

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER NO. R5-2007-0715

FOR  
STEVE GIKAS AND FAMILY  
CALIFORNIA NUGGETS, INC.  
SAN JOAQUIN COUNTY

This Order is issued to Steve Gikas and Family doing business as California Nuggets, Inc. (Discharger) based on provisions of California Water Code Section 13304, which authorizes the Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Water Board) to issue a Cleanup and Abatement Order (CAO).

The Executive Officer of the Regional Water Board finds, with respect to the Discharger's acts, or failure to act, the following:

1. Steve Gikas and Family doing business as California Nuggets, Inc. (hereafter Discharger) submitted a Report of Waste Discharge (RWD) dated July 2005 for the treatment and disposal of food processing wastewater. Additional information was submitted on 25 April 2006.
2. The Discharger operates a food processing facility at 23073 S. Fredrick Road, Ripon (Assessors Parcel No. 228-130-21) in Section 23, T2S, R7E, MDB&M.
3. California Nuggets Inc. is a manufacturer of snack food products (corn nuts and almonds). Activities at the facility include water softening, corn and almond receiving, corn kernel and almond skin removal, steeping, blanching, cooking, seasoning, and related sanitation activities.
4. The facility is in operation and has been discharging wastewater to land without regulation under Waste Discharge Requirements (WDRs).

**Wastewater Generation**

5. Wastewater is collected in floor drains, screened, passes through an oil/water separator, and drains to two unlined storage ponds (North Pond and South Pond) located at the western end of the property. The ponds also receive stormwater runoff from the processing facility.
6. The size of the existing ponds is not presented in the RWD but the Discharger proposes to increase the wastewater storage pond size to approximately 13.3 acre•ft. A water balance included in the RWD indicated the increased pond size would contain all wastewater and stormwater during a 100-year annual return rainfall period.
7. Wastewater is generated in food processing activities. The major processes include the following:

- a. An on-site groundwater well provides the process water supply. Supply water is softened using ion-exchange water treatment prior to use. The ion-exchange vessels are regenerated on-site. Regeneration brine is discharged to the wastewater system.
  - b. Caustic and acid rinses of the processing equipment are performed approximately every two weeks for sanitation purposes. The waste acid and base solutions are discharged to the wastewater system.
  - c. Corn kernels are steeped in a lime solution (calcium oxide). After steeping, the kernels are rinsed again and then fried in soybean oil. Wastewater generated in the process includes softened rinse water and spent steeping water containing the lime solution.
  - d. To process almonds, softened water is used to rinse the almonds, then hot water is used to blanch the skins to allow skin removal by rollers. The blanching water and rinsewater is discharged to the wastewater system.
  - e. Wastewater is treated with an oil-water separator and is then pumped to the two wastewater storage ponds. Standpipe aerators are used to circulate the wastewater and aerate the ponds.
  - f. Stormwater that falls on the processing facility is also discharged to the wastewater ponds.
8. The Discharger estimates the wastewater flow rate at 15,000 gallons per day. Stormwater runoff from the processing facility is mixed with the wastewater in the wastewater ponds.
  9. Supply water and wastewater samples were collected on 1 April 2005; samples were collected from the water supply, steeping water, and wastewater pond water. Because the pond water samples were collected during the spring, pond water quality was likely diluted with relatively clean stormwater. Water quality is characterized in the table below:

<u>Constituent</u>	<u>Units</u>	<u>Supply Water</u>	<u>Steeping Water</u>	<u>Pond Water</u>
Biochemical Oxygen Demand	mg/L	ND (2.0)	ND (2.0)	1,600
Nitrate	mg/L	71	66	< 0.05
TKN	mg/L	ND (1.0)	ND (1.0)	27
Ammonia	mg/L	ND (1.0)	ND (1.0)	ND (1.0)
Fixed Dissolved Solids	mg/L	330	330	1,000
Total Dissolved Solids	mg/L	400	430	2,800
Bicarbonate Alkalinity (as CaCO <sub>3</sub> )	mg/L	130	120	51
Carbonate Alkalinity (as CaCO <sub>3</sub> )	mg/L	ND (1.0)	ND (1.0)	ND (1.0)
Hydroxide Alkalinity (as CaCO <sub>3</sub> )	mg/L	ND (1.0)	ND (1.0)	ND (1.0)
Calcium	mg/L	54	5.8	220
Chloride	mg/L	19	18	120
Copper	mg/L	ND (0.005)	ND (0.005)	0.017
Electrical Conductivity	umho/cm	520	500	1500
Foaming Agents (MBAS)	mg/L	< 0.10	< 0.10	0.52
Iron	mg/L	0.03	0.02	1.5

<u>Constituent</u>	<u>Units</u>	<u>Supply Water</u>	<u>Steeping Water</u>	<u>Pond Water</u>
Magnesium	mg/L	16	1.7	23
Manganese	mg/L	ND (0.01)	ND (0.01)	0.16
pH	-	7.7	7.8	4.7
Sodium	mg/L	24	100	100
Sulfate	mg/L	35	32	33
Total Hardness	mg/L	200	22	640
Zinc	mg/L	<0.02	ND (0.02)	0.14

### **Wastewater Application**

10. Water is applied to the 4.3-acre land application area by spray irrigation. The land application area is not actively cropped; weeds grow in the land area but they are not harvested.
11. Waste constituent loading rates discussed below are based on: (a) a single sample event that may not adequately characterize wastewater quality throughout the year and (b) estimated wastewater generation rates. Based on the information in the RWD, the waste constituent loading rates are described below:
  - a. The maximum loading rate for Biochemical Oxygen Demand (BOD) will occur in July (108 lbs/ac•day); the annual average BOD loading rate is 54 lbs/ac•day. The loading rate in the land application area is unlikely to generate nuisance odors. However, the concentration of BOD in the Pond Water (1,600 mg/L) may result in malodorous conditions or may cause impacts to the underlying groundwater.
  - b. The annual Total Nitrogen (TN) loading rate is 368 lbs/ac•year, which is greater than the approximate nitrogen uptake for weeds of approximately 150 to 325 lbs/ac•year. No added fertilizer is applied to the land application area. Because the plant matter is not harvested and removed from the land application area, the nitrogen application may result in groundwater degradation.
  - c. The Fixed Dissolved Solids (FDS) loading rate is approximately 10,565 lbs/ac•year, which significantly exceeds the crop uptake capacity. The Western Fertilizer Handbook lists the plant macronutrient uptake potential for grass crops to be approximately 425 to 925 lbs/ac•year depending on the plants grown. The nitrogen uptake potential (which is one of the macronutrients and is discussed in Item b above) is estimated to be 150 to 325 lbs/ac•year. Secondary and trace nutrient uptake rates will increase the plant uptake rate to a minor extent. The FDS application rate is likely to continue degradation of groundwater, especially since the plant matter is not harvested and removed from the land application area.

### **Groundwater Quality**

12. Four groundwater monitoring wells exist at the facility. The wells were installed on 18 August 2005, as part of preparation of the RWD. Groundwater exists approximately 11.5 to 15 feet below the ground surface and flows to the southwest. The wells have been

sampled four times since installation. Well MW-1 is located upgradient of the facility, Well MW-2 is located downgradient of the 4.3-acre land application area, Well MW-3 is located downgradient of the North Pond, and Well MW-4 is located downgradient of the south pond. A summary of groundwater quality is presented below:

<u>Well</u>	<u>Date</u>	<u>Units</u>	<u>NO3-N</u>	<u>TKN</u>	<u>NH3</u>	<u>TDS</u>	<u>FDS</u>	<u>Ca</u>	<u>Mg</u>	<u>Na</u>	<u>Cl</u>	<u>Hardness</u>
MW-1	9/6/05	mg/L	25.5	0.8	ND (0.2)	1010	800	63	25	239	46	260
MW-1	2/28/06	mg/L	22	ND (0.5)	ND (0.2)	960	830	67	24	205	22	266
MW-1	5/25/06	mg/L	18.9	ND (0.5)	ND (0.2)	920	770	67	24	213	23	266
MW-1	8/15/06	mg/L	18.2	0.9	0.6	900	760	67	25	223	24	270
MW-2	9/6/05	mg/L	ND (0.1)	1.2	ND (0.2)	1120	960	230	73	55	102	874
MW-2	2/28/06	mg/L	2.9	ND (0.5)	ND (0.2)	760	640	131	42	45	90	500
MW-2	5/25/06	mg/L	7.8	ND (0.5)	ND (0.2)	790	660	143	46	46	105	546
MW-2	8/15/06	mg/L	2.1	0.9	ND (0.2)	780	650	134	46	45	96	524
MW-3	9/6/05	mg/L	0.5	1.1	0.2	840	760	129	39	70	ND(1.0)	482
MW-3	2/28/06	mg/L	ND (0.1)	0.9	0.2	930	840	177	48	57	39	639
MW-3	5/25/06	mg/L	1.5	1.1	ND (0.2)	920	820	185	50	58	45	665
MW-3	8/15/06	mg/L	2.2	ND (0.5)	0.2	880	780	164	44	54	42	590
MW-4	9/6/05	mg/L	ND (0.1)	7	5.9	1290	1160	260	61	68	10	900
MW-4	2/28/06	mg/L	ND (0.1)	26	9	1380	1250	277	63	75	120	950
MW-4	5/25/06	mg/L	ND (0.1)	24	24	1370	1230	277	66	83	109	963
MW-4	8/15/06	mg/L	ND (0.1)	15	9	1430	1260	272	61	67	83	930

NO3-N denotes Nitrate as Nitrogen. TKN denotes Total Kjeldahl Nitrogen. NH3 denotes ammonia. TDS denotes Total Dissolved Solids. FDS denotes Fixed Dissolved Solids. Ca denotes calcium. Mg denotes magnesium. Na denotes sodium. Cl denotes chloride. ND denotes Not Detected, detection limit in parentheses.

13. The following groundwater trends are noted based on the average concentrations of waste constituents in groundwater:
  - a. Higher concentrations of nitrate as nitrogen were detected in upgradient Well MW-1 than in wells located downgradient of the waste application areas. Higher concentrations of TKN (in most cases consisting primarily of ammonia) were observed in the downgradient wells, especially Well MW-4.
  - b. Higher concentrations of TDS and FDS were detected in Well MW-4 (downgradient of the ponds) than in Well MW-1 or in Wells MW-2 and MW-3. However, Well MW-1 possessed a higher TDS concentration than Wells MW-2 and MW-3; in addition, the FDS concentration was higher in Well MW-1 than MW-2. Well MW-2 had a higher FDS concentration than Well MW-1. Staff notes that both Well MW-2 and Well MW-3 are located downgradient of waste application areas, it is unknown why the TDS and FDS data does not show increases in TDS and FDS concentrations.
  - c. Higher concentrations of hardness, calcium, and magnesium were detected in Wells MW-2, MW-3, and MW-4 compared to the upgradient Well MW-1. Because hardness,

calcium, and magnesium are related they are considered together. (Hardness is a measure of polyvalent cations in water and generally represents the concentration of calcium and magnesium ions).

- i. Hardness increased by a factor of 3.5 between Well MW-1 and MW-4. The concentrations in Wells MW-2 and MW-3 also increased two to three times the concentration reported in Well MW-1.
  - ii. The largest increase over concentrations in Well MW-1 was reported for calcium, which was four times higher in Well MW-4 than Well MW-1. The calcium concentrations in Wells MW-2 and MW-3 were higher than background by a factor of two to three.
  - iii. Magnesium concentrations were approximately twice as high in Wells MW-2, MW-3, and MW-4 as the concentration in Well MW-1. The greatest increase reported was in Well MW-4.
- d. Higher concentrations of alkalinity were detected in Well MW-4 than in Well MW-1 or in Wells MW-2 and MW-3. The average concentration in Well MW-2 is slightly lower than the concentration in Well MW-1.
  - e. Higher concentrations of sodium were detected in Well MW-1 than in wells located downgradient of the waste application areas. The concentration reported in Well MW-1 is three to four times higher than in the wells located downgradient of waste discharge areas. This unexpected distribution of sodium may indicate other unidentified waste discharge has occurred in the vicinity of Well MW-1.
14. Based on the available groundwater quality information and the wastewater quality data, groundwater has been degraded as a result of wastewater discharge to the ponds and to the land application area.

### **Wastewater System Improvements**

15. The Discharger has described improvements to the wastewater system that will reduce the likelihood of continued groundwater degradation. The improvements consist of the following:
- a. Off-site disposal of ion exchange regeneration brine. The RWD identified discharge of ion-exchange regeneration brine as the largest single source of FDS to the wastewater system.
  - b. Installation of a flow meter on the well used for the process water supply. All flow rates described in the RWD are estimates; the flow rate may be higher than stated in the RWD.
  - c. Enlargement of the wastewater ponds' storage capacity and lining the ponds with a synthetic liner. The RWD does not state the existing pond storage capacity and recommends increasing the storage capacity and lining the pond. However, the type of liner is not described.

### Regulatory Considerations

16. As described in the Findings, the discharge of waste to land at the proposed loading rates threatens to cause pollution or nuisance. The Discharger, by failing to control the discharge, has caused or permitted, or threatens to cause or permit, waste to be discharged in such a manner that it threatens to cause a threat to public health and/or create a condition of pollution or nuisance. Each of these actions subjects the Discharger to an order under Section 13304 of the California Water Code.
17. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition*, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Section 13263(a) of the California Water Code, waste discharge requirements must implement the Basin Plan.
18. Surface water drainage is to the Stanislaus River. The beneficial uses of the Stanislaus River from Goodwin Dam to the San Joaquin River are agricultural supply; industrial process supply; industrial service supply; hydropower generation; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and wildlife habitat.
19. The beneficial uses of underlying groundwater are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.
20. Section 13304(a) of the California Water Code provides that: *“Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. A cleanup and abatement order issued by the state board or a regional board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant.”*
21. Section 13267(b) of the California Water Code provides that: *“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or*

*who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region 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 burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”*

22. The technical reports required by this Order are necessary to ensure compliance with this CAO, and to ensure the protection of the public health and safety, and waters of the State. The Discharger owns and operates the facility that discharges waste subject to this Order.
23. The issuance of this Order is an enforcement action taken by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act, pursuant to Section 15321(a)(2), Title 14, California Code of Regulations.
24. Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Board) to review the action in accordance with Section 2050 through 2068, Title 23, California Code of Regulations. The petition must be received by the State Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions are available at [http://www.waterboards.ca.gov/water\\_laws/cawtrcde/wqpetition\\_instr.html](http://www.waterboards.ca.gov/water_laws/cawtrcde/wqpetition_instr.html) and will also be provided upon request.

**IT IS HEREBY ORDERED** that, pursuant to Sections 13304 and 13267 of the California Water Code, Steve Gikas and Family shall cleanup and abate, forthwith, the wastewater treatment facility such that wastewater application will not cause degradation of groundwater quality.

Any person signing a document submitted under this Order shall make the following certification:

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

1. **Effective immediately**, no food processing wastewater, water softening ion exchange brine, laboratory waste, or other food processing wastewater other than domestic wastewater typical of residential households may be discharged to the on-site septic system.

2. By **2 July 2007**, the Discharger shall implement the Monitoring and Reporting Program presented in Attachment A, which is attached hereto and made part of this order by reference.
3. By **31 August 2007**, the Discharger shall submit a report describing installation of at least two flow meters capable of measuring: (a) the wastewater flow rate or the supply water flow rate and, (b) the flow rate of wastewater applied to the land application area. The meters shall include totalizers to determine total flow.
4. By **31 August 2007**, the Discharger shall submit a report describing the removal of ion exchange brine from the wastewater flow. The report shall describe the change and the disposal of any ion exchange regeneration brine. As of **31 August 2007**, the discharge of ion exchange brine to the wastewater ponds is prohibited.
5. By **31 August 2007**, the Discharger shall submit an *Interim Cropping Plan* that describes growing a crop on the land application area for the purpose of waste constituent uptake. The *Interim Cropping Plan* shall be implemented by **30 November 2007**, and shall result in removal of plant matter from the land application area and use for animal feed or other beneficial use.
6. By **1 September 2008**, the Discharger shall submit a *Wastewater Characterization Report* that characterizes and evaluates the wastewater quality and potential waste source control measures, and compares the groundwater quality to wastewater applied to land. The report shall present a determination of whether or not the wastewater should be classified as "designated" pursuant to California Water Code Section 13173(b).
7. By **31 December 2008**, the Discharger shall submit a *Report of Waste Discharge Addendum*. The report shall be presented in a technical report prepared by a California Registered Professional Engineer or Geologist. If the *Wastewater Characterization Report* determines the wastewater can be handled as nondesignated waste, the Addendum shall address the following:
  - a. Information that addresses the list of items presented on Attachment B, which is attached hereto and made part of this order by reference.
  - b. A workplan describing the liner that will be installed in the wastewater pond(s) to limit percolation from the ponds to that which will not degrade the underlying groundwater. The workplan shall include a schedule of implementation.
  - c. A cropping plan that describes the crop grown, wastewater application plan, crop harvest, plant residue disposal, tailwater control, sources and quality of supplemental irrigation water.

If the wastewater is to be managed as designated waste, then the RWD shall contain the information required in Section 21710 of Title 27, California Code of Regulations.

In addition to the above, the Discharger shall comply with all applicable provisions of the California Water Code that are not specifically referred to in this Order. As required by the



California Business and Professions Code Sections 6735, 7835, and 7835.1, all reports shall be prepared by, or under the supervision of, a California Registered Engineer or Professional Geologist and signed by the registered professional.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability.

Failure to comply with this Order may result in the assessment of an Administrative Civil Liability up to \$1,000 per day or up to \$10,000 per day of violation, depending on the violation, pursuant to the California Water Code, including Section 13268. The Regional Water Board reserves its right to take any enforcement actions authorized by law.

This Order is effective upon the date of signature.

Original signed by  
PAMELA C. CREEDON, Executive Officer

14 June 2007  
(Date)

TRO: 6/13/07

Attachment A, Monitoring and Reporting Program No. R5-2007-0715  
Attachment B, Additional Information Requirements for Report of Waste Discharge Addendum

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2007-0715

FOR  
STEVE GIKAS AND FAMILY  
CALIFORNIA NUGGETS, INC.  
SAN JOAQUIN COUNTY

This monitoring and reporting program (MRP) incorporates requirements for monitoring of the process wastewater, wastewater ponds, land application areas, solid waste, and groundwater. 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.

All wastewater samples should be representative of the volume and nature of the discharge. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Process wastewater flow monitoring shall be conducted continuously using a flow meter and shall be reported in cumulative gallons per day.

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

1. The operator is trained in the proper use of the instrument;
2. The instruments are field calibrated prior to each use;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

**INFLUENT MONITORING**

Process wastewater samples shall be collected prior to entering the wastewater treatment pond. Influent monitoring for the process wastewater system shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	gallons	Continuous	Daily <sup>1,2</sup>	Monthly

<sup>1</sup> Continuous monitoring requires daily meter reading or automated data collection.

<sup>2</sup> Flow monitoring shall begin by 31 August 2007.

**WASTEWATER POND MONITORING**

Samples shall be collected from an established sampling station located in an area that will provide representative samples of the water in each wastewater storage pond. Freeboard shall be measured vertically from the surface of the pond water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.1 foot. Monitoring of the ponds shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Dissolved Oxygen <sup>1</sup>	mg/L	Grab	Weekly	Monthly
Freeboard	feet ( $\pm 0.1$ )	Measurement	Weekly	Monthly
pH	pH Units	Grab	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly

<sup>1</sup> Samples shall be collected at a depth of one foot, opposite the inlet. Samples shall be collected between 0700 and 0900 hours.

### EFFLUENT MONITORING

Effluent samples shall be collected from an established sampling station located in an area that will provide representative samples of the water in each wastewater storage pond. Monitoring of the ponds shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency<sup>1</sup></u>	<u>Reporting Frequency</u>
Biochemical Oxygen Demand	mg/L	Grab	Monthly	Monthly
Nitrate as Nitrogen	mg/L	Grab	Monthly	Monthly
Ammonia as Nitrogen	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Fixed Dissolved Solids	mg/L	Grab	Monthly	Monthly
Sulfate	mg/L	Grab	Monthly	Monthly
Standard Minerals <sup>2</sup>	mg/L	Grab	Monthly	Monthly

<sup>1</sup> Samples shall be collected at a depth of one foot, opposite the inlet.

<sup>2</sup> Standard Minerals shall include at least the following compounds: boron, calcium, iron, magnesium, manganese, potassium, sodium, chloride, sulfate, total alkalinity (including alkalinity series), and hardness.

### LAND APPLICATION AREA MONITORING

The Discharger shall monitor the wastewater discharged to the land application area. Monitoring shall be conducted **daily during operation** and the results shall be included in the monthly monitoring report. Evidence of erosion, field saturation, runoff, or the presence of nuisance conditions shall be noted in the report. Loading rates for the land application area shall be calculated. Monitoring of the land application area shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Wastewater Flow <sup>1</sup>	Gallons	Continuous <sup>1</sup>	Daily	Monthly
Supplemental Irrigation Flow	Gallons	Continuous <sup>1</sup>	Daily	Monthly
Acreage Applied <sup>2</sup>	Acres	Calculated	Daily	Monthly

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Application Rate	gal/acre·day	Calculated	Daily	Monthly
BOD Loading Rate	lbs/acre·month	Calculated	Daily	Monthly
Total Nitrogen Loading Rate <sup>3</sup>	lbs/acre·month <sup>4</sup>	Calculated	Monthly	Monthly
TDS Loading Rate	lbs/acre·month <sup>4</sup>	Calculated	Monthly	Monthly
FDS Loading Rate	lbs/acre·month <sup>4</sup>	Calculated	Monthly	Monthly

<sup>1</sup> Continuous monitoring requires daily meter reading or automated data collection and shall define the volume of wastewater discharged to the land application areas from the wastewater storage pond.

<sup>2</sup> Land Application Area(s) in use shall be identified by name or number and the acreage provided. If a portion of an area is used, then the acreage shall be estimated.

<sup>3</sup> Total nitrogen applied from all sources, including fertilizers and supplemental irrigation water if used.

<sup>4</sup> Report monthly total and cumulative annual to date.

At least **once per week** when wastewater is being applied to the land application area, the entire application area shall be inspected to identify any equipment malfunction or other circumstance that might allow irrigation runoff to leave the area and/or create ponding conditions. A log of the inspections shall be kept at the facility and be submitted with the monthly monitoring reports. If wastewater was not applied to the land application area, then the monthly monitoring reports shall so state.

### **SOLIDS MONITORING**

The Discharger shall record and report monthly the quantity, disposal location, and method of disposal of solids disposed of during the processing season, as well as during the off-season, if applicable. If solid waste is shipped offsite, then an estimated amount and location of disposal shall be reported in the monthly report and the hauler identified.

### **GROUNDWATER MONITORING**

Groundwater monitoring shall commence with the third quarter 2007. Prior to construction and/or sampling of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for approval. Once installed, all new wells shall be added to the monitoring network and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved EPA methods. Water table elevations shall be calculated to determine groundwater gradient and direction of flow.

Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency<sup>3</sup></u>
Depth to Groundwater	±0.01 feet	Measurement	Quarterly	Quarterly
Groundwater Elevation <sup>1</sup>	±0.01 feet	Calculated	Quarterly	Quarterly
Gradient	feet/feet	Calculated	Quarterly	Quarterly
Gradient Direction	Degrees	Calculated	Quarterly	Quarterly
pH	pH units	Grab	Quarterly	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Quarterly	Quarterly
Total Kjeldahl Nitrogen	mg/L	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Fixed Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Standard Minerals <sup>2</sup>	mg/L	Grab	Quarterly	Quarterly

<sup>1</sup> Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well.

<sup>2</sup> Standard Minerals shall include at least the following compounds: boron, calcium, iron, magnesium, manganese, potassium, sodium, chloride, sulfate, total alkalinity (including alkalinity series), and hardness.

<sup>3</sup> Beginning with the third quarter, 2007.

## REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., influent monitoring, groundwater monitoring well, 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 California Business and Professions Code Sections 6735, 7835, and 7835.1, all groundwater monitoring reports shall be prepared under the direct supervision of a registered professional engineer or geologist and signed by the registered professional.

### A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board by the **1<sup>st</sup> day of the second month** following the end of the reporting period (i.e. the January monthly report is due by 1 March). The monthly reports shall include the following:

1. Results of influent, wastewater storage pond, land application area, and solids monitoring;
2. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;
3. If requested by staff, copies of laboratory analytical report(s);
4. A calibration log verifying calibration of all hand held monitoring instruments and devices used to comply with the prescribed monitoring program;

5. The cumulative volume of wastewater generated during the year to date;
6. The total pounds of total dissolved solids and fixed dissolved solids (year to date) that have been applied to the land application area, as calculated from the sum of monthly loadings; and
7. The total pounds of nitrogen (year to date, from all sources including fertilizer) applied to the land application area as calculated from the sum of monthly loadings.

## **B. Quarterly Report**

Beginning with the third quarter 2007, the Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Regional Board by the **1<sup>st</sup> day of the second month after the quarter** (i.e. the January-March quarter is due by May 1<sup>st</sup>) each year. The Quarterly Report 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. Calculation of groundwater elevations, an assessment 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;
4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
6. Summary data tables of historical and current water table elevations and analytical results;
7. 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
8. Copies of laboratory analytical report(s) for groundwater monitoring.

**C. Annual Report**

Annual Report shall be prepared as the December monthly monitoring report. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. The contents of a regular December monthly monitoring report;
2. The contents of the regular quarterly monitoring report for the last quarter of the year;
3. If requested by staff, tabular and graphical summaries of all data collected during the year;
4. Tabular and graphical summaries of historical monthly total loading rates for wastewater generation, process water used for irrigation (hydraulic loading in gallons and inches), total nitrogen, and total dissolved solids.
5. An evaluation of the effectiveness of the past year's wastewater application operation in terms of odor control and groundwater protection, including consideration of application management practices (i.e.: waste constituent and hydraulic loadings, application cycles, drying times, and cropping practices), and groundwater monitoring data;
6. A summary of the quantity of solid waste generated and disposed of;
7. An evaluation of the groundwater quality beneath the land application area;
8. Estimated flows for the next calendar year;
9. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.

A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of operation or facility modifications. The transmittal letter shall contain a statement by the discharger, or the discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete.

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

Ordered by: \_\_\_\_\_ Original signed by \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer  
  
14 June 2007  
\_\_\_\_\_  
(Date)

TRO: 6/13/07

ADDITIONAL INFORMATION REQUIREMENTS  
REPORT OF WASTE DISCHARGE ADDENDUM

Please provide additional information on the description of site conditions provided in the Report of Waste Discharge.

1. With respect to the processing facility and operations, please provide additional information on the following topics:
  - a. How many tons of almonds and corn are processed yearly?
  - b. How are the solids generated in processing collected, stored, and disposed of?
  - c. How is the waste soybean oil stored and disposed of?
  - d. Does processing occur year round? Are products awaiting processing stored dry or in solutions? If stored in solutions, describe the solution.
  - e. Provide construction details on all site groundwater wells (do not provide information on the groundwater monitoring network Wells MW-1 through MW-4).
  
2. With respect to the sources of wastewater at the facility, please provide additional information on the following topics:
  - a. A list of chemicals used on site for processing, cleaning, and sanitation. If the chemical name doesn't indicate its chemical makeup, provide a Material Safety Data Sheet or other information that provides adequate information to allow determination of waste constituents that might be generated from the product. For each chemical provide an estimate of the amount used annually.
  - b. What is the source of hot water at the site. Does a boiler exist on-site?
  - c. Are flumes used to move product through the facility?
  - d. What sanitization agents are used at the facility?
  - e. Is rinse water, flume water, or other water that comes into contact with the food product chlorinated? If so, what is the target concentration of the chlorine? If applicable, is wastewater dechlorinated prior to discharge?
  
3. With respect to the amount of wastewater generated at the facility, please provide additional information on the following topics:
  - a. The assumptions used when calculating the stormwater runoff for the purpose of preparing the water balance.
  - b. Please describe how wastewater is recycled at the facility and the effect recycling has on the wastewater quality and amount of wastewater discharged.
  - c. Where is the site septic tank and leachfield located?
  
4. With respect to the wastewater storage ponds, please provide additional information on the following topics:
  - a. A description of the materials planned for lining the wastewater storage ponds.
  - b. Provide the approximate storage capacity of the wastewater ponds as they presently exist.
  - c. A description of the piping arrangements for the wastewater ponds as they exist and as planned in improvements.



5. With respect to the land application area, please provide additional information on the following topics:
  - a. Describe the types of plants grown in the land application area. Are the plants harvested and removed from the land application area? If so, how are they disposed of?
  - b. Is the land application area bermed or sloped to prevent discharge of wastewater off-site?
  
6. With respect to the wastewater concentration trends, please provide additional information on the following topics:
  - a. Why is the concentration of calcium in the stepping water lower than the concentration of calcium reported in the wastewater pond?
  
7. With respect to the groundwater concentration trends, please provide additional information on the following topics:
  - a. Why is the upgradient concentration of nitrate higher than the downgradient concentrations?
  - b. Why are such high concentrations of sodium observed in Well MW-1?
  
8. With respect to the improvements described in the RWD, please provide additional information on the status of:
  - a. Wastewater pond liner and expansion.
  - b. Ion exchange regeneration brine disposal.
  - c. Flow meter installation.