CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2012-XXXX

FOR
DIAMOND PET FOOD PROCESSORS OF RIPON, LLC AND
RIPON COGENERATION, LLC
DIAMOND PET FOOD RIPON FACILITY
SAN JOAQUIN COUNTY

This Monitoring and Reporting Program (MRP) presents requirements for monitoring of wastewater flow, influent, aeration stabilization basins, effluent, land application areas (LAAs), groundwater, and sludge. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

Central Valley Water Board staff shall approve specific sampling locations prior to any sampling activities. All samples shall be representative of the volume and nature of the discharge. The time, date, and location of each sample shall be recorded on the sample chain of custody form.

Field testing instruments (such as those used to test pH and dissolved oxygen) may be used provided that:

1 The operator is trained in proper use and maintenance of the instruments;

2 The instruments are calibrated prior to each monitoring event;

3 The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency;

4 Field calibration reports are submitted as described in the "Reporting" section of this MRP.

FLOW MONITORING

Wastewater and dilution water flow rates shall be monitored as follows:

Flow	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Wastewater generated by Diamond	gpd	Meter Observation	Daily	Monthly
Wastewater generated by Ripon Cogeneration, LLC	gpd	Meter Observation	Daily	Monthly
Groundwater for dilution	gpd	Meter Observation	Daily	Monthly
Distilled water for dilution	gpd	Meter Observation	Daily	Monthly

INFLUENT MONITORING

Influent samples shall be collected in the clarifier after the wastewater is diluted with low TDS groundwater and distilled water. Grab samples will be considered to be representative of the overall influent. Influent monitoring shall include, at a minimum the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
BOD_5 [1]	mg/L	Grab	Monthly	Monthly
pH	Standard Units	Grab	Monthly	Monthly
Total Nitrogen	mg/L	Composite	Monthly	Monthly
Total Dissolved Solids	mg/L	Composite	Monthly	Monthly
Electrical Conductivity	µmhos/cm	Composite	Monthly	Monthly

[1] 5-day biochemical oxygen demand.

AERATION STABILIZATION BASIN MONITORING

Samples shall be collected from an established sampling station located in an area that will provide a sample representative of the wastewater in the Aeration Stabilization Basins (ASBs). Freeboard shall be measured vertically from the surface of the basin water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.1 feet. Monitoring of basins shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
pH	Standard Units	Grab	Weekly	Monthly
Dissolved Oxygen [1]	mg/L	Grab	Weekly	Monthly
Freeboard [2]	0.1 feet	Measurement	Weekly	Monthly
Odors [2]	--	Observation	Weekly	Monthly
Berm condition [2, 3]	--	Observation	Weekly	Monthly

[1] Samples shall be collected at a depth of one foot, opposite the inlet.
[2] For each basin.
[3] Containment berms shall be observed for signs of seepage or surfacing water along the exterior toe of the berms.

EFFLUENT MONITORING

Effluent samples shall be representative of the treated wastewater blended with dilution water prior to discharge to the LAAs. The effluent samples shall be obtained from the effluent monitoring point immediately downstream of the ASB-2. At a minimum, effluent monitoring shall include the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Electrical Conductivity	µmhos/cm	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Chloride	mg/L	Grab	Monthly	Monthly
Total Nitrogen	mg/L	Grab	Monthly	Monthly
BOD_5	mg/L	Grab	Monthly	Monthly
pH	pH units	Grab	Monthly	Monthly
Standard Minerals [1]	mg/L	Grab	Annually	Annually

[1] Standard minerals shall include, at a minimum, the following elements/compounds: boron, calcium, iron, magnesium, manganese, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness.

LAND APPLICATION AREA MONITORING

Monitoring shall be conducted daily when the LAAs are used. Evidence of erosion, irrigation runoff, or the presence of nuisance conditions shall be noted in the report. Effluent monitoring results shall be used in calculations to determine loading rates at the LAAs. Monitoring of the LAAs shall include the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Flow to each LAA	gpd	Meter Observation	Daily	Monthly
Acreage Applied	Acres	Calculated	Daily	Monthly
Water Application Rate [1]	Inches/day	Calculated	Daily	Monthly
Rainfall [2]	Inches	Observation	Daily	Monthly
Total Nitrogen Loading Rate	lbs/ac/month	Calculated	Monthly	Monthly
LAA Containment Condition	NA	Observation	Weekly	Monthly

[1] Average calculated for each LAA.
[2] Rainfall data collected from the weather station that is nearest to the LAAs or a properly maintained on-site rain gauge.

At least **once per week** when the LAAs are being used, the LAAs shall be inspected to identify any equipment malfunction or other circumstances that might allow tailwater or storm water runoff to leave the irrigation area and/or create ponding conditions that violate the Waste Discharge Requirements. A daily log of each inspection shall be kept at the facility and be submitted with the monthly monitoring reports. Photocopies of entries into an operator's field log are acceptable. The monthly report shall clearly states whether or not the LAAs were used during that month.

GROUNDWATER MONITORING

The groundwater monitoring program applies to groundwater monitoring wells listed as follows and any wells subsequently installed under direction of the Central Valley Water Board.

Monitoring Wells

OB-1 [1]	OB-2	OB-4	OB-5 [1]	OB-7
OB-8	OB-11	OB-17 [1]	OB-19	OB-21 [1]
OB-22 [1]	OB-24 [1]	OB-25 [1]	OB-26	OB-28

[1] Indicates wells not used for compliance monitoring.

Prior to sampling, groundwater elevations shall be measured. Depth to groundwater shall be measured to the nearest 0.01 feet. Water table elevations shall be calculated and used to determine groundwater gradient and direction of flow. Samples shall be collected and analyzed using approved EPA methods or other methods approved by the Central Valley Water Board. Groundwater monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling and Reporting Frequency
Groundwater Elevation [1]	0.01 Feet	Calculated	Quarterly
Depth to Groundwater	0.01 Feet	Measurement	Quarterly
Gradient	Feet/Foot	Calculated	Quarterly
Gradient Direction	Degrees	Calculated	Quarterly
pH	Standard Units	Grab	Quarterly
Electrical Conductivity	µmhos/cm	Grab	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly
Nitrate as N	mg/L	Grab	Quarterly
Standard Minerals [2]	mg/L	Grab	Annually

[1] Groundwater elevation shall be based on depth-to-water using a surveyed measuring point elevation on the well and a surveyed reference elevation.

[2] Standard minerals shall include, at a minimum, the following elements and compounds: boron, calcium, chloride, iron, magnesium, manganese, nitrogen, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness.

WATER SUPPLY MONITORING

Diamond and Ripon Cogeneration, LLC shall monitor the two industrial water supply sources separately. Sampling stations shall be established where representative samples of each water supply can be obtained. Water supply monitoring should include all operable production wells in use. Water supply monitoring shall include, at a minimum, the following:

Constituents	Units	Sampling and Reporting Frequency
Standard Minerals [1]	mg/L	Annually
Electrical Conductivity	µmhos/cm	Annually
Total Dissolved Solids	mg/L	Annually

[1] Standard minerals shall include, at a minimum, the following elements and compounds: boron, calcium, chloride, iron, magnesium, manganese, nitrogen, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness.

SOLIDS MONITORING

The Discharger shall record and report monthly the quantity, disposal location, and method of disposal of any wastewater treatment sludge. If sludge is shipped offsite during the reporting period, then an estimated amount and location of disposal shall be reported in the monthly report and the hauler shall be identified.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

As required by the Business and Professions Code sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board by the **1st day of the second month** following the end of the reporting period (i.e. the January monthly report is due by 1 March). At a minimum, the reports shall include:

1. Results of the flow, influent, effluent, aeration stabilization basin, and LAA monitoring;
2. Average monthly influent flows (wastewater generated by Diamond and wastewater generated by Ripon Cogeneration, LLC) for the month, the maximum daily influent flows and the monthly total flows to the clarifier including influent flows, distilled water and groundwater for dilution;
3. Copies of inspection logs;
4. A comparison of the monitoring data to the discharge specifications and an explanation of any violation of those requirements;
5. Copies of laboratory analytical report(s); and
6. Copies of current calibration logs for all field test instruments.

B. Quarterly Monitoring Report

Quarterly monitoring reports shall be submitted to the Central Valley Water Board by the **1st day of the second month after the quarter (i.e. the January-March quarterly report is due by May 1st).** The Quarterly Monitoring Reports shall include the following:

1. Results of groundwater monitoring;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to

verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;

3. For each monitoring event:
   a. Calculation of groundwater elevations, determination of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any; and
   b. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal tends, with reference to summary data tables, graphs, and appended analytical reports (as applicable).
4. Summary data tables and graphs of historical and current water table elevations and analytical results;
5. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and
6. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Report

In addition to the monthly and quarterly monitoring reports, an Annual Report shall be prepared. The Annual Report shall be submitted to the Central Valley Water Board by **1 February** each year. The Annual Report shall include the following:

1. The results from annual monitoring of the effluent, groundwater, and water supply;
2. The maximum monthly influent flows and the annual total flows to the clarifier including influent flows, distilled water and groundwater for dilution;
3. Tabular summaries of monitoring data collected during the year;
4. A digital database file (Microsoft Excel) containing historic groundwater and effluent data;
5. An evaluation of the performance of the WWTF, including discussion of capacity issues, nuisance conditions, and a forecast of the flows anticipated in the next year;
6. Progress in implementation of the *Salinity and Nutrient Evaluation and Minimization Plan*, including a comparison of total salinity and nutrient loading to each LAA for the current and previous years;
7. A statistical evaluation of groundwater quality and compliance with the Groundwater Limitations of the WDRs in accordance with the approved *Groundwater Limitations Compliance Assessment Plan* submitted pursuant to Provision1.a. of the WDRs. Statistical analyses shall be presented for the following constituents in the compliance wells: electrical conductivity, total dissolved solids, chloride, and nitrate nitrogen. The compliance wells are: OB-2, OB-4, OB-7, OB-8, OB-11, OB-19, OB-26, and OB-28;
8. All groundwater evaluations shall be prepared under the direct supervision of a registered Professional Engineer or Geologist and signed by the registered professional;

9. A description of salinity source control methods that have been implemented in the calendar year;
10. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements;
11. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
12. A forecast of influent flows, as described in Standard Provision No. E.4; and

A letter transmitting the self-monitoring reports shall accompany each report. The 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 penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

_____
(Date)

LF: 8/24/12