STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401

MONITORING AND REPORTING PROGRAM NO. R3-2006-0016

Waste Discharger Identification No. 3 435005001
Prepared February 14, 2006

For

FURTADO DAIRY
7955 FERGUSON ROAD
GILROY
SANTA CLARA COUNTY

Reporting responsibilities are specified in Sections 13225(a), and 13267(b), of the California Water Code. This Discharge Monitoring Program is issued in accordance with Provision D.2 of Regional Board Order No. R3-2006-0016.

FACILITY MONITORING

The Discharger shall make routine visual inspections of the Dairy Facility; at a minimum the following must be visually inspected:

1. Weekly inspections of all water diversion devices, runoff diversion structures, and devices channeling contaminated storm water to the wastewater ponds;
2. Weekly inspections of the wastewater ponds, manure, and sludge storage areas; the inspection will note the level in the wastewater ponds as indicated by a depth marker (see Pond Monitoring below);
3. Weekly inspection of irrigation areas receiving applied wastewater, manure or sludge as permitted by the Executive Officer; the inspection shall also incorporate irrigation equipment and associated drainage controls.
4. The Discharger shall inspect any cropland on which wastewater is applied at least once daily during each irrigation event to verify compliance with this Order. A log of these inspections shall be maintained and a summary of observations made during the inspections shall be submitted with each semiannual monitoring report.

During the inspections, the Discharger shall note compliance status with this Order. A log of these inspections shall be maintained and a summary of observations made during the inspections shall be submitted with each semiannual monitoring report. Deficiencies found as a result of these inspections shall be corrected as soon as possible. The Discharger shall also submit daily rainfall totals (inches) semiannually for all storm events impacting the Facility.

POND MONITORING

The wastewater ponds shall be monitored in accordance with the following table:

Parameter	Units	Sample Type	Minimum Monitoring Frequency
Freeboard[1]	feet	Measured	Weekly
Sludge/Solids Depth[2]	feet	Measured	Annually (May)
Total Pond Depth[2, 3]	feet	Measured	Annually (May)

1. A weekly log of freeboard depth shall be maintained in a tabular and consistent format.
2. Sludge/solids depths and total pond depths shall be reported for each pond in a tabular format with the design depths of the ponds as reported in the October revised 2005 Report of Waste Discharge.
3. The depth of the pond from the top of the accumulated sludge/solids (pond bottom) to the top of the pond berm/embankment.

The Discharger shall document and report the removal of sludge from individual wastewater ponds as required to maintain at least 75% volume capacity of each pond during each semiannual reporting period per the Manure/Sludge Monitoring requirements below. Pond monitoring and sludge removal activities shall be documented and reported for each pond as identified by the pond number shown on Attachment B (Site/Facility Map) of Order No. R3-2006-0016.

EFFLUENT MONITORING

Representative samples of wastewater being discharged to the irrigation disposal areas and lagoon/pasture overflow area shall be collected and analyzed for the constituents and at the frequencies specified below:

Parameter/Constituent	Units	Sample Type	Minimum Sampling and Analyzing Frequency
Effluent Flow to Ponds[1]	Gal/day	Measured	Daily
Discharge Flow[2]	AF/day	Measured	Each Application Area, Each Event[3]
Application Area	Acres	Estimated	Each Application Area, Each Event[3]
pH	-	Composite[4]	Quarterly[5]
BOD_5	mg/l	Composite[4]	Quarterly[5]
COD	mg/L	Composite[4]	Quarterly[5]
Total Dissolved Solids	mg/l	Composite[4]	Quarterly[5]
General Minerals[6]	mg/l	Composite[4]	Quarterly[5]
Nitrite (as N)	mg/l	Composite[4]	Quarterly[5]
Nitrate (as N)	mg/l	Composite[4]	Quarterly[5]
Ammonia (as N)	mg/l	Composite[4]	Quarterly[5]
Total Nitrogen (as N)	mg/l	Composite[4]	Quarterly[5]
Phosphorous	mg/l	Composite[4]	Quarterly[5]

1. Report daily flows and calculate total monthly flow and monthly average daily flow (gal/day) for each month.
2. Discharge events consist of the application of wastewater to irrigation areas and wastewater pond overflows to the bermed pasture overflow area (discharge type shall be noted accordingly for each data set in the submitted reports).
3. Discharge flow and application area shall be determined to gauge the hydraulic and nutrient loading to the land areas during each irrigation or overflow event. Nutrient loading from wastewater irrigation is to be consistent with the uptake capacity for the chosen crop during the growth cycle and growing season. The wastewater application dates and total acre–feet of wastewater applied to each field and the overflow area shall be recorded for each application and overflow event.
4. A representative composite sample shall be prepared based on a minimum of three time-series samples collected during an irrigation event that are representative of the beginning, middle, and end of the wastewater discharge. Due to the stratification of ponds, a time-series composite is needed so that

representative nutrient loading rates may be calculated. Individual grab samples may be substituted if the Discharger can demonstrate to the satisfaction of the Executive Officer that grab samples are representative of applied wastewater.

5. Monitoring shall be conducted in about February, May, August and November on a regular schedule corresponding to discharge events. Discharge events consist of the application of wastewater to irrigation areas and wastewater pond overflows to the bermed pasture overflow area (discharge type shall be noted accordingly for each data set in the submitted reports).
6. General Minerals include bicarbonate, boron, calcium, carbonate, chloride, magnesium, potassium, sodium, and sulfate reported individually.

MANURE/SLUDGE MONITORING

The Discharger shall submit a summary of activities regarding solids handling with each semiannual monitoring report. Representative samples of manure and wastewater pond sludge shall be collected and analyzed for the constituents and at the frequencies specified below:

Parameter/Constituent	Units	Sample Type	Minimum Sampling and Analyzing Frequency
Quantity	Tons or yds[3]	Measured during removal	Each load[1]
Moisture Content	%	Grab	Annually (September)[3]
Nitrate (as N)	mg/kg	Grab	Annually (September)[3]
Ammonia (as N)	mg/kg	Grab	Annually (September)[3]
Total Nitrogen	mg/kg	Grab	Annually (September)[3]
Total Phosphorus	mg/kg	Grab	Annually (September)[3]
General Minerals[2]	mg/kg	Grab	Annually (September)[3]

1. The quantity of manure and sludge removed offsite by the Discharger or other contracted hauler shall be documented for each hauling event using Attachment D, Manure/Sludge Tracking Manifest. The tracking manifests shall be provided with each semiannual monitoring report for the prior reporting period.
2. General Minerals include bicarbonate, boron, calcium, carbonate, chloride, magnesium, potassium, sodium, and sulfate reported individually.
3. Sludge monitoring is only required prior to the offsite disposal or onsite application, as allowable by the Executive Officer per the approved Nutrient Management Plan, of sludge removed from the wastewater ponds. The quantity of sludge removed shall be documented for each wastewater pond as identified by the pond number shown on Attachment B (Site/Facility Map) of Order No. R3-2006-0016. Only one sludge sampling analysis is required per year for the removal of sludge from multiple ponds.

The Discharger shall provide the recipient of the manure or sludge with the most current nutrient analysis upon request. The analysis must be consistent with the manure/sludge monitoring required above. The Discharger shall document each hauling event with completed Manure/Sludge Tracking Manifests (Attachment D) and provide the tracking manifests with each semiannual monitoring report for the prior reporting period.

IRRIGATION AREA SOIL MONITORING

Representative samples of soil from crop and irrigation disposal areas shall be collected at least annually in accordance with the Nutrient Management Plan (NMP) submitted as part of the October 2005 revised Report of Waste Discharge to evaluate chemistry changes that may impact crop productivity and movement of salts and nutrients. Representative soil samples are to be collected to a five-foot depth and shall be analyzed for the parameters/constituent specified below:

Parameter/Constituent	Units	Sample Type	Minimum Sampling and Analyzing Frequency
NMP Constituents[1]	varies	Grab[2] (soil)	Annually (September)
Ammonia (as N)	mg/kg	Grab[2] (soil)	Annually (September)
Total Nitrogen (as N)	mg/kg	Grab[2] (soil)	Annually (September)

1. Per the October 2005 Nutrient Management Plan - Organic carbon, pH, ECe (salt content of soil saturation extract), major cations (water soluble and exchangeable), and major anions (including HCO_3^-)
2. At least three soil samples shall be collected from each discrete irrigation area used for wastewater application. In addition, three soil samples are required for each area within discrete irrigation areas with notable variations in soil color or texture, slope or drainage characteristics, or subject to varying wastewater application rates or crops.

The Discharger shall provide a written evaluation of the crop/irrigation area soil monitoring including a comparison with the pervious years sampling results discussing any trends and recommending appropriate mitigation measures as appropriate to maximize crop production and prevent salt and nutrient loading to the groundwater basin as a result of dairy wastewater application.

The Discharger shall also document and submit the following information with each semiannual monitoring report:

a. Identification of crops planted, acreage, and dates of planting, harvest, and routine maintenance of cropland;
b. Expected and actual crop yields;
c. The date(s) manure, litter, or process wastewater is applied to each field;
d. Weather conditions at time of application and for 24 hours prior to and following application;
e. Calculations showing the total nitrogen and phosphorus applied to each field, including sources other than manure, litter, or process wastewater;
f. The method used to apply the manure, litter, and process wastewater; and
g. A site map showing the location of the collected soil samples.

GROUNDWATER MONITORING

Representative samples of groundwater shall be collected from the three existing onsite groundwater-monitoring wells. The collected groundwater samples shall be analyzed for the constituents and at the frequencies specified below:

Parameter/Constituent	Units	Sample Type	Minimum Sampling and Analyzing Frequency
Depth to Groundwater	feet	Measured	Semi-Annually (April, October)
pH	-	Grab	Semi-Annually (April, October)
Total Dissolved Solids	mg/l	Grab	Semi-Annually (April, October)
General Minerals[1]	mg/l	Grab	Semi-Annually (April, October)
Nitrite (as N)	mg/l	Grab	Semi-Annually (April, October)
Nitrate (as N)	mg/l	Grab	Semi-Annually (April, October)
Ammonia (as N)	mg/l	Grab	Semi-Annually (April, October)
Total Nitrogen (as N)	mg/l	Grab	Semi-Annually (April, October)
Phosphorous	mg/l	Grab	Semi-Annually (April, October)

1. General Minerals include bicarbonate, boron, calcium, carbonate, chloride, magnesium, potassium, sodium, and sulfate reported individually.

WATER SUPPLY MONITORING

Representative samples of the two Facility water supply wells shall be collected and analyzed as follows:

Parameter/Constituent[1]	Units	Sample Type	Minimum Sampling and Analyzing Frequency
Depth to Groundwater	feet	Measured	Annually (October)
pH	-	Grab	Annually (October)
Total Dissolved Solids	mg/l	Grab	Annually (October)
General Minerals[2]	mg/l	Grab	Annually (October)
Nitrite (as N)	mg/l	Grab	Annually (October)
Nitrate (as N)	mg/l	Grab	Annually (October)
Ammonia (as N)	mg/l	Grab	Annually (October)
Total Nitrogen (as N)	mg/l	Grab	Annually (October)
Phosphorous	mg/l	Grab	Annually (October)

1. Sampling results submitted for the Department of Health Services for similar constituents may be submitted to satisfy this requirement.
2. General Minerals include bicarbonate, boron, calcium, carbonate, chloride, magnesium, potassium, sodium, and sulfate reported individually.

DAIRY ANIMAL MONITORING

The Discharger shall provide semiannual data verifying dairy animal population and animal units (AU) as follows:

Animal Type	Units	Frequency
Total Cow Population	head	Semiannually (April/October)
Milking Cow Population	head	Semiannually (April/October)
Animal Units (calculated)[1]	AU	Semiannually (April/October)

1. Animal units shall be calculated using Attachment E, Order No. R3-2006-0016

REPORTING

1. The Discharger shall submit all data in the form prescribed by this Monitoring and Reporting Program. **Monitoring reports are required semiannually, by the 30th of July and January**, and shall contain all data collected or calculated over the previous six months. The January 30th report will constitute an annual report as required by the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements," dated January 1984.

In addition to the items listed above the Facility Annual Report due by the 30th of January of each year shall contain the following:

a. The average number and type of animals, whether in open confinement or housed under roof for the previous year;
b. Daily rainfall totals for all storm events impacting the Facility in the previous 12 months (inches);
c. Estimated amounts of total manure, wastewater and wastewater pond sludge generated by the Facility in the previous 12 months (tons/gallons);
d. Wastewater pond sludge removal information for the previous year including pond number (see Order No. R3-2006-0016 Attachment B), dates of removal, and amounts of sludge removed for each pond. (Reporting of sludge removal activities during the first half of the year [January thru June] are also required in the July 30th semiannual monitoring report.)

e. Total amounts of manure, wastewater, and wastewater pond sludge transferred to other persons in the previous 12 months (tons/gallons);
f. Total number of acres for land application covered by the nutrient management plan;
g. Total number of acres under control of the Facility that were used for land application of wastewater, manure, and wastewater pond sludge in the previous 12 months;
h. Summary of all wastewater, manure and wastewater pond sludge discharges offsite that have occurred in the previous 12 months, including date, time, and approximate volume;
i. Summary of all violations or periods of noncompliance including corrective action; and
j. A statement indicating whether the current version of the Facility's Nutrient Management Plan is up-to-date or has been revised to reflect changes in the Facility or Facility's operational procedures. If the nutrient management plan has been revised, provide an outline of the changes and a full copy of the revised plan.

The following table summarizes the required monitoring activities, activity dates, and reporting dates for the monitoring activities set forth above:

Activity	Activity Frequency	Activity Dates	Reporting Due Dates
Facility Monitoring	Weekly	Weekly	July, January
Rainfall Monitoring[1]	Daily	Daily	July, January
Pond Monitoring[2]	Weekly Annually	Weekly May	July, January July
Effluent Monitoring	Quarterly	Feb, May, Aug, Nov	July, January
Manure/Sludge Monitoring	Annually	September	January
Crop/Irrigation area Monitoring	Annually	September	January
Groundwater Monitoring	Semiannually	April, October	July, January
Water Supply Well Monitoring	Annually	October	January
Dairy Animal Monitoring	Semiannually	April, October	July, January
Update Nutrient Management Plan[4]	As needed	Yearly	January

1. Daily rainfall data from either the National Weather Service's Regional Climatic Center for the City of Gilroy, or the Santa Clara Valley Water District Automated Local Evaluation in Real Time (ALERT) system is acceptable in place of onsite rain gauge data.
2. Weekly pond freeboard monitoring is due semiannually and the annual pond and sludge depth monitoring is due with the July semiannual monitoring report.
3. Wastewater pond sludge removal reporting and monitoring is only required during removal activities and shall be reported in July 30th and January 30th monitoring reports.
4. The plan shall be updated as necessary to reflect current Facility operating conditions.

RECORD KEEPING REQUIREMENTS

The Discharger shall create, maintain on site for at least five years, and make available to the Central Coast Water Board, upon request the following information:

a. A copy of the site-specific Nutrient Management Plan;
b. All applicable records identified for implementation and management of the Nutrient Management Plan;
c. Records documenting the inspections and monitoring required by this Monitoring and Reporting Program.
d. Records documenting any actions taken to correct deficiencies found during inspections or monitoring required by this Monitoring and Reporting Program.
e. Records documenting the current design of any manure or litter storage structures, including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity.

f. Records of mortality management and practices used by the Discharger to maintain compliance with Prohibition B.7 of Waste Discharge Requirements No. R3-2006-0016.

PROVISIONS

1. All monitoring must be conducted according to test procedures established by 40 Code of Federal Regulations Part 136, entitled, "Guidelines Establishing Test Procedures for Analysis of Pollutants." All sampling analyses shall be conducted at the lowest practical quantitation limits achievable under U.S. EPA specified methodology.

2. All samples collected shall be tracked and submitted under chain of custody and analyzed by a laboratory certified by California Department of Health Services for the specified analysis.

3. This Monitoring and Reporting Program may be revised at any time during the permit term, as necessary, under the authority of the Executive Officer.

IMPLEMENTATION

This monitoring and reporting program shall be implemented immediately.

ORDERED BY _____
Executive Officer

_____
Date

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