

Land APMs 2007

PM F	APM	APM Title	uar	Status	Organizati	Contact	Division	Multi Year Plan Title	APG	APG	APG Title	Long Term Goal Title	Major Product
2007	136	Report of pilot evaluations of electrochemical treatment in a metal/organic environment	4	Met	NRMRL	Annette Gatchett	NRMRL-LRPCD -Cinc	Contaminated Sites	84	2009	By 2009, provide performance data on conventional, alternative, and hybrid risk management options	Contaminated Sediments	Journal article completed. Enhanced Corrosion-Based Pd/Mg Bimetallic Systems for Dechlorination of PCBs. 2007. Environmental Scientist and Technology. 41:3722-3727
2007	137	Report on medium-term performance of emplaced caps relative to predictions	4	Met	NRMRL	Annette Gatchett	NRMRL-LRPCD -Cinc	Contaminated Sites	84	2009	By 2009, provide performance data on conventional, alternative, and hybrid risk management options	Contaminated Sediments	2006 SERDP annual report completed. Characterization of Contaminant Transport Potential Through in-Place Sediment Caps (ER-1370). April 2007.
2007	141	Effects of thermal treatment on the chemical reactivity of Trichloroethylene	4	Met	NRMRL	Steve Schmelling	NRMRL-GWE RD-Ada	Contaminated Sites	35	2010	By FY10 produce a synthesis report on innovative in situ remedies for DNAPL sites	Ground Water	Report EPA/600/R-07/091 completed.
2007	145	Issue paper on metal attenuation processes at mining megasites	4	Met	NRMRL	Steve Schmelling	NRMRL-GWE RD-Ada	Contaminated Sites	99	2009	By FY09 provide tools for cost-effective long-term performance assessment of MNA for inorganics at waste sites	Ground Water	Report EPA/600/R-07/092 completed.
2007	146	Report on treatment of TBA, TAME, DIPE, and ETBE	4	Met	NRMRL	Annette Gatchett	NRMRL-LRPCD -Cinc	Contaminated Sites	103	2009	Capstone report on in situ and ex situ treatment approaches for fuel oxygenates	Ground Water	Report completed. Zein, M.M., M.T. Suidan, and A.D. Venosa. 2006. Bioremediation of Groundwater Contaminated with Gasoline Hydrocarbons and Oxygenates Using a Membrane-Based Bioreactor. Env. Sci. and Technology. 40(6): 1997-2003
2007	153	Report on the effectiveness of dispersant formulations in treating oil spills in freshwater environments	4	Met	NRMRL	Annette Gatchett	NRMRL-LRPCD -Cinc	Contaminated Sites	270	2008	Development of risk management strategies for oil spills in all environments	Multimedia	Report completed. Boufadel, M.C., H. Li, M.T. Suidan, and A.D. Venosa. 2007. Tracer Studies in a laboratory beach subjected to waves. J. Env. Eng. ASCE. 133(7): 722-732.
2007	156	Conduct a national risk assessment of current waste loading rates and projected reduction in use of select WMPCs	4	Met	NERL	Justin Babendreier	NERL-ERD-Athens	Hazardous Waste	150	2007	Develop and apply an approach to assessing environmental improvement from reductions in use of waste minimization priority chemicals (WMPCs) by providing one report	MM decision-making	Priority chemical reduction, vis-à-vis reducing toxic chemicals in waste, is one of four major elements of the Office of Solid Wastes Resource Conservation Challenge (RCC). The RCC represents a primary focus of OSW in this decade to continue to strengthen the Resource Conservation and Recovery Act (RCRA) program, and to achieve its underlying regulatory objectives. OSW has identified a core group of 31 priority chemicals as being of particular concern. The RCC set a goal to reduce by 50 percent the presence of these waste minimization priority chemicals (WMPC) in hazardous waste by 2005. Using a 1991 baseline, this goal was met in 2001 when EPA achieved a 53 percent reduction. For 2008, the RCC is not only developing a new goal of an additional 10 reduction that will seek to further reduce priority chemicals in hazardous waste, but is also expanding the goal to include all solid waste and releases to the environment. A study was initiated by the EPA/ORD National Exposure Research Lab (NERL) in FY05 to quantify risk reduction resulting from this national EPA initiative to reduce WMPC disposal. Using the 3MRA modeling

																		system, NERL will develop a performance measure of this RCC Initiative by comparatively assessing reduction in risks to ecological and human populations resulting from achievement of current and future waste reduction goals, for 1 to 9 of 31 WMPCs (e.g., Pb, Hg, TCDD). The study will address waste stream flows into five waste management types associated with industrial Subtitle D facilities. This national-scale risk assessment will quantify uncertainty and variability in a wide range of factors that describe waste management environments at industrial facilities across the country. The APM product will be a report to OSW detailing the findings of this study. Data will be presented in written and graphical form and will allow OSW to use the information in a retrospective and predictive sense regarding WMPC reduction goals. Technical Report
2007	315	Version 2 of Tools for Analysis of Contaminated Sites (TACS), revised with Version 1 user input.	4	Met	NERL	Jim Weaver	NERL-ERD-Athens	Contaminated Sites	141	2007	By FY07 complete a synthesis document of use of TACS for modeling fate and transport of fuel components	Ground Water	Assessment of contaminated sites can be enhanced by use of quantitative assessment tools during site characterization and evaluation. These tools range from simple parameter calculators (see <a href="http://www.epa.gov/athens/onsite">http://www.epa.gov/athens/onsite</a> ) to complex numerical models. Their proper application relies on the appropriate amount of site data and model calibration. Since the completion in 2004 of Version 1 of the Tools for Analysis of Contaminated Sites (APM 233), work has progressed in specific areas. First, the original tools have been maintained and updated. The major additions have come from work on vapor intrusion, chemical property estimation, and plume diving. Second, a set of enhancements has been made to the Hydrocarbon Spill Screening model. Because of its complexity this model is not a part of the web tools, but will be separately available. Third, because of the need to better express the requirements for modeling a model application guide has been developed.  WEAVER, J. W. AND C. P. SOSIK. Concepts for Modeling Petroleum Release and Brownfield Sites. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-07/101.  GOROKHOVSKI, V. M. AND J. W. WEAVER. A Catalog of Ground Water Flow Solutions for Plume Diving Calculations. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-07/122.					

2007	317	Provide report assessing significance of changes in bioavailability of organic and metal contaminants in Superfund site sediments following resuspension into the water column and resettlement to sediment bed	4	Met	NHEERL	Burgess, R.	NHEERL-AED-Narrag	Contaminated Sites	161	2009	By 2008 provide monitoring, measurement and benthic screening methods and tools to characterize, assess, and communicate current conditions and the long-term performance of remedial options associated with cleanup of contaminated sediments	Contaminated Sediments	A scientific report will be generated describing the findings of a study to determine if resuspension causes significant changes in the bioavailability (measured as bioaccumulation) of organic contaminants from a Superfund site sediment.
2007	355	Impact of metals speciation on ecological receptors	4	Met	NRMRL	Annette Gatchett	NRMRL-LRPCD-Cinc	Contaminated Sites	161	2009	By 2008 provide monitoring, measurement and benthic screening methods and tools to characterize, assess, and communicate current conditions and the long-term performance of remedial options associated with cleanup of contaminated sediments	Contaminated Sediments	Journal Article completed. Speciation and Bioavailability of Zinc in Amended Sediments. A.G.B. Williams, K.G. Scheckel, G. McDermott, D. Gratson, D. Neptune and J.A. Ryan. 2007 Environ. Sci. Technol.
2007	373	Incorporate the Hydrocarbon Spill Screening Model into the multimedia framework to allow simulation of light-nonaqueous phase liquid problems.	4	Met	NERL	Gerry Laniak	NERL-ERD-Athens	Hazardous Waste	119	2009	Extend multimedia modeling capabilities to facilitate a broader range of exposure and risk assessment problems and new applications (e.g., RCRA CA) and incorporate advanced methods for uncertainty and sensitivity analyses by providing four enhancements to the multimedia modeling system.	MM decision-making	The product of this effort will be an existing computer model (HSSM) modified for placement within the FRAMES modeling infrastructure. The input/output operations of the HSSM (The Hydrocarbon Spill Screening Model) is being modified so that the model will function, along with other environmental models and databases, within the integrated framework of FRAMES.  Technical memo delivering software model to client sent 9/27/07.
2007	391	Report on the use of immunoaffinity chromatography to streamline sample preparations for analysis of common environmental contaminants.	4	Met	NERL	Jeanette VanEmon	NERL-HEASD-RTP	Contaminated Sites	39	2010	By 2010, to advance the state of organic analyses and obtain lower detection limits, better identification and quantification in both the field and laboratory, 4 analytical techniques, methods, and instruments will be developed and evaluated.	Soil/Land	The Major Product will include journal articles for peer-reviewed analytical journals. One article entitled "Enzyme-Linked Immunosorbent assay (ELISA) and Sol-Gel-based Immunoaffinity Purification (IAP) of the Pyrethroid Bioallethrin in Food and Environmental Samples" (J. Agric. Food Chem. 2006, 54, 6482-6492) has already been published. Similar articles will be developed for publication. In addition standard operating procedures (SOPs) for each method that is developed will be written. The individual products will be linked together by a summary report which will include results from a literature search on the use of immunoaffinity chromatography sample preparations. Internal report, "Report on the use of immunoaffinity chromatography to streamline sample preparations for analysis of common environmental contaminants"