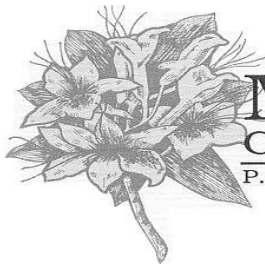


# McKinleyville Community Services District



## ANNUAL WASTEWATER MANAGEMENT FACILITY MONITORING & DISCHARGE REPORT FOR 2009

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# MCKINLEYVILLE

## COMMUNITY SERVICES DISTRICT

P. O. BOX 2037 • MCKINLEYVILLE, CA 95521 • (707) 839-3251

February 19, 2010

Regional Water Quality Control Board, North Coast Region  
5550 Skylane Blvd., Suite A  
Santa Rosa, California 95403

### **McKINLEYVILLE COMMUNITY SERVICES DISTRICT WASTEWATER MANAGEMENT FACILITY ANNUAL REPORT, FOR 2009**

The McKinleyville Community Services District operates the wastewater collection, treatment, and disposal facilities that serve 6079 customer units in the unincorporated area of McKinleyville in Northern Humboldt County. The system operated under Order No. R1-2008-0039, National Pollution Discharge Elimination System (NPDES) Permit No. CA0024490, WDID No. 1B82084OHUM and issued by the California Regional Water Quality Control Board (RWQCB), North Coast Region.

Enclosed is the 2009 Annual Report for McKinleyville Community Services District Wastewater Management Facility (WWMF). The compliance testing reports, tabular, graphical summaries and other operational data not sent with the monthly reports are included. Below in Table 1 are the Effluent Limitations for discharge to the Mad River. During discharge to land disposal the only constituents regulated are Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS) and Nitrate as Nitrogen in the Percolation Ponds.

Table 1. Effluent Limitations for Discharge

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	45	65			
	lbs/day	441	637			
Total Suspended Solids	mg/L	83				
	lbs/day	931				
pH	pH Units				6.5	8.5
Settleable Matter	mL/L	0.1		0.2		
Chlorine Residual	mg/L	0.01		0.02		
Nitrate as Nitrogen	mL/L	10				
Copper [1]	ug/L			38		
Lead [1]	ug/L			0.6		
$\alpha$ -BHC [1]	ug/L			0.099		
4,4'-DDT [1]	ug/L			0.031		
bis(2-ethylhexyl) phthalate [1]	ug/L			4		
2,3,7,8-TCDD equivalents [1]	pg/L			0.094		

[1] Interim Limitations

**Compliance:****BOD Testing:**

The effluent limitations for BOD testing are listed in Table 1 and are the same for Discharge Point 001 Mad River, 002 Percolation Ponds, 003 Lower Fischer Ranch, 004 Upper Fischer Ranch, 005 Hiller Storm water Marsh and 006 Pialorsi Ranch. BOD limitations for 2009 were not exceeded.

**Total Suspended Solids Testing (NFR):**

The effluent limitations for NFR testing are listed in Table 1 and are the same for Discharge Point 001 Mad River, 002 Percolation Ponds, 003 Lower Fischer Ranch, 004 Upper Fischer Ranch, 005 Hiller Storm water Marsh and 006 Pialorsi Ranch. NFR limitations for 2009 were not exceeded.

**3x5 Total Coliform/ Disinfection Testing:**

The effluent limitations for coliform 3x5 testing is a maximum monthly median, a most probable number (MPN) of 23 per 100 milliliters and a daily maximum of 230 MPN. and are the same for Discharge Point 001 Mad River, 002 Percolation Ponds, 003 Lower Fischer Ranch, 004 Upper Fischer Ranch, 005 Hiller Storm water Marsh and 006 Pialorsi Ranch. Coliform limitations for 2009 were not exceeded.

**Settable Matter Testing:**

The effluent limitations for Settable Matter testing are listed in Table 1 and are for Discharge Point 001 Mad River. NFR limitations for 2009 were not exceeded.

**Chlorine Residual Testing:**

The effluent limitations for Chlorine Residual testing are listed in Table 1 and are for Discharge Point 001 Mad River. Residual limitations for 2009 were not exceeded.

**Nitrate as Nitrogen Testing:**

The effluent limitations for Nitrate as Nitrogen testing are listed in Table 1 and are for Discharge Point 001 Mad River and 002 Percolation Ponds. Nitrate as Nitrogen limitations for 2009 were not exceeded.

**Copper and Lead Testing:**

The interim effluent limitations for Copper and Lead testing are listed in Table 1 and are for Discharge Point 001 Mad River. Copper and Lead interim limitations for 2009 were not exceeded.

 **$\alpha$ -BHC; 4,4'-DDT; bis(2-ethylhexyl) phthalate; 2,3,7,8-TCDD equivalents Testing:**

The interim effluent limitations for these constituents are listed in Table 1 and are for Discharge Point 001 Mad River. The interim limitations for 2009 were not exceeded but qualifiers from the lab were placed on some of the results due to matrix interference.

**Non-Compliance:****Acute Toxicity Monitoring:**

The acute toxicity monitoring bioassay criteria for Discharge Point 001 Mad River requires a 96-hour fish bioassay test conducted at M-001 WWMF Effluent. The method for conducting this test require the laboratory maintain the test sample the same pH and temperature as when the effluent sample was collected and that ammonia, pH and temperature be recorded on 24-hour intervals and reported with the bioassay test results. If the results of any 96-hour bioassay test are not in compliance a follow up test is required within 7 day of notification. The compliance for testing results are 90

percent survival 70 percent of the time based on any monthly median, and not less than 70 percent survival 100 percent of the time. Two test species were required, *Ceriodaphnia dubia* and Rainbow Trout. It was determined that the *C. dubia* was too sensitive to the buffering agent used to maintain the pH and mortality rates were beyond the limits set forth in the permit so pH control of the *C. dubia* was discontinued. The testing results for Acute Testing are detailed in Table 2.

Table 2 Acute Toxicity Testing for 2009

Date	% Survival Rainbow Trout	% Survival <i>C. dubia</i>
1/6/2009	80%	100%
2/2/2009	60%	80%
2/18/2009	100%	-
3/9/2009	100%	100%
4/6/2009	100%	60%
5/4/2009	70%	80%
12/8/2009	100%	-

#### Accelerated Testing and Toxicity Reduction Evaluation (TRE):

If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival) and the testing meets all test acceptability criteria, the Discharger shall take two more samples, one within 14 days, and one within 21 days of receiving the initial sample result. If any of the additional samples do not comply with the three sample median minimum limitation (90 percent survival), the Discharger shall initiate a TRE. After consultation with the laboratory that conducts the testing, the Regional Board and District Staff. An accelerated acute toxicity monitoring study was initiated in June 2009 based on the results of the May 4, 2009 monitoring event and is detailed in Attachment 1.

#### Conclusion of the Accelerated Acute Toxicity Monitoring Study:

It was concluded that the mortality experienced in regular testing and verified in the monitoring study was due to ammonia. The District and its consultant are currently evaluating treatment alternatives for the WWMF that will provide reliable ammonia removal as part of the long-term facilities planning process. The facilities plan for the WWMF is expected to be complete by December 2011. Until then testing will be conducted with Rainbow Trout.

#### Chronic Toxicity Monitoring:

The chronic toxicity monitoring bioassay criteria for Discharge Point 001 Mad River requires a 96-hour static renewal or 96-hour static non-renewal testing, the samples is a 24-hour composite and is representative of the volume and quality of the discharge. The sampling is conducted at M-001 WWMF Effluent. Test species for chronic testing are a vertebrate, the fathead minnow, *Pimephales promelas* (larval survival and growth test), an invertebrate, the water flea, *Ceriodaphnia dubia* (survival and reproduction test), and a plant, the green alga, *Selenastrum capricornutum* (growth test). The District conducted chronic toxicity testing two times during the first discharge season (October 1 to May 14) after the effective date of the permit and annually thereafter. The testing results for Acute Testing are detailed in Table 2

Table 2 Chronic Toxicity Testing for 2009

Dilution Water	Date	Test Species				
		Flathead minnow		Water flea		Algae
		Survival	Growth	Survival	Growth	Growth
Diluted w/ Receiving Water	January 2009	Dose response endpoints could not be calculated due to receiving water toxicity		Dose response endpoints could not be calculated.		TUc = 1
	March 2009	Dose response endpoints could not be calculated due to receiving water toxicity		TUc = 1	TUc = 2	TUc = 1
Diluted w/ Lab Control Water	April 2009	TUc = 1.3	TUc = 4	TUc = 1.3	TUc = 4	-
	May 2009	TUc = 1.3	TUc = 8	TUc = 1.3	TUc = 8	TUc = 1

#### Accelerated Monitoring Requirements:

If the result of any chronic toxicity test exceeds the chronic toxicity trigger of 1.0 TUC and the testing meets all test acceptability criteria, the District shall initiate accelerated monitoring. Accelerated monitoring shall consist of four additional effluent samples, one test conducted approximately every week, over a four-week period. Testing shall commence within 14 days of receipt of the sample results of the exceedance of the chronic toxicity effluent limitation. The following protocol was used for accelerated monitoring and the TRE implemented and detailed in Attachment 1.

#### Conclusion:

It was concluded that the mortality experienced in regular testing and verified in the monitoring study was due to ammonia. The District and its consultant are currently evaluating treatment alternatives for the WWMF that will provide reliable ammonia removal as part of the long-term facilities planning process. The facilities plan for the WWMF is expected to be complete by December 2011. Until then testing will be conducted annually.

#### **Compliance Schedule and Other Projects:**

##### Compliance Schedule for Final Effluent Limitations:

As the compliance schedule is for more than one year the District is required to submit periodic progress reports. Attachment 2 presents a summary report for compliance studies. This progress report is intended to detail the steps that have been implemented toward achieving compliance for Final Effluent Limitations.

##### Submerged Vegetation Pilot Study:

A pilot study was performed from November 13, 2009 to December 1, 2009. The goal of the pilot study was to demonstrate species survival in wastewater and to measure the conversion of ammonia to nitrate with the introduction of submerged aquatic vegetation. If Pond 3 could nitrify a portion of the ammonia load prior to discharging into the emergent wetlands, the nitrate could then be denitrified in the wetlands and the nitrogen removal efficiency of the wastewater treatment facility could increase.

Attachment 3 demonstrates that the introduction of submerged aquatic vegetation into wastewater that was collected from Pond 3 promoted the conversion of ammonia to nitrate, "nitrifying" the wastewater. The control was a paired test to measure wastewater conditions without the introduction of submerged aquatic vegetation.

The control maintained a viable population of algae, which is signified by the super-saturation of dissolved oxygen. The relation between algae growth and Dissolved Oxygen (DO) is very volatile, sweeping through extremes in the evening and midday. The steady increase in pH of the control throughout the study is another result of an algal bloom, since there was no other carbon substrate in the system, algae uses up available carbonate, which in turn increases the pH. Without a measurement of alkalinity, it is difficult to demonstrate this assumption.

The pilot experiment could be improved by duplicating the flow stream of wastewater. The study began with a single sample of wastewater which was converted by its environment to produce results. The conditions in the pilot system varied from the treatment facility and were therefore more of "bench" tests to prove that nitrification would occur, rather than a pilot experiment that mimics the conditions of the WWTF by loading the system continuously. Ultimately, we cannot look at the rates of removal produced by this study as representing those that are likely to occur in the treatment facility once Pond 3 is vegetated. We can however deduce that nitrification will occur at a rate greater than if there were no submerged aquatic vegetation.

##### Bulrush Replanting Program:

In October of 2005 the treatment marshes were completed. Three years was estimated for the young plants to reach complete infill but during that 2005 winter we experienced severe weather conditions, increasing water levels in the ponds that caused the plants to drown or float out of the ground. That along with wildlife predation destroyed about 70% of the marsh seedlings. More planting occurred in the springs of 2006, 2007, 2008 and 2009. Upon taking root the plants grow and propagate quite rapidly. Currently about 80% of Pond 4 is covered and 95% of Pond 5 is covered with mature Bulrush. Replanting will take place in spring of 2010 to infill any remaining voids, using plants harvested from the Storm Water Marsh. Transplanting in early spring ensures vigorous growth and has proven to produce the best success.

## **INDEX OF ATTACHMENTS and EXHIBITS**

ATTACHMENT 1: Summary of 2009 Discharge Season Toxicity Testing Results and Toxicity Evaluation.

ATTACHMENT 2: Progress Report of the Compliance Schedule for Final Effluent Limitations

ATTACHMENT 3: Graphical Data for Submerged Vegetation Pilot Study

EXHIBIT A: Tabular and Graphical Data

Influent and Effluent Monthly Totals

Influent and Effluent Maximum Day

EXHIBIT B: Tabular

CFS, River Dilution, Effluent Flow and Effluent Distribution

EXHIBIT C: Tabular and Graphical Data

Monthly Totals for Effluent Flow and Discharge Disposal Locations

Daily Totals for Effluent Flow and Discharge Disposal Locations

EXHIBIT D: Tabular Data

Monthly Monitoring Report (Permit exceedances highlighted in yellow)

EXHIBIT E: Tabular Data

Influent and Effluent Testing Monthly Averages

Daily Influent and Effluent Testing

EXHIBIT F: Tabular and Graphical Data

30-day Average BOD and NFR Worksheet

Influent BOD, Terminal Pond and Effluent BOD Test Results

BOD and NFR 30 Day Average Removal Comparisons

BOD and NFR 30 Average lbs/day Chart

30 Day BOD and NFR Maximum, Minimum and Average Chart

BOD and NFR 30 Average Concentration Chart

BOD Influent, Effluent and Terminal Pond Comparisons

EXHIBIT G: Tabular and Graphical Data

Monthly Averages for pH, temperature Ionized and Unionized Ammonia

Influent and Effluent Average Total Ammonia Chart

Relationship between Temperature and Ammonia Percent Removal Chart

EXHIBIT H: Tabular Data

Discharge Data R-003

Discharge Data R-001, R-002 and M-001

Discharge Data R-004 and R-005

Well Monitoring Data

## EXHIBIT I: Tabular Data

Pond Sludge Depths

## EXHIBIT J: Tabular and Graphical Data

Monthly Total Aerator Hours  
Monthly Total Aerator Hours versus Ammonia Chart  
Monthly Total Aerator Hours versus BOD Removal Chart  
Monthly Total Aerator Hours versus Effluent BOD Chart  
Monthly Total Aerator Hours versus BOD Percent Removal Chart  
Monthly/ Annual Averages for Pond Level  
Monthly/ Annual Averages for Pond Ammonia  
Monthly/ Annual Averages for Pond Temperature  
Monthly/ Annual Averages for Pond pH  
Monthly/ Annual Averages for Pond Dissolved Oxygen  
TKN, Alkalinity, and Nitrate Special Testing  
Monthly Total Electric, Cl<sub>2</sub>, SO<sub>2</sub>, and Rain Gage Data

If you have any questions, please contact this office.

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED, IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."



NORMAN SHOPAY, DISTRICT GENERAL MANAGER



Reference: 008189.109

September 1, 2009

Ms. Lisa Bernard  
California Regional Water Quality Control Board  
North Coast Region  
5550 Skylane Blvd., Suite A  
Santa Rosa, CA 95403

**Subject: Summary of 2008-2009 Discharge Season Toxicity Testing Results for the McKinleyville Community Services District Wastewater Treatment Facility, McKinleyville, CA; WDR Order No. R1-2008-0039, NPDES Permit No. CA0024490, WDID No. 1B82084OHUM**

Dear Ms. Bernard:

SHN Consulting Engineers & Geologists, Inc. (SHN), on behalf of the McKinleyville Community Services District (MCSD), is providing the following data summary and discussion of the 2008-2009 discharge season toxicity testing results for the MCSD Wastewater Treatment Facility (WWTF) located in McKinleyville, California. Based on the acute and chronic toxicity testing results for the month of May 2009, MCSD participated in an accelerated acute toxicity monitoring study during the month of June 2009. The results of the accelerated monitoring testing are summarized in this letter. This letter also presents short-term and long-term recommendations for improving WWTF performance and achieving consistent compliance with acute and chronic toxicity effluent testing requirements.

## **Data Summary**

### **Acute Toxicity Testing**

Acute toxicity testing of the WWTF effluent is required monthly during the discharge season (October 1 through May 14) under WDR Order No. R1-2008-0039, NPDES Permit No. CA0024490. Acute toxicity testing under the current NPDES permit requires 96-hour testing exposing two test species, larval rainbow trout (*Oncorhynchus mykiss*) and water flea (*Ceriodaphnia dubia*). Sierra Foothills Laboratory, a state-certified laboratory located in Jackson, California performed all of the acute toxicity testing analyses.

During the 2008-2009 discharge season, MCSD collected acute toxicity testing samples at effluent monitoring location M-001 on November 17 and December 15, 2008; and January 5, February 2, February 18, March 2, April 6, and May 4, 2009 (see Figure 1 for monitoring locations). Table 1 provides a summary of the acute toxicity test results for the 2008-2009 discharge monitoring season.



**Summary of 2008-2009 Discharge Season Toxicity Testing Results for the McKinleyville  
Community Services District Wastewater Treatment Facility**

September 1, 2009

Page 2

<b>Table 1</b> <b>2008-2009 Discharge Season</b> <b>Acute Toxicity Monitoring Results Summary</b> <b>MCSD Wastewater Treatment Facility, McKinleyville, CA</b>							
Sample Type	Sample Date	96 hour Survival		MCSD Monthly Effluent Data (M-001)			
		Rainbow Trout	Ceriodaphnia Dubia	Total Ammonia (mg/L-N) <sup>1</sup>	pH	Temp (°C) <sup>2</sup>	Unionized NH <sub>3</sub> <sup>3</sup> (mg/L-N)
100% Effluent, pH adjusted	11/17/08 <sup>4</sup>	0%	15%	22	6.9 <sup>5</sup>	13.7	0.056
	12/15/08 <sup>4</sup>	100%	---	22	6.9	7.1	0.033
	1/5/09	80%	---	24	6.6	9.5	0.023
	2/2/09	60%	---	28	6.5	9.2	0.019
	2/18/09	100%	---	22	6.5	9.3	0.015
	3/2/09	90%	---	24	6.8	13.3	0.050
	4/6/09	100%	---	28	6.6	12.7	0.035
	5/4/09	70%	---	28	7.3	15.9	0.224
100% Effluent	12/15/08 <sup>5</sup>	---	100%	22	6.9	7.1	0.033
	1/5/09	---	100%	24	6.6	9.5	0.023
	2/2/09	---	80%	28	6.5	9.2	0.019
	3/2/09	---	100%	24	6.8	13.3	0.050
	4/6/09	---	50%	28	6.6	12.7	0.035
	5/4/09	---	80%	28	7.3	15.9	0.224
1. mg/L-N: milligrams per Liter Nitrogen 2. °C: degrees Celsius 3. Unionized NH <sub>3</sub> : Unionized Ammonia 4. There was no discharge of treated effluent to the Mad River until after December 21, 2008. 5. pH value reported as 7.3 in laboratory analytical report, 6.9 in MCSD effluent data sheet							

Under the previous discharge permit for the MCSD facility (Order No. R1-2001-0060), only one acute toxicity test was required for compliance monitoring using rainbow trout as the test species. Under the current discharge permit, Order No. R1-2008-0039, MCSD was required to use two test species, a vertebrate, rainbow trout, and an invertebrate, water flea, for toxicity testing during the first discharge season. After the first discharge season, acute toxicity monitoring is to be conducted using the most sensitive species.

### **Water flea (*C. dubia*)**

Initial acute toxicity testing with the water flea was conducted on the November 17, 2009 sample using a pH-adjusted effluent adjusted to a pH of 7.3. A parallel pH-adjusted laboratory control was also established. At the end of the test, there was 15% survival of water flea exposed to pH-adjusted effluent and 0% survival of water flea exposed to the pH-adjusted laboratory control water. The testing indicated that the organism cannot tolerate pH-adjustment and the laboratory suggested future acute toxicity testing using the water flea be performed using whole effluent as

**Summary of 2008-2009 Discharge Season Toxicity Testing Results for the McKinleyville  
Community Services District Wastewater Treatment Facility**

September 1, 2009

Page 3

received, without pH adjustment. Starting with the December 2008 monitoring event, all water flea acute toxicity testing was performed using 100% effluent with no pH adjustment. As shown in Table 1, the monitoring results varied, with percent survival of the water flea ranging from 50% to 100% survival, under the non-manipulated conditions.

**Rainbow Trout (*O. mykiss*)**

Acute toxicity testing was conducted with larval rainbow trout using pH-adjusted effluent for all testing events. As shown in Table 1, the results varied with percent survival of rainbow trout ranging from 0% to 100% throughout the discharge monitoring season. With the exception of the initial monitoring event conducted in November 2008 and the February 2 and May 4, 2009 monitoring events, the MCSD facility was in compliance with the acute toxicity testing requirements as outlined in the current NPDES permit. Note that the facility was not discharging to the receiving water, the Mad River, during the November and December 2008 monitoring events. Additional acute toxicity testing was conducted in February 2009 and the results were in compliance with the current NPDES permit.

**Accelerated Monitoring Study**

An accelerated acute toxicity monitoring study was initiated in June 2009 based on the results of the May 4, 2009 monitoring event. As shown in Table 1, there was 70% survival of rainbow trout and 80% survival of the water flea during the May monitoring event. The accelerated monitoring study was designed to verify the presence of toxicity in the effluent and was conducted using rainbow trout as the test species. Sierra Foothills Laboratory performed the accelerated monitoring study from June 12, 2009 through June 16, 2009.

The accelerated monitoring study involved preparing two effluent sample manipulations in order to determine if ammonia was the toxicant in the effluent. The first effluent manipulation involved stripping total ammonia from the effluent using zeolite, then spiking an aliquot of the stripped effluent sample with ammonia to test for the recovery of toxicity. The second effluent manipulation involved controlling the pH of the whole effluent sample to 6.8 (sample pH at time of collection) in order to minimize the toxic form of ammonia. Unionized ammonia (NH<sub>3</sub>) is the toxic form of ammonia, and unionized ammonia concentrations increase with increased pH and temperature (EPA, 1979). Toxicity in the effluent is expected to increase as pH and temperature increases. Temperature was not a factor during the accelerated monitoring study since the temperature during the study was controlled to 12 degrees Celsius (°C) and was reported to not vary more than 3 °C. Four effluent samples and five laboratory control samples were evaluated as part of the accelerated monitoring study. The results of the study are shown in Table 2.

The summary of the results from the accelerated monitoring (Sierra Foothills, 2009) suggested that ammonia can be identified as a significant toxicant in the undiluted sample. In the study the control of the amount of unionized ammonia in the effluent sample was accomplished two ways:

- By controlling the pH to a low value of 6.8, and
- By stripping the total ammonia from the sample.

**Summary of 2008-2009 Discharge Season Toxicity Testing Results for the McKinleyville  
Community Services District Wastewater Treatment Facility**

September 1, 2009

Page 4

<b>Table 2</b> <b>June 2009 Accelerated Monitoring Study Summary</b> <b>MCSD Wastewater Treatment Facility, McKinleyville, CA</b>					
<b>Sample Type</b>	<b>Sample Treatment</b>	<b>96 hour Survival Rainbow Trout</b>	<b>Total Ammonia (mg/L-N)<sup>1</sup></b>	<b>Unionized NH<sub>3</sub><sup>2</sup> (mg/L-N)</b>	<b>pH (at 96 hours)</b>
DMW lab control	Un-manipulated	100%	<0.5 <sup>3</sup>	<0.002	8.0
	Dechlorinated	100%	<0.5	<0.002	8.1
	Dechlorinated and pH adjusted to 6.8	100%	<0.5	<0.002	6.8
	Dechlorinated and zeolite stripped	100%	<0.5	<0.002	7.1
	Dechlorinated, zeolite stripped, spiked to 26 mg/L ammonia	80%	26	0.148	7.7
M-001 Effluent	Dechlorinated	0%	30	0.540	8.0
	Dechlorinated and pH adjusted to 6.8	100%	30	0.018	6.9
	Dechlorinated and zeolite stripped	100%	8.4	0.015	7.4
	Dechlorinated, zeolite stripped, spiked to 27 mg/L ammonia	70%	27	0.154	7.9
1. mg/L-N: milligrams per Liter Nitrogen 2. Unionized NH <sub>3</sub> : Unionized Ammonia 3. "<": indicates a value less than					

When the unionized form of ammonia was controlled to 0.015-0.018 mg/L through pH control or zeolite stripping, toxicity was not evident in the effluent. Testing was further conducted to verify ammonia as the toxicant by spiking ammonia back into the effluent sample. When ammonia was spiked into the effluent and lab control samples, only a portion of the toxicity was recovered. However, the spiked samples did not contain as much total ammonia-N as the whole effluent and the pH in the spiked samples did not drift as high as did the whole effluent pH. In the testing summary it was noted that the same toxicity was evident in the spiked lab control sample as in the spiked effluent sample; and these results lend evidence that ammonia is the major (or only) toxicant. The testing was interpreted to suggest that ammonia is the toxicant in the effluent (Sierra Foothills, 2009).

**Summary of 2008-2009 Discharge Season Toxicity Testing Results for the McKinleyville  
Community Services District Wastewater Treatment Facility**

September 1, 2009

Page 5

### Chronic Toxicity Testing

Under WDR Order No. R1-2008-0039, NPDES Permit No. CA0024490, chronic toxicity testing of the WWTF effluent is required two times during the first discharge season (Oct 1, 2008 – May 14, 2009) and annually thereafter. Chronic toxicity testing under the current NPDES permit requires testing three test species, Fathead Minnow (*Pimephales promelas*), water flea (*Ceriodaphnia dubia*) and Algae (*Selenastrum capricornutum*). Sierra Foothills Laboratory, a state-certified laboratory located in Jackson, California performed all of the chronic toxicity testing analyses.

In 2008, MCSD did not conduct chronic toxicity testing of the effluent since the WWTF did not discharge to the receiving water, the Mad River, until December 21, 2008. In 2009, MCSD conducted chronic toxicity testing in January, March, April, and May. Table 3 shows the results of the chronic toxicity testing.

<b>Table 3</b> <b>2008-2009 Discharge Season</b> <b>Chronic Toxicity Monitoring Results Summary</b> <b>MCSD Wastewater Treatment Facility, McKinleyville, CA</b>						
Sample Type	Sample Date	Test Species				
		Fathead minnow		Water flea		Algae
		Survival	Growth	Survival	Reproduction	Growth
Diluted w/ Receiving Water	January 2009	Dose-response endpoints could not be calculated <sup>1</sup>		Dose-response endpoints could not be calculated		TUc <sup>2</sup> = 1
	March 2009	Dose-response endpoints could not be calculated		TUc = 1	TUc = 2	TUc = 1
Diluted w/ Lab Control Water	April 2009	TUc = 1.3	TUc = 4	TUc = 1.3	TUc = 4	Not Analyzed
	May 2009	TUc = 1.3	TUc = 8	TUc = 1.3	TUc = 8	TUc = 1
1. Dose-response endpoints could not be calculated due to receiving water toxicity 2. TUc = Chronic Toxicity Unit						

The January and March 2009 chronic toxicity testing events were both conducted with the receiving water used for dilution. The test results for the fathead minnow and for the water flea in January 2009 were inconclusive due to the receiving water toxicity. The test results for the fathead minnow in March 2009 were also inconclusive due to the receiving water toxicity. Two additional chronic toxicity tests were conducted in April and May 2009 using laboratory control water for dilution.

#### Fathead minnow (*P. promelas*)

Chronic toxicity testing with the fathead minnow produced similar results during the April and May 2009 testing events. The numeric monitoring trigger of TUc>1 was attained for both survival and growth in both tests. The chronic Toxicity Unit (TUc) for 7-day % survival was 1.3 during both events, and the TUc for growth equaled 4 in April 2009 and 8 in May 2009.

**Summary of 2008-2009 Discharge Season Toxicity Testing Results for the McKinleyville Community Services District Wastewater Treatment Facility**

September 1, 2009

Page 6

**Water flea (*C. dubia*)**

Chronic toxicity testing with the water flea also produced similar results during the April and May 2009 testing events. The numeric monitoring trigger of  $TUC > 1$  was attained for both survival and growth in both tests. The TUC for 7 day % survival equaled 1.3 during both events, and the TUC for growth equaled 4 in April 2009 and 8 in May 2009.

**Algae (*S. capricornutum*)**

Chronic toxicity testing with algae produced a  $TUC = 1$  for growth during all monitoring events.

**Laboratory Testing Conditions**

For the chronic toxicity tests, pH control is not used for maintaining the effluent pH during the test procedures, as it is difficult to run pH adjusted chronic toxicity tests (Sierra Foothills, 2009, personal communication). Test temperatures are also set at 25 °C for both the fathead minnow and the water flea. Based on review of the April 2009 laboratory testing conditions, it appears the effluent pH varied during the fathead minnow testing event between 7.8 and 8.3. During the water flea testing event in April 2009 the effluent pH varied between 8.2 and 8.4. During the May 2009 testing events, the effluent pH varied between 8.0 and 8.3 during the fathead minnow testing and between 8.1 and 8.4 during the water flea testing event.

In comparison to the laboratory testing conditions, effluent discharged at M-001 has a much lower pH than those exhibited during testing conditions. Effluent discharge temperatures are also much lower than the temperature maintained during these tests. Samples collected from M-001 for the April 2009 testing event ranged in pH from 6.5 to 6.6 and the temperature ranged from 12.7 to 13.1 °C. For the May 2009 event, samples collected at M-001 had a pH between 6.9 and 7.3 and the temperature ranged between 15.9 and 16.0 °C.

As discussed in the acute toxicity discussion section, accelerated monitoring of the WWTF effluent was initiated in June 2009 based on the results of the May 2009 toxicity monitoring events. The accelerated monitoring study was designed to verify the presence of toxicity in the effluent and determine if ammonia was the toxicant. The testing was interpreted to suggest that ammonia is the toxicant in the effluent (Sierra Foothills, 2009).

Unionized ammonia ( $NH_3$ ) is the toxic form of ammonia, and unionized ammonia concentrations increase with increased pH and temperature (EPA, 1979). Based on review of the laboratory testing conditions for the chronic toxicity tests, the effluent tested during April and May 2009 consistently exhibited a significantly higher pH and temperature than the effluent at the time of collection. Toxicity in the effluent is expected to increase as pH and temperature increases and it appears the chronic toxicity testing laboratory conditions may be contributing to an increase in the concentration of unionized ammonia present in the effluent. This suggests that the effluent may exhibit less toxicity under the discharge conditions than those represented during test conditions.

**Summary of 2008-2009 Discharge Season Toxicity Testing Results for the McKinleyville  
Community Services District Wastewater Treatment Facility**

September 1, 2009

Page 7

## Discussion

Total ammonia in wastewater is the sum of  $\text{NH}_3$  (un-ionized or free ammonia) and  $\text{NH}_4^+$  (ammonium). Ammonia nitrogen is the resultant of Total Kjeldal Nitrogen (TKN) minus organic nitrogen. Ammonia nitrogen is a product of organic nitrogen conversion during organic matter degradation both aerobically and anaerobically (i.e., ammonification), and is temperature- and pH-dependent.

### Ammonia Removal Rates

Once ammonium ( $\text{NH}_4^+$ ) is formed, ammonia can undergo the following processes of removal:

- Plant assimilation at the root level;
- Assimilated into phytoplankton or floating aquatic plants;
- Immobilized by sediment ion exchange;
- Solubilized into the water column;
- Volatized as gaseous ammonia;
- Anaerobically converted to organic matter by microbes; or
- Aerobically nitrified (EPA, 2000).

There are empirical design equations that describe ammonia removal based on temperature, pH, and detention time. The application of these equations to the MCSD WWTF January – April 2009 measurements demonstrate that the facility removal rates met or exceeded predicted removal by empirical equations (Table 4).

<b>Table 4</b> <b>2009 Ammonia Removal Rates</b> <b>Comparison of Observed Versus Predicted Values</b> <b>MCSD Wastewater Treatment Facility, McKinleyville, CA</b>				
	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>
Observed Removal	0.27	0.30	0.21	0.21
MOP <sup>1</sup> Predicted Value	0.22	0.22	0.22	0.24
EPA <sup>2</sup> Predicted Value	0.24	0.24	0.24	0.26
1. MOP: Manual of Practice FD-16, Reed 1990.				
2. EPA: Environmental Protection Agency Design Manual: Municipal Wastewater Stabilization Ponds.				

Ammonia removal rates from 2006 through 2008 were also reviewed and indicated that ammonia removal rates were much higher in previous years that were correlated with higher effluent temperatures and pH. For example, in the spring of 2006, removal rates were between 0.46 – 0.58.

## Ammonia Removal Processes

MCSD currently aerates wastewater influent in Pond 1A, Pond 1B and Pond 2 to promote ammonia volatilization (Figure 2). Pond 1B is illustrated to represent both Pond 1A and Pond 1B.

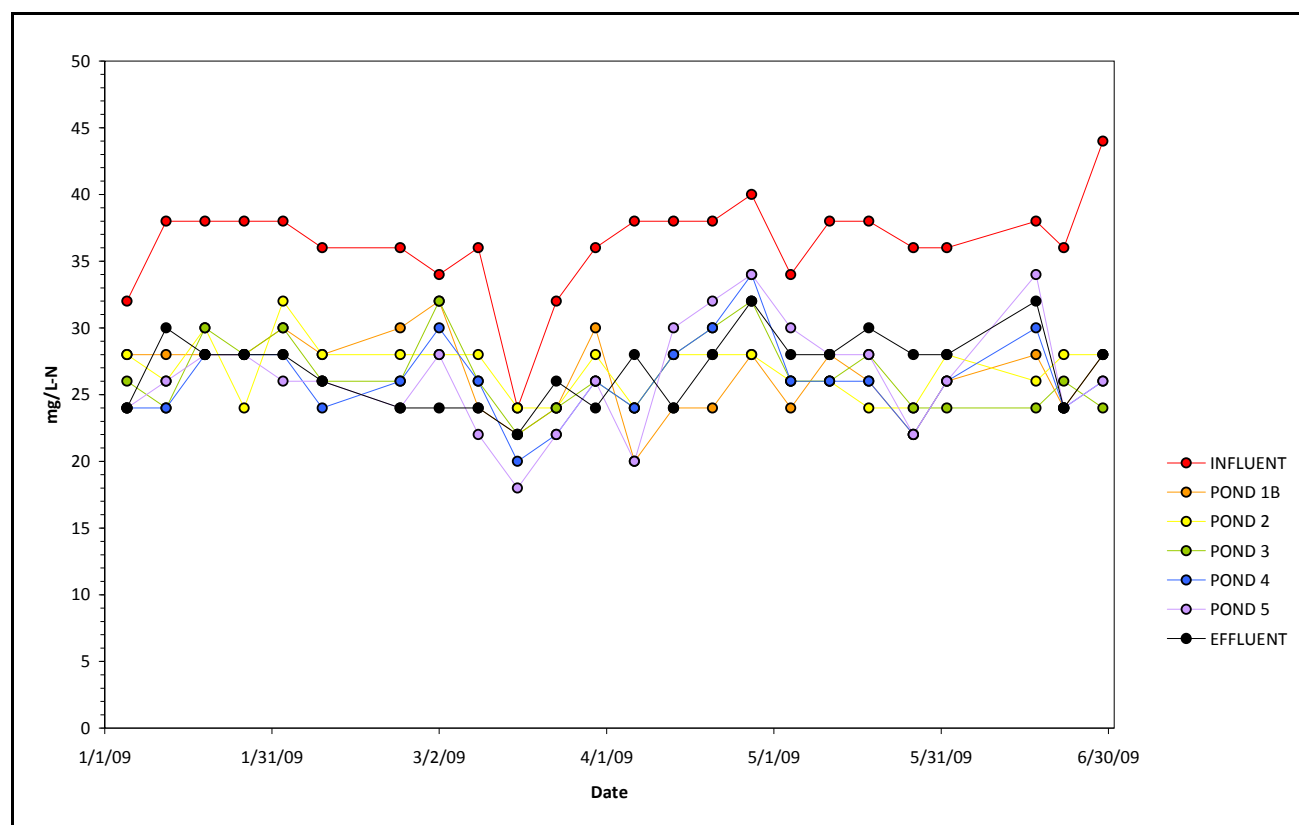


Figure 2. MCSD WWTF Total Ammonia Concentration Trends, January –June 2009

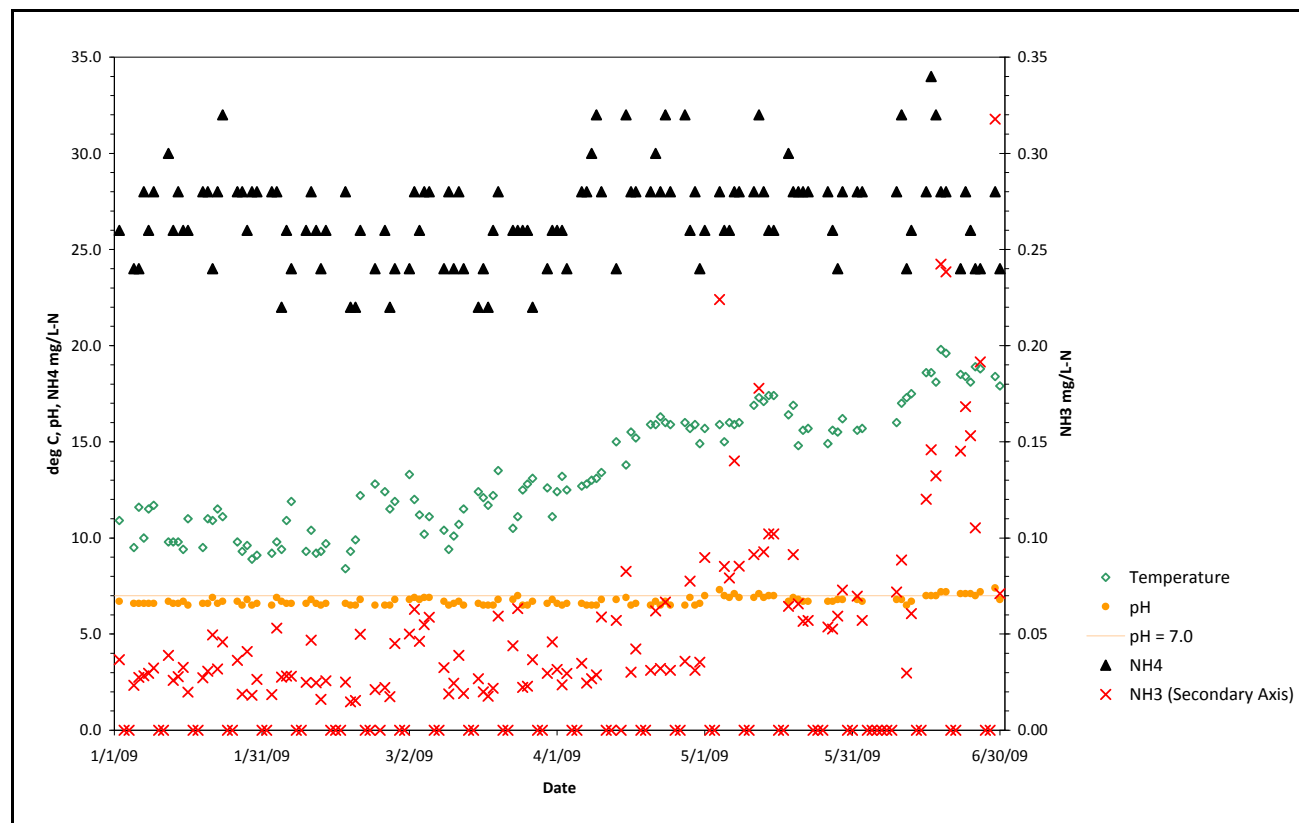
The existing treatment wetlands (Ponds 4 and 5) are vegetated with *Scirpus spp.* (bulrush). Total ammonia concentrations reported from January through June 2009 decrease across these wetlands by an average of 1-2 mg/L-N. Review of ammonia nitrogen as an individual nitrogen species should be practiced with a level of caution; without review of organic nitrogen concentrations, it is difficult to determine the success of ammonia removal processes. It is typical practice to measure TKN when measuring ammonia nitrogen species, as TKN is the sum of both organic nitrogen and ammonia nitrogen.

Total and un-ionized ammonia are recorded weekdays by MCSD. From January through June 2009, reported effluent concentrations of  $\text{NH}_3$  varied from 0.015 to 0.318 mg/L-N and total ammonia concentrations did not drop below 22 mg/L-N (Figure 3).

# Summary of 2008-2009 Discharge Season Toxicity Testing Results for the McKinleyville Community Services District Wastewater Treatment Facility

September 1, 2009

Page 9



**Figure 3. Effluent Concentrations of Total Ammonia, Un-ionized Ammonia, pH and Temperature, January –June 2009**

The 2009 data indicates that nitrification may not be occurring at a rate necessary to aid in the removal of ammonia. In addition, concentrations of ammonia may have saturated the system and cannot be volatilized in the aeration ponds at a rate to remove significant amounts of nitrogen from the wastewater. The following is a discussion of biological nitrification, and a proposed approach to remove total ammonia from the system.

## Biological Nitrification

Nitrification is the process of bacterial populations sequentially oxidizing ammonium to nitrate with the intermediate formation of nitrite. Inorganic carbon (carbon dioxide) is necessary for this type of synthesis to occur. For 1 gram of ammonium nitrogen to oxidize to nitrate, about 4.3 grams of oxygen and 7.14 grams of alkalinity as  $\text{CaCO}_3$  are consumed. This process is temperature and pH dependent (EPA, 1993, EPA, 2000).

Nitrifying bacteria must be present in appropriate amounts for complete nitrification to occur. Nitrate concentrations throughout the MCSD WWTF system are reported to consistently be non-detect or negligible and ammonia concentrations are reported to be high, indicating that a viable population of nitrifying bacteria needs to be established within the WWTF to promote the oxidation of ammonia to nitrate and that the process of nitrification should be facilitated by ensuring that all



**Summary of 2008-2009 Discharge Season Toxicity Testing Results for the McKinleyville Community Services District Wastewater Treatment Facility**

September 1, 2009

Page 10

limiting components of this process are present. It is assumed that nitrification is the limiting process and that denitrification will occur readily once nitrification begins (EPA, 1993).

## **Alkalinity**

Alkalinity affects the following processes:

- Buffers the system to changes in pH due to photosynthesis (in ponds without sufficient alkalinity pH will increase as CO<sub>2</sub> is used up during the day and will drop when plants are respiring at night),
- Is necessary for nitrification , and
- Affects the percentage of ammonia in the unionized form.

Although in theory, ammonia removal is positively influenced by higher alkalinities, an increase in alkalinity that increases the percentage of unionized ammonia in effluent would be detrimental, as the goal is to decrease ammonia toxicity. It is premature to recommend the application of alkalinity as CaCO<sub>3</sub> until a baseline of data is collected that demonstrates alkalinity is the limiting factor. The alkalinity measurements from the effluent toxicity samples had total alkalinity of 150-184 mg/L. Alkalinities greater than 100 mg/L generally indicate a well buffered system and nitrification is not limited until alkalinities are reduced below 75 mg/L.

## **Recommendations**

### **Toxicity Testing**

Under the current discharge permit, Order No. R1-2008-0039, MCSD was required to use two test species, rainbow trout, and the water flea, for acute toxicity testing during the first discharge season. After the first discharge season, acute toxicity monitoring is to be conducted using the most sensitive species. Based on the 2008-2009 monitoring results, SHN recommends that MCSD continue with the acute toxicity monitoring using rainbow trout as the test species.

Under WDR Order No. R1-2008-0039, NPDES Permit No. CA0024490, chronic toxicity testing of the WWTF effluent was required two times during the first discharge season (Oct 1, 2008 – May 14, 2009) and annually thereafter. Based on the 2008-2009 monitoring results, SHN recommends that MCSD continue with annual chronic toxicity monitoring in January 2010, assuming discharges to the receiving water will not occur late December 2009. Based on the results of the 2009-2010 chronic toxicity monitoring event, SHN may make further recommendations to discontinue or further modify the chronic toxicity testing if the test procedures continue to appear to contribute to an increase in the toxicity characteristics of the effluent.

SHN does not recommend that MCSD continue with any additional accelerated monitoring at this time. Accelerated monitoring of the WWTF effluent was initiated in June 2009 based on the results of the May 2009 toxicity monitoring events. The accelerated monitoring study was designed to verify the presence of toxicity in the effluent and determine if ammonia was the toxicant. The

**Summary of 2008-2009 Discharge Season Toxicity Testing Results for the McKinleyville Community Services District Wastewater Treatment Facility**

September 1, 2009

Page 11

testing was interpreted to suggest that ammonia is the toxicant in the effluent (Sierra Foothills, 2009). Since the source of toxicity has been identified as ammonia, SHN is recommending MCSD initiate toxicity control evaluation and toxicity control implementation as the next steps in the toxicity reduction evaluation (TRE) process. SHN has developed recommendations for short-term and long-term WWTF modifications to reduce effluent toxicity due to ammonia. Further discussion of these recommendations is presented in the following sections.

### **Short-Term Recommendation: Additional Wetland Vegetation**

Existing vegetation in treatment wetland Ponds 4 and 5 are primarily bulrush (*Scirpus spp.*), emergent aquatic plants that provide structure to induce flocculation and sedimentation. Nitrification in the existing wetland system can be promoted by providing submerged structure for microbial attachment and the production of dissolved oxygen. To increase nitrification, SHN recommends that the existing wetlands also be vegetated with submerged and rooted floating aquatic plants.

Open water areas (>0.5 m depth) should be vegetated with California native submerged species such as pondweed (*Potamogeton spp.*) and waterweed (*Elodea spp.*). California native rooted floating plants such as yellow pond lily (*Nuphar polysepala*) and pennywort (*Hydrocotyle spp.*) should be planted along benches and edges. It is not necessary to seed these wetlands with duckweed (*Lemna spp.*), as it is invasive, already present and will likely establish dense mats throughout the wetland vegetation.

### **Short-Term Recommendation: Adaptive Management Plan**

MCSD currently measures weekly ammonia concentration in each WWTF pond and wetland; and based on review of the data it is clear that ammonia is currently not limiting. To ensure the success of the proposed approach to promote nitrification, SHN recommends an adaptive management plan for the treatment wetlands. More frequent monitoring of limiting chemistry ( $\text{NH}_4^+$ ,  $\text{CaCO}_3$ ,  $\text{O}_2$ ) and indicators of nitrification ( $\text{NO}_2$  and  $\text{NO}_3$ ) are recommended to track water quality trends and changes as new wetland plants are introduced. It may take a season or two to establish viable populations of nitrifying organisms and increase dissolved oxygen levels high enough to turn over the system in summer. In addition, it is recommended that influent TKN concentration is measured to establish total organic nitrogen entering the system, this will aid in the quantification of organic nitrogen available for ammonification and assimilation. SHN also recommends measuring TKN concentration at the discharge from each pond.

### **Long-Term Recommendation: Facilities Plan/WWTF Modifications**

SHN is currently evaluating treatment alternatives for the MCSD WWTF that will provide reliable ammonia removal as part of the long-term facilities planning process for the WWTF. The facilities plan for the MCSD WWTF is expected to be complete by December 2011.

Ms. Lisa Bernard

**Summary of 2008-2009 Discharge Season Toxicity Testing Results for the McKinleyville  
Community Services District Wastewater Treatment Facility**

September 1, 2009

Page 12

## Reporting

SHN recommends MCSD document the progress of the toxicity control evaluation and toxicity control implementation as part of the annual report for the facility due March 1, 2010. It does not appear that quarterly TRE progress reports are warranted at this time given the facility will not discharge to the receiving water again until the late fall or winter of 2009. The 2010 annual report will include a list of all activities completed and findings related to the resolution of toxicity in the effluent. Further modifications and/or recommendations will also be presented.

If you have any questions or require any further information please contact me at 707-441-8855.

Sincerely,

**SHN Consulting Engineers & Geologists, Inc.**

Lisa K. Stromme, P.E.  
Water Resources Engineer/  
Planning and Permitting Dept. Head

LKS:scw

Attachments: 1. Laboratory Analytical Reports – Acute Toxicity Test Summaries  
2. Laboratory Analytical Reports – Chronic Toxicity Test Summaries  
c w/attach: Norman Shopay, MCSD  
Greg Orsini, MCSD



## References

Reed, S.C. 1990. Manual of Practice FD-16: Natural Systems for Wastewater Treatment. Water Pollution Control Federation (WPCF), Alexandria, VA.

Sierra Foothills Laboratory Incorporated, Inc. 2009. MCSD WWTF Acute and Chronic Toxicity Testing Reports.

U.S. Environmental Protection Agency (EPA). 1979. Aqueous Ammonia Equilibrium – Tabulation of Percent Un-Ionized Ammonia. EPA/600/3-79-091. Environmental Research Laboratory, Duluth, MN.

--- 1983. Design Manual: Municipal Wastewater Stabilization Ponds. EPA-625/1-83-015. Office of Research and Development, Cincinnati, OH.

--- 1993. Manual: Nitrogen Control. EPA/625/R-93/010. Office of Water, Washington, D.C.

--- 2000. Manual: Constructed Wetlands Treatment of Municipal Wastewaters. EPA/625/R-99/010. Office of Research and Development, Cincinnati, OH.



# CONSULTING ENGINEERS & GEOLOGISTS, INC.

812 W. Wabash • Eureka, CA 95501-2138 • 707/441-8855 • FAX: 707/441-8877 • shninfo@shn-engr.com

Reference: 008189.610

February 9, 2010

Ms. Lisa Bernard  
California Regional Water Quality Control Board  
North Coast Region  
5550 Skylane Boulevard, Suite A  
Santa Rosa, CA 95540

**Subject: Progress Report of the Compliance Schedule for Final Effluent Limitations for the McKinleyville Community Services District Wastewater Management Facility; WDR Order No. R1-2008-0039; NPDES Permit No. CA0024490; WDID No. 1B82084OHUM**

Dear Ms. Bernard:

On behalf of the McKinleyville Community Services District (MCSD), SHN Consulting Engineers & Geologists, Inc. (SHN) has prepared this progress report of the Compliance Schedule for Final Effluent Limitations. As the compliance schedule is for more than one year, MCSD is required to submit periodic progress reports. This progress report is intended to detail the steps that have been implemented toward achieving compliance for Final Effluent Limitations (Table 1).

<b>Table 1</b> <b>Compliance Schedule for Final Effluent Limitations</b> <b>NPDES Permit No. CA0024490</b> <b>MCSD Wastewater Treatment Facility, McKinleyville, CA</b>			
<b>Task No.</b>	<b>Task Description</b>	<b>Compliance Date</b>	<b>Percent Complete</b>
1	A. Prepare and distribute mailer to notify all customers, including local businesses, of priority pollutant concerns, hazardous material identification, and disposal. B. Develop a product information list regarding household items and products of specific concern. C. Develop a pollutant inventory and identify local businesses that may discharge pollutants of concern to the sanitary sewer.	8/1/2008	100%
2	A. Develop and implement a sanitary sewer monitoring program to monitor the effectiveness of the public education effort, to identify possible sources of pollutants of concern, and to detect illicit and unpermitted discharges of pollutants of concern to the sanitary sewer. B. Develop and implement a program to monitor the discharge of septage wastewater from Steve's Septic Service.	11/1/2008	100%
3	Develop waste discharge permits and individual discharge plans for businesses identified in Task 1.C.	6/1/2009	Delayed
4	Adopt or modify local ordinances for local waste discharge permits that include monitoring, inspection, and enforcement authority for District personnel.	9/1/2009	Delayed
5	If source control efforts described in Tasks 1-4 do not result in compliance with final effluent limitations for priority	12/1/2009	Delayed

Ms. Lisa Bernard

**Progress Report of the Compliance Schedule for Final Effluent Limitations for MCSD**

February 9, 2010

Page 2

<b>Table 1</b> <b>Compliance Schedule for Final Effluent Limitations</b> <b>NPDES Permit No. CA0024490</b> <b>MCSD Wastewater Treatment Facility, McKinleyville, CA</b>			
<b>Task No.</b>	<b>Task Description</b>	<b>Compliance Date</b>	<b>Percent Complete</b>
	pollutants, the Discharger shall submit, for Executive Officer approval, a work plan to achieve compliance with the final effluent limitations. The implementation plan could include improvements in treatment efficiency or treatment facility upgrades.		
6	Comply with final effluent limitations for copper, lead, alpha-BCH, 4,4'-DDT, bis(2-ethylhexyl)phthalate, and 2,3,7,8-TCDD Equivalents.	5/18/2010	On Time <sup>2</sup>
1. Source: NPDES Permit No. CA0024490 2. If the pretreatment inspection report is has not been received by February 15, 2010, please expect to receive a request for an extension of the date of compliance.			

MCSD has completed a Pollutants of Concern Report (FES, October 2008) and an MCSD Sanitary Sewer Monitoring Program Report (FES, June 2009), fulfilling the requirement of the Compliance Schedule for Final Effluent Limitations Tasks 1 and 2.

Current MCSD ordinances include provisions for monitoring, inspection, and enforcement authority for District personnel; however, local limitations need to be established for individual waste discharge permits to be drafted and enforced. As of January 1, 2010, MCSD had not received the pretreatment inspection report, prepared by TetraTech for the RWQCB. Once MCSD receives the pretreatment inspection report, MCSD will begin its local limitations analysis and prepare individual permits for McKinleyville industrial users, complying with the requirements of Tasks 3 and 4. Furthermore, Tasks 5 and 6 will build off of the work completed in Tasks 3 and 4.

MCSD plans to meet the ambitious May 18, 2010, date of compliance with final effluent limitation for copper, lead, alpha-BCH, 4,4'-DDT, bis(2-ethylhexyl)phthalate, and 2,3,7,8-TCDD equivalents, in accordance with Task 6. If the pretreatment inspection report has not been received by February 15, 2010, please expect to receive a request for an extension of the date of compliance.

If you have any questions, please call me at 707-441-8855.

Sincerely,

**SHN Consulting Engineers & Geologists, Inc.**

Rose Patenaude, P.E.  
Water Resources Engineer

JRP:lms

c: Norman Shopay, General Manger, MCSD

Ms. Lisa Bernard

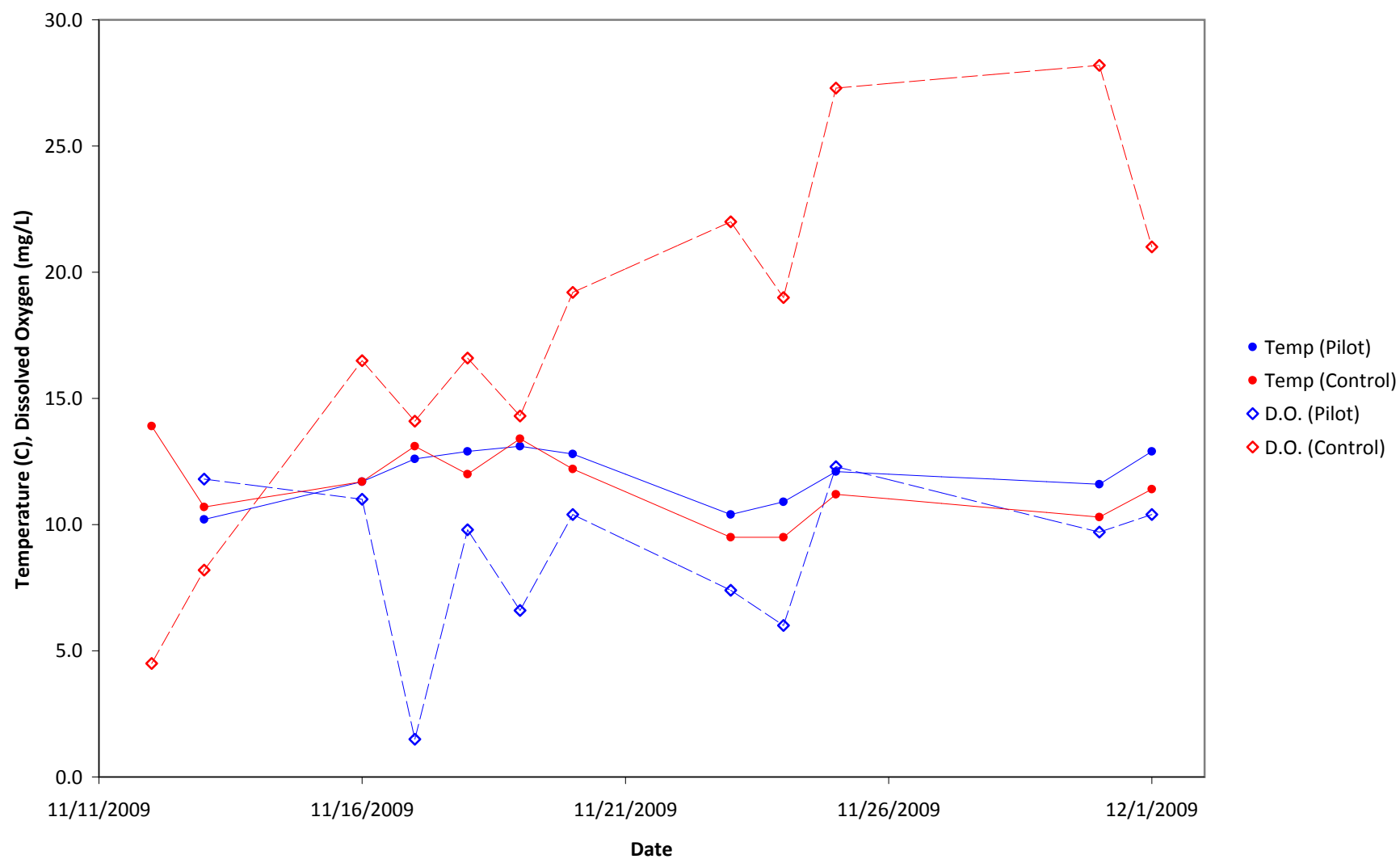
**Progress Report of the Compliance Schedule for Final Effluent Limitations for MCSD**

February 9, 2010

Page 3

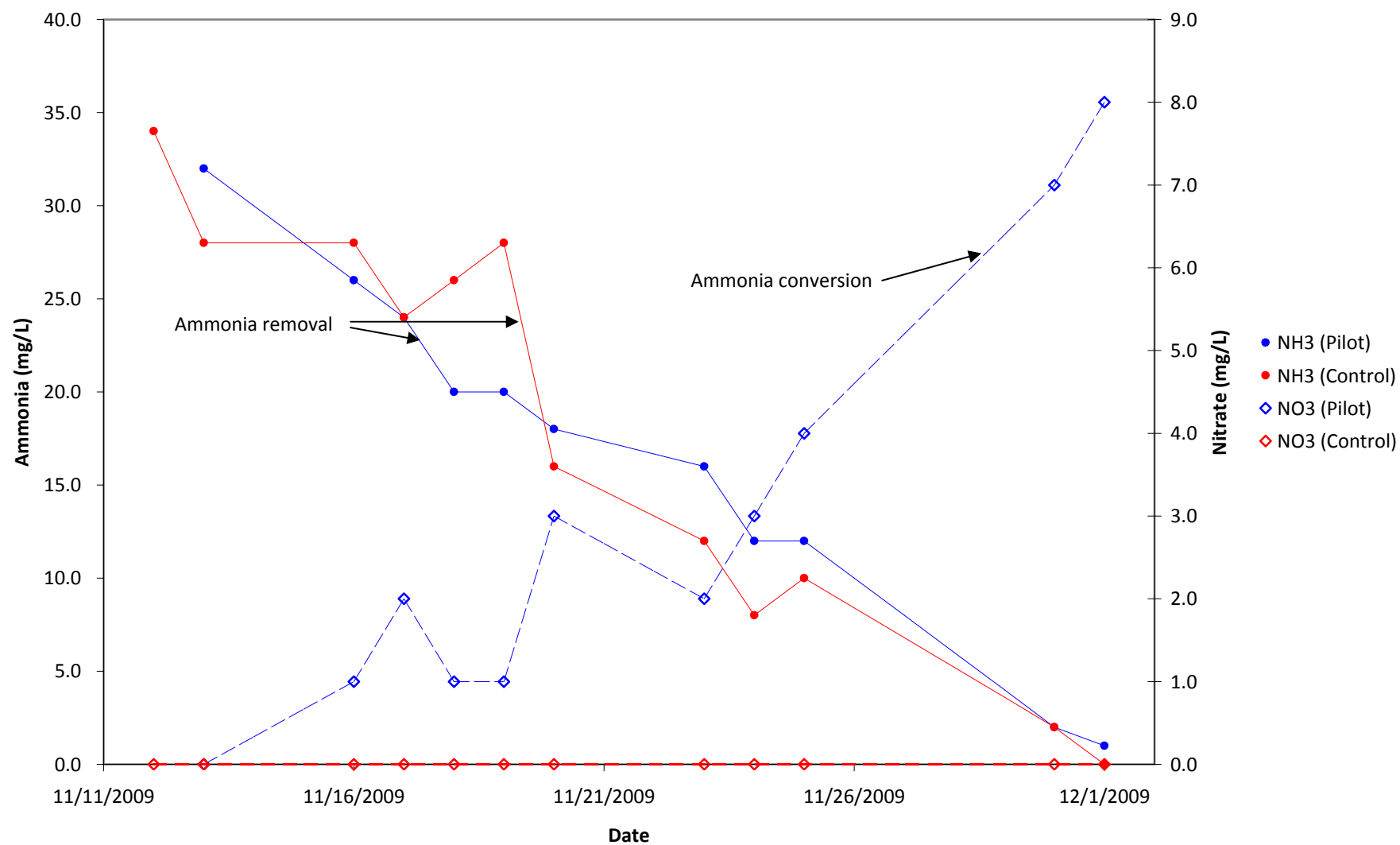
Greg Orsini, Operations Manager, MCSD

Pilot Study Results: Temperature and Dissolved Oxygen Trends

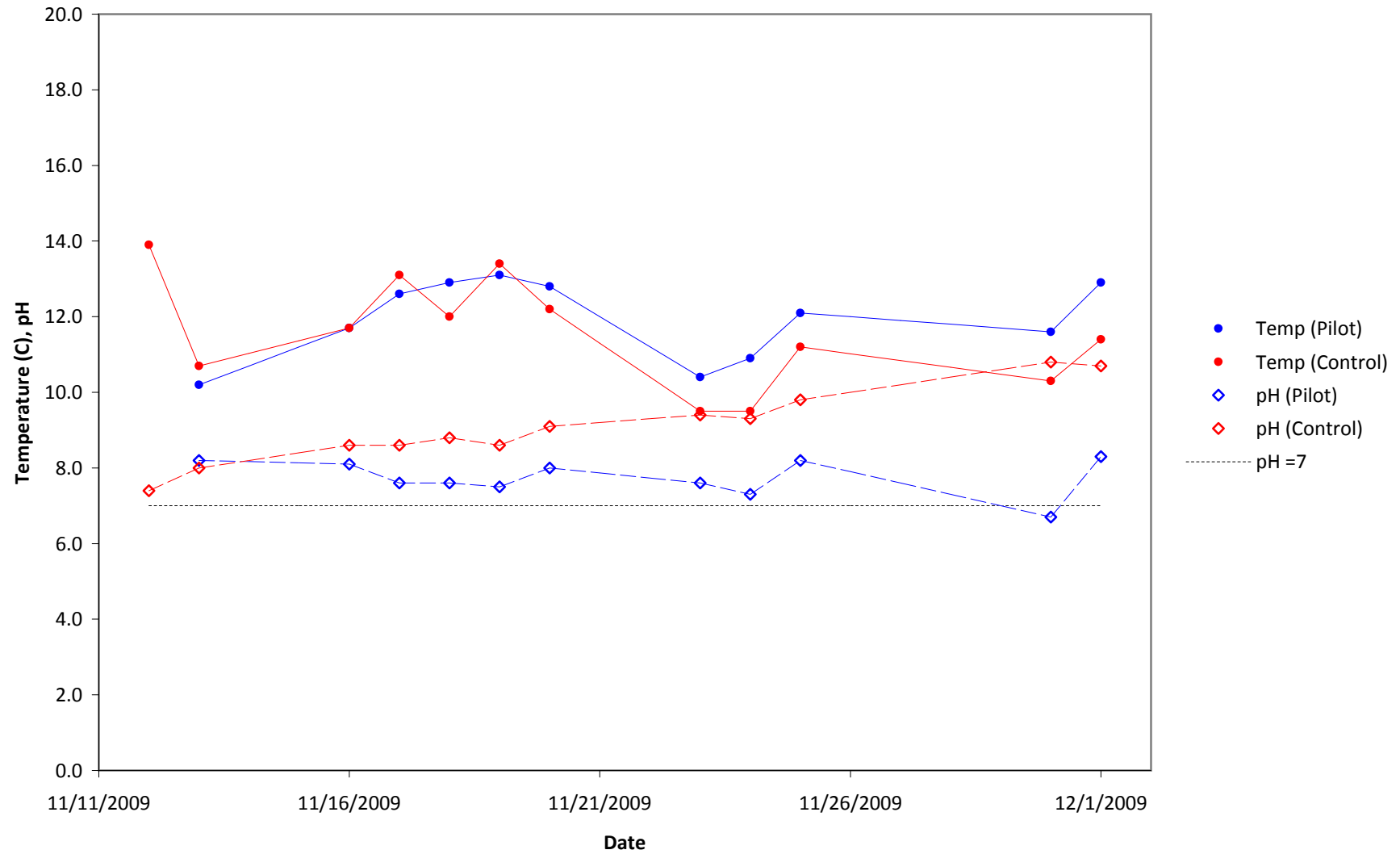




# Pilot Study Results: Ammonia Reduction, Production of Nitrate



### Pilot Study Results: Temperature and pH Trends



McKinleyville Community Services District  
Wastewater Management Facility

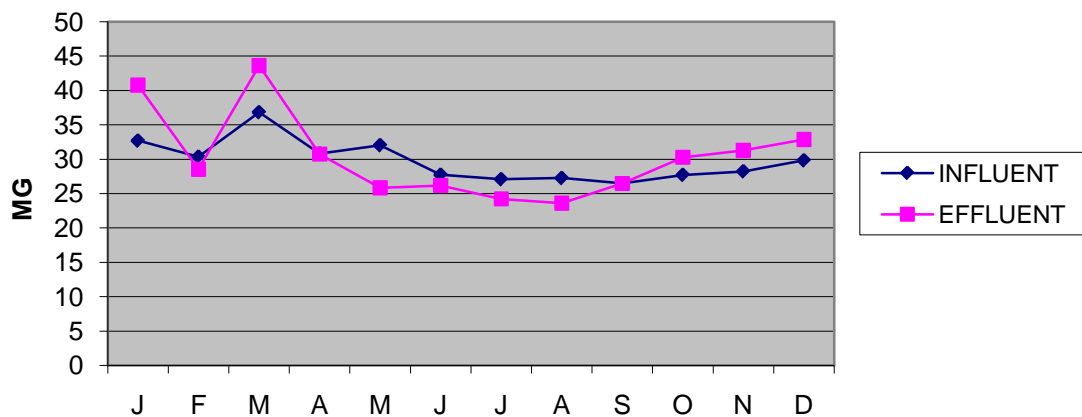
Influent and Effluent Flows

2009

in MGD

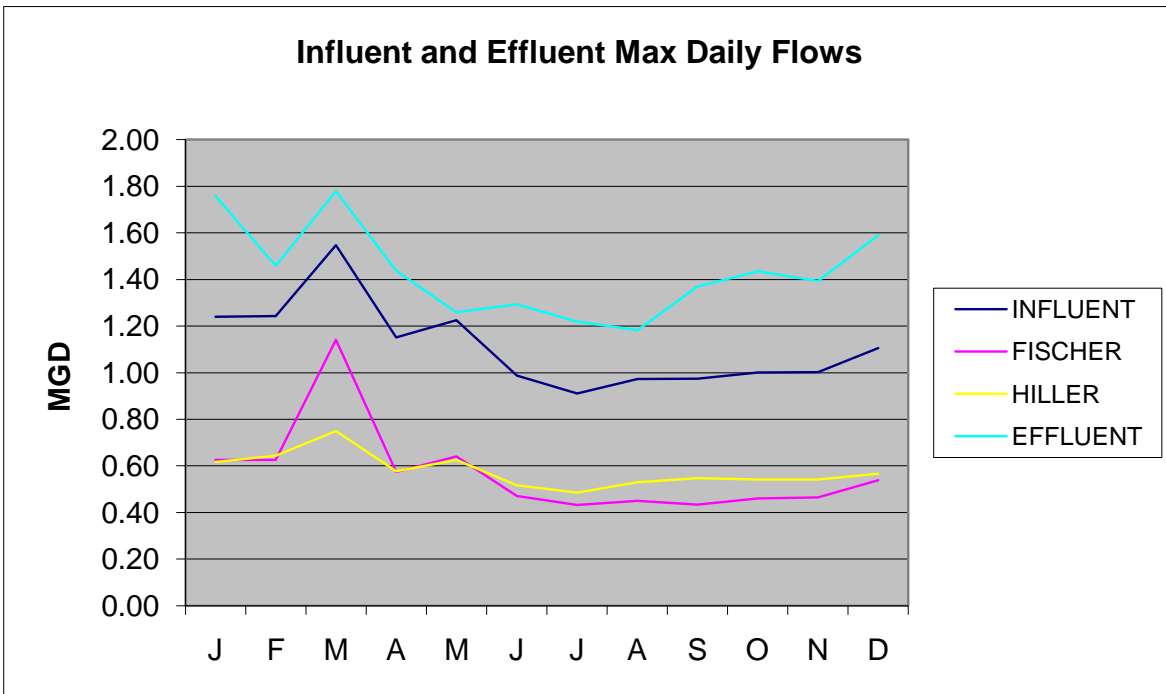
DATE	INFLUENT	FISCHER	HILLER	EFFLUENT	MAXIMUM GPM
J	32.705	15.671	17.034	40.775	1226
F	30.366	14.869	15.497	28.526	1018
M	36.845	19.075	17.770	43.608	1571
A	30.835	15.166	15.669	30.746	1006
M	32.042	15.826	16.216	25.824	1177
J	27.743	13.264	14.479	26.182	1087
J	27.089	12.662	14.427	24.227	1260
A	27.263	12.647	14.616	23.612	1159
S	26.485	12.011	14.474	26.474	1227
O	27.719	12.368	15.351	30.277	1213
N	28.234	12.881	15.353	31.278	991
D	29.832	13.988	15.844	32.862	1113
Total	357.158	170.428	186.730	364.391	
Average	29.763	14.202	15.561	30.366	1171
Maximum	36.845	19.075	17.770	43.608	1571
Minimum	26.485	12.011	14.427	23.612	991

Influent and Effluent Totals 2007



McKinleyville Community Services District  
Wastewater Management Facility  
Influent and Effluent Max Daily Flows in MGD  
2009

DATE	INFLUENT	FISCHER	HILLER	EFFLUENT
J	1.240	0.625	0.617	1.758
F	1.243	0.625	0.644	1.458
M	1.547	1.141	0.750	1.779
A	1.151	0.574	0.577	1.438
M	1.226	0.641	0.625	1.259
J	0.988	0.471	0.517	1.293
J	0.911	0.432	0.486	1.220
A	0.973	0.450	0.529	1.182
S	0.974	0.433	0.547	1.370
O	1.001	0.460	0.541	1.435
N	1.003	0.464	0.542	1.394
D	1.106	0.539	0.567	1.590
Maximum	1.547	1.141	0.750	1.779



[illegible]

January 2009		M-006								
	M-INF	M-001		M-003	M-007	M-002				
DATE	INFLUENT	EFFLUENT	EFFLUENT	PERK	IRRIGATE	RIVER	RIVER	MAXIMUM	RIVER	RIVER
	MGD	MGD	MAXIMUM	PONDS	MGD	MGD	DILUTION	G.P.M.	FLOW IN	FLOW IN
			GPM	MGD			100:1	DISCHARGE	CFS	GPS
								FOR 100:1		

	M-INF	M-001		M-003	M-007	M-002				
DATE	INFLUENT	EFFLUENT	EFFLUENT	PERK	IRRIGATE	RIVER	RIVER	MAXIMUM	RIVER	RIVER
	MGD	MGD	MAXIMUM	PONDS	MGD	MGD	DILUTION	G.P.M.	FLOW IN	FLOW IN
			GPM	MGD			100:1	DISCHARGE	CFS	GPS
								FOR 100:1		

1	1.150	1.599	1116			1.599	1195	13331	2970	22219
2	1.240	1.664	1205			1.664	1713	20648	4600	34413
3	1.165	1.746	1226			1.746	1611	19750	4400	32916
4	1.183	1.758	1226			1.758	989	12119	2700	20199
5	1.115	1.749	1224			1.749	752	9202	2050	15336
6	1.132	1.737	1222			0.000	1195	14606	3254	24343
7	1.102	1.732	1212			1.732	1030	12478	2780	20797
8	1.127	1.254	1211			1.254	853	10324	2300	17206
9	0.544	1.078	877			1.078	1484	13017	2900	21695
10	1.133	1.259	880			1.259	1051	9247	2060	15411
11	1.178	1.260	884			1.260	802	7092	1580	11820
12	1.067	1.333	965			1.333	642	6194	1380	10324
13	1.040	1.379	965			1.379	642	6194	1380	10324
14	1.044	1.377	966			1.377	581	5611	1250	9351
15	1.036	1.251	965			1.251	512	4937	1100	8229
16	0.998	1.269	1094			1.269	374	4089	911	6815
17	1.033	1.564	1095			1.564	325	3559	793	5932
18	1.032	1.562	1095			1.562	289	3169	706	5282
19	1.084	1.477	1086			1.477	246	2666	594	4444
20	0.969	0.722	917			0.722	260	2388	532	3980
21	0.983	0.807	789			0.807	267	2105	469	3509
22	0.969	1.122	787			1.122	229	1800	401	3000
23	0.940	1.120	786			1.120	250	1962	437	3269
24	1.007	1.117	784			1.117	234	1831	408	3052
25	1.085	1.111	782			1.111	230	1800	401	3000
26	0.982	1.111	782			1.111	274	2141	477	3568
27	0.958	1.119	781			1.119	243	1894	422	3157
28	0.962	1.122	787			1.122	217	1706	380	2843
29	0.962	1.128	788			1.128	209	1647	367	2746
30	0.936	1.124	788			1.124	194	1531	341	2551
31	1.002	1.124	786			1.124	174	1369	305	2282

TOTAL	32.158	40.775		0.000	0.000	39.038				
AVERAGE	1.037	1.315	970	0.000	0.000	1.259	615	6465	1440	10775
MAXIMUM	1.240	1.758	1226	0.000	0.000	1.758	1713	20648	4600	34413
MINIMUM	0.544	0.722	781	0.000	0.000	0.000	174	1369	305	2282
DAYS	31	31		0	0	31				

DAYS WITH NO DISCHARGE TO THE MAD RIVER = 0

## FEBRUARY 2009

**M-006**

## RIVER DILUTION

	M-INF	M-001		M-003	M-007	M-002				
DATE	INFLUENT	EFFLUENT	EFFLUENT	PERK	IRRIGATE	RIVER	RIVER	MAXIMUM	RIVER	RIVER
	MGD	MGD	MAXIMUM	PONDS	MGD	MGD	DILUTION	G.P.M.	FLOW IN	FLOW IN
			GPM	MGD			100:1	DISCHARGE	CFS	GPS
								FOR 100:1		

[illegible]

TOTAL	30.367	28.526		1.928	1.793	24.805				
AVERAGE	1.085	1.019	790	0.482	0.598	0.886	1037	10311	2297	17185
MAXIMUM	1.243	1.458	1018	0.691	0.948	1.458	5363	45784	10200	76306
MINIMUM	0.930	0.000	0	0.259	0.317	0.000	126	1028	229	1713
DAYS	28	27		4	3	23				

DAYS WITH NO DISCHARGE TO THE MAD RIVER = 5

## MARCH 2009

M-006

RIVER DILUTION

	M-INF	M-001		M-003	M-007	M-002				
DATE	INFLUENT	EFFLUENT	EFFLUENT	PERK	IRRIGATE	RIVER	RIVER	MAXIMUM	RIVER	RIVER
	MGD	MGD	MAXIMUM	PONDS	MGD	MGD	DILUTION	G.P.M.	FLOW IN	FLOW IN
			GPM	MGD			100:1	DISCHARGE	CFS	GPS
								FOR 100:1		

1	1.187	1.458	1019			1.458	1343	13690	3050	22817
2	1.157	1.436	1010			1.436	2818	28458	6340	47430
3	1.168	1.434	1003			1.434	3459	34697	7730	57828
4	1.173	1.446	1022			1.446	3136	32049	7140	53414
5	1.161	1.197	1015			1.197	2220	22533	5020	37555
6	1.140	1.257	1018			1.257	1671	17012	3790	28353
7	1.112	1.436	1027			1.436	1355	13915	3100	23191
8	1.144	1.390	1027			1.390	1145	11760	2620	19600
9	1.087	1.445	1027			1.445	966	9920	2210	16533
10	1.078	1.371	1020			1.371	805	8214	1830	13690
11	1.061	1.241	886			1.241	800	7092	1580	11820
12	1.034	1.160	857			1.160	738	6329	1410	10548
13	1.030	1.259	1059			1.259	547	5790	1290	9650
14	1.096	1.468	1027			1.468	516	5297	1180	8828
15	1.303	1.459	1027			1.459	524	5386	1200	8977
16	1.547	1.415	997			1.415	3215	32049	7140	53414
17	1.310	1.618	1571			1.618	1763	27695	6170	46158
18	1.249	1.779	1303			1.779	1347	17550	3910	29251
19	1.211	1.279	1228			1.279	1097	13466	3000	22443
20	1.159	1.277	1219			1.277	880	10728	2390	17880
21	1.219	1.550	1104			1.550	846	9336	2080	15560
22	1.462	1.512	1065			1.512	1551	16518	3680	27530
23	1.306	1.513	1077			1.513	1350	14543	3240	24238
24	1.279	1.501	1079			1.501	1073	11581	2580	19301
25	1.211	1.486	1039			1.486	1033	10728	2390	17880
26	1.174	1.218	1040			1.218	928	9650	2150	16084
27	1.139	1.275	1032			1.275	883	9112	2030	15186
28	1.186	1.429	1002			1.429	829	8304	1850	13840
29	1.236	1.430	1005			1.430	750	7541	1680	12568
30	1.121	1.434	1009			1.434	645	6508	1450	10847
31	1.106	1.435	1013			1.435	580	5880	1310	9800

TOTAL	36.846	43.608		0.000	0.000	43.608				
AVERAGE	1.189	1.407	1059	0.000	0.000	1.407	1317	13978	3114	23297
MAXIMUM	1.547	1.779	1571	0.000	0.000	1.779	3459	34697	7730	57828
MINIMUM	1.030	1.160	857	0.000	0.000	1.160	516	5297	1180	8828
DAYS	31	31		0	0	31				

DAYS WITH NO DISCHARGE TO THE MAD RIVER = 0

APRIL 2009

M-006

RIVER DILUTION

M-INF		M-001		M-003		M-007		M-002			
DATE	INFLUENT MGD	EFFLUENT MGD	EFFLUENT MAXIMUM GPM	PERK PONDS MGD	IRRIGATE MGD	RIVER MGD	RIVER DILUTION 100:1	MAXIMUM G.P.M. DISCHARGE FOR 100:1	RIVER FLOW IN CFS	RIVER FLOW IN GPS	
1	1.088	1.438	1003			1.438	519	5207	1160	8678	
2	1.110	1.192	1006			1.192	455	4578	1020	7631	
3	1.104	1.077	805			1.077	664	5341	1190	8902	
4	1.126	1.158	813			1.158	569	4623	1030	7705	
5	1.151	1.159	814			1.159	530	4314	961	7189	
6	1.079	1.193	853			0.000	500	4269	951	7114	
7	1.056	1.200	853			1.200	485	4134	921	6890	
8	1.058	1.176	847			1.176	463	3923	874	6538	
9	1.101	1.114	857			1.114	406	3483	776	5805	
10	1.053	1.076	817			1.076	698	5701	1270	9501	
11	1.080	1.132	797			1.132	553	4408	982	7346	
12	1.068	1.136	800			1.136	475	3797	846	6329	
13	1.050	0.686	806			0.686	452	3640	811	6067	
14	1.020	0.000	0			0.000	0	3676	819	6127	
15	1.002	0.621	738			0.621	451	3326	741	5543	
16	0.985	1.019	712			1.019	429	3052	680	5087	
17	0.983	1.069	848			1.069	327	2769	617	4616	
18	0.990	1.112	784			1.112	334	2621	584	4369	
19	1.051	1.119	789			1.119	303	2388	532	3980	
20	0.998	1.134	837			1.134	275	2298	512	3830	
21	0.974	1.118	798			1.118	273	2177	485	3628	
22	0.971	1.113	786			1.113	263	2069	461	3449	
23	0.965	1.101	794			1.101	235	1863	415	3105	
24	0.947	1.027	760			1.027	209	1589	354	2648	
25	0.991	0.961	683			0.961	228	1558	347	2596	
26	1.035	0.954	679			0.954	214	1450	323	2416	
27	0.937	0.867	677			0.867	184	1248	278	2080	
28	0.944	0.963	685			0.963	200	1369	305	2282	
29	0.937	0.867	677		0.546	0.321	195	1320	294	2199	
30	0.943	0.873	688		0.873	0.000	0	0		0	
TOTAL	30.797	30.655		0.000	1.419	28.043					
AVERAGE	1.027	1.022	767	0.000	0.710	0.935	363	3073	708	5122	
MAXIMUM	1.151	1.438	1006	0.000	0.873	1.438	698	5701	1270	9501	
MINIMUM	0.937	0.000	0	0.000	0.546	0.000	0	0	278	0	
DAYS	30	29		0	2	28					
DAYS WITH NO DISCHARGE TO THE MAD RIVER = 2											





## DECEMBER 2009

**M-006**

RIVER DILUTION

	M-INF	M-001		M-003	M-007	M-002				
DATE	INFLUENT	EFFLUENT	EFFLUENT	PERK	IRRIGATE	RIVER	RIVER	MAXIMUM	RIVER	RIVER
	MGD	MGD	MAXIMUM	PONDS	MGD	MGD	DILUTION	G.P.M.	FLOW IN	FLOW IN
			GPM	MGD			100:1	DISCHARGE	CFS	GPS
								FOR 100:1		

1						0.000	0	0		0
2						0.000	0	0		0
3						0.000	0	0		0
4						0.000	0	0		0
5						0.000	0	0		0
6						0.000	0	0		0
7						0.000	0	0		0
8						0.000	0	0		0
9						0.000	0	0		0
10						0.000	0	0		0
11						0.000	0	0		0
12						0.000	0	0		0
13						0.000	0	0		0
14						0.000	0	0		0
15						0.000	0	0		0
16						0.000	0	0		0
17						0.000	0	0		0
18	0.944	1.156	858			1.156	408	3497	779	5828
19	0.979	1.416	1113			1.416	220	2446	545	4077
20	1.017	1.590	1113			1.590	187	2078	463	3464
21	1.106	1.284	1110			1.284	247	2743	611	4571
22	1.059	1.183	832			1.183	1144	9516	2120	15860
23	1.013	1.199	840			1.199	647	5431	1210	9052
24	1.002	1.207	855			1.207	426	3640	811	6067
25	0.919	1.229	859			1.229	309	2653	591	4421
26	0.940	1.229	861			1.229	238	2047	456	3411
27	0.998	1.227	860			1.227	213	1831	408	3052
28	0.980	1.229	862			1.229	350	3016	672	5027
29	0.964	1.182	864			1.182	274	2365	527	3942
30	0.943	1.037	729			1.037	309	2253	502	3755
31	0.972	1.037	727			1.037	299	2177	485	3628

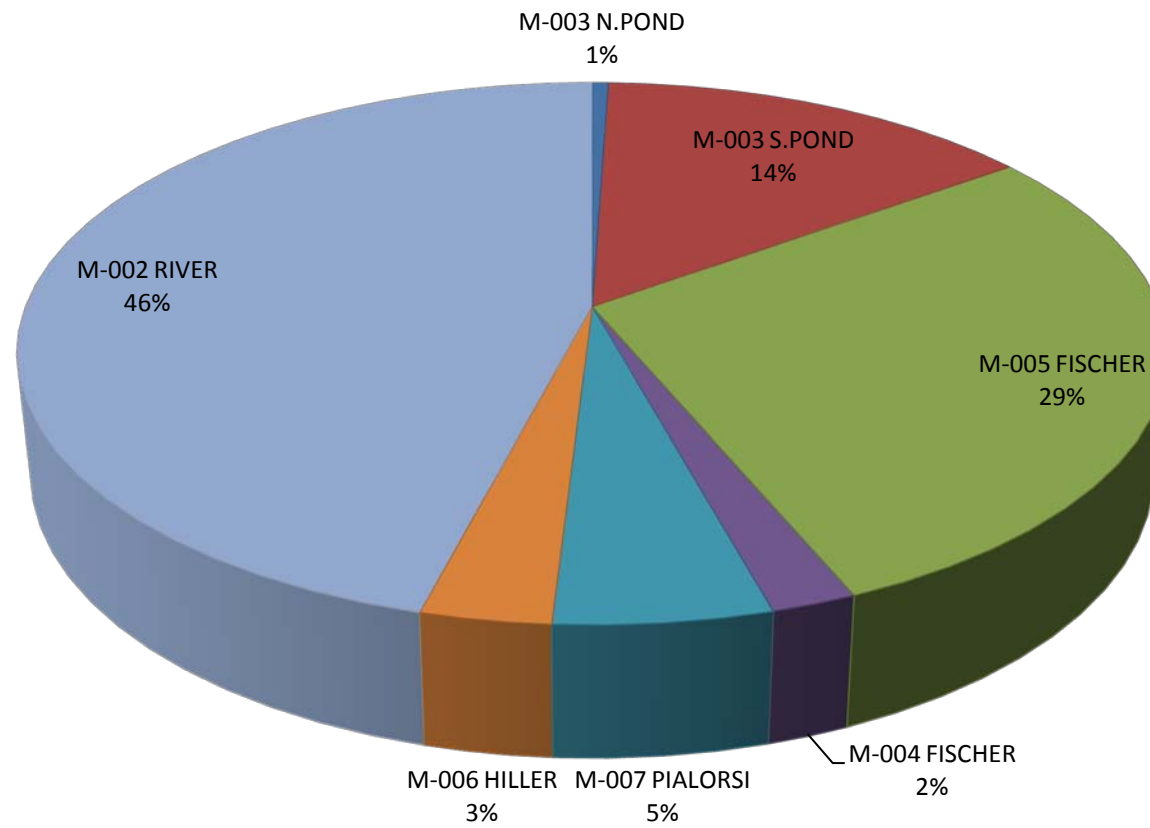
TOTAL	13.836	17.205		0.000	0.000	17.205				
AVERAGE	0.988	1.229	892	0.000	0.000	0.555	376	1474	727	2457
MAXIMUM	1.106	1.590	1113	0.000	0.000	1.590	1144	9516	2120	15860
MINIMUM	0.919	1.037	727	0.000	0.000	0.000	187	0	408	0
DAYS	14	14	14	0	0					

DAYS WITH NO DISCHARGE TO THE MAD RIVER = 17

McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
EFFLUENT DISCHARGE DISPOSAL TOTALS 2009

DATE	M-INF INFLUENT MGD	M-001 EFFLUENT MGD	M-003 N.POND MGD	M-003 S.POND MGD	M-005 FISCHER MGD UPPER	M-004 FISCHER MGD LOWER	M-007 PIALORSI MGD	M-006 HILLER MGD	IRRGATE TOTAL MGD	M-002 RIVER MGD
JANUARY	32.7	40.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.8
FEBRUARY	30.4	28.5	1.9	0.0	1.8	0.0	0.0	0.0	1.8	24.8
MARCH	36.8	43.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.6
APRIL	30.8	30.7	0.0	0.0	1.4	0.0	0.0	0.0	1.4	29.3
MAY	32.0	25.8	0.0	7.3	5.1	0.0	0.8	0.5	6.4	12.1
JUNE	27.7	26.2	0.0	5.8	13.4	0.0	4.5	2.5	20.4	0.0
JULY	27.0	24.2	0.0	7.1	11.1	0.0	4.4	1.6	17.1	0.0
AUGUST	27.3	23.6	0.0	7.6	9.4	0.0	3.9	2.6	16.0	0.0
SEPTEMBER	26.5	26.5	0.0	6.9	11.7	0.9	4.3	2.7	18.4	0.0
OCTOBER	27.7	30.3	0.0	8.8	16.1	4.3	1.1	0.0	21.5	0.0
NOVEMBER	28.2	31.3	0.0	5.8	23.0	2.4	0.0	0.1	25.5	0.0
DECEMBER	29.8	32.9	0.0	3.4	11.3	0.0	0.0	1.5	12.7	16.7
Totals	357.1	364.4	1.9	52.9	104.2	7.5	19.1	11.4	141.1	167.3

## Effluent Distribution



# JANUARY 2009

DAYS WITH NO DISCHARGE = 0

## FEBRUARY 2009

DAYS WITH NO DISCHARGE = 1

## MARCH 2009

DAYS WITH NO DISCHARGE = 0

## APRIL 2009

	M-INF	M-001		M-003	M-003	M-005	M-004	M-007	M-006		M-002
DATE	INFLUENT	EFFLUENT	MAXIMUM	N.POND	S.POND	FISCHER	FISCHER	PIALORSI	HILLER	IRRGATE	RIVER
	MGD	MGD	GPM	MGD	MGD	MGD	MGD	MGD	MGD	TOTAL	MGD
						UPPER	LOWER			MGD	
1	1.088	1.438	1003							0.000	1.438
2	1.110	1.192	1006							0.000	1.192
3	1.104	1.077	805							0.000	1.077
4	1.126	1.158	813							0.000	1.158
5	1.151	1.159	814							0.000	1.159
6	1.079	1.193	853							0.000	1.193
7	1.056	1.200	853							0.000	1.200
8	1.058	1.176	847							0.000	1.176
9	1.101	1.114	857							0.000	1.114
10	1.053	1.076	817							0.000	1.076
11	1.080	1.132	797							0.000	1.132
12	1.068	1.136	800							0.000	1.136
13	1.050	0.686	806							0.000	0.686
14	1.020	0.000	0							0.000	0.000
15	1.002	0.621	738							0.000	0.621
16	0.985	1.019	712							0.000	1.019
17	0.983	1.069	848							0.000	1.069
18	0.990	1.112	784							0.000	1.112
19	1.051	1.119	789							0.000	1.119
20	0.998	1.134	837							0.000	1.134
21	0.974	1.118	798							0.000	1.118
22	0.971	1.113	786							0.000	1.113
23	0.965	1.101	794							0.000	1.101
24	0.947	1.027	760							0.000	1.027
25	0.991	0.961	683							0.000	0.961
26	1.035	0.954	679							0.000	0.954
27	0.975	0.958	679							0.000	0.958
28	0.944	0.963	685							0.000	0.963
29	0.937	0.867	677			0.546				0.546	0.321
30	0.943	0.873	688			0.873				0.873	0.000
TOTAL	30.835	30.746		0.000	0.000	1.419	0.000	0.000	0.000	1.419	29.327
AVERAGE	1.028	1.025	767	0.000	0.000	0.710	0.000	0.000	0.000	0.047	0.978
MAXIMUM	1.151	1.438	1006	0.000	0.000	0.873	0.000	0.000	0.000	0.873	1.438
MINIMUM	0.937	0.000	0	0.000	0.000	0.546	0.000	0.000	0.000	0.000	0.000
DAYS	30	29		0	0	2	0	0	0	2	28
DAYS WITH NO DISCHARGE = 1											



McKINLEYVILLE COMMUNITY SERVICES DISTRICT WASTEWATER MANAGEMENT FACILITY EFFLUENT DISCHARGE DISPOSAL	MAY 2009
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MAY 2009

	M-INF	M-001		M-003	M-003	M-005	M-004	M-007	M-006		M-002
DATE	INFLUENT	EFFLUENT	MAXIMUM	N.POND	S.POND	FISCHER	FISCHER	PIALORSI	HILLER	IRRGATE	RIVER
	MGD	MGD	GPM	MGD	MGD	MGD	MGD	MGD	MGD	TOTAL	MGD
						UPPER	LOWER			MGD	
1	0.979	0.782	650		0.254	0.528				0.528	0.000
2	1.062	0.603	424		0.603					0.000	0.000
3	1.128	0.598	424		0.598					0.000	0.000
4	1.200	0.878	866		0.254					0.000	0.624
5	1.226	1.210	860							0.000	1.210
6	1.143	1.223	856							0.000	1.223
7	1.104	1.116	875							0.000	1.116
8	1.068	1.156	868							0.000	1.156
9	1.086	1.242	873							0.000	1.242
10	1.103	1.257	879							0.000	1.257
11	1.064	1.256	885							0.000	1.256
12	1.035	1.259	890							0.000	1.259
13	1.046	1.256	889							0.000	1.256
14	1.052	0.904	937		0.386					0.000	0.518
15	1.019	0.569	459		0.569					0.000	0.000
16	1.035	0.491	349		0.491					0.000	0.000
17	1.071	0.502	353		0.502					0.000	0.000
18	1.001	0.291	355		0.291					0.000	0.000
19	1.008	0.410	1177			0.290		0.120		0.410	0.000
20	1.006	1.052	849			0.756		0.296		1.052	0.000
21	0.989	0.967	819			0.720		0.247		0.967	0.000
22	0.952	0.808	814		0.279	0.414		0.115		0.529	0.000
23	0.925	0.530	371		0.530					0.000	0.000
24	0.928	0.528	371		0.528					0.000	0.000
25	1.028	0.522	367		0.522					0.000	0.000
26	0.982	0.754	788		0.198	0.450			0.106	0.556	0.000
27	0.961	0.937	789			0.757			0.180	0.937	0.000
28	0.956	0.931	790			0.763			0.168	0.931	0.000
29	0.929	0.756	767		0.283	0.394			0.079	0.473	0.000
30	0.950	0.516	363		0.516					0.000	0.000
31	1.010	0.520	365		0.520					0.000	0.000
TOTAL	32.046	25.824		0.000	7.324	5.072	0.000	0.778	0.533	6.383	12.117
AVERAGE	1.034	0.833	688	0.000	0.431	0.564	0.000	0.195	0.133	0.206	0.391
MAXIMUM	1.226	1.259	1177	0.000	0.603	0.763	0.000	0.296	0.180	1.052	1.259
MINIMUM	0.925	0.291	349	0.000	0.198	0.290	0.000	0.115	0.079	0.000	0.000
DAYS	31	31		0	17	9	0	4	4	9	11
DAYS WITH NO DISCHARGE = 0											

McKINLEYVILLE COMMUNITY SERVICES DISTRICT WASTEWATER MANAGEMENT FACILITY EFFLUENT DISCHARGE DISPOSAL	JUNE 2009
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# JUNE 2009

	M-INF	M-001		M-003	M-003	M-005	M-004	M-007	M-006		M-002
DATE	INFLUENT MGD	EFFLUENT MGD	MAXIMUM GPM	N.POND MGD	S.POND MGD	FISCHER MGD UPPER	FISCHER MGD LOWER	PIALORSI MGD	HILLER MGD	IRRGATE TOTAL MGD	RIVER MGD
1	0.946	0.743	889		0.208	0.378		0.095	0.062	0.535	0.000
2	0.911	1.077	893			0.720		0.213	0.144	1.077	0.000
3	0.922	1.063	894			0.708		0.240	0.115	1.063	0.000
4	0.935	1.059	894			0.714		0.234	0.111	1.059	0.000
5	0.915	0.829	893		0.234	0.407		0.131	0.057	0.595	0.000
6	0.929	0.444	312		0.444					0.000	0.000
7	0.988	0.444	316		0.444					0.000	0.000
8	0.950	0.741	918		0.171	0.381		0.119	0.070	0.570	0.000
9	0.922	1.082	916			0.702		0.258	0.122	1.082	0.000
10	0.946	1.066	904			0.714		0.252	0.100	1.066	0.000
11	0.908	1.039	896			0.690		0.240	0.109	1.039	0.000
12	0.904	0.806	860		0.254	0.380		0.131	0.041	0.552	0.000
13	0.934	0.478	338		0.478					0.000	0.000
14	0.972	0.486	342		0.486					0.000	0.000
15	0.942	0.745	999		0.180	0.363		0.142	0.060	0.565	0.000
16	0.924	1.115	1020			0.739		0.264	0.112	1.115	0.000
17	0.905	1.293	1058			0.877		0.277	0.139	1.293	0.000
18	0.919	1.162	996			0.790		0.252	0.120	1.162	0.000
19	0.909	0.916	969		0.250	0.455		0.145	0.066	0.666	0.000
20	0.895	0.445	320		0.445					0.000	0.000
21	0.947	0.437	311		0.437					0.000	0.000
22	0.941	0.784	983		0.159	0.442		0.114	0.069	0.625	0.000
23	0.922	1.210	1046			0.795		0.257	0.158	1.210	0.000
24	0.921	1.229	1042			0.779		0.263	0.187	1.229	0.000
25	0.893	1.231	1086			0.758		0.275	0.198	1.231	0.000
26	0.888	1.056	1087		0.304	0.462		0.155	0.135	0.752	0.000
27	0.878	0.559	398		0.559					0.000	0.000
28	0.946	0.555	393		0.555					0.000	0.000
29	0.928	0.859	1037		0.206	0.377		0.151	0.125	0.653	0.000
30	0.903	1.229	1042			0.780		0.257	0.192	1.229	0.000
TOTAL	27.743	26.182		0.000	5.814	13.411	0.000	4.465	2.492	20.368	0.000
AVERAGE	0.925	0.873	802	0.000	0.342	0.610	0.000	0.203	0.113	0.679	0.000
MAXIMUM	0.988	1.293	1087	0.000	0.559	0.877	0.000	0.277	0.198	1.293	0.000
MINIMUM	0.878	0.437	311	0.000	0.159	0.363	0.000	0.095	0.041	0.000	0.000
DAYS	30	30		0	17	22	0	22	22	22	0
DAYS WITH NO DISCHARGE = 0											

JULY 2009

DAYS WITH NO DISCHARGE = 0

McKINLEYVILLE COMMUNITY SERVICES DISTRICT WASTEWATER MANAGEMENT FACILITY EFFLUENT DISCHARGE DISPOSAL	AUGUST 2009
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AUGUST 2009

	M-INF	M-001		M-003	M-003	M-005	M-004	M-007	M-006		M-002
DATE	INFLUENT	EFFLUENT	MAXIMUM	N.POND	S.POND	FISCHER	FISCHER	PIALORSI	HILLER	IRRGATE	RIVER
	MGD	MGD	GPM	MGD	MGD	MGD	MGD	MGD	MGD	TOTAL	MGD
						UPPER	LOWER			MGD	
1	0.850	0.548	386		0.548					0.000	0.000
2	0.884	0.542	386		0.542					0.000	0.000
3	0.882	0.348	780		0.208	0.107		0.033		0.140	0.000
4	0.802	0.000	0							0.000	0.000
5	0.859	0.575	1159			0.414		0.161		0.575	0.000
6	0.853	0.937	853			0.548		0.252	0.137	0.937	0.000
7	0.857	0.785	727		0.312	0.231		0.132	0.110	0.473	0.000
8	0.854	0.570	400		0.570					0.000	0.000
9	0.904	0.574	404		0.574					0.000	0.000
10	0.874	0.721	919		0.206	0.242		0.138	0.135	0.515	0.000
11	0.857	0.920	821			0.420		0.260	0.240	0.920	0.000
12	0.856	1.000	867			0.504		0.255	0.241	1.000	0.000
13	0.856	1.011	876			0.533		0.249	0.229	1.011	0.000
14	0.864	0.828	837		0.302	0.297		0.132	0.097	0.526	0.000
15	0.885	0.553	387		0.553					0.000	0.000
16	0.902	0.558	393		0.558					0.000	0.000
17	0.880	0.749	853		0.224	0.284		0.146	0.095	0.525	0.000
18	0.864	1.036	869			0.610		0.248	0.178	1.036	0.000
19	0.858	1.026	856			0.592		0.255	0.179	1.026	0.000
20	0.868	1.023	865			0.652		0.266	0.105	1.023	0.000
21	0.889	0.903	838		0.288	0.484		0.131		0.615	0.000
22	0.887	0.548	384		0.548					0.000	0.000
23	0.955	0.549	385		0.549					0.000	0.000
24	0.899	0.800	916		0.202	0.394		0.132	0.072	0.598	0.000
25	0.907	1.120	935			0.664		0.273	0.183	1.120	0.000
26	0.891	1.150	962			0.688		0.266	0.196	1.150	0.000
27	0.887	1.182	972			0.711		0.278	0.193	1.182	0.000
28	0.866	1.182	1079		0.254	0.633		0.173	0.122	0.928	0.000
29	0.901	0.505	353		0.505					0.000	0.000
30	0.973	0.507	354		0.507					0.000	0.000
31	0.899	0.862	1010		0.181	0.427		0.149	0.105	0.681	0.000
TOTAL	27.263	23.612		0.000	7.631	9.435	0.000	3.929	2.617	15.981	0.000
AVERAGE	0.879	0.762	704	0.000	0.402	0.472	0.000	0.196	0.154	0.516	0.000
MAXIMUM	0.973	1.182	1159	0.000	0.574	0.711	0.000	0.278	0.241	1.182	0.000
MINIMUM	0.802	0.000	0	0.000	0.181	0.107	0.000	0.033	0.072	0.000	0.000
DAYS	31	30		0	19	20	0	20	17	20	0
DAYS WITH NO DISCHARGE = 01											

# SEPTEMBER 2009

DAYS WITH NO DISCHARGE = 0

# OCTOBER 2009

DAYS WITH NO DISCHARGE = 0

McKINLEYVILLE COMMUNITY SERVICES DISTRICT WASTEWATER MANAGEMENT FACILITY EFFLUENT DISCHARGE DISPOSAL	NOVEMBER 2009
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NOVEMBER 2009

DATE	M-INF INFLUENT MGD	M-001 EFFLUENT MGD	MAXIMUM GPM	M-003 N.POND MGD	M-003 S.POND MGD	M-005 FISCHER MGD UPPER	M-004 FISCHER MGD LOWER	M-007 PIALORSI MGD	M-006 HILLER MGD	IRRGATE TOTAL MGD	M-002 RIVER MGD
1	0.977	0.633	445		0.633					0.000	0.000
2	0.924	1.078	935		0.234	0.641	0.203			0.844	0.000
3	0.873	1.294	934			0.979	0.315			1.294	0.000
4	0.888	1.291	926			0.986	0.305			1.291	0.000
5	0.875	1.288	920			0.994	0.294			1.288	0.000
6	0.930	0.947	907		0.326	0.469	0.152			0.621	0.000
7	0.937	0.608	434		0.608					0.000	0.000
8	0.952	0.597	424		0.597					0.000	0.000
9	0.942	0.874	757		0.223	0.651				0.651	0.000
10	0.890	1.090	764			1.090				1.090	0.000
11	0.961	1.097	769			1.097				1.097	0.000
12	0.911	1.244	953			1.008	0.236			1.244	0.000
13	0.901	0.911	932		0.290	0.483	0.138			0.621	0.000
14	0.936	0.549	387		0.549					0.000	0.000
15	0.996	0.553	391		0.553					0.000	0.000
16	0.911	1.049	962		0.205	0.650	0.194			0.844	0.000
17	0.966	1.159	929			1.008	0.151			1.159	0.000
18	0.950	1.216	951			0.994	0.222			1.216	0.000
19	0.922	1.243	945			1.081	0.162			1.243	0.000
20	0.978	0.881	783		0.256	0.625				0.625	0.000
21	0.987	0.575	407		0.575					0.000	0.000
22	1.003	0.573	402		0.573					0.000	0.000
23	0.948	1.079	972		0.205	0.874				0.874	0.000
24	0.918	1.394	974			1.394				1.394	0.000
25	0.950	1.394	974			1.394				1.394	0.000
26	0.944	1.374	962			1.374				1.374	0.000
27	0.940	1.361	955			1.361				1.361	0.000
28	0.954	1.359	951			1.359				1.359	0.000
29	1.003	1.364	954			1.364				1.364	0.000
30	0.940	1.203	991			1.099			0.104	1.203	0.000
TOTAL	28.207	31.278		0.000	5.827	22.975	2.372	0.000	0.104	25.451	0.000
AVERAGE	0.940	1.043	800	0.000	0.416	0.999	0.216	0.000	0.104	0.848	0.000
MAXIMUM	1.003	1.394	991	0.000	0.633	1.394	0.315	0.000	0.104	1.394	0.000
MINIMUM	0.873	0.549	387	0.000	0.205	0.469	0.138	0.000	0.104	0.000	0.000
DAYS	30	30		0	14	23	11	0	1	23	0
DAYS WITH NO DISCHARGE = 0											

# DECEMBER 2009

DAYS WITH NO DISCHARGE = 0



McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: JANUARY

YEAR: 2009

DATE	INFLUENT FLOW M.G.D.	EFFLUENT FLOW M.G.D.	EFFLUENT MAXIMUM GPM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5 TOTAL COLIFORM
					B.O.D. mg/L	N.F.R. mg/L	pH	(C°) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS		
1	1.150	1.599	1116	2970	240	220			26	22		2.9	0.0			
2	1.240	1.664	1205	4600			6.7	10.9			26	2.4	0.0			
3	1.165	1.746	1226	4400			6.8	8.5				2.1	0.0	<0.1		
4	1.183	1.758	1226	2700								2.9	0.0			
5	1.115	1.749	1224	2050			6.6	9.5			24	2.5	0.0		<2	
6	1.132	1.737	1222	3254			6.6	11.6			24	2.6	0.0			
7	1.102	1.732	1212	2780			6.6	10.0			28	2.1	0.0			
8	1.127	1.254	1211	2300			6.6	11.5			26	1.8	0.0			
9	1.091	1.078	877	2900	250	150	6.6	11.7	33	30	28	3.9	0.0	<0.1		
10	1.133	1.259	880	2060								2.5	0.0			
11	1.178	1.260	884	1580								2.5	0.0			
12	1.067	1.333	965	1380			6.7	9.8			30	2.4	0.0		<2	
13	1.040	1.379	965	1380			6.6	9.8			26	2.3	0.0			
14	1.044	1.377	966	1250			6.6	9.8			28	1.9	0.0			
15	1.036	1.251	965	1100			6.7	9.4			26	2.0	0.0			
16	0.998	1.269	1094	911	260	220	6.5	11.0	45	32	26	2.0	0.0	<0.1		
17	1.033	1.564	1095	793								2.9	0.0			
18	1.032	1.562	1095	706								2.8	0.0			
19	1.084	1.477	1086	594			6.6	9.8			28	3	0.0		<2	
20	0.969	0.722	917	532			6.6	11			28	3.7	0.0			
21	0.983	0.807	789	469			6.9	10.9			24	2.8	0.0			
22	0.969	1.122	787	401			6.6	11.5			28	3.0	0.0			
23	0.940	1.120	786	437	290	210	6.7	11.1	42	46	32	2.2	0.0	<0.1		
24	1.007	1.117	784	408								2.3	0.0			
25	1.085	1.111	782	401								2.5	0.0			
26	0.982	1.111	782	477			6.7	9.8			28	2.4	0.0		<2	
27	0.958	1.119	781	422			6.5	9.3			28	2.1	0.0			
28	0.962	1.122	787	380			6.8	9.6			26	1.7	0.0			
29	0.962	1.128	788	367			6.5	8.9			28	3.0	0.0			
30	0.936	1.124	788	341	290	270	6.6	9.1	54	49	28	3.0	0.0	<0.1		
31	1.002	1.124	786	305								3.1	0.0			

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
1/7/2009	280	28.0	ND	260

DATE		
1/7/2009	Copper	20
	Lead	0.4
	Bis phthalate	ND
	alph-BHC	ND
	4,4' -DDT	ND
	2,3,7,8-TCDD	ND

Quarterly Tests	Value in ug/l
Dichlorobromomethane	ND
Bromoform	N D
Chlorodibromomethane	ND
Chloroform	0.8

SIGNATURE: \_\_\_\_\_

REMARKS:

SPILLS:

1/6/2009 Spill on Sewer ROW
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30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	40	404	85	36	358	83

ACUTE TOXICITY

DATE	% Survival
1/6/2009	80%
1/6/2009	100%

Rainbow Trout  
C. dubia

 Indicates Permit Exceedance

CHRONIC TOXICITY

TESTED	SURVIVAL
Minnow	
C. Dubia	
Algae	
	TUc

Total Coliform
Monthly
MEDIAN
<2
Daily
Maximum
<2

McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: FEBRUARY

YEAR: 2009

DATE	INFLUENT FLOW M.G.D.	EFFLUENT FLOW M.G.D.	EFFLUENT MAXIMUM GPM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5 TOTAL COLIFORM
					B.O.D. mg/L	N.F.R. mg/L	pH	(C°) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS		
1	1.054	1.123	788	294								2.8	0.0			
2	0.957	1.117	848	262			6.5	9.2			28	2.1	0.0		<2	
3	0.930	1.107	777	243			6.9	9.8			28	2.4	0.0			
4	0.940	1.061	886	248			6.7	9.4			22	2.5	0.0			
5	0.963	0.948	663	229			6.6	10.9			26	2.7	0.0			
6	0.957	0.816	660	278	260	200	6.6	11.9	37	43	24	2.4	0.0	<0.1		
7	0.998	0.690	484	408												
8	1.069	0.691	495	354												
9	0.980	0.921	763	360			6.6	9.3			26	3.1	0.0		<2	
10	0.963	1.071	755	329			6.8	10.4			28	2.6	0.0			
11	1.105	1.057	749	387			6.6	9.2			26	2.4	0.0			
12	1.149	1.059	748	1760			6.5	9.3			24	3.2	0.0			
13	1.191	1.136	832	1650	220	180	6.6	9.7	39	48	26	2.1	0.0	<0.1		
14	1.222	1.181	828	3700								2.7	0.0			
15	1.198	1.184	829	2190								2.9	0.0			
16	1.214	1.178	829	2050								2.7	0.0			
17	1.119	1.240	973	1590			6.6	8.4			28	2.7	0.0		<2	
18	1.080	1.395	982	1200			6.5	9.3			22	2.0	0.0			
19	1.046	1.050	974	1300			6.5	9.9			22	3	0.0			
20	1.022	1.055	867	1230	230	220	6.8	12.2	44	54	26	2.7	0.0	<0.1		
21	1.060	1.239	867	1520								2.5	0.0			
22	1.204	1.220	863	1960								2.3	0.0			
23	1.243	0.750	837	10000			6.5	12.8			24	2.3	0.0		<2	
24	1.188	0.000	0	10200												
25	1.155	0.777	915	6270			6.5	12.4			26	2.7	0.0			
26	1.131	0.868	870	5690			6.5	11.5			22	1.3	0.0			
27	1.080	1.134	1013	4850	260	190	6.8	11.9	47	57	24	2.2	0.0	<0.1		
28	1.149	1.458	1018	3770								1.8	0.0			

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
	300	36.0	ND	240

DATE			
2/4/2009	Copper		24
	Lead		0.4
	Bis phthalate		ND
	alph-BHC		ND
	4,4' -DDT		ND
	2,3,7,8-TCDD		ND

SIGNATURE: \_\_\_\_\_

SPILLS:

None to report
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30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	42	363	83	52	449	74

ACUTE TOXICITY

DATE	% Survival
Monthly Ave	80%
2/2/2009	80%

Rainbow Trout  
C. dubia

Indicates Permit Exceedance

CHRONIC TOXICITY

TESTED	SURVIVAL
Minnow	
C. Dubia	
Algae	
	TUc

Total Coliform

Monthly MEDIAN
<2
Daily Maximum
<2

REMARKS: 2/24/09 No Discharge for CCB washdown

McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: MARCH

YEAR: 2009

DATE	INFLUENT FLOW M.G.D.	EFFLUENT FLOW M.G.D.	EFFLUENT MAXIMUM GPM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5 TOTAL COLIFORM
					B.O.D. mg/L	N.F.R. mg/L	pH	(C° ) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS		
1	1.187	1.458	1019	3050								2.2	0.0			
2	1.157	1.436	1010	6340			6.8	13.3			24	2.5	0.0		<2	
3	1.168	1.434	1003	7730			6.9	12			28	2.3	0.0			
4	1.173	1.446	1022	7140			6.8	11.2			26	2.1	0.0			
5	1.161	1.197	1015	5020			6.9	10.2			28	2.6	0.0			
6	1.140	1.257	1018	3790	220	180	6.9	11.1	45	58	28	2.5	0.0	<0.1		
7	1.112	1.436	1027	3100								2.6	0.0			
8	1.144	1.390	1027	2620								2.7	0.0			
9	1.087	1.445	1027	2210			6.7	10.4			24	2.6	0.0		2	
10	1.078	1.371	1020	1830			6.5	9.4			28	2.2	0.0			
11	1.061	1.241	886	1580			6.6	10.1			24	2.3	0.0			
12	1.034	1.160	857	1410			6.7	10.7			28	2.2	0.0			
13	1.030	1.259	1059	1290	260	210	6.5	11.5	34	55	24	3.3	0.0	<0.1		
14	1.096	1.468	1027	1180								1.6	0.0			
15	1.303	1.459	1027	1200								2.2	0.0			
16	1.547	1.415	997	7140			6.6	12.4			22	3.5	0.0		<2	
17	1.310	1.618	1571	6170			6.5	12.1			24	1.5	0.0			
18	1.249	1.779	1303	3910			6.5	11.7			22	1.5	0.0			
19	1.211	1.279	1228	3000			6.5	12.2			26	1.6	0.0			
20	1.159	1.277	1219	2390	240	250	6.8	13.5	36	45	28	2.8	0.0	<0.1		
21	1.219	1.550	1104	2080								4.5	0.0			
22	1.462	1.512	1065	3680								3.8	0.0			
23	1.306	1.513	1077	3240			6.8	10.5			26	2.0	0.0		<2	
24	1.279	1.501	1079	2580			7.0	11.1			26	2.5	0.0			
25	1.211	1.486	1039	2390			6.5	12.5			26	2.7	0.0			
26	1.174	1.218	1040	2150			6.5	12.8			26	2.2	0.0			
27	1.139	1.275	1032	2030	250	190	6.7	13.1	50	41	22	2	0.0	<0.1		
28	1.186	1.429	1002	1850								1.5	0.0			
29	1.236	1.430	1005	1680								1.5	0.0			
30	1.121	1.434	1009	1450			6.6	12.6			24	2.0	0.0		<2	
31	1.106	1.435	1013	1310			6.8	11.1			26	3.5	0.0			

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
3/3/2009	250	28.0	ND	200

DATE	AMEL		MDEL	
3/3/2009	Copper	26	Lead	ND
	Bis phthalate	3	alph-BHC	ND
	4,4' -DDT	ND	2,3,7,8-TCDD	ND

SIGNATURE: \_\_\_\_\_

REMARKS:

SPILLS:

None to report
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30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	41	436	83	50	525	76

ACUTE TOXICITY

DATE	% Survival
Rainbow Trout 3/9/2009	100%
C. dubia 3/9/2009	100%

Indicates Permit Exceedance

CHRONIC TOXICITY

TESTED	SURVIVAL
Minnow	
C. Dubia	
Algae	
	TUc

Total Coliform

Monthly MEDIAN
<2
Daily Maximum
2

McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: APRIL

YEAR: 2009

DATE	INFLUENT FLOW	EFFLUENT FLOW	EFFLUENT MAXIMUM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5
	M.G.D.	M.G.D.	GPM		B.O.D. mg/L	N.F.R. mg/L	pH	(C° ) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS	TOTAL COLIFORM	
1	1.088	1.438	1003	1160			6.6	12.4			26	2.4	0.0			
2	1.110	1.192	1006	1020			6.5	13.2			26	1.9	0.0			
3	1.104	1.077	805	1190	250	180	6.6	12.5	38	39	24	1.7	0.0	<0.1		
4	1.126	1.158	813	1030								1.5	0.0			
5	1.151	1.159	814	961								1.6	0.0			
6	1.079	1.193	853	951			6.6	12.7			28	3.6	0.0		<2	
7	1.056	1.200	853	921			6.5	12.8			28	2.5	0.0			
8	1.058	1.176	847	874			6.5	13.0			30	2.1	0.0			
9	1.101	1.114	857	776			6.5	13.1			32	3.9	0.0			
10	1.053	1.076	817	1270	130	490	6.8	13.4	33	42	28	3.0	0.0	<0.1		
11	1.080	1.132	797	982								3.1	0.0			
12	1.068	1.136	800	846								3.3	0.0			
13	1.050	0.686	806	811			6.8	15			24	2.5	0.0		<2	
14	1.020	0.000	0	819												
15	1.002	0.621	738	741			6.9	13.8			32	1.9	0.0			
16	0.985	1.019	712	680			6.5	15.5			28	2.9	0.0			
17	0.983	1.069	848	617	250	210	6.6	15.2	20	30	28	1.9	0.0	<0.1		
18	0.990	1.112	784	584								2.9	0.0			
19	1.051	1.119	789	532								2.3	0.0			
20	0.998	1.134	837	512			6.5	15.9			28	1.8	0.0		<2	
21	0.974	1.118	798	485			6.7	15.9			30	2.0	0.0			
22	0.971	1.113	786	461			6.5	16.3			28	2.6	0.0			
23	0.965	1.101	794	415			6.7	16.0			32	2.6	0.0			
24	0.947	1.027	760	354	240	210	6.5	15.9	22	33	28	3.9	0.0	<0.1		
25	0.991	0.961	683	347								3.8	0.0			
26	1.035	0.954	679	323								4.2	0.0			
27	0.975	0.958	679	278			6.5	16			32	3.6	0.0		<2	
28	0.944	0.963	685	305			6.9	15.7			26	3.5	0.0			
29	0.937	0.867	677	294			6.5	15.9			28	2.1	0.0			
30	0.943	0.873	688				6.6	14.9			24	2.6	0.0			

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
4/2/2009	240	25.0	ND	230

DATE			
4/2/2009	Copper		18
	Lead		ND
	Bis phthalate		3
	alph-BHC		ND
	4,4' -DDT		ND
	2,3,7,8-TCDD		ND

Quarterly Tests	Value in ug/l
Dichlorobromomethane	0.4
Bromoform	ND
Chlorodibromomethane	ND
Chloroform	3.4

SPILLS:

None to report
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30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	28	251	86	36	319	85

ACUTE TOXICITY

DATE	% Survival
4/6/2009	100%
4/6/2009	50%

Rainbow Trout  
C. dubia

Indicates Permit Exceedance

CHRONIC TOXICITY

TESTED	SURVIVAL	GROWTH	Total Coliform
Minnow	1.3	4	Monthly MEDIAN
C. Dubia	1.3	4	<2
Algae	1	1	Daily Maximum
	TUc	TUc	<2

SIGNATURE: \_\_\_\_\_

REMARKS: 4/14/2009 Discharge shut down to clean CCB

McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: MAY

YEAR: 2009

DATE	INFLUENT FLOW M.G.D.	EFFLUENT FLOW M.G.D.	EFFLUENT MAXIMUM GPM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5 TOTAL COLIFORM
					B.O.D. mg/L	N.F.R. mg/L	pH	(C°) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS		
1	0.979	0.782	650		250	300	7.0	15.7	29	47	26	3.7		<0.1		
2	1.062	0.603	424													
3	1.128	0.598	424													
4	1.200	0.878	866	1770			7.3	15.9			28	5.2			<2	
5	1.226	1.210	860	9510			7	15			26	3.4	0.0			
6	1.143	1.223	856	5120			6.9	16			26	3.2	0.0			
7	1.104	1.116	875	3640			7.1	15.9			28	1.7	0.0			
8	1.068	1.156	868	2680	280	200	6.9	16.0	48	59	28	2.1	0.0	<0.1		
9	1.086	1.242	873	2020								2.8	0.0			
10	1.103	1.257	879	1640								2.4	0.0			
11	1.064	1.256	885	1390			6.9	16.9			28	2.0	0.0		<2	
12	1.035	1.259	890	1210			7.1	17.3			32	3	0.0			
13	1.046	1.256	889	1090			6.9	17.1			28	3.1	0.0			
14	1.052	0.904	937	1010			7.0	17.4			26	3.6	0.0			
15	1.019	0.569	459		270	210	7.0	17.4	22	39	26	3.4	0.0	<0.1		
16	1.035	0.491	349													
17	1.071	0.502	353													
18	1.001	0.291	355				6.7	16.4			30	2.9			<2	
19	1.008	0.410	1177				6.9	16.9			28	3.6				
20	1.006	1.052	849				6.8	14.8			28	1.6				
21	0.989	0.967	819				6.7	15.6			28	2.5				
22	0.952	0.808	814		280	230	6.7	15.7	19	21	28	2.5		<0.1		
23	0.925	0.530	371													
24	0.928	0.528	371													
25	1.028	0.522	367													
26	0.982	0.754	788				6.7	14.9			28	3.9			<2	
27	0.961	0.937	789				6.7	15.6			28	4.1				
28	0.956	0.931	790				6.8	15.5			26	3.5				
29	0.929	0.756	767		260	190	6.8	16.2	27	16	28	4.3		<0.1		
30	0.950	0.516	363													
31	1.010	0.520	365													

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
5/4/2009	270	25.0	N/D	210

DATE	AMEL		MDEL	
5/7/2009	Copper		16	
	Lead		ND	
	Bis phthalate		3	
	alph-BHC		ND	
	4,4' -DDT		ND	
	2,3,7,8-TCDD		ND	

SIGNATURE: \_\_\_\_\_

REMARKS:

SPILLS:

None to report
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30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	29	211	89	36	261	84

ACUTE TOXICITY

DATE	% Survival
Rainbow Trout 5/4/2009	70%
C. dubia 5/4/2009	80%

Rainbow Trout  
C. dubia

Indicates Permit Exceedance

CHRONIC TOXICITY

TESTED	SURVIVAL	GROWTH	Total Coliform
Minnow	1.3	8	Monthly MEDIAN
C. Dubia	1.3	8	<2
Algae	N/A	1	Daily
	TUc	TUc	Maximum
			<2

McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: JUNE

YEAR: 2009

DATE	INFLUENT FLOW M.G.D.	EFFLUENT FLOW M.G.D.	EFFLUENT MAXIMUM GPM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5 TOTAL
					B.O.D. mg/L	N.F.R. mg/L	pH	(C° ) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS	COLIFORM	
1	0.946	0.743	889				6.8	15.6			28	3.4	3.4		<2	
2	0.911	1.077	893				6.7	15.7			28	3.1	3.1			
3	0.922	1.063	894				6.7	15.9				2.6	2.6			
4	0.935	1.059	894				6.9	15.4				3.6	3.6			
5	0.915	0.829	893		420	300	7.0	15.7	38	26		3.6	3.6			
6	0.929	0.444	312													
7	0.988	0.444	316													
8	0.950	0.741	918				6.9	17.0				4.9	4.9		<2	
9	0.922	1.082	916				6.8	16.0			28	2.6	2.6			
10	0.946	1.066	904				6.8	17.0			32	1.6	1.6			
11	0.908	1.039	896				6.5	17.3			24	1.8	1.8			
12	0.904	0.806	860		300	240	6.7	17.5	26	33	26	2.1	2.1			
13	0.934	0.478	338													
14	0.972	0.486	342													
15	0.942	0.745	999				7.0	18.6			28	4.5	4.5		<2	
16	0.924	1.115	1020				7.0	18.1			34	1.6	1.6			
17	0.905	1.293	1058				7.0	18.1			32	2.7	2.7			
18	0.919	1.162	996				7.2	19.8			28	3.5	3.5			
19	0.909	0.916	969		320	180	7.2	19.6	41	46	28	4.1	4.1			
20	0.895	0.445	320													
21	0.947	0.437	311													
22	0.941	0.784	983				7.1	18.5			24	3.2	3.2		<2	
23	0.922	1.210	1046				7.1	18.4			28	3.3	3.3			
24	0.921	1.229	1042				7.1	18.1			26	5.6	5.6			
25	0.893	1.231	1086				7.0	18.9			24	3.1	3.1			
26	0.888	1.056	1087		340	240	7.2	18.8	41	32	24	2.5	2.5			
27	0.878	0.559	398													
28	0.946	0.555	393													
29	0.928	0.859	1037				7.4	18.4			28	2.0	2.0		<2	
30	0.903	1.229	1042				6.8	17.9			24	1.9	1.9			

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
6/2/2009	320	40.0	ND	240

DATE	AMEL		MDEL	
N/A	Copper			
	Lead			
	Bis phthalate			
	alph-BHC			
	4,4' -DDT			
	2,3,7,8-TCDD			

SIGNATURE: \_\_\_\_\_


REMARKS:

SPILLS:

None to report
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30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	37	278	89	34	259	85

ACUTE TOXICITY	
DATE	% Survival
Rainbow Trout	N/A
C. dubia	N/A

 Indicates Permit Exceedance

CHRONIC TOXICITY	
TESTED	SURVIVAL
Minnow	N/A
C. Dubia	N/A
Algae	N/A
	TUc

Total Coliform
Monthly
MEDIAN
<2
Daily
Maximum
<2

McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: JULY

YEAR: 2009

DATE	INFLUENT FLOW	EFFLUENT FLOW	EFFLUENT MAXIMUM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5 TOTAL
	M.G.D.	M.G.D.	GPM		B.O.D. mg/L	N.F.R. mg/L	pH	(C°) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS	COLIFORM	
1	0.900	1.220	1040				6.8	18.4			24	2.7				
2	0.884	0.988	1031		200	58	7.1	18.4	35	24	32	3.0		<0.1		
3	0.888	0.513	362													
4	0.825	0.520	365													
5	0.909	0.516	363													
6	0.882	0.763	921				7	18.3			28	2.2			<2	
7	0.883	1.067	990				7.0	18.3			28	2.8				
8	0.880	1.046	965				7.1	18.6			30	5.3				
9	0.873	1.048	943				7.0	18.9			28	2.4				
10	0.863	0.884	869		370	210	7.0	19.2	44	30	28	3.0		<0.1		
11	0.839	0.526	371													
12	0.911	0.526	369													
13	0.892	0.717	889				7.2	19.6			28	2.2			4	
14	0.877	0.948	898				7.0	19.4			28	3.3				
15	0.885	0.945	830				6.9	19.3			32	2.2				
16	0.876	0.999	850				7.0	18.8			24	1.7				
17	0.856	0.883	984		330	220	6.9	18.3	39	34	26	3.9		<0.1		
18	0.848	0.577	407													
19	0.901	0.590	415													
20	0.888	0.714	968				7.1	17.4			28	5			<2	
21	0.866	0.820	748				6.9	16.7			30	4.4				
22	0.820	0.840	811				7.1	16.9			24	4.5				
23	0.865	0.956	1260				6.9	17.4			26	3.6				
24	0.853	0.768	739		290	240	6.8	17.2	29	16	28	3.2		<0.1		
25	0.854	0.599	422													
26	0.896	0.590	415													
27	0.883	0.689	862				6.9	17.1			28	3.7			2	
28	0.876	0.825	834				6.9	17.2			32	3.5				
29	0.870	0.780	804				7.2	18.6			28	2.8				
30	0.857	0.775	792				7.0	17.7			28	2.9				
31	0.833	0.595	716		330	120	7.1	17.4	25	12	30	2.9		<0.1		

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
7/15/2009	370	21.0	ND	270

DATE			
N/A	Copper		
	Lead		
	Bis phthalate		
	alph-BHC		
	4,4' -DDT		
	2,3,7,8-TCDD		

SIGNATURE: \_\_\_\_\_

Quarterly Tests	Value in ug/l
Dichlorobromomethane	ND
Bromoform	ND
Chlorodibromomethane	ND
Chloroform	1.4

REMARKS:

SPILLS:

Spill in customer's lateral and on customer's property
2919 Sunnygrove Ave.

30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	34	242	88	23	166	82

ACUTE TOXICITY

DATE	% Survival
Rainbow Trout	N/A
C. dubia	N/A

Rainbow Trout  
C. dubia

Indicates Permit Exceedance

CHRONIC TOXICITY

TESTED	SURVIVAL
Minnow	N/A
C. Dubia	N/A
Algae	N/A
	TUc

Total Coliform

Monthly MEDIAN
<2
Daily Maximum
4



McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: AUGUST

YEAR: 2009

DATE	INFLUENT FLOW	EFFLUENT FLOW	EFFLUENT MAXIMUM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5 TOTAL
	M.G.D.	M.G.D.	GPM		B.O.D. mg/L	N.F.R. mg/L	pH	(C°) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS	COLIFORM	
1	0.850	0.548	386													
2	0.884	0.542	386													
3	0.882	0.348	780				7.0	18.3			30	2.7			<2	
4	0.802	0.000	0													
5	0.859	0.575	1159				7.1	16.8			24	2.4				
6	0.853	0.937	853				6.7	18			24	1.6				
7	0.857	0.785	727		270	210	6.7	18.3	27	7.2	26	5.8		<0.1		
8	0.854	0.570	400													
9	0.904	0.574	404													
10	0.874	0.721	919				7.1	18.0			24	6.8				
11	0.857	0.920	821				7.0	18.0			20	2.2			<2	
12	0.856	1.000	867				7	18.3			24	1.7				
13	0.856	1.011	876				6.9	18.5			28	1.6				
14	0.864	0.828	837		350	250	6.8	18.3	42	7.2	22	2.0		<0.1		
15	0.885	0.553	387													
16	0.902	0.558	393													
17	0.880	0.749	853				6.9	17.3			24	7.6				
18	0.864	1.036	869				7.0	16.6			22	2.3			<2	
19	0.858	1.026	856				6.9	17.2			26	1.5				
20	0.868	1.023	865				7	17.3			22	4.1				
21	0.889	0.903	838		460	270	7.0	17.6	35	13	24	4.1		<0.1		
22	0.887	0.548	384													
23	0.955	0.549	385													
24	0.899	0.800	916				7.0	17.0			26	7.9			<2	
25	0.907	1.120	935				7.0	16.0			24	4.7				
26	0.891	1.150	962				6.9	16.5			24	3.1				
27	0.887	1.182	972				7	16.7			22	3.5				
28	0.866	1.182	1079		250	200	6.9	16.7	34	3.7	22	3.2		<0.1		
29	0.901	0.505	353													
30	0.973	0.507	354													
31	0.899	0.862	1010				7.0	17.0			20	8.4			<2	

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
8/25/2009	340	25.0	ND	320

DATE			
N/A	Copper		
	Lead		
	Bis phthalate		
	alph-BHC		
	4,4' -DDT		
	2,3,7,8-TCDD		

SIGNATURE: \_\_\_\_\_

SPILLS:

None to report
----------------

30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	35	266	89	8	58	97

ACUTE TOXICITY

DATE	% Survival
Rainbow Trout N/A	
C. dubia N/A	

Rainbow Trout  
C. dubia

Indicates Permit Exceedance

CHRONIC TOXICITY

TESTED	SURVIVAL
Minnow	N/A
C. Dubia	N/A
Algae	N/A
	TUc

Total Coliform

Monthly MEDIAN
<2
Daily Maximum
<2

REMARKS: No Discharge 8/4/09 for CCB cleaning



McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: SEPTEMBER

YEAR: 2009

DATE	INFLUENT FLOW	EFFLUENT FLOW	EFFLUENT MAXIMUM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5 TOTAL
	M.G.D.	M.G.D.	GPM		B.O.D. mg/L	N.F.R. mg/L	pH	(C°) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS	COLIFORM	
1	0.873	1.171	976				7.1	16.8			22	6.4				
2	0.893	1.185	1129				7.1	16.8			24	2.3				
3	0.895	1.165	968				6.9	16.7			28	1.9				
4	0.864	0.909	960		350	220	6.9	16.7	39	5	26	1.5		<0.1		
5	0.852	0.488	343													
6	0.849	0.482	340													
7	0.963	0.477	335													
8	0.871	0.735	957				6.8	16.1			28	5.6			<2	
9	0.857	1.149	959				6.9	15.6			28	2.5				
10	0.859	1.370	960				7.0	16.4			26	1.9				
11	0.859	0.903	954		280	280	6.8	16.5	29	6.4	30	2.0		<0.1		
12	0.901	0.491	344													
13	0.974	0.489	343													
14	0.893	0.374	961				6.8	17.0			26	9.5			<2	
15	0.873	0.450	969				6.8	17.6			26	3.5				
16	0.866	1.173	1227				6.8	16.8			26	1.5				
17	0.836	1.126	943				6.9	17.8			26	1.5				
18	0.863	0.952	953		310	220	6.9	17.1	28	8	26	3.1		<0.1		
19	0.866	0.587	411													
20	0.928	0.587	410													
21	0.890	0.864	975				6.7	17.0			26	8.1			<2	
22	0.877	1.180	976				6.8	16.6			26	4.1				
23	0.883	1.207	1060				6.9	17.0			28	3.0				
24	0.874	1.285	1061				6.9	17.2			26	2.1				
25	0.859	1.061	1060		340	260	6.9	17.0	29	6.8	28	2.3		<0.1		
26	0.892	0.662	465													
27	0.943	0.664	465													
28	0.883	0.936	1036				6.9	16.2			30	9.0			<2	
29	0.872	1.206	1038				7.0	16.0			26	1.6				
30	0.877	1.146	959				6.8	14.9			30	1.5				

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
9/10/2009	360	27.0	ND	300

DATE		AMEL	MDEL
N/A	Copper	3.6	7.3
	Lead	1.1	2.2
	Bis phthalate		
	alph-BHC		
	4,4' -DDT		
	2,3,7,8-TCDD		

SIGNATURE: \_\_\_\_\_

REMARKS:

SPILLS:

None to report
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30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	31	248	90	7	54	97

ACUTE TOXICITY

DATE	% Survival
Rainbow Trout N/A	
C. dubia N/A	

Rainbow Trout  
C. dubia

 Indicates Permit Exceedance

CHRONIC TOXICITY

TESTED	SURVIVAL
Minnow	N/A
C. Dubia	N/A
Algae	N/A
	TUc

Total Coliform
Monthly MEDIAN
<2
Daily Maximum
<2

McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: OCTOBER

YEAR: 2009

DATE	INFLUENT FLOW M.G.D.	EFFLUENT FLOW M.G.D.	EFFLUENT MAXIMUM GPM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5 TOTAL COLIFORM
					B.O.D. mg/L	N.F.R. mg/L	pH	(C°) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS		
1	0.856	1.140	962				6.9	14.6			28	1.8				
2	0.841	0.975	963		330	250	7.1	14.5	30	24	32	3.0			<0.1	
3	0.866	0.611	429													
4	0.939	0.609	429													
5	0.878	0.911	1077				6.9	13.2			32	10.5		<2		
6	0.852	1.347	1207				6.8	13.7			32	6.6				
7	0.847	1.435	1211				6.9	13.4			30	2.9				
8	0.864	1.372	1213				7.0	13.7			28	3.6				
9	0.858	0.980	1109		260	220	6.9	13.3	29	21	32	3.5			<0.1	
10	0.890	0.589	422													
11	0.936	0.623	444													
12	0.898	0.649	460													
13	0.905	0.909	1124				6.8	13.8			32	1.5		<2		
14	0.916	1.135	951				7.0	14.4			30	2.3				
15	0.878	1.217	955				6.9	14.7			30	2.9				
16	0.855	0.989	951		260	190	7.0	15.0	20	18	34	3.4			<0.1	
17	0.914	0.643	450													
18	0.977	0.646	452													
19	0.893	0.872	943				7.1	16			32	1.5		<2		
20	0.885	1.351	1098				6.9	14.7			30	1.6				
21	0.884	1.291	1002				7.1	15.5			34	3.6				
22	0.891	1.303	1028				6.9	15.2			32	3.5				
23	0.855	0.912	921		310	220	6.8	15.2	44	34	32	3.8			<0.1	
24	0.922	0.590	412													
25	1.001	0.592	415													
26	0.930	1.062	991				6.9	15.2			30	1.7				
27	0.901	1.306	956				6.9	14.8			28	10.5		<2		
28	0.912	1.308	962				6.6	14.5			32	5.4				
29	0.887	1.317	969				7.2	14.3			32	5.7				
30	0.855	0.957	940		270	210	7.2	14.8	36	54	28	5.1			<0.1	
31	0.936	0.636	448													

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
10/14/2009	340	26.0	ND	300

DATE			
N/A	Copper		
	Lead		
	Bis phthalate		
	alph-BHC		
	4,4' -DDT		
	2,3,7,8-TCDD		

Quarterly Tests	Value in ug/l
Dichlorobromomethane	ND
Bromoform	ND
Chlorodibromomethane	2
Chloroform	2.6

SIGNATURE: \_\_\_\_\_

REMARKS:

SPILLS:

No spill to report
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30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	32	254	89	30	241	86

ACUTE TOXICITY	
DATE	% Survival
Rainbow Trout	N/A
C. dubia	N/A

 Indicates Permit Exceedance

CHRONIC TOXICITY	
TESTED	SURVIVAL
Minnow	N/A
C. Dubia	N/A
Algae	N/A
	TUc

Total Coliform
Monthly MEDIAN
<2
Daily Maximum
<2

McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: NOVEMBER

YEAR: 2009

DATE	INFLUENT FLOW	EFFLUENT FLOW	EFFLUENT MAXIMUM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5 TOTAL
	M.G.D.	M.G.D.	GPM		B.O.D. mg/L	N.F.R. mg/L	pH	(C°) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS	COLIFORM	
1	0.977	0.633	445													
2	0.924	1.078	935				7.4	15.5			32	5.1			<2	
3	0.873	1.294	934				7.2	14.5			32	2.5				
4	0.888	1.291	926				7.4	14.7			28	2.2				
5	0.875	1.288	920				7.3	15.2			30	3.8				
6	0.930	0.947	907		220	96	7.4	15.3	32	61	32	3.9		<0.1		
7	0.937	0.608	434													
8	0.952	0.597	424													
9	0.942	0.874	757				7.2	14.4			30	2.8			<2	
10	0.890	1.090	764				6.8	12.1			34	7.7				
11	0.961	1.097	769				6.9	12.5				7.5				
12	0.911	1.244	953				6.9	11.7			34	2.7				
13	0.901	0.911	932		300	180	6.9	11.5	24	21	34	7.1		<0.1		
14	0.936	0.549	387													
15	0.996	0.553	391													
16	0.911	1.049	962				6.9	11.0			30	6.8			<2	
17	0.966	1.159	929				7.1	11.7			30	7.8				
18	0.950	1.216	951				6.9	10.9			28	5.1				
19	0.922	1.243	945				6.8	10.6			24	6.3				
20	0.978	0.881	783		290	210	7.3	12	56	46	32	3.3		<0.1		
21	0.987	0.575	407													
22	1.003	0.573	402													
23	0.948	1.079	972				6.8	9.5			26	2.3			<2	
24	0.918	1.394	974				6.9	9.9			28	3.4				
25	0.950	1.394	974		250	220	7.2	11.0	43	49	30	3.3		<0.1		
26	0.944	1.374	962				7	10.4				2.9				
27	0.940	1.361	955				6.9	11.5				2.3				
28	0.954	1.359	951				6.8	10.2				3.1				
29	1.003	1.364	954				6.9	9.7				3.1				
30	0.940	1.203	991				7.0	9.5			30	3.5			<2	

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
11/16/2009	330	33.0	ND	260

DATE		AMEL	MDEL
N/A	Copper	3.6	7.3
	Lead	1.1	2.2
	Bis phthalate		
	alph-BHC		
	4,4' -DDT		
	2,3,7,8-TCDD		

SIGNATURE: \_\_\_\_\_

REMARKS:

SPILLS:

None to report
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30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	39	337	85	44	387	70

ACUTE TOXICITY

DATE	% Survival
Rainbow Trout N/A	
C. dubia N/A	

Rainbow Trout  
C. dubia

 Indicates Permit Exceedance

CHRONIC TOXICITY

TESTED	SURVIVAL
Minnow	N/A
C. Dubia	N/A
Algae	N/A
	TUc

Total Coliform

Monthly MEDIAN
<2
Daily Maximum
<2

McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
MONITORING DATA

MONTH: DECEMBER

YEAR: 2009

DATE	INFLUENT FLOW M.G.D.	EFFLUENT FLOW M.G.D.	EFFLUENT MAXIMUM GPM	RIVER CFS	INFLUENT MONITORING		EFFLUENT MONITORING									3X5 TOTAL COLIFORM
					B.O.D. mg/L	N.F.R. mg/L	pH	(C°) TEMP	B.O.D. mg/L	NFR mg/L	AMMONIA	CL <sub>2</sub> RES.	RIVER CL <sub>2</sub> RES	SETTLEABLE SOLIDS		
1	0.910	1.044	737				6.9	9.3			32	3.5				
2	0.932	1.032	721				7.0	9.2			32	3.3				
3	0.921	1.032	723				7.0	9.2			32	3.2				
4	0.890	0.829	785		290	130	7.0	10.3	29	46	28	3.2		<0.1		
5	0.953	0.614	434													
6	1.010	0.617	437													
7	0.923	0.878	755				7.1	7.5			30	3.7			<2	
8	0.919	1.057	741				7.0	7.0			30	3.8				
9	0.912	1.059	743				7.0	6.8			30	3.9				
10	0.910	1.057	741				7.0	6.9			28	3.9				
11	0.892	0.790	734		320	310	7.1	6.8	32	33	32	3.8		<0.1		
12	0.948	0.565	397													
13	1.021	0.565	397													
14	0.926	0.839	768				7.1	8.9			34	2.2			<2	
15	0.981	1.125	992				6.9	8.7			34	1.9				
16	0.998	1.321	995				7.0	10.5			30	1.7				
17	0.950	1.233	863				6.9	9.9			32	5.1				
18	0.944	1.156	858	779	280	180	7.1	10.8	31	38	28	3.2	0.0	<0.1		
19	0.979	1.416	1113	545			6.8	11.7				3.3	0.0			
20	1.017	1.590	1113	463			6.9	11.9				2.1	0.0			
21	1.106	1.284	1110	611			6.9	11.9			32	2.9	0.0		<2	
22	1.059	1.183	832	2120			6.9	11.0			30	3.3	0.0			
23	1.013	1.199	840	1210	260	170	7.0	9.4	19	25	32	3.5	0.0	<0.1		
24	1.002	1.207	855	811			6.9	9.4				3.8	0.0			
25	0.919	1.229	859	591			6.8	9.8				2.9	0.0			
26	0.940	1.229	861	456			6.8	9				3.4	0.0			
27	0.998	1.227	860	408			7	9.9				3.6	0.0			
28	0.980	1.229	862	672			6.9	9.1			32	3.1	0.0		<2	
29	0.964	1.182	864	527			6.9	8.7			32	3.7	0.0			
30	0.943	1.037	729	502	270	110	6.9	8.9	31	35	32	4.6	0.0			
31	0.972	1.037	727	485			6.9	9.3			32	4.4	0.0	<0.1		

DATE	MONTHLY TESTS			
	TDS	AMMONIA	NITRATE	BORON
12/21/2009	260	28.0	ND	28

DATE			
12/21/2009	Copper		18
	Lead		ND
	Bis phthalate		3
	alph-BHC		ND
	4,4' -DDT		ND
	2,3,7,8-TCDD		ND

SIGNATURE: \_\_\_\_\_

REMARKS:

SPILLS:

12/18/2009: 2346 Sutter Rd. Customer had back up into shower and on bathroom floor.

30 DAY AVERAGE	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
	28	234	90	35	291	77

ACUTE TOXICITY

DATE	% Survival
12/8/2009	100%

Rainbow Trout

CHRONIC TOXICITY

TESTED	SURVIVAL
Minnow	N/A
C. Dubia	N/A
Algae	N/A
	TUc

Total Coliform

Monthly MEDIAN	<2
Daily Maximum	<2

 Indicates Permit Exceedance

Mckinleyville Community Services District

Wastewater Management Facility

Influent & Effluent Testing

pH, Temperature, Ammonia, CL<sub>2</sub> Res,

Settleable Solids, BOD, NFR =

pH, mg/L, ° C

AVERAGE ANNUAL 2009

Date	INFLUENT				AMMONIA				EFFLUENT				AMMONIA				River				Coliform 3x5	BOD	NFR
	pH	Temp	S.S		mg/L	UN-IONIZED NH3 (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	mg/L	UN-IONIZED NH3 (mg/L)	NTU	CL <sub>2</sub> Res	CL <sub>2</sub> Res						
JANUARY	7.4	15.0	20.6	37.5	0.238	266	214	6.6	10.2	3.8	<0.1	27.1	0.032	101.7	2.6	0.0	<2	40	36				
FEBRUARY	7.2	14.5	21.8	35.6	0.192	243	198	6.6	10.4	3.9	<0.1	25.1	0.028	100.0	2.5	0.0	<2	42	51				
MARCH	7.1	14.6	22.5	32.5	0.159	243	208	6.7	11.6	4.1	<0.1	25.5	0.037	104.0	2.4	0.0	<2	41	50				
APRIL	7.2	15.5	19.3	36.9	0.244	218	273	6.6	14.5	3.9	<0.1	28.1	0.042	57.2	2.7	0.0	<2	28	36				
MAY	7.7	16.7	20.6	36.8	0.887	268	226	6.9	16.1	4.5	<0.1	27.7	0.094	81.3	3.1	0.0	<2	29	36				
JUNE	7.6	18.1	20.0	39.0	0.880	345	240	7.0	17.6	4.3	<0.1	27.4	0.133	115.1	3.1	0.0	<2	37	34				
JULY	7.6	19.0	21.6	41.3	0.929	304	170	7.0	18.1	4.4	<0.1	28.1	0.131	107.5	3.2	0.0	<2	34	23				
AUGUST	7.9	19.8	22.8	43.2	1.993	333	233	6.9	17.4	4.7	<0.1	23.9	0.090	112.8	3.9	0.0	<2	35	8				
SEPTEMBER	7.9	19.8	17.0	38.9	1.804	320	245	6.9	16.7	4.7	<0.1	26.8	0.085	126.1	3.6	0.0	<2	31	7				
OCTOBER	7.9	18.9	22.6	40.7	2.004	286	218	6.9	14.5	4.6	<0.1	31.0	0.097	109.6	4.0	0.0	<2	32	30				
NOVEMBER	7.9	17.3	19.5	40.6	1.797	265	177	7.0	12.0	4.2	<0.1	30.2	0.131	97.9	4.3	0.0	<2	39	44				
DECEMBER	7.9	15.8	19.2	40.7	1.753	284	180	7.0	9.3	4.3	<0.1	31.1	0.065	69.6	3.4	0.0	<2	28	35				

Average	7.6	17.1	20.6	38.6	1.073	281	215	6.8	14.0	4.3	<0.1	27.7	0.080	98.6	3.2	0.0	<2	35	33
Maximum	7.9	19.8	22.8	43.2	2.004	345	272.5	7.0	18.1	4.7	<0.1	31.1	0.133	126.1	4.3	0.0	<2	42	51
Minimum	7.1	14.5	17.0	32.5	0.159	218	169.6	6.6	9.3	3.8	<0.1	23.9	0.028	57.2	2.4	0.0	<2	28	7

MEDIAN

**McKinleyville Community Services District**

**Wastewater Management Facility**

**Influent & Effluent Testing      pH, Temperature, Ammonia, CL<sub>2</sub> Res, Settleable Solids, BOD, NFR =**

**pH, mg/L, ° C**

**JANUARY 2009**

INFLUENT				AMMONIA		UN-IONIZED		EFFLUENT				AMMONIA		UN-IONIZED		River		Coliform	
Date	pH	Temp	S.S	mg/L	NH3 (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	mg/L	NH3 (mg/L)	NTU	CL/2 Res	CL/2 Res	3x5	BOD	NFR
1						240	220			4.6				74.8	2.9	0.0		26	22
2	7	14.1	11.0	36.0	0.110			6.7	10.9	4.2		26.0	0.036	73.5	2.4	0.0			
3								6.8	8.5	2.0	<0.1			92.2	2.1	0.0			
4															2.9	0.0			
5	7.4	15.4		32.0	0.093			6.6	9.5	3.6		24.0	0.023	91.4	2.5	0.0	<2		
6	7	11.5		32.0	0.080			6.6	11.6	4.0		24.0	0.028	90.8	2.6	0.0			
7	7.7	16.1		36.0	0.239			6.6	10	4.2		28.0	0.028	98.3	2.1	0.0			
8	7.6	16.0		36.0	0.182			6.6	11.5	3.9		26.0	0.030	100.0	1.8	0.0			
9	7.1	11.7	15.0	38.0	0.138	250	150	6.6	11.7	3.8	<0.1	28.0	0.032	97.4	3.9	0.0		33	30
10															2.5	0.0			
11															2.5	0.0			
12	7.5	15.2		38.0	0.397			6.7	9.8	3.7		30.0	0.039	98.7	2.4	0.0	<2		
13	7.1	14.8		34.0	0.155			6.6	9.8	3.0		26.0	0.026	98.1	2.3	0.0			
14	7.3	14.9		40.0	0.292			6.6	9.8	3.5		28.0	0.028	101.0	1.9	0.0			
15	7.6	15.6		38.0	0.579			6.7	9.4	3.4		26.0	0.025	112.0	2.0	0.0			
16	7.2	16.1	22.0	36.0	0.238	260.0	220.0	6.5	11.0	2.9	<0.1	26.0	0.063	111.0	2.0	0.0		45	32
17															2.9	0.0			
18															2.8	0.0			
19	7.6	15.6		38.0	0.185			6.6	9.8	3.9		28.0	0.027	120.0	3.0	0.0	<2		
20	7.3	15.5		40.0	0.308			6.6	11.0	5.7		28.0	0.031	108.0	3.7	0.0			
21	7.6	15.1		46.0	0.670			6.9	10.9	4.6		24.0	0.049	87.1	2.8	0.0			
22	7.4	15.3		38.0	0.109			6.6	11.5	4.1		28.0	0.032	98.0	3.0	0.0			
23	7.7	16.0	30	40.0	0.262	290	210	6.7	11.1	2.6	<0.1	32.0	0.046	103.0	2.2	0.0		42	46
24															2.3	0.0			
25															2.5	0.0			
26	7.2	14.9		38.0	0.217			6.7	9.8	3.2		28.0	0.036	110.0	2.4	0.0	<2		
27	7.0	15.0		36.0	0.118			6.5	9.3	3.5		28.0	0.019	125.0	2.1	0.0			
28	7.6	15.4		38.0	0.182			6.8	9.6	3.5		26.0	0.040	116.0	1.7	0.0			
29	7.7	15.9		40.0	0.260			6.5	8.9	4.5		28.0	0.018	120.0	3.0	0.0			
30	7.1	15.0	25.0	38.0	0.175	290.0	270.0	6.6	9.1	4.2	<0.1	28.0	0.026	112.0	3.0	0.0		54	49
31															3.1	0.0			
																	MEDIAN		
Average	7.4	15.0	20.6	37.5	0.238	266	214	6.6	10.2	3.8	<0.1	27.1	0.032	101.7	2.6	0.0	<2	40	36
Maximum	7.7	16.1	30.0	46.0	0.670	290	270	6.9	11.7	5.7	<0.1	32.0	0.063	125	3.9	0.0	<2	54	49
Minimum	7	11.5	11.0	32.0	0.08	240	150	6.5	8.5	2	<0.1	24.0	0.018	73.5	1.7	0.0	<2	26	22

## Wastewater Management Facility

**Influent & Effluent Testing**      pH, Temperature, Ammonia, CL<sub>2</sub> Res. Settleable Solids, BOD, NFR =      pH, mg/L, ° C      **FEBRUARY 2009**

[illegible]

McKinleyville Community Services District																			
Wastewater Management Facility																			
Influent & Effluent Testing      pH, Temperature, Ammonia, CL <sub>2</sub> Res, Settleable Solids, BOD, NFR =                      pH, mg/L, ° C                      MARCH 2009																			
INFLUENT								EFFLUENT								River		Coliform	
Date	pH	Temp	S.S	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	NTU	CL <sub>2</sub> Res	CL <sub>2</sub> Res	3x5	BOD	NFR
1															2.2	0.0			
2	7	15.1		34.0	0.112			6.8	13.3	3.3		24.0	0.050	115.0	2.5	0.0	<2		
3	7.2	14.4		32.0	0.184			6.9	12	3.5		28.0	0.063	114.0	2.3	0.0			
4	7.2	14.8		34.0	0.201			6.8	11.2	5.8		26.0	0.046	110.0	2.1	0.0			
5	7.2	14.5		36.0	0.209			6.9	10.2	4.3		28.0	0.059	110.0	2.6	0.0			
6	7	14.6	16	30.0	0.095	220.0	180.0	6.9	11.1	3.9	<0.1	28.0	0.058	107.0	2.5	0.0		45	58
7															2.6	0.0			
8															2.7	0.0			
9	7.3	13.7		36.0	0.245			6.7	10.4	5.1		24.0	0.033	104.0	2.6	0.0	2		
10	7.0	13.9		34.0	0.102			6.5	9.4	3.5		28.0	0.019	101.0	2.2	0.0			
11	7.1	14.1		32.0	0.140			6.6	10.1	3.5		24.0	0.024	99.2	2.3	0.0			
12	7	15		32.0	0.105			6.7	10.7	5.6		28.0	0.039	107.0	2.2	0.0			
13	7.5	15.4	30	38.0	0.128	260.0	210.0	6.5	11.5	5.0	<0.1	24.0	0.019	82.6	3.3	0.0		34	55
14										2.8					1.6	0.0			
15										3.4					2.2	0.0			
16	6.7	14.2		24.0	0.044			6.6	12.4	4.9		22.0	0.027	85.9	3.5	0.0	<2		
17	7.0	14.3		30.0	0.093			6.5	12.1	4.2		24.0	0.020	96.3	1.5	0.0			
18	7.1	14.7		28.0	0.127			6.5	11.7	4.7		22.0	0.018	110.0	1.5	0.0			
19	7.4	14.6		34.0	0.289			6.5	12.2	3.7		26.0	0.022	107.0	1.6	0.0			
20	7.2	14.8	22	36.0	0.206	240.0	250.0	6.8	13.5	3.4	<0.1	28.0	0.059	100.0	2.8	0.0		36	45
21															4.5	0.0			
22															3.8	0.0			
23	7.2	14.5		32.0	0.186			6.8	10.5	4.3		26.0	0.044	108.0	2.0	0.0	<2		
24	7.1	14.7		32.0	0.145			7.0	11.1	4.1		26.0	0.063	116.0	2.5	0.0			
25	7.1	14.3		30.0	0.133			6.5	12.5	4.5		26.0	0.022	109.0	2.7	0.0			
26	7.1	14.4		30.0	0.133			6.5	12.8	3.2		26.0	0.023	103.0	2.2	0.0			
27	7.3	15.3	22	32.0	0.242	250	190	6.7	13.1	3.5	<0.1	22.0	0.020	111.0	2.0	0.0		50	41
28															1.5	0.0			
29															1.5	0.0			
30	7.3	15.6		36.0	0.280			6.6	12.6	3.6		24.0	0.030	97.1	2.0	0.0	<2		
31	7	14.6		32.0	0.101			6.8	11.1	4.6		26.0	0.046	95.1	3.5	0.0			
																	MEDIAN		
Average	7.1	14.6	22.5	32.5	0.159	243	208	6.7	11.6	4.1	<0.1	25.5	0.037	104.0	2.4	0.0	<2	41	50
Maximum	7.5	15.6	30.0	38.0	0.289	260	250	7.0	13.5	5.8	<0.1	28.0	0.063	116	4.5	0.0	2	50	58
Minimum	6.7	13.7	16.0	24.0	0.044	220	180	6.5	9.4	2.8	<0.1	22.0	0.018	82.6	1.5	0.0	<2	34	41



McKinleyville Community Services District																			
Wastewater Management Facility																			
Influent & Effluent Testing      pH, Temperature, Ammonia, CL <sub>2</sub> Res, Settleable Solids, BOD, NFR =      pH, mg/L, ° C      APRIL 2009																			
INFLUENT								EFFLUENT											
Date	pH	Temp	S.S	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	NTU	CL <sub>2</sub> Res	River CL <sub>2</sub> Res	Coliform 3x5	BOD	NFR
1	7.3	15.2		34.0	0.254			6.6	12.4	4		26.0	0.032	95.3	2.4	0.0			
2	7.1	14.7		32.0	0.145			6.5	13.2	3.3		26.0	0.024	78.3	1.9	0.0			
3	7.5	12.5	23	36.0	0.307	250	180	6.6	12.5	4.4	<0.1	24.0	0.029	79.0	1.7	0.0		38	39
4															1.5	0.0			
5															1.6	0.0			
6	7.4	15.6		38.0	0.351			6.6	12.7	4.4		28.0	0.035	58.7	3.6	0.0	<2		
7	7.2	15.5		36.0	0.225			6.5	12.8	4		28.0	0.025	63.4	2.5	0.0			
8	7.2	15.4		36.0	0.224			6.5	13.0	3.6		30.0	0.027	44.2	2.1	0.0			
9	7.2	16.3		38.0	0.255			6.5	13.1	3.7		32.0	0.029	50.9	3.9	0.0			
10	7.5	16.0	15	40.0	0.444	130.0	490.0	6.8	13.4	3.2	<0.1	28.0	0.060	46.5	3.0	0.0		33	42
11															3.1	0.0			
12															3.3	0.0			
13	7.6	16		38.0	0.599			6.8	15.0	5.1		24.0	0.057	44.2	2.5	0.0	<2		
14	7.5	15.4		40.0	0.425														
15	7.0	14.1		32.0	0.098			6.9	13.8	5.7		32.0	0.082	44.5	1.9	0.0			
16	7	14.9		32.0	0.104			6.5	15.5	3.5		28.0	0.030	42.1	2.9	0.0			
17	7.2	15.4	16	40.0	0.248	250	210	6.6	15.2	5.0	<0.1	28.0	0.042	42.3	1.9	0.0		20	30
18															2.9	0.0			
19															2.3	0.0			
20	7.4	16.3		38.0	0.118			6.5	15.9	3.3		28.0	0.031	49.2	1.8	0.0	<2		
21	7.3	16.0		38.0	0.307			6.7	15.9	4.2		30.0	0.062	57.2	2.0	0.0			
22	7.3	16.9		40.0	0.345			6.5	16.3	3.4		28.0	0.032	55.8	2.6	0.0			
23	7.2	15.9		38.0	0.246			6.7	16.0	3.6		32.0	0.067	51.3	2.6	0.0			
24	7.5	16.3	23	38.0	0.137	240.0	210.0	6.5	15.9	4.0	<0.1	28.0	0.031	51.6	3.9	0.0		22	33
25										2.5					3.8	0.0			
26										2.5					4.2	0.0			
27	6.9	15.7		40.0	0.119			6.5	16.0	3.5		32.0	0.036	62.5	3.6	0.0	<2		
28	7.1	15.7		36.0	0.117			6.9	15.7	4.2		26.0	0.078	63.1	3.5	0.0			
29	7.2	16.1		38.0	0.251			6.5	15.9	3.2		28.0	0.031	56.4	2.1	0.0			
30	6.6	15.3		34.0	0.051			6.6	14.9	5.7		24.0	0.035	65.2	2.6	0.0			
																	MEDIAN		
Average	7.2	15.5	19.3	36.9	0.244	218	273	6.6	14.5	3.9	<0.1	28.1	0.042	57.2	2.7	0.0	<2	28	36
Maximum	7.6	16.9	23.0	40.0	0.599	250	490	6.9	16.3	5.7	<0.1	32.0	0.082	95.3	4.2	0.0	<2	38	42
Minimum	6.6	12.5	15.0	32.0	0.051	130	180	6.5	12.4	2.5	<0.1	24.0	0.024	42.1	1.5	0.0	<2	20	30

McKinleyville Community Services District																			
Wastewater Management Facility																			
Influent & Effluent Testing      pH, Temperature, Ammonia, CL <sub>2</sub> Res, Settleable Solids, BOD, NFR =                      pH, mg/L, ° C                      MAY 2009																			
INFLUENT								EFFLUENT								River		Coliform	
Date	pH	Temp	S.S	mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	NTU	CL <sub>2</sub> Res	CL <sub>2</sub> Res	3x5	BOD	NFR
1	7.8	15.8	20.0	38.0	0.374	250	300	7.0	15.7	4.7	<0.1	26.0	0.127	66.8	3.7			29	47
2																			
3																			
4	7.5	15.9		34.0	0.375			7.3	15.9	5.8		28.0	0.224	63.4	5.2		<2		
5	7.4	16		34.0	0.326			7.0	15.0	4.9		26.0	0.085	69.6	3.4	0.0			
6	7.5	16.3		34.0	0.386			6.9	16	4.3		26.0	0.079	71.3	3.2	0.0			
7	7.1	16.1		36.0	0.183			7.1	15.9	6		28.0	0.140	67.3	1.7	0.0			
8	8.0	15.7	20.0	36.0	0.391	280	200	6.9	16.0	3.3	<0.1	28.0	0.085	69.7	2.1	0.0		48	59
9															2.8	0.0			
10															2.4	0.0			
11	7.5	16.7		38.0	0.444			6.9	16.9	4.7		28.0	0.091	75.8	2.0	0.0	<2		
12	7.6	16.9		34.0	0.572			7.1	17.3	4.3		32.0	0.178	78.2	3.0	0.0			
13	7.8	16.4		34.0	0.879			6.9	17.1	3.8		28.0	0.092	77.7	3.1	0.0			
14	7.9	17.3		38.0	1.242			7.0	17.4	4.2		26.0	0.102	73.4	3.6	0.0			
15	8.1	17.4	23.0	38.0	2.014	270	210	7.0	17.4	3.8	<0.1	26.0	0.102	81.3	3.4	0.0		22	39
16																			
17																			
18	8.0	17.0		38.0	1.404			6.7	16.4	3.9		30.0	0.064	84.3	2.9		<2		
19	7.6	17.0		40.0	0.678			6.9	16.9	4.1		28.0	0.091	82.1	3.6				
20	7.9	17.3		32.0	1.046			6.8	14.8	4.4		28.0	0.066	81.4	1.6				
21	8.1	16.8		36.0	1.829			6.7	15.6	5.1		28.0	0.057	106.0	2.5				
22	7.9	17.1	23.0	36.0	1.159	280	230	6.7	15.7	4.2	<0.1	28.0	0.057	93.4	2.5			19	21
23																			
24																			
25																			
26	7.7	16.1		36.0	0.741			6.7	14.9	4.8		28.0	0.053	97.5	3.9		<2		
27	7.7	17.2		44.0	0.980			6.7	15.6	4.8		28.0	0.053	94.0	4.1				
28	7.9	18.4		38.0	1.344			6.8	15.5	3.8		26.0	0.059	93.4	3.5				
29	7.9	17.3	17.0	42.0	1.372	260	190	6.8	16.2	4.6	<0.1	28.0	0.073	99.9	4.3			27	16
30																			
31																			
																	MEDIAN		
Average	7.7	16.7	20.6	36.8	0.887	268	226	6.9	16.1	4.5	<0.1	27.7	0.094	81.3	3.1	0.0	<2	29	36
Maximum	8.1	18.4	23.0	44.0	2.014	280	300	7.3	17.4	6	<0.1	32.0	0.224	106	5.2	0.0	<2	48	59
Minimum	7.1	15.7	17.0	32.0	0.183	250	190	6.7	14.8	3.3	<0.1	26.0	0.053	63.4	1.6	0.0	<2	19	16

McKinleyville Community Services District																			
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Influent & Effluent Testing      pH, Temperature, Ammonia, CL <sub>2</sub> Res, Settleable Solids, BOD, NFR =                      pH, mg/L, ° C                      JUNE 2009																			
INFLUENT								EFFLUENT											
Date	pH	Temp	S.S	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	NTU	CL <sub>2</sub> Res	River CL <sub>2</sub> Res	Coliform 3x5	BOD	NFR
1	7.7	17.0		36.0	0.790			6.8	15.6	5		28.0	0.070	98.4	3.4		<2		
2	7	16.8		36.0	0.135			6.7	15.7	3.5		28.0	0.057	125.0	3.1				
3	7.9	17.6						6.7	15.9	3.5				136.0	2.6				
4	8.0	17.8						6.9	15.4	4.3				128.0	3.6				
5	7.4	17.4	20.0			420.0	300.0	7.0	15.7	4.3	<0.1			149.0	3.6			38	26
6																			
7																			
8	7.6	17.7						6.9	17.0	4.9				126.0	4.9		<2		
9	7.9	18.2		36.0	1.255			6.8	16	3.9		28.0	0.072	129.0	2.6				
10	7.6	18.2		38.0	0.701			6.8	17	4.5		32.0	0.089	145.0	1.6				
11	7.7	18.8		40.0	0.995			6.5	17.3	3.7		24.0	0.029	149.0	1.8				
12	7.1	17.5	18.0	36.0	0.203	300	240	6.7	17.5	3.8	<0.1	26.0	0.060	143.0	2.1			26	33
13																			
14																			
15	8.0	19.0		40.0	1.708			7.0	18.6	3.8		28.0	0.120	146.0	4.5		<2		
16	7.4	18.3		40.0	0.451			7.0	18.1	5.0		34.0	0.141	131.0	1.6				
17	7.9	18.1		38.0	0.429			7.0	18.1	4.1		32.0	0.132	149.0	2.7				
18	7.7	18.7		40.0	0.989			7.2	19.8	4.4		28.0	0.242	95.4	3.5				
19	7.5	18.5	18.0	40.0	0.528	320.0	180.0	7.2	19.6	4.9	<0.1	28.0	0.238	90.2	4.1			41	46
20																			
21																			
22	7.3	17.7		36.0	0.329			7.1	18.5	4.4		24.0	0.145	90.4	3.2		<2		
23	8.1	18.9		44.0	2.594			7.1	18.4	4.4		28.0	0.168	88.3	3.3				
24	7.8	18.3		44.0	1.302			7.1	18.1	4.2		26.0	0.153	90.1	5.6				
25	7.4	18.5		34.0	0.388			7.0	18.9	5.2		24.0	0.105	85.3	3.1				
26	7.4	18.3	24.0	36.0	0.406	340	240	7.2	18.8	4.3	<0.1	24.0	0.191	87.3	2.5			41	32
27																			
28																			
29	7.9	18.5		44.0	1.567			7.4	18.4	4.5		28.0	0.318	74.6	2.0		<2		
30	7.7	18.4		44.0	1.067			6.8	17.9	5.0		24.0	0.071	75.1	1.9				
																	MEDIAN		
Average	7.6	18.1	20.0	39.0	0.880	345	240	7.0	17.6	4.3	<0.1	27.4	0.133	115.1	3.1	0.0	<2	37	34
Maximum	8.1	19	24.0	44.0	2.594	420	300	7.4	19.8	5.2	<0.1	34.0	0.318	149	5.6	0.0	<2	41	46
Minimum	7	16.8	18.0	34.0	0.135	300	180	6.5	15.4	3.5	<0.1	24.0	0.029	74.6	1.6	0.0	<2	26	26

McKinleyville Community Services District																			
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Influent & Effluent Testing      pH, Temperature, Ammonia, CL <sub>2</sub> Res, Settleable Solids, BOD, NFR =                      pH, mg/L, ° C                      JULY 2009																			
INFLUENT								EFFLUENT											
Date	pH	Temp	S.S	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	NTU	CL <sub>2</sub> Res	River CL <sub>2</sub> Res	Coliform 3x5	BOD	NFR
1	7.1	18.1		40.0	0.236			6.8	18.4	3.9		24.0	0.074	76.8	2.7				
2	8.0	18.9	24.0	44.0	1.866	200	58.0	7.1	18.4	4.1	<0.1	32.0	0.192	81.2	3.0			35	24
3																			
4																			
5																			
6	7.6	18.7		46.0	0.876			7.0	18.3	4.3		28.0	0.118	90.1	2.2		<2		
7	7.9	19.1		44.0	1.635			7.0	18.3	5.4		28.0	0.118	87.4	2.8				
8	7.7	19.1		46.0	1.170			7.1	18.6	4.5		30.0	0.183	85.3	5.3				
9	7.5	18.5		40.0	0.528			7.0	18.9	4.0		28.0	0.123	83.9	2.4				
10	7.6	18.8	18	40.0	0.766	370.0	210.0	7.0	19.2	5.0	<0.1	28.0	0.126	84.5	3.0			44	30
11																			
12																			
13	7.8	19.1		38.0	1.189			7.2	19.6	4.0		28.0	0.238	93.4	2.2		4.0		
14	7.9	19.2		44.0	1.647			7.0	19.4	4.2		28.0	0.127	94.3	3.3				
15	7.2	19.0		38.0	0.307			6.9	19.3	4.2		32.0	0.125	97.0	2.2				
16	8.0	19.0		44.0	1.880			7.0	18.8	4.3		24.0	0.104	99.2	1.7				
17	7.4	18.6	18	42.0	0.482	330	220	6.9	18.3	4.1	<0.1	26.0	0.094	106.0	3.9			39	34
18																			
19																			
20	8.0	18.8		44.0	1.853			7.1	17.4	4.6		28.0	0.157	134.0	5.0		<2		
21	7.5	18.6		42.0	0.557			6.9	16.7	4.1		30.0	0.096	142.0	4.4				
22	8.0	19.4		46.0	2.022			7.1	16.9	4.1		24.0	0.129	139.0	4.5				
23	7.2	18.7		40.0	0.317			6.9	17.4	4.8		26.0	0.088	129.0	3.6				
24	7.3	18.4	18	38.0	0.364	290.0	240.0	6.8	17.2	4.8	<0.1	28.0	0.079	140.0	3.2			29	16
25																			
26																			
27	7.5	19.2		46.0	0.636			6.9	17.1	5.3		28.0	0.093	144.0	3.7		2		
28	7.4	19.2		40.0	0.478			6.9	17.2	4.2		32.0	0.106	132.0	3.5				
29	7.2	19.3		32.0	0.265			7.2	18.6	4.0		28.0	0.221	111.0	2.8				
30	7.2	19.2		34.0	0.279			7.0	17.7	4.4		28.0	0.112	108.0	2.9				
31	7.7	20.0	30	40.0	1.091	330	120	7.1	17.4	4.2	<0.1	30.0	0.168	106.0	2.9			25.0	12.0
																	MEDIAN		
Average	7.6	19.0	21.6	41.3	0.929	304	170	7.0	18.1	4.4	<0.1	28.1	0.131	107.5	3.2	0.0	<2	34	23
Maximum	8	20	30.0	46.0	2.022	370	240	7.2	19.6	5.4	<0.1	32.0	0.238	144	5.3	0.0	4	44	34
Minimum	7.1	18.1	18.0	32.0	0.236	200	58	6.8	16.7	3.9	<0.1	24.0	0.074	76.8	1.7	0.0	<2	25	12

McKinleyville Community Services District																			
Wastewater Management Facility																			
Influent & Effluent Testing      pH, Temperature, Ammonia, CL <sub>2</sub> Res, Settleable Solids, BOD, NFR =                      pH, mg/L, ° C                      AUGUST 2009																			
INFLUENT								EFFLUENT								River		Coliform	
Date	pH	Temp	S.S	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	NTU	CL <sub>2</sub> Res	CL <sub>2</sub> Res	3x5	BOD	NFR
1																			
2																			
3	7.6	19.9		42.0	0.878			7.0	18.3	4.2		30.0	0.126	109.0	2.7		<2		
4	7.5	20.4		44.0	0.674														
5	7.9	20		44.0	1.745			7.1	16.8	4.5		24.0	0.128	106.0	2.4				
6	7.6	19.3		36.0	0.716			6.7	18	3.4		24.0	0.072	114.0	1.6				
7	7.7	20.2	20	44.0	1.217	270	210	6.7	18.3	4.1	<0.1	26.0	0.064	111.0	5.8			27	7.2
8																			
9																			
10	7.6	19.2		44.0	0.868			7.1	18	4.6		24.0	0.140	101.0	6.8				
11	7.7	19.5		42.0	1.102			7.0	18.0	4.1		20.0	0.082	115.0	2.2		<2		
12	7.8	19.5		40.0	1.290			7.0	18.3	4.2		24.0	0.101	101.0	1.7				
13	7.6	19.2		42.0	0.504			6.9	18.5	4.4		28.0	0.103	105.0	1.6				
14	7.6	19.4	15	38.0	0.762	350.0	250.0	6.8	18.3	4.2	<0.1	22.0	0.054	103.0	2.0			42	7.2
15																			
16																			
17	8.3	19.9		50.0	4.917			6.9	17.3	4.2		24.0	0.081	109.0	7.6				
18	8.0	19.5		44.0	1.948			7.0	16.6	4.9		22.0	0.081	112.0	2.3		<2		
19	8.2	20.0		44.0	3.576			6.9	17.2	5.8		26.0	0.087	112.0	1.5				
20	7.7	19.0		40.0	1.009			7.0	17.3	6.8		22.0	0.086	113.0	4.1				
21	8.1	20.3	25.0	44.0	2.854	460	270	7.0	17.6	4.3	<0.1	24.0	0.096	116.0	4.1			35	13
22																			
23																			
24	7.9	19.2		46.0	1.722			7.0	17.0	4.9		26.0	0.099	117.0	7.9		<2		
25	8.1	19.9		42.0	2.652			7.0	16.0	6.2		24.0	0.085	121.0	4.7				
26	8.1	19.7		46.0	2.866			6.9	16.5	4.7		24.0	0.076	122.0	3.1				
27	8.3	20.9		48.0	5.027			7.0	16.7	6.4		22.0	0.082	124.0	3.5				
28	8.2	20.8	31	46.0	3.936	250.0	200.0	6.9	16.7	4.5	<0.1	22.0	0.071	125.0	3.2			34	3.7
29																			
30																			
31	7.9	19.4		42.0	1.596			7.0	17.0	4.2		20.0	0.076	120.0	8.4		<2		
																	MEDIAN		
Average	7.9	19.8	22.8	43.2	1.993	333	233	6.9	17.4	4.7	<0.1	23.9	0.090	112.8	3.9	0.0	<2	35	8
Maximum	8.3	20.9	31.0	50.0	5.027	460	270	7.1	18.5	6.8	<0.1	30.0	0.140	125	8.4	0.0	<2	42	13
Minimum	7.5	19	15.0	36.0	0.504	250	200	6.7	16	3.4	<0.1	20.0	0.054	101	1.5	0.0	<2	27	4

McKinleyville Community Services District																			
Wastewater Management Facility																			
Influent & Effluent Testing      pH, Temperature, Ammonia, CL <sub>2</sub> Res, Settleable Solids, BOD, NFR =      pH, mg/L, ° C      SEPTEMBER 2009																			
INFLUENT								EFFLUENT											
Date	pH	Temp	S.S	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	NTU	CL <sub>2</sub> Res	River CL <sub>2</sub> Res	Coliform 3x5	BOD	NFR
1	8.1	20.1		42.0	2.687			7.1	16.8	6.6		22.0	0.118	132.0	6.4				
2	7.9	19.7		42.0	1.630			7.1	16.8	5.7		24.0	0.129	128.0	2.3				
3	7.9	19.2		42.0	1.572			6.9	16.7	4.3		28.0	0.090	131.0	1.9				
4	7.9	19.6	16.0	38.0	1.465	350	220	6.9	16.7	4.5	<0.1	26.0	0.084	133.0	1.5			39	5.2
5																			
6																			
7																			
8	7.9	19.5		42.0	1.607			6.8	16.1	4.1		28.0	0.072	123.0	5.6		<2		
9	8.0	20.3		38.0	1.780			6.9	15.6	4.2		28.0	0.082	124.0	2.5				
10	8.0	20.4		38.0	1.792			7.0	16.4	4.5		26.0	0.094	129.0	1.9				
11	8	20.2	18.0	38.0	1.767	280.0	280.0	6.8	16.5	4.0	<0.1	30.0	0.079	120.0	2.0			29	6.4
12																			
13																			
14	7.9	19.8		38.0	1.485			6.8	17	4.2		26.0	0.071	124.0	9.5		<2		
15	8.2	21.3		40.0	3.537			6.8	17.6	7.8		26.0	0.075	122.0	3.5				
16	7.6	19.6		32.0	0.652			6.8	16.8	4.2		26.0	0.070	125.0	1.5				
17	7.7	19.5		38.0	0.997			6.9	17.8	4.6		26.0	0.090	124.0	1.5				
18	7.9	19.3	15.0	34.0	0.346	310	220	6.9	17.1	4.5	<0.1	26.0	0.086	121.0	3.1			28	8.4
19																			
20																			
21	7.9	20.2		40.0	1.609			6.7	17.0	4.1		26.0	0.058	127.0	8.1		<2		
22	8.3	21.2		38.0	4.058			6.8	16.6	4.5		26.0	0.073	124.0	4.1				
23	7.8	19.5		40.0	1.531			6.9	17.0	4.9		28.0	0.092	122.0	3.0				
24	7.9	20.0		42.0	1.665			6.9	17.2	4.4		26.0	0.087	124.0	2.1				
25	7.8	19.3	19.0	40.0	1.271	340.0	260.0	6.9	17.0	4.6	<0.1	28.0	0.091	125.0	2.3			29	6.8
26																			
27																			
28	7.5	19.3		36.0	0.502			6.9	16.2	3.9		30.0	0.092	133.0	9.0		<2		
29	7.7	18.7		34.0	0.840			7.0	16.0	4.7		26.0	0.091	129.0	1.6				
30	8.4	19.9		44.0	5.101			6.8	14.9	4.6		30.0	0.070	129.0	1.5				
																	MEDIAN		
Average	7.9	19.8	17.0	38.9	1.804	320	245	6.9	16.7	4.7	<0.1	26.8	0.085	126.1	3.6	0.0	<2	31	7
Maximum	8.4	21.3	19.0	44.0	5.101	350	280	7.1	17.8	7.8	<0.1	30.0	0.129	133	9.5	0.0	<2	39	8
Minimum	7.5	18.7	15.0	32.0	0.346	280	220	6.7	14.9	3.9	<0.1	22.0	0.058	120	1.5	0.0	<2	28	5

McKinleyville Community Services District																			
Wastewater Management Facility																			
Influent & Effluent Testing      pH, Temperature, Ammonia, CL <sub>2</sub> Res, Settleable Solids, BOD, NFR =                      pH, mg/L, ° C                      OCTOBER 2009																			
INFLUENT								EFFLUENT											
Date	pH	Temp	S.S	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	NTU	CL <sub>2</sub> Res	River CL <sub>2</sub> Res	Coliform 3x5	BOD	NFR
1	7.9	18.8		36.0	1.309			6.9	14.6	4.6		28.0	0.076	132.0	1.8				
2	8.2	19.8	23.0	44.0	3.529	330	250.0	7.1	14.5	4.8	<0.1	32.0	0.143	139.0	3.0			30	24
3																			
4																			
5	7.4	17.9		36.0	0.396			6.9	13.2	4.8		32.0	0.078	145.0	10.5		<2		
6	7.9	19.5		42.0	1.607			6.8	13.7	4.6		32.0	0.069	148.0	6.6				
7	8.1	19.2		40.0	2.408			6.9	13.4	4.1		30.0	0.074	142.0	2.9				
8	7.9	18.8		36.0	1.310			7.0	13.7	4.6		28.0	0.083	135.0	3.6				
9	8.3	19.4	28.0	44.0	4.188	260	220	6.9	13.3	4.2	<0.1	32.0	0.079	133.0	3.5			29	21
10																			
11																			
12																			
13	8.3	19.5		46.0	4.408			6.8	13.8	4.4		32.0	0.069	123.0	1.5		<2		
14	8.3	19.8		44.0	4.299			7.0	14.4	4.5		30.0	0.043	128.0	2.3				
15	7.7	18.9		40.0	1.002			6.9	14.7	4.2		30.0	0.082	119.0	2.9				
16	8	19.4	19.0	42.0	1.846	260.0	190.0	7.0	15.0	5.1	<0.1	34.0	0.111	117.0	3.4			20	18
17																			
18																			
19	8.3	19.5		44.0	4.216			7.1	16.0	4.5		32.0	0.161	108.0	1.5		<2		
20	7.7	18.1		40.0	0.950			6.9	14.7	4.7		30.0	0.082	115.0	1.6				
21	7.9	19.3		42.0	1.584			7.1	15.5	5.1		34.0	0.164	81.0	3.6				
22	7.7	18.4		38.0	0.921			6.9	15.2	4.5		32.0	0.091	78.2	3.5				
23	7.8	18.4	22	44.0	1.311	310	220	6.8	15.2	4.3	<0.1	32.0	0.077	80.9	3.8			44	34
24																			
25																			
26	7.6	18.5		38.0	0.714			6.9	15.2	4.5		30.0	0.086	84.0	1.7				
27	7.4	17.6		36.0	0.388			6.9	14.8	4.7		28.0	0.078	76.8	10.5		<2		
28	8.0	18.0		40.0	1.589			6.6	14.5	4.0		32.0	0.046	71.0	5.4				
29	8.0	18.4		42.0	1.718			7.2	14.3	5.1		32.0	0.183	71.1	5.7				
30	8.1	19.1	21.0	40.0	2.391	270.0	210.0	7.2	14.8	4.6	<0.1	28.0	0.165	74.2	5.1			36	54
31																			
																	MEDIAN		
Average	7.9	18.9	22.6	40.7	2.004	286	218	6.9	14.5	4.6	<0.1	31.0	0.097	109.6	4.0	0.0	<2	32	30
Maximum	8.3	19.8	28.0	46.0	4.408	330	250	7.2	16.0	5.1	<0.1	34.0	0.183	148	10.5	0.0	<2	44	54
Minimum	7.4	17.6	19.0	36.0	0.388	260	190	6.6	13.2	4	<0.1	28.0	0.043	71	1.5	0.0	<2	20	18

McKinleyville Community Services District																			
Wastewater Management Facility																			
Influent & Effluent Testing      pH, Temperature, Ammonia, CL <sub>2</sub> Res, Settleable Solids, BOD, NFR =                      pH, mg/L, ° C                      NOVEMBER 2009																			
INFLUENT								EFFLUENT								River		Coliform	
Date	pH	Temp	S.S	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	NTU	CL <sub>2</sub> Res	CL <sub>2</sub> Res	3x5	BOD	NFR
1																			
2	7.9	17.8		42.0	1.422			7.4	15.5	3.9		32.0	0.292	64.2	5.1		<2		
3	7.9	17.8		42.0	1.422			7.2	14.5	4.4		32.0	0.186	76.5	2.5				
4	8.0	18.5		36.0	1.484			7.4	14.7	4.4		28.0	0.240	77.3	2.2				
5	8.1	18.8		40.0	2.342			7.3	15.2	3.8		30.0	0.224	78.3	3.8				
6	8.3	19.2	25	42.0	3.945	220.0	96.0	7.4	15.3	3.1	<0.1	32.0	0.286	76.6	3.9			32	61
7																			
8																			
9	8.2	17.9		44.0	3.093			7.2	14.4	3.9		30.0	0.173	72.3	2.8		<2		
10	8.2	18.0		44.0	3.114			6.8	12.1	4.1		34.0	0.064	84.5	7.7				
11	7.7	17.6						6.9	12.5	6.6				104.0	7.5				
12	7.4	16.6		40.0	0.401			6.9	11.7	4.6		34.0	0.074	104.0	2.7				
13	7.8	16.9	14	38.0	1.017	300.0	180.0	6.9	11.5	3.8	<0.1	34.0	0.073	114.0	7.1			24	21
14																			
15																			
16	8	17.4		44.0	1.675			6.9	11.0	4.1		30.0	0.062	121.0	6.8		<2		
17	8.2	17.3		38.0	2.564			7.1	11.7	4.4		30.0	0.109	122.0	7.8				
18	8.1	17.4		40.0	2.120			6.9	10.9	4.1		28.0	0.057	113.0	5.1				
19	8.0	17.0		36.0	1.330			6.8	10.6	3.6		24.0	0.040	109.0	6.3				
20	7.9	18.5	20	44.0	1.567	290.0	210.0	7.3	12.0	4.4	<0.1	32.0	0.190	108.0	3.3			56	46
21																			
22																			
23	8.1	16.7		42.0	2.119			6.8	9.5	4.3		26.0	0.040	111.0	2.3		<2		
24	7.4	16.2		38.0	0.369			6.9	9.9	4.0		28.0	0.053	105.0	3.4				
25	8.0	17.0	19.0	44.0	1.626	250.0	220.0	7.2	11.0	3.8	<0.1	30.0	0.134	99.9	3.3			43	49
26	7.6	16.4						7.0	10.4	3.9				102.0	2.9				
27	7.7	17.0						6.9	11.5	4.8				106.0	2.3				
28	7.8	16.1						6.8	10.2	4.5				109.0	3.1				
29	7.2	15.3						6.9	9.7	5.0				101.0	3.1				
30	7.7	16.0		36.0	0.735			7.0	9.5	4.1		30.0	0.064	94.0	3.5		<2		
																	MEDIAN		
Average	7.9	17.3	19.5	40.6	1.797	265	177	7.0	12.0	4.2	<0.1	30.2	0.131	97.9	4.3	0.0	<2	39	44
Maximum	8.3	19.2	25.0	44.0	3.945	300	220	7.4	15.5	6.6	<0.1	34.0	0.292	122	7.8	0.0	<2	56	61
Minimum	7.2	15.3	14.0	36.0	0.369	220	96	6.8	9.5	3.1	<0.1	24.0	0.040	64.2	2.2	0.0	<2	24	21



McKinleyville Community Services District																			
Wastewater Management Facility																			
Influent & Effluent Testing      pH, Temperature, Ammonia, CL <sub>2</sub> Res, Settleable Solids, BOD, NFR =      pH, mg/L, ° C      DECEMBER 2009																			
INFLUENT								EFFLUENT											
Date	pH	Temp	S.S	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	BOD	NFR	pH	Temp	D.O.	S.S.	AMMONIA mg/L	UN-IONIZED NH <sub>3</sub> (mg/L)	NTU	CL <sub>2</sub> Res	River CL <sub>2</sub> Res	Coliform 3x5	BOD	NFR
1	8	16.2		42.0	1.467			6.9	9.3	4.1		32.0	0.058	95.0	3.5				
2	7.9	16.1		40.0	1.199			7.0	9.2	4.2		32.0	0.067	89.0	3.3				
3	8.0	16.3		38.0	1.337			7.0	9.2	4.0		32.0	0.067	83.9	3.2				
4	8.3	16.8	14.0	38.0	1.385	290	130	7.0	10.3	4.7	<0.1	28.0	0.064	85.4	3.2			29	46
5																			
6																			
7	8.3	16.4		42.0	3.250			7.1	7.5	4.2		30.0	0.078	79.2	3.7		<2		
8	8.0	15.2		38.0	1.235			7.0	7.0	4.2		30.0	0.051	76.7	3.8				
9	8.3	16.1		38.0	2.880			7.0	6.8	4.4		30.0	0.050	68.5	3.9				
10	7.9	15.6		44.0	0.406			7.0	6.9	3.2		28.0	0.048	69.0	3.9				
11	8.4	15.8	27.0	42.0	3.682	320.0	310.0	7.1	6.8	4.5	<0.1	32.0	0.078	66.9	3.8			32	33
12																			
13																			
14	8.3	16.3		46.0	3.535			7.1	8.9	4.4		34.0	0.099	68.5	2.2		<2		
15	7.9	15.8		42.0	1.232			6.9	8.7	4.1		34.0	0.059	64.1	1.9				
16	8.2	16.8		42.0	2.737			7.0	10.5	4.0		30.0	0.070	59.4	1.7				
17	7.7	15.3		42.0	0.811			6.9	9.9	4.4		32.0	0.061	58.2	5.1				
18	7.7	16.3	26.0	38.0	0.793	280	180	7.1	10.8	4.2	<0.1	28.0	0.095	59.9	3.2	0.0		31	38
19	7.5	15.7						6.8	11.7	4.3				61.7	3.3	0.0			
20	7.6	16.0						6.9	11.9	3.7				57.0	2.1	0.0			
21	7.9	16.1		42.0	1.259			6.9	11.9	3.8		32.0	0.071	62.0	2.9	0.0	<2		
22	8.0	15.7		40.0	1.349			6.9	11.0	5.0		30.0	0.062	62.7	3.3	0.0			
23	8.2	15.4	18	40.0	2.366	260	170	7.0	9.4	4.6	<0.1	32.0	0.068	66.0	3.5	0.0		19	25
24	7.6	15.2						6.9	9.4	4.5				66.2	3.8	0.0			
25	7.4	16.1						6.8	9.8	4.4				69.3	2.9	0.0			
26	7.8	15.0						6.8	9.0	4.8				62.7	3.4	0.0			
27	7.3	15.0						7.0	9.9	6.7				67.5	3.6	0.0			
28	8.1	15.2		42.0	1.907			6.9	9.1	4.2		32.0	0.057	69.7	3.1	0.0	<2		
29	7.9	15.1		38.0	1.058			6.9	8.7	4.3		32.0	0.055	67.1	3.7	0.0			
30	8.2	15.7		42.0	2.536	270.0	110.0	6.9	8.9	4.1		32.0	0.056	70.3	4.6	0.0		31	35
31	7.5	15.1	11	38.0	0.394			6.9	9.3	4.3	<0.1	32.0	0.058	73.9	4.4	0.0			
																	MEDIAN		
Average	7.9	15.8	19.2	40.7	1.753	284	180	7.0	9.3	4.3	<0.1	31.1	0.065	69.6	3.4	0.0	<2	28	35
Maximum	8.4	16.8	27.0	46.0	3.682	320	310	7.1	11.9	6.7	<0.1	34.0	0.099	95	5.1	0.0	<2	32	46
Minimum	7.3	15	11.0	38.0	0.394	260	110	6.8	6.8	3.2	<0.1	28.0	0.048	57	1.7	0.0	<2	19	25

## Waste Water Management Facility 30 Day Average

DATE	Influent	Effluent	INF BOD	EFF BOD	INF TSS	EFF TSS
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DATE	Influent	Effluent	INF BOD	EFF BOD	INF TSS	EFF TSS	BOD	BOD	BOD	TSS	TSS	TSS
							mg/L	lbs/day	% Removal	mg/L	lbs/day	% Removal
2/6/2009	0.957	0.816	260	37	200	48	37	252	86	48	327	76
2/13/2009	1.191	1.136	220	39	180	48	39	369	82	48	455	73
2/20/2009	1.022	1.055	230	44	220	54	44	387	81	54	475	75
2/27/2009	1.080	1.134	260	47	190	57	47	445	82	57	539	70
							42	363	83	52	449	74

Monthly Ave.

DATE	Influent	Effluent	INF BOD	EFF BOD	INF TSS	EFF TSS	BOD	BOD	BOD	TSS	TSS	TSS
							mg/L	lbs/day	% Removal	mg/L	lbs/day	% Removal
4/3/2009	1.104	1.077	250	38	180	39	38	341	85	39	350	78
4/10/2009	1.053	1.076	130	33	490	42	33	296	75	42	377	91
4/17/2009	0.983	1.069	250	20	210	30	20	178	92	30	267	86
4/24/2009	0.947	1.027	240	22	210	33	22	188	91	33	283	84
							28	251	86	36	319	85

Monthly Ave.

DATE	Influent	Effluent	INF BOD	EFF BOD	INF TSS	EFF TSS	BOD	BOD	BOD	TSS	TSS	TSS	
							mg/L	lbs/day	% Removal	mg/L	lbs/day	% Removal	
6/5/2009	0.915	0.829	420	38	300	26	38	263	91	26	180	91	
6/12/2009	0.904	0.806	300	26	240	33	26	175	91	33	222	86	
6/19/2009	0.909	0.916	320	41	180	46	41	313	87	46	351	74	
6/26/2009	0.888	1.056	340	41	240	32	41	361	88	32	282	87	
							37	278	89	34	259	85	Monthly Ave.

DATE	Influent	Effluent	INF BOD	EFF BOD	INF TSS	EFF TSS	BOD	BOD	BOD	TSS	TSS	TSS
							mg/L	lbs/day	% Removal	mg/L	lbs/day	% Removal
8/7/2009	0.857	0.785	270	27	210	7	27	177	90	7	47	97
8/14/2009	0.864	0.828	350	42	250	7	42	290	88	7	50	97
8/21/2009	0.889	0.903	460	35	270	13	35	264	92	13	98	95
8/28/2007	0.866	1.182	250	34	200	4	34	335	86	4	36	98
							35	266	89	8	58	97

Monthly Ave.

DATE	Influent	Effluent	INF BOD	EFF BOD	INF TSS	EFF TSS	BOD mg/L	BOD lbs/day	BOD % Removal	TSS mg/L	TSS lbs/day	TSS % Removal
9/4/2009	0.864	0.909	350	39	220	5	39	296	89	5	39	98
9/11/2009	0.859	0.903	280	29	280	6	29	218	90	6	48	98
9/18/2009	0.863	0.952	310	28	220	8	28	222	91	8	67	96
9/25/2009	0.859	1.061	340	29	260	7	29	257	91	7	60	97
							31	248	90	7	54	97

Monthly Ave.

DATE	Influent	Effluent	INF BOD	EFF BOD	INF TSS	EFF TSS	BOD mg/L	BOD lbs/day	BOD % Removal	TSS mg/L	TSS lbs/day	TSS % Removal
10/2/2009	0.841	0.975	330	30	250	24	30	244	91	24	195	90
10/9/2009	0.858	0.980	260	29	220	21	29	237	89	21	172	90
10/16/2009	0.855	0.989	260	20	190	18	20	165	92	18	148	91
10/23/2009	0.855	0.912	310	44	220	34	44	335	86	34	259	85
10/30/2009	0.855	0.957	270	36	210	54	36	287	87	54	431	74
							32	254	89	30	241	86

Monthly Ave.

DATE	Influent	Effluent	INF BOD	EFF BOD	INF TSS	EFF TSS	BOD mg/L	BOD lbs/day	BOD % Removal	TSS mg/L	TSS lbs/day	TSS % Removal
11/6/2009	0.930	0.947	220	32	96	61	32	253	85	61	482	36
11/13/2009	0.901	0.911	300	24	180	21	24	182	92	21	160	88
11/20/2009	0.978	0.881	290	56	210	46	56	411	81	46	338	78
11/25/2009	0.950	1.394	250	43	220	49	43	500	83	49	570	78
							39	337	85	44	387	70

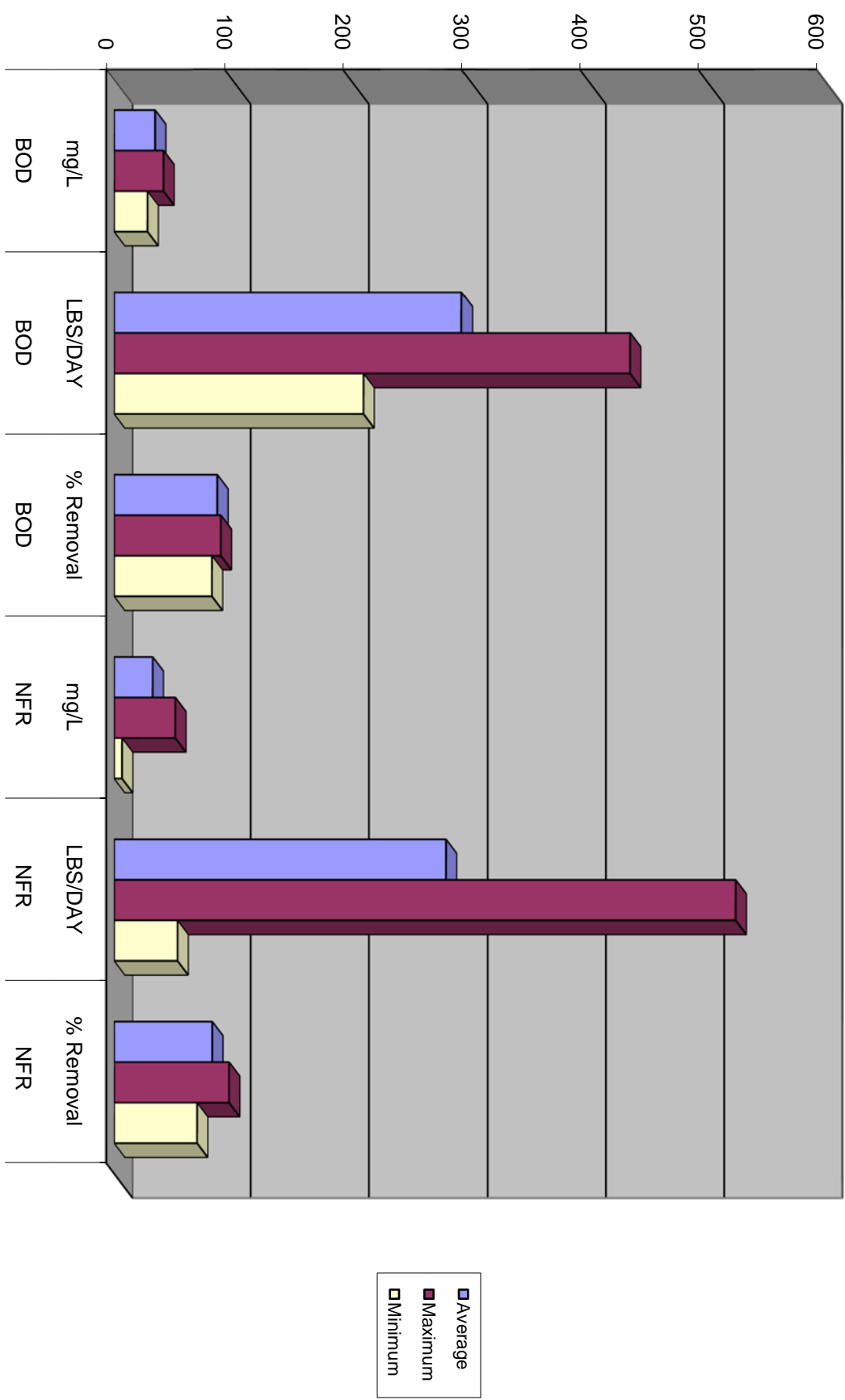
Monthly Ave.

DATE	Influent	Effluent	INF BOD	EFF BOD	INF TSS	EFF TSS	BOD mg/L	BOD lbs/day	BOD % Removal	TSS mg/L	TSS lbs/day	TSS % Removal
12/4/2009	0.890	0.829	290	29	130	46	29	201	90	46	318	65
12/11/2009	0.892	0.790	320	32	310	33	32	211	90	33	217	89
12/18/2009	0.944	1.156	280	31	180	38	31	299	89	38	366	79
12/23/2009	1.013	1.199	260	19	170	25	19	190	93	25	250	85
12/30/2009	0.943	1.037	270	31	110	35	31	268	89	35	303	68
							28	234	90	35	291	77

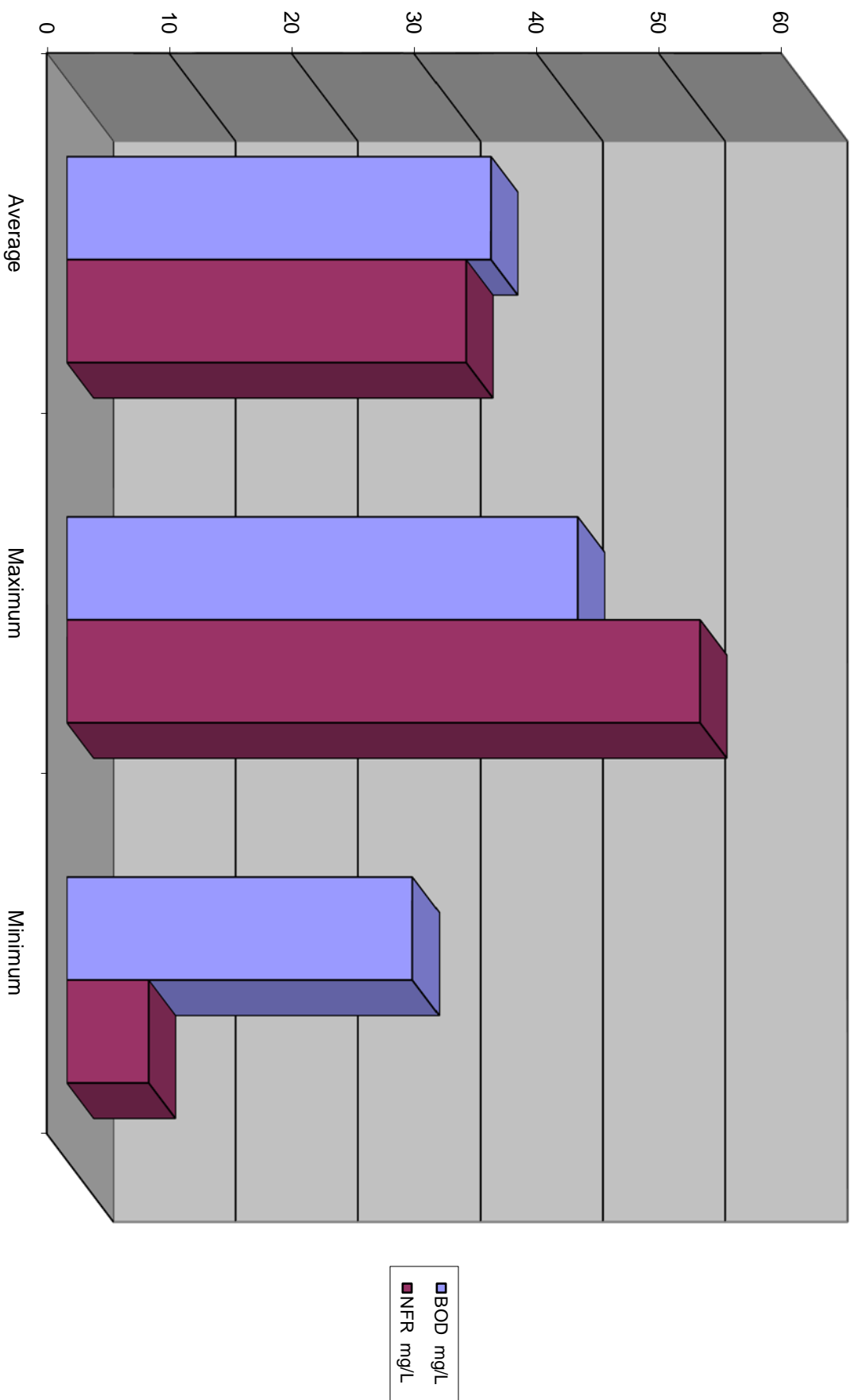
Monthly Ave.

<b>2009 BOD &amp; NFR 30 Day Average</b>						
<b>Average, Maximum and Minimum Totals</b>						
Date	BOD mg/L	BOD LBS/DAY	BOD % Removal	NFR mg/L	NFR LBS/DAY	NFR % Removal
January	40	404	85	36	358	83
February	42	363	83	52	449	74
March	41	436	83	50	525	76
April	28	251	86	36	319	85
May	29	211	89	36	261	84
June	37	278	89	34	259	85
July	34	242	88	23	166	82
August	35	266	89	8	58	97
September	31	248	90	7	54	97
October	32	254	89	30	241	86
November	39	337	85	44	387	70
December	28	234	90	35	291	77
Average	35	294	87	33	281	83
Maximum	42	436	90	52	525	97
Minimum	28	211	83	7	54	70

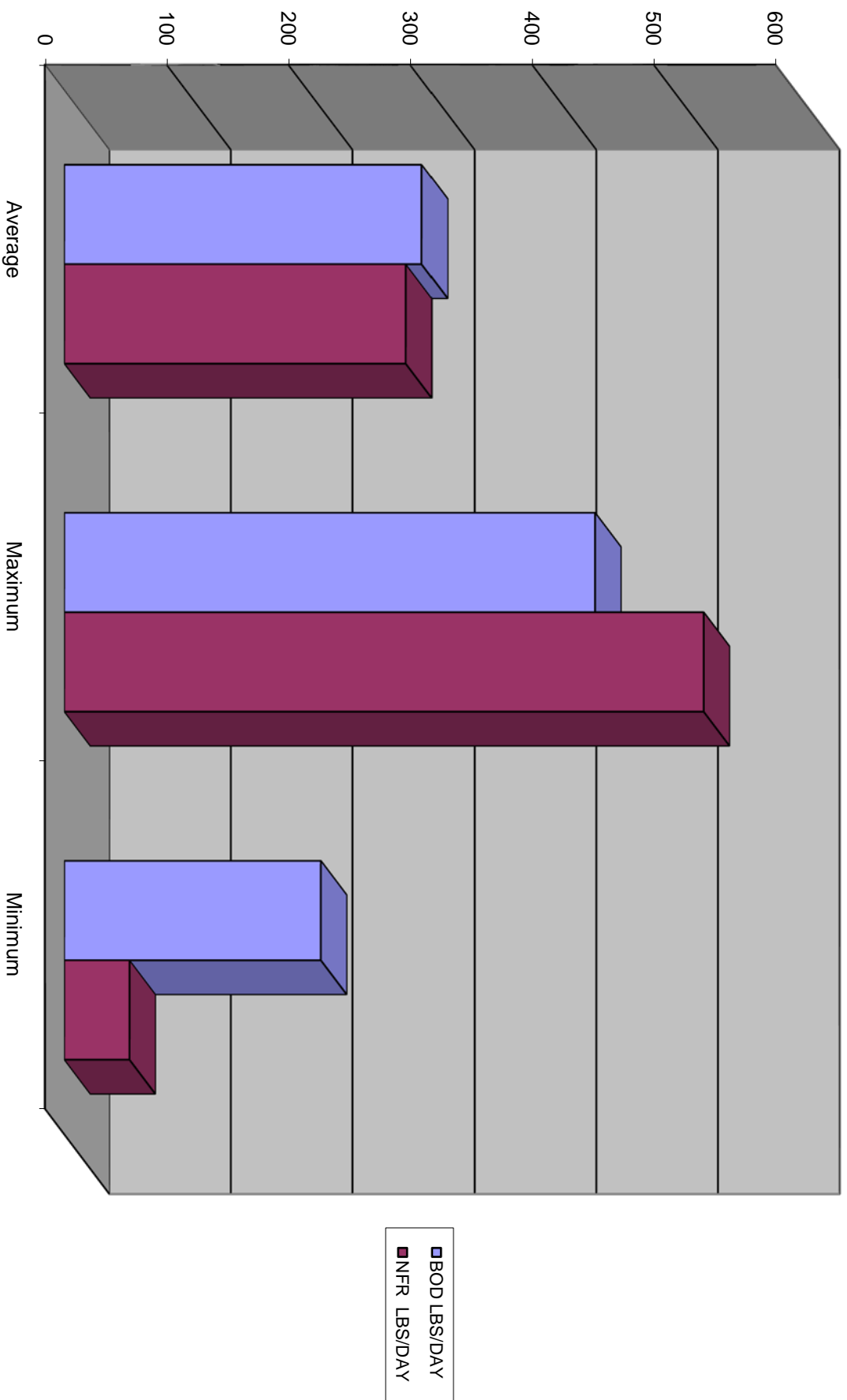
30 Day BOD & NFR  
Maximum, Minimum, and Average



# BOD & NFR 30 DAY AVERAGE mg/L



# BOD & NFR 30 DAY AVERAGE LBS/DAY



McKinleyville Community Services District  
Wastewater Management Facility  
2009 Influent, Terminal Pond, and Effluent BOD

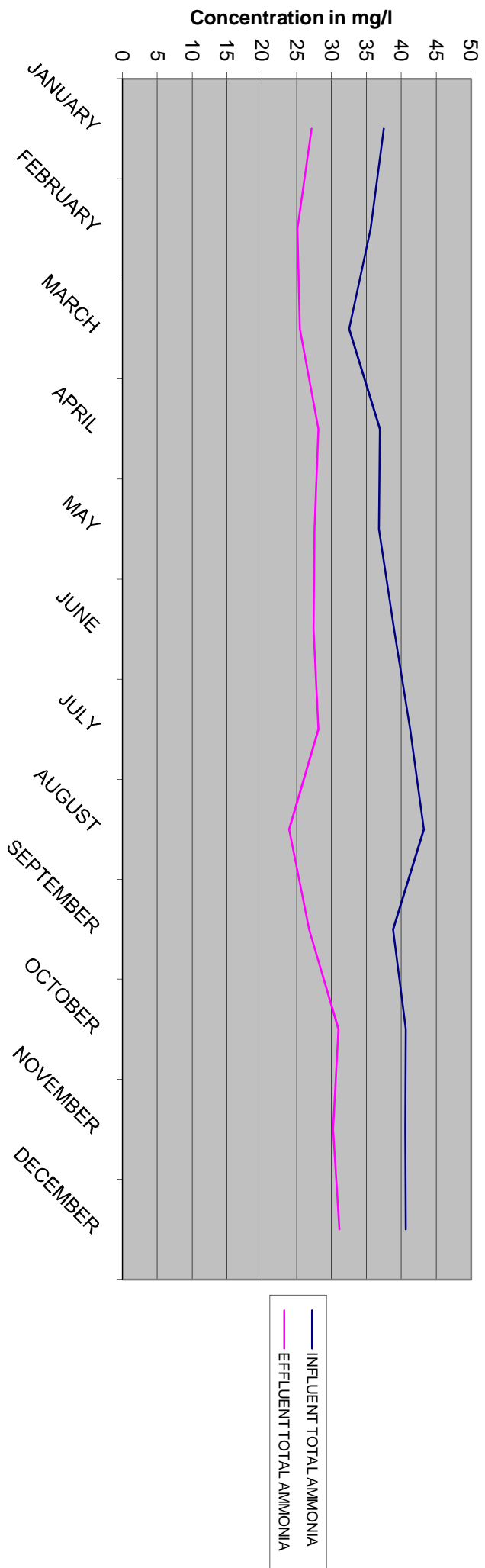
MONTH		INFLUENT	EFFLUENT	POND 3	POND 4	POND 5
		BOD	BOD	BOD	BOD	BOD
<b>January</b>	1/1/2009	240	26			50
	1/9/2009	250	33			66
	1/16/2009	260	45			66
	1/23/2009	290	42			68
	1/30/2009	290	54			72
<b>February</b>	2/6/2009	260	37			70
	2/13/2009	220	39			60
	2/20/2009	230	44			56
	2/27/2009	260	47			60
<b>March</b>	3/6/2009	220	45			72
	3/13/2009	260	34			66
	3/20/2009	240	36			64
	3/27/2009	250	50			50
<b>April</b>	4/3/2009	250	38			39
	4/10/2009	130	33		37	
	4/17/2009	250	20		68	
	4/24/2009	240	22		59	
<b>May</b>	5/1/2009	250	29		100	
	5/8/2009	280	48		50	
	5/15/2009	270	22		99	
	5/22/2009	280	19			42
	5/29/2009	260	27			60
<b>June</b>	6/5/2009	420	38			57
	6/12/2009	300	26			66
	6/19/2009	320	41		240	
	6/26/2009	340	41		200	
<b>July</b>	7/2/2009	200	35		130	
	7/10/2009	370	44		140	
	7/17/2009	330	39		140	
	7/24/2009	290	29			120
	7/31/2009	330	25			110
<b>August</b>	8/7/2009	270	27			63
	8/14/2009	350	42			57
	8/21/2009	460	35			59
	8/28/2009	250	34			71
<b>Septemr</b>	9/4/2009	350	39			85
	9/11/2009	280	29			83
	9/18/2009	310	28			68
	9/25/2009	340	29			55
<b>October</b>	10/2/2009	330	30			51
	10/9/2009	260	29			52
	10/16/2009	260	20			54
	10/23/2009	310	44		43	
	10/30/2009	270	36	64		
<b>Novemb</b>	11/6/2009	220	32	93		
	11/13/2009	300	24			56
	11/20/2009	290	56			65
	11/25/2009	250	43			55
<b>Decemb</b>	12/4/2009	290	29			36
	12/11/2009	320	32			30
	12/18/2009	280	31			32
	12/23/2009	260	19			27
	12/30/2009	270	31			35
<b>Average</b>		281	34	79	0	60
<b>Maximum</b>		460	56	93	240	120
<b>Minimum</b>		130	19	64	37	27



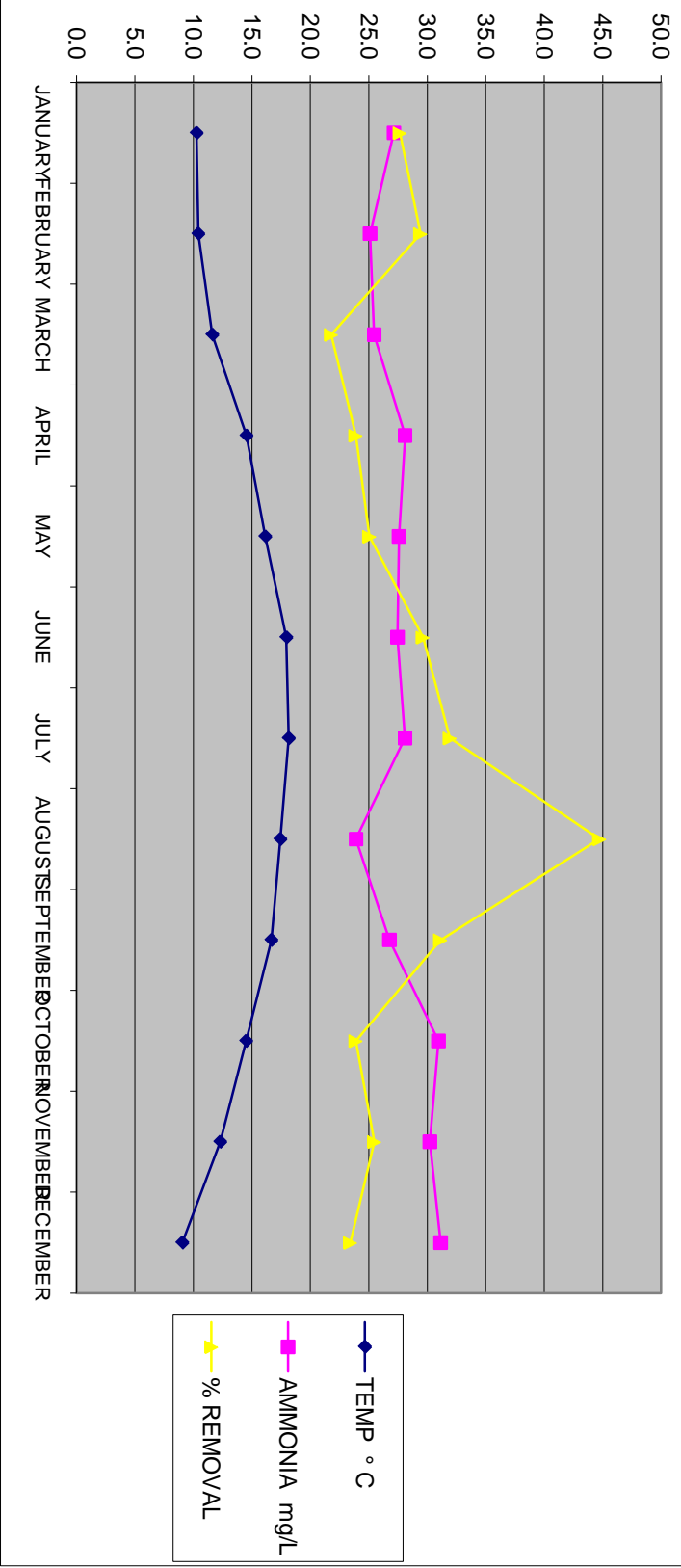
**MCKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITIES INFLUENT & EFFLUENT  
AVERAGE AMMONIA, TEMPERATURE, PH, CALCULATED UN-IONIZED NH<sub>3</sub>**

ANNUAL MONTHLY AVERAGE 2009											
DATE	PH	TEMP ° C	INFLUENT		UN-IONIZED NH <sub>3</sub> (mg/L)	PH	TEMP ° C	EFFLUENT		UN-IONIZED NH <sub>3</sub> (mg/L)	% REMOVAL
			TOTAL AMMONIA mg/L					TOTAL AMMONIA mg/L			
JANUARY	7.4	15.0	38		0.238	6.6	10.3	27		0.032	28
FEBRUARY	7.2	14.5	36		0.192	6.6	10.4	25		0.028	29
MARCH	7.1	14.6	33		0.155	6.7	11.6	25		0.037	22
APRIL	7.2	15.5	37		0.244	6.6	14.5	28		0.042	24
MAY	7.7	16.8	37		0.887	6.9	16.1	28		0.094	25
JUNE	7.6	18.2	39		0.907	6.6	17.9	27		0.133	30
JULY	7.6	19.0	41		0.929	7.0	18.1	28		0.131	32
AUGUST	7.9	19.8	43		1.993	6.9	17.4	24		0.090	45
SEPTEMBER	7.9	19.8	39		1.804	6.9	16.7	27		0.085	31
OCTOBER	7.9	18.9	41		2.004	6.9	14.5	31		0.100	24
NOVEMBER	7.9	17.5	41		1.797	7.1	12.3	30		0.131	25
DECEMBER	8.0	15.9	41		1.753	7.0	9.1	31		0.065	23
AVERAGE	7.6	17.1	38.6		1.075	6.8	14.1	27.7		0.081	28
MAXIMUM	8.0	19.8	43.2		2.004	7.1	18.1	31.1		0.133	45
MINIMUM	7.1	14.5	32.5		0.155	6.6	9.1	23.9		0.028	22

# Average Total Ammonia



# Relationship Between Temperature and Removal



McKinleyville Community Services District  
R-003 Fischer Ranch Backswamp 2009

Upstream of gate										
Month	Date	Time	Temp	pH	D.O.	Conductivity	TDS	Ammonia	Nitrate	Boron
January	1/7/2009	10:15	11.3	7.6	2.8	269.0	320	0.48	ND	ND
February	2/18/2009	10:10	10.1	8.1	8.6	198.8	190	ND	ND	ND
March	3/3/2009	14:05	13.8	7.7	11.6	272	300	ND	ND	ND
April	4/2/2009	10:25	12.6	7	11.7	795	690	ND	ND	360
May	5/5/2009	10:35	16.7	7.5	5.7	104.1	110	0.11	ND	140
June	DRY									
July	DRY									
August	DRY									
September	DRY									
October	DRY									
November	DRY									
December	12/21/2009	14:00	11.7	6.3	5.1	28.6	350	ND	ND	140
Average			12.7	7.366667	7.5833333	277.9166667	326.6667	0.295	0	213.3333
Maximum			16.7	8.1	11.7	795.0	690.0	0.5	0.0	360.0
Minimum			10.1	6.3	2.8	28.6	110.0	0.1	0.0	140.0

Fischer Road										
Month	Date	Time	Temp	pH	D.O.	Conductivity	TDS	Ammonia	Nitrate	Boron
January	1/7/2009						300	0.12	ND	ND
February	2/18/2009	10:10	11.4	8.2	11.1	234.0	230	0.15	ND	ND
March	3/3/2009	9:20	8.4	8.4	8.6	250	230	0.11	ND	ND
April	4/2/2009	9:40	11.7	7.9	10	43.7	41	0.26	0.26	ND
May	5/4/2009	10:35	15.1	9.2	7.2	17.9	21	ND	0.2	ND
June	DRY									
July	DRY									
August	DRY									
September	DRY									
October	DRY									
November	DRY									
December	12/21/2009	14:50	10.4	6.1	11.3	25.4	21	ND	ND	ND
Average			11.4	7.96	9.64	114.2	140.5	0.16	0.23	0
Maximum			15.1	9.2	11.3	250.0	300.0	0.3	0.3	0.0
Minimum			8.4	6.1	7.2	17.9	21.0	0.1	0.2	0.0

McKinleyville Community Services District  
River Monitoring 2009

Upstream R-001											
Month	Date	Time	CFS	Temp	pH	D.O.	NTU	Conductivity	Ammonia	Hardness	TDS
January	1/7/2009	09:35	2780	9.4	8.0	11.3	30.1	59.3	ND	45	73
February	2/5/2009	09:30	243	9.8	8.7	10.2	11.6	164.7	ND	76	110
March	3/3/2009	10:10	7730	8.6	9	10.9	234	49.9	ND	79	86
April	4/2/2009	10:05	455	10.7	7.7	10	6.29	75.3	ND	55	73
May	5/4/2009	14:15	917	13.4	8.5	7.7	23.7	74.6	ND	50	64
June	6/2/2009	11:15	283	16.2	8.4	9.2	0.94	123.8	ND		99
July	7/15/2009	10:00	68	18.1	7.3	7.4	0.98	384	ND		130
August	8/13/2009	09:00	48	21.1	8.2	8.9	0.12	273	ND		130
September	9/10/2009	09:20		18.2	6.2	9.2	0.94	481	ND		110
October	10/14/2009	13:50		17.8	8.2	9.1	6.03	137.1	ND		110
November	11/16/2009	16:10		12.2	9.5	10.2	0.51	144.2	ND		120
December	12/21/2009	15:20	611	10.5	6.3	10.9	16.3	89.1	ND	58	76
Average				13.83	8.00	9.58	27.63	171.33	ND	60.50	98.42
Maximum				21.1	9.5	11.3	234.0	481.0	ND	79.0	130.00
Minimum				8.6	6.2	7.4	0.1	49.9	ND	45.0	64.00

Downstream R-002												
Month	Date	Time	CFS	Temp	pH	D.O.	NTU	Conductivity	Ammonia	Hardness	TDS	VISUAL IMPACT ON RIVER
January	1/7/2009	10:00	2780	9.5	8.3	10.8	33.2	61.3	ND	44	74	No Visual Impact Observed
February	2/5/2009	09:45	243	8.9	8.5	10.3	10.9	109.1	ND	76	100	
March	3/3/2009	09:10	7730	8.3	9	12.1	235	52.8	0.16	81	86	
April	4/2/2009	09:15	455	10.6	8.1	10.2	7.52	90.2	0.11	56	81	
May	5/4/2009	14:15	917	13	9.1	7.9	25.1	77.2	0.61	49	69	
June	6/2/2009	11:30	283	15.9	8	8.7	1.07	149.2	0.11		110	
July	7/15/2009	10:15	68	19.4	7.2	2.2	98.2	482	ND		270	
August	8/13/2009	09:20	48	20.5	8	6.2	0.15	878	0.11		500	
September	9/10/2009	08:50		17.5	6.5	8.7	0.82	2.22	ND		500	
October	10/14/2009	13:25		18.1	7.1	8.7	1.89	4.87	ND		3500	
November	11/16/2009	15:50		13.2	7.4	10.9	1.9	4.18	0.15		2900	
December	12/21/2009	15:05	611	10.5	6.5	10.8	8.34	108.5	ND	59	100	No Visual Impact Observed
Average				13.78	7.81	8.96	35.34	168.30	0.21	60.83	690.83	
Maximum				20.5	9.1	12.1	235.0	878.0	0.6	81.0	3500.00	
Minimum				8.3	6.5	2.2	0.2	2.2	0.1	44.0	69.00	

WWMF		M-001									
Month	Date	Time	CFS	Temp	pH	D.O.	NTU	Conductivity	Ammonia	Hardness	TDS
January	01/07/09	14:45	2780	10.3	6.8	4.5	96.4	366.0	28	76	280
February	02/05/09	11:20	243	10.9	6.6	3.6	99.4	392.4	30		300
March	03/03/09	11:20	7730	10.8	7.3	3.6	109	456	28		250
April	04/02/09	11:10	455	13.5	6.9	1.8	86.2	362	25		240
May	05/04/09	3:15	917	15.9	7.3	3.8	73.8	390	25		270
June	06/02/09	16:10	283	160	6.8	2.6	125	402	40		320
July	07/15/09	10:15	68	19.4	7.2	2.2	98.2	482	21		370
August	08/13/09	8:30	48	18.5	6.9	4.4	105	484	25		340
September	09/10/09	09:45		16.4	7	4.5	129	3.27	27		360
October	10/14/09	14:20		16.9	7.5	4.4	126	499	26		330
November	11/16/09	15:20		11.2	7.4	2.1	122	423	33		330
December	12/21/09								28		260
Average				27.62	7.06	3.41	106.36	387.24	28.00	76.00	304.17
Maximum				160.0	7.5	4.5	129.0	499.0	40.0	76.0	370.00
Minimum				10.3	6.6	1.8	73.8	3.3	21.0	76.0	240.00

McKinleyville Community Services District  
Hiller Marsh 2009

Upstream R-004											
Month	Date	Time	Temp	pH	D.O.	NTU	Ammonia	Nitrate	Conductivity	TDS	Boron
January	1/7/09	13:50	13.3	6.4	10.3	2.02	ND	0.76	116.4	71	ND
February	2/18/09	10:30	11.2	8.5	11.4	3.19	ND	0.82	86.7	77	ND
March	3/4/09	14:20	13.4	8.4	11.3	5.06	ND	0.2	82.3	64	ND
April	4/2/09	10:50	12.8	8.3	9.3	2.7	ND	0.2	44.1	41	ND
May	5/5/09	10:35	17.5	8	6.6	6.1	ND	0.22	55.4	51	ND
June	DRY										
July	DRY										
August	DRY										
September	DRY										
October	10/13/09	15:55	16.5	6.7	8.8	34.7	0.18	0.23	97.8	37	ND
November	11/17/09	14:45	12.4	6.2	10.2	8.4	ND	0.52	29.2	40	ND
December	12/21/09	10:20	11.9	6.2	3.5	21.4	ND	ND	102.6	34	ND
Average			13.63	7.34	8.93	10.45	0.18	0.42	76.81	51.88	0.00
Maximum			17.5	8.5	11.4	34.7	0.2	0.8	116.4	77.0	0.0
Minimum			11.2	6.2	3.5	2.0	0.2	0.2	29.2	34.0	0.0

Upstream R-005											
Month	Date	Time	Temp	pH	D.O.	NTU	Ammonia	Nitrate	Conductivity	TDS	Boron
January	01/07/09	14:00	12.1	7.1	9.8	1.61	ND	0.62	364.2	43	ND
February	02/18/09	10:40	10.8	8.8	11.0	6.41	ND	ND	39.7	37	ND
March	03/04/09	14:25	13.4	8.4	10.7	2.46	ND	ND	50.6	57	ND
April	04/02/09	10:55	13	8.1	8.1	1.85	ND	ND	64.7	57	ND
May	05/05/09	11:00	18	8.1	5.6	8.42	ND	ND	27.3	29	ND
June	06/03/09	10:25	14	7.5	6.8	1.02	ND	ND	48.5	61	ND
July	DRY										
August	08/24/09	11:00	15.6	6.4	8.6	5.73	ND	0.91	237	220	200
September	DRY										
October	10/16/09	9:55	14.2	6.1	7.1	4.04	ND	0.12	140.4	130	120
November	11/18/09	10:55	10.6	6.7	9.0	5.56	ND	ND	88.9	94	ND
December	12/23/09	10:15	7.1	8.1	7.7	1.86	ND	ND	226	86	ND
Average			12.88	7.53	8.44	3.90	0.00	0.55	128.73	81.40	160.00
Maximum			18.0	8.8	11.0	8.4	0.0	0.9	364.2	220.0	200.0
Minimum			7.1	6.1	5.6	1.0	0.0	0.1	27.3	29.0	120.0

Downstream M-008						
Date	Time	TSS	BOD	Boron	Nitrate	Ammonia
12/23/2009	10:15	44	3.1	ND	ND	ND

McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
MONITORING WELL DATA 2009

Location	W-001		W-002		W-006		W-007		W-008		W-009		W-014		W-015		W-016	
Quarter	Nitrate	TDS	Nitrate	TDS	Nitrate	TDS	Nitrate	TDS	Nitrate	TDS	Nitrate	TDS	Nitrate	TDS	Nitrate	TDS	Nitrate	TDS
January	10	170	4.3	110	ND	740	22	250	19	270	15	190	1.4	90	19	260	ND	4700
April	4.3	170	2.5	91	20	260	22	280	11	160	9.5	150	1.9	89	ND	1200	ND	4800
July	6.9	120	4.2	94	21	600	22	250	16	220	19	230	2.3	92	ND	1500	ND	5200
October	19	240	3.8	86	23	250	26	250	24	270	15	170	1.4	60	ND	660	ND	5700
AVERAGE	10.1	175.0	3.7	95.3	21.3	462.5	23.0	257.5	17.5	230.0	14.6	185.0	1.8	82.8	19.0	905.0	ND	5100.0
MAXIMUM	19.0	240.0	4.3	110.0	23.0	740.0	26.0	280.0	24.0	270.0	19.0	230.0	2.3	92.0	19.0	1500.0	ND	5700.0
MINIMUM	19.0	240.0	4.3	110.0	23.0	740.0	26.0	280.0	24.0	270.0	19.0	230.0	2.3	92.0	19.0	1500.0	ND	5700.0

## FEBRUARY 2009

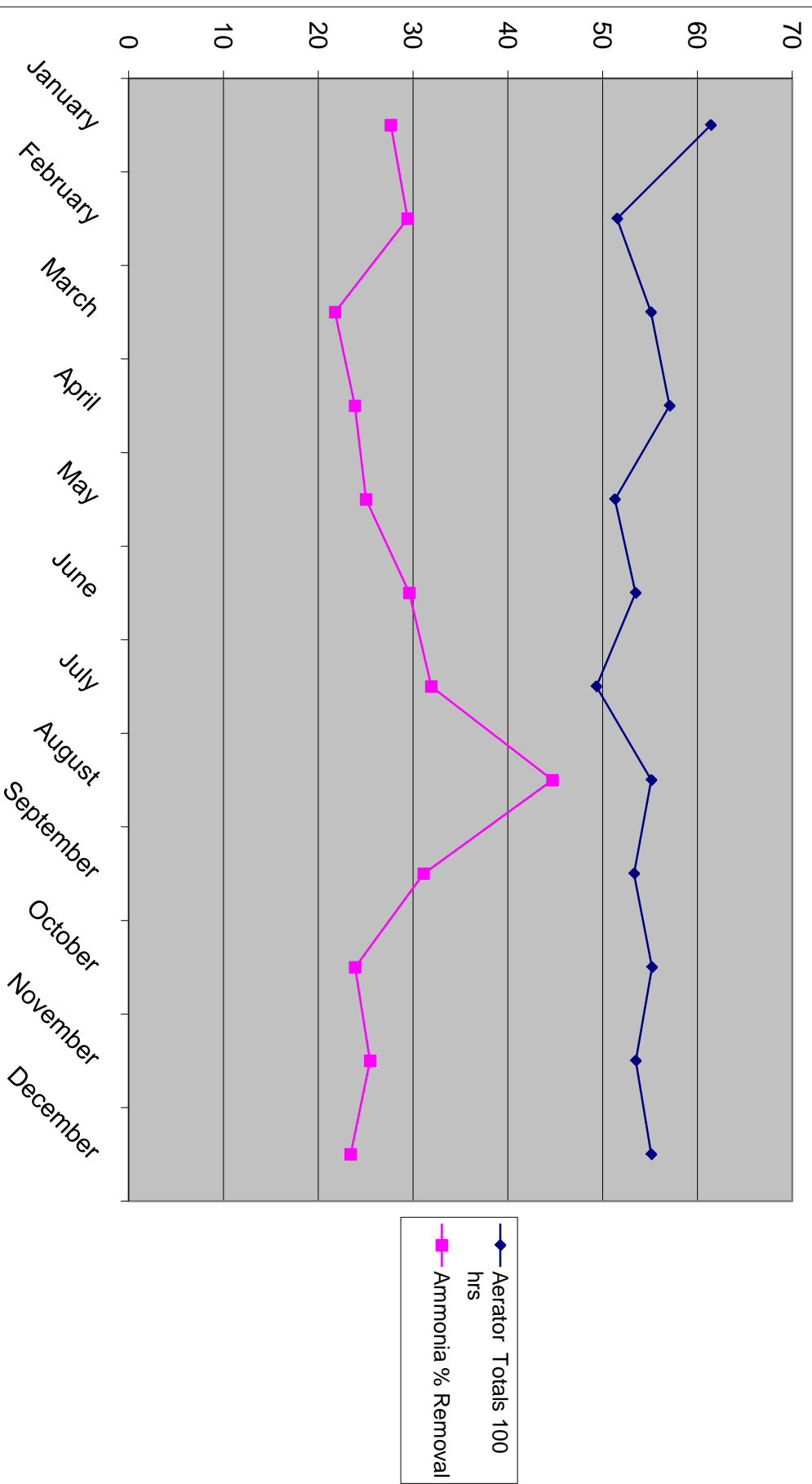
POND 1 A				POND 1 B		
	CENTER	SOUTH	NORTH	CENTER	SOUTH	NORTH
1	13	10	10	10	11	10
2	13	18	14	11	19	15
3	10	17	14	10	14	17
4	10	13	11	10	12	19
5	11	14	15	11	11	14
6	16	16	14	10	13	15
7	12	10	15	10	11	17
8	11	12	14	10	13	13
9	11	14	16	10	11	15
10	11	14	19	11	13	14
11	13	14	20	11	10	10
12	13	14	19	10	12	11
13	13	12	10	10	10	12
14	16	13	16	10	12	17
15	13	14	17	11	14	20
16	12	15	17	11	11	19
17	12	18	10	10	12	14
18	13	19	14	10	10	14
19	13	25	14	10	10	19
20	13	26	13	12	12	15
21	13	25	12	12	14	12
22	13	29	16	13	15	14
23	17	32	14	16	19	14
24	17	29	10	13	17	11
AVERAGE	13	18	14	11	13	15
MAXIMUM	17	32	20	16	19	20
MINIMUM	10	10	10	10	10	10
ALL				POND A POND B		
AVERAGE	ALL	14		AVERAGE	15	13
MAXIMUM	ALL	32		MAXIMUM	23	18
MINIMUM	ALL	10		MINIMUM	10	10
POND 1A	158,016	CUFT	AVERAGE POND 1A = 1.2 Ft. DEPTH			
POND 1B	106,626	CUFT	AVERAGE POND 1B = 1.1 Ft. DEPTH			
TOTAL 264,643 CUFT						
CAPACITY	POND A = 634,415 CUFT POND B = 501,225 CUFT					
REMAINING	POND A = 476,399 CUFT POND B = 394,599 CUFT					
TOTAL SLUDGE CAPACITY 1,135,640 CUFT						
TOTAL REMAINING SLUDGE CAPACITY 870,997 CUFT						



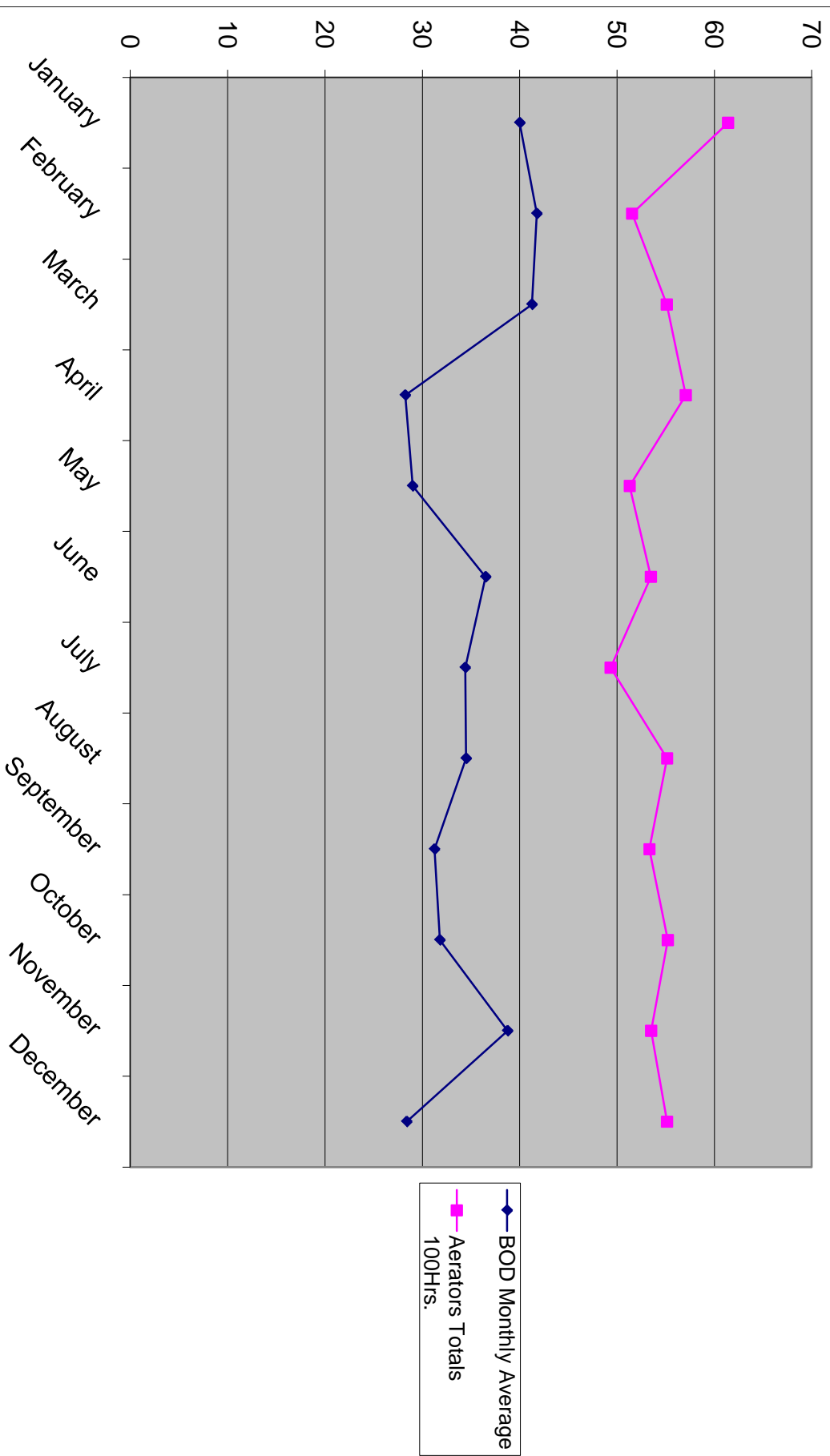
McKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
ANNUAL TOTAL AERATOR HOURS                      2009

DATE	Pond A					Pond B					Pond		
	1A	2A	3A	4A	5A	1B	2B	3B	4B	5B	2-A	2-B	TOTALS
January	307.5	280.5	733	302.8	740.8	285.5	256.2	727.5	285.3	740.6	740.8	740.6	6141.1
February	260.7	241.2	645.3	266.5	631.6	247.9	220.3	652.5	260.5	579.3	634.8	513.5	5154.1
March	287.8	277.6	727	302	738.5	275	252.6	731.5	280	739.5	739.7	158.9	5510.1
April	247.8	259	705.1	260.2	702.3	232.9	246.8	707.3	252.9	702	695.1	694.8	5706.2
May	152.3	264.2	726.1	151.8	741.9	138.9	239.2	725.9	147.8	528	740.7	573.2	5130.0
June	141.4	255.8	705.6	145.6	720.1	137.4	244.4	707.5	139.4	717.1	717	716.9	5348.2
July	145.9	267	728.7	156	744	138.7	245.1	732.3	144.1	740.9	446	446.1	4934.8
August	150.6	263.1	725.2	145.8	743.4	137.2	250.8	728.5	148.3	740.3	740.8	740.6	5514.6
September	141.9	259.6	706.6	149.9	719.2	131.5	234.2	700.6	141.6	715.9	716.1	715.8	5332.9
October	146.9	263.3	730	153.1	743.9	142.2	246.9	730.4	142	740.8	740.7	740.6	5520.8
November	148.6	252.1	708	146.7	721	135	240.7	706.4	138.2	718.1	717.6	717.6	5350.0
December	152.9	259.7	731.6	153	744	140.2	236.5	727.9	145.1	740.9	740.9	740.5	5513.2
TOTAL	2284.3	3143.1	8572.2	2333.4	8690.7	2142.4	2913.7	8578.3	2225.2	8403.4	8370.2	7499.1	65156.0
AVERAGE	190.4	261.9	714.3	194.4	724.2	178.5	242.8	714.9	185.4	700.3	697.5	624.9	5429.7
MAXIMUM	307.5	280.5	733.0	302.8	744.0	285.5	256.2	732.3	285.3	740.9	740.9	740.6	6141.1
MINIMUM	141.4	241.2	645.3	145.6	631.6	131.5	220.3	652.5	138.2	528.0	446.0	158.9	4934.8

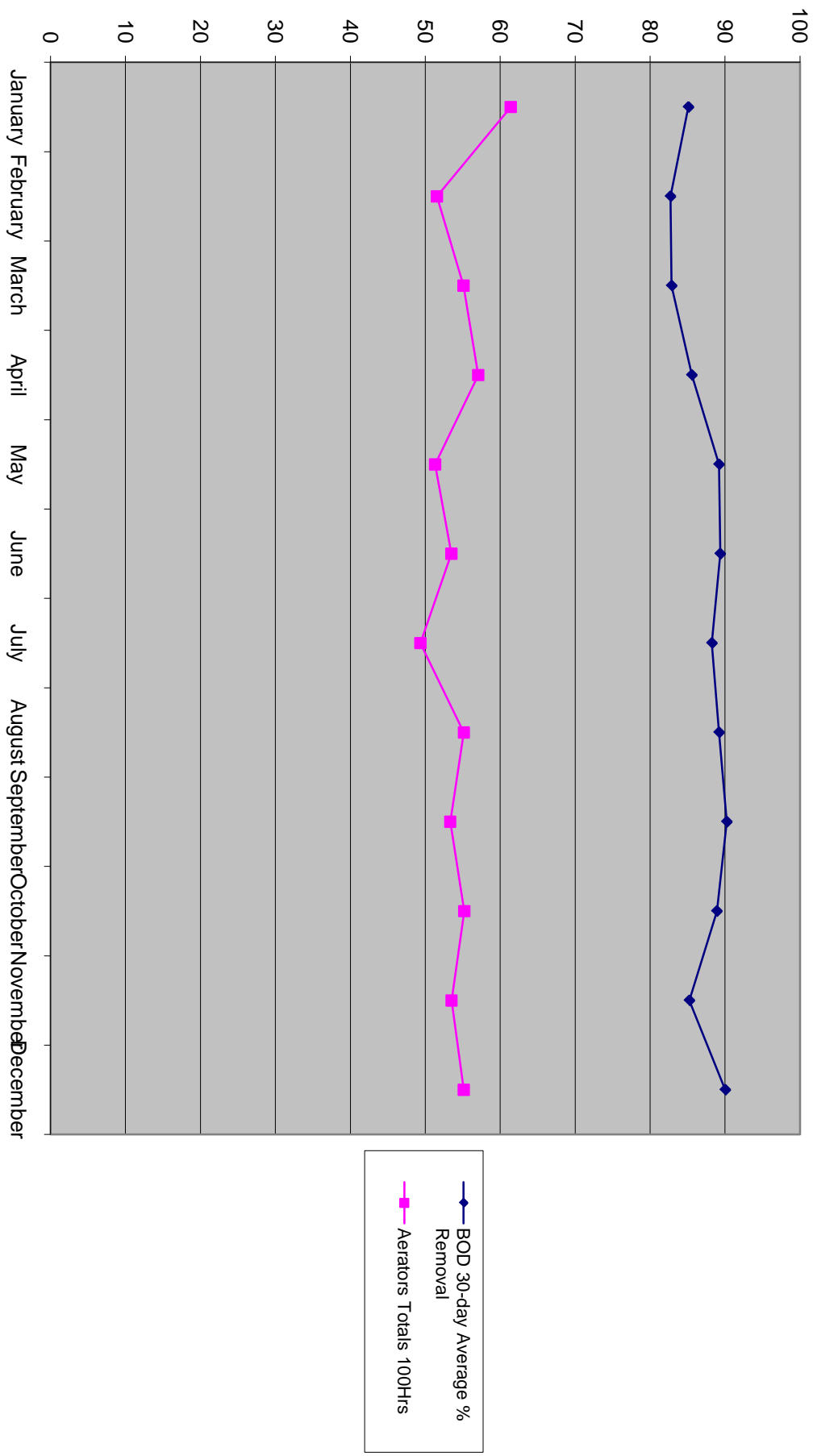
**Aerator Hours Versus Ammonia Percent Removal**



## Aerator Hours Versus Effluent BOD



**Aerator Hours Versus BOD 30-day Average % Removal**



McKinleyville Community Services District  
Wastewater Management Facility  
Pond Ammonia Levels in mg/L  
Annual Averages 2009

Date		Pond A	Pond B	Pond 2	Pond 3	Pond 4	Pond 5
January		29	28	27	27	26	27
February		30	29	29	27	26	25
March		27	26	26	26	25	23
April		25	24	27	29	29	29
May		26	25	25	26	25	27
June		27	27	28	25	27	28
July		29	26	29	28	28	28
August		28	25	26	28	26	27
September		28	27	28	30	29	28
October		31	30	30	30	31	32
November		31	30	31	30	32	31
December		32	32	32	32	32	32
Average		28	27	28	28	28	28
Minimum		25	24	25	25	25	23
Maximum		32	32	32	32	32	32

McKinleyville Community Services District  
Wastewater Management Facility  
Pond Temperatures in C  
Annual Averages 2009

Date		Pond A	Pond B	Pond 2	Pond 3	Pond 4	Pond 5
January		10.9	11.1	10.7	10.5	10.3	9.4
February		11.1	11.4	11.2	11.0	10.8	9.9
March		12.9	13.0	13.0	12.8	12.7	11.5
April		15.5	15.3	15.5	15.3	15.4	13.5
May		17.7	17.5	17.8	17.7	17.6	15.6
June		19.6	19.4	19.6	19.5	19.2	17.1
July		19.8	19.7	20.0	19.7	19.1	17.0
August		20.5	20.5	20.7	20.3	18.8	17.6
September		19.7	19.8	19.7	19.7	17.8	16.9
October		16.1	16.3	15.3	15.8	14.8	14.1
November		13.8	13.9	13.7	13.3	12.3	12.1
December		10.7	10.8	10.5	10.1	9.5	9.2
Average		15.7	15.7	15.6	15.5	14.9	13.7
Minimum		10.7	10.8	10.5	10.1	9.5	9.2
Maximum		20.5	20.5	20.7	20.3	19.2	17.6

McKinleyville Community Services District  
Wastewater Management Facility  
Pond pH  
Annual Averages 2009

Date		Pond A	Pond B	Pond 2	Pond 3	Pond 4	Pond 5
January		6.8	7.0	7.1	7.2	7.2	7.3
February		6.8	6.8	6.9	7.0	7.1	7.1
March		6.8	6.9	6.9	7.0	7.1	7.1
April		6.9	7.0	7.1	7.2	7.2	7.2
May		7.5	7.5	7.5	7.6	7.5	7.3
June		7.4	7.5	7.5	7.6	7.5	7.3
July		7.3	7.3	7.3	7.3	7.2	7.1
August		7.6	7.6	7.7	7.4	7.1	6.9
September		7.6	7.6	7.8	7.8	7.3	7.1
October		7.5	7.6	7.7	7.7	7.3	7.1
November		7.4	7.6	7.7	7.7	7.3	7.2
December		7.4	7.4	7.5	7.5	7.4	7.2
Average		7.2	7.3	7.4	7.4	7.3	7.2
Minimum		6.8	6.8	6.9	7.0	7.1	6.9
Maximum		7.6	7.6	7.8	7.8	7.5	7.3

McKinleyville Community Services District  
Wastewater Management Facility  
Pond Dissolved Oxygen in mg/L  
Annual Averages 2009

Date		Pond A	Pond B	Pond 2	Pond 3	Pond 4	Pond 5
January		3.0	3.0	2.7	2.8	2.7	1.9
February		3.4	3.8	3.7	3.1	3.5	2.4
March		4.2	4.7	5.2	5.2	4.8	3.0
April		6.4	6.3	6.5	6.6	3.8	2.4
May		4.7	5.3	5.0	5.8	2.9	1.9
June		4.6	5.5	6.5	7.5	5.5	3.1
July		3.0	5.1	5.3	5.8	2.6	1.9
August		3.8	3.7	5.3	6.0	1.4	1.6
September		3.2	2.9	5.1	5.2	1.0	1.3
October		3.7	4.3	5.6	4.2	1.5	1.5
November		3.2	4.4	6.1	5.5	2.6	2.6
December		2.8	3.2	4.4	3.9	3.1	2.2
Average		3.8	4.3	5.1	5.1	3.0	2.1
Minimum		2.8	2.9	2.7	2.8	1.0	1.3
Maximum		6.4	6.3	6.5	7.5	5.5	3.1



# TKN, Alkalinity and Nitrate

## SPECIAL TESTING

DATE	INFLUENT			EFFLUENT		
	TKN	ALKALINITY	NITRATE	TKN	ALKALINITY	NITRATE
6/5/2009	71	260	ND	46	190	ND
6/12/2009	75	260	ND	46	200	ND
6/19/2009	80	280	ND	51	190	ND
6/26/2009	73	250	ND	44	190	ND
7/2/2009	89	290	ND	39	180	ND
7/10/2009	88	240	ND	39	190	ND
7/17/2009	83	260	ND	53	190	ND
7/31/2009	79	290	ND	37	200	ND
8/7/2009	69	300	ND	25	200	ND
8/14/2009	53	310	ND	25	200	ND
8/21/2009	56	240	ND	33	210	ND
8/28/2009	75	300	ND	34	210	ND
9/4/2009	55	260	ND	33	230	ND
9/11/2009	78	310	ND	35	210	ND
9/18/2009	67	270	ND	38	220	ND
9/25/2009	69	290	ND	43	220	ND
10/2/2009	71	280	ND	47	220	ND
10/9/2009	72	290	ND	40	220	ND
10/16/2009	70	270	ND	40	220	ND
10/23/2009	87	270	ND	46	210	ND
10/30/2009	71	270	ND	47	230	ND
11/6/2009	61	260	ND	46	210	ND
11/13/2009	72	280	ND	42	230	ND
11/25/2009	80	280	ND	45	220	ND
12/4/2009	99	290	ND	52	220	ND
12/11/2009	100	320	ND	52	240	ND
12/18/2009	74	280	ND	38	210	ND
12/23/2009	64	270	ND	40	200	ND
12/30/2009	60	210	ND	50	200	ND

MCKINLEYVILLE COMMUNITY SERVICES DISTRICT  
WASTEWATER MANAGEMENT FACILITY  
ELECTRIC, CL<sub>2</sub>, SO<sub>2</sub> and RAIN DATA  
ANNUAL 2009

DATE	PG&E	CL <sub>2</sub> USAGE	SO <sub>2</sub> USAGE	RAIN
	kw Hours	lbs.	lbs.	inches
JANUARY	27040	1802	1163	1.88
FEBRUARY	26400	1325	754	7.41
MARCH	26240	2479	1304	0
APRIL	27120	3009	1012	1.28
MAY	27280	2056	421	4.15
JUNE	30320	2187	0	0.34
JULY	30080	1890.3	0	0
AUGUST	31040	2019	0	0.00
SEPTEMBER	30880	3159	0	0.71
OCTOBER	32640	3198	0	0
NOVEMBER	33120	2197	0	4.3
DECEMBER	30720	2674	560	4.68

TOTAL	352880	27995.3	5214	24.75
AVERAGE	29407	2333	435	2.06
MAXIMUM	33120	3198	1304	7.41
MINIMUM	26240	1325	0	0.00