

CALIFORNIA REGIONAL WATER QUALITY CONTROL REGIONAL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-0172

WASTE DISCHARGE REQUIREMENTS
FOR
SAN JOAQUIN COMPOSTING, INC.
AND
MCCARTHY FAMILY FARMS, INC.
FOR
OPERATION
LOST HILLS COMPOSTING FACILITY
KERN COUNTY

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

1. McCarthy Family Farms, Inc., owns and San Joaquin Composting, Inc., operates, (both California Corporations and hereafter jointly referred to as Discharger) a municipal sludge composting and transfer station facility about 9 miles northwest of the community of Lost Hills, in Section 4, T26S, R20E, MDB&M, as shown in Attachment A, which is incorporated herein and made a part of this Order.
2. The 160-acre facility consists of one existing waste management unit (Unit) containing three 40-acre composting Units, a 6-acre stockpile area, and a 34-acre storage area as shown in Attachment B, which is incorporated herein and made part of this Order. The facility is comprised of Assessor's Parcel Numbers (APN) 57-210-05.
3. The Discharger plans to develop the 34-acre storage area across Holloway Road into a composting Unit.
4. On 16 June 2000, the Regional Board issued Order No. 5-00-158, in which the facility was classified as a Class III waste disposal site for the discharge of 'nonhazardous wastes' in accordance with the regulations in effect when the order was issued. This order is being revised to require the submission of a work plan for the installation of a groundwater detection monitoring system, installation of the groundwater detection monitoring system, and submission of a water quality protection standard based on background water quality in accordance with Title 27.
5. The U.S. Environmental Protection Agency (USEPA) has promulgated sludge reuse regulations in 40 CFR Part 503, *Standards for the Use or Disposal of Sewage Sludge*, 19 February 1993, which establish management criteria for protection of ground and surface waters, set application rates for heavy metals, and establish stabilization and disinfection criteria for sludge reuse. These waste discharge requirements are consistent with the federal regulations.

6. The Regional Board is utilizing the standards contained in 40 CFR Part 503 as guidelines in establishing this Order, but the Regional Board is not the implementing agency for 40 CFR Part 503. The Discharger may have permitting, reporting, and other compliance responsibilities with the USEPA. Compliance with this Order does not necessarily constitute full or partial compliance with 40 CFR Part 503.
7. The Discharger produces finished compost materials suitable for a variety of uses, including lawns and home gardens in accordance with 40 CFR Part 503 regulations.
8. The finished compost product does not exceed the pollutant limits identified in 40 CFR Part 503.13(a)(3), satisfies Class A pathogen requirements as required in 40 CFR Part 503.32(a), and vector attraction reduction requirements, as defined in 40 CFR Part 503.33(a) (hereafter exceptional quality compost). Processed compost that does not meet the exceptional quality specifications is reprocessed.
9. According to 40 CFR Part 503, the exceptional quality compost can be sold or given away in bags, boxes, or a vehicle or trailer with a load capacity of one metric ton (1.1 tons) or less and it can be applied in bulk to agricultural land, forest, reclamation sites, lawns, and home gardens.
10. The Dischargers annual input capacity of composting feedstocks is 786,000 tons.
11. The Discharger owns and operates 20,000 acres of farmland in Kings County that are permitted for site specific, direct land application of biosolids. In wet winters the Discharger is unable to directly apply biosolids to farmland. In order to accommodate direct application of biosolids to farmland, the Discharger temporarily stores and transfers uncomposted biosolids at the composting facility.
12. Storage of uncomposted biosolids are currently segregated from the composting piles. Biosolids that have not undergone active composting and are intended for farm spreading are placed in nonaerated stockpiles or windrows. The stockpiles are placed between berms of greenwaste or other suitable material, to absorb any free liquids, as necessary for containment during wet weather.

SITE DESCRIPTION

13. The measured hydraulic conductivity of the native soils underlying the Unit range between 1.1×10^{-4} and 7.2×10^{-6} cm/sec at one to three-feet below ground surface, and between 3×10^{-6} and 2×10^{-6} cm/sec at 15-feet and 20-feet respectively below ground surface.
14. The top one-foot of the storage and treatment areas are compacted to 90 percent dry density to obtain a uniform hydraulic conductivity of 1×10^{-6} cm/sec, and graded to within one-tenth of one foot of grade to obtain a uniform working surface to inhibit vertical migration of wastes.
15. Native soils at the site to five (5) feet below ground surface are mildly alkaline (pH = 8.5) which can inhibit the vertical movement of heavy metals.
16. The closest Holocene fault is the San Andreas approximately 15 miles to the southwest. Recorded magnitudes of seismic events along this fault range between 4.00 and 8.25 on the Richter scale.
17. Land within 1,000 feet of the facility is used for agriculture, mining, and grazing.
18. The facility receives an average of 5.4 inches of precipitation per year as measured at the Wasco Station. The mean pan evaporation is 79.8 inches per year as measured at the Wasco Station.
19. The 100-year, 24-hour precipitation event is estimated to be 2.33 inches, based on Department of Water Resources' bulletin entitled *Rainfall Depth-Duration-Frequency for California*, revised November 1982, updated August 1986.
20. The waste management facility is not within a 100-year flood plain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 060075-0050 B.
21. There are no municipal, domestic, industrial, or agricultural groundwater supply wells within a 1-mile radius of the site. No surface springs or other sources of groundwater supply have been observed.
22. Each Unit has a two-foot high, eight-foot wide earthen berm around its perimeter and a lined surface impoundment. The berms prevent lateral movement of fluids, run-on and run-off of stormwater, and the surface impoundment collects rainfall runoff from the Unit.
23. The Discharger conducts annual soil testing. The sampling is performed at 15 random locations between and beneath the compost windrows. A discrete soil sample is collected at approximately six-inches below ground surface. The soil samples are analyzed for

moisture content, pH, and total concentrations of priority pollutant metals, as defined by Title 22, California Code of Regulations (CCR), §66261.24. The results are compared with results of background sampling and analyzes prior to construction. Annual soil profile monitoring reports submitted from December 1990 to July 2001 indicate that soil samples taken at multiple locations and depths beneath the composting area show no increase in metals concentrations.

24. On-site lysimeters installed in the vadose zone beneath the composting, stockpile, and surface impoundment areas were abandoned in 1996 because it was determined that the lysimeters were ineffective in obtaining samples from the dry soils.
25. Three lined surface impoundment ponds collect stormwater run-off from the compost windrows and storage areas. Elevated levels of arsenic (concentration non-detect to 44µg/l) and lead (concentration non-detect to 35µg/l) were noted in liquid wastes from the impoundments. Concentrations of arsenic and lead in the liquid waste samples collected from the surface impoundments are lower than the designated levels derived from average background groundwater monitoring data for these two constituents (See Finding No. 41).

COMPOSTING METHODS

26. Sludge processed at the facility originates at the City of Los Angeles' Hyperion Treatment Plant, Fresno WWTF, Pismo Beach WWTF, and other wastewater treatment facilities regulated by orders adopted by various Regional Boards. The sludge is tested by the generator prior to shipping to the facility. Only sludge that meets the requirements for nonhazardous sludge specified in Title 22, Division 4.5, Chapter 11, Article 3, California Code of Regulations (CCR), is accepted. Sludge that cannot be proven as meeting these requirements and standards is not accepted.
27. Raw composting materials are delivered by truck. The sludge is mixed on-site with bulking agents consisting of agricultural byproducts (manure, cotton stalks, etc.), yard residues (grass clippings, leaves, etc.), and organic liquids (residuals from animal and food processing facilities). The sludge-to-bulking agent ratio is approximately 1:1, but can vary depending on the anticipated end use of the product.
28. The compost mixture is placed in windrows (waste piles) and mechanically aerated at specified intervals. Each windrow is treated at a minimum of 55°C for a period of 15 consecutive days. During the high temperature period, the windrow is turned and aerated at least five (5) times. The composting period generally requires 30 to 60 days to complete. The composting operation is consistent with the windrow composting method prescribed in 40 CFR Part 503, Appendix B, Section 1.

29. The Discharger also employs an alternative composting method called the static aerated pile composting method, which is also prescribed in 40 CFR Part 503, Appendix B, Section 1. Using the static aerated pile composting method, the temperature of the compost mixture is maintained at 55⁰C or higher for three days. Organic liquids are not used as a material feedstock for static aerated pile composting.

WASTE AND SITE CLASSIFICATION

30. The wastes consisting of sludges, agricultural byproducts, yard residues, and organic liquids are decomposable residuals from municipal wastewater treatment facilities, agricultural, commercial, and residential sources, that through composting are intended for recycling for use as a soil amendment. These wastes are classified as 'nonhazardous solid wastes' that are defined in §20164 of Title 27. Biosolids with metal concentrations above hazardous levels as determined by Title 22, CCR, Priority Pollutant Metals, that receive a Department of Toxic Substance Control variance from management as a hazardous waste, must be managed as a designated waste in accordance with Title 27.
31. The site characteristics where the Unit is located for the storage and treatment of waste piles, meets the siting criteria for a Class III Unit contained in §20260(b), (c), and (d) of Title 27. Additional site and construction criteria make the site suitable as a Class II waste pile for the storage and treatment of designated wastes in accordance with §20250 of Title 27. These additional criteria include: a substantial thickness of underlying native geologic material with a hydraulic conductivity of 1.1×10^{-4} and 7.2×10^{-6} cm/sec (see Finding No. 13); the top one-foot of native soils recompacted to a hydraulic conductivity of 1×10^{-6} cm/sec to prevent vertical movement of fluids (see Finding No. 14); depth to groundwater (see Finding No. 38); background quality of groundwater (see Finding Nos. 39 and 41); annual precipitation (see Finding No. 18); flooding (see Finding Nos. 19 and 20); and ground rupture (see Finding No. 16). These characteristics meet the containment criteria for a Class II Unit in accordance with §20250 of Title 27. The site is suitable for the storage and treatment of waste piles for composting as described herein.
32. As a soil amendment, the waste piles after composting are exempt from §20005, et seq. of Title 27, providing best management practices are established for their use pursuant to §20090(f) of Title 27.
33. Composting operations may produce liquid residual wastes, such as leachate, precipitation that has come in contact with composting material, and escaped or fugitive raw material and compost. The liquid residual wastes are collected in lined surface impoundments (see Finding No. 25) and recycled by placing them on the waste piles for moisture control. The discharge rate of liquid residual waste from composting operations is unknown. Proper

construction and management of the recycling operation and climatic conditions should minimize the generation of liquid residual wastes. Classification of the liquid residual waste is based upon the parent material, which is classified as nonhazardous solid waste, using the criteria set forth in Title 27. As such, the residual waste presents a lower risk to water quality than indicated by its classification in accordance with §20200(a)(1) of Title 27.

34. The liquid residual waste discharged to the surface impoundments contains arsenic and lead at lower concentrations than average background groundwater concentrations (See Finding No. 25). Classification of the liquid residual waste is based upon the parent material (See Finding No. 33) and background groundwater quality. Due to climatic conditions, little liquid residual wastes are expected. Further, based on the hydraulic conductivity of the native soils, depth and quality of the groundwater, and recycling of residual waste fluids to the waste piles, the liquid residual waste is classified as nonhazardous liquid waste suitable for discharge to a Class III surface impoundment.

SURFACE AND GROUND WATER CONDITIONS

35. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin. This Order implements the Basin Plan.
36. Surface drainage is toward the California Aqueduct, about 1.75 miles to the northeast, and to the Kern River Channel in the Tulare Lake Basin, about five miles east of the aqueduct, in the Antelope Plain Hydrologic Area (558.60) of the Tulare Lake Hydrologic Basin.
37. The composting facility is on the floor of the Antelope Plain in the southern San Joaquin Valley. The designated beneficial uses of the intermittent streams (which flow east into the Tulare Lake Basin), as specified in the Basin Plan, are agricultural supply; industrial service and process supply; water contact and non-contact water recreation; warm fresh water habitat; preservation of rare, threatened, and endangered species; and groundwater recharge.
38. The first encountered groundwater is unconfined at about 90 feet below the native ground surface. Groundwater elevation is about 335 feet MSL.
39. Results of sampling from an on-site groundwater well indicates that the groundwater has an electrical conductivity of 4,200 micromhos/cm and a total dissolved solids concentration of 3,660 mg/l. This exceeds the California and the Federal Drinking Water Standards for

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Secondary Maximum Contaminant Level (MCL) of 500 mg/l for Total Dissolved Solids.

40. The above groundwater information was measured at the time of site construction, along with the measurement of the background soil profile for Title 22 metals (see Finding No. 23).
41. Results of groundwater sampling from groundwater monitoring wells at the adjacent Terra Alba mine, the nearby Holloway Gypsum facility, and the Lost Hills landfill, contains the following concentrations of constituents in the regional groundwater:

CONSTITUENT	CONCENTRATION Range	CALIFORNIA AND FEDERAL DRINKING WATER STANDARD For Maximum Contaminant Level (MCL)
Total Dissolved Solids	3,699 to 7,460 mg/l	500 mg/l ¹
Chloride	211 to 11,000 mg/l	250 mg/l ¹
Sulfate	1,500 to 2,710 mg/l	250 mg/l ¹
Nitrate	1.8 to 598 mg/l	45 mg/l ²
Arsenic	1.8 to 104 µg/l	50 µg/l ²
Chromium	15 to 610 µg/l	50 µg/l ²
Lead	non-detect to 610 µg/l	15 µg/l ²

¹Exceeds Secondary MCL

² Exceeds Primary MCL

The variability and maximum levels of these chemical characteristics appear to be consistent throughout the region.

42. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal, agricultural, and industrial supply.
43. The “Sources of Drinking Water” policy, which was added to the Basin Plan in 1989, provides that all groundwater in the Tulare Lake Basin is considered to be suitable, or potentially suitable, for municipal or domestic water supply, and should be so designated by the Regional Board with certain exceptions. One of those exceptions is for water where the TDS exceeds 3,000 mg/l and it is not reasonably expected to supply a public water system. The Basin Plan further states that the beneficial uses identified in Finding No. 42 may not exist in certain areas of the Tulare Lake Basin, and that the Regional Board will therefore determine the specific beneficial uses of the groundwater at the time waste discharge requirements are adopted.
44. The groundwater in the aquifer within one mile of the site does not have the beneficial use of municipal. TDS exceeds 3,000 mg/l and the water contains excessive amounts of

chloride, sulfate, nitrate, arsenic, chromium, and lead. This water cannot be used for municipal or domestic supply without extensive treatment, which is uneconomical when excellent quality surface water (from the California Aqueduct) is available. It is therefore not expected to supply a public water system.

GROUNDWATER MONITORING

45. Section 20380(a) of Title 27 requires a discharger to institute a detection monitoring program for groundwater monitoring for facilities that store and treat wastes at waste management units. The Discharger needs to submit a detection monitoring program for the composting facility in accordance with §20420 of Title 27. The program shall include a sufficient number of background monitoring wells installed in the uppermost aquifer that represent the quality of groundwater that has not been affected by a release from the Unit. In addition, the program needs to include a sufficient number of downgradient wells along the point of compliance, which will yield groundwater samples from the uppermost aquifer to detect a release from the Unit.
46. This Order requires the submission of a work plan for the installation of a groundwater detection monitoring system, installation of the groundwater detection monitoring system, and submission of a water quality protection standard based on background water quality pursuant to Title 27 in accordance with specified dates.

CEQA AND OTHER CONSIDERATIONS

47. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code §21000, et seq., and the CEQA guidelines, in accordance with Title 14, CCR, §15301.
48. This order implements:
 - a. The Water Quality Control Plan for the Tulare Lake Basin, Second Edition; and
 - b. The prescriptive standards and performance goals of Chapters 1 through 7, Subdivision 1, Division 2, Title 27, of the California Code of Regulations, effective 18 July 1997 and subsequent revisions.
49. The USEPA is the enforcing agency for 40 CFR Part 503. The Discharger needs to comply with all applicable provisions of 40 CFR Part 503.

PROCEDURAL REQUIREMENTS

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50. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
51. The Regional Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
52. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
53. Any person affected by this action of the Regional Board may petition the State Water Resources Control Board to review the action in accordance with Sections 2050 through 2068, Title 23, California Code of Regulations. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812, within 30 days of the date of issuance of this Order. Copies of the laws and regulations applicable to the filing of a petition are available on the Internet at http://www.swrcb.ca.gov/water_laws/index.html and will be provided on request.

IT IS HEREBY ORDERED that Order No. 5-00-158 is rescinded, and that San Joaquin Composting, Inc., and McCarthy Family Farms, Inc., their agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of 'hazardous waste' is prohibited. For the purposes of this Order, the term 'hazardous waste' is as defined in Title 23, California Code of Regulations, Section 2510 et seq.
2. The discharge of solid wastes outside of a waste management unit (Unit) or portions of a Unit specifically designed for their containment is prohibited
3. The discharge of waste to a closed Unit is prohibited.
4. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.

5. The discharge shall not cause any increase in the concentration of waste constituents in soil, or other geologic materials outside of a Unit if such waste constituents could migrate to waters of the State and cause a condition of nuisance, degradation, contamination, or pollution.
6. Discharge of wastes or composting, stockpiling, storing, or placing raw composting materials or compost within 100 feet of surface waters or surface water drainage courses is prohibited.
7. Utilization of a composting Unit without the site drainage and collection features constructed as described in Finding Nos. 14 and 22 is prohibited.
8. Composting, stockpiling, or otherwise accepting raw sewage, septic tank pumpings, incinerator ash, grit or screenings generated from primary treatment of domestic sewage, or drinking water treatment sludge, is prohibited.
9. Selling or providing a finished product other than exceptional quality compost, as described in Finding No. 9, is prohibited, except for the Class B biosolids that are stored for transfer and use on farms (see Finding No. 12).
10. Discharge of wastes or liquids from surface impoundments to off-site property is prohibited.
11. The long term ponding of water around waste storage areas, between compost windrows, adjacent to interior roads, and within the composting Unit(s) precipitation runoff collection channels, is prohibited.

B. DISCHARGE SPECIFICATIONS

1. Nonhazardous wastes shall only be discharged to the composting Units and stockpile areas of the Unit(s).
2. The discharge shall remain within the designated disposal area at all times, except for the Class B biosolids that are stored for transfer to the landfarm. (see Finding No. 11).
3. The annual input/capacity of “raw” feedstocks at the facility shall not exceed 786,000 tons.
4. Composting shall be limited to composting the sewage sludge described in Finding No. 26 with appropriate bulking agents as described in Finding No. 27.

5. The Class B uncomposted biosolids to be transferred for farming will not be stored in excess of nine (9) months. Any uncomposted biosolids stored in excess of nine months shall be composted on site. (see Finding No. 12)
6. Liquids removed from a surface impoundment shall be recycled on to the waste piles.
7. Solids which accumulate in the surface impoundment(s) shall be periodically removed to maintain minimum freeboard requirements and to maintain sufficient capacity for waste pile pad runoff of residual wastes and stormwater.

C. FACILITY SPECIFICATIONS

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.
2. Discharger shall immediately notify the Regional Board of any flooding, unpermitted discharge of waste off-site, equipment failure, or other change in site conditions, which could impair the integrity of waste containment facilities or precipitation and drainage control structures.
3. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control, and construction.
4. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.
5. Surface drainage within the waste management facility shall either be contained on-site or be discharged in accordance with applicable storm water regulations.
6. The Discharger shall maintain a *Storm Water Pollution Prevention Plan and Monitoring Program and Reporting Requirements* in accordance with State Water Resources Control Regional Board Order No. 97-03-DWG, or retain all storm water on-site.
7. No composting or storage of compost shall occur within 100 feet of any domestic water well.
8. Surface impoundments and composting operations shall be managed to prevent the breeding of mosquitoes.

9. Public contact with the waste and compost shall be precluded through such means as fences and signs, or other acceptable alternatives.

D. CONSTRUCTION SPECIFICATIONS

1. The Discharger shall submit for Executive Officer review and approval **within 90 days prior to** construction, design plans and specifications for new Units and expansions of existing Units, that include the following:
 - a. A Construction Quality Assurance Plan meeting the requirements of §20324 of Title 27;
 - b. A geotechnical evaluation of the area soils, evaluating their use as the foundation layer; and
 - c. A grading and drainage plan to prevent ponding and infiltration.
2. The Discharger shall construct a liner system beneath the composting unit which consists of a compacted native soil layer that is a minimum of one foot thick with a maximum hydraulic conductivity of 1×10^{-6} cm/sec and compacted to 90 percent maximum dry density, graded to obtain a uniform, smooth working surface, free of pockets and depressions, and to inhibit the vertical migration of wastes.
3. New surface impoundments shall have a liner system consisting, at a minimum, of the following, in ascending order:
 - a. A minimum one-foot thick native soil layer exhibiting a maximum hydraulic conductivity of 1×10^{-6} cm/sec, compacted to 90 percent dry density;
 - b. A synthetic flexible membrane component in direct and uniform contact with the compacted soil layer; and
 - c. A protective soil cover layer placed in a manner that does not damage the synthetic membrane.
4. Surface impoundments shall be designed, constructed, and operated to maintain a freeboard of two (2) feet plus the rainfall and residual waste produced from a 100 year, 24 hour precipitation event or 2 feet plus the 100 year wet season precipitation, whichever is greater. At no time shall the freeboard of an impoundment be less than two feet.

5. Surface impoundments shall be designed, constructed, and maintained to prevent scouring and/or erosion of the liner(s) and other containment features at points of discharge to the impoundment and by wave action at the waterline.
6. The Discharger may propose changes to a liner system design prior to construction, provided that approved components are not eliminated, the engineering properties of the components are not substantially reduced, and a proposed liner system results in the protection of water quality equal to or greater than the design prescribed by Title 27 and this Order. The proposed changes may be made following approval by the Executive Officer. Substantive changes to the design require reevaluation as an engineered alternative and approval by the Regional Board.
7. Construction shall proceed only after all applicable construction quality assurance plans have been approved by Executive Officer.
8. Following the completion of construction of a liner system or portion of a liner system, and **within 90 days prior to discharge** to the newly constructed liner system, the final documentation required in §20324(d)(1)(C) of Title 27 shall be submitted to the Executive Officer for review and approval. The report shall be certified by a registered civil engineer or a certified engineering geologist. It shall contain sufficient information and test results to verify that construction was in accordance with the design plans and specifications, and with the prescriptive standards and performance goals of Title 27.
9. A third party independent of both the Discharger and the construction contractor shall perform all of the construction quality assurance monitoring and testing during the construction of a liner system.

E. DETECTION MONITORING SPECIFICATIONS

1. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, and in accordance with Monitoring and Reporting Program No. R5-2002-0172. **By 2 December 2002**, the Discharger shall submit, for Executive Officer review and approval, an adequate work plan for installation of a groundwater detection monitoring system, and a Sample Collection and Analysis Plan, in accordance with Title 27.
2. **By 28 February 2003**, the Discharger shall have installed the groundwater detection monitoring system approved by the Executive Officer in accordance with Title 27 and

Monitoring and Reporting Program No. R5-2002-0172 and collected the first samples for analysis.

3. **By 1 April 2004**, the Discharger shall submit, for Executive Officer review and approval, a Water Quality Protection Standard based on the collection and analysis of background groundwater samples.
4. The Discharger shall provide Regional Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation, repair, or abandonment of monitoring devices, and a minimum **48 hour** notification prior to the collection of samples associated with a detection monitoring program, evaluation monitoring program, or corrective action program.
5. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, Monitoring and Reporting Program No. R5-2002-0172, and the Standard Provisions and Reporting Requirements, dated April 2000.
6. The concentrations of the constituents of concern in waters passing the Point of Compliance shall not exceed the concentration limits established pursuant to Monitoring and Reporting Program No. R5-2002-0172.
7. For each monitoring event, the Discharger shall determine whether the composting facility is in compliance with the Water Quality Protection Standard using procedures specified in Monitoring and Reporting Program No. R5-2002-0172 and §20415(e) of Title 27.
8. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken **within a span not to exceed 30 days**, unless the Executive Officer approves a longer time period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible.
9. Specific methods of collection and analysis must be identified. Sample collection, storage, and analysis shall be performed according to the most recent version of USEPA Methods, such as the latest editions, as applicable, of: (1) *Methods for the Analysis of Organics in Water and Wastewater* (USEPA 600 Series), (2) *Test Methods for Evaluating Solid Waste* (SW-846, latest edition), and (3) *Methods for Chemical Analysis of Water and Wastes* (USEPA 600/4-79-020), and in accordance with the approved Sample Collection and Analysis Plan.

10. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology shall be submitted for review and approval by the Executive Officer prior to use.
11. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., “trace” or “ND”) in data from background monitoring points for that medium, the analytical method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.
12. **“Trace” results** - results falling between the MDL and the practical quantitation limit (PQL) - shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.
13. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.
14. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. The **MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99% reliability of a nonzero result.** The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent’s actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.
15. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the

- person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recoveries. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.
16. **Unknown chromatographic** peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.
 17. The statistical method shall account for data below the practical quantitation limit (PQL) with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to §20415(e)(7) of Title 27 that is used in the statistical method shall be **the lowest concentration (or value) that can be reliably achieved** within limits of precision and accuracy specified in the WDRs for routine laboratory operating conditions that are available to the facility. The Discharger's technical report, pursuant to §20415(e)(7) of Title 27, shall consider the PQLs listed in Appendix IX to Chapter 14 of Division 4.5 of Title 22, California Code of Regulations, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, an indication that falls between the MDL and the PQL for that constituent (hereinafter called a "trace" detection) shall be identified and used in appropriate statistical or nonstatistical tests. Nevertheless, for a statistical method that is compatible with the proportion of censored data (trace and ND indications) in the data set, the Discharger can use the laboratory's concentration estimates in the trace range (if available) for statistical analysis, in order to increase the statistical power by decreasing the number of "ties".
 18. The Discharger may propose an alternate statistical method [to the methods listed under 27 CCR §20415(e)(8)(A-D)] in accordance with §20415(e)(8)(E) of Title 27, for review and approval by the Executive Officer. Upon receiving written approval from the Executive Officer, alternate statistical procedures may be used for determining the significance of analytical results for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Board staff.

F. REPORTING REQUIREMENTS

1. In the event the Discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Discharger shall notify the appropriate Regional Board office by telephone **as soon as** it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within two weeks**. The written notification shall state the nature, time and cause of noncompliance, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.
2. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained throughout the life of the facility including the postclosure period.

Such legible records shall show the following for each sample:

- a. Type of record or log, units of measurement, and frequency of observation. Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;
 - b. Date, time, and manner of observation and sampling;
 - c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;
 - d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
 - e. Calculation of results; and
 - f. Results of analyses, and the method detection limit (MDL) and practical quantitation limit (PQL) for each analysis.
3. A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report.

4. Each monitoring report shall include a compliance evaluation summary. The summary shall contain at least:
 - a. For each monitoring point and background monitoring point addressed by the report, a description of:
 - 1) The date and time (as required) of measurement;
 - 2) The type of device used for obtaining the sample;
 - 3) For groundwater measurements the type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;
 - 4) The method of purging (the pumping rate; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; the calibration of the field equipment; results of the pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water) to remove all portions of the water that was in the well bore while the sample was being taken;
 - 5) The type of pump - or other device - used for sampling, if different than the pump or device used for purging; and
 - 6) A statement that the sampling procedure was conducted in accordance with the approved Sampling and Analysis Plan.
 - b. A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.
 - c. For each groundwater body, a description and graphical presentation of the gradient and direction of groundwater flow under/around the Unit, and the groundwater flow rate, based upon water level elevations taken prior to the collection of the water quality data submitted in the report.
 - d. Laboratory statements of results of all analyses evaluating compliance with requirements.
 - e. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.

- f. A summary and certification of completion of all **Standard Observations** for the Unit(s), for the perimeter of the Unit, and for the receiving waters. The Standard Observations shall include:
 - 1) For the Unit:
 - a) Evidence of ponded water at any point on the facility (show affected area on map);
 - b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and
 - c) Evidence of erosion.
 - 2) Along the perimeter of the Unit:
 - a) Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate (show affected area on map);
 - b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and
 - c) Evidence of erosion.
- g. The quantity and types of wastes discharged and the locations in the Unit where waste has been placed since submittal of the last such report.
5. The Discharger shall report by telephone any seepage from the Unit **immediately** after it is discovered. A written report shall be filed with the Regional Board **within seven days**, containing at least the following information:
 - a. A map showing the location(s) of seepage;
 - b. An estimate of the flow rate;
 - c. A description of the nature of the discharge (e.g., all pertinent observations and analyses);
 - d. Verification that samples have been submitted for analyses, and an estimated date that the results will be submitted to the Regional Board; and
 - e. Corrective measures underway or proposed, and corresponding time schedule.

6. The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Board covering the reporting period of the previous monitoring year. This report shall contain:
 - a. All monitoring parameters and constituents of concern shall be graphed so as to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point or background monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.
 - b. Unless otherwise exempted by the Executive Officer, all monitoring analytical data obtained during the previous two six-month reporting periods, shall be submitted in tabular form as well as in a digital file format acceptable to the Executive Officer. The Regional Board regards the submission of data in hard copy and in digital format as "...the form necessary for..." statistical analysis [§20420(h)], in that this facilitates periodic review by the Regional Board.
 - c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.
 - d. A written summary of the monitoring results, indicating any changes made or observed since the previous annual report.
 - e. An evaluation of the effectiveness of the leachate monitoring/control facilities.

G. PROVISIONS

1. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.
2. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.

3. The Discharger shall comply with Monitoring and Reporting Program No. 5-00-158, which is incorporated into and made part of this Order.
4. The Discharger shall comply with the applicable portions of 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 et seq.)*, dated April 2000, which are hereby incorporated into this Order.
5. Biosolids which have not undergone active composting shall be physically isolated from other site activities to prevent cross contamination of feedstocks, composting materials, and finished product.
6. The storage of biosolids will not exceed nine (9) months. Biosolids stored in excess of nine (9) months will be composted on site.
7. At least **90 days** prior to the cessation of composting operations at the facility, the Discharger shall submit a work plan, subject to approval of the Executive Officer, for assessing the extent, if any, of contamination of natural geologic materials. By **120 days** following work plan approval, the Discharger shall submit an engineering report presenting the results of the contamination assessment.
8. Upon ceasing composting operations at the facility, all wastes, natural geologic materials contaminated by wastes (as determined pursuant to Provision G.7), and surplus or unprocessed composting materials shall be completely removed from the site and disposed of in a manner approved by the Executive Officer.
9. The composting operation shall comply with the windrow composting or static aerated pile composting requirements specified in 40 CFR Part 503, for the production of compost.
10. All reports and transmittal letters shall be signed by persons identified below:
 - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
 - c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.

- d. A duly authorized representative of a person designated in a, b or c above if;
 - 1) the authorization is made in writing by a person described in a, b, or c of this provision;
 - 2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a Unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - 3) the written authorization is submitted to the Regional Board.
- e. Any person signing a document under this Section 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 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.”
11. The Discharger shall take all reasonable steps to minimize any adverse impact to the waters of the State resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.
12. The owner of the waste management facility shall have the continuing responsibility to assure protection of waters of the state from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and post-closure maintenance period of the Unit(s) and during subsequent use of the property for other purposes.
13. The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order shall not be regarded as a defense for the Discharger’s violations of the Order.
14. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Regional Board requesting transfer of the Order

- within 14 days of assuming ownership or operation of this facility. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Regional Board, and a statement. The statement shall comply with the signatory requirements contained in Provision G.10 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer of this Order shall be approved or disapproved by the Regional Board.
15. The Discharger shall maintain financial assurance for corrective action as required by Title 27 California Code of Regulations, Division 2, Chapter 6. The Discharger shall, **by 31 December 2002**, submit for approval by the Executive Officer, plans with detailed cost estimates and a demonstration of assurances of financial responsibility for initiating and completing corrective action for all known and reasonably foreseeable releases from the waste management unit. The assurances of financial responsibility shall name the Regional Board as beneficiary and shall provide that funds for corrective action shall be available to the Regional Board upon the issuance of any order under California Water Code, Division 7, Chapter 5. The Discharger shall adjust the cost annually to account for inflation and any changes in facility design, construction, or operation.
 16. The Discharger shall maintain financial assurance for clean closure (see Provisions No. G.7 and No. G.8) as required by Title 27 California Code of Regulations, Division 2, Chapter 6. The Discharger shall, **by 31 December 2002**, submit for approval by the Executive Officer, a demonstration of assurances of financial responsibility to ensure closure of each waste management unit in accordance with its approved closure plans. The assurances of financial responsibility shall provide that funds for closure with respect to water quality shall name the Regional Board as beneficiary and shall be available to the Regional Board upon the issuance of any order under California Water Code, Division 7, Chapter 5. The Discharger shall adjust the cost annually to account for inflation and any changes in facility design, construction, or operation.
 17. The Discharger shall conduct an annual review of the financial assurances specified in Provisions G.15 and G.16, and **by 30 April each year**, submit a report for Executive Officer review and approval. If a single mechanism of financial assurance is used for both corrective action and closure, the financial assurance must be sufficient for both requirements.

18. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

<u>Task</u>	<u>Compliance Date</u>
a. Construction Plans	
Submit construction and design plans for Executive Officer review and approval. (Construction Specification D.1)	Within 90 days Prior to construction
b. Construction Report	
Submit a construction report upon completion demonstrating construction was in accordance with approved construction plans for Executive Officer review and approval. (Construction Specification D.5)	Within 90 days Prior to discharge
<u>Task</u>	<u>Compliance Date</u>
c. Detection Monitoring Program Work Plan	
Submit a work plan for the installation of a groundwater detection monitoring system. (Detection Monitoring Specification E.1)	2 December 2002
d. Detection Monitoring System Installation	
Complete installation of the groundwater monitoring detection monitoring system. (Detection Monitoring Specification E.2)	28 February 2003
e. Water Quality Protection Standard	
Submit a proposed water quality protection standard for Executive Officer review and approval based on background groundwater quality. (Detection Monitoring Specification E.3)	1 April 2004

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2002-0172
SAN JOAQUIN COMPOSTING, INC., AND
MCCARTHY FAMILY FARMS, INC.
FOR OPERATION
LOST HILLS COMPOSTING FACILITY
KERN COUNTY

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f. Financial Assurance

Submit a detailed cost estimates and financial responsibility for corrective action, and closure. **2 December 2002**
(Provisions G.15 and G.16)

g. Financial Assurance Review

Annual Review of Financial Assurance for initiating and completing corrective action and closure. **30 April each year**
(see Provision G.17)

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

THOMAS R. PINKOS, Acting Executive Officer

RTT:rtt/rac