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TESTIMONY OF JAY LAZARUS

In Opposition to Amargosa Citizens for the Environment's Petition for a Declaratory Order regarding the definition of sewage in NAC 445A.107

Nevada State Environmental Commission (SEC)

June 17, 2009

Employment

Pres./Sr. Geohydrologist Glorieta Geoscience, Inc. since 1979

Education

M.S. Program, University of Arizona, 1975-1978

B.S. Geoscience, University of Arizona, 1975

B.A. History, University of Illinois, 1972

Professional Advancement/Short Courses

- Preparation of Environmental Impact Statements, The Shipley Group, 2000.
- Environmental Consulting to the Insurance Industry, Environmental Claims Support, 2000.
- The Role of Borehole Geophysics in Contaminant Hydrogeology and Groundwater Investigations, E³, 1996.
- Use of MODFLOW for Simulation of Groundwater Flow and Advective Transport, National Groundwater Association, 1994.
- Hydraulics, Erosion and Sedimentation in Arid Lands, University of Arizona, 1981.
- Underground Injection Control, U.S. Environmental Protection Agency, 1978.

Publications

Mr. Lazarus has authored or co-authored more than 20 peer-reviewed publications in the areas of geology, hydrology, water quality, basin-wide geochemical characterization, CAFO permitting and environmental topics. He is the Senior Author of the Dairy Technical Guidance Manual for New Mexico which is in the publication process at New Mexico State University. For a complete list of publications please visit our website at www.glorietageo.com.

Expert Witness Testimony

Mr. Lazarus has been qualified as an expert more than 15 times in geology, hydrology, geomorphology, structural geology, and domestic wells in State District Court, Federal Court, and administrative hearings. For a complete list of expert witness testimony experience visit our website at www.glorietageo.com.

Teaching Experience

CAFO Permitting Requirements, Hydrologic Characterizations, Water Quality and New Mexico Dairy Case Studies, 2008, NRCS Comprehensive Nutrient Management Plan Training, Albuquerque, NM.

Well Rehabilitation and Analysis of Structural Causes of Casing Failure, New Mexico Ground Water Association, 2002, Ruidoso, New Mexico.

Physical Geology Instructor, University of Arizona, 1978.

Consulting History in the Dairy Industry

Mr. Lazarus has been the hydrology and environmental consultant to Dairy Producers of New Mexico since 1997. He is responsible for developing and commenting on State and Federal environmental and water supply laws and regulations, inspections of member dairies, and staying in the forefront of scientific advances in the hydrologic and environmental aspects of the dairy industry. Representative projects for DPNM include: 1) develop national CAFO Rule 1998 – present; 2) Co-Chair of Region 6 CAFO Industry Committee on development of USEPA Region 6 CAFO regulations; 2001-present; 3) represent all New Mexico Agricultural sectors on Water Quality Act Committee to revise New Mexico Water Quality Control Commission Regulations; 4) conduct scientific research as requested.

As a scientific and technical researcher in the dairy industry, Mr. Lazarus is the Senior Author of the “*Dairy Technical Guidance Manual for New Mexico*” (in the publication process at New Mexico State University), and is the CAFO Industry Collaborator on a joint study on dairy water use by New Mexico State University and West Texas A&M University/AgriLife. He also taught the Hydrology, Water Quality and Permitting Module for the NRCS New Mexico CNMP training class. In February, 2008 he co-authored “Sorting out manure management plan options” published in *Hoard’s Dairyman* - The National Dairy Farm Magazine.

Mr. Lazarus is GGI Principal in Charge of managing discharge permit compliance for 25 dairies in New Mexico and Nevada. Mr. Lazarus has had responsibility for discharge permit compliance on Nevada dairies since 1998. He is Principal in Charge for 7 dairy ground water abatements in New Mexico and routinely testifies before the New Mexico Water Quality Control Commission on CAFO and other environmental related issues.

Appointments to Technical Committees

Dairy Technical Working Group – *Technical representative for Dairy Producers of New Mexico (DPNM) to Dairy Technical Working Group composed of representatives from DPNM, New Mexico Environment Department, New Mexico Office of State Engineer, Natural Resources Conservation Service, New Mexico State University, and the USGS.*

Co-Chairman USEPA Region 6 CAFO Working Group – *representing DPNM, Mr. Lazarus has acted as co-chairman of multidisciplinary EPA Region 6 CAFO working group (NM, Texas, Oklahoma, Arkansas, and Louisiana) since 1998 to write national and*

regional CAFO rules and regulations and to develop criteria for reproducible technical data for development of discharge permit regulations for concentrated animal feeding operations.

Water Quality Act Committee – represent New Mexico agriculture industry on committee recommending changes to New Mexico Water Quality Control Commission regulations.

Co-Chairman Abeyta Technical Committee; represent Town of Taos in technical committees and settlement negotiations for settlement of 30 year long water rights adjudication; managed \$2M drilling budget for settlement.

City of Gallup Water Rights Application G22 – primary technical representative of Zuni Pueblo and US Department of Interior to technical committee developing groundwater model for 7000 ac-ft/yr new appropriation of groundwater.

Gallinas Stream System Technical Committee – represent City of Las Vegas in technical committee composed of City, New Mexico Office of the State Engineer, Storrie Project and Gallinas River acequias for settlement of Rio Gallinas adjudication.

Environmental Initiatives Committee, National Milk Producers Federation (NMPF) – DPNM representative to NMPF on national discharge and environmental regulations.

Member, City of Santa Fe Water Conservation Committee; recommendations on municipal water conservation options, evaluate and make recommendations on budgetary options for expenditures of \$500,000.00 per year for water conservation programs.

Direct Testimony

The petition for declaratory order discussed here today seeks an interpretation of the definition of “sewage.” NDEP and previous speakers have discussed the definition of sewage in NAC 445A.107. The Oxford American Dictionary definition of sewage is “liquid waste matter drained from houses, towns, factories, etc., for disposal”. Wikipedia defines sewage as “water-carried wastes, in either solution or suspension, that flow away from a community. Also known as wastewater flows, sewage is the used water supply of the community.”

The 2008 Revision to the 2003 CAFO rule defines manure “to include manure, bedding, compost and raw materials or other materials commingled with manure or set aside for disposal.” NDEP Discharge Permits for CAFOs define manure as “animal excrement and is defined to include bedding, compost and raw materials or other materials commingled with animal excrement or set aside for disposal.” The NDEP definition of manure is consistent with the Federal EPA definition.

We propose a common-sense approach to this issue. Manure and green water are not wastes – they are essential resources with monetary value. Dairies do not “dispose of

green water or manure solids” – we recycle these nutrients and soil amendments. Adding manure solids to soils increases the water holding capacity of the soil by up to 20%, which reduces the water demand on our aquifers.

Green water and manure solids are natural fertilizers. At the last SEC regulatory hearing, representatives of ACE stated that dairy waste should be subject to the same treatment requirements as municipal sewage. If dairies are required to build sewage treatment plants to remove all nutrients from the green water and manure solids, they will have to incur millions of dollars in construction, operation, and maintenance costs and will lose the benefit of using the valuable nutrients. Further, requiring a dairy to remove all nutrients from its wastewater and manure solids will negatively affect the environment because the dairy will then be irrigating with water depleted of nutrients and be forced to buy commercial fertilizers. So, not only has the dairy operator incurred the expense of building and operating a wastewater treatment plant, it will then have to spend money on chemical fertilizer that it doesn't have to spend now. If green water is treated to drinking water standards, and the dairy only fertilizes with chemical fertilizers, an argument can be made that the dairy should be treated like irrigated agriculture.

Traditional irrigated agriculture uses unregulated chemical fertilizers. These chemical fertilizers are substantially more soluble than liquid and solid manure. Over-application of unregulated chemical fertilizers can result in nitrogen species leaching downward through soil below the root zone, resulting in potential unregulated impacts to ground water and greater potential environmental impacts.

The NDEP CAFO program satisfies the requirements of the Federal NPDES/CAFO rule and regulations and as presented by NDEP earlier, the present permitting system works and is protective of ground water. We support NDEP's position on this issue and we respectfully request that the SEC deny ACE's petition.

Respectfully Submitted:

Jay Lazarus
Pres./Sr. Geohydrologist
Glorieta Geoscience, Inc.