

GENERAL NPDES PERMIT FOR RESIDUAL
AQUATIC PESTICIDE DISCHARGES FROM
ALGAE AND AQUATIC WEED CONTROL APPLICATIONS

ORDER NO. 2013-0002-DWQ
NPDES NO. CAG990005

RECEIVED

MAY 20 2014

DIVISION OF WATER QUALITY

Attachment E – Notice of Intent

WATER QUALITY ORDER NO. 2013-0002-DWQ
GENERAL PERMIT NO. CAG990005

STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT FOR RESIDUAL AQUATIC PESTICIDE DISCHARGES TO WATERS OF
THE UNITED STATES FROM ALGAE AND AQUATIC WEED CONTROL APPLICATIONS

I. NOTICE OF INTENT STATUS (see Instructions)

Mark only one item	A. New Applicator	B. Change of Information: WDID#	<input checked="" type="checkbox"/> 4A567900009
	C. <input type="checkbox"/> Change of ownership or responsibility: WDID#		

II. DISCHARGER INFORMATION

A. Name <i>Casitas Municipal Water District</i>			
B. Mailing Address <i>1055 Ventura Ave, Oak View Ca 93022</i>			
C. City <i>Oak View</i>	D. County <i>Ventura</i>	E. State <i>CA</i>	F. Zip <i>93022</i>
G. Contact Person <i>Susan McMahon</i>	H. E-mail address <i>SMcMahon@casitaswater.com</i>	I. Title <i>Water Quality Supervisor</i>	J. Phone <i>(805) 649-2251x120</i>

III. BILLING ADDRESS (Enter Information only if different from Section II above)

A. Name			
B. Mailing Address			
C. City	D. County	E. State	F. Zip
G. E-mail address	H. Title	I. Phone	

IV. RECEIVING WATER INFORMATION

A. Algaecide and aquatic herbicides are used to treat (check all that apply):

- Canals, ditches, or other constructed conveyance facilities owned and controlled by Discharger.
Name of the conveyance system: _____
- Canals, ditches, or other constructed conveyance facilities owned and controlled by an entity other than the Discharger.
Owner's name: _____
Name of the conveyance system: _____
- Directly to river, lake, creek, stream, bay, ocean, etc.
Name of water body: Lake Casitas

B. Regional Water Quality Control Board(s) where treatment areas are located
(REGION 1, 2, 3, 4, 5, 6, 7, 8, or 9): Region 4
(List all regions where algaecide and aquatic herbicide application is proposed.)

V. ALGAECIDE AND AQUATIC HERBICIDE APPLICATION INFORMATION

A. Target Organisms: X Algae

B. Algaecide and Aquatic Herbicide Used: List Name and Active ingredients
Copper Sulfate or Sodium Carbonate peroxyhydrate

C. Period of Application: Start Date 2014 End Date 2014

D. Types of Adjuvants Used:

VI. AQUATIC PESTICIDE APPLICATION PLAN

Has an Aquatic Pesticide Application Plan been prepared and is the applicator familiar with its contents?
 Yes No

If not, when will it be prepared? _____

VII. NOTIFICATION

Have potentially affected public and governmental agencies been notified? Yes No

VIII. FEE

Have you included payment of the filing fee (for first-time enrollees only) with this submittal?
 YES NO NA

IX. CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to ensure 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 or imprisonment. Additionally, I certify that the provisions of the General Permit, including developing and implementing a monitoring program, will be complied with."

A. Printed Name: STEPHEN E. WIKSTROM

B. Signature: [Handwritten Signature]

Date: 4/28/2014

C. Title: GENERAL MANAGER

XI. FOR STATE WATER BOARD STAFF USE ONLY

WDID:	Date NOI Received:	Date NOI Processed:
Case Handler's Initial:	Fee Amount Received: \$	Check #:
<input type="checkbox"/> Lyris List Notification of Posting of APAP	Date _____	Confirmation Sent _____

2014

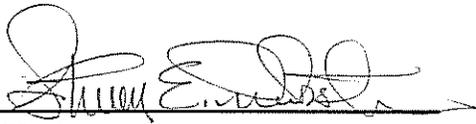
**Casitas Municipal Water District
APAP 2014**



Certification

"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." (40 C.F.R. §122.22(c).)

X

A handwritten signature in black ink, appearing to read "Steve Wickstrum", written over a horizontal line.

Steve Wickstrum
General Manager

CASITAS MUNICIPAL WATER DISTRICT
AQUATIC PESTICIDE APPLICATION PLAN
2014

Casitas Municipal Water District's (CMWD) Aquatic Pesticide Application Plan (APAP) is a comprehensive plan that describes the necessity of and process for applying algaecides to the lake Casitas reservoir. The plan describes what will be done to reduce water quality impacts and how those impacts will be monitored. The APAP complies with Water Quality Order No. 2013-0002-DWQ, the Statewide General National Pollutant Discharge Elimination System Permit For The Discharge Of Aquatic Pesticides For Aquatic Weed Control In The Waters of The United States General Permit No. CAG 990005. The APAP contains the following elements:

1. *Description of the water body*
2. *Description of the application and treatment area*
3. *Description of the algae being controlled and why*
4. *Types of aquatic pesticides expected to be used and if known, their degradation by-products, the method in which they are applied, and the adjuvants used*
5. *Factors influencing the decision to select algaecide and aquatic herbicide applications for algae and weed control*
6. *Gates and control structures used to control the extent of receiving waters potentially affected by algaecide application and the inspection schedule of those gates or control structures to ensure they are not leaking.*
7. *Section 5.3 exception*
8. *Effluent and Receiving Water Limitations*
9. *Description of BMP's to be implemented.*
10. *Possible alternatives to algaecide use, including an evaluation of management options in which the impact to water quality, impact to non-target organisms, algaecide resistance, feasibility, and cost effectiveness is considered*
11. *Application Schedule*
12. *Updates*
13. *Corrective Actions*
14. *Notification*
15. *Monitoring and Reporting Plan*

1. Description of the water body:

Lake Casitas is a 250,000-acre ft capacity reservoir that receives water by runoff from a 33 square mile watershed and the Ventura River diversion. Lake Casitas is filled by Coyote Creek, Santa Ana Creek and the Ventura River (through the Robles Diversion Canal). At full capacity the lake has an average depth of 94 feet and a maximum depth of 267 feet. Lake water is drawn into the filtration plant through the multi-level intake structure, allowing the selection of the

highest water quality from the lake at any given time. An aeration system is used during spring and summer to help prevent excessive algae growth caused by nutrient recycling. Water is released over the spillway of the dam occasionally when the lake is full. In order to prevent spilling, diversion through the canal is stopped when the lake elevation approaches spill level. If the lake spills the water goes into Coyote Creek, which eventually joins the Ventura River.

The primary use of Lake Casitas is as a drinking water supply. The CMWD distribution system provides drinking water to approximately 70,000 customers. The lake also has a recreation area that features boating, fishing, and camping.

2. Description of the application area and the treatment area:

If conditions require it and the basis for treatment has been established, CMWD may apply algaecide to the entire reservoir. Otherwise, there are several areas in the reservoir that are considered for partial treatment. For a shoreline treatment, the area to which algaecide will be directly applied is calculated to be 72 surface acres for the immediate treatment area. The intake area covers approximately 129 surface acres. A treatment of the intake area including Ayers Creek covers approximately 239 surface acres. Any or all of these areas can be treated, and spot treatments in areas that have heavy growth may also be done. It is expected that the algaecide will begin mixing immediately with the entire reservoir volume (approximately 250,000 AF when the reservoir is full). To protect bass spawning areas applications will be made approximately one hundred feet away from the shoreline area.

The water in the reservoir is impounded by a dam that has a spillway. A discharge valve located below the dam is opened for maintenance purposes only.

3. Description of the algae being controlled and why:

During summer the surface layer of the lake is characterized by warm oxygenated water where algae blooms with their associated taste and odor problems occur. There are many species of algae growing in the lake; historically the planktonic cyanobacteria have caused the most problems. Algal blooms have been related to taste and odor complaints from customers; odor is a regulated aesthetic drinking water standard. Additionally, disinfection by-products can increase when chlorine is applied to water with high amounts of organic materials. Disinfection by-products are a regulated health related drinking water standard. Algal blooms can also interfere with the ability of the treatment Plant to meet peak water system demands, and regulated health standards such as effluent turbidity. Because of this, algae control may be necessary in order to meet primary drinking water regulations.

4. Types of aquatic pesticides expected to be used and if known their degradation by-products, the method in which they are applied, and the adjuvants used:

PAK 27 and Cutrine are the two aquatic pesticides that CMWD may be use. PAK 27 is a granular compound of sodium carbonate (Na₂CO₃) and hydrogen peroxide (H₂O₂). Cutrine is a

liquid algaecide that contains chelated copper (copper as elemental 9.0%). Neither algaecide has any water-use restrictions following application, and neither has degradation by-products.

CMWD contracts out for algaecide applications. The contractor holds California Department of Pesticide Regulation (CADPR) Qualified Applicator Licenses, and licensed personnel supervise the algaecide applications in accordance with the label instructions while using Best Management Practices (BMPs). There are no adverse impacts expected from the use of either algaecide. CMWD will do the water quality monitoring for compliance with the NPDES permit monitoring program.

5. Factors influencing the decision to select algaecide and aquatic herbicide applications for algae and weed control:

Algae control is necessary to protect the primary beneficial use of the lake as a drinking water supply reservoir. CMWD does regular analysis of algae during spring and summer to determine algal counts and identification of species. The decision to implement an algae control treatment is based on algae growth, and whether or not the species involved causes water quality problems. If levels of taste and odor causing algae increase to levels that have historically caused problems, the frequency of algae monitoring is increased. Treatment is considered if the algae population continues to increase, there are measurable taste/odor problems, visible clumps of algae are forming in the lake, or if the filtration process is compromised by algae. Health and safety issues in the community are also considered, such as with the ability of the treatment plant to meet peak water system demands, and the ability to meet regulated water quality standards. Sometimes a treatment may be initiated prior to high population levels in order to prevent the development of large mats and drifted accumulations of biomass that will die off, sink down, decompose and reduce dissolved oxygen levels.

CMWD will contract out the application process, and the contractor will provide a Pest Control Recommendation prior to the application that will be reviewed by CMWD.

6. Gates and control structures used to control the extent of receiving waters potentially affected by algaecide application and the inspection schedule of those gates or control structures to ensure they are not leaking:

The dam has two methods for the release of water, over the top of the spillway, and through a valve at the bottom of the spillway. Lake Casitas has spilled only seven times in its fifty year existence, and always during winter rainfall events. In order to minimize spilling, diversion of water from the Ventura River through the canal is stopped when the lake elevation approaches spill level. The valve at the bottom of the spillway is inspected on a regular basis to ensure that it is not leaking. Additionally, the valve can be inspected prior to algaecide application in order to ensure it is not leaking. There are no gates and control structures that can be used to control the extent of receiving waters potentially affected by algaecide application.

7. Section 5.3 exception:

There is no request for a section 5.3 exception because there are no CTR Priority Pollutant Levels, Criterion Maximum Concentrations, or Criterion Continuous Concentrations identified for the ingredients in PAK 27.

The other algaecide (Cutrine) will not be applied in excess of receiving water criteria unless the short term exception is applied for and granted.

8. Effluent and Receiving Water Limitations:

- Effluent Limitations will be complied with by developing and implementing this APAP, implementing the BMPs, and complying with all pesticide label instructions. Currently there are no State or United States Environmental Protection Agency (USEPA) based numeric objectives for PAK 27 (sodium carbonate peroxyhydrate). Therefore, there are no Receiving Water Limitations. However the application will be monitored for physical, chemical and visual parameters.
- Effluent Limitations for copper will be complied with by developing and implementing this APAP, implementing the BMPs, and complying with all pesticide label instructions. The Receiving Water Limitations require that an application event does not result in an exceedence of Water Quality Standards outside of the treatment area, or inside the treatment area after completion of a treatment. The Receiving Water Limitation for copper is based on California Toxics Rule (CTR) criteria and is calculated by using the following equation: dissolved freshwater copper chronic = $0.960 \exp\{0.8545[\ln(\text{hardness})] - 1.702\}$, expressed as dissolved copper, rather than total copper. There are also Receiving Water Limitations for dissolved oxygen (the mean shall not be less than 7 mg/L, and no single determination shall be less than 5 mg/L except when natural conditions cause lesser concentrations), floating material, settleable substances, suspended material, tastes and odors, color and aquatic community degradation (fish kills).

9. Description of BMP's to be implemented:

- Contracting the application to a company or individual holding a valid Pest Control Advisor license (PCA), and Qualified Applicator License (QAL) through the CADPR. Applicators will be licensed, or supervised by someone who is licensed. Effluent and receiving water limitations will be complied with. The applicator will follow this APAP.
- Measures will be taken to prevent spills and spill contamination. During storage, transfer, loading and application, CADPR and USEPA rules and regulations for avoiding accidental spills will be complied with. The applicator will follow label instructions and use information provided on the MSDS. If a spill occurs, it will be managed with spill containment supplies. Spills will be cleaned up according to label instructions. Spills will be reported to CMWD management, who will determine further notification requirements.
- Measures will be taken to ensure that only minimum and consistent amounts of algaecide are used for targeted species. The job will be contracted out to a company or individual

holding a valid PCA license, and QAL through the CADPR. The contractor will provide a project report for review prior to treatment which considers the type of algae being treated, and specifies the treatment area. The report will specify application rate and dose to ensure compliance with Receiving Water Limitations. The dose will be calculated to use the minimum amount of chemical while providing an effective treatment. A Partial lake treatment or shoreline treatment can be done rather than a full lake treatment if algal counts indicate full treatment is not necessary. The algaecide will be applied according to label instructions and information provided by the manufacturer. If adverse weather conditions have the potential for causing problems, the application will be delayed until the weather is acceptable. If the wind speed is greater than 10 MPH the application will be delayed.

- The education of applicators regarding the avoidance of adverse effects from pesticide application is accomplished by contracting the job to a company or individual holding a valid PCA license, and QAL through the CADPR. Permit holders must meet continuing education requirements in order to maintain their license.
- There are no farmers or agencies that have water rights on the receiving water that need notification.
- Measures will be taken to prevent fish kills. The job will be contracted to a company or individual holding a valid PCA license, and QAL through the CADPR. Applications will be made according to label instructions. Consideration will be given to amount of dead biomass that may decompose and result in low dissolved oxygen levels. The contractor will be consulted regarding rates of application and any factors that may affect fish, and will prepare a project Pest Control Recommendation Report for review prior to treatment. Monitoring, Effluent Limitations, Receiving Water Limitations and reporting requirements specified in the APAP will be reviewed and complied with. A visual assessment will be made while sampling according to the Monitoring Plan to check for potential adverse effects to the environment, or the beneficial uses of Lake Casitas that could be caused by the application of algaecides. A biologist will also do a visual assessment following the algaecide application. For longer-term effects the lake will be assessed visually at varying intervals following algaecide application while doing routine fieldwork on the lake. A post-treatment survey will be done to assess the effectiveness of the treatment, and to check for adverse effects on non-target organisms, particularly fish. When possible a partial lake or shoreline treatment will be used.

10. Possible alternatives to algaecide use, including an evaluation of management options in which the impact to water quality, impact to non-target organisms, algaecide resistance, feasibility, and cost effectiveness is considered:

- No Action: Algae species and counts, conditions at the treatment plant, quality of the finished water, and potential water quality problems are evaluated prior to the decision to initiate or not initiate a lake treatment.
- Prevention: Watershed management is used to try and prevent the introduction of nutrients into the reservoir, thus increasing the need for the application of algaecides. Watershed protection reduces urban development and the associated run-off that may enhance the

eutrophication process through the addition of nutrients. Fertilizers and other pollutants are not normally used in the watershed area, with the exception of selected portions of the Recreation Area. The Recreation Area is managed with the goal of protecting the integrity of the water supply.

- Mechanical or physical methods: Mechanical removal is labor intensive, expensive, impractical, and ineffectual for planktonic forms of algae. Physical control methods such as shading or light limitation can be used to prevent algae growth. These methods generally use dyes that interfere with photosynthesis, and are impractical for a drinking supply because of potential contaminants. A physical cover is not feasible because of the size of the reservoir, plus it would interfere with recreational use. Benthic barrier or nutrient inactivation methods such as alum addition can be effective but may interfere with the ability to meet drinking water standards, are expensive, plus these methods don't work for long if sediment-laden water is deposited on top of the alum. Alum addition can also change the pH of the water and cause problems for fish. Dredging to remove bottom sediments can also be used to prevent internal nutrient recycling, but it is expensive, and impractical for a drinking water supply. Hypolimnetic withdrawal or the release phosphorous laden water from the deep water portion of the lake is also impractical, expensive, wastes water and causes problems for customers downstream of the dam.
- Cultural methods: Operational control using the selective withdrawal intake is attempted prior to initiating treatment. Selection usually involves moving to a lower level to avoid surface blooms. Also, CMWD has an aeration system that is used during part of the year to increase the levels of dissolved oxygen in the lake and thus prevent the need for application of algaecides. The aeration system helps prevent nutrient recycling, internal phosphorous loading and increased levels of manganese, iron and sulfur compounds.
- Biological control agents and other methods of controlling algae growth such as plankton manipulation have been considered. Grass carp have been used as a biological control against Hydrilla, but have not been proven to be effective in controlling cyanobacteria. Plankton manipulation can be used to promote large populations of zooplankton that consume algae, but the method is impractical as it is accomplished by reducing the population size of fish that eat zooplankton, such as bass.
- Algaecides are used only after other methods have been evaluated, and found to be impractical, expensive, harmful or ineffectual. If there are no alternatives to algaecides use, CMWD shall use the minimum amount that is necessary to have an effective control program and is consistent with the product label requirements.

A decision matrix can be used to determine the most appropriate method. The following table represents the possible control options and their rank:

Option	Method	Practicality	Rank
No Action	Evaluation	Somewhat Practical	5
Watershed Management	Watershed Protection Recreation Management	Very	10
Biological	Grass carp	No	1
	Plankton manipulation	No	1
Cultural	Aeration	Very	8
	Intake Selection	Very	9
Physical	Light limit	No	1
	Benthic barrier	No	1
	Dredging	No	1
	Hypolimnetic Withdrawal	No	1
Mechanical control	No	No	1
Algaecides	Lake Treatment	Very	7

11. Application Schedule:

CMWD will provide contact information to those who request the application schedule. The most current schedule will be provided and CMWD will inform the requester if the schedule is subject to change. Information will also be made available by posting it on the CMWD website Casitaswater.org.

12. Updates:

This APAP will be updated as the General Permit conditions change, any new algaecides or aquatic herbicides are needed for the aquatic vegetation, there is a change in application method that may result in different amounts being applied, BMPs are added or deleted, or there is a reopener for numerical toxicity limits.

13. Corrective Actions:

The Corrective Actions listed in the Special Provisions section of the General Permit will be complied with if there is an exceedence of Receiving Water Limitations, or if there is a situation (such as not following BMPs) that requires review and/or revision of the evaluation and selection of control measures to ensure that the situation does not re-occur.

If Receiving Water Limitations are exceeded additional investigations will be initiated, BMPs to reduce active ingredient concentrations in future applications will be implemented, the possibility

of using alternative algaecides will be evaluated.

14. Notification:

- Every calendar year prior to the first application of aquatic pesticides CMWD will notify the public and potentially affected governmental agencies with the following information: A statement of CMWD's intent to apply an aquatic pesticide, the name of the pesticide, the purpose of use, the general time period and locations of expected use, any water use restrictions or precautions during treatment, the most current application schedule and possible changes in the schedule, and a phone number that interested persons may call to obtain additional information from the discharger. The notification will be made available by posting the information on the CMWD website Casitaswater.org.
- If there is an adverse incident to a threatened or endangered anadromous or marine species or their critical habitat the National Marine Fisheries Service (NMFS) Santa Rosa office (707-575-6050) shall be notified.
- If there is an adverse incident to a threatened or endangered terrestrial or freshwater species or their critical habitat the U.S. Fish and Wildlife Service (FWS), (916-414-6600) shall be notified.

15. Monitoring and Reporting Plan:

The Monitoring and Reporting Plan contains the following elements:

Introduction

I. General Monitoring Provisions

II. Monitoring Locations and Sample Types

A. Monitoring Locations

B. Sample Types

III. Receiving Water Monitoring Requirements -Surface Water

A. General Monitoring Requirements

B. Visual, Physical, and Chemical Monitoring Requirements

C. Monitoring Plan

IV. Reporting Requirements

A. General Monitoring and Reporting Requirements

B. Annual Information Collection

C. Annual Report

D. Electronic Reporting

E. Reporting Protocols

F. Other Reporting Requirements

Introduction

This Monitoring and Reporting Plan (MRP) is to be used for compliance with the NPDES

Aquatic Weed Permit during algaecide application. The primary users of this document will be the staff doing the sampling and fieldwork for this program.

The goals of the procedures and specifications outlined in this plan are to provide references, standardized procedures, and quality specifications for sampling at Lake Casitas following the application. In order to do this, the plan identifies sampling locations, number of samples, and field procedures to be used. The plan details QA (Quality Assurance)/QC (Quality Control) procedures and specifications, and establishes methods for reviewing and documenting compliance with field procedures.

The MRP is designed to address the two key questions listed in the permit:

- Does the residual algaecide discharge cause an exceedence of receiving water limitations?
- Does the discharge of residual algaecide, including active ingredients, inert ingredients, and degradation by-products, in any combination cause or contribute to an exceedence of the “no toxics in toxic amounts” narrative toxicity objective?

I. General Monitoring Provisions

Samples taken as required herein shall be representative of the nature of the monitored discharge. All samples shall be taken at the anticipated monitoring locations specified in this MRP. CMWD has less than 20 application sites; therefore samples will be collected at two locations. The sampling locations and frequencies were selected in order to provide data that is representative of conditions found in the entire lake, and to represent average conditions found in the lake following algaecide use.

All laboratory analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with California Water Code section 13176. The QA/QC Program must conform to USEPA guidelines or to procedures approved by the State Water Board and the appropriate Regional Board. All analyses shall be conducted in accordance with the latest edition of “Guidelines Establishing Test Procedures for Analysis of Pollutants,” promulgated by the USEPA in title 40 Code Federal Regulation (40 C.F.R.) 136 or equivalent methods that are commercially and reasonably available and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits and to perform reasonable potential analysis. Equivalent methods must be more sensitive than those specified in 40 C.F.R. 136 if the method is available in the 40 C.F.R. 136, and must be approved for use by the Regional Water Board Executive Officer.

CMWD shall institute a QA/QC Program for any onsite field measurements such as electric conductivity, pH, turbidity, dissolved oxygen and temperature. A manual containing the steps

followed in this program will be kept in the laboratory and shall be available for inspection by the State Water Board and the appropriate Regional Water Board staff.

The goals of the MRP are to:

- Identify and characterize algaecide application projects conducted by the discharger.
- Determine compliance with the Receiving Water Limitations and other requirements specified in this General Permit
- Measure and improve the effectiveness of the APAP
- Support the development, implementation, and effectiveness of BMPs
- Assess the chemical, physical and biological impacts on receiving waters resulting from algaecide applications
- Assess the overall health and evaluate long-term trends in receiving water quality
- Demonstrate that water quality of the receiving waters following completion of algae control projects are equivalent to pre-application conditions
- Ensure that projects that are monitored are representative of all pesticides and application methods used by the CMWD

II Monitoring Locations and Sample Types

A. Monitoring Locations

CMWD has established monitoring locations specified in the MRP to demonstrate compliance with the Receiving Water Limitations, and other requirements in the General Permit. The number and location of samples shall be selected to answer the two key questions specified in the permit. CMWD will use representative monitoring locations to characterize water quality in the reservoir. Justification for the selection of these monitoring locations as representative is based on the idea that the locations are similar in factors (throughout the reservoir) that may be affected by the application.

B. Sample Types

Background monitoring –Background samples shall be collected within the treatment area, just prior (up to 24-hours) to the application event.

Event monitoring-Event monitoring samples shall be collected immediately outside or adjacent to the treatment area immediately after the application event but after sufficient time has elapsed such that treated water would have exited the treatment area.

Post-event monitoring-Post event samples shall be collected within the treatment area within one week after the application event (preferably towards the end of the week).

III Receiving Water Monitoring Requirements

A. General Monitoring Requirements:

1. The basic geographic and hydrographic features are as follows: Lake Casitas is a 250,000-acre ft capacity reservoir that receives water by runoff from a 33 square mile watershed and the Ventura River diversion. Lake Casitas is filled by Coyote Creek, Santa Ana Creek and the Ventura River (through the Robles Diversion Canal). At full capacity the lake has an average depth of 94 feet and a maximum depth of 267 feet. Lake water is drawn into the filtration plant through the multi-level intake structure, allowing the selection of the highest water quality from the lake at any given time. Water is released over the spillway of the dam occasionally when the lake is full. In order to prevent spilling, diversion through the canal is stopped when the lake elevation approaches spill level. If the lake spills, the water goes into Coyote Creek, which eventually joins the Ventura River

The application points and the pathways of residue flows are as follows: A typical shoreline treatment involves application in three areas of the lake. Two areas are treated as strip treatments along the mainland and island shorelines at a distance of approximately 100 feet offshore. The mainland shoreline treatment encompasses an area of 51.28 acres (111,693 feet (21.15 miles) x 20 foot swath), while the island shoreline treatment encompasses an area of 12.52 acres (27,274 feet (5.17 miles) x 20 foot swath). The third treatment area is centered at the intake for the treatment plant at the southeastern end of the reservoir and encompasses an area of 25 acres. The total area to be treated with algaecide is 89 acres (assuming 15 foot depth of treatment). These figures will vary as the lake elevation increases or decreases.

A full-lake treatment would cover approximately 2,700 surface acres.

2. Algaecides and aquatic herbicides application practices and how they are distributed in space and time: The Algae Growth will be evaluated to establish the need for treatment. Application will proceed according to the Pest Control Recommendation from a licensed Pest Control Advisor (PCA). Application will be made according to label instructions. To ensure accuracy, GIS and GPS technology is utilized for calculating treatment areas, and during the actual application process.

3. Relevant knowledge about the transport, fates, and effects of algaecides and aquatic herbicides, including best- and worst-case scenarios: Manufacturers of registered pesticides provide this information to the USEPA, and it is considered when formulating the Pest Control Recommendation.

4. Description of the designated beneficial uses in each water body: The main beneficial use of Lake Casitas is as a municipal and domestic supply. Other uses include agricultural supply, industrial process supply, industrial service supply, warm freshwater habitat, cold

freshwater habitat and habitats necessary for the survival and successful maintenance of species established under state or federal law as rare, threatened or endangered.

5. Relevant knowledge about the action of cumulative and indirect effects: The product Labels and USEPA Re-registration Eligibility Decisions (RED) documents do not indicate water quality impacts from algaecide applications that proceed according to the APAP. Negative effects have not been observed during past treatments, and there are no known mechanisms through which algaecide applications could lead to designated use impacts, given the basic features of the area.

6. Known and potential impacts of algaecide applications on water quality ranked in terms of relative risk and based on factors such as magnitude, frequency and duration: The product Labels and USEPA Re-registration Eligibility Decisions (RED) documents do not indicate water quality impacts from algaecide applications that proceed according to the APAP. Historically, applications are infrequent and not usually more than twice a yearly during the warm months.

7. Sufficient number of sampling areas to assess the entire area of influence: CMWD has less than 20 application sites; therefore samples will be collected at two locations. The sampling locations and frequencies were selected in order to provide data that is representative of conditions found in the entire lake, and to represent average conditions found in the lake following algaecide use.

B. Visual, Physical and Chemical Monitoring requirements:

Monitoring shall take place at locations that are described and scheduled in the MRP. Monitoring for all active ingredients will include frequent and routine monitoring on a pre-determined schedule as shown in the MRP. The sampling locations and frequencies were selected in order to provide data that is representative of conditions found in the entire lake, and to represent average conditions found in the lake following algaecide use.

The sample locations will be offshore of Coyote ramp, and outside of the closed area near the intake structure at the dam. These locations are far apart from one another, and cover the north and south ends of the lake. Both sample points are in open water areas, and neither are protected from prevailing winds or located in downwind coves where materials can concentrate. See the attached map for sample locations.

C. Monitoring Plan:

Samples will be collected using procedures that minimize loss of monitored constituents during sample collection and analysis, and maintain sample integrity. Proper sampling techniques must be used to ensure that a sample is representative of the conditions found in the lake following algaecide treatment. Field sampling quality assurance protocol is used to

determine the possible effects of field equipment and procedures on the samples being collected. See field data sheet (attachment 1).

General Field Sampling Requirements:

1. Description of procedures used to prevent sample contamination from persons, equipment, and vehicles associated with algaecide and aquatic herbicide application:

- Sampling personal will wear new disposable gloves while taking sample.
- Sampling personal will wear clean uncontaminated clothing.
- Sampling personal will cap sample containers immediately after taking sample.
- Samples will be placed directly in field cooler, and lab refrigerator prior to pick up.
- Sampling materials (bottles, gloves and clothing) are not used or stored near the application area.
- All sampling and field equipment that may contact samples must be decontaminated before sampling and between each use.
- Decontaminate the sampling device by rinsing thoroughly with distilled water.
- Samples are taken more than 50 feet away from and upwind/upstream of the application vessel.
- Sample collectors will not come in contact with any application equipment or treated water.
- Pre-event monitoring sample collection will be done prior to the application of the algaecide by lab personal not involved with loading or application.

2. Sample containers:

Sample containers are pre-cleaned according to USEPA specification for the appropriate methods.

3. Documentation:

All field activities must be documented in a field data book to support data interpretation and ensure defensibility of the data. Field personnel must record the following information in a field data book:

- Name(s) of field personnel
- Site/sampling location identification
- Date and time of sample collection
- All field measurements, such as pH, temperature, and dissolved oxygen
- Observation of weather and conditions that can influence sample results
- Any problems encountered during sampling
- Corrective actions

4. Sample Identification:

All samples must be uniquely identified to ensure that results are correctly reported and interpreted. Samples must be identified by site, sampling location, sample date, depth, time, and sample type (normal field sample or QC sample).

5. Field and Laboratory Staff Training:

All staff performing field or laboratory procedures shall receive training to ensure that the work is conducted correctly and safely. At a minimum all staff shall be familiar with the field guidelines and procedures in this document.

6. QC Sample Collection:

Field QC samples are used to assess the influence of sampling procedures and equipment used in sampling. The following field QC samples will be collected for this program:

- a. Duplicate samples- All samples will be collected in duplicate.

- b. Equipment blank- Prepare by filling the sampling device (Kemmerer bottle) with laboratory grade reagent water, and using that water to fill the sample bottles for the equipment blank. The sampling blank will be exposed to the same sampling equipment, handling, storage times, processing and analysis as the samples being collected. There will be one equipment blank done prior to taking any samples in order to check the sampling equipment for contamination.

7. Sample Custody:

Sample custody-Sample possession must be traceable from the time of collection until results are reported and verified by the laboratory, and samples are disposed of. Sample transfer between field staff and the laboratory is documented by signing and dating a chain of custody form whenever sample possession changes. If samples are not shipped on the collection day, they are held in the refrigerator. Sample holding times and preservatives used will be noted to ensure holding times are within the specified limit.

8. Chain-of-Custody Form:

A chain-of-custody form is completed after sample collection, and prior to sample shipment or release. The chain-of-custody form, sample labels, and field documentation are crosschecked to verify sample identification and number of containers. Information to be included in the chain of custody forms includes:

- Sample identification
- Date and time of collection
- Samplers initials
- Analytical methods requested
- QC sample identification
- Signature blocks for release and acceptance of samples
- Any comments to identify special conditions or requests

9. Sample labels:

A sample label is affixed to each sample collected. Sample labels uniquely identify samples with sampling site and depth, analytical method requested, the samplers name and initials, and date/time of sample collection.

10. Documentation Procedures:

In order to keep an accurate written record of sample collection activities, a sample logbook will be maintained for all samples collected:

- All entries must be legible, written in waterproof ink and contain accurate documentation of the field activities
- Daily entries must be initialed and dated
- Errors or changes will be crossed out with a single line, dated and initialed
- The chain of custody forms will be completed accurately and legibly, and filed with the sample log book

11. Sample Shipments and Handling:

All sample shipments are accompanied by the chain-of-custody form, which identifies the content. The original form accompanies the shipment and a copy is retained by CMWD.

Samples are either shipped to the laboratory, or are held in the refrigerator and picked up by the laboratory. If samples are shipped, blue ice will be packed with the samples, and the following procedures will be used to prevent bottle breakage and cross-contamination:

- Bubble wrap or other cushioning material is used to keep breakable bottles from contacting one another to prevent breakage
- Breakable sample bottles are individually sealed in plastic re-closeable bags
- Samples are capped tightly; seal is checked prior to shipping
- All samples are transported inside hard plastic coolers

B. Corrective Action:

During the course of sample collection in this study, CMWD will make sure that procedures are followed as specified in this document. Problems with field data quality that may require corrective action are documented in the field data book.

C. Device Calibration and Maintenance:

All monitoring instruments and devices that are used by CMWD to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

D. Monitoring Frequency:

CMWD will submit monitoring results to the appropriate Regional Board if any constituent

required to be monitored under this General Permit is monitored more frequently than specified.

E. Monitoring Records:

Records of monitoring information shall include the following:

- The date, exact place, and time of sampling or measurements
- The individuals who performed the sampling or measurements
- The dates analyses were performed
- The individuals who performed the analyses
- The analytical techniques or methods used
- The analytical results

F. Retention of Records:

CMWD will retain records of all monitoring information, including calibration and maintenance records, copies of required reports, and records of data used to complete the application for a period of at least 3 years from the date of the sample, measurement, or report of application. This period may be extended by a request from the regulator at any time.

G. Receiving Water Monitoring:

1. For each application CMWD shall prepare a map with convenient scale showing the application area, treatment area, immediately adjacent untreated areas (if entire water body is not treated), and water bodies receiving treated water. CMWD shall also provide information on surface area and/or volume of application area and treatment area and any other information used to calculate dosage and quantity of each algaecide used at each application site. CMWD shall also identify sampling locations and provide GPS coordinates for each sampling site.
2. CMWD shall inspect the integrity of the valve and spillway prior to application to ensure that treated water does not unintentionally get discharged into the Coyote Creek area below the dam.
3. CMWD has one application site; therefore CMWD will collect samples at two locations in the lake.
4. CMWD has less than 20 application sites; and will collect samples at two locations. The sampling locations and frequencies were selected in order to provide data that is representative of conditions found in the entire lake, and to represent average conditions found in the lake following algaecide use. The sample locations will be offshore of Coyote ramp, and at the buoy in the closed area near the intake structure at the dam. See the attached map for sample locations. These monitoring locations may be changed if surveillance indicates they are not representative for characterizing water quality following application of an algaecide.
5. The following monitoring is required for each sampling:
 - a. Background monitoring –Background samples shall be collected **within** the

treatment area, just prior (up to 24-hours in advance) to the application event.

b. Event monitoring-Event monitoring samples shall be collected immediately **outside** or adjacent to the treatment area, immediately after the application event but after sufficient time has elapsed such that treated water would have exited the treatment area.

c. Post-event monitoring-Post event samples shall be collected **within the treatment area within one week after the application event** (preferably towards the end of the time range that is specified).

6. The following parameters shall be analyzed for:

Sample Type	Constituent	Sample Method	Lab Method	Frequency
Visual	Site Description Appearance Weather Conditions	Visual Observation	NA	All applications at all sites
Physical	Temperature Turbidity Conductivity	Grab (3')	USEPA Guidelines	All applications at all sites
Chemical	Active Ingredient pH Dissolved Oxygen Hardness	Grab (3')	USEPA Guidelines	All applications at all sites

*Field testing

For all sample sites, pH, temperature, and dissolved oxygen are measured prior to collecting samples for laboratory analyses. All monitoring instruments and devices will be properly maintained and calibrated as necessary to ensure their continued accuracy. To ensure that the dissolved oxygen/temperature meter is operating properly and producing accurate and reliable data, routine calibration should be performed once per day prior to instrument use. If calibration reveals that the instrument is outside established accuracy limits, it should be noted and the instrument should be serviced in the laboratory or field. If the instrument continues to malfunction, the instrument will be sent back to the manufacturer for repair. The dissolved oxygen meter is calibrated by adjusting the meter according to the barometric pressure. The meter calibration is set according to the oxygen content at that particular pressure. The thermometer is checked by comparison with a National Institute of Standards and Technology (NIST) reference thermometer. A pH meter is included and is calibrated with at least two standard calibration solutions that bracket the expected range of measurements.

7. Visual Assessment:

During the sampling procedure a visual assessment will be made by CMWD personnel

to check for potential adverse effects to the environment, or beneficial uses of Lake Casitas that could be caused by the application of algaecide. A biologist will also do a visual assessment following the algaecide application. Personnel at recreation will be notified and asked to be on the alert for any problems during routine patrol. Personnel at recreation will also be asked to notify the water quality supervisor if a member of the public observes adverse effects on the environment. For longer term effects, the lake will be assessed visually at varying intervals following algaecide application while doing routine field work on the lake including sampling, monitoring of algae levels, or dissolved oxygen and temperature measurements on the lake.

H. Additional Monitoring:

Dischargers that propose monitoring as part of their California Environmental Quality Act (CEQA) compliance must also comply with that monitoring plan where the two plans differ. In CMWD's case, there are no CEQA compliance issues because CMWD is not requesting a categorical exception. The exception is not requested because the calculated dose level of copper is less than the priority pollutant objective.

IV. REPORTING REQUIREMENTS

A. General monitoring and reporting requirements:

CMWD shall comply with all standard provisions (Attachment B, Order No. 2013-0002-DWQ) related to monitoring, reporting and record keeping. Upon direction of the State Water board or the Regional Water Board CMWD shall submit information as specified.

CMWD shall report to the State Water Board and appropriate Regional Water Board any toxic chemical release data that are reported to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986.

B. Annual Information Collection:

CMWD shall complete and retain all information on the previous reporting year beginning January 1 and ending December 31. When requested by the Deputy Director or Executive Officer of the applicable Regional Water Board, CMWD shall submit the annual information which must include the following:

1. An Executive Summary discussing General Permit compliance or violations, and the effectiveness of the APAP in reducing or preventing the discharge of pollutants associated with algaecide applications.
2. A summary of monitoring data including the identification of water quality improvements or degradation, and recommendations for improvements to the APAP (including proposed BMP's and monitoring) based on the monitoring results. All receiving

water monitoring data shall be compared to receiving water limitations.

3. Identification of BMP's and a discussion of their effectiveness in meeting the requirements of the General Permit.
4. If there are any violations of this General Permit, include a discussion of BMP modifications that address the violations.
5. A map showing the location of each treatment area.
6. Types and amounts of algaecide used at each application event.
7. Information on surface area and/or volume of treatment area and any other information used to calculate dosage, concentration, and quantity of each algaecide used.
8. List of gates in the treatment area that may discharge to surface waters; time of gate closure, and reopening, include any calculations used to determine closure and reopening times if applicable.
9. Sampling results shall indicate the name of the sampling agency or organization, detailed sampling location information (including latitude and longitude or township/range/section if available), detailed map or description of each sampling site (i.e., address, crossroads, etc.), collection date, name of constituent/parameter and it's concentration detected, minimum levels, method detection limits for each constituent analysis, name or description of water body sampled, a comparison with applicable water quality standards, and a description of the analytical QA/ QC plan. Sampling results shall be tabulated so that they are readily discernible.

10. Summary of Pesticide Application Log:

CMWD and/or the contractor shall maintain a log for each aquatic pesticide application. The application log shall contain the following information:

- Date of application
- Location of application
- Name of applicator
- List of gates or control structures in the treatment area that may discharge to surface waters
- Time of gate or control structure closure and reopening, include any calculations used to determine closure and reopening times if applicable
- Application details such as water temperature, flow or level of water body, time application started and stopped, and aquatic pesticide application rate and concentration

- A visual monitoring assessment
- A certification that the applicator(s) followed the APAP

C. Annual Report:

CMWD shall submit to the Deputy Director and the appropriate Regional Water Board Executive Officer an annual report consisting of a summary of the past year's activities, and certify compliance with all requirements of this General Permit. If there is no discharge of algaecides, their residues, or their degradation by-products, CMWD will provide the above entities a certification that algaecide application activities did not result in a discharge to any water body. The annual report shall contain the following information:

1. An executive summary discussing compliance or violation of this General Permit and the effectiveness of the APAP; and
2. A summary of monitoring data, including the identification of water quality improvements or degradation as a result of the algaecide or aquatic pesticide application.
3. Dischargers shall submit the report annually, due by March 1 following the calendar year of the reporting period.

D. Electronic Reporting:

At any time during the term of this General Permit, the State Water Board or the appropriate Regional Water Board may notify CMWD of the requirement to submit electronically Self Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program. Until such notification is given, CMWD shall submit hardcopy SMRs. The CIWQS website will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal, CMWD shall submit annual SMRs including the results of all required monitoring using USEPA approved test methods specified in this General Permit. If the CMWD monitors any pollutant more frequently than required by this General Permit, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

E. Reporting Protocols:

The CMWD shall report with each sample result the applicable reported Minimum Level (ML) and the current Minimum Detection Limit, as determined by the procedure in 40 C.F.R. part 136.

The CMWD shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

1. Sample results greater than or equal to the reported ML shall be reported as measured

by the laboratory (i.e., the measured chemical concentration in the sample).

2. Sample results less than the Report Limit, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (plus a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

3. Sample results less than the laboratory's MDL shall be reported as "<" followed by the MDL.

4. The CMWD shall instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Coalition or Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. Multiple Sample Data: If two or more sample results are available, the CMWD shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or "Not Detected" (ND). In those cases, the CMWD shall compute the median in place of the arithmetic mean in accordance with the following procedure:

a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

6. The annual report shall comply with the following requirements:

a. The CMWD shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the algaecide and aquatic herbicide applications are conducted in compliance with effluent and receiving water limitations. The CMWD is not required to duplicate the submittal of data that are entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format

within the system, the CMWD shall submit electronically the data in a tabular format as an attachment.

b. The CMWD letter to the annual report that clearly identifies violations of the permit; discusses corrective actions taken or planned; and provides a time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

c. The annual report must be submitted to the State Water Board and the appropriate Regional Water Board, signed and certified as required by the Standard Provisions (Attachment B).

F. Other Reporting Requirements:

1. 24 hour report-CMWD shall report to the State Water Board and appropriate Regional Water Board any non-compliance, including any unexpected or unintended effect of algaecide use that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time CMWD becomes aware of the circumstanced and must include following information:

- a. The caller's name and telephone number;
- b. Applicator name and mailing address;
- c. Waste Discharge Identification (WDID) number;
- d. The name and telephone number of a contact person;
- e. How and when the CMWD become aware of the noncompliance;
- f. Description of the location of the noncompliance;
- g. Description of the noncompliance identified and the USEPA pesticide registration number for each product the Discharger applied in the area of the noncompliance; and
- h. Description of any steps that the CMWD or will take to correct, repair, remedy, cleanup, or otherwise address any adverse effects.

If CMWD is unable to notify the State and the appropriate Regional Board within 24 hours, CMWD must do so as soon as possible and also provide a rationale for why the CMWD was unable to provide such notification within 24 hours.

2. 5 day report-CMWD shall also provide a written submission within five (5) days of the time that CMWD becomes aware of the noncompliance. The written submission shall contain the information:

- a. Date and time the CMWD contacted the State Water Board and the appropriate Regional Water Board notifying of the noncompliance and any instructions

received from the State and/or Regional Water Board; information required to be provided in Section D.1 (24-Hour Reporting);

b. A description of the noncompliance and its cause, including exact date and time and species affected, estimated number of individual and approximate size of dead or distressed organisms (other than the pests to be eliminated);

c. Location of incident, including the names of any waters affected and appearance of those waters (sheen, color, clarity, etc);

d. Magnitude and scope of the affected area (e.g. aquatic square area or total stream distance affected);

e. Algaecide and aquatic herbicide application rate, intended use site (e.g., banks, above, or direct to water), method of application, and name of algaecide and herbicide product, description of algaecide and herbicide ingredients, and USEPA registration number;

f. Description of the habitat and the circumstances under which the noncompliance activity occurred (including any available ambient water data for aquatic algaecides and aquatic herbicides applied);

g. Laboratory tests performed, if any, and timing of tests. Provide a summary of the test results within five days after they become available;

h. If applicable, explain why the CMWD believes the noncompliance could not have been caused by exposure to the algaecides or aquatic herbicides from the CMWD's application; and

i. Actions to be taken to prevent recurrence of adverse incidents.

j. The State Water Board staff or Regional Water Board staff may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours.

Attachment 1
Casitas Municipal Water District
 Summary of Monitoring Data

Background Monitoring (<24 hours in advance of treatment)

Page 1

Lake Casitas
Coyote Ramp

Sample Type	Sample Date	Analysis Date	Sample Time	Parameter	Sample Method	Field Analysis	Laboratory Analysis	QC Sample*	Units	Laboratory Method	Initials	Comments	
Visual				Secchi disk	Visual				Feet				
Physical				Temperature:	Grab, 3'				degrees F				
				Turbidity	Grab, 3'				NTU	2130B			
				Electrical Conductivity	Grab, 3'				us/cm	2510B			
				pH	Grab, 3'				units				
Chemical				Active Ingredient	Grab, 3'				ug/L				
				Dissolved Oxygen	Grab, 3'				mg/L				
				Hardness (CaCO3)*	Grab, 3'				mg/L	3010			
GPS Location:			N34°24.305' W119° 21.132'										
CMWD Biologist Observations													
Appearance of lake:													
Weather Conditions:													

Please note the following Receiving Water Conditions:	Y/N or Not Sure	Comments
Floating or suspended matter		
Discoloration		
Bottom deposits		
Aquatic life		
Visible films, sheens or coatings		
Fungi, slimes, or objectionable growths		
Potential nuisance conditions		
Other		

*Required only for copper applications only

Lake Casitas
Intake

Sample Type	Sample Date	Analysis Date	Sample Time	Parameter	Sample Method	Field Analysis	Laboratory Analysis	QC Sample*	Units	Laboratory Method	Initials	Comments
Visual				Secchi disk	Visual				Feet			
Physical				Temperature:	Grab, 3'				degrees F			
				Turbidity	Grab, 3'				NTU	2130B		
				Electrical Conductivity	Grab, 3'				us/cm	2510B		
				pH	Grab, 3'				units			
Chemical				Active Ingredient	Grab, 3'				ug/L			
				Dissolved Oxygen	Grab, 3'				mg/L			
				Hardness (CaCO3)*	Grab, 3'				mg/L	3010		
GPS Location:			N34°24.305' W119° 21.132'									
CMWD Biologist Observations												
Appearance of lake:												
Weather Conditions:												

Please note the following Receiving Water Conditions:	Y/N or Not Sure	Comments
Floating or suspended matter		
Discoloration		
Bottom deposits		
Aquatic life		
Visible films, sheens or coatings		
Fungi, slimes, or objectionable growths		
Potential nuisance conditions		
Other		

*Required only for copper applications only