient loading include Albion, Swartout, Henshaw, Augusta, Caroline, Louisa, Marie, Betsy, Scott, and Union. CRWD will continue to evaluate potential actions identified in the CRWD Watershed-wide Implementation Plan that address internal loading.
7. Continued monitoring as part of Project #06-1 indicates that external phosphorus loads to Cedar Lake were near project goals, even during a year with higher than normal runoff over the watershed. However, summer average phosphorus concentrations in Cedar Lake remain above the Project goal of 20 µg/L, indicating that additional load reductions, additional actions, and time are necessary to meet lake water quality goals.
8. The 2010 monitoring results in Swartout, Albion, and Henshaw Lakes made apparent the connection of lake water quality to the status of fish communities in these lakes. The development of shallow lake management plans incorporating measures such as water level management to promote vegetation growth and more drastic fish community management strategies, such as lake drawdowns or the application of Rotenone to promote rough fish kills would likely benefit these lakes.
9. The installation of two continuous stream flow monitoring sites and the continued additional frequency of monitoring at stream locations in 2010 allowed for an accurate estimation of runoff and phosphorus loading in CRWD. Additional lake monitoring efforts, including collecting bottom phosphorus and iron concentrations, collecting temperature and dissolved oxygen profiles more frequently, and conducting sediment phosphorus release studies led to better quantification of internal loading in District lakes

in 2010. The CRWD should consider continuing the additional monitoring efforts in 2011 to more effectively design and implement load reduction projects.

10. In 2010, the CRWD made progress towards water quality goals established in the TMDLs by:
 - ❖ implementing additional monitoring which filled data gaps identified in the TMDL and which will assist in final design of capital improvement projects and targeting BMPs;
 - ❖ applying for and securing grant dollars for three projects;
 - ❖ implementing three projects identified in 2009, including:
 - beginning a targeted fertilizer application reduction project in the upper watershed,
 - completing construction on a stormwater reclamation and reuse project in the City of Kimball, and
 - completing a streambank restoration and stabilization project on the Clearwater River,
 - ❖ continuing to seek grant funding, monitoring, and securing land for additional projects including:
 - Watkins impoundment,
 - Lake Betsy hypolimnetic withdrawal, and
 - Clear Lake v-notch weir
11. In 2011, the CRWD plans to continue progress towards TMDL goals by:
 - ❖ continuing additional monitoring efforts to track effectiveness and improve efficiencies of implementation projects,
 - ❖ beginning monitoring and project design for the Kingston Wetland Restoration and Feasibility Study,
 - ❖ continuing to apply for grant dollars to fund other CRWD projects,

Appendix A

2010 Water Quality Monitoring Program

MEMORANDUM

TO: Clearwater River Watershed District Board of Managers

FROM: Norman C. Wenck
Engineer for the District

DATE: February 10, 2010

RE: Proposed 2010 Water Quality Monitoring Program

Introduction

The Clearwater River Watershed District conducts its annual water quality monitoring at selected lakes and locations on streams. The District's proposed 2010 program is intended to provide data from sites throughout the District.

The 2010 proposed lake monitoring follows the long-term plan as shown in Table 1 and Figure 1. The proposed stream monitoring sites together with laboratory and field parameters are shown in Table 2.

Lake Monitoring

It is recommended that the District's 2010 lake monitoring include the 10 lakes shown on Table 1, including Clearwater West, Augusta, Louisa, Caroline, Scott, Marie, Betsy, Pleasant, Clear, and Union. It is also recommended that surface and bottom water samples be collected at all of the sampled lakes. The proposed stations and the parameters to be monitored are shown on Table 2. Citizens also monitor approximately 10 lakes for secchi depth. Cedar, Albion, Henshaw, and Swartout Lakes will also be monitored as part of the Cedar, Albion, Swartout, Henshaw Improvement Project #06-1.

Stream Monitoring

The Clearwater River will be monitored twice a month from April-June and once a month from July-October at station CR28.2. The Clearwater River will also be monitored once a month from April-October at station CR 10.5 at Grass Lake. Warner Creek will be monitored once a month from April-October at WR 0.2. Two major inlets to Clear Lake will also be monitored in 2009 at stations Clear Lake North and Clear Lake South. These stations will be monitored for water quality and flow. Water quality parameters are total phosphorus, ortho phosphorus, and total suspended solids. CR 28.2 will also be monitored for *E. coli* bacteria. Tributary streams in the Cedar Lake subwatershed will also be monitored as part of Project #06-1.

Level Monitoring

It is recommended that the District install staff gauges at the outlets of Clear, Cedar, and Grass Lakes and enlist the help of lake residents to read the gauges on a weekly basis.

Estimated Cost

This proposed basic program is estimated to cost \$24,500 plus an estimated additional 240 hours of CRWD staff time.

Recommended Supplemental Monitoring

In addition to the basic program, it is recommended that supplemental monitoring efforts be considered in 2010. The proposed supplemental monitoring efforts would allow the District to track the success of individual projects or to investigate specific water quality concerns.

Supplemental Monitoring Task 1: Collect additional temperature/dissolved oxygen profiles from selected lakes in the District to better characterize the anoxic factor in lakes.

It is recommended that the District collect profile data twice monthly starting in early May until the lake is stratified in Clear, Cedar, Betsy, Scott, and Augusta Lakes. Profiles should also be collected twice monthly starting in September until the lakes are mixed. Since the lakes are already being sampled monthly from June to September, this additional task would add four to six visits to each lake. This task would take approximately 40 to 60 hours of CRWD staff time to complete plus \$1,000 for data management and reporting.

Supplemental Monitoring Task 2: Collect lake bottom sediment samples to quantify phosphorus release rates in selected District Lakes.

It is recommended that the District collect lake sediment samples from Scott and Augusta Lakes in 2010 to expand on monitoring performed in 2009. The cost of this task is approximately \$3,500 per lake.

Supplemental Monitoring Task 3: Maintain continuous flow measurements at two locations in the watershed.

It is recommended that the District install pressure transducers at two sites, the north inlet to Clear Lake and at monitoring station CR 31.8, to measure continuous flows and better characterize runoff in these areas of the watershed. The approximate cost of this task, including equipment purchase is \$4,800.

Equipment Purchase

The equipment used to gauge stream flow is in need of replacement. New equipment would improve the efficiency of data collection and improve the quality of the data. The cost of a new digital velocity meter to be used in stream flow gauging is approximately \$3,200.

Summary

The proposed monitoring program continues the program in place since 1981, coordinates with other programs, and reflects input from the Board and citizens. Please feel free to call me at 763-479-4201 or Rebecca Kluckhohn at 763-479-4224 with any questions or comments that you may have.

TABLE 1
PROPOSED LONG-TERM WATER QUALITY MONITORING PLAN FOR CRWD LAKES

| LAKE STATIONS⁽¹⁾ | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <u>Clearwater Lake:</u> | | | | | | | | | | | | | | |
| Clearwater East | X | X | X | X | X | X | X | X | DNR | | X | | X | |
| Clearwater West | X | X | X | X | X | X | X | X | DNR | X | | X | X | X |
| <u>Main Stem Lakes:</u> | | | | | | | | | | | | | | |
| Augusta | X | | X | | X | | X | | DNR | | X | | X | X |
| Louisa | X | | X | | X | | X | | TMDL/ DNR | TMDL | X | | X | X |
| Caroline | | X | | | | X | | X | DNR | X | | X | X | X |
| Scott | | X | X | | | X | | X | | X | | X | X | X |
| Marie | | X | | X | | X | | X | DNR | X | | X | X | X |
| Betsy | X | | X | | X | | X | | X | | X | | X | X |
| <u>Other Lakes:</u> | | | | | | | | | | | | | | |
| Cedar | | | X | | X | | X | X | X | X | | X(2) | X(2) | X(2) |
| Pleasant | X | | X | X | | | | X | MPCA | | X | X(3) | X | X |
| School Section | X | | X | X | | | | X | | | X | | X | |
| Nixon | X | | X | | X | | | X | | | X | X | X | |
| Otter | X | | X | | X | | | X | | | X | | X | |
| Bass | | X | X | | X | | | | MPCA/ DNR | X | | X(3) | X | |
| Clear | | X | X | X | | | X | | X | | | X | X | X |
| Union | | X | X | | | X | | | MPCA | | | X | X | X |
| Henshaw | | X | X | | | X | | | X | | X | X(2) | X(2) | X(2) |
| Little Mud | | | X | | | X | | | | X | | | X | |
| Wiegand | | | X | | | X | | | X | | | | X | |
| Swartout | | | X | | | | X | | X | X | | X(2) | X(2) | X(2) |
| Albion | | | X | | | | X | | X | X | | X(2) | X(2) | X(2) |
| Grass | | | X | | | | X | | DNR | | | X | X | |
| Number of Lakes Monitored W/ CRWD Funding | | | | | | | | | | | | | | |
| | 9 | 9 | 20 | 6 | 9 | 9 | 10 | 10 | 7 | 10 | 9 | 14 | 22 | 14 |

Note:

⁽¹⁾ Lake selection based on total lake size ranking scores (Lake Priority Ranking, 1990)

⁽²⁾ Part of Project #06-1

⁽³⁾ Added to assess trends

TABLE 2
Proposed 2010 CRWD Monitoring Plan Summary

| Category | 2010 Schedule | Station | Parameters |
|----------------|---|--|--|
| Lakes: | June 1-5, July 6-10, August 3-7, September 7-11 | The CRWD will monitor Clearwater (West), Augusta, Louisa, Caroline, Scott, Marie, Betsy, Pleasant, Clear, and Union Lakes. | Field: Secchi depth, DO and temperature profiles |
| | | Cedar, Albion, Swartout, and Hensaw Lakes will be monitored under Project No. 06-1 | Lab: surface samples for total phosphorus, ortho phosphorus, and chlorophyll-a Bottom samples for total phosphorus, ortho phosphorus, and total iron. |
| | | | Citizen Secchi: 10 sites not listed here |
| Streams: | Twice monthly April-June, monthly July-October | CR 28.2 | Field: flows, DO and temperature Lab: total phosphorus, ortho phosphorus, total suspended solids, E. coli |
| | Monthly April-October | CR 10.5 | Field: flows, DO and temperature Lab: total phosphorus, ortho phosphorus, total suspended solids, |
| | Monthly April-October | WR0.2 | Field: flows, DO and temperature Lab: total phosphorus, ortho phosphorus, total suspended solids, |
| | Monthly April-October | Clear Lake Inlet North | Field: flows, DO and temperature Lab: total phosphorus, ortho phosphorus, total suspended solids, |
| | Monthly April-October | Clear Lake Inlet South | Field: flows, DO and temperature Lab: total phosphorus, ortho phosphorus, total suspended solids, |
| | Weekly | River Stage at CR10.5, lake Level at Clear Lake, Cedar Lake | |
| Precipitation: | Daily | Corinna, Kimball, Watkins | |
| Project #06-1 | | Cedar, Albion, Swartout, Henshaw, Project #06-1 | Tributaries Field: DO, temperature, conductivity, pH ; Lab: total phosphorus, ortho phosphorus, TSS |
| | | | Lakes Field: Secchi, DO, temperature profiles Lab: surface: total phosphorus, ortho phosphorus, chlorophyll-a bottom: total phosphorus, ortho phosphorus, total iron |

Appendix B

Historical Mean Flow and Phosphorus Loading

**APPENDIX B Table B-1
Historical Mean Flow and Phosphorus Loading**

Clearwater River Watershed District

2010 Annual Report

| Station | Year | Average Stream Flow | | Flow-Weighted Average Total Phosphorus Concentration | Total Phosphorus Load | | µg/l |
|---------------|--------------|---------------------|-------|---|-----------------------|---------|-------|
| | | (cu m/sec) | (cfs) | (mg/l) | (kg) | (lb) | |
| Main Stem: | | | | | | | |
| CR 28.2 | 1981 (1) | -- | -- | 1.400 | -- | -- | 1,400 |
| | 1981 | | | | | | |
| (Actual River | 1982 (1) | 0.93 | 32.8 | 0.740 | 19,700 | 43,500 | 740 |
| Mile 27.2) | 1983 | 2.62 | 92.6 | 0.920 | 76,000 | 168,000 | 920 |
| | 1984 | 1.49 | 52.6 | 0.760 | 35,700 | 78,800 | 760 |
| | 1985 | 2.32 | 81.9 | 0.900 | 65,500 | 144,000 | 900 |
| | 1986 | 3.20 | 113 | 0.780 | 55,200 | 122,000 | 780 |
| | 1987 | 0.11 | 3.90 | 0.130 | 460 | 1,020 | 130 |
| | 1988 | 0.09 | 3.12 | 0.660 | 1,850 | 4,080 | 660 |
| | 1989 | 0.02 | 0.72 | 0.190 | 120 | 260 | 190 |
| | 1990 | 0.51 | 18.0 | 0.440 | 7,040 | 15,500 | 440 |
| | 1991 | 1.11 | 39.1 | 0.290 | 10,200 | 22,500 | 290 |
| | 1992 | 0.26 | 9.30 | 0.200 | 1,660 | 3,650 | 200 |
| | 1993 | 1.28 | 45.2 | 0.290 | 11,600 | 25,600 | 290 |
| | 1994 | 1.17 | 41.2 | 0.280 | 10,100 | 22,300 | 280 |
| | 1995 | 1.15 | 40.4 | 0.288 | 10,400 | 22,900 | 288 |
| | 1996 | 0.33 | 11.7 | 0.274 | 2,860 | 6,300 | 274 |
| | 1997 | 0.27 | 9.36 | 0.260 | 2,170 | 4,790 | 260 |
| | 1998 | 0.41 | 14.4 | 0.250 | 3,190 | 7,020 | 250 |
| | 1999 | 0.08 | 2.78 | 0.160 | 400 | 870 | 160 |
| | 2000 | 0.02 | 0.72 | 0.380 | 240 | 530 | 380 |
| | 2001 (4),(5) | 0.27 | 9.46 | 0.510 | 4,309 | 9,500 | 510 |
| | 2002 | 0.47 | 16.50 | 0.291 | 4,290 | 9,460 | 291 |
| | 2003 | 0.28 | 9.92 | 0.190 | 1,710 | 3,770 | 190 |
| | 2004 | 0.48 | 17.04 | 0.166 | 1,248 | 2,751 | 166 |
| | 2005 (6) | 1.11 | 39.28 | 0.306 | 1,862 | 4,105 | 306 |
| | 2006 | 0.31 | 11.10 | 0.130 | 1,328 | 2,928 | 130 |
| | 2007 | 0.14 | 5.02 | 0.228 | 767 | 1,692 | 228 |
| | 2008 | 0.64 | 22.53 | 0.155 | 1,333 | 2,938 | 155 |
| | 2009 | 1.15 | 40.60 | 0.333 | 7,982 | 17,597 | 333 |
| | 2010 | 1.55 | 54.60 | 0.258 | 10,866 | 23,955 | 258 |
| CR 10.5 | 1981 (1) | 1.15 | 40.6 | 0.050 | 2,060 | 4,550 | 50 |
| | 1982 (1) | 2.20 | 77.8 | 0.070 | 4,990 | 11,000 | 70 |
| | 1983 | 5.64 | 199 | 0.100 | 18,500 | 40,800 | 100 |
| | 1984 | 4.28 | 151 | 0.050 | 6,620 | 14,600 | 50 |
| | 1985 | 3.88 | 137 | 0.140 | 16,700 | 36,800 | 140 |
| | 1986 | 5.52 | 195 | 0.150 | 23,700 | 52,300 | 150 |
| | 1987 | 0.46 | 16.2 | 0.040 | 600 | 1,320 | 40 |
| | 1988 | 0.23 | 7.95 | 0.040 | 260 | 580 | 40 |
| | 1989 | 0.97 | 34.2 | 0.080 | 2,340 | 5,150 | 80 |
| | 1990 | 3.77 | 133 | 0.030 | 3,060 | 6,750 | 30 |
| | 1991 | 6.68 | 236 | 0.050 | 10,500 | 23,200 | 50 |
| | 1992 | 4.16 | 147 | 0.060 | 8,090 | 17,800 | 60 |
| | 1993 | 5.01 | 177 | 0.040 | 6,330 | 14,000 | 40 |
| | 1994 | 2.92 | 103 | 0.030 | 2,850 | 6,290 | 30 |
| | 1995 | 2.83 | 100 | 0.034 | 3,040 | 6,710 | 34 |
| | 1996 | 1.53 | 54.2 | 0.041 | 1,970 | 4,350 | 41 |
| | 1997 | 2.06 | 72.8 | 0.040 | 2,690 | 5,940 | 40 |
| | 1998 | 1.78 | 63.0 | 0.040 | 2,330 | 5,120 | 40 |
| | 1999 | 1.25 | 44.1 | 0.040 | 1,520 | 3,350 | 40 |
| | 2000 | 0.31 | 10.8 | 0.030 | 280 | 610 | 30 |
| | 2001 (4),(5) | 0.90 | 31.7 | 0.030 | 850 | 1,873 | 30 |
| | 2002 | 2.46 | 87.0 | 0.035 | 2,950 | 6,500 | 35 |
| | 2003 | 2.11 | 74.6 | 0.024 | 1,590 | 3,500 | 24 |
| | 2004 | 1.66 | 58.8 | 0.022 | 639 | 1,409 | 22 |
| | 2005 (6) | 3.05 | 107.6 | 0.023 | 59 | 130 | 23 |
| | 2006 (6) | 1.76 | 62.2 | 0.032 | 1,263 | 2,785 | 32 |
| | 2007 | 0.97 | 34.1 | 0.031 | 933 | 2,057 | 31 |
| | 2008 | 1.27 | 44.8 | 0.023 | 452 | 997 | 23 |
| | 2009 | 3.99 | 141.0 | 0.025 | 1,949 | 4,297 | 25 |
| | 2010 | 6.16 | 217.5 | 0.032 | 4,150 | 9,149 | 32 |

**APPENDIX B Table B-1
Historical Mean Flow and Phosphorus Loading**

Clearwater River Watershed District

2010 Annual Report

| Station | Year | Average Stream Flow | | Flow-Weighted Average Total Phosphorus Concentration | Total Phosphorus Load | | µg/l |
|--------------|--------------|---------------------|-------|---|-----------------------|--------|------|
| | | (cu m/sec) | (cfs) | (mg/l) | (kg) | (lb) | |
| Main Stem: | | | | | | | |
| Tributaries: | | | | | | | |
| WR 0.2 (2) | 1981 (1) | 0.07 | 2.60 | 0.170 | 390 | 860 | 170 |
| | 1982 (1) | 0.23 | 8.20 | 0.160 | 780 | 1,720 | 160 |
| | 1983 | 0.47 | 16.50 | 0.090 | 1,270 | 2,800 | 90 |
| | 1984 | 0.60 | 21.20 | 0.050 | 950 | 2,100 | 50 |
| | 1985 | 0.48 | 17.10 | 0.140 | 2,130 | 4,700 | 140 |
| | 1986 | 0.86 | 30.40 | 0.200 | 4,630 | 10,200 | 200 |
| | 1987 | 0.04 | 1.50 | 0.070 | 100 | 230 | 70 |
| | 1988 | 0.01 | 0.40 | 0.170 | 60 | 130 | 170 |
| | 1989 | 0.03 | 1.19 | 0.140 | 80 | 180 | 140 |
| | 1990 | 0.06 | 2.28 | 0.370 | 750 | 1,660 | 370 |
| | 1991 | 0.26 | 9.22 | 0.111 | 860 | 1,900 | 111 |
| | 1992 | 0.11 | 4.02 | 0.050 | 170 | 370 | 50 |
| | 1993 | 0.24 | 8.59 | 0.100 | 760 | 1,670 | 100 |
| | 1994 | 0.18 | 6.34 | 0.060 | 320 | 700 | 60 |
| | 1995 | 0.12 | 4.27 | 0.054 | 210 | 460 | 54 |
| | 1996 | 0.05 | 1.78 | 0.110 | 180 | 380 | 110 |
| | 1997 | 0.09 | 3.15 | 0.077 | 220 | 480 | 77 |
| | 1998 | 0.09 | 3.11 | 0.110 | 290 | 650 | 110 |
| | 1999 | 0.06 | 2.03 | 0.070 | 130 | 280 | 70 |
| | 2000 (3) | 0.01 | 0.44 | 0.060 | 25 | 56 | 60 |
| | 2001 (4),(5) | 0.08 | 2.88 | 0.100 | 257 | 567 | 100 |
| | 2002 | 0.26 | 9.17 | 0.114 | 930 | 2,060 | 114 |
| | 2003 | 0.16 | 5.79 | 0.062 | 320 | 710 | 62 |
| | 2004 | 0.07 | 2.6 | 0.063 | 78 | 172 | 63 |
| | 2005 | 0.58 | 20.6 | 0.066 | 22 | 48 | 66 |
| | 2006 | 0.06 | 2.1 | 0.090 | 102 | 224 | 90 |
| | 2007 | 0.03 | 0.9 | 0.064 | 34 | 76 | 64 |
| | 2008 | 0.31 | 11.1 | 0.058 | 246 | 542 | 58 |
| | 2009 | 0.15 | 5.3 | 0.087 | 273 | 602 | 87 |
| | 2010 | 0.16 | 5.6 | 0.095 | 311 | 685 | 95 |

NOTES:

Flow values are time-weighted averages unless otherwise noted.

Total phosphorus values are flow- and time-weighted averages unless otherwise noted.

(1) Values in 1981 and 1982 are arithmetic means

(2) Station WR 0.2 was designated Station WC 0.2 in 1981-1983

(3) Phosphorus values in 2000 are flow-weighted and adjusted per log-log regression on flow so as to correspond to annual mean flows.

(4) 2001 Flow and total phosphorus values are arithmetic averages.

(5) 2001 total phosphorus loads estimated from arithmetic averages of flow and total phosphorus values.

(6) Values in 2005 and 2006 were calculated using supplemental flow data from CSAH 40 near Clearwater

T:\0002\145\Stream_Loads_Historic_10.xls\Precip_Runoff Data

Appendix B-TABLE B-2

YEARLY PRECIPITATION AND RUNOFF TOTALS

Clearwater River Watershed District

| Precipitation (inches of water) | | | | | | | |
|---------------------------------|---------|----------|------------------|-----------|--|--------------------|------|
| YEAR | Watkins | Kingston | Maine Prairie | Corinna | Area-Weighted Precipitation Average | Runoff (inches) | |
| 1981 | -- | -- | -- | -- | 19.76 | (1) | 3.6 |
| 1982 | -- | -- | -- | -- | 24.58 | (1) | 6.8 |
| 1983 | 46.54 | -- | 42.32 | 35.02 | 41.78 | | 17.4 |
| 1984 | 32.23 | 30.13 | 32.37 | 36.07 | 32.95 | | 13.3 |
| 1985 | 40.72 | 39.49 | 45.28 | -- | 42.22 | | 12.0 |
| 1986 | 40.02 | 35.63 | 39.68 | 33.40 | 37.26 | | 16.0 |
| 1987 | 18.97 | 15.40 | 19.41 | 16.16 | 17.52 | | 1.4 |
| 1988 | 16.57 | 18.98 | 15.96 | 15.01 | 16.48 | | 0.7 |
| 1989 | 22.13 | 22.68 | 21.80 | 16.96 | 20.68 | | 3.0 |
| 1990 | 40.35 | 39.18 | 41.36 | 32.18 | 37.94 | | 11.7 |
| 1991 | 41.30 | 45.11 | 43.41 | 36.28 | 41.01 | | 20.7 |
| 1992 | 23.06 | 18.41 | 20.47 | 24.35 | 22.01 | | 12.9 |
| 1993 | 40.17 | 35.27 | (2) 37.54 | (2) 33.33 | 36.71 | | 15.5 |
| 1994 | 34.77 | -- | 30.13 | 30.26 | 31.98 | | 9.0 |
| 1995 | 33.80 | -- | 33.65 | 28.66 | 32.21 | | 8.8 |
| 1996 | 31.31 | -- | 24.32 | (2) 26.13 | (2) 27.59 | | 4.8 |
| 1997 | 24.18 | -- | 21.90 | 27.37 | 24.43 | | 6.3 |
| 1998 | 30.03 | -- | 29.39 | 27.43 | (2) 29.05 | | 5.5 |
| 1999 | 22.08 | -- | 22.31 | (2) 27.71 | 23.84 | | 3.9 |
| 2000 | 23.83 | -- | 20.56 | 19.91 | 21.22 | | 1.0 |
| 2001 | 31.00 | -- | 33.56 | 29.57 | 31.28 | | 2.8 |
| 2002 | 37.50 | -- | 40.27 | 44.72 | 40.57 | | 7.6 |
| 2003 | 22.63 | -- | 21.34 | 26.77 | (2) 23.02 | | 6.5 |
| 2004 | 33.58 | -- | 33.58 | 31.67 | 33.10 | | 2.8 |
| 2005 | 32.30 | (2) -- | -- | 41.47 | 36.89 | | 8.6 |
| 2006 | 20.95 | -- | -- | 23.38 | 22.17 | | 4.2 |
| 2007 | 26.58 | -- | -- | 27.82 | 27.20 | | 3.0 |
| 2008 | 26.19 | -- | -- | 25.00 | 25.58 | | 2.0 |
| 2009 | 28.86 | -- | -- | 27.65 | 28.26 | | 7.6 |
| 2010 | 34.36 | | | 32.94 | 33.65 | | 13.1 |
| | | | | | Mean | | 7.7 |
| | | | | | Std. Dev. | | 5.4 |

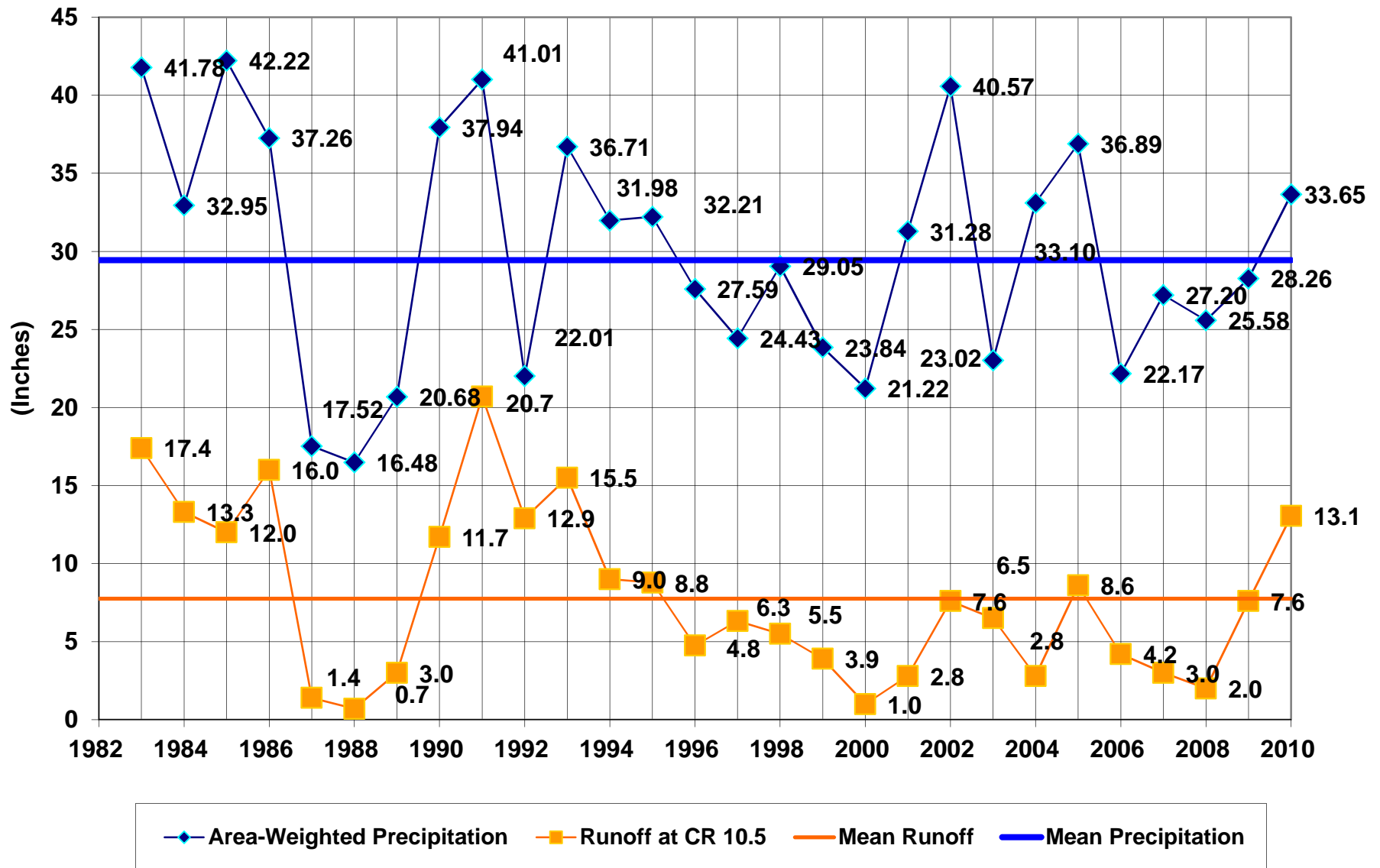
NOTES:

Whole watershed runoff is based on time-weighted average flow at Clearwater Lake outlet (station CR 10.5), and total drainage area of 155 square miles.

(1) Data for single gauge in east-central part of watershed (Camp Heritage on Lake Caroline).

(2) Average values of other stations in District were used to fill in missing data.

Appendix B Figure B- 1
Clearwater River Watershed District
2010 Annual Report



Appendix C

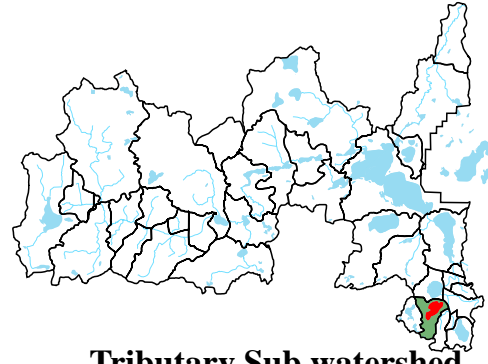
2010 Lake Report Cards

2010 Albion Lake Report Card

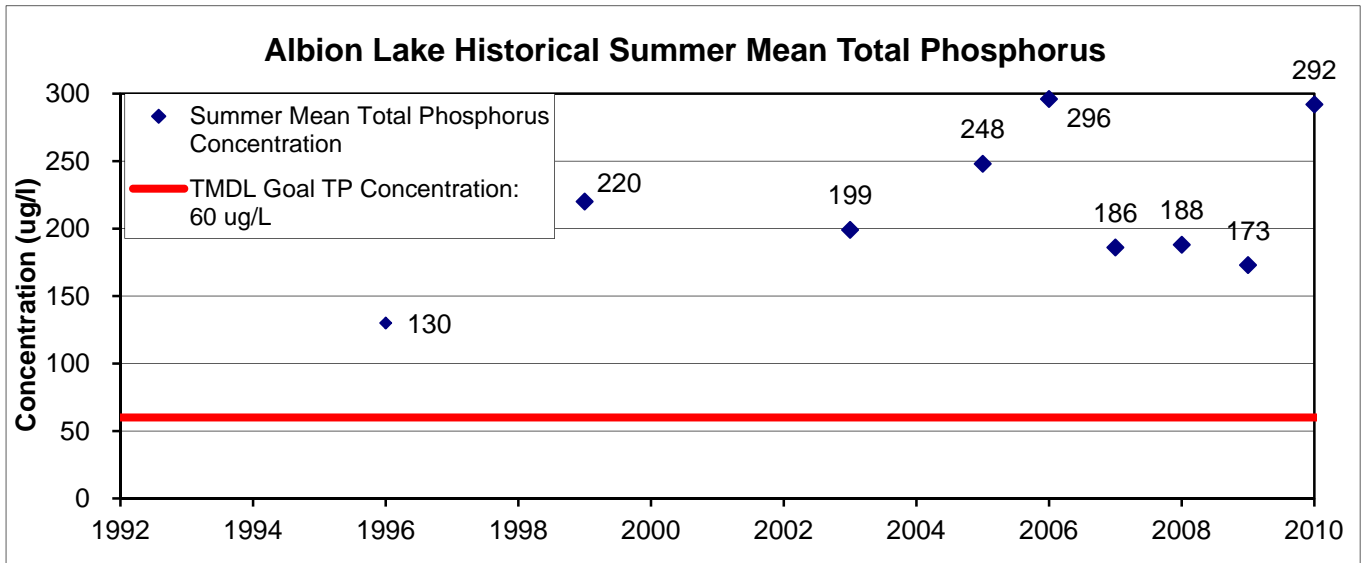
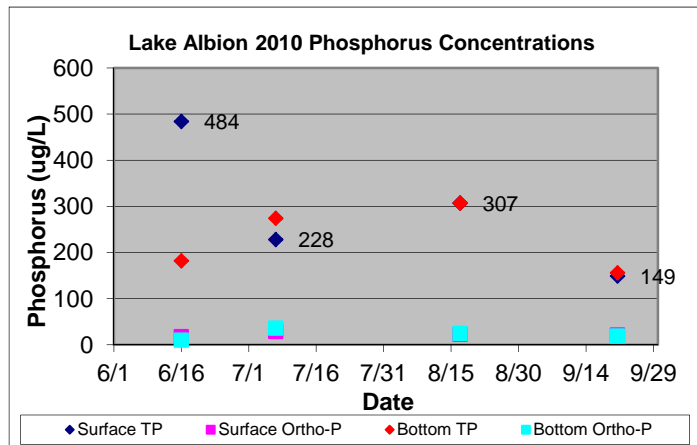
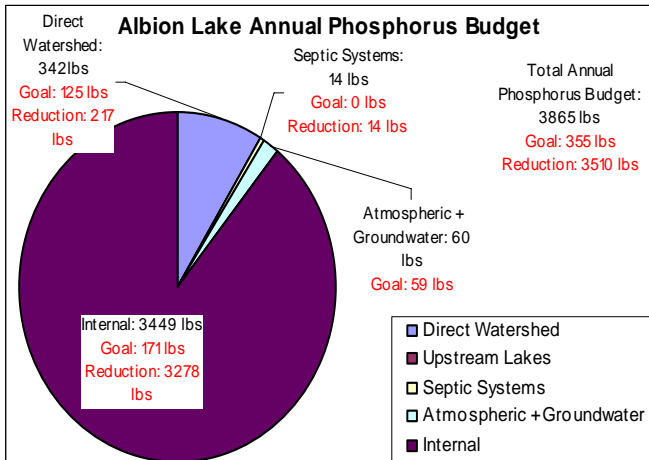


Lake Data

Surface Area: 251 Acres
 Maximum Depth: 9 Feet
 Contributing Subwatershed Area: 1,094 acres



Tributary Sub watershed (shaded)



Clearwater River Watershed District

Albion Lake

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Appendix C

Albion Lake

2010 Lake Report Card

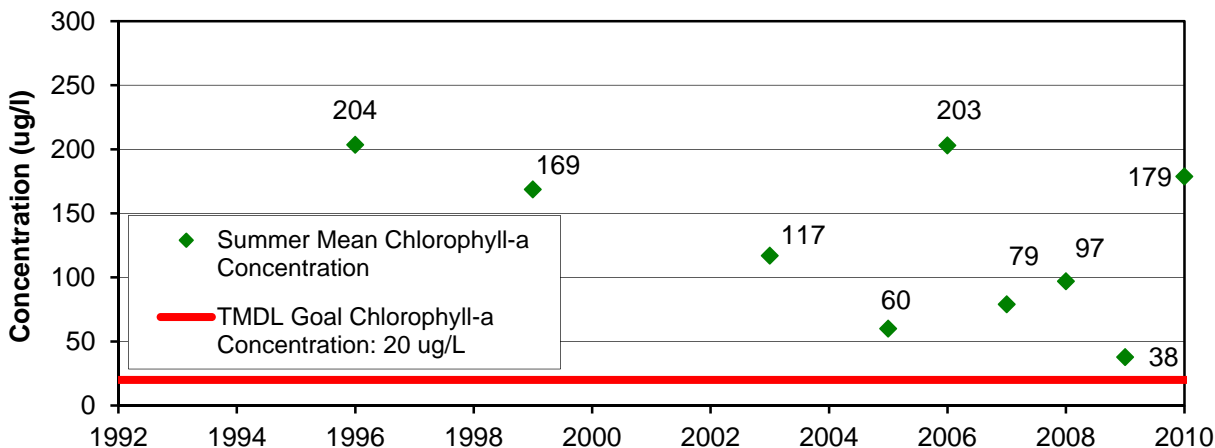
MPCA Standards for Shallow Lakes in the North Central Hardwood Forest:

Total Phosphorus (TP): ≤ 60 ug/L

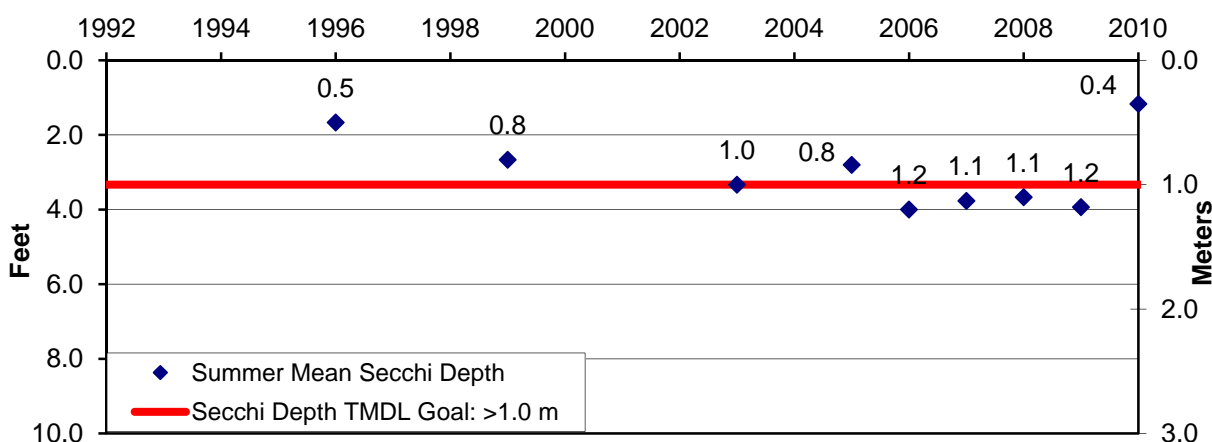
Chlorophyll-a: ≤ 20 ug/L

Secchi Depth: ≥ 1.0 meter

Lake Albion Historical Summer Mean Chlorophyll-a



Lake Albion Historical Summer Mean Secchi Depth



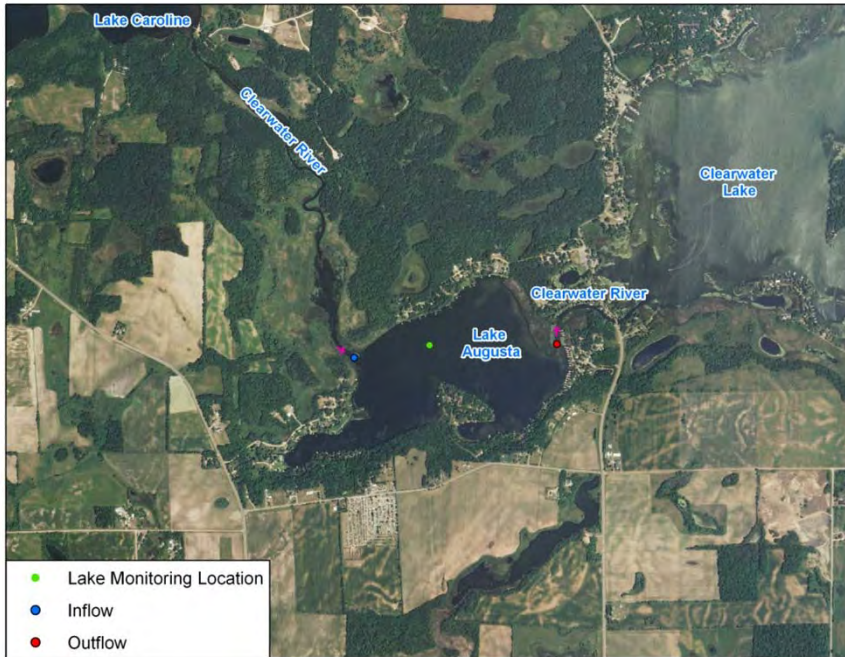
2010 Summary

- 2010 TP and Chlorophyll-a concentrations were higher than in recent years and are well above TMDL water quality goals.
- Water clarity decreased in 2010 as Secchi depth decreased to 0.4 m.
- Internal loads in Lake Albion are the major nutrient source to the lake.
- 2010 water quality was similar in Albion Lake to 2006, when a rough fish population was documented in the lake. It is possible that the decrease in water clarity and overall water quality may be attributed to a rough fish population that has reestablished in the lake.

TMDL Activities

- Due to Lake Albion's small tributary watershed, the reduction of watershed loads alone will not be sufficient to achieve water quality goals for the lake.
- A significant reduction in the internal nutrient source will be required to meet water quality targets in the lake.
- Management strategies should be implemented carefully in order to establish a state of high ecological integrity in the lake.
- Nutrient reduction strategies implemented as part of the Cedar Lake Improvement Project have included watershed BMPs and rough fish management.
- A shallow lake management plan should be developed for the lake in the future.

2010 Lake Augusta Report Card



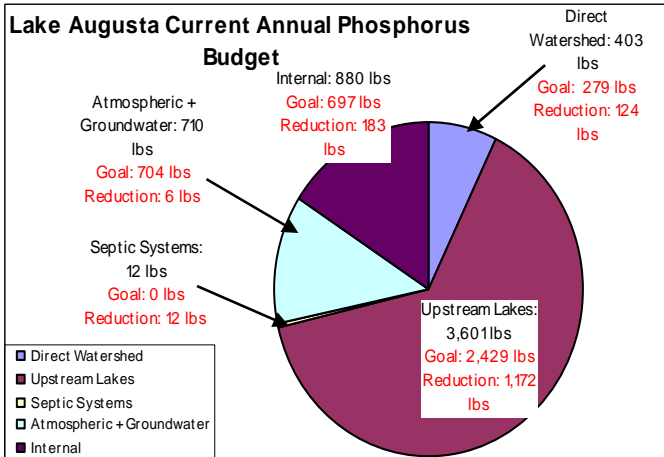
Lake Data

Surface Area: 177 Acres
 Maximum Depth: 82 Feet
 Subwatershed Area: 62,936 acres

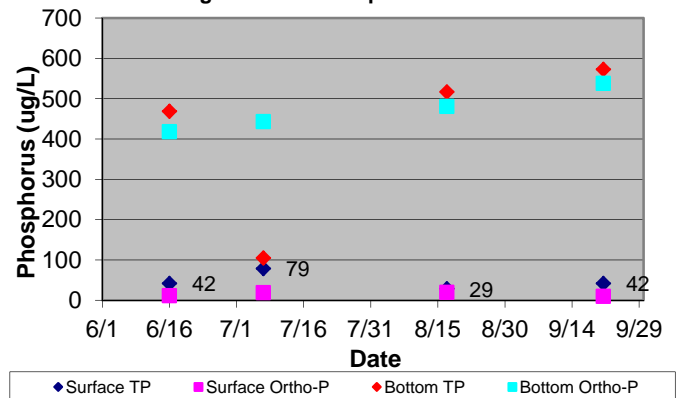


Tributary Sub watershed (shaded)

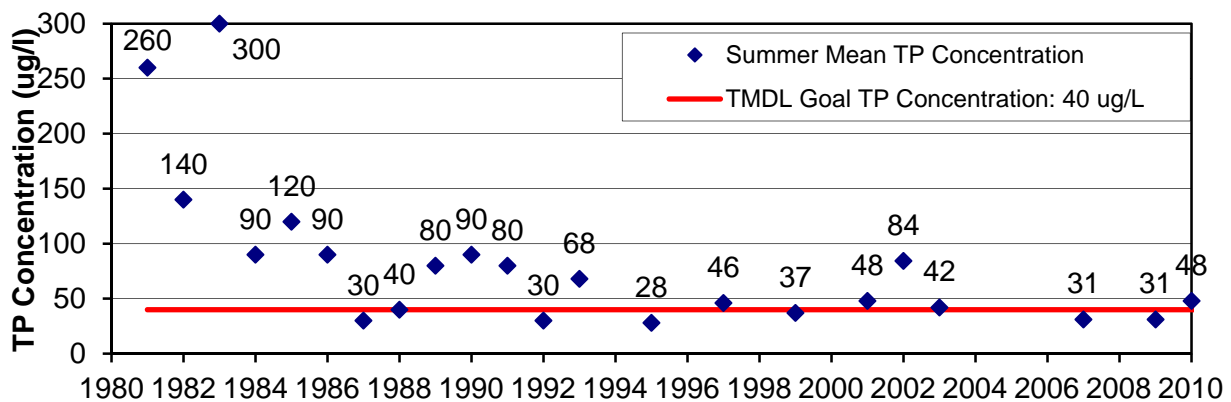
Lake Augusta Current Annual Phosphorus Budget



Lake Augusta 2010 Phosphorus Concentrations



Lake Augusta Historical Summer Mean Total Phosphorus



Clearwater River Watershed District

Lake Augusta

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Lake Augusta

2010 Lake Report Card

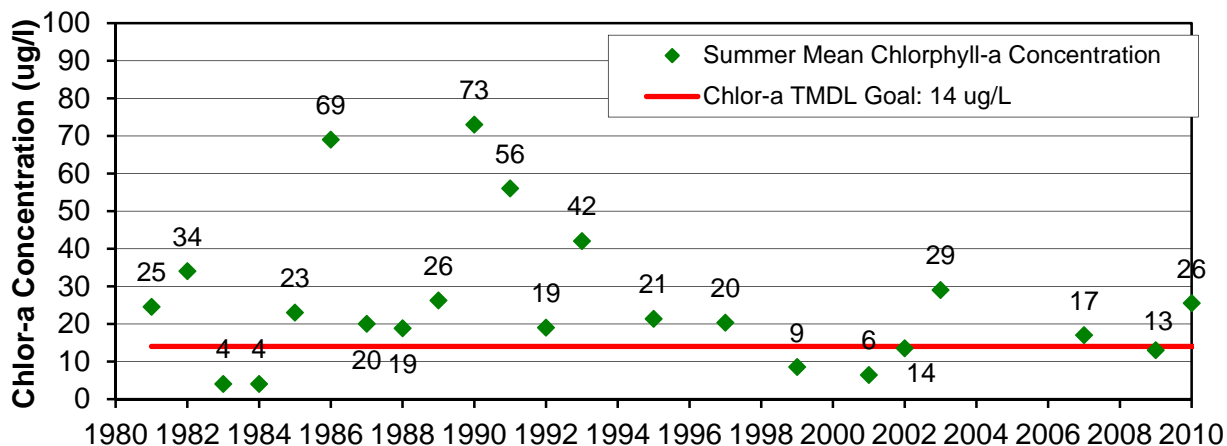
MPCA Proposed Deep Lake Standards for the North Central Hardwood Forest:

Total Phosphorus (TP): ≤ 40 ug/L

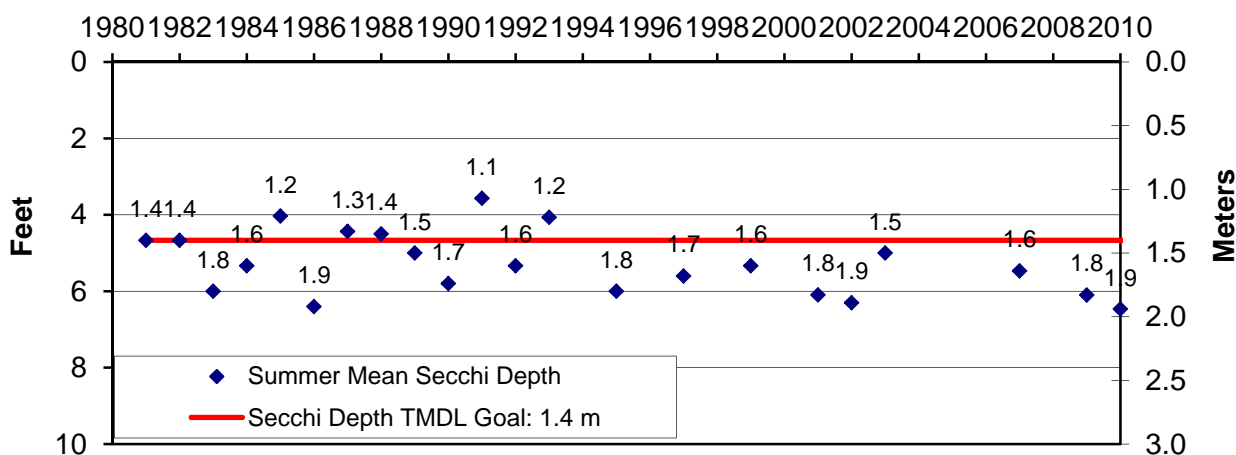
Chlorophyll-a: ≤ 14 ug/L

Secchi Depth: ≥ 1.4 meter

Lake Augusta Historical Summer Mean Chlorophyll-a



Lake Augusta Historical Summer Mean Secchi Depth



2010 Summary

- While phosphorus and chlorophyll-a concentrations increased slightly and were above TMDL goals in 2010, water quality has improved since the 1980's and current TP concentrations remain near TMDL goals.
- Water quality is dominated by loads from the Clearwater River and is buffered by upstream lakes.
- Monitoring data indicates a potential for high internal loads. Bottom TP is approximately a magnitude higher than surface concentrations.
- Analysis of phosphorus release rates from sediment cores collected in 2010 indicate that the internal load in 2010 was very similar to both the average load predicted by the TMDL and the TMDL allocation for internal loading.

TMDL Activities

- TMDL calls for a combination of watershed load reductions and internal load reductions in order to meet water quality goals
- Activities implemented in the upstream watersheds (Clear Lake and Lake Betsy) will have a cumulative impact on downstream lakes.
- Phosphorus reduction activities identified for implementation by the TMDL Implementation Plan in the watersheds tributary to Lake Betsy and Clear Lake include BMPs, hypolimnetic withdrawal, Kingston Wetland restoration, targeted soil testing and GPS fertilizer application, and the construction of sedimentation ponds.

Clearwater River Watershed District

Lake Augusta



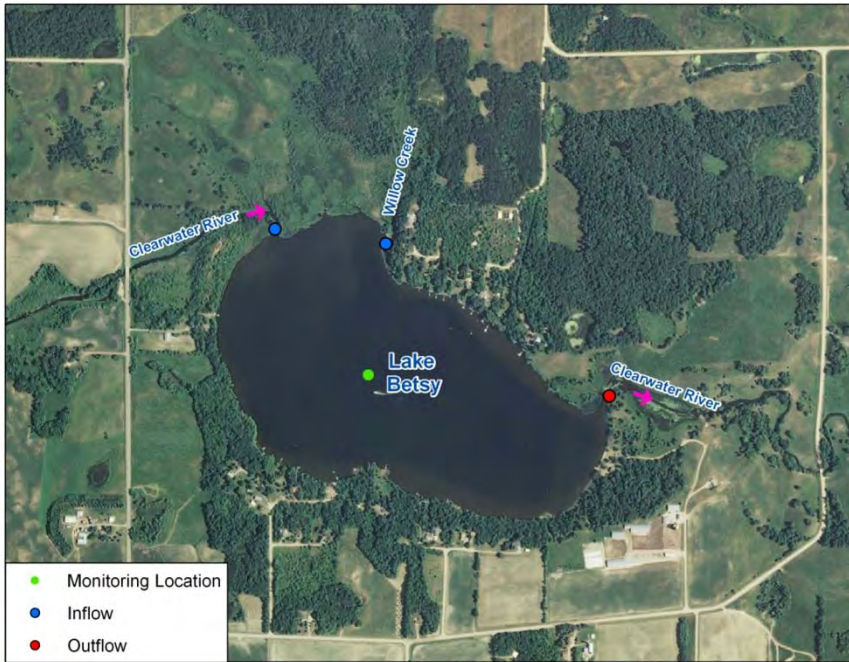
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2010 Lake Betsy Report Card



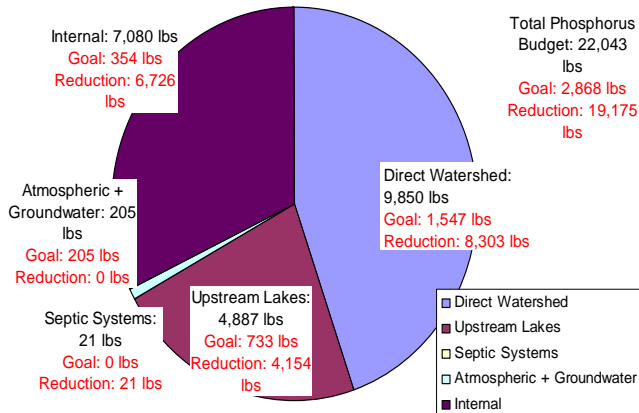
Lake Data

Surface Area: 153 Acres
Maximum Depth: 23 Feet
Subwatershed Area: 43,789 acres
Mean Depth: 10 Feet

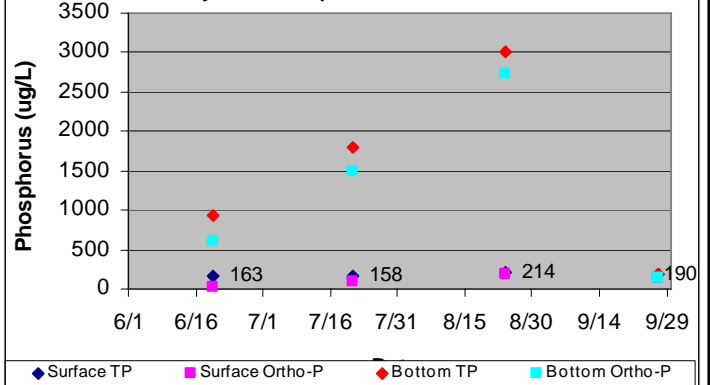


Tributary Sub watershed (shaded)

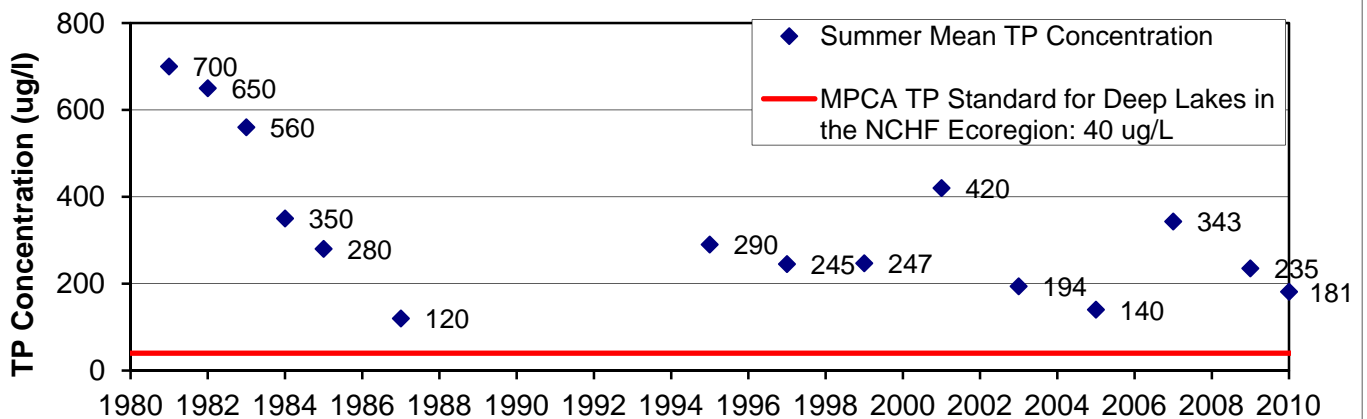
Lake Betsy Current Annual Phosphorus Budget



Lake Betsy 2010 Phosphorus Concentrations



Lake Betsy Historical Summer Mean TP Concentrations



Clearwater River Watershed District

Lake Betsy

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Lake Betsy

2010 Lake Report Card

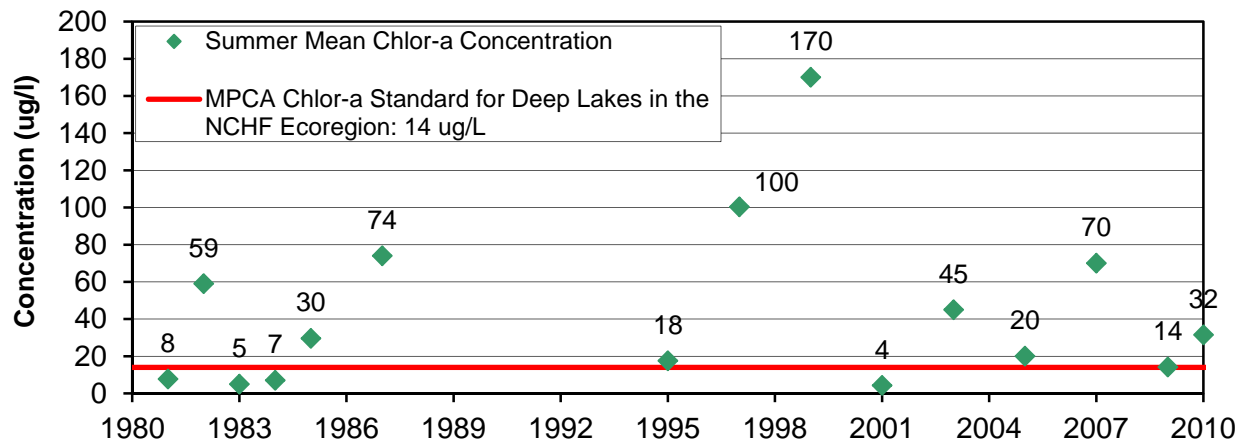
MPCA Proposed Deep Lake Standards for the North Central Hardwood Forest:

Total Phosphorus (TP): ≤ 40 ug/L

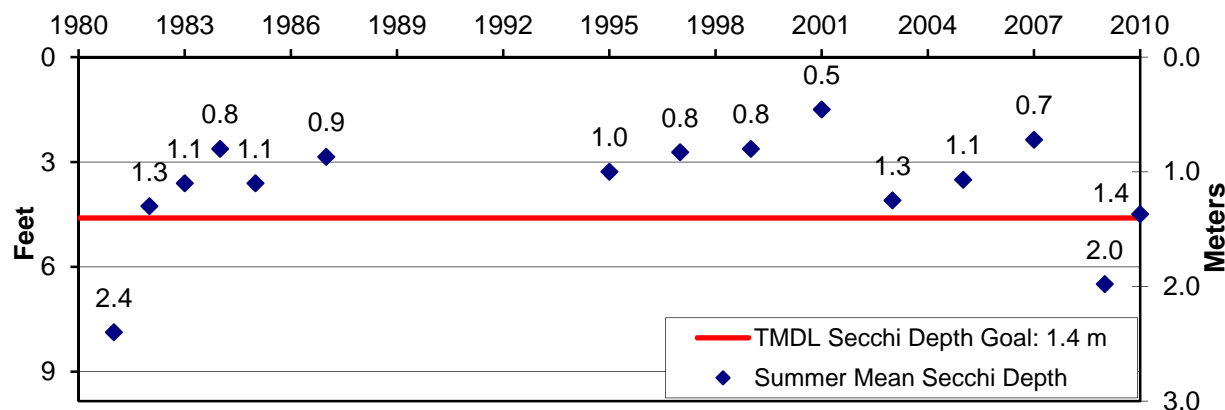
Chlorophyll-a: ≤ 14 ug/L

Secchi Depth: ≥ 1.4 meter

Lake Betsy Historical Summer Mean Chlorophyll-a



Lake Betsy Historical Summer Mean Secchi Depth



2010 Summary

- Recent TP concentrations have been decreasing and remain below that of the early 1980's but are still well above the TMDL goals.
- Chlorophyll-a and Secchi depth are near or at state standards.
- Water quality is dominated by loads from Clearwater River.
- Phosphorus release rates from sediment were measured in 2009 and internal loading was quantified in 2009 and 2010. While the internal load of phosphorus was below the TMDL modeled average during both years, it remained well above the TMDL allocation for internal load to the lake.

TMDL Activities

- TMDL calls for significant phosphorus reductions in watershed runoff and internal loading in order for Lake Betsy to meet state standards.
- The TMDL Implementation Plan identifies activities to be implemented in the watershed tributary to Lake Betsy, including BMPs, hypolimnetic withdrawal (potential 480 lb reduction), Kingston Wetland restoration (potential 1,970 lb reduction) and targeted soil testing and GPS fertilizer application (potential 600 lb reduction).
- Implementation activities in the watershed in 2010 included the construction of a sedimentation basin in Kimball, streambank restoration, and GPS fertilizer application and testing.

Clearwater River Watershed District

Lake Betsy



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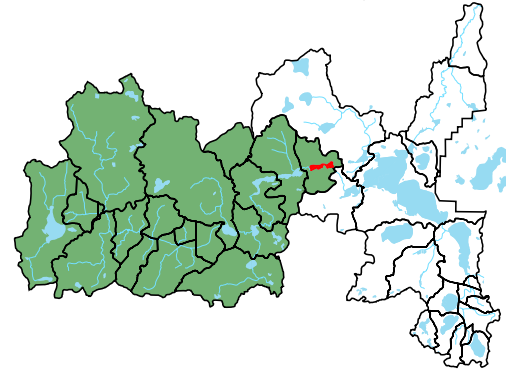
Appendix C

2010 Lake Caroline Report Card



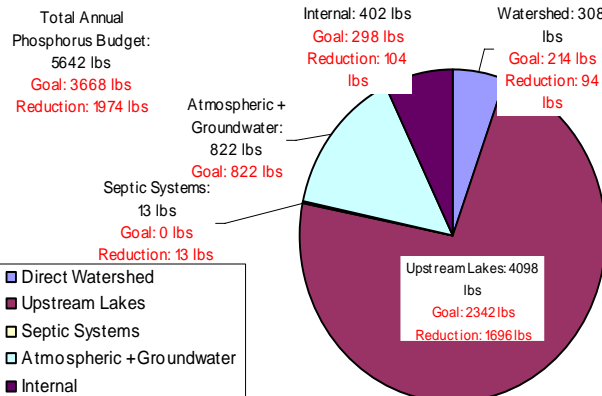
Lake Data

Surface Area: 126 Acres
 Maximum Depth: 45 Feet
 Subwatershed Area: 60,132 acres

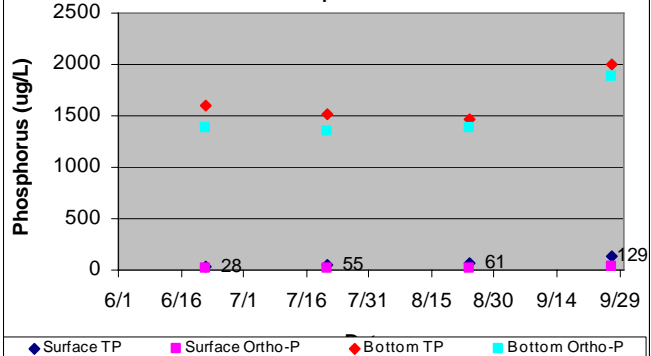


Tributary Sub watershed (shaded)

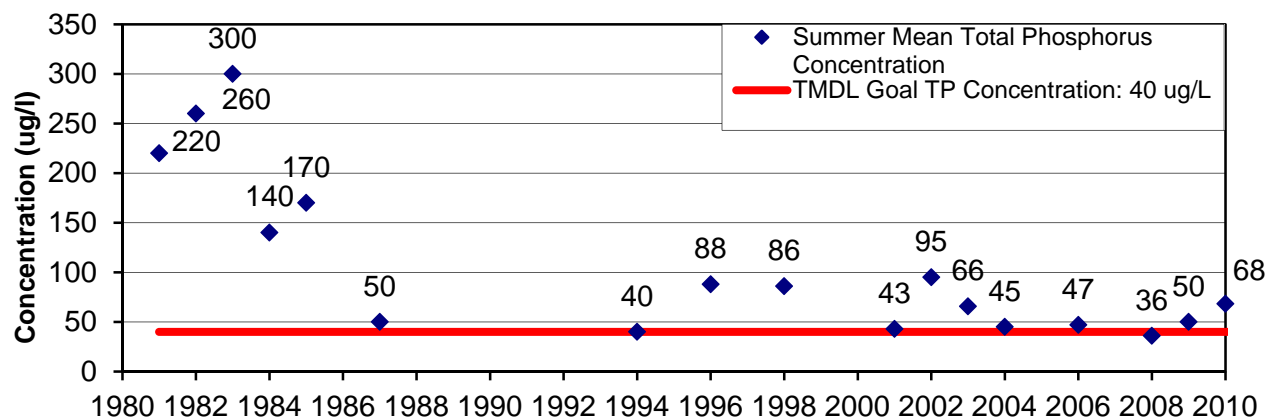
Lake Caroline Annual Phosphorus Budget



Lake Caroline 2010 Phosphorus Concentrations



Lake Caroline Summer Mean Total Phosphorus



Clearwater River Watershed District

Lake Caroline

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Lake Caroline

2010 Lake Report Card

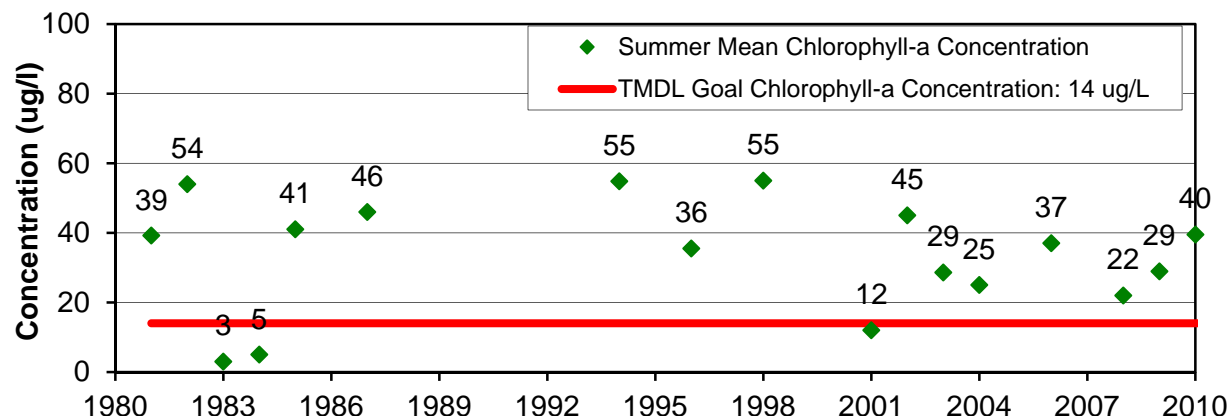
MPCA Proposed Deep Lake Standards for the North Central Hardwood Forest:

Total Phosphorus (TP): $\leq 40 \text{ ug/L}$

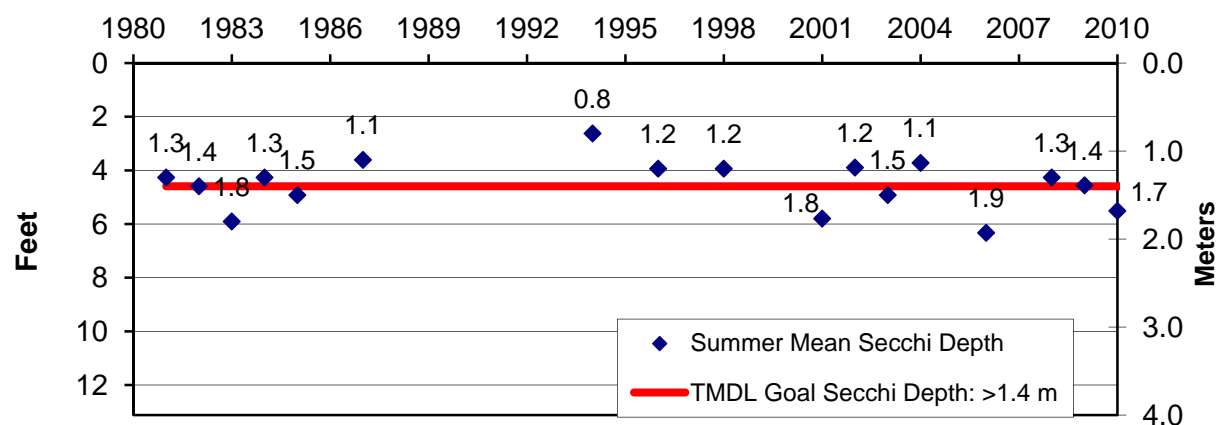
Chlorophyll-a: $\leq 14 \text{ ug/L}$

Secchi Depth: $\geq 1.4 \text{ meter}$

Lake Caroline Summer Mean Chlorophyll-a



Lake Caroline Summer Mean Secchi Depth



2010 Summary

- TP and chlorophyll-a concentrations have increased slightly in recent years but remain below concentrations seen in the early 1980s.
- Secchi depth currently meets the TMDL goal.
- Water quality is dominated by loads from the Clearwater River and Lake Marie.
- High bottom phosphorus concentrations and periods of stratification in the summer months indicate that internal loading may contribute significant phosphorus to the lake.

TMDL Activities

- Measures recommended by the TMDL Implementation Plan for the upper watershed will help decrease the load of phosphorus to Lake Caroline.
- Water quality goals can be met through a combination of watershed management and internal load reductions.

Clearwater River Watershed District

Lake Caroline

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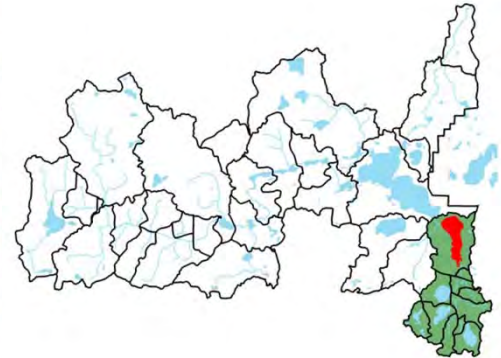
Appendix C

2010 Cedar Lake Report Card

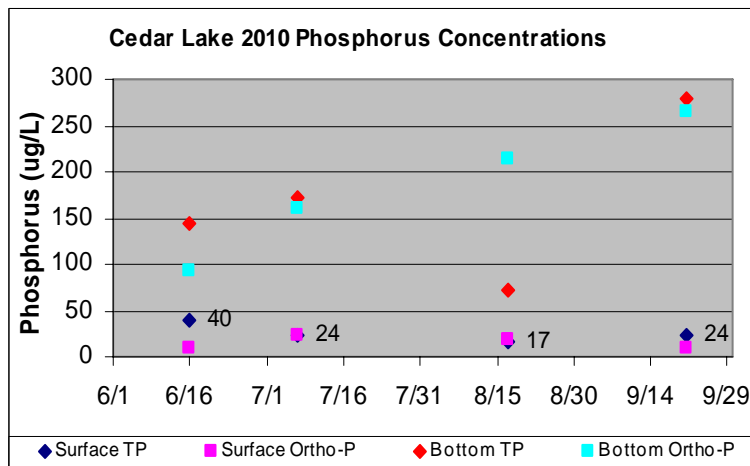


Lake Data

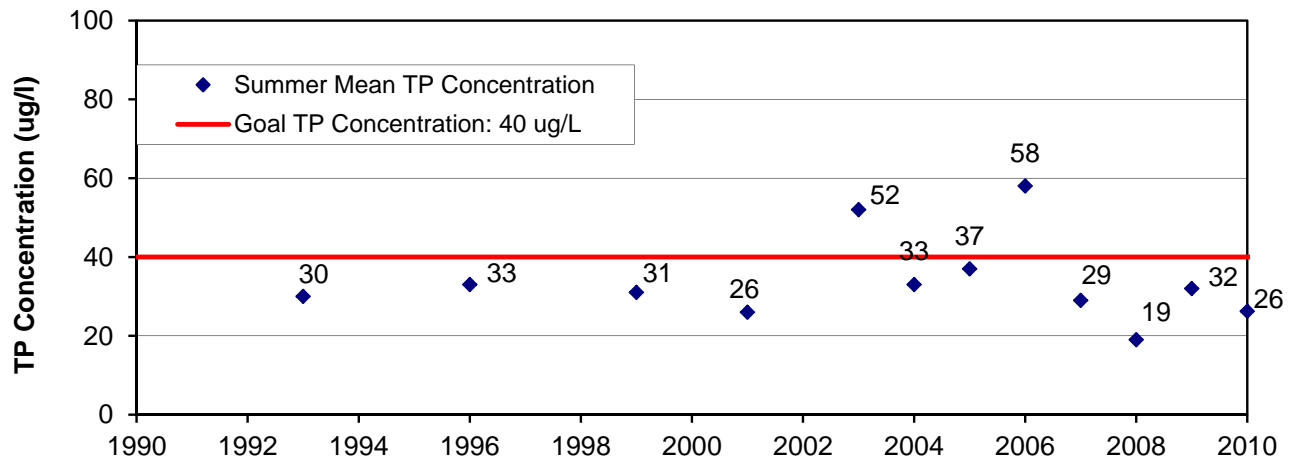
Surface Area: 783 Acres
 Maximum Depth: 108 Feet
 Subwatershed Area: 9,715 acres



Tributary Sub watershed (shaded)



Cedar Lake Historical Summer Mean TP Concentrations



Cedar Lake

2010 Lake Report Card

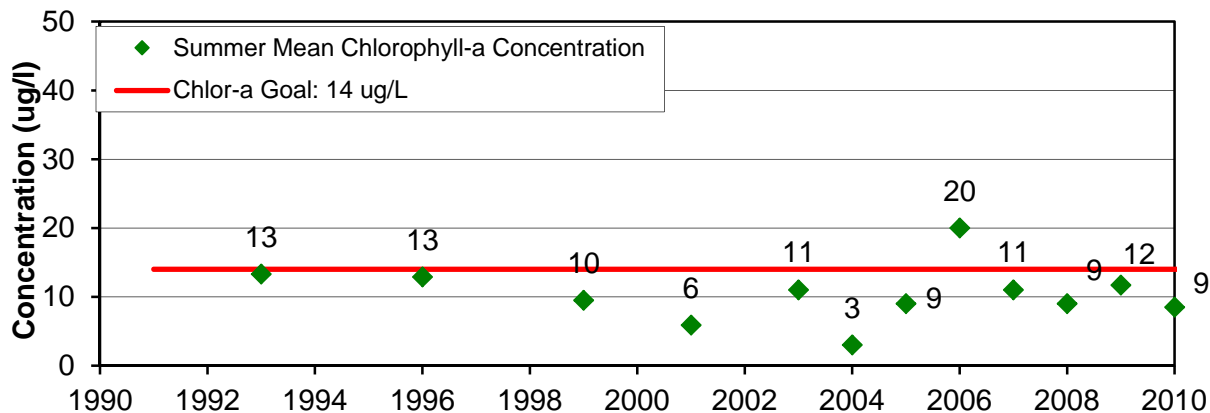
MPCA Proposed Deep Lake Standards for the North Central Hardwood Forest:

Total Phosphorus (TP): ≤ 40 ug/L

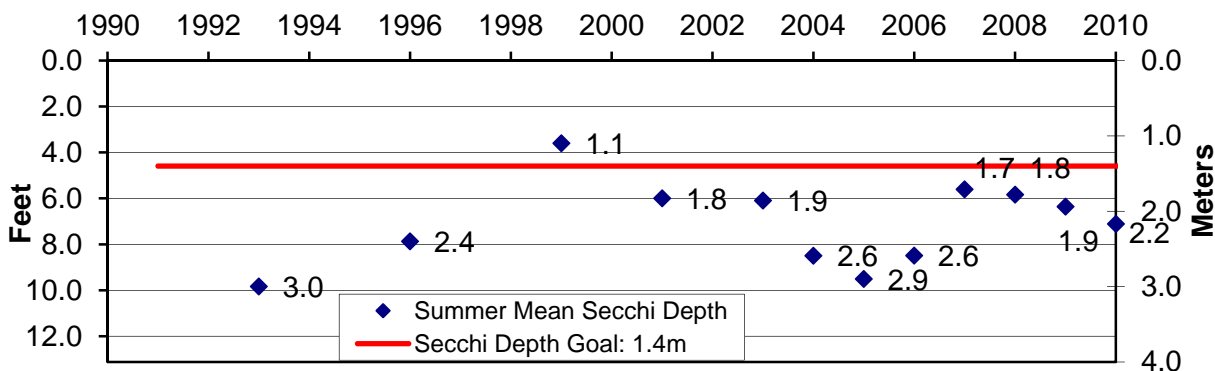
Chlorophyll-a: ≤ 14 ug/L

Secchi Depth: ≥ 1.4 meter

Cedar Lake Historical Summer Mean Chlorophyll-a



Cedar Lake Historical Summer Mean Secchi Depth



2010 Summary

- Phosphorus and chlorophyll -a concentrations are below TMDL goals and have remained stable or improved since the start of Project #06-1 in 2007.
- Phosphorus concentrations remain above the goal of 20 ug/L set by Project#06-1.
- Although periodic algal blooms are common early in the summer, overall water clarity remains good in the lake, as Secchi depth is better than the TMDL goal.
- The primary source of phosphorus is from the upper watersheds and Swartout, Albion, and Henshaw Lakes.

TMDL Activities

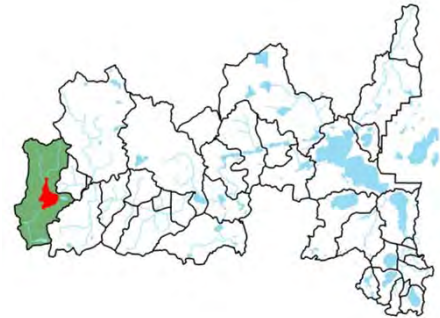
- Since 2007, the Cedar Lake Restoration Project has implemented fish barriers, buffers, tile inlet replacement, and the construction of Segner Pond, a wetland treatment basin.
- The goal of the project is to reduce the phosphorus load to Cedar Lake from the upper watershed.
- Measures recommended by the TMDL Implementation Plan for the impaired Swartout, Albion, and Henshaw Lakes will serve to improve water quality in Cedar Lake.
- Curly leaf pondweed was treated in small areas of the lake in 2010.

2010 Clear Lake Report Card



Lake Data

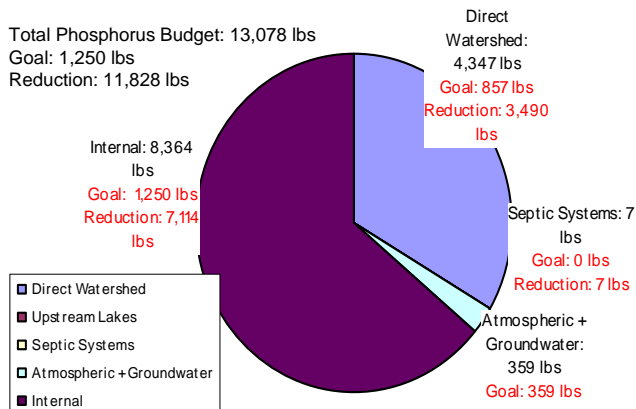
Surface Area: 515 Acres
Maximum Depth: 17 Feet
Subwatershed Area: 6,801 acres
Mean Depth: 9 Feet



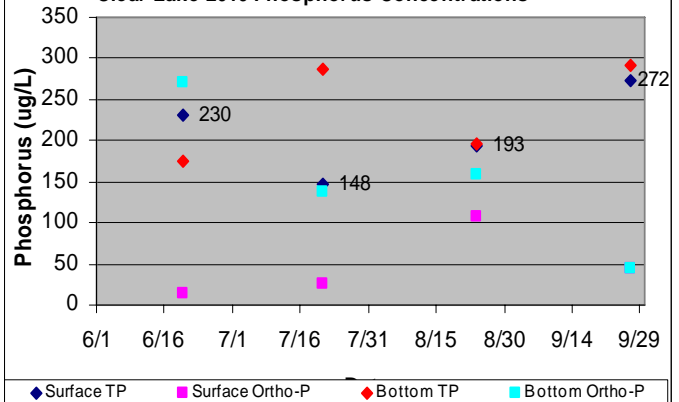
Tributary Sub watershed (shaded)

Clear Lake Current Annual Phosphorus Budget

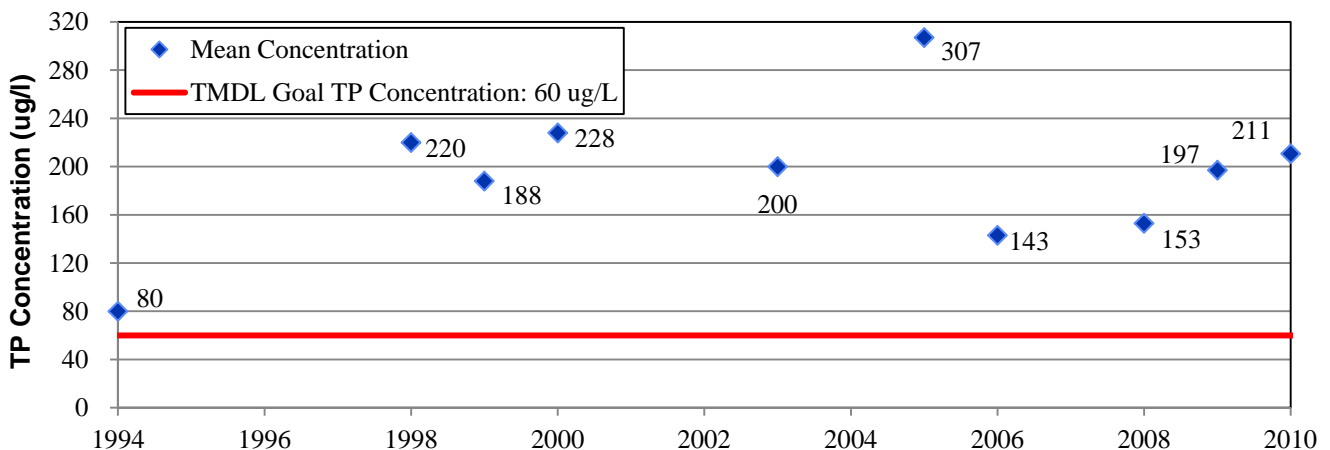
Total Phosphorus Budget: 13,078 lbs
Goal: 1,250 lbs
Reduction: 11,828 lbs



Clear Lake 2010 Phosphorus Concentrations



Clear Lake Historical Summer Mean TP Concentrations



Clearwater River Watershed District

Clear Lake

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Clear Lake

2010 Lake Report Card

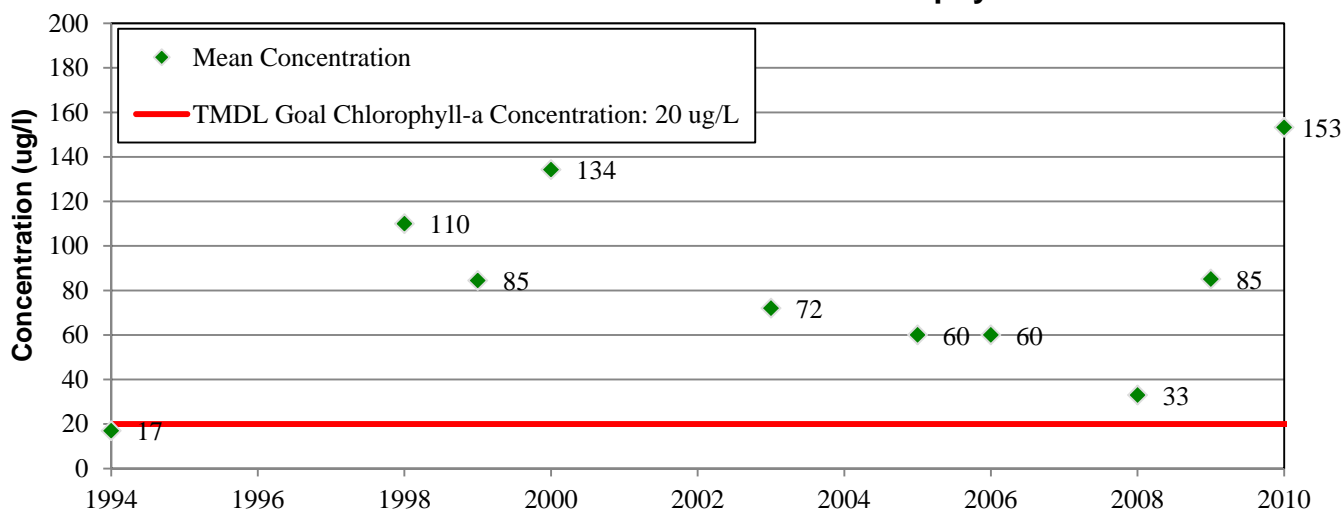
MPCA Shallow Lake Standards for the North Central Hardwood Forest:

Total Phosphorus (TP): $\leq 60 \text{ ug/L}$

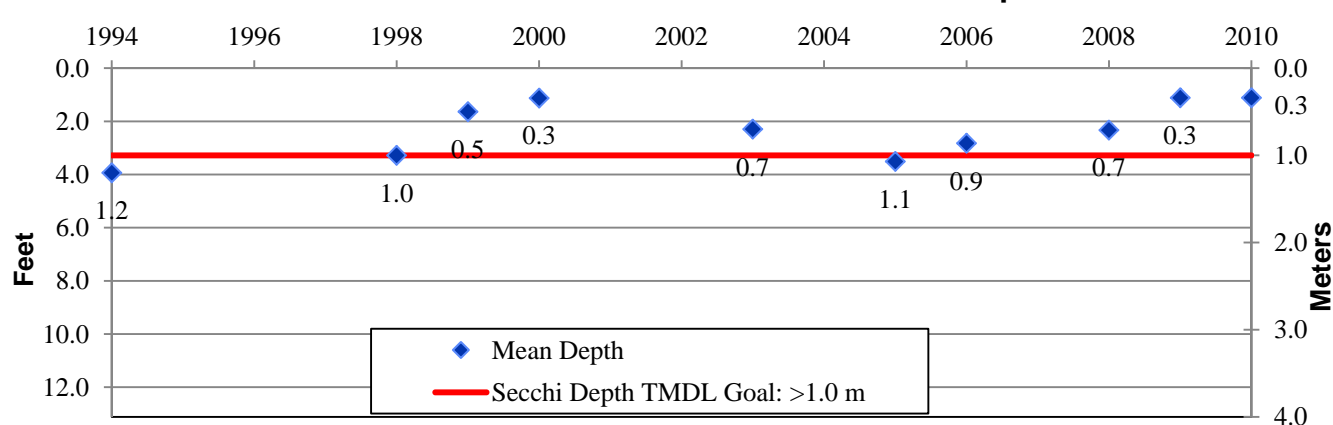
Chlorophyll-a: $\leq 20 \text{ ug/L}$

Secchi Depth: $\geq 1.0 \text{ meter}$

Clear Lake Historical Summer Mean Chlorophyll-a



Clear Lake Historical Summer Mean Secchi Depth



2010 Summary

- Clear Lake is located at the headwaters of the Clearwater River.
- Phosphorus and chlorophyll-a concentrations were well above TMDL goals and were higher than in recent years in 2010.
- Secchi depth was similar to recent years and was above TMDL goals.
- Poor water quality and nuisance algal blooms are common in Clear Lake.
- Monitoring results from two inlet streams to Clear Lake in 2010 indicate high runoff and periodic high phosphorus concentrations in runoff to Clear Lake.

TMDL Activities

- The TMDL Implementation Plan calls for significant reductions in phosphorus from direct watershed runoff and internal loading in order for Clear Lake to meet state standards
- All but 7 of the ISTSs on the lake have been routed to the City of Watkins WWTP, resulting in approximately 100 lbs. of TP reduction to the lake.
- Sedimentation ponds were installed at two inlets to the lake.
- Clear Lake Association has implemented curly leaf pondweed treatment and rough fish removal.
- Additional sedimentation ponds, the installation of a V-notch weir and watershed BMPs have been recommended as potential TP reduction strategies.

Clearwater River Watershed District

Clear Lake



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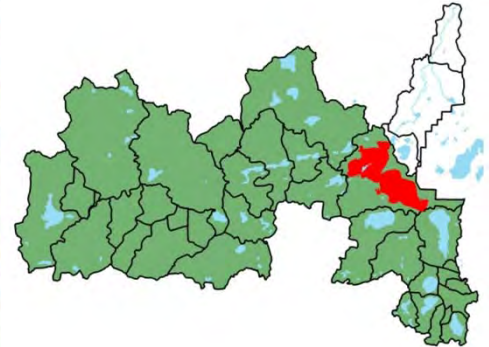
Appendix C

2010 Clearwater Lake (West) Report Card

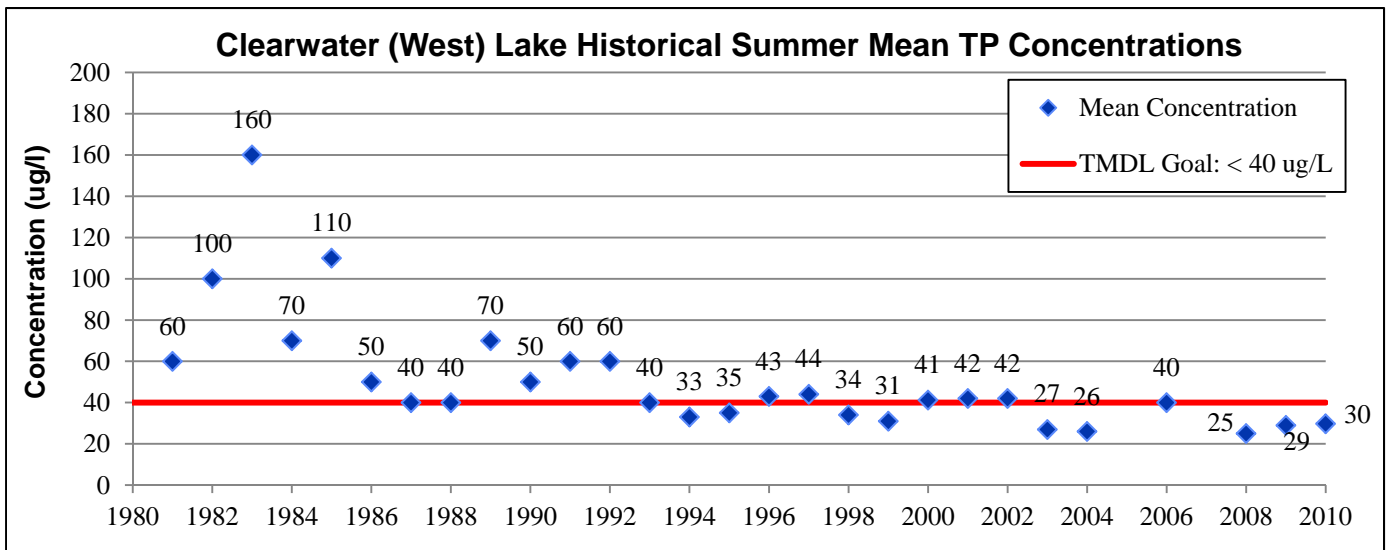
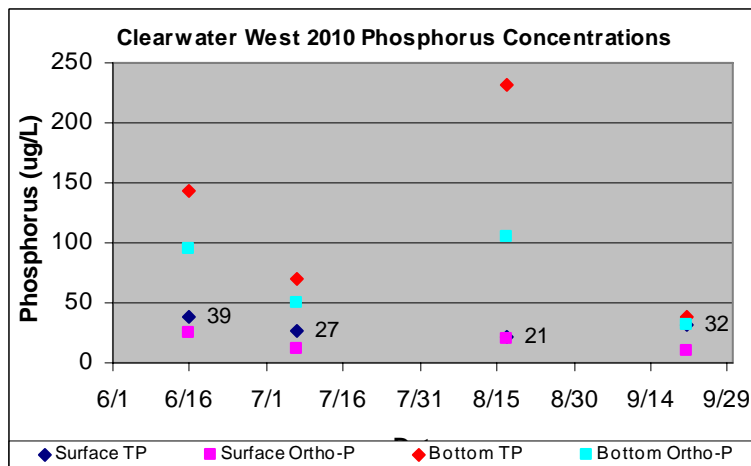


Lake Data

Surface Area: 3,158 Acres
 Maximum Depth: 73 Feet
 Subwatershed Area: 100,232 acres



Tributary Sub watershed (shaded)



Clearwater River Watershed District

Clearwater Lake

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Appendix C

Clearwater Lake West

2010 Lake Report Card

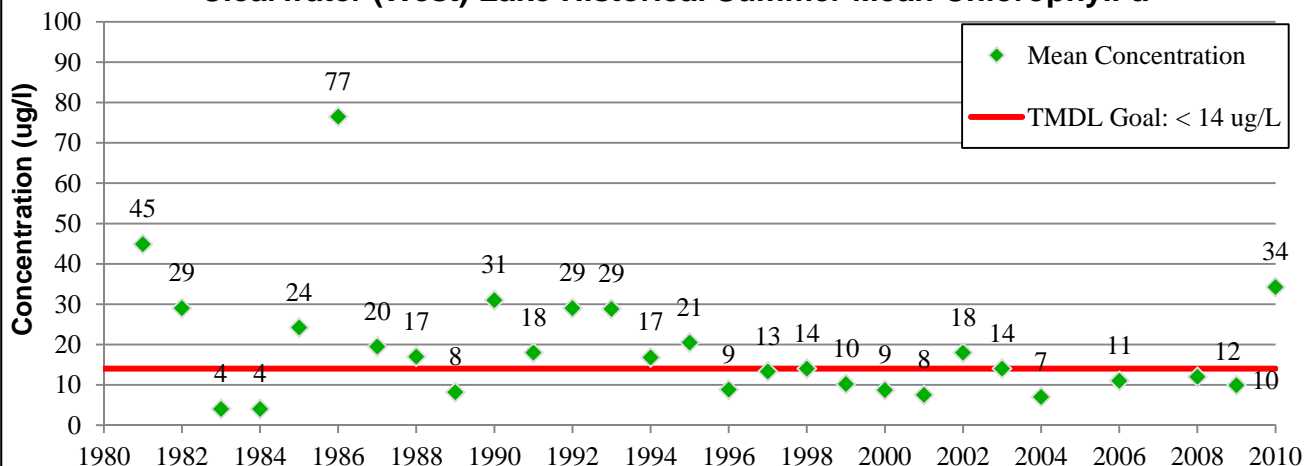
MPCA Standards for Deep Lakes in the North Central Hardwood Forest:

Total Phosphorus (TP): ≤ 40 ug/L

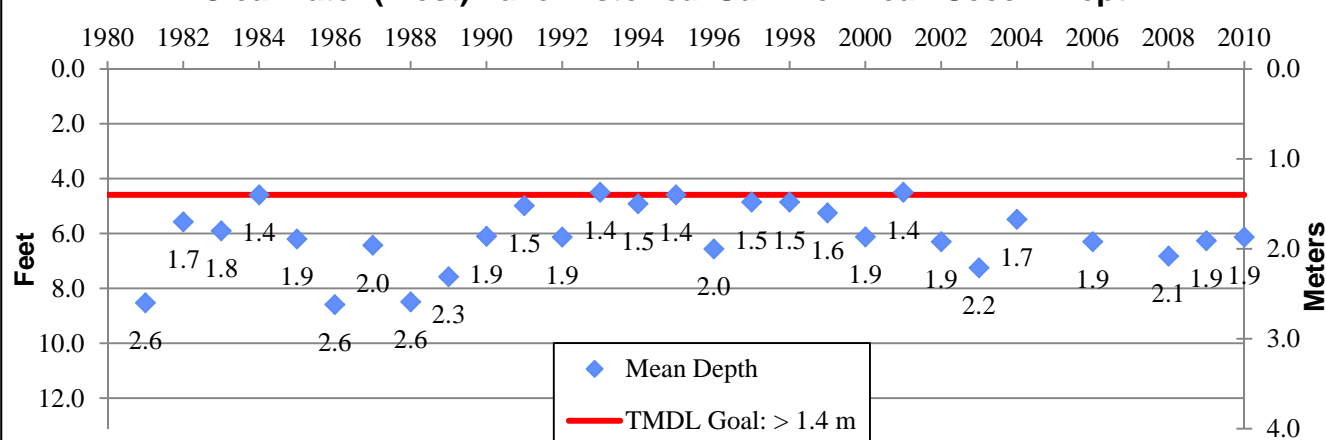
Chlorophyll-a: ≤ 14 ug/L

Secchi Depth: ≥ 1.4 meter

Clearwater (West) Lake Historical Summer Mean Chlorophyll-a



Clearwater (West) Lake Historical Summer Mean Secchi Depth



2010 Summary

- Water quality has improved significantly in Clearwater Lake since the early 1990s, as summer mean phosphorus and chlorophyll-a concentrations have decreased significantly and the lake meets recreational water quality goals.
- Water quality measurements have been stable over recent years and meet TMDL goals.
- An increase in summer average Chlorophyll-a in 2010 is due to one extremely high chlorophyll-a concentration from a sample collected during June 16. The remainder of chlorophyll-a concentrations for the rest of the year were similar to concentrations seen in past years.
- The majority of the phosphorus load to Clearwater Lake comes from the upstream watersheds.

Lake Management Activities

- Watershed loads to the Clearwater Lake have been below the established phosphorus loading goals of 5,000 lbs. in most recent years, with the exception of 2009.
- Measures that are put in place in the upper watershed as part of the TMDL Implementation Plan will also help to maintain or improve water quality in Clearwater Lake in the future. Specifically, BMPs, hypolimnetic withdrawal, Kingston Wetland restoration, targeted soil testing and GPS fertilizer application, and the construction of sedimentation ponds are identified for implementation in the upstream watersheds.

2010 Lake Louisa Report Card

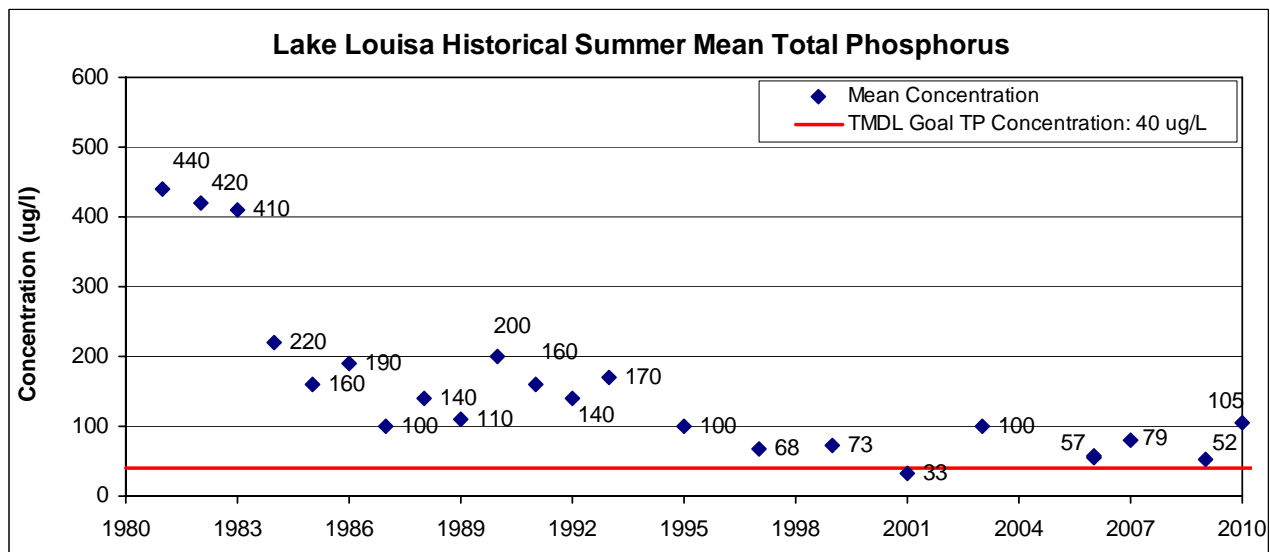
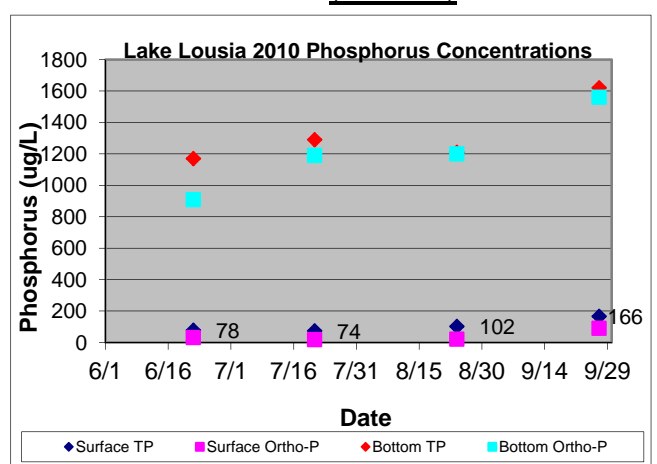
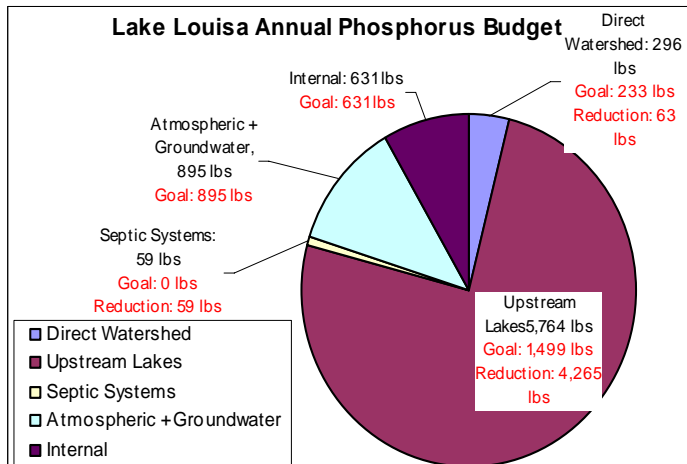


Lake Data

Surface Area: 193 Acres
Maximum Depth: 44 Feet
Subwatershed Area: 53,881 acres



Tributary Sub watershed (shaded)



Clearwater River Watershed District

Lake Louisa

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Lake Louisa

2010 Lake Report Card

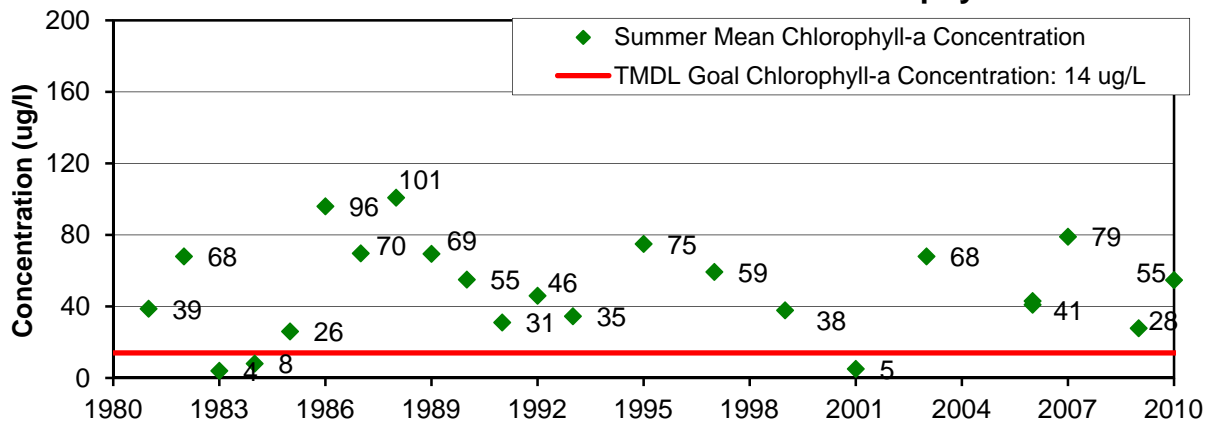
MPCA Standards for Deep Lakes in the North Central Hardwood Forest:

Total Phosphorus (TP): ≤ 40 ug/L

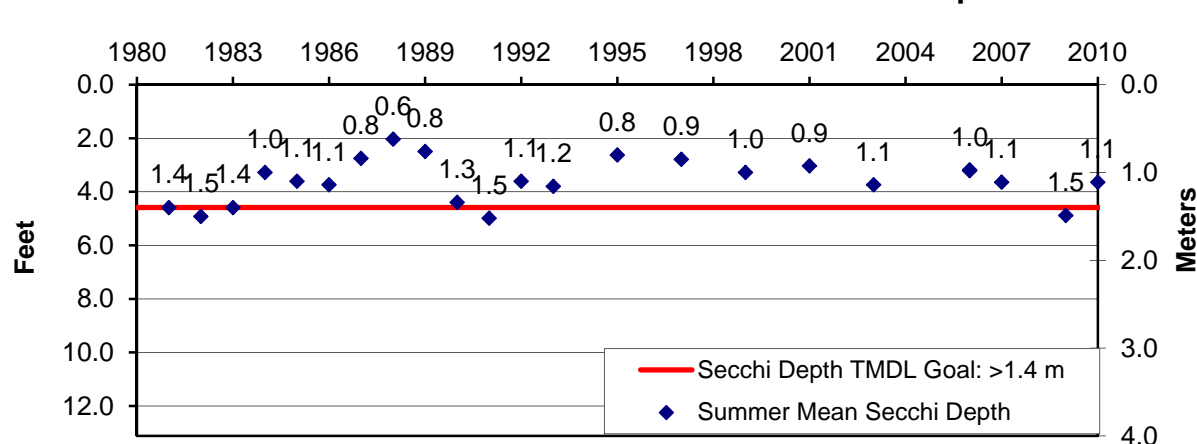
Chlorophyll-a: ≤ 14 ug/L

Secchi Depth: ≥ 1.4 meter

Lake Louisa Historical Summer Mean Chlorophyll-a



Lake Louisa Historical Summer Mean Secchi Depth



2010 Summary

- While summer average phosphorus, chlorophyll-a, and Secchi depth were above TMDL goals in 2010, water quality has improved significantly since the early 1980s.
- The 2010 summer average phosphorus concentration was higher than in recent years due primarily to elevated phosphorus concentrations during a late September sample event.
- Monitoring data indicates the potential for high internal loads in the lake as high bottom phosphorus concentrations were observed in 2010.

TMDL Activities

- Reducing phosphorus loads from upstream lakes and the direct tributary watershed will have the greatest impact on improving water quality in Lake Louisa.
- Phosphorus reduction strategies including BMPs, hypolimnetic withdrawal, Kingston Wetland restoration, targeted soil testing and GPS fertilizer application, and the construction of sedimentation ponds are identified by the TMDL Implementation Plan for the upstream watersheds
- Lake management strategies have included rough fish removal since 1984 and aerators from 1985 to 1995.

Clearwater River Watershed District

Lake Louisa



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Appendix C

2010 Lake Marie Report Card

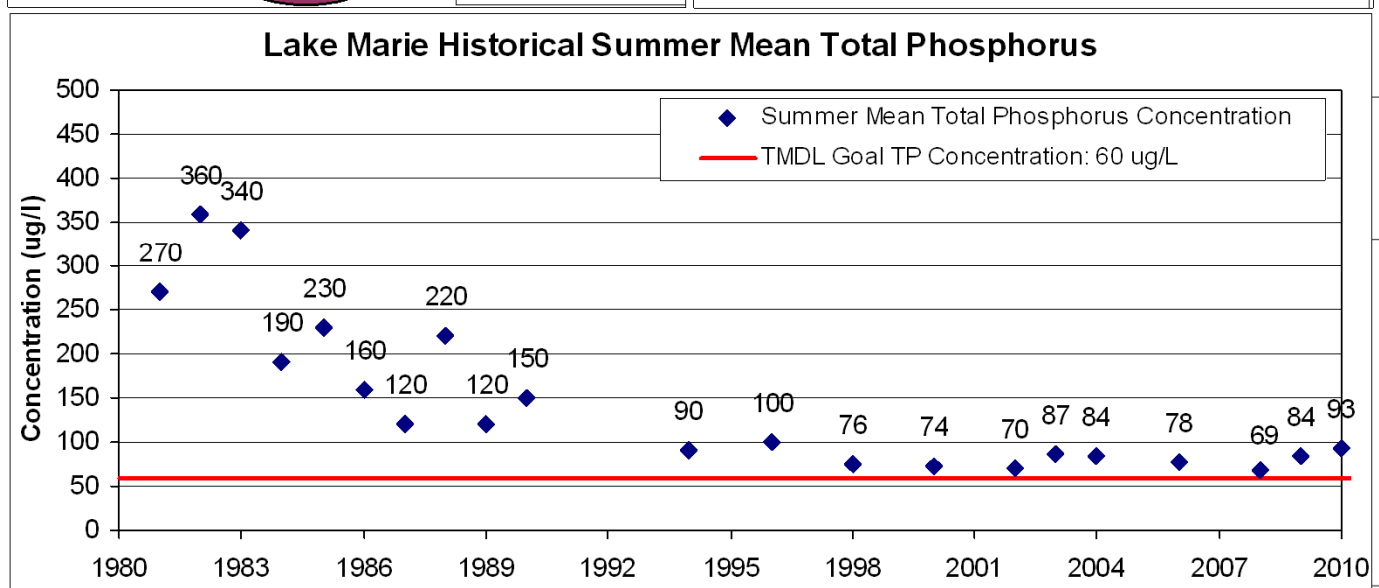
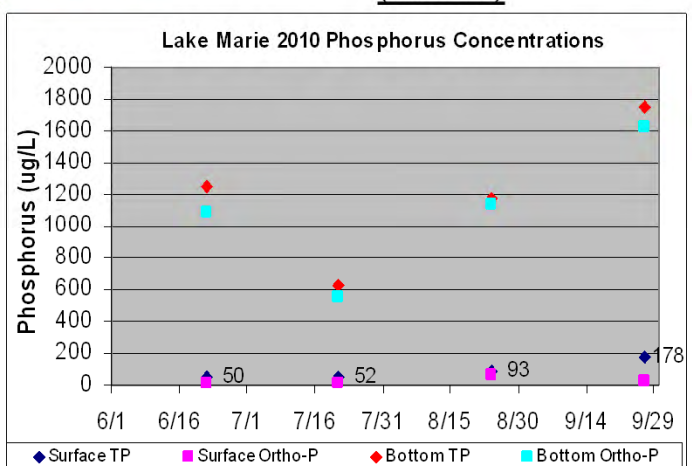
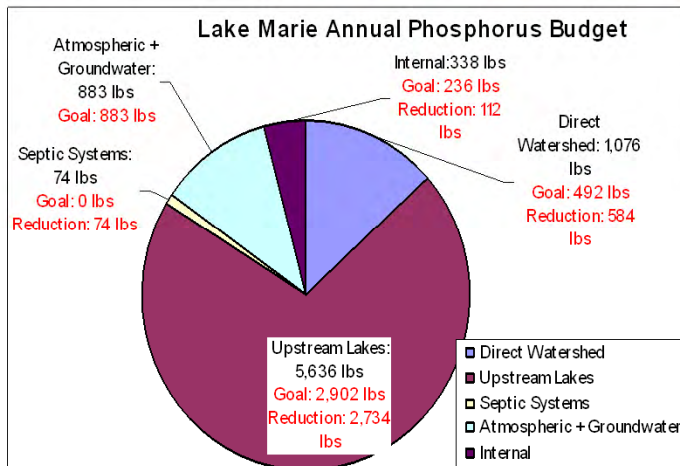


Lake Data

Surface Area: 140 Acres
Maximum Depth: 36 Feet
Subwatershed Area: 59,837 acres



Tributary Sub watershed (shaded)



Clearwater River Watershed District

Lake Marie

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January 2011

Appendix C

Lake Marie

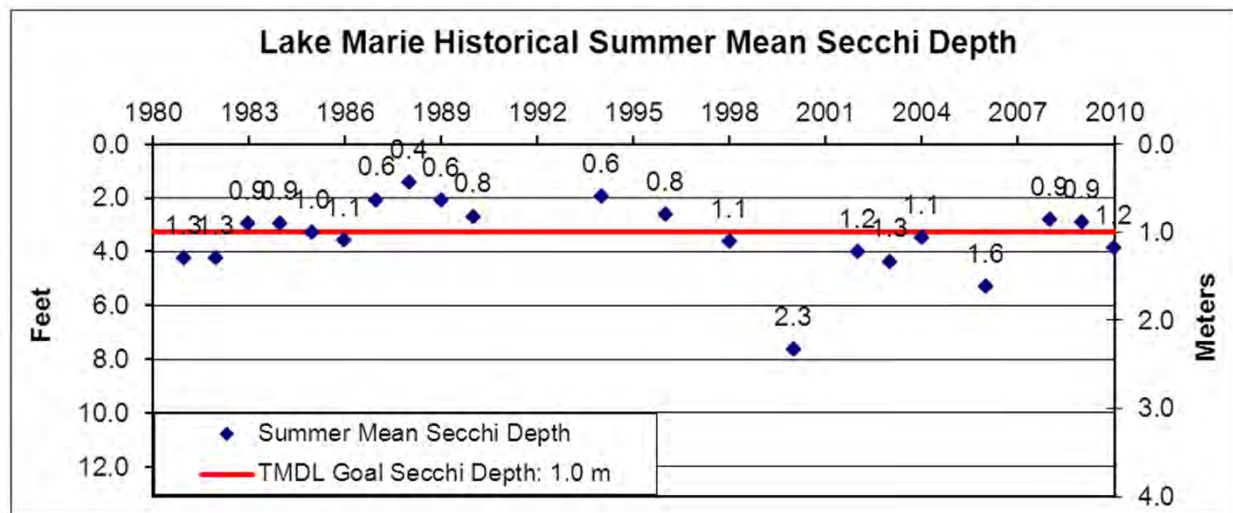
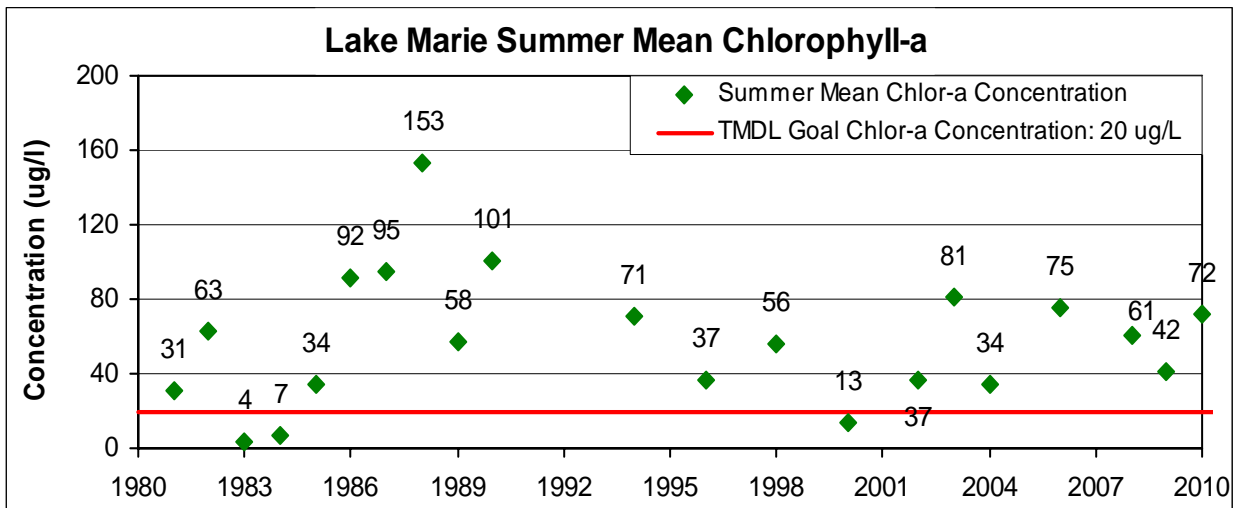
2010 Lake Report Card

MPCA Standards for Shallow Lakes in the North Central Hardwood Forest:

Total Phosphorus (TP): $\leq 60 \text{ ug/L}$

Chlorophyll-a: $\leq 20 \text{ ug/L}$

Secchi Depth: $\geq 1.0 \text{ meter}$



2010 Summary

- Water quality has improved significantly and phosphorus and chlorophyll-a concentrations have remained relatively stable since the early 1990s.
- Summer mean phosphorus and chlorophyll-a concentrations increased from 2009 and did not meet TMDL goals in 2010. Phosphorus concentrations measured during the September monitoring event were extremely high, most likely due to the sample event occurring after the lake's water column began to mix, bringing water with high phosphorus concentration from the bottom of the lake to the surface.
- Monitoring data demonstrates high bottom phosphorus concentrations, which indicates the potential for high internal loads in the lake.

TMDL Activities

- The reduction of phosphorus loads from upstream lakes and the direct tributary watershed will have the greatest impact on improving lake water quality.
- Lake management strategies have included rough fish removal since 1984 and aeration from 1985 to 1995.
- Phosphorus reduction activities identified for implementation by the TMDL Implementation Plan in the upstream watersheds tributary to Lake Betsy and Clear Lake include BMP's, hypolimnetic withdrawal, Kingston Wetland restoration, soil testing and GPS fertilizer application, and the construction of sedimentation ponds.

Clearwater River Watershed District

Lake Marie



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January 2011

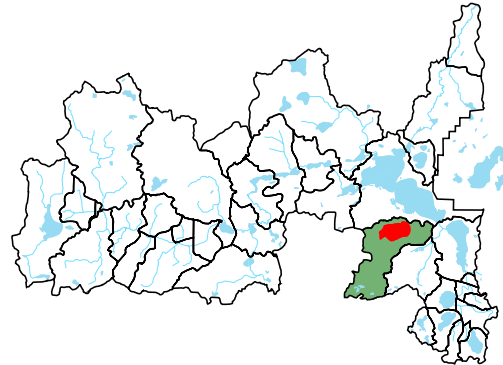
Appendix C

2010 Pleasant Lake Report Card



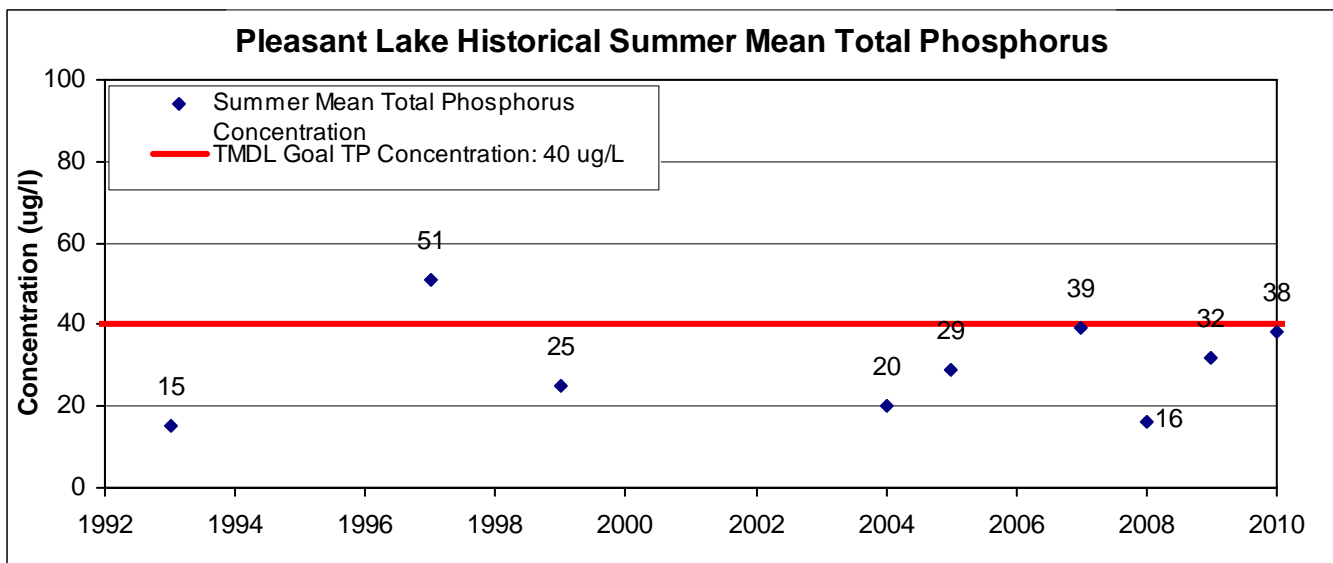
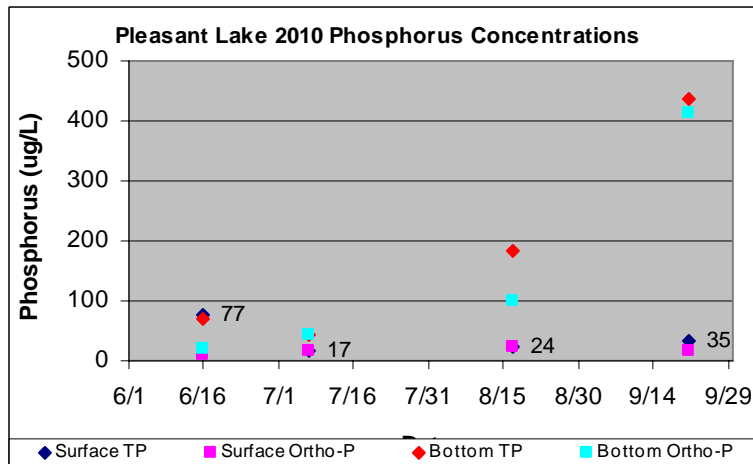
Lake Data

Surface Area: 571 Acres
 Maximum Depth: 74 Feet
 Subwatershed Area: 4,325 acres



Tributary Sub watershed

(shaded)



Pleasant Lake

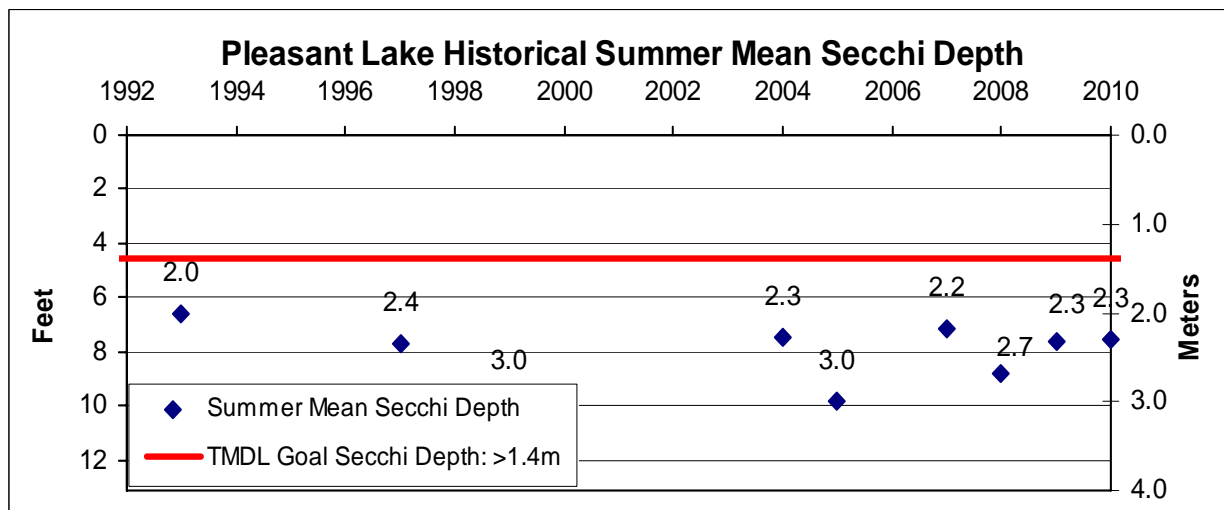
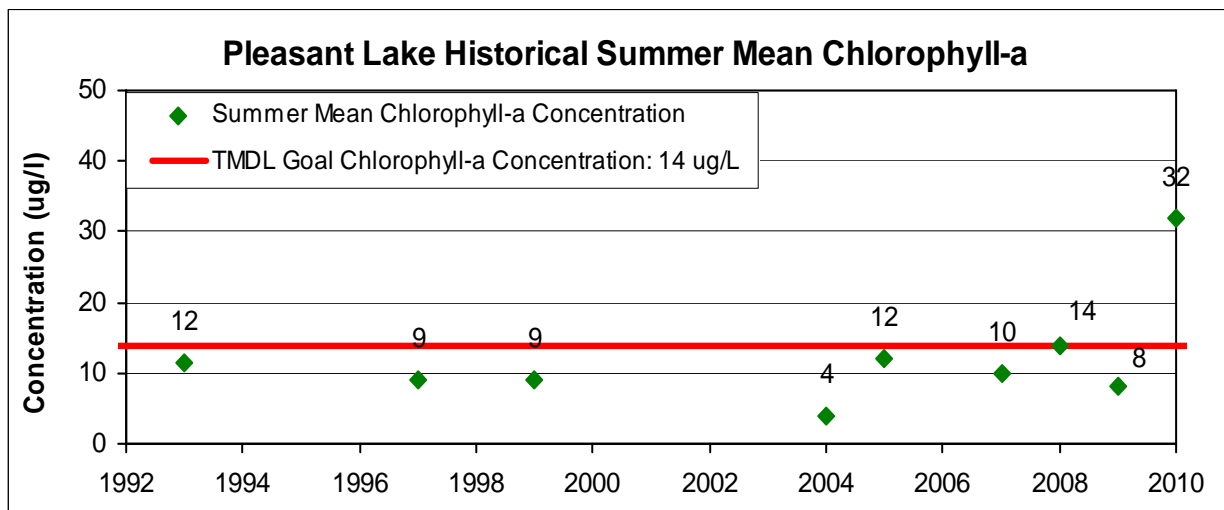
2010 Lake Report Card

MPCA Proposed Deep Lake Standards for the North Central Hardwood Forest:

Total Phosphorus (TP): $\leq 40 \text{ ug/L}$

Chlorophyll-a: $\leq 14 \text{ ug/L}$

Secchi Depth: $\geq 1.4 \text{ meter}$



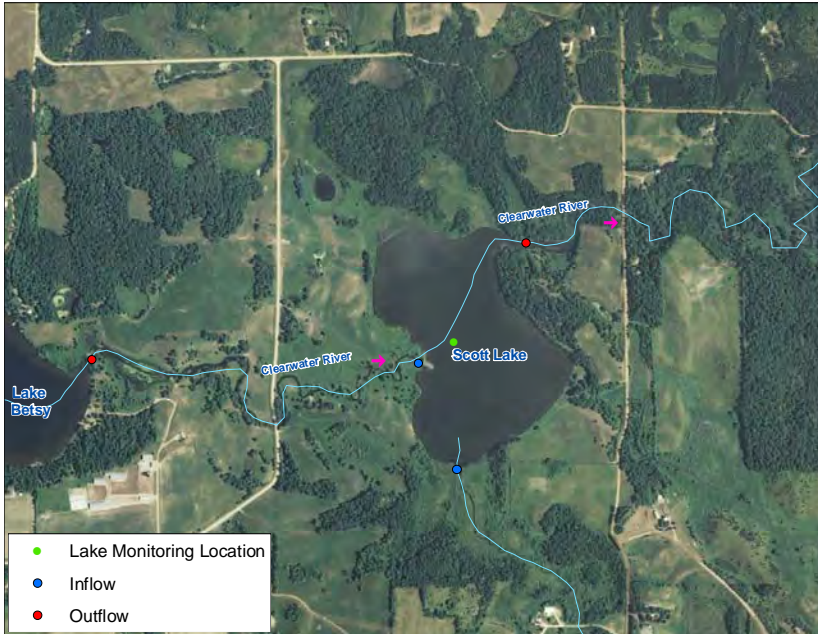
2010 Summary

- Current water quality is good in Pleasant Lake as phosphorus concentrations and secchi depths have met TMDL goals since 1993.
- The 2010 chlorophyll-a summer average concentration was higher than normal based on one extremely high concentration from a September 21 sample event. Concentrations from all other monitoring events in 2010 were near the long term average concentration for Pleasant Lake. (The average chlorophyll-a concentration without the September value was 12 ug/L.)

Water Quality Improvement Activities

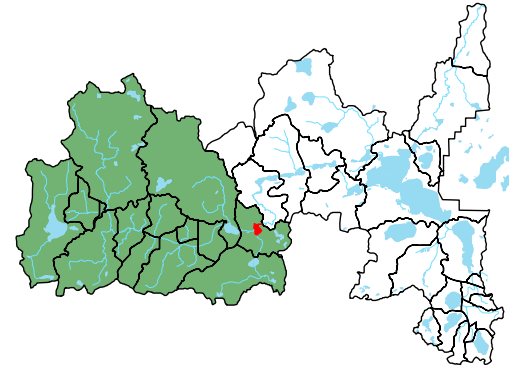
- Good land management practices adjacent to the lakeshore, the upstream watershed, and in the City of Annandale will help to maintain the good water quality in Pleasant Lake.

2010 Scott Lake Lake Report Card



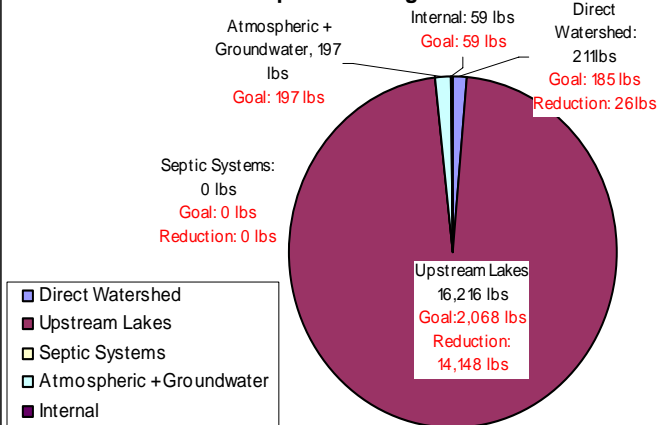
Lake Data

Surface Area: 80 Acres
Maximum Depth: 23 Feet
Subwatershed Area: 51,000 acres

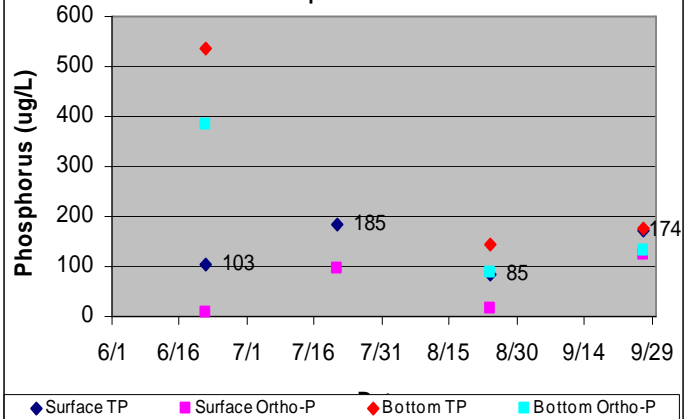


Tributary Sub watershed (shaded)

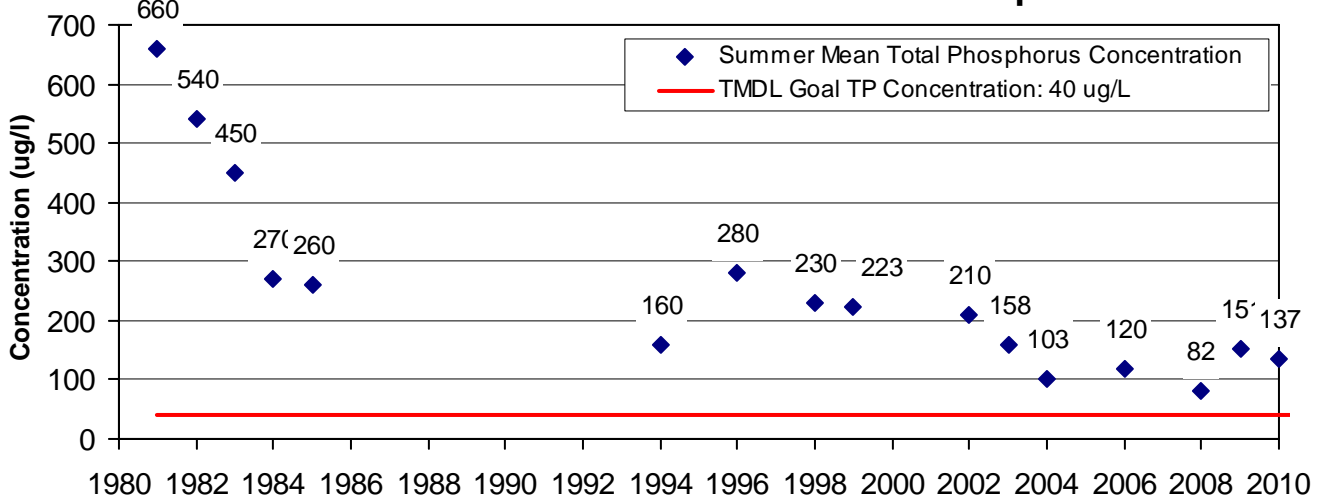
Scott Lake Annual Phosphorus Budget



Scott Lake 2010 Phosphorus Concentrations



Scott Lake Historical Summer Mean Total Phosphorus



Clearwater River Watershed District

Scott Lake

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January 2011

Appendix C

Scott Lake

2010 Lake Report Card

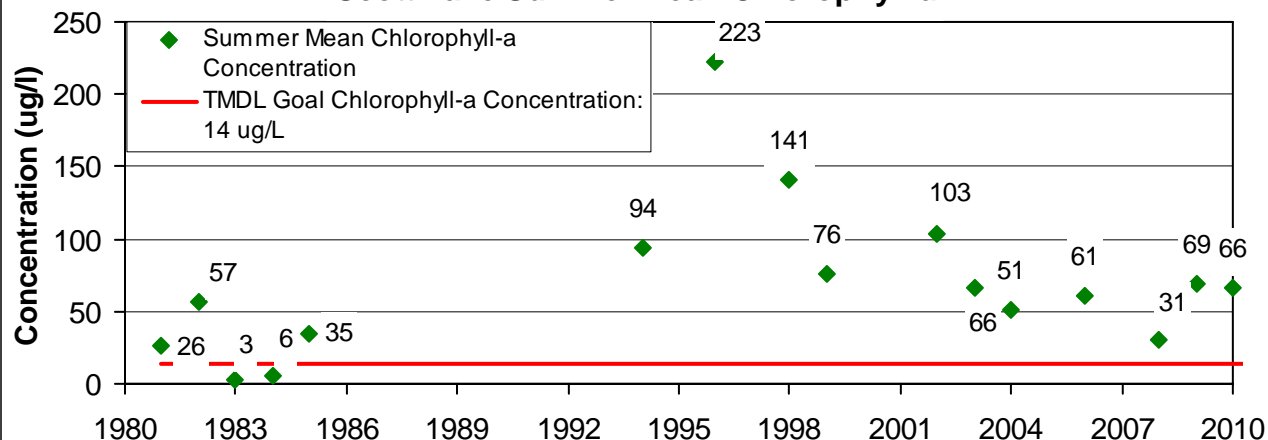
MPCA Standards for Deep Lakes in the North Central Hardwood Forest:

Total Phosphorus (TP): $\leq 40 \text{ ug/L}$

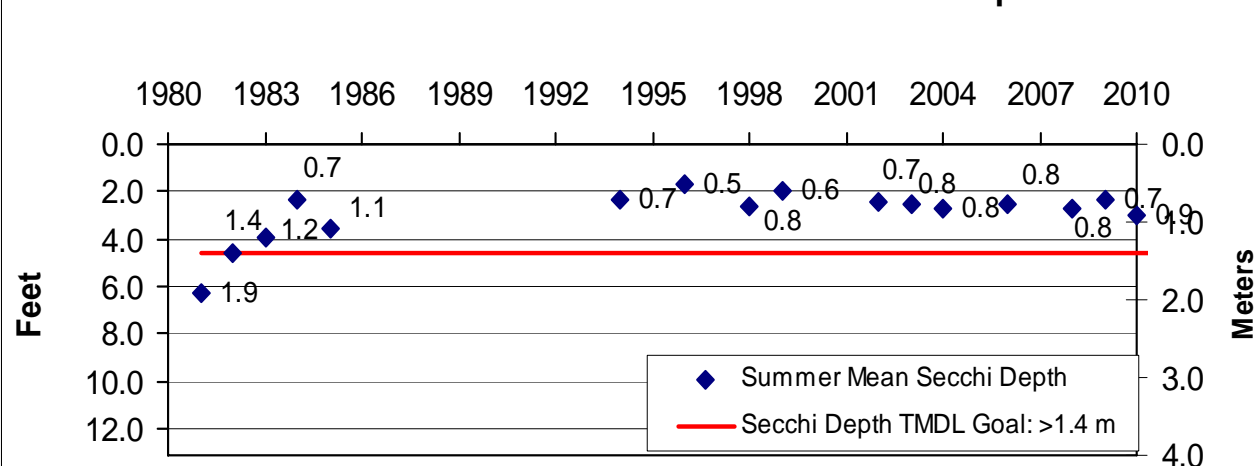
Chlorophyll-a: $\leq 14 \text{ ug/L}$

Secchi Depth: $\geq 1.4 \text{ meter}$

Scott Lake Summer Mean Chlorophyll-a



Scott Lake Historical Summer Mean Secchi Depth



2010 Summary

- Water quality has improved since the 1980s in Scott Lake, as a decreasing trend in summer average phosphorus concentrations has been observed, correlating strongly with a decrease in total phosphorus loads in the Clearwater River.
- TP, chlorophyll-a, and Secchi depth measurements did not meet TMDL goals in 2010 but were similar to concentrations seen in recent years.
- Water quality in Scott Lake is dominated by the inflow from Lake Betsy. However, analysis of phosphorus released from the lake's sediments and associated quantification of internal loading in 2010 indicate that internal loading may represent a significant source of phosphorus to the lake as well.

TMDL Activities

- Reducing phosphorus loads from upstream lakes and the direct tributary watershed will have the greatest impact on improving water quality in Scott Lake. Controlling loads in Lake Betsy is the key to improving water quality in Scott Lake.
- Phosphorus reduction strategies including BMPs, hypolimnetic withdrawal, Kingston Wetland restoration, targeted soil testing and GPS fertilizer application, and the construction of sedimentation ponds are identified by the TMDL Implementation Plan for implementation in upstream watersheds.
- Sediment samples were collected and analyzed for phosphorus release in 2010 in order to better quantify internal nutrient loading in the lake.

Clearwater River Watershed District

Scott Lake

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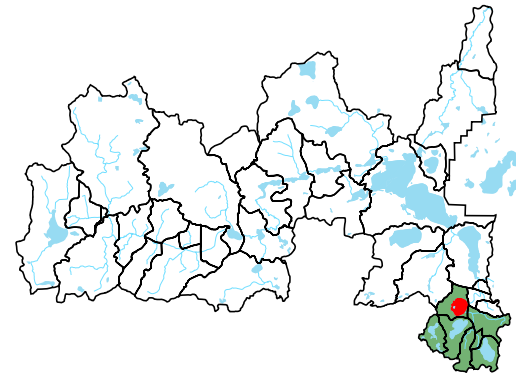
Appendix C

2010 Swartout Lake Report Card



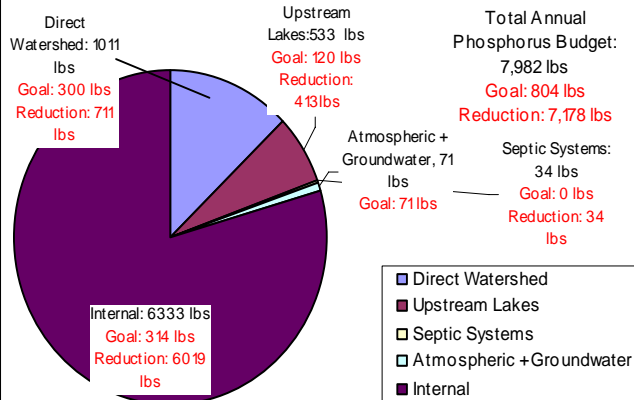
Lake Data

Surface Area: 296 Acres
Maximum Depth: 12 Feet
Subwatershed Area: 5,551 acres

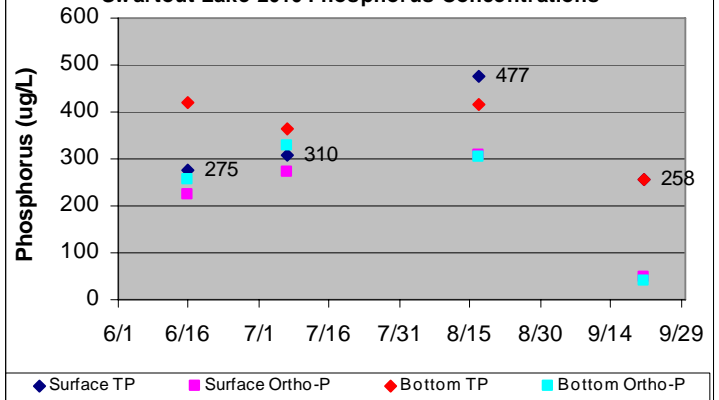


Tributary Sub watershed (shaded)

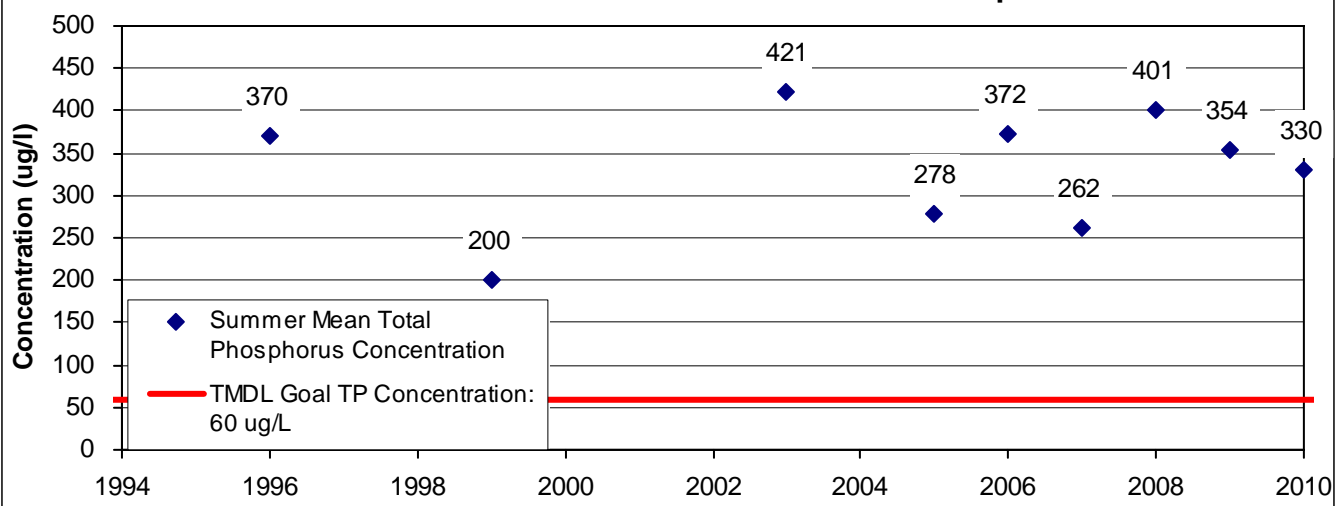
Swartout Lake Annual Phosphorus Budget



Swartout Lake 2010 Phosphorus Concentrations



Swartout Lake Historical Summer Mean Total Phosphorus



Clearwater River Watershed District

Swartout Lake

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January 2011

Appendix C

Swartout Lake

2010 Lake Report Card

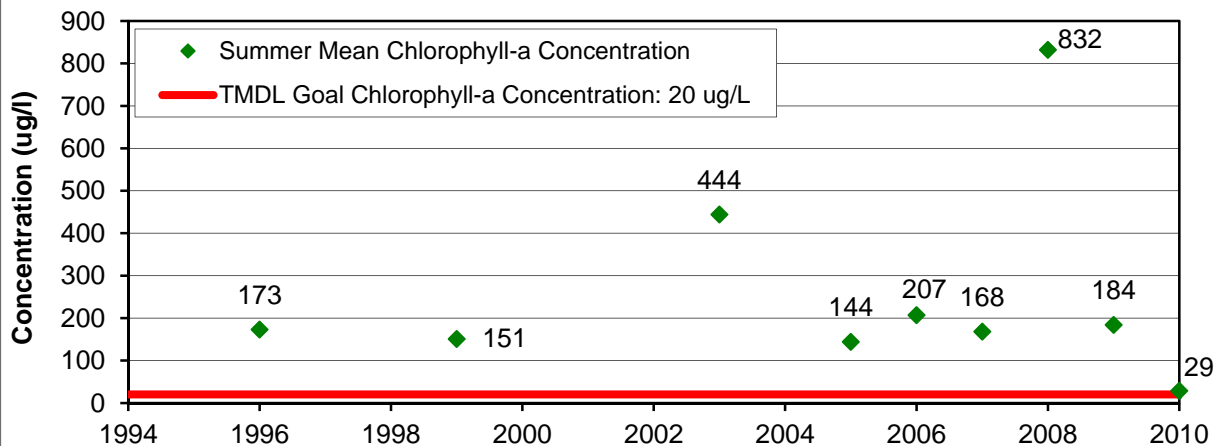
MPCA Standards for Shallow Lakes in the North Central Hardwood Forest:

Total Phosphorus (TP): $\leq 60 \text{ ug/L}$

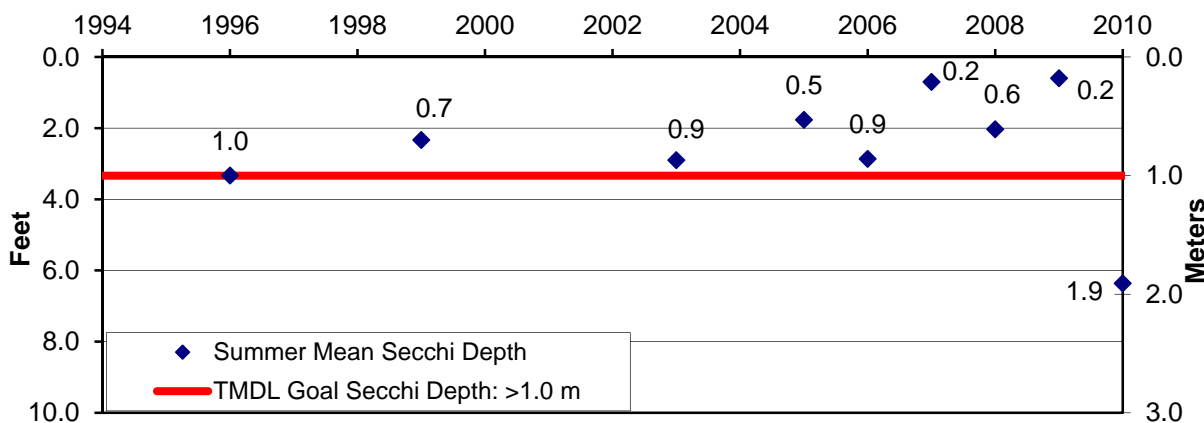
Chlorophyll-a: $\leq 20 \text{ ug/L}$

Secchi Depth: $\geq 1.0 \text{ meter}$

Swartout Historical Lake Summer Mean Chlorophyll-a



Swartout Lake Historical Summer Mean Secchi Depth



2010 Summary

- While TP and chlorophyll-a concentrations do not meet TMDL goals, concentrations were lower than in recent years in 2010.
- Water clarity improved drastically in Swartout Lake due to an extensive winter fish kill in 2010.
- An aquatic vegetation inventory conducted in August 2010 found submergent vegetation growing at nearly half of the sample points around the lake. For comparison, in 2005 a survey found no vegetation growing at any of the sample points.
- Internal loads are the major source of nutrients to the lake.

TMDL Activities

- Swartout Lake receives significant nutrient loads from upstream lakes Albion and Henshaw. A reduction in these external loads as well as a significant reduction in internal nutrient cycling will be required to meet TMDL goals in Swartout Lake.
- Rough fish migration control and removal is an important element of lake management. Fish barriers have been installed on tributary streams to inhibit carp from reaching spawning wetlands. Rough fish harvest has been conducted during the winter as well.

Clearwater River Watershed District

Swartout Lake



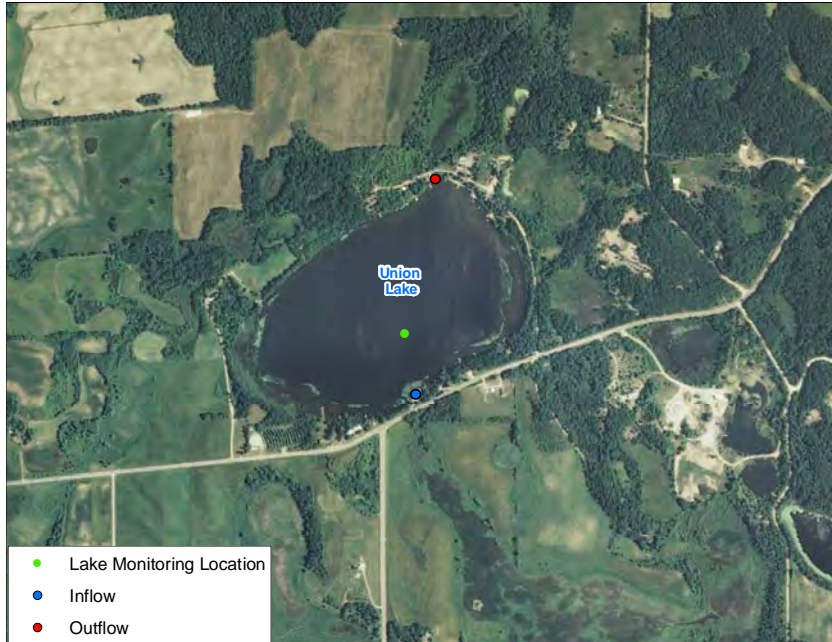
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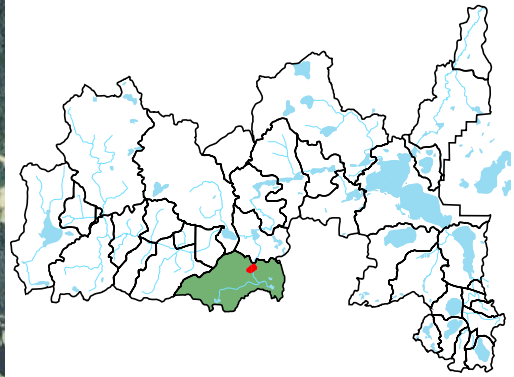
Appendix C

2010 Union Lake Report Card



Lake Data

Surface Area: 93 Acres
Maximum Depth: 35 Feet
Subwatershed Area: 4,741 acres

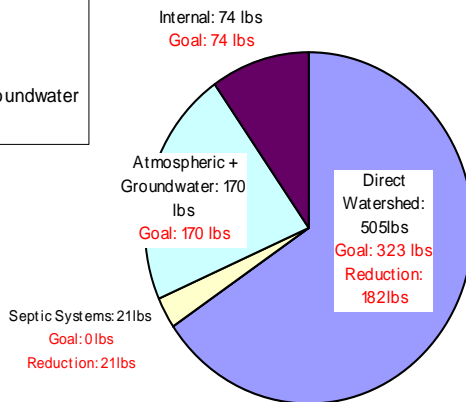


Tributary Sub watershed (shaded)

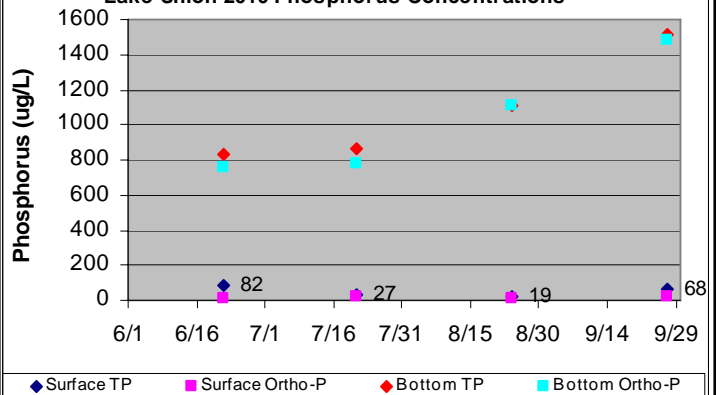
Union Lake Annual Phosphorus Budget

- Direct Watershed
- Upstream Lakes
- Septic Systems
- Atmospheric + Groundwater
- Internal

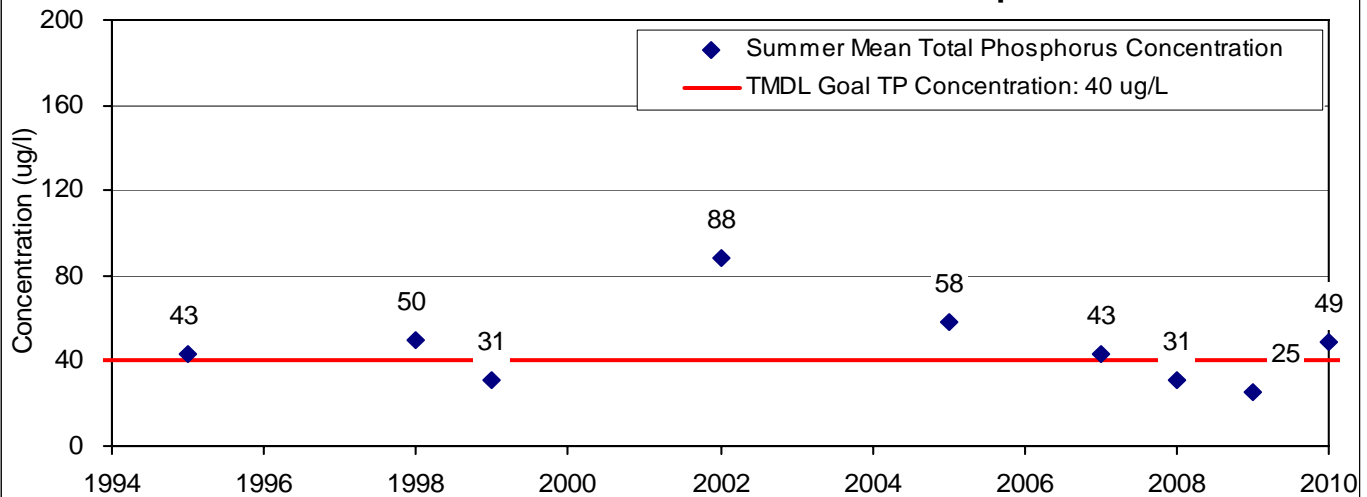
Total Annual Phosphorus Budget:
770 lbs
Goal: 572 lbs
Reduction: 198 lbs



Lake Union 2010 Phosphorus Concentrations



Union Lake Historical Summer Mean Total Phosphorus



Clearwater River Watershed District

Union Lake

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January 2011

Appendix C

Union Lake

2010 Lake Report Card

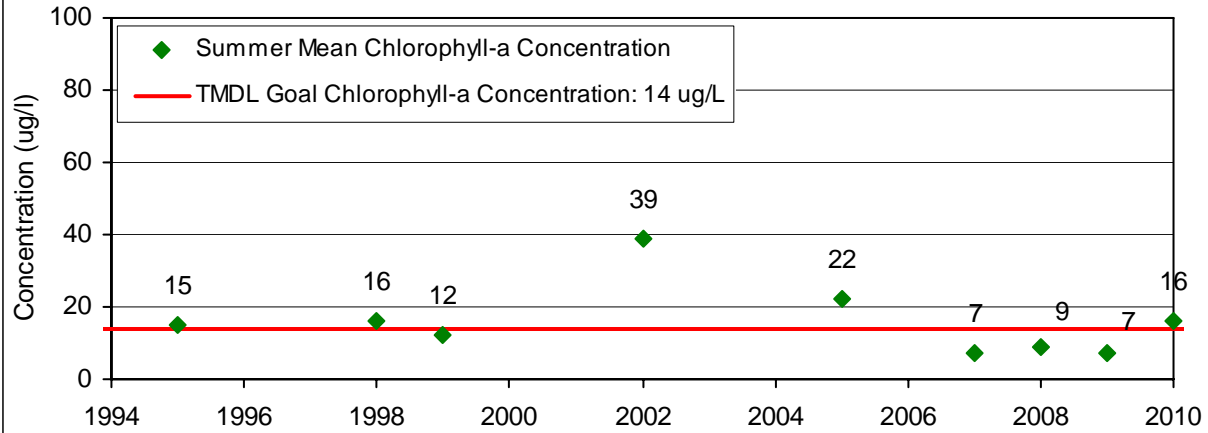
MPCA Standards for Deep Lakes in the North Central Hardwood Forest:

Total Phosphorus (TP): $\leq 40 \text{ ug/L}$

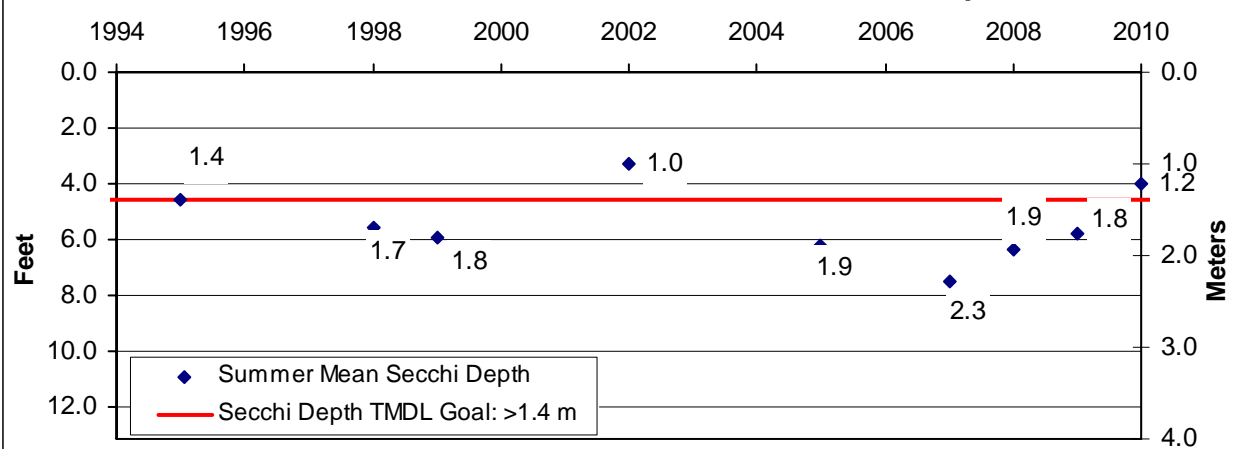
Chlorophyll-a: $\leq 14 \text{ ug/L}$

Secchi Depth: $\geq 1.4 \text{ meter}$

Union Lake Historical Summer Mean Chlorophyll-a



Union Lake Historical Summer Mean Secchi Depth



2010 Summary

- Water quality in Union Lake is relatively good in comparison to Scott Lake downstream, which is primarily due to the small tributary watershed.
- While TMDL goals for TP, chlorophyll-a, and Secchi depth have been met in recent years for the lake, goals were not met in 2010.
- Overall, in-lake phosphorus concentrations have declined since 2002.

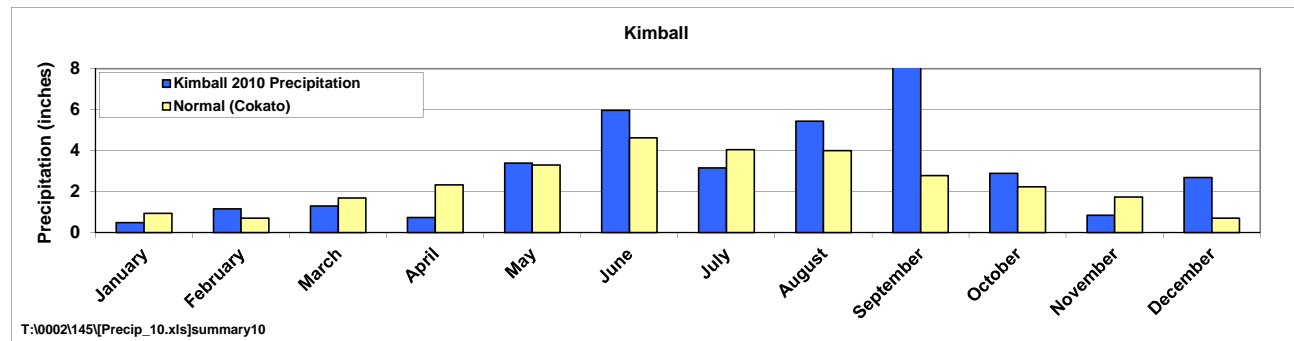
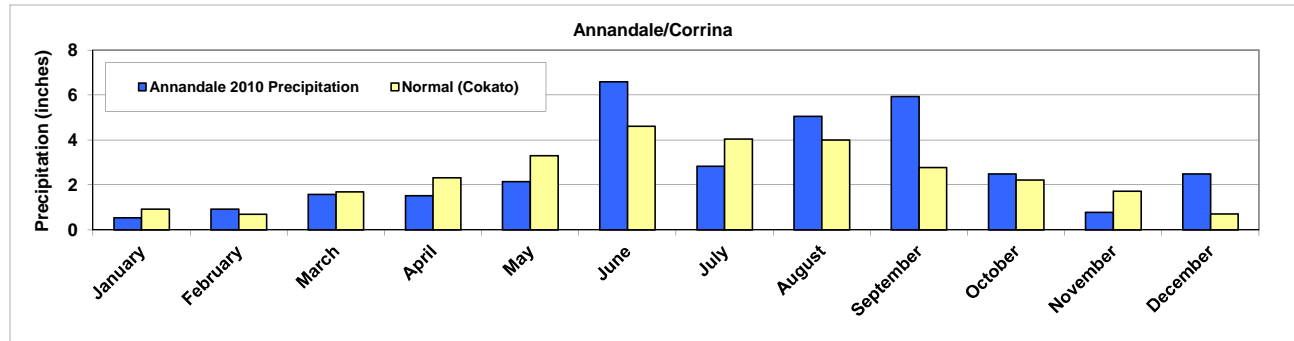
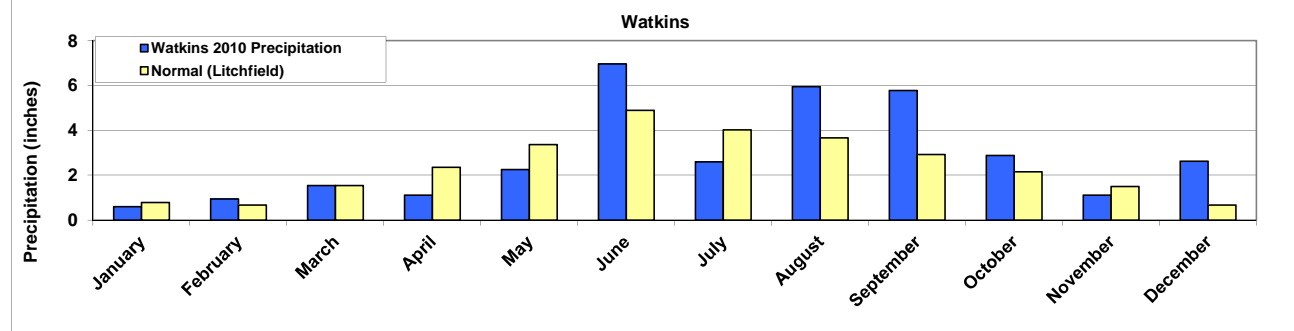
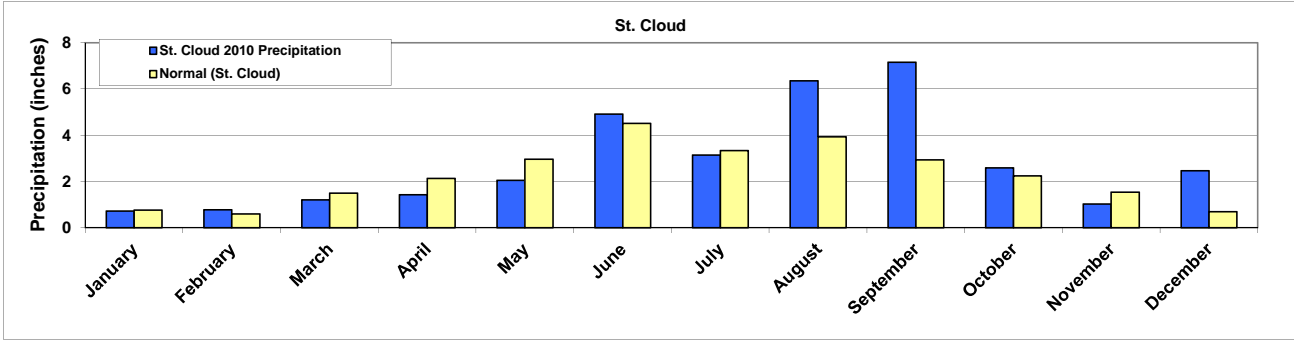
TMDL Activities

- Watershed loads appear to be the only reduction necessary for Union Lake to meet its water quality goals.
- Reducing phosphorus loads from upstream lakes and the direct tributary watershed will have the greatest impact on improving water quality in Union Lake.
- Phosphorus reduction strategies including BMPs, hypolimnetic withdrawal, targeted soil testing and GPS fertilizer application, and the construction of sedimentation ponds are identified by the TMDL Implementation Plan for implementation in upstream watersheds.

Appendix D

Citizen Precipitation Records

Appendix D
Figure 1
Clearwater River Watershed District
2010 Annual Report



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Minnesota Board of Water & Soil Resources
Watershed Districts

Watershed Management Organizations

MINNESOTA CLIMATOLOGICAL NETWORK

10 01 2.00 am 47 1 21 32 03 1
Year Month Ob Time County Township Range Section

| Name <u>Gary Klein</u> | | | County name <u>Meeker</u> | | | |
|---|----------------------------|----------------------------------|---|-------------------------|----------------|---|
| Address <u>310 Meeker Ave S</u> | | | Township name <u>Forest Prairie</u> | | | |
| email <u>Watkins Mn. 55389</u> | | | Telephone No. <u>(320) 764-2645</u> | | | |
| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input type="checkbox"/> yes <input type="checkbox"/> no |
| Rain, Melted Snow, Etc. (Ins. & Hds) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | cylinder | tipping bucket | |
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| <u>.55</u> | | | 23 | | | |
| | | | 24 | | | |
| <u>Trace</u> | <u>Trace</u> | | 25 | | | |
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| | | | 30 | | | |
| | | | 31 | | | |
| <u>.01</u> | <u>Trace</u> | <u>8.25</u> | TOTALS State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028 | | | |



Minnesota Board of Water and Soil Resources
Watershed Districts

Watershed Management Organizations

MINNESOTA CLIMATOLOGICAL NETWORK

10 02 2 00 am 47 121 32 03 7
Year Month Ob Time County Township Range Section

| | | | | | |
|--|-------------------------|-------------------------------|---|---|----------------|
| Name <u>Gary Klein</u> | | | | County name <u>Meeker</u> | |
| Address <u>310 Meeker Ave S</u> | | | | Township name <u>Forest Prairie</u> | |
| email <u>Watkins Mn. 55389</u> | | | | Telephone No. <u>(320) 764-2645</u> | |
| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | |
| Rain, Mixed Snow, Etc. (ins. & Hths) | Snow (ins. & Tenths) | Snow On Ground (inches) | | cylinder <input checked="" type="checkbox"/> | tipping bucket |
| | | | test tube | weighing | |
| | | | wedge | Other | |
| | | | catch opening diameter/size (inches) _____ | | |
| | | | maximum catch depth (inches) _____ | | |
| | | | board/ruler/post used for snow _____ yes _____ no | | |
| 1.13 | 1.75 | 9.50 | 01 | | |
| | | | 02 | | |
| | | | 03 | | |
| 2.25 | 2.00 | 11.50 | 04 | | |
| 1.13 | 1.75 | 12.25 | 05 | | |
| Trace | | | 06 | | |
| 1.16 | 2.25 | 13.0 | 07 | | |
| 1.28 | 5.50 | 18.5 | 08 | | |
| | | | 09 | | |
| | | | 10 | | |
| | | | 11 | | |
| | | | 12 | | |
| | | | 13 | | |
| Trace | | | 14 | | |
| | | | 15 | | |
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| | | | 31 | | |
| 1.95 | 12.25 | 11.50 | TOTALS | State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028 | |



Minnesota Board of Water & Soil Resources
Watershed Districts
Watershed Management Organizations

MINNESOTA CLIMATOLOGICAL NETWORK

10 03 2:00 am 47 121 32 03 87
Year Month Ob Time County Township Range Section

| | | | | |
|--|---------------------------|----------------------------------|--|----------------|
| Name <u>Gary Klein</u> | | | County name <u>Meeker</u> | |
| Address <u>310 Meeker Ave S.</u> | | | Township name <u>Forest Prairie</u> | |
| email <u>Watkins Ma. 55389</u> | | | Telephone No. <u>(320) 764-2645</u> | |
| 24-HOUR AMOUNTS | | | REMARKS: | |
| Rain, Mixed Snow, Etc. (Ins. & Hds) | Snow (Ins. & Twins) | Snow On Ground (Inches) | Give times and comments about events. (Temperature and Phenology items are very useful). | |
| | | | Gauge type (Check One): | |
| | | | cylinder <input checked="" type="checkbox"/> | tipping bucket |
| | | | test tube | weighing |
| | | | wedge | Other |
| | | | catch opening diameter/size (inches) _____ | |
| | | | maximum catch depth (inches) _____ | |
| | | | board/ruler/post used for snow _____ yes _____ no | |
| | | | 01 | |
| | | | 02 | |
| | | | 03 | |
| | | | 04 | |
| | | | 05 | |
| .13 | | | 06 | |
| | | | 07 | |
| | | | 08 | |
| .16 | | | 09 | |
| .38 | | | 10 | |
| .45 | | .00 | 11 | |
| .37 | | | 12 | |
| | | | 13 | |
| | | | 14 | |
| .04 | | | 15 | |
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| .01 | | | 27 | |
| | | | 28 | |
| | | | 29 | |
| | | | 30 | |
| | | | 31 | |
| 1.54 | 0 | 0 | TOTALS State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028 | |



Minnesota Board of Water & Soil Resources
Watershed Districts
Watershed Management Organizations

MINNESOTA CLIMATOLOGICAL NETWORK

Year: 100 Month: 04 Ob Time: 2:00 am County: 47 Township: 121 Range: 32 Section: 03 87

| | | | | | |
|---|----------------------------|----------------------------------|--|-------------------------------------|----------------|
| Name: Gary Klein | | | County name: Meeker | | |
| Address: 310 Meeker Ave S. | | | Township name: Forest Prairie | | |
| email: Watkins Mn. 55389 | | | Telephone No. (320) 764-2645 | | |
| 24-HOUR AMOUNTS | | | REMARKS: | | |
| Rain, Melted Snow, Etc. (Ins. & Hdths) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | Give times and comments about events. (Temperature and Phenology items are very useful). | | |
| | | | Gauge type (Check One): | | |
| | | | cylinder | <input checked="" type="checkbox"/> | tipping bucket |
| | | | test tube | | weighing |
| | | | wedge | | Other |
| | | | catch opening diameter/size (inches) _____ | | |
| | | | maximum catch depth (inches) _____ | | |
| | | | board/ruler/post used for snow _____ yes _____ no | | |
| | | | 01 | | |
| Trace | | | 02 | | |
| 1.02 | | | 03 | | |
| | | | 04 | | |
| | | | 05 | | |
| | | | 06 | | |
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| | | | 10 | | |
| | | | 11 | | |
| | | | 12 | | |
| 0.64 | | | 13 | | |
| | | | 14 | | |
| | | | 15 | | |
| | | | 16 | | |
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| | | | 22 | | |
| | | | 23 | | |
| 0.20 | | | 24 | | |
| 1.04 | | | 25 | | |
| | | | 26 | | |
| | | | 27 | | |
| | | | 28 | | |
| 0.04 | | | 29 | | |
| 0.18 | | | 30 | | |
| | | | 31 | | |
| 1.12 | | | TOTALS State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028 | | |



Minnesota Board of Water & Soil Resources
Watershed Districts

Watershed Management Organizations

MINNESOTA CLIMATOLOGICAL NETWORK

Year: 10 Month: 05 Ob Time: 2:00 am County: 47 Township: 121 Range: 3203 Section: 87

| Name: Gary Klein | | | County name: Meeker | |
|--|-------------------------|----------------------------------|--|-------------------------------------|
| Address: 310 Meeker Ave S | | | Township name: Forest Prairie | |
| email: Watkins Mn. 55389 | | | Telephone No. (320) 764-2645 | |
| 24-HOUR AMOUNTS | | | REMARKS: | |
| Rain, Melted Snow, Etc. (Ins. & Hds) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | Give times and comments about events. (Temperature and Phenology items are very useful). | |
| | | | Gauge type (Check One): | |
| | | | cylinder | <input checked="" type="checkbox"/> |
| | | | tipping bucket | <input type="checkbox"/> |
| | | | test tube | <input type="checkbox"/> |
| | | | weighing | <input type="checkbox"/> |
| | | | wedge | <input type="checkbox"/> |
| | | | Other | <input type="checkbox"/> |
| | | | catch opening diameter/size (inches) _____ | |
| | | | maximum catch depth (inches) _____ | |
| | | | board/ruler/post used for snow _____ yes _____ no | |
| | | | 01 | |
| | | | 02 | |
| 2.0 | | | 03 | |
| | | | 04 | |
| 0.6 | | | 05 | |
| 0.8 | | | 06 | |
| 2.8 | | | 07 | |
| | | | 08 | |
| | | | 09 | |
| 6.1 | | | 10 | |
| 3.1 | | | 11 | |
| 2.4 | | | 12 | |
| 1.1 | | | 13 | |
| | | | 14 | |
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| | | | 16 | |
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| | | | 19 | |
| | | | 20 | |
| 2.5 | | | 21 | |
| | | | 22 | |
| | | | 23 | |
| | | | 24 | |
| 0.9 | | | 25 | |
| | | | 26 | |
| | | | 27 | |
| | | | 28 | |
| | | | 29 | |
| 0.2 | | | 30 | |
| | | | 31 | |
| 2.25 | | | TOTALS State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028 | |

MINNESOTA CLIMATOLOGICAL NETWORK

Year: 10 Month: 06 Ob Time: 9:00 am County: 47 Township: 121 Range: 32 Section: 03

| Water & Soil | | | | Watershed Management Organizations | | | | Year | Month | Ob Time | County | Township | Range |
|---|----------------------------|----------------------------------|---|------------------------------------|-----------|-------------------------|-------------------------------------|----------------|---|---------|-------------------------------------|----------|-------|
| Name <u>Gary Klein</u> | | | | | | | | | | | County name <u>Meeker</u> | | |
| Address <u>310 Meeker Ave S</u> | | | | | | | | | | | Township name <u>Forest Prairie</u> | | |
| email <u>Watkins Mn. 55389</u> | | | | | | | | | | | Telephone No. <u>(320) 764-2645</u> | | |
| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | | | Gauge type (Check One): | | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow ____yes ____no | | | | |
| Rain, Melted Snow, Etc. (Ins. & Hdths) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | | | cylinder | <input checked="" type="checkbox"/> | tipping bucket | | | | | |
| | | | | | test tube | | weighing | | | | | | |
| | | | | | wedge | | Other | | | | | | |
| | | | 01 | | | | | | | | | | |
| .09 | | | 02 | | | | | | | | | | |
| .41 | | | 03 | | | | | | | | | | |
| | | | 04 | | | | | | | | | | |
| .14 | | | 05 | | | | | | | | | | |
| | | | 06 | | | | | | | | | | |
| | | | 07 | | | | | | | | | | |
| .47 | | | 08 | | | | | | | | | | |
| | | | 09 | | | | | | | | | | |
| | | | 10 | | | | | | | | | | |
| .81 | | | 11 | | | | | | | | | | |
| .26 | | | 12 | | | | | | | | | | |
| | | | 13 | | | | | | | | | | |
| .22 | | | 14 | | | | | | | | | | |
| .07 | | | 15 | | | | | | | | | | |
| | | | 16 | | | | | | | | | | |
| .26 | | | 17 | | | | | | | | | | |
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| | | | 20 | | | | | | | | | | |
| | | | 21 | | | | | | | | | | |
| 3.60 | | | 22 | | | | | | | | | | |
| .03 | | | 23 | | | | | | | | | | |
| | | | 24 | | | | | | | | | | |
| .32 | | | 25 | | | | | | | | | | |
| .28 | | | 26 | | | | | | | | | | |
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| | | | 31 | | | | | | | | | | |
| 696 | | | TOTALS | | | | | | State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028 | | | | |



Minnesota Board of Water Soil Resources
Watershed Districts
Watershed Management Organizations

MINNESOTA CLIMATOLOGICAL NETWORK

10 07 2.00 am 47 121 32 03 87
Year Month Ob Time County Township Range Section

| | | | | |
|--|---------------------------|----------------------------------|--|--|
| Name <u>Gary Klein</u> | | | County name <u>Meeker</u> | |
| Address <u>310 Meeker Ave S.</u> | | | Township name <u>Forest Prairie</u> | |
| email <u>Watkins Mn. 55389</u> | | | Telephone No. <u>(320) 764-2645</u> | |
| 24-HOUR AMOUNTS | | | REMARKS: | |
| Rain, Mixed Snow, Etc. (Ins. & Hds) | Snow (Ins. & Twins) | Snow On Ground (Inches) | Give times and comments about events. (Temperature and Phenology Items are very useful). | |
| | | | Gauge type (Check One): | |
| | | | cylinder | <input checked="" type="checkbox"/> tipping bucket |
| | | | test tube | weighing |
| | | | wedge | Other |
| | | | catch opening diameter/size (Inches) _____ | |
| | | | maximum catch depth (Inches) _____ | |
| | | | board/ruler/post used for snow _____ yes _____ no | |
| | | | 01 | |
| | | | 02 | |
| 18 | | | 03 | |
| | | | 04 | |
| 45 | | | 05 | |
| | | | 06 | |
| | | | 07 | |
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| 74 | | | 17 | |
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| 60 | | | 22 | |
| 34 | | | 23 | |
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| 290 | | | TOTALS State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028 | |



Minnesota Board of Water Soil Resources
Watershed Districts
Watershed Management Organizations

MINNESOTA CLIMATOLOGICAL NETWORK

10 08 9:00 am 47 121 32 03 87
Year Month Ob Time County Township Range Section

| | | | | |
|--|-----------------------------|----------------------------------|---|---|
| Name <u>Gary Klein</u> | | | County name <u>Meeker</u> | |
| Address <u>310 Meeker Ave S</u> | | | Township name <u>Forest Prairie</u> | |
| Email <u>Watkins Mn. 55389</u> | | | Telephone No. <u>(320) 764-2645</u> | |
| 24-HOUR AMOUNTS | | | REMARKS: | |
| Rain, Melted Snow, Etc. (Inch. & Hds) | Snow (Inch. & Tenths) | Snow On Ground (Inches) | Give times and comments about events. (Temperature and Phenology items are very useful). | |
| | | | Gauge type (Check One): | |
| | | | cylinder <input checked="" type="checkbox"/> | tipping bucket <input type="checkbox"/> |
| | | | test tube <input type="checkbox"/> | weighing <input type="checkbox"/> |
| | | | wedge <input type="checkbox"/> | Other <input type="checkbox"/> |
| | | | catch opening diameter/size (inches) _____ | |
| | | | maximum catch depth (inches) _____ | |
| | | | board/ruler/post used for snow <input type="checkbox"/> yes <input type="checkbox"/> no | |
| | | | 01 | |
| | | | 02 | |
| | | | 03 | |
| | | | 04 | |
| | | | 05 | |
| | | | 06 | |
| .19 | | | 07 | |
| .02 | | | 08 | |
| | | | 09 | |
| .73 | | | 10 | |
| | | | 11 | |
| 1.42 | | | 12 | |
| .54 | | | 13 | |
| | | | 14 | |
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| | | | 16 | |
| | | | 17 | |
| | | | 18 | |
| 1.27 | | | 19 | |
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| 1.02 | | | 30 | |
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| 5.94 | | | TOTALS | |

State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028



Minnesota Board of Water Soil Resources
Watershed Districts

Watershed Management Organizations

MINNESOTA CLIMATOLOGICAL NETWORK

10 09 9:00 am 47 121 32 03 1
Year Month Ob Time County Township Range Section

| | | | | |
|---|----------------------------|----------------------------------|--|---|
| Name <u>Gary Klein</u> | | | County name <u>Meeker</u> | |
| Address <u>310 Meeker Ave S</u> | | | Township name <u>Forest Prairie</u> | |
| email <u>Watkins Mn. 55389</u> | | | Telephone No. <u>(320) 764-2645</u> | |
| 24-HOUR AMOUNTS | | | Gauge type (Check One): | |
| Rain, Melted Snow, Etc. (Ins. & & Hds) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | cylinder <input checked="" type="checkbox"/> | tipping bucket <input type="checkbox"/> |
| | | | test tube <input type="checkbox"/> | weighing <input type="checkbox"/> |
| | | | wedge <input type="checkbox"/> | Other <input type="checkbox"/> |
| REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | | | catch opening diameter/size (inches) _____ | |
| | | | maximum catch depth (inches) _____ | |
| | | | board/ruler/post used for snow _____ yes _____ no | |
| 0.76 | | | 01 | |
| 0.04 | | | 02 | |
| | | | 03 | |
| | | | 04 | |
| | | | 05 | |
| | | | 06 | |
| 0.56 | | | 07 | |
| | | | 08 | |
| 0.03 | | | 09 | |
| 0.41 | | | 10 | |
| | | | 11 | |
| | | | 12 | |
| | | | 13 | |
| | | | 14 | |
| 1.43 | | | 15 | |
| | | | 16 | |
| 0.07 | | | 17 | |
| | | | 18 | |
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| 0.17 | | | 20 | |
| | | | 21 | |
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| 2.31 | | | 23 | |
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| 5.78 | | | TOTALS State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028 | |



Minnesota Board of Water & Soil Resources
Watershed Districts

Watershed Management Organizations

MINNESOTA CLIMATOLOGICAL NETWORK

10/10/9.00 am 47/121/3203 7
Year Month Ob Time County Township Range Section

| Name <u>Gary Klein</u> | | | County name <u>Meeker</u> | |
|---|----------------------------|----------------------------------|--|---|
| Address <u>310 Meeker Ave S</u> | | | Township name <u>Forest Prairie</u> | |
| email <u>Watkins Mn. 55389</u> | | | Telephone No. <u>(320) 764-2645</u> | |
| 24-HOUR AMOUNTS | | | REMARKS: | |
| Rain, Melted Snow, Etc. (Ins. & Hdths) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | Give times and comments about events. (Temperature and Phenology items are very useful). | |
| | | | Gauge type (Check One): | |
| | | | cylinder <input checked="" type="checkbox"/> | tipping bucket <input type="checkbox"/> |
| | | | test tube <input type="checkbox"/> | weighing <input type="checkbox"/> |
| | | | wedge <input type="checkbox"/> | Other <input type="checkbox"/> |
| | | | catch opening diameter/size (inches) _____ | |
| | | | maximum catch depth (inches) _____ | |
| | | | board/ruler/post used for snow _____ yes _____ no | |
| | | | 01 | |
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| .02 | | | 17 | |
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| | | | 20 | |
| | | | 21 | |
| | | | 22 | |
| .06 | | | 23 | |
| .82 | | | 24 | |
| 1.21 | Trace | | 25 | |
| .69 | | | 26 | |
| .09 | | | 27 | |
| | | | 28 | |
| | | | 29 | |
| | | | 30 | |
| | | | 31 | |
| 2.88 Trace | | | TOTALS State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028 | |



Minnesota Board of Water & Soil Resources
Watershed Districts

Watershed Management Organizations

MINNESOTA CLIMATOLOGICAL NETWORK

10 11 2.00 am 47 121 3203 17
Year Month Ob Time County Township Range Section

| Name <u>Gary Klein</u> | | | County name <u>Meeker</u> | | |
|---|----------------------------|----------------------------------|--|--|---|
| Address <u>310 Meeker Ave S</u> | | | Township name <u>Forest Prairie</u> | | |
| email <u>Watkins Mn. 55389</u> | | | Telephone No. <u>(320) 764-2645</u> | | |
| 24-HOUR AMOUNTS | | | REMARKS: | | Gauge type (Check One): |
| Rain, Melted Snow, Etc. (Ins. & Hcths) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | Give times and comments about events. (Temperature and Phenology Items are very useful). | | cylinder <input checked="" type="checkbox"/> |
| | | | | | tipping bucket <input type="checkbox"/> |
| | | | | | test tube <input type="checkbox"/> |
| | | | | | weighing <input type="checkbox"/> |
| | | | | | wedge <input type="checkbox"/> |
| | | | | | Other <input type="checkbox"/> |
| | | | 01 | | catch opening diameter/size (inches) _____ |
| | | | 02 | | maximum catch depth (inches) _____ |
| | | | 03 | | board/ruler/post used for snow _____ yes _____ no |
| | | | 04 | | |
| | | | 05 | | |
| | | | 06 | | |
| | | | 07 | | |
| | | | 08 | | |
| | | | 09 | | |
| .07 | | | 10 | | |
| | | | 11 | | |
| | | | 12 | | |
| .45 | 1.50 | | 13 | | |
| | | | 14 | | |
| | | | 15 | | |
| | | | 16 | | |
| | | | 17 | | |
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| | | | 19 | | |
| | | | 20 | | |
| .04 | | | 21 | | |
| | | | 22 | | |
| | | | 23 | | |
| .13 | 1.0 | 1.0 | 24 | | |
| | | | 25 | | |
| | | | 26 | | |
| | | | 27 | | |
| | | | 28 | | |
| .42 | 2.25 | 2.25 | 29 | | |
| | | | 30 | | |
| | | | 31 | | |
| 1.11 | 4.75 | 2.25 | TOTALS State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028 | | |



Minnesota Board of Water & Soil Resources
Watershed Districts
Watershed Management Organizations

MINNESOTA CLIMATOLOGICAL NETWORK

Year Month Ob Time County Township Range Section

100 12 7.00 am 47 121 32 03 87

| Name <u>Gary Klein</u> | | | County name <u>Meeker</u> | | |
|---|----------------------------|----------------------------------|---|---|----------------|
| Address <u>310 Meeker Ave S</u> | | | Township name <u>Forest Prairie</u> | | |
| email <u>Watkins Mn. 55389</u> | | | Telephone No. <u>(320) 764-2645</u> | | |
| 24-HOUR AMOUNTS | | | REMARKS: | | |
| Rain, Melted Snow, Etc. (Ins. & Hds) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | Give times and comments about events. (Temperature and Phenology Items are very useful). | | |
| | | | Gauge type (Check One): | | |
| | | | cylinder | <input checked="" type="checkbox"/> | tipping bucket |
| | | | test tube | | weighing |
| | | | wedge | | Other |
| | | | 01 | | |
| | | | 02 | | |
| .28 | 6.25 | 6.25 | 03 | | |
| | | | 04 | | |
| | | | 05 | | |
| | | | 06 | | |
| | | | 07 | | |
| | | | 08 | | |
| | | | 09 | | |
| | | | 10 | | |
| .69 | 9.25 | 14.50 | 11 | | |
| | | | 12 | | |
| | | | 13 | | |
| | | | 14 | | |
| .06 | 1.25 | 13.75 | 15 | | |
| | | | 16 | | |
| | | | 17 | | |
| | | | 18 | | |
| | | | 19 | | |
| .20 | 3.75 | 16.50 | 20 | | |
| | | | 21 | | |
| | | | 22 | | |
| .46 | 8.25 | 21.25 | 23 | | |
| | | | 24 | | |
| | | | 25 | | |
| | | | 26 | | |
| | | | 27 | | |
| | | | 28 | | |
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| .82 | .00 | 10.50 | 30 | | |
| .11 | 1.75 | 11.25 | 31 | | |
| 2.62 | 29.50 | 11.25 | TOTALS | State Climatology Office, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108-6028 | |

catch opening diameter/size (inches) _____
maximum catch depth (inches) _____
board/ruler/post used for snow ___yes___no



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

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| 10 | 01 | | am | 86 | 206 | 28 | 20 | 1 |
| Year | | Month | Ob Time | County | Township | Range | Section | |

| | | |
|--|-----------------------|---------------------------------|
| Name VI NOVOTNE | County Name WRIGHT | Township Name CORINNA |
| Address 9214 Kilbuck Ave NW Annandale, MN 55002 | | Telephone No. (320) 274-5179 |

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|---|----------------------------|----------------------------------|---|-------------------------|----------------|--|
| Rain, Melted Snow, Etc. (Ins. & Hdths) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | cylinder | tipping bucket | |
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| | | | TOTALS | | | |



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

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| Year | | Month | | Ob Time | | | County | | Township | | Range | | Section | | | |

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|--|------------------------------|--|
| Name <u>VI NOVOTNE</u> | County Name <u>WRIGHT</u> | Township Name <u>CORINNA</u> |
| Address <u>9214 Kilbuck Ave NW Annandale MN 55002</u> | | Telephone No. <u>(320) 274 5779</u> |

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|---|----------------------------|----------------------------------|---|-------------------------|----------------|--|
| Rain, Melted Snow, Etc. (Ins. & Hdths) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | cylinder | tipping bucket | |
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| | | | TOTALS | | | |



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

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|------|----|-------------------------------------|---------|--------|----------|-------|---------|---|
| 20 | 03 | <input checked="" type="checkbox"/> | am | 86 | 206 | 28 | 20 | 1 |
| Year | | Month | Ob Time | County | Township | Range | Section | |

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|--------------------|-----------------------|--------------------------|
| Name VI NOVOTNE | County Name WRIGHT | Township Name CORINNA |
|--------------------|-----------------------|--------------------------|

| | |
|--|---------------------------------|
| Address 9214 Kilbury Ave NW Annandale, MN 55002 | Telephone No. (320) 274 5179 |
|--|---------------------------------|

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|---|----------------------------|----------------------------------|---|-------------------------|-------------------------------------|----------------|--|
| Rain, Melted Snow, Etc. (Ins. & Hdths) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | cylinder | <input checked="" type="checkbox"/> | tipping bucket | |
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TOTALS



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

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| 7 | 0 | 0 | 4 | | | am | 8 | 6 | 2 | 0 | 6 | 2 | 8 | 2 | 0 | 1 |
| Year | | Month | | Ob Time | | | County | | Township | | Range | | Section | | | |

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|---|------------------------------|--|
| Name <u>VI NOVOTNE</u> | County Name <u>WRIGHT</u> | Township Name <u>CORINNA</u> |
| Address <u>9214 Kilbuck Ave NW Annandale, MN 55002</u> | | Telephone No. <u>(320) 274-5779</u> |

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|---|----------------------------|----------------------------------|---|-------------------------|----------------|--|
| Rain, Melted Snow, Etc. (Ins. & Hdths) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | cylinder | tipping bucket | |
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TOTALS



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

1005 ☒ am 86 206 28 201
Year Month Ob Time County Township Range Section

Name VI NOVOTNE County Name WRIGHT Township Name CORINNA
Address 9214 Kilbury Ave NW Annandale MN 55002 Telephone No. (320) 274 5179

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|---|----------------------------|----------------------------------|---|-------------------------|-------------------------------------|----------------|--|--|
| Rain, Melted Snow, Etc. (Ins. & Hds) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | cylinder | <input checked="" type="checkbox"/> | tipping bucket | | |
| | | | | test tube | | weighing | | |
| | | | | wedge | | Other | | |
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| | | | TOTALS | | | | | |



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

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| 1 | 0 | 0 | 6 | | am | 8 | 6 | 2 | 0 | 6 | 2 | 8 | 2 | 0 | 1 |
| Year | | | | Month | | Ob Time | | County | | Township | | Range | | Section | |

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|--|------------------------------|--|
| Name <u>VI NOVOTNE</u> | County Name <u>WRIGHT</u> | Township Name <u>CORINNA</u> |
| Address <u>9214 Kilbuck Ave NW Annandale MN 55302</u> | | Telephone No. <u>(320) 274-5779</u> |

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|--|-------------------------|----------------------------------|---|-------------------------|----------------|--|
| Rain, Melted Snow, Etc. (Ins. & Hds) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | cylinder | tipping bucket | |
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| TOTALS | | | | | | |

State Climatology Office, 439 Borlaug Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6028



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

70 007 1 am 86 206 28 20 1
Year Month Ob Time County Township Range Section

Name VI NOVOTNE County Name WRIGHT Township Name CORINNA
Address 9214 Kilbuck Ave NW Annandale MN 55002 Telephone No. (320) 274 5779

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|---|----------------------------|----------------------------------|---|-------------------------|----------------|-----------|----------|--|
| Rain, Melted Snow, Etc. (Ins. & Hdths) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | cylinder | tipping bucket | test tube | weighing | |
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| | | | TOTALS | | | | | |



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

1008 ☐ am ☒ pm 86 206 28 20 1
Year Month Ob Time County Township Range Section

Name VI NOVOTNE County Name WRIGHT Township Name CORINNA
Address 9214 Kilbuck Ave NW Annandale MN 55002 Telephone No. (320) 274 5779

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|---|----------------------------|----------------------------------|---|-------------------------|-------------------------------------|----------------|----------|--|
| Rain, Melted Snow, Etc. (Ins. & Hdths) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | cylinder | <input checked="" type="checkbox"/> | tipping bucket | weighing | |
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Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

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| 10 | 09 | | am | 86 | 206 | 28 | 20 | 1 |
| Year | Month | Ob Time | | County | Township | Range | Section | |

| Name VI NOGTNE | | | County Name WRIGHT | | | Township Name CORINNA | | |
|---|----------------------------|----------------------------------|---|-------------------------|----------------|--------------------------|--|--|
| Address 9214 Kilbury Ave NW Annandale MN 55002 | | | Telephone No. (320) 274 5779 | | | | | |
| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <u>yes</u> no | |
| Rain, Melted Snow, Etc. (Ins. & Hds) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | cylinder | tipping bucket | weighing | | |
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| TOTALS | | | | | | | | |

State Climatology Office, 439 Borlaug Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6028



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

Year: 10 Month: 10 Ob Time: 12 am/pm: 86 County: 206 Township: 28 Range: 20 Section: 1

Name: VI NOVOTNE County Name: WRIGHT Township Name: CORINNA
Address: 9214 Kilbuck Ave NW Annandale MN 55002 Telephone No: (320) 274 5779

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|---|----------------------------|----------------------------------|---|-------------------------|----------------|--|
| Rain, Melted Snow, Etc. (ins. & Hdths) | Snow (ins. & Tenths) | Snow On Ground (Inches) | | cylinder | tipping bucket | |
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| | | | TOTALS | | | |

State Climatology Office, 439 Borlaug Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6028



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

Year: 10, Month: 11, Ob Time: 12 am/pm, County: 86, Township: 206, Range: 28, Section: 20

Name: VI NAVOTNE, County Name: WRIGHT, Township Name: CORINNA, Address: 9214 Kilbury Ave NW Annandale MN 55002, Telephone No. (320) 274 5779

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|---|----------------------------|----------------------------------|---|-------------------------|----------------|--|
| Rain, Melted Snow, Etc. (Ins. & Hdths) | Snow (Ins. & Tenths) | Snow On Ground (Inches) | | cylinder | tipping bucket | |
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| | | | TOTALS | | | |



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

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|------|---|-------|---|---------|----|--------|---|----------|---|-------|---|---------|---|---|---|
| 1 | 0 | 1 | 2 | | am | 8 | 6 | 2 | 0 | 6 | 2 | 8 | 2 | 0 | 1 |
| Year | | Month | | Ob Time | | County | | Township | | Range | | Section | | | |

| | | |
|---|------------------------------|--|
| Name <u>VI NOVOTNE</u> | County Name <u>WRIGHT</u> | Township Name <u>CORINNA</u> |
| Address <u>9214 Kilbuck Ave NW Annandale, MN 55002</u> | | Telephone No. <u>(320) 274 5775</u> |

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|---|----------------------------|----------------------------------|---|-------------------------|----------------|-------|--|
| Rain, Melted Snow, Etc. (ins. & Hdths) | Snow (ins. & Tenths) | Snow On Ground (inches) | | cylinder | tipping bucket | Other | |
| | | | 01 | | | | |
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| .52 | 6.50 | 6.5 | 03 | | | | |
| 5.2 | 6.5 | 6.5 | 04 | | | | |
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| .58 | 7.0 | 9 | 11 | | | | |
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| .33 | 4 | 6 | 20 | | | | |
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| .50 | 2.0 | 6 | 31 | RAIN SNOW MIX | | | |
| TOTALS | | | | | | | |

State Climatology Office, 439 Borlaug Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6028

NA-02732-07



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

Year: 10 Month: 01 Ob Time: 3:00 am pm 74 121 29 26 1

| Name: <i>Paul Schiefelbein</i> | | | County Name: <i>Meeker</i> | | Township Name: <i>Kingston Twp.</i> | |
|--|---------------------------|----------------------------------|---|-------------------------|--|--|
| Address: <i>35359-732 Avenue Kumball, MN 55353</i> | | | Telephone No.: | | <i>(320) 398-8400</i> | |
| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
| Rain, Wind Snow, Etc. (Inch. & Hdt) | Snow (Inch. & Temp) | Snow On Ground (Inches) | | cylinder | <input checked="" type="checkbox"/> tipping bucket | |
| | | | | test tube | weighing | |
| | | | | wedge | Other | |
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| 48 | | | 23 | | | <i>Rain</i> |
| | | T | 24 | | | <i>Flurries</i> |
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| TOTALS | | | | | | |

State Climatology Office, 439 Borlaug Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6028

NA-02732-07



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

10 02 300 am 74 121 29 26 1
Year Month Day Time Hour Minute Range Section

Name *Gail Schiefelbein* County Name *Meeker* Township Name *Kingston Twp.*

Address *35359-73a Avenue, Kumball, MN 55353* Telephone No. *(320) 398-8400*

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | catch opening diameter/size (inches) | |
|---|---------------------------|----------------------------------|---|-------------------------|--|--|--------------------------------------|--|
| Rain, Melting Snow, Etc. (Inches & Holes) | Snow (Inches & Tenths) | Snow On Ground (Inches) | | cylinder | <input checked="" type="checkbox"/> tipping bucket | | maximum catch depth (inches) | board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
| | | 1.3 | 01 | | | | | |
| | | 1.1 | 02 | | | | | |
| | | | 03 | | | | | |
| | | 2.5 | 04 | | | | | |
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| | | 1.4 | 09 | | | | | |
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| | | | 13 | Flurries | | | | |
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| | | 11.58 | TOTALS | | | | | |

State Climatology Office, 439 Borlaug Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6028

Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

| | | | | | | | | |
|------|-------|----------|----|--------|----------|-------|---------|---|
| 10 | 03 | 300 | am | 74 | 121 | 29 | 26 | 1 |
| Year | Month | Obs Time | | County | Township | Range | Section | |

Name *Gail Schiefelbein*County Name
*Meeker*Township Name
*Kingston Twp.*Address
*35359-73a Avenue, Kumball, MN 55353*Telephone No.
(320) 398-8400

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/rule/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|---|-----------------------------|----------------------------------|---|-------------------------|--|----------|---|
| Rain, Melted Snow, Etc. (Inches, & Meters) | Snow (Inches, & Feet) | Snow On Ground (Inches) | | cylinder | <input checked="" type="checkbox"/> tipping bucket | weighing | |
| | | | 01 | | | | |
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| <i>.96</i> | | | 11 | | | | |
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| <i>1.30</i> | | | 31 | | | | |
| TOTALS | | | | | | | |

NA-02732-07



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

| | | | | | | | | |
|------|-------|---------|----|--------|----------|-------|---------|---|
| 10 | 04 | 300 | am | 74 | 121 | 29 | 26 | 1 |
| Year | Month | Ob Time | | County | Township | Range | Section | |

| | | |
|--|------------------------------|--|
| Name <i>Gail Schiefelbein</i> | County Name <i>Meeker</i> | Township Name <i>Kingston Twp.</i> |
| Address <i>35359-73a Avenue Kumball, MN 55353</i> | | Telephone No. <i>(320) 398-8400</i> |

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | | catch opening diameter (inches) | |
|--|--------------------------|----------------------------------|---|-------------------------|--|-----------|----------|---------------------------------|------------------------------|
| Rain, Melting Snow, Etc. (Inch. & HOURS) | Snow (Inch. & Timing) | Snow On Ground (Inches) | | cylinder | <input checked="" type="checkbox"/> tipping bucket | test tube | weighing | Other | maximum catch depth (inches) |
| | | | 01 | | | | | | |
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| | | | TOTALS | | | | | | |

State Climatology Office, 430 Bortoug Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6028

NA-02792-07



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

10 05 300 am 74 121 29 26 1
Year Month Day Time County Township Range Section

| Name <i>Gail Schiefelbein</i> | | | County Name <i>Meeker</i> | | | Township Name <i>Kingston Twp.</i> | | |
|---|--------------------------|----------------------------------|---|-------------------------|--|-------------------------------------|--|----------|
| Address <i>35359-732 Avenue Kumball, MN 55353</i> | | | | | | Telephone No. <i>(820) 398-8400</i> | | |
| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | catch opening diameter/size (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no | |
| Rain, Melting Snow, Etc. (Inch. & Hddths) | Snow (Inch. & Tenths) | Snow On Ground (Inches) | | cylinder | <input checked="" type="checkbox"/> tipping bucket | test tube | | weighing |
| | | | 01 | | | | | |
| | | | 02 | | | | | |
| .26 | | | 03 | | | | | |
| .05 | | | 04 | | | | | |
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| .33 | | | 07 | | | | | |
| .07 | | | 08 | | | | | |
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| .10 | | | 10 | | | | | |
| .88 | | | 11 | | | | | |
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| 3.39 | | | TOTALS | | | | | |

State Climatology Office, 439 Borlaug Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6028



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

Year: 10 Month: 06 Day: 30 Time: 3:00 am
County: 74 Township: 121 Range: 29 Section: 26 1

Name: Gail Schiefelbein

County Name: Meeker

Township Name: Kingston Twp.

Address: 35359-73a Avenue, Kumball, MN 55353

Telephone No.: (320) 398-8400

| 24-HOUR AMOUNTS | | | REMARKS: Give time and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | | catch opening diameter (inches) | |
|--|-----------------------|-------------------------|--|-------------------------|--|-----------|----------|---------------------------------|--------|
| Rain, melted snow, etc. (inches & below) | Snow (inches & below) | Snow On Ground (inches) | | cylinder | <input checked="" type="checkbox"/> tipping bucket | test tube | weighing | board/rod/pole used for snow | yes no |
| | | | 01 | | | | | | |
| .15 | | | 02 | | | | | | |
| | | | 03 | | | | | | |
| .42 | | | 04 | | | | | | |
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| .69 | | | 08 | | | | | | |
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| .99 | | | 11 | | | | | | |
| .38 | | | 12 | | | | | | |
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| 1.12 | | | 17 | | | | | | |
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| .63 | | | 23 | | | | | | |
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| 5.97 | | | TOTALS | | | | | | |

State Climatology Office, 439 Borlaug Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6028

MINNESOTA CLIMATOLOGICAL NETWORK



Minnesota Department of Natural Resources
Division of Forestry

| | | | | | | | |
|------|-------|-----|---------|--------|----------|-------|---------|
| Year | Month | Day | Time | County | Township | Range | Section |
| 10 | 02 | 07 | 3:00 pm | 74 | 121 | 29 | 26 1 |

| | | |
|-----------------------------------|-------------|----------------|
| Name | County Name | Township Name |
| Gail Schiefelbein | Meeker | Kingston Twp. |
| Address | | Telephone No. |
| 35359-73a Avenue Kumban, MN 55353 | | (320) 398-8400 |

| 24-HOUR AMOUNTS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | | catch opening diameter (inches) | maximum catch depth (inches) | board/ruler/post used for snow |
|---|-----------------------------|----------------------------------|---|-------------------------|----------------|----------|---------------------------------|------------------------------|--------------------------------|
| Rain, Melted Snow, Firn. (ins. & Millin) | Snow (ins. & Tending) | Snow On Ground (inches) | | cylinder | gipping bucket | weighing | | | |
| | | | 01 | | | | | | |
| | | | 02 | | | | | | |
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| .022 | | | 14 | | | | | | |
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| 3.16 | | | TOTALS | | | | | | |

State Climatology Office, 430 Bortan Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6028



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

1 0 0 8 3 00 am 7 4 1 2 1 2 9 2 6 1

Year Month Day Time County Township Range Section

Station

Gail Schiefelbein

County Name

Meeker

Township Name

Kingston Twp.

Address

35359-73a Avenue Kumban., MN 55353

Telephone No.

(320) 398-8200

| 24-HOUR READINGS | | | REMARKS: Give times and comments about events. (Temperature and Phenology items are very useful). | Gauge type (Check One): | | catch opening diameter (inches) _____ maximum catch depth (inches) _____ board/ruler/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|--|-----------------------|----------------------------------|---|-------------------------|-----------------|---|
| Frost, Melted Snow, Etc. (hrs. & Mins) | Snow (hrs. & Mins) | Snow On Ground (inches) | | cylinder | weighing bucket | |
| .11 | | | 01 | | | |
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| 5.43 | | | TOTALS | | | |

State Climatology Office, 430 Borlaug Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6028

MINNESOTA CLIMATOLOGICAL NETWORK



Minnesota Department of Natural Resources
Division of Forestry

| | | | | | | | |
|------|-------|---------|--------|----------|-------|---------|---|
| 10 | 09 | 300 | 74 | 121 | 29 | 26 | 1 |
| Year | Month | On Time | County | Township | Range | Section | |

County Name

Meeker

Township Name

Kingston Twp.

Telephone No.

(202) 1398-8400

Address

35359-73a Avenue, Kumball, MN 55353

| 24-HOUR RECORDS | | | REMARKS: Give dates and comments about events. (Temperature and Phenology Remarks are very useful). | Gauge type (Check One) | | catch opening diameter (inches) | |
|---|----------------------------|----------------------------------|---|------------------------|----------------|---------------------------------|-------------------------------|
| State, Federal Snow, Etc. (Inch. & Height) | Snow (Inch. & Temp.) | Snow On Ground (Inches) | | Cylinder | Gauging bucket | maximum water depth (inches) | boarded up post used for snow |
| | | | 01 | | | | |
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| .76 | | | 16 | | | | |
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| TOTALS | | | | | | | |

State Climatology Office, 439 Borlaug Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55106-3028

MINNESOTA CLIMATOLOGICAL NETWORK



Minnesota Department of Natural Resources
Division of Forestry

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|------|-------|-----|------|--------|----------|-------|---------|
| 10 | 10 | 300 | 74 | 121 | 29 | 26 | 1 |
| Year | Month | Day | Time | County | Township | Range | Section |

and

Coil Schiefelbein

County Name

Meeker

Township Name

Kingston Twp.

Telephone No.

1320 1378-8400

Address

35359-73a Avenue Kumban., MN 55353

| 24-HOUR RECORDS | | | REMARKS: Give time and comments about events. (Temperature and Phenology data are very useful). | Gauge type (Check one) | | | catch opening diameter (inches) maximum catch depth (inches) board/rope used for snow <u>Yes</u> <u>No</u> |
|--|----------------------------|----------------------------------|---|------------------------|---------------|-------|--|
| Fall, Wind Snow, etc. (In- c. Hail) | Snow (In. & Tallies) | Snow On Ground (Inches) | | Cylinder | Spring bucket | Other | |
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| .83 | | | 24 | | | | |
| .10 | | | 25 | | | | |
| 1.45 | | | 26 | | | | |
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| | | | 30 | | | | |
| | | | 31 | | | | |
| 2.89 | | | TOTALS | | | | |

State Climatology Office, 420 Bortong Hall, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-2026

MINNESOTA CLIMATOLOGICAL NETWORK



Minnesota Department of Natural Resources
Division of Forestry

| | | | | | | | |
|------|-------|---------|--------|----------|-------|---------|---|
| 10 | 11 | 300 | 74 | 121 | 29 | 26 | 1 |
| Year | Month | Ch Date | County | Township | Range | Section | |

Carl Schiefelher

Country Notes

স্বদেশী

Township Name

Kingsport Tenn

Talmon & Co.

१३३३ १३३३-१३३३

25559-73A AVENUE, Kumbakonam, Mal 55353

[illegible]



Minnesota Department of Natural Resources
Division of Forestry

MINNESOTA CLIMATOLOGICAL NETWORK

Year: 10 Month: 12 Ob Time: 3:00 am County: 74 Township: 121 Range: 29 Section: 26 1

Name: Gail Schiefelbein

County Name: Meeker

Township Name: Kingston Twp.

Address: 35359-73a Avenue Kumban., MN 55353

Telephone No.: (320) 398-8400

| 24-HOUR AREADITS | | | REMARKS: Give times and comments about events. (Temperature and Phenology Remarks are very useful). | Gauge type (Check One): | | | | catch opening diameter (inches) | maximum catch depth (inches) | board/rope/post used for snow <input checked="" type="checkbox"/> yes <input type="checkbox"/> no |
|--|--------------------------|----------------------------------|---|-------------------------|--|-----------|----------|---------------------------------|------------------------------|---|
| Rain, Mixed Snow, Etc. (hrs. & Hdlms) | Snow (in. & Fmder) | Snow On Ground (inches) | | cylinder | <input checked="" type="checkbox"/> tipping bucket | fast tube | weighing | | | |
| | | | 01 | | | | | | | |
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| | | | 08 | | | | | | | |
| | | | 09 | Flurries | | | | | | |
| | | | 10 | | | | | | | |
| | | 7.7 | 11 | Snow | | | | | | |
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| | | | 19 | | | | | | | |
| | | 2.76 | 20 | Snow | | | | | | |
| | | .35 | 21 | Snow | | | | | | |
| | | | 22 | | | | | | | |
| | | | 23 | | | | | | | |
| | | 6.03 | 24 | Snow | | | | | | |
| | | | 25 | | | | | | | |
| | | .02 | 26 | Flurries | | | | | | |
| | | | 27 | | | | | | | |
| | | | 28 | | | | | | | |
| | | | 29 | | | | | | | |
| .72 | | | 30 | Rain | | | | | | |
| | | | 31 | | | | | | | |
| .72 | | 19.68 | TOTALS | | | | | | | |

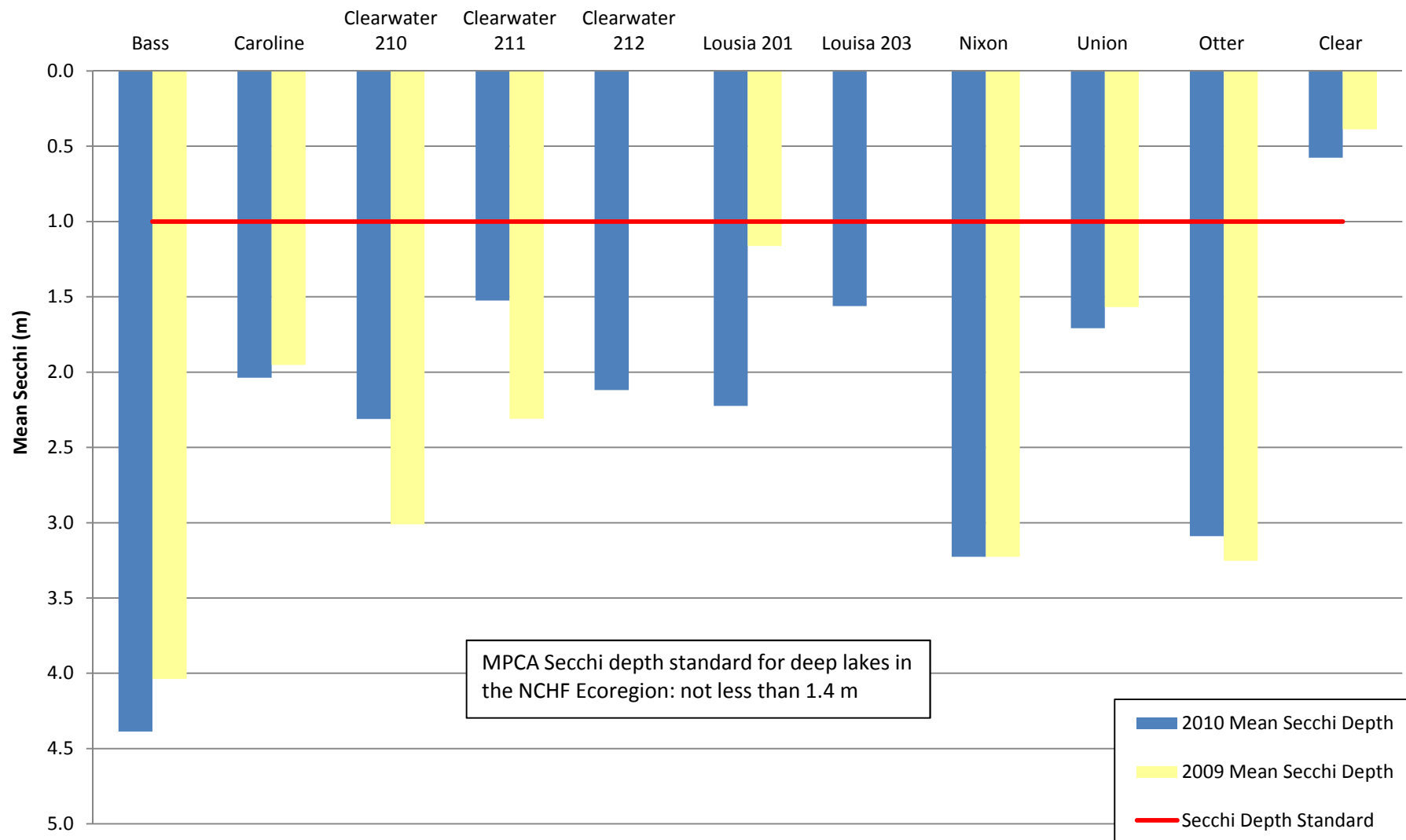
Appendix E

Secchi Data from Citizen's Lake Monitoring Program

Appendix E

Secchi Data from Citizen's Lake Monitoring Program

Clearwater River Watershed District 2010 Annual Report



Appendix F

2010 Water Quality Laboratory Reports and Data



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| | | | | |
|------------------------------------|------------------------------------|---|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-115 | <u>Project Name</u> P06-1 Lakes | <u>Sample Location</u> LAL Top Albion | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 8:50 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/1/2010 | 0.484 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/17/2010 1150 | 0.0175 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1 µg/L) | 7/2/2010 | 8 µg/L | | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

The test results are only indicative of the sample tested from the sample point on the date collected.
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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

WB 8/23/10



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-116 | <u>Project Name</u> P06-1 Lakes | <u>Sample Location</u> LAL/Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|------------------------------------|--------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 8:52 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 0.182 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1303 | 0.0101 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 6/29/2010 | 1731 | 150 µg/L | C |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

WB
8/23/10

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10G-054 | <u>Project Name</u> 435 | <u>Sample Location</u> Alb Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 7:40 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/20/2010 | | 0.228 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1653 | 0.0287 mg/L | EM B |
| Chlorophyll A | | 7/21/2010 | | 176 µg/L | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10G-055 | <u>Project Name</u> 435 | <u>Sample Location</u> Alb Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 7:40 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/20/2010 | | 0.274 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1653 | 0.036 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 7/26/2010 | 1432 | 87.0 µg/L | | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T Iron Tested by MN Lab # 027-053-137

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-091 | <u>Project Name</u> 435 | <u>Sample Location</u> Alb Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 8:53 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.307mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 0832 | | 0.0226 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | | 443 µg/L | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-092 | <u>Project Name</u> 435 | <u>Sample Location</u> Alb Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 8:53 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.307 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 | 0832 | 0.0246 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1454 | 72.7 µg/L | | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

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Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W101-116 | <u>Project Name</u> 435 | <u>Sample Location</u> Albion Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|--------------------------------------|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 8:59 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | 0.149 0.015 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 1003 | 0.021 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | 88 µg/L | * | C |

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
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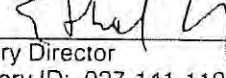
| <u>Lab File Number</u> W10I-117 | <u>Project Name</u> 435 | <u>Sample Location</u> Albion Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|---|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 8:59 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.156 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 | 1003 | 0.019 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1200 | 83.6 µg/L | ** C |

Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

11-0
12/8/10



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| | | | |
|------------------------------------|---------------------------------|-----------------------------------|------------------------------------|
| <u>Lab File Number</u> W10F-109 | <u>Project Name</u> 205 | <u>Sample Location</u> LAu Top | <u>Sampled By</u> Dennis Loewen |
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 11:09 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM |
| | | <u>Temp</u> 7 | |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | 0.042 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/17/2010 1150 | 0.0114 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 7/2/2010 | 3 µg/L | | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-110 | <u>Project Name</u> 205 | <u>Sample Location</u> LAu Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|---------------------------------|--------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 11:15 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/1/2010 | | 0.469 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1150 | 0.418 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 6/29/2010 | 1717 | ND µg/L | | C |

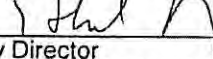
Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10G-060 | <u>Project Name</u> 435 | <u>Sample Location</u> Aug Top | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 10:22 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/22/2010 | | 0.079 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1653 | 0.0189 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 7/21/2010 | | 66 µg/L | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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12/8/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
P.O. Box 481, Annandale, MN 55302

[Handwritten signature]
Dennis Loewen

| <u>Lab File Number</u> W10G-061 | <u>Project Name</u> 435 | <u>Sample Location</u> Aug Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|---------------------------------|--------------------------------------|------------------------------------|------------------|--------------------------------|--------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 10:22 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/22/2010 | | 0.105 mg/L | <i>[Handwritten signature]</i> | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1653 | 0.443 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 7/26/2010 | 1446 | 128 µg/L | | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T Iron Tested by MN Lab # 027-053-137

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Report Submitted By: *[Handwritten signature]*
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-097 | <u>Project Name</u> 205 | <u>Sample Location</u> Aug Top | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|-----------------------------------|------------------------------------|------------------|---|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 11:05 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | <u>Lid</u> switched <u>Bottom</u> sample |
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 8/23/2010 | | 0.517 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 8/19/2010 | 0832 | 0.020mg/L* | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 9/7/2010 | | 15 µg/L | | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

* *Run again on 9/16/10 (pass holding time) to verify data.

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027 141-110

NCO
12/8/10

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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-098 | <u>Project Name</u> 205 | <u>Sample Location</u> Aug Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|---------------------------------|--------------------------------------|------------------------------------|------------------------------------|----|--------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 11:13 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <i>Lid Switched w/ Surface</i> | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | <u>0.029 mg/L</u> | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 | 0832 | 0.481 mg/L * | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1510 | ND µg/L | | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

**Run again on 9/16/10 (pass holding time) to verify data.

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Report Submitted By: *Ethel Margaria*
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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PO Box 388
Elk River, MN 55330
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Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

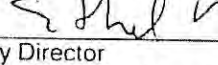
| <u>Lab File Number</u> W101-124 | <u>Project Name</u> 205 | <u>Sample Location</u> Augusta Top | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|---------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 11:20 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/30/2010 | | 0.042 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 1003 | | < 0.01 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | | 18 µg/L | * C |

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W101-125 | <u>Project Name</u> 205 | <u>Sample Location</u> Augusta Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 11:20 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/30/2010 | | 0.573 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 | 1003 | 0.538 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1156 | 64.4 µg/L | ** C |

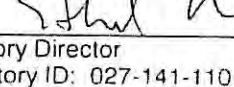
Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | | |
|--|--------------------------------|-----------------------------------|------------------------------------|------------------|---------------|
| <u>Lab File Number</u> W10F-129 | <u>Project Name</u> 205 | <u>Sample Location</u> LBe Top | <u>Sampled By</u> Dennis Loewen | | |
| <u>Date Sampled</u> 6/20/2010 | <u>Time Sampled</u> 1:50 PM | <u>Date Received</u> 6/21/2010 | <u>Time Received</u> 8:30 AM | <u>Temp</u> 4 | |
| <u>PARAMETER (METHOD, REPORTING LIMIT)</u> | | <u>DATE & TIME ANALYZED</u> | <u>RESULTS</u> | <u>BY</u> | <u>BOTTLE</u> |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | 0.163 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/22/2010 1031 | 0.020 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 7/2/2010 | 38 µg/L | | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W10F-130 | <u>Project Name</u> 205 | <u>Sample Location</u> LBe Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|--------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/20/2010 | <u>Time Sampled</u> 1:55 PM | <u>Date Received</u> 6/21/2010 | <u>Time Received</u> 8:30 AM | <u>Temp</u> 4 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 0.924 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/22/2010 | 1031 | 0.607 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 6/29/2010 | | 811 µg/L | C |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

AD
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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

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P.O Box 481, Annandale, MN 55302

| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-162 | 205 | BetsyTop | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 8:23 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|-----------------------|-------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.158 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010 0901</u> | <u>0.101 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Chlorophyll A (SM 10200 H, 1µg/L)</u> | <u>8/11/2010</u> | <u>27 µg/L</u> | <u>*</u> | <u>C</u> |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

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P.O Box 481, Annandale, MN 55302

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10G-163 | 205 | Betsy Bottom | Dennis Loewen |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 8:23 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|-----------------------|------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/27/2010</u> | <u>1.80 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010 0901</u> | <u>1.49 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Total Iron (EPA 200.7, 50 µg/L)</u> | <u>8/2/2010 1641</u> | <u>875 µg/L</u> | <u>**</u> | <u>C</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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Ethel Margaria, Laboratory Director
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**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-162 | 205 | BelsyTop | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 8:23 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/29/2010 | 0.158 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/22/2010 0901 | 0.101 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 8/11/2010 | 27 µg/L | * | C |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

~~Lab File~~ (copy)
NCO
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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| | | | |
|------------------------------------|--------------------------------|--|------------------------------------|
| <u>Lab File Number</u> W10G-163 | <u>Project Name</u> 205 | <u>Sample Location</u> Belsy Bottom | <u>Sampled By</u> Dennis Loewen |
| <u>Date Sampled</u> 7/21/2010 | <u>Time Sampled</u> 8:23 AM | <u>Date Received</u> 7/21/2010 | <u>Time Received</u> 2:15 PM |
| | | | <u>Temp</u> 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/27/2010</u> | <u>1.80 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>1.49 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Total Iron (EPA 200.7, 50 µg/L)</u> | <u>8/2/2010</u> <u>1641</u> | <u>875 µg/L</u> | <u>**</u> | <u>C</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

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~~Back~~
NCO
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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-133 | <u>Project Name</u> 205 | <u>Sample Location</u> Betsy Top | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 8:16 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | | 0.214mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 | 1059 | 0.179 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | | 41 µg/L | | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Phone: (763) 441-7509
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Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-134 | <u>Project Name</u> 205 | <u>Sample Location</u> Betsy Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 8:16 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | | 3.0 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 | 1059 | 2.73 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1525 | 464 µg/L | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



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Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-150 | <u>Project Name</u> 205 | <u>Sample Location</u> Betsy Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 8:56 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/4/2010 | 0.190 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 1031 | 0.146 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | 20 µg/L | * | C |

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-151 | <u>Project Name</u> 205 | <u>Sample Location</u> Betsy Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 8:56 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/4/2010 | | 0.194 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 | 0958 | 0.148 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1214 | 223 µg/L | ** C |

Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

NLO
12/8/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| | | | | |
|------------------------------------|----------------------------------|--|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-161 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> LCa Top <i>Caroline</i> | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> 12:50 PM | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:00 PM | <u>Temp</u> 8 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | 0.028 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/24/2010 1131 | < 0.01 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 7/21/2010 | 7 µg/L | | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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333 East Main Street
PO Box 388
Elk River, MN 55330
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-162 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> LCa Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|----------------------------------|--------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> 12:55 PM | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:00 PM | <u>Temp</u> 8 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 1.60 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/24/2010 | 1131 | 1.38 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 6/29/2010 | 1821 | 144 µg/L | C |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

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CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-168 | 205 | Caroline Top | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:46 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|--------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/27/2010</u> | <u>0.055 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.0172 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Chlorophyll A (SM 10200 H, 1 µg/L)</u> | <u>8/11/2010</u> | <u>14 µg/L</u> | <u>*</u> | <u>C</u> |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD 8/25/10

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Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
P.O. Box 481, Annandale, MN 55302

| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-169 | 205 | Caroline Bottom | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:46 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/27/2010</u> | <u>1.51 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>1.35 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Total Iron (EPA 200.7, 50 µg/L)</u> | <u>8/2/2010</u> <u>1655</u> | <u>93.0 µg/L</u> | <u>**</u> | <u>C</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-168 | 205 | Caroline Top | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:46 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|-----------------------|--------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/27/2010</u> | <u>0.055 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> 0901 | <u>0.0172 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Chlorophyll A (SM 10200 H, 1µg/L)</u> | <u>8/11/2010</u> | <u>14 µg/L</u> | <u>*</u> | <u>C</u> |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

copy
Neo
12/4/10

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Report Submitted By: S. H. Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-169 | 205 | Caroline Bottom | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:46 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-----------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/27/2010 | 1.51 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/22/2010 0901 | 1.35 mg/L | EM | B |
| Total Iron (EPA 200.7, 50 µg/L) | 8/2/2010 1655 | 93.0 µg/L | ** | C |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

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NCO
12/8/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

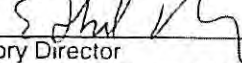
| <u>Lab File Number</u> W10H-143 | <u>Project Name</u> 205 | <u>Sample Location</u> Caroline Top | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 11:16 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | | 0.061 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 1059 | | < 0.01 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | | 89 µg/L | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-144 | <u>Project Name</u> 205 | <u>Sample Location</u> Caroline Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|---|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 11:16 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | | 1.47 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 | 1059 | 1.39 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1558 | 105 µg/L | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W101-158 | <u>Project Name</u> 205 | <u>Sample Location</u> Caroline Top | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 11:27 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/4/2010 | | 0.129mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 | 1031 | 0.034 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | | 48 µg/L | * C |

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W10I-159 | <u>Project Name</u> 205 | <u>Sample Location</u> Caroline Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|---|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 11:27 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/7/2010 | | 2.00 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 | 1031 | 1.88 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/9/2010 | 0038 | 223 µg/L | ** C |

Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

NCO
12/8/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
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Phone: (763) 441-7509
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-111 | <u>Project Name</u> P06-1 Lakes | <u>Sample Location</u> LCE Top <i>Cedar</i> | <u>Sampled By</u> Dennis Loewen | | |
|--|------------------------------------|---|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 7:10 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 0.040 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 1303 | | < 0.01 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1 µg/L) | | 7/2/2010 | | 10 µg/L | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

*AD
8/25/10*

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Minnesota State Laboratory ID: 027-141-110



**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W10F-112 | <u>Project Name</u> P06-1 Lakes | <u>Sample Location</u> LCE Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|------------------------------------|--------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 7:20 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 0.144 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1150 | 0.0935 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 6/29/2010 | 1722 | ND µg/L | C |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

AD
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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10G-050 | <u>Project Name</u> 435 | <u>Sample Location</u> Cedar Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 6:15 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/20/2010 | | 0.024 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1653 | 0.024 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 7/21/2010 | | 3 µg/L | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

NCO
12/6/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10G-051 | <u>Project Name</u> 435 | <u>Sample Location</u> Cedar Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 6:15 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/20/2010 | | 0.173 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1653 | 0.160 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 7/26/2010 | 1423 | ND µg/L | | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

NLO
12/8/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141 110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-087 | <u>Project Name</u> 435 | <u>Sample Location</u> Cedar Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 7:14 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.017 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 0832 | | 0.018 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | | 11 µg/L | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

NCO
12/8/10

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Minnesota State Laboratory ID: 027-141-110

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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-088 | <u>Project Name</u> 435 | <u>Sample Location</u> Cedar Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 7:24 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.072 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 | 0832 | 0.215 mg/L* | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1437 | ND µg/L | | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

*Run again on 9/16/10 (pass holding time) to verify data.

NCO
12/16/10

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Ethel Margaria, Laboratory Director
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Elk River, MN 55330
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Fax: (763) 441-9176
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

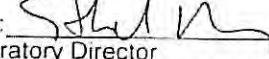
P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-110 | <u>Project Name</u> 435 | <u>Sample Location</u> Cedar Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 7:30 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.024 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 | 1003 | < 0.01 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1 µg/L) | | 10/7/2010 | | 10 µg/L | * C |

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-111 | <u>Project Name</u> 435 | <u>Sample Location</u> Cedar Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 7:30 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.280 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 | 1003 | 0.264 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1124 | ND µg/L | ** C |

NCO
12/6/10

Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | | | |
|--|---------------------|------------------------|----------------------|----------------------|-------------|--------|
| W10F-127 | 205 | LCL Top | Dennis Loewen | | | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <i>Clear</i> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> | |
| 6/20/2010 | 12:46 PM | | 6/21/2010 | 8:30 AM | 4 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 0.230 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/22/2010 1031 | | 0.014 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 7/2/2010 | | 173 µg/L | | C |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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Report Submitted By: *Ethel Margaria*
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-128 | <u>Project Name</u> 205 | <u>Sample Location</u> LCL Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|---------------------------------|--------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/20/2010 | <u>Time Sampled</u> 12:51 PM | <u>Date Received</u> 6/21/2010 | <u>Time Received</u> 8:30 AM | <u>Temp</u> 4 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 0.175 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/22/2010 | 1031 | 0.271 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 6/29/2010 | | 140 µg/L | | C |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron tested by MN Lab # 027-053-137

AD
8/25/10

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Report Submitted By: EM
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-160 | 205 | Clear Top | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 9:48 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|-----------------------|--------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.148 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010 0901</u> | <u>0.0268 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Chlorophyll A (SM 10200 H, 1µg/L)</u> | <u>8/11/2010</u> | <u>103 µg/L</u> | <u>*</u> | <u>C</u> |

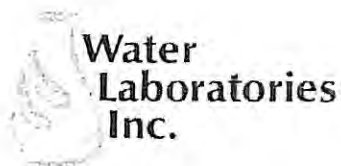
Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-161 | 205 | Clear Bottom | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 9:48 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|-------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.287 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.138 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Total Iron (EPA 200.7, 50 µg/L)</u> | <u>8/2/2010</u> <u>1636</u> | <u>195 µg/L</u> | <u>**</u> | <u>C</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10G-160 | 205 | Clear Top | Dennis Loewen |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 9:48 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|--------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.148 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.0268 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Chlorophyll A (SM 10200 H, 1µg/L)</u> | <u>8/11/2010</u> | <u>103 µg/L</u> | <u>*</u> | <u>C</u> |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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NCO
12/8/10

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CRWD (Wenck Associates, Inc.)
P.O Box 481, Annandale, MN 55302

| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-161 | 205 | Clear Bottom | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 9:48 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/29/2010 | 0.287 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/22/2010 0901 | 0.138 mg/L | EM | B |
| Total Iron (EPA 200.7, 50 µg/L) | 8/2/2010 1636 | 195 µg/L | ** | C |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

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NLO
12/8/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
P.O. Box 481, Annandale, MN 55302

Clear Lake

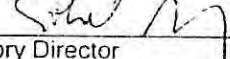
| <u>Lab File Number</u> W10H-131 | <u>Project Name</u> 205 | <u>Sample Location</u> Clearwater Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|--|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 9:13 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | 0.193 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 1059 | 0.107 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | 137 µg/L | | C |

✓ GO
12/8/10

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
P.O Box 481, Annandale, MN 55302

Clear Lake

| <u>Lab File Number</u> W10H-132 | <u>Project Name</u> 205 | <u>Sample Location</u> Clearwater Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|---|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 9:13 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | | 0.197 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 | 1059 | 0.159 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1520 | 95.8 µg/L | C |

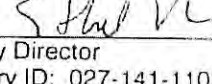
NLO
12/8/10

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W101-152 | <u>Project Name</u> 205 | <u>Sample Location</u> Clear Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 9:49 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/4/2010 | | 0.272 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 | 1031 | 0.045 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | | 200 µg/L | * C |

NLO
12/6/10

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-153 | <u>Project Name</u> 205 | <u>Sample Location</u> Clear Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 9:49 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/4/2010 | | 0.292 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 | 1031 | 0.045 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1219 | 308 µg/L | ** C |

NCO
12/8/10

Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------------------|---------------------------------|--|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-107 | <u>Project Name</u> 205 | <u>Sample Location</u> LCLW Top <i>Clearwater West</i> | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 10:32 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | 0.039 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/17/2010 1150 | 0.0244 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 7/2/2010 | 99 µg/L | | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| <u>Lab File Number</u> W10F-108 | <u>Project Name</u> 205 | <u>Sample Location</u> LCLW Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|---------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 10:37 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 0.144 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1150 | 0.0950 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 6/29/2010 | 1712 | 57.7 µg/L | C |

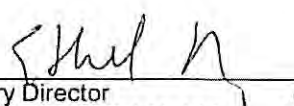
Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| | | | | |
|------------------------------------|---------------------------------|-----------------------------------|------------------------------------|------------------|
| <u>Lab File Number</u> W10G-062 | <u>Project Name</u> 435 | <u>Sample Location</u> CLW Top | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 10:00 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 |

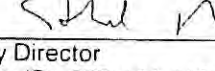
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/22/2010 | 0.027mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/7/2010 1601 | 0.0123 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 7/21/2010 | 10 µg/L | | C |

NCO
12/8/10

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| <u>Lab File Number</u> W10G-063 | <u>Project Name</u> 435 | <u>Sample Location</u> CLW Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|---------------------------------|--------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 10:00 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/22/2010 | | 0.070mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/10 | 1653 | 0.0499 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 7/26/2010 | 1451 | ND µg/L | | C |

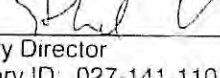
NCO
12/8/10

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141 110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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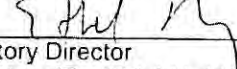
| <u>Lab File Number</u> W10H-095 | <u>Project Name</u> 205 | <u>Sample Location</u> Clearwater Top | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 10:39 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.021mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 | 0832 | 0.0204 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | | 8 µg/L | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

NCO
12/26/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| <u>Lab File Number</u> W10H-096 | <u>Project Name</u> 205 | <u>Sample Location</u> Clearwater Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|---|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 10:46 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.232 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 | 0832 | 0.105 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1504 | 255 µg/L | C |

NCO
12/8/10

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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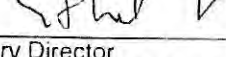
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | | | |
|--|---------------------|---------------------------------|----------------------|-------------|---------------|--|
| W101-122 | 205 | Clearwater West Top | Dennis Loewen | | | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> | | |
| 9/21/2010 | 10:56 AM | 9/21/2010 | 1:25 PM | 6 | | |
| <u>PARAMETER (METHOD, REPORTING LIMIT)</u> | | <u>DATE & TIME ANALYZED</u> | <u>RESULTS</u> | <u>BY</u> | <u>BOTTLE</u> | |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/30/2010 | 0.032 mg/L | * | A | |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 1003 | < 0.01 mg/L | EM | B | |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | 20 µg/L | * | C | |

NCO
12/8/10

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| <u>Lab File Number</u> W10I-123 | <u>Project Name</u> 205 | <u>Sample Location</u> Clearwater West Botto | <u>Sampled By</u> Dennis Loewen | | | |
|--|---------------------------------|---|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 10:56 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/30/2010 | | 0.039 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 | 1003 | 0.031 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1151 | 82.1 µg/L | ** | C |

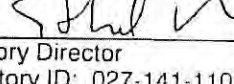
NCO
12/8/10

Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-113 | <u>Project Name</u> P06-1 Lakes | <u>Sample Location</u> LHe Top <i>Henshaw</i> | <u>Sampled By</u> Dennis Loewen | | |
|--|------------------------------------|---|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 8:10 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 0.096 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 1150 | | 0.0187 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 7/2/2010 | | 59 µg/L | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-114 | <u>Project Name</u> P06-1 Lakes | <u>Sample Location</u> LHe Botton | <u>Sampled By</u> Dennis Loewen | | |
|--|------------------------------------|--------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 8:12 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 0.096 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1150 | 0.0176 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 6/29/2010 | 1726 | 69.9 µg/L | C |

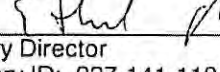
Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

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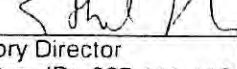
| <u>Lab File Number</u> W10G-052 | <u>Project Name</u> 435 | <u>Sample Location</u> Hen top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-----------------------------------|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 7:10 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/20/2010 | 0.074 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 1653 | 0.022 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 7/21/2010 | 58 µg/L | | C |

NCO
12/8/10

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W10G-053 | <u>Project Name</u> 435 | <u>Sample Location</u> Hen Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 7:10 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/20/2010 | | 0.107 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1653 | 0.0270 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 7/26/2010 | 1428 | 157 µg/L | | C |

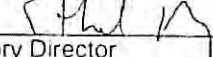
NCO
12/8/10

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T Iron Tested by MN Lab # 027-053-137

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-089 | <u>Project Name</u> 435 | <u>Sample Location</u> Hen Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 8:09 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.141mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 0832 | | 0.0235 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | | 124 µg/L | C |

NCO
12/8/10

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-090 | <u>Project Name</u> 435 | <u>Sample Location</u> Hen Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 8:09 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.132 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 | 0832 | 0.0197 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1442 | 183 µg/L | | C |

NCO
12/8/10

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-114 | <u>Project Name</u> 435 | <u>Sample Location</u> Henshaw Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|---------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 8:20 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.109 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 1003 | | 0.022 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | | 214 µg/L | * C |

NC-D
12/8/10

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Ethel Margaria, Laboratory Director
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PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-115 | <u>Project Name</u> 435 | <u>Sample Location</u> Henshaw Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 8:20 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.106 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 | 1003 | 0.021 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1133 | 130 µg/L | EM C |

NCO
12/8/10

Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



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Elk River, MN 55330
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------------------|----------------------------------|---|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-157 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> LLO Top Louisa | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> 12:01 AM | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:00 PM | <u>Temp</u> 8 |

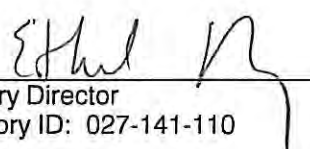
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | 0.078 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/24/2010 1131 | 0.031 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 7/21/2010 | 41 µg/L | | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/23/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| | | | | |
|------------------------------------|----------------------------------|--------------------------------------|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-158 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> LLo Bottom | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> 12:06 PM | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:00 PM | <u>Temp</u> 8 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | 1.17 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/24/2010 1131 | 0.909 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | 6/29/2010 1811 | ND µg/L | | C |

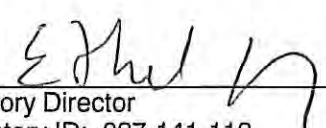
Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-164 | 205 | Louisa Top | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:04 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|--------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/27/2010</u> | <u>0.074 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.0182 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Chlorophyll A (SM 10200 H, 1 µg/L)</u> | <u>8/11/2010</u> | <u>30 µg/L</u> | <u>*</u> | <u>C</u> |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-165 | 205 | Louisa Bottom | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:04 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-----------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/27/2010 | 1.29 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/22/2010 0901 | 1.19 mg/L | EM | B |
| Total Iron (EPA 200.7, 50 µg/L) | 8/2/2010 1646 | 155 µg/L | ** | C |

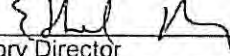
Notes:

* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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Minnesota State Laboratory ID: 027-141-110

**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

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CRWD (Wenck Associates, Inc.)

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| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10G-164 | 205 | Louisa Top | Dennis Loewen |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:04 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/27/2010 | 0.074 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/22/2010 0901 | 0.0182 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 8/11/2010 | 30 µg/L | * | C |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

copy
Neo
12/8/10

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Minnesota State Laboratory ID: 027-141-110

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-165 | 205 | Louisa Bottom | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:04 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/27/2010</u> | <u>1.29 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>1.19 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Total Iron (EPA 200.7, 50 µg/L)</u> | <u>8/2/2010</u> <u>1646</u> | <u>155 µg/L</u> | <u>**</u> | <u>C</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

NCD

12/8/10

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333 East Main Street
PO Box 388
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Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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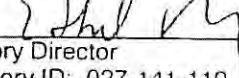
| <u>Lab File Number</u> W10H-139 | <u>Project Name</u> 205 | <u>Sample Location</u> Louisa Top | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|--------------------------------------|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 10:30 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | 0.102 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 1059 | 0.021 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | 106 µg/L | | C |

NCO
12/6/10

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-140 | <u>Project Name</u> 205 | <u>Sample Location</u> Louisa Boltom | <u>Sampled By</u> Dennis Loewen | | | |
|--|---------------------------------|---|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 10:30 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | | 1.21 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 | 1059 | 1.20 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1548 | 77.1 µg/L | | C |

NCO
12/8/10

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

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Report Submitted By: Ethel M
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

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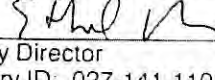
| <u>Lab File Number</u> W101-154 | <u>Project Name</u> 205 | <u>Sample Location</u> Louisa Top | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|--------------------------------------|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 10:42 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/4/2010 | 0.166mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 1031 | 0.090 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | 42 µg/L | * | C |

NCO
12/8/10

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W101-155 | <u>Project Name</u> 205 | <u>Sample Location</u> Louisa Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|---|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 10:42 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/7/2010 | | 1.62 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 | 1031 | 1.56 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1350 | 194 µg/L | C |

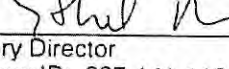
Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

NCD
12/8/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| | | | | |
|------------------------------------|----------------------------------|---|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-159 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> LMa Top <i>Marie</i> | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> 12:22 PM | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:00 PM | <u>Temp</u> 8 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | 0.050 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/24/2010 1131 | 0.014 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 7/21/2010 | 21 µg/L | | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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Report Submitted By: *Ethel Margaria*
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-160 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> LMa Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|----------------------------------|--------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> 12:27 PM | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:00 PM | <u>Temp</u> 8 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 1.25 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/24/2010 | 1131 | 1.09 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 6/29/2010 | 1816 | 149 µg/L | | C |

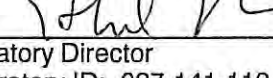
Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-166 | 205 | Marie Top | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:26 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|--------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/27/2010</u> | <u>0.052 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.0182 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Chlorophyll A (SM 10200 H, 1µg/L)</u> | <u>8/11/2010</u> | <u>14 µg/L</u> | <u>*</u> | <u>C</u> |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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P.O Box 481, Annandale, MN 55302

| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-167 | 205 | Marie Bottom | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:26 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|-------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/27/2010</u> | <u>0.621 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.544 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Total Iron (EPA 200.7, 50 µg/L)</u> | <u>8/2/2010</u> <u>1651</u> | <u>110 µg/L</u> | <u>**</u> | <u>C</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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Ethel Margaria, Laboratory Director
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Inc.**

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PO Box 388
Elk River, MN 55330
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Fax: (763) 441-9176
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10G-166 | 205 | Marie Top | Dennis Loewen |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:26 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/27/2010 | 0.052 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/22/2010 0901 | 0.0182 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 8/11/2010 | 14 µg/L | * | C |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

COPY
NLO
12/18/10

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-167 | 205 | Marie Bottom | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 11:26 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/27/2010 | 0.621 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/22/2010 0901 | 0.544 mg/L | EM | B |
| Total Iron (EPA 200.7, 50 µg/L) | 8/2/2010 1651 | 110 µg/L | ** | C |

Notes:


* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

(P)
N=0
12/8/10

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PO Box 388
Elk River, MN 55330
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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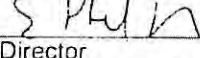
| <u>Lab File Number</u> W10H-141 | <u>Project Name</u> 205 | <u>Sample Location</u> Marie Top | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|-------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 10:42 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | | 0.093 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 1059 | | 0.0645 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | | 139 µg/L | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

NCO
12/6/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-142 | <u>Project Name</u> 205 | <u>Sample Location</u> Marie Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|---------------------------------|--|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 10:42 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | | 1.18 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 | 1059 | 1.14 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1553 | 152 µg/L | | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

NCO
12/8/10

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Ethel Margaria, Laboratory Director
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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-156 | <u>Project Name</u> 205 | <u>Sample Location</u> Marie Top | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|-------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 11:00 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/4/2010 | | 0.178 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 1031 | | 0.031 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | | 112 µg/L | * C |

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

NCO
12/8/10

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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-157 | <u>Project Name</u> 205 | <u>Sample Location</u> Marie Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 11:00 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/7/2010 | | 1.75 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 | 1031 | 1.62 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/9/2010 | 0031 | 225 µg/L | ** C |

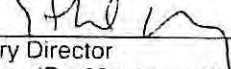
Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

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| | | | | |
|------------------------------------|--------------------------------|--|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-105 | <u>Project Name</u> 205 | <u>Sample Location</u> LPL Top <i>Pleasant</i> | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 9:54 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/29/2010 | 0.077 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/17/2010 1150 | 0.0116 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 7/2/2010 | 18 µg/L | | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-106 | <u>Project Name</u> 205 | <u>Sample Location</u> LPL Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|---------------------------------|--------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 10:00 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 0.070 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1150 | 0.0192 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 6/28/2010 | 1355 | 119 µg/L | | C |

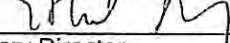
Notes:

Total Phosphorus tested by MN Lab # 027-035-135

T. Iron tested by MN Lab # 027-053-137

AD
8/25/10

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NON-POTABLE WATER TEST REPORT

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| <u>Lab File Number</u> W10G-058 | <u>Project Name</u> 435 | <u>Sample Location</u> PI Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 9:03 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/22/2010 | | 0.017 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1653 | 0.017 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 7/21/2010 | | 5 µg/L | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

NCO
12/8/10

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Ethel Margaria, Laboratory Director
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10G-059 | <u>Project Name</u> 435 | <u>Sample Location</u> PL Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 9:03 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | | | 0.045 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1653 | 0.045 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 7/26/2010 | 1441 | 131 µg/L | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T Iron Tested by MN Lab # 027-053-137

NCO
12/8/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

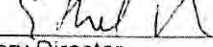
| <u>Lab File Number</u> W10H-099 | <u>Project Name</u> 205 | <u>Sample Location</u> Pleasant Top | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 9:50 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.024mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 | 0832 | 0.0237 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | | 13 µg/L | | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

NCO
12/8/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W10H-100 | <u>Project Name</u> 205 | <u>Sample Location</u> Pleasant Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|---|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 9:56 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.184 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 | 0832 | 0.100 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1515 | 351 µg/L | | C |

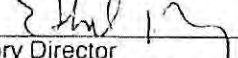
Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

NCO
12/8/10

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W101-120 | <u>Project Name</u> 205 | <u>Sample Location</u> Pleasant Top | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 10:14 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.035 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 1003 | | 0.017 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | | 92 µg/L | * C |

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

NCO
12/8/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W101-121 | <u>Project Name</u> 205 | <u>Sample Location</u> Pleasant Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|---------------------------------|---|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 10:14 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.436 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 | 1003 | 0.414 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1336 | 565 µg/L | ** C |

Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

NCO
12/8/10

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Report Submitted By: S. Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| | | | | |
|------------------------------------|----------------------------------|--|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-153 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> LSC Top Scott | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> 11:08 AM | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:00 PM | <u>Temp</u> 8 |

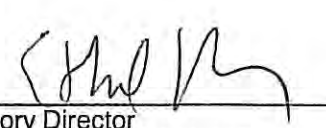
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | 0.103 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/24/2010 1131 | < 0.01 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 7/21/2010 | 122 µg/L | | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------------------|----------------------------------|--------------------------------------|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-154 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> LSc Bottom | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> 11:13 AM | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:00 PM | <u>Temp</u> 8 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | 0.537 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/24/2010 1131 | 0.383 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | 6/29/2010 1807 | 111 µg/L | | C |

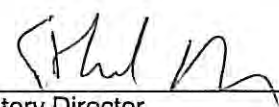
Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

NON-POTABLE WATER TEST REPORT

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| | | | |
|------------------------------------|--------------------------------|-------------------------------------|------------------------------------|
| <u>Lab File Number</u> W10G-159 | <u>Project Name</u> 205 | <u>Sample Location</u> Scott Top | <u>Sampled By</u> Dennis Loewen |
| <u>Date Sampled</u> 7/21/2010 | <u>Time Sampled</u> 6:30 AM | <u>Date Received</u> 7/21/2010 | <u>Time Received</u> 2:15 PM |
| | | | <u>Temp</u> 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|--------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.185 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.0976 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Chlorophyll A (SM 10200 H, 1µg/L)</u> | <u>8/11/2010</u> | <u>68 µg/L</u> | <u>*</u> | <u>C</u> |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-159 | 205 | Scott Top | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 6:30 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|-----------------------|--------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.185 mg/L</u> | * | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> 0901 | <u>0.0976 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Chlorophyll A (SM 10200 H, 1µg/L)</u> | <u>8/11/2010</u> | <u>68 µg/L</u> | * | <u>C</u> |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

(copy)

NCO
12/8/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

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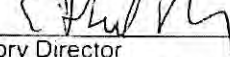
| <u>Lab File Number</u> W10H-135 | <u>Project Name</u> 205 | <u>Sample Location</u> Scott Top | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 6:57 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | | | 0.085mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 | 1059 | 0.018 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | | 43 µg/L | | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

Neo
12/8/10

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Minnesota State Laboratory ID: 027-141-110

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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-136 | <u>Project Name</u> 205 | <u>Sample Location</u> Scott Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 6:57 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | | 0.144 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 | 1059 | 0.088 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1530 | ND µg/L | | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

NCO
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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-146 | <u>Project Name</u> 205 | <u>Sample Location</u> Scott Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 7:38 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/4/2010 | | 0.174mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 | 1031 | 0.124 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | | 30 µg/L | * C |

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

OKD
12/8/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W101-147 | <u>Project Name</u> 205 | <u>Sample Location</u> Scott Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 7:38 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/4/2010 | | 0.178 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 | 1031 | 0.134 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1205 | 189 µg/L | ** | C |

Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

NLO
12/8/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
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Email: h2olab@spacestar.net
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| | | | | |
|------------------------------------|------------------------------------|---|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-117 | <u>Project Name</u> P06-1 Lakes | <u>Sample Location</u> LSW Top <i>Swartout Lake</i> | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 9:11 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/1/2010 | 0.275 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/17/2010 1303 | 0.224 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 7/2/2010 | 3 µg/L | | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
8/25/10

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Report Submitted By: *Ethel Margaria*
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| <u>Lab File Number</u> W10F-118 | <u>Project Name</u> P06-1 Lakes | <u>Sample Location</u> LSW Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|------------------------------------|--------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 9:13 AM | <u>Date Received</u> 6/17/2010 | <u>Time Received</u> 7:15 AM | <u>Temp</u> 7 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/1/2010 | | 0.421 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1303 | 0.258 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 6/29/2010 | 1735 | 97.7 µg/L | C |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

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Report Submitted By: S. H. Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
8/25/10



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Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
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| <u>Lab File Number</u> W10G-056 | <u>Project Name</u> 435 | <u>Sample Location</u> Swartout Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 8:15 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/22/2010 | | 0.310 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1653 | 0.272 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 7/21/2010 | | 7 µg/L | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

NCO
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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10G-057 | <u>Project Name</u> 435 | <u>Sample Location</u> Swartout Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|---|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 7/7/2010 | <u>Time Sampled</u> 8:15 AM | <u>Date Received</u> 7/7/2010 | <u>Time Received</u> 12:57 PM | <u>Temp</u> 5 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/22/2010 | | 0.366 mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1653 | 0.330 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 7/26/2010 | 1437 | 80.7 µg/L | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T Iron Tested by MN Lab # 027-053-137

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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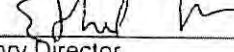
| <u>Lab File Number</u> W10H-001 | <u>Project Name</u> (435) | <u>Sample Location</u> SWART 1 | <u>Sampled By</u> DENNIS LOEWEN | | |
|---|--------------------------------|-----------------------------------|------------------------------------|-------------------|-----------|
| <u>Date Sampled</u> 8/2/2010 | <u>Time Sampled</u> 1:40 PM | <u>Date Received</u> 8/2/2010 | <u>Time Received</u> 2:40 PM | <u>Temp</u> 12 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Nitrite + Nitrate (EPA 353.2, 0.1 mg/L) | | 8/3/2010 | 1335 | < 0.1 mg/L | MS A |
| TKN (EPA 351.2, 0.2 mg/L) | | 8/23/2010 | 1537 | 2.74 mg/L | EM B |
| Ammonia (EPA 350.1, 0.02 mg/L) | | 8/24/2010 | 1209 | 0.135 mg/L | EM B |
| Total Phosphorus (EPA 365.3, 0.005mg/L) | | 8/12/2010 | | 0.581mg/L | * B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 8/4/2010 | | 0.126 mg/L | * A |
| E. Coli (Quanti- Tray 1.0 MPN/100mL) | | 8/2/2010 | 1550 | 579.4 MPN/100mL | KK C |

Notes:

** T. Phosphorus and Orthophosphate analyzed by MN# 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W10H-002 | <u>Project Name</u> (435) | <u>Sample Location</u> SWART 2 | <u>Sampled By</u> DENNIS LOEWEN | | | |
|---|--------------------------------|-----------------------------------|------------------------------------|-------------------|----|--------|
| <u>Date Sampled</u> 8/2/2010 | <u>Time Sampled</u> 1:30 PM | <u>Date Received</u> 8/2/2010 | <u>Time Received</u> 2:40 PM | <u>Temp</u> 12 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Nitrite + Nitrate (EPA 353.2, 0.1 mg/L) | | 8/3/2010 | 1335 | < 0.1 mg/L | MS | A |
| TKN (EPA 351.2, 0.2 mg/L) | | 8/23/2010 | 1537 | 2.19 mg/L | EM | B |
| Ammonia (EPA 350.1, 0.02 mg/L) | | 8/24/2010 | 1209 | < 0.02 mg/L | EM | B |
| Total Phosphorus (EPA 365.3, 0.005mg/L) | | 8/12/2010 | | 0.366 mg/L | * | B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 8/4/2010 | | 0.129 mg/L | * | A |
| E. Coli (Quanti- Tray 1.0 MPN/100mL) | | 8/2/2010 | 1550 | 14.4 MPN/100mL | KK | C |

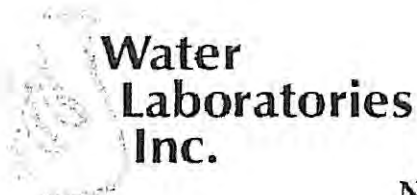
Notes:

* T. Phosphorus and Orthophosphate analyzed by MN# 027-035-135

NO
12/8/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-093 | <u>Project Name</u> 435 | <u>Sample Location</u> Swart Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 9:17 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.477mg/L | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 0832 | | 0.310 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | | 101 µg/L | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

NCO
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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| <u>Lab File Number</u> W10H-094 | <u>Project Name</u> 435 | <u>Sample Location</u> Swart Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/17/2010 | <u>Time Sampled</u> 9:17 AM | <u>Date Received</u> 8/17/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/23/2010 | | 0.418 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/19/2010 | 0832 | 0.304 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1459 | ND µg/L | | C |

Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

NCO
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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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P.O Box 481, Annandale, MN 55302

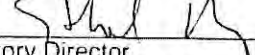
| <u>Lab File Number</u> W10I-112 | <u>Project Name</u> 435 | <u>Sample Location</u> Swartout Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|--|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 9:20 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.258 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 | 1003 | 0.049 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | | 3 µg/L | * C |

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

NCO
12/8/10

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| <u>Lab File Number</u> W10I-113 | <u>Project Name</u> 435 | <u>Sample Location</u> Swartout Bottom | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|---|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/21/2010 | <u>Time Sampled</u> 9:20 AM | <u>Date Received</u> 9/21/2010 | <u>Time Received</u> 1:25 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.255 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/22/2010 | 1003 | 0.040 mg/L | EM B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1129 | 55.3 µg/L | ** C |

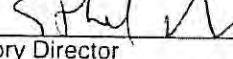
Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

NCO
12/4/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

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| | | | | |
|------------------------------------|----------------------------------|--|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-151 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> Lyn Top Union | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> 10:23 AM | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:00 PM | <u>Temp</u> 8 |

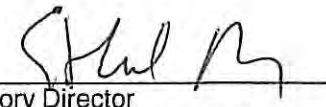
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | 0.082 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/24/2010 1131 | 0.01 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 7/21/2010 | 11 µg/L | | C |

Notes:

Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

AD
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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

33 East Main Street
P.O. Box 338
Elm River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

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| | | | | |
|------------------------------------|----------------------------------|--------------------------------------|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-152 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> LUn Bottom | <u>Sampled By</u> Dennis Loosen | |
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> 10:28 AM | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:30 PM | <u>Temp</u> 8 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | 0.033 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/24/2010 1131 | 0.754 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | 6/29/2010 1802 | 70.8 µg/L | | C |


Notes:

Total Phosphorus done by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-187

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Report Submitted By: 
Ethel Magallon, Laboratory Director



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

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P.O. Box 481, Annandale, MN 55302

| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-157 | 205 | Union Top | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 7:37 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|--------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.027 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.0191 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Chlorophyll A (SM 10200 H, 1µg/L)</u> | <u>8/11/2010</u> | <u>9 µg/L</u> | <u>*</u> | <u>C</u> |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

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P.O. Box 481, Annandale, MN 55302

| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-158 | 205 | Union Bottom | Dennis Loewen | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 7:37 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/29/2010 | 0.863 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/22/2010 0901 | 0.780 mg/L | EM | B |
| Total Iron (EPA 200.7, 50 µg/L) | 8/2/2010 1632 | 125 µg/L | ** | C |

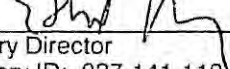
Notes:

* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
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| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10G-157 | 205 | Union Top | Dennis Loewen |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 7:37 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/29/2010 | 0.027 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/22/2010 0901 | 0.0191 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | 8/11/2010 | 9 µg/L | * | C |

Notes:

* Total Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

COPY
NEO
12/8/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10G-158 | 205 | Union Bottom | Dennis Loewen |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 7:37 AM | 7/21/2010 | 2:15 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|-------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.863 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.780 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Total Iron (EPA 200.7, 50 µg/L)</u> | <u>8/2/2010</u> <u>1632</u> | <u>125 µg/L</u> | <u>**</u> | <u>C</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

** T. Iron Tested by MN Lab # 027-053-137

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NCO
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-137 | <u>Project Name</u> 205 | <u>Sample Location</u> Union Top | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 7:34 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | | 0.019 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 | 1059 | < 0.01 mg/L | EM | B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 9/7/2010 | | 11 µg/L | | C |

Notes:

T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-138 | <u>Project Name</u> 205 | <u>Sample Location</u> Union Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 7:34 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 12:30 PM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/2/2010 | | 1.11 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 8/25/2010 | 1059 | 1.11 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 8/27/2010 | 1543 | 134 µg/L | | C |

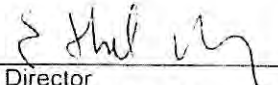
Notes:

T. Phosphorus tested by MN Lab # 027-035-135

T. Iron Tested by MN Lab # 027-053-137

NCD
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Minnesota State Laboratory ID: 027-141-110

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PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W101-148 | <u>Project Name</u> 205 | <u>Sample Location</u> Union Top | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-------------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 8:18 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/4/2010 | | 0.068 mg/L | * A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 | 1031 | 0.020 mg/L | EM B |
| Chlorophyll A (SM 10200 H, 1µg/L) | | 10/7/2010 | | 33 µg/L | * C |

Notes:

*T. Phosphorus and Chlorophyll a tested by MN Lab # 027-035-135

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PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W101-149 | <u>Project Name</u> 205 | <u>Sample Location</u> Union Bottom | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|--|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 8:18 AM | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/7/2010 | | 1.51 mg/L | * | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 9/28/2010 | 1031 | 1.48 mg/L | EM | B |
| Total Iron (EPA 6010, 50 µg/L) | | 10/11/2010 | 1210 | 270 µg/L | ** | C |

Notes:

*T. Phosphorus tested by MN Lab # 027-035-135

**T. Iron Tested by MN Lab # 027-053-137

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



11001 Hampshire Ave. S.
Minneapolis, MN 55438
952.995.2000 Phone
952.995.2020 Fax

Wenck Associates, Inc.
1800 Pioneer Creek Center P.O. Box 249
Maple Plain, MN 55359-0249

Client Ref: [none]
Client Contact: Mr. Wes Boll
PO Number:

Work Order #: 1001282
Project Mgr: Steven J. Albrecht
Account ID: W02540

CR 28.2


1001282-01 (Water)

3/18/10 9:30

Classical Chemistry Parameters

| Analyte | Result | MRL | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-------|-------|----------|---------|----------|----------|-----------|-------|
| Orthophosphate as P | 0.23 | 0.012 | mg/L | 2 | B0C0317 | 3/19/10 | 3/19/10 | EPA 365.3 | |
| Phosphorus, Total as P | 0.28 | 0.010 | mg/L | 1 | B0C0365 | 3/24/10 | 3/26/10 | EPA 365.3 | |

AD
8/24/10



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333 East Main Street
PO Box 388
Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

WENCK ASSOCIATES (CRWD)

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10D-022 | 0002-129 | CR 28.2 | DENNIS LOEWEN |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 4/6/2010 | 8:55 AM | 4/6/2010 | 10:30 AM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| TSS, (USGS I-3765-85), (1.0 mg/L) | 4/8/2010 1410 | 2.0mg/L | KK | B |
| Orthophosphate, (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/7/2010 1218 | 0.0543 mg/L | EM | B |

Notes:

AD 8/24/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



DHIA
LABORATORIES

Stearns DHIA Laboratories

MIN Lab ID# 027-145-378

825 12th St. So., P.O. Box 227,
Sauk Centre, MN 56378-0227
320.352.2028 Phone
320.352.2697 Toll Free
320.352.6163 Fax
Email: stearnsdhialab.com

Report of Analysis

Name: WATER LABORATORY INC
PO BOX 388
ELK RIVER, MN 55330

Sample ID/Invoice #: 076878
Account #: 004188
Internal ID#: 90919
Sample Type: Water
Client Sample ID: W10D022
Sample Date: 4/6/2010 8:55 AM
Sampler: D.L.
Receipt Date: 4/6/2010 11:55 AM
Receipt Temp: 6°C

Report Date: 4/12/2010
Date: 4/12/2010

| Analyte | Approved Method | Reporting Limit | Sample Result | Units | Sample Prep Date/Time | Analysis Date/Time | Analyst |
|-----------------------|----------------------|-----------------|---------------|-----------|-----------------------|--------------------|---------|
| E. Coli (Quant- Tray) | Colilert Quanti-Tray | 1 | 7.4 | MPN/100mL | 4/06/2010 12:50 | 4/06/2010 12:55 | mmmm |
| Phosphorous, Total | EPA 365.3 | 0.005 | 0.166 | mg/L | | 4/09/2010 03:30 | mmmm |

Comments:


Report Approved by:

Angela Scherping

Angela Scherping, Environmental Chemist
Laura Peterson, Lab Tech
Melinda Mason, Lab Tech

Note: The results listed within the report relate only to the sample received on the dates indicated. We do not accept any liability for use of these results. This report must not be reproduced, except in full, without the written approval from Stearns DHIA Laboratories.

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12/13



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333 East Main Street
PO Box 388
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Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

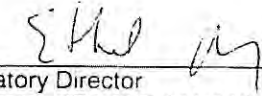
| <u>Lab File Number</u> W10D-093 | <u>Project Name</u> | <u>Sample Location</u> CR 28.2 | <u>Sampled By</u> DENNIS LOEWEN | | | | |
|---|--------------------------------|-----------------------------------|------------------------------------|------------------|-----------------------|-----------|----------|
| <u>Date Sampled</u> 4/19/2010 | <u>Time Sampled</u> 8:41 AM | <u>Date Received</u> 4/19/2010 | <u>Time Received</u> 9:50 AM | <u>Temp</u> 7 | | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| <u>Orthophosphate,</u> (EPA 365.1 Rev 2.0), (0.01 mg/L) | | | <u>4/22/1010</u> | <u>1545</u> | <u>0.0549 mg/L</u> | <u>EM</u> | <u>A</u> |
| <u>TSS,</u> (USGS 1-3765-85), (1.0 mg/L) | | | <u>4/22/1010</u> | <u>1600</u> | <u>2.25 mg/L</u> | <u>EM</u> | <u>A</u> |
| <u>Total Phosphorus,</u> (EPA 365.4 Rev. 2.0), (0.1 mg/L) | | | <u>4/22/2010</u> | <u>0340</u> | <u>0.099 mg/L</u> | | <u>B</u> |
| <u>E. COLI (QUANTI-TRAY)</u> | | | <u>4/20/2010</u> | <u>1200</u> | <u>13.5 MPN/100mL</u> | | <u>C</u> |

Notes:

Total Phosphorus and E. coli performed by MN Lab # 027-145-378

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-003 | <u>Project Name</u> | <u>Sample Location</u> CR 28.2 | <u>Sampled By</u> DENNIS LOWEN | | | |
|-------------------------------------|----------------------------------|-----------------------------------|-----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 5/3/2010 | <u>Time Sampled</u> 7:56 AM | <u>Date Received</u> 5/3/2010 | <u>Time Received</u> 10:15 AM | <u>Temp</u> 5 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 5/5/2010 | 1148 | 0.0519 mg/L | EM | A |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 5/6/2010 | 1630 | < 1.0 mg/L | EM | A |
| Total Phosphorus, | (EPA 365.4 Rev. 2.0), (0.1 mg/L) | 5/6/2010 | 1615 | 0.11 mg/L | | B |
| E. COLI | (Quanti-Tray, 1 MPN/100mL) | 5/3/2010 | 1130 | 34.4 MPN/100mL | EM | C |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

AD 8/24/10

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Minnesota State Laboratory ID: 027-141-110



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PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
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Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-075 | <u>Project Name</u> | <u>Sample Location</u> CR 28.2 | <u>Sampled By</u> DENNIS LOEWEN | | | |
|---|--------------------------------|-----------------------------------|------------------------------------|-----------------------|-----------|----------|
| <u>Date Sampled</u> 5/17/2010 | <u>Time Sampled</u> 6:40 AM | <u>Date Received</u> 5/17/2010 | <u>Time Received</u> 8:10 AM | <u>Temp</u> 6 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| <u>E. coli (Quanti-Tray, 1.0 MPN/100mL)</u> | | <u>5/17/2010</u> | <u>0930</u> | <u>15.0 MPN/100mL</u> | <u>EM</u> | <u>C</u> |
| <u>TSS (USGS 1-3765-85, 1.0 mg/L)</u> | | <u>5/20/2010</u> | <u>1710</u> | <u>1.5 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | | <u>5/20/2010</u> | <u>1603</u> | <u>0.0351 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Total Phosphorus (EPA 365.4, (0.05 mg/L)</u> | | <u>5/27/2010</u> | | <u>0.072 mg/L</u> | | <u>A</u> |

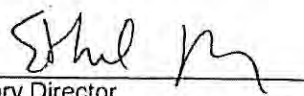
Notes:

T. Phosphorus analyzed by MN LAB # 027-035-135

Orthophosphate Reagent Blank does not meet the quality assurance criteria.

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Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10F-003 | <u>Project Name</u> | <u>Sample Location</u> CR 28.2 | <u>Sampled By</u> DENNIS LOEWEN | | |
|--|--------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/1/2010 | <u>Time Sampled</u> 8:04 AM | <u>Date Received</u> 6/1/2010 | <u>Time Received</u> 10:00 AM | <u>Temp</u> 3 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/2/2010 | 1200 | 0.140 mg/L | EM A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 6/3/2010 | 1630 | < 1.0 mg/L | EM A |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/7/2010 | | 0.232 mg/L | B |
| E. Coli (Quanti-Tray, 1.0 MPN/100mL) | | 6/1/2010 | 1220 | 28.8 MPN/100mL | EM C |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

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333 East Main Street
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Phone: (763) 441-7509
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-131 | <u>Project Name</u> 205 | <u>Sample Location</u> CR 28.2 | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-----------------------------------|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 6/21/2010 | <u>Time Sampled</u> 6:45 AM | <u>Date Received</u> 6/21/2010 | <u>Time Received</u> 8:30 AM | <u>Temp</u> 4 | |
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | | 0.261 mg/L | | A |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/22/2010 | 1031 | 0.186 mg/L | EM | B |
| TSS (USGS 1-3765-85, 1.0 mg/L) | 6/24/2010 | 1500 | 2.75 mg/L | EM | B |
| E. Coli (Quanti-Tray, 1.0 MPN/100mL) | 6/21/2010 | 1100 | 16.8 MPN/100mL | EM | C |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

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Elk River, MN 55330
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Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O. Box 481, Annandale, MN 55302

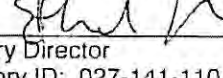
| <u>Lab File Number</u> W10G-018 | <u>Project Name</u> 205 | <u>Sample Location</u> CR 28.2 | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-----------------------------------|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 7/6/2010 | <u>Time Sampled</u> 7:25 AM | <u>Date Received</u> 7/6/2010 | <u>Time Received</u> 9:10 AM | <u>Temp</u> 3 | |
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/20/2010 | | 0.962 mg/L | | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | 7/7/2010 | 1800 | 7.5 mg/L | EM | B |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/7/2010 | 1601 | 0.619 mg/L | EM | B |
| E. Coli (Quantit-Tray, 1.0 MPN/100mL) | 7/6/2010 | 1030 | 461.1 MPN/100mL | EM | C |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD 8/24/10

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

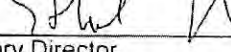
CRWD (Wenck Associates, Inc.)
P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-050 | <u>Project Name</u> 205 | <u>Sample Location</u> CR 28.2 | <u>Sampled By</u> Dennis Loewen | | |
|---|--------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/10/2010 | <u>Time Sampled</u> 7:35 AM | <u>Date Received</u> 8/10/2010 | <u>Time Received</u> 10:30 AM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/19/2010 | | 1.74 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 8/19/2010 | 1700 | 32.5 mg/L ** | EM B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | | | 0.602 mg/L+ | * B |
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | | 8/10/2010 | 1350 | 1011.2MPN/100 ml | KK C |

Notes:

- * Total Phosphorus & Orthophosphate done by MN Lab # 027-035-135
- **TSS re-run on 8/19/10.
- + Sample analyzed past the holding time.

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Report Submitted By: 
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Minnesota State Laboratory ID: 027-141-110

As
11/18/10

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-048 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> CR 28.2 | <u>Sampled By</u> Dennis Loewen | | |
|---|------------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/13/2010 | <u>Time Sampled</u> 8:30 AM | <u>Date Received</u> 9/13/2010 | <u>Time Received</u> 11:25 AM | <u>Temp</u> 8 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.200 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 9/16/2010 | 1730 | 2.0 mg/L | EM B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 9/14/2010 | 0841 | 0.177 mg/L | EM B |
| E. Coli (Quanti-Tray, 1.0 MPN/100mL) | | 9/13/2010 | 1200 | 162.4 MPN/100mL | EM C |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

11/18/10

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

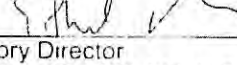
P O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10J-024 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> CR 28.2 | <u>Sampled By</u> Dennis Loewen | | |
|---|------------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 10/5/2010 | <u>Time Sampled</u> 10:50 AM | <u>Date Received</u> 10/5/2010 | <u>Time Received</u> 1:35 PM | <u>Temp</u> 4 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/14/2010 | | 0.180 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 10/7/2010 | 1700 | 7.0 mg/L | EM B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 10/6/2010 | 1227 | 0.140 mg/L | EM B |
| E. Coli (Quanti-Tray, 1.0 MPN/100mL) | | 10/5/2010 | 1400 | 144.5 MPN/100mL | EM C |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
11/18/10



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

WENCK ASSOCIATES (CRWD)

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10D-024 | 0002-129 | CR 10.5 | DENNIS LOEWEN |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 4/6/2010 | 10:00 AM | 4/6/2010 | 10:30 AM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| TSS, (USGS I-3765-85), (1.0 mg/L) | 4/8/2010 1410 | 2.75 mg/L | KK | B |
| Orthophosphate, (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/7/2010 1218 | 0.0120mg/L | EM | B |

Notes:

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8/24/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



DHIA
LABORATORIES

Stearns DHIA Laboratories

MN Lab ID# 027-145-378

825 12th St. So. P O Box 227,
Sauk Centre, MN 56378-0227
320.352.2028 Phone
800.369.2697 Toll Free
320.352.6163 Fax
Email:
stearnsdhialab@stearnsdhialab.com

Report of Analysis

Name: WATER LABORATORY INC
PO BOX 388
ELK RIVER, MN 55330

Sample ID/Invoice #: 076880
Account #: 004188
Internal ID#: 90921
Sample Type: Water
Client Sample ID: W10D024
Sample Date: 4/6/2010 10:00 AM
Sampler: D.L.
Receipt Date: 4/6/2010 11:55 AM
Receipt Temp: 6°C

Report Date: 4/12/2010
Date: 4/12/2010

| Analyte | Approved Method | Reporting Limit | Sample Result | Units | Sample Prep Date/Time | Analysis Date/Time | Analyst |
|--------------------|-----------------|-----------------|---------------|-------|-----------------------|--------------------|---------|
| Phosphorous, Total | EPA 365.3 | 0.005 | 0.161 | mg/L | | 4/09/2010 03:30 | mmmm |

Comments:

Report Approved by:

Angela Scheraga
Angela Scheraga, Environmental Chemist
Laurie Petersen, Lab Tech
Melinda Mason, Lab Tech

Note: The results listed within the report relate only to the sample received on the dates indicated. We do not accept any liability for use of these results. This report must not be reproduced, except in full, without the written approval from Stearns DHIA Laboratories.



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PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10E-005 | | CR 10.5 | DENNIS LOWEN |

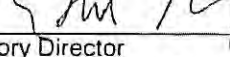
| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 5/3/2010 | 8:51 AM | 5/3/2010 | 10:15 AM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Orthophosphate, (EPA 365.1 Rev 2.0), (0.01 mg/L) | 5/5/2010 1148 | 0.0222 mg/L | EM | A |
| TSS, (USGS 1-3765-85), (1.0 mg/L) | 5/6/2010 1630 | < 1.0 mg/L | EM | A |
| Total Phosphorus, (EPA 365.4 Rev. 2.0), (0.1 mg/L) | 5/6/2010 1615 | 0.056 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD 8/24/10



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-005 | <u>Project Name</u> | <u>Sample Location</u> CR 10.5 | <u>Sampled By</u> DENNIS LOEWEN | | | |
|--|--------------------------------|-----------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/1/2010 | <u>Time Sampled</u> 9:18 AM | <u>Date Received</u> 6/1/2010 | <u>Time Received</u> 10:00 AM | <u>Temp</u> 3 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/2/2010 | 1200 | < 0.01 mg/L | EM | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 6/3/2010 | 1630 | < 1.0 mg/L | EM | A |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/7/2010 | | 0.033 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/24/10

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Report Submitted By: Ethel M
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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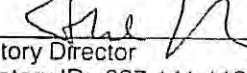
| <u>Lab File Number</u> W10G-020 | <u>Project Name</u> 205 | <u>Sample Location</u> CR 10.5 | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|-----------------------------------|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 7/6/2010 | <u>Time Sampled</u> 8:25 AM | <u>Date Received</u> 7/6/2010 | <u>Time Received</u> 9:10 AM | <u>Temp</u> 3 | |
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/20/2010 | | 0.034 mg/L | | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | 7/7/2010 | 1800 | 1.0 mg/L | EM | B |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/7/2010 | 1653 | 0.0136 mg/L | EM | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/24/10

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
P.O Box 481, Annandale, MN 55302

CR 10.5

| <u>Lab File Number</u> W10H-052 | <u>Project Name</u> 205 | <u>Sample Location</u> CR10.5 | <u>Sampled By</u> Dennis Loewen | | |
|---|--------------------------------|-----------------------------------|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 8/10/2010 | <u>Time Sampled</u> 9:30 AM | <u>Date Received</u> 8/10/2010 | <u>Time Received</u> 10:30 AM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/16/2010 | 0.028 mg/L | * | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 8/19/2010 1700 | < 1.0 mg/L** | EM | B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 8/12/2010 | < 0.05 mg/L+ | * | B |

NLO

Notes:

* Total Phosphorus & Orthophosphate done by MN Lab # 027-035-135

+ Sample analyzed past the holding time.

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

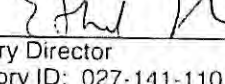
P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W101-050 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> CR 10.5 | <u>Sampled By</u> Dennis Loewen | | |
|---|------------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/13/2010 | <u>Time Sampled</u> 10:15 AM | <u>Date Received</u> 9/13/2010 | <u>Time Received</u> 11:25 AM | <u>Temp</u> 8 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.027 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 9/16/2010 | 1730 | 2.0 mg/L | EM B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 9/14/2010 | 0841 | < 0.01 mg/L | EM B |

Notes:

- * Total Phosphorus done by MN Lab # 027-035-135

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Minnesota State Laboratory ID: 027-141-110

Ad
11/18/10

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

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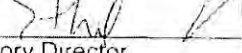
P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10J-026 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> CR 10.5 | <u>Sampled By</u> Dennis Loewen | | |
|---|------------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 10/5/2010 | <u>Time Sampled</u> 12:35 PM | <u>Date Received</u> 10/5/2010 | <u>Time Received</u> 1:35 PM | <u>Temp</u> 4 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/14/2010 | | 0.022 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 10/7/2010 | 1700 | 1.0 mg/L | EM B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 10/6/2010 | 1227 | 0.014 mg/L | EM B |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD 11/15/10



**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

WENCK ASSOCIATES (CRWD)

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10D-025 | 0002-129 | CR 0.1 | DENNIS LOEWEN |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 4/6/2010 | 10:20 AM | 4/6/2010 | 10:30 AM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|-------------------------------------|----------------------|-------------|----------------------|----------|
| <u>E COLI (QUANTI-TRAY)</u> | <u>4/6/2010</u> | <u>1255</u> | <u>3.1 MPN/100mL</u> | <u>A</u> |

Notes:

SAMPLE ANALYZED BY MN LAB # 027-145-378

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
8/24/10



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

WENCK ASSOCIATES (CRWD)

| | | | | | | |
|-------------------------------------|---------------------|------------------------|----------------------|-------------|----|--------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | | | |
| W10D-057 | | CR 0.1 | DENNIS LOEWEN | | | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> | | |
| 4/12/2010 | 10:00 AM | 4/12/2010 | 10:55 AM | 6 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
| <u>E COLI (QUANTI-TRAY)</u> | | | 4/13/2010 1235 | 2 MPN/100mL | | A |

Notes:

SAMPLE ANALYZED BY MN LAB # 027-145-378

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
8/24/10



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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| | | | | | | |
|--|---------------------|------------------------|---------------------------------|----------------|-----------|---------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | | | |
| W10D-094 | | CR 0.1 | DENNIS LOEWEN | | | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> | | |
| 4/19/2010 | 8:37 AM | 4/19/2010 | 9:50 AM | 7 | | |
| <u>PARAMETERS, METHOD, REPORTING LIMIT</u> | | | | | | |
| <u>E. COLI (QUANTI-TRAY)</u> | | | <u>DATE & TIME ANALYZED</u> | <u>RESULTS</u> | <u>BY</u> | <u>BOTTLE</u> |
| | | | 4/20/2010 1200 | 1 MPN/100mL | | A |

Notes:

Analysis was performed by MN Lab # 027-145-378

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Report Submitted By: SKW 12
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



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PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
|------------------------|---------------------|------------------------|-------------------|
| W10E-006 | | CR 0.1 | DENNIS LOEWEN |

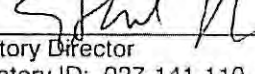
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
|---------------------|---------------------|----------------------|----------------------|-------------|
| 5/3/2010 | 9:26 AM | 5/3/2010 | 10:15 AM | 5 |

| <u>PARAMETERS, METHOD, REPORTING LIMIT</u> | <u>DATE & TIME ANALYZED</u> | <u>RESULTS</u> | <u>BY</u> | <u>BOTTLE</u> |
|--|---------------------------------|-----------------------|-----------|---------------|
| <u>E. COLI (QUANTI-TRAY, 1MPN/100mL)</u> | <u>5/3/2010 1130</u> | <u>23.8 MPN/100mL</u> | <u>EM</u> | <u>A</u> |

Notes:

AD
8/24/10

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Minnesota State Laboratory ID: 027-141-110



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Fax: (763) 441-9176
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-042 | <u>Project Name</u> | <u>Sample Location</u> CR DAM CRO1 | <u>Sampled By</u> K. KLOEPPNER | | | |
|-------------------------------------|--------------------------------|---------------------------------------|-----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 5/10/2010 | <u>Time Sampled</u> 6:15 AM | <u>Date Received</u> 5/10/2010 | <u>Time Received</u> 8:00 AM | <u>Temp</u> 7 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
| E. COLI (QUANTI-TRAY, 1 MPN/100mL) | | | 5/10/2010 1015 | 12.4 MPN/100mL | EM | A |

Notes:

AD
8/24/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
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Elk River, MN 55330
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Fax: (763) 441-9176
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-076 | <u>Project Name</u> | <u>Sample Location</u> CR 0.1 | <u>Sampled By</u> DENNIS LOEWEN | | | |
|-------------------------------------|--------------------------------|-----------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 5/17/2010 | <u>Time Sampled</u> 7:20 AM | <u>Date Received</u> 5/17/2010 | <u>Time Received</u> 8:10 AM | <u>Temp</u> 6 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| E. COLI | (QUANTI-TRAY, 1 MPN/100mL) | 5/17/2010 | 0930 | 34.4 MPN/100mL | EM | A |

Notes:

AD 8/24/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



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Elk River, MN 55330
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10F-006 | <u>Project Name</u> | <u>Sample Location</u> CR 0.1 | <u>Sampled By</u> DENNIS LOEWEN | | | |
|---|--------------------------------|----------------------------------|------------------------------------|-----------------------|-----------|----------|
| <u>Date Sampled</u> 6/1/2010 | <u>Time Sampled</u> 9:45 AM | <u>Date Received</u> 6/1/2010 | <u>Time Received</u> 10:00 AM | <u>Temp</u> 3 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| <u>E. coli (Quanti-Tray, 1.0 MPN/100mL)</u> | | <u>6/1/2010</u> | <u>1220</u> | <u>55.0 MPN/100mL</u> | <u>EM</u> | <u>A</u> |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/24/10

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Elk River, MN 55330
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Fax: (763) 441-9176
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | | |
|--|--------------------------------|-----------------------------------|------------------------------------|------------------|---------------|
| <u>Lab File Number</u> W10H-053 | <u>Project Name</u> 205 | <u>Sample Location</u> CR 0.1 | <u>Sampled By</u> Dennis Loewen | | |
| <u>Date Sampled</u> 8/10/2010 | <u>Time Sampled</u> 9:56 AM | <u>Date Received</u> 8/10/2010 | <u>Time Received</u> 10:30 AM | <u>Temp</u> 2 | |
| <u>PARAMETER (METHOD, REPORTING LIMIT)</u> | | <u>DATE & TIME ANALYZED</u> | <u>RESULTS</u> | <u>BY</u> | <u>BOTTLE</u> |
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | | 8/10/2010 1350 | 149.1 MPN/100mL | KK | A |

Notes:

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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11/18/10

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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

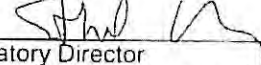
CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W10J-128 | <u>Project Name</u> | <u>Sample Location</u> CR 0.1 | <u>Sampled By</u> KK | | | |
|--------------------------------------|--------------------------------|------------------------------------|---------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 10/20/2010 | <u>Time Sampled</u> 9:10 AM | <u>Date Received</u> 10/20/2010 | <u>Time Received</u> 9:45 AM | <u>Temp</u> 6 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | | 10/20/2010 | 1230 | 12.4 MPN/100mL | EM | A |

Notes:

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Minnesota State Laboratory ID: 027-141-110

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333 East Main Street
PO Box 388
Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| | | | | |
|------------------------------------|--------------------------------|--|--------------------------------------|------------------|
| <u>Lab File Number</u> W10F-086 | <u>Project Name</u> | <u>Sample Location</u> CLEARWATER DAM CRO.1 | <u>Sampled By</u> KEVIN KLOEPPNER | |
| <u>Date Sampled</u> 6/16/2010 | <u>Time Sampled</u> 7:00 AM | <u>Date Received</u> 6/16/2010 | <u>Time Received</u> 8:00 AM | <u>Temp</u> 2 |

| <u>PARAMETER (METHOD, REPORTING LIMIT)</u> | <u>DATE & TIME ANALYZED</u> | <u>RESULTS</u> | <u>BY</u> | <u>BOTTLE</u> |
|---|---------------------------------|------------------------|-----------|---------------|
| <u>E. coli (Quanti-Tray, 1.0 MPN/100mL)</u> | <u>6/16/2010 0900</u> | <u>165.2 MPN/100mL</u> | <u>EM</u> | <u>A</u> |

Notes:

AD
8/24/10

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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W10F-132 | <u>Project Name</u> 205 | <u>Sample Location</u> CR 0.1 | <u>Sampled By</u> Dennis Loewen | | |
|--------------------------------------|--------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/21/2010 | <u>Time Sampled</u> 7:30 AM | <u>Date Received</u> 6/21/2010 | <u>Time Received</u> 8:30 AM | <u>Temp</u> 4 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | | 6/21/2010 | 1100 | 59.4 MPN/100mL | EM A |

Notes:

AD
8/24/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | | |
|--|--------------------------------|----------------------------------|------------------------------------|------------------|---------------|
| <u>Lab File Number</u> W10G-021 | <u>Project Name</u> 205 | <u>Sample Location</u> CR 0.1 | <u>Sampled By</u> Dennis Loewen | | |
| <u>Date Sampled</u> 7/6/2010 | <u>Time Sampled</u> 9:00 AM | <u>Date Received</u> 7/6/2010 | <u>Time Received</u> 9:10 AM | <u>Temp</u> 3 | |
| <u>PARAMETER (METHOD, REPORTING LIMIT)</u> | | <u>DATE & TIME ANALYZED</u> | <u>RESULTS</u> | <u>BY</u> | <u>BOTTLE</u> |
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | | 7/6/2010 1030 | 90.8 MPN/100mL | EM | A |

Notes:

AD
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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



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PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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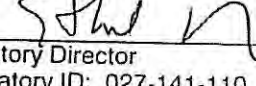
| | | | | |
|------------------------------------|--------------------------------|--|--------------------------------------|------------------|
| <u>Lab File Number</u> W10G-082 | <u>Project Name</u> | <u>Sample Location</u> Clearwater Dam (CRD) | <u>Sampled By</u> Kevin Kloeppner | |
| <u>Date Sampled</u> 7/13/2010 | <u>Time Sampled</u> 8:30 AM | <u>Date Received</u> 7/13/2010 | <u>Time Received</u> 9:00 AM | <u>Temp</u> 4 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--------------------------------------|----------------------|----------------|----|--------|
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | 7/13/2010 1120 | 35.5 MPN/100mL | EM | A |

Notes:

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W10G-125 | <u>Project Name</u> | <u>Sample Location</u> Clearwater Dam CRO1 | <u>Sampled By</u> Kevin Kloeppner | | |
|--------------------------------------|---------------------------------|---|--------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 7/20/2010 | <u>Time Sampled</u> 10:30 AM | <u>Date Received</u> 7/20/2010 | <u>Time Received</u> 12:15 PM | <u>Temp</u> 4 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | | 7/20/2010 | 1310 | 50.5 MPN/100mL | EM A |

Notes:

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PO Box 388
Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | | |
|--|---------------------------------|--|----------------------------------|--------------------------------------|---------------|
| <u>Lab File Number</u> W10H-114 | <u>Project Name</u> | <u>Sample Location</u> Clearwater Dam | CRO1 | <u>Sampled By</u> Kevin Kloeppner | |
| <u>Date Sampled</u> 8/19/2010 | <u>Time Sampled</u> 11:10 AM | <u>Date Received</u> 8/19/2010 | <u>Time Received</u> 11:45 AM | <u>Temp</u> 5 | |
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | 8/19/2010 | 1250 | 65.0 MPN/100mL | EM | A |

Notes:

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Ethel Margaria, Laboratory Director
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AD 11/18/10

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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | | |
|--|--------------------------------|--|--------------------------------------|------------------|---------------|
| <u>Lab File Number</u> W10H-122 | <u>Project Name</u> | <u>Sample Location</u> Clearwater Dam | <u>Sampled By</u> Kevin Kloeppner | | |
| <u>Date Sampled</u> 8/24/2010 | <u>Time Sampled</u> 7:25 AM | <u>Date Received</u> 8/24/2010 | <u>Time Received</u> 8:00 AM | <u>Temp</u> 5 | |
| <u>PARAMETER (METHOD, REPORTING LIMIT)</u> | | <u>DATE & TIME ANALYZED</u> | <u>RESULTS</u> | <u>BY</u> | <u>BOTTLE</u> |
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | | 8/24/2010 1245 | 130.4 MPN/100mL | EM | A |

Notes:

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AD 11/18/10

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Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-126 | <u>Project Name</u> | <u>Sample Location</u> Clearwater Dam CRO.I | <u>Sampled By</u> Kevin Kloeppner | | |
|--------------------------------------|--------------------------------|---|--------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/22/2010 | <u>Time Sampled</u> 5:30 AM | <u>Date Received</u> 9/22/2010 | <u>Time Received</u> 6:00 AM | <u>Temp</u> 6 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | | 9/22/2010 0815 | | 65.9 MPN/100mL | EM A |

Notes:

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Report Submitted By: S. Shil
Elhel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD 11/18/10

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Elk River, MN 55330
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W10J-091 | <u>Project Name</u> | <u>Sample Location</u> CLEARWATER DAM CRO1 | <u>Sampled By</u> KK | | |
|--------------------------------------|--------------------------------|---|---------------------------------|------------------|--|
| <u>Date Sampled</u> 10/14/2010 | <u>Time Sampled</u> 9:05 AM | <u>Date Received</u> 10/14/2010 | <u>Time Received</u> 9:35 AM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE | |
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | 10/14/2010 1010 | 27.1 MPN/100mL | EM | A | |

Notes:

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AD 11/18/10



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NON-POTABLE WATER TEST REPORT

WENCK ASSOCIATES (CRWD)

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10D-023 | 0002-129 | WR 0.2 | DENNIS LOEWEN |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 4/6/2010 | 9:30 AM | 4/6/2010 | 10:30 AM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| TSS, (USGS I-3765-85), (1.0 mg/L) | 4/8/2010 1410 | 6.0 mg/L | KK | B |
| Orthophosphate, (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/7/2010 1218 | 0.0166 mg/L | EM | B |

Notes:

AD
8/24/10

The test results are only indicative of the sample tested from the sample point on the date collected.
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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



DHIA
LABORATORIES

Stearns DHIA Laboratories

MN Lab ID# 027-145-378

825 12th St. So., P O Box 227,
Sauk Centre, MN 56378-0227
320.352 2028 Phone
800.369 2697 Toll Free
320.352 6163 Fax
Email:
stearnsdhiab@stearnsdhiab.com

Report of Analysis

Name: WATER LABORATORY INC
PO BOX 388
ELK RIVER, MN 55330

Sample ID/Invoice #: 076879
Account #: 004188
Internal ID#: 90920
Sample Type: Water
Client Sample ID: W10D023
Sample Date: 4/6/2010 9:30 AM
Sampler: D.L.
Receipt Date: 4/6/2010 11:55 AM
Receipt Temp: 6°C

Report Date: 4/12/2010
Date: 4/12/2010

| Analyte | Approved Method | Reporting Limit | Sample Result | Units | Sample Prep Date/Time | Analysis Date/Time | Analyst |
|--------------------|-----------------|-----------------|---------------|-------|-----------------------|--------------------|---------|
| Phosphorous, Total | EPA 365.3 | 0.005 | 0.122 | mg/L | | 4/09/2010 03:30 | mmmm |


NEO
12/13/10

Comments:

Report Approved by:

Charles Schiering
Angela Schiering, Environmental Chemist
Laurie Peterson, Lab Tech
Melinda Mason, Lab Tech

Note: The results listed within the report relate only to the sample received on the dates indicated. We do not accept any liability for use of these results. This report must not be reproduced, except in full, without the written approval from Stearns DHIA Laboratories.



Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
|------------------------|---------------------|------------------------|-------------------|
| W10E-004 | | WR 0.2 | DENNIS LOWEN |

| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
|---------------------|---------------------|----------------------|----------------------|-------------|
| 5/3/2010 | 8:27 AM | 5/3/2010 | 10:15 AM | 5 |

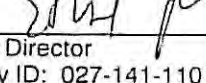
| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| Orthophosphate, (EPA 365.1 Rev 2.0), (0.01 mg/L) | 5/5/2010 1148 | 0.0257 mg/L | EM | A |
| TSS, (USGS 1-3765-85), (1.0 mg/L) | 5/6/2010 1630 | 3.25 mg/L | EM | A |
| Total Phosphorus, (EPA 365.4 Rev. 2.0), (0.1 mg/L) | 5/6/2010 1615 | 0.084 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

AD
8/24/10

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10F-004 | <u>Project Name</u> | <u>Sample Location</u> WR 0.2 | <u>Sampled By</u> DENNIS LOEWEN | | | |
|--|--------------------------------|----------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/1/2010 | <u>Time Sampled</u> 8:45 AM | <u>Date Received</u> 6/1/2010 | <u>Time Received</u> 10:00 AM | <u>Temp</u> 3 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/2/2010 | 1200 | < 0.01 mg/L | EM | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 6/3/2010 | 1630 | 3.25 mg/L | EM | A |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/7/2010 | | 0.048 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD 8/24/10

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Report Submitted By: Ethel N
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10G-019 | <u>Project Name</u> 205 | <u>Sample Location</u> WR 0.2 | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|----------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 7/6/2010 | <u>Time Sampled</u> 8:00 AM | <u>Date Received</u> 7/6/2010 | <u>Time Received</u> 9:10 AM | <u>Temp</u> 3 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/20/2010 | | 0.124 mg/L | | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 7/7/2010 | 1800 | 12.5 mg/L | EM | B |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1601 | 0.0279 mg/L | EM | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/24/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-051 | <u>Project Name</u> 205 | <u>Sample Location</u> WR 0.2 | <u>Sampled By</u> Dennis Loewen | | |
|---|--------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/10/2010 | <u>Time Sampled</u> 8:45 AM | <u>Date Received</u> 8/10/2010 | <u>Time Received</u> 10:30 AM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/16/2010 | | 0.096 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 8/19/2010 1700 | | 9.5 mg/L** | EM B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 8/12/2010 | | < 0.05 mg/L+ | * B |

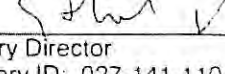
Notes:

* Total Phosphorus & Orthophosphate done by MN Lab # 027-035-135

**TSS re-run on 8/19/10.

+ Sample analyzed past the holding time.

The test results are only indicative of the sample tested from the sample point on the date collected.
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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD 11/18/10

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

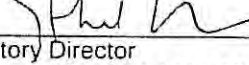
P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-049 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> WR 0.2 | <u>Sampled By</u> Dennis Loewen | | |
|---|------------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/13/2010 | <u>Time Sampled</u> 9:45 AM | <u>Date Received</u> 9/13/2010 | <u>Time Received</u> 11:25 AM | <u>Temp</u> 8 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.071 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 9/16/2010 1730 | | 2.5 mg/L | EM B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 9/14/2010 0841 | | 0.0467 mg/L | EM B |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
11/18/10

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

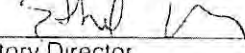
P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10J-025 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> WR 0.2 | <u>Sampled By</u> Dennis Loewen | | |
|---|------------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 10/5/2010 | <u>Time Sampled</u> 12:15 PM | <u>Date Received</u> 10/5/2010 | <u>Time Received</u> 1:35 PM | <u>Temp</u> 4 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/14/2010 | | 0.037 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 10/7/2010 1700 | | 2.5 mg/L | EM B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 10/6/2010 1227 | | 0.025 mg/L | EM B |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
11/18/10

| | | |
|--|--|--|
| Wenck Associates, Inc. 1800 Pioneer Creek Center P.O. Box 249 Maple Plain, MN 55359-0249 | Client Ref: [none] Client Contact: Mr. Wes Boll PO Number: | Work Order #: 1001282 Project Mgr: Steven J. Albrecht Account ID: W02540 |
|--|--|--|

Clear Lake North
1001282-02 (Water)
3/18/10 10:30

Classical Chemistry Parameters

| Analyte | Result | MRL | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-------|-------|----------|---------|----------|----------|-----------|-------|
| Orthophosphate as P | 0.41 | 0.030 | mg/L | 5 | B0C0317 | 3/19/10 | 3/19/10 | EPA 365.3 | |
| Phosphorus, Total as P | 0.44 | 0.010 | mg/L | 1 | B0C0365 | 3/24/10 | 3/26/10 | EPA 365.3 | |

AP
8/24/10



Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

WENCK ASSOCIATES (CRWD)

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10D-020 | 0002-129 | CLN | DENNIS LOEWEN |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 4/6/2010 | 7:00 AM | 4/6/2010 | 10:30 AM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| TSS, (USGS I-3765-85), (1.0 mg/L) | 4/8/2010 1410 | 1.50 mg/L | KK | B |
| Orthophosphate, (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/7/2010 1218 | 0.0553 mg/L | EM | B |

Notes:

AD 8/24/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



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LABORATORIES

Stearns DHIA Laboratories

MN Lab ID# 027-145-378

825 12th St. So., P O Box 227,
Sauk Centre, MN 56378-0227
320.3522028 Phone
800.3692697 Toll Free
320.3526163 Fax
Email:
stearnsdhlalab@stearnsdhlalab.com

PAGE 06/06

Report of Analysis

Name: WATER LABORATORY INC
PO BOX 388
ELK RIVER, MN 55330

Sample ID/Invoice #: 076876
Account #: 004188
Internal ID#: 90917
Sample Type: Water
Client Sample ID: W100020
Sample Date: 4/6/2010 7:00 AM
Sampler: D.L.
Receipt Date: 4/6/2010 11:55 AM
Receipt Temp: 6°C

Report Date: 4/12/2010
Date: 4/12/2010

| Analyte | Approved Method | Reporting Limit | Sample Result | Units | Sample Prep Date/Time | Analysis Date/Time | Analyst |
|--------------------|-----------------|-----------------|---------------|-------|-----------------------|--------------------|---------|
| Phosphorous, Total | EPA 365.3 | 0.005 | 0.117 | mg/L | | 4/09/2010 03:30 | mm |

STEARNS DHIA LABS

3203522228

04/12/2010 16:38

Comments:

Report Approved by:

Angela Schurping
Angela Schurping, Environmental Chemist
Laurie Petersen, Lab Tech
Melinda Mason, Lab Tech

Note: The results listed within the report relate only to the sample received on the dates indicated. We do not accept any liability for use of these results. This report must not be reproduced, except in full, without the written approval from Stearns DHIA Laboratories.

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Elk River, MN 55330
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Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

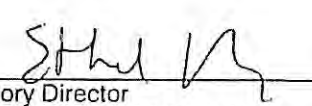
CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-001 | <u>Project Name</u> | <u>Sample Location</u> CLN | <u>Sampled By</u> DENNIS LOEWEN | | | |
|-------------------------------------|----------------------------------|----------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 5/3/2010 | <u>Time Sampled</u> 6:45 AM | <u>Date Received</u> 5/3/2010 | <u>Time Received</u> 10:15 AM | <u>Temp</u> 5 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 5/5/2010 | 1148 | 0.197mg/L | EM | A |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 5/6/2010 | 1630 | < 1.0 mg/L | EM | A |
| Total Phosphorus, | (EPA 365.4 Rev. 2.0), (0.1 mg/L) | 5/6/2010 | 1615 | 0.253 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
8/24/10



Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| | | | | |
|------------------------------------|--------------------------------|----------------------------------|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-001 | <u>Project Name</u> | <u>Sample Location</u> CLN | <u>Sampled By</u> DENNIS LOEWEN | |
| <u>Date Sampled</u> 6/1/2010 | <u>Time Sampled</u> 7:15 AM | <u>Date Received</u> 6/1/2010 | <u>Time Received</u> 10:00 AM | <u>Temp</u> 3 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/2/2010 1200 | 0.421 mg/L | EM | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | 6/3/2010 1630 | 1.86 mg/L | EM | A |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/11/2010 | 0.548 mg/L | | B |


Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/24/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

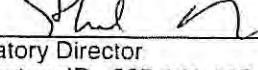
| <u>Lab File Number</u> W10G-016 | <u>Project Name</u> 205 | <u>Sample Location</u> CLN | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|----------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 7/6/2010 | <u>Time Sampled</u> 6:18 AM | <u>Date Received</u> 7/6/2010 | <u>Time Received</u> 9:10 AM | <u>Temp</u> 3 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/20/2010 | | 0.739 mg/L | | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 7/7/2010 | 1800 | 2.25 mg/L | EM | B |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1601 | 0.505 mg/L | EM | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/24/10

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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333 East Main Street
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-048 | <u>Project Name</u> 205 | <u>Sample Location</u> CLN | <u>Sampled By</u> Dennis Loewen | | |
|---|--------------------------------|-----------------------------------|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 8/10/2010 | <u>Time Sampled</u> 6:34 AM | <u>Date Received</u> 8/10/2010 | <u>Time Received</u> 10:30 AM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/16/2010 | 0.355 mg/L | * | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 8/19/2010 1700 | 10.5 mg/L** | EM | B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 8/12/2010 | 0.206 mg/L+ | * | B |

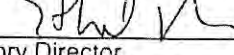
Notes:

* Total Phosphorus & Orthophosphate done by MN Lab # 027-035-135

**TSS re-run on 8/19/10

+ Sample analyzed past the holding time.

The test results are only indicative of the sample tested from the sample point on the date collected.
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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
11/8/10

Water Laboratories Inc.

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Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

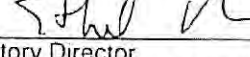
P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W101-046 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> CLN | <u>Sampled By</u> Dennis Loewen | | | |
|---|------------------------------------|-----------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 9/13/2010 | <u>Time Sampled</u> 7:00 AM | <u>Date Received</u> 9/13/2010 | <u>Time Received</u> 11:25 AM | <u>Temp</u> 8 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.257 mg/L | * | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 9/16/2010 | 1730 | 1.25 mg/L | EM | B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 9/14/2010 | 0841 | 0.219 mg/L | EM | B |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
11/18/10

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

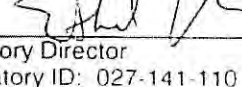
P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10J-022 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> CLN | <u>Sampled By</u> Dennis Loewen | | | |
|---|------------------------------------|-----------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 10/5/2010 | <u>Time Sampled</u> 10:30 AM | <u>Date Received</u> 10/5/2010 | <u>Time Received</u> 1:35 PM | <u>Temp</u> 4 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/14/2010 | | 0.173 mg/L | * | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 10/7/2010 | 1700 | < 1.0 mg/L | EM | B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 10/6/2010 | 1227 | 0.147 mg/L | EM | B |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
11/18/10

Wenck Associates, Inc.
1800 Pioneer Creek Center P.O. Box 249
Maple Plain, MN 55359-0249

Client Ref: [none]
Client Contact: Mr. Wes Boll
PO Number:

Work Order #: 1001282
Project Mgr: Steven J. Albrecht
Account ID: W02540

Clear Lake South
1001282-03 (Water)
3/18/10 11:00

Classical Chemistry Parameters

| Analyte | Result | MRL | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------|-------|----------|---------|----------|----------|-----------|-------|
| Orthophosphate as P | 0.17 | 0.0060 | mg/L | 1 | B0C0317 | 3/19/10 | 3/19/10 | EPA 365.3 | |
| Phosphorus, Total as P | 0.23 | 0.010 | mg/L | 1 | B0C0365 | 3/24/10 | 3/26/10 | EPA 365.3 | |

AD
8/24/10



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PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

WENCK ASSOCIATES (CRWD)

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10D-021 | 0002-129 | CLS | DENNIS LOEWEN |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 4/6/2010 | 7:35 AM | 4/6/2010 | 10:30 AM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|------------|----|--------|
| TSS, (USGS I-3765-85), (1.0 mg/L) | 4/8/2010 1410 | 1.75 mg/L | KK | B |
| Orthophosphate, (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/7/2010 1218 | 0.0660mg/L | EM | B |

Notes:

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8/24/10

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Report Submitted By: SMW
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



DHIA
LABORATORIES

Stearns DHIA Laboratories

MIN Lab ID# 027-145-378

825 12th St. So., P.O. Box 227,
Sauk Centre, MN 56378-0227
320.352.2028 Phone
800.369.2697 Toll Free
320.352.6163 Fax
Email: stearnsdhialab@stearnsdhialab.com

Report of Analysis

Name: WATER LABORATORY INC
PO BOX 388
ELK RIVER, MN 55330

Sample ID/Invoice #: 076677
Account #: 004188
Internal ID#: 90918
Sample Type: Water
Client Sample ID: W10D071
Sample Date: 4/6/2010 7:35 AM
Sampler: D.L.
Receipt Date: 4/6/2010 11:55 AM
Receipt Temp: 6°C

Report Date: 4/12/2010
Date: 4/12/2010

| Analyte | Approved Method | Reporting Limit | Sample Result | Units | Sample Prep Date/Time | Analysis Date/Time | Analyst |
|--------------------|-----------------|-----------------|---------------|-------|-----------------------|--------------------|---------|
| Phosphorous, Total | EPA 365.3 | 0.005 | 0.147 | mg/L | | 4/09/2010 03:30 | mmn |


NCO
12/13/10

Comments:

Report Approved by:

Angela Scherpin
Angela Scherpin, Environmental Chemist
Laurie Peterson, Lab Tech
Melinda Mason, Lab Tech

Note: The results listed within the report relate only to the sample received on the dates indicated. We do not accept any liability for use of these results. This report must not be reproduced, except in full, without the written approval from Stearns DHIA Laboratories.



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PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

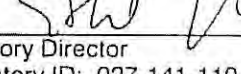
| <u>Lab File Number</u> W10E-002 | <u>Project Name</u> | <u>Sample Location</u> CLS | <u>Sampled By</u> DENNIS LOEWEN | | | |
|-------------------------------------|--------------------------------|----------------------------------|------------------------------------|------------------|------------|-----------|
| <u>Date Sampled</u> 5/3/2010 | <u>Time Sampled</u> 7:19 AM | <u>Date Received</u> 5/3/2010 | <u>Time Received</u> 10:15 AM | <u>Temp</u> 5 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), | (0.01 mg/L) | 5/5/2010 | 1148 | 0.159 mg/L | EM A |
| TSS, | (USGS 1-3765-85), | (1.0 mg/L) | 5/6/2010 | 1630 | 1.5 mg/L | EM A |
| Total Phosphorus, | (EPA 365.4 Rev. 2.0), | (0.1 mg/L) | 5/6/2010 | 1615 | 0.114 mg/L | B |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

AD
8/24/10

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10F-002 | <u>Project Name</u> | <u>Sample Location</u> CLS | <u>Sampled By</u> DENNIS LOEWEN | | |
|--|--------------------------------|----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/1/2010 | <u>Time Sampled</u> 7:38 AM | <u>Date Received</u> 6/1/2010 | <u>Time Received</u> 10:00 AM | <u>Temp</u> 3 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/2/2010 | 1200 | 0.031 mg/L | EM A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 6/3/2010 | 1630 | 1.25 mg/L | EM A |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/7/2010 | | 0.140 mg/L | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/24/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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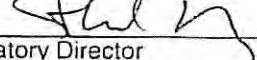
| <u>Lab File Number</u> W10G-017 | <u>Project Name</u> 205 | <u>Sample Location</u> CLS | <u>Sampled By</u> Dennis Loewen | | | |
|--|--------------------------------|----------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 7/6/2010 | <u>Time Sampled</u> 6:50 AM | <u>Date Received</u> 7/6/2010 | <u>Time Received</u> 9:10 AM | <u>Temp</u> 3 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/20/2010 | | 0.980 mg/L | | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 7/7/2010 | 1800 | 12.5 mg/L | EM | B |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1601 | 0.329 mg/L | EM | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AP
8/24/10

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10H-049 | <u>Project Name</u> 205 | <u>Sample Location</u> CLS | <u>Sampled By</u> Dennis Loewen | | |
|---|--------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 8/10/2010 | <u>Time Sampled</u> 7:00 AM | <u>Date Received</u> 8/10/2010 | <u>Time Received</u> 10:30 AM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 8/16/2010 | | 0.120 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 8/19/2010 1700 | | 1.5 mg/L ** | EM B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 8/12/2010 | | 0.053 mg/L+ | * B |

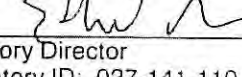
Notes:

* Total Phosphorus & Orthophosphate done by MN Lab # 027-035-135

**TSS re-run on 8/19/10.

+ Sample analyzed past the holding time.

The test results are only indicative of the sample tested from the sample point on the date collected.
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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
11/18/10

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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10I-047 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> CLS | <u>Sampled By</u> Dennis Loewen | | |
|---|------------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 9/13/2010 | <u>Time Sampled</u> 7:40 AM | <u>Date Received</u> 9/13/2010 | <u>Time Received</u> 11:25 AM | <u>Temp</u> 8 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 9/28/2010 | | 0.093 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 9/16/2010 1730 | | 3.5 mg/L | EM B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 9/14/2010 0841 | | 0.0730 mg/L | EM B |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

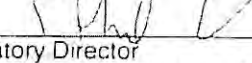
P O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10J-023 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> CLS | <u>Sampled By</u> Dennis Loewen | | |
|---|------------------------------------|-----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 10/5/2010 | <u>Time Sampled</u> 10:50 AM | <u>Date Received</u> 10/5/2010 | <u>Time Received</u> 1:35 PM | <u>Temp</u> 4 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 10/14/2010 | | 0.081 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 10/7/2010 | 1700 | 2.0 mg/L | EM B |
| Orthophosphate (EPA 300.0 Rev 2.1, 0.05 mg/L) | | 10/6/2010 | 1227 | 0.071 mg/L | EM B |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141 110

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11/18/10

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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------------------|------------------------------------|---|------------------------------------|------------------|
| <u>Lab File Number</u> W101-051 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> CR 0.2 <i>C.R.O.I.</i> | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 9/13/2010 | <u>Time Sampled</u> 10:40 AM | <u>Date Received</u> 9/13/2010 | <u>Time Received</u> 11:25 AM | <u>Temp</u> 8 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--------------------------------------|----------------------|----------------|----|--------|
| E. coli (Quantl-Tray, 1.0 MPN/100mL) | 9/13/2010 1200 | 36.9 MPN/100mL | EM | A |

Notes:

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Report Submitted By: *SPH*
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD 11/18/10

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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | | | |
|------------------------------------|---------------------------------|----------------------------------|-----------------------------------|---------------------------------|------------------|------------------------------------|
| <u>Lab File Number</u> W101-160 | <u>Project Name</u> | <u>Sample Location</u> CR 0.2 | <u>Date Received</u> 9/27/2010 | <u>Time Received</u> 1:10 PM | <u>Temp</u> 6 | <u>Sampled By</u> Dennis Loewen |
| <u>Date Sampled</u> 9/27/2010 | <u>Time Sampled</u> 12:30 PM | | | | | |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--------------------------------------|----------------------|----------------|----|--------|
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | 9/27/2010 1330 | 48.7 MPN/100mL | EM | A |

Notes:

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
11/18/10

Water Laboratories Inc.

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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------------------|------------------------------------|-----------------------------------|------------------------------------|------------------|
| <u>Lab File Number</u> W10J-027 | <u>Project Name</u> 205 STREAMS | <u>Sample Location</u> CR 0.2 | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 10/5/2010 | <u>Time Sampled</u> 1:00 PM | <u>Date Received</u> 10/5/2010 | <u>Time Received</u> 1:35 PM | <u>Temp</u> 4 |

| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--------------------------------------|----------------------|----------------|----|--------|
| E. coli (Quanti-Tray, 1.0 MPN/100mL) | 10/5/2010 1400 | 15.0 MPN/100mL | EM | A |

Notes:

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

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11/18/10

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Elk River, MN 55330
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10C-094 | | SSW01 | Wes Boll |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 3/24/2010 | 8:15 AM | 3/25/2010 | 7:00 AM | 2 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|----------------------|------------|----|--------|
| Total Phosphorus, (EPA 365.4 Rev 2.0), (0.1 mg/L) | 3/29/2010 1426 | 0.222 mg/L | EM | A |
| TSS, (USGS 1-3765-85), (1.0 mg/L) | 3/25/2010 1600 | 6.0 mg/L | EM | B |
| Orthophosphate, (EPA 365.1 Rev 2.0), (0.01 mg/L) | 3/26/2010 1110 | 0.058 mg/L | EM | B |

Notes:

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
8/24/10



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-114 | <u>Project Name</u> | <u>Sample Location</u> SSW 01 | <u>Sampled By</u> WESLEY BOLL | | | |
|-------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 5/20/2010 | <u>Time Sampled</u> 10:00 AM | <u>Date Received</u> 5/20/2010 | <u>Time Received</u> 1:00 PM | <u>Temp</u> 0 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 5/20/2010 | 1603 | 0.0106 mg/L | EM | A |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 5/20/2010 | 1710 | 6.5 mg/L | EM | A |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), (0.005 mg/L) | 5/27/2010 | | 0.053 mg/L | | B |

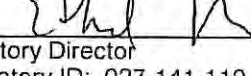
Notes:

Total Phosphorus done by MN Lab # 027-035-135

Orthophosphate Reagent Blank does not meet the quality assurance criteria.

AD
8/24/10

The test results are only indicative of the sample tested from the sample point on the date collected.
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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10F-089 | <u>Project Name</u> | <u>Sample Location</u> SSW 01 | <u>Sampled By</u> WESLEY BOLL | | |
|--|--------------------------------|-----------------------------------|----------------------------------|------------------|-----------|
| <u>Date Sampled</u> 6/15/2010 | <u>Time Sampled</u> 9:15 AM | <u>Date Received</u> 6/16/2010 | <u>Time Received</u> 7:30 AM | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1150 | 0.214 mg/L | EM A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 6/17/2010 | 1700 | 1.75 mg/L | EM A |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/29/2010 | | 0.272 mg/L | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/24/10

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Report Submitted By: Ethel M
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

NON-POTABLE WATER TEST REPORT

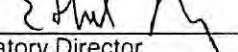
CRWD (Wenck Associates, Inc.)
P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10G-150 | <u>Project Name</u> | <u>Sample Location</u> SSW 01 | <u>Sampled By</u> Wes Boll | | |
|--|--------------------------------|-----------------------------------|---------------------------------|------------------|-----------|
| <u>Date Sampled</u> 7/21/2010 | <u>Time Sampled</u> 8:50 AM | <u>Date Received</u> 7/21/2010 | <u>Time Received</u> 2:20 PM | <u>Temp</u> 5 | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 7/29/2010 | | 0.412 mg/L | * A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 7/22/2010 | 1530 | 20.0 mg/L | EM B |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/22/2010 | 0901 | 0.198 mg/L | EM B |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
8/24/10

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10C-095 | <u>Project Name</u> | <u>Sample Location</u> SSW02 | <u>Sampled By</u> Wes Boll | | | |
|-------------------------------------|----------------------------------|-----------------------------------|---------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 3/24/2010 | <u>Time Sampled</u> 9:10 AM | <u>Date Received</u> 3/25/2010 | <u>Time Received</u> 7:00 AM | <u>Temp</u> 2 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus, | (EPA 365.4 Rev 2.0), (0.1 mg/L) | 3/29/2010 | 1426 | 0.224 mg/L | EM | A |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 3/25/2010 | 1600 | 1.25 mg/L | EM | B |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 3/26/2010 | 1110 | 0.499 mg/L | EM | B |

Notes:

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Report Submitted By: Ethel M
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
8/24/10



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-113 | <u>Project Name</u> | <u>Sample Location</u> SSW 02 | <u>Sampled By</u> WESLEY BOLL | | | |
|-------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 5/20/2010 | <u>Time Sampled</u> 9:45 AM | <u>Date Received</u> 5/20/2010 | <u>Time Received</u> 1:00 PM | <u>Temp</u> 0 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 5/20/2010 | 1603 | 0.152 mg/L | EM | A |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 5/20/2010 | 1710 | 1.25 mg/L | EM | A |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), (0.005 mg/L) | 5/27/2010 | | 0.217 mg/L | | B |

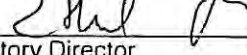
Notes:

Total Phosphorus done by MN Lab # 027-035-135

Orthophosphate Reagent Blank does not meet the quality assurance criteria.

AD 8/24/10

The test results are only indicative of the sample tested from the sample point on the date collected.
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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10F-090 | <u>Project Name</u> | <u>Sample Location</u> SSW 02 | <u>Sampled By</u> WESLEY BOLL | | | |
|--|--------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/15/2010 | <u>Time Sampled</u> 9:20 AM | <u>Date Received</u> 6/16/2010 | <u>Time Received</u> 7:30 AM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1150 | 0.178 mg/L | EM | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 6/17/2010 | 1700 | 7.25 mg/L | EM | A |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/29/2010 | | 0.248 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/24/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10G-151 | | SSW 02 | Wes Boll |

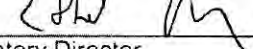
| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 9:10 AM | 7/21/2010 | 2:20 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|-------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.435 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>TSS (USGS 1-3765-85, 1.0 mg/L)</u> | <u>7/22/2010</u> <u>1530</u> | <u>1.25 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.340 mg/L</u> | <u>EM</u> | <u>B</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
8/24/10

Wenck Associates, Inc.
1800 Pioneer Creek Center P.O. Box 249
Maple Plain, MN 55359-0249

Client Ref: [none]
Client Contact: Mr. Wes Boll
PO Number:

Work Order #: 1001282
Project Mgr: Steven J. Albrecht
Account ID: W02540

SSW04
1001282-05 (Water)
3/18/10 12:30

Classical Chemistry Parameters

| Analyte | Result | MRL | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------|-------|----------|---------|----------|----------|-----------|-------|
| Orthophosphate as P | 0.20 | 0.0060 | mg/L | 1 | B0C0317 | 3/19/10 | 3/19/10 | EPA 365.3 | |
| Phosphorus, Total as P | 0.27 | 0.010 | mg/L | 1 | B0C0366 | 3/25/10 | 3/26/10 | EPA 365.3 | |

AD
8/24/10

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10C-098 | | SSW04 | Wes Boll |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 3/24/2010 | 10:00 AM | 3/25/2010 | 7:00 AM | 2 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|----------------------|------------|----|--------|
| Total Phosphorus, (EPA 365.4 Rev 2.0), (0.1 mg/L) | 3/29/2010 1426 | 0.170 mg/L | EM | A |
| TSS, (USGS 1-3765-85), (1.0 mg/L) | 3/25/2010 1600 | 3.0 mg/L | EM | B |
| Orthophosphate, (EPA 365.1 Rev 2.0), (0.01 mg/L) | 3/26/2010 1110 | 0.100 mg/L | EM | B |

Notes:

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
8/24/10



**Water
Laboratories
Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-110 | <u>Project Name</u> | <u>Sample Location</u> SSW 04 | <u>Sampled By</u> WESLEY BOLL | | | | |
|-------------------------------------|--------------------------------|-----------------------------------|----------------------------------|------------------|-------------|----|--------|
| <u>Date Sampled</u> 5/20/2010 | <u>Time Sampled</u> 8:50 AM | <u>Date Received</u> 5/20/2010 | <u>Time Received</u> 1:00 PM | <u>Temp</u> 0 | | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), | (0.01 mg/L) | 5/20/2010 | 1603 | 0.0998 mg/L | EM | A |
| TSS, | (USGS 1-3765-85), | (1.0 mg/L) | 5/22/2010 | 1710 | 1.25 mg/L | EM | A |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), | (0.005 mg/L) | 5/27/2010 | | 0.170 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

Orthophosphate Reagent Blank does not meet the quality assurance criteria.

AD
8/25/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

Lab File Number
W10F-093

Project Name

Sample Location
SSW 04

Sampled By
WESLEY BOLL

Date Sampled
6/15/2010

Time Sampled
10:00 AM

Date Received
6/16/2010

Time Received
7:30 AM

Temp
2

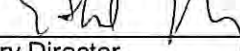
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
|--|----------------------|------|------------|----|--------|
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 6/17/2010 | 1150 | 0.243 mg/L | EM | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | 6/17/2010 | 1700 | 2.25 mg/L | EM | A |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | 6/30/2010 | | 0.349 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10G-154 | | SSW 04 | Wes Boll |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 9:45 AM | 7/21/2010 | 2:20 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|----------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.911 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>TSS (USGS 1-3765-85, 1.0 mg/L)</u> | <u>7/22/2010</u> <u>1530</u> | <u>< 1.0 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.684 mg/L</u> | <u>EM</u> | <u>B</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10C-096 | | SDD01 | Wes Boll |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 3/24/2010 | 9:30 AM | 3/25/2010 | 7:00 AM | 2 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|----------------------|------------|----|--------|
| Total Phosphorus, (EPA 365.4 Rev 2.0), (0.1 mg/L) | 3/29/2010 1426 | < 0.1 mg/L | EM | A |
| TSS, (USGS 1-3765-85), (1.0 mg/L) | 3/25/2010 1600 | < 1.0 mg/L | EM | B |
| Orthophosphate, (EPA 365.1 Rev 2.0), (0.01 mg/L) | 3/26/2010 1110 | 0.080 mg/L | EM | B |

Notes:

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
8/25/10



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-112 | <u>Project Name</u> | <u>Sample Location</u> SDD 01 | <u>Sampled By</u> WESLEY BOLL | | | |
|-------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 5/20/2010 | <u>Time Sampled</u> 9:25 AM | <u>Date Received</u> 5/20/2010 | <u>Time Received</u> 1:00 PM | <u>Temp</u> 0 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 5/20/2010 | 1603 | 0.0225 mg/L | EM | A |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 5/20/2010 | 1710 | 3.0 mg/L | EM | A |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), (0.005 mg/L) | 5/27/2010 | | 0.049 mg/L | | B |

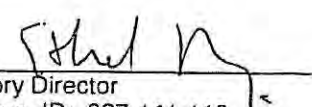
Notes:

Total Phosphorus done by MN Lab # 027-035-135

Orthophosphate Reagent Blank does not meet the quality assurance criteria.

AD
8/25/10

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Report Submitted By: 
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Minnesota State Laboratory ID: 027-141-110



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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10F-091 | <u>Project Name</u> | <u>Sample Location</u> SDD 01 | <u>Sampled By</u> WESLEY BOLL | | | |
|--|--------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/15/2010 | <u>Time Sampled</u> 9:30 AM | <u>Date Received</u> 6/16/2010 | <u>Time Received</u> 7:30 AM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1150 | 0.149 mg/L | EM | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 6/17/2010 | 1700 | < 1.0 mg/L | EM | A |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/29/2010 | | 0.253 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-115 | <u>Project Name</u> | <u>Sample Location</u> SCE 01 | <u>Sampled By</u> WESLEY BOLL | | | |
|---|---------------------------------|-----------------------------------|----------------------------------|--------------------|-----------|----------|
| <u>Date Sampled</u> 5/20/2010 | <u>Time Sampled</u> 10:15 AM | <u>Date Received</u> 5/20/2010 | <u>Time Received</u> 1:00 PM | <u>Temp</u> 0 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| <u>Orthophosphate,</u> (EPA 365.1 Rev 2.0), (0.01 mg/L) | | <u>5/20/2010</u> | <u>1603</u> | <u>0.0189 mg/L</u> | <u>EM</u> | <u>A</u> |
| <u>TSS,</u> (USGS 1-3765-85), (1.0 mg/L) | | <u>5/20/2010</u> | <u>1710</u> | <u>5.5 mg/L</u> | <u>EM</u> | <u>A</u> |
| <u>Total Phosphorus,</u> (EPA 365.3 Rev. 2.0), (0.005 mg/L) | | <u>5/27/2010</u> | | <u>0.042 mg/L</u> | | <u>B</u> |

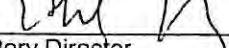
Notes:

Total Phosphorus done by MN Lab # 027-035-135

Orthophosphate Reagent Blank does not meet the quality assurance criteria.

AD
8/25/10

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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

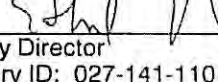
| <u>Lab File Number</u> W10F-096 | <u>Project Name</u> | <u>Sample Location</u> SCE 01 | <u>Sampled By</u> WESLEY BOLL | | | |
|--|---------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/15/2010 | <u>Time Sampled</u> 10:45 AM | <u>Date Received</u> 6/16/2010 | <u>Time Received</u> 7:30 AM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1150 | 0.013 mg/L | EM | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 6/17/2010 | 1700 | 4.25 mg/L | EM | A |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/29/2010 | | 0.029 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

P.O Box 481, Annandale, MN 55302

| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10G-149 | | SCE 01 | Wes Boll |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | 8:30 AM | 7/21/2010 | 2:20 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|--------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/27/2010</u> | <u>0.021 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>TSS (USGS 1-3765-85, 1.0 mg/L)</u> | <u>7/22/2010</u> <u>1530</u> | <u>2.37 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.0141 mg/L</u> | <u>EM</u> | <u>B</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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Report Submitted By: _____
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Water Laboratories Inc.

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

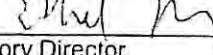
| | | | |
|------------------------|---------------------|------------------------|-------------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> |
| W10C-097 | | SHE01 | Wes Boll |

| | | | | |
|---------------------|---------------------|----------------------|----------------------|-------------|
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 3/24/2010 | 9:45 AM | 3/25/2010 | 7:00 AM | 2 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|----------------------|------------|----|--------|
| Total Phosphorus, (EPA 365.4 Rev 2.0), (0.1 mg/L) | 3/29/2010 1426 | < 0.1 mg/L | EM | A |
| TSS, (USGS 1-3765-85), (1.0 mg/L) | 3/25/2010 1600 | 5.25 mg/L | EM | B |
| Orthophosphate, (EPA 365.1 Rev 2.0), (0.01 mg/L) | 3/26/2010 1110 | 0.015 mg/L | EM | B |

Notes:

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

AD
8/25/10



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-111 | <u>Project Name</u> | <u>Sample Location</u> SHE 01 | <u>Sampled By</u> WESLEY BOLL | | | |
|-------------------------------------|---|-----------------------------------|----------------------------------|--------------------|-----------|----------|
| <u>Date Sampled</u> 5/20/2010 | <u>Time Sampled</u> 9:10 AM | <u>Date Received</u> 5/20/2010 | <u>Time Received</u> 1:00 PM | <u>Temp</u> 0 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| <u>Orthophosphate,</u> | <u>(EPA 365.1 Rev 2.0), (0.01 mg/L)</u> | <u>5/20/2010</u> | <u>1603</u> | <u>0.0165 mg/L</u> | <u>EM</u> | <u>A</u> |
| <u>TSS,</u> | <u>(USGS 1-3765-85), (1.0 mg/L)</u> | <u>5/20/2010</u> | <u>1710</u> | <u>17.0 mg/L</u> | <u>EM</u> | <u>A</u> |
| <u>Total Phosphorus,</u> | <u>(EPA 365.3 Rev. 2.0), (0.005 mg/L)</u> | <u>5/27/2010</u> | | <u>0.156 mg/L</u> | | <u>B</u> |

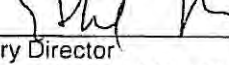
Notes:

Total Phosphorus done by MN Lab # 027-035-135

Orthophosphate Reagent Blank does not meet the quality assurance criteria.

AD
8/25/10

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Minnesota State Laboratory ID: 027-141-110



**Water
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Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10F-092 | <u>Project Name</u> | <u>Sample Location</u> SHE 01 | <u>Sampled By</u> WESLEY BOLL | | | |
|--|--------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/15/2010 | <u>Time Sampled</u> 9:40 AM | <u>Date Received</u> 6/16/2010 | <u>Time Received</u> 7:30 AM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1150 | 0.0158 mg/L | EM | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 6/17/2010 | 1700 | 11.75 mg/L | EM | A |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/29/2010 | | 0.136 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
P.O Box 481, Annandale, MN 55302

| | | | |
|------------------------------------|--------------------------------|-----------------------------------|---------------------------------|
| <u>Lab File Number</u> W10G-153 | <u>Project Name</u> | <u>Sample Location</u> SHE 01 | <u>Sampled By</u> Wes Boll |
| <u>Date Sampled</u> 7/21/2010 | <u>Time Sampled</u> 9:30 AM | <u>Date Received</u> 7/21/2010 | <u>Time Received</u> 2:20 PM |
| | | <u>Temp</u> 5 | |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|--|----------------------|-------------|----|--------|
| * Total Phosphorus (EPA 365.3, 0.005 mg/L) | 7/29/2010 | 0.200 mg/L | * | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | 7/22/2010 1530 | 13.0 mg/L | EM | B |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | 7/22/2010 0901 | 0.0327 mg/L | EM | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

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8/25/10

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Report Submitted By: Ethel M
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Wenck Associates, Inc.
1800 Pioneer Creek Center P.O. Box 249
Maple Plain, MN 55359-0249

Client Ref: [none]
Client Contact: Mr. Wes Boll
PO Number:

Work Order #: 1001282
Project Mgr: Steven J. Albrecht
Account ID: W02540

Illsley
1001282-04 (Water)
3/18/10 12:00

Classical Chemistry Parameters

| Analyte | Result | MRL | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-------|-------|----------|---------|----------|----------|-----------|-------|
| Orthophosphate as P | 0.46 | 0.030 | mg/L | 5 | B0C0317 | 3/19/10 | 3/19/10 | EPA 365.3 | |
| Phosphorus, Total as P | 0.52 | 0.020 | mg/L | 2 | B0C0366 | 3/25/10 | 3/26/10 | EPA 365.3 | |

AD
8/25/10



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

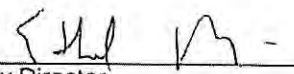
| <u>Lab File Number</u> W10F-094 | | <u>Project Name</u> | | <u>Sample Location</u> SEGNER | | <u>Sampled By</u> WESLEY BOLL | |
|---|---------------------------------|-----------------------------------|----------------------|----------------------------------|------------|----------------------------------|--------|
| <u>Date Sampled</u> 6/15/2010 | <u>Time Sampled</u> 10:15 AM | <u>Date Received</u> 6/16/2010 | | <u>Time Received</u> 7:30 AM | | <u>Temp</u> 2 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | | 6/17/2010 1150 | | 0.239 mg/L | EM | A |
| Total Phosphorus, (EPA 365.3, 0.005 mg/L) | | | 6/30/2010 | | 0.387 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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Minnesota State Laboratory ID: 027-141-110



333 East Main Street
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Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10F-095 | <u>Project Name</u> | <u>Sample Location</u> SEGNER IN | <u>Sampled By</u> WESLEY BOLL | | | |
|---|---------------------------------|-------------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/15/2010 | <u>Time Sampled</u> 10:30 AM | <u>Date Received</u> 6/16/2010 | <u>Time Received</u> 7:30 AM | <u>Temp</u> 2 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/17/2010 | 1150 | 0.251 mg/L | EM | A |
| Total Phosphorus, (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | | 0.339 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)
P.O Box 481, Annandale, MN 55302

| | | | |
|------------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| <u>Lab File Number</u> W10G-155 | <u>Project Name</u> | <u>Sample Location</u> SEGNER | <u>Sampled By</u> Wes Boll |
| <u>Date Sampled</u> 7/21/2010 | <u>Time Sampled</u> 10:00 AM | <u>Date Received</u> 7/21/2010 | <u>Time Received</u> 2:20 PM |
| | | <u>Temp</u> 5 | |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|-------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.580 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>TSS (USGS 1-3765-85, 1.0 mg/L)</u> | <u>7/22/2010</u> <u>1530</u> | <u>138 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.350 mg/L</u> | <u>EM</u> | <u>B</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10D-119 | <u>Project Name</u> | <u>Sample Location</u> CR 10.5 | <u>Sampled By</u> WES BOLL | | | |
|---|---------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 4/21/2010 | <u>Time Sampled</u> 10:00 AM | <u>Date Received</u> 4/21/2010 | <u>Time Received</u> 12:40 PM | <u>Temp</u> 4 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Total Phosphorus, (EPA 365.3 Rev 2.0), (0.005 mg/L) | | 4/28/2010 | 1400 | 0.049 mg/L | | A |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

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Report Submitted By: Ethel M
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



**Water
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Inc.**

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Elk River, MN 55330
Phone: (763) 441-7509
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Email: h2olab@spacestar.net
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NON-POTABLE WATER TEST REPORT

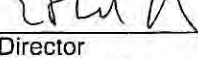
CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10D-126 | <u>Project Name</u> | <u>Sample Location</u> FDI | <u>Sampled By</u> WES BOLL | | | |
|-------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 4/21/2010 | <u>Time Sampled</u> | <u>Date Received</u> 4/21/2010 | <u>Time Received</u> 12:40 PM | <u>Temp</u> 4 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/21/2010 | 1545 | 0.0158mg/L | EM | A |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 4/22/2010 | 1600 | 13.5 mg/L | EM | A |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), (0.005 mg/L) | 4/28/2010 | 1400 | 0.141 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
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NON-POTABLE WATER TEST REPORT

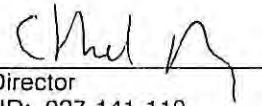
CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10D-125 | <u>Project Name</u> | <u>Sample Location</u> SSW 04 | <u>Sampled By</u> WES BOLL | | | |
|-------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 4/21/2010 | <u>Time Sampled</u> 12:30 PM | <u>Date Received</u> 4/21/2010 | <u>Time Received</u> 12:40 PM | <u>Temp</u> 4 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/21/2010 | 1545 | 0.0652 mg/L | EM | A |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 4/22/2010 | 1600 | 11.5 mg/L | EM | A |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), (0.005 mg/L) | 4/28/2010 | 1400 | 0.246mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

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Report Submitted By: 
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

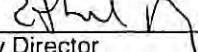
CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10D-121 | <u>Project Name</u> | <u>Sample Location</u> SSW 01 | <u>Sampled By</u> WES BOLL | | | |
|-------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 4/21/2010 | <u>Time Sampled</u> 11:00 AM | <u>Date Received</u> 4/21/2010 | <u>Time Received</u> 12:40 PM | <u>Temp</u> 4 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/21/2010 | 1545 | 0.0134 mg/L | EM | A |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 4/22/2010 | 1600 | 9.0 mg/L | EM | A |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), (0.005 mg/L) | 4/28/2010 | 1400 | 0.161 mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

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NON-POTABLE WATER TEST REPORT

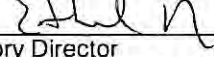
CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10D-122 | <u>Project Name</u> | <u>Sample Location</u> SSW 02 | <u>Sampled By</u> WES BOLL | | | | |
|-------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|--|
| <u>Date Sampled</u> 4/21/2010 | <u>Time Sampled</u> 11:15 AM | <u>Date Received</u> 4/21/2010 | <u>Time Received</u> 12:40 PM | <u>Temp</u> 4 | | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE | |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/21/2010 | 1545 | 0.169 mg/L | EM | A | |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 4/22/2010 | 1600 | 2.0 mg/L | EM | A | |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), (0.005 mg/L) | 4/28/2010 | 1400 | 0.301mg/L | | B | |

Notes:

Total Phosphorus and E. coli done by MN Lab # 027-145-378

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PO Box 388
Elk River, MN 55330
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Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

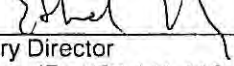
CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10D-123 | <u>Project Name</u> | <u>Sample Location</u> SDD 01 | <u>Sampled By</u> WES BOLL | | | | |
|-------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|--|
| <u>Date Sampled</u> 4/21/2010 | <u>Time Sampled</u> 12:00 PM | <u>Date Received</u> 4/21/2010 | <u>Time Received</u> 12:40 PM | <u>Temp</u> 4 | | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE | |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/21/2010 | 1545 | 0.0250 mg/L | EM | A | |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 4/22/2010 | 1600 | < 1.0 mg/L | EM | A | |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), (0.005 mg/L) | 4/28/2010 | 1400 | 0.097 mg/L | | B | |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

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Inc.**

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PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

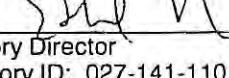
CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10D-124 | <u>Project Name</u> | <u>Sample Location</u> SHE 01 | <u>Sampled By</u> WES BOLL | | | | |
|-------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|--|
| <u>Date Sampled</u> 4/21/2010 | <u>Time Sampled</u> 12:15 PM | <u>Date Received</u> 4/21/2010 | <u>Time Received</u> 12:40 PM | <u>Temp</u> 4 | | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE | |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/21/2010 | 1545 | 0.0235 mg/L | EM | A | |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 4/22/2010 | 1600 | 9.25 mg/L | EM | A | |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), (0.005 mg/L) | 4/28/2010 | 1400 | 0.186 mg/L | | B | |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

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Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

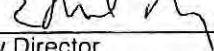
CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10D-120 | <u>Project Name</u> | <u>Sample Location</u> SCE 01 | <u>Sampled By</u> WES BOLL | | | |
|-------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 4/21/2010 | <u>Time Sampled</u> 10:30 AM | <u>Date Received</u> 4/21/2010 | <u>Time Received</u> 12:40 PM | <u>Temp</u> 4 | | |
| PARAMETERS, METHOD, REPORTING LIMIT | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 4/21/2010 | 1545 | 0.0179 mg/L | EM | A |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 4/22/2010 | 1600 | 14.5 mg/L | EM | A |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), (0.005 mg/L) | 4/28/2010 | 1400 | 0.037mg/L | | B |

Notes:

Total Phosphorus done by MN Lab # 027-145-378

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

| <u>Lab File Number</u> W10E-116 | <u>Project Name</u> | <u>Sample Location</u> FD 01 | <u>Sampled By</u> WESLEY BOLL | | | |
|-------------------------------------|------------------------------------|-----------------------------------|----------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 5/20/2010 | <u>Time Sampled</u> | <u>Date Received</u> 5/20/2010 | <u>Time Received</u> 1:00 PM | <u>Temp</u> 0 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate, | (EPA 365.1 Rev 2.0), (0.01 mg/L) | 5/20/2010 | 1603 | < 0.01 mg/L | EM | A |
| TSS, | (USGS 1-3765-85), (1.0 mg/L) | 5/20/2010 | 1710 | 3.25 mg/L | EM | A |
| Total Phosphorus, | (EPA 365.3 Rev. 2.0), (0.005 mg/L) | 5/27/2010 | | 0.041 mg/L | | B |

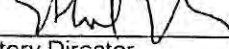
Notes:

Total Phosphorus done by MN Lab # 05/26/2010

Orthophosphate Reagent Blank does not meet the quality assurance criteria.

AD
8/25/10

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Minnesota State Laboratory ID: 027-141-110

NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| | | | | |
|------------------------------------|---------------------|-----------------------------------|---------------------------------|------------------|
| <u>Lab File Number</u> W10G-156 | <u>Project Name</u> | <u>Sample Location</u> FDI | <u>Sampled By</u> Wes Boll | |
| <u>Date Sampled</u> 7/21/2010 | <u>Time Sampled</u> | <u>Date Received</u> 7/21/2010 | <u>Time Received</u> 2:20 PM | <u>Temp</u> 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|-------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.911 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>TSS (USGS 1-3765-85, 1.0 mg/L)</u> | <u>7/22/2010</u> <u>1530</u> | <u>2.25 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.717 mg/L</u> | <u>EM</u> | <u>B</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

**Water
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Inc.**

333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

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| | | | | |
|------------------------|---------------------|------------------------|----------------------|-------------|
| <u>Lab File Number</u> | <u>Project Name</u> | <u>Sample Location</u> | <u>Sampled By</u> | |
| W10G-156 | | FDI | Wes Boll | |
| <u>Date Sampled</u> | <u>Time Sampled</u> | <u>Date Received</u> | <u>Time Received</u> | <u>Temp</u> |
| 7/21/2010 | | 7/21/2010 | 2:20 PM | 5 |

| PARAMETERS, METHOD, REPORTING LIMIT | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|---|------------------------------|-------------------|-----------|----------|
| <u>Total Phosphorus (EPA 365.3, 0.005 mg/L)</u> | <u>7/29/2010</u> | <u>0.911 mg/L</u> | <u>*</u> | <u>A</u> |
| <u>TSS (USGS 1-3765-85, 1.0 mg/L)</u> | <u>7/22/2010</u> <u>1530</u> | <u>2.25 mg/L</u> | <u>EM</u> | <u>B</u> |
| <u>Orthophosphate (EPA 365.1, 0.01 mg/L)</u> | <u>7/22/2010</u> <u>0901</u> | <u>0.717 mg/L</u> | <u>EM</u> | <u>B</u> |

Notes:

* Total Phosphorus done by MN Lab # 027-035-135

by AD?
NCD
12/8/10

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Ethel Margaria, Laboratory Director
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333 East Main Street
PO Box 388
Elk River, MN 55330
Phone: (763) 441-7509
Fax: (763) 441-9176
Email: h2olab@spacestar.net
Web Site: www.waterlabs.net

NON-POTABLE WATER TEST REPORT

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| | | | | |
|------------------------------------|----------------------------------|---|------------------------------------|------------------|
| <u>Lab File Number</u> W10F-155 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> FDI <i>Field Duplicate</i> | <u>Sampled By</u> Dennis Loewen | |
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:00 PM | <u>Temp</u> 8 |

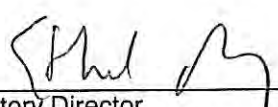
| PARAMETER (METHOD, REPORTING LIMIT) | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
|-------------------------------------|----------------------|---------|----|--------|
| Chlorophyll A (SM 10200 H, 1µg/L) | 7/21/2010 | 11 µg/L | | A |

Notes:

Chlorophyll a tested by MN Lab # 027-035-135

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8/25/10

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333 East Main Street
PO Box 388
Elk River, MN 55330
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Fax: (763) 441-9176
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NON-POTABLE WATER TEST REPORT

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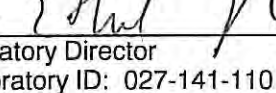
| <u>Lab File Number</u> W10F-156 | <u>Project Name</u> 205 LAKES | <u>Sample Location</u> FDI <i>Field Duplicate 1</i> | <u>Sampled By</u> Dennis Loewen | | |
|--|----------------------------------|---|------------------------------------|------------------|--------|
| <u>Date Sampled</u> 6/22/2010 | <u>Time Sampled</u> | <u>Date Received</u> 6/22/2010 | <u>Time Received</u> 3:00 PM | <u>Temp</u> 8 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | RESULTS | BY | BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | 6/30/2010 | 0.055 mg/L | | A |

Notes:

Total Phosphorus done by MN Lab # 027-035-135

AD
8/25/10

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NON-POTABLE WATER TEST REPORT

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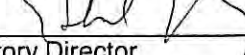
P.O Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-007 | | <u>Project Name</u> | | <u>Sample Location</u> DF6-1 | | <u>Sampled By</u> DENNIS LOEWEN | |
|---------------------------------------|--------------------------------|----------------------------------|------|----------------------------------|------------------|------------------------------------|--|
| <u>Date Sampled</u> 6/1/2010 | <u>Time Sampled</u> 7:40 AM | <u>Date Received</u> 6/1/2010 | | <u>Time Received</u> 10:00 AM | <u>Temp</u> 3 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE | |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/2/2010 | 1200 | 0.405 mg/L | EM | A | |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 6/3/2010 | 1630 | 3.0 mg/L | EM | A | |

Notes:

AD 8/24/10

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Minnesota State Laboratory ID: 027-141-110



333 East Main Street
PO Box 388
Elk River, MN 55330
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Fax: (763) 441-9176
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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

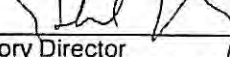
P.O. Box 481, Annandale, MN 55302

| <u>Lab File Number</u> W10F-007 | <u>Project Name</u> | <u>Sample Location</u> DF6-1 | <u>Sampled By</u> DENNIS LOEWEN | | | |
|---------------------------------------|--------------------------------|----------------------------------|------------------------------------|------------------|----|--------|
| <u>Date Sampled</u> 6/1/2010 | <u>Time Sampled</u> 7:40 AM | <u>Date Received</u> 6/1/2010 | <u>Time Received</u> 10:00 AM | <u>Temp</u> 3 | | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY | BOTTLE |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 6/2/2010 | 1200 | 0.405 mg/L | EM | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 6/3/2010 | 1630 | 3.0 mg/L | EM | A |

Notes:

*Duplicate
AS
8/24/10*

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NON-POTABLE WATER TEST REPORT

CRWD (Wenck Associates, Inc.)

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| <u>Lab File Number</u> W10G-022 | <u>Project Name</u> 205 | <u>Sample Location</u> FD 7 | <u>Sampled By</u> Dennis Loewen | | |
|--|--------------------------------|----------------------------------|------------------------------------|------------------|-----------|
| <u>Date Sampled</u> 7/6/2010 | <u>Time Sampled</u> 8:55 AM | <u>Date Received</u> 7/6/2010 | <u>Time Received</u> 9:10 AM | <u>Temp</u> 3 | |
| PARAMETER (METHOD, REPORTING LIMIT) | | DATE & TIME ANALYZED | | RESULTS | BY BOTTLE |
| Total Phosphorus (EPA 365.3, 0.005 mg/L) | | | | * mg/L | A |
| TSS (USGS 1-3765-85, 1.0 mg/L) | | 7/7/2010 | 1800 | 12.3 mg/L | EM B |
| Orthophosphate (EPA 365.1, 0.01 mg/L) | | 7/7/2010 | 1601 | 0.0288 mg/L | EM B |

Notes:

Total Phosphorus done by MN Lab # 027-035-135.

AD
8/24/10

The test results are only indicative of the sample tested from the sample point on the date collected.
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Report Submitted By: Ethel Margaria
Ethel Margaria, Laboratory Director
Minnesota State Laboratory ID: 027-141-110

Appendix G

2010 Field Notes and Measurements

June 16th 2010

Swartout 13'

| <u>Depth</u> | <u>Temp</u> | <u>DO</u> |
|--------------|-------------|-----------|
| .5 | 20.8 | 3.00 |
| 1 | 20.3 | 2.84 |
| 2 | 20.2 | 2.63 |
| 3 | 20.0 | 0.98 |
| 4 | 19.7 | 0.07 |

Secchi 11'
 Time Top 9 11
 " Bottom

Albion 9'

| | | |
|----|------|------|
| .5 | 20.1 | 8.83 |
| 1 | 20.0 | 7.22 |
| 2 | 19.8 | 1.10 |
| 3 | 19.7 | 0.15 |

Secchi 2'
 Time Top 8 50
 " Bottom

Henshaw 6'

| | | |
|----|------|------|
| .5 | 20.2 | 7.95 |
| 1 | 20.2 | 7.65 |
| 2 | 20.2 | 7.44 |

Secchi 1.5
 Time Top ~~8 10~~ 8 10
 Bottom

WB
 8/23/10

| Albion | Temp | DO |
|--------|------|------|
| .5 | 26.4 | 6.82 |
| 1 | 26.4 | 6.18 |
| 2 | 26.0 | 0.25 |

| | |
|-------------|---------------|
| Date | <u>7 7 60</u> |
| Time | <u>740</u> |
| (ft) Secchi | <u>1.0</u> |

| Henshaw | | |
|---------|------|------|
| .5 | 27.0 | 7.70 |
| 1 | 26.6 | 4.12 |
| 2 | 25.5 | 0.09 |
| 3 | | |
| 4 | | |

| | |
|--------|---------------|
| Date | <u>7 7 10</u> |
| Time | <u>710</u> |
| Secchi | <u>1.5</u> |

| Swarthout | | |
|-----------|------|------|
| .5 | 26.7 | 3.95 |
| 1 | 26.3 | 4.55 |
| 2 | 26.7 | 3.85 |
| 3 | 26.1 | 3.95 |

| | |
|--------|---------------|
| Date | <u>7 7 10</u> |
| Time | <u>815</u> |
| Secchi | <u>11'</u> |

WB
8/23/10

Henshaw

Augusta 17, 2010

Temp D.O

Secchi 0.8

0.5 21.8 7.20

Time 8:09

1 " 7.05

2 21.8 7.05

Swanton

0.5 23.1 5.34

Secchi 1.5'

1 23.0 5.15

Time 9:17

2 23.1 5.14

3 23.1 2.21

Albion

0.5 22.0 5.66

Secchi 0.6

1 " 6.17

Time 8:53

2 " 0.17

AD
11/22/10

Swartout

| <u>Meters</u> | <u>Temp</u> | <u>D.O.</u> |
|---------------|-------------|-------------|
| 0.5 | 15.8 | 6.98 |
| 1 | 15.8 | 6.94 |
| 2 | 15.8 | 6.90 |
| 3 | 15.8 | 6.41 |
| 4 | 15.8 | 6.22 |

Date 9/21
Bottom Time 9:20
Secchi 1.5

| <u>Albion</u> | <u>Temp</u> | <u>D.O.</u> |
|---------------|-------------|-------------|
| 0.5 | 15.7 | 6.07 |
| 1 | 15.7 | 6.04 |
| 2 | 15.6 | 5.47 |

Date 9/21/10
Time 8:59
Secchi 1.0

~~3 = 4.84~~
~~4 = 13.1~~

| <u>Henshaw</u> | <u>Temp</u> | <u>D.O.</u> |
|----------------|-------------|-------------|
| 0.5 | 15.5 | 8.05 |
| 1 | 15.5 | 8.05 |
| 2 | 15.0 | 8.05 |

Date 9/21/10
Time 5:20
Secchi 1.0

WB
 12/8/10

Augusto
temp

5/26/10

Secchi
~~Secchi~~
15'

| | | | |
|----|------|----|------|
| .5 | 22 | DO | 7.52 |
| 1 | 22 | | 7.73 |
| 2 | 19.7 | | 8.17 |
| 3 | 15.9 | | 8.81 |
| 4 | 12.7 | | 8.44 |
| 5 | 12.0 | | 7.95 |
| 6 | 11.2 | | 6.69 |
| 7 | 8.8 | | 4.41 |
| 8 | 7.0 | | 2.70 |
| 9 | 5.2 | | 1.67 |
| 10 | 4.8 | | 1.59 |
| 11 | 4.2 | | 1.38 |
| 12 | 3.9 | | 1.31 |
| 13 | 3.7 | | 1.25 |
| 14 | 3.5 | | 0.83 |
| 15 | 3.3 | | 0.67 |
| 16 | 3.1 | | 0.33 |
| 17 | 2.7 | | 0.10 |
| 18 | 2.7 | | 0.09 |
| 19 | | | |
| 20 | | | |
| 21 | | | |
| 22 | | | |
| 23 | | | |
| 24 | | | |
| 25 | | | |
| 26 | | | |

AD
8/25/10

Augusta 81'

June 16th 2010

Secchi 12.5

Time Top 1109

Bottom

| | | |
|--------|--------|-----------|
| 5 | 20.5 | 755 |
| 1 | 20.1 | 757 |
| 2 | 19.9 | 735 |
| 3 | 19.7 | 688 |
| 4 | 17.1 | 680 |
| 5 | 13.2 | 6.40 |
| 6 | 11.1 | 4.42 |
| 7 | 9.6 | 2.22 |
| 8 | 7.0 | 0.69 |
| 9 | 5.8 | 0.35 |
| 10 | 4.6 | 0.22 |
| 11 | 4.4 | 0.16 |
| 12 | 4.1 | 0.12 |
| 13 | 3.7 | 0.11 .11? |
| 14 | 3.4 | 0.11 |
| 15 | 3.3 | 0.11 .11? |
| 16 | 3.2 | 0.10 |
| 17 | 3.0 | 0.10 |
| 18 | 2.9 | 0.10 |
| 19 | 2.8 | 0.09 |
| 20 | 2.8 | 0.09 |
| 21 | 2.8 | 0.09 |
| 22 | 2.8 | 0.09 |
| 23 | 2.8 | 0.09 |
| 24 | 2.8 | 0.08 |
| Bottom | 25 2.8 | 0.09 |

AD
8/25/10

August 9 81'

Date 22 10

Time 10 22

Secchi 2.5

| | Temp | D.O. |
|----|------|-------|
| 5 | 27.2 | 10.12 |
| 1 | 26.7 | 8.53 |
| 2 | 26.2 | 5.40 |
| 3 | 23.5 | 0.90 |
| 4 | 20.6 | 0.33 |
| 5 | 15.6 | 1.64 |
| 6 | 12.7 | 1.93 |
| 7 | 10.6 | 0.66 |
| 8 | 8.9 | 0.12 |
| 9 | 7.9 | 0.08 |
| 10 | 6.7 | 0.09 |
| 11 | 5.7 | 0.09 |
| 12 | 4.5 | 0.08 |
| 13 | 4.2 | 0.07 |
| 14 | 4.0 | 0.07 |
| 15 | 3.9 | 0.08 |
| 16 | 3.5 | 0.08 |
| 17 | 3.3 | 0.08 |
| 18 | 3.2 | 0.07 |
| 19 | 3.2 | 0.06 |
| 20 | 3.1 | 0.07 |
| 21 | 3.1 | 0.07 |
| 22 | 3.0 | 0.06 |
| 23 | 3.1 | 0.06 |
| 24 | 3.1 | 0.06 |

bottom ↑

AD
8/25/10

Augusta

August 17th 2010

Secchi 5'

Time 11:05

| | <u>Temp</u> | <u>D.O.</u> |
|-----|-------------|-------------|
| 0.5 | 23.8 | 6.47 |
| 1 | 23.5 | 6.44 |
| 2 | 23.4 | 6.34 |
| 3 | 23.3 | 5.86 |
| 4 | " | 5.54 |
| 5 | 22.8 | 4.77 |
| 6 | 17.5 | 0.60 |
| 7 | 12.5 | .19 |
| 8 | 10.3 | .16 |
| 9 | 8.7 | .15 |
| 10 | 7.4 | .13 |
| 11 | 6.1 | .12 |
| 12 | 5.3 | .11 |
| 13 | 4.8 | .09 |
| 14 | 4.6 | " |
| 15 | 4.2 | .07 |
| 16 | 4.0 | .08 |
| 17 | 3.8 | .09 |
| 18 | 3.7 | .08 |
| 19 | 3.6 | .07 |
| 20 | 3.5 | " |
| 21 | 3.4 | .07 |
| 22 | " | " |
| 23 | 3.3 | .06 |
| 24 | 3.3 | " |
| 25 | 3.3 | .06 |

AD
11/22/10

September
October?

Augustas

| | Temp | D.O. | Secchi C' |
|---------------|------|-------|-----------|
| 0.5 | 7.7 | 12.0 | |
| 1 | | | |
| 2 | | | |
| 3 | 7.6 | 12.0 | |
| 4 | | | |
| 5 | | | |
| 6 | 7.8 | 11.46 | |
| 7 | | | |
| 8 | | | |
| 9 | 7.6 | 12.0 | |
| 10 | | | |
| 11 | | | |
| 12 | 7.1 | 9.3 | |
| 13 | | | |
| 14 | | | |
| 15 | 5.6 | 5.3 | |
| 16 | | | |
| 17 | | | |
| 18 | 6.6 | 6.84 | |
| 19 | | | |
| 20 | | | |
| 21 | | | |
| 22 | | | |
| 23 | | | |
| 24 | 4.8 | 3.8 | |
| 25 | | | |

AD
11/22/10

August 9

| | <u>Temp</u> | <u>D.O.</u> |
|-----|-------------|-------------|
| 0.5 | 16.6 | 6.79 |
| 1 | 16.6 | 6.74 |
| 2 | 16.5 | 6.54 |
| 3 | 16.3 | 6.16 |
| 4 | 16.3 | 6.13 |
| 5 | 16.1 | 5.20 |
| 6 | 15.7 | 3.41 |
| 7 | 12.1 | 0.44 |
| 8 | 8.9 | 0.26 |
| 9 | 7.2 | 0.22 |
| 10 | 6.6 | 0.15 |
| 11 | 6.0 | 0.12 |
| 12 | 5.3 | 0.12 |
| 13 | 4.7 | 0.11 |
| 14 | 4.5 | 0.10 |
| 15 | 4.2 | 0.10 |
| 16 | 4.0 | 0.09 |
| 17 | 3.9 | 0.09 |
| 18 | 3.8 | 0.08 |
| 19 | 3.8 | 0.07 |
| 20 | 3.7 | 0.07 |
| 21 | 3.7 | 0.07 |
| 22 | 3.6 | 0.06 |
| 23 | 3.6 | 0.06 |
| 24 | | |

| | |
|--------|-------|
| Date | 9/21 |
| Time | 11:20 |
| Secchi | 5.5 |

75.44'
78.72'

WB
12/8/10

11/10/2010

Augustas

| | Temp | D.O. | Secchi C' |
|-----|------|-------|-----------|
| 0.5 | 7.7 | 12.0 | |
| 1 | | | |
| 2 | | | |
| 3 | 7.4 | 12.0 | |
| 4 | | | |
| 5 | | | |
| 6 | 7.8 | 11.46 | |
| 7 | | | |
| 8 | | | |
| 9 | 7.6 | 12.0 | |
| 10 | | | |
| 11 | | | |
| 12 | 7.1 | 9.3 | |
| 13 | | | |
| 14 | | | |
| 15 | 5.6 | 5.3 | |
| 16 | | | |
| 17 | | | |
| 18 | 6.6 | 6.84 | |
| 19 | | | |
| 20 | | | |
| 21 | | | |
| 22 | | | |
| 23 | | | |
| 24 | 4.8 | 3.8 | |
| 25 | | | |

NO
12/8/10

Clean Lake

5/26/10

| | Temp | D.O. | Secchi |
|----|------|------|--------|
| .5 | 20.9 | 8.32 | 6 |
| 1 | 20.8 | 7.83 | |
| 2 | 20.6 | 7.84 | |
| 3 | 20.4 | 7.92 | |
| 4 | 19.8 | 7.13 | |
| 5 | 16.3 | 6.24 | |
| 6 | 16.0 | 0.14 | |

Betsy

| | Temp | D.O. |
|----|------|------|
| .5 | 22.2 | 7.55 |
| 1 | 21.8 | 7.52 |
| 2 | 20.8 | 7.38 |
| 3 | 17.3 | 7.67 |
| 4 | 13.4 | 7.31 |
| 5 | 11.9 | 6.12 |
| 6 | 11.6 | 5.19 |
| 7 | 11.1 | 2.66 |
| 8 | 11.0 | 0.09 |
| 9 | 11.0 | 0.09 |

Secchi
13.6Scott
TempSecchi 11'
DO

| | | |
|----|------|------|
| .5 | 22.4 | 8.77 |
| 1 | 22.4 | 8.74 |
| 2 | 22.6 | 8.54 |
| 3 | 19.2 | 7.75 |
| 4 | 16.4 | 4.62 |
| 5 | 14.0 | 1.65 |
| 6 | 13.5 | 0.92 |

AP
8/25/10

Clear 18'

Date 06/20/10

| | Temp | D.O. |
|-----|----------------------|--------------|
| .5 | 23.1 | 15 |
| 1 | 21.8 | 13.82 |
| 2 | 21.6 21.6 | 11.61 |
| 3 | 21.6 | 11.46 |
| 4 | 21.5 | 10.84 |
| 4.5 | 21.3 | 10.04 Bottom |
| 7 | | |

Secchi 1 1/2 ft
 Time Top 12:46
 Bottom _____

Betsy 28'

| | Temp | DO |
|----|----------------------|-------------|
| .5 | 22.9 | 12.12 |
| 1 | 22.4 | 13.82 |
| 2 | 21.6 | 11.58 |
| 3 | 21.1 | 8.31 |
| 4 | 19.9 | 5.35 |
| 5 | 17.0 | 1.82 |
| 6 | 14.6 12.3 | 0.22 |
| 7 | 12.3 | 0.13 |
| 8 | 12.0 | 0.11 Bottom |

Date 06-20-10

Secchi 4 1/2 ft.
 Time Top 1:50
 Bottom _____

Scott 23'

| | Temp | DO |
|----|------|-------|
| .5 | 24.4 | 14.85 |
| 1 | 23.7 | 13.18 |
| 2 | 22.6 | 8.45 |
| 3 | 21.5 | 6.88 |
| 4 | 20.5 | 2.70 |
| 5 | 18.7 | 0.27 |
| 6 | 17.6 | 0.13 |
| 7 | 17.5 | 0.12 |

Date June 22nd

Secchi 2'5"
 Time Top 11:08
 Bottom _____

AD 8/25/10

Betsy

July 21, 2010

| | | |
|-----|------|-----|
| 0.5 | 25.1 | 540 |
| 1 | 25.1 | 495 |
| 2 | 24.1 | 191 |
| 3 | 23.0 | 038 |
| 4 | 19.4 | 009 |
| 5 | 17.0 | 007 |
| 6 | 15.9 | 007 |
| 7 | 15.0 | 007 |

Secchi ~~8.23~~ 5.0
Time T 823
B

Clear

| | | |
|-----|------|------|
| 0.5 | 25.9 | 9.93 |
| 1 | 25.1 | 664 |
| 2 | 25.0 | 650 |
| 3 | 24.9 | 490 |
| 4 | 24.6 | 182 |
| 5 | 24.1 | 011 |
| 6 | 23.8 | 007 |
| 7 | | |

Secchi 1.5
Time T 948
B

$$3.28 \times 6 = 19.68'$$

AD
8/25/10

Scott (23')Augusta 24, 2010Time 6:57Secchi 3.5'

| | <u>Temp</u> | <u>D.O</u> |
|-----|-------------|------------|
| 0.5 | 25.3 | 7.05 |
| 1 | ↓ | 6.64 |
| 2 | | " |
| 3 | | 6.40 |
| * 4 | 23.7 | 1.65 |
| 5 | 23.1 | 0.09 |
| 6 | 22.8 | .07 |

Windy conditions

Clear (18')Augusta 24, 2010Time 9:13Secchi 1'

| | | |
|-----|------|------|
| 0.5 | 24.3 | 6.40 |
| 1 | 24.4 | 6.42 |
| 2 | " | 6.37 |
| 3 | " | " |
| 4 | " | 6.10 |
| 5 | 23.0 | 0.23 |

BetsyAugust 24, 2010Time 8:14Secchi 4'

| | | |
|-----|------|------|
| 0.5 | 24.7 | 6.50 |
| 1 | 24.8 | |
| 2 | 24.9 | 6.41 |
| * 3 | 23.1 | 2.52 |
| * 4 | 22.6 | 0.88 |
| 5 | 21.7 | .10 |
| 6 | 17.5 | .08 |
| 7 | 16.7 | .07 |
| 8 | 15.7 | .05 |

AD
11/22/10

Clear

| | <u>Temp</u> | <u>D.O.</u> |
|-----|-------------|-------------|
| 0.5 | 14.4 | 8.42 |
| 1 | } | 8.44 |
| 2 | | " |
| 3 | | 8.10 |
| 4 | | 8.14 |
| 5 | | 8.25 |

Sept 27, 2010

Time 9:49

Secchi 0.5'

Betsy 28'

| | | |
|-----|------|------|
| 0.5 | 14.3 | 6.90 |
| 1 | " | 6.84 |
| 2 | 14.0 | 5.78 |
| 3 | 13.9 | 5.41 |
| 4 | 13.7 | 4.74 |
| 5 | 13.6 | 4.70 |
| 6 | 13.5 | 4.60 |
| 7 | 13.4 | 4.41 |
| 8 | 13.0 | 4.40 |

Time 8:56

Secchi 4.5'

AD
11/22/10

October ?

Betsy

| | Temp | D.O | Secchi 3.5 |
|-----|----------------|-------|------------|
| 0.5 | 6.5 | 15.15 | |
| 1 | | | |
| 2 | | | |
| 3 | 6.5 | 15.21 | |
| 4 | | | |
| 5 | | | |
| 6 | 5.9 | 10.8 | |
| 7 | 5.3 | 9.01 | |
| 8 | 5.4 | 8.6 | |
| 9 | 5.4 | | |
| 10 | | | |

AD
11/22/10

Betsy

11/10/2010

| | Temp | D.S | Secchi 3.5 |
|-----|----------------|-------|------------|
| 0.5 | 6.5 | 15.15 | |
| 1 | | | |
| 2 | | | |
| 3 | 6.5 | 15.21 | |
| 4 | | | |
| 5 | | | |
| 6 | 5.9 | 10.8 | |
| 7 | 5.3 | 9.01 | |
| 8 | 5.4 | 8.6 | |
| 9 | 5.2 | | |
| 10 | | | |

WB
12/8/10

② Cedar Lake

May 26/27

| | <u>Temp</u> | <u>DO</u> |
|-----|-------------|-----------|
| 1/2 | 20 | 8.52 |
| 1 | 20 | 8.40 |
| 2 | 19.6 | 7.82 |
| 3 | 19.1 | 8.29 |
| 4 | 18.9 | 8.23 |
| 5 | 16.8 | 8.16 |
| 6 | 14.8 | 7.42 |
| 7 | 13.2 | 7.64 |
| 8 | 12 | 7.52 |
| 9 | 11.5 | 7.13 |
| 10 | 11 | 6.79 |
| 11 | 10.7 | 6.39 |
| 12 | 9.6 | 4.98 |
| 13 | 8.8 | 3.62 |
| 14 | 8.0 | 2.38 |
| 15 | 7.5 | 1.69 |
| 16 | 7.2 | 1.21 |
| 17 | 7.1 | 1.14 |
| 18 | 7.0 | 1.09 |
| 19 | 7.0 | 1.01 |
| 20 | 7.0 | 1.01 |
| 21 | 6.9 | 0.94 |
| 22 | 6.9 | 0.89 |
| 23 | 6.8 | 0.77 |
| 24 | | |
| 25 | | |
| 26 | | |
| 27 | | |
| 28 | | |
| 29 | | |
| 30 | | |
| 31 | | |
| 32 | | |

Secchi
4.5

AD
8/25/10

Cedar Lake 108'

June 16th 2010Secchi 7'Time Top 7:10 ~~7:10~~

" Bottom

| | Temp | DO |
|---------|---------|------|
| | 5 19.8 | 7.92 |
| | 1 19.8 | 7.85 |
| | 2 19.8 | 7.79 |
| | 3 19.8 | 7.71 |
| | 4 19.8 | 7.71 |
| | 5 19.0 | 6.31 |
| | 6 15.0 | 4.26 |
| | 7 13.0 | 4.79 |
| | 8 12.1 | 5.08 |
| | 9 11.5 | 5.30 |
| 32.8' | 10 11.0 | 5.10 |
| | 11 10.5 | 4.04 |
| | 12 9.8 | 2.99 |
| | 13 9.0 | 0.64 |
| | 14 8.3 | 0.08 |
| | 15 8.0 | 0.06 |
| | 16 7.9 | 0.06 |
| | 17 7.7 | 0.06 |
| | 18 7.5 | 0.06 |
| | 19 7.4 | 0.06 |
| 65.6' | 20 7.4 | 0.05 |
| | 21 7.4 | 0.05 |
| | 22 7.3 | 0.05 |
| | 23 7.3 | 0.05 |
| | 24 7.2 | 0.05 |
| | 25 7.2 | 0.05 |
| | 26 7.1 | 0.04 |
| | 27 7.1 | 0.04 |
| | 28 7.0 | 0.04 |
| | 29 | |
| 98.4' | 30 | |
| 101.68' | 31 | |
| 105.26' | 32 | |
| 108.54' | 33 | |

AD
8/25/10

Cedar

July Date 7/7/10
Surface time 6:15

| | Temp | D.O. |
|----|------|------|
| .5 | 25.6 | 7.71 |
| 1 | 25.6 | 7.71 |
| 2 | 25.6 | 7.50 |
| 3 | 25.6 | 7.28 |
| 4 | 25.2 | 6.85 |
| 5 | 24.0 | 6.16 |
| 6 | 23.6 | 5.45 |
| 7 | 22.7 | 4.35 |
| 8 | 18.9 | 1.19 |
| 9 | 14.3 | 0.43 |
| 10 | 12.3 | 0.50 |
| 11 | 10.9 | 0.24 |
| 12 | 10.4 | 0.12 |
| 13 | 9.9 | 0.07 |
| 14 | 9.0 | 0.05 |
| 15 | 8.8 | 0.06 |
| 16 | 8.4 | 0.06 |
| 17 | 8.3 | 0.05 |
| 18 | 8.2 | 0.04 |
| 19 | 8.1 | 0.04 |
| 20 | 8.1 | 0.04 |
| 21 | 8.0 | 0.04 |
| 22 | 7.9 | 0.04 |
| 23 | 7.8 | 0.05 |
| 24 | 7.7 | 0.04 |
| 25 | 7.6 | 0.04 |
| 26 | 7.6 | 0.03 |
| 27 | 7.6 | 0.03 |
| 28 | 7.5 | 0.04 |
| 29 | 7.5 | 0.04 |
| 30 | 7.5 | 0.04 |
| 31 | | |

Secchi 4'

32

33

30 = 98.4'

Cedar

August 17, 2010

Secchi 9.5'

Time 7:14 a.m.

| | | | | | |
|-----|------|------|----|-----|------|
| 0.5 | 23.9 | 5.49 | | | |
| 1 | | 5.86 | | | |
| 2 | | 5.94 | | | |
| 3 | | 5.85 | | | |
| 4 | | 5.92 | | | |
| 5 | | 5.93 | | | |
| 6 | ✓ | 5.91 | | | |
| 7 | 22.7 | 3.10 | | | |
| 8 | 17.8 | 0.20 | | | |
| 9 | 13.5 | .10 | | | |
| 10 | 11.8 | .08 | | | |
| 11 | 10.5 | .09 | | | |
| 12 | 9.9 | .08 | | | |
| 13 | 9.2 | .08 | | | |
| 14 | 8.8 | .07 | | | |
| 15 | " | " | | | |
| 16 | 8.5 | .06 | | | |
| 17 | 8.4 | .05 | | | |
| 18 | " | | | | |
| 19 | 8.3 | | 27 | 7.9 | 0.04 |
| 20 | 8.2 | | 28 | " | |
| 21 | 8.1 | .05 | 29 | " | |
| 22 | " | .04 | 30 | 7.8 | 0.04 |
| 23 | 8.0 | .05 | | | |
| 24 | " | .05 | | | |
| 25 | 7.9 | .04 | | | |
| 26 | " | .04 | | | |

AD
11/22/10

Cedar Lake

September?

Secchi 9.5

| | Temp | DO |
|-----|------|------|
| 0.5 | 8.9 | 8.32 |
| 1 | 8.9 | 8.32 |
| 2 | 8.9 | 8.32 |
| 3 | 8.9 | 8.32 |
| 4 | | |
| 5 | 8.9 | 8.16 |
| 6 | | |
| 7 | 8.9 | 7.96 |
| 8 | | |
| 9 | 8.8 | 7.86 |
| 10 | | |
| 11 | 8.8 | 7.73 |
| 12 | | |
| 13 | 8.8 | 7.67 |
| 14 | | |
| 15 | 8.8 | 7.63 |
| 16 | . | |
| 17 | | |
| 18 | 8.5 | 7.48 |
| 19 | | |
| 20 | | |
| 21 | 8.6 | 7.45 |
| 22 | | |
| 23 | | |
| 24 | 8.8 | 7.46 |
| 25 | | |
| 26 | | |
| 27 | 8.8 | 7.46 |
| 28 | | |
| 29 | | |
| 30 | | |
| 31 | | |

AD
11/22/10

Cedar Lake

| Depth | Temp | DO |
|-------|------|------|
| 0.5 | 16.8 | 6.91 |
| 1 | 16.8 | 6.95 |
| 2 | 16.8 | 7.04 |
| 3 | 16.8 | 7.04 |
| 4 | 16.6 | 7.04 |
| 5 | 16.7 | 6.99 |
| 6 | 16.7 | 6.95 |
| 7 | 16.7 | 6.90 |
| 8 | 16.7 | 6.91 |
| 9 | 16.7 | 6.94 |
| 10 | 16.7 | 6.92 |
| 11 | 16.7 | 6.45 |
| 12 | 15.1 | 2.01 |
| 13 | 12.3 | 0.20 |
| 14 | | |
| 15 | 9.4 | 0.12 |
| 16 | | |
| 17 | 8.6 | 0.09 |
| 18 | | |
| 19 | 8.3 | 0.07 |
| 20 | | |
| 21 | 8.2 | 0.06 |
| 22 | | |
| 23 | 8.1 | 0.06 |
| 24 | | |
| 25 | 8.0 | 0.05 |
| 26 | | |
| 27 | 7.9 | 0.04 |
| 28 | | |
| 29 | 7.7 | 0.04 |
| 30 | | |
| 31 | 7.7 | 0.04 |
| 32 | | |

105'

Date 9/21/10
 Time 7:36
 Secchi 8.0

WB
12/8

Cedar Lake

11/10/2010

Secchi 9.5

| | Temp | DO |
|-----|------|------|
| 0.5 | 8.9 | 8.32 |
| 1 | 8.9 | 8.32 |
| 2 | 8.9 | 8.32 |
| 3 | 8.9 | 8.32 |
| 4 | | |
| 5 | 8.9 | 8.16 |
| 6 | | |
| 7 | 8.9 | 7.96 |
| 8 | | |
| 9 | 8.8 | 7.86 |
| 10 | | |
| 11 | 8.8 | 7.73 |
| 12 | | |
| 13 | 8.8 | 7.67 |
| 14 | | |
| 15 | 8.8 | 7.63 |
| 16 | . | |
| 17 | | |
| 18 | 8.5 | 7.48 |
| 19 | | |
| 20 | | |
| 21 | 8.6 | 7.45 |
| 22 | | |
| 23 | | |
| 24 | 8.8 | 7.46 |
| 25 | | |
| 26 | | |
| 27 | 8.8 | 7.46 |
| 28 | | |
| 29 | | |
| 30 | | |
| 31 | | |

N40
12/8/10

June 16th 2010

~~Pleasant 70~~

Clear Water West

Secchi 7'

Time Top 1032

Bottom

Date

| | | |
|----|-----------|-----------|
| .5 | 20.5 | 982 |
| 1 | 19.8 | 949 |
| 2 | 19.6 | 9.83 |
| 3 | 19.5 | 942 |
| 4 | 19.4 | 940 |
| 5 | 19.2 | 875 |
| 6 | 18.5 | 7.00 |
| 7 | 17.0 | 3.17 |
| 8 | 14.6 14.6 | 1.60 1.60 |
| 9 | 13.3 | 1.10 |
| 10 | 12.6 | 0.82 |
| 11 | 12.3 | 0.52 |
| 12 | 12.0 | 0.66 |
| 13 | 11.5 | 0.55 |
| 14 | 1.1.1 | 0.18 |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |

Bottom 21
~~22~~

AD
8/25/10

Clearwater West

Date 27 10

~~Surface~~ Time 10:00

Secchi 3.5

| | <u>Temp</u> | <u>D.O.</u> | |
|----|-------------|-------------|--------|
| 15 | 26.2 | 815 | |
| 1 | 26.1 | 793 | |
| 2 | 25.8 | 763 | |
| 3 | 25.5 | 754 | |
| 4 | 24.5 | 518 | |
| 5 | 23.6 | 365 | |
| 6 | 22.0 | 200 | |
| 7 | 20.1 | 020 | |
| 8 | 16.5 | 009 | |
| 9 | 14.7 | 00.7 | 0.07 |
| 10 | 13.4 | 00.7 | 0.07 7 |
| 11 | 12.8 | 00.7 | 0.07 |
| 12 | 12.2 | 006 | 0.06 |

AD
8/25/10

Clearwater West

| | | |
|-----|----------------------|------|
| 0.5 | 16.7 | 665 |
| 1 | 16.6 | 655 |
| 2 | 16.6 | 655 |
| 3 | 16.6 | 649 |
| 4 | 16.6 | 652 |
| 5 | 16.6 | 648 |
| 6 | 16.6 | 640 |
| 7 | 16.5 | 635 |
| 8 | 16.4 | 600 |
| 9 | 16.4 | 604 |
| 10 | 16.4 | 588 |
| 11 | 16.3 | 560 |
| 12 | 16.0 | 4.41 |
| 13 | 12.8 | 042 |
| 14 | 12.8 11.5 | 019 |
| 15 | 11.3 | 011 |
| 16 | 11.4 | 004 |
| 17 | 11.5 | 003 |
| 18 | | |
| 19 | | |
| 20 | | |

| | |
|--------|-------------|
| Date | <u>9/21</u> |
| Time | <u>1056</u> |
| Secchi | <u>8'</u> |

WB
12/8/10

Clearwater

8/17/10

Stecher 6'

Time 10:39

| | | |
|-----|------|------|
| 0.5 | 23.6 | 5.34 |
| 1 | 23.3 | 5.02 |
| 2 | 23.2 | 5. — |
| 3 | " | 4.80 |
| 4 | 23.1 | 4.71 |
| 5 | " | 4.36 |
| 6 | 23.0 | 4.57 |
| 7 | 21.9 | 0.45 |
| 8 | 20.1 | 0.13 |
| 9 | 17.2 | 0.10 |
| 10 | 14.8 | .08 |
| 11 | 13.8 | .07 |
| 12 | 13 — | .05 |
| 13 | 12.4 | .04 |
| 14 | 12.6 | .02 |
| 15 | 12.7 | .02 |
| 16 | 12.8 | .01 |

AD
11/22/10

Caroline 45'

Date 6-22-10

| | Temp | DO |
|----|------|----------------------|
| 5 | 24.4 | 8.90 8.78 |
| 1 | 24.0 | 8.90 |
| 2 | 23.3 | 8.20 |
| 3 | 21.9 | 7.43 |
| 4 | 19.3 | 4.51 |
| 5 | 14.7 | 3.69 |
| 6 | 12.9 | 1.55 |
| 7 | 11.4 | 0.52 |
| 8 | 10.5 | 0.28 |
| 9 | 7.9 | 0.16 |
| 10 | 6.2 | 0.15 |
| 11 | 5.2 | 0.12 |
| 12 | 5.0 | 0.10 |
| 13 | 5.1 | 0.08 |
| 14 | | |

Secchi 12
Time Top 1250
Bottom

Union 35'

| | Temp | DO |
|----|--------|-------|
| 5 | 24.1 | 10.66 |
| 1 | 24.0 | 10.82 |
| 2 | 22.2 | 8.71 |
| 3 | 18.5 | 6.00 |
| 4 | 14.3.7 | 0.80 |
| 5 | 11.2 | 0.18 |
| 6 | 10.5 | 0.12 |
| 7 | 9.9 | 0.11 |
| 8 | 9.5 | 0.09 |
| 9 | 9.3 | 0.07 |
| 10 | 9.2 | 0.06 |
| 11 | | |

Date 6-22-10
Secchi 4'
Time Top 1023
Bottom

AD 8/25/10

Caroline

7/22/10?

| | | |
|-----|------|------|
| 0.5 | 26.4 | 995 |
| 1 | 25.5 | 938 |
| 2 | 25.1 | 365 |
| 3 | 24.1 | 092 |
| 4 | 24.3 | 1.40 |
| 5 | 21.5 | 011 |
| 6 | 16.9 | 00.8 |
| 7 | 12.1 | 009 |
| 8 | 9.7 | 008 |
| 9 | 7.9 | 009 |
| 10 | 6.8 | 008 |
| 11 | 6.2 | 008 |
| 12 | 6.0 | 007 |

| | |
|--------|---------------|
| Secchi | 4.5 |
| Time T | <u>11.56</u> |
| B | <u> </u> |

Ad
8/25/10

Caroline

| | <u>Temp</u> | <u>D.O.</u> |
|-----|-------------|-------------|
| 0.5 | 24.4 | 7.34 |
| 1 | " | 7.27 |
| 2 | 23.2 | 2.59 |
| 3 | 22.6 | 1.81 |
| 4 | 22.4 | 1.01 |
| * 5 | " | 0.74 |
| 6 | 22.2 | .30 |
| 7 | 18 - | .13 |
| 8 | 11.8 | .12 |
| 9 | 11.7 | .09 |
| 10 | 9.7 | .09 |
| 11 | 10.2 | .06 |
| 12 | | |

Augusta 24, 2010Time 11:16Secchi 1.5'

Very Windy Today
hard to hold anchor

Union 35'

| | | |
|--------------------|------|-----------------|
| 0.5 | 25.4 | 6.42 |
| 1 | 25.5 | 6.40 |
| 2 | " | 6.43 |
| 3 | 23.4 | 6.22 |
| * 4 | 20.9 | 0.71 |
| 5 | 15.2 | .19 |
| 6 | 11.1 | .13 |
| 7 | 10.3 | .08 |
| 8 | 9.8 | .07 |
| 9 | 9.6 | .05 |
| 10 | 9.6 | " |
| <u>30/11/11</u> 11 | 9.6 | .04 |

Aug 24, 2010Time 7:34Secchi 5.5'

AD
11/22/10

Caroline 45'

Dates 9-27-10

Time 1127

Secchi 4'

| | Temp | D.O. |
|-----|--------------------|------|
| 0.5 | 15.3 | 6.70 |
| 1 | 15.2 | 6.71 |
| 2 | 15.2 | 6.61 |
| 3 | 15.1 | 6.44 |
| 4 | 15.0 | 6.45 |
| 5 | 15.0 | 6.45 |
| 6 | 15.0 | 6.40 |
| 7 | 15.0 | 6.41 |
| 8 | 15.0 | 6.42 |
| 9 | 15.0 | 6.36 |
| 10 | 9.1 9.1 | 1.20 |
| 11 | 8.2 | 0.17 |
| 12 | 8.2 | 0.09 |
| 13 | | |

$$13 = 42.64'$$

CR 0.1 12:30 pm 9/27/10

AD
11/22/10

Scott

07/21/10

| | Temp | D ₀ |
|-----|------|----------------|
| 0.5 | 25.7 | 808 |
| 1 | 25.8 | 790 |
| 2 | 25.1 | 167 |
| 3 | 24.8 | 072 |
| 4 | 24.6 | 021 |
| 5 | 24.3 | 008 |

| | |
|--------|---------------|
| Secchi | <u>2.5</u> |
| Time T | <u>430</u> |
| B | <u> </u> |

Union

| | | |
|-----|------|-----|
| 0.5 | 25.4 | 732 |
| 1 | 24.6 | 701 |
| 2 | 25.0 | 531 |
| 3 | 23.0 | 106 |
| 4 | 18.4 | 013 |
| 5 | 13.5 | 041 |
| 6 | 11.7 | 009 |
| 7 | 10.2 | 009 |
| 8 | 9.9 | 007 |
| 9 | 9.4 | 005 |
| 10 | 9.4 | 004 |

| | |
|--------|-------------------------|
| Secchi | <u>7 2.5</u> |
| Time T | <u>737</u> |
| B | <u> </u> |

$$3.28 \times 10 = 32.8'$$

AD
8/25/10

9-27-10

Scott

| | <u>Temp</u> | <u>D.O.</u> |
|-----|-------------|-------------|
| 0.5 | 14.5 | 7.21 |
| 1 | ↓ | 7.32 |
| 2 | | 7.05 |
| 3 | | 7.03 |
| 4 | | 7.10 |
| 5 | | 7.21 |
| 6 | ↓ | 7.24 |
| 7 | 14.5 | 7.24 |

Time 7:38
Secchi 3.5'

Union

| | | |
|-----|------|------|
| 0.5 | 15.2 | 7.12 |
| 1 | " | 7.10 |
| 2 | 15.1 | 5.17 |
| 3 | 15.0 | 4.51 |
| 4 | 14.8 | 4.52 |
| 5 | " | 3.80 |
| 6 | 14.3 | 2.60 |
| 7 | 13.5 | 0.12 |
| 8 | 11.3 | 0.08 |
| 9 | 10.1 | 0.07 |
| 10 | 9.9 | 0.05 |

Time 8:18
Secchi 4'

AD
11/22/10

Marie 34'

June 22nd 2010

Date 06/22/10

| | Temp | DO |
|----|------|-------|
| .5 | 25.1 | 10.37 |
| 1 | 24.4 | 10.30 |
| 2 | 22.9 | 7.72 |
| 3 | 20.0 | 4.48 |
| 4 | 16.4 | 4.11 |
| 5 | 13.4 | 2.44 |
| 6 | 12.1 | 0.45 |
| 7 | 10.4 | 0.30 |
| 8 | 9.1 | 0.21 |
| 9 | 8.1 | 0.12 |
| 10 | 7.4 | 0.08 |

Secchi 7.5

Time Top 1222

Bottom

Louisa 42'

June 22-2010

| | Temp | D.O. |
|----|---------|-------|
| .5 | 25.3 | 12.29 |
| 1 | 23.9 | 9.83 |
| 2 | 23.1 | 8.24 |
| 3 | 21.6 | 5.74 |
| 4 | 20.17.5 | 3.30 |
| 5 | 14.0 | 2.00 |
| 6 | 12.1 | 0.50 |
| 7 | 10.8 | 0.24 |
| 8 | 9.4 | 0.15 |
| 9 | 7.0 | 0.14 |
| 10 | 5.7 | 0.13 |
| 11 | 5.0 | 0.13 |
| 12 | 4.7 | 0.10 |

Secchi 4.0

Time Top 1201

Bottom

Date 6/22/10

AD
8/25/10

Louisa

| | | |
|-----|--------------------|-----|
| 0.5 | 25.8 | 951 |
| 1 | 25.3 | 891 |
| 2 | 24.7 | 221 |
| 3 | 23.8 | 039 |
| 4 | 22 19.5 | 008 |
| 5 | 15.3 | 008 |
| 6 | 11.9 | 007 |
| 7 | 10.6 | 008 |
| 8 | 9.8 | 007 |
| 9 | 8.8 | 008 |
| 10 | 7.0 | 007 |
| 11 | 6.0 | 007 |
| 12 | 5.7 | 007 |
| 13 | | |

$$13 \times 3.28 = 42.64'$$

7/21/10?

Secchi 4.5
Time T 11.04
B

Marie

| | | |
|-----|--------------------|-----|
| 0.5 | 26.1 | 819 |
| 1 | 26.0 | 825 |
| 2 | 24.1 | 306 |
| 3 | 22.7 | 021 |
| 4 | 21 17.9 | 009 |
| 5 | 13.6 | 009 |
| 6 | 11.8 | 008 |
| 7 | 10.7 | 008 |
| 8 | 9.8 | 006 |
| 9 | 9.3 | 005 |
| 10 | 9.1 | 004 |

Secchi 4.0
Time T 11.25
B

AD
8/25/10

Louisa (42')

Augusta 24, 2010

Time 10:30

Secchi 2'

| | <u>Temp</u> | <u>D.O.</u> |
|-----|-------------|-------------|
| 0.5 | 24.6 | 7.44 |
| 1 | 24.4 | 6.66 |
| * 2 | 22.6 | 0.92 |
| 3 | 20.5 | .22 |
| 4 | 16.6 | .13 |
| 5 | 12.9 | .12 |
| 6 | 11.1 | " |
| 7 | 10.3 | .09 |
| 8 | 9.1 | " |
| 9 | 7.8 | .08 |
| 10 | 7.0 | .06 |
| 11 | 6.4 | " |
| 12 | 6.1 | .05 |
| 13 | 6.4 | .03 |
| | 6.5 | .02 |

Very Windy Day

12 meters = 39.36'

Marie (34')

Aug 24, 2010

Time 10:42

Secchi 1.5'

| | | |
|-----|------|------|
| 0.5 | 25.1 | 9.12 |
| 1 | | 9.54 |
| 2 | | 9.33 |
| 3 | 22.0 | 0.40 |
| 4 | 21.7 | .16 |
| 5 | 16.2 | .09 |
| 6 | 13.1 | .08 |
| 7 | 11.2 | .05 |
| 8 | 10.6 | .04 |
| 9 | 9.7 | .04 |

Boat kept drifting
off spot

AD 11/22/10

Louisa 42'

Date 9-27-10
Time 10:42
Secchi 4.0

| | Temp | D.O. |
|-----|------|------|
| 0.5 | 14.8 | 656 |
| 1 | 14.8 | 656 |
| 2 | 14.8 | 653 |
| 3 | 14.8 | 636 |
| 4 | 14.5 | 456 |
| 5 | 14.3 | 454 |
| 6 | 14.3 | 453 |
| 7 | 14.1 | 416 |
| 8 | 13.6 | 150 |
| 9 | 10.1 | 010 |
| 10 | 8.2 | 007 |
| 11 | 7.2 | 006 |
| 12 | 7.0 | 003 |

12 = 39.36'

Maine (34')

Date 9-27-10
Time 11:00
Secchi 2.5

| | | |
|-----|------|------|
| 0.5 | 15.3 | 1199 |
| 1 | 15.3 | 1082 |
| 2 | 15.0 | 950 |
| 3 | 14.7 | 514 |
| 4 | 14.5 | 430 |
| 5 | 14.4 | 350 |
| 6 | 14.3 | 185 |
| 7 | 14.1 | 045 |
| 8 | 13.9 | 014 |
| 9 | 12.8 | 011 |
| 10 | 10.4 | 007 |

10 = 32.80'

AD 11/22/10

June 16th 2010

Pleasant

~~Clearwater West~~

42'

Secchi 9.5

Time Top 9:54
Bottom

| | Temp | D.O. |
|----|------|-----------|
| .5 | 20.2 | 7.87 |
| 1 | 19.9 | 7.85 |
| 2 | 19.7 | 7.89 |
| 3 | 19.6 | 7.53 |
| 4 | 19.6 | 7.55 |
| 5 | 18.8 | 6.84 |
| 6 | 15.9 | 5.30 |
| 7 | 13.7 | 4.91 |
| 8 | 12.7 | 4.02 4.02 |
| 9 | 12.3 | 3.75 |
| 10 | 12.0 | 2.72 |
| 11 | 11.8 | 2.66 |
| 12 | 11.7 | 2.42 |
| 13 | 11.6 | 2.30 |
| 14 | 11.6 | 2.29 |
| 15 | 11.5 | 1.69 |
| 16 | 11.5 | 1.60 |
| 17 | 11.5 | 1.50 |
| 18 | 11.5 | 1.20 |
| 19 | 11.5 | 1.05 |
| 20 | 11.5 | 0.99 |

AD
8/25/10

Pleasant 70'

Date 7/10

Time 903

Secchi 75

| | Temp | D.O. |
|----|------|-----------|
| .5 | 25.5 | 6.94 |
| 1 | 25.5 | 6.91 |
| 2 | 25.4 | 6.97 |
| 3 | 25.2 | 6.60 |
| 4 | 24.6 | 6.25 |
| 5 | 24.2 | 5.38 |
| 6 | 21.2 | 1.50 |
| 7 | 15.8 | 0.16 |
| 8 | 14.2 | 0.09 |
| 9 | 13.1 | 0.08 |
| 10 | 12.6 | 0.09 |
| 11 | 12.3 | 0.07 |
| 12 | 12.2 | 0.06 |
| 13 | 12.0 | 0.06 |
| 14 | 11.9 | 0.06 |
| 15 | 11.9 | 0.05 |
| 16 | 11.8 | 0.05 |
| 17 | 11.8 | 0.07 |
| 18 | 11.8 | 0.05 |
| 19 | 11.8 | 0.05 |
| 20 | 11.7 | 0.04 0.04 |
| 21 | 11.7 | 0.05 0.05 |

AD
8/25/10

Pleasant

08/17/10

9:54 TurinSecchi 7'

| | <u>Temp</u> | <u>D.O.</u> |
|-----|-------------|-------------|
| 0.5 | 23.5 | 5.51 |
| 1 | 23.4 | 5.84 |
| 2 | 23.5 | 5.34 |
| 3 | ↓ | 5.45 |
| 4 | | 5.40 |
| 5 | | |
| 6 | | 5.30 |
| 7 | 22.4 | 2.08 |
| 8 | 18.4 | 0.19 |
| 9 | 15.1 | .12 |
| 10 | 13.8 | .10 |
| 11 | 13.1 | .09 |
| 12 | 12.8 | .08 |
| 13 | 12.4 | .07 |
| 14 | 12.5 | .06 |
| 15 | 12.4 | ↓ |
| 16 | 12.4 | |
| 17 | 12.3 | |
| 18 | ↓ | ↓ |
| 19 | | .06 |
| 20 | | .05 |
| 21 | 12.3 | ↓ |
| 22 | 12.1 | |
| 23 | 12.1 | .05 |

AD
11/22/10

Pleasant

| | <u>Temp</u> | <u>D.O.</u> |
|-----|-------------|-------------|
| 0.5 | 166 | 730 |
| 1 | 166 | 730 |
| 2 | 16.6 | 714 |
| 3 | 16.6 | 717 |
| 4 | 166 | 709 |
| 5 | 166 | 706 |
| 6 | 166 | 705 |
| 7 | 166 | 701 |
| 8 | 16.5 | 701 |
| 9 | 165 | 701 |
| 10 | 165 | 693 |
| 11 | 165 | 691 |
| 12 | 16.4 | 664 |
| 13 | 163 | 620 |
| 14 | 161 | 560 |
| 15 | 12.6 | 050 |
| 16 | 12.4 | 020 |
| 17 | 12.2 | .011 |
| 18 | 121 | .08 |
| 19 | 120 | .07 |
| 20 | 12.0 | .06 |
| 21 | 120 | .06 |

Date 9/21
Time 1014
Secchi 6'0

68.88' = 21 meters

WB
12/8/10

WBS

Lake Level Form

Lake Name GRASS LAKE DAM

Volunteer Name Terry Risberg

[illegible]

[Handwritten signature]

)

Volunteer Name Jerry Ribbens

2010

[illegible]

Clearwater River Watershed District

Lake Level Form

Lake Name_

GRASS DAM

Volunteer Name.

Time _____ S _____

[illegible]

Lake Level Form

Volunteer Name Jerry Rishay

[illegible]

By NCO Date 12/13/10 Client _____ Sheet _____ of _____
Chkd. By _____ Description Grass Lake Dam Job No. _____

From Jerry

10/27/10 10 AM

Staff gauge
3.7

11/5 3pm

~~14.00~~ 3.8

11/10 ?

3.78



Wenck

Wenck Associates, Inc.
(763) 479-4200
Fax (763) 479-4242

1800 Pioneer Creek Center
P.O. Box 249
Maple Plain, MN 55359-0249

Field Form: 2009 Stream Sampling

Client: CRWD
 Project No.: 0002-129
 Date: 04/06/10
 Sampler(s): DL
 Start Time: 6:55
 End Time: 7:25
 Channel Conditions: Clear
 COC Number: _____

Site Location: Clear Lake North
 Site Description: Water Very Clear
 Weather: Overcast 48°
 Samples Taken: Yes No
 Sample Time: 7:00
 DTW Measurement: 2.17

Notes: _____

| Field Parameters | | | | |
|------------------|------------|---------------|----------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| CLN | 4.2 | | 5.9 | |

4.98

Stage Ht: 2' 2"

Rated Flow: _____

Gauged Flow: 2.80 cfs
1040

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | | | | | | | |
| Right Left | 1' | 2' | .43 | .47 | .38 | | | |
| Center | | 1.9 | .52 | .48 | .34 | | | |
| Right | 1' | 2' | .39 | .41 | .28 | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

AD 8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CL North

Project No.:

Site Description: Clear & Clean

Date: 05/03/10

Weather: Overcast

Sampler(s): DL

Samples Taken: ☒ Yes ☐ No

Start Time: 6:30

Sample Time: 6:45 a.m.

End Time: 6:57

Channel Conditions:

DTW Measurement: 2.50'

COC Number:

| Field Parameters | | | | |
|------------------|------------|---------------|----------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 8.5 | | 8.5 | |

Notes: No Vegetation

Stage Ht: ~~226~~ 2' 6"

Rated Flow: _____

Gauged Flow: 0.83 cfs

$$N < \tau$$

Stream Gauging Data

[illegible]

AD
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CLN

Project No.: _____

Site Description:

Date: June 1, 2010

Weather: Light clouds

Sampler(s): DL

Samples Taken: ☒ Yes ☐ No

Start Time: 7:10 am

Sample Time: 7:15 am

End Time: 7:23 am

Channel Conditions: Dark; some algae on surface DTW Measurement: 2.58

COC Number:

Notes:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 16.4 | | 0.60 | |

Stage Ht: 2' 7"

Rated Flow: _____

Gauged Flow: 0.65 cfs

NCO FDI 7:16

Stream Gauging Data

[illegible]

AD 8/24/60.

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: Clear Lake N

Project No.: _____

Site Description: Very poor

Date: 07/06/10

Weather:

Sampler(s): Dennis

Samples Taken: ☒ Yes ☐ No

Start Time: ~~5:55~~ 6:00

Sample Time: 6:18 a.m.

End Time: 6:25

Channel Conditions: looked like & smelled

DTW Measurement: 2.08

COC Number: like sewage (Gray Water)

Notes:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| CLN | 21.3 | | 0.19 | |

Stage Ht: ~~2' 1"~~ 2' 1"

Rated Flow:

Gauged Flow: 2.65
NLD

Stream Gauging Data

[illegible]

AD 8/24/02

Field Form: 2009 Stream Sampling

Client: CRWD

Project No.:

Date: 08/09/10

Sampler(s): Dennis

Start Time: 6:35

End Time: 6:54

Channel Conditions:

COC Number:

Site Location: CLN

Site Description:

Weather: few clouds 72°

Samples Taken: Yes No

Sample Time:

W Measurement: 2.96'

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 22.1 | | 2.06 | |

Notes: Vegetation same
duck weed.

Stage Ht: 2' 11.5"

(Depth to Water)

Rated Flow:

Gauged Flow: 0.10 cfs
N50

Stream Gauging Data

[illegible]

Field Form: 2009 Stream Sampling

Client: CRWD
 Project No.: _____
 Date: 09/13/10
 Sampler(s): D.L.
 Start Time: 6:55
 End Time: _____
 Channel Conditions: _____
 COC Number: _____

Site Location: CLN
 Site Description: CLN Clear Very little Veg.
 Weather: Clear & Sunny 46°
 Samples Taken: (Yes) No
 Sample Time: 7:00 a.m.
 DTW Measurement: 2.66

Notes: _____

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 12.4 | | 1.44 | |

Stage Ht: ~~2.7~~ 2' 8"

Rated Flow: _____

Gauged Flow: 0.79 cfs

1050

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|----------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | | | | | | | |
| 1' | | | .18 | | | | | |
| Center | 1.4 | 1.4 | .21 | | | | | |
| 1' | | | .18 | | | | | |
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11/18/10
20

Field Form: 2009 Stream Sampling

Client: CRWD
 Project No.: 0002-129
 Date: 04/06/10
 Sampler(s): DL
 Start Time: 7:35
 End Time: 8:00
 Channel Conditions: Clear
 COC Number: _____

Site Location: Clear Lake South
 Site Description: Clear Very Clear
 Weather: Overcast 48°
 Samples Taken: Yes No
 Sample Time: 7:35
 DTW Measurement: 2.0'

Notes: SOM

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| <u>CLS</u> | <u>7°</u> | | <u>3.46</u> | |

Stage Ht: 2'

Rated Flow: _____

Gauged Flow: 2.59 cfs
NCO

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|--------------|----------------------|------------|------------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | | | | | | | |
| <u>Left</u> | <u>1'</u> | <u>2' 2"</u> | <u>.43</u> | <u>.39</u> | <u>.28</u> | | | |
| | | | | | | | | |
| <u>Center</u> | | <u>2' 1"</u> | <u>.48</u> | <u>.51</u> | <u>.44</u> | | | |
| | | | | | | | | |
| <u>Right</u> | <u>1'</u> | <u>2' 3</u> | <u>.49</u> | <u>.27</u> | <u>.42</u> | | | |
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Field Form: 2009 Stream Sampling

Client: CRWD

Project No.: _____

Date: 06/03/10

Sampler(s): _____

Start Time: 7:05

End Time: 7:21

Channel Conditions: _____

COC Number: _____

Site Location: CLS

Site Description: _____

Weather: _____

Samples Taken: (Yes) No

Sample Time: 7:19

DTW Measurement: 2.46'

Notes: Some vegetation
algae on surface

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 8.9 | | 3.63 | |

Stage Ht: 2' 5 1/2"

Rated Flow: _____

Gauged Flow: 0.73 cfs

NCO

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | | | | | | | |
| | | | .15 | | | | | |
| Center | | 1.8 | .15 | | | | | |
| | | | .15 | | | | | |
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AD
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CLS

Project No.: _____

Site Description:

Date: June 1, 2010

Weather: Light Clouds

Sampler(s): DL

Samples Taken: Yes No

Start Time: 1:30 am

Sample Time: 7:38 am

End Time: 7:43 am.

Channel Conditions: light algae on surface

DTW Measurement: 2' 5 1/2" 2.46

COC Number: _____

Notes:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 15.0 | 13 | 3.50 | |

Stage Ht: 2' 5 1/2

Rated Flow: _____

Gauged Flow: 0.82 cfs

$$N < T$$

Stream Gauging Data

[illegible]

AD
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: Clear Lake 2

Site Description:

Weather:

Samples Taken: ☒ Yes ☐ No

Sample Time: 6:50 a.m.

DTW Measurement: 1.92'

COC Number: clarity minimal

Notes:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| CLS | 20.3 | | 1.32 | |

Stage Ht: 1' 11"

Rated Flow:

Gauged Flow: 2.50 cfs

Stream Gauging Data

[illegible]

March 27, 2002
AD 8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CLS

Project No.: _____

Site Description:

Date: 08/09/11

Weather: Clouding up Very Humid

Sampler(s): Pennix

Samples Taken: Yes No

Start Time: 7:00

Sample Time: _____

End Time: 7:18

Channel Conditions:

DTW Measurement: 2.71

COC Number: _____

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 24.0 | | 0.60 | |

Notes: Duck Weed
Vegetation
Rooster, Hen & 5 young
2

Stage Ht: 2' 8.5"

Rated Flow: _____

Gauged Flow: 0.12 cfs

Stream Gauging Data

[illegible]

AD 8/24/00

Field Form: 2009 Stream Sampling

Client: CRWD
 Project No.: _____
 Date: 09/13/10
 Sampler(s): DL
 Start Time: 7:30
 End Time: 7:52
 Channel Conditions: lots of veg.
 CCG Number: Water Clear

Site Location: CLS
 Site Description: _____
 Weather: Sunny & Clear 46°
 Samples Taken: (Yes) No
 Sample Time: 7:40
 DTW Measurement: 2.62

Notes: Covered w/ Duck Weed

| Field Parameters | | | | |
|------------------|-------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | <u>11.5</u> | | <u>2.60</u> | |

Stage Ht: 2' 7 1/2"

Rated Flow: _____

Gauged Flow: 0.75 cfs

Stream Gauging Data

N40

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|-------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | | | | | | | |
| | | | <u>.14</u> | | | | | |
| Center | | <u>1.55</u> | <u>.23</u> | | | | | |
| | | | <u>.14</u> | | | | | |
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AD 11/18/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CLN

Project No.: _____

Site Description:

Date: 10-5-10

Weather: Clear & Sunny

Sampler(s): D. L.

Samples Taken: Yes No

Start Time: 10:25

Sample Time: 10:30

End Time: 10:40

Channel Conditions: Clear some vegetation

DTW Measurement: 2' 2 1/2" 2.21'

COC Number:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 8.2 | | 1.65 | |

Notes: saw dead crayfish

Stage Ht: _____

Rated Flow: _____

Gauged Flow: 3.95 cfs

48" Culvert

Stream Gauging Data

[illegible]

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CLS

Project No.:

Site Description:

Date: 10-5-10

Weather: Clear/Sunny

Sampler(s): D. L.

Samples Taken: Yes No

Start Time: 10:46

Sample Time: 10:50

End Time: 10:54

Channel Conditions: Fairly Clear - lots of Vegetation DTW Measurement: 2' 1" 2.08'

COC Number:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 8.83 | | 5.63 | |

Notes: Not as much duck
weed → assume its
due to increased flow.

Stage Ht: _____

Rated Flow: _____

Gauged Flow: 1.85 cfs

Stream Gauging Data

[illegible]

Field Form: 2009 Stream Sampling

Client: CRWD
 Project No.: 0002-129
 Date: 04/06/10
 Sampler(s): DL
 Start Time: 8:50
 End Time: _____
 Channel Conditions: _____
 COC Number: _____

Site Location: CR 28.2
 Site Description: Somewhat Strong Flow
 Weather: Overcast 48°
 Samples Taken: (Yes) No
 Sample Time: 8:55
 DTW Measurement: _____

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| CR 28.2 | 8.1 | | 4.65 | |

Notes: Some Vegetation
(probably last years?)

Stage Ht: 4' 2"
~~5' 2"~~

Rated Flow: _____

Gauged Flow: 35.64 cfs

NCD

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|---|------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | 1.1 | -0.03 | | | | | |
| 3 | | 1.7 | 0.01 | | | | | |
| 6 | | 1.9 | 0.12 | | | | | |
| 9 | | 2.2 | 0.41 | | | | | |
| 12 | | 2.25 | 0.67 | | | | | |
| 15 | | 2.1 | 0.98 | | | | | |
| 18 | | 2.1 | 1.04 | | | | | |
| 21 | | 1.9 | 0.89 | | | | | |
| 24 | | 2 | 0.77 | | | | | |
| 27 | | 2 | 0.52 | | | | | |
| 30 | | 1.7 | 0.31 | | | | | |
| 33 | | 1.7 | 0.10 | | | | | |
| 36 (end) | | 1.6 | 0.02 | | | | | |
| 38' heavy vegetation no measurement taken | | | | | | | | |

Field Form: 2009 Stream Sampling

Client: CRWD

Project No.: _____

Date: 04/19/10

Sampler(s): DL

Start Time: _____

End Time: 8:35

Channel Conditions: Clear with some vegetation

COC Number: _____

Site Location: CR 28.2

Site Description: Clear

Weather: Clear & Sunny around 52°

Samples Taken: (Yes) No

Sample Time: 8:31

DTW Measurement: _____

Notes: Seemed to be
lots. of dead
vegetation flowing.

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| CR 28.2 | 10.2 | | 4.04 | |

Stage Ht: 4' 4"

Rated Flow: _____

Gauged Flow: 27.02 cfs
N6

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | .6 | 0.02 | | | | | |
| 3' | | 1.7 | .07 | | | | | |
| 6' | | 1.6 | .18 | | | | | |
| 9 | | 1.9 | .35 | | | | | |
| 12 | | 1.8 | .63 | | | | | |
| 15 | | 1.8 | .85 | | | | | |
| 18 | | 1.8 | .70 | | | | | |
| 21 | | 1.6 | .75 | | | | | |
| 24 | | 1.6 | .70 | | | | | |
| 27 | | 1.6 | .48 | | | | | |
| 30 | | 1.5 | .36 | | | | | |
| 33 | | 1.4 | .13 | | | | | |
| 36 | | 1.5 | 0.04 | | | | | |
| (Right Side) | | .9 | 0.04 | | | | | |

Field Form: 2009 Stream Sampling

Client: CRWD

Project No.: _____

Date: 05/03/10

Sampler(s): DL

Start Time: _____

End Time: _____

Channel Conditions: _____

COC Number: _____

Site Location: CR 28.D2

Site Description: _____

Weather: Cold overcast 47° Windy

Samples Taken: Yes No

Sample Time: 7:54

DTW Measurement: _____

Notes: Some vegetation

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | <u>9.6</u> | | <u>4.52</u> | |

Stage Ht: 4' 7"

Rated Flow: _____

Gauged Flow: 15.44 cfs

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|----------------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | 0.6 | 0.6 | 0.01 | | | | | |
| 3 | | 0.6 | 0.03 | | | | | |
| 6 | | 1.3 | 0.23 | | | | | |
| 9 | | 1.5 | 0.30 | | | | | |
| 12 | | 1.5 | 0.43 | | | | | |
| 15 | | 1.7 | 0.46 | | | | | |
| 18 | | 1.5 | 0.53 | | | | | |
| 21 | | 1.3 | 0.44 | 0.55 | | | | |
| 24 | | 1.3 | 0.45 | | | | | |
| 27 | | 1.4 | 0.38 | | | | | |
| 30 | | 1.1 | 0.25 | | | | | |
| 33 | 1.2 ← 0.6 | | 0.04 | | | | | |
| 36 end | | 1.3 | 0 | | | | | |

Field Form: 2009 Stream Sampling

Client: CRWD
 Project No.: _____
 Date: May 17, 2010
 Sampler(s): DL
 Start Time: 6:30
 End Time: 6:55
 Channel Conditions: Clear
 COC Number: _____

Site Location: CD 28.2
 Site Description: Lots of Vegetation
 Weather: Clear & Sunny
 Samples Taken: (Yes) No
 Sample Time: 6:40 a.m.
 DTW Measurement: _____

Notes: Some Carp in channel

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 14.4 | | 1.46 | |

Stage Ht: 3' 7"

Rated Flow: _____

Gauged Flow: 34.1 cfs
N60

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|----------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | 2.5 | 1.4 | .02 | | | | | |
| 3 | | 2 | .10 | | | | | |
| 6 | | 2.3 | .31 | | | | | |
| 9 | | 2.6 | .42 | | | | | |
| 12 | | 2.8 | .48 | | | | | |
| 15 | | 2.6 | .53 | | | | | |
| 18 | | 2.3 | .86 | | | | | |
| 21 | | 2.3 | .73 | | | | | |
| 24 | | 2.3 | .52 | | | | | |
| 27 | | 2.2 | .32 | | | | | |
| 30 | | 2.1 | .29 | | | | | |
| 33 | | 2.1 | .15 | | | | | |
| 36 | | 2.1 | .08 | | | | | |
| 38 end | | 1.9 | .02 | | | | | |

AD
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Project No.: _____

Date: 8 June 1st 2010

Sampler(s): DL

Start Time: 8:00

End Time: _____

Channel Conditions: Heavy w/ CLP

COC Number: _____

Site Location: CR 28.2

Site Description: _____

Weather: _____

Samples Taken: Yes No

Sample Time: 8:04

DTW Measurement: _____

Notes: _____

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 18° | | 1.91 | |

Stage Ht: 4' 6"

Rated Flow: _____

Gauged Flow: 6.20

NCD

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) Depth | Depth (ft) DTW | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|---------------------|-------------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | 3.5 | 4' 5" | 0.1 | | | | | |
| | 3.5 | 4' 5" | 0.11 | | | | | |
| | 3.5 | 4' 5" | 0.11 | | | | | |
| | 3.5 | 4' 5" | 0.14 | | | | | |
| | 3.5 | 4' 5" | 0.12 | | | | | |
| | 3.5 | 4' 5" | 0.12 | | | | | |
| | 3.5 | 4' 5" | 0.11 | | | | | |
| | 3.5 | 4' 5" | 0.08 | | | | | |
| | 3.5 | 4' 6" | 0.08 | | | | | |
| | 3.5 | 4' 6" | 0.10 | | | | | |
| | 3.5 | 11 | 0.12 | | | | | |
| | 3.5 | 11 | 0.11 | | | | | |
| | 3.5 | 11 | 0.09 | | | | | |
| | 3.5 | 11 | 0.16 | | | | | |

3.5 11 0.12
3.5 11 0.10

AD
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CR28.2

Project No.: _____

Site Description: heavy vegetation

Date: 7-6-10

Weather: _____

Sampler(s): Dennis

Samples Taken: (Yes) No

Start Time: _____

Sample Time: 7:25 a.m.

End Time: _____

Channel Conditions: Lots of vegetation floating DTW Measurement: _____

COE Number: slight stretch - S.

Notes: 70°

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| CR28.2 | 22.4 | | 0.27 | |

South Box
Culvert choked

Stage Ht: 3' 3"

Rated Flow: _____

Gauged Flow: 16.81 cfs

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | 4.15 | .54 | | | | | |
| 2 | | | .52 | | | | | |
| 3 | | | .52 | | | | | |
| 4 | | | .53 | | | | | |
| 5 | | | .53 | | | | | |
| 6 | | | .52 | | | | | |
| 7 | | | .40 | | | | | |
| 8 | | | .21 | | | | | |
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| | | | | | | | | |

Seemed to have a mass of vegetation in front of culvert north side north culvert

AD 8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

- roject No.:

Date: 08/29/10

Sampler(s): Dennis

Start Time: 7:35

End Time: 8:02

Channel Conditions:

COC Number: _____

Site Location: CR 28.2

Site Description: Almost 0 flow

Weather: 77° Very Humid.

Samples Taken: Yes No

Sample Time: 8:00 am

DTW Measurement:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 23.2 | | 0.09 | |

Notes: Thick with duck
weed. Saw some bugs
that appeared to be heavy
vegetation. Slight stretch

Stage Ht: 5' 6"

Rated Flow:

estimate
Gauged Flow: 1.20 cfs

Stream Gauging Data

[illegible]

AD
8/24/10.

Field Form: 2009 Stream Sampling

Client: CRWD
 Project No.: _____
 Date: 09/13/10
 Sampler(s): _____
 Start Time: 8:14
 End Time: _____
 Channel Conditions: Clear
 COC Number: _____

Site Location: CR 28.2
 Site Description: _____
 Weather: Sunny
 Samples Taken: Yes No
 Sample Time: 8:30
 DTW Measurement: 4'5"

Notes: _____

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 13.5 | | 1.75 | |

Stage Ht: 4'5"

Rated Flow: _____

Gauged Flow: 21.08 cfs
N40

Stream Gauging Data

| Distance from Initial Point (ft) <u>right</u> | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|--|------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | | | | | | | |
| 3 | | 1.7 | 0.03 | | | | | |
| 6 | | 2.3 | 0.32 | | | | | |
| 9 | | 2.4 | 0.46 | | | | | |
| 12 | | 2.6 | 0.31 | | | | | |
| 15 | | 2.65 | 0.32 | | | | | |
| 18 | | 2.8 | 0.27 | | | | | |
| 21 | | 2.6 | 0.27 | | | | | |
| 24 | | 2.3 | 0.23 | | | | | |
| 27 | | 2.2 | 0.27 | | | | | |
| 30 | | 2.2 | 0.33 | | | | | |
| 33 | | 1.9 | 0.30 | | | | | |
| 36 | | 1.8 | 0.09 | | | | | |
| 39 | | 1.6 | 0.03 | | | | | |

T-101370-1372 Field Form/Gauging Form
end 1.4 0.03

March 17, 2007

AD
 11/18/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CR 28.2

Project No.: _____

Site Description: _____

Date: 10-5-10

Weather: Clear/Sunny

Sampler(s): D. L.

Samples Taken: Yes No

Start Time: 11:15

Sample Time: 11:20

End Time: 11:40

Channel Conditions: Murky

DTW Measurement: 3' 8" 3.66

COC Number: _____

Notes: _____

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 9.8 | | 3.96 | |

Stage Ht: _____

Rated Flow: _____

Gauged Flow: 43.10

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | 1.4 | | 0.04 | | | | | |
| 3 | 2.0 | | .46 | | | | | |
| 6 | 2.4 | | .55? | | | | | |
| 9 | 2.7 | | .44 | | | | | |
| 12 | 2.8 | | .51 | | | | | |
| 15 | 2.7 | | .65 | | | | | |
| 18 | 2.5 | | .65 | | | | | |
| 21 | 2.4 | | .79 | | | | | |
| 24 | 2.5 | | .59 | | | | | |
| 27 | 2.3 | | .50 | | | | | |
| 30 | 2.2 | | .62 | | | | | |
| 33 | 2.2 | | .64 | | | | | |
| Bank 36 | 2.2 | | .15 | | | | | |

Field Form: 2009 Stream Sampling

Client: CRWD
 Project No.: 0002-129
 Date: 04/06/10
 Sampler(s): D.L.
 Start Time: 9:25
 End Time: _____
 Channel Conditions: Water Clean - Silt bottom
 COC Number: _____

Site Location: WR 0.2
 Site Description: Many little vegetation
 Weather: Overcast 47°
 Samples Taken: (Yes) No
 Sample Time: 9:30
 DTW Measurement: 4' 7"

Notes: _____

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 5.9° | | 11.52 | |

Stage Ht: 4' 7"

Rated Flow: _____

Gauged Flow: 20.57 cfs

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|---------------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | 2.7 2.7* | | | 0.41 | | | |
| 1.5 | | 2.5 | | | 0.54 | | | |
| 3 | | 2.2 | | | 0.68 | | | |
| 4.5 | | 2.2 | | | 0.61 | | | |
| 6 | | 2.1 | | | 0.69 | | | |
| 7.5 | | 2.1 | | | 0.69 | | | |
| 9 | | 2 | | | 0.61 | | | |
| 10.5 | | 2.1 | | | 0.64 | | | |
| 12 | | 2.2 | | | 0.66 | | | |
| 13.5 | | 2 | | | 0.67 | | | |
| 15 | | 2.1 | | | 0.65 | | | |
| Right Side | | 2.2 | | | 0.53 | | | |
| | | | | | | | | |
| | | | | | | | | |

A.D.
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD
 Project No.: _____
 Date: 05/03/10
 Sampler(s): D.L.
 Start Time: 8:27
 End Time: _____
 Channel Conditions: _____
 COC Number: _____

Site Location: WR 0.2
 Site Description: _____
 Weather: Overcast 47°
 Samples Taken: (Yes) No
 Sample Time: 8:35
 DTW Measurement: 5' 5.5"

Notes: _____

| Field Parameters | | | | |
|------------------|-------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | <u>10.3</u> | | <u>8.93</u> | |

Stage Ht: 5' 5 1/2"

Rated Flow: _____

Gauged Flow: 9.09 cfs

N=0

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|-------------|----------------------|-------------|-------------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | <u>0.35</u> | <u>0.17</u> | | | | | |
| 1 | | <u>1.2</u> | <u>0.61</u> | | | | | |
| 2 | | <u>1.1</u> | <u>1.03</u> | | | | | |
| 3 | | <u>1.1</u> | <u>1.23</u> | | | | | |
| 4 | | <u>1</u> | <u>1.34</u> | | | | | |
| 5 | | <u>1</u> | <u>1.36</u> | | | | | |
| 6 | | <u>0.9</u> | <u>1.18</u> | | | | | |
| 7 | | <u>1</u> | <u>1.09</u> | | | | | |
| 8 | | <u>1</u> | <u>1.09</u> | <u>0.79</u> | <u>0.79</u> | | | |
| edge | | <u>0.7</u> | <u>0.46</u> | | | | | |
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AD
8/24/10

Field Form: 2009 Stream Sampling

~~6'2"~~ (6'2")

Client: CRWD
 Project No.: _____
 Date: June 1 2010
 Sampler(s): DL
 Start Time: 8:35
 End Time: 9:00
 Channel Conditions: _____
 COC Number: _____

Site Location: WRD.2
 Site Description: Clear some vegetation
 Weather: Sunny
 Samples Taken: (Yes) No
 Sample Time: 8:45
 DTW Measurement: ~~11'9"~~ 6'2"

Notes: _____

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 20 | | 7.56 | |

Stage Ht: _____

Rated Flow: _____

Gauged Flow: 4.03 cfs
NCO

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | .4 | 0.04 | | | | | |
| 1 | | .7 | 0.24 | | | | | |
| 2 | | .9 | 0.53 | | | | | |
| 3 | | .9 | 0.64 | | | | | |
| 4 | | .8 | .75 | | | | | |
| 5 | | .8 | .82 | | | | | |
| 6 | | .8 | .80 | | | | | |
| 7 | | .7 | .63 | | | | | |
| 8 | | .8 | .44 | | | | | |
| | | .6 | .38 | | | | | |
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AD
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Project No.: _____

Date: 7-6-10

Sampler(s): Dennis

Start Time: 7:55

End Time: 8:20

Channel Conditions: Very Turbid

COC Number: _____

Site Location: WRO12

Site Description: _____

Weather: _____

Samples Taken: ☒ Yes ☐ No

Sample Time: 8:00

DTW Measurement: 4' 9"

Notes: lots of vegetation
along banks - none in
channel (main)

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 23.6 | | 5.47 | |

Stage Ht: 4' 9"

Rated Flow: _____

Gauged Flow: 6.06 cfs

NCD

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | .9 | 0.09 | | | | | |
| | 1 | 1.75 | 0.25 | | | | | |
| | 2 | 2.1 | .39 | | | | | |
| | 3 | 2.1 | .44 | | | | | |
| | 4 | 1.85 | .46 | | | | | |
| | 5 | 1.8 | .46 | | | | | |
| | 6 | 1.75 | .41 | | | | | |
| | 7 | 1.95 | .33 | | | | | |
| | 8 | 1.9 | .34 | | | | | |
| | 9 | 1.4 | .16 | | | | | |
| close to bank | 10 | .7 | .02 | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

AD
8/24/10

Field Form: 2009 Stream Sampling

Site Location: WR 0.2'

Site Description:

Weather: Cloudy & Very Humid 3 days

Samples Taken: Yes No

Sample Time: _____

interception
phone call

DTW Measurement:

Notes:

Rated Flow:

Gauged Flow: 0.42 cfs

Neq

[illegible]

AD
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: WR 0.2

Project No.: _____

Site Description: _____

Date: 09/13/10

Weather: _____

Sampler(s): _____

Samples Taken: (Yes) No

Start Time: _____

Sample Time: _____

End Time: 9:58

Channel Conditions: lots Veg. along Bank

DTW Measurement: _____

~~ECN~~ Number: Water Very Clear

Notes: _____

| Field Parameters | | | | |
|------------------|-------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| <u>WR 0.2</u> | <u>14.2</u> | | <u>6.70</u> | |

Stage Ht: 5' 8"

Rated Flow: _____

Gauged Flow: 1.80 cfs

NCO

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | 0 | .8 | .06 | | | | | |
| | 1 | .9 | .07 | | | | | |
| | 2 | 1.1 | | | | | | |
| | 3 | 1.05 | .40 | | | | | |
| | 4 | 1.0 | .5 | | | | | |
| | 5 | .9 | .40 | | | | | |
| | 6 | .9 | .29 | | | | | |
| | 7 | 1.0 | .08 | | | | | |
| | Bank | .5 | ~0.1 | | | | | |
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11/18/10
AD

Field Form: 2009 Stream Sampling

Client: CRWD
 Project No.: _____
 Date: 10-5-10
 Sampler(s): D. L.
 Start Time: 12:05
 End Time: 12:25
 Channel Conditions: Clear & High
 COC Number: _____

Site Location: WR 0.2
 Site Description: _____
 Weather: Clear & Sunny
 Samples Taken: (Yes) No
 Sample Time: 12:15
 DTW Measurement: 4' 10" 4.83

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| WR 0.2 | 12.6 | | 8.77 | |

Notes: Water level up
after quite a bit of
rain. Lots of vegetation
Lots of leaves falling.

Stage Ht: _____

Rated Flow: _____

Gauged Flow: 6.68 cfs

Stream Gauging Data

| Distance from Initial Point (ft) | Width (ft) | Depth (ft) | Velocity (60% Depth) | Velocity | | Average Velocity (ft/sec) | Area (ft²) | Discharge (Q, ft³/sec) |
|----------------------------------|------------|------------|----------------------|-----------|-----------|---------------------------|------------|------------------------|
| | | | | 20% Depth | 80% Depth | | | |
| 0, (left side) | | 1.7 | .07 | | | | | |
| 1 | | 1.8 | .12 | | | | | |
| 2 | | 2.0 | .18 | | | | | |
| 3 | | 2.1 | .60 | | | | | |
| 4 | | 2.0 | .68 | | | | | |
| 5 | | 1.9 | .65 | | | | | |
| 6 | | 1.9 | .57 | | | | | |
| 7 | | 1.9 | .42 | | | | | |
| 8 | | 1.7 | .12 | | | | | |
| 9 | | 1.3 | .07 | | | | | |
| Right bank | | .7 | .03 | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

cutwax

Field Form: 2009 Stream Sampling

Client: CRWD

Project No.: 6002-129

Date: 04/06/10

Sampler(s): D.L.

Start Time: 89:55

End Time:

Channel Conditions:

COC Number:

Site Location: CR. 10.5

Site Description: Unobstructed except along

Weather: Overcast 48°

Samples Taken: (Yes) No

Sample Time: 10:00

W Measurement: _____

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 9.1 | | 13.32 | |

Notes: Taken from dam
catwalk

Stage Ht: ?

Rated Flow: _____

Gauged Flow:

Stream Gauging Data

[illegible]

AD
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CR 10.5

Project No.:

Site Description:

Date: 05/03/10

Weather:

Sampler(s): _____

Samples Taken: ☒ Yes ☐ No

Start Time: 8:51

Sample Time: 9:00

End Time: 9:10


Channel Conditions: Clear

DTW Measurement:

COC Number: _____

Notes: Yes

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 12.5 | | 7.17 | |

NKO
 12/13/10
 Stage Ht: 5" 
 Herb: 2.32 5"

Staff
3.18
2.65 ~ 3.1

Gauged Flow: _____

[illegible]

AD
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CR 10.5

Project No.: _____

Site Description: _____

Date: June 1st 2010

Weather:

Sampler(s): DL

Samples Taken: Yes No

Start Time: 9:08

Sample Time: _____

End Time: 9:22

Channel Conditions: Clear

DTW Measurement:

COC Number:

Notes:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 22.5 | | 8.96 | |

Stage Ht. 3.1

Rated Flow: _____

Gauged Flow: _____

Head: 0.42

Stream Gauging Data

[illegible]

AD
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CR 10.5

Project No.: _____

Site Description:

Date: 7-6-10

Weather:

Sampler(s): Dennis

Samples Taken: ☒ Yes ☐ No

Start Time: _____

Sample Time: 8:26

End Time: _____

Channel Conditions:

DTW Measurement:

COC Number:

Notes:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| CR 10.5 | 25.7 | | 6.25 | |

Stage Ht: 4.05'

Rated Flow:

Gauged Flow:

Head: 1.37

Stream Gauging Data

[illegible]

AD
8/24/10

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CR 10.5

Project No.: _____

Site Description:

Date: 08/10/10

Weather: 13. H. m. 1

Sampler(s):

Samples Taken: ☒ Yes ☐ No

Start Time: 9:29

Sample Time: 9:30

End Time: 9:36

Channel Conditions:

DTW Measurement:

COC Number: _____

Notes:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 27.7 | | 3.32 | |

Stage Ht: 2' 9"

Rated Flow:

Gauged Flow:

Head: 0.72

Stream Gauging Data

[illegible]

AD
8/24/10

—

Notes: Very Clear

Stage Ht: 3.20 @ gage Rated Flow: _____ Gauged Flow: _____

Head: 0.52

Head: 0.52

[illegible]

11/18/10 AD

Field Form: 2009 Stream Sampling

| | |
|---------------------|---------|
| Client: | CRWD |
| Project No.: | |
| Date: | 10-5-10 |
| Sampler(s): | DL |
| Start Time: | 12:29 |
| End Time: | 12:46 |
| Channel Conditions: | Clear |
| COC Number: | |

Site Location: CR 10.5

Site Description: _____

Weather: Cloud / Sunny

Samples Taken: (Yes) No

Sample Time: 12:35

W Measurement: Gauged 4.15

Dam Zero at 2.68

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | 14.4 | | 8.20 | |

Notes:

Stage Ht. Head: 1.47

Rated Flow: _____

Gauged Flow: _____

Stream Gauging Data

[illegible]

Field Form: 2009 Stream Sampling

Client: CRWD

Site Location: CR 0.1

Project No.: _____

Site Description:

Date: 05/03/00

Weather: _____

Sampler(s): Dennis

Samples Taken: Yes No

Start Time: _____

Sample Time: 8. 9:26

End Time: _____

Channel Conditions:

DTW Measurement:

COC Number:

Notes:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | | | | |

Stage Ht: _____

Rated Flow: _____

Gauged Flow: _____

Stream Gauging Data

[illegible]

AD
8/24/10

Field Form: 2009 Stream Sampling

Site Location: CRO.1

Site Description:

Weather:

Samples Taken: Yes No

Sample Time: _____

Channel Conditions:

DTW Measurement:

COC Number:

Notes:

| Field Parameters | | | | |
|------------------|------------|---------------|-------------|-----------|
| Sample I.D. | Temp. (°C) | Cond. (mS/cm) | D.O. (mg/l) | pH (S.U.) |
| | | | | |

Stage Ht: _____

Rated Flow:

Gauged Flow:

Stream Gauging Data

[illegible]

AD
8/24/10

Client: CRWD

Project No.:

Date: 7-6-10

Sampler(s): Dennis

Start Time:

End Time:

Channel Conditions:

COC Number:

Site Location: CR 0a1

Site Description: _____

Weather: _____

Samples Taken: Yes No

Sample Time: 9:10

TW Measurement: _____

Notes: High Flow

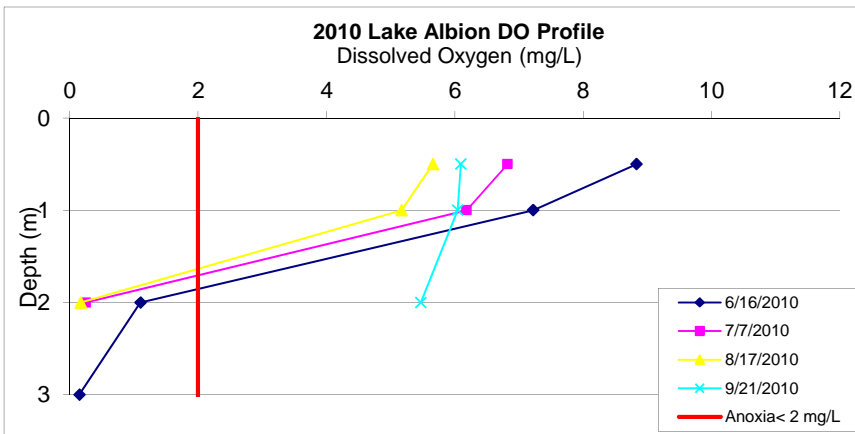
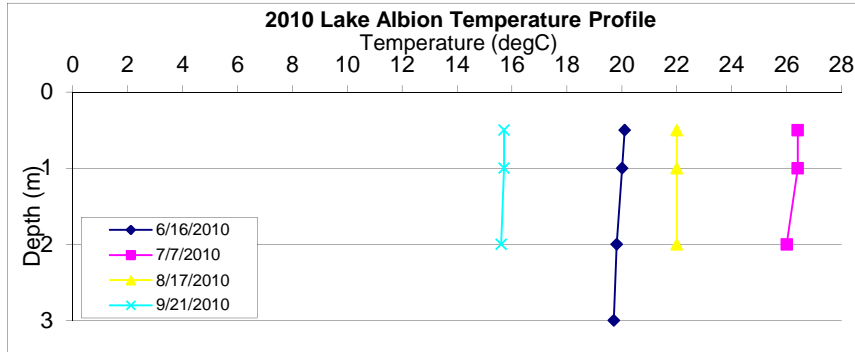
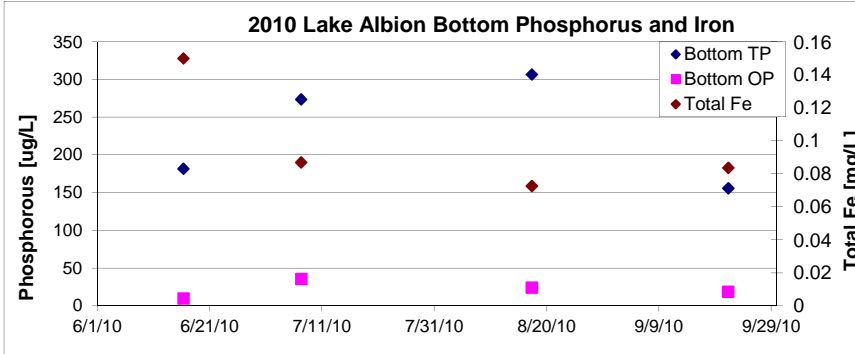
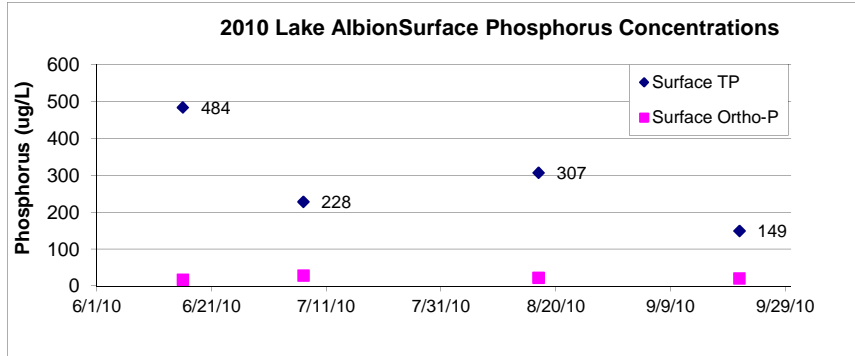
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[illegible]

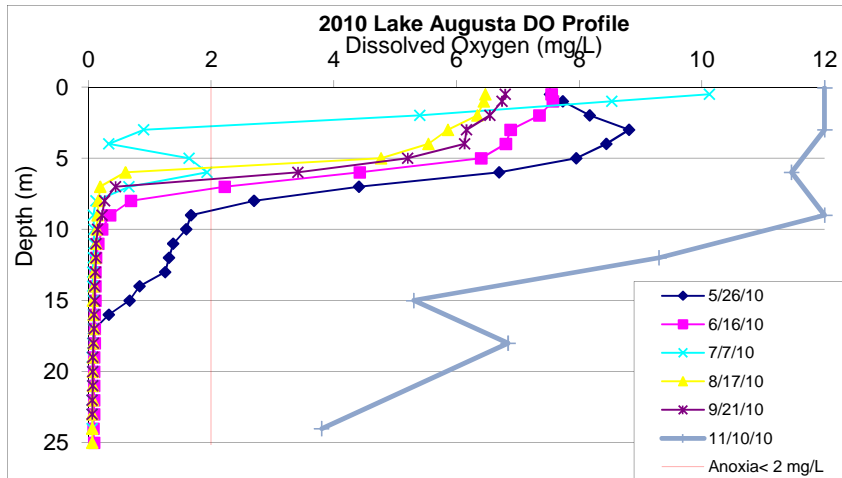
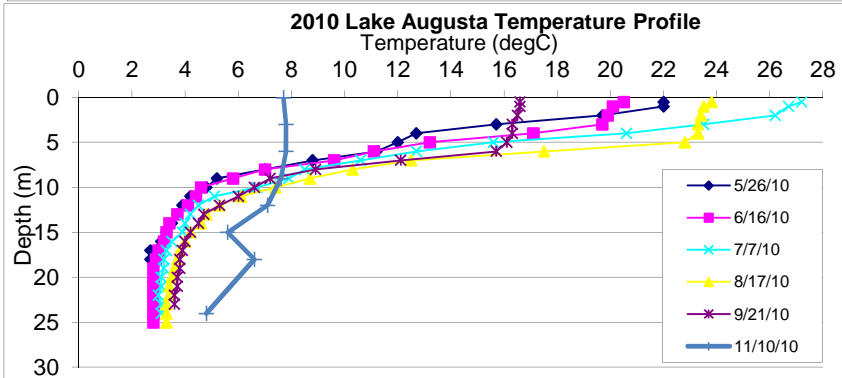
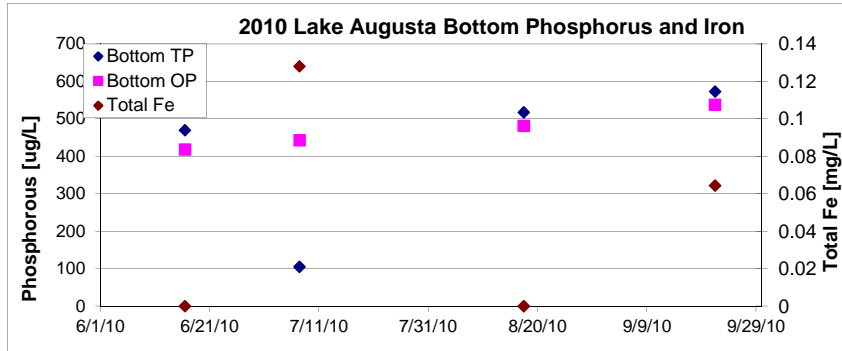
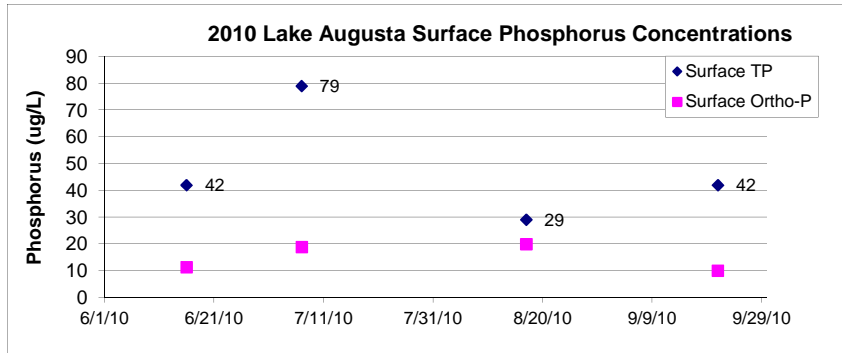
Appendix H

Lake Phosphorus and Profile Data

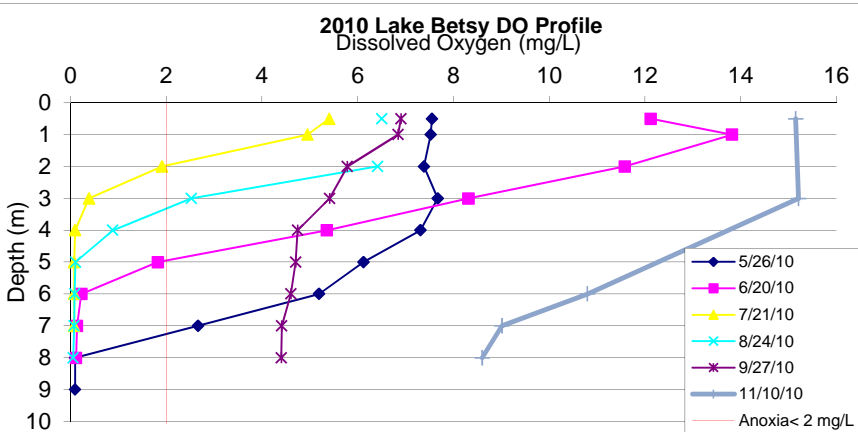
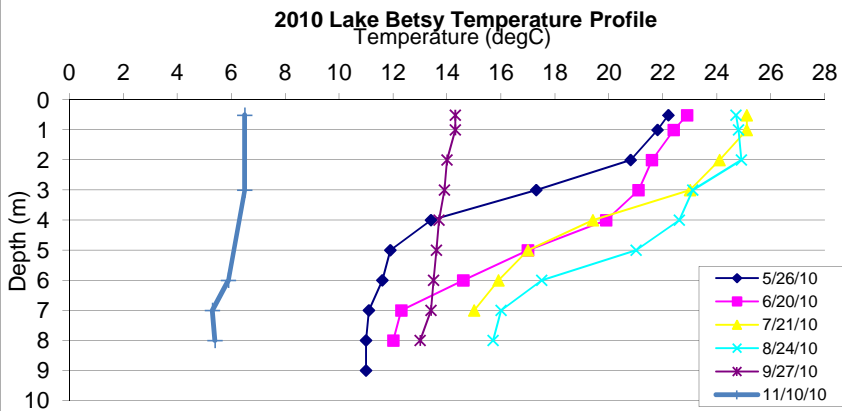
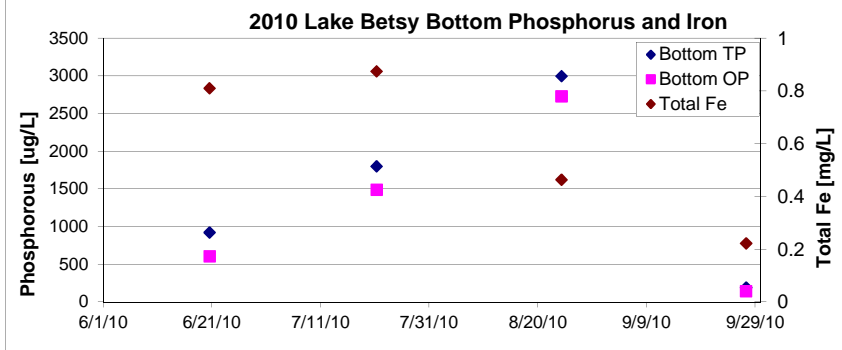
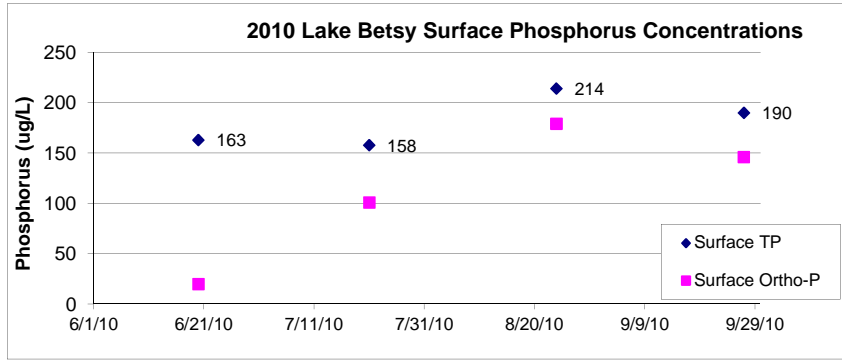
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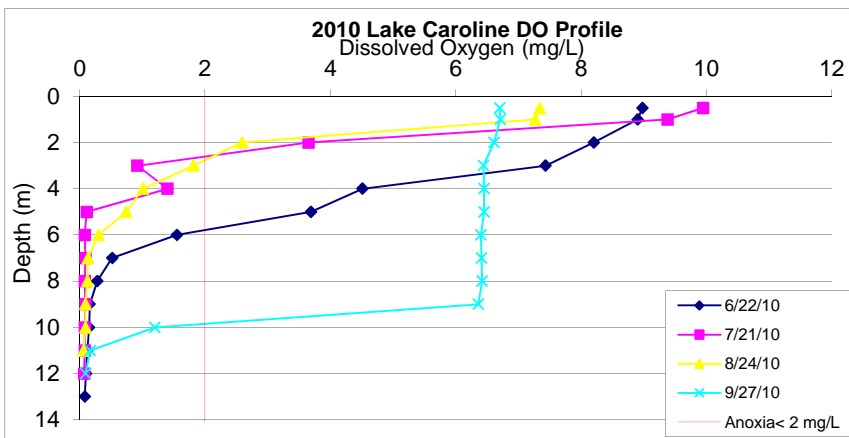
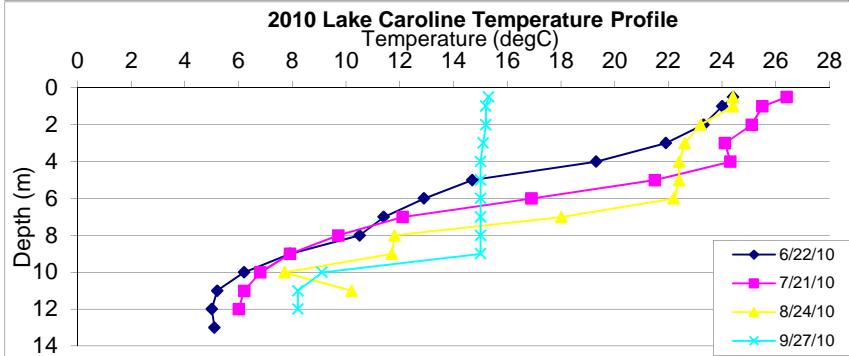
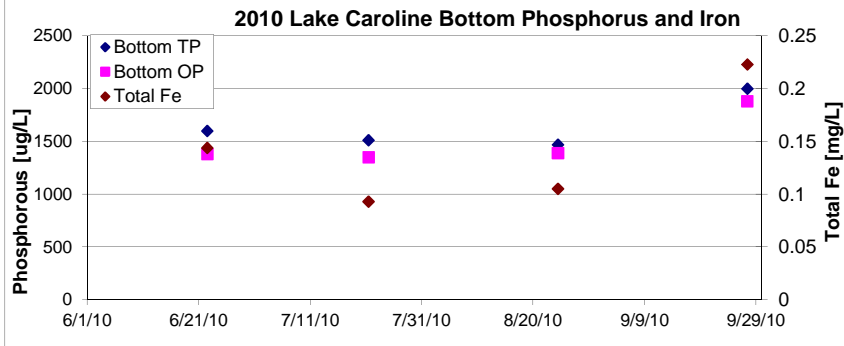
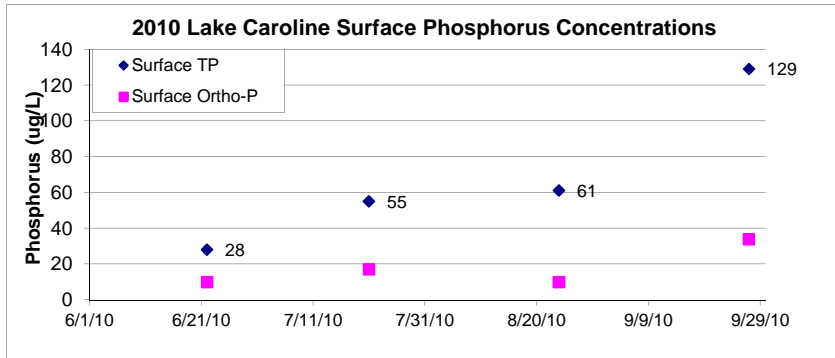
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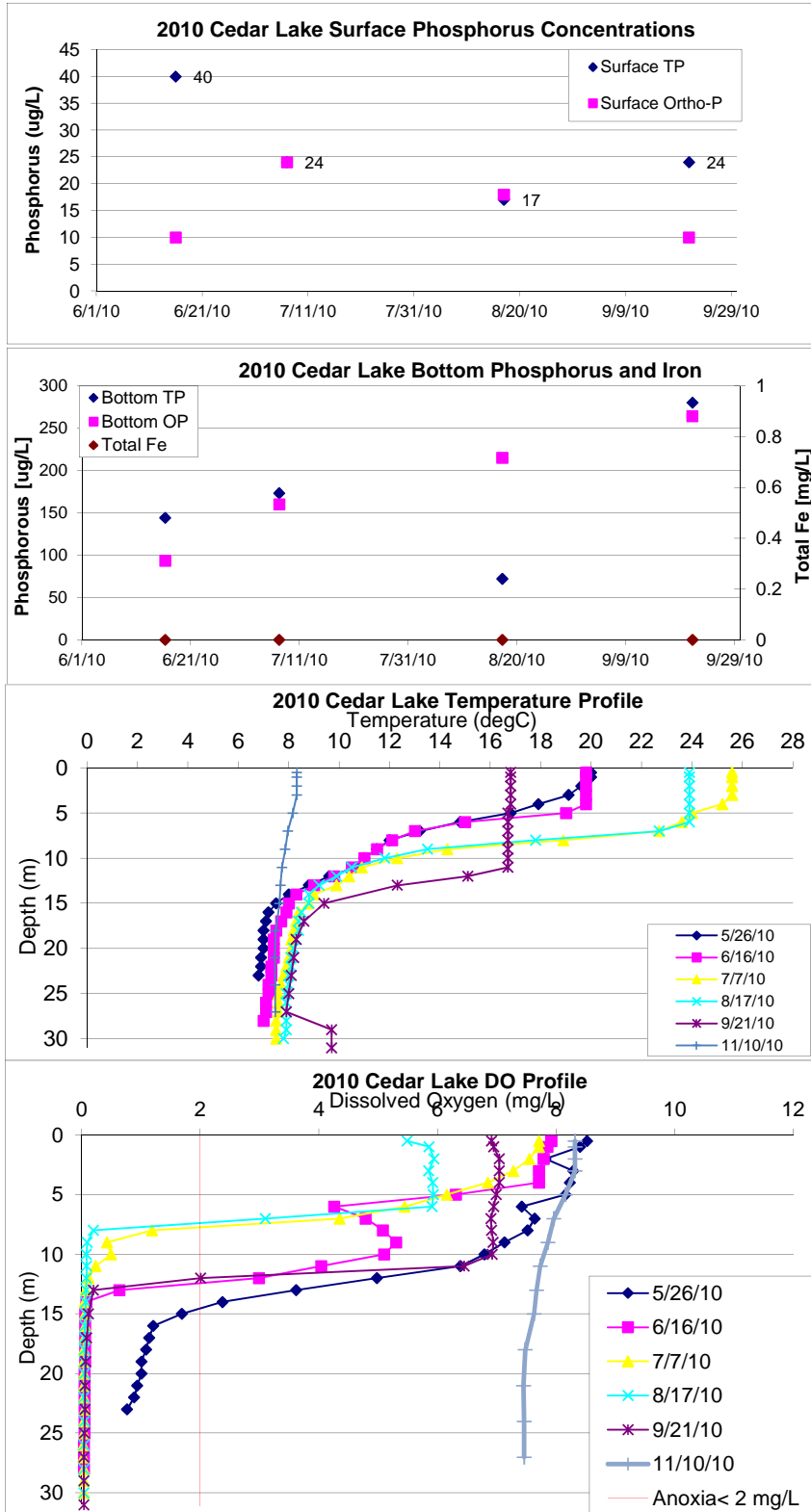
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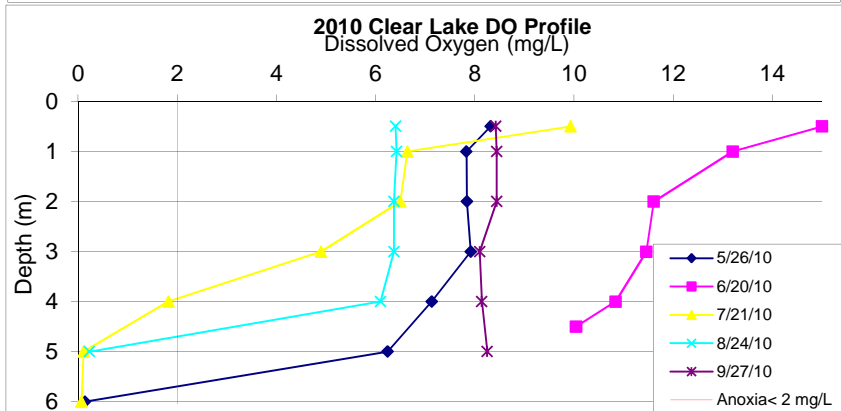
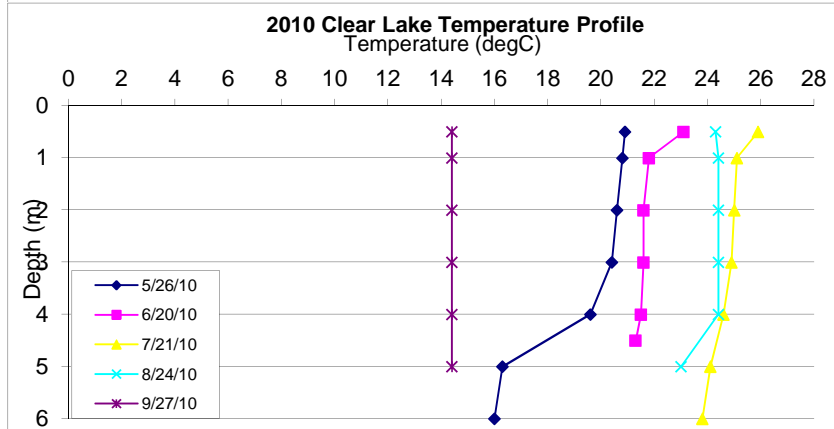
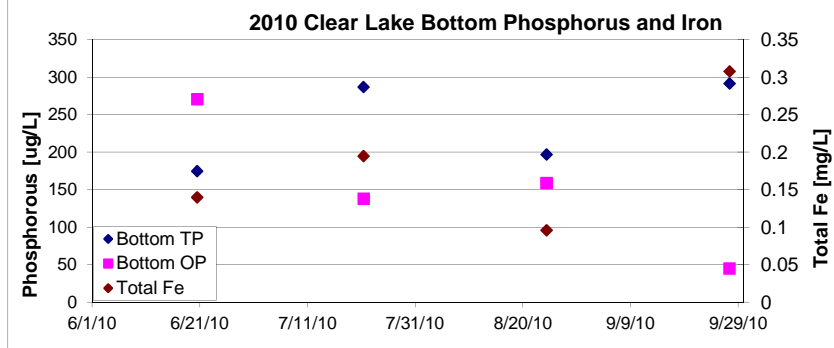
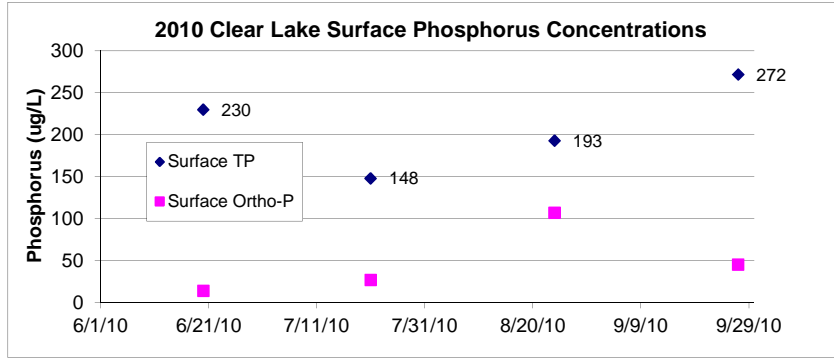
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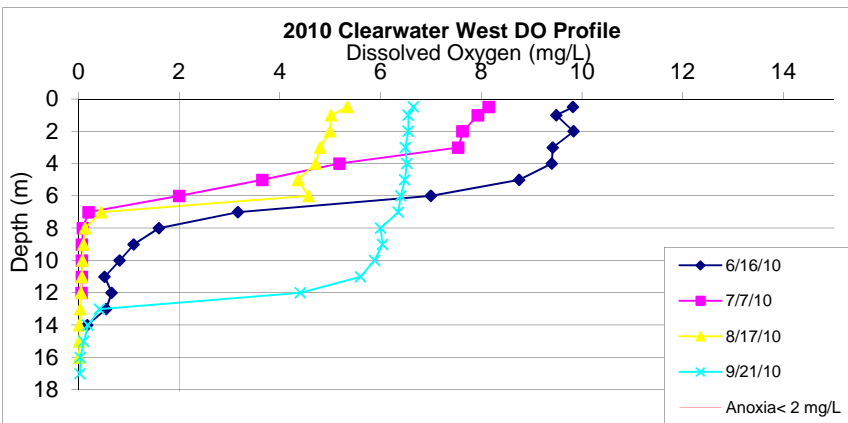
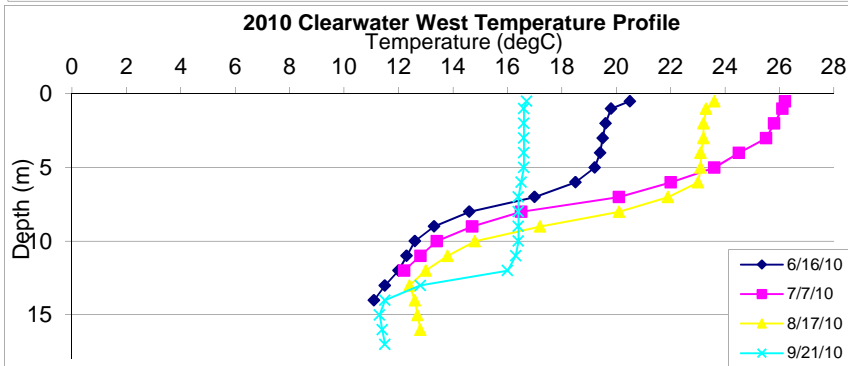
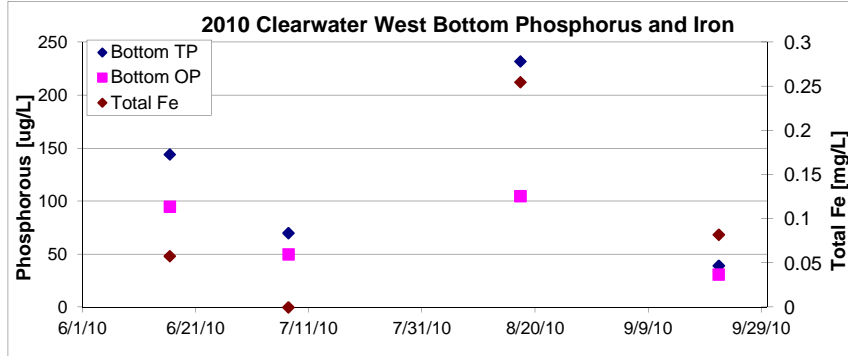
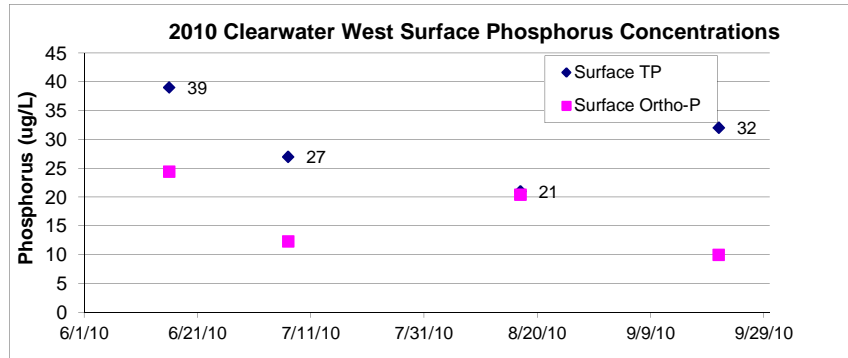
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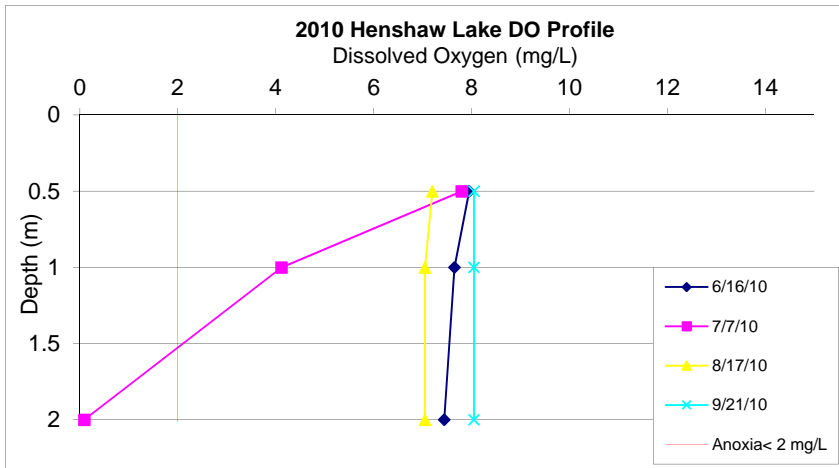
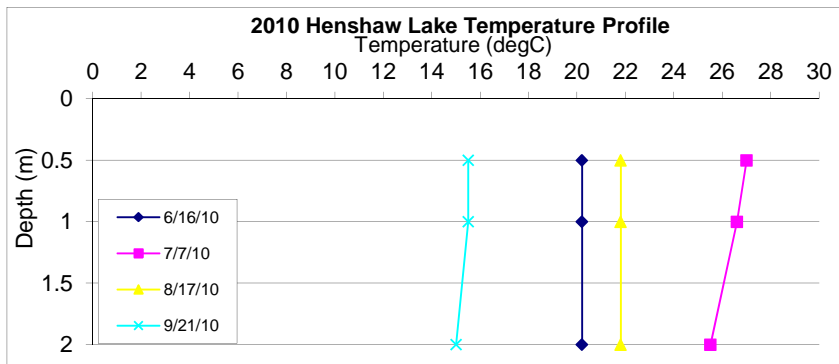
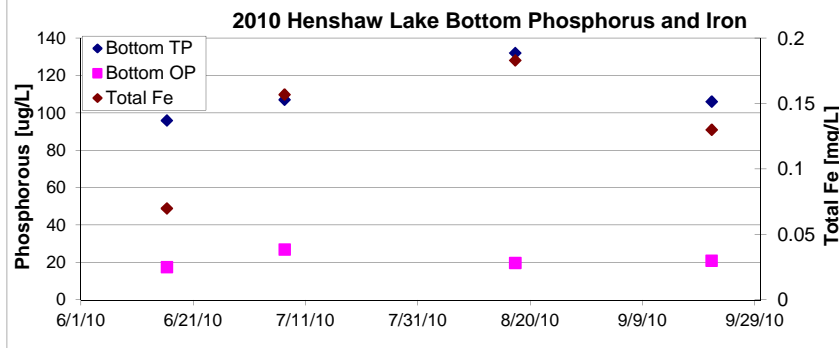
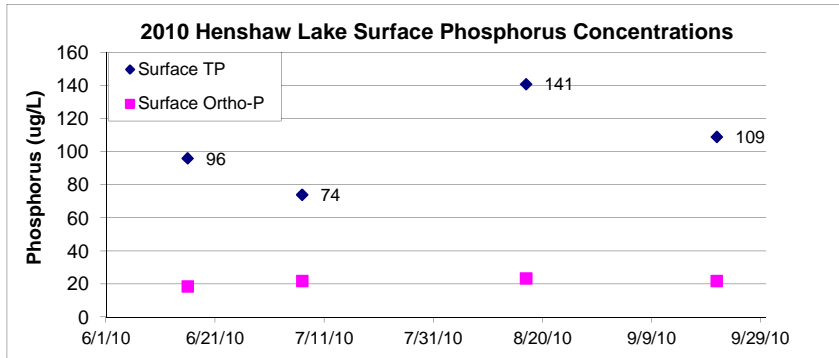
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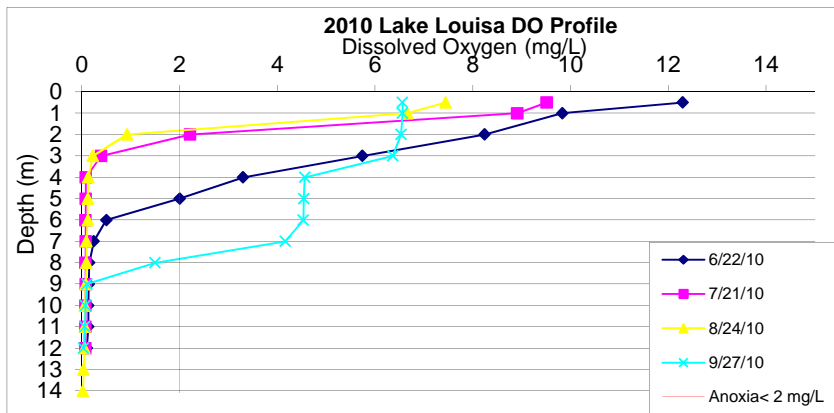
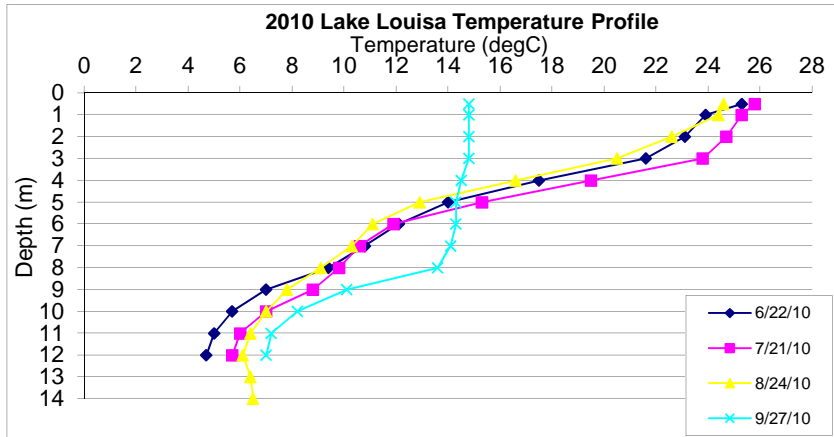
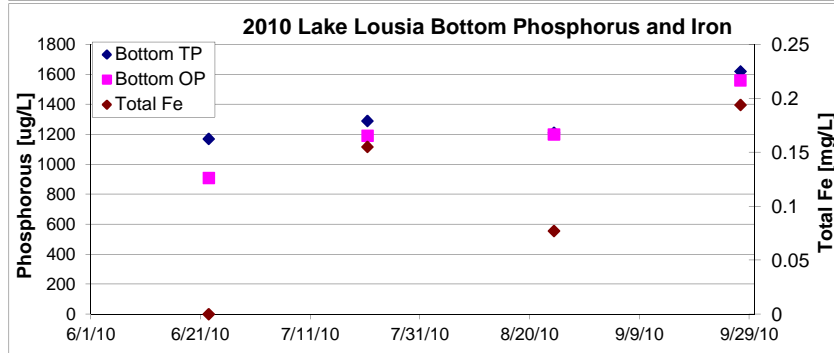
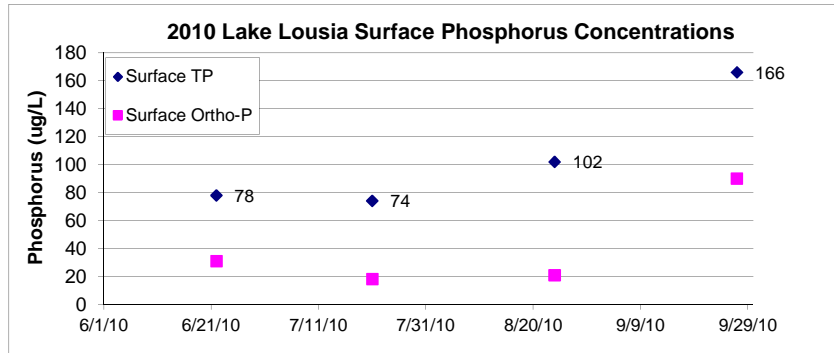
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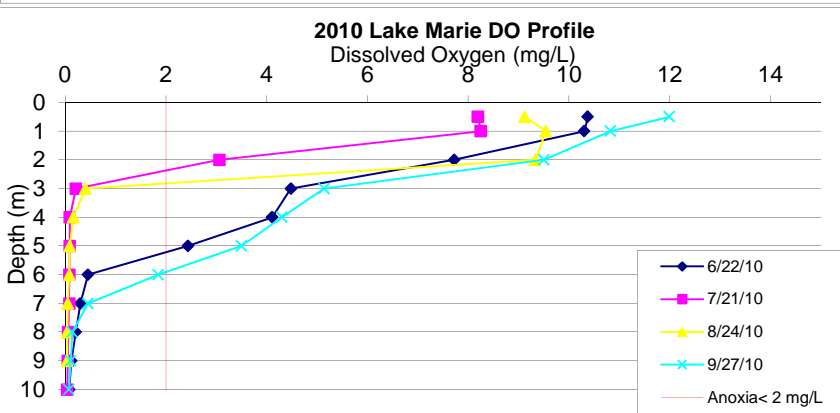
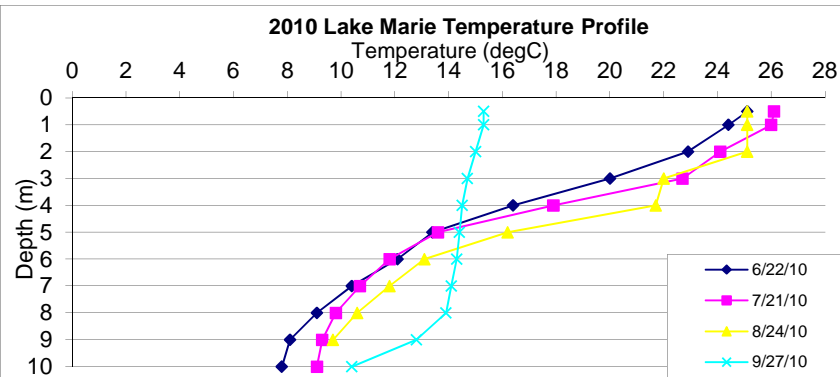
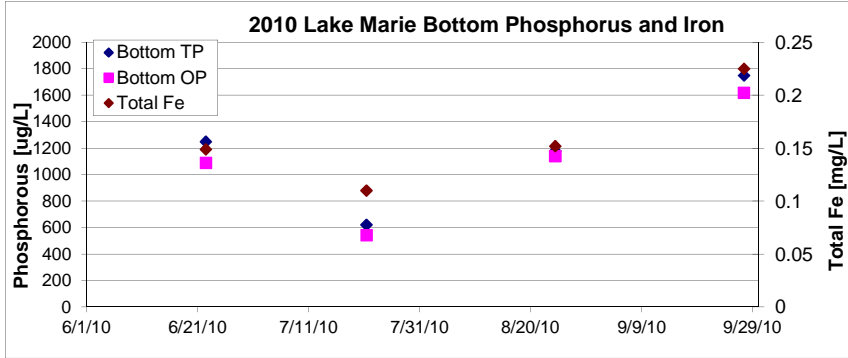
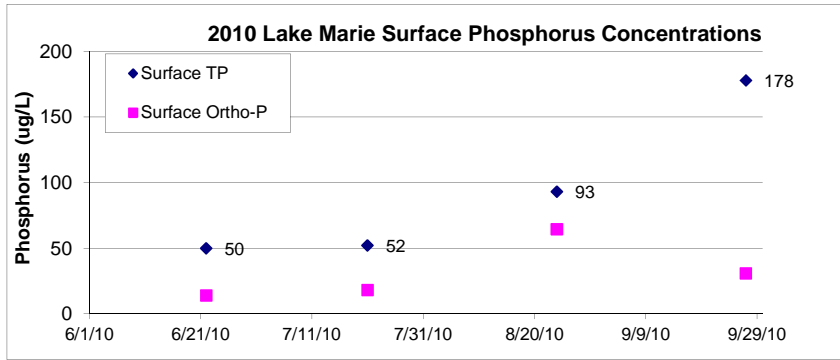
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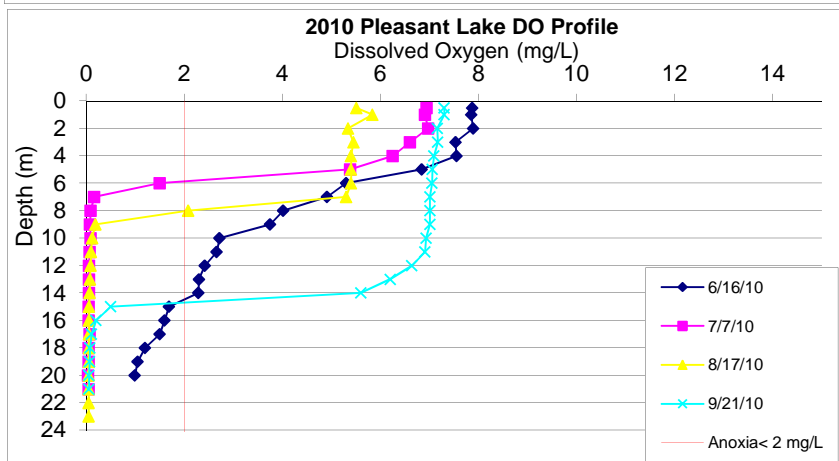
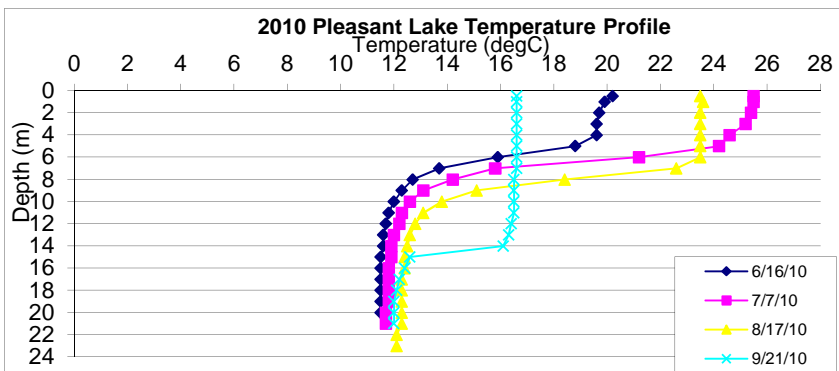
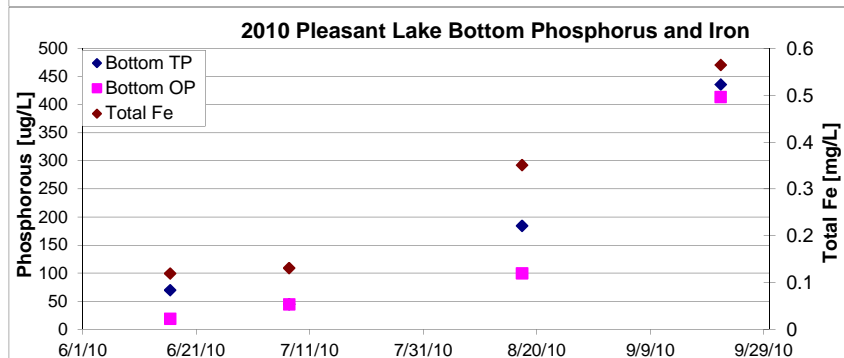
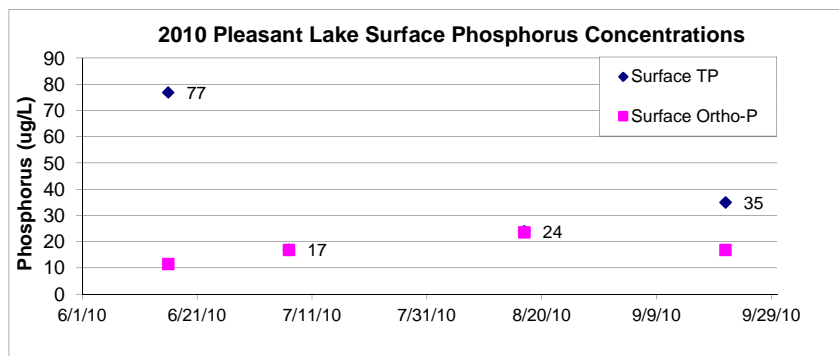
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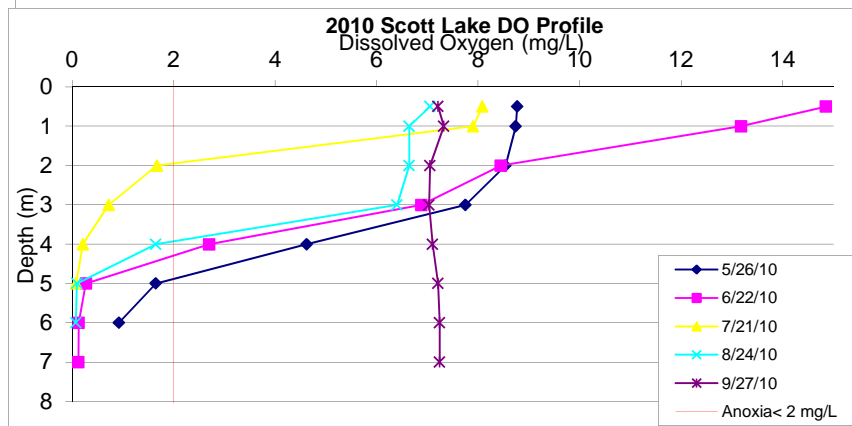
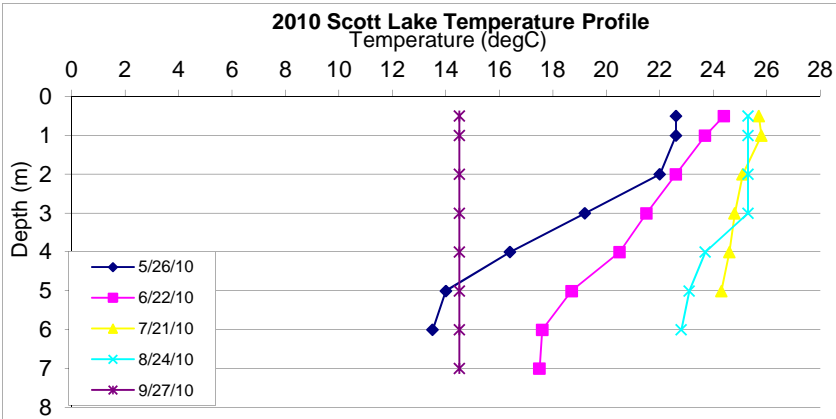
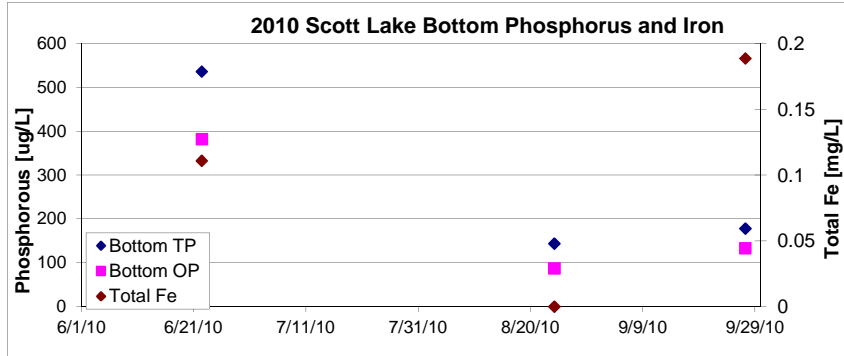
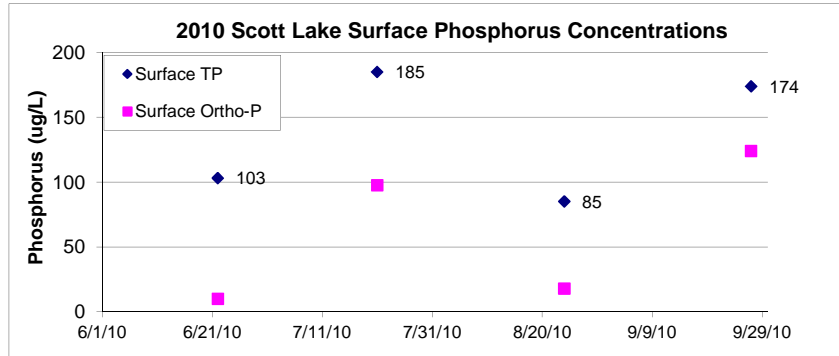
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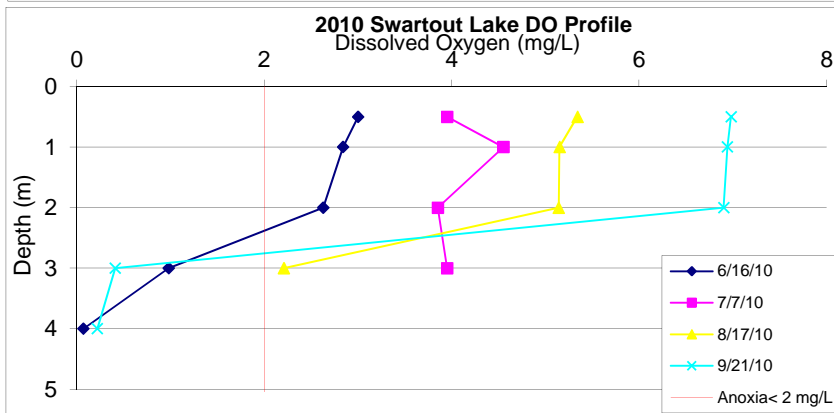
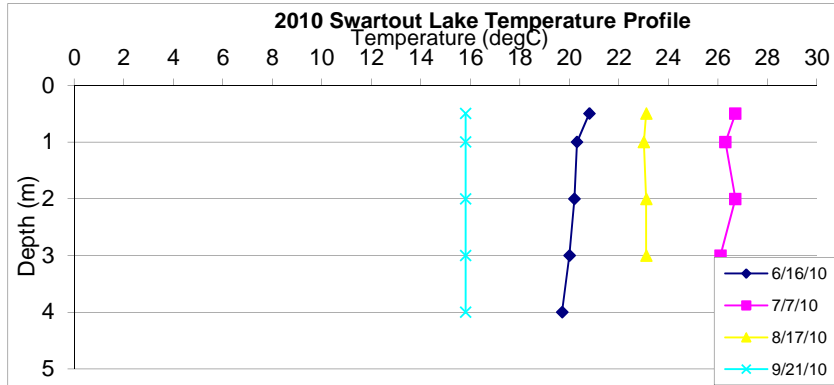
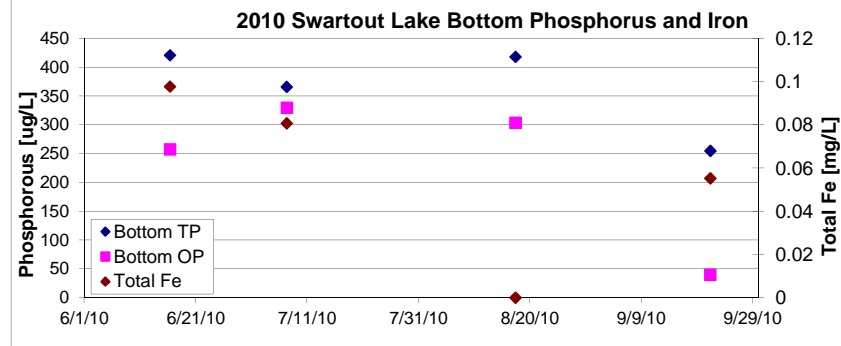
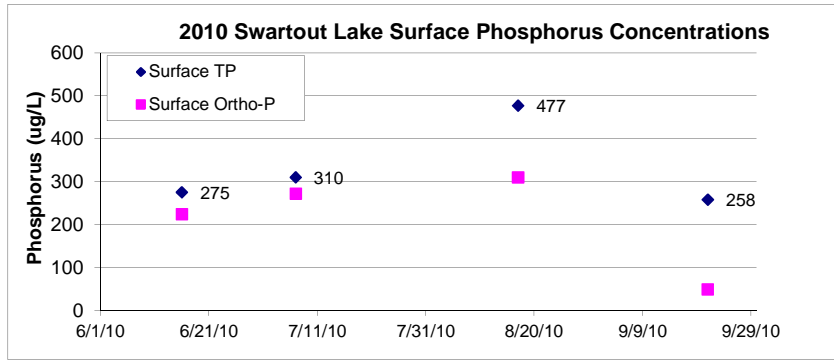
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