

Project 10 (formerly Project 22) Revised 1-24-08

Agency: Oklahoma Department of Agriculture, Food and Forestry

Title: Licensed Managed Feeding Operations Monitoring Well Sampling

Objective:

The Oklahoma Concentrated Animal Feeding Operations Act (2 O.S. § 9-205.4(F)(3)) and its implementing regulations (OAC 35:17-3-11(e)(6) (H)) both require that the Oklahoma Department of Agriculture, Food, and Forestry (ODAFF) annually sample monitoring wells at swine Licensed Managed Feeding Operations (LMFOs). This project will allow for the collection of groundwater samples at monitoring wells of LMFOs and a review of the analyzed data for indication of possible pollution. Determining the sources of pollutants in groundwater will aid ODAFF in assessing whether LMFOs negatively affect nearby groundwater quality and what actions are necessary to address such pollution.

Environmental Results:

- Of the 395 wells to be sampled the overall trend in nitrate levels will be static or continue to decrease

Methodology for LMFO Groundwater Monitoring:

- A. Groundwater samples will be analyzed for fecal coliform bacteria, nitrate and ammonia nitrogen, total phosphorous, specific conductance and pH.
- B. Re-sampling will occur from those monitoring wells that, based on the initial 2006 and 2007 sampling events, have lab results indicating potential contamination of the groundwater.
- C. Microbial strain tracing, nitrogen isotope ratios and/or other similar technologies will be used to determine the source of the contamination on the water samples from the re-sampled wells.
- D. Global positioning system (GPS) data will be collected at well sites as needed.
- E. Quality assurance and quality control protocols will be developed and approved prior to the initiation of data collection and/or utilization of previously collected data.
- F. The final report will, in part, include the following: (1) a comprehensive summary of all laboratory data; (2) an analysis of the sampling protocols; (3) Geographical Information System map(s) and locational data files of the monitoring wells; (4) an accounting of the total expenditures under this Agreement, including the category of the expense; and (5) a general overview with suggestions for possible additional remediation, corrective actions, or future steps to be taken by ODAFF.

Outputs:

Recertification of QAPP for Monitoring and GPS Data 2008/2009	October 1, 2007
Semiannual Progress Report	Ongoing
Final Report 2007	October 31, 2007
Final Report 2008	August 31, 2008
Final Report 2009	August 31, 2009

Project Duration:

July 1, 2007 – August 31, 2009

Budget Period:

July 1, 2007 - June 30, 2009

Resource Allocation:

Federal: **\$410,656**
State: **\$ 28,962**
Total: **\$439,618**

FY 08 Carryover		FY 08 Groundwater (Base)	
Federal	\$10,656	Federal	\$125,000
State	<u>\$ 1,184</u>	State	<u>\$ 13,889</u>
<i>Total Cost</i>	<i>\$11,840</i>	<i>Total Cost</i>	<i>\$138,889</i>
FY 09 Groundwater (Base)		FY 07 Monitoring Funds*	
Federal	\$125,000	Federal	\$75,000
State	<u>\$ 13,889</u>	FY 08 Monitoring Funds*	
<i>Total Cost</i>	<i>\$138,889</i>	Federal	\$75,000

* The addition of \$75,000 in both FY 07 and F6 08 fully fund this project. Costs have increased significantly over the past three years.