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General

2001-2002 Wet Season Branchiopod Survey Report, Lawrence Livermore National Laboratory, Site 300, Alameda and San Joaquin Counties, California

W. Weber, and J. Woollett.

Lawrence Livermore National Lab., CA. 24 Jan 2005, 34p, UCRL-SR-209162. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15011425WEP Price code: PC A04/MF A01

Condor County Consulting on behalf of Lawrence Livermore National Laboratory (LLNL) has performed wet season surveys for listed branchiopods at Site 300, located in eastern Alameda County and western San Joaquin County. LLNL is collecting information for the preparation of an EIS covering ongoing explosives testing and related activities on Site 300. Related activities include maintenance of fire roads and annual control burns of approximately 607 hectares (1500 acres). Control burns typically take place on the northern portion of the site. Because natural branchiopod habitat is sparse on Site 300, it is not surprising that listed branchiopods were not observed during this 2001-2002 wet season survey. Although the site is large, a majority of it has topography and geology that precludes the formation of static seasonal pools. Even the relatively gentle topography of the northern half of the site contains few areas where water pools for more than two weeks. The rock outcrops found on the site did not provide suitable habitat for listed branchiopods. Most of the habitat available to branchiopods on the site is puddles that form in roadbeds and dry quickly. The one persistent pool on the site, the larger of the two

modified vernal pools and the only one to fill this season, is occupied by two branchiopod species that require long-lived pools to reach maturity.

Abstracts of Remediation Case Studies, Volume 9

Federal Remediation Technologies Roundtable. Jul 2005, 92p, EPA/542/R-05/021. See also Volume 8, PB2004-106932. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110445WEP Price code: PC A06/MF A01

This report is a collection of abstracts summarizing 13 new case studies of site remediation applications prepared primarily by federal agencies. The case studies, collected under the auspices of the Federal Remediation Technologies Roundtable (Roundtable), were undertaken to document the results and lessons learned from technology applications. They will help establish benchmark data on cost and performance which should lead to greater confidence in the selection and use of innovative cleanup technologies. The Roundtable was created to exchange information on site remediation technologies, and to consider cooperative efforts that could lead to a greater application of innovative technologies. Roundtable member agencies, including the U.S. Environmental Protection Agency (EPA), U.S. Department of Defense, and U.S. Department of Energy, expect to complete many site remediation projects in the near future. These agencies recognize the importance of documenting the results of these efforts, and the benefits to be realized from greater coordination. The abstracts are organized by technology, and cover a variety of in situ and ex situ treatment technologies and some containment remedies. The abstracts and corresponding case study reports are available through the Roundtable web site, which contains a total of 374 remediation technology case studies (the 13 new case studies and 361 previously-published case studies). Appendix A to this report identifies the specific sites, technologies, contaminants, media, and year published for the 374 case studies. Abstracts, Volume 9, covers a wide variety of technologies, including full-scale remediations and large-scale field demonstrations of soil, groundwater, and sediment treatment technologies.

Community-based Environmental Protection. OSWER Action Plan



Items cited as "Not Available NTIS" are listed as a service to the reader.

Prepared by the National Technical Information Service
U.S. Department of Commerce, Technology Administration, Springfield, VA 22161 (703) 605-6000

Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response. Jul 1995, 20p, EPA-530-R-95-037. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109850WEP Price code: PC A03/MF A01

Community-based Environmental Protection (CBEP) brings the government closer to the people it is meant to serve. Instead of addressing environmental problems piecemeal, statute by statute, and then applying a one-size-fits-all solution, CBEP addresses environmental problems in the context of the community in which they occur. The following report details how OSWER will be supporting regional, state, tribal, and local community-based efforts. After a brief summary of the attributes of CBEP and a discussion of OSWER's role, the action plan presents current, short-term, and longer-term OSWER activities to support Community-based Environmental Protection.

Comparison of Satellite Observations of Aerosol Optical Depth to Surface Monitor Fine Particle Concentration

M. M. Kleb, J. A. AlSaadi, D. O. Neil, M. M. Roell, C. Kittaka, J. J. Szykman, R. B. Pierce, and M. R. Pippin. NASA Langley Research Center. 7 Jul 2004, 278p, NASA/TM-2004-213248, L-19039. Publicly available Unlimited. CASI. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

N20040087193WEP Price code: PC A14/MF A03

Under NASA's Earth Science Applications Program, the Infusing satellite Data into Environmental Applications (IDEA) project examined the relationship between satellite observations and surface monitors of air pollutants to facilitate a more capable and integrated observing network. This report provides a comparison of satellite aerosol optical depth to surface monitor fine particle concentration observations for the month of September 2003 at more than 300 individual locations in the continental US. During September 2003, IDEA provided prototype, near real-time data-fusion products to the Environmental Protection Agency (EPA) directed toward improving the accuracy of EPA's next-day Air Quality Index (AQI) forecasts. Researchers from NASA Langley Research Center and EPA used data from the Moderate Resolution Imaging Spectroradiometer (MODIS) instrument combined with EPA ground network data to create a NASA-data-enhanced Forecast Tool. Air quality forecasters used this tool to prepare their forecasts of particle pollution, or particulate matter less than 2.5 microns in diameter (PM_{2.5}), for the next-day AQI. The archived data provide a rich resource for further studies and analysis. The IDEA project uses data sets and models developed for tropospheric chemistry research to assist federal, state, and local agencies in making decisions concerning air quality management to protect public health.

Coupled Vadose Zone and Atmospheric Surface-Layer Transport of CO₂ from Geologic Carbon Sequestration Sites

C. M. Oldenburg, and A. J. A. Unger.

Lawrence Berkeley National Lab., CA. 29 Mar 2004, 40p. Prepared in cooperation with Waterloo Univ. (Ontario). Dept. of Earth Sciences. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-835812WEP Price code: PC A04

Geologic carbon dioxide (CO₂) sequestration is being considered as a way to offset fossil-fuel-related carbon dioxide emissions to reduce the rate of increase of atmospheric carbon dioxide concentrations. The accumulation of vast quantities of injected carbon dioxide in geologic sequestration sites may entail health and environmental risks from potential leakage and seepage of carbon dioxide into the near-surface environment. We are developing and applying a coupled subsurface and atmospheric surface-layer modeling capability built within the framework of the integral finite difference reservoir simulator TOUGH2. The overall purpose of modeling studies is to predict carbon dioxide concentration distributions under a variety of seepage scenarios and geologic, hydrologic, and atmospheric conditions. These concentration distributions will provide the basis for determining above-ground and near-surface instrumentation needs for carbon sequestration monitoring and verification, as well as for assessing health, safety, and environmental risks.

Engineering Careers

Bureau of Reclamation, Denver, CO. 2005, 16p. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-108762WEP Price code: PC A03/MF A01

This publication discusses engineering careers within the Bureau of Reclamation to meet the needs of the agency in operating existing structures as well as the development of new programs for renewable resources and alternative energy.

Environmental Impacts of a Modal Shift

Minnesota Dept. of Transportation, St. Paul. Jan 1991, 24p. See also PB2005-110459. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110453WEP Price code: PC A03/MF A01

Concern for the environmental impacts of any activity on or in Minnesota's waterways has generated a great number of studies and will likely continue to cause study. Commercial navigation is often the focal point of these analyses. Navigation has, in the majority of the studies, been viewed as a major contributor to environmental degradation of the waterways as a precondition to the study. Historically, environmental assessments have confined their transportation related reviews to the possible impacts from operations of vessels and shore side support activities. The possible environmental impacts of not developing a waterways projects or not maintaining or improving an existing operation are never included in the environmental analysis. Continued concern about the impacts on commercial navigation from such

an approach caused the Minnesota Department of Transportation (Mn/DOT) to undertake this study. This analysis will examine the type and extent of environmental impacts which could result from a shift waterborne carriage of certain commodities to other modes of transportation.

Environmental Report 1999 Data Supplement

Lawrence Livermore National Lab., CA. 1 Sep 2000, 308p. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15013131WEP Price code: PC A15/MF A03

This Data Supplement to the Lawrence Livermore National Laboratory's (LLNL's) annual Environmental Report 1999 was prepared for the U.S. Department of Energy. The main volume is intended to provide all information on LLNL's environmental impact and compliance activities that is of interest to most readers. The Data Supplement supports main volume summary data and is essentially a detailed data report that provides individual data points, where applicable. Some summary data are also included in the Data Supplement, and more detailed accounts are given of sample collection and analytical methods. The two volumes are organized in a parallel fashion to aid the reader in crossreferencing between them. This supplement includes more detailed information to support the nine chapters in the main volume that cover monitoring of air, air effluent, sewerable water, surface water, ground water, soil and sediment, vegetation and foodstuff, environmental radiation, and quality assurance. The other five chapters in the main volume have no supporting information in the Data Supplement.

EPA Nanotechnology and the Environment: Applications and Implications STAR Progress Review Workshop. Proceedings. Held in Arlington, Virginia on August 28-29, 2002

National Center for Environmental Research, Washington, DC. Office of Research and Development. Feb 2003, 82p, EPA/600/R-02/080. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110124WEP Price code: PC A06/MF A01

The EPA Nanotechnology Grantees Workshop brought together researchers from academia, industry, and government to discuss ongoing research on nanotechnology and the environment. The 58 Workshop participants listened to presentations by EPA grantees; the Director of the Center for Biological and Environmental Nanotechnology at Rice University; the Chair of the Whitehouse Subcommittee on Nanoscale Science, Engineering and Technology; the Director of the Woodrow Wilson Foresight and Governance Project; and EPA scientists. Participants had an opportunity to interact with presenters during a poster session. In addition, the group enjoyed a dinner presentation by Dr. Debra Rolison of the Naval Research Laboratory. This report briefly summarizes the presentations.

EPA Region II Environmental Justice Action Plan for Fiscal Years 2004 and 2005

Environmental Protection Agency, New York. Region II. Mar 2004, 48p. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109872WEP Price code: PC A04/MF A01

EPA Region 2 is committed to providing equal protection to all communities within its jurisdiction. Accordingly, the Region continues to incorporate the principles and tenets of environmental justice (EJ) into its managerial and programmatic activities. The EPA Region 2 Interim EJ Policy serves as an instrument for managers and staff to identify, target, and be responsive to EJ concerns raised by segments of the population that may experience disproportionately high and adverse human health and environmental burdens. The document is comprised of a regional EJ policy statement along with the following set of guidelines: (1) Conducting EJ Analyses; (2) EJ and Permitting; EJ and Enforcement; (3) EJ and Community Involvement; and (4) EJ and the EPA Superfund Program. By implementing the Interim EJ Policy document, the Region positions itself towards ensuring its communities and stakeholders will receive equal protection and move towards liveable, sustainable communities.

EPA Region II, 2004 Progress Report

Environmental Protection Agency, New York. Region II. 2005, 32p. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109871WEP Price code: PC A04/MF A01

This is the EPA Region 2 Progress Report. This report describes the national goals of EPA that help to preserve and protect our natural environment and the health of the people who live and work in our communities, and some of the many regional initiatives that respond to those goals. The purview of EPA Region 2 consists of New York, New Jersey, Puerto Rico, the U.S. Virgin Islands and seven Indian Nations. We are not the largest region in the nation in terms of geography, but we are certainly one of the most densely populated and among the most diverse. More than 31 million people reside in our region.

Evaluation of Alyeska Pipeline Service Company's Operation of the Trans-Alaska Pipeline System.

Comprehensive Monitoring Program Report

Department of the Interior, Washington, DC. Feb 1999, 44p. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110448WEP Price code: PC A04/MF A01

The Joint Pipeline Office (JPO) conducted field surveillances and assessments in 1997 and 1998, to evaluate selected aspects of Alyeska Pipeline Service Company's operation of the Trans-Alaska Pipeline System (TAPS). This report explains the issues which were addressed, describes their current status, and identifies instances of noncompliance with the Federal Agreement and Grant and State Lease of Right-of-Way. This reports conclusions will not surprise Alyeska. To their credit, Alyeska's own audits and surveillances have

identified these concerns and corrective action is underway. In 1999, JPO will continue to oversee Alyeska's TAPS Operation Program, including compliance with the stipulations of the Grant and Lease, to determine Alyeska's effectiveness in resolving these issues.

—**Foreign Technology**—

Fifth Mediterranean Basin Conference on Analytical Chemistry. Silvi Marina, Teramo, Italia. 24-28

Maggio 2005. Riassunti(V. Mediterranean Basin Conference on Analytical Chemistry. Silvi Marina, Teramo, Italy. 24-28 May, 2005. Abstract Book)

S. Caroli, and D. Pino.

Istituto Superiore di Sanita, Roma (Italy). cMay 2005, 166p, ISTISAN-C-05/C3. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109541WEP Price code: PC A09/MF A02

The fifth edition of this Conference, as the past ones, deals with all aspects of analytical chemistry in the countries of the Mediterranean basin. With over one hundred oral and poster presentations and five short courses, an overview is presented on current challenges posed to analytical chemistry in fields as diverse as food safety, environmental protection, biochemical studies, drug characterization, method innovation and instrumental development. The quest for quality, pivotal to the credibility of analytical information and to its proper use by the decision makers, is highlighted in most presentations and is illustrated in an ad hoc session as well as in quality-centered short courses. The variety of issues illustrated and the experimental approaches suggested testify to the wealth of information provided by this Conference along with the progress made so far by analytical sciences.

Gap Analysis Comparing LLNL ISMS and ISO 1400

T. B. Doerr.

Lawrence Livermore National Lab., CA. 16 Aug 2004, 80p, UCRL-SR-206055. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15014630WEP Price code: PC A06/MF A01

Agap analysis was conducted comparing the Lawrence Livermore National Laboratory (LLNL) Integrated Safety Management System (ISMS) with the international standard ISO 14001 Environmental Management System and with Department of Energy (DOE) Order 450.1. This analysis was accomplished as part of LLNL's assessment of the impacts of adopting DOE Order 450.1 and comprises a portion of its continuous improvement efforts under ISMS. Purpose of analysis was to determine if the LLNL ISMS has the requisite EMS elements and procedures sufficiently implemented to: (1) adhere to or be compatible with ISO 14001; and (2) adhere to or be compatible with DOE Order 450.1.

Kentucky DOE-EPSCoR Program.(Final Report, September 30, 1991-December 31, 2002)

J. M. Stencel, and M. P. Ochsenbein.

Kentucky Energy Cabinet, Lexington. 14 Apr 2003, 84p, DOE/ER-75661-1. Sponsored by Department of Energy,

Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-832839WEP Price code: PC A06/MF A01

The KY DOE EPSCoR Program is dedicated to establishing excellence in education and research and to promoting stable and progressive economic development in Kentucky. This dedication is defined in the following report showing a comprehensive and focused effort that built on the initiatives and successes starting with the first year of funding within a DOE EPSCoR Implementation Award in 1994. The Program included efforts to impact positively the pipeline of science and engineering students and to establish research, education and business infrastructure, sustainable beyond DOE EPSCoR funding.

Mesocarnivore Surveys on Lawrence Livermore National Laboratory Site 300, Alameda and San Joaquin Counties, California

H. O. Clark, D. A. Smith, B. L. Cypher, P. A. Kelly, and J. S. Woollett.

Lawrence Livermore National Lab., CA. 18 Jan 2005, 24p, UCRL-SR-209044. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15011402WEP Price code: PC A03/MF A01

Lawrence Livermore National Laboratory (LLNL), operated under cooperative agreement between the University of California and the U. S. Department of Energy, administers and operates an approximately 11 mi(sup 2) (28 km(sup 2)) test site in the remote hills at the northern end of the South Coast Ranges of Central California. Known as Site 300, this expanse of rolling hills and canyons supports a diverse array of grassland communities typical of lowland central California. The facility serves a variety of functions related to testing non-nuclear explosives, lasers, and weapons subsystems. The primary purpose of this project was to determine the presence of any mesocarnivores on Site 300 that use the property for foraging, denning, and other related activities. The surveys occurred from mid-September to mid-October, 2002.

—**Proceedings, Symposia, Etc.**—

NATO/CCMS Pilot Study. Prevention and Remediation Issues in Selected Industrial Sectors: Mega Sites, 2005 Annual Report (Number 273). Held in Ottawa, Canada on June 12-15, 2005

Environmental Management Support, Inc., Silver Spring, MD. Jul 2005, 62p, EPA/542/R-05/027. See also PB2005-101317. Sponsored by Environmental Protection Agency, Washington, DC. and NATO Committee on the Challenges of Modern Society, Brussels (Belgium). Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110456WEP Price code: PC A05/MF A01

This document reports on the third meeting of the Pilot Study

on Prevention and Remediation Issues in Selected Industrial Sectors. The purpose of the pilot study is to define and explore best practices for reducing the health and environmental impact on soil and groundwater from industrial sectors of interest (e.g., metals mining, organic chemical production, gasworks, and fertilizer manufacturing) as well as other unique site types (e.g., old landfills, privatization sites (i.e., facilities transitioning from former state ownership in certain categories), mega-sites (i.e., large scale former industrial and mining facilities), and shoreline sediment sites). The pilot study will explore the techniques and technologies for preventing and avoiding discharge to soil and groundwater as well as measurement and remediation for that industry sector or site type. It seeks to engage industry and other private sector organizations at the transnational level in sharing and evaluating technical information. In reviewing case studies as well as experience from the previous CCMS pilot study on contaminated land and other sources, the proposed pilot study may be able to assess or benchmark what is easy to clean, what is difficult to clean, and what is impossible, at reasonable cost, to clean. The unique contribution of the pilot study would be measured by its ability to synthesize information regarding best practices, successes and failures, and uncertainties for the sectors of interest. The third meeting of the Pilot Study was held in Ottawa, Canada from June 12-15, 2005. This meeting dealt with the issues of mega-sites (i.e. former industrial or other properties not able to be addressed by traditional risk management strategies due to their scale.) Twenty-one technical papers fell under the broad topics of former military sites, former industrial production, harbors and rivers, and risk assessment. Seven countries gave Table presentations/summaries of the state of the development of waste and/or contaminated land programs in their respective countries. The United States is the lead country for the Pilot Study, and 19 other countries participated in the meeting. This report is a set of abstracts of the presentations at the meeting.

Progress at Region 7 National Priorities List (NPL) Superfund Sites, Iowa

Environmental Protection Agency, Kansas City, MO. Region VII. Aug 1995, 86p.

PB2005-110808WEP Price code: PC A06/MF A01

For complete citation see Solid Wastes Pollution & Control

Progress at Region 7 National Priorities List (NPL) Superfund Sites, Kansas

Environmental Protection Agency, Kansas City, MO. Region VII. Aug 1995, 62p.

PB2005-110809WEP Price code: PC A05/MF A01

For complete citation see Solid Wastes Pollution & Control

Progress at Region 7 National Priorities List (NPL) Superfund Sites, Missouri

Environmental Protection Agency, Kansas City, MO. Region VII. Aug 1995, 98p.

PB2005-110806WEP Price code: PC A06/MF A02

For complete citation see Solid Wastes Pollution & Control

Progress at Region 7 National Priorities List (NPL) Superfund Sites, Nebraska

Environmental Protection Agency, Kansas City, MO. Region VII. Aug 1995, 62p.

PB2005-110807WEP Price code: PC A05/MF A01

For complete citation see Solid Wastes Pollution & Control

Quality-Assurance Plan for the Analysis of Fluvial Sediment by the U.S. Geological Survey Kentucky Water Science Center Sediment Laboratory

E. A. Shreve, and A. C. Downs.

Geological Survey, Reston, VA. 2005, 40p, USGS-OFR-2005-1230. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109844WEP Price code: PC A04/MF A01

This report describes laboratory procedures used by the U.S. Geological Survey Kentucky Water Science Center Sediment Laboratory for the processing and analysis of fluvial-sediment samples for concentration of sand and finer material. The report details the processing of a sediment sample through the laboratory from receiving the sediment sample, through the analytical process, to compiling results of the requested analysis. Procedures for preserving sample integrity, calibrating and maintaining of laboratory and field instruments and equipment, analyzing samples, internal quality assurance and quality control, and validity of the sediment-analysis results also are described. The report includes a list of references cited and a glossary of sediment and quality-assurance terms.

Refractory for Black Liquor Gasifiers. (Report for July 1, 2004-September 30, 2004)

Missouri Univ.-Rolla. Oct 2004, 56p. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-835184WEP Price code: PC A05

The University of Missouri-Rolla will identify materials that will permit the safe, reliable and economical operation of combined cycle gasifiers by the pulp and paper industry. The primary emphasis of this project will be to resolve the material problems encountered during the operation of low-pressure high-temperature (LPHT) and low-pressure low-temperature (LPLT) gasifiers while simultaneously understanding the materials barriers to the successful demonstration of high-pressure high-temperature (HPHT) black liquor gasifiers. This study will define the chemical, thermal and physical conditions in current and proposed gasifier designs and then modify existing materials and develop new materials to successfully meet the formidable material challenges. Resolving the material challenges of black liquor gasification combined cycle technology will provide energy, environmental, and economic benefits that include higher thermal efficiencies, up to three times greater electrical output per unit of fuel, and lower emissions. In the near term, adoption of this technology will allow the pulp and paper industry greater capital effectiveness and flexibility, as gasifiers are added to increase mill capacity. In the long term, combined-cycle gasification will lessen the industry's environmental impact while increasing its potential for energy production, allowing the production of all the mill's heat and power needs along with surplus electricity being returned to the

grid. An added benefit will be the potential elimination of the possibility of smelt-water explosions, which constitute an important safety concern wherever conventional Tomlinson recovery boilers are operated. Developing cost-effective materials with improved performance in gasifier environments may be the best answer to the material challenges presented by black liquor gasification. Refractory materials may be selected/developed that either react with the gasifier environment to form protective surfaces in-situ; are functionally-graded to give the best combination of thermal, mechanical, and physical properties and chemical stability; or are relatively inexpensive, reliable repair materials. Material development will be divided into 2 tasks: Task 1, Development and property determinations of improved and existing refractory systems for black liquor containment. Refractory systems of interest include magnesium aluminate and barium aluminate for binder materials, both dry and hydratable, and materials with high alumina contents, 85-95 wt%, aluminum oxide, 5.0-15.0 wt%, and BaO, SrO, CaO, ZrO(sub 2) and SiC. Task 2, Finite element analysis of heat flow and thermal stress/strain in the refractory lining and steel shell of existing and proposed vessel designs. Stress and strain due to thermal and chemical expansion has been observed to be detrimental to the lifespan of existing black liquor gasifiers. The thermal and chemical strain as well as corrosion rates must be accounted for in order to predict the lifetime of the gasifier containment materials.

Understanding Variation in Partition Coefficient, K(d), Values. Volume III. Review of Geochemistry and Available K(d) Values for Americium, Arsenic, Curium, Iodine, Neptunium, Radium, and Technetium

Environmental Protection Agency, Washington, DC. Office of Air and Radiation. Jul 2004, 220p, EPA/402/R-04-002C. See also PB2000-108439. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110795WEP Price code: PC A11/MF A03

This is the third volume in the series that describes: (1) the conceptualization, measurement, and use of the partition coefficient parameter; and (2) the geochemical aqueous solution and sorbent properties that are most important in controlling adsorption/retardation behavior of selected contaminants. Volume I and II were published in 1999. Volume I of this document focuses on providing EPA and other environmental remediation professionals with a reasoned and documented discussion of the major issues related to the selection and measurement of the partition coefficient for select group of contaminants. The selected contaminants investigated in Volume II of this document include: chromium, cadmium, cesium, lead, plutonium, radon, strontium, thorium, tritium(3H), and uranium. The contaminants discussed in Volume III include: americium, arsenic, curium, iodine, neptunium, radium, and technetium. This three volume report also addresses a void that has existed on this subject in both EPA and the user community.

Environmental Impact Statements

Generic Environmental Impact Statement for License Renewal of Nuclear Plants. Supplement 23. Regarding Point Beach Nuclear Plant Units 1 and 2. Final Report

Nuclear Regulatory Commission, Washington, DC. Office of Nuclear Reactor Regulation. 2005, 370p. See also Supplement 22, NUREG-1437-SUP22 and Supplement 21, NUREG-1437-SUP21. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

NUREG-1437-SUP23WEP Price code: PC A17/MF A03

The U.S. Nuclear Regulatory Commission (NRC) considered the environmental impacts of renewing nuclear power plant operating licenses (OLs) for a 20-year period in its Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS), NUREG-1437, Volumes 1 and 2, and codified the results in Title 10 of the Code of Federal Regulations (CFR) Part 51. In the GEIS (and its Addendum 1), the staff identifies 92 environmental issues and reaches generic conclusions related to environmental impacts for 69 of these issues that apply to all plants or to plants with specific design or site characteristics. Additional plant-specific review is required for the remaining 23 issues. These plant-specific reviews are to be included in a supplement to the GEIS.

Air Pollution & Control

200 West Area Dust Mitigation Strategies

M. R. Sackschewsky, and J. M. Becker. Pacific Northwest National Lab., Richland, WA. 2004, 28p, PNNL-13883. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15010236WEP Price code: PC A03/MF A01

Various strategies were developed for the purpose of mitigating respirable dust experienced at facilities in the southwest corner of the 200 West Area. These strategies focused on treatment of that portion of the dust source located within the 200 West Expansion Area. Strategies included direct shielding of the facilities via establishment of a poplar windbreak and installation of an artificial windscreen; soil stabilization via seeding of herbaceous plants, soil fixatives, straw crimping, straw blankets, gravel mulches, drift fences, baled straw, and living fences; and various irrigation systems that would function both to water seeded herbs and to suppress dust.

Air Toxics Modeling Current Status, Challenges and Prospects

C. Seigneur.

Atmospheric and Environmental Research, Inc., San Ramon, CA. Feb 2005, 30p, CRC-A-49. Sponsored by Coordinating Research Council, Inc., Alpharetta, GA. Also available on CD-ROM. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110407WEP Price code: PC A03/MF A01

Hazardous air pollutants (HAPs), hereafter referred to as air

toxics, that are regulated in the Clean Air Act under Section 112, include nearly 200 chemical species. Over 100 of those air toxics are being considered by the U.S. Environmental Protection Agency (EPA) under the National Air Toxics Assessment (NATA). Under CRC Project A-42-1, Atmospheric & Environmental Research, Inc. (AER) conducted a review of air toxics modeling (Seigneur et al., 2002). Some significant progress in air toxics modeling has been made over the past few years and it is, therefore, of interest to assess the current status of air toxics modeling. In this report, we present an update on the current status of air toxics modeling, we discuss the existing challenges in air toxics modeling and we recommend some future approaches to address those challenges.

Alternative to EPA Method 9 -- Field Validation of the Digital Opacity Compliance System (DOCS)

S. L. Rasmussen, and D. A. Stone.

15 Mar 2005, 76p, CP-200119, AFRL-ML-TY-TR-2005-4569. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

ADA436252WEP Price code: PC A06/MF A01

The Digital Opacity Compliance System (DOCS) software translates images from a commercial digital camera into visual plume opacity measurements, and is proposed as an alternate reporting method to EPA Method 9. Field tests confirmed that, under fair weather conditions, DOCS consistently met prescribed standards for quantitative accuracy and reliability. At real-world industrial operations, accuracy of DOCS's opacity measurements was comparable to Method-9- certified human observers'. Under dark, overcast skies, both DOCS and human readers were less accurate, but DOCS opacity measurements were less compromised, supporting a claim that DOCS is more reliable than Method 9 for all types of stationary sources and under all weather conditions. DOCS will (1) improve measurement objectivity and reliability, (2) lower deployment and maintenance costs and (3) provide permanent digital images of visible opacity--evidence in regulatory enforcement actions. Economic analysis projects \$9,011.82 (stateside) and \$15,650.10 (remote facilities) annual savings per pair of trained users. DoD certifies 3,400+ Method 9 readers, so DoD-wide adoption of DOCS could decrease compliance costs \$15.3M annually, payback occurring in months. Life-cycle cost analysis projects savings of \$40,118.82 (stateside) and \$69,671.12 (remote) per pair of users, and aggregate DoD financial benefit of \$68.2M (assuming five years useful life). Necessary for implementation is concurrence by regulators, which process is underway.

Analysis of Pulse-jet Cleaning of Dust Cake from Ceramic Filter Element. (Final Report, 1999-2003.)

M. Hata, M. Furuuchi, C. Kanaoka, and T. Inagaki.

Kanazawa Univ. (Japan). Dept. of Civil Engineering. 2004, 14p. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-835879WEP Price code: PC A03/MF A01

Release of accumulated dust from the rigid candle filter

surface has been extensively studied both theoretically and experimentally, especially for the case of pulse jet type cleaning. However, it is still unclear which is the most effective parameter to the release of accumulated dust. In this study, behaviors of released dust and pressure inside and outside the filter element were observed very precisely. Based on the observation, a simple model correlating between momentum acting on released dust, pressure and, shear and tensile stresses has been proposed. Then its validity was discussed by comparing calculated and experimental results.

Atomic-Level Imaging of CO₂ Disposal as a Carbonate Mineral: Optimizing Reaction Process Design

M. J. McKelvy, R. Sharma, A. V. G. Chizmeshya, H. Bearat, and R. W. Carpenter.

Arizona State Univ., Tempe. Center for Solid State Science. Nov 2002, 108p. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-835031WEP Price code: PC A07

Fossil fuels, especially coal, can support the energy demands of the world for centuries to come, if the environmental problems associated with CO₂ emissions can be overcome. Permanent and safe methods for CO₂ capture and disposal/storage need to be developed. Mineralization of stationary-source CO₂ emissions as carbonates can provide such safe capture and long-term sequestration. Mg-rich lamellar-hydroxide based minerals (e.g., brucite and serpentine) offer a class of widely available, low-cost materials, with intriguing mineral carbonation potential. Carbonation of such materials inherently involves dehydroxylation, which can disrupt the material down to the atomic level. As such, controlled dehydroxylation, before and/or during carbonation, may provide an important parameter for enhancing carbonation reaction processes. Mg(OH)₂ was chosen as the model material for investigating lamellar hydroxide mineral dehydroxylation/carbonation mechanisms due to (1) its structural and chemical simplicity, (2) interest in Mg(OH)₂ gas-solid carbonation as a potentially cost-effective CO₂ mineral sequestration process component, and (3) its structural and chemical similarity to other lamellar-hydroxide-based minerals (e.g., serpentine-based minerals) whose carbonation reaction processes are being explored due to their low-cost CO₂ sequestration potential. Fundamental understanding of the mechanisms that govern dehydroxylation/carbonation processes is essential for minimizing the cost of any lamellar-hydroxide-based mineral carbonation sequestration process. This final report covers the overall progress of this grant.

Barrier Issues to the Utilization of Biomass. (Final Technical Report.)

B. C. Folkedahl, J. R. Gunderson, D. D. Schmidt, G. F. Weber, and C. J. Zygarlicke.

North Dakota Univ., Grand Forks. Energy and Environmental Research Center. Sep 2002, 138p, EERC-09-02. Sponsored by National Energy Technology Lab., Pittsburgh, PA. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-835032WEP Price code: PC A08/MF A02

The goal of this project was to identify the primary ash mechanisms related to grate clinkering and heat exchange surface fouling associated with cofiring coal and biomass—specifically wood and agricultural residuals—in grate-fired systems, leading to future mitigation of these problems. The specific technical objectives of the project were: Modification of an existing pilot-scale combustion system to simulate a grate-fired system; Verification testing of the simulator; Laboratory-scale testing and fuel characterization to determine ash formation and potential fouling mechanisms and to optimize activities in the modified pilot-scale system; Pilot-scale testing in the grate-fired system. The resulting data were used to elucidate ash-related problems during coal-biomass cofiring and offer a range of potential solutions.

Big Sky Carbon Sequestration Partnership. (Quarterly Report, July 1, 2004-September 30, 2004.)

S. M. Capalbo.

Montana State Univ., Bozeman. 31 Oct 2004, 138p. Prepared in cooperation with Boise State Univ., ID. and Idaho Univ., Idaho Falls. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-836099WEP Price code: PC A08

No abstract available.

—*Proceedings, Symposia, Etc.*—

Clean Air Scientific Advisory Committee (CASAC) Ambient Air Monitoring and Methods (AAMM) Subcommittee Consultation on Methods for Measuring Coarse-Fraction Particulate Matter (PM_c) in Ambient Air (July 2004)

Environmental Protection Agency, Washington, DC. Science Advisory Board. 30 Aug 2004, 102p, EPA-SAB-CASAC-CON-04-005. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110250WEP Price code: PC A07

The Ambient Air Monitoring and Methods (AAMM) Subcommittee of the Clean Air Scientific Advisory Committee (CASAC) met in a public meeting held in Research Triangle Park (RTP), NC, on July 22, 2004, to conduct a consultation on methods for measuring coarse-fraction particulate matter (PM_c) in ambient air, based upon performance evaluation field studies conducted by EPA. Measurement of PM_c focuses on those particles in the ambient air with a nominal diameter in the range of 2.5 to 10 micrometers (i.e., the coarse fraction of PM_(sub 10)). This project was requested by OAQPS in anticipation of the potential need for reference and equivalent methods for PM_c measurement, should new PM_c standards be established as a result of EPA's ongoing review of the national ambient air quality standards (NAAQS) for particulate matter (PM). The results of this consultation will support discussion of PM_c air quality monitoring to be included in the next draft of the OAQPS Staff Paper for PM, a policy assessment of scientific and technical information prepared as part of the PM NAAQS review. This draft Staff Paper is now planned for review by the CASAC PM Review Panel in early 2005.

Combustion Emissions Technical Resource Document (CETRED). Executive Summary

Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response. May 1994, 12p, EPA-530-S-94-014. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109854WEP Price code: PC A03/MF A01

The Draft Combustion Emissions Technical Resource Document (CETRED) contains the initial technical analysis by the U.S. Environmental Protection Agency (EPA) concerning emissions of dioxins/furans and particulate matter from certain types of devices that burn hazardous waste: cement kilns, light-weight aggregate kilns, incinerators, and industrial boilers. CETRED represents the first, preliminary step in the development of regulations under the Resource Conservation and Recovery Act (RCRA) and the Clean Air Act (CAA) to impose upgraded standards on hazardous waste combustors (HWCs). CETRED also represents a major effort towards implementing the commitment made by EPA Administrator Carol M. Browner in the Draft Hazardous Waste Minimization and Combustion Strategy, released on May 18, 1993, to upgrade the technical standards governing emissions from HWCs. EPA's intention in releasing CETRED at this time is to give the regulated community and other interested persons the earliest possible opportunity to understand the nature of the technical analysis that EPA is pursuing. CETRED can appropriately be regarded as a preliminary technical analysis of certain HWCs and their emissions of PM and dioxins/furans. CETRED represents the current state of analysis of EPA's technical staff in the Office of Solid Waste as regards the emission levels of PM and dioxins/furans achievable by the best controlled sources. At this time, CETRED does not contain a characterization of emissions for toxic metals and other hazardous air pollutants from the HWCs studied. EPA will initiate a technical analysis to characterize these emissions in the near future. EPA expects to make the results of that analysis available to the public for review prior to the time that any regulatory proposal would be developed.

COs System Operation and Maintenance: Facilities, Instructions, Standards and Techniques, Volume 5-12

Bureau of Reclamation, Denver, CO. Hydroelectric Research and Technical Services Group. May 2005, 50p, FIST-5-12. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-107615WEP Price code: PC A04/MF A01

This volume identifies Reclamation's standard operation and maintenance practices for carbon dioxide (CO₂) systems. Reclamation has used CO₂ fire suppression systems in its power plant for many years to protect generators and large motors. Different operation and maintenance practices have evolved across the agency and new, low-pressure systems are supplanting the older, high-pressure systems in many locations. CO₂ poses risk to personnel who may be exposed to it, and adequate safety precautions must be in place. Consistency is desirable to ensure effective fire suppression and to maximize safety for plant staff. This volume provides guidance in making those practices consistent.

Energy Cost and IAQ Performance of Ventilation Systems and Controls. Report 6: Meeting Outdoor Air Requirements in Very High Occupant Density Buildings. A Study of Auditoriums and Schools

Environmental Protection Agency, Washington, DC. Office of Air and Radiation. Jan 2000, 46p, EPA-402-S-01-001F. See also PB2005-109164. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109845WEP Price code: PC A04/MF A01

ASHRAE Standard 62-1989 (and the subsequent Standard 62-19991) raised the outdoor air requirements for acceptable indoor air quality for very high occupant density buildings such as schools and auditoriums from its previous level of 5 cfm per occupant to 15 cfm per occupant. Since occupant densities in these buildings can be very high (e.g. 30-150 occupants per 1000 square feet), the absolute increase in outdoor air volumes in these buildings due to ASHRAE Standard 62 is exceptionally large, and outdoor air fractions (proportion of supply air which is outdoor air) rise significantly. Therefore, air flows in these buildings become heavily dominated by indoor air quality requirements rather than by thermal load requirements. This raises questions as to whether VAV systems can effectively meet the ASHRAE requirements under part load conditions. At part load conditions, supply air flows may be less than the required outdoor air flows unless VAV box minimum flow settings are sufficiently high. However, as VAV box minimum flow settings are raised in VAV systems, the operational characteristics of the VAV system approach that of a CV system (see Project Report no. 3), so that the energy savings of VAV systems over CV systems may be diminished or lost in these buildings. This further suggests that VAV systems in very high occupant density buildings whose design settings are meant to achieve the ASHRAE requirement of 15 cfm per occupant, may not in actuality be meeting that requirement unless their VAV box minimum flow settings are higher than normal practice would provide.

Energy Cost and IAQ Performance of Ventilation Systems and Controls. Report 7: The Cost of Protecting Indoor Environmental Quality During Energy Efficiency Projects for Office and Education Buildings. Integrating Indoor Environmental Quality with Energy Efficiency

Environmental Protection Agency, Washington, DC. Office of Air and Radiation. Jan 2000, 26p, EPA-402-S-01-001G. See also PB2005-109845. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109846WEP Price code: PC A03/MF A01

Many building owners and managers are under increased pressure from many circles to provide good indoor environmental quality (IEQ). There are many opportunities to advance IEQ during the course of energy projects without sacrificing energy efficiency. These opportunities could provide the energy service companies and other energy professionals with the ability to gain a competitive edge as they market their services to a clientele that is becoming increasingly sensitive to indoor environmental quality issues. Many energy professionals believe that IEQ

necessarily leads to significant energy penalties and therefore deliberately ignore it in their projects.

EPA Spatial Allocator User Guide

Science Applications International Corp., Raleigh, NC. Dec 2004, 48p. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Research and Development. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109977WEP Price code: PC A04/MF A01

The MIMS Spatial Allocator was originally designed (and has since been expanded) as a tool to help prepare emission inventory information without the use of commercial Geographic Information Systems (GIS). Emissions inventories are generally created based on political boundaries or attached to specific locations (e.g., railways), but most models require emissions to be located within specific grid cell boundaries. In conjunction with the Sparse Matrix Operating Kernel Emissions (SMOKE) system, the Spatial Allocator compares model grid boundaries with the geographic boundaries of inventories to distribute activity and emissions data properly over the modeling grid. The Spatial Allocator was designed to prepare the AGPRO, MGPRO, and BGPRO surrogate inputs required by the SMOKE system.

Evaluating Ozone Control Programs in the Eastern United States: Focus on the NOx Budget Training Program, 2004

Environmental Protection Agency, Washington, DC. Office of Atmospheric Programs. Aug 2005, 44p, EPA-454-K-05-001. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109867WEP Price code: PC A04

For this report, EPA analyzed the effectiveness of NOx and VOC control programs designed to reduce precursor emissions and improve ozone air quality. This report focuses specifically on progress made in reducing emissions in the eastern United States under the NOx SIP Call. Analyses of emissions in this report do not include emissions from natural sources. This report: briefly describes ozone formation and its health and environmental effects, and provides an overview of the major programs designed to reduce ozone since 1990; evaluates the effectiveness of the major control programs by reviewing emission reductions and comparing changes in emissions to changes in ozone concentrations; compares actual changes in NOx emissions and ozone concentrations to those predicted to occur under the NOx SIP Call; examines progress and compliance under the NOx Budget Trading Program, including market activity, allowance banking in 2004, and progressive flow control in 2005; and looks at future NOx emission reductions under programs such as mobile source controls and the Clean Air Interstate Rule (CAIR).

Evaluation of Mercury Emissions from Coal-Fired Facilities with SCR and FGD Systems. Topical Report No. 2

J. A. Withum, S. C. Tseng, and J. E. Locke.
CONSOL Energy Research and Development, South Park, PA.

Oct 2004, 200p. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-838805WEP Price code: PC A10/MF A03

CONSOL Energy Inc., Research & Development (CONSOL), with support from the U.S. Department of Energy, National Energy Technology Laboratory (DOE) is evaluating the effects of selective catalytic reduction (SCR) on mercury (Hg) capture in coal-fired plants equipped with an electrostatic precipitator (ESP) - wet flue gas desulfurization (FGD) combination or a spray dryer absorber-fabric filter (SDA-FF) combination. In this program CONSOL is determining mercury speciation and removal at 10 coal-fired facilities. The objectives are (1) to evaluate the effect of SCR on mercury capture in the ESP-FGD and SDA-FF combinations at coal-fired power plants, (2) evaluate the effect of catalyst degradation on mercury capture; (3) evaluate the effect of low load operation on mercury capture in an SCR-FGD system, and (4) collect data that could provide the basis for fundamental scientific insights into the nature of mercury chemistry in flue gas, the catalytic effect of SCR systems on Hg speciation and the efficacy of different FGD technologies for Hg capture. This document, the second in a series of topical reports, describes the results and analysis of mercury sampling performed on a 330 MW unit burning a bituminous coal containing 1.0% sulfur.

Final Environmental Assessment: Proposed Demolition of 12 Structures, Hill Air Force Base, Utah

R. Klein, and K. Winn.

STREAMLINE CONSULTING LLC FARMINGTON UT. 22

Aug 2005, 32p. The original document contains color images.

Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

ADA436603WEP Price code: PC A04/MF A01

Hill AFB proposes to accommodate current United States Air Force (USAF) missions by demolishing 12 structures on Hill AFB. All 12 buildings have both aged and deteriorated to the point they cannot be economically repaired or remodeled. Seven of the 12 buildings would be demolished without being replaced in kind. For five of the 12 buildings, military construction (MILCON) projects would provide new facilities to house the activities that are or were being performed in the deteriorated structures. The proposed action and the no action alternative were both considered in detail. Following the demolition phase, backfill and revegetation operations would prevent erosion of the site. The proposed action could be implemented with minor air emissions of short term duration. During demolition activities, solid wastes and wastes containing asbestos, lead-based paint, PCBs, mercury, asphalt, petroleum products, and any contaminated soils would all be stored, transported, disposed, and/or recycled properly. The proposed demolition projects would have an adverse effect on cultural resources, but mitigation efforts would be conducted according to an existing MOA with the Utah SHPO. No long-term environmental impacts are expected from either the proposed action or the no action alternative.

High Temperature Test Facility for Studying Ash Particle Characteristics of Candle Filter During Surface Regeneration

B. S. Kang, E. K. Johnson, and J. Rincon.

West Virginia Univ., Morgantown. Dept. of Mechanical and Aerospace Engineering. 2004, 16p. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-835884WEP Price code: PC A03/MF A01

Hot gas particulate filtration is a basic component in advanced power generation systems such as Integrated Gasification Combined Cycle (IGCC) and Pressurized Fluidized Bed Combustion (PFBC). These systems require effective particulate removal to protect the downstream gas turbine and also to meet environmental emission requirements. The ceramic barrier filter is one of the options for hot gas filtration. Hot gases flow through ceramic candle filters leaving ash deposited on the outer surface of the filter. A process known as surface regeneration removes the deposited ash periodically by using a high pressure back pulse cleaning jet. After this cleaning process has been done there may be some residual ash on the filter surface. This residual ash may grow and this may lead to mechanical failure of the filter. A High Temperature Test Facility (HTTF) was built to investigate the ash characteristics during surface regeneration at high temperatures. The system is capable of conducting surface regeneration tests of a single candle filter at temperatures up to 1500 F. Details of the HTTF apparatus as well as some preliminary test results are presented in this paper. In order to obtain sequential digital images of ash particle distribution during the surface regeneration process, a high resolution, high speed image acquisition system was integrated into the HTTF system. The regeneration pressure and the transient pressure difference between the inside of the candle filter and the chamber during regeneration were measured using a high speed PC data acquisition system. The control variables for the high temperature regeneration tests were (1) face velocity, (2) pressure of the back pulse, and (3) cyclic ash built-up time.

Impact of Humidity, Temperature and Ultraviolet Light on the Near-Field Environmental Fate of Pinacolyl Alcohol, Methyl Iodide, Methylphosphonic Dichloride (DCMP) and Thionyl Chloride Using an Environmental Wind Tunnel

C. J. Driver, Y. F. Su, R. J. Fellows, R. S. Disselkamp, and T. J. Johnson.

Pacific Northwest National Lab., Richland, WA. Jan 2003, 74p, PNNL-14172. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15010107WEP Price code: PC A05/MF A01

Understanding the near-field fate of parent chemicals and their decay products in the atmosphere provides essential information for the development of remote chemical sensors. To elucidate the near-field fate of candidate chemical signatures, selected gas phase compounds were introduced into atmospheres of varying humidity, temperature and incident light flux. These atmospheres were maintained in an environmental wind tunnel for periods typical of near-field

transport scenarios. The range of humidity and temperature into which the compounds were emitted encompassed arid, temperate, and tropical values. Simulated sunlight exposure was used to evaluate the impact of time of release on signature composition. The rates of compound decay and evolution of transformation products under the various environmental conditions were monitored in real time. A Fourier transform infrared spectrometer and a gas chromatograph/mass spectrometer were used to determine chemical concentration, evaluate detectability, and identify potential interferences to the detection capability. Specifically, this report describes the initial system function tests with pinacolyl alcohol and methyl iodide and subsequent atmospheric fate experiments with methylphosphonic dichloride and thionyl chloride. Test system function was evaluated using pinacolyl alcohol because as a relatively non-reactive compound, it served as a negative control for the system.

NIOSH Health Hazard Evaluation Report: HETA No. 2003-0351-2972, Freudenberg-NOK, High Quality Plastics Division, Findlay, Ohio, June 2005

National Inst. for Occupational Safety and Health, Washington, DC. Jun 2005, 18p, HETA-2003-0351-2972. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109449WEP Price code: PC A03/MF A01

In August 2003 the National Institute for Occupational Safety and Health (NIOSH) received a confidential HHE request from employees at Freudenberg-NOK G.P., High Quality Plastics Division (HQP) Findlay, Ohio. They were concerned about potential exposure to airborne particles and fumes from the manufacturing of thermoplastic and polytetrafluoroethylene (PTFE) ring seals. Some workers were experiencing non-specific respiratory symptoms and itchy skin.

NIOSH Health Hazard Evaluation Report: HETA No. 2005-0030-2968, Headlee Roofing, Mesa, Arizona, June 2005

National Inst. for Occupational Safety and Health, Washington, DC. Jun 2005, 40p.

PB2005-109450WEP Price code: PC A04/MF A01

For complete citation see Environmental Health & Safety

NOx Control Options and Integration for US Coal Fired Boilers. (Quarterly Report, April 1, 2001-June 30, 2001)

M. Bockelie, M. Cremer, K. Davis, B. Hurt, and E. Eddings. Reaction Engineering International, Salt Lake City, UT. Jul 2001, 30p. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-835070WEP Price code: PC A03

This is the third Quarterly Technical Report for DOE Cooperative Agreement No: DE-FC26- 00NT40753. The goal of the project is to develop cost effective analysis tools and techniques for demonstrating and evaluating low NOx control strategies and their possible impact on boiler performance for firing US coals. The Electric Power Research

Institute (EPRI) is providing cofunding for this program. This program contains multiple tasks and good progress is being made on all fronts. A Rich Reagent Injection (RRI) design has been developed for a cyclone fired utility boiler in which a field test of RRI will be performed later this year. Initial evaluations of RRI for PC fired boilers have been performed. Calibration tests have been developed for a corrosion probe to monitor waterwall wastage. Preliminary tests have been performed for a soot model within a boiler simulation program. Shakedown tests have been completed for test equipment and procedures that will be used to measure soot generation in a pilot scale test furnace. In addition, an initial set of controlled experiments for ammonia adsorption onto fly ash in the presence of sulfur have been performed that indicates the sulfur does enhance ammonia uptake.

NOx Control Options and Integration for US Coal Fired Boilers. (Quarterly Report, July 1, 2001-September 30, 2001)

M. Bockelie, M. Cremer, K. Davis, C. Senior, and E. Eddings. Reaction Engineering International, Salt Lake City, UT. 10 Oct 2001, 44p. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-835071WEP Price code: PC A04

This is the fifth Quarterly Technical Report for DOE Cooperative Agreement No: DE-FC26- 00NT40753. The goal of the project is to develop cost effective analysis tools and techniques for demonstrating and evaluating low NOx control strategies and their possible impact on boiler performance for firing US coals. The Electric Power Research Institute (EPRI) is providing cofunding for this program. This program contains multiple tasks and good progress is being made on all fronts. Field tests for NOx reduction in a cyclone fired utility boiler due to using Rich Reagent Injection (RRI) have been started. CFD modeling studies have been started to evaluate the use of RRI for NOx reduction in a corner fired utility boiler using pulverized coal. Field tests of a corrosion monitor to measure waterwall wastage in a utility boiler have been completed. Computational studies to evaluate a soot model within a boiler simulation program are continuing. Research to evaluate SCR catalyst performance has started. A literature survey was completed. Experiments have been outlined and two flow reactor systems have been designed and are under construction. Commercial catalyst vendors have been contacted about supplying catalyst samples. Several sets of new experiments have been performed to investigate ammonia removal processes and mechanisms for fly ash. Work has focused on a promising class of processes in which ammonia is destroyed by strong oxidizing agents at ambient temperature during semi-dry processing (the use of moisture amounts less than 5 wt-%). Both ozone and an ozone/peroxide combination have been used to treat both basic and acidic ammonia-laden ashes.

Operation of SMPS and Low Temperature TEOM in Locations of the USC Children's Health Study (CHS) and the Los Angeles Supersite

C. Sioutas, and M. Singh. California Univ., Los Angeles. Dept. of Civil and Environmental Engineering. Apr 2005, 212p, ARB/R-05-827. Sponsored by California State Air Resources Board,

Sacramento. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-107670WEP Price code: PC A11/MF A03

Continuous measurements of particle number, particle size-distribution (14-700 nm) and particle mass (PM-10) were obtained at thirteen sites (urban, suburban, and remote) in Southern California during years 2002, 2003, and 2004 in support of University of Southern California Children's Health Study (CHS). We report the spatial and temporal variation of particle mass, numbers and number size distributions within these sites. Scanning Mobility Particle Sizer monitors were used to measure particle number size data and low temperature Tapered Element Oscillating Microbalance monitors were used for PM10 mass measurement. Higher average total particle number concentrations are found in winter, compared to summer and spring in all urban sites. Contribution of local vehicular emissions is most evident in cooler months, whereas effects of long-range transport of particles are enhanced during warmer periods. The particle size profile is most represented by a combination of the spatial effects prevalent at each location. The results presented in this report indicate that location and season significantly influence particle number and size distributions in locations within Southern California. Strong diurnal and seasonal patterns in number concentrations are evident as a direct effect of the sources, formation mechanisms, as well as meteorological conditions prevalent at each location during different times of the day and year. These results will be used in the CHS as a first order indicator of not only human exposure, but also inhaled dose to ultrafine PM. They will also be used for the development and validation of predictive models for population exposure assessment to ultrafine PM in complex urban environments, such as that of the Los Angeles Basin.

Palladium Catalysts for Energy Applications

L. D. Pfefferle, and A. Datye.

Yale Univ., New Haven, CT. Dept. of Chemical Engineering. 1 Mar 2001, 108p. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-833766WEP Price code: PC A07/MF A02

Palladium (Pd) is an attractive catalyst for a range of new combustion applications comprising primary new technologies for future industrial energy needs, including gas turbine catalytic combustion, auto exhaust catalysts, heating and fuel cells. Pd poses particular challenges because it changes both chemical state and morphology as a function of temperature and reactant environment and those changes result in positive and negative changes in activity. Interactions with the support, additives, water, and contaminants as well as carbon formation have also been observed to affect Pd catalyst performance. This report describes the results of a 3.5 year project that resolves some of the conflicting reports in the literature about the performance of Pd-based catalysts.

Predicting the Operating Behavior of Ceramic Filters from Thermo-Mechanical Ash Properties

G. Hemmer, and G. Kasper.

Karlsruhe Univ. (Germany, F.R.). Inst. fuer Mechanische Verfahrenstechnik und Mechanik. 2005, 16p. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-835857WEP Price code: PC A03/MF A01

Stable operation, in other words the achievement of a succession of uniform filtration cycles of reasonable length is a key issue in high-temperature gas filtration with ceramic media. Its importance has rather grown in recent years, as these media gain in acceptance due to their excellent particle retention capabilities. Ash properties have been known for some time to affect the maximum operating temperature of filters. However, softening and consequently 'stickiness' of the ash particles generally depend on composition in a complex way. Simple and accurate prediction of critical temperature ranges from ash analysis--and even more so from coal analysis--is still difficult without practical and costly trials. In general, our understanding of what exactly happens during break-down of filtration stability is still rather crude and general. Early work was based on the concept that ash particles begin to soften and sinter near the melting temperatures of low-melting, often alkaline components. This softening coincides with a fairly abrupt increase of stickiness, that can be detected with powder mechanical methods in a Jenicke shear cell as first shown by Pilz (1996) and recently confirmed by others (Kamiya et al. 2001 and 2002, Kanaoka et al. 2001). However, recording (sigma)-(tau)-diagrams is very time consuming and not the only off-line method of analyzing or predicting changes in thermo-mechanical ash behavior. Pilz found that the increase in ash stickiness near melting was accompanied by shrinkage attributed to sintering. Recent work at the University of Karlsruhe has expanded the use of such thermo-analytical methods for predicting filtration behavior (Hemmer 2001). Demonstrating their effectiveness is one objective of this paper. Finally, our intent is to show that ash softening at near melting temperatures is apparently not the only phenomenon causing problems with filtration, although its impact is certainly the 'final catastrophe'. There are other significant changes in regeneration at intermediate temperatures, which may lead to long-term deterioration.

Technical Methods for Analyzing Pricing Measures to Reduce Transportation Emissions

Environmental Protection Agency, Washington, DC. Aug 1998, 262p, EPA/231/R-98/006. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110152WEP Price code: PC A13/MF A03

State transportation and air quality planners have requested the Environmental Protection Agency (EPA) and the Department of Transportation (DOT) for assistance in how to quantify the impacts of transportation pricing measures in their regional transportation models. They need this assistance to develop regional transportation plans, transportation improvement programs, and state implementation plans. The modeling enhancements may also be useful for demonstrating conformity. This report, jointly funded by the EPA and the DOT, responds to those inquiries and provides technical assistance on best

practice approaches for analyzing various transportation pricing policies. This document is intended strictly to provide technical recommendations and does not advocate the use of any specific policy measures.

TERRA/MOPITT Measurements of Tropospheric Carbon Monoxide Distributions in Support of INTEX

D. P. Edwards, J. C. Gille, L. K. Emmons, and D. Ziskin. National Center for Atmospheric Research. Jun 2005, 14p. Text in English. Publicly available Unlimited. CASI. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

N20050192476WEP Price code: PC A03/MF A01

Interaction with the ongoing satellite measurements programs was an important goal of INTEX- A. The Terra/MOPITT instrument had been making global measurements of the tropospheric carbon monoxide (CO) distribution for 4 years, and was in a unique position to provide valuable support during the field campaign. Remote sensing of CO directly addressed the scientific questions motivating the IXTEX-A strategy and deployment, and measurement of this gas was rated as being mission critical. CO is an important trace gas in tropospheric chemistry due to its role in determining the atmospheric oxidizing capacity, as an ozone precursor, and as an indicator and tracer of both natural and anthropogenic pollution arising from incomplete combustion. The satellite perspective provided the more general temporal and spatial context to the aircraft and ground-based measurements during the subsequent scientific analysis. We proposed to build on the experience of supplying MOPITT data to previous field campaigns, such as TRACE-P. We provided expedited MOPITT data processing in near real-time, along with basic analysis of the measurements to indicate, where possible, the origin of the CO plumes that impacted the regions of flight operations and other in situ measurement activities. To ensure maximum exploitation of the satellite information, we will also had a scientist in the field to present and interpret the MOPITT data for the INTEX team, and to help ensure its utility in flight planning.

—Foreign Technology—

Utvaerdering av B-Indikeringsinstrument: Slutrapport (Evaluation of a B-Detection Instrument)

T. Tjaernhage, G. Olofsson, and I. Gustafson. Foersvarets Forskningsanstalt, Umea (Sweden). Avedelningen foer NBC Skydd. Nov 2004, 40p, FOI-R-1365-SE. Text in Swedish; summary in English. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-107410WEP Price code: PC A04

On behalf of the Swedish Defense Material Administration FOI has acquired a B-trigger/warning instrument from Proengin, France. The instrument, MAB (Biological Agent Monitor), has been examined in laboratory experiment and in field trials. The instrument has served as a model instrument for flame photometry detection of biological agents and its ability to classify different simulants for biological agents has been studied with multivariate data analysis methods. Generally, the result shows that the instrument is performing well and is sensitive to the change in bioaerosol content. The multivariate data analysis shows that it might be possible to classify different types of bioaerosols. However, that will

require an extensive testing of a large variety of different environmental conditions. The work has also resulted in improved capabilities for FOI and the Swedish NBC Defense Centre to perform biodetection field trials.

Wastes from the Combustion of Fossil Fuels. Volume One: Executive Summary

Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response. Mar 1999, 48p, EPA-530-S-99-010. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109856WEP Price code: PC A04/MF A01

In keeping with its court-ordered schedule and pursuant to the requirements of Section 3001(b)(3)(A)(i) and Section 8002(n) of RCRA, the EPA has prepared this report on remaining FFC wastes. In addition to complying with the Congressional mandate, this report will serve to establish a factual basis for EPA decision-making regarding the appropriate regulatory status, under RCRA, of remaining FFC wastes. The report addresses the following eight study factors required by Section 8002(n) of RCRA for FFC wastes: the source and volumes of such materials generated per year; present disposal practices; potential danger, if any, to human health and the environment from the disposal of such materials; documented cases in which danger to human health or the environment has been proved; alternatives to current disposal methods; the costs of such alternatives; the impact of those alternatives on the use of natural resources; and the current and potential utilization of such materials. In addition, the report includes a review of applicable state and federal regulations so that regulatory decisions that derive from the report will avoid duplication of existing requirements.

Environmental Health & Safety

Comparative Plutonium-239 Dose Assessment for Three Desert Sites: Maralinga, Australia; Palomares, Spain; and the Nevada Test Site, USA Before and After Remedial Action

Lawrence Livermore National Lab., CA. 14 Jul 2000, 24p. **DE2005-15013135WEP** Price code: PC A03/MF A01

For complete citation see Radiation Pollution & Control

Energy Cost and IAQ Performance of Ventilation Systems and Controls. Report 6: Meeting Outdoor Air Requirements in Very High Occupant Density Buildings. A Study of Auditoriums and Schools

Environmental Protection Agency, Washington, DC. Office of Air and Radiation. Jan 2000, 46p.

PB2005-109845WEP Price code: PC A04/MF A01

For complete citation see Air Pollution & Control

Energy Cost and IAQ Performance of Ventilation Systems and Controls. Report 7: The Cost of Protecting Indoor Environmental Quality During Energy Efficiency Projects for Office and Education Buildings. Integrating Indoor Environmental Quality with Energy Efficiency

Environmental Protection Agency, Washington, DC. Office of Air and Radiation. Jan 2000, 26p.

PB2005-109846WEP Price code: PC A03/MF A01

For complete citation see Air Pollution & Control

Environmental Assessment for Waterfront Facilities Maintenance and Improvements, Pearl Harbor Naval Complex, Oahu, Hawaii

Naval Facilities Engineering Command, Pearl Harbor, HI. Pacific Div. Mar 2005, 51p. The original document contains color images. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

ADA436269WEP Price code: PC A05/MF A01

Commander, Navy Region Hawaii (CNRH) proposes to repair, maintain, and improve waterfront berthing and maintenance facilities for ships and submarines on an as-needed basis within the Pearl Harbor Naval Complex (PHNC). These facilities are essential infrastructure that must be maintained for CNRH to accomplish its mission to support the Pacific Fleet. The action is needed to maintain full and effective berthing and maintenance services for ships and submarines homeported in PHNC, transiting fleet units, and ships of friendly navies visiting Pearl Harbor. Based on information gathered during preparation of the Environmental Assessment, the Navy finds that the proposed Waterfront Facilities Maintenance and Improvement Projects will not significantly impact human health or the environment, and an Environmental Impact Statement is not required.

Fatality Assessment and Control Evaluation (FACE) for California: A Youth Dies When a Forklift Rolls Over on Him

Public Health Inst., Berkeley, CA. Jan 2005, 10p, FACE-04CA007. Sponsored by National Inst. for Occupational Safety and Health, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109926WEP Price code: PC A02/MF A01

A 17-year-old Hispanic male died when he was crushed by a forklift that rolled over on him. The victim had been employed with the company for only one hour and had not yet received safety training. The victim was attempting to retrieve some bales of hay for a customer when the incident occurred. The company kept the forklift keys in the ignition of the forklift during normal business hours. The CA/FACE investigator determined that, in order to prevent future occurrences, employers, as part of their Injury and Illness Prevention Program (IIPP), should: (1) Ensure employees under the age of 18 do not operate power-driven machinery. To accomplish this, employers should; (2) Establish a system to control access to power-driven machinery; (3) Identify and label equipment that is not to be operated by workers less than 18 years old; (4) Ensure that employee orientation and safety training is given to employees before they begin work.

Fatality Assessment and Control Evaluation (FACE) for Oregon: Sawmill Worker Crushed During Debarker Maintenance

Oregon Health Sciences Univ., Portland. Center for Research

on Occupational and Environmental Toxicology. Aug 2004, 8p, FACE-OR-2004-03-01. Sponsored by National Inst. for Occupational Safety and Health, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109930WEP Price code: PC A02/MF A01

On February 7, 2004, a 24-year-old sawmill employee, working as a millwright, was killed in a routine maintenance operation, while grinding the teeth of the feed rolls inside a log debarking machine. The millwright shut down electrical power to the debarker before entering the intake area, but he did not block the press roll, held aloft by compressed air, with pins available on the frame of the machine for this purpose. While he was inside the debarker, another employee in a different area of the mill shut off the compressed-air system in a separate maintenance operation, which allowed air pressure to drop throughout the plant. As the line pressure dropped, the 6000 lbs. press roll, suspended above him, unexpectedly descended and crushed the millwright. A coworker found the victim when he heard the air-pressure release and went to check the younger man at the debarker. Emergency first responders from the local fire station declared the victim dead at the scene. Recommendations: (1) Prior to performing maintenance operations, de-energize, isolate, and block all forms of hazardous energy. This includes blocking machine parts against motion; (2) Identify tasks that may expose workers to the inadvertent release of hazardous energy and coordinate work activities to eliminate the exposure; and (3) Employers should develop and implement hazardous energy control programs.

Fatality Assessment and Control Evaluation (FACE) for Washington State: City Worker Killed When Struck by a Dump Truck in Washington State

Washington State Dept. of Labor & Industries, Olympia. Safety & Health Assessment and Research for Prevention (SHARP) Program. Aug 2004, 18p, FACE-00WA041, SHARP-RPT-52-11-2004. Sponsored by National Inst. for Occupational Safety and Health, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109924WEP Price code: PC A03/MF A01

On August 8, 2000, a 43-year-old male public works employee died when he was struck and run over by a dump truck that was backing up along a city street that was under construction. A construction superintendent was also struck and seriously injured in the incident. The city worker was working alongside the construction superintendent at the time of the incident. Both were standing in the street running a chalk line, when a dump truck backed down the street and struck them. Within moments 911 was called and both victims were transported to a local medical center. The city worker died while in transit to the medical center. To prevent similar occurrences in the future, the Washington State Fatality Assessment and Control Evaluation (FACE) investigative team concluded that employers engaged in roadway construction or maintenance should follow these guidelines: (1) Develop and utilize an 'Internal Traffic Control Plan' for each road construction project; (2) Employers should use visual safety devices (i.e., retro reflective barrels, delineators, portable barricades, cones) to channel construction vehicles to separate them from workers in the work zone; (3) All

employees working in road construction work zones should wear high visibility safety apparel such as high visibility vests and hard hats; (4) Construction work zones and construction vehicle/equipment traffic flow should be designed to avoid backing up vehicles/equipment as much as possible; (5) Use a spotter to provide direction for trucks and heavy equipment backing up in work zones; (6) Dump trucks should be equipped with additional visual or sensing devices to cover 'blind spots'; (7) Construction vehicle drivers and key work zone personnel should be equipped with two-way portable radio communication devices to help coordinate construction vehicle activity within the work zone; and (8) Careful consideration should be given to the use of cell phones when working in construction work zones around moving equipment.

**Fatality Assessment and Control Evaluation (FACE)
Program: Hispanic Youth Dies in Densifier at a
Plastics Recycling Plant in Tennessee**

National Inst. for Occupational Safety and Health, Morgantown, WV. Div. of Safety Research. 29 Aug 2005, 18p, FACE-2005-05. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109964WEP Price code: PC A03/MF A01

On March 9, 2005, a fourteen-year-old male Hispanic laborer (the victim) died from injuries sustained after coming in contact with the blade inside a Densifier. A Densifier is a machine used to shred and grind plastic bags into a recyclable product. During the night shift, while the seven other crew members, all Hispanic, were out of the immediate vicinity of the Densifier, the victim entered the machine. When the coworkers returned to the area, they were unable to locate the victim on the plant floor. A coworker looked into the machine and saw the victim inside. He called 911 and then called the plant manager at his home. Emergency Medical Service (EMS) personnel responded to the scene within 7 minutes. When the plant manager arrived, he turned off and locked out the external power source to the Densifier. EMS personnel, who entered the machine through a side access hatch by removing the fixed bolts, removed the remains of the victim. A coroner in attendance pronounced the victim dead at the scene. NIOSH investigators concluded that, to help prevent similar occurrences, employers should: (1) establish a lockout/tagout program that, at a minimum, meets requirements established by the Occupational Safety and Health Administration (OSHA); (2) ensure that equipment is inspected daily and all defective equipment is removed from service until needed repairs have been made; (3) develop, implement, and enforce a comprehensive written safety and health training program for all workers, including requirements for work in permit-required confined spaces, such as Densifiers; (4) train workers in hazard recognition and safe work practices for all tasks to which they are assigned or allowed to perform, including those pertaining to work requiring lockout/tagout and work in a permit-required confined space. The use of the workers' primary language(s) and careful consideration of literacy levels will maximize worker comprehension of these subjects; (5) post warning signs in a language(s) that all workers can understand at entrances to each permit-required confined space, such as the top opening and the side hatch of the Densifier, warning of immediate danger and safety requirements for entry; (6) consider retrofitting the Densifier with a barrier or guardrail to prevent workers from entering or falling into the top opening, installing appropriate guardrails around the

operator platform, and placing standard railings on access stairways; and (7) establish work policies that comply with employment standards for 14- and 15-year-olds in nonagricultural employment.

**Hanford Site Environmental Surveillance Data Report
for Calendar Year 2002**

Pacific Northwest National Lab., Richland, WA. Sep 2003, 222p.

DE2005-15010308WEP Price code: PC A11/MF A03

For complete citation see Radiation Pollution & Control

**Health Hazard Evaluation Report: HETA 98-0096-
2737, Exempla St. Joseph Hospital, Denver,
Colorado, Revised October 2000**

E. H. Page, and E. J. Esswein.

National Inst. for Occupational Safety and Health, Washington, DC. Oct 2000, 38p, HETA-98-0096-2737.

See also PB2000-100206. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2002-108286WEP Price code: PC A04/MF A01

On January 23, 1998, the National Institute for Occupational Safety and Health (NIOSH) received a confidential employee request for a health hazard evaluation (HHE) at Exempla Health Care Facility/St. Joseph's Hospital in Denver, Colorado. The request stated that hospital employees experienced facial flushing, rhinitis, sneezing, itching and watery eyes and fainting while at work. According to the request, the exposure thought to cause the employees' health problems was latex protein from powdered natural rubber latex (NRL) gloves. The NIOSH investigation consisted of concurrent medical and industrial hygiene evaluations during the weeks of July 13-16, 1998, and August 3-6, 1998. Additional medical evaluations were completed November 9-13, 1998. The medical evaluation included a self-administered questionnaire and blood tests for total IgE and latex-specific IgE. The industrial hygiene evaluation consisted of air, surface, and bulk dust sampling to evaluate the presence of latex proteins within the hospital environment.

**NIOSH Health Hazard Evaluation Report: HETA No.
2003-0351-2972, Freudenberg-NOK, High Quality
Plastics Division, Findlay, Ohio, June 2005**

National Inst. for Occupational Safety and Health, Washington, DC. Jun 2005, 18p.

PB2005-109449WEP Price code: PC A03/MF A01

For complete citation see Air Pollution & Control

**NIOSH Health Hazard Evaluation Report: HETA No.
2005-0030-2968, Headlee Roofing, Mesa, Arizona,
June 2005**

National Inst. for Occupational Safety and Health, Washington, DC. Jun 2005, 40p, HETA-2005-0030-2968.

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PB2005-109450WEP Price code: PC A04/MF A01

NIOSH received a request for a health hazard evaluation (HHE) from the Roofers Local 135 Union to evaluate exposures to dust and noise during saw cutting of cement tile by employees of Headlee Roofing, Mesa, Arizona.

Operation of SMPS and Low Temperature TEOM in Locations of the USC Children's Health Study (CHS) and the Los Angeles Supersite

California Univ., Los Angeles. Dept. of Civil and Environmental Engineering. Apr 2005, 212p.

PB2005-107670WEP Price code: PC A11/MF A03

For complete citation see Air Pollution & Control

Public Health Assessment for Naval Weapons Industrial Reserve Plant Bedford, Bedford, Massachusetts, August 19, 2005. EPA Facility ID: MA6170023570

Agency for Toxic Substances and Disease Registry, Atlanta, GA. 19 Aug 2005, 116p. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109459WEP Price code: PC A07

The Agency for Toxic Substances and Disease Registry (ATSDR) prepared this public health assessment (PHA) to evaluate potential health hazards from past, current, and future exposures to contaminants originating from the Naval Weapons Industrial Reserve Plant (NWIRP)-Bedford. Our assessment indicates that people exposed to contaminants from the NWIRP Bedford site are unlikely to have harmful health effects. NWIRP Bedford is located on 46 acres in Bedford, Middlesex County, Massachusetts, about 14 miles northwest of Boston, Massachusetts. The U.S. Department of the Navy (Navy) owned the NWIRP Bedford property; beginning in 1952, the Raytheon Corporation used the property for missile and radar development. Operations were expanded to design, fabrication, and testing of prototype equipment, such as missile guidance and controls systems. The site consists of two sections divided by Hartwell Road.

Recommendations for Protecting Outdoor Workers from West Nile Virus Exposure

National Inst. for Occupational Safety and Health, Washington, DC. Sep 2005, 20p, DHHS/PUB/NIOSH-2005-155. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109460WEP Price code: PC A03/MF A01

The West Nile virus (WNV) is most often spread to humans from the bite of an infected mosquito. The virus may also be transmitted in other ways-through organ transplants, blood transfusions, and breast milk, and from mother to fetus. But the risk of such transmission is very low. WNV was first reported in the United States in 1999, and occupational exposures have been documented. By 2004, the virus was reported throughout the continental United States. Most human infections with WNV (about 80%) cause no symptoms, and about 20% cause flu-like symptoms, including fever, fatigue, headache, and muscle or joint pain. Fewer than 1% of humans infected with WNV become severely ill. Severe symptoms include high fever, stiff neck, disorientation, tremors, muscle weakness, and paralysis. Severely affected persons may develop encephalitis (inflammation of the brain) or

meningitis (inflammation of the membranes of the brain or spinal cord). Severe cases may be fatal. People of all ages and conditions may be affected. However, those who are above age 50 or who have had an organ transplant are at increased risk of severe illness.

Noise Pollution & Control

Conversion of the Statewide Noise Barrier Inventory Into a Spatially Referenced Geodatabase

M. Berrios, P. McGilvray, S. L. Forelle, K. Volarich, M. Stamm, E. Householder, P. Brett, C. Bragdon, S. Burton, and C. Bryk.

Florida Atlantic Univ., Fort Lauderdale. 29 Apr 2005, 94p, FAU-1020-411-43. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109966WEP Price code: PC A06

In January of 2004, the Environmental Management Office of the Florida Department of Transportation (FDOT) Central Office and the Catanese Center for Urban and Environmental Solutions (CUES) at Florida Atlantic University (FAU) embarked initiated conversion of the existing statewide noise barrier inventory spreadsheet into a user-friendly geodatabase. The statewide Noise Barrier Geodatabase (NBGD) is the first and only comprehensive geodatabase designed to serve as an inventory for existing and future barriers.

Ghana Civil Aviation Authority. Accra-Kotoka International Airports Integrated Noise Impact Report. A Segment of the Final Report

AAROTEC Group, Fairfax, VA. Jan 2005, 316p. This document was provided to NTIS by the U.S. Trade and Development Agency, Rosslyn, VA. See also PB2005-106440, Volume 3. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-106439WEP Price code: PC A15

This part prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving of those programs. It prescribes single systems for: (a) measuring noise at airports and surrounding areas that generally provides a highly reliable relationship between projected noise exposure and surveyed reaction of people to noise; and (b) determining exposure of individuals to noise that result from the operations of an airport. This part also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. It provides technical assistance to airport operators, in conjunction with other local, State, and Federal authorities, to prepare and execute appropriate noise compatibility planning and implementation programs.

Quiet Pavement Systems in Europe

D. Gibbs, R. Iwasaki, R. Bernhard, J. Bledsoe, and D. Carlson.

American Trade Initiatives, Inc., Alexandria, VA. May 2005,

54p, FHWA/PL-05-011. Sponsored by Federal Highway Administration, Washington, DC. Office of Policy. and American Association of State Highway and Transportation Officials, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-107640WEP Price code: PC A05/MF A01

Noise pollution is a growing concern in the United States. A major contributor of highway noise is at the tire-pavement interface, which means that quieter pavements could lead to reduction in traffic-generated noise. The Federal Highway Administration, American Association of State Highway and Transportation Officials, and National Cooperative Highway Research Program sponsored a scanning study of quiet pavement systems used in Europe to reduce traffic noise. All of the countries the scan team studied-Denmark, France, Italy, the Netherlands, and the United Kingdom-have policies requiring consideration of quiet pavement where noise is a concern. The focus is on three technologies-thin-surfaced, negatively textured Gap-graded asphalt mixes, single- and double-layer highly porous asphalt mixes, and exposed aggregate concrete pavements. The countries are conducting extensive research on quiet pavement technology. The team's recommendations for U.S. implementation include evaluating the use of double-layer porous asphalt mixes to reduce noise on high-speed roadways, reducing the size of the aggregate used in mixes applied to the wearing surface, and trying thin-textured surfacing using a small aggregate in urban and other areas with lower traffic speeds.

Pesticides Pollution & Control

Pesticide Data Submitters List By Active Chemical Code, March 31, 2005 Edition

Environmental Protection Agency, Washington, DC. Office of Pesticide Programs. 31 Mar 2005, 758p. See also PB2001-100001. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110119WEP Price code: PC A99/MF A06

The Pesticide Data Submitters List is a compilation of names and addresses (and, where available to the Agency, telephone numbers) of registrants who wish to be notified and offered compensation for use of their data. It was developed to assist pesticide applicants in fulfilling their obligation as required by sections 3(c)(91) (D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and 40 CFR Part 162.9-5 regarding ownership of data used to support registration. The listing consists of two files: a sequential list of data submitters sorted by chemical code number and an index to the chemical code arranged alphabetically by chemical name.

Radiation Pollution & Control

C-200 Series Tanks Vacuum Retrieval System Aerosol Test Results

J. L. Huckaby, J. A. Glissmeyer, and P. E. Gray. Pacific Northwest National Lab., Richland, WA. Sep 2003,

64p, PNNL-14408. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15010374WEP Price code: PC A05/MF A01

The radioactive wastes stored in tanks 241-C-201, 241-C-202, 241-C-203, and 241-C-204 (the C-200 series tanks) are to be retrieved with the C-200 vacuum retrieval system (VRS). The VRS will suck the waste up through an articulated mast system, separate it from the suspending air, collect and transfer it to a receiver batch tank, and return the air as exhaust to the waste tank being retrieved. An analysis of potential accidents has indicated that a break in the line used to return the exhaust to the waste tank could release unacceptable quantities of suspended radioactive material to the environment. To estimate the quantity of suspended material and determine accident risks, CH2M HILL and Pacific Northwest National Laboratory (PNNL) conducted tests with the VRS using nonradioactive waste simulants at the Hanford Cold Test Facility. This report describes the tests conducted and presents and discusses the results.

Comparative Plutonium-239 Dose Assessment for Three Desert Sites: Maralinga, Australia; Palomares, Spain; and the Nevada Test Site, USA Before and After Remedial Action

B. W. Church, J. H. Shinn, G. A. Williams, S. R. Adams, L. J. Martin, and R. S. O'Brien.

Lawrence Livermore National Lab., CA. 14 Jul 2000, 24p, UCRL-JC-139690. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15013135WEP Price code: PC A03/MF A01

As a result of nuclear weapons testing and accidents, plutonium has been distributed into the environment. The areas close to the sites of these tests and accidental dispersions contain plutonium deposition of such a magnitude that health authorities and responsible officials have mandated that the contaminated areas be protected, generally through isolation or removal of the contaminated areas. In recent years remedial actions have taken place at all these sites. For reasons not entirely clear, the public perceives radiation exposure risk to be much greater than the evidence would suggest. This perception seems to be particularly true for plutonium, which has often been demonised in various publications as the most hazardous substance known to man. As the position statement adapted by the Health Physics Society explains, 'Plutonium's demonisation is an example of how the public has been misled about radiation's environmental and health threats generally, and in cases like plutonium, how it has developed a warped risk perception that does not reflect reality'.

Final Report: Hybrid-Mixing Tests Supporting the Concentrate Receipt Vessel (CRV-VSL-00002A/2B) Configuration

Westinghouse Savannah River Co., Aiken, SC. Savannah River Site. Sep 2004, 136p, WSRC-TR-2004-00398. Sponsored by Department of Energy, Washington, DC. Order this product

from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-835549WEP Price code: PC A08

The Savannah River National Laboratory (SRNL) has performed scaled physical modeling of Pulse Jet Mixing Systems applicable to the Concentrate Receipt Vessel (CRV) of Hanford's Waste Treatment Plant (WTP) as part of the overall effort to validate pulse jet mixer (PJM) mixing in WTP vessels containing non-Newtonian fluids. The strategy developed by the Pulse Jet Mixing Task Team was to construct a quarter-scale model of the CRV, use a clear simulant to understand PJM mixing behavior, and down-select from a number of PJM configurations to a 'best design' configuration. This 'best design' would undergo final validation testing using a particulate simulant that has rheological properties closely similar to WTP waste streams. The scaled PJM mixing tests were to provide information on the operating parameters critical for the uniform movement (total mobilization) of these non-Newtonian slurries. Overall, 107 tests were performed during Phase I and Phase II testing.

Hanford Site Environmental Surveillance Data Report for Calendar Year 2002

L. E. Bisping.

Pacific Northwest National Lab., Richland, WA. Sep 2003, 222p, PNNL-14295. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15010308WEP Price code: PC A11/MF A03

This data report contains the actual raw data used in the annual Hanford Site environmental report (PNNL-14295). In addition to providing raw data collected during routine sampling in 2002, this report also includes data from special sampling studies performed by PNNL during 2002. Environmental surveillance at the Hanford Site, located in southeastern Washington State, is conducted by Pacific Northwest National Laboratory (PNNL), which is operated by Battelle for the U.S. Department of Energy. The data collected provide a historical record of radionuclide and radiation levels attributable to natural causes, worldwide fallout, and Hanford operations. Data are also collected to monitor several chemicals and metals in Columbia River water and sediment. For more information regarding the 2002 sampling schedule for the Surface Environmental Surveillance Project (SESP) and Drinking Water Monitoring Project, refer to L. E. Bisping, Environmental Surveillance Master Sampling Schedule (PNNL-13418, Pacific Northwest National Laboratory, Richland, Washington). PNNL publishes an annual environmental report for the Hanford Site each calendar year. The Hanford Site Environmental Report for Calendar Year 2002 describes the site mission and activities, general environmental features, radiological and chemical releases from operations, status of compliance with environmental regulations, status of programs to accomplish compliance, and environmental monitoring activities and results.

How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites. A Guide for Corrective Action Plan Reviewers, May 2004

Environmental Protection Agency, Washington, DC. Office of

Solid Waste and Emergency Response. 1 May 2004, 606p, EPA/510/R-04/002. See also PB98-113525, May 1995.

Also available on CD-ROM. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-108599WEP Price code: PC A99/MF A06

The purpose of this manual is to provide you-state and local regulators-with guidance that will help you review corrective action plans (CAPs) that propose alternative cleanup technologies. The manual does not advocate the use of one technology over another; rather it focuses on appropriate technology use, taking into consideration site specific conditions and the nature and extent of contamination. While the manual focuses on the remediation of leaking underground storage tank sites, some of its basic concepts can be applied at hazardous substance and hazardous waste sites as well. The manual is designed to enable you to answer two basic questions when reviewing a CAP: has an appropriate cleanup technology been proposed and does the CAP provide a technically sound approach to the cleanup.

Hydrologic Characterization Using Vadose Zone Monitoring Tools: Status Report

Idaho National Engineering and Environmental Lab., Idaho Falls. Aug 2004, 68p, PNNL-14115. Prepared in cooperation with CH2M Hill Hanford Group, Inc., Richland, WA. and Pacific Northwest National Lab., Richland, WA. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15010103WEP Price code: PC A05

Hydrologic characterization of the vadose zone (from soil surface to the underlying water table) is needed to assess contaminant migration from buried wastes. The Pacific Northwest National Laboratory, under contract with the U. S. Department of Energy's EM-50 (Subsurface Contamination Focus Area), and in collaboration with CH2MHILL Hanford Group, the Idaho National Engineering and Environmental Laboratory (INEEL), and Duratek Federal Services (DFS), deployed a suite of vadose-zone instruments at the Hanford Site near Richland, Washington. Several new instruments were tested.

Infrared Imaging for the Detection of Radioactive Material in Various Storage Containers

T. J. Peters.

Pacific Northwest National Lab., Richland, WA. May 2004, 28p, PNNL-14669. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15010633WEP Price code: PC A03

Three separate tests were conducted in 2003 and 2004 at the Plutonium Finishing Plant (PFP) at the Hanford, Washington site to determine if infrared imaging can be used to detect the presence of radioactive material in various storage containers. The tests were conducted at the two most common infrared wavelength ranges used for nondestructive

evaluations, 3-5 microns and 8-12 microns. The results of the tests indicate that infrared imaging can be used to detect the presence of stored radioactive materials. However, the temperature difference between the end plates and the ambient temperature is generally not large. Some of the end plates were much hotter than others, probably due to the amount, type, and location of the material stored in them and any packing material also stored in the containers. Although there was consistency between the three tests, there were also some inconsistencies, probably due to reflections and emissivity differences in the surface of the end plates. There was excellent consistency between the random temperature measurements made with a contact thermocouple and the infrared image.

Re-Examining the Dissolution of Spent Fuel: A Comparison of Different Methods for Calculating Rates

B. D. Hanson, and R. B. Stout.

Lawrence Livermore National Lab., CA. 9 Apr 2004, 14p, UCRL-PROC-205539. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15011592WEP Price code: PC A03/MF A01

Dissolution rates for spent fuel have typically been reported in terms of a rate normalized to the surface area of the specimen. Recent evidence has shown that neither the geometric surface area nor that measured with BET accurately predicts the effective surface area of spent fuel. Dissolution rates calculated from results obtained by flow through tests were reexamined comparing the cumulative releases and surface area normalized rates. While initial surface area important for comparison of different rates, it appears that normalizing to the surface area introduces unnecessary uncertainty compared to using cumulative or fractional release rates. Discrepancies in past data analyses are mitigated using this alternative method.

Results of Detailed Hydrologic Characterization Tests Fiscal Year 2002

Pacific Northwest National Lab., Richland, WA. Feb 2003, 90p.

DE2005-15010192WEP Price code: PC A06/MF A01

For complete citation see Water Pollution & Control

Results of Performance Evaluation Testing of Electrical Leak-Detection Methods at the Hanford Site Mock Tank-FY 2002-2003

D. B. Barnett, G. W. Gee, M. D. Sweeney, D. P. Mendoza, M. D. Johnson, and V. F. Medina.

Pacific Northwest National Lab., Richland, WA. Feb 2003, 428p, PNNL-14192. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15010193WEP Price code: PC A20

Application of two electrical resistivity methods at the Hanford Site Mock Tank during 2002, indicate the viability of the methods as possible leak-detection tools for SST retrieval operations. Electrical Resistivity Tomography and

High-Resolution Resistivity were used over a 109-day period to detect leakage of a waste simulant beneath the tank. The results of the test indicate that both of these two methods, and subset methods may be applicable to SST leak detection.

Summary of the Hanford Site Environmental Report for Calendar Year 2002

R. W. Hanf, L. F. Morasch, G. P. O'Connor, and T. M. Poston. Pacific Northwest National Lab., Richland, WA. Sep 2003, 66p, PNNL-14295-SUM. Prepared in cooperation with CH2M Hill Hanford Group, Inc., Richland, WA., Fluor Hanford, Richland, WA. and Stoller (S.M.) Corp., Boulder, CO. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15010376WEP Price code: PC A05

This summary booklet is designed to briefly (1) describe the Hanford Site and its mission; (2) describe environmental programs at the Hanford Site; (3) discuss estimated radionuclide exposures to the public from 2002 Hanford Site activities; (4) summarize the status of compliance with environmental regulations; and (5) present information on environmental monitoring and surveillance and groundwater protection and monitoring.

Solid Wastes Pollution & Control

Abstracts of Remediation Case Studies, Volume 9

Federal Remediation Technologies Roundtable. Jul 2005, 92p.

PB2005-110445WEP Price code: PC A06/MF A01

For complete citation see General

Deployed Force Waste Management

S. Baker, and B. Vandeppeer.

Defence Science and Technology Organisation, Salisbury (Australia). Systems Sciences Lab. Nov 2004, 82p, DSTO-GD-0418, DODA-AR-013-255. The original document contains color images. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

ADA436365WEP Price code: PC A06/MF A01

This report examines a range of science and technology issues concerning waste management for deployed land forces. Within this waste management context, the report outlines the functional requirements of a deployed force, the status of Australian research and development, deployable technology options, and approaches to systems modelling.

Dredged Material Management. Action Agenda for the Next Decade

Environmental Protection Agency, Washington, DC. Office of Water. Jul 2003, 90p. Sponsored by National Dredging Team. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161,

USA.

PB2005-110804WEP Price code: PC A06/MF A01

The National Dredging Team (NDT) was established in 1995 to implement the recommendations in a 1994 Report to the Secretary of Transportation on the dredging process, to promote national and regional consistency on dredging issues, and to provide a mechanism for issue resolution and information exchange among Federal, State, and local agencies and stakeholders. It is the vision of the NDT that dredging of U.S. harbors and channels is conducted in a timely and cost-effective manner while meeting environmental protection, restoration, and enhancement goals.

—Foreign Technology—

En Sedimentdatabas foer Ammunitionsdumpningslokaler i Sverige (A Sediment Database Containing Data on Ammunition Dumping Sites in Sweden)

R. M. Karlsson, J. O. Moberg, J. Sjoestrom, and H. Wingfors.

Foersvarets Forskningsanstalt, Umea (Sweden). Avedelningen foer NBC Skydd. Feb 2005, 34p, FOI-R-1366-SE. Text in Swedish; summary in English. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-107442WEP Price code: PC A04

By order of the Swedish Armed Forces Environmental Department—the Swedish acronym HKV GRO miljo-FOI, the Division of NBC Defense, has analyzed surface sediment sample from dumping grounds in lakes and at sea, as well as studied and computerized the results in a user-friendly environment specially developed for this purpose. The analyses have been conducted with respect to the metals arsenic, lead, cadmium, copper, chromium, mercury, nickel and zinc and, too, the explosives TNT, 2,4-DNT and 2A-4,6-DNT. The investigation revealed that the sediments had normal metal content except in a few cases where very heavy content was measured. Heavy metal content is found in certain overloaded areas and can thus not be linked to the dumped ammunition. No detectable content of analyzed explosives could be demonstrated.

EPA Practices for Identifying and Inventorying Hazardous Sites Could Assist Similar Department of Interior Efforts

Environmental Protection Agency, Washington, DC. Office of the Inspector General. Aug 2005, 46p, EPA-2005-P-00020. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109877WEP Price code: PC A04/MF A01

Department of Interior - Office of Inspector General (DOI-OIG) objective asked, Does the Department have effective processes to identify, track, and prioritize hazardous sites. Office of Inspector General (OIG) of the United States Environmental Protection Agency. EPA-OIGs objective under this joint effort asked, What is EPA's process for identifying, prioritizing, and tracking hazardous waste sites, and what practices do EPA staff apply that could benefit DOI's effort to inventory hazardous sites. The body of the report contains summary information on EPA practices, as well as promising practices that DOI can use. The flowchart on page 2 depicts EPA's Superfund process as well as the scope

of our evaluation, and Appendix A provides additional details on our scope and methodology. Appendices B through D provide further details on EPA's process, and include various website links that DOI and others may find useful.

Final Environmental Assessment: Proposed Demolition of 12 Structures, Hill Air Force Base, Utah

STREAMLINE CONSULTING LLC FARMINGTON UT. 22 Aug 2005, 32p
ADA436603WEP Price code: PC A04/MF A01

For complete citation see Air Pollution & Control

Guidance for Design, Installation and Operation of In situ Air Sparging Systems

G. Mickelson, and G. A. Edelstein.

Wisconsin Dept. of Natural Resources, Madison. Nov 2003, 50p, PUB-RR-186. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109272WEP Price code: PC A04/MF A01

This guidance document is intended to aid environmental professionals in designing in situ air sparging systems to remediate contaminated groundwater. It also provides information to Department of Natural Resources (DNR) staff for efficient and consistent oversight and review. This document should be used with the existing DNR Guidance for Conducting Environmental Response Actions, specifically Chapter 7 (Site Investigation) and when available, Chapter 8 (Remedy Selection).

Guidance for Design, Installation and Operation of Soil Venting Systems

G. Mickelson, and G. A. Edelstein.

Wisconsin Dept. of Natural Resources, Madison. Nov 2003, 68p, PUB-RR-185. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109271WEP Price code: PC A05/MF A01

This document is a guide to using soil venting as a remediation technology. Soil venting is a technology that uses air to extract volatile contaminants from contaminated soils. The technology is also known as soil vapor extraction, in situ volatilization, in situ vapor extraction, in situ air stripping, enhanced volatilization, in situ soil ventilation, and vacuum extraction. The term bioventing has been applied to soil venting projects when biodegradation is a significant part of the remediation process and/or biodegradation is enhanced with nutrient addition. Soil venting is a multi-disciplinary process. The designer should have a working knowledge of geology and basic engineering to design an optimal system. A basic knowledge of chemistry is also necessary to develop a quality sampling and monitoring plan. This document is intended as general guidance.

Municipal Solid Waste Landfill Permit Programs: A Primer for Tribes

Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response. May 1994, 16p, EPA-530-K-94-001. Product reproduced from digital image. Order

this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109849WEP Price code: PC A03/MF A01

The U.S. Environmental Protection Agency (EPA) is striving to improve the quality of municipal solid waste management practices across the country. We recognize that we cannot achieve our goal alone. Federal, tribal, state, and local governments, as well as the private waste management industry, all have key roles in this effort.

National Biennial RCRA Hazardous Waste Report (Based on 1995 Data). Executive Summary

Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response. Aug 1997, 20p, EPA/530/S-97/022. See also Preliminary Report, PB97-152417. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110573WEP Price code: PC A03/MF A01

The United States Environmental Protection Agency (EPA), in cooperation with the States (1), biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The purpose of The National Biennial RCRA Hazardous Waste Report (Based on 1995 Data) is to communicate the findings of EPA's 1995 Biennial Reporting System (BRS) data collection efforts to the public, government agencies, and the regulated community.

Non-Time Critical Removal Action. Beede Waste Oil Site, Plaistow, New Hampshire. Response Action Contract (RAC) Region I

Tetra Tech NUS, Inc., Aiken, SC. Jan 2005, 58p. Sponsored by Environmental Protection Agency, Boston, MA. Region I. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109876WEP Price code: PC A05

This memorandum presents the results of our evaluation of the progress of the Non-Time-Critical Removal Action (NTCRA) at the Beede Waste Oil Site through September 2004. The evaluation looked at trends in oil and water extraction by the Vacuum Enhanced Extraction (VEE) system, oil thickness measurements in system extraction wells from system start-up in February 2000 through September 2004, and the evaluations conducted in recent months to develop a better understanding of the oil plumes and oil volume remaining at the site. This evaluation was performed by Tetra Tech NUS (TtNUS) at the request of the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W6-0045, Work Assignment NO.105-NARV-OI IT.

Progress at Region 7 National Priorities List (NPL) Superfund Sites, Iowa

Environmental Protection Agency, Kansas City, MO. Region VII. Aug 1995, 86p, EPA/907/R-95-006. Product

reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110808WEP Price code: PC A06/MF A01

The EPA has identified 1,245 hazardous waste sites as the most serious in the Nation. These sites comprise the National Priorities List; sites targeted for cleanup under Superfund. but site discoveries continue, and the EPA estimates that, while some will be deleted after lengthy cleanups, this list, commonly called the NPL will continue to grow by approximately 50 to 100 sites per year, potentially reaching 2,100 sites by the year 2000.

Progress at Region 7 National Priorities List (NPL) Superfund Sites, Kansas

Environmental Protection Agency, Kansas City, MO. Region VII. Aug 1995, 62p, EPA/907/R-95-007. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110809WEP Price code: PC A05/MF A01

The EPA has identified 1,245 hazardous waste sites as the most serious in the Nation. These sites comprise the National Priorities List; sites targeted for cleanup under Superfund. but site discoveries continue, and the EPA estimates that, while some will be deleted after lengthy cleanups, this list, commonly called the NPL will continue to grow by approximately 50 to 100 sites per year, potentially reaching 2,100 sites by the year 2000.

Progress at Region 7 National Priorities List (NPL) Superfund Sites, Missouri

Environmental Protection Agency, Kansas City, MO. Region VII. Aug 1995, 98p, EPA/907/R-95-004. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110806WEP Price code: PC A06/MF A02

The EPA has identified 1,245 hazardous waste sites as the most serious in the Nation. These sites comprise the National Priorities List; sites targeted for cleanup under Superfund. but site discoveries continue, and the EPA estimates that, while some will be deleted after lengthy cleanups, this list, commonly called the NPL will continue to grow by approximately 50 to 100 sites per year, potentially reaching 2,100 sites by the year 2000.

Progress at Region 7 National Priorities List (NPL) Superfund Sites, Nebraska

Environmental Protection Agency, Kansas City, MO. Region VII. Aug 1995, 62p, EPA/907/R-95-005. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110807WEP Price code: PC A05/MF A01

The EPA has identified 1,245 hazardous waste sites as the

most serious in the Nation. These sites comprise the National Priorities List; sites targeted for cleanup under Superfund. but site discoveries continue, and the EPA estimates that, while some will be deleted after lengthy cleanups, this list, commonly called the NPL will continue to grow by approximately 50 to 100 sites per year, potentially reaching 2,100 sites by the year 2000.

Public Health Assessment for Naval Weapons Industrial Reserve Plant Bedford, Bedford, Massachusetts, August 19, 2005. EPA Facility ID: MA6170023570

Agency for Toxic Substances and Disease Registry, Atlanta, GA. 19 Aug 2005, 116p.

PB2005-109459WEP Price code: PC A07

For complete citation see Environmental Health & Safety

Report to the Senate Appropriations Committee: Regulation of Wood Preserving Wastes. Executive Summary

Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response. Jul 1991, 14p, EPA/530/SW-91/058A. See also PB91-220301. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110574WEP Price code: PC A03/MF A01

On November 15, 1990, the United States Environmental Protection Agency (EPA) issued a final rule designating three categories of wastes from wood preserving operations as hazardous waste under Subtitle C of the Resource Conservation and Recovery Act (RCRA). The Senate Committee on Appropriations had directed the Agency to submit by March 15, 1991, a Report regarding the potential advantages, costs, and risks associated with a multistatute approach to regulation of wastes from wood preserving operations. The approach would employ three statutory authorities to control wood preserving wastes in the following manner: (1) Clean Water Act (CWA) - regulation of wastewaters and stormwaters; (2) Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) - regulation of treated wood drippage and the establishment of drip pad management standards; (3) Resource Conservation and Recovery Act (RCRA) - regulation of process residuals. The report is in response to the Committee's directive to look at the advantages, costs, and risks of the multistatute approach. To do so, the elements of the multistatute approach are examined qualitatively in Section One. As part of this examination, a comparison of the multistatute elements to analogous RCRA elements is included at various points. In Section Two of the Report, the costs and risks of the multistatute approach are examined, including a comparison to those of the RCRA Subtitle C approach.

SITE-Emerging Technology Summary: Laser Induced Photochemical Oxidative Destruction of Toxic Organics in Leachates and Groundwaters

Environmental Protection Agency, Washington, DC. Feb 1993, 14p.

PB2005-110575WEP Price code: PC A03/MF A01

For complete citation see Water Pollution & Control

Summary of Hanford Site Groundwater Monitoring for Fiscal Year 2001

Bechtel Hanford, Inc., Richland, WA. Mar 2002, 42p.
DE2005-15010054WEP Price code: PC A04

For complete citation see Water Pollution & Control

Treatability Study Report of Green Mountain Laboratories, Inc.'s Bioremediation Process. Treatment of PCB Contaminated Soils, at Beede Waste Oil/Cash Energy Superfund Site, Plaistow, New Hampshire

Science Applications International Corp., Cincinnati, OH. Apr 2005, 48p, EPA/540/R-05/006. Sponsored by National Risk Management Research Lab., Cincinnati, OH. Office of Research and Development. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109277WEP Price code: PC A04

In 1998, under the sponsorship of the New Hampshire - Department of Environmental Services (NHDES), Green Mountain Laboratories, Inc. (GML) and the USEPA agreed to carry out a Superfund Innovative Technology Evaluation (SITE) project to evaluate the effectiveness of GMLs Bioremediation Process for the treatment of PCB contaminated soils at the Beede Waste Oil/Cash Energy Superfund site in Plaistow, New Hampshire (hereinafter referred to as the Beede site). The treatment process involved inoculation/augmenting of the PCB bulk microbial inoculum and nutrients, and allowing the microbes to aerobically degrade the PCBs. The bulk inoculum was produced on-site by the developer using animal feed-grade oatmeal as the substrate, shredded pine needles that provided certain specific co-metabolite compounds, nutrients and a proprietary consortium of microorganisms capable of degrading the PCBs to their eventual endpoints - carbon dioxide and mineral halides.

Water Pollution & Control

—Proceedings, Symposia, Etc.—

Alaska OCS Region Information Transfer Meeting and Barrow Information Update Meeting (10th). Final Proceedings. Held in Anchorage, Alaska on March 14-16, 2005 and in Barrow, Alaska on March 18, 2005

MBC Applied Environmental Sciences, Inc., Costa Mesa, CA. Jun 2005, 142p, OCS/MMS-2005-036. See also 9th Meeting, PB2004-103952. Sponsored by Minerals Management Service, Anchorage, AK. Alaska Outer Continental Shelf Office. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110108WEP Price code: PC A08

The Minerals Management Service (MMS) mission is to manage offshore oil and gas leasing, exploration and development in an environmentally sound and safe manner. The Environmental Studies Program to support those goals in a variety of ways. Most importantly, we are seeking to obtain and move quality science in a timely and useful format into MMS decision process.

Albion River Total Maximum Daily Load for Sediment

Environmental Protection Agency, San Francisco, CA. Region IX. Dec 2001, 54p. Order this product from NTIS by: phone

at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109879WEP Price code: PC A05

The Albion River Total Maximum Daily Load (TMDL) for Sediment is being established in accordance with Section 303(d) of the Clean Water Act, because the State of California has determined that the water quality standards for the Albion River are exceeded due to sediment. In accordance with Section 303(d), the State of California periodically identifies those waters that are not meeting water quality standards. In its latest Section 303(d) list, adopted through Resolution 98-45 on 23 April 1998, the North Coast Regional Water Quality Control Board (Regional Water Board) identified the Albion River as impaired due to elevated sedimentation. In accordance with a consent decree (Pacific Coast Federation of Fishermens Associations, et al. v. Marcus, No. 95-4474 MHP, 11 March 1997), 2001 is the deadline for establishment of this TMDL. Because the State of California will not complete adoption of a TMDL for the Albion River by this deadline, EPA is establishing this TMDL, with assistance from Regional Water Board staff. The primary adverse impacts associated with excessive sediment in the Albion River pertain to the anadromous salmonid fishery. The water quality conditions do not adequately support several anadromous salmonid species present in the Albion River and its tributaries, which has contributed to severe population declines. The populations of coho salmon (*Oncorhynchus kisutch*), chinook salmon (*O. tshawytscha*), and steelhead trout (*O. mykiss*) in this watershed are all listed as threatened under the federal Endangered Species Act. The purpose of the Albion River TMDL is to identify the total load of sediment that can be delivered to the Albion River and its tributaries without causing exceedence of water quality standards, and to allocate the total load among the sources of sediment in the watershed.

Baseline Water Quality Data Inventory and Analysis, Golden Gate National Recreation Area. Volume 1 of II
National Park Service, Fort Collins, CO. Water Resources Div. Mar 2005, 618p, NPS/NRWRD/NRTR-2005-328-V1. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-106552WEP Price code: PC A99

This document presents the results of surface-water-quality data retrievals for Golden Gate National Recreation Area from six of the United States Environmental Protection Agency's (EPA) national databases: (1) Storage and Retrieval (STORET) water database management system; (2) River Reach File (RF3); (3) Industrial Facilities Discharge (IFD); (4) Drinking Water Supplies (DRINKS); Flow Gages (GAGES); and (6) Water Impoundments (DAMS). The document provides: (1) a complete inventory of all retrieved water quality data, water quality stations, and the entities responsible for data collection; (2) descriptive statistics and appropriate graphical plots of water quality data characterizing annual and seasonal tendencies and trends; (3) a comparison of the park's water quality data to relevant EPA and Water Resources Division water quality screening criteria; and (4) an Inventory Data Evaluation and Analysis to determine what NPS-75 'Level 1' water quality parameters have been collected in the park.

Demonstration of Aquafix and SAPS Passive Mine Water Treatment Technologies at the Summitville Mine Site. Innovative Technology Evaluation Report

National Risk Management Research Lab., Cincinnati, OH. Office of Research and Development. Jun 2004, 64p, EPA/540/R-04/501. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109275WEP Price code: PC A05

As part of the Superfund Innovative Technology Evaluation (SITE) Program, the U.S. Environmental Protection Agency (EPA) evaluated passive water treatment (PWT) technologies for metals removal from acid mine drainage (AMD) at the Summitville Mine Superfund Site in Southern Colorado. PWT technologies have been demonstrated to be effective in removing high concentrations of metals (aluminum, copper, iron, manganese, and zinc) from AMD. These systems supply alkalinity to the mine drainage along with aeration to precipitate metals such as aluminum and iron as oxides and hydroxides (oxyhydroxides). The technology is waste-stream specific, requiring characterization of all organic and inorganic constituents. Two technologies were evaluated for this project: the Successive Alkalinity Producing System (SAPS), a PWT technology, and the Aquafix treatment system, which is a semi-passive treatment technology. In consideration of the severity of the AMD quality at the Summitville site, an iron settling pond pretreatment system was constructed upstream from the SAPS pond. This pond provided a means to aerate the AMD, allowing oxidation and precipitation of ferric iron prior to SAPS treatment. From the Reynolds Adit collection sump, AMD was delivered as influent to the SAPS at a rate of 5 gallons per minute (gpm). This influent was aerated by passage through a spray nozzle to atomize the AMD as it settled into the pond. The iron, and potential co-precipitated metals, settled to the bottom of this pond prior to delivery into the SAPS.

Dredged Material Management. Action Agenda for the Next Decade

Environmental Protection Agency, Washington, DC. Office of Water. Jul 2003, 90p.

PB2005-110804WEP Price code: PC A06/MF A01

For complete citation see Solid Wastes Pollution & Control

Ecological Risk Assessment for General Electric (GE)/Housatonic River Site Rest of River. Volumes 1 and 2, Sections 1-12

Weston Solutions, Inc., West Chester, PA. 12 Nov 2004, 892p, GE-100504-ACJS. Sponsored by Corps of Engineers, Waltham, MA. New England Div. and Environmental Protection Agency, Boston, MA. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110444WEP Price code: PC A99

The purpose of this ecological risk assessment (ERA) is to characterize and quantify the current and potential risks to biota exposed to contaminants of potential concern (COPCs) in the Housatonic River below the confluence of the East and West Branches (known as the 'Rest of River'), focusing on polychlorinated biphenyls (PCBs) and other hazardous substances originating from the General Electric Company (GE)

facility in Pittsfield, MA. This information is synthesized, through a weight-of-evidence (WOE) approach, into a discussion of the nature and magnitude of the risks for the assessment endpoints, and the uncertainties associated with the characterization of these risks. Multiple lines of evidence for each assessment endpoint are evaluated, including where applicable or available: field surveys and studies; site-specific toxicity tests; and comparison of effects thresholds to site-specific COC concentrations or doses (measured or modeled).

EMPACT Beach Project: Results from a Study on Microbiological Monitoring in Recreational Waters

L. J. Wymer, K. P. Brenner, J. W. Martinson, A. O. Dufour, W. R. Stutts, and S. A. Schaub.
Environmental Protection Agency, Cincinnati, OH. National Exposure Research Lab. Aug 2005, 88p, EPA/600/R-04/023. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109975WEP Price code: PC A06

Protecting the health of swimmers who use surface waters for recreation has been of interest to public health officials in the United States since 1930. It was well recognized at that early date that human excreta discharged to surface waters posed a health hazard to those who used the water for recreation. Although the relationship between swimming-associated health effects and feces-contaminated water used for swimming had not been defined, microbial limits based on coliform bacteria were used in many states, particularly when there was physical evidence of sewage contamination. The limiting values selected by responsible authorities were based more on attainment rather than on risk of illness. Thus, there was little uniformity among states regarding what level of coliforms constitute waters safe for swimming. Several states chose 1,000 coliforms per 100 ml as a measure of good quality water, but there was not much uniformity among states regarding what level of coliforms was a safe level. There was, however, a general understanding that fecal contamination of surface water posed a risk to those exposed to the water, and that the risk might be limited by setting a level of fecal contamination above which exposure would be unacceptable. The manner in which water samples were taken, the frequency of sampling, and the number of samples were usually not described in the early literature.

———**Foreign Technology**———

En Sedimentdatabas foer Ammunitionsdumpningslokaler i Sverige (A Sediment Database Containing Data on Ammunition Dumping Sites in Sweden)

Foersvarets Forskningsanstalt, Umea (Sweden). Avedelningen foer NBC Skydd. Feb 2005, 34p.

PB2005-107442WEP Price code: PC A04

For complete citation see Solid Wastes Pollution & Control

Environmental Impacts of a Modal Shift

Minnesota Dept. of Transportation, St. Paul. Jan 1991, 24p.

PB2005-110453WEP Price code: PC A03/MF A01

For complete citation see General

———**Proceedings, Symposia, Etc.**———

Fish Physiology, Toxicology, and Water Quality. Proceedings of the Seventh International Symposium, Tallinn, Estonia, May 12-15, 2003

Environmental Protection Agency, Research Triangle Park, NC. National Exposure Research Lab. May 2003, 368p, EPA/600/R-04/049. See also PB2005-102515. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110800WEP Price code: PC A17/MF A03

Scientists from five countries presented papers at the International Symposium on Fish Physiology, Toxicology, and Water Quality Management, which was held in Sacramento, California, on May 12-15, 2003. The proceedings includes 21 papers presented in sessions on the physiological effects of pollutants on fish, the uptake and depuration of toxicants by fish, and water quality management. Papers address the reproduction and growth of fishes, respiratory physiology, bioaccumulation of toxicants, microcosms, ecotoxicology, surface water quality including mine drainage, metal complexation and xenobiotics, and water quality models and management strategies.

Guidance for Design, Installation and Operation of Groundwater Extraction and Product Recovery Systems

G. Mickelson, and G. A. Edelman.

Wisconsin Dept. of Natural Resources, Madison. Nov 2003, 70p, PUB-RR-183. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109270WEP Price code: PC A05/MF A01

This is a guide to using groundwater extraction and product recovery as a remediation technology. Groundwater extraction systems are systems that pump contaminated groundwater from an aquifer on a long-term basis. Groundwater extraction requires treatment and proper disposal of the pumped groundwater. Groundwater that is treated on-site can be discharged to surface water or groundwater under a Wisconsin Pollution Discharge Elimination System (WPDES) permit. Treated groundwater (on-site or off-site) may also be discharged to a publicly owned treatment works (POTW) provided that prior approval is obtained from the POTW. Most of this guidance is specific to remediation of unconfined aquifers, however, much of the guidance is also appropriate for confined aquifers. An aquifer is defined in this document as any soil or rock unit that contains water under saturated conditions. The term aquifer, as used in this document, can refer to a unit that is overlain and/or underlain by a geologic unit that has relatively higher permeability, and/or does not produce economically significant volumes of water.

Guidance for Design, Installation and Operation of In situ Air Sparging Systems

Wisconsin Dept. of Natural Resources, Madison. Nov 2003, 50p.

PB2005-109272WEP Price code: PC A04/MF A01

For complete citation see Solid Wastes Pollution & Control

Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act

Environmental Protection Agency, Washington, DC. Assessment and Watershed Protection Div. Jul 2005, 94p. Product

reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109874WEP Price code: PC A06/MF A01

This document provides EPA's guidance for preparing the 2006 Integrated Report. The Integrated Report is intended to satisfy the listing requirements of sections 305(b) and 314 of the Clean Water Act (CWA). This guidance document discusses existing requirements of the CWA and EPA's implementing regulations. Those statutory and regulatory provisions contain legally binding requirements. This document describes those requirements; it does not substitute for them. The recommendations in this document are not binding; indeed, there may be other approaches that would be appropriate in particular circumstances. When EPA makes a decision on a states section 303(d) list, it will make each decision on a case-by-case basis and will be guided by the applicable requirements of the CWA and implementing regulations, taking into account comments and information presented at that time by interested persons regarding the appropriateness of applying these recommendations to the particular situation.

High Resolution Imaging of Vadose Zone Transport Using Crosswell Radar and Seismic Methods

E. L. Majer, J. E. Peterson, K. H. Williams, and T. M. Daley.

Lawrence Berkeley National Lab., CA. 1 Sep 2000, 30p, PNNL-13791. Prepared in cooperation with Pacific Northwest National Lab., Richland, WA. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15010152WEP Price code: PC A03

Although borehole and outcrops provide some sampling there is a critical need to provide volumetric information between point measurements. For example, there is a need for information on heterogeneities at scales ranging from the centimeter to 10s of meters, as these features can alter contaminant transport significantly. At Hanford, heterogeneities of interest can range from localized phenomena such as silt or gravel lenses, fractures, clastic dikes, to large-scale lithologic discontinuities. These features have been suspected of leading to funneling and fingering, additional physical mechanisms that could alter and possibly accelerate the transport of contaminants to underlying groundwater. It has also been observed from the studies to date that over relatively short distances there are heterogeneities in the physical structure of the porous medium and structural differences between repacked soil cores and the field site from which the materials initially came. Crosswell geophysical measurements are one means to provide this information.

Hudson River PCBs Site Phase One Dredge Area Delineation Report

Environmental Protection Agency, New York. Region II. Feb 2005, 254p. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109873WEP Price code: PC A13

This Phase 1 Dredge Area Delineation (DAD) Report has been prepared on behalf of the General Electric Company (GE) as part of the remedial design to implement the Record of Decision (ROD; USEPA 2002a) for the Hudson River PCBs Site issued by the United States Environmental Protection Agency (USEPA) in February 2002. The principal goal of this report is to provide a description of the dredge area delineation process and to present the delineation of areas meeting the criteria for removal in accordance with the requirements imposed by USEPA. This report provides detailed descriptions of: The logic used for dredge area delineation; The data analyses used to characterize the river sediments and the associated PCBs; The rationale used for targeting specific sediment areas; and The methodology for establishing the horizontal and vertical boundaries of those the areas meeting the criteria for removal, volume of contaminated sediments, and PCB inventory within those areas.

Hydrologic Characterization Using Vadose Zone Monitoring Tools: Status Report

Idaho National Engineering and Environmental Lab., Idaho Falls. Aug 2004, 68p.

DE2005-15010103WEP Price code: PC A05

For complete citation see Radiation Pollution & Control

Non-Time Critical Removal Action. Beede Waste Oil Site, Plaistow, New Hampshire. Response Action Contract (RAC) Region I

Tetra Tech NUS, Inc., Aiken, SC. Jan 2005, 58p.

PB2005-109876WEP Price code: PC A05

For complete citation see Solid Wastes Pollution & Control

Occurrence of Organic Wastewater Contaminants, Pharmaceuticals, and Personal Care Products in Selected Water Supplies, Cape Code, Massachusetts, June 2004

M. J. Zimmerman.

Geological Survey, Reston, VA. 2005, 24p, USGS-OFR-2005-1206. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109843WEP Price code: PC A03/MF A01

In June 2004, the U.S. Geological Survey, in cooperation with the Barnstable County Department of Health and Environment, sampled water from 14 wastewater sources and drinking-water supplies on Cape Cod, Massachusetts, for the presence of organic wastewater contaminants, pharmaceuticals, and personal care products. The geographic distribution of sampling locations does not represent the distribution of drinking-water supplies on Cape Cod. The environmental presence of the analyte compounds is mostly unregulated; many of the compounds are suspected of having adverse ecological and human health effects. Of the 85 different organic analyte compounds, 43 were detected, with 13 detected in low concentrations (less than 1 microgram per liter) from drinking-water supplies thought to be affected by wastewater because of previously detected high nitrate concentrations. (Phenol and d-limonene, detected in equipment blanks at unacceptably high concentrations, are not included in counts of detections in this report.) Compounds detected in the

drinking-water supplies included the solvent, tetrachloroethylene; the analgesic, acetaminophen; the antibiotic, sulfamethoxazole; and the antidepressant, carbamazepine. Nitrate nitrogen, an indicator of wastewater, was detected in water supplies in concentrations ranging from 0.2 to 8.8 milligrams per liter.

Progress Report on Drinking Water Protection Efforts

Environmental Protection Agency, Washington, DC. Office of the Inspector General. Aug 2005, 56p, EPA-2005-P-00021. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109878WEP Price code: PC A05/MF A01

We conducted this review to determine the progress made by the U.S. Environmental Protection Agency (EPA) and its partners to protect drinking water from contamination from source to consumer. The Safe Drinking Water Act (SDWA) Amendments of 1996 contain provisions to help States and water systems improve public health protection. The provisions include: Assessing water sources; Certifying system operators; Improving the technical, managerial, and financial capacity of water systems; Providing funding for infrastructure improvements; Providing funding to States; and Keeping the public informed.

Questa Baseline and Pre-Mining Ground-Water Quality Investigation. 5. Well Installation, Water-Level Data, and Surface- and Ground-Water Geochemistry in the Straight Creek Drainage Basin, Red River Valley, New Mexico, 2001-03

C. A. Naus, R. B. McCleskey, D. K. Nordstrom, F. L. Paillet, R. H. Morin, P. L. Verplanck, L. C. Donohoe, and A. G. Hunt.
Geological Survey, Denver, CO. Water Resources Div. 2005, 232p, USGS-SIR-2005-5088. Prepared in cooperation with New Mexico Environment Dept., Santa Fe. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110850WEP Price code: PC A12

The U.S. Geological Survey, in cooperation with the New Mexico Environment Department, is investigating the pre-mining ground-water chemistry at the Molycorp molybdenum mine in the Red River Valley, northern New Mexico. The primary approach is to determine the processes controlling groundwater chemistry at an unmined, off-site, proximal analog. The Straight Creek drainage basin, chosen for this purpose, consists of the same quartz-sericite-pyrite altered andesitic and rhyolitic volcanic rock of Tertiary age as the mine site. The weathered and rugged volcanic bedrock surface is overlain by heterogeneous debris-flow deposits that interfinger with alluvial deposits near the confluence of Straight Creek and the Red River. Pyritized rock in the upper part of the drainage basin is the source of acid rock drainage (pH 2.8-3.3) that infiltrates debrisflow deposits containing acidic ground water (pH 3.0-4.0) and bedrock containing water of circumneutral pH values (5.6-7.7). Eleven observation wells were installed in the Straight Creek drainage basin. The wells were completed in debris-flow deposits, bedrock, and interfingering debris-flow and Red

River alluvial deposits. Chemical analyses of ground water from these wells, combined with chemical analyses of surface water, water-level data, and lithologic and geophysical logs, provided information used to develop an understanding of the processes contributing to the chemistry of ground water in the Straight Creek drainage basin. Surface- and ground-water samples were routinely collected for determination of total major cations and selected trace metals; dissolved major cations, selected trace metals, and rareearth elements; anions and alkalinity; and dissolved-iron species. Rare-earth elements were determined on selected samples only. Samples were collected for determination of dissolved organic carbon, mercury, sulfur isotopic composition (³⁴S and ¹⁸O of sulfate), and water isotopic composition (²H and ¹⁸O) during selected samplings. One set of ground-water samples was collected for helium-3/tritium and chlorofluorocarbon (CFC) age dating.

Rebuilding Iraq: U.S. Water and Sanitation Efforts Need Improved Measures for Assessing Impact and Sustained Resources for Maintaining Facilities

Government Accountability Office, Washington, DC. Sep 2005, 52p, GAO-05-872. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110002WEP Price code: PC A05

After security conditions in Iraq began to deteriorate in June 2003, the U.S.-led Coalition Provisional Authority (CPA) included restoring essential services in Iraq, such as water and sanitation, as part of its strategy for establishing a secure, peaceful, and democratic Iraq. From 1991 to 2003, a decreasing number of Iraqis had access to safe drinking water and sanitation services, and water-borne disease rates rose. The United States has made available \$2.6 billion for rebuilding the water and sanitation sector. As part of GAO's review of Iraq reconstruction under the Comptroller General's authority, we assessed U.S. activities in the water and sanitation sector, including (1) the funding and status of U.S. activities, (2) U.S. efforts to measure progress, (3) the factors affecting the implementation of reconstruction activities, and (4) the sustainability of U.S.-funded projects.

Results of Detailed Hydrologic Characterization Tests Fiscal Year 2002

F. A. Spane, D. R. Newcomer, and P. D. Thorne.
Pacific Northwest National Lab., Richland, WA. Feb 2003, 90p. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15010192WEP Price code: PC A06/MF A01

This report provides the results of detailed hydrologic characterization tests conducted within newly constructed Hanford Site wells during FY 2002. Results from the tests provide hydrologic information that supports the needs of RCRA waste management characterization and sitewide groundwater monitoring and modeling programs and reduces the uncertainty of groundwater flow conditions at selected Hanford locations.

Revision of the OCS Oil-Weathering Model: Phases II and III

M. Reed, P. Daling, M. Moldestad, F. Leirvik, P. Brandvik, and J. Resby.
SINTEF Materials and Chemistry, Trondheim (Norway). Dec 2004, 208p, MMS-2005-020. Sponsored by Minerals Management Service, Anchorage, AK. Alaska Outer Continental Shelf Office. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-107477WEP Price code: PC A11

The report documents oil-weathering analyses done on six North Slope Alaska and Gulf of Mexico Region crude oils, revisions to the oil weathering model through Version 3.0, and collates experimental oil weathering data, suitable for model testing and validation, from international spill field trials.

Sacramento District History (1929-2004)

W. Collins, L. Asay, B. J. Davy, B. Doyle, and J. P. Fast.
Army Engineer District, Sacramento, CA. 2004, 262p.
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ADA436393WEP Price code: PC A13/MF A03

Although the Sacramento District was established in 1929, this document recaptures the legendary history from the mid-1800's and the repercussions the Central Valley endured regarding the navigation of the rivers and streams, which, at that time, were clogged with sediment from the activities of mining. This volume is the second of its kind for the Sacramento District. The first historical account covers the time period from 1929 through 1973 and was published in 1976. While this book provides an historical perspective of the Sacramento District in the beginning chapter, it is the specific activities during the period from 1973 to 2003 that are described in detail in the remaining chapters. This description reveals the evolutionary growth of the Sacramento District, which has persevered amid a sea of changes brought about by Federal and state regulatory agencies and a most sensitive California constituency. The comprehensive research involved obtaining more than 33 personal oral history interviews with the District's clients, District employees, and past District Commanders. In addition, 25 transcribed archived oral history interviews were completed, which assisted in providing the intimate details for recounting specific projects the District had been involved with. Other key documents that were consulted included U.S. Army Corps of Engineers' reports, press releases, the District's Public Affairs Reports, newspaper articles, as well as internal correspondence. Specific sources are provided via numerous endnotes.

SITE-Emerging Technology Summary: Laser Induced Photochemical Oxidative Destruction of Toxic Organics in Leachates and Groundwaters

Environmental Protection Agency, Washington, DC. Feb 1993, 14p, EPA/540/SR-92/080. See also Main Report, PB93-131431. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is

located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110575WEP Price code: PC A03/MF A01

Energy and Environmental Engineering, Inc., East Cambridge Massachusetts, developed a photochemical treatment process that oxidizes organic compounds in wastewater. The process features an Excimer laser, which produces energy sufficient to fragment the bonds of the organic contaminants without altering the water molecules. The developer envisions the process as a final treatment step and claims applicability to groundwater and industrial wastewater containing organics, such as halogenated aliphatics, substituted aromatics, and organic acids. Contaminated wastewater is pumped through a filter unit to remove suspended particles. The filtrate is mixed with stoichiometric quantities of hydrogen peroxide. This mixture is fed to the photochemical reactor and irradiated. Energy from the laser is absorbed by the organic compound(s) and the oxidant, making both species reactive. The reactor effluent is directed to a vented storage tank, where the carbon dioxide product is vented. Base may be added to the storage tank to neutralize any acids formed. Reaction products are carbon dioxide, water, and the appropriate halogen acid. Reaction kinetics depend on contaminant concentration, peroxide concentration, irradiation dose, and irradiation frequency. Studies of the process used the existing bench-scale system, which treats solutions containing up to approximately 100 ppm of total organic carbon at a rate of 1 gallon per minute. Destruction efficiencies between 88% and 99% have been obtained for benzene, benzidine, chlorobenzene, chlorophenol, phenol, and dichloroethene. Preliminary cost evaluation shows that the process is competitive compared to other UV oxidation processes and carbon adsorption.

Stabilization of Mercury in Waste Material from the Sulfur Bank Mercury Mine. Innovative Technology Evaluation Report

Science Applications International Corp., Cincinnati, OH. Jul 2004, 72p, EPA/540/R-04/502A. Sponsored by National Risk Management Research Lab., Cincinnati, OH. Office of Research and Development. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109276WEP Price code: PC A05

This report summarizes the findings of an extensive treatability study of three stabilization technologies for mercury immobilization on materials collected from the Sulfur Bank Mercury Mine (SBMM), located north of San Francisco, in Lake County, California. The SBMM site is believed to be contaminating the adjacent Clear Lake environment with mercury derived from historic mining practices at the site. The study was conducted as a joint effort between EPA's Superfund Innovative Technology Evaluation (SITE) Program and the Mine Waste Technology Program (MWTP). Two mercury contaminated materials were selected for treatment by three types of stabilization technologies. The purpose of the study was to determine the effectiveness of the three stabilization technologies for immobilizing mercury in the waste rock materials and therefore reducing leachable mobile mercury in the effluent. Several mercury-bearing materials from the site were considered for testing. A material with high levels of leachable mercury was selected as the primary target of the study, and is referred to as 'Mercury Ore'. As a secondary objective, treatment effectiveness was evaluated on material that was lower in mercury concentration, but present in large

quantities and is referred to as 'Waste Rock'.

Status of U.S. Harmful Algal Blooms: Progress Towards a National Program

National Ocean Service, Washington, DC. 2005, 30p. See also PB2003-104272 and PB2005-107347. Prepared in cooperation with Woods Hole Oceanographic Institution, MA. Dept. of Biology. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110122WEP Price code: PC A03

Harmful algal blooms are an increasing worldwide threat with significant impacts on U.S. coastal regions. A harmful algal bloom (HAB) in local waters can have serious consequences, depending on the species, that range from killing fish and other wildlife to making shellfish poisonous and perhaps deadly to consumers. Recently, blooms have occurred in new coastal areas and new species have also appeared, catching watermen, residents, and local officials off-guard (e.g., 'Pfiesteria hystera' in mid-Atlantic coastal waters). This report outlines interagency efforts and progress toward a national program.

Summary of Hanford Site Groundwater Monitoring for Fiscal Year 2001

M. J. Hartman, L. F. Morasch, and W. D. Webber. Bechtel Hanford, Inc., Richland, WA. Mar 2002, 42p, PNNL-13788-SUM. Prepared in cooperation with CH2M Hill Hanford Group, Inc., Richland, WA., Fluor Hanford, Richland, WA. and Idaho National Engineering and Environmental Lab., Idaho Falls. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

DE2005-15010054WEP Price code: PC A04

This booklet summarizes a more detailed report, Hanford Site Groundwater Monitoring for Fiscal Year 2001. This summary booklet is designed to briefly (1) describe the highlights for fiscal year 2001; (2) identify emerging issues in groundwater monitoring; (3) discuss groundwater flow and movement; and (4) provide an overview of current contamination in the Hanford Site groundwater and vadose zone.

Summary of the Hanford Site Environmental Report for Calendar Year 2002

Pacific Northwest National Lab., Richland, WA. Sep 2003, 66p.

DE2005-15010376WEP Price code: PC A05

For complete citation see Radiation Pollution & Control

Treatability Study Report of Green Mountain Laboratories, Inc.'s Bioremediation Process. Treatment of PCB Contaminated Soils, at Beede Waste Oil/Cash Energy Superfund Site, Plaistow, New Hampshire

Science Applications International Corp., Cincinnati, OH. Apr 2005, 48p.

PB2005-109277WEP Price code: PC A04

For complete citation see Solid Wastes Pollution & Control

Urban Wet-Weather Flows

C. Y. Fan, R. Field, J. Heaney, R. Pitt, and S. Clark. National Risk Management Research Lab., Cincinnati, OH. Water Supply and Water Resources Div. 2005, 126p. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-110255WEP Price code: PC A08/MF A02

This subject was comprised of three basic subareas, i.e., combined-sewer overflows (CSO), sanitary-sewer overflows (SSO), and stormwater discharges. Major conference proceedings related to wet-weather flow (WWF) published during 1999 were: (1) National Conference on Retrofit Opportunities for Water Resource Protection in Urban Environments (EPA, 1999); (2) Comprehensive Stormwater & Aquatic Ecosystem Management, Auckland, New Zealand (NZWWA, 1999); (3) the Eighth International Conference on Urban Storm Drainage, Sydney, Australia (Joliffe and Ball, 1999); (4) Water Environment Federation 72nd Annual Conference and Exposition, New Orleans, LA (WEF, 1999); (5) American Society of Civil Engineers 26th Annual Conference, Water Resources Planning and Management, Tempe, Arizona (ASCE, 1999); (6) American Water Resources Association 1999 Annual Water Resources Conference - Watershed Management to Protect Declining Species, Seattle, WA (AWRA, 1999); and (7) New Applications in Modeling Urban Water Systems, Guelph, Canada (James, 1999). Sullivan and Field (1999) presented an overview of the Environmental Protection Agency's (EPA's) WWF research program, which was expanded in October 1995 with the establishment of the Urban Watershed Management Branch at Edison, New Jersey. Research priorities for 1999 were presented as well as efforts to collaborate with other government organizations and professional societies. Watershed management research at ORD's National Risk Management Research Laboratory (NRMRL) addressed the following question: what effective watershed management strategies we re available and how do communities select the most appropriate subset from these to match specific watershed needs. (Borst and O'Shea, 1999). Heaney et al. (1999a) presented the results of a national assessment of research needs in urban WWF management. Three interrelated categories of urban WWF management were discussed: CSO, SSO, and urban stormwater discharges.

21ST Century Agriculture: A Critical Role for Science and Technology

New USDA report addresses issues of technology transfer to developing countries

The future of agriculture increasingly is being determined by technology and innovation. A new report from the U.S. Department of Agriculture – *21st Century Agriculture: A Critical Role for Science and Technology* – illustrates the opportunities and challenges of using science and technology to strengthen global food security and reduce hunger. Printed copies of the report are available from the National Technical Information Service.

The report was prepared especially for the *International Ministerial Conference and Expo on Agricultural Science and Technology* held June 2003 in Sacramento CA. The conference was attended by agricultural and other ministers from more than 100 countries. The goal was to provide a supportive policy environment to discuss methods to increase agricultural productivity, spur economic growth and help alleviate world hunger and poverty.

The report showcases a broad range of conventional and emerging technologies that can

- increase farm productivity,
- enhance the nutrient content of foods, and
- utilize new processing and marketing strategies for crops and livestock.

It also discusses advances in soil, water nutrient, pest, and risk management, and ways to improve food safety and nutrition. It emphasizes key issues of technology transfer, and the need for sustainable agricultural systems that can remain productive in the long run.

Twenty-First Century Agriculture: A Critical Role for Science and Technology is available from NTIS, call 1-800-553-6847 or (703) 605-6000, for \$25.50 plus \$5 handling fee, no additional charge for shipping; quote order number PB2003-105830KSS. Most major credit cards accepted. Fax orders to (703) 605-6900. Order online at <http://www.ntis.gov/products/specialty/usda/usdapubs.asp>.

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A06	\$ 68.00	\$ 85.00	E06	\$ 74.00
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