QUARTERLY PROGRESS REPORT
January 1 to March 31, 2003

PROJECT TITLE: Environmental Impacts of CCA-Treated Wood
PRINCIPAL INVESTIGATOR: Dr. Helena Solo-Gabriele, Ph.D., P.E.
AFFILIATION: University of Miami, Dept. of Civil, Arch., and Environ. Engrg.
ASSOCIATE INVESTIGATOR: Dr. Timothy Townsend, Ph.D.
AFFILIATION: University of Florida, Dept. of Environ. Engrg. Sci., Solid & Haz. Wst. Prog.
COMPLETION DATE: May 31, 2003

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"YEAR 5" Research
Title: Evaluating the Toxicity of Treated Wood During Disposal
(January 1, 2000 to December 31, 2002)

Project Administration

1. The final report for this project has been posted on the web. The title of the report is, "Quantities of Arsenic Within the State of Florida." The comment period for this report was extended through March 20th at the request of several individuals from the MSMA task force and Florida Department of Agriculture and Consumer Services. Comments have been compiled and will be addressed shortly.

Research Activities

1. Efforts have been re-initiated to obtain groundwater samples from C&D landfills. The results from this task will be reported as part of the "year 6" (9/1/01 – 11/30/02) project. These groundwater samples have been analyzed for arsenic species. Landfills identified for sampling are those where an arsenic concentration greater than 10 ug/L was measured sometime during the June 1998 to December 2000 time period. There have been 26 landfills that have been identified for sampling. Of these 26, 3 are currently undergoing enforcement action with the FDEP and another is under Consent Agreement with Dade County DERM. These 4 (3+1) C&D landfills will not be sampled. The goal is to sample at 22 landfills. To date, groundwater from 21 C&D landfills have been sampled and analyzed. The owner of the last remaining landfill is adamant concerning not participating in the study. This situation was discussed with the FDEP who suggested that the research team wait until the next sampling round to collect samples. This particular landfill owner is currently having compliance problems.

"YEAR 6" Research
Title: Environmental Impacts of CCA-Treated Wood
(September 1, 2001 to May 31, 2003)

Research Activities

1. Leaching experiments (TCLP and SPLP) have been completed on CCA-treated wood ash samples. These leachates have been analyzed for arsenic and chromium species. The arsenic and chromium speciation data have been summarized in an internal report.
2. Several additional lysimeter samples were obtained and analyzed for arsenic species.

Information Dissemination

1. The research team submitted 5 abstracts for consideration within the upcoming FICESS conference titled, "Environmental Impacts of Preservative-Treated Wood." The first authors on these five abstracts were Georgiadis, Jambeck, Khan, Solo-Gabriele, and Townsend.
2. The manuscript titled, "Impact of chromated copper arsenate (CCA) in wood mulch" was accepted by a journal and is in press for publication. Dr. Timothy Townsend is the first author on this manuscript. Solo-Gabriele, Tolaymant and Stook are co-authors.
3. The FCSHWM final report titled, "Leaching and Toxicity of CCA-Treated and Alternative Treated Wood Products, Final Technical Report #02-4" has been finalized by the research team and has been posted on the web.
4. An abstract and a full paper have been prepared for presentation at the upcoming IRG (International Research Group) conference to be held in Brisbane, Australia. The title of the paper is "Environmental Impacts of CCA-Treated Wood: A Summary from Seven Years of Study Focusing on the U.S. Florida Environment." Helena Solo-Gabriele is the first author on the paper. Tim Townsend and John Schert are co-authors.
5. Jenna Jambeck won the Ron Cockcroft Award from the International Research Group on Wood Preservation. This award provides travel funds for individuals attending the IRG conference in Brisbane, Australia. Jenna Jambeck's paper that won this award is titled, "The Disposal of CCA-Treated Wood in Simulated Landfills: Potential Impacts." Tim Townsend and Helena Solo-Gabriele are listed as co-authors on this paper.
6. Tomoyuki Shibata won an award from the Institute of Hazardous Materials Management (IHMM), Rockville, Maryland, for his proposed research focusing on in-service issues of CCA-treated wood. This award includes a $10,000 scholarship and travel funds to present the results of the study at the national IHMM conference.
7. Tomoyuki Shibata was invited to share his research on CCA-treated wood in Japan. His expenses were paid through Dr. Shuzo Tokunaga of the Green Technology Laboratory, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan. During his trip he also met with Dr. Chiho Watanabe, Ph.D. of the Department of Human Ecology, School of International Health, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan. Dr. Watanabe focuses on arsenic research within Bangladesh.
8. The team was invited to submit an abstract of their work for inclusion within the national RCRA conference to be held in Washington D.C. in August 2003. The title of the abstract submitted was, "Disposal Strategies for CCA-Treated Wood".
9. Tim Townsend prepared a paper titled, "Potential Concerns and Impacts of CCA-Treated Wood for the Waste-to-Energy Industry." This paper is scheduled for presentation on April 29th in Tampa Florida at the North America Waste to Energy Conference (NAWTEC 11).
10. On January 28, 2003, Helena Solo-Gabriele presented a seminar titled, "Public Health Issues Associated with CCA-Treated Wood," before the University of Miami Medical School. The seminar was part of a weekly lecture series hosted Dr. Lora Fleming of the Department of Epidemiology and Public Health.
11. The web site, www.ccaresearch.org continues to be updated.

"YEAR 7" Research
Title: Extent of CCA-Treated Wood Used for Commercial Mulch
(July 1, 2002 to October 31, 2003)

Research Activities

1. Sample collection for this project has been completed. Over 35 samples have been collected.
2. Samples are currently being ashed at the University of Miami within a small muffle furnace. So far 20 samples have been ashed. Arrangements have been made to install the electrical hook-up needed for a new muffle furnace.

Project Administration

1. An additional $10,000 were added to the project for the purchase of an new muffle furnace. These additional funds have since been added to the project.

RCRA Sponsored Project
Titled: Management and Disposal Options for CCA-Treated Wood Waste
(Contract Not Yet Executed)

Project Administration

1. This project was executed this past reporting period.
2. A subcontract for Dr. Townsend's portion of the project has been prepared. This subcontract is currently being circulated for signatures.

COURTESY REPORT
For Complimentary Studies

Project Administration

1. Dr. Solo-Gabriele continues to work on the project funded by Florida International University (FIU) and the National Institutes of Environmental Health Sciences (NIEHS). The title of the project is, "Impacts of arsenic from CCA-treated wood within marine and terrestrial environments." The "sand boxes" have been completed and rainfall, runoff, and infiltration samples are currently being collected and analyzed from the CCA-treated deck and the untreated control.
2. Dr. Solo-Gabriele is currently collaborating with Dr. Stuart Shalat of Rutgers University and Dr. Lora Fleming of the University of Miami Medical School on an epidemiologic study evaluating the impacts of CCA-treated playgrounds on children. Progress on this project has been slowed due to the fact that Miami-Dade County will not provide permission to conduct the study at one of their playgrounds. The new plan is to conduct the study in private back-yard playgrounds.
3. Drs. Solo-Gabriele and Townsend have been assisting with the planning of a conference titled, "Environmental Impacts of Preservative-Treated Wood." This conference is scheduled for February 8-10, 2004. The conference will be sponsored by the Florida Interdisciplinary Center for Environmentally Sound Solutions (FICESS). To date 30 abstracts have been received. These abstracts have been distributed to the Technical Committee.