

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-0161

NPDES NO. CA0077763

WASTE DISCHARGE REQUIREMENTS
FOR
DAIRY FARMERS OF AMERICA, INCORPORATED
GLENN MILK PLANT
GLENN COUNTY

The California Regional Water Quality Control Board, Central Valley Region (hereafter Regional Board), finds that:

BACKGROUND

1. Dairy Farmers of America, Incorporated (hereafter Discharger), previously known as Mid-America Dairymen, Incorporated, submitted a Report of Waste Discharge, dated 22 October 1999, and applied for a permit renewal to discharge waste under the National Pollutant Discharge Elimination System (NPDES). Supplemental information to complete filing of the application was received on 17 December 2001 and 12 March 2002. The milk processing facility is no longer operating and there is currently no discharge of wastewater. The Discharger has requested the permit be renewed for potential future operations.
2. The Discharger owns and previously operated the milk processing plant and the treatment and disposal ponds located on Assessor's Parcel Numbers (APN) 20-16-01 and 20-16-03. The plant is in Section 15, T20N, R3W, MDB&M, as shown on Attachment A, a part of this Order.
3. The Discharger has two waste streams: non-contact cooling water and process wastewater. The process waste stream may contain wastewater from washing equipment. Process wastewater and washwater are treated in aerated ponds and discharged to additional ponds for disposal exclusively by evaporation and percolation. The non-contact cooling water may be discharged to surface waters or to the pond system. Non-contact cooling water is discharged to an aeration box for cooling prior to discharge to Walker Creek, a water of the United States and tributary to Willow Creek, the Colusa Trough, and the Colusa Basin Drain at the point, latitude 39° 35' 00" and longitude 122° 11' 15".
4. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. These requirements implement the Basin Plan.

SURFACE WATER DISCHARGE OF NON-CONTACT COOLING WATER

5. The Report of Waste Discharge describes the wastewater discharge from Outfall 001 (discharge to Walker Creek) as follows:

Maximum Daily Flow	0.28	mgd
Maximum 30-Day Flow	0.28	mgd
Maximum Daily Chemical Oxygen Demand (COD)	20	mg/l
Maximum 30-Day COD	10.9	mg/l
Maximum Daily Total Organic Carbon (TOC)	1.8	mg/l
Maximum 30-Day TOC	1.8	mg/l
Maximum Daily Total Suspended Solids (TSS)	<5	mg/l
Maximum 30-Day TSS	<5	mg/l
Maximum Daily Ammonia (as N)	<1	mg/l
Maximum 30-Day Ammonia (as N)	<1	mg/l
Minimum Daily pH	7.0	
Minimum 30-Day pH	7.0	
Maximum Daily pH	8.0	
Maximum 30-Day pH	8.0	
Maximum Daily Winter Temperature	27	°C
Maximum 30-Day Winter Temperature	27	°C
Maximum Daily Summer Temperature	34.5	°C
Maximum 30-Day Summer Temperature	29.8	°C
Maximum Daily Total Residual Chlorine	0.04	mg/l
Maximum 30-Day Total Residual Chlorine	0.04	mg/l

6. The United States Environmental Protection Agency (U.S. EPA) adopted the *National Toxics Rule* (NTR) on 5 February 1993 and the *California Toxics Rule* (CTR) on 18 May 2000. These Rules contain water quality standards applicable to this discharge. The State Water Resources Control Board (State Board) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the *State Implementation Plan* or SIP), which contains guidance on implementation of the NTR and the CTR.

BENEFICIAL USES OF THE RECEIVING STREAM

7. The Basin Plan at page II-2.00 states: “*Existing and potential beneficial uses which currently apply to surface waters of the basins are presented in Figure II-1. The beneficial uses of any specifically identified water body generally apply to its tributary streams.*” The Basin Plan does not specifically identify beneficial uses for Walker Creek, but the Basin Plan does identify present and potential uses for the Colusa Basin Drain, to which Walker Creek, via Willow Creek and the Colusa Trough, is tributary.

The Basin Plan identifies the following beneficial uses for the Colusa Basin Drain: agricultural irrigation, agricultural stock watering, body contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, warm spawning habitat, and wildlife habitat. In addition, State Board Resolution No. 88-63, incorporated into the Basin Plan pursuant to Regional Board Resolution No. 89-056, requires the Regional Board to assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in Table II-1.

The Basin Plan states, on page II-1.00: “*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...*” and “*disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*”

Upon review of the flow conditions, habitat values, and beneficial uses of Walker Creek, and the following factors, the Regional Board finds that the beneficial uses identified in the Basin Plan for the Colusa Basin Drain are applicable to Walker Creek.

The Regional Board finds that the beneficial uses identified in the Basin Plan for the Colusa Basin Drain are applicable to Walker Creek based upon the following:

a. *Domestic Supply and Agricultural Supply*

The Regional Board is required to apply the beneficial uses of municipal and domestic supply to Walker Creek based on State Board Resolution No. 88-63 which was incorporated in the Basin Plan pursuant to Regional Board Resolution No. 89-056. In addition, the State Board has issued water rights to existing water users downstream of the discharge for irrigation uses. Since Walker Creek is a low-flow stream, Walker Creek likely provides groundwater recharge during periods of low flow. The groundwater is a source of drinking water. In addition to the existing water uses, growth in the area, downstream of the discharge is expected to continue, which presents a potential for increased domestic and agricultural uses of the water in Walker Creek.

b. *Water Contact Recreation (including canoeing and rafting)*

The Regional Board finds that the discharge flows through areas where there is limited public access to Walker Creek, Willow Creek, the Colusa Trough, and the Colusa Basin Drain; however, exclusion of adjoining property owners and the public is unrealistic.

c. *Groundwater Recharge*

In areas where groundwater elevations are below the stream bottom, water from the stream will percolate to groundwater. During dry weather in many places in California, flowing streams experience these conditions, thus providing groundwater recharge. Since Walker Creek is a low-flow stream, it is reasonable to assume that the stream water is lost by evaporation, flow downstream, and percolation to groundwater which provides a source of municipal and irrigation water supply.

d. *Freshwater Replenishment*

When water is present in Walker Creek and Willow Creek, there is hydraulic continuity between these waters and the Colusa Trough and the Colusa Basin Drain. During periods of hydraulic continuity, Walker Creek adds to the water quantity and may impact the quality of water flowing down stream in Willow Creek, the Colusa Trough, and the Colusa Basin Drain.

e. *Warm and Cold Freshwater Habitats (including preservation or enhancement of fish, wildlife, and other aquatic resources) and Wildlife Habitat*

Walker Creek flows to Willow Creek, the Colusa Trough, and the Colusa Basin Drain. The Basin Plan (Table II-1) designates the Colusa Basin Drain as being both a cold and warm freshwater habitat. Therefore, pursuant to the Basin Plan (Table II-1, Footnote (2)), the warm and cold designations apply to Walker Creek. The habitat designation for Walker Creek is appropriate since there is no documentation of the existence of barriers that might prohibit the upstream migration of cold-water and warm-water fish species into these waters. The cold freshwater habitat designation necessitates that the in-stream dissolved oxygen concentration be maintained at, or above, 7.0 mg/l.

The Regional Board also finds, based on the available information and on the Discharger's application, that Walker Creek, absent the discharge from the wastewater treatment plant, is a low-flow/intermittent stream. The low-flow natures of Walker Creek and Willow Creek mean that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged that may cause harm to aquatic life. During dry weather conditions, Walker Creek may have no or low flow and within a short time period, sufficient precipitation or irrigation flows may increase the flows to provide hydraulic continuity with Willow Creek, the Colusa Trough, and the Colusa Basin Drain. At other times, flows within Walker Creek help support cold-water aquatic

life. Both conditions may exist within a short time span, when Walker Creek and/or Willow Creek would be dry without the discharge and periods when sufficient background flows provide hydraulic continuity with the Colusa Basin Drain. Dry conditions occur primarily in the summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years. The lack of available dilution results in more stringent effluent limitations to protect contact recreational uses, drinking water standards, and aquatic life and to meet agricultural water quality goals. Significant dilution may occur during and immediately following high rainfall events.

EFFLUENT LIMITATIONS AND REASONABLE POTENTIAL

8. Effluent limitations and toxic effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.
9. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. This Order contains provisions that:
 - a. require the Discharger to conduct a study to provide information as to whether the levels of CTR, NTR, and U.S. EPA priority toxic pollutants in the discharge have a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard, including Basin Plan numeric and narrative objectives and CTR and NTR standards;
 - b. if the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality objective, require the Discharger to submit information to calculate effluent limitations for those constituents; and
 - c. allow the Regional Board to reopen this Order and include effluent limitations for those constituents.

On 10 September 2001, the Executive Officer issued a letter, in conformance with California Water Code, Section 13267, requiring the Discharger to prepare a technical report assessing water quality. This Order is intended to be consistent with the requirements of the technical report in requiring sampling for NTR, CTR, and additional constituents to determine the full water quality impacts of the discharge. The technical report requirements are intended to be more detailed, listing specific constituents, detection levels, and acceptable time frames and shall take precedence in resolving any conflicts.

10. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted

as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Board finds that the discharge does have a reasonable potential to cause or contribute to an in-stream excursion above water quality standards for chlorine. Effluent limitations for this constituent are included in this Order.

A change in treatment process or disposal method, including discharge location, is sufficient to reassess the character of the effluent and the reasonable potential of the discharge's impacts to water quality.

11. The Basin Plan prohibits the discharge of toxic materials in toxic concentrations. Chlorine can cause toxicity to aquatic organisms when discharged to surface waters. U.S. EPA recommends, in its Ambient Water Quality Criteria for the Protection of Fresh Water Aquatic Life, maximum 1-hour average and 4-day average chlorine concentrations. Based on information submitted in the Report of Waste Discharge, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Ambient Water Quality Criteria. Effluent Limitations for chlorine have been included in this Order to protect the receiving stream aquatic life beneficial uses. The effluent limitations have been established at the ambient water quality criteria for chlorine (rounded to two significant figures) since Walker Creek is a low-flow stream.
12. A review of discharger self-monitoring reports has occasionally shown elevated concentrations of chemical oxygen demand (COD), total suspended solids (TSS), and total dissolved solids (TDS) in cooling water effluent discharged to the ponds. The cooling water is not treated for these constituents and the quality would be the same whether discharged to the ponds or to surface water. Reported values include observed maximum concentrations for COD of 850 mg/l, TSS of 140 mg/l, and TDS of 780 mg/l. A COD concentration of 850 mg/l represents a significant oxygen demand not expected to be found in a clean water supply. It is possible that the COD concentration is elevated due to the addition of chemicals or other contaminating constituents to the waste stream; however, such addition was not part of the original waste stream characterization. The Basin Plan water quality objective for suspended material states that "[w]aters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses". In addition, elevated concentrations of suspended material in the discharge could cause exceedance of the receiving water limitation for turbidity. Order No. 95-061 included monthly average cooling water effluent limitations of 10 mg/l for both COD and TSS; the TSS limitations remain unchanged in this permit, while the COD limitations have been converted to BOD limitations. BOD and COD indicate the presence of oxygen-demanding substances. The cooling water is supplied by groundwater, which should be free of oxygen-demanding substances; the Report of Waste Discharge did not characterize it otherwise. Therefore, BOD and COD concentrations in the cooling water should be equivalent. The reported concentration of 780 mg/l for TDS exceeds the agricultural water quality goal of 450 mg/l. A monthly average cooling water effluent TDS limitation of 450 mg/l has been included in this Order to protect the beneficial uses of the receiving stream.

Prior to resuming discharge, this Order requires the Discharger to complete an oxygen sag analysis to determine if the prescribed BOD limitation is sufficient to achieve compliance with the

Receiving Water Limitation for dissolved oxygen. This permit may be reopened and the BOD limitation revised based on the findings of the dissolved oxygen analysis.

LAND DISPOSAL OF PROCESS WASTEWATER, WASH WATER, AND
NON-CONTACT COOLING WATER

13. The milk processing plant produced products within Standard Industrial Classification (SIC) 2023 (Dry, Condensed, and Evaporated Dairy Products) and North American Industry Classification System (NAICS) 311514 (Dry, Condensed, and Evaporated Dairy Product Manufacturing). The plant processed raw milk into butter and powdered milk.
14. The Report of Waste Discharge describes the wastewater discharge from Outfall 002 (discharge to treatment ponds) as follows:

Maximum Daily Flow	0.20	mgd
Maximum 30-Day Flow	0.20	mgd
Maximum Daily Biochemical Oxygen Demand ¹ (BOD)	800	mg/l
Maximum Daily COD	800-1000	mg/l
Maximum Daily TSS	200-300	mg/l
Minimum Daily pH	7.0	
Maximum Daily pH	7.5	

¹ 5-day, 20°C biochemical oxygen demand

15. The Report of Waste Discharge describes the wastewater discharge from Outfall 003 (discharge to disposal ponds) as follows:

Maximum Daily BOD ¹	40	mg/l
Minimum Daily pH	8.0	
Maximum Daily pH	8.5	

¹ 5-day, 20°C biochemical oxygen demand

16. State Board Resolution No. 68-16 (the 'Antidegradation Policy') requires the use of best practicable control treatment or control methods. 40 Code of Federal Regulations (CFR) 405 contains effluent limitations based on the application of the best practicable control technology currently available for the dairy products processing industry. Subpart D—Butter Subcategory and Subpart J—Dry Milk Subcategory contain limitations for the industrial activities that occur at the Glenn Milk Plant. While these limitations were developed for surface water discharges, they are technology-based and may be applied to land-disposal discharges. While the federal regulations included in 40 CFR 405 are not directly applicable to land disposal, compliance with the federal regulations for this particular industry would meet the requirement for the use of best practicable

control treatment or control methods. This Order contains limitations for BOD and TSS discharged to land based on technology standards included in 40 CFR 405. This Order also contains a Provision requiring the Discharger to provide, prior to resuming the wastewater discharge, a technical report developing BOD limitations based on best practicable treatment analysis and a report describing how the facility will meet those limitations. The permit may be reopened and the limitations modified based on information submitted in these reports.

POND LIMITATIONS

17. The Discharger utilized aeration and storage ponds for the treatment, storage, and disposal of wastewater. Pond Discharge Limitations have been included in this permit to assure that the pond system does not overflow or cause a nuisance. Nuisance conditions from pond systems are typically found when strong odors occur when the dissolved oxygen concentration is allowed to drop below 1.0 mg/l. This permit requires the dissolved oxygen concentration to be maintained above 1.0 mg/l in the upper one foot of water in the ponds.
18. Ponds levees can fail for a variety of reasons, typically, a lack of maintenance or overtopping due to wave action. This permit requires a minimum pond freeboard be maintained to prevent overtopping.

GROUNDWATER

19. The beneficial uses of the underlying ground water, as identified in the Basin Plan, are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.
20. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. Resolution No. 68-16 requires the Regional Board, in regulating the discharge of wastes, to maintain high quality waters of the State, not unreasonably affect beneficial uses, and to not permit discharges that will result in water quality less than that described in the Regional Board's policies (*e.g.*, quality that exceeds water quality objectives). Providing best practicable treatment for this industrial discharge will protect groundwater quality from being degraded when compared to background water quality. The Discharger can design and operate a system that does not degrade groundwater quality when compared to background. The impact of existing water quality will be insignificant.
21. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring, at a minimum, requires a complete assessment of groundwater impacts, including the vertical and lateral extent of any degradation; an assessment of all wastewater-related constituents which may have migrated to groundwater; and an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide best practicable treatment or control to comply with Resolution 68-16.

22. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the state to assure protection of beneficial uses and compliance with Regional Board plans and policies, including Resolution 68-16.

GENERAL

23. Monitoring is required by this Order for the purposes of assessing compliance with permit limitations and water quality objectives and gathering information to evaluate the need for additional limitations.
24. Section 13267 of the California Water Code states, in part, “(a) A regional board, in establishing...waste discharge requirements... may investigate the quality of any waters of the state within its region” and “(b) (1) In conducting an investigation..., the regional board may require that any person who... discharges... waste...that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires.” The attached Monitoring and Reporting Program is issued pursuant to California Water Code Section 13267. The monitoring and reporting program to monitor groundwater required by this Order and the attached Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger operates the facility that discharges waste subject to this Order.
25. Monitoring and Reporting Program No. R5-2002-0161, Attachment A, and the Fact Sheet, are a part of this Order.
26. The Regional Board has considered the information in the attached Fact Sheet in developing the Findings of this Order. The attached Fact Sheet is part of this Order.
27. This discharge is presently regulated by Waste Discharge Requirements in Order No. 95-061, adopted by the Regional Board on 24 March 1995.
28. U.S. EPA and the Regional Board have classified this discharge as a minor discharge.
29. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.
30. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21100, *et seq.*), requiring preparation of an environmental impact report or negative declaration in accordance with Section 13389 of the California Water Code.

31. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
32. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
33. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect upon the date of hearing, provided U.S. EPA has no objections.

IT IS HEREBY ORDERED that Order No. 95-061 is rescinded and Dairy Farmers of America, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions:

1. Discharge of wastewater at a location or in a manner different from that described in the Findings is prohibited.
2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13. [See attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)"].
3. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.

B. Effluent Limitations for Discharge of Non-Contact Cooling Water to Walker Creek (Outfall 001):

1. Effluent shall not exceed the following limits:

<u>Constituents</u>	<u>Units</u>	<u>Average Monthly</u>	<u>Average Daily</u>	<u>1-Hour Average</u>
BOD ₅ ¹	mg/l	10 ²	20 ²	--
	lbs/day ³	23	47	--
Total Suspended Solids	mg/l	10 ²	20 ²	--
	lbs/day ³	23	47	--

¹ 5-day, 20°C biochemical oxygen demand (BOD)

² To be ascertained by a 24-hour composite

³ Based upon a design production capacity of 0.28 mgd ($x \text{ mg/l} \times 8.345 \times 0.28 \text{ mgd} = y \text{ lbs/day}$)

<u>Constituents</u>	<u>Units</u>	<u>Average Monthly</u>	<u>Average Daily</u>	<u>1-Hour Average</u>
Total Dissolved Solids	mg/l	450	--	--
	lbs/day ³	1,100	--	--
Settleable Solids	ml/l	0.1	0.2	--
Total Residual Chlorine	mg/l	0.010	--	0.019
	lbs/day ³	0.023	--	0.044

2. The discharge shall not have a pH less than 6.5 nor greater than 8.5.
3. Survival of aquatic organisms in 96-hour bioassays of undiluted effluent shall be no less than:
 Minimum for any one bioassay - - - - - 70%
 Median for any three consecutive bioassays - - - - 90%

c. Effluent Limitations for Discharge of Treated Wastewater to Disposal Ponds (Outfall 003):

1. For the discharge of treated process wastewater and washwater only, effluent shall not exceed the following limits:

<u>Constituents</u>	<u>Units</u>	<u>Average Monthly</u>	<u>Average Daily</u>
BOD ₅ ¹	lbs/day ² per 100 lbs of BOD ₅ input ³	0.091	0.183
TSS	lbs/day ² per 100 lbs of BOD ₅ input ³	0.137	0.274
TDS	mg/l	450	--
Settleable Solids	ml/l	0.1	0.2

¹ 5-day, 20°C biochemical oxygen demand (BOD)
² Pounds per day may be calculated by multiplying the measured concentration (in milligrams per liter) by the flow (in millions of gallons per day) and the units conversion factor of 8.345.
³ Pounds of BOD₅ input means the total biochemical oxygen demand of the raw milk entered into process, and shall be calculated by multiplying the weight of the fats, proteins, and carbohydrates of the raw milk by factors of 0.890, 1.031, and 0.691, respectively. Organic acids should be included as carbohydrates. Composition of input materials may be based on either direct analyses or generally accepted published values [40 CFR 405.41(b)].

2. For the combined discharge of non-contact cooling water and treated process wastewater and washwater to the disposal ponds, the BOD and TSS mass loadings (lbs/day) shall not exceed the sum of the lbs/day limitations for BOD and TSS from B.1 and C.1. TDS and settleable solids limitations shall be equal to those contained in C.1.

3. Best practicable control treatment shall be applied.

D. Pond Limitations:

1. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.
2. As a means of discerning compliance with Pond Limitation No.1, the dissolved oxygen content in the upper zone (1 foot) of wastewater in ponds shall not be less than 1.0 mg/l.
3. Ponds shall not have a pH less than 6.5 or greater than 8.5 as a daily average.
4. Ponds shall be managed to prevent breeding of mosquitoes. In particular,
 - a. an erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface;
 - b. weeds shall be minimized; and
 - c. dead algae, vegetation, and debris shall not accumulate on the water surface.
5. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
6. Pond freeboard shall never be less than two feet (measured vertically to the lowest point of overflow).

E. Solids Disposal:

1. Collected solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in California Code of Regulations, Title 27, Division 2, Subdivision 1, Section 20005, *et seq.*
2. Any proposed change in solids use or disposal practice from a previously approved practice shall be reported to the Executive Officer and U.S. EPA Regional Administrator at least **90 days** in advance of the change.

F. Receiving Water Limitations:

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit.

The discharge shall not cause the following in the receiving water:

1. Biostimulatory substances which promote aquatic growths to be present in concentrations that cause nuisance or adversely affect beneficial uses.
2. Esthetically undesirable discoloration.
3. Concentrations of dissolved oxygen to fall below 7.0 mg/l. The monthly median of the mean daily dissolved oxygen concentration shall not be caused to fall below 85 percent of saturation in the main water mass, and the 95th percentile concentration shall not be caused to fall below 75 percent of saturation.
4. Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
5. Oils, greases, waxes, or other materials to accumulate in concentrations that cause nuisance, result in a visible film or coating on the water surface or on objects in the water, or otherwise adversely affect beneficial uses.
6. The ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 units. A one-month averaging period may be applied when calculating the pH change of 0.5 units.
7. Suspended materials to be present in concentrations that cause nuisance or adversely affect beneficial uses.
8. Deposition of material that causes nuisance or adversely affects beneficial uses.
9. Taste- or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.
10. The ambient temperature to increase more than 5°F.
11. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
12. The turbidity to increase as follows:
 - a. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.

- b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs.
13. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
14. Upon adoption of any applicable water quality standard for receiving waters by the Regional Board or the State Water Resources Control Board pursuant to the CWA and regulations adopted thereunder, this permit may be reopened and receiving water limitations added.

G. Groundwater Limitation:

- 1. The discharge shall not cause groundwater to be degraded.

H. Provisions:

- 1. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
- 2. Within **eighteen months** of the adoption of this Order, the Discharger shall complete a hydrogeologic investigation within the area affected and potentially affected by the WWTP. The technical report documenting the hydrogeologic investigation shall describe the underlying geology, existing wells (active and otherwise), local well construction practices and standards, well restrictions, hydrogeology and assess all impacts of the wastewater discharge on water quality. The groundwater quality must be monitored at least twice for U.S. EPA priority pollutants, nutrients, coliform organisms, pH, TDS, and EC. The technical report must present, for each monitoring event, determinations for the direction and gradient of groundwater flow. The groundwater monitoring network shall include one or more background monitoring wells and a sufficient number of designated monitoring wells to evaluate performance of BPTC measures and compliance with this Order's groundwater limitations. These include monitoring wells immediately downgradient of every treatment, storage, and disposal unit that does or may release waste constituents to groundwater with the exception of wastewater reclamation areas. All wells shall comply with appropriate standards as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981), and any more stringent standards adopted by the Discharger or county pursuant to CWC Section 13801. The existing well network will be evaluated, and the proposed network should include existing monitoring wells where they will serve to measure compliance or provide other relevant information (e.g., depth to groundwater). The Discharger shall install approved monitoring wells and commence groundwater monitoring in accordance with this Order's Monitoring and Reporting Program. After the first sampling event, the Discharger shall report on its

sampling protocol as specified in this Order's Monitoring and Reporting Program (MRP). After one year of monitoring, the Discharger shall characterize natural background quality of monitored constituents in a technical report. If the monitoring shows that any constituent concentrations are increased above background water quality, the Discharger shall submit a technical report describing the evaluation's results and critiquing each evaluated component with respect to BPTC and minimizing the discharge's impact on groundwater quality. Where treatment system deficiencies are documented, the technical report shall provide recommendations for necessary modifications (e.g., new or revised salinity source control measures, treatment system component upgrade and retrofit) to achieve BPTC and identify the source of funding and proposed schedule for modifications for achieving full compliance prior to expiration of this Order. This Order may be reopened and additional groundwater limitations added.

3. There are indications that the discharge may contain constituents that have a reasonable potential to cause or contribute to an exceedance of water quality objectives. The constituents are specifically listed in a technical report requirement issued by the Executive Officer on 10 September 2001 and include NTR, CTR, and additional constituents, which could exceed Basin Plan numeric or narrative water quality objectives. This Order is intended to be consistent with the requirements of the 10 September 2001 technical report. The technical report requirements shall take precedence in resolving any conflicts.

If, after review of the study results, it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective, this Order may be reopened and effluent limitations added for the subject constituents.

4. The Glenn Milk Plant has been closed and not operating since October 2001. When or if the plant will re-open and begin operating is unknown. **Prior to commencing operation** of the plant, the Discharger shall submit to the Regional Board technical reports for the studies required by Provisions 1 and 2. Supply water for the plant may be substituted for the non-contact cooling water effluent for the study required by Provision 2. The study conducted to meet the requirements of Provision 2 shall include engineering calculations regarding the fate of pollutants, including additives, chemical or otherwise, used at the Glenn Milk Plant.

Prior to resuming the wastewater discharge, the Discharger shall provide a technical report developing BOD limitations based on best practicable treatment analysis and a report describing how the facility will meet those limitations. The Discharger must also complete and submit the results of a dissolved oxygen sag analysis to determine if the prescribed BOD limitation is sufficient to achieve compliance with the Receiving Water Limitation for dissolved oxygen. This permit may be reopened and the BOD limitation revised based on the findings.

On or before each compliance date, the Discharger shall submit to the Regional Board the specified document or a written report detailing compliance or noncompliance with the

specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Board by letter when it returns to compliance with the time schedule.

If, after review of the study results, it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective, this Order may be reopened and effluent limitations added for the subject constituents.

5. **Prior to commencing operation** of the Glenn Milk Plant, the Discharger shall conduct a study to determine the impact(s) of the non-contact cooling water effluent temperature on the beneficial uses of the receiving stream and whether compliance with the Basin Plan Objective and Receiving Water Limitation for temperature can be achieved.

If, after review of the study results, it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective, this Order may be reopened and effluent limitations and/or site-specific receiving water limitations for temperature added.

6. **Prior to commencing operation** of the Glenn Milk Plant, the Discharger shall submit to the Regional Board a technical report on the alternatives to discharging to surface water.

The Discharger must prepare an evaluation of the feasibility of year-round land disposal of wastewater. The evaluation must include a hydraulic balance of wastewater for all of the ponds, as well as costs and time schedule to complete the work. The evaluation must be submitted **prior to commencement** of operations of the Glenn Milk Plant. The water balance shall be calculated for a minimum twelve-month cycle based on the following:

- a. Geometry of the ponds, including a measurement of the depth of each pond;
- b. Predicted sedimentation rate for the year;
- c. Measured water level in the ponds on the date for which the analysis begins;
- d. Projected effluent discharge rates based on recent and expected future flows;
- e. Direct precipitation contributions, using the 100-year annual total precipitation distributed monthly in accordance with historical mean monthly precipitation data;
- f. Evaporation (based on 80% of established pan evaporation rates for the vicinity);
- g. A continuous minimum freeboard of two feet in each pond; and
- h. The application rate and capacity of the disposal ponds.

The report shall evaluate the maximum flow capacity for the existing distribution system of pond overflow culverts, pumping transfer stations, and connecting pipelines and/or ditches. The report shall specify the peak flow loading rates for each listed system component and shall identify any restrictions ("bottlenecks") within the system where overflows may occur during peak flows. The proposed average daily flow limitation for the ponds shall be based on the limitations of the system. The water balance shall be supported by documentation showing the source of climatic and operations data used. Sources of information shall be cited in the report.

7. The Discharger shall conduct the chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, after Regional Board evaluation, conduct the TRE. This Order may be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if a chronic toxicity water quality objective is adopted by the State Water Resources Control Regional Board, this Order may be reopened and a limitation based on that objective included.
8. The Discharger shall use the best practicable treatment or control technique currently available to limit mineralization to no more than a reasonable increment.
9. The Discharger shall report to the Regional Board any toxic chemical release.
10. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)", dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions".
11. The Discharger shall comply with Monitoring and Reporting Program No. R5-2002-0161, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

When requested by U.S. EPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for discharger self-monitoring reports.

12. Minimum levels and method detection limits for monitoring required by this Order shall, unless impracticable, be adequate to demonstrate compliance with permit limitations.
13. This Order expires on **1 September 2007** and the Discharger must file a Report of Waste Discharge in accordance with California Code of Regulations, Title 23, not later than **180**

days in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.

14. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from, the State Water Resources Control Board (Division of Water Rights).
15. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

I, THOMAS R. PINKOS, Acting Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 6 September 2002.

THOMAS R. PINKOS, Acting Executive Officer

MRH/mrh

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2002-0161

NPDES NO. CA0077763

FOR

DAIRY FARMERS OF AMERICA, INCORPORATED
GLENN MILK PLANT
GLENN COUNTY

Dairy Farmers of America, Incorporated shall comply with the following Monitoring and Reporting Program (MRP), which describe requirements for monitoring industrial wastewater, groundwater, receiving water, supply water, and pond water. This Monitoring and Reporting Program is issued pursuant to California Water Code Division 7, Ch. 5.5. The Discharger shall not implement any changes to this Program unless and until the Regional Board or Executive Officer issues a revised Monitoring and Reporting Program. Specific sample station locations shall be established under direction of the Regional Board's staff, and a description of the stations shall be attached to this Order.

INFLUENT MONITORING: DISCHARGE TO TREATMENT PONDS (OUTFALL 002)

Samples shall be collected at approximately the same time as effluent samples and should be representative of the influent for the period sampled. Influent monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
20°C BOD ₅	mg/l, lbs/day	24-hr. Composite ¹	Twice Monthly
Total Suspended Solids	mg/l, lbs/day	24-hr. Composite ¹	Twice Monthly
Flow	mgd	Meter	Continuous

¹ The BOD and TSS samples shall be flow-proportional composite samples.

EFFLUENT MONITORING OF DISCHARGE TO WALKER CREEK (OUTFALL 001)

Effluent samples shall be collected downstream from the last connection through which wastes can be admitted into the outfall, following the last unit process. Effluent samples should be representative of the volume and quality of the discharge. Samples collected from the outlet structure of ponds will be considered adequately composited. Time of collection of samples shall be recorded. Effluent monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Flow	mgd	Meter	Continuous
Total Chlorine Residual	mg/l, lbs/day	Meter	Continuous ¹
Temperature	°F	Meter	Continuous ¹
pH	number	Grab	Twice Weekly
20°C BOD ₅	mg/l, lbs/day	24-hr. Composite ²	Weekly
Total Suspended Solids	mg/l, lbs/day	24-hr. Composite ²	Weekly
Settleable Solids	ml/l	Grab	Weekly
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Weekly
Hardness	mg/l (as CaCO ₃)	Grab	Monthly
Total Dissolved Solids	mg/l	Grab	Quarterly
Acute Toxicity ³	% Survival	Grab	Twice Annually
Priority Pollutants ^{4,5}	mg/l	As Appropriate ⁶	Annually ⁷

¹ The continuous chlorine residual monitoring system, or functional equivalent, and the temperature monitoring system shall be operational upon commencement of operations.

² The BOD, COD, and TSS samples shall be flow-proportional composite samples.

³ The acute bioassay samples shall be analyzed using EPA/600/4-90/027F, Fourth Edition, or later amendment with Regional Board staff approval. Temperature and pH shall be recorded at the time of bioassay sample collection. Test species shall be fathead minnows (*Pimephales promelas*), with no pH adjustment unless approved by the Executive Officer.

⁴ All peaks are to be reported, along with any explanation provided by the laboratory.

⁵ Priority Pollutants are U.S. EPA priority toxic pollutants and consist of the constituents listed in the most recent National Toxics Rule and California Toxics Rule.

⁶ Volatile samples shall be grab samples; the remainder shall be flow proportional 24-hour composite samples.

⁷ Hardness, pH, and temperature data shall be collected at the same time and on the same date as the Priority Pollutant samples.

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

EFFLUENT MONITORING OF DISCHARGE TO LAND (OUTFALL 003)

Effluent samples shall be collected from the treatment ponds just prior to discharge to the disposal area. Effluent samples should be representative of the volume and nature of the discharge. Samples collected from the outlet structure of ponds will be considered adequately composited. Time of collection of a grab sample shall be recorded. Effluent monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Flow	mgd	Meter	Continuous
pH ¹	number	Grab	Twice Weekly
Electrical Conductivity ¹	µmhos/cm	Grab	Twice Weekly
Total Nitrogen	mg/l	Grab	Twice Monthly
20°C BOD ₅	mg/l, lbs/day	Grab	Monthly
Total Suspended Solids	mg/l, lbs/day	Grab	Monthly
Total Dissolved Solids	mg/l	Grab	Quarterly

¹ A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Glenn Milk Plant.

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

RECEIVING WATER MONITORING

Receiving water monitoring is required only during periods of discharge to Walker Creek. All receiving water samples shall be grab samples. Receiving water monitoring shall include at least the following:

<u>Station</u>	<u>Description</u>
R-1	Walker Creek, 50 feet upstream from the point of discharge
R-2	Walker Creek, 150 feet downstream from the point of discharge

<u>Constituents</u>	<u>Units</u>	<u>Station</u>	<u>Sampling Frequency</u>
Dissolved Oxygen ¹	mg/l ² % saturation ³	R-1, R-2	Weekly
pH ¹	number	R-1, R-2	Weekly
Turbidity	NTU	R-1, R-2	Weekly
Temperature ¹	°F (°C)	R-1, R-2	Weekly
Electrical Conductivity @25°C ¹	µmhos/cm	R-1, R-2	Weekly

- ¹ A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Glenn Milk Plant.
- ² Temperature shall be determined at the time of sample collection for use in determining saturation concentration. Any additional factors or parameters used in determining saturation concentration shall also be reported.
- ³ Report both percent saturation and saturation concentration.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-1 and R-2. Attention shall be given to the presence or absence of:

- | | |
|---------------------------------|--|
| a. Floating or suspended matter | e. Visible films, sheens, or coatings |
| b. Discoloration | f. Fungi, slimes, or objectionable growths |
| c. Bottom deposits | g. Potential nuisance conditions |
| d. Aquatic life | |

Notes on receiving water conditions shall be summarized in the monitoring report.

POND MONITORING

Treatment and disposal pond monitoring shall be conducted in each pond in which water is present and shall, at a minimum, consist of the following:

<u>Constituents</u>	<u>Units</u>	<u>Sampling Frequency</u>
Freeboard	feet ¹	Weekly
pH ²	number	Weekly
Electrical Conductivity @25°C ²	µmhos/cm	Weekly
Dissolved Oxygen ²	mg/l	Weekly
Odors	--	Daily

- ¹ To be measured vertically to the lowest point of overflow
- ² A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Glenn Milk Plant.

THREE SPECIES CHRONIC TOXICITY MONITORING

Chronic toxicity monitoring shall be conducted to determine whether the effluent is contributing toxicity to the receiving water. The testing shall be conducted as specified in EPA 600/4-91/002. Chronic toxicity samples shall be collected from the effluent of the wastewater treatment system, after the last unit process, prior to its entering the receiving stream. Twenty-four hour composite samples shall be representative of the volume and quality of the discharge. Time of collection of samples shall be recorded. Control waters shall be obtained immediately upstream of the discharge from an area unaffected by the discharge in the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results. Monthly laboratory reference toxicant tests may be substituted. Both the reference toxicant and effluent test must meet all test acceptability criteria as specified in the chronic manual. If the test acceptability criteria are not achieved, then the Discharger must re-sample and re-test within 14 days. Chronic toxicity monitoring shall include the following:

Species: *Pimephales promelas* (larval stage), *Ceriodaphnia dubia*, and *Selenastrum capricornutum*

Frequency: Once per quarter, two quarters per year

Dilution Series: None—tests shall be conducted using 100% effluent.

SOLIDS MONITORING

A composite sample of solids shall be collected when solids are removed from the ponds for disposal and tested for the metals listed in Title 22.

Sampling records shall be retained for a minimum of five years. A log shall be kept of solids quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis for part of the annual report.

Upon removal of solids, the Discharger shall submit characterization of solids quality, including percent solids and quantitative results of chemical analysis for the priority pollutants listed in 40 CFR 122 Appendix D, Tables II and III (excluding total phenols). Recommended analytical holding times for solids samples should reflect those specified in 40 CFR 136.6.3(e).

WATER SUPPLY MONITORING

A sampling station shall be established where a representative sample of the water supply can be obtained. Water supply monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Sampling Frequency</u>
Electrical Conductivity @ 25°C	µmhos/cm	Twice Monthly
Chemical Oxygen Demand (COD)	mg/l	Twice Monthly
Total Dissolved Solids	mg/l	Quarterly

If the water supply is from more than one source, the monitoring report shall report the electrical conductivity and total dissolved solids results as a weighted average and include copies of supporting calculations.

GROUNDWATER MONITORING

Groundwater grab samples shall be collected from all groundwater monitoring wells when treatment and/or storage ponds contain wastewater. Prior to sampling, the wells should be pumped until the temperature, specific conductivity, and pH have stabilized to ensure representative samples. Groundwater monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Sampling Frequency</u>
Depth to Groundwater ¹	feet	Quarterly
Groundwater Elevation ¹	feet	Quarterly
pH	number	Quarterly
Electrical Conductivity at 25°C	µmhos/cm	Quarterly
TDS	mg/l	Quarterly
Nitrogen	mg/l	Quarterly
Priority Pollutants ^{2, 3}	µg/l	⁴ Quarterly

¹ The groundwater elevation shall be measured prior to purging the wells. Elevations shall be measured to the nearest one-hundredth of a foot from mean sea level. The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow. The groundwater flow direction and gradient shall be included in the monitoring reports.

² All peaks are to be reported, along with any explanation provided by the laboratory.

³ Priority Pollutants are U.S. EPA priority toxic pollutants and consist of the constituents listed in the most recent National Toxics Rule and California Toxics Rule.

⁴ Priority Pollutants must be monitored at least once during the life of the permit in addition to the monitoring required under Provision 2 of this Order.

Groundwater monitoring results for the constituents above shall be submitted monthly; the monthly report shall include a site map showing the location and surveyed elevation (to nearest one-hundredth of foot above mean sea level) of the wells and the current direction of groundwater flow.

A groundwater report shall be submitted annually; the report shall contain a brief written description of any groundwater investigation and sampling work completed for the year, a site map showing the

location of all monitoring wells, and tables showing all groundwater monitoring data collected during the previous calendar year, including groundwater depth and elevation data, pH, EC, and all other monitored constituents.

REPORTING

Discharger self-monitoring reports shall be submitted to the Regional Board monthly, regardless of whether the plant is operating. Monitoring results shall be submitted by the **first day of the second month** following sample collection. Quarterly, semi-annual, and annual monitoring results shall be submitted by the **first day of the second month following each calendar quarter**.

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the discharge complies with waste discharge requirements. Monthly maximums, minimums, and averages shall be reported for each monitored constituent and parameter. All periodic averages and medians for which there are limitations shall also be calculated and reported.

The Discharger shall report minimum levels and method detection limits as defined in and required by the SIP.

With the exception of flow, all constituents monitored on a continuous basis (metered) shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the certification statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.

By **1 February** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

- a. *the names and general responsibilities of all persons employed at the Glenn Milk Plant (Standard Provision A.5);*

- b. the names and telephone numbers of persons to contact regarding the plant for emergency and routine situations;*
- c. a statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration (Standard Provision C.6); and*
- d. a statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the facility as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.*

The Discharger may also be requested to submit an annual report to the Regional Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

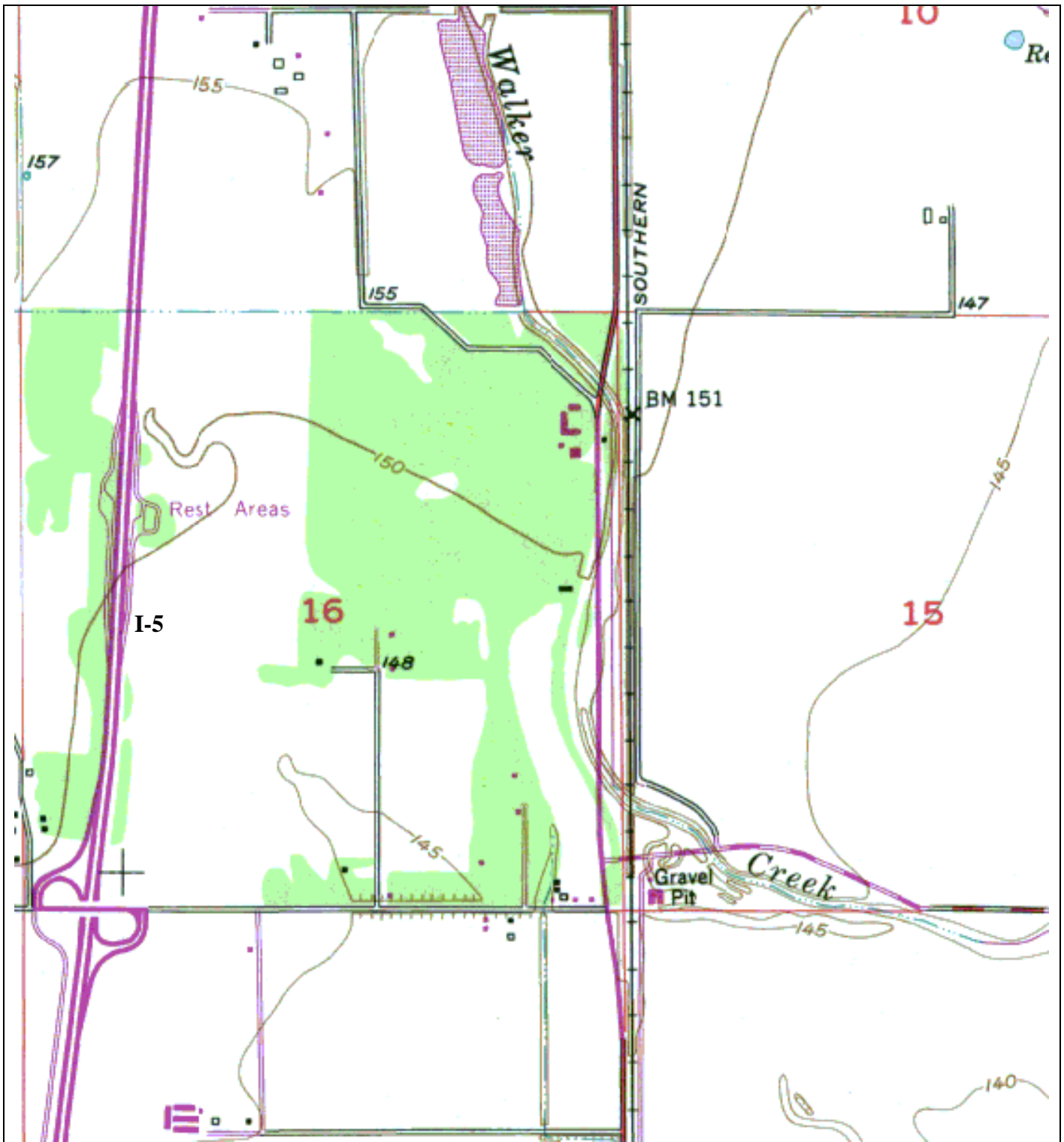
All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provision D.6.

The Discharger shall implement the above monitoring program on the first day of the month following the effective date of this Order.

THOMAS R. PINKOS, Acting Executive Officer

6 September 2002

(Date)

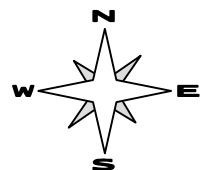


Drawing Reference:

WILLOWS
U.S.G.S TOPOGRAPHIC MAP
7.5 MINUTE QUADRANGLE

SITE LOCATION MAP

DAIRY FARMERS OF AMERICA, INC.
GLENN MILK PLANT
GLENN COUNTY



approx. scale
1 in. = 2,000 ft.

FACT SHEET

ORDER NO. R5-2002-0161
DAIRY FARMERS OF AMERICA, INCORPORATED
GLENN MILK PLANT
GLENN COUNTY
NPDES NO. CA0077763

SCOPE OF PERMIT

This renewed Order regulates the discharge of up to 0.28 million gallons per day (mgd), of cooling water effluent from the Dairy Farmers of America Glenn Milk Plant to Walker Creek and up to 0.20 mgd of treated process wastewater effluent to land. This Order includes effluent, groundwater, pond, water supply, solids, and receiving water limitations; monitoring and reporting requirements; additional study requirements; and reopener provisions for effluent and groundwater constituents.

BACKGROUND INFORMATION

Dairy Farmers of America, Incorporated (Discharger) owns and operates the Glenn Milk Plant in Willows. The Glenn Milk Plant is a milk processing plant produces products within Standard Industrial Classification (SIC) 2023 (Dry, Condensed, and Evaporated Dairy Products) and North American Industry Classification System (NAICS) 311514 (Dry, Condensed, and Evaporated Dairy Product Manufacturing). The plant processes raw milk into butter and powdered milk.

The treatment system consists of aeration of non-contact cooling water to remove heat prior to discharge into Walker Creek and aerated ponds for the treatment of process wastewater and washwater. Treated wastewater and washwater is discharged into unlined disposal ponds at the facility.

RECEIVING WATER BENEFICIAL USES

The receiving stream is Walker Creek, which is tributary to Willow Creek, the Colusa Trough, and the Colusa Basin Drain. Based on the available information, the worst-case dilution is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero dilution within the receiving water is that discharge limitations based on acute and chronic toxicity are end-of-pipe limits with no allowance for dilution within the receiving water.

The beneficial uses of Walker Creek are not individually identified in the Basin Plan. However, the Plan requires that the beneficial uses of any specifically identified water body apply to its tributary streams. Upon review of the flow conditions, habitat values, and beneficial uses of Walker Creek the Regional Board finds that the beneficial uses identified in the Basin Plan for the Colusa Basin Drain are applicable to Walker Creek. The Basin Plan identifies the following beneficial uses for the Colusa Basin Drain: agricultural irrigation, agricultural stock watering, body contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, warm spawning habitat, and wildlife habitat.

EFFLUENT LIMITATIONS

All mass limitations for discharges to surface water contained in Order No. R5-2002-0161 were calculated by multiplying the concentration limitation by the flow reported in the Report of Waste Discharge and the appropriate unit conversion factors.

COD, TSS, and TDS— Discharge to land: State Board Resolution No. 68-16 (the ‘Antidegradation Policy’) requires the use of best practicable control treatment or control methods. 40 Code of Federal Regulations (CFR) 405 contains effluent limitations based on the application of the best practicable control technology currently available for the dairy products processing industry. Subpart D—Butter Subcategory and Subpart J—Dry Milk Subcategory contain limitations for the industrial activities that occur at the Glenn Milk Plant. While these limitations were developed for surface water discharges, they are technology-based and may be applied to land-disposal discharges. While the federal regulations included in 40 CFR 405 are not directly applicable to land disposal, compliance with the federal regulations for this particular industry would meet the requirement for the use of best practicable control treatment or control methods. This Order contains limitations for BOD and TSS discharged to land based on technology standards included in 40 CFR 405.

Discharge to surface water: A review of discharger self-monitoring reports has occasionally shown elevated concentrations of chemical oxygen demand (COD), total suspended solids (TSS), and total dissolved solids (TDS) in cooling water effluent discharged to the ponds. The cooling water is not treated for these constituents and the quality would be the same whether discharged to the ponds or to surface water. Reported values include observed maximum concentrations for COD of 850 mg/l, TSS of 140 mg/l, and TDS of 780 mg/l. A COD concentration of 850 mg/l represents a significant oxygen demand not expected to be found in a clean water supply. It is possible that the COD concentration is elevated due to the addition of chemicals or other contaminating constituents to the waste stream; however, such addition was not part of the original waste stream characterization. The Basin Plan water quality objective for suspended material states that “[w]aters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses”. In addition, elevated concentrations of suspended material in the discharge could cause exceedance of the receiving water limitation for turbidity. Order No. 95-061 included monthly average cooling water effluent limitations of 10 mg/l for both COD and TSS; the TSS limitations remain unchanged in this permit, while the COD limitations have been converted to BOD limitations. BOD and COD indicate the presence of oxygen-demanding substances. The cooling water is supplied by groundwater, which should be free of oxygen-demanding substances; the Report of Waste Discharge did not characterize it otherwise. Therefore, BOD and COD concentrations in the cooling water should be equivalent. The reported concentration of 780 mg/l for TDS exceeds the agricultural water quality goal of 450 mg/l. A monthly average cooling water effluent TDS limitation of 450 mg/l has been included in the Order to protect the beneficial uses of the receiving stream.

Settleable Solids—For inland surface waters, the Basin Plan states that “[w]ater shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.” Order No. R5-2002-0161 contains average monthly and maximum daily effluent limitations for settleable solids.

Total Residual Chlorine—The Report of Waste Discharge reported chlorine concentrations of 0.04 mg/l in the non-contact cooling water discharge. For chlorine, U.S. EPA has developed Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life. The recommended maximum one-hour average concentration for chlorine is 0.019 mg/l and the recommended maximum four-day average concentration is 0.011 mg/l. Based on the data submitted, there is reasonable potential for the discharge to exceed water quality criteria for total chlorine. Effluent limitations for chlorine, based on these criteria, are included in Order No. R5-2002-0161

pH—The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the “...pH shall not be depressed below 6.5 nor raised above 8.5.” No reliable dilution is available in the receiving stream, so the Order includes effluent limitations for pH at the Basin Plan objective values.

Toxicity—The Basin Plan states that “[a]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.” The Basin Plan requires that “[a]s a minimum, compliance with this objective...shall be evaluated with a 96-hour bioassay.” Order No. R5-2002-0161 requires both acute and chronic toxicity monitoring to evaluate compliance with this water quality objective.

The low-flow natures of Walker Creek and Willow Creek mean that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. The use of a dilution series to evaluate compliance with the narrative toxicity objective contained in the Basin Plan is, therefore, inappropriate.

The Basin Plan further states that “...effluent limits based upon acute biotoxicity tests of effluents will be prescribed...”. Effluent limitations for acute toxicity have been included in the Order.

General Effluent Limitation Information—

Selected 40 CFR §122.2 definitions:

Average monthly discharge limitation means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.

Average weekly discharge limitation means the highest allowable average of “daily discharges” over a calendar week, calculated as the sum of all “daily discharges” measured during a calendar week divided by the number of “daily discharges” measured during that week.

Continuous discharge means a “discharge” which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

Daily discharge means the “discharge of a pollutant” measured during a calendar day or any 24-hour period that reasonable represents a calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.

Maximum daily discharge limitation means the highest allowable “daily discharge”.

The SIP contains similar definitions. These definitions were used in the development of Order No. R5-2002-0161. Alternate limitation period terms were used in the permit for the sake of clarity. Alternates are shown in the following table:

Term Used in Permit	SIP/40 CFR 122.2 Term
Average monthly	Average monthly discharge limitation. 30-day averages may have been converted to monthly averages to conform with 40 CFR §122.45 (see below)
Average daily	Maximum daily discharge limitation. Since the daily discharge for limitations expressed in concentrations is defined as the average measurement of the pollutant over the day, the term ‘Average Daily’ was used in the Order.

40 CFR §122.45 states that:

- (1) “Except in the case of POTWs..., calculation of any permit limitations, standards, or prohibitions which are based on production (or other measure of operation) shall be based not upon the designed production capacity but rather upon a reasonable measure of actual production of the facility.”
- (2) “The Director may include a condition establishing alternate permit limitations, standards, or prohibitions based upon anticipated increased (not to exceed maximum production capability) or decreased production levels.”
- (3) “For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as...[m]aximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works...”.
- (4) “All pollutants limited in permits shall have limitations...expressed in terms of mass except...[f]or pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass...Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations.”

RECEIVING WATER LIMITATIONS AND MONITORING

Dissolved Oxygen—By the tributary rule, Walker Creek has been designated as having the beneficial use of cold freshwater aquatic habitat (COLD). The habitat designation for Walker Creek is appropriate since there is no documentation of the existence of barriers that might prohibit the upstream migration of cold-water and warm-water fish species into these waters.

For water bodies designated as having COLD as a beneficial use, the Basin Plan includes a water quality objective of maintaining a minimum of 7.0 mg/l of dissolved oxygen. Since, by the tributary rule, the beneficial use of COLD does apply to Walker Creek, a receiving water limitation of 7.0 mg/l for dissolved oxygen was included in the Order.

For surface water bodies outside of the Delta, the Basin Plan includes the water quality objective that “...the monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation.” This objective was included as a receiving water limitation in the Order.

pH—For all surface water bodies in the Sacramento River and San Joaquin River basins, the Basin Plan includes water quality objectives stating that “[t]he pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses.” By the tributary rule, Walker Creek has the beneficial uses of both COLD and WARM (warm freshwater habitat); therefore, the Order includes receiving water limitations for both pH range and pH change.

The Basin Plan allows an appropriate averaging period for pH change in the receiving stream. Since there is no technical information available that indicates that aquatic organisms are adversely affected by shifts in pH within the 6.5 to 8.5 range, an averaging period is considered appropriate and a monthly averaging period for determining compliance with the 0.5 receiving water pH limitation is included in the Order.

Temperature—By the tributary rule, Walker Creek has the beneficial uses of both COLD and WARM. The Basin Plan includes the objective that “[a]t no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature.” The Order includes a receiving water limitation based on this objective.

Turbidity—The Basin Plan includes the following objective: “Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
- Where natural turbidity is between 5 and 10 NTUs, increases shall not exceed 20 percent.

- Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTU.
- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.”

Narrative Limitations—Receiving Water Limitations F (biostimulatory substances), 1 (color), 3 (floating material), 4 (oil and grease), 6 (suspended material), 7 (settleable material), 8 (tastes and odors), and 10 (toxicity) are based on narrative Basin Plan objectives. The objectives are located in Chapter III: Water Quality Objectives, under the Water Quality Objectives for Inland Surface Waters heading.

GROUNDWATER BENEFICIAL USES

The antidegradation directives of CWC Section 13000 require that waters of the State that are better in quality than established water quality objectives be maintained “consistent with the maximum benefit to the people of the State.” Waters can be of high quality for some constituents or beneficial uses and not others. Policies and procedures for complying with this directive are set forth in the Basin Plan (including by reference State Water Board Resolution No. 68-16, “Statement of Policy With Respect to Maintaining High Quality Waters in California,” commonly referred to for convenience as Resolution 68-16 or as the “Antidegradation” Policy). The permit requires the discharge to not degrade groundwater quality.

GROUNDWATER LIMITATIONS AND MONITORING

Electrical Conductivity—The beneficial uses of groundwater include municipal and domestic water supply (MUN). The California Department of Health Services has listed a Secondary Maximum Contaminant Level for specific conductance. There is potential for the wastewater percolating to groundwater to cause or contribute to elevated specific conductance in the groundwater. Order No. R5-2002-0161 requires monitoring of electrical conductivity in the groundwater.

Nitrogen—For nitrogen, California Department of Health Services has developed a Primary Maximum Contaminant Level (MCL) of 10 mg/l. The conversion of ammonia to nitrates presents a reasonable potential for the wastewater percolating to groundwater to cause the groundwater to exceed the Primary Maximum Contaminant Level for nitrogen. Denitrification reduces the potential for the Discharger to cause an exceedance of the Primary MCL for nitrogen. Order No. R5-2002-0161 requires continued monitoring of the groundwater for nitrogen.

pH— The ponds at the Glenn Milk Plant are unlined, so wastewater in the process of being treated may percolate to groundwater. The Basin Plan includes a water quality objective for groundwater that “[g]round waters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.” The beneficial uses of groundwater include municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO).

U.S. EPA has a Secondary Maximum Contaminant Level (or Secondary Standard) for drinking water pH of 6.5 to 8.5 units. The noticeable effects of pH outside of the Secondary Standard range include (a) for a low pH: bitter metallic taste; corrosion and (b) for a high pH: slippery feel; soda taste; deposits [U.S. EPA, Secondary Drinking Water Regulations: Guidance for Nuisance Chemicals, <http://www.epa.gov/safewater>].

Potential corrosion and deposits caused by a pH outside of the 6.5 to 8.5 range would adversely affect the beneficial use of industrial process supply, which is defined in the Basin Plan as: “Uses of water for industrial activities that depend primarily on water quality.”

Low pH values cause metals to dissolve, allowing them to percolate into groundwater. Elevated metal concentrations in the groundwater would violate the groundwater toxicity objective included in the Basin Plan. Monitoring for groundwater pH is required by Order No. R5-2002-0161.

POND LIMITATIONS AND MONITORING

Dissolved Oxygen—Anaerobic (lacking in oxygen) processes tend to produce aesthetically undesirable odors. To minimize production of undesirable odors, the Discharger is required to maintain some (at least 1.0 mg/l) dissolved oxygen in the upper one foot of the ponds.

pH—The ponds at the Dairy Farmers of America, Inc. Glenn Milk Plant are unlined, so wastewater in the process of being treated may percolate to groundwater. The Basin Plan includes a water quality objective for groundwater that “[g]round waters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.” The beneficial uses of groundwater include municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO).

U.S. EPA has a Secondary Maximum Contaminant Level (or Secondary Standard) for drinking water pH of 6.5 to 8.5 units. The noticeable effects of pH outside of the Secondary Standard range include (a) for a low pH: bitter metallic taste; corrosion and (b) for a high pH: slippery feel; soda taste; deposits [U.S. EPA, Secondary Drinking Water Regulations: Guidance for Nuisance Chemicals, <http://www.epa.gov/safewater>]. A pond pH limitation range of 6.5 to 8.5 helps to ensure that the Discharger’s wastewater treatment activities do not cause the groundwater taste and odor objective to be violated.

Potential corrosion and deposits caused by a pH outside of the 6.5 to 8.5 range would adversely affect the beneficial use of industrial process supply, which is defined in the Basin Plan as: “Uses of water for industrial activities that depend primarily on water quality.”

Low pH values cause metals to dissolve, allowing them to percolate into groundwater. Many metals are priority toxic pollutants. Elevated metal concentrations in the groundwater would violate the groundwater toxicity objective included in the Basin Plan.

Freeboard—The Order contains a limitation for pond freeboard. Pond levees can fail for a variety of reasons, typically, a lack of maintenance or overtopping due to wave action. The Order requires a minimum pond freeboard of two feet be maintained to prevent overtopping.

MRH/mrh 7 January 2003