

Feb 2001 Issue 23

**CATTLE-DIPPING
VATS**

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There are hundreds of environmental issues that may adversely impact the market value of a commercial property and/or create environmental liability. In simplest terms, the ASTM Phase I Environmental Site Assessment Standard (ESA) defines the issues as impacts from "hazardous substances or petroleum products." There are as many hazardous substances and petroleum products as there are activities that make use of them. Probably the most common of such activities that will be at issue with the typical commercial property is the dry cleaner and the gas station. Several others, such as landfills, pose concerns that require little explanation. But there are a few oddballs out there that are not so obvious. Here's one that even a number of state regulatory agencies aren't familiar with - cattle-dipping vats.

Tick fever (or babesiosis) in cattle was once an epidemic that threatened to shut down the cattle industry in the South. The disease was transmitted to cattle by the southern cattle tick, *Boophilus microplus*. In 1906, the United States Dairy Association (USDA) imposed quarantine on cattle and other livestock covering 985 counties within 15 states. In response, federal, state, and local governments developed programs to eradicate the tick menace and thereby remove the quarantine. In Florida, dipping cows in pesticides was seen as a solution (pun intended) to the problem. In short order, laws were put into effect that imposed criminal penalties on cattlemen who did not participate. Florida enacted their laws in 1932. Apparently, the solution worked. By 1943, the problem was largely controlled and was declared eradicated in Florida in 1961.

So what is cattle dipping? Knowing how hard it is to dip my 65-pound Labrador, the cattlemen made it easier on themselves with 500-pound bovines by constructing vats in the ground. The vats were often concrete-lined, about 3 to 4 feet wide, 5 feet deep, and 25 feet long. The entry had a sharp drop so that the cow would get a good dunking when it first stepped in, and the exit was ramped so that the cattle could simply walk out. In the early days, the vats were filled with arsenic solutions and later with synthetic pesticides such as DDT and toxaphene.

Recognizing the potential environmental hazard, the Florida Department of Environmental Protection (FDEP) has identified over 3,200 dipping vats in their state. Many were registered with the State Livestock Board to show compliance with the local dipping laws, but many vats remain unaccounted for. With the extensive urban development in Florida over the last 30 years or so, some long unused vats are now located in areas that could pose a threat to human health. The dipping program saved Florida's cattle industry, but may have impacted the soil and groundwater. The EPA and Florida are currently formulating plans on how to clean up the abandoned dipping vats. Additional good news is that the Florida Legislature acknowledges that the dipping vats were used as a requirement of state law; therefore, the Legislature has released landowners from the environmental liability associated with owning a vat. It is understandable that Florida is taking a pro-active approach. Floridians are extremely dependent upon groundwater as their drinking water source.

Is this problem isolated to Florida? The original term for tick fever, "Texas Fever," was the area where the Great American Cattle Industry originated. As cattle was moved from Texas into other parts of the country, the ticks/disease was carried with them. Livestock dipping has been a long accepted practice for parasite control in the United States. Most current parasite control methods are more respectful of the environment. Texas currently has regulations in effect for dipping cattle, sheep and goats infected with scabies (mites). The prescribed treatment is a solution of lime and sulphur (no big deal). Treatment with crude oil (could qualify as "petroleum product") is also acceptable for cattle. Non-systemic

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VATS IN FLORIDA**

If you are interested in more information on cattle dipping vats and other issues involving the use of herbicides and pesticides, contact your state department of agriculture. In Florida, if you have a vat on your property, call the FDEP district office or the FDEP Bureau of Waste Cleanup in Tallahassee at (850) 488-3935, e-mail: zoe.kulakowski@dep.state.fl.us, or write to FDEP, Cattle Dipping Vats, MS 4535, 2600 Blair Stone Road, Tallahassee, FL, 32399-2400.

If you wish to search your county for known cattle dipping vats, search at www.dep.state.fl.us/water/Slerp/nonpoint_storm_water/agsrc/cdv/cdv.htm#counties.

This website lists the vats by original owner, and by the date the vat was put into service or registered. Since the original owners are mostly long gone, additional research may be necessary to determine the actual location. The e-mail address to Zoe Kulakowski above is referenced as a source of additional information.

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**CATTLE-
DIPPING VATS**
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pesticides are currently prescribed for lice control in Nebraska. Vaccines are now being used in Texas, in addition to dipping, to control a resurgence of Texas fever that may come with cattle crossing the border from Mexico. But all of these methods were not available to the cattle industry until recently. So, is it reasonable to assume that the methods used in Florida to control babesiosis from 1906 to 1961 were also used in other states during this period?

The National Cattlemen's Beef Association (NCBA) was the source that indicated 15 states were under the 1906 quarantine; however, this lobbying group was unable to tell me which states made up the 15. Knowing babesiosis is transmitted by the "southern" cattle tick and is also known as "Texas" fever, I figured southeastern states between and contiguous to Florida and Texas were probably among the 15. I searched websites for each state's environmental and agricultural agencies and sent queries to each agency by e-mail.

Other than references to sister agencies, I received knowledgeable responses from only two states: Oklahoma and Tennessee. The Oklahoma Department of Agriculture (ODA) knew that the old tick problem was mainly in the southeast portion of the state where it is mostly wooded. This area is almost as rural today as it was then, so contamination problems from dipping vats have rarely been encountered on lands being converted from agricultural to commercial or residential use (like in Florida). In the past, Oklahoma did observe mixing and periodically tested the vats to see if recharging was needed. Prior to July 1, 2000, the Oklahoma Department of Environmental Quality (DEQ) would assist landowners in cleanup. The responder at ODA indicated "assist" meant "technical advice." Future cases will fall under ODA jurisdiction; however, the financial burden for cleanup will be on the landowner. Oklahoma does not have a current list showing where locations were formerly present. Remediation will take place, if and when these issues occur.

The Tennessee Department of Agriculture (listed as the state's lead agency on pesticide issues) and the state Veterinarian indicated they were not aware of any cattle dipping vats in their state and couldn't find reference to any state law that would apply to vats. I was particularly disappointed that I didn't receive a response from Arkansas. I know that Arkansas would have to have been one of the 15 quarantine states because I have never been able to step out of my car in that state for more than a few minutes, without being covered with ticks.

The National Cattlemen's Beef Association, has taken the position that "the federal government releases present and past landowners and operators from liability and cost of clean up or damages from these dipping vat sites," since the tick eradication program was enforced by a federal-state-local cooperative. If true, the private property owner who finds an old cattle dipping vat on his property, may have a defensible argument (i.e. in court). But, I bet that the majority of the states will take a position similar to Oklahoma's:

- Handle as they are discovered.
- Provide technical advice.
- Expect property owner to pay for clean up.
- Designate Department of Agriculture as lead agency.

During a Phase I ESA of an agricultural property, historical aerial photographs should be consulted to identify former structures, such as pits, ponds, and gullies on or near the property. The termination points and intersections of dirt roads and cattle paths crossing the property may also be locations to scrutinize. Interviews with current and past property owners about their practices are invaluable to the evaluation. Identification of known or suspect features may require Phase II subsurface testing to determine if environmental impact has occurred to the property. As with the cattle dipping vats, many of the state regulatory agencies have yet to raise much concern with environmental impacts caused by agricultural activities in general, but that may just be a matter of time. *Greg Stover, P.G. - cre@ppmco.com*



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2630 Queenstown Road
Birmingham, AL 35210

Editor: Kara Reed
Phone: (205) 836-5650
Fax: (205) 836-5805
E-mail: cre@ppmco.com
or karar@ppmco.com

Contributing Authors:
Terry Osborne,
PPM – Mobile
Nonie Taylor,
PPM – Jackson