Rancho Murieta Community Services District
15160 Jackson Road • P.O. Box 1050 Rancho Murieta, CA 95683 • 916-354-3700 • Fax 916-354-2082
Visit our website-www.rmcsd.com

April 12, 2013

APR 15 2013

State Water Resources Control Board
Division of Water Quality
NPDES Unit, 15th Floor, Room 15-35A
Attn: Philip Isorena
1001 I Street
Sacramento, CA 95814

Subject: Notice Of Intent (NOI)

Mr. Isorena,

Attached is the completed NOI, map showing affected area, a check for the fee, my CA-DPR certification and our Pesticide Application Plan, to comply Water Quality Order No. 2012-0003-DWQ, General Permit No. CAG 990004.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Sincerely,

Paul Siebensohn
Director of Field Operations

Enclosures

\\RMCSD-NAS1\Users\pauls\pauls operational information\@Vector Control NPDES\2013-04 Vector control NOI cover letter.docx

ATTACHMENT G – NOTICE OF INTENT

APR 15 2013

WATER QUALITY ORDER NO. 2012-0003-DWQ
GENERAL PERMIT NO. CAG 990004

STATEWIDE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR BIOLOGICAL AND RESIDUAL PESTICIDE DISCHARGES TO WATERS OF THE UNITED STATES FROM VECTOR CONTROL APPLICATIONS

I. NOTICE OF INTENT STATUS (see Instructions)

Mark only one item ☑ A. New Applicator ☐ B. Change of Information: WDID# _____

☐ C. Change of ownership or responsibility: WDID# _____

II. DISCHARGER INFORMATION

A. Name: Rancho Murieta Community Services District			
B. Mailing Address: P.O. Box 1050, 15160 Jackson Rd.			
C. City: Rancho Murieta	D. County: Sacramento	E. State: CA	F. Zip Code: 95683
G. Contact Person: Paul Siebensohn	H. Email address: psiebensohn@rmcsd.com	I. Title: Director of Field Operations	J. Phone: (916) 354-3700

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 Code
G. Email address	H. Title	I. Phone	

IV. RECEIVING WATER INFORMATION

A. Biological and residual pesticides discharge to (check all that apply)*:

1. ☑ Canals, ditches, or other constructed conveyance facilities owned and controlled by Discharger.
   Name of the conveyance system: Rancho Murrieta CSD drainage, Zone 1, A

2. ☐ 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: _____

3. ☐ Directly to river, lake, creek, stream, bay, ocean, etc.
   Name of water body: _____

   * A map showing the affected areas for items 1 to 3 above may be included. (see attached)

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

A map showing the locations of A1-A3 in each Regional Water Board shall be included.

V. PESTICIDE APPLICATION INFORMATION

A. Target Organisms: ✓ Vector Larvae _____ Adult Vector

B. Pesticides Used: List name, active ingredients and, if known, degradation by-products

VectoBac 12AS - Bacillus thuringiensis

Aquabac xt - Bacillus thuringiensis

C. Period of Application: Start Date April End Date September

D. Types of Adjuvants Added by the Discharger:

VI. PESTICIDES APPLICATION PLAN

A. Has a Pesticides Application Plan been prepared?*

☑ Yes ☐ No

If not, when will it be prepared? _____

* A copy of the PAP shall be included with the NOI.

B. Is the applicator familiar with its contents?

☑ Yes ☐ No

VII. NOTIFICATION

Have potentially affected governmental agencies been notified?

☐ Yes ☑ No

* If yes, a copy of the notifications shall be attached to the NOI.

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: Paul Siebensohn

B. Signature: _____ **Date:** 4/11/13

C. Title: Director of Field Operations

X. FOR STATE WATER BOARD USE ONLY

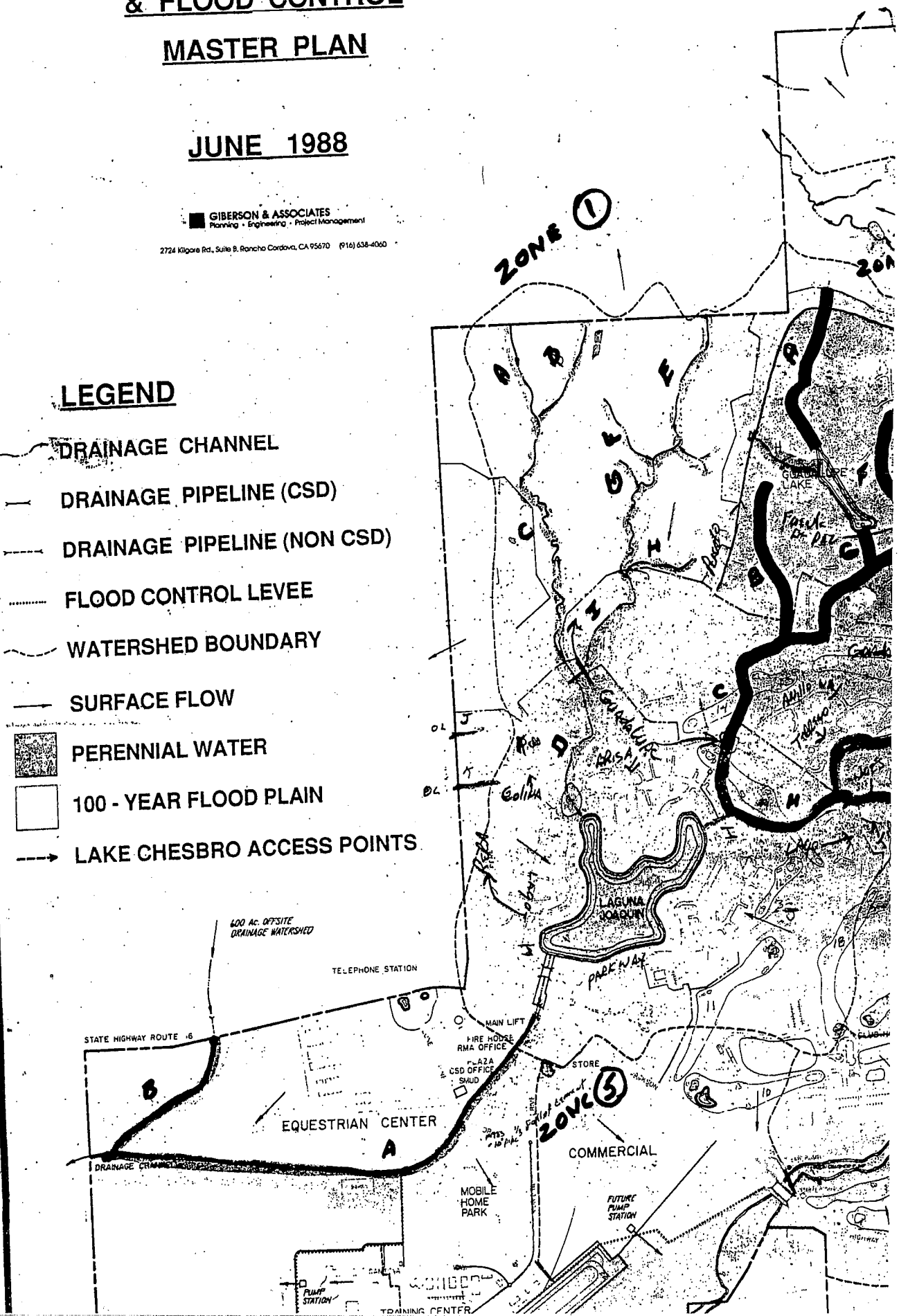
WDID:	**Date NOI Received:**	**Date NOI Processed:**
Case Handler's Initial:	**Fee Amount Received:** $	**Check #:**

STORM DRAINAGE & FLOOD CONTROL MASTER PLAN

JUNE 1988

GIBERSON & ASSOCIATES
Planning • Engineering • Project Management

2724 Kilgore Rd., Suite B, Rancho Cordova, CA 95670 (916) 638-4060



DEPARTMENT OF PESTICIDE REGULATION
LICENSING/CERTIFICATION PROGRAM

QUALIFIED APPLICATOR CERTIFICATE

DATE OF ISSUE
07/09/2012

831-442-3536
PAPA
2013

VALID THROUGH
12/31/2013
F

QAC 128658
PAUL SIEBENSOHN
15160 JACKSON ROAD
RANCHO MURIETA CA 95630

Rancho Murieta CSD

Pesticide Application Plan (PAP)

for Laguna Joaquin Drainage Basin

per

State Water Resources Control Board

Water Quality Order No.2012-0003-DWQ

General Permit No.2011-0002-DWQ

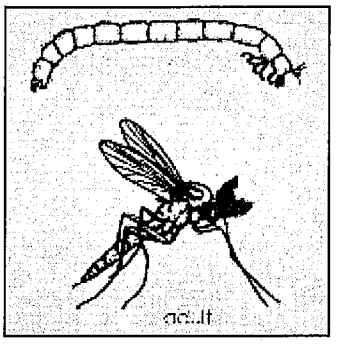
Rancho Murieta Community Services District
15160 Jackson Road
Rancho Murieta, CA 9683

Updated March 2013

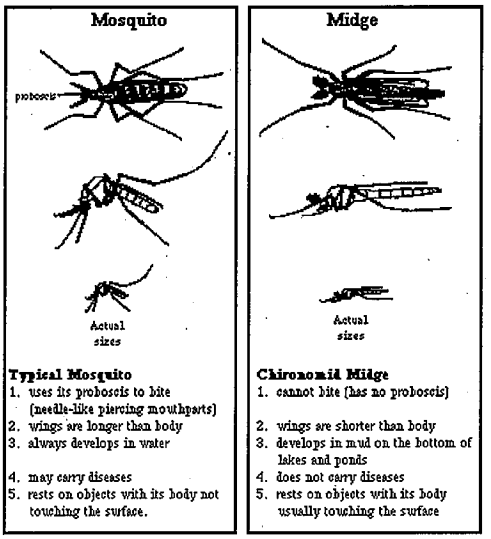
Table of Contents

1.0 Background Identification of Problem

The community of Rancho Murieta Community Service District receives complaints from its residents surrounding the Laguna Joaquin drainage detention basin due to swarms of midge flies that emerge from it. Midge flies have been reported frequently as a nuisance by the residents around Laguna Joaquin and surrounding areas. These midges are commonly known as "blind mosquitoes" because they are mosquito-like but do not bite. A typical midge fly is depicted on the right.



It has been a contention as to which community agency, if any, should be responsible for mitigation of the midge flies. The Sacramento-Yolo Vector control District has said that they won't treat for them as they are not disease carrying insect. The Rancho Murieta Association owns the property around and under Laguna Joaquin but express the opinion that they should not be involved in any midge fly treatments as they emerge through the water to which the District maintains an easement. The Murieta Townhouses Inc., which is most directly affected has the greatest concerns regarding the Midge Flies, but has taken no action to mitigate them other than to bring it to the attention of the District.



After discussions on whether or not to treat for midge flies, the District's Board decided to take action for the community around Laguna Joaquin and provide periodic treatments to control the midge flies. The District applies an environmentally safe product to help control the midge flies at four times a year during the warmer months, typically April - September. Despite the treatments, some complaints are still received, although some calls are received after treatments saying that they have made things better.

1.1 System Description

Laguna Joaquin basin serves several purposes for the community of Rancho Murieta. For the Community Service District (District) it is a drainage detention basin serving north side developments Units 1, 2, 3, and 4, and also as water storage basin for downstream ranch irrigation through a diversion box. For the Home Owner's Association it is a source of water for irrigation of approximately twenty acres of common ground landscaping. For the community it is an aesthetic basin which also serves for fishing recreation. The basin is relatively shallow, between 4-6 feet, with a soft silty bottom which is ideal for midge fly larvae.

Seasonal storms, typically November – March, can create enough stormwater run off to fill and spill the basin. Overflow from the basin flows over a man made spillway and channel and into a drainage ditch that flows onto the Anderson Ranch property south west of Rancho Murieta. Approximately a mile downstream from Laguna Joaquin is another catch basin located on the Anderson Ranch. From that catch basin the drainage ditch then may flow another mile to the Cosumnes River.

1.2 Pest to be controlled and why

Midge flies emerge from the water at Laguna Joaquin in very large numbers during the warmer months of April - Septemeber, causing a variety of nuisance and other problems for people who reside within the flight range of these insects. Adults are weak flyers and may fly or be blown ashore where they congregate on vegetation, under porch alcoves, in carports and on walls of homes and other buildings. Swarms of adults may be so dense that they interfere with outdoor activities and stain walls, cars and other surfaces upon which they rest. Adults are attracted to lights, "bug zappers" and may accumulate in large numbers on window screens and around porch and street lights. The occurrence of midges promotes the proliferation of spiders whose unsightly webs may have to be removed frequently. These insects pose no direct threat to pets or people, however residents have cited choking on midge flies while jogging, bicycling, and walking around Laguna Joaquin.

2.0 Pesticide Used

The pesticide products recommended and used for midge fly control is Vectobac 12AS or Aquabac xt. The active ingredient in both products is *Bacillus thuringiensis (Bti)* as a microbial larvacide. Vectobac 12AS is a product of Valent BioSciences. It is registered with the Environmental Protection Agency, EPA Reg. No.73049-38. Aquabac xt is a product Becker Microbial Products, EPA Reg. No.62637-1.

Microbial larvacides are bacteria that are registered as pesticides for control of vector larvae in outdoor areas. *Bacillus thuringiensis (Bti)* is a naturally occurring soil bacterium registered for control of mosquito and midge fly larvae as well as blackflies. When the larvae ingest the bacteria, crystallized toxins are produced which destroy the larvae's digestive tract. Larvae become sluggish and die within 24 hours. The toxin disrupts the gut in mosquito by binding to receptor cells present in insects, but not in mammals. Persistence of *Bti* is low in the environment. It usually lasts 1 to 4 days due to sensitivity to ultraviolet light.

2.1 Dosing

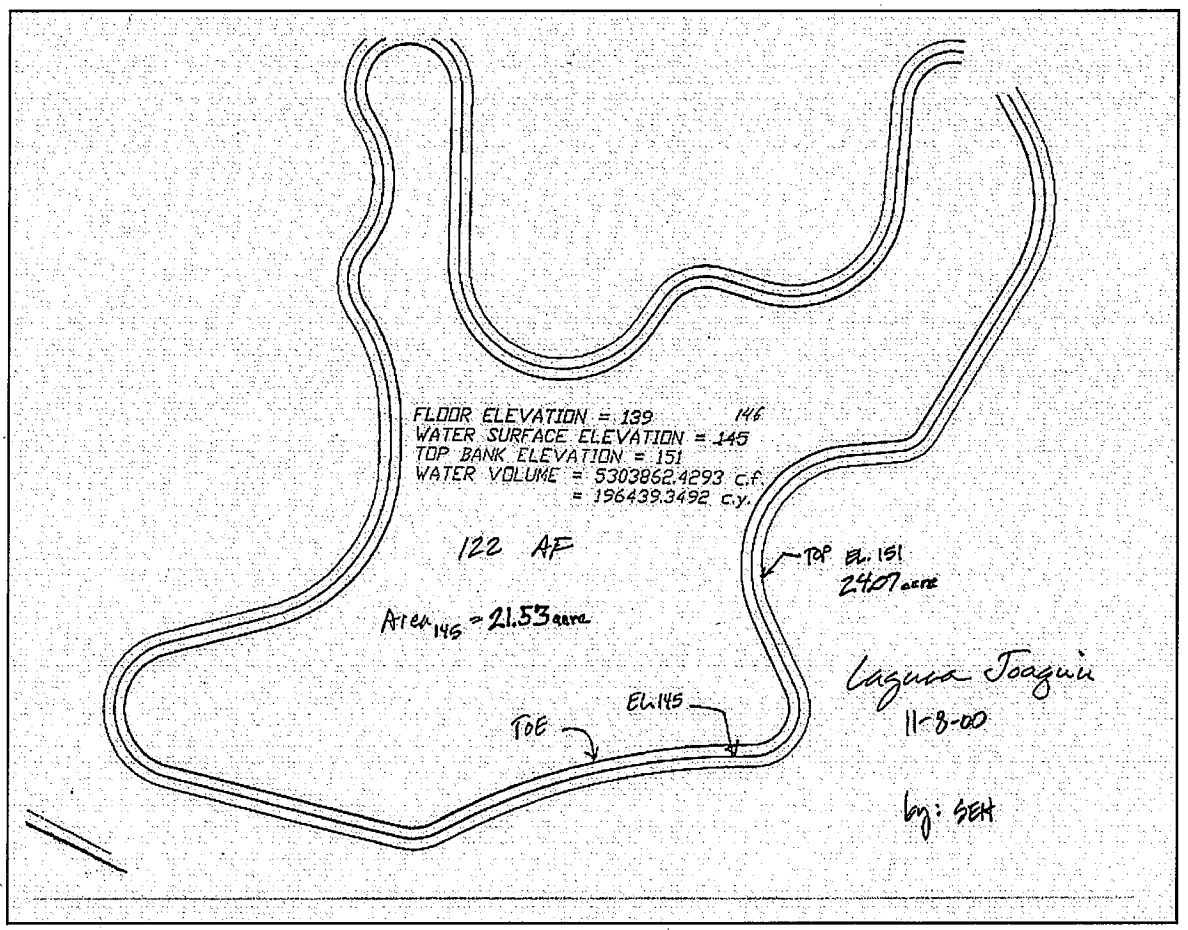
Dosing was determined per the manufacturers label rate for dosing Nuisance Midge Habitat, which is the same for both Vectobac 12AS and Aquabac xt.

Dosage: 1 gallon per acre (Dosing may occur at lesser rates)
Precautions: Following product data sheet / MSDS

2.2 Map of target area

Aerial photo showing location of Laguna Joaquin within District, circled in red.

2.2 Volume map of Laguna Joaquin target area



2.4 Other Control Methods

Drawing down the reservoir to dry out the sides and bottom is not an alternative as surrounding residents complain of the muddy smelling odor and aesthetics. Adding mosquito fish, *Gambusia affinis,* has not worked well enough in the past either, as a current population of bass and bluegill eat the mosquito fish. Also, as part of the midge flies life cycle it emerges in large swarms to avoid predation making mosquito fish only partially effective.

Minimizing the use of outside lights will help to reduce their presence near resident's homes. If residents choose to use a "Bug Zapper", they should keep it as far away from your residence as possible to maximize its effectiveness. The use of pesticides is not recommended as a strong water hose is usually sufficient to knock down and wash away most midges that collect in areas around homes and pesticides tend cause more harm to the users and environment than help.

2.5 Best Management Practices (BMPs)

Simply put, Best Management Practices are used to prevent the release of the vector control product used outside of the area of intended use. They are implemented to comply with State Water Resources Control Board, Water Quality Order No.2012—003-DWQ, General Permit No. CAG 990004, Statewide National Pollutant Discharge Elimination System (NPDES) permit for biological and residual pesticide discharges to water of the United States from vector control applications.

BMPs are utilized for compliance with all pesticide label instructions, as well as requirements to comply with receiving water limitations. The BMPs required herein are intended to: 1) minimize the area and duration of impacts caused by the discharge of biological and residual pesticides in the Laguna Joaquin and 2) allow for restoration of water quality and protection of beneficial uses of the receiving waters to pre-application quality following completion of an application event.

BMPs are as follows:

- Applications will only occur during periods in which the Laguna Joaquin basin is not spilling and there is adequate freeboard, over one foot, at the spillway.
- Applications will not occur if for any day within 10-day forecast, at weather.com for sloughouse CA http://www.weather.com/weather/tenday/Sloughhouse+CA+95683:4:US, forecast predicts a chance of precipitation for any day over 30%.
- Water flow from the Cosumnes Irrigation Association ditch will not be diverted into Laguna during and five days after applications to prevent possible overflows. *(This is longer than the expected half life of 1 – 4 days of Bti)*
- Use products at manufacturer's label rate or less per application. (Attachment A)
- Follow Pest Control Advisor recommendations.
- Only District staff or contractor with a California Department of Pesticide Regulations (DPR), Qualified Applicator Certificate category F, or staff trained by that individual, will be used for applications.
- Follow all DPR regulations.
- Do not apply via spray gun if even slightly windy conditions exist to eliminate potential drift.

3.0 Safety

Follow the safety precautions as noted on the product's data / MSDS sheets. Store all products in locked cabinets in a cool, dry place where the temperature does not exceed 86°F. Do not mix, handle or apply products without appropriate personal protective equipment.

4.0 Notifications

Every calendar year prior to the first application of Vectobac 12AS, notify the Rancho Murieta Stormwater Committee of the general time period in which applications will occur at Laguna Joaquin. When applications are planned, post at least one week prior to applications on the District website at http://www.ranchomurietacsd.com/ and message board, as well as notify the Rancho Murieta Association. District website notifications will include purpose of application, time frame in which application will occur, and phone number and contact to call for additional information.

5.0 Monitoring

From the General Permit, *"The microbial pesticides have undergone extensive testing prior to registration. U.S EPA has determined that microbial pesticides are essentially non-toxic to humans and do not pose risks to wildlife, non-target species, or the environment when they are used according to label directions. Therefore, this General Permit does not include a Receiving Water Monitoring Trigger for Bti and B. sphaericus."*

Attachment A

(product labels)

VectoBac® 12AS

BIOLOGICAL LARVICIDE

AQUEOUS SUSPENSION

Active Ingredient:

Bacillus thuringiensis, subsp. *israelensis*, strain AM 65-52, fermentation solids and solubles	11.61%
Other Ingredients	88.39%
Total	100.00%

Potency: 1200 International Toxic Units (ITU) per mg
(Equivalent to 4.84 billion ITU per gallon, 1.279 billion ITU per liter)

There is no direct relationship between intended activity (potency) and the Percent Active Ingredient by Weight.

EPA Reg. No.73049-38
EPA Est. No. 33762-IA-001 List No. 05605

INDEX:

KEEP OUT OF REACH OF CHILDREN
CAUTION

1.0 FIRST AID

If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARD TO HUMANS (AND DOMESTIC ANIMALS)

CAUTION

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash contaminated clothing before reuse.

Mixer/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.2 Physical and Chemical Hazards

Diluted or undiluted VectoBac 12AS can cause corrosion if left in prolonged contact with aluminum spray system components. Rinse spray system with plenty of clean water after use. Care should be taken to prevent contact with aluminum aircraft surfaces, structural components and control systems. In case of contact, rinse thoroughly with plenty of water. Inspect aluminum aircraft components regularly for signs of corrosion.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply directly to finished drinking water reservoirs or drinking water receptacles when water is intended for human consumption.

Do not apply when weather conditions favor drift from treated areas. Do not apply to metallic painted objects, such as automobiles, as spotting may occur. If spray is deposited on metallic painted surfaces, wash immediately with soap and water to avoid spotting.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all these factors when making decisions.

3.1 Chemigation

Do not apply this product through any type of irrigation system unless labeling on chemigation is followed.

4.0 STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE: Store in a cool, [less than 86° F (30° C)], dry place.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not reuse container.

CONTINUED

5.0 APPLICATION DIRECTIONS

Do not apply when wind speed favors drift beyond the area of treatment.

Mosquito Habitat	Suggested Rate Range*
(Such as the following examples): Irrigation ditches, roadside ditches, flood water, standing ponds, woodland pools, snow melt pools, pastures, catch basins, storm water retention areas, tidal water, salt marshes and rice fields.	0.25 - 2 pts/acres
In addition, standing water containing mosquito larvae, in fields growing crops such as: Alfalfa, almonds, asparagus, corn, cotton, dates, grapes, peaches and walnuts, may be treated at the recommended rates.	
When applying this product to standing water containing mosquito larvae in fields growing crops, do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.	
Polluted water (such as sewage lagoons, animal waste lagoons).	1 - 2 pts/acre

*Use higher rate range in polluted water and when late 3rd and early 4th instar larvae predominate, mosquito populations are high, water is heavily polluted, and/or algae are abundant.

Blackflies Habitat	Suggested Rate Range
Streams	
Stream water† (=ppm) for 1 minute exposure time	0.5 - 25 mg/liter
Stream water† (=ppm) for 10 minutes exposure time	0.05 - 2.5 mg/liter

†Use higher rate range when stream contains high concentration of organic materials, algae, or dense aquatic vegetation.

†Discharge is a principal factor determining carry of Bti. Use higher rate or increase volume by water dilution in low discharge rivers or streams under low volume (drought) conditions.

6.0 NUISANCE FLIES

For control of nuisance flies (*Psychoda* spp., *Chironomus* spp.) in sewage treatment facilities utilizing trickling filter systems.

APPLICATION DIRECTIONS

Nuisance Fly Habitat	Suggested Rate Range*
Trickling filter system of wastewater treatment plants	10 - 20 mg/liter a.(0.833-1.67 ml) per liter of wastewater feed to the filter per 30 minutes

* Use high rate for control of *Chironomus* spp. Apply undiluted with pre-calibrated pump or other device into the wastewater feeding into the filters for a period of 30 minutes. Repeat applications as needed after 2-4 weeks. Control of *Chironomus* spp. may take up to 2 weeks.

7.0 NUISANCE AQUATIC MIDGES

For control of *Chironomine* midges (*Chironominae: Chironomini*) inhabiting shallow, manmade and natural lakes or ponds.

APPLICATION DIRECTIONS

Nuisance Midge Habitat	Suggested Rate Range*
Shallow Lakes and Ponds per sewage oxidation ponds (less than acre 6 feet deep)	1 gallon (3,785.5 ml) per acre

* Apply diluted with water in total volume of 5 gallons/acre by pouring or spraying over the surface to be treated with pre-calibrated device. Repeat application as needed after 2-4 weeks. Control of *Chironomine* midges may take up to 2 weeks.

8.0 GROUND AND AERIAL APPLICATION

VectoBac 12AS may be applied in conventional ground or aerial application equipment with quantities of water sufficient to provide uniform coverage of the target area. The amount of water will depend on weather, spray equipment, and mosquito habitat characteristics. Do not mix more VectoBac 12AS than can be used in a 72-hour period.

For most ground spraying, apply in 5-100 gallons of water per acre using hand-pump, airblast, mist blower, etc., spray equipment.

For aerial application, VectoBac 12AS may be applied either undiluted or diluted with water. For undiluted applications, apply 0.25 to 2.0 pt/acre of VectoBac 12AS through fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or rotary atomizers.

For diluted application, fill the mix tank or plane hopper with the desired quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding the VectoBac 12AS. VectoBac 12AS suspends readily in water and will stay suspended over normal application periods. Brief recirculation may be necessary if the spray mixture has sat for several hours or longer. AVOID CONTINUOUS AGITATION OF THE SPRAY MIXTURE DURING SPRAYING.

Rinse and flush spray equipment thoroughly following each use.

For blackfly aerial applications, VectoBac 12AS can be applied undiluted via fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or open pipes. Rate of application will be determined by the stream discharge and the required amount of VectoBac 12AS necessary to maintain a 0.5 - 25 ppm concentration in the stream water. VectoBac 12AS can also be applied diluted with similar spray equipment. Do not mix more VectoBac 12AS than can be used in a 72-hour period.

9.0 SMALL QUANTITY DILUTION RATES

Gallons Spray Solution/Acre
(Ounces Needed per Gallon of Spray)

VectoBac 12AS
Rate in Pints

Per Acre	10 Gal/A	25 Gal/A	50 Gal/A
0.25 (4 oz)	0.4	0.16	0.08
0.5 (8 oz)	0.8	0.32	0.16
1.0 (16 oz)	1.6	0.64	0.32
2.0 (32 oz)	3.2	1.28	0.64

CONTINUED

10.0 CHEMIGATION

Apply this product through flood (basin) irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have any questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers or other experts.

A person knowledgeable of this chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

10.1 RICE-FLOOD (BASIN) CHEMIGATION

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

VectoBac 12AS is metered or dripped into rice floodwater at application stations positioned at the point of introduction (levee cut) of water into each rice field or pan. Two to three pints of VectoBac 12AS are diluted in water to a final volume of 5 gallons. The diluted solution is contained in a 5 gallon container and metered or dispersed into the irrigation water using a constant flow device at the rate of 80 ml per minute. Introduction of the solution should begin when 1/3 to 1/2 of the pan or field is covered with floodwater. Delivery of the solution should continue for a period of approximately 4-1/2 hours. Floodwater depth should not exceed 10-12 inches to prevent excessive dilution of VectoBac 12AS which could result in reduced larval kill.

Agitation is not required during the period in which the VectoBac 12AS solution is being dispersed.

Application of VectoBac 12AS into rice floodwater is not permitted using a pressurized water and pesticide injection system.

11.0 NOTICE TO USER

Seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

AQUABAC®xt

Biolarvicide
Biological Larvicide Aqueous Suspension

A microbial insecticide effective against mosquitoes, blackflies, fungus gnats, nuisance flies (*Psychoda* spp. and *Chironomus* spp.) and nuisance aquatic midges (*Chironomine*) in a variety of habitats.

ACTIVE INGREDIENT:

Bacillus thuringiensis subspecies *israelensis* Strain BMP 144 solids, spores and insecticidal toxins*	8.00%
OTHER INGREDIENTS:	92.00%
TOTAL:	100.00%

*Equivalent to 1,200 International Toxic Units (ITU/mg) (4.84 Billion ITU/gallon or 1.2 Billion ITU/liter). Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

KEEP OUT OF REACH OF CHILDREN

CAUTION

	FIRST AID
If inhaled	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
See back panel for additional precautionary statements and directions for use.	

EPA Reg. No.: 62637-1
EPA Establishment No.: 70051-CA-1

Net Contents: 2 x 2.5 gallons (9.46 liters)
Batch Code:

MANUFACTURED FOR: BECKER MICROBIAL PRODUCTS, INC., 11146 N.W. 69th Place, Parkland, FL 33076

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS – CAUTION: Harmful if inhaled or absorbed through skin. Avoid breathing spray mist. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks. Mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS: Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS: Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Ony protected handlers may be in the area during application. Do not apply this product through any type of irrigation system.

Apply AQUABACxt to any water sites except treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

MOSQUITOES:

Habitat	Rate of AQUABACxt Required for Control*
Flood water, roadside ditches, irrigation ditches, rice fields, pastures, woodland pools, snowmelt pools, standing ponds, standing pools, standing water containing mosquito larvae in fields growing crops such as alfalfa, almonds, asparagus, corn, cotton, dates, grapes, peaches and walnuts	0.25-2.0 pts/A
Tidal water, salt marshes, catch basins, and storm water retention areas	0.50-2.0 pts/A
Polluted water (sewage lagoons, animal waste lagoons, etc.), water with moderate organic matter, and water with a high concentration of suspended solids	1.0-2.0 pts/A

*Use higher application rate in polluted water and when late 3rd and early 4th instar larvae predominate, mosquito populations are high, water is heavily polluted, and/or algae are abundant.

SPECIFIC APPLICATION INSTRUCTIONS:
Apply AQUABACxt in conventional aerial and ground application equipment with sufficient water to provide thorough coverage of the target area. The amount of water needed depends on weather, type of spray equipment and mosquito habitat.

Make ground applications in 1-100 gallons of water per acre in conventional equipment. Use as low as one gallon of water per acre surface area when the target area is open with light vegetative cover.

Make aerial applications diluted or undiluted. For undiluted applications, apply 0.25 to 2.0 pts/A of BMP 144 (2X) through fixed wing aircraft or helicopters equipped with conventional boom and nozzles or rotary mist atomizers. For diluted applications, fill the mix tank or aircraft hopper with the appropriate volume of water and agitate before adding BMP 144 (2X). Maintain agitation during loading and spraying. Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all of these factors when making decisions.

BLACKFLIES:
Concentration Range . . . . . 0.50-75 ppm (0.50-75 mg of BMP 144 (2X)/liter of stream water)

Maintain the concentration in the stream for 15 minutes using ground application equipment or metered release systems.

SPECIFIC APPLICATION INSTRUCTIONS:
Apply with conventional ground equipment or metered release systems. Apply to infested sites to achieve larvicidal concentrations. Insecticidal activity will occur within 24 hours. Reapply as needed. Apply BMP 144 (2X) undiluted through appropriate ULV application equipment.

NUISANCE FLIES:
For control of nuisance flies (*Psychoda* spp. and *Chironomus* spp.) in sewage treatment facilities utilizing trickling filter systems.

APPLICATION DIRECTIONS

Nuisance Fly Habitat	AQUABACxt Use Rates[1]
Trickling filter system of wastewater treatment plants	10-50 ppm (10-50 mg per liter) of wastewater feed to the system per 30 minutes

1. Use higher rates for control of *Chironomus* spp. Apply undiluted with a pre-calibrated pump or other device into the wastewater feeding into the filters for a minimum period of 30 minutes. Repeat applications as needed. Control of *Chironomus* spp. can take up to two weeks.

NUISANCE AQUATIC MIDGES:
For control of *Chironomine* midges (*Chironominae: Chironomine*) inhabiting shallow lakes and ponds (man-made and natural lakes).

APPLICATION DIRECTIONS

Nuisance Midge Habitat	AQUABACxt Use Rates[1]
Shallow lakes and ponds "per sewage" oxidation ponds (less than an acre, not more than 6 feet deep)	1.0 gallon/acre (3.80 liters/acre)

1. Apply diluted with water in a total volume of 5 gallons/acre by pouring or spraying over the surface to be treated with a pre-calibrated device. Repeat applications as necessary. Control of *Chironomine* midges can take up to two weeks.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Store in a cool (59-86°F; 15-30°C), dry place.

Pesticide Disposal: Wastes resulting from use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

NOTICE TO USER

To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on this label. To the extent consistent with applicable law, user assumes all risks of use, storage or handling not in strict accordance with label instructions.