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16 **SUPERIOR COURT OF THE STATE OF CALIFORNIA**

17 **FOR THE COUNTY OF TULARE**

18 CITY OF LOS ANGELES; COUNTY  
SANITATION DISTRICT NO. 2 OF LOS  
19 ANGELES COUNTY; ORANGE COUNTY  
SANITATION DISTRICT; RESPONSIBLE  
20 BIOSOLIDS MANAGEMENT, INC.; R&G  
FANUCCHI, INC.; SHAEN MAGAN, BOTH  
21 INDIVIDUALLY AND D/B/A HONEY  
BUCKET FARMS AND TULE  
22 RANCH/MAGAN FARMS; WESTERN  
EXPRESS, INC.; CALIFORNIA  
23 ASSOCIATION OF SANITATION  
AGENCIES,

24 Plaintiffs,

25 v.

26 COUNTY OF KERN; KERN COUNTY  
27 BOARD OF SUPERVISORS,

28 Defendants.

Case No. Civ. 242057

**DECLARATION OF GREG KESTER  
SUPPORTING PLAINTIFFS' MOTION  
FOR PRELIMINARY INJUNCTION**

Hearing: June 9, 2011  
Dep't: 10  
Hearing Judge: Hon. Lloyd L. Hicks  
Action filed: January 26, 2011  
Trial date: Not set

1 I, Greg Kester, declare as follows:

2 **Summary of Opinion**

- 3 1. I am an expert in land application of biosolids and serve as the Biosolids Program Manager  
4 for the California Association of Sanitation Agencies (CASA), a co-plaintiff in this case.
- 5 2. My opinion is that if the Kern County land application ban is enforced, California cities and  
6 agencies will face more difficulty finding methods to recycle or dispose of their biosolids in  
7 both the short and long term, and available management options will be more expensive than  
8 before the ban. Kern County is one of the largest agricultural counties in California, and the  
9 United States, and banning land application of biosolids on farm land there will likely raise  
10 prices for California cities and agencies, and encourage further restrictions and bans in  
11 California and elsewhere based on misinformation and anti-urban sentiment rather than  
12 science.
- 13 3. The Kern County ban contradicts science-based federal and California regulations that govern  
14 land application of biosolids. Biosolids are a beneficial soil amendment which makes  
15 marginal soil productive, increases crop production, and increases moisture holding capacity  
16 which reduces the need to irrigate crops. Recycling biosolids to farmland is a time-tested  
17 practice that occurs every day on hundreds of farms across California and the United States  
18 with no adverse impacts on public health or the environment.

19 **Experience and Qualifications**

- 20 4. My employer, CASA, represents more than ninety percent of the sewered population of  
21 California and has long been a leader on wastewater, recycled water, biosolids management,  
22 and climate change issues. CASA and its members support and engage in research on  
23 biosolids recycling and strive for constant improvement of the practice.
- 24 5. I hold a Bachelors of Science degree in Civil and Environmental Engineering from the  
25 University of Wisconsin – Madison.
- 26 6. I have been involved in wastewater treatment, farming, engineering, and biosolids  
27 management since 1973. Career highlights include:
- 28

- 1 • Served on the National Academy of Sciences committee that reviewed the federal  
2 biosolids land application regulations and produced the 2002 report, *Biosolids Applied to*  
3 *Land: Advancing Standards and Practices*. Our committee concluded that there was  
4 little evidence to support claims of public health impacts from land application of  
5 biosolids and recommended further research on a number of issues, much of which has  
6 been accomplished.
- 7 • Was elected to serve on the United States Environmental Protection Agency’s (USEPA)  
8 Biosolids Program Implementation Team to represent the interests of all states.
- 9 • Served on the Health Advisory Committee for a Water Environment Research  
10 Foundation (WERF) funded project at UC Berkeley to develop a risk based assessment  
11 model for potential pathogens in land applied biosolids.
- 12 • Served on the Project Sub-Committee for a WERF project to develop, test, refine and  
13 implement a framework to investigate the rare allegations of adverse public health affects  
14 from land applied biosolids.
- 15 • Assisted USEPA in the revision of *Control of Pathogens and Vector Attraction in*  
16 *Sewage Sludge* (USEPA 2002).
- 17 • Received 8 consecutive grants from USEPA to plan, direct, and lead a national biosolids  
18 regulatory workshop, which typically drew representatives from between 42 and 47  
19 states, 8 – 10 EPA regions, and multiple office directors from EPA headquarters and the  
20 National Risk Management Lab in Cincinnati.
- 21 • Original member of the Steering Committee for the National Biosolids Partnership (NBP)  
22 and current advisory committee co-chair as well as steering committee member. The  
23 NBP is a national consortium of the Water Environment Federation (WEF), the National  
24 Association of Clean Water Agencies (NACWA) and USEPA funded in part by Congress  
25 for most of the past 11 years, dedicated to promoting responsible and effective biosolids  
26 management across the nation.
- 27 • Work with the California State Water Resources Control Board (SWRCB), California Air  
28 Resources Board, CalRecycle, regional water boards, and local air districts to address

1 cross media issues. Cross media issues arise due to a single regulatory body having  
2 jurisdiction over a specific media (land, air, water) and regulations adopted to protect that  
3 media may have unanticipated consequences to other media.

- 4 • Work with USEPA Region IX, Central Valley Regional Water Quality Control Board,  
5 San Joaquin Valley Air Pollution Management District, Western United Dairymen, UC  
6 Davis, Sustainable Solutions, and others on the planning committee for the annual Pacific  
7 Southwest Organic Residuals Symposium which addresses sustainable management of  
8 organic residuals such as biosolids. The 2010 conference focused on cross media issues  
9 and regulatory hurdles.

- 10
- 11 7. Prior to assuming my position as Biosolids Program Manager at CASA in 2007, I was for  
12 many years the biosolids regulator for Wisconsin's Department of Natural Resources (DNR).  
13 In that capacity I helped the State of Wisconsin obtain delegated authority under the Clean  
14 Water Act from USEPA for the DNR to administer and enforce all EPA biosolids regulations.  
15 Wisconsin was the fourth state in the nation to obtain such authority, and its program has been  
16 a model for biosolids recycling since the 1970's, with 98 percent of municipalities  
17 beneficially recycling biosolids to land. I also worked closely with the Wisconsin Legislature  
18 and local government to pass legislation in 2006 which gave express authority to the state,  
19 not local units of government, to set standards for land application of biosolids.
- 20 8. As part of my responsibilities at CASA, I am familiar with the economics, regulations,  
21 science, and operational issues attendant to all aspects of biosolids management in California,  
22 including land application and its alternatives.

23 **Enforcing Measure E Will Harm Public Agencies Statewide Because**  
24 **Alternatives to Land Application are Expensive and Problematic**

- 25 9. Biosolids are a renewable and recyclable resource with many beneficial properties. Decades  
26 of research and experience have demonstrated that biosolids improve soil tilth, add vital  
27 organic material to marginal soil, increase moisture holding capacity (which is critical in  
28 water scarce California), improve crop production and increase crop yields. Biosolids provide

1 a slow release nitrogen source for crops, which is far more beneficial to the crops and  
2 protective of groundwater compared with commercial fertilizer. Commercial sources of  
3 nitrogen for crops, such as ammonia, provide a single slug of nitrogen, and the excess  
4 nitrogen that is not immediately utilized may flush through the soil system and be a source of  
5 contamination. Given the high price of nitrogen fertilizer and the plethora of micro and macro  
6 constituents in biosolids, farmers can realize approximately a \$250 per acre savings on  
7 nitrogen fertilizer and increased crop production. (Gregory Evanylo, VA Tech – 2003  
8 Communications in Soil Science and Plant Analysis; Vol 34 Nos 1&2 – 125-143.)

9 10. Recycling biosolids to soil in Kern County and elsewhere also mitigates effects on climate  
10 change, which is a statewide mandated goal in California. Such benefits include carbon  
11 sequestration in the soil and less use of fossil fuel-based inorganic nitrogen fertilizer. Almost  
12 a quarter of a gallon of fossil fuel is required to produce every pound of inorganic nitrogen  
13 fertilizer. Thus for every acre of land for which a crop needs 200 pounds of nitrogen,  
14 approximately 50 gallons of fossil fuel can be saved.

15 11. The management options available for biosolids include land application to farmland, land  
16 application to damaged soils such as mining sites (reclamation), landfilling (either as daily  
17 cover over the solid waste, or burial with solid waste or burial), surface disposal, incineration,  
18 and as an alternative fuel to coal in the cement industry. Each of these management options  
19 has challenges to its viability. Based on recent surveys conducted throughout California,  
20 public agency biosolids managers are very concerned regarding the long-term viability for  
21 biosolids management options and their costs.

22 12. Diversion of biosolids that are now land applied to landfills for disposal is problematic for a  
23 number of reasons. California law (AB 939, the California Integrated Waste Management  
24 Act) mandates that local agencies divert organic material such as biosolids away from burial  
25 in landfills, which reduces the viability of the landfill option for biosolids management. Many  
26 California cities, especially in the north, obtain significant diversion credit under the  
27 California Integrated Waste Management Act by utilizing their biosolids for daily cover at  
28 landfills. However, while AB 939 acknowledges this as a diversion credit use, the amount of

1 biosolids that can be used for cover is inherently limited and many landfills are having the  
2 amount of biosolids which can be accepted for the beneficial use of daily cover or final cover  
3 reduced as their permits are renewed. A number of landfills are scheduled for closure in the  
4 coming years, including Puente Hills landfill in Los Angeles County, further signaling a  
5 shortage of capacity.

6 13. The USEPA has published new regulations for control of air emissions from sewage sludge  
7 incinerators, which will likely limit the construction of new units due to cost and technical  
8 compliance uncertainty. Currently only a very few waste water plants in California utilize  
9 surface disposal units for biosolids – which are large scale operations similar to landfills – and  
10 this is not seen as an economical or practical option.

11 14. While not yet widely practiced in California, biosolids are highly effective in reclaiming mine  
12 sites, certain hazardous waste sites, fire ravaged land, and overgrazed rangeland. Typically,  
13 these uses of biosolids require intensive planning, special permitting, and do not at present  
14 provide the long term sustainability of regular farmland application of biosolids.

15 15. Simultaneously, local ordinances and restrictions on land application, most prominently the  
16 Kern ban, threaten land application. The denial of an injunction in this case likely will  
17 encourage other activist groups and individuals that oppose biosolids recycling to seek similar  
18 bans through voter initiatives and local ordinances.

### 19 **Economic Impacts of Enforcing Measure E**

20 16. If Measure E is enforced, CASA members will face significant economic impacts. To shift to  
21 a different management option or to find alternative land application sites (likely in Arizona)  
22 will be costly and will cause disruption and uncertainty in a vital part of the public  
23 infrastructure. The City of Los Angeles currently land applies in Kern County at a cost of  
24 roughly \$30.66 per ton. Other options will range in cost from roughly at least \$48 per ton for  
25 use as daily cover at a landfill, between \$48 and \$68 per ton for landfill disposal depending on  
26 location, and up to nearly \$63 per ton for land application in Arizona, assuming such options  
27 even exist for the quantity needed.

28 17. These costs for alternatives to land application are particularly significant for public agencies

1 given the economic realities of municipal and state budgets. The City of Los Angeles has  
2 been furloughing its employees for two days a month for the last several years and remains in  
3 dire budgetary straits, much like the rest of California. By contrast, allowing land application  
4 to continue under an injunction will provide economic benefits for the Plaintiffs, other  
5 agencies, and Kern County, which receives revenues from the current operations.

6 18. Enforcement of Measure E will disrupt the market for residuals management in California and  
7 Arizona and place public agencies at a disadvantage in negotiations with their contractors.  
8 Landfills, composters and other biosolids treatment facilities, truckers, and land application  
9 contractors will almost surely raise prices because of the fact that large quantities of biosolids  
10 must be managed outside of Kern County, and due to the uncertainty that enforcement of  
11 Measure E will introduce regarding the regulatory status of biosolids. In the short term, the  
12 Plaintiffs here will be in a weak and urgent position and will have to pay premium prices for  
13 residual management services.

14 19. Banning land application also imposes significant costs and risks on day-to-day operations  
15 over and above the costs of alternative management methods. Wastewater treatment is a  
16 massive part of the public infrastructure and managing biosolids is a large component of this  
17 infrastructure. For the agencies currently land applying biosolids in Kern County to find  
18 alternative means of management will involve tremendous time, expense, and planning.

19 20. In short, developing new options for managing biosolids takes years because of the large  
20 investments of capital and time necessary for planning, infrastructure changes, technology,  
21 human resources, and regulatory approvals. While all available management options need to  
22 be considered in planning, proper biosolids management requires that a practice currently  
23 being utilized cannot be prohibited or restricted on short notice.

24  
25 **Allowing Land Application to Continue Benefits All Parties and Poses Negligible Risk**

26 21. I am familiar with land application across the United States, California, and at the two large  
27 farms currently in operation in Kern County. I have visited and worked on hundreds of farms  
28 where biosolids are recycled. I have seen the tremendous increase in crop production and soil

1 fertility without fail when biosolids are utilized according to regulation. Biosolids are the  
2 most regulated material that is applied to land. I have toured both farms in Kern County as  
3 part of my responsibilities for CASA and can attest to their superior management.

4 22. Every day, many hundreds of tons of California biosolids are recycled to farmland. There are  
5 no documented, nor even alleged, adverse effects from the land application programs  
6 currently in operation in California, including the two farms in Kern County. In fact,  
7 particularly in arid Kern County, biosolids have improved the ecology of the County. A  
8 simple visual inspection of the City of Los Angeles Green Acres farm land shows it to be  
9 black fertile soil with tremendous crop production – over two harvests per year – compared to  
10 the moonscape that is the soil on adjacent land on which nothing grows. I have witnessed this  
11 same benefit from land application on marginal farm land across the United States.

12 23. Indeed, land application of biosolids will continue in Kern County even if Measure E is  
13 enforced because the ban exempts Kern County’s incorporated cities. The City of  
14 Bakersfield, in addition to using its effluent as irrigation water on the City of Los Angeles  
15 Green Acres farm site, also land applies significant amounts of Class B biosolids within its  
16 City borders. Delano and North of River Sanitary District are other Kern County treatment  
17 facilities that land apply Class B biosolids successfully within their borders.

18 24. Comprehensive federal and state regulations ensure the safety and benefits of recycling  
19 biosolids to the soil. In the late 1980s and early 1990s, USEPA developed risk-based,  
20 scientifically peer-reviewed regulations following a lengthy public process, which were  
21 codified in 1993 and are known as the “Part 503 rules.” 40 C.F.R. Part 503.

22 25. The safety of land application through compliance with the Part 503 rules has been endorsed  
23 by two studies by the National Academy of Sciences (NAS) (1996 and 2002) and in a detailed  
24 statewide Environmental Impact Report and General Order prepared by the California State  
25 Water Resources Control Board (2004). The 2002 NAS report, which I co-authored and  
26 approved with other committee members, concluded that “there is no documented scientific  
27 evidence that Part 503 has failed to protect public health.”

28 26. USEPA has conducted biennial reviews since 1999 as directed by the Clean Water Act to

1 determine if any additional pollutants merited regulation or if any other modifications to the  
2 Part 503 rules were warranted. The 1999 biennial review identified a need to further evaluate  
3 dioxin and dioxin-like congeners. Following extensive review, data collection, and use of an  
4 updated probabilistic risk assessment model, USEPA published in 2003 its conclusion that  
5 dioxin did not merit regulation in sewage sludge and biosolids. USEPA is currently  
6 conducting a risk assessment on nine pollutants identified in the 2003 biennial review to  
7 determine if their regulation is warranted.

8 27. USEPA has not been static with respect to biosolids regulation and has been evaluating a suite  
9 of emerging chemicals and pathogens of potential concern at least every two years.

10 28. The beneficial use of biosolids via land application is a preferred management option by state  
11 and federal authorities. USEPA and other federal agencies such as the Department of  
12 Agriculture and the Food and Drug Administration articulated this as a national policy  
13 through interagency agreements signed in 1981, 1984, and 1991. Such a position follows  
14 language from the Clean Water Act and has been adopted by many state legislatures across  
15 the nation. This position is articulated throughout the preamble to the Part 503 rules.

16 29. California is fortunate to be located in USEPA Region IX, as it is one of the most proactive  
17 and engaged USEPA regions in the nation in implementing the Part 503 rules. Region IX  
18 oversees biosolids management throughout the state, in conjunction and coordination with  
19 state and local regulators. USEPA personnel review biosolids monitoring information and  
20 regularly make unannounced inspections of land application sites in California.

21 30. In addition to federal oversight, the California State Water Resources Control Board  
22 (SWRCB) regulates land application of biosolids through a detailed General Order (GO)  
23 promulgated in 2004, which mandates additional regulations and protections, above and  
24 beyond the Part 503 rules. (Water Quality Order 2004-12 DWQ.) These include requirements  
25 that each land application site be approved before any biosolids are land applied. The  
26 Regional Water Quality Control Boards use the GO to issue permits to exercise control over  
27 biosolids uses. The GO is science-based and derived from the SWRCB's comprehensive  
28 Environmental Impact Report (EIR) that found land application of biosolids to be a safe and

1 beneficial way to manage biosolids.

2 31. The State EIR determined that biosolids, when land applied according to USEPA's Part 503  
3 rules and the GO, are safe and beneficial. The California regulators analyzed decades of  
4 research at universities across the state, nation, and globe which demonstrated the benefits and  
5 safety of biosolids land application. California's EIR is widely recognized in the biosolids  
6 field as one of the most thorough and comprehensive reviews of land application.

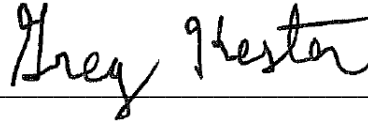
7 32. In the GO, the SWRCB adopted a statewide policy, based on the EIR's extensive scientific  
8 investigation, which reaffirms and encourages the beneficial use of biosolids. The GO finds  
9 that biosolids are "beneficial to agriculture" and "improve agricultural productivity" and it  
10 describes the specific benefits from use of biosolids as a soil amendment (GO ¶ 7). The GO  
11 also concludes that "the beneficial use of biosolids through land application under this  
12 General Order is environmentally sound and preferable to non-beneficial disposal." Measure  
13 E squarely conflicts with this state policy in every respect.

14 33. I understand that during the campaign for Measure E concerns were raised related to the  
15 possibility of contaminants leaching to groundwater from sites where biosolids were land  
16 applied. Groundwater throughout Kern County is far below the surface and at the Green  
17 Acres farm the depth ranges from 75 to 150 feet. This is in contrast to many parts of the  
18 country where groundwater levels are in the 3-6 foot range below the surface. In Wisconsin,  
19 where I developed the regulations and relied heavily on research done at the University of  
20 Wisconsin and other universities, we determined that 3 feet of separation to groundwater was  
21 protective and established this in regulation (Wis. Adm. Code NR 204). A significant body of  
22 research confirms that metals and other contaminants that may be present in biosolids do not  
23 leach below the root zone. Further, by limiting the application rate to the nitrogen needs of  
24 the crop, nitrogen leaching potential is minimized. A depth of 75 to 100 feet from  
25 groundwater is exceptionally good news for the County and provides uniquely conservative  
26 protection.



1 I declare under penalty of perjury under the laws of the State of California that the  
2 foregoing is true and correct.

3  
4 Executed this 21<sup>st</sup> day of April, 2011, at Sacramento, California

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7 Greg Kester  
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