

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2002-0172
FOR
SAN JOAQUIN COMPOSTING, INC.
AND
MCCARTHY FAMILY FARMS, INC.
FOR
OPERATION
LOST HILLS COMPOSTING FACILITY
KERN COUNTY

Compliance with this Monitoring and Reporting Program, with Title 27, California Code of Regulations, Section 20005, et seq. (hereafter Title 27), and with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (27 CCR §20005 et seq. and 40 CFR 258)*, dated April 2000, is ordered by Waste Discharge Requirements Order No. R5-2002-0172.

A. REQUIRED MONITORING REPORTS

<u>Report</u>	<u>Due</u>
1. Groundwater Monitoring (Section D.1)	See Table I
2. Annual Monitoring Summary Report (Order No. R5-2002-0172, F.6)	Annually
3. Surface Impoundment Monitoring (Section D.2)	Annually
4. Compost Temperature Monitoring (Section D.3)	Semiannually
5. Quantities (Section D.4)	Semiannually
6. Sludge Monitoring (Section D.5)	Semiannually
7. Soil Profile Monitoring (Section D.6)	Annually
8. Facility Monitoring (Section D.7)	As necessary
9. Response to a Release (Standard Provisions and Reporting Requirements)	As necessary

B. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in Order No. R5-2002-0172 and the Standard Provisions and Reporting Requirements. Reports which do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. **Data shall also be submitted in a digital format acceptable to the Executive Officer.**

Each monitoring report shall include a compliance evaluation summary as specified in F. Reporting Requirements, of Order No. R5-2002-0172.

Field and laboratory tests shall be reported in each monitoring report. Monthly, quarterly, semiannual, and annual monitoring reports shall be submitted to the Board in accordance with the following schedule for the calendar period in which samples were taken or observations made.

<u>Sampling Frequency</u>	<u>Reporting Frequency</u>	<u>Reporting Periods End</u>	<u>Report Date Due</u>
Daily/Monthly	Semiannually	30 June 31 December	31 July 31 January
Semiannually	Semiannually	30 June 31 December	31 July 31 January
Annually	Annually	31 December	31 January

The Discharger shall submit an **Annual Monitoring Summary Report** to the Board covering the previous monitoring year. The annual report shall contain the information specified in F. Reporting Requirements, of Order No. R5-2002-0172, and a discussion of compliance with the waste discharge requirements and the Water Quality Protection Standard.

The results of **all monitoring** conducted at the site shall be reported to the Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. Water Quality Protection Standard Report

For each waste management unit (Unit), the Water Quality Protection Standard shall consist of all constituents of concern, the concentration limit for each constituent of concern, the point of compliance, and all water quality monitoring points.

The Water Quality Protection Standard for naturally occurring waste constituents consists of the constituents of concern, the concentration limits, and the point of compliance and all monitoring points. The Executive Officer shall review and approve the Water Quality Protection Standard, or any modification thereto, for each monitored medium.

The report shall:

- a. Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a Unit or portion of a Unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.
- b. Include a map showing the monitoring points and background monitoring points for the groundwater monitoring program. The map shall include the point of compliance in accordance with §20405 of Title 27.
- c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the Water Quality Protection Standard.

2. Constituents of Concern

The constituents of concern include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit. The constituents of concern for all Units at the facility are those listed in Table I. The Discharger shall monitor all constituents of concern each year, or more frequently as required in accordance

with a Corrective Action Program.

a. **Monitoring Parameters**

Monitoring parameters are constituents of concern that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a Unit. The monitoring parameters for all Units are those listed in Table I for the specified monitored medium.

3. Concentration Limits

For a naturally occurring constituent of concern, the concentration limit for each constituent of concern shall be determined as follows:

- a. By calculation in accordance with a statistical method pursuant to §20415 of Title 27; or
- b. By an alternate statistical method acceptable to the Executive Officer in accordance with §20415 of Title 27.

The established concentration limits for naturally occurring constituents of concern are listed in Table II.

4. Point of Compliance

The point of compliance for the water standard at each Unit is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit.

5. Compliance Period

The compliance period for each Unit shall be the number of years equal to the active life of the Unit plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the Unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program.

D. MONITORING

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, in accordance with Detection Monitoring Specification E.1, and E.2, of Waste Discharge Requirements, Order No. R5-2002-0172. The detection monitoring system shall be installed, operational, and one year of monitoring data collected to establish a Water Quality Protection Standard. All monitoring shall be conducted in accordance with a Sample Collection and Analysis Plan, which includes quality assurance/quality control standards, that is acceptable to the Executive Officer.

All point of compliance monitoring wells established for the detection monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection monitoring program groundwater monitoring wells shall be sampled and analyzed for monitoring parameters and constituents of concern as indicated and listed in Table I.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those which cannot be quantified and/or specifically identified. Metals shall be analyzed in accordance with the methods listed in Table I.

The Discharger may, with the approval of the Executive Officer, use alternative analytical test methods, including new USEPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program.

1. Groundwater

The Discharger shall operate and maintain a groundwater detection monitoring system that complies with the applicable provisions of §20415 and §20420 of Title 27 in accordance with a Detection Monitoring Program approved by the Executive Officer. The Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.

The Discharger shall determine the groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional zone of saturation monitored pursuant to this Monitoring and Reporting Program, and report the results annually, including the times of highest and lowest elevations of the water levels in the wells.

Hydrographs of each well shall be submitted showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared annually.

Groundwater samples shall be collected from the point-of-compliance wells, background wells, and any additional wells added as part of the approved groundwater monitoring system. Samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in Table I.

The monitoring parameters shall also be evaluated each reporting period with regards to the cation/anion balance, and the results shall be graphically presented using a Stiff diagram, a Piper graph, or a Schueller plot. Samples for the constituents of concern specified in Table I shall be collected and analyzed in accordance with the methods listed in Table I.

2. Surface Impoundment Monitoring

Water in the storm water surface impoundment collected as a result of precipitation runoff shall be sampled and analyzed semiannually for total concentrations of metals in Title 22 CCR §66261.24.

The freeboard on the storm water surface impoundments shall be measured **monthly** from April through September and **weekly** from November through April. Measurements shall be to the nearest one-tenth of a foot. Permanent markers shall be placed in each surface impoundment with calibrations indicating the water level at design capacity and available operational freeboard. This information shall be **reported annually**.

3. Compost Temperature Monitoring

Windrow temperatures shall be measured and recorded on a daily basis. Temperature monitoring will be done in accordance with USEPA and CIWMB composting guidelines and requirements.

The following information shall be reported **Semiannually**:

<u>Constituent</u>	<u>Units</u>	<u>Frequency</u>
Temperature Monitoring	--	Daily ¹
Windrow Temperatures	°C	Daily ¹
Length of Windrow	Feet	Daily ¹

¹Each operating day, but not less than 5 days per calendar week.

4. Quantities

Quantities of the following shall be reported **semiannually**:

<u>Constituent</u>	<u>Units</u>	<u>Frequency</u>
Sludge Received	Tons (wet)	Monthly
Bulking Agents Received	Tons (wet)	Monthly
Exceptional Quality Compost Shipped Off-site ³	Tons (wet)	Monthly
Precipitation	Inches ¹	Monthly
Biosolids stored for landfarm	Tons (wet)	Monthly
Organic Liquids	Tons ²	Monthly

¹ Based on measurements recorded at the nearest rain gauging station operated by a governmental entity.

² Based on approximately 7.4 gallons/pound.

³ Information including the name of the Discharger, and amount (tons) shipped. These records are to be maintained by San Joaquin Composting, Inc., and made available for inspection by staff at the offices of San Joaquin Composting, Inc.

5. Sludge Monitoring

For each source of municipal sludge received and for each load check performed, the Discharger shall provide analytical results for the following constituents:

Total Kjeldahl Nitrogen
 Nitrogen
 Nitrates
 Title 22, CCR, Priority Pollutant Metals¹
 Total Dissolved Solids
 Percent Solids
 PH
 Total Coliform Organism

¹Waste Extraction Test (WET)

For each source of municipal sludge, the above analyses shall be performed at least on a semi-annual basis, and **reported semiannually**. Accompanying the analytical results shall be verification of sludge as nonhazardous in accordance with Title 22, California Code of Regulations (CCR), Division 4.5, Chapter 11, Article 3, §66261.24(a)(2)(A) Table II (Priority Pollutant Metals), or by other tests approved by the Executive Officer. This verification shall include a statement from the generator stating that sludge has been tested and meets criteria for nonhazardous sludge specified in Title 22, CCR, Division 4.5, Chapter 11, Article 3, §66261.24(a)(2)(A) Table II (Priority Pollutant Metals).

6. Soil Profile Monitoring

Soil samples shall be collected annually at all of the selected boring locations, and **reported in the annual report**. Soil samples shall be collected at a depth of six (6) inches to one (1) foot below ground surface. Samples shall be analyzed for moisture content, pH, and total concentrations of priority pollutant metals, as defined by Title 22 CCR §66261.24.

7. Facility Monitoring

a. Facility Inspection

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall assess damage to the drainage control system, and shall include the Standard Observations contained in section F.4.f of Order No. R5-2002-0172. Any necessary construction, maintenance, or repairs shall be completed by **31 October**. By **15 November** of each year, the Discharger shall submit an annual report describing the results of the inspection and the repair measures implemented.

b. Storm Events

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage **within 7 days** following *major storm events*. Necessary repairs shall be completed **within 30 days** of the inspection. The Discharger shall report any damage and subsequent repairs within 45 days of completion of the repairs.

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The Discharger shall implement the above monitoring program on the effective date of this Program.

Ordered by: _____
THOMAS R. PINKOS, Acting Executive Officer

_____ 6 September 2002

(Date)

RTT:rtt/rac

TABLE I
GROUNDWATER DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>	
Field Parameters			
Groundwater Elevation	Ft. & hundredths, M.S.L.	Quarterly	
Temperature	°C	Quarterly	
Electrical Conductivity	µmhos/cm	Quarterly	
pH	pH units	Quarterly	
Turbidity	Turbidity units	Quarterly	
Monitoring Parameters			
Total Dissolved Solids (TDS)	mg/L	Quarterly	
Nitrate (NO ₃)	mg/L	Quarterly	
Nitrate (NO ₃ -N)	mg/L	Quarterly	
Nitrite (NO ₂ -N)	mg/L	Quarterly	
Total Kjeldahl Nitrogen	mg/L	Quarterly	
Total Nitrogen	mg/L	Quarterly	
Ammonia (NH ₃ -N)	mg/L	Quarterly	
Chloride	mg/L	Quarterly	
Carbonate	mg/L	Quarterly	
Bicarbonate	mg/L	Quarterly	
Phosphorous	mg/L	Quarterly	
Sulfate	mg/L	Quarterly	
Calcium	mg/L	Quarterly	
Magnesium	mg/L	Quarterly	
Potassium	mg/L	Quarterly	
Sodium	mg/L	Quarterly	
Constituents of Concern			
<u>Parameter</u>	<u>USEPA Method</u>	<u>Units</u>	<u>Frequency</u>
Total Organic Carbon		mg/L	Quarterly
Inorganics (dissolved)			
Aluminum	6010	mg/L	Quarterly
Antimony	6010	mg/L	Quarterly
Barium	6010	mg/L	Quarterly
Beryllium	6010	mg/l	Quarterly
Boron	6010	mg/L	Quarterly
Chromium	6010	mg/L	Quarterly
Cobalt	6010	mg/L	Quarterly
Copper	6010	mg/L	Quarterly

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<u>Parameter</u>	<u>USEPA Method</u>	<u>Units</u>	<u>Frequency</u>
Manganese	6010	mg/L	Quarterly
Silver	6010	mg/L	Quarterly
Vanadium	6010	mg/L	Quarterly
Zinc	6010	mg/L	Quarterly
Arsenic	7062	mg/L	Quarterly
Cadmium	7131A	mg/L	Quarterly
Lead	7421	mg/L	Quarterly
Mercury	7470A	mg/L	Quarterly
Nickel	7521	mg/L	Quarterly
Selenium	7742	mg/L	Quarterly
Thallium	7841	mg/L	Quarterly
Cynide	9010	mg/L	Quarterly
Sulfide	9030	mg/L	Quarterly

TABLE II
WATER QUALITY PROTECTION STANDARD CONCENTRATION LIMITS

<u>Parameter</u>	<u>Units</u>	<u>Concentration Limits</u>
Total Dissolved Solids (TDS)	mg/L	500
Electrical Conductivity	µmhos/cm	900
pH	pH units	6.5-8.5
Turbidity	Turbidity units	0.3
Chloride	mg/L	250
Sulfate	mg/L	250
Nitrate (NO ₃)	mg/L	45
Nitrate (NO ₃ -N)	mg/L	10
Nitrite (NO ₂ -N)	mg/L	1.0
Total Kjeldahl Nitrogen	mg/L	MDL
Alkalinity	mg/l	MDL
Bicarbonate	mg/L	MDL
Carbonate	mg/L	MDL
Calcium	mg/L	MDL
Magnesium	mg/L	MDL
Potassium	mg/L	MDL
Sodium	mg/L	MDL
Silica	mg/l	MDL
Phosphorous	mg/L	0.0001
Fluoride	mg/L	1
Aluminum	µg/L	200
Ammonia (NH ₃ -N)	µg/L	500
Antimony	µg/L	6
Barium	µg/L	1000
Beryllium	µg/l	4
Boron	µg/l	630
Cadmium	µg/L	0.07
Chromium	µg/L	50
Cobalt	µg/L	50
Copper	µg/L	170
Silver	µg/L	100
Vanadium	µg/L	63
Zinc	µg/L	2000
Iron	µg/L	300

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<u>Parameter</u>	<u>Units</u>	<u>Concentration Limits</u>
Manganese	µg/L	50
Arsenic	µg/L	2.1
Lead	µg/L	2
Mercury	µg/L	1.2
Nickel	µg/L	12
Selenium	µg/L	20
Thallium	µg/L	0.1
Cyanide	µg/L	140
Sulfide	µg/L	MDL