IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Case No. 05-cv-329-GKF(PJC)
	)	
TYSON FOODS, INC., et al.,	)	
	)	
Defendants.	)	

DECLARATION OF J. BERTON FISHER, Ph.D.

I, J. Berton Fisher, Ph.D., hereby declare as follows:

A. BACKGROUND

1.

I am a geochemist and geologist with expertise in the transport and fate of materials in the environment. I hold a Ph.D. and M.S. in Earth Sciences from Case Western Reserve University and a B.S. in Geology and Geophysics from Yale University. I am a Certified Professional Geologist, a Registered Professional Geoscientist in the State of Texas and a Registered Professional Geologist in the State of Mississippi. I have published scientific papers regarding technical environmental matters in peer-reviewed publications, and I have given numerous technical presentations regarding environmental matters at scientific meetings. I have worked on the engineering and scientific aspects of numerous environmental litigation, regulatory and transaction matters, including, specifically, environmental matters related to the land disposal of poultry wastes. I have worked professionally as a geochemist and geologist since 1973 and have worked on matters related to agricultural, industrial, petroleum and mining environmental contamination for nearly twenty-five years. My work experience includes consulting, industrial and academic positions. My experience in technical environmental matters includes site investigations, review of site investigation data, analysis of the chemical and physical characteristics of environmental samples, historic research on industrial and agricultural activities and processes, petroleum exploration and production, mining, the environmental chemistry of organic and inorganic contaminants and studies of the fate and transport of organic and inorganic contaminants in soils, sediments and water, including the collection of undisturbed cores of unconsolidated lake sediment and the geochronological analysis of undisturbed cores of unconsolidated lake sediments using natural and anthropogenic radioactive nuclides and paleontological markers.

2.

Exhibit 56

Since 1997 I have worked on matters related to the environmental contamination by poultry wastes including the chemistry, generation and land disposal of poultry wastes, the identification of poultry waste constituents in the environment, their fate and transport in the environment, the effects of poultry waste contaminants on water quality, and the management of poultry waste land disposal in eastern Oklahoma and western Arkansas. I have served as a consultant to the Tulsa Metropolitan Utility Authority and the City of Tulsa with respect to poultry waste issues from 1997 to the present.

3.

I was retained by the Oklahoma Attorney General, beginning in 2004, to evaluate, provide analysis regarding and to advise on matters pertaining to poultry waste generation, poultry waste disposal practices and the fate and transport of land applied poultry waste.

B. EXPERT REPORT

4.

On May 15, 2008, I submitted an Expert Report to the Defendants in the above-captioned litigation (attached hereto as Ex. 1). This Expert Report contains statements, findings, analyses and opinions with respect to poultry waste generation, poultry waste disposal practices and the fate and transport of land applied poultry waste in the Illinois River Watershed ("IRW").

5.

In my Expert Report, I find that "[a]t present, nearly all...poultry waste is land disposed near where the waste is generated." (Expert Report, Ex. 1 at 4). This is a true and correct finding. I based this finding in large part on official records produced by the Oklahoma Department of Agriculture, Food and Forestry that identify locations where poultry waste has been land applied in relation to locations where that poultry waste was generated, deposition testimony of fact witnesses and experts and documents produced by the Defendants which show locations where poultry waste has been land applied in the IRW. *Id.* at f.n. 4.

6.

> "The terrain of the bulk of the Illinois River Watershed is mantled karst. ...In mantled karst terrains the dissolution of carbonate units beneath a covering of soil and regolith creates expanded infiltration pathways including, sinkholes, solution expanded fractures, faults and caves. The fracturing and faulting within the Illinois River Watershed, combined with karstification (which enlarges subsurface faults and fractures) produces areas of high permeability, and results in a circumstance in which shallow ground water aquifers are particularly susceptible

to impact by surface contamination, including contamination by bacteria, that can readily travel from the soil surface to surface water and ground water during rainfall events.... Within such a karst terrain, there is little attenuation (reduction) of contaminants as they move from the land surface into and through the karst aquifer. Thus, land application of poultry waste to the karst terrain of the Illinois River Watershed means that constituents of this waste (including bacteria) travel readily through the soils and underlying geologic media to discharge at and into ground water springs and surface streams throughout the Illinois River Watershed. Further, because of the ready flow of water through a karst terrain of the type present in the Illinois River Watershed, there is strong interaction between surface water flow and ground water flow so that surface waters readily become ground water and ground water readily becomes surface water. The phenomenon is readily shown by the numerous springs and gaining and losing streams found within the Illinois River Watershed.

Soils within the Illinois River Watershed are formed mostly from the weathering of carbonate rocks, and are of low natural fertility....The soils are typically loams and are often rocky due to the presence of chert fragments. Loam soils are mixtures of sand, silt, clay and organic matter. Depending on the relative proportion of sand, silt and clay, these soils will be susceptible to infiltration or surface runoff....[S]oils more susceptible to run off dominate in the eastern and western portions of the Illinois River Watershed, while soils that are more susceptible to infiltration dominate in the central portion of the Illinois River watershed...Thus, contaminants deposited on the surface within the Illinois River Watershed are prone to runoff from soils in about half of the watershed and are prone to infiltration through soils in the remaining half of the watershed."

(Expert Report, Ex. 1 at 44-6).

I declare under penalty of perjury, under the laws of the United States of America, that the foregoing is true and correct.

Executed on the 5TH day of March, 2009.

J. Berton Fisher, Ph.D.