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(DE97002300)

Task 1.6 - Mixed Waste

Topical Report
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For
U.S. Department of Energy
Office of Fossil Energy
Federal Energy Technology Center
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Disclaimer

DISCLAIMER

ACKNOWLEDGMENT

This report was prepared with the support of the U.S. Department of Energy (DOE), Morgantown Energy Technology Center, Cooperative Agreement No. DE-FC21-93MC30097. However, any opinions, findings, conclusions, or recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the DOE.

EERC DISCLAIMER

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1.0 INTRODUCTION

For fifty years, the United States was involved in a nuclear arms race of immense proportions. During the majority of this period, the push was always to design new weapons, produce more weapons, and increase the size of the arsenal, maintaining an advantage over the opposition in order to protect U.S. interests. Now that the "Cold War" is over, we are faced with the imposing tasks of dismantling, cleaning up, and remediating the wide variety of problems created by this arms race. All of our technological expertise is being called into play and sometimes stretched beyond its limits by the problems presented in this cleanup effort. These problems and the history of the development of the nuclear energy industry in this country are described in detail in the Department of Energy (DOE) publication "Closing the Circle on the Splitting of the Atom," while an overview of the current status of the total remediation effort within the DOE is presented in the DOE publication "ENVIRONMENTAL MANAGEMENT 1995" (EM 1995).

The by-product of the nuclear arms race and the development of nuclear energy is radioactive waste. Not all radioactive waste is the same though; therefore, a system was devised to categorize the different types of radioactive waste. These categories are as follows: spent fuel; high-level waste; transuranic waste; low-level waste; mixed waste; and uranium-mill tailings (1). Mixed waste is defined to be material contaminated with any of these categories of radioactive material plus an organic or heavy metal component. However, for this discussion, "mixed waste" will pertain only to low-level mixed waste which consists of low-level radioactive waste mixed with organic solvents and or heavy metals (1).

The area of "mixed-waste characterization, treatment, and disposal" is listed on page 6 of the EM 1995 publication as one of five focus areas for technological development, and while no more important than the others, it has become an area of critical concern for DOE (2). Lacking adequate technologies for treatment and disposal, the DOE stockpiled large quantities of mixed waste during the 1970s and 1980s. Legislative changes and the need for regulatory compliance have now made it expedient to develop methods of achieving final disposition for this stockpiled mixed waste (1).

The ability to understand the problems encountered when dealing with radioactive waste, both from a scientific standpoint and from a legislative standpoint, requires knowledge of those subject areas. This required the accumulation of applicable information. A literature database was developed; site visits were made; and contact relationships were established. Informational databases from government agencies involved in environmental remediation were ordered or purchased, and previously established private sector relationships were used to develop an information base.

2.0 PROGRAM

The first phase of the EERC's research program was a literature search that provided a base of information about mixed waste. This information contained 482 individual records that have

been integrated into a Microsoft Access® database. See Appendix A. Appendix A includes a hardcopy of literature search entries plus the Microsoft Access® database, ACCESSDB.EXE, which includes the database plus all the necessary files. This is a self-extracting compressed file, simply run the program to unpack the database and its files. Once unpacked, the database can be run using Microsoft Access®. This allows for simplified information management and ease of handling. In addition, the information available to the EERC was expanded through the following sources:

- Two EERC databases (currently unreleased to the public)
  - Projects
  - Vendors
- Database (DB) structures from the Environmental Protection Agency (EPA)
  - Visitt DB
  - Records of Decision
- SITE program for innovative technologies
- DOE publications
- EPA publications
- Department of Defense (DOD) publications
- Technology profiles from the private sector

The available information pertinent to this research effort is considerable and continues to grow daily; therefore, because of the size of the information base available to us, efforts were made to organize the information into manageable units by integrating the various databases into larger, more inclusive units. During the period of accumulating and organizing all the information, an ongoing process of assimilation was taking place.

3.0 RESULTS

The accumulation of information, its organization, and assimilation will continue to be ongoing, but they have been completed adequately for the work effort. Databases of significance have been acquired and are available for the use of the EERC staff. Two of the databases were generated in-house: one listing remediation projects in the United States and the other listing vendors involved in remediation efforts. The remaining two databases on-site are the Visitt database and the Records of Decision database, both from the EPA. Also currently available via the Internet are the ATTIC (Alternative Treatment Technology Information Center), an information retrieval network for remediation managers about the up-to-date technical information. The DOE Energy database and the Technology database are also available in this manner.

The site visitations were completed as follows.

Frank Beaver, Associate Director of the Energy & Environmental Research Center (EERC), attended the Fifth Annual Weapons Complex Conference in Phoenix, Arizona, April 4–7, 1994. The purpose of this trip was twofold: 1) to evaluate existing obstacles between DOE agencies and laboratories and industry in the area of mixed waste and 2) to define a role for the EERC in mixed-waste research. Concerns expressed included the matching of technologies with problems and the need for innovative remediation technology development. This presented the opportunity for the

obtain better results and to serve as the link needed to develop technology and enhance communication between government and industry.

Frank Beaver also attended the U.S. DOE Stakeholder/Roundtable Meeting in Denver, Colorado on June 29, 1994. The U.S. DOE Denver Regional Office cosponsored the meeting with The Rocky Mountain Oil Field Test Center in Casper, Wyoming. The focus of the meeting was the off-the-shelf technology and near-term technology transfer programs designed to help the independent oil and gas industry producers lower their production costs. A better understanding of the problems that exist between government programs and the independent oil and gas producers was gained. Independent producers also expressed their frustration with the results of past efforts to supply the information and technologies they need.

In August 1994, John Rindt visited the Mine Waste Technology Pilot Program (MWTPP) and the (Resource Recovery Project) in Butte, Montana. He attended key meetings and talked with Thomas Malloy and other project PIs. Specific problems discussed were the flow of water through bedrock and into mineshafts resulting in contamination with metals. Their solution was to fill the mine with organic material, such as a cow manure and hay mixture. We discussed applications and John's goal was to become more knowledgeable in the technical aspects of mine technology and inorganics.

On August 14–18, 1994, John Rindt attended the 1994 Summer National Meeting of the American Institute of Chemical Engineers (AIChE) in Denver, Colorado. The theme of the conference was "Stewardship with the Environment." John attended several presentations at the conference in the areas of Environmental Bioremediation at the Field Scale, Innovative Technology for Remediation of Contaminated Soils and Solvents, Waste Minimization at Nuclear Facilities, Liquid-Phase Process for Destruction of Hazardous Organic Compounds, Pretreatment of High-Strength Aqueous Industrial Waste, Planned and Operating Mixed Treatment Facilities, Mixed Waste Treatment Technology, Research and Development, Biological Treatment of Waste Gases, Separation Processes for Nuclear and Mixed Wastes, Sections I through IV, and Human Factors.

John Rindt visited the Rocky Flats facility in Denver, Colorado, in April 1995. This visit was arranged through Cliff Brown, an Oak Ridge National Laboratory employee on assignment at the Rocky Flats facility who was also acting as the interim Technical Project Officer (TPO) at the Office of Technology Division, DOE. John Rindt and Frank Beaver spent several hours with the EG&G supervising engineer and discussed past, present, and future developmental effort areas. The general approach at Rocky Flats was to remove organics and, subsequently, encapsulate the radioactive inorganic residues. As a result, their two priority areas were 1) encapsulation and 2) separation of organics from residue. One of the greatest challenges faced by Rocky Flats was dealing with public skepticism.

The visit ended with a 2-hour tour of the facility. A substantial amount of technical information for inclusion into the database was promised from the EG&G engineering staff.

4.0 SUMMARY AND CONCLUSIONS

As a result of this work effort, the research team involved now has an understanding of the complexity inherent in cleanup and remediation of radioactive waste and in particular the area encompassing low-level mixed waste. The challenges presented by the presence of radioactive species have created an opportunity for new or revamped technologies and many opportunities for new research endeavors and partnerships.

An area of concern that became apparent during this work effort was the presence of the various government agencies in all facets of the program. Each agency, with the best of intentions, has contributed its regulatory program or compliance requirements, the cumulative results being an environment prohibitive to technological development. In order to satisfy all the regulatory constraints, the amount of time necessary for the development and introduction of an emerging technology is prolonged.

This regulatory atmosphere has had the negative result of making the private sector hesitant when proposing new technologies to the appropriate government agency. They have found it necessary to very carefully weigh the effort needed to comply with the political processes which are currently inherent within the U.S. government agencies, sometimes to the point of not pursuing opportunities which have good technological merit.

In the past, difficult technological problems and environmental issues have been addressed in a cooperative manner through partnerships between the federal government and private industry. This type of relationship would promote the best use of the technological communities in this country. An example of this type of cooperation would be the on-going cooperative agreement between the EERC and DOE. This cooperative agreement has benefitted the DOE by enhancing the DOE's monetary research investment through matching fund agreements with private industry. The realized potential of this cooperative funding was an increase of available funding of 150%–200%. This is only one of the benefits of cooperative partnering between the government agencies and private industry and shows the potential for research facilities like the EERC to act as a positive liaison between government and industry.

When the Morgantown Energy Technology Center (METC) proposed this work effort, the intent was to become knowledgeable in the area of radioactive waste remediation, specifically the area of low-level mixed waste and to determine a potential for future research areas and also for technology development. The consensus being that the EERC, METC, and the private sector would all have positive input toward solving some of the environmental and technological problems facing this country and the world and welcome the opportunity to work in partnership with the agencies of the U.S. government.

5.0 REFERENCES

1. U.S. Department of Energy. "Closing the Circle on the Splitting of the Atom," Office of Environmental Management report; Jan. 1995; pp 24, 53.

2. U.S. Department of Energy. "Environmental Management 1995: Progress and Plans of the Environmental Management Program," Environmental Management Report DOE/EM-0228; Feb. 1995; p 6.

APPENDIX A

Record - 1

<DIALOG File 6: >
1756171 NTIS Accession Number: DE94001671/XAB
Sensors in outdoor environmental monitoring and site remediation
Wise, B. M.
Battelle Pacific Northwest Labs., Richland, WA.
Corp. Source Codes: 048335000; 9512268
Sponsor: Department of Energy, Washington, DC.
Report No.: PNL-SA-23102; CONF-9309247-2
Sep 93 5p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9409; ERA9414
National Institute of Standards and Technology (NIST) workshop on gas sensors, Gaithersburg, MD (United States), 8-9 Sep 1993. Sponsored by Department of Energy, Washington, DC.
NTIS Prices: PC A01/MF A01
Country of Publication: United States
Contract No.: AC06-76RL01830
A special session on sensors in outdoor environmental monitoring and site remediation was held as part of the NIST Workshop on Gas Sensors. This manuscript summarizes the main points of the workshop. Application areas, issues of concern, and potentially fruitful areas for further research and development were discussed. The main conclusion of the group was that the problems and potential solutions to problems in environmental monitoring were common to other application areas of sensing as well. Of particular concern to the group were the many barriers to final development and commercialization of sensors. Barriers included lack of information on potential markets lack of support of development, (as opposed to more basic research), and difficulties in developing the final packaging for a device. The characterization and development of chemically selective materials for sensor coatings was viewed by the group as a particularly important area for future research.

Record - 2

<DIALOG File 6: >
1730108 NTIS Accession Number: AD-A269 296/0/XAB
Remediation Technologies Screening Matrix. Reference Guide. Version 1
Environmental Protection Agency, Washington, DC.
Corp. Source Codes: 031287000; 390139
Jul 93 145p
Languages: English
Journal Announcement: GRAI9401
NTIS Prices: PC A07/MF A02
Country of Publication: United States
This Reference Guide provides additional information to increase the usability of the Remediation Technologies Screening Matrix. Together, the Reference Guide and Matrix can help site remediation project managers narrow the field of remediation alternatives and identify potentially applicable technologies for more detailed assessment and evaluation prior to remedy selection. In addition, the documents can be used to guide the selection of focused technology field demonstrations and specific technologies to highlight in subsequent technical data sheets, design

manuals, and cost studies. The Reference Guide and Matrix are intended general references only. Additional information to support identification of potentially applicable technologies can be obtained by consulting published references, contacting technology experts, and conducting treatability studies. The Matrix and Reference Guide are not designed to be used as the sole basis for remedy selection.

Record - 3

<DIALOG File 6: >
1709230 NTIS Accession Number: PB93-217651/XAB
Risk Reduction Engineering Laboratory Site Remediation Technical Support Program: FY92 Annual Report
(Final rept)
Science Applications International Corp., Cincinnati, OH.
Corp. Source Codes: 101186000
Sponsor: Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Report No.: EPA/600/R-93/133
Mar 93 19p
Languages: English
Journal Announcement: GRAI9321
Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
Contract No.: EPA-68-C8-0048
The Risk Reduction Engineering Laboratory is responsible for planning, implementing, and managing research, development, and demonstration programs to provide an authoritative, defensible engineering basis in support of the policies, programs, and regulations of the EPA with respect to drinking water, wastewater, pesticides, toxic substances, solid and hazardous wastes, and Superfund-related activities. The publication is one of the products of that research and provides a vital communication link between the researcher and the user community. The report summarizes the activities and accomplishments of the Laboratory in providing technical support to EPA Regional Offices and others on contaminated soil site remediation engineering problems.

Record - 4

<DIALOG File 6: >
1703310 NTIS Accession Number: AD-A266 299/7/XAB
U.S. Air Force Proposes Plan for Interim Remedial Action for PCB Contaminated Soils
McClellan AFB, CA.
Corp. Source Codes: 107078000; 222600
Jun 93 27p
Languages: English
Journal Announcement: GRAI9320
NTIS Prices: PC A03/MF A01
Country of Publication: United States
The US Air Force is requesting public comments on this Proposed Plan for cleanup of PCB contaminated soil. This is an interim measure to address

soil contamination at McClellan Air Force Base (McAFB) located near Sacramento, California. The public comment period begins June 16, 1993 and ends July 16, 1993. A public meeting will be held on June 30, 1993 to talk about the proposal, hear public concerns, answer questions and receive public comments. The Air Force's preferred cleanup option for PCB contaminated soil is to cap the area described as Operable Unit (OU) B1. Because of limited proven technologies developed to destroy contaminants such as PCB, capping is considered to be the best solution to address this contamination. As part of the Air Force's cleanup efforts at McClellan, a search for cleanup technologies for PCB contaminated soil will continue.

Record - 5

<DIALOG File 6: >
1701717 NTIS Accession Number: PB93-205144/XAB
Alternating Current Electrocoagulation for Superfund Site Remediation (Journal article)
Barkley, N. P. ; Farrell, C. W. ; Gardner-Clayson, T. W.
Electro-Pure Systems, Inc., Amherst, NY.
Corp. Source Codes: 099843000
Sponsor: Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Report No.: EPA/600/J-93/231
c1993 8p
Languages: English Document Type: Journal article
Journal Announcement: GRAI9319
Pub. in Jnl. of Air and Waste Management Association, 1993. See also PB-143 652. Sponsored by Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
NTIS Prices: PC A02/MF A01
Country of Publication: United States
Contract No.: EPA-R-816205
The technical and economical feasibility of alternating current electrocoagulation (ACE) was evaluated for a 2-year period. ACE is an electrochemical technology where highly-charged aluminum polyhydroxide species are introduced into aqueous media for the removal of suspended solids, oil droplets, and soluble ionic pollutants. ACE can break stable aqueous colloidal suspensions of up to 10% total solids and stable emulsions containing up to 5% oil. Major operating parameters have been defined for different classes of effluents based on experimental results using complex synthetic soil slurries and metals. Test results indicate that ACE produces aqueous and solid separations comparable to those produced by chemical flocculent additions, but with reduced filtration times and sludge volumes. The technology has application where removal of soluble and suspended pollutants from effluents is required, and in the recovery of fine-grained products from process streams. The technology however, has not yet been demonstrated at full-scale for Superfund site remediation. Summarized are the principal results of the SITE research program and results of ACE treatment on some different classes of industrial effluents, not part of the SITE Program.

Record - 6

<DIALOG File 6: >

1688175 NTIS Accession Number: PB93-185809/XAB
Program for Providing Engineering Technical Assistance to Site Remediation Managers
Blaney, B. L.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Corp. Source Codes: 034122084
Report No.: EPA/600/A-93/097
1992 7p
Languages: English
Journal Announcement: GRAI9315
Proceedings for 1992 International Symposium on Environmental Contamination in Central and Eastern Europe, Budapest, Hungary, October 12-16, 1992, p297-300. See also PB92-205657 and PB93-105591.
NTIS Prices: PC A02/MF A01
Country of Publication: United States
The Office of Research and Development (ORD) of the U.S. Environmental Protection Agency (USEPA) provides technical support to USEPA Regional Offices which are responsible for overseeing and/or implementing the remediation of contaminated sites. As a result, ORD has developed a number of effective mechanisms for prividing timely, practical and high quality technical support on such site remediation projects, and has produced a variety of technology transfer documents on the topic. The paper describes these activities, with particular emphasis on the program of the USEPA ORD Risk Reduction Engineering Laboratory's program to deal with engineering remediation problems.

Record - 7

<DIALOG File 6: >
1681514 NTIS Accession Number: PB93-865012/XAB
Leachate Recovery and Recirculation. (Latest citations from the Selected Water Resources Abstracts Database)
(Published Search)
NERAC, Inc., Tolland, CT.
Corp. Source Codes: 103588000
Sponsor: National Technical Information Service, Springfield, VA.
Apr 93 99 citations minimum
Languages: English Document Type: Bibliography
Journal Announcement: GRAI9313
Prepared in cooperation with Office of Water Research and Technology, Washington, DC. Sponsored in part by National Technical Information Service, Springfield, VA.
NTIS Prices: PC N01/MF N01
Country of Publication: United States
The bibliography contains citations concerning leachates from landfill operations. The references cover the sampling and analysis of landfill leachate to evaluate leachate flow through landfills and to determine levels of toxic materials. Also discussed are recirculation and recovery systems that prevent entry of leachates into groundwater when used in conjunction with landfill liners or other containment methods. (Contains a minimum of 99 citations and includes a subject term index and title list.)

Record - 8

<DIALOG File 6: >
1665112 NTIS Accession Number: PB93-145696/XAB
Federal Publications on Alternative and Innovative Treatment Technologies for Corrective Action and Site Remediation. (Second Edition)
Federal Remediation Technologies Roundtable.
Corp. Source Codes: 105562000
Sponsor: Environmental Protection Agency, Washington, DC. Technology Innovation Office.
Report No.: EPA/542/B-92/001
Aug 92 36p
Languages: English Document Type: Bibliography
Journal Announcement: GRAI9308
See also PB91-921293. Sponsored by Environmental Protection Agency, Washington, DC. Technology Innovation Office.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
Contract No.: EPA-68-W2-004
The Federal Remediation Technologies Roundtable developed this bibliography to publicize the availability of Federal documents pertaining to innovative and alternative technologies to treat hazardous wastes. The first edition of the bibliography was published in 1991. This bibliography addresses technologies that provide for the treatment of hazardous wastes; therefore, it does not contain information or references for containment or other non-treatment strategies, such as landfilling and capping. This bibliography emphasizes innovative technologies for which detailed cost and performance data are not available. Information on more conventional treatment technologies, such as incineration and solidification, is not included.

Record - 9

<DIALOG File 6: >
1665079 NTIS Accession Number: PB93-144111/XAB
Synopses of Federal Demonstrations of Innovative Site Remediation Technologies
Federal Remediation Technologies Roundtable.
Corp. Source Codes: 105562000
Sponsor: Environmental Protection Agency, Washington, DC. Technology Innovation Office.
Report No.: EPA/542/B-92/003
Aug 92 233p
Languages: English
Journal Announcement: GRAI9308
See also PB91-921284. Sponsored by Environmental Protection Agency, Washington, DC. Technology Innovation Office.
NTIS Prices: PC A11/MF A03
Country of Publication: United States
The collection of abstracts, compiled by the Federal Remediation Technology Roundtable, describes field demonstrations of innovative technologies to treat hazardous waste. This document updates and expands information presented in the first edition of the collection which was published in 1991. The collection is intended to be an information resource for hazardous waste site project managers for assessing the availability

and viability of innovative technologies for treating contaminated ground water, soils, and sludge. This document represents a starting point in the review of technologies available for application to hazardous waste sites. This compendium should not be looked upon as a sole source for this information -- it does not represent all innovative technologies nor all technology demonstrations performed by these agencies. Only Federally sponsored studies and demonstrations that have tested innovative remedial technologies with site specific wastes under realistic conditions as a part of large pilot- or full-scale field demonstrations are included. Those studies included represent all that were provided to the Federal Remediation Technology Roundtable at the time of publication. Information collection efforts are ongoing.

Record - 10

<DIALOG File 6: >
1662015 NTIS Accession Number: AD-A258 757/4/XAB
Incineration of Explosive Contaminated Soil as a Means of Site Remediation
(Technical rept)
Major, M. A. ; Amos, J. C.
Army Biomedical Research and Development Lab., Fort Detrick, MD.
Corp. Source Codes: 088831000; 417130
Report No.: USABRDL-TR-9214
24 Nov 92 22p
Languages: English
Journal Announcement: GRAI9308
NTIS Prices: PC A03/MF A01
Country of Publication: United States
Large scale releases of explosive contaminated water have occurred in connection with manufacture of explosives, with load assembly and pack operations and at centers for the disassembly and recycle of munitions. The most serious contamination is at sites where explosive contaminated pink water was discarded in unlined evaporation lagoons. Sediments in pink water lagoons normally contain a high concentration of explosive and contamination of ground-water is usually the result. In an effort to remediate this hazard, the U.S. Army has chosen incineration of the contaminated soil as the best means of remediation. Although there is general agreement as to the superiority of incineration for this purpose, the process is complex and environmental, legal and financial questions remain.... Incineration, TNT, RDX, Lead, Mercury, Cadmium, RCRA, Remediation.

Record - 11

<DIALOG File 6: >
1646283 NTIS Accession Number: AD-A257 009/1/XAB
Rotary Spreaders: Section 8.3.1 US Army Corps of Engineers Wildlife Resources Management Manual
(Final rept)
Doerr, T. B.
Army Engineer Waterways Experiment Station, Vicksburg, MS. Environmental Lab.
Corp. Source Codes: 002621009; 411388

Report No.: WES/TR/EL-86-46
Jul 86 10p
Languages: English
Journal Announcement: GRAI9303
NTIS Prices: PC A02/MF A01
Country of Publication: United States
An equipment report on rotary spreaders is provided as Section 8.3.1 of the US Army Corps of Engineers Wildlife Resources Management Manual. The report is designed to assist the Corps District or project biologist with the selection and use of types of equipment and materials available for habitat development and manipulation. Topics covered include description, operation, maintenance, limitations, and availability. Rotary spreaders are applicators used to broadcast dry fertilizer, lime, herbicides, or seed over the soil surface. They are commonly used throughout the United States for reclamation and habitat improvement projects. Management objectives for using rotary spreaders are stated, and uses for developing wildlife habitat are discussed. The design and assembly of equipment are described and illustrated, and general specifications are provided. Methods of operation are described, and maintenance and safety requirements are given. Appropriate cautions and limitations are discussed. Applicator, Rotary Spreader, Equipment, Soil amendment equipment, Spreader, Site reclamation.

Record - 12

<DIALOG File 6: >
1642346 NTIS Accession Number: PB93-105617/XAB
Literature Survey of Innovative Technologies for Hazardous Waste Site Remediation, 1987-1991
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response.
Corp. Source Codes: 031287606
Report No.: EPA/542/B-92/004; ISBN-0-16-036253-9
Jul 92 50p
Languages: English Document Type: Bibliography
Journal Announcement: GRAI9301
Also available from Supt. of Docs.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
EPA's Office of Solid Waste and Emergency Response is seeking to further the use of innovative hazardous waste treatment technologies in its programs. In order to achieve more permanent remedies, the Agency is encouraging the use of new or innovative technologies that are capable of treating contaminated soils/sludges and ground water more effectively, less expensively, and in a manner more acceptable to the public than existing conventional methods. The bibliography is intended to increase the efficiency of the technology evaluation process. The document is not meant to be comprehensive in scope nor is it meant to convey an endorsement of the citations. It is meant to provide a survey of publications which could be useful when innovative technologies are investigated. As a research aid, the bibliography can help provide insights into current developments and provide references which may serve as a basis for further investigations.

Record - 13

<DIALOG File 6: >
1637909 NTIS Accession Number: PB92-231174/XAB
Radioactive Site Remediation Technologies Seminar. Speaker Slide Copies
Environmental Protection Agency, Washington, DC. Office of Research and Development.
Corp. Source Codes: 031287457
Report No.: EPA/540/K-92/001
Jun 92 69p
Languages: English
Journal Announcement: GRAI9224
NTIS Prices: PC A04/MF A01
Country of Publication: United States
Contents: Approaches to Sampling Radioactive Heterogeneous Waste; Soil Characterization Methodology for Determining Application of Soil Washing; VORCE(Volume Reduction/Chemical Extraction) Program; Treatment of Radioactive Compounds in Water; Polymer Solidification of Low-Level Radioactive, Hazardous, and Mixed Waste; In Situ Vitrification of Soils Contaminated With Radioactive and Mixed Wastes; Decontamination of Contaminated Buildings; Incineration of Radioactive Waste; In Situ Stabilization/Solidification With Cement-Based Grouts; Environmental Restoration and Waste Management; Removal of Contaminants From Soils by Electrokinetics; and Treatment, Compaction, and Disposal of Residual Radioactive Waste.

Record - 14

<DIALOG File 6: >
1634073 NTIS Accession Number: PB92-208370/XAB
Definitional Mission Report: Hazardous Waste Site Remediation, Czech Republic, Republic of Czechoslovakia
(Export trade information)
Ellis, R. A.
Advanced Waste Management Systems, Inc., Chattanooga, TN.
Corp. Source Codes: 104244000
Sponsor: Trade and Development Program, Rosslyn, VA.
Oct 90 48p
Languages: English
Journal Announcement: GRAI9223
See also PB92-208388, PB92-208396, PB92-208404, and PB92-208412. Sponsored by Trade and Development Program, Rosslyn, VA.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
The report documents the findings of a U.S. Trade and Development Program (TDP)-funded definitional mission to examine the need for hazardous waste disposal site remediation in the Czech Republic, Republic of Czechoslovakia. Four sites were studied. They were: Kbely Army Airfield, Spolana Chemical Works, Neratovice, and Milovice Former Soviet Army Base. Each of these presented quite different problems, complexities, and needs. Each is therefore treated as a subreport.

Record - 15

<DIALOG File 6: >
1631966 NTIS Accession Number: DE92012332/XAB

Database of information on technologies for hazardous waste site remediation
Holter, G. M. ; White, M. K. ; Byrant, J. L.
Battelle Pacific Northwest Labs., Richland, WA.
Corp. Source Codes: 048335000; 9512268
Sponsor: Department of Energy, Washington, DC.
Report No.: PNL-SA-19814; CONF-920466-12
Apr 92 9p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9223; ERA9246
Engineering and technology conference on waste management and environmental restoration, San Juan (Puerto Rico), 9-11 Apr 1992. Sponsored by Department of Energy, Washington, DC.
NTIS Prices: PC A02/MF A01
Country of Publication: United States
Contract No.: AC06-76RL01830
A personal-computer-based database and user interface has been developed for retrieving and reviewing information on technologies applicable to the environmental remediation of hazardous waste sites. This system and its information represent a useful source of technology information for people preparing, reviewing, and approving site remediation plans or evaluating remediation technologies. The system includes a variety of information for approximately 90 distinct remedial action technologies. A general text description of each technology is provided, together with basic engineering or design parameters and flowcharts. Information on applying a given technology includes the applicability of the technology to specific contaminants, associated technologies that may be required in conjunction to provide for complete remediation of a site, technical limitations and constraints on the use of the technology, and identification of information or site data needed to deploy the technology at a particular site. US federal regulatory information relating to each technology is also provided. In addition, the system identifies sources for more detailed information for these technologies (i.e., references and specific sites where these technologies have been used). Technologies to be considered can be selected from the complete list of technologies for which information is included, or can be chosen from a shorter list of technologies matching a set of user-specific remediation objectives. The technology information is compiled from a wide variety of sources. The system is designed to support the assessment of remedial alternatives at US sites, but should be readily adaptable to other environmental remediation situations throughout the world.

Record - 16

<DIALOG File 6: >
1623811 NTIS Accession Number: PB92-205657/XAB
Technical Support Services for Superfund Site Remediation and RCRA Corrective Action. Third Edition
(Final rept)
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Corp. Source Codes: 031287614
Report No.: EPA/540/8-91/091
Mar 92 54p

Languages: English
Journal Announcement: GRAI9220
NTIS Prices: PC A04/MF A01
Country of Publication: United States
A directory of technical support services available to EPA field staff to enable them to quickly identify resources which may be useful in solving a specific hazardous waste clean-up problem. Rather than an exhaustive inventory of all sources of technical information, the publication highlights the significant EPA technical assistance programs - those that have procedures in place to process requests for assistance (e.g. answering a technical question, providing staff to work on the problem, or referring callers to the appropriate source). Categories of services advertised include technical support sources and brokers, automated information systems, publications, and a variety of other organizational sources of information.

Record - 17

<DIALOG File 6: >
1583505 NTIS Accession Number: AD-A244 010/5/XAB
Laboratory-Scale Soil Washing Test on Rocky Mountain Arsenal Basin F Material (Task Order No. 8)
(Final rept)
Balasco, A. A. ; Stevens, J. I. ; Adams, J. W. ; Cerundolo, D. L. ; Rickard, S.
Little (Arthur D.), Inc., Cambridge, MA.
Corp. Source Codes: 016223000; 208850
Sponsor: Army Toxic and Hazardous Materials Agency, Aberdeen Proving Ground, MD. Technology Div.
Report No.: AMXTH-TE-CR-88016
Aug 88 75p
Languages: English
Journal Announcement: GRAI9208
Prepared in cooperation with MTA Remedial Resources, Inc. Golden, CO.
NTIS Prices: PC A04/MF A01
Country of Publication: United States
Contract No.: DAAK11-85-D-0008
To initiate the evaluation of the soil washing process, MTARRI designed and carried out a laboratory program to determine: the applicability of the process; and the conditions that would remove both the organic and inorganic contaminants from the Basin F materials to yield a clean soil that could be placed in a fill on-site. The process was then proven by a demonstration run, at the bench-scale. MTARRI had previously shown that the soil washing process could remove organics and inorganics from soils; however, no work had been done with a material having the particular contaminants contained in Basin F. Therefore, a laboratory development program was required to establish the necessary physical and chemical conditions that would remove these contaminants from the Basin F material.

Record - 18

<DIALOG File 6: >
1563274 NTIS Accession Number: PB91-921284/XAB
Synopses of Federal Demonstrations of Innovative Site Remediation

Technologies
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Corp. Source Codes: 031287614
Report No.: EPA/540/8-91/009; OSWER-9380.1-06
May 91 133p
Languages: English
Journal Announcement: GRAI9124
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.
NTIS Prices: PC A07/MF A02
Country of Publication: United States
A compendium of abstracts documenting the results of demonstrations of hazardous treatment technologies conducted by Federal agencies involved in Superfund Remediation and RCRA and UST Corrective Actions. The document contains abstracts from EPA (primarily from the Superfund Innovative Technology Evaluation program), DOD, and DOE. It also includes an outline of data needs to guide project managers in submitting information on new projects for future editions of the document.

Record - 19

<DIALOG File 6: >
1562011 NTIS Accession Number: DE91016705/XAB
Site remediation considerations and foundation excavation plan for the Walter Reed Army Institute of Research building, Forest Glen, Maryland
Hambley, D. F. ; Harrison, W. ; Foster, S. A. ; Schweighauser, M. J.
Argonne National Lab., IL. Energy Systems Div.
Corp. Source Codes: 001968030; 9527303
Sponsor: Department of Energy, Washington, DC.
Report No.: ANL/ESD/TM-17
Apr 91 265p
Languages: English
Journal Announcement: GRAI9124; ERA9152
Sponsored by Department of Energy, Washington, DC.
NTIS Prices: PC A12/MF A03
Country of Publication: United States
Contract No.: W-31109-ENG-38
The US Army Corps of Engineers North Atlantic Division, Baltimore District (CENAB), intends to design and construct a medical and dental research facility for the Walter Reed Army Institute of Research (WRAIR) at the Walter Reed Army Medical Center (WRAMC) at Forest Glen, Maryland. Because almost 100% of the proposed building site is located on an uncontrolled landfill that was thought to possibly contain medical, toxic, radioactive, or hazardous waste, it was assumed that remediation of the site might be necessary prior to or in conjunction with excavation. To assess (1) the need for remediation and (2) the potential hazards to construction workers and the general population, the Baltimore District contracted with Argonne National Laboratory to undertake a site characterization and risk assessment and to develop a foundation-excavation plan. The results of the site characterization and a qualitative risk assessment have been presented in a previous report. This report presents the foundation-excavation plan. 38 refs., 16 figs., 11 tabs.

Record - 20

<DIALOG File 6: >
1560777 NTIS Accession Number: PB91-921293/XAB
Bibliography of Federal Reports and Publications Describing Alternative and Innovative Treatment Technologies for Corrective Action and Site Remediation
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Corp. Source Codes: 031287614
Report No.: EPA/540/8-91/007; OSWER-9380.1-08
May 91 29p
Languages: English Document Type: Bibliography
Journal Announcement: GRAI9123
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
The Federal Remediation Technologies Roundtable developed this bibliography to publicize the accessibility of Federal documents pertaining to innovative and alternative technologies to treat hazardous wastes. The bibliography contains references for documents and reports from the U.S. Environmental Protection Agency (EPA), the U.S. Army, the U.S. Army Corps of Engineers, the U.S. Navy, the U.S. Air Force, the U.S. Department of Energy (DOE), and the U.S. Department of Interior (DOI), Bureau of Reclamation. The publication contains references and order information for reports on research concerning the application of innovative and alternative hazardous waste treatment options. The bibliography is scheduled to undergo periodic revisions.

Record - 21

<DIALOG File 6: >
1560184 NTIS Accession Number: PB91-228353/XAB
Technical Support Services for Superfund Site Remediation. Interim Directory
Wilhelm, R. G.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Corp. Source Codes: 031287614;
Sponsor: Environmental Management Support, Silver Spring, MD.
Report No.: EPA/540/8-90/001; OERR-9380.1-09
Feb 90 34p
Languages: English
Journal Announcement: GRAI9123
Prepared in cooperation with Environmental Management Support, Silver Spring, MD.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
The Directory highlights the significant OSWER and ORD technical assistance programs that have procedures in place to process requests such as answering a technical question, providing staff to work on a problem, or

referring callers to the appropriate source.

Record - 22

<DIALOG File 6: >
1558051 NTIS Accession Number: PB91-921285/XAB
Technical Support Services for Superfund Site Remediation. Second Edition
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Corp. Source Codes: 031287614
Report No.: EPA/540/8-90/011; OSWER-9380.1-14
Nov 90 73p
Languages: English
Journal Announcement: GRAI9122
Paper copy available on Standing Order, deposit account required (minimum deposit $200 U.S., Canada, and Mexico; all others $400). Single copies also available in paper copy or microfiche.
NTIS Prices: PC A04/MF A01
Country of Publication: United States
The Directory (Second Edition) updates and highlights the significant OSWER and ORD technical assistance programs that have procedures in place to process requests such as answering a technical question, providing staff to work on a problem, or referring callers to the appropriate source.

Record - 23

<DIALOG File 6: >
1528993 NTIS Accession Number: PB91-171694/XAB
Use of Electrokinetics for Hazardous Waste Site Remediation
(Journal article)
Cabrera-Guzman, D. ; Swartzbaugh, J. T. ; Weisman, A. W.
Environmental Protection Agency, Cincinnati, OH. Risk Reduction Engineering Lab.
Corp. Source Codes: 034122084;
Sponsor: PEER Consultants, Inc., Dayton, OH.
Report No.: EPA/600/J-90/414
c1990 9p
Languages: English Document Type: Journal article
Journal Announcement: GRAI9113
Pub. in Jnl. of Air Waste Management Association, v40 n12 p1670-1676 Dec 90. Prepared in cooperation with PEER Consultants, Inc., Dayton, OH.
NTIS Prices: PC A02/MF A01
Country of Publication: United States
The Superfund Innovative Technology Evaluation (SITE) program was authorized as part of the 1986 amendments to the Superfund legislation. It represents a joint effort between the U.S. EPA's Office of Research and Development and Office of Solid Waste and Emergency Response. The program is designed to assist and encourage the development of waste treatment technologies that would contribute to more solutions to our hazardous waste problems. Recently, EPA, through the SITE program, issued a work assignment to assess the 'state-of-the-art' of electrokinetically enhanced contaminant removal from soils. Prior research efforts, both laborator and field, have demonstrated the electo-osmosis has the potential to be effective in facilitating the removal of certain types of hazardous wastes from soils.

Particularly encouraging results have been achieved with inorganics in fine grained soils where more traditional removal alternatives are less effective. Although the results of various studies suggest that electrokinetics is a promising technology, further testing is needed at both the laboratory and field levels to fully develop this technology for site remediation. A conceptual test program is presented based on best available data which incorporates system design and operating parameters used in previous applications of this technology in the use of electrokinetics treatment as a remediation technique at hazardous waste sites. (Copyright (c) 1990--Air & Waste Management Association.

Record - 24

<DIALOG File 6: >
1524071 NTIS Accession Number: AD-A230 432/7/XAB
Post Remedial Action Report, Lansdowne Radioactive Residence Complex, Dismantlement/Removal Project. Volume 4. Radiological Oversight and Certification
(Report for the period 1 Aug 88-24 Jul 89)
Sholeen, C. M. ; Munyon, W. J.
Argonne National Lab., IL. Environment, Safety and Health Dept.
Corp. Source Codes: 001960027; 422521
Report No.: ANL-ESH/TS-90/010-VOL-4; CENAB-CO-HTW/90-01/EPA(S)
Jun 90 342p
Languages: English
Journal Announcement: GRAI9112
See also Volume 1, AD-A230 429.
NTIS Prices: PC A15/MF A02
Country of Publication: United States
During the period 1924-1944, a Univ. of Pennsylvania physics professor was engaged in the commercial production of radium sources for medical use. As a result of the radium enrichment activities, the entire residence, the surrounding land, and the adjoining residence became contaminated. In August 1985, this site was officially added to USEPA's list of hazardous sites targeted for cleanup (Superfund). Onsite radiological overview was provided to the U.S. Army Corps of Engineers for the remediation activities. The oversight included radiological surveying, laundry/waste water sampling, air sampling and logging of contamination in the soil. Additional oversight responsibility included verification that the soil remaining on the site, adjacent to the site and under the sewer line, as well as backfill soil were below the cleanup criterion of 5 pCi/g above the natural Ra-226 background level of 1.5 pCi/g. The exposure rate measurements from the restored site ranged from 8 to 11 micro-R/h, typical of background levels in this area. This report provides documentation that the cleanup criterion of 5 pCi/g of Ra-226 above background has been met. (MM)

Record - 25

<DIALOG File 6: >
1524070 NTIS Accession Number: AD-A230 431/9/XAB
Post Remedial Action Report, Lansdowne Radioactive Residence Complex, Dismantlement/Removal Project. Volume 3. Radiological Closeout Documentation

(Final rept. 2 Jun 88-12 Oct 89)
Trujillo, P.
Chem-Nuclear Systems, Inc., Columbia, SC.
Corp. Source Codes: 099735000; 422523
Report No.: CENAB-CO-HTW/90-01/EPA(S)-VOL-3
Jun 90 306p
Languages: English
Journal Announcement: GRAI9112
See also Volume 4, AD-A230 432.
NTIS Prices: PC A14/MF A02
Country of Publication: United States
Contract No.: DACW45-88-C-0213
The radiological closeout report was prepared to document the successful completion of final remediation of a radium contaminated duplex residence and associated properties located in Lansdowne, Pennsylvania. This report addresses the efforts to provide radiological coverage of the project from initial award through final verification. The report includes plan preparation, training, personnel monitoring, air sampling, environmental compliance, radiological surveys, verification of cleanup to allowable limits, radiological techniques, soil sampling and verification methods utilized. The report is formatted by major task, with associated data provided for each major task or division of work. (MM)

Record - 26

<DIALOG File 6: >
1524069 NTIS Accession Number: AD-A230 430/1/XAB
Post Remedial Action Report, Lansdowne Radioactive Residence Complex, Dismantlement/Removal Project. Volume 2. Contractor Operations
(Final rept. 2 Jun 88-12 Oct 89)
Huston, R. L.
Chem-Nuclear Systems, Inc., Columbia, SC.
Corp. Source Codes: 099735000; 422523
Report No.: CENAB-CO-HTW/90-01/EPA(S)-VOL-2
Jun 90 151p
Languages: English
Journal Announcement: GRAI9112
See also Volume 3, AD-A230 431. Includes maps.
NTIS Prices: PC A08/MF A01
Country of Publication: United States
Contract No.: DACW45-88-C-0213
The operations closeout report was prepared to document the successful completion of final remediation of the USEPA Superfund Cleanup of a radium-contaminated duplex residence and associated properties located in Lansdowne, Pennsylvania. This report addresses the efforts to perform the residence dismantlement, soil remediation, and restoration of the site to a useable condition. It covers the period from contract award through all stages of project conduct, including plan preparation, mobilization, initial site preparation, site clearing and security arrangements, dismantlement of structures, excavation of contaminated soils, transportation and disposal of radioactively contaminated and hazardous wastes, final verification of compliance to release criteria, site restoration and demobilization. Pertinent data such as final waste volumes, results of testing, and site configuration prior to, during and post

remediation are included. The site organizational structure, individual responsibilities and subcontractors utilized are provided. (MM)

Record - 27

<DIALOG File 6: >
1524068 NTIS Accession Number: AD-A230 429/3/XAB
Post Remedial Action Report, Lansdowne Radioactive Residence Complex, Dismantlement/Removal Project. Volume 1. Government Operations
(Final rept. 1 Aug 88-24 Jul 89)
Wickboldt, W. C.
Corps of Engineers North Atlantic, Baltimore, MD. Construction Div.
Corp. Source Codes: 099737001; 422522
Report No.: CENAB-CO/HTW/90-1/EPA(S)-VOL-1
Jun 90 289p
Languages: English
Journal Announcement: GRAI9112
See also Volume 2, AD-A230 430.
NTIS Prices: PC A13/MF A02
Country of Publication: United States
Contract No.: DACW-45-88-C-0213
The Lansdowne radioactive residence complex and 250' of municipal sewer became contaminated during the period 1924-1944 by radium processing. Clean-up of the site necessitated the removal of contaminated rubble generated by building and sewer dismantlement, and of radioactive soil that became contaminated because waste products from the radium processing activity were buried in the ground around the site. Prior to remediation, radium levels in the soil ranged as high as 700 pCi/g; following remediation, radium levels had been reduced to no greater than 5 pCi/g above the local background of 2.5 pCi/g. Following removal of contamination, the site was backfilled to near original grade and restored as a grassed lot. A replacement sewer line was constructed. (MM)

Record - 28

<DIALOG File 6: >
1493612 NTIS Accession Number: DE90006310/XAB
Long-term climate change assessmenet task of the protective barrier development program for low-level waste site remediation at the Hanford Site, Washington
Petersen, K. L.
Westinghouse Hanford Co., Richland, WA.
Corp. Source Codes: 040415000; 9500104
Sponsor: Department of Energy, Washington, DC.
Report No.: WHC-SA-0808; CONF-900406-22
Jan 90 6p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9014; ERA9026
International conference for high-level radioactive waste management, Las Vegas, NV (USA), 8-12 Apr 1990. Sponsored by Department of Energy, Washington, DC.
Portions of this document are illegible in microfiche products.
NTIS Prices: PC A02/MF A01
Country of Publication: United States

Contract No.: AC06-87RL10930

A study plan is being developed to guide a multiyear program to assess long-term climate change and optimize the design of protective barriers. A protective barrier alternative is being considered for the disposal of some low-level radioactive defense waste stored near the surface at the Hanford Site, Washington. These barriers are being designed to limit movement of radionuclides and other contaminants to the accessible environment for at least 1000 years and possibly as long as 10,000 years. A stepwise approach to climatic data acquisition will be relied on in obtaining needed information for concurrent barrier tasks, and in developing a local climate forecast model. This model will need to couple past climate patterns with models of regional and global climate drivers to provide bounding conditions for barrier performance assessment analyses. 9 refs., 3 figs.

Record - 29

<DIALOG File 6: >

1486116 NTIS Accession Number: PB90-271867/XAB

Evaluation of Treatment Technologies in the Natural Gas Industry: Production Water/Waste Management and Site Remediation. Volume 3. Topical Report September 1988-October 1989

Tallon, J. T. ; Fillo, J. P. ; Bratina, J. E. ; Peach, L. A. ; Halapin, T.

ENSR, Pittsburgh, PA.

Corp. Source Codes: 095280000;

Sponsor: Remediation Technologies, Inc., Pittsburgh, PA.; Gas Research Inst., Chicago, IL.

Report No.: GRI-89/0263.3

May 90 395p

Languages: English

Journal Announcement: GRAI9023

See also Volume 2, PB90-271859. Prepared in cooperation with Remediation Technologies, Inc., Pittsburgh, PA. Sponsored by Gas Research Inst., Chicago, IL.

Also available in set of 3 reports PC E99/MF E99, PB90-271834.

NTIS Prices: PC A17/MF A03

Country of Publication: United States

Contract No.: GRI-5084-253-1117; GRI-5086-254-1334

The report examines the technologies that can potentially be applied to treating production waters and wastes from natural gas industry operations, and those that may be suitable for remediating sites affected by former operations. The information provided in the report is intended to assist the natural gas industry to select appropriate environmental management strategies. Candidate technologies were considered in the evaluation for their applicability to treatment of specific production water/waste streams, ground water and soil, and/or the constituents known or suspected to be present in the media. Where available, performance and economic data directly related to the use of the technology application within the gas industry are identified and compiled for referencing. Performance and economic data from closely related technology application are also selectively included. Information identified from the evaluation is compiled on a computer data base system (Paradox) in two levels of detail. Level I presents a general overview of each technology examined, and Level II presents performance and economic information.

Record - 30

<DIALOG File 6: >
1486115 NTIS Accession Number: PB90-271859/XAB
Evaluation of Treatment Technologies in the Natural Gas Industry: Production Water/Waste Management and Site Remediation. Volume 2. Topical Report September 1988-October 1989
Tallon, J. T. ; Fillo, J. P. ; Bratina, J. E. ; Peach, L. A. ; Halapin, T.
ENSR, Pittsburgh, PA.
Corp. Source Codes: 095280000;
Sponsor: Remediation Technologies, Inc., Pittsburgh, PA.; Gas Research Inst., Chicago, IL.
Report No.: GRI-89/0263.2
May 90 196p
Languages: English
Journal Announcement: GRAI9023
See also Volume 1, PB90-271842 and Volume 3, PB90-271867. Prepared in cooperation with Remediation Technologies, Inc., Pittsburgh, PA. Sponsored by Gas Research Inst., Chicago, IL.
Also available in set of 3 reports PC E99/MF E99, PB90-271834.
NTIS Prices: PC A09/MF A02
Country of Publication: United States
Contract No.: GRI-5084-253-1117; GRI-5086-254-1334
The report examines the technologies that can potentially be applied to treating production waters and wastes from natural gas industry operations, and those that may be suitable for remediating sites affected by former operations. The information provided in the report is intended to assist the natural gas industry to select appropriate environmental management strategies. Candidate technologies were considered in the evaluation for their applicability to treatment of specific production water/waste streams, ground water and soil, and/or the constituents known or suspected to be present in these media. Where available, performance and economic data directly related to the use of the technology application within the gas industry are identified and compiled for referencing. Information identified from the evaluation is compiled on a computer data base system (Paradox) in two levels of detail.

Record - 31

<DIALOG File 6: >
1486114 NTIS Accession Number: PB90-271842/XAB
Evaluation of Treatment Technologies in the Natural Gas Industry: Production Water/Waste Management and Site Remediation. Volume 1. Topical Report September 1988-October 1989
Tallon, J.T. ; Fillo, J. P. ; Bratina, J. E . ; Peach, L. A. ; Halopin, T.
ENSR, Pittsburgh, PA.
Corp. Source Codes: 095280000;
Sponsor: Remediation Technologies, Inc., Pittsburgh, PA.; Gas Research Inst., Chicago, IL.
Report No.: GRI-89/0263.1
May 90 243p

Languages: English
Journal Announcement: GRAI9023
See also Volume 2, PB90-271859. Prepared in cooperation with Remediation Technologies, Inc., Pittsburgh, PA. Sponsored by Gas Research Inst., Chicago, IL.
Also available in set of 3 reports PC E99/MF E99, PB90-271834.
NTIS Prices: PC A11/MF A02
Country of Publication: United States
Contract No.: GRI-5084-253-1117; GRI-5086-254-1334
The report examines the technologies that can potentially be applied to treating production waters and wastes from natural gas industry operations, and those that may be suitable for remediating sites affected by former operations. The information provided in the report is intended to assist the natural gas industry to select appropriate environmental management strategies. Candidate technologies were considered in the evaluation for their applicability to treatment of specific production water/waste streams, ground water and soil, and/or the constituents known or suspected to be present in these media. Where available, performance and economic data directly related to the use of the technology application within the gas industry are identified and compiled for referencing. Information identified from the evaluation is compiled on a computer data base system (Paradox) in two levels of detail.

Record - 32

<DIALOG File 6: >
1486113 NTIS Accession Number: PB90-271834/XAB
Evaluation of Treatment Technologies in the Natural Gas Industry: Production Water/Waste Management and Site Remediation. Topical Reports September 1988-October 1989
ENSR, Pittsburgh, PA.
Corp. Source Codes: 095280000;
Sponsor: Remediation Technologies, Inc., Pittsburgh, PA.; Gas Research Inst., Chicago, IL.
May 90 834p-in 3v
Languages: English
Journal Announcement: GRAI9023
Set includes PB90-271842-PB90-271867. Prepared in cooperation with Remediation Technologies, Inc., Pittsburgh, PA. Sponsored by Gas Research Inst., Chicago, IL.
NTIS Prices: PC E99/MF E99
Country of Publication: United States
No abstract available.

Record - 33

<DIALOG File 6: >
1449007 NTIS Accession Number: DE90003635/XAB
Observational Approach for Site Remediation at Federal Facilities
Myers, R. S. ; Gianti, S. J.
Battelle Pacific Northwest Labs., Richland, WA.
Corp. Source Codes: 048335000; 9512268
Sponsor: Department of Energy, Washington, DC.
Report No.: PNL-SA-17455; CONF-8911152-1

Nov 89 14p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9011; NSA0000
10. HMCRI's national conference and exhibition, Washington, DC, USA, 27-29 Nov 1989, Portions of this document are illegible in microfiche products.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
Contract No.: AC06-76RL01830
The observational approach, developed by geotechnical engineers to cope with the uncertainty associated with subsurface construction such as tunnels and dams, can be applied to hazardous waste site remediation. During the last year, the observational approach has gained increasing attention as a means of addressing the uncertainties involved in site remediation. In order to evaluate the potential advantages and constraints of applying the observational approach to site restoration at federal facilities, a panel of scientists and engineers from Pacific Northwest Laboratory and CH2M Hill was convened. Their review evaluated potential technical and institutional advantages and constraints that may affect the use of the observational approach for site remediation. This paper summarizes the panel's comments and conclusions about the application of the observational approach to site remediation at federal facilities. Key issues identified by the panel include management of uncertainty, cost and schedule, regulations and guidance, public involvement, and implementation. 5 refs.

Record - 34

<DIALOG File 6: >
1382283 NTIS Accession Number: DE89004907/XAB
Low-Level Liquid Waste Disposal Site Remediation Technology Development at the Hanford Site
Phillips, S. J. ; Relyea, J. F.
Westinghouse Hanford Co., Richland, WA.
Corp. Source Codes: 040415000; 9500104
Sponsor: Department of Energy, Washington, DC.
Report No.: WHC-SA-0039; CONF-870859-32
Oct 87 12p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI8912; NSA1400
Annual low-level radioactive waste management program conference, Denver, CO, USA, 25 Aug 1987.
Portions of this document are illegible in microfiche products.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
Contract No.: AC06-87RL10930
Westinghouse Hanford Company is developing technologies supporting long-term physical stabilization and isolation of liquid waste materials in underground waste disposal crib and caisson structures. Prototype equipment and methodologies are being developed to dynamically consolidate and/or inject durable materials into and proximal to these structures. To date, testing, development, and demonstration of a mobile in situ waste treatment system for site remediation of liquid waste disposal sites has been completed. Continued testing and development activities are in progress for

in situ treatment of contaminated, industrial, solid low-level waste materials. Conceptual design activities have also been initiated to develop an injection system for application to low-level waste underground tank and vault remediation. 10 refs., 2 figs. (ERA citation 14:014424)

Record - 35

<DIALOG File 6: >
1236760 NTIS Accession Number: PB87-142121/XAB
Reclamation and Redevelopment of Contaminated Land. Volume 1. U.S. Case Studies
(Final rept. Oct 83-Jun 85)
Kingsbury, G. L. ; Ray, F. M.
Research Triangle Inst., Research Triangle Park, NC.
Corp. Source Codes: 045968000
Sponsor: Environmental Protection Agency, Cincinnati, OH. Hazardous Waste Engineering Research Lab.
Report No.: EPA/600/2-86/066
Dec 86 199p
Languages: English
Journal Announcement: GRAI8709
Sponsored by Environmental Protection Agency, Cincinnati, OH. Hazardous Waste Engineering Research Lab.
NTIS Prices: PC A09/MF A01
Country of Publication: United States
Contract No.: EPA-68-03-3149
The principal objective of the study was to document with case studies relationships between site remediation methods, cleanness criteria, and redevelopment land uses. Sixteen uncontrolled hazardous waste sites were selected for detailed study. For each of these sites, remedial actions have been undertaken or are planned with some upgraded redevelopment of the property in mind. Redevelopments include single- and multi-family residential, recreational, commercial, institutional, and light industrial land uses. Two distinctly different types of redevelopment efforts were encountered--public-initiated projects and developer-initiated projects.

Record - 36

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03799466 E.I. No: EIP94021203976
Title: Importance of biological testing in the assessment of metal contamination and site remediation: A case study
Author: Lee, Charles R.; Simmers, John W.; Brandon, Dennis L.; Folsom, Bobby L. Jr.
Corporate Source: United States Army Engineer Waterways Experiment Station, Vicksburg, MS, USA
Conference Title: Proceedings of the Symposium on Environmental Toxicology and Risk Assessment: Aquatic, Plant, and Terrestrial
Conference Location: Pittsburgh, PA, USA
Sponsor: ASTM
E.I. Conference No.: 18159
Source: ASTM Special Technical Publication n 1216 1993. Publ by ASTM, Philadelphia, PA, USA. p 681-687
Publication Year: 1993
CODEN: ASTTA8 ISSN: 0066-0558 ISBN: 0-8031-1485-0
Language: English
Document Type: CA; (Conference Article) Treatment: G; (General Review); X; (Experimental)
Journal Announcement: 9403W4
Abstract: The nature and extent of heavy metal contamination was assessed using plant, earthworm, and clam bioassays in conjunction with soil sample analyses. The study site consisted of terrestrial uplands, transition zones and wetlands in both freshwater and brackishwater environments contaminated with arsenic, cadmium, copper, lead, zinc, and selenium as a result of uncontrolled discharges of chemical wastes. Test data from the bioassays were used in conjunction with soil chemical analyses to determine the specific areas of contamination and the need for remedial action. Laboratory plant and earthworm bioassay results and field clam bioassay results indicated potential migration of hazardous chemicals from soil into foodwebs associated with the site. Field collected mice confirmed bioassay test results and showed bioaccumulation of cadmium and lead in some of those areas implicated by laboratory bioassay test results. Bioassays gave a good indication of the nature and extent of chemical migration into foodwebs associated with the site. (Author abstract) 7 Refs.

Record - 37

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03777014 E.I. No: EIP93121145992
Title: Demonstrating novel processes for remediation in the field
Author: Tucker, Philip M.
Corporate Source: UWE, Bristol, Engl
Source: Nuclear Engineering International v 38 n 469 Aug 1993. p 30-31
Publication Year: 1993
CODEN: NEINBF ISSN: 0029-5507
Language: English
Document Type: JA; (Journal Article) Treatment: G; (General Review)
Journal Announcement: 9402W5
Abstract: Bradtec has recently developed several new technologies,

including the ACTDECON and MAGSEP processes, for decontaminating water and land. They have been demonstrated in conjunction with RUST Remedial Services and Argonne National Laboratory in the USA, and the US Government, through the Office of Technology Development, has sponsored Treatability and Proof of Process Tests for laboratory and pilot scale testing. These technologies are now being optimized for field demonstrations at several sites in the USA in readiness for full-scale operations anticipated to begin in 1994. (Author abstract)

Record - 38

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03728662 E.I. No: EIP93081055770
Title: Methodology for managing remediation of sites containing soil contamination
Author: Rutz, Eugene E.; Ijaz, Talaat; Wood, Raymond P.; Eckart, Roy E.
Corporate Source: Univ of Cincinnati, Cincinnati, OH, USA
Conference Title: Energy-Sources Technology Conference and Exhibition
Conference Location: Houston, TX, USA
E.I. Conference No.: 18672
Source: American Society of Mechanical Engineers (Paper) 1993. Publ by ASME, New York, NY, USA. p 1-6 93-PET-19
Publication Year: 1993
CODEN: ASMSA4 ISSN: 0402-1215
Language: English
Document Type: CA; (Conference Article) Treatment: G; (General Review)
Journal Announcement: 9312W2
Abstract: A methodology for evaluating various alternatives possible for site remediation is presented. Site characterization, soil cleaning considerations, restoration alternatives, and potential site is assessed using pathway analysis. Pathway analysis can be used to guide the remediation strategy to minimize costs while obtaining an acceptable cleanup level. (Author abstract) Refs.

Record - 39

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03705404 E.I. No: EIP93091080744
Title: Modelling studies of gas venting and steam injection for NAPL site remediation
Author: Forsyth, Peter A.
Corporate Source: Univ of Waterloo, Waterloo, Ont, Can
Conference Title: Proceedings of the Symposium on Engineering Hydrology
Conference Location: San Francisco, CA, USA
Sponsor: Hydraulics Division of the ASCE
E.I. Conference No.: 18947
Source: Proceedings of the Symposium on Engineering Hydrology Proc Symp Eng Hydrol 1993. Publ by ASCE, New York, NY, USA,Ont. p 958-963
Publication Year: 1993
ISBN: 0-87262-921-X
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical); X; (Experimental)
Journal Announcement: 9311W1

Abstract: A fully coupled, fully implicit method for simulating gas injection and steam injection for in situ remediation of sites contaminated with volatile NAPL is presented. Numerical results are given for some two dimensional axisymmetric scenarios. (Author abstract) refs.

Record - 40

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03671580 E.I. No: EIP93061012371
Title: Roadmapping: a management tool
Author: Blalock, Larry; McAllister, Audrey; Noblett, Patrick
Corporate Source: U.S. Dep of Energy, Germantown, MD, USA
Conference Title: Proceedings of the 4th Annual International Conference on High Level Radioactive Waste Management
Conference Location: Las Vegas, NV, USA
Sponsor: ASCE; ANS
E.I. Conference No.: 18620
Source: High Level Radioactive Waste Management Proc 4 Annu Int Conf High Level Radioact Waste Manage 1993. Publ by ASCE, New York, NY, USA. p 1633-1637
Publication Year: 1993
ISBN: 0-87262-950-3
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications)
Journal Announcement: 9309W2
Abstract: Roadmapping is a process used by the U.S. Department of Energy (DOE) Office of Environmental Restoration and Waste Management (EM) to illustrate issue-based planning activities necessary for achieving final waste disposal, completing site remediation, and bringing waste operations into compliance with applicable regulations. Roadmaps are developed by following a systematic planning process that focuses on issues identification, root-cause analysis, and issue resolution. Initially, roadmaps were developed at the installation level to provide the site and headquarters with a common planning tool. In 1992, 36 sites participated in the roadmap process. Review of these roadmaps has highlighted areas that need improvement. The Director of Planning, EM-14, transmitted a memo to the sites highlighting areas for improvement. One of these areas was incorporation of transportation activities. DOE's Transportation Management Division (TMD) issued a Headquarters (HQ) Transportation Roadmap in September 1992. This document was the first Headquarters Programmatic Roadmap to be developed. The Headquarters Transportation Roadmap is a 'living' document, which will be updated annually to reflect changes in the organization, and factors influencing TMD's program. The goals in developing the HQ Transportation Roadmap included: providing an avenue to raise transportation issues; a baseline for TMD planning; assisting site transportation personnel to become involved with the EM Roadmap Process; and integrating transportation planning across program lines. (Author abstract) 2 Refs.

Record - 41

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03668347 E.I. No: EIP93040758036
Title: Exposure/risk-based corrective action approach for

petroleum-contaminated sites
Corporate Source: Shell Development Co
Conference Title: Proceedings of the SPE/EPA Exploration and Production Environmental Conference
Conference Location: San Antonio, TX, USA
E.I. Conference No.: 18306
Source: Proceedings of the SPE/EPA Exploration and Production Environmental Conference Proc SPE EPA Explore Prod Environ Conf 1993. Publ by Society of Petroleum Engineers (SPE), P.O. Box 833836, Richardson, TX, USA. p 403-415
Publication Year: 1993
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications); X ; (Experimental)
Journal Announcement: 9309W1
Abstract: A practical and easy to use exposure/risk-based methodology for guiding corrective action activities at petroleum contaminated sites has been developed. In this approach, site characterization, assessment of potential beneficial uses, exposure/risk characterization, site prioritization, and selection of corrective action alternatives are integrated into a series of worksheets. These worksheets guide the user through the necessary steps to derive site-specific target clean-up levels and the corresponding appropriate corrective action. The risk characterization activities discussed here focus on exposure to groundwater, which is expected to be the pathway of greatest concern at the majority of petroleum contaminated sites. However, it is not difficult to see how this worksheet based approach can be extended to other pathways. The worksheets comprise a final document that is a valuable tool for regulators, contractors, and responsible parties to consistently prioritize sites and develop corrective action plans. This approach is currently being reviewed by several state agencies. In addition, the approach has been presented to the United States Environmental Protection Agency (EPA), and the American Society for Testing in Materials (ASTM). (Author abstract) refs.

Record - 42

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03659169 E.I. No: EIP93071018203
Title: Fiber optic chemical sensors - an overview
Author: Grey, Alan E.; Partin, Judy K.
Corporate Source: Idaho Natl Engineering Lab, Idaho Falls, ID, USA
Conference Title: Symposium on Leak Detection for Underground Storage Tanks
Conference Location: New Orleans, LA, USA
Sponsor: ASTM
E.I. Conference No.: 18644
Source: ASTM Special Technical Publication n 1161 1993. Publ by ASTM, Philadelphia, PA, USA. p 105-114
Publication Year: 1993
CODEN: ASTTA8 ISSN: 0066-0558 ISBN: 0-8031-1858-9
Language: English
Document Type: CA; (Conference Article) Treatment: G; (General Review)
Journal Announcement: 9308W3

Abstract: In a span of approximately 20 years, fiber optic sensing has grown from a laboratory oddity to a viable analytical field technique for the detection and monitoring of a wide variety of analytes. One of the reasons for this rapid growth is the range of techniques that can be used for the detection of species. These include changes in absorption, reflection, refraction, phase, polarization, and fluorescence. In general, any chemical or physical reaction that will perturb the light transmission through the optical fiber can be used as the basis for a fiber optic detector. Examples of fiber optic chemical sensors are presented and their advantages over conventional devices are discussed. (Author abstract) 14 Refs.

Record - 43

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03659167 E.I. No: EIP93071018201
Title: Analysis of UST leak vapor diffusion and liquid build-up
Author: Schreiber, Robert P.; Rosenberg, Myron S.
Corporate Source: Camp Dresser & McKee Inc, Cambridge, MA, USA
Conference Title: Symposium on Leak Detection for Underground Storage Tanks
Conference Location: New Orleans, LA, USA
Sponsor: ASTM
E.I. Conference No.: 18644
Source: ASTM Special Technical Publication n 1161 1993. Publ by ASTM, Philadelphia, PA, USA. p 73-89
Publication Year: 1993
CODEN: ASTTA8 ISSN: 0066-0558 ISBN: 0-8031-1858-9
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications); T ; (Theoretical)
Journal Announcement: 9308W3
Abstract: The need for improved leak detection and corrective action has prompted research into the movement of hydrocarbon vapors from leaking underground storage tanks (USTs) as well as the build-up of liquid hydrocarbon on the water table. This research has included the development of two evaluation techniques, one for simulating vapor diffusion from an UST leak and another for simulating the mounding of leaked hydrocarbon liquid. Both techniques are designed to produce approximate estimates of hydrocarbon movement and build-up, and as such are intended to be used in the early stages of site remediation planning and monitoring. The result of the research is a set of response curves and analytical techniques that can be used in designing monitoring systems and in performing site clean-ups. (Author abstract) 12 Refs.

Record - 44

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03631676 E.I. No: EIP93050797788
Title: Experimental comparisons in petroleum site remediation
Author: Blackburn, J.W.; Robbins, W.K.; Prince, R.C.; Harner, E.J.; Clark, J.R.; Atlas, R.M.; Wilkinson, J.B.
Corporate Source: Exxon Research and Engineering Co, Annandale, NJ, USA
Conference Title: Symposium on Bioremediation and Bioprocessing presented

at the 205th National Meeting of the American Chemical Society
Conference Location: Denver, CO, USA
E.I. Conference No.: 18432
Source: Preprints - Division of Petroleum Chemistry, American Chemical Society v 38 n 2 Mar 1993. Publ by ACS, Books & Journals Division, Washington, DC, USA. p 254-259
Publication Year: 1993
CODEN: ACPCAT ISSN: 0569-3799
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications); G ; (General Review); X; (Experimental)
Journal Announcement: 9307W1
Abstract: Environmental remediation technology has evolved into one of the Nation's major enterprises in scarcely more than a decade. Cost projections for site remediation in this country have exceeded one trillion dollars distributed over decades into the future. Citizens have demanded a clean environment along with economic prosperity and scientists, engineers and other technologists have risen to the challenge - accelerating technology transfer and development with a significant number of successes at field-scale, but with a related number of activities where something less than complete success was achieved. (Edited author abstract) 4 Refs.

Record - 45

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03623495 E.I. No: EIP93030742238
Title: Horizontal systems technology for shallow-site remediation
Author: Karisson, Haraldum
Corporate Source: Eastman Christensen Environmental Systems, Houston, TX, USA
Source: JPT, Journal of Petroleum Technology v 45 n 2 Feb 1993. p 160-165
Publication Year: 1993
CODEN: JPTJAM ISSN: 0149-2136
Language: English
Document Type: JA; (Journal Article) Treatment: G; (General Review)
Journal Announcement: 9306W4
Abstract: Innovations in drilling and completion technology for horizontal wellbores maximize the hydrologic benefits of horizontal wells for aquifer remediation. In many hydrologic scenarios, horizontal wells exhibit groundwater flow characteristics, drawdown distribution, and contaminant capture capabilities superior to those of vertical wells. In addition, comparison of installation, operation, and maintenance costs for vertical and horizontal groundwater-recovery systems reveals substantial savings engendered by horizontal wells, despite higher drilling costs. Development of a casing drilling and completion system, described in detail in this paper, has allowed the environmental industry to begin reaping the benefits of horizontal wells, which include safer, more efficient remediation operations. (Author abstract) 4 Refs.

Record - 46

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03620002 E.I. No: EIP92120656123
Title: New apparatus for the evaluation of electro-kinetic processes in

hazardous waste management
Author: Yeung, Albert T.; Sadek, Salah M.; Mitchell, James K.
Corporate Source: Texas A&M Univ, College Station, TX, USA
Source: Geotechnical Testing Journal v 15 n 3 Sep 1992. p 207-216
Publication Year: 1992
CODEN: GTJODJ ISSN: 0149-6115
Language: English
Document Type: JA; (Journal Article) Treatment: G; (General Review); T; (Theoretical)
Journal Announcement: 9306W3
Abstract: Possible uses of electro-kinetics for hazardous waste site remediation are being investigated. This paper describes a new apparatus which has been specifically designed, fabricated, and assembled to evaluate the viability, feasibility, practicality, and potential costs of these conceivable techniques experimentally. Results of studies on the existence of electro-osmotic flow in compacted clay and the electro-kinetic barrier to contaminant transport are used to illustrate the types of information that can be obtained by the apparatus. (Author abstract) 12 Refs.

Record - 47

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03618152 E.I. No: EIP92100607909
Title: Potential costs to utilities for hazardous waste site remediation
Author: Emmert, Michael; Sieracki, Richard; Egan, Joseph
Corporate Source: Peterson Consulting Ltd Partnership, Chicago, IL, USA
Conference Title: Proceedings of the 54th Annual Meeting of the American Power Conference
Conference Location: Chicago, IL, USA
Sponsor: Illinois Inst of Technology
E.I. Conference No.: 16838
Source: Proceedings of the American Power Conference v 54 pt 2 1992. Publ by Illinois Inst of Technology, Chicago, IL, USA. p 1159-1163
Publication Year: 1992
CODEN: PAPWA2 ISSN: 0097-2126
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications); G ; (General Review); M; (Management Aspects)
Journal Announcement: 9306W2
Abstract: Environmental legislation and regulations have added increased business and financial risks to public utilities and corporations in general. The presence of such risks has become increasingly apparent to utility management and other business leaders over the last several years in a variety of different ways. The interpretation of the various federal and state regulations, together with existing contract and other laws, can pose uncertainty as to what amount of environmental liability and cleanup costs will be allocated to the parties involved with hazardous waste sites. In response, many companies are redefining business cultures, re-examining production and other operating methods, and reviewing past activities in an attempt to respond to and comply with present, as well as anticipated future, environmental standards and requirements. In this climate of change and uncertainty, it is of paramount importance for corporations to minimize both the consequences of current environmental challenges and future environmental liability exposure while continuing to effectively operate

their businesses. 20 Refs.

Record - 48

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03608240 E.I. Monthly No: EIM9305-029731
Title: Application of probabilistic cost risk analysis in economic decision making for hazardous waste site remediation.
Author: Schultz, M.; Pavlou, S.
Corporate Source: Ebasco Environmental, Bellevue, WA, USA
Conference Location: Denver, CO, USA
E.I. Conference No.: 17896
Source: Risk Assessment/Management Issues in the Environmental Planning of Mines Risk Assess Manage Issues Environ Plann Min. Publ by Soc for Mining, Metallurgy & Exploration Inc, Littleton, CO, USA. p 137-141
Publication Year: 1992
ISBN: 0-87335-115-0
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications); G; (General Review); T; (Theoretical)
Journal Announcement: 9305
Abstract: The cost of remediation often drives the selection of the preferred remedial alternative at hazardous waste sites. The use of probabilistic cost/risk analyses can aid in predicting costs of remedial alternatives. Three types of information are discussed in performing cost/risk analyses: (1) data on the quantity of contamination versus the contaminant concentration; (2) unit costs of remediation for the remedial alternatives; and (3) risk to contaminant concentration relationships. Cost/risk evaluations are performed on a site-by-site basis, to account for combined risks of different contaminants and differences in quantity to be remediated versus contaminant concentration. The cost/risk analysis produces a graph of risk versus cost for each of the remedial alternatives. These costs are then compared to facilitate selection of a preferred alternative. An example of comparison of alternatives is illustrated for a historic coal gasification site. (Author abstract)

Record - 49

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03590339 E.I. Monthly No: EIM9304-021108
Title: Update on the use of transportable circulating bed combustors for site remediation.
Author: Diot, Harold, R.
Corporate Source: Ogden Environmental Services
Conference Title: Proceedings of the 36th Annual Technical Meeting of the Institute of Environmental Sciences
Conference Location: New Orleans, LA, USA Conference Date: 1990 Apr 23-27
E.I. Conference No.: 16762
Source: Proceedings, Annual Technical Meeting - Institute of Environmental Sciences. Publ by Inst of Environmental Sciences, Mount Prospect, IL, USA. p 49-53
Publication Year: 1990
CODEN: IESPAF ISSN: 0073-9227 ISBN: 1-877862-00-2

Language: English
Document Type: PA; (Conference Paper) Treatment: G; (General Review)
Journal Announcement: 9304
Abstract: During 1989, Ogden Environmental Services Inc. provided full-service hazardous waste site remediation services to clients throughout the U.S. and Canada. The company is conducting site remediation projects that will thermally treat over 100,000 tons of contaminated soil, using the proprietary transportable circulating bed combustor (CBC), an advanced fluidized bed incinerator. Two transportable CBC units are currently involved in major site remediation projects. One unit is thermally cleaning soil contaminated by a leaking underground fuel oil tank at a site in central California, while the other unit is purifying PCB-contaminated soils in the Kenai Wildlife Refuge in Alaska.

Record - 50

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03590329 E.I. Monthly No: EIM9304-021098
Title: Coping with remedial compliance.
Author: Rozmus, Gary, A.
Corporate Source: Eder Associates
Conference Title: Proceedings of the 36th Annual Technical Meeting of the Institute of Environmental Sciences
Conference Location: New Orleans, LA, USA Conference Date: 1990 Apr 23-27
E.I. Conference No.: 16762
Source: Proceedings, Annual Technical Meeting - Institute of Environmental Sciences. Publ by Inst of Environmental Sciences, Mount Prospect, IL, USA. p 1-4
Publication Year: 1990
CODEN: IESPAF ISSN: 0073-9227 ISBN: 1-877862-00-2
Language: English
Document Type: PA; (Conference Paper) Treatment: E; (Economic/Cost Data/Market Survey)
Journal Announcement: 9304
Abstract: SARA Section 121 (b) indicates a Federal preference for remedial actions at Superfund sites that incorporate treatment to permanently and significantly reduce the volume, toxicity or mobility of hazardous substances and contaminants to the maximum extent possible. Along with this preference, SARA indicates that remedial actions should satisfy the often mutually exclusive criteria of cost-effectiveness and permanence through the vehicle of alternative treatment or resource recovery technologies. SARA 121 requirements have compounded the problem facing the CERCLA 106 respondent, because they have reduced the possibility of eliminating virtually all high-technology remedial actions on the basis of costs. Various studies have estimated the 'permanent solutions' cost multiplier at between 3 to 10 compared to pre-SARA remedial costs. A streamlining policy would reduce the cost of the typical RI/FS by limiting the study to the essential elements needed to select a remedy. Streamlining would focus the remedial analysis on the collection of the data needed to develop and evaluate alternatives and would limit the alternative development and screening step in the FS to include only potentially effective and implementable alternatives.

Record - 51

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03585465 E.I. Monthly No: EI9304045469
Title: EPA's Superfund technical support project.
Author: Scalf, Marion R.
Corporate Source: U.S. Environmental Protection Agency, Ada, OK, USA
Source: Journal of Hazardous Materials v 32 n 2-3 Dec 1992 p 313-319
Publication Year: 1992
CODEN: JHMAD9 ISSN: 0304-3894
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); G; (General Review); X; (Experimental)
Journal Announcement: 9304
Abstract: Remediation of hazardous waste sites, especially the subsurface component, is a relatively new, extremely complex, interdisciplinary science. Success is determined more by experience than by hardware. The Technical Support Project of the U.S. Environmental Protection Agency (EPA) has been very successful in minimizing the time between development of the science and application of that scientific knowledge to decision making in the field. The Technical Support Project not only transfers knowledge from research to the field but acts as a critical feedback mechanism for focusing research efforts on the highest priority and most productive areas. Requests for technical support to the Superfund program have increased dramatically through the years as Regional staff have become more familiar with the system and how to access the program. In 1991, EPA's Office of Solid Waste started an effort to extend the Technical Support Project to the RCRA corrective action program. RCRA corrective action may affect almost 4000 facilities and, although administrative efforts may differ, technical questions will be very similar to those addressed by Superfund. (Author abstract)

Record - 52

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03585460 E.I. Monthly No: EI9304046896
Title: Organic substances in the subsurface: Delineation, migration, and remediation.
Author: Murarka, Ishwar; Neuhauser, Edward; Sherman, Michael; Taylor, Barbara B.; Mauro, David M.; Ripp, John; Taylor, Terry
Corporate Source: Electric Power Research Inst, Palo Alto, CA, USA
Source: Journal of Hazardous Materials v 32 n 2-3 Dec 1992 p 245-261
Publication Year: 1992
CODEN: JHMAD9 ISSN: 0304-3894
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical); X; (Experimental)
Journal Announcement: 9304
Abstract: The Electric Power Research Institute (EPRI) and Niagara Mohawk Power Corporation are sponsoring a research program concerning the release, transformation, and migration of organic compounds at a site where coal tar from former manufactured gas plant (MGP) operations was disposed nearly thirty years ago. Work at this site, referred to as EBOS Site 24, has included: determination of the location and chemical content of the tarry

source material, delineation of the groundwater contaminant plume, evaluation and implementation of innovative methods for sampling and analysis, and the remediation and restoration of the site. The results of the initial phase of research provided several important insights into the mechanisms of contaminant release and migration. For example, the shape of the groundwater contaminant plume at EBOS Site 24 was dominated by longitudinal advection with little contribution from transverse or vertical dispersion. A long-term monitoring program at EBOS Site 24 was initiated prior to the removal of the source material. The results of the baseline groundwater monitoring along the plume centerline were similar to the values predicted using EPRI's MYGRT**T**M model for migration of contaminants. After the baseline monitoring was completed, all of the tarry source material was removed in 1991 and used in the production of asphalt and portland cement. The groundwater monitoring program will continue for several years and the field results generated during this time will be used to evaluate and/or calibrate the MYGRT**T**M model. (Author abstract) 12 Refs.

Record - 53

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03573855 E.I. Monthly No: EIM9303-013968
Title: Recovery of metals from water using ion exchange.
Author: Hickey, Thomas A.; Stevens, David K.
Corporate Source: B&V Waste Science and Technology Corp, Kansas City, MO, USA
Conference Title: 1992 National Conference on Environmental Engineering - Water Forum '92
Conference Location: Baltimore, MD, USA Conference Date: 1992 Aug 2-6
Sponsor: ASCE
E.I. Conference No.: 16970
Source: Saving a Threatened Resource-In Search of Solutions National Conference on Environmental Engineering. Publ by ASCE, New York, NY, USA. p 510-515
Publication Year: 1992
CODEN: NCEEDO ISSN: 0731-1516
Language: English
Document Type: PA; (Conference Paper) Treatment: X; (Experimental); A; (Applications)
Journal Announcement: 9303
Abstract: Ion exchange technology is being used to treat ground and storm water at a wood treatment facility in California as part of a comprehensive site remediation program. Wood treating chemicals (inorganic metals chromium and copper) recovered from the site waters through ion exchange regeneration are reused in the wood treating operation. Offsite waste disposal is minimized are resource recovery is maximized. (Author abstract)

Record - 54

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03558772 E.I. Monthly No: EIM9302-007201
Title: Numerical results of calculated 3D vertical circulation flows around wells with two screen sections for in situ or on-site aquifer remediation.

Author: Herrling, B.; Stamm, J.
Corporate Source: Univ of Karlsruhe, Karlsruhe, Germany
Conference Title: Proceedings of the 9th International Conference on Computational Methods in Water Resources
Conference Location: Denver, CO, USA Conference Date: 1992 Jun
E.I. Conference No.: 16972
Source: Finite Elements in Water Resources, Proceedings of the International Conference v 1. Publ by Computational Mechanics Publ, Southampton, Engl. p 483-493
Publication Year: 1992
CODEN: FEWRDB
Language: English
Document Type: PA; (Conference Paper) Treatment: T; (Theoretical); A; (Applications)
Journal Announcement: 9302
Abstract: Three-dimensional vertical circulation flows around wells with two screen sections in one aquifer. so called 'groundwater circulation wells' (GZB), are an important subject of numerical investigation. Normally, the two screen sections are placed at the bottom and top of an aquifer. When on-site remediation techniques should be used, e.g. for the elimination of dissolved heavy metals from the groundwater, the same techique of a GZB can be utilizerd: The groundwater entering the well is pumped above ground, treated, and infiltrated into the same well using the other well screen. 2 Refs.

Record - 55

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03558014 E.I. Monthly No: EIM9302-006443
Title: Trace metal soil quality criteria to protect groundwater.
Author: Lee, J.; Chen, B.; Allen, H. E.; Huang, C. P.; Sparks, D. L.; Sanders, P.
Corporate Source: Univ of Delaware, Newark, DE, USA
Conference Title: Proceedings of the 16th Biennial Conference of the International Association on Water Pollution Research and Control - Water Quality International '92
Conference Location: Washington, DC, USA Conference Date: 1992 May 24-30
E.I. Conference No.: 17578
Source: Water Science and Technology v 26 n 9-11 1992. p 2327-2329
Publication Year: 1992
CODEN: WSTED4 ISSN: 0273-1223
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical); X; (Experimental)
Journal Announcement: 9302
Abstract: A major problem in site remediation is frequently the lack of appropriate standards for pollutants in soil. Lack of standards for an exposure route can result in subjective judgments regarding the extent of remediation needed. These problems are particularly important when considering the potential for groundwater contamination by inorganic materials. The partitioning of trace metals is highly dependent on the nature of the soil and on the solution pH. The maximum level of metal in soil for which the equilibrium soluble metal does not exceed the drinking

water standard can be computed, at any pH, from the measured partition coefficient for any metal and soil. (Edited author abstract) Refs.

Record - 56

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03546547 E.I. Monthly No: EIM9301-002547
Title: Horizontal systems technology for shallow site remediation.
Author: Karlsson, Haraldur
Corporate Source: Eastman Christensen Environmental Systems
Conference Title: SPE Annual Technical Conference and Exhibition - 1992
Conference Location: Washington, DC, USA Conference Date: 1992 Oct 4-7
Sponsor: Soc of Petroleum Engineers
E.I. Conference No.: 17308
Source: Drilling Proceedings - SPE Annual Technical Conference and Exhibition v Delta. Publ by Soc of Petroleum Engineers of AIME, Richardson, TX, USA, SPE 24600. p 583-595
Publication Year: 1992
CODEN: PSAEE3
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications); G; (General Review)
Journal Announcement: 9301
Abstract: Innovations in drilling and completion technology for horizontal wellbores maximize the hydrological benefits of horizontal wells for aquifer remediation. Horizontal wells exhibit groundwater flow characteristics, drawdown distribution and contaminant capture capabilities superior to those of vertical wells in many hydrological scenarios. Comparison of installation, operation and maintenance costs of vertical and horizontal groundwater recovery systems reveals substantial savings engendered by horizontal wells, despite higher drilling costs. Development of a casing drilling and completion system, described in detail in this paper, has allowed the environmental industry to begin reaping the benefits of horizontal wells, which include safer, more efficient remediation operations. (Author abstract) 5 Refs.

Record - 57

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03535686 E.I. Monthly No: EI9301005116
Title: Numerical simulation of gas venting for NAPL site remediation.
Author: Forsyth, P. A.; Shao, B. Y.
Corporate Source: Univ of Waterloo, Waterloo, Ont, Can
Source: Advances in Water Resources v 14 n 6 Dec 1991 p 354-367
Publication Year: 1991
CODEN: AWREDI ISSN: 0309-1708
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)
Journal Announcement: 9301
Abstract: A control volume, finite element method is used to discretize the three phase, three component equations for simulation of gas venting. The discrete equations are solved using full Newton iteration. Any combinations of phases can exist, and variable substitution is used to take

into account phase appearance and disappearance. Some example computations are presented for two dimensional axisymmetric geometry. Several different scenarios for gas venting are examined. High rate air injection can be effective at removing NAPL both in the unsaturated and saturated zones. The numerical techniques can handle problems having node pore volume gas throughputs (in a timestep) of the order of 10**6, which greatly exceeds the maximum stable explicit timestep size. (Author abstract) 29 Refs.

Record - 58

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03529495 E.I. Monthly No: EIM9212-062628
Title: Towards the fourth generation site remediation technology.
Author: Mischgofsky, F. H.
Corporate Source: Delft Geotechnics, Delft, Neth
Conference Title: Proceedings of the 12th International Conference on Soil Mechanics and Foundation Engineering
Conference Location: Rio de Janeiro, Br Conference Date: 1989 Aug 13-18
E.I. Conference No.: 16765
Source: Proceedings of the International Conference on Soil Mechanics and Foundation Engineering v 3. Publ by A.A. Balkema, Rotterdam, Neth. p 1895-1898
Publication Year: 1989
CODEN: PCSMB2 ISBN: 90-6191-893-6
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications); G; (General Review)
Journal Announcement: 9212
Abstract: Within a decade soil remediation developed in the leading countries (USA, the Netherlands, FRG) from an ad hoc reaction on public pressure to a systematic soil protection policy. For the USA and the European Community (EC), estimated remediation costs exceed 430 billion USDLR@. Soil quality standards and legislation force industry into large scale soil remediation of present and former sites and dumps. This incites large (petro)chemical companies to the development of more specific and cheaper remediation technologies, specifically suited for their own types of contamination: i.e. in-situ and off-site treatment of contaminated soil. This may bring sophisticated chemistry and microbiology in this traditionally civil engineering field, and might cut remediation costs down to 50%, but might also reduce considerably the market share of the building industry. Early R & D cooperation of contractors with chemical industry could benefit both, but particularly the contractors. (Author abstract) Refs.

Record - 59

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03516960 E.I. Monthly No: EI9212162540
Title: Operating issues in groundwater extraction and treatment.
Author: Doherty, Richard E.
Corporate Source: GeoSystems Inc, Westwood, MA, USA
Source: Pollution Engineering v 24 n 3 Feb 1 1992 p 61-64
Publication Year: 1992
CODEN: PLENBW ISSN: 0032-3640

Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications)
Journal Announcement: 9212
Abstract: Technical and regulatory factor considerations lead to the conclusion that all groundwater treatment systems require an operator, but the operator's duties, responsibilities and level of effort vary widely. In a fully-automated, remotely-monitored system, operator attention is still required for periodic monitoring, maintenance and responding to alarm conditions. Also, to obtain permits, it is often necessary to designate some person or entity as the operator. Finally, the operator is a key player in reaching the ultimate goal that the assessment, design and construction activities are intended to reach - that of completing remediation of the site. This article discusses operator responsibilities, common operating problems, and design considerations.

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<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03458960 E.I. Monthly No: EIM9207-037759
Title: Grouting for hazardous waste site remediation at Necco Park, Niagara Falls, New York.
Author: Weaver, K. D.; Coad, R. M.; McIntosh, K. R.
Corporate Source: Woodward-Clyde Consultants, Oakland, CA, USA
Conference Title: Proceedings of the 1992 ASCE Specialty Conference on Grouting, Soil Improvement and Geosynthetics
Conference Location: New Orleans, LA, USA Conference Date: 1992 Feb 25-28
Sponsor: ASCE, Geotechnical Engineering Div
E.I. Conference No.: 16347
Source: Geotechnical Special Publication v 2 n 30. Publ by ASCE, New York, NY, USA. p 1332-1343
Publication Year: 1992
CODEN: GSPUER ISSN: 0895-0563
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications)
Journal Announcement: 9207
Abstract: A single-line grout curtain was constructed along three sides of a 10 hectare industrial landfill located on dolomitic bedrock in Niagara Falls, New York. The objective of this curtain was to reduce the volume of underflow that was being removed by down-gradient extraction wells in order to prevent off-site migration of organic contaminants dissolved from materials that had been placed in the landfill during its 40 year operating life. Construction of the grout curtain was preceded by grout testing program. Conduct of the grouting operations was complicated by the need to employ special safety, precautions related to drilling in contaminated materials and a need to avoid creating a ground water mound that might rise into an up-gradient landfill. Preliminary results of geohydrologic monitoring subsequent to completion of the grouting operations indicate that the grout curtain is functioning as designed and that the efficiency of ground water recovery operations have substantially improved. (Author abstract) 3 Refs.

Record - 61

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03427467 E.I. Monthly No: EIM9205-022053
Title: Process development for remediation of phenolic waste lagoons.
Author: Arands, Rolf; Kuczykowski, David; Kosson, David
Corporate Source: Rutgers Univ, Piscataway, NJ, USA
Conference Title: Characterization and Cleanup of Chemical Waste Sites
Conference Location: Washington, DC, USA Conference Date: 1990 Aug 29
E.I. Conference No.: 16071
Source: Journal of Hazardous Materials v 29 n 1 Dec 1991. p 97-125
Publication Year: 1991
CODEN: JHMAD9 ISSN: 0304-3894
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications)
Journal Announcement: 9205
Abstract: Aqueous phenolic wastes from a phenolic resin production process were disposed in lagoons on the production site. Groundwater contamination in the area has exceeded state limits and thus mandated remedial action. Representative core samples from within and around the highly contaminated soil regions were collected. These samples were physically and chemically characterized to better determine the extent and nature of contamination. Both in situ and on-site remediation scenarios were considered. The most promising scenario was in situ forced leaching with above-ground aerobic microbial treatment of the leachate. The treatment could be carried out with six months operation at a cost of approximately DLR@170 per ton of treated soil, with the capability of reaching a final residual soil phenol concentration less than 20 mg/kg dry soil. (Author abstract) 23 Refs.

Record - 62

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03382363 E.I. Monthly No: EIM9202-006758
Title: On-site remediation of organically impacted soils on oilfield properties.
Author: Hildebrandt, W. W.; Wilson, S. B.
Corporate Source: Groundwater Technology Inc
Conference Title: Proceedings - 1990 California Regional Meeting
Conference Location: Ventura, CA, USA Conference Date: 1990 Apr 4-6
E.I. Conference No.: 13198
Source: Proc 90 Calif Reg Meet. Publ by Soc of Petroleum Engineers of AIME, Richardson, TX, USA. p 401-406 20061
Publication Year: 1990
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications)
Journal Announcement: 9202
Abstract: Degraded soil on oilfield property is frequently associated with oil wells, sumps, pits, storage tanks, pipeline headers and pump stations. Soil found in these areas is often considered either hazardous waste or designated waste under regulatory guidelines. Oilfield properties are frequently transferred to new operators, are abandoned, or are converted to other uses such as real estate. There is increasing concern about an owner's liabilities and the costs to remediate soil which has been contaminated with crude oil. Modern soil bioremediation systems are cost-effective for the treatment of crude oil contamination and can

eliminate an owner's subsequent liabilities. Compared to traditional landfarming practices, a modern on-site bioremediation system (a) requires significantly less surface area, (b) results in lower operating costs, and (c) provides more expeditious results. Case studies indicate that on-site bioremediation systems have been successful at reducing the crude oil contamination in soil to levels which are acceptable to regulatory agencies in less than 10 weeks. Total costs for the on-site bioremediation ranged from DLR@35 to DLR@40 per cubic yard of treated soil, including excavation. (Author abstract) 10 Refs.

Record - 63

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03374188 E.I. Monthly No: EI9202020427
Title: MOTCO superfund site cleanup and restoration.
Author: Aident, Michael; Foster, Michael; Stolte, William
Corporate Source: IT/McGill Pollution Control Systems, Knoxville, TN, USA
Source: Waste Management v 11 n 3 1991 p 135-146
Publication Year: 1991
CODEN: WAMAE2 ISSN: 0956-053X
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications)
Journal Announcement: 9202
Abstract: The MOTCO hazardous waste site is located in LaMarque Texas approximately 72 km southeast of Houston. There are approximately 38,000 Mg (42,000 tons) of hazardous and toxic waste materials in eight pits on the MOTCO site. Additionally, 36,000 Mg (40,000 tons) of lightly contaminated soil are associated with the pits. The wastes are primarily high heat content organic liquids, sludges, and solids, some containing PCB concentrations in excess of 50 mg/kg (50 ppm). The remediation project includes site preparation, excavation, equipment mobilization and erection, trial burn, incineration, demobilization, and site closure. The project is currently underway with site preparation activities, equipment erection, and one of two trial burns completed. Remediation is progressing with one of the eight waste pits completed. (Author abstract) 10 Refs.

Record - 64

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03367189 E.I. Monthly No: EIM9201-002189
Title: In situ remediation of hazardous wastes.
Author: Ayer, Elizabeth A.
Corporate Source: Univ of Houston, Houston, TX, USA
Conference Title: Proceedings of the 1991 Specialty Conference on Environmental Engineering
Conference Location: Reno, NV, USA Conference Date: 1991 Jul 8-10
Sponsor: ASCE, Environmental Engineering Div; Univ of Nevada-Reno, Civil Engineering Dep; American Acad of Environmental Engineers; Canadian Soc for Civil Engineering; Truckee Meadows Branch of ASCE; et al
E.I. Conference No.: 15165
Source: Environmental Engineering Proc 91 Spec Conf Environ Eng. Publ by ASCE, New York, NY, USA. p 557-566
Publication Year: 1991
ISBN: 0-87262-810-8

Language: English
Document Type: PA; (Conference Paper) Treatment: G; (General Review)
Journal Announcement: 9201
Abstract: Numerous releases of hazardous substances have occurred at uncontrolled sites all around the United States. These sites pose toxic threats to public health and our environment, and potential loss of natural resources. The traditional approaches of site isolation or excavation and disposal of the contaminated soil or both do not provide a permanent solution. The challenge facing us is to restore the land to an environmentally safe and reusable state with minimal amounts of hazardous wastes to ultimately be disposed. In situ soil remediation offers the attractive alternative of leaving the soil in-place, thereby reducing the amount of hazardous material to be destroyed. We must actively investigate this option and continue to develop the technology to implement it. (Author abstract)

Record - 65

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03367185 E.I. Monthly No: EIM9201-002185
Title: Observational approach in environmental restoration.
Author: Smyth, J. D.; Quinn, R. D.
Corporate Source: Pacific Northwest Lab, Richland, WA, USA
Conference Title: Proceedings of the 1991 Specialty Conference on Environmental Engineering
Conference Location: Reno, NV, USA Conference Date: 1991 Jul 8-10
Sponsor: ASCE, Environmental Engineering Div; Univ of Nevada-Reno, Civil Engineering Dep; American Acad of Environmental Engineers; Canadian Soc for Civil Engineering; Truckee Meadows Branch of ASCE; et al
E.I. Conference No.: 15165
Source: Environmental Engineering Proc 91 Spec Conf Environ Eng. Publ by ASCE, New York, NY, USA. p 528-533
Publication Year: 1991
ISBN: 0-87262-810-8
Language: English
Document Type: PA; (Conference Paper) Treatment: G; (General Review)
Journal Announcement: 9201
Abstract: The U.S. Department of Energy (DOE) has committed to completing environmental restoration of its facilities within the next 28 years (DOE 1990). To achieve this, DOE must ensure that its restoration activities are both effective and efficient. A key aspect of fulfilling this commitment is recognition and management of the uncertainty that is inherent in waste-site cleanup actions. The DOE Office of Environmental Restoration (DOE-ER) requested Pacific Northwest Laboratory (PNL) to investigate the applicability and implementation of what is known as the 'observational approach' to address these issues. PNL's initial investigation resulted in the positive conclusion that the observational approach could potentially benefit DOE's environmental restoration. In a follow-on effort, PNL, supported by CH2M HILL, has been providing guidance to DOE field offices on observational approach fundamentals, implementation, and application to waste-site remediation. This paper outlines the fundamentals of the observational approach and discusses the progress that has been made in integrating the observational approach in DOE's environmental restoration efforts. (Author abstract)

Record - 66

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03367183 E.I. Monthly No: EIM9201-002183
Title: Performance analysis of remedial alternatives.
Author: Wilson, David S.
Corporate Source: Environmental Resources Management, Inc, Exton, PA, USA
Conference Title: Proceedings of the 1991 Specialty Conference on Environmental Engineering
Conference Location: Reno, NV, USA Conference Date: 1991 Jul 8-10
Sponsor: ASCE, Environmental Engineering Div; Univ of Nevada-Reno, Civil Engineering Dep; American Acad of Environmental Engineers; Canadian Soc for Civil Engineering; Truckee Meadows Branch of ASCE; et al
E.I. Conference No.: 15165
Source: Environmental Engineering Proc 91 Spec Conf Environ Eng. Publ by ASCE, New York, NY, USA. p 517-522
Publication Year: 1991
ISBN: 0-87262-810-8
Language: English
Document Type: PA; (Conference Paper) Treatment: G; (General Review)
Journal Announcement: 9201
Abstract: This paper demonstrates how remedial action alternatives for a Superfund site can be evaluated using a health-risk basis. The case history for this demonstration is a Feasibility Study (FS) for a site in central Delaware performed by Environmental Resources Management, Inc. (ERM) of Exton, Pennysylvania. This study enabled comparison between risk reduction and cost for various levels of remediation. (Author abstract)

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<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03367182 E.I. Monthly No: EIM9201-002182
Title: Development of effective remediation criteria.
Author: Block, Robert N.; Genes, Benjamin R.; Finkel, Debra J.
Corporate Source: Remediation Technologies, Inc, Concord, MA, USA
Conference Title: Proceedings of the 1991 Specialty Conference on Environmental Engineering
Conference Location: Reno, NV, USA Conference Date: 1991 Jul 8-10
Sponsor: ASCE, Environmental Engineering Div; Univ of Nevada-Reno, Civil Engineering Dep; American Acad of Environmental Engineers; Canadian Soc for Civil Engineering; Truckee Meadows Branch of ASCE; et al
E.I. Conference No.: 15165
Source: Environmental Engineering Proc 91 Spec Conf Environ Eng. Publ by ASCE, New York, NY, USA. p 511-516
Publication Year: 1991
ISBN: 0-87262-810-8
Language: English
Document Type: PA; (Conference Paper) Treatment: G; (General Review)
Journal Announcement: 9201
Abstract: Clean-up criteria for remediation of hazardous waste sites take several forms. These vary from simple sensory parameters, e.g., visual evidence of contamination to specific numerical criteria to methodological criteria. The specific form of the criteria has a significant effect upon

the successful implementation of a remedial action. This paper explores the various types and forms of clean-up criteria and discusses the impact of these types of criteria on achieving compliance. (Author abstract)

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<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03367181 E.I. Monthly No: EIM9201-002181
Title: Redevelopment of remediated Superfund sites. Problems with current approaches in providing long-term public health protection.
Author: Lee, G. Fred; Jones, R. Anne
Corporate Source: G. Fred Lee & Associates, El Macero, CA, USA
Conference Title: Proceedings of the 1991 Specialty Conference on Environmental Engineering
Conference Location: Reno, NV, USA Conference Date: 1991 Jul 8-10
Sponsor: ASCE, Environmental Engineering Div; Univ of Nevada-Reno, Civil Engineering Dep; American Acad of Environmental Engineers; Canadian Soc for Civil Engineering; Truckee Meadows Branch of ASCE; et al
E.I. Conference No.: 15165
Source: *Environmental Engineering* Proc 91 Spec Conf Environ Eng. Publ by ASCE, New York, NY, USA. p 505-510
Publication Year: 1991
ISBN: 0-87262-810-8
Language: English
Document Type: PA; (Conference Paper) Treatment: G; (General Review)
Journal Announcement: 9201
Abstract: The normal primary objective of Superfund site remediation is the control of hazardous chemicals so that they do not represent a significant threat to public health and the environment on adjacent properties. The remediation of many federal and state Superfund sites involves leaving potentially significant amounts of hazardous chemicals in the soil and groundwaters of the area. This approach has significant long-term public health implications for redevelopment of a remediated site. A situation of this type is the potential problems associated with the degree of investigation and remediation compared to proposed plans for redevelopment of the Southern Pacific Railyard site located near downtown Sacramento, California. This 220 acre site's soils are contaminated with lead and other heavy metals, PNAs, and petroleum hydrocarbons. The groundwaters are contaminated by chlorinated solvents, some of which have been converted to vinyl chloride. Because of its location in downtown Sacramento in the waterfront area, the site is a prime candidate for redevelopment. Plans have been developed for intensive redevelopment involving commercial and residential uses. This paper discusses a number of potential redevelopment problems for this Superfund site as an example of problems that could occur with the redevelopment of many Superfund sites and suggests approaches that should be considered in developing deed and other restrictions on future property use for those properties that were contaminated by Priority Pollutants and remediated in accord with current Superfund guidelines. (Edited author abstract)

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<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03367129 E.I. Monthly No: EIM9201-002129

Title: Remedial planning for the former EXPO 86 site.
Author: Reis, Richard
Corporate Source: Harding Lawson Associates, Seattle, WA, USA
Conference Title: Proceedings of the 1991 Specialty Conference on Environmental Engineering
Conference Location: Reno, NV, USA Conference Date: 1991 Jul 8-10
Sponsor: ASCE, Environmental Engineering Div; Univ of Nevada-Reno, Civil Engineering Dep; American Acad of Environmental Engineers; Canadian Soc for Civil Engineering; Truckee Meadows Branch of ASCE; et al
E.I. Conference No.: 15165
Source: Environmental Engineering Proc 91 Spec Conf Environ Eng. Publ by ASCE, New York, NY, USA. p 185-190
Publication Year: 1991
ISBN: 0-87262-810-8
Language: English
Document Type: PA; (Conference Paper) Treatment: G; (General Review)
Journal Announcement: 9201
Abstract: This paper describes the site characterization and remedial action planning effort that is being undertaken at the former EXPO 86 site in downtown Vancouver, B.C. The 200 acre site on the north shore of False Creek has a 100-year history of heavy industrial use. A phased approach to site characterization and remedial planning has been undertaken to meet the specific requirements of different areas of the site. (Author abstract)

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<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03365255 E.I. Monthly No: EIM9201-000255
Title: Environmental Engineering.
Author: Krenkel, Peter A. (Ed.)
Corporate Source: Univ of Nevada-Reno, Reno, NV, USA
Conference Title: Proceedings of the 1991 Specialty Conference on Environmental Engineering
Conference Location: Reno, NV, USA Conference Date: 1991 Jul 8-10
Sponsor: ASCE, Environmental Engineering Div; Univ of Nevada-Reno, Civil Engineering Dep; American Acad of Environmental Engineers; Canadian Soc for Civil Engineering; Truckee Meadows Branch of ASCE; et al
E.I. Conference No.: 15165
Source: Environmental Engineering Proc 91 Spec Conf Environ Eng 1991. Publ by ASCE, New York, NY, USA. 801p
Publication Year: 1991
ISBN: 0-87262-810-8
Language: English
Document Type: CP; (Conference Proceedings) Treatment: G; (General Review)
Journal Announcement: 9201
Abstract: These proceedings contain 128 papers from the conference all of which are abstracted and indexed individually. These papers were presented in the followoing sessions: landfill design and management; water reclamation and reuse; toxic air emissions; mixed wastes; collection systems; toxicity bioassays; hazardous waste bioremediation; toxic compounds removal by adsorption; water treatment; sludge management and disposal; nutrint removal; emission control and air stripping; waste minimization; engineered aquatic treatment systems; wastewater treatment

plant emissions; radiation management; water pollution; site remediation; environmental risk assessments; disinfection; and environmental impact of drought.

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<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03350384 E.I. Monthly No: EIM9112-062068
Title: Effect of surfactants on the sorption partition coefficients of naphthalene on aquifer soils.
Author: Brickell, J. L.; Keinath, T. M.
Corporate Source: United States Air Force Acad, CO, USA
Conference Title: Proceedings of the 15th Biennial Conference of the International Association on Water Pollution Research and Control
Conference Location: Kyoto, Jpn Conference Date: 1990 Jul 29-Aug 3
E.I. Conference No.: 15243
Source: Water Science and Technology v 23 n 1-3 1991. p 455-463
Publication Year: 1991
CODEN: WSTED4 ISSN: 0273-1223 ISBN: 0-08-040774-9
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); X; (Experimental)
Journal Announcement: 9112
Abstract: The efficiency of removing organic contaminants from groundwater aquifers by the pump and treat process is adversely affected by the retardation of the contaminant's mobility due to adsorption onto aquifer material. The use of surfactants in conjunction with the pump and treat process has the potential for improving contaminant mobility by solubilizing the adsorbed contaminant. An experimental program was conducted to screen various types of commercially available nonionic and anionic surfactants for solubilizing adsorbed naphthalene from one type of aquifer soil. Two additional types of aquifer soils were obtained, and the surfactant mixture, Tween 20 and Aerosol AY-65, selected during the screening process was used at various concentrations for equilibrium desorption studies to quantify surfactant effects on naphthalene desorption. Equilibrium desorption studies showed that a 0.125 percent surfactant solution decreased the partition coefficient 65 percent compared with water alone for one soil type, while greater surfactant concentrations resulted in less effective mobilization. However, the same surfactant mixture markedly increased the partition coefficient when used with another soil type, and had negligible effects for the third soil type. It was shown that the clay mineralogy significantly influenced the effect of the surfactant solution. (Author abstract) 10 Refs.

Record - 72

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03350378 E.I. Monthly No: EIM9112-062062
Title: Methods to set soil cleanup goals to protect surface and ground water quality at hazardous waste sites.
Author: Huggins, A.; LaGrega, M. D.
Corporate Source: Environmental Resources Management, Inc, Exton, PA, USA
Conference Title: Proceedings of the 15th Biennial Conference of the International Association on Water Pollution Research and Control

Conference Location: Kyoto, Jpn Conference Date: 1990 Jul 29-Aug 3
E.I. Conference No.: 15243
Source: Water Science and Technology v 23 n 1-3 1991. p 405-412
Publication Year: 1991
CODEN: WSTED4 ISSN: 0273-1223 ISBN: 0-08-040774-9
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); X; (Experimental)
Journal Announcement: 9112
Abstract: Hazardous waste management programs in the U.S. have focused on the cleanup of sites so that environmental standards are met and environmental and human health risks will be mitigated. The programs involve the cleanup of abandoned sites as well as existing industrial facilities. In many cases the criteria for cleanup at these sites are based on the protection of ground or surface water resources. Criteria can be based on 1) background levels in the surrounding environment, 2) national or state standards set to protect surface and ground water uses, and/or 3) site-specific standards based on risk assessment techniques. Methodologies for the derivation of cleanup goals in the U.S. vary between regulatory programs. Media-protection standards or trigger levels are the simplest to manage, but their appeal can be diminished if they lead to unnecessary cleanup activities. Such simple systems also fail to deal with any unique site characteristics or exposure patterns. Partly in response to such concerns, some U.S. programs depend upon risk assessment to set site-specific cleanup goals. This paper provides several case studies where various approaches to developing cleanup goals have been applied, and discusses the advantages and disadvantages of the different approaches. (Author abstract) 10 Refs.

Record - 73

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03341384 E.I. Monthly No: EI9112152053
Title: Storage, disposal, remediation, and closure.
Author: Millano, Elsie F.; Ball, Roy O.
Source: Research Journal of the Water Pollution Control Federation v 63 n 4 Jun 1991 p 518-525
Publication Year: 1991
CODEN: RJWFE7 ISSN: 1047-7624
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); L; (Literature Review/Bibliography); X; (Experimental)
Journal Announcement: 9112
Abstract: The paper is part of the 1991 WPCF Literature Review, which covers 49 separate review topics. Subjects covered here include site evaluation, site design, migration of compounds, environmental regulations, selection of remedial action, and others. 154 Refs.

Record - 74

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03318713 E.I. Monthly No: EIM9110-050157
Title: Identification, remediation and control of contaminated sites and landfills.

Author: Schwyn, B.; Scheiwiller, T.
Corporate Source: SIMULTEC Ltd, Zurich, Switzerland
Conference Title: Proceedings of International Conference on Environmental Pollution - ICEP-1
Conference Location: Lisbon, Port Conference Date: 1991 Apr
E.I. Conference No.: 14710
Source: International Conference on Environmental Pollution Proc Int Conf Environ Pollut. Publ by Inderscience Enterprises Ltd, World Trade Center Bldg, Geneva Aeroport 15, Switz. p 291-298
Publication Year: 1991
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications); X; (Experimental)
Journal Announcement: 9110
Abstract: A modular methodology was developed to deal systematically with contaminated sites and landfills. From the time the site identified, during its remediation, and until it is dropped from the list of hazardous sites, all activities are managed by three sets of tools: data collection, analysis, and remediation. To begin the investigation of a suspicious site, data collection and analysis are performed alternately until the acquired knowledge about the site is sufficient to take the necessary remedial measures. By the alternate use of data collection and analysis the site is monitored. Experience has indicated that applying the methodology is the best way to develop it. (Author abstract) 10 Refs.

Record - 75

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03308075 E.I. Monthly No: EI9110128049
Title: Use of electrokinetics for hazardous waste site remediation.
Author: Cabrera-Guzman, D.; Swartzbaugh, J. T.; Weisman, A. W.
Corporate Source: U.S. Environmental Protection Agency, Cincinnati, OH, USA
Source: Journal of the Air & Waste Management Association v 40 n 12 Dec 1990 p 1670-1676
Publication Year: 1990
CODEN: JAWAEB ISSN: 1047-3289
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); X; (Experimental)
Journal Announcement: 9110
Abstract: Recently, EPA, through the Superfund Innovative Technology Evaluation (SITE) program, issued a work assignment to assess the 'state-of-the-art' of electrokinetically enhanced contaminant removal from soils. Prior research efforts, both laboratory and field, have demonstrated that electroosmosis has the potential to be effective in facilitating the removal of certain types of hazardous wastes from soils. Particularly encouraging results have been achieved with inorganics in fine-grained soils where more traditional removal alternatives are less effective. Although the results of various studies suggest that electrokinetics is a promising technology, further testing is needed at both the laboratory and field levels to fully develop this technology for site remediation. A conceptual test program is presented based on best available data which incorporates system design and operating parameters used in previous

applications of this technology in the use of electrokinetics treatment as a remediation technique at hazardous waste sites. (Edited author abstract) 10 Refs.

Record - 76

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03106520 E.I. Monthly No: EIM9108-038550
Title: Major remediation. Removal and recovery of TCE from soil and groundwater.
Author: Lindhult, Eric C.; Tischuk, Michael D.; Moose, Roger D.
Corporate Source: Dames & Moore, Willow Grove, PA, USA
Conference Title: Proceedings of the 22nd Mid-Atlantic Industrial Waste Conference
Conference Location: Philadelphia, PA, USA Conference Date: 1990 Jul 24-27
Sponsor: Bucknell Univ; Univ Delaware; Drexel Univ; Howard Univ; Johns Hopkins Univ; et al
E.I. Conference No.: 14481
Source: Hazardous and Industrial Wastes Hazardous and Industrial Wastes - Proceedings of the Mid-Atlantic Industrial Waste Conference. Publ by Technomic Publ Co Inc, Lancaster, PA, USA. p 303-320
Publication Year: 1990
CODEN: HIWAEB ISSN: 1044-0631
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications); X; (Experimental)
Journal Announcement: 9108
Abstract: During a pre-transfer property investigation at an industrial facility, significant TCE contamination was detected in the subsurface. Further investigation detected a free-product TCE perched on a silt layer within the shallow overburden aquifer. Additional investigation indicated that the thickness of this free-product layer was as great as 6 feet. The quantity of free-product TCE perched on the silt layer has been estimated at several thousand gallons. After review of the pumping test data and the ground water and soil laboratory analyses, a preliminary treatment design was prepared and submitted to the regulatory agency. Regulatory approval was received for the installation of a treatment system to remediate the on-site contamination. The system includes groundwater extraction from the bedrock, shallow, and confined overburden wells using pneumatic and electrical pumps. (Edited author abstract)

Record - 77

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03063350 E.I. Monthly No: EIM9105-019670
Title: Treatment of phenol and cresol contaminated soil.
Author: Evangelista, Robert A.; Allen, Harry L.; Mandel, Robert M.
Corporate Source: CH2M, Sacramento, CA, USA
Conference Title: 197th National Meeting on Characterization and Cleanup of Chemical Waste Sites
Conference Location: Dallas, TX, USA Conference Date: 1989 Apr 10
E.I. Conference No.: 14458
Source: Journal of Hazardous Materials v 25 n 3 Dec 1990. p 343-360

Publication Year: 1990
CODEN: JHMAD9 ISSN: 0304-3894
Language: English
Document Type: JA; (Journal Article) Treatment: X; (Experimental)
Journal Announcement: 9105
Abstract: Bench-scale experiments investigated the technical feasibility of innovative treatment options to remediate soil contaminated with phenol and cresols. These experiments resulted in full-scale operations which were followed by an additional bench-scale test to remove residuals. The bench-scale treatments explored were passive evaporation, soil washing, and biodegradation. Passive evaporation reduced concentrations of phenol, ortho-cresol, and meta- and para-cresol 58 to 66%, 55 to 80%, and 36 to 43%, respectively, after 3 weeks. In the soil washing tests, alkaline water adjusted to pH 11.5 and hot water at 50 degree C both showed relative cleaning efficiencies of approximately 100%. Shake-flask biotreatment experiments found that Alcaligenes eutrophus JMP134 degraded phenol and cresol in untreated soil. After bench-scale experiments, a full-scale soil leaching process using water as an extractant removed more than 99.9% of the phenol and 99.7% of the cresols. To degrade oil and grease remaining in the leached soil, soil column biodegradation studies were performed on washed soil from the leach field. In the presence of a nutrient solution, oil and grease degraded rapidly, and residual phenol and cresols were further reduced. (Author abstract) 24 Refs.

Record - 78

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03050339 E.I. Monthly No: EIM9104-014256
Title: Procedures for conducting air pathway analyses at superfund sites.
Author: Garrison, Mark E.; Cimorelli, Alan J.
Corporate Source: U.S. Environmental Protection Agency, Philadelphia, PN, USA
Conference Title: Proceedings - 82nd A&WMA Annual Meeting
Conference Location: Anaheim, CA, USA Conference Date: 1989 Jun 25-30
E.I. Conference No.: 13687
Source: Proceedings - A&WMA Annual Meeting v 8. Publ by Air & Waste Management Assoc, Pittsburgh, PA, USA. 16p
Publication Year: 1989
CODEN: PAMEE5
Language: English
Document Type: PA; (Conference Paper) Treatment: G; (General Review)
Journal Announcement: 9104
Abstract: This paper has outlined and summarized technical procedures that the Environmental Protection Agency (EPA) has developed to conduct air pathway analyses (APAs) at Superfund sites. The two basic approaches to APA - namely, modeling and monitoring, have been described and compared in terms of their relative strengths and weaknesses. The objective of the technical procedures and the companion Volume I, is to provide a site manager with the information necessary to better understand and control APAs that he or she may choose to conduct at a site. As follow-up work to these technical procedures, EPA has either initiated or is planning to initiate efforts to evaluate and possibly improve model algorithms such as area source algorithms and dispersion in the near-field (less than 100 meters from a source), to provide for screening techniques for long-term

averages, and to evaluate the potential usefulness of new monitoring techniques such as long-path optical techniques. 1 Ref.

Record - 79

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03045264 E.I. Monthly No: EI9104041113
Title: Application of observational method to hazardous waste engineering.
Author: Brown, Stuart M.; Lincoln, David R.; Wallace, William A.
Corporate Source: CH2M HILL, Inc, Portland, OR, USA
Source: Journal of Management in Engineering v 6 n 4 Oct 1990 p 479-500
Publication Year: 1990
CODEN: JMENEA ISSN: 0742-597X
Language: English
Document Type: JA; (Journal Article) Treatment: M; (Management Aspects)
Journal Announcement: 9104
Abstract: Uncertainty is a key technical factor in hazardous waste site remediations. It can lead to unreasonable data gathering exercises if the point of diminishing information returns is not recognized. Engineering under uncertainty, however, is not unique to hazardous waste site remediation. Approaches have been used elsewhere to recognize and respond to substantial uncertainty. The observational method, traditionally applied in geotechnical engineering, has a number of key elements applicable to hazardous waste site remediation. The key contributions of the observational method are: (1) Remedial design based on most probable site conditions; (2) identification of reasonable deviations from those conditions; (3) identification of parameters to observe so as to detect deviations during remediation; and (4) preparation of contingency plans for each potential deviation. This paper describes an approach for incorporating the observational method into the current USEPA Superfund process and provides a detailed discussion of that process in the context of ground-water remediation. Explicitly recognizing uncertainty in a proper application of the observational method offers the opportunity to reduce project time and costs as well as risks. (Author abstract) 2 Refs.

Record - 80

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03031308 E.I. Monthly No: EI9103027802
Title: Guide to controlling site remediation costs.
Author: Fender, Ron
Source: Pollution Engineering v 22 n 12 Nov 1990 p 86-91
Publication Year: 1990
CODEN: PLENBW ISSN: 0032-3640
Language: English
Document Type: JA; (Journal Article) Treatment: E; (Economic/Cost Data/Market Survey); G; (General Review)
Journal Announcement: 9103
Abstract: Site remediation can be simply described as the study and cleanup of hazardous waste sites. Under Superfund, Congress sought to punish people for unintended harm (or potential harm) caused by actions that were, in many cases, lawful at the time. It made companies financially liable for waste disposal problems created in the past - even if their

disposal practices were perfectly legal at the time. During the 1980s, site remediation grew to include sites identified under the Resource Conservation and Recovery Act (RCRA), various state Superfund laws and problems discovered during financial transactions such as property transfer. For the purposes of this article, site remediation is examined in the context of Superfund - with applications to the other areas mentioned.

Record - 81

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03031305 E.I. Monthly No: EI9103027801
Title: Methods of site Remediation.
Author: Patel, Yogesh B.; Shah, Mahabal K.; Cheremisinoff, Paul N.
Source: Pollution Engineering v 22 n 12 Nov 1990 p 58-64,66
Publication Year: 1990
CODEN: PLENBW ISSN: 0032-3640
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); X; (Experimental)
Journal Announcement: 9103
Abstract: The article discusses superfund legislation requirements and cleanup technologies. Initially, the presumption was that sites could be cleaned up with conventional technologies. The high cost estimates for such cleanups along with public objections resulted in a system for developing new cleanup methods, the Superfund Innovative Technology Evaluation (SITE) program. Technologies discussed include soil washing/extraction, stabilization and solidification, deep and shallow soil mixing, thermal desorption, landfilling, and others.

Record - 82

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03021582 E.I. Monthly No: EIM9102-004239
Title: Site remediation of contaminated wetlands. Chemical characterization, biotreatment, waste minimization, and rapid toxicity assay development.
Author: Portier, Ralph J.; Shane, Barbara S.; Overton, Edward B.; Irvin, T. Rick; Martin, John E.
Corporate Source: Louisiana State Univ, Baton Rouge, LA, USA
Conference Title: Proceedings of the Gulf Coast Hazardous Substance Research Center Second Annual Symposium: Mechanisms and Applications of Solidification/Stabilization
Conference Location: Beaumont, TX, USA Conference Date: 1990 Feb 15-16
E.I. Conference No.: 13954
Source: Journal of Hazardous Materials v 24 n 2-3 Sep 1990. p 299-300
Publication Year: 1990
CODEN: JHMAD9 ISSN: 0304-3894
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); X; (Experimental)
Journal Announcement: 9102
Abstract: National attention has focussed on the need for feasible technologies to permit on-site remediation of hazardous waste sites. To address this need, we are developing a biodegradation-based hazardous waste

site remediation system in which an innovative analytical technology, thermal chromatography-mass spectrometry (TC-MS), in concert with short term genotoxicity and teratogenicity assays is being used to monitor the progress of degradation of the wastes. The Pab Oil site, located near Abbeville, LA, has been chosen as the hazardous waste site for the study. This site was originally established to recycle oil from oil-based muds generated from numerous sources. A series of remediation tests using liquids/solids contact (LSC) reactors were conducted on produced water sludges similar to those at the Pab Oil site. Total organic carbon was reduced from 9,800 mg/kg dry weight to 321 mg/kg dry weight after 14 days in the reactors. Residuals are undergoing further remediation in a modified land farm approach. TC-MS analysis showed significant reductions of both aliphatic and asphaltine fractions. A new reactor for the suspension of up to 40 percent solids in an aqueous slurry, which is present at this site, has been designed to improve remediation kinetics and minimize upsets. Preliminary studies using polymer chelation of metals from standing water from the Pab Oil site, has shown that 74 to 97 percent of arsenic, chromium, nickel, and zinc were removed in a fixed bed reactor. Six microbial strains, including two isolated during a recent cruise in the Gulf of Mexico where deep ocean petroleum seep communities in the Green Canyon were explored, show great promise for anaerobic degradation of polyaromatic hydrocarbons/petroleum mixtures. Four toxicity assays have been validated to monitor the toxicity of the oil wastes during the bioremediation process. (Author abstract)

Record - 83

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
03012590 E.I. Monthly No: EIM9101-002590
Title: Seed germination and root elongation toxicity tests in hazardous waste site evaluation. Methods development and applications.
Author: Linder, Greg; Greene, Joseph C.; Ratsch, Hilman; Nwosu, Julius; Smith, Sheila; Wilborn, David
Corporate Source: NSI Technology Services Corp, Corvallis, OR, USA
Conference Title: First Symposium on Use of Plants for Toxicity Assessment
Conference Location: Atlanta, GA, USA Conference Date: 1989 Apr 19-20
Sponsor: ASTM Committee E-47 on Biological Effects & Environmental Fate; ASTM Committee E-47, Subcommittee E47.11 on Plant Toxicity
E.I. Conference No.: 13709
Source: ASTM Special Technical Publication v STP n 1091. Publ by ASTM, Customer Service Department, Philadelphia, PA, USA. p 177-187
Publication Year: 1990
CODEN: ASTTA8 ISSN: 0066-0558
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications); X; (Experimental)
Journal Announcement: 9101
Abstract: In the seed germination toxicity test, site soil is mixed with a reference soil to yield a logarithmic series of exposure concentrations into which test seeds are planted. Germination is evaluated after a five-day exposure, and effective concentrations associated with a 50% reduction in seed germination are calculated. Contrasted to this direct test of soil toxicity, the root elongation test evaluates soil eluates that

are prepared from site samples and contain water-soluble soil constituents potentially available to plants on-site and off-site. For the root elongation test, seeds are placed onto moistened filter paper that lines petri dish exposure chambers. Then, the exposure chambers are covered and incubated in complete darkness for five days; inhibition of root elongation is calculated as an EC//5//0 (exposure concentration that yields a 50% reduction in root length relative to controls) upon termination of the test. By using a variety of plant species and developing a comparative toxicity database, both seed germination and root elongation toxicity tests may be applied on a site-specific basis and contribute to the toxicity assessment required as part of an ecological assessment for a hazardous waste site. (Edited author abstract) 43 Refs.

Record - 84

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
02985274 E.I. Monthly No: EIM9011-045817
Title: Remediation of the couchville pike superfund site to facilitate airport expansion.
Author: Higgins, Charles Sumner Jr.; Schecter, Rebecca Fricke
Corporate Source: ERC Environmental and Energy Services, Nashville, TN, USA
Conference Title: Proceedings of the 1990 Specialty Conference
Conference Location: Arlington, VA, USA Conference Date: 1990 Jul 8-11
Sponsor: ASCE, Environmental Engineering Div, New York, NY, USA
E.I. Conference No.: 13427
Source: National Conference on Environmental Engineering. Publ by ASCE, New York, NY, USA. p 748-755
Publication Year: 1990
CODEN: NCEEDO ISSN: 0731-1516
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications); G; (General Review)
Journal Announcement: 9011
Abstract: During the planning of an expansion of the main airport in Nashville, Tennessee, a 34-acre abandoned waste dump was discovered in the path of the proposed new runway. ERC Environmental and Energy Services (ERCE) investigated the potential presence of hazardous constituents, developed closure design criteria and monitored closure operations. The complexity of the airport construction, the 30-year age of the site and the lack of historical data resulted in the use of creative approaches to the project. Over 300,000 cubic yards of solid waste was excavated, screened for the presence of hazardous materials and relocated in an environmentally beneficial manner while maintaining the runway construction schedule. (Author abstract)

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<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
02985251 E.I. Monthly No: EIM9011-045794
Title: Feasible alternatives for remediation of a low-level radioactive waste site.
Author: Whitlock, Carol J.; Hutchinson, Clyde L.
Corporate Source: B & V Waste Science and Technology Corp, Overland, KS,

USA
Conference Title: Proceedings of the 1990 Specialty Conference
Conference Location: Arlington, VA, USA Conference Date: 1990 Jul 8-11
Sponsor: ASCE, Environmental Engineering Div, New York, NY, USA
E.I. Conference No.: 13427
Source: National Conference on Environmental Engineering. Publ by ASCE, New York, NY, USA. p 576-583
Publication Year: 1990
CODEN: NCEEDO ISSN: 0731-1516
Language: English
Document Type: PA; (Conference Paper) Treatment: G; (General Review)
Journal Announcement: 9011
Abstract: Groundwater contamination by both radionuclides and organic compounds has been identified at the site. Five alternatives for remedial action were evaluated. Four of these alternatives represent the actions which will, at least partially, meet the goals of the remedial activities. Alternative 2 address the problems related to direct contact through activities on site such as farming or installation of drinking water wells but does not address the potential contacts resulting from intruders to the site or contamination carried off site by the groundwater. Alternative 3 provides added protection against onsite direct contact with contaminated materials and, by reducing the amount of infiltration and leaching through the site, reducing the amount of contaminated groundwater leaving the site. Alternative 4 would meet the remedial action objectives, but could require the disposal onsite of sludge containing radionuclides and organic compounds. Alternative 5 would also meet the remedial action objectives and would also potentially produce a sludge byproduct which must be disposed onsite.

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<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
02944769 E.I. Monthly No: EIM9008-033505
Title: Long-term climate change assessment task of the protective barrier development program for low-level waste site remediation at the Hanford Site.
Author: Petersen, K. L.
Corporate Source: Westinghouse Hanford Co, Richland, WA, USA
Conference Title: Proceedings of the 1st Annual International Topical Meeting on High Level Radioactive Waste Management. Part 2
Conference Location: Las Vegas, NV, USA Conference Date: 1990 Apr 8-12
Sponsor: ASCE, New York, NY, USA; American Nuclear Soc, USA
E.I. Conference No.: 13232
Source: Proc 1st Annu Int Top Meet High Level Radioact Waste Manage Part 2. Publ by ASCE, Boston Society of Civil Engineers Sect, Boston, MA, USA. p 1235-1239
Publication Year: 1990
ISBN: 0-87262-751-9
Language: English
Document Type: PA; (Conference Paper) Treatment: T; (Theoretical)
Journal Announcement: 9008
Abstract: A study plan is being developed to guide a multiyear program to assess long-term climate change and optimize the design of protective barriers. A protective barrier alternative is being considered for the

disposal of some low-level radioactive defense waste stored near the surface at the Hanford Site, Washington. These barriers are being designed to limit movement of radionuclides and other contaminants to the accessible environment for at least 1,000 years and possibly as long as 10,000 years. A stepwise approach to climatic data acquisition will be relied on in obtaining needed information for concurrent barrier tasks, and in developing a local climate forecast model. (Edited author abstract) 9 Refs.

Record - 87

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
02924945 E.I. Monthly No: EI9007080559
Title: Application of surface geophysics for location of buried hazardous wastes.
Author: Siegrist, Robert L.; Hargett, David L.
Corporate Source: Ayres Associates, Madison, WI, USA
Source: Waste Management & Research v 7 n 4 Dec 1989 p 325-335
Publication Year: 1989
CODEN: WMARD8 ISSN: 0734-242X
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); X; (Experimental)
Journal Announcement: 9007
Abstract: Surface geophysical techniques represent powerful tools for investigations involving the delineation of buried hazardous wastes. An investigation to assess an 8 hectare (20 acres) manufacturing plant site for the presence of buried waste material is described. Electromagnetic (EM) conductivity and magnetometry data were collected along continuous profiles and within rectangular systematic grids. The results of this work dispelled concern over several areas rumored to contained buried wastes, but indicated the potential presence of buried materials at three areas. The EM quadrature-phase conductivity data proved to be most definitive as conductivity anomalies were distinct and readily apparent. In an area suspected to contain an abandoned seepage pit, the measured EM conductivities exceeded 25 milli mhos/meter (mmho m** minus **1), more than twice as high as background levels (sandy loam soil/till profile). In two areas suspected of containing buried metal drums, EM conductivity values approached 70 mmho m** minus **1. In all three areas, the buried waste boundaries as predicted by the geophysical anomalies matched very well with the boundaries actually encountered during waste exhumation and clean up. (Edited author abstract) 4 Refs.

Record - 88

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
02822943 E.I. Monthly No: EIM8911-042941
Title: Practical approach for evaluating environmental risk.
Author: Mikeska, Gretchen; Baldwin, Andrew
Corporate Source: C-E Environmental Inc, Portland, ME, USA
Conference Title: Environmental Engineering: Proceedings of the 1989 Specialty Conference
Conference Location: Austin, TX, USA Conference Date: 1989 Jul 10-12
Sponsor: ASCE, Environmental Engineering Div, USA; Univ of Texas at Austin, Civil Engineering Dep, Austin, TX, USA; ASCE, Texas Sect, Austin,

TX, USA; American Acad of Environmental Engineers, USA
E.I. Conference No.: 12545
Source: Environ Eng Proc 1989 Spec Conf. Publ by ASCE, New York, NY, USA. p 264-272
Publication Year: 1989
ISBN: 0-87262-711-X
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications)
Journal Announcement: 8911
Abstract: Risk management and assessment techniques are increasingly being used to project public health risks at hazardous wastes sites. Few studies have quantitatively evaluated the environmental risk at a site and what role that risk plays in specifying site remediation plans. Such a study, referred to as a biota study, was performed for a Superfund Site, where PCBs (polychlorinated biphenyls) are the primary compound of concern. The biota study was conducted using a four-phased approach that combined a small data base of field results with a food web depicting organism interactions. It was then possible to assess the relative concentration of PCBs at each trophic level and determine if site conditions presented a significant environmental risk to the ecosystem. The biota study demonstrated that environmental risk concerns would be addressed if site remediation plans were based on public health risks alone. The integration of a literature review with a focused field program, proved to be a cost-effective approach for evaluating environmental risk. (Author abstract) 9 Refs.

Record - 89

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
02801111 E.I. Monthly No: EI8910110818
Title: Remediation through groundwater recovery and treatment.
Author: Ziegler, Gary J.
Corporate Source: W.C. Services Inc, Woodbury, NJ, USA
Source: Pollution Engineering v 21 n 7 Jul 1989 p 75-79
Publication Year: 1989
CODEN: PLENBW ISSN: 0032-3640
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); G; (General Review)
Journal Announcement: 8910
Abstract: Alternative methods (to landfills) of site remediation if not mandated by regulations, must be investigated for economic reasons. This article proposes methods to collect the additional data necessary to sufficiently quantify and qualify the needs of the site remediation plan. Various methods of site remediation are discussed with specific emphasis on the use of groundwater as a remediation technique. Subjects covered include geophysical surveys, pumping tests, soil borings, evaluation of alternative remediation methods, and treatment techniques.

Record - 90

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
02659617 E.I. Monthly No: EIM8810-053350
Title: COMPREHENSIVE CLEANUP OF SOIL AND GROUNDWATER USING IN SITU

BIOREMEDIATION-AN INTRODUCTION.
Author: Fournier, Louis B.
Corporate Source: Technical & Business Development, Chadds Ford, PA, USA
Conference Title: TAPPI Proceedings - 1988 Environmental Conference.
Conference Location: Charleston, SC, USA Conference Date: 1988 Apr 18-20
Sponsor: TAPPI, Atlanta, GA, USA
E.I. Conference No.: 11479
Source: Environmental Conference, Proceedings of the Technical Association of the Pulp and Paper Industry 1988. Publ by Tappi Press, Atlanta, GA, USA p 221-226
Publication Year: 1988
CODEN: TECPDP ISSN: 0364-2755
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8810
Abstract: In contrast with conventional waste treatment approaches, in situ treatment allows groundwater and soil to be decontaminated to acceptable levels in relatively short time periods, with minimum site disruption, and with absolute destruction of organic contaminants, to carbon dioxide, water, and halide salts. In situ biodegradation (ISB) has been practiced with petroleum hydrocarbons for over a decade and is now being extended to chlorinated solvents and complex industrial wastes. The technology cannot, however, be used in all locations, and each project must be specifically designed to maximize effectiveness and minimize costs. (Edited author abstract) 13 refs.

Record - 91

<DIALOG File 8: (c) 1994 Engineering Info: Inc.>
02641731 E.I. Monthly No: EI8809085146
Title: PROCEEDINGS - 8TH CANADIAN WASTE MANAGEMENT CONFERENCE.
Author: Anon
Corporate Source: Environment Canada, Hull, Que, Can
Publication Year: 1986
ISBN: 0-662-54631-8
Language: English
Document Type: CP; (Conference Proceedings) Treatment: A; (Applications); T; (Theoretical); X; (Experimental)
Journal Announcement: 8809
Abstract: The volume contains 30 papers presented at the meeting, one of which is in French. The papers are ground under general topics that include building public acceptance, waste disposal and the marine environment, regulatory initiatives, waste reduction, and site remediation. Specific subjects covered include siting of hazardous waste management facilities, incinerator at sea, mobile PCB disposal, generation of electricity from landfill gas, half-rate anaerobic treatment of landfill leachate, and others. Technical and professional papers from this conference are indexed and abstracted with the conference code no. 11022 in the Ei Engineering Meetings (TM) database produced by Engineering Information, Inc.

Record - 92

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>

02628783 E.I. Monthly No: EIM8808-045963
Title: PROCEEDINGS - 8TH CANADIAN WASTE MANAGEMENT CONFERENCE.
Author: Anon
Conference Title: Proceedings - 8th Canadian Waste Management Conference.
Conference Location: Halifax, NS, Can Conference Date: 1986 Sep 3-5
Sponsor: Environment Canada, Hull, Que, Can; Ontario Waste Management Assoc, Ont, Can; Natl Solid Waste Management Assoc, Washington, DC, USA; Nova Scotia Dep of the Environment, NS, Can; Newfoundland Dep of the Environment, Newfoundl, Can; et al
E.I. Conference No.: 11022
Source: Publ by Environment Canada, Hull, Que, Can 377p
Publication Year: 1986
ISBN: 0-662-54631-8
Language: English
Document Type: CP; (Conference Proceedings)
Journal Announcement: 8808
Abstract: The volume contains 30 papers presented at the meeting, one of which is in French. The papers are grouped under general topics that include building public acceptance, waste disposal and the marine environment, regulatory initiatives, waste reduction, and site remediation. Specific subjects covered include siting of hazardous waste management facilities, incineration at sea, mobile PCB disposal, generation of electricity from landfill gas, high-rate anaerobic treatment of landfill leachate, and others.

Record - 93

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
02349933 E.I. Monthly No: EIM8711-075793
Title: IMPACTS OF CERCLA, RCRA AND STATE PROGRAMS ON SITE REMEDIATION: A CASE STUDY.
Author: Siet, Kenneth; Davies, Kathryn L.
Corporate Source: NJDEP, Trenton, NJ, USA
Conference Title: Detection, Control, and Renovation of Contaminated Ground Water. (Proceedings of a Symposium Held in Conjunction with the ASCE Convention.)
Conference Location: Atlantic City, NJ, USA Conference Date: 1987 Apr 27-28
Sponsor: ASCE, Environmental Engineering Div, Committee on Water Pollution Management, New York, NY, USA; US EPA, Office of Ground Water Protection, Washington, DC, USA
E.I. Conference No.: 10305
Source: Publ by ASCE, New York, NY, USA p 197-206
Publication Year: 1987
ISBN: 0-87262-595-8
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8711
Abstract: The major federal programs requiring ground water remedial response actions include RCRA and CERCLA. On the state level New Jersey law makers have enacted a number of statutes which regulate ground water. The various state and federal programs are evolving as distinct programs with separate goals. While all of these programs include requirements for ground water remedial actions, each has developed separate approaches to deal with

the problem in response to each programs distinct statutory limits or goals. The case study presented is of a complex facility with ground water contamination problems from numerous sources. The case study demonstrates how regulatory requirements drive technical decision making for ground water remedial actions. It also points out the dilema of having overlapping and conflicting regulatory programs at the same site. (Edited author abstract)

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<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
02072580 E.I. Monthly No: EIM8602-009916
Title: DESIGNING AIR MONITORING PROGRAMS FOR REMEDIATION AT HAZARDOUS WASTE SITES.
Author: Schmidt, C. E.; Gordy, D. L.
Corporate Source: Radian Corp, Sacramento, CA, USA
Conference Title: Proceedings - 78th APCA Annual Meeting.
Conference Location: Detroit, MI, USA Conference Date: 1985 Jun 16-21
Sponsor: APCA, Pittsburgh, PA, USA
E.I. Conference No.: 07333
Source: Proceedings, Annual Meeting - Air Pollution Control Association 78th v 6. Publ by APCA, Pittsburgh, PA, USA Pap 85-72. 2, 15p
Publication Year: 1985
CODEN: PRAPAP ISSN: 0099-4081
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8602
Abstract: This paper presents methodology for developing site specific air monitoring programs for hazardous waste site remediation. Air monitoring programs developed for a Superfund site in southern California are used as an example for the discussion. General considerations involved in formulating specific air monitoring programs are presented. Example programs are used to show how monitoring objectives can be realized using several approaches while understanding the advantages and limitations to these approaches. The monitoring program information presented focuses on fugitive gas phase air contaminants. However, the general methodology and technical approach described would include fugitive particulate matter. 8 refs.

Record - 95

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01658489 E.I. Monthly No: EIM8406-044937
Title: COAL TAR REMEDIATION AND ROADWAY CONSTRUCTION.
Author: Sevee, John; Maher, Peter
Corporate Source: Perkins Jordan Inc, Reading, Mass, USA
Conference Title: Proceedings of the 1st Annual Hazardous Materials Management Conference.
Conference Location: Philadelphia, Pa, USA Conference Date: 1983 Jul 12-14
Sponsor: Pollution Engineering Magazine
E.I. Conference No.: 04277
Source: Publ by Tower Conference Management Co, Wheaton, Ill, USA p 530-535

Publication Year: 1983
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8406

Record - 96

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01273437 E.I. Monthly No: EIM8301-006587
Title: RISK ASSESSMENT AS A MEANS OF EVALUATING REMEDIAL ACTION ALTERNATIVES.
Author: Dawson, G. W.; Brown, S. M.
Corporate Source: Battelle, Pac Northwest Lab, Richland, Wash, USA
Conference Title: Preprints - ASCE Convention & Exposition (October, 1981).
Conference Location: St. Louis, Mo, USA Conference Date: 1981 Oct 26-31
Sponsor: ASCE, New York, NY, USA
E.I. Conference No.: 00917
Source: Preprints - ASCE Convention & Exposition Publ by ASCE, New York, NY, USA Prepr 81-534, 15p
Publication Year: 1981
CODEN: ACEXE7
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8301

Record - 97

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
197044 94-00993
Radiolytic decomposition of environmental contaminants and site remediation using an electron accelerator
Matthews, S.M.; Boegel, A.J.; Loftis, J.A.
Lawrence Livermore Natl. Lab.
REMEDIATION VOL. 3, NO. 4, pp. 459-481, Publ.Yr: 1993
SUMMARY LANGUAGE - ENGLISH
Languages: ENGLISH
Journal Announcement: V025N01
Halogenated and nonhalogenated hydrocarbon contaminants are currently found in natural waterways, groundwater, and soils as a result of spills and careless disposal practices. The development of proper treatment methodologies for the waste streams producing this environmental damage is now a subject of growing concern. This article is divided into two sections. First, we present data on experimentally measured, radiolytically induced decomposition of hazardous wastes and toxic substances using accelerator-generated bremsstrahlung sources and gamma radiation from cobalt-60. The second section of this article describes the technical aspects of a field-scale radiolytic decomposition site cleanup demonstration using an electron accelerator.

Record - 98

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
196051 93-09000
An integrated chemical and biological treatment (CBT) system for site remediation
Kelley, R.L.; Srivastava, V.; Barkley, N.P.
Inst. Gas Technol., 3424 South State St., Chicago, IL 60616, USA
19. Annual Risk Reduction Engineering Laboratory Hazardous Waste Research Symposium Cincinnati, OH (USA) 13-15 Apr 1993
19. ANNUAL RISK REDUCTION ENGINEERING LABORATORY HAZARDOUS WASTE RESEARCH
SYMPOSIUM pp. 202-205, Publ.Yr: 1993
U.S. ENVIRONMENTAL PROTECTION AGENCY, CINCINNATI, OH 45268 (USA)
Languages: ENGLISH
Journal Announcement: V024N06
Institute of Gas Technology (IGT) has developed treatment technologies which enhance bioremediation by integrating chemical and biological treatment (CBT) processes for remediation of contaminated soil and sludge. The treatment system combines two remedial techniques: 1) chemical oxidation as the pre-treatment, and 2) biological treatment using aerobic and anaerobic biosystems either in sequence or alone, depending on the waste. The CBT process uses mild chemical treatment to produce intermediates that are biologically degraded, reducing both the cost and risk associated with the more severe process. The CBT process can be applied to a wide range of organic pollutants, including alkenes, chlorinated alkenes, aromatics, substitute aromatics, and complex aromatics. Applicable matrices include soil, sludge, groundwater, and surface water.

Record - 99

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
186381 92-08330
Bioventing and vapor extraction: Innovative technologies for contaminated site remediation
Long, G.
ENSR Consul. and Eng., 1 Executive Dr., Somerset, NJ 08873, USA
J. AIR WASTE MANAGE. ASSOC VOL. 42, NO. 3, pp. 345-348, Publ.Yr: 1992
SUMMARY LANGUAGE - ENGLISH
Languages: ENGLISH
Journal Announcement: V23N6
Bioventing and Vapor Extraction are two technologies which are finding increasing use in performing soil cleanup at hazardous and nonhazardous waste sites. Both processes are characterized by the controlled use of air as a carrier to either remove contaminants from soil or to supply oxygen for aerobic bioremediation of the compounds in the unsaturated zone into less toxic materials.

Record - 100

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
186272 92-08221
Integrated site remediation combining groundwater treatment, soil vapor recovery, and bioremediation
Dey, J.C.; Brown, R.A.; McFarland, W.E.
HAZARDOUS MATER. CONTROL VOL. 4, NO. 2, pp. 32-39, Publ.Yr: 1991
Languages: ENGLISH
Journal Announcement: V23N6
In October 1988, an apparent act of vandalism caused a large gasoline spill at a bulk petroleum storage plant in southern New Jersey. Approximately 8,400 gallons of premium unleaded gasoline were spilled onto the ground around four underground storage tanks used for bulk petroleum storage. Plant personnel responded immediately with measures to protect groundwater and assure safety of workers in the area. Approximately 700 yd super(3) of soil was removed from the spill area to a depth of 18-24 inches and stockpiled on 6-mil polyethylene sheeting. The excavated area was covered with polyethylene sheeting and clean fill material to cap the spill area. This temporary response provided a safer work area for remediation workers and plant employees and allowed the bulk plants to be reopened for normal operation during further cleanup operation.

Record - 101

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
184985 92-06934
Tax assessment of contaminated property: Tax breaks for polluters?
Keen, B.H.
Univ. Michigan Law Sch., Ann Arbor, MI, USA
BOSTON COLL. ENVIRON. AFF. LAW REV VOL. 19, NO. 4, pp. 885-927, Publ.Yr: 1992
Languages: ENGLISH
Journal Announcement: V23N5

Contaminated property is worth less than similar "clean" property because the costs and uncertainties involved in complying with federal and state environmental laws adversely affect the fair market value of contaminated property. All property tax assessment should reflect the decline in market value due to the presence of hazardous substances regardless of the owners' culpability. Courts and administrative tax boards have been unable to develop a methodology for measuring the impact of contamination on vale. Therefore, to ensure uniform tax assessments and minimize uncertainty, each state should enact a statute or administrative rule that sets forth a specific methodology for valuing contaminated property.

Record - 102

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
181902 92-03851
Innovative technologies for contaminated site remediation: Focus on bioremediation
Gabriel, P.F.
SEA Consult., Inc., Cambridge, MA, USA
J. AIR WASTE MANAGE. ASSOC VOL. 41, NO. 12, pp. 1657-1660, Publ.Yr: 1991
SUMMARY LANGUAGE - ENGLISH
Languages: ENGLISH
Journal Announcement: V23N3
Bioremediation, the process by which hazardous substances are degraded by microorganisms, is at the forefront of a larger group of innovative remediation technologies being applied at hazardous waste sites worldwide. Although the process of bioremediation has been utilized for decades in the field of wastewater engineering, its application to soils and groundwater at hazardous waste sites is fairly new and still undergoing intensive development. This article is intended to provide both an overview of the state of practice of bioremediation in hazardous waste remediation operations, and an inventory of issues to consider when evaluating the use of this technology for a contaminated site.

Record - 103

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
179024 92-00973
Implications of the upper bound and average exposure scenario on risk management decisions for contaminated site remediation
Kindzierski, W.B.; Hrudey, S.E.
Stearns and Conrad Eng., 789 W. Pender St., Suite 1200, Vancouver, B.C. V6C 1H2, Canada
84. Annual Meeting of the Air and Waste Management Association Vancouver, B.C. (Canada) 16-21 Jun 1991
p. 256, Publ.Yr: 1991
AIR AND WASTE MANAGEMENT ASSOCIATION, PITTSBURGH, PA (USA)
SUMMARY LANGUAGE - ENGLISH; Summary only.
Languages: ENGLISH
Journal Announcement: V23N1
Incorporating the average exposure to a risk assessment will allow a range os estimates, average to upper bound, to represent the upper limits of the health risk. This practice can provide an improved characterization

of risk information and allow risk managers to more-effectively assess risk reduction methods where other balancing factors (e.g. costs) must also be considered. This practice considered together with an improved understanding of biological plausibility factors are necessary to ensure that practical and effective risk reduction measures are achieved. The approach described here offers risk managers greater opportunities to more fully utilize their knowledge and responsibilities towards the goal of reducing the overall health risks arising from contaminated sites.

Record - 104

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
177719 91-08668
Challenges when using the moving lake method for site remediation
Fleming, J.W.
8381 Post Rd., Allison Park, PA 15101, USA
84. Annual Meeting of the Air and Waste Management Association Vancouver, B.C. (Canada) 16-21 Jun 1991
p. 30, Publ.Yr: 1991
AIR AND WASTE MANAGEMENT ASSOCIATION, PITTSBURGH, PA (USA)
SUMMARY LANGUAGE - ENGLISH; Summary only.
Languages: ENGLISH
Journal Announcement: V22N6
Remediation processes including in situ, excavation, and Moving Lake are reviewed. Operational problems are described when these types of processes are called upon for remediation of large contaminated sites, and where there is a natural high water table. The Moving Lake Method of site remediation causes all contaminated soil at the site to be exposed to biological action and other processing if necessary. This is accomplished by causing a biologically active lake to move through the contaminated area. Lowcost dragline methods are employed for earthmoving, and this cost is usually the largest cost when remediating by excavation or Moving Lake methods. The MOVING LAKE METHOD will be cost-competitive with other remediation methods.

Record - 105

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
177666 91-08615
Ambient air toxic monitoring and analysis during a Superfund site remediation utilizing an on-site field laboratory
Sherman, W.E.; Camp, H.; Fitzpatrick, M.E.; Welss, B.
Enesco Inc., 2200 Cottontail Lane, Somerset, NJ 08875, USA
84. Annual Meeting of the Air and Waste Management Association Vancouver, B.C. (Canada) 16-21 Jun 1991
p. 124, Publ.Yr: 1991
AIR AND WASTE MANAGEMENT ASSOCIATION, PITTSBURGH, PA (USA)
SUMMARY LANGUAGE - ENGLISH
Languages: ENGLISH
Journal Announcement: V22N6
Enesco performed real-time analysis of dimethyl mercury during the remediation of a Superfund site using a mobile laboratory. Due to the toxic nature of DMM, samples were collected every 30 minutes on Tenax tubes using low-flow Gilian pumps. The mobile lab received the samples and analyzed

them by GC/MS within 30 minutes. A positive result required additional measures to be taken by the consulting engineers to ensure the safety of the workers and surrounding community. The mobile lab was set-up and mobilized in less than 2 weeks, equipped with 3 HP GC/MS's, and staffed full-time by 5 Enesco scientists. Due to the recent development of the statement of work for the analysis of air toxics at Superfund sites under the USEPA Contract Lab program, air pathway analysis will now become an integral part of site remediation. The use of a mobile laboratory facilitates the real-time analysis of samples to ensure on-going safety as remediation continues.

Record - 106

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
174482 91-05431
Chromium-contaminated site remediation for POTW expansion
Hagarty, E.P.; Gruninger, R.M.; Balog, G.G.; Patel, M.A.; Sokhey, A.S.
WATER ENVIRON. TECHNOL VOL. 3, NO. 4, pp. 53-57, Publ.Yr: 1991
Languages: ENGLISH
Journal Announcement: V22N4

Record - 107

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
157452 90-07462
A case study of site remediation or lightning strikes twice
Tone, M.J.
Nixon Hargrave Devans and Doyle, 990 Stewart Ave., Garden City, NY 11530, USA
83. Annual Meeting of the Air & Waste Management Association Pittsburgh, PA (USA) 24-29 Jun 1990
83. ANNUAL MEETING OF THE AIR & WASTE MANAGEMENT ASSOCIATION p. 1,
SUMMARY LANGUAGE - ENGLISH
Languages: ENGLISH
Journal Announcement: V21N5
A warehouse containing wild birdseed and various agricultural products was destroyed by a fire that started when lightning struck the warehouse roof. Water from the firefighting efforts ran off the property, dispersing fertilizers and pesticides with it into the yards of neighboring residents. Although local health officials and a contractor determined that there was no health hazard at the site, EPA issued an administrative order, under CERCLA 106, demanding that the Company investigate and remediate the property and neighborhood. After completing the investigation and remediation, the Company asserted the Act of God defense and sought reimbursement from the Fund. The presentation discusses the regulatory and judicial ramifications of site remediation that was required because of an Act of God, and EPA's response to a claim for reimbursement from the Fund.

Record - 108

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
156428 90-06438
A marine biotechnological approach for coastal and estuarine site remediation and pollution control

Portier, R.J.; Ahmed, S.I.
Inst. Environ. Stud., Louisiana State Univ., Baton Rouge, LA 70806, USA
MAR. TECHNOL. SOC. J VOL. 22, NO. 2, pp. 6-14, Publ.Yr: 1988
SUMMARY LANGUAGE - ENGLISH; Special issue: Sea Grant research -- NOAA.
Languages: ENGLISH
Journal Announcement: V21N5
Recent advances in treatment using marine-source microorganisms and surfaces are briefly described in current efforts in addressing both industrial effluents and abandoned hazardous wastes, research funded by state and federal agencies and the private sector. A biological treatment process employing immobilized microbial populations was field-tested on contaminated ground waters and industry effluent having elevated concentrations of volatile organics, semi-volatile organics and organic pesticides, respectively. The process, consisting of a packed bed biological reactor, containing specific adapted microbial strains immobilized on a porous diatomaceous earth support has operated in a plug flow configuration over an extended period at several coastal zone locations.

Record - 109

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
155392 90-05402
Site remediation of heavy metals contaminated soils and groundwater at a former battery reclamation site in Florida
Trnovsky, M.; Oxer, J.P.; Rudy, R.J.; Hanchak, M.J.; Hartsfield, B.; Abbou, (ed.)
Ecology and Environment, Inc., 2574 Seagate Dr., Tallahassee, FL 32301, USA
World Conference on Hazardous Waste Budapest (Hungary) 25-31 Oct 1987
HAZARDOUS WASTE: DETECTION, CONTROL, TREATMENT. PART B pp. 1581-1590, Publ.Yr: 1988
ELSEVIER PUBLISHING COMPANY, NEW YORK, NY (USA)
SUMMARY LANGUAGE - ENGLISH
Languages: ENGLISH
Journal Announcement: V21N4
Heavy metals contamination of soils, surface water, sediments, and groundwater was investigated and feasible remedial alternatives were evaluated for the Sapp Battery Superfund site in northern Florida. High lead concentrations were found in all four media. The upper soil horizons contained up to 135,000 ppm lead. Contaminated groundwater in the surficial and intermediate aquifers was found to be migrating into the deeper Floridan Aquifer as a result of the karst characteristics of the site. Remedial alternatives were evaluated for the removal and treatment of 95,000 m super(3) (124,250 yd super(3)) of soil and sediments and the treatment of 2.63 m super(3)/min (1.0 MGD) of groundwater.

Record - 110

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
153944 90-03954
Palmerton Zinc Superfund site remediation strategy
Tan, P.M.; Hemphill, D.D. (ed.)
U.S. Environ. Prot. Agency, Hazardous Waste Manage. Div., Philadelphia,

PA 19107, USA
University of Missouri's 22. Annual Conference on Trace Substances in Environmental Health St. Louis, MO (USA) 23-26 May 1988
TRACE SUBSTANCES IN ENVIRONMENTAL HEALTH -- XXII pp. 296-305, Publ.Yr: 1988
UNIVERSITY OF MISSOURI, COLUMBIA, MO (USA)
SUMMARY LANGUAGE - ENGLISH
Languages: ENGLISH
Journal Announcement: V21N3
The Palmerton Zinc Superfund Site is a former zinc smelting operation located in Palmerton, PA. Operation of this plant since the turn of the century has caused large quantities of zinc, cadmium, lead and copper to be emitted into the atmosphere in the vicinity of the plant. As a result of these emissions significant concentrations of these heavy metals in the soil have been measured within a large area surrounding the plant. Public health concerns related to these concentrations has, in part, caused the EPA to list this area as a superfund site on the National Priorities List (NPL). To perform an efficient Remedial Investigation/Feasibility Study at this site EPA needed to determine the extent and magnitude of the problem. In addition to soil sampling, other media including groundwater and surface water were also analyzed. Also, studies which documented the chronic effects of heavy metal contamination on aquatic and terrestrial animals were initiated.

Record - 111

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
153666 90-03676
The role of risk assessment in the U.S. hazardous waste site remediation program
Abbou, R. (ed.); Huggins, A.; Nilsson, R.; DeFilippi, J.A.
ERM Inc., 999 West Chester Pike, West Chester, PA 19380, USA
World Conference on Hazardous Waste Budapest (Hungary) 25-31 Oct 1987
HAZARDOUS WASTE: DETECTION, CONTROL, TREATMENT. PART A pp. 149-159, Publ.Yr: 1988
ELSEVIER PUBLISHING COMPANY, NEW YORK, NY (USA)
SUMMARY LANGUAGE - ENGLISH
Languages: ENGLISH
Journal Announcement: V21N3
Risk assessment methods are being used quite extensively in evaluating hazardous waste sites in the US. Under Superfund, EPA seeks to quantify risks posed by abandoned sites and to compare remedial alternatives for these sites in terms of risk, cost and other factors. This paper will describe the authors' experiences in applying the EPA guidance for Superfund Risk Assessments at a series of sites.

Record - 112

<DIALOG File 41: (c) 1993 Cambridge Scientific Abstracts>
131351 87-06858
Application of risk assessment to selection among site remediation alternatives
Bell, J.M. (ed.); Salmon, E.J.; Brown, R.A.
Health, Saf. and Risk Manage., Intellus Corp., Irvine, CA 92715, USA

41. Industrial Waste Conference West Lafayette, IN (USA) 13-15 May 1986

PROCEEDINGS OF THE 41st INDUSTRIAL WASTE CONFERENCE. MAY 13, 14, 15, 1986, PURDUE UNIVERSITY pp. 261-271, Publ.Yr: 1987

LEWIS PUBLISHERS, CHELSEA, MI (USA)

SUMMARY LANGUAGE - ENGLISH

Languages: ENGLISH

Journal Announcement: V18N5

The Environmental Protection Agency (EPA) mandated, that any remedial decisions and strategies related to hazardous substances be scientifically and technologically sound, economically efficient, and socially equitable. This calls for application of risk assessment/management methodologies which the EPA's Administrator recognized as the most important and most difficult role emerging in the 1980's. It becomes necessary to develop well founded and consistent procedures as well as uniform and coordinated approaches that enable deciding if, when, and how remediation of risks arising from hazardous waste sites should be undertaken.

Record - 113

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03623868 EDB-94-039834
Title: Modeling studies of gas venting and steam injection for NAPL Site remediation
Author(s): Forsyth, P.A. (Univ. of Waterloo, Ontario (Canada))
Title: Engineering hydrology
Conference Title: Symposium on engineering hydrology
Conference Location: San Franicsco, CA (United States) Conference Date: 25-30 Jul 1993
Publisher: New York, NY (United States) American Society of Civil Engineers
Publication Date: 1993 p 958-963 (1252 p)
Report Number(s): CONF-9307147--
Language: English
Availability: American Society of Civil Engineers, 345 East 47th Street, New York, NY 10017-2398
Abstract: A fully coupled, fully implicit method for simulating gas injection and steam injection for in situ remediation of sites contaminated with volatile NAPL is presented. Numerical results are given for some two dimensional axisymmetric scenarios.

Record - 114

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03616896 EDB-94-026889
Title: Subsurface cutoff walls still valuable in site remediation role
Author(s): Mutch, R.D. Jr. (Eckenfelder Inc., Mahwah, NJ (United States)); Ash, R.E. IV (Eckenfelder Inc., Mahwah, NJ (United States). Waste Management Div.)
Source: Hazmat World (United States) v 6:2. Coden: HMWOED ISSN: 0898-5685
Publication Date: Feb 1993 p 37-45
Language: English
Abstract: In this age of RCRA, SARA and clean closures, many people have called into question the continuing value of subsurface cutoff walls as a remediation tool. Critics say cutoff walls are a containment rather than a treatment technology, and that they are ineffective, because even the most well-built leak. They are substantially correct. Subsurface cutoff walls are a containment technology, and they do leak to some degree. Why then do cutoff walls continue to be an integral part of many Superfund and other remediation efforts The need for cutoff walls stems from the limited capabilities of available soil and waste treatment technologies, especially when considering the complexity and size of many contaminated sites. Permanent disposal rarely is feasible at: large landfills; sites containing dense, non-aqueous-phase liquids (DNAPLs); and large industrial complexes. Over the last eight or nine years, DNAPL chemicals have come to be recognized as perhaps the most intractable problem of subsurface site remediation. This class of chemicals, also referred to as sinkers, primarily includes chlorinated solvents, such as trichloroethylene (TCE), methylene chloride, tetrachloroethylene and PCBs. DNAPL chemicals entering the subsurface tend to sink vertically through groundwater systems.

Record - 115

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03599115 EDB-94-015081
Title: Fundamentals of soil science needed for site remediation
Author(s): Grube, W.E. Jr. (Environmental Protection Agency, Cincinnati, OH (United States))
Title: Proceedings of national research and development conference on the control of hazardous materials
Conference Title: National research and development conference on the control of hazardous materials
Conference Location: Anaheim, CA (United States) Conference Date: 20-22 Feb 1991
Publisher: Greenbelt, MD (United States) Hazardous Materials Control Research Institute
Publication Date: 1991 p 57-64 (549 p)
Report Number(s): CONF-910287--
Language: English
Availability: Hazardous Materials Control Research Institute, 7237 Hanover Parkway, Greenbelt, MD 20770-3602 (United States)
Abstract: This lecture is intended for the chemist, biologist, civil engineer, chemical engineer and others who have experienced a largely singular disciplinary education and have been thrust into research, practical and/or regulatory issues involving soil or other earth materials as a major component. It also will be helpful to experienced workers who are not aware of the perspectives available from historic data and interpretations from the soil sciences. The topics included, and the points of detailed discussion, are provided as prompts so that (1) the remedial site investigator may be better assured that peripheral aspects of site characterization are not missed, and (2) knowledge already available from soil scientists, agronomists, geologists and soils engineers is effectively applied. 31 refs., 2 figs., 3 tabs.

Record - 116

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03598863 EDB-94-014829
Title: VOC emission control technologies for site remediation
Author(s): Chu, R.J. (Roy F. Weston, Inc., Woodland Hills, CA (United States))
Title: Proceedings of national research and development conference on the control of hazardous materials
Conference Title: National research and development conference on the control of hazardous materials
Conference Location: Anaheim, CA (United States) Conference Date: 20-22 Feb 1991
Publisher: Greenbelt, MD (United States) Hazardous Materials Control Research Institute
Publication Date: 1991 p 384-388 (549 p)
Report Number(s): CONF-910287--
Language: English
Availability: Hazardous Materials Control Research Institute, 7237 Hanover Parkway, Greenbelt, MD 20770-3602 (United States)
Abstract: Vapor extraction and air stripping are common treatment techniques used for the removal of volatile organic compounds (VOCs) from soil and groundwater. In the past, the extracted or stripped VOCs were simply discharged to the air. However, in locales such as Southern California, VOCs must be controlled and removed to nondetectable levels or health-based limits. Often, the final airstream must not pose a health risk of more than one in a million. There are several technologies available to control VOC emissions. Granular activated carbon is one of the most effective materials for use in removing VOCs. When the use of activated carbon becomes prohibitive or not feasible, other methods such as thermal oxidation, catalytic oxidation, vapor condensation and wet scrubber absorption must be employed.This paper describes the different types of feasible VOC control technologies in use today. Descriptions of process operation, limitations, applicability, advantages and disadvantages are included. A few innovative technologies are described. Finally, factors which should be considered by the remedial designer in his selection of the appropriate off-gas control technology are listed. 11 refs., 7 figs., 2 tabs.

Record - 117

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03592203 EDB-94-008169
Title: LEEP[sup SM] - low energy extraction process for on-site remediation of soil, sediment and sludges
Author(s): Steiner, W.; Rugg, B. (ART International, Inc., Denville, NJ (United States))
Title: Air Waste Management Association 85th annual meeting
Conference Title: 85. annual meeting of the Air and Waste Management Association (AWMA)
Conference Location: Kansas City, MO (United States) Conference Date: 21-26 Jun 1992
Publisher: Pittsburgh, PA (United States) Air Waste Management Association
Publication Date: 1992 p 41 (301 p)
Report Number(s): CONF-9206114--
Language: English
Availability: Air Waste Management Association, P.O. Box 2861, Pittsburgh, PA 15230 (United States)
Abstract: LEEP[sup SM] is a solvent extraction technology which uses common organic solvents to leach the contaminants from the solids and then concentrates them. The contaminants are leached from the solids with a hydrophilic leaching solvent in a continuous processor. The contaminants are then transferred to a small volume of a hydrophobic solvent in a liquid-liquid extraction operation. The leaching solvent is recycled and the hydrophobic solvent with the contaminants, is removed for off-site disposal. Large volume reductions of the contaminated stream (100-150 times) are attainable, thus reducing the disposal cost. Decontaminated solids are returned to the environment. To date, ART International has successfully completed several bench scale treatability studies including harbor sediment, industrial landfill material and subsoil contaminated with high levels of PCBs, refinery sludge containing high levels of oil grease, semi-volatile organics and heavy metals. ART International has completed a successful study with a tar contaminated soil sample from a former manufactured gas plant site. ART International offers treatability studies both at the bench scale and at the pilot scale to assess the applicability of the LEEP[sup SM] technology for the clean-up of contaminated sites. A pilot plant, capable of nominally processing 200 lb/hr of solids, has been constructed and experimental studies are underway.

Record - 118

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03592201 EDB-94-008167
Title: Site remediation soils handling, incineration and site closeout challenges and solutions
Author(s): Young, D.T.; Dasch, J.C. (Ogden Waste T5reatment Svcs, Inc., San Diego, CA (United States)); Ives, J.A. (ARCO Alaska, Inc., Anchorage (United States))
Title: Air Waste Management Association 85th annual meeting
Conference Title: 85. annual meeting of the Air and Waste Management Association (AWMA)
Conference Location: Kansas City, MO (United States) Conference Date: 21-26 Jun 1992
Publisher: Pittsburgh, PA (United States) Air Waste Management Association
Publication Date: 1992 p 37 (301 p)
Report Number(s): CONF-9206114--
Language: English
Availability: Air Waste Management Association, P.O. Box 2861, Pittsburgh, PA 15230 (United States)
Abstract: This paper discusses some of the challenges and solutions during the remediation of various types of soils in Alaska also the closeout of the Alaska project. This soil remediation project uses the Ogden Environmental Service, Inc. (OES) proprietary transportable Circulating Bed Combustor (CBC). Key challenges involve the soil handling and feeding/incineration interface. The Trial Burn for the PCB-contaminated soil at this site was conducted with the site soils having the maximum PCB concentration, without spiking, with PCB liquids brought from off-site. The resulting PCB levels averaged only 600 ppm, the lowest value ever attempted in a trial burn trying to demonstrate 99.999% destruction removal efficiency. Trial burn results using CBC temperatures as low at 1600[degrees]F are discussed. A challenge to soil handling/pre-thawing, drying, and feeding occurred with the Alaska remediation project with the greater-than-expected fine silt in the soil. Solutions involved redesign of the soils handling/drying equipment and the soils feed equipment, and The result was a dramatic [approximately]100% increase in overall soil handling and CBC processing rate. Operating experience with the equipment through a period of rain and extreme cold indicated production [open quotes]bottle-necks[close quotes] in several areas. Upgrades which will be discussed related in production increases of about 20%. Equipment availability averaged over 86% over the 1990-1991 annual reporting period including the Alaskan winter. Alaska Project closeout involved the final incineration of all stockpiles soils and miscellaneous contaminated wastes such as liner, scrap, etc. The stockpile area had to be certified [open quotes]clean[close quotes] of the PBC

contamination. Also, buildings and equipment must be decontaminated and prepared for off-site transport and reuse. The key challenges and solutions for such a large PCB-contaminated soil site closeout will be discussed.

Record - 119

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03581288 EDB-93-160166
Title: Sensors in outdoor environmental monitoring and site remediation
Author(s)/Editor(s): Wise, B.M.
Corporate Source: Pacific Northwest Lab., Richland, WA (United States)
Sponsoring Organization: DOE USDOE, Washington, DC (United States)
Conference Title: National Institute of Standards and Technology (NIST) workshop on gas sensors
Conference Location: Gaithersburg, MD (United States) Conference Date: 8-9 Sep 1993
Publication Date: Sep 1993 (5 p)
Report Number(s): PNL-SA-23102 CONF-9309247--2
Order Number: DE94001671
Contract Number (DOE): AC06-76RL01830
Language: English
Availability: OSTI; NTIS; GPO Dep.
Abstract: A special session on sensors in outdoor environmental monitoring and site remediation was held as part of the NIST Workshop on Gas Sensors. This manuscript summarizes the main points of the workshop. Application areas, issues of concern, and potentially fruitful areas for further research and development were discussed. The main conclusion of the group was that the problems and potential solutions to problems in environmental monitoring were common to other application areas of sensing as well. Of particular concern to the group were the many barriers to final development and commercialization of sensors. Barriers included lack of information on potential markets lack of support of development, (as opposed to more basic research), and difficulties in developing the final packaging for a device. The characterization and development of chemically selective materials for sensor coatings was viewed by the group as a particularly important area for future research.

Record - 120

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03565397 EDB-93-144275
Title: An industry's role in applying innovative technologies to site remediation
Author(s): Pardieck, D.L. (Ciba-Geigy Corp., Greensboro, NC (United States)); Hallett, P.D. (Ciba-Geigy Corp., McIntosh, AL (United States))
Conference Title: 1992 annual meeting of the Geological Society of America (GSA)
Conference Location: Cincinnati, OH (United States) Conference Date: 26-29 Oct 1992
Source: Geological Society of America, Abstracts with Programs (United States) v 24:7. Coden: GAAPBC ISSN: 0016-7592
Publication Date: 1992 p A72
Report Number(s): CONF-921058--
Language: English
Abstract: The use of innovative technologies in remediation activities is strongly promoted by Superfund. The Superfund site remediation process includes site characterization and remedy selection, often supplemented by treatability studies, remedial design and finally remedial action. The initial remedy selection may utilize information derived from treatability studies conducted simultaneously with the remedy selection process. However, remedial technologies, including innovative technologies, may be tentatively selected for application without the prior laboratory or field testing often necessary to confirm the selection. In these cases, the treatability studies are performed during the Remedial Design stage and function to determine the applicability of the innovative technology, as well as, develop site-specific design parameters. Ciba-Geigy technical staff systematically assesses contaminant types and site conditions for the potential application of innovative technologies. Bioremediation, soil flushing, soil vapor extraction (SVE) coupled with thermal treatment, low temperature thermal desorption (LTTD) and dechlorination (especially base catalyzed decomposition) are being evaluated. Three of these, soil flushing, SVE and LTTD, have progressed into the Remedial Design phase treatability studies, and show reasonable promise for success under the conditions present at several Ciba-Geigy sites.

Record - 121

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03557965 EDB-93-136843
Title: Opportunities of separation technologies for cost-effective site remediation
Author(s): Sikdar, S.K. (Environmental Protection Agency, Cincinnati, OH (United States). Risk Reduction Engineering Lab.)
Title: Emerging separation technologies for metals and fuels
Author(s)/Editor(s): Lakshmanan, V.I.; Bautista, R.G.; Somasundaran, P. (eds.)
Conference Title: Symposium on emerging separation technologies for metals and fuels
Conference Location: Palm Coast, FL (United States) Conference Date: 13-18 Mar 1993
Publisher: Warrendale, PA (United States) Minerals, Metals and Materials Society
Publication Date: 1993 p 353-354 (492 p)
Report Number(s): CONF-9303107--
ISBN: 0-87339-205-1
Language: English
Availability: The Minerals, Metals and Materials Society, 420 Commonwealth Drive, Warrendale, PA 15086 (United States)
Abstract: Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly known as the Superfund legislation, and its reauthorization called Superfund Amendments and Reauthorization Act (SARA) of 1986, provide guidance for the cleanup of abandoned contaminated sites. In this presentation the author will analyze the various Superfund problems, i.e. organic or metal contamination in all three matrices, air, water and soil in terms of their amenability to separation technologies for volume reduction. The author will critically examine the roles various techniques, such as soil vapor extraction, membrane technologies, extraction (including supercritical extraction), and adsorption methods, play. The author reviews the state of the art and speculates on future technologies that offer unusually high separation efficiencies.

Record - 122

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03549478 EDB-93-128356
Title: Integrated remediation technology provides rapid site remediation
Author(s): Keegan, J.; Bosshard, B.; Ott, D. (Terra Vac, Costa Mesa, CA (United States))
Title: Proceedings of the seventh national outdoor action conference and exposition
Conference Title: 7. national outdoor action conference and exposition
Conference Location: Las Vegas, NV (United States) Conference Date: 25-27 May 1993
Publisher: Dublin, OH (United States) Ground Water Management
Publication Date: 1993 p 3-13 (755 p)
Report Number(s): CONF-9305192--
Language: English
Availability: Ground Water Management, 6375 Riverside Drive, Dublin, OH 43017 (United States)
Abstract: An innovative process is being applied to the remediation of both groundwater and soil simultaneously. This process combines vacuum extraction, groundwater recovery, and enhanced bioremediation for an effective site remediation process. Dual Extraction[trademark], developed by Terra Vac, is an in situ process which recovers liquid, vaporous, dissolved and adsorbed contaminants from the subsurface while enhancing the biodegradation of contaminants in the subsurface. Dual Extraction[trademark] has successfully been utilized at a number of sites contaminated with Volatile Organic Compounds (VOC's). Some of these sites presented a low soil permeability which limited traditional recovery and bioremediation methods. Dual Extraction[trademark] has been successful in remediating such sites with increased recovery rates, increased radius of influence and decreased remediation times. Several case studies are presented demonstrating the effectiveness of the Dual Extraction[trademark] technology in each of the following areas: 1. Enhanced bioactivity due to the application of dual extraction. 2. Increased groundwater recovery rates. 3. Recovery of VOCs above and below the static water level. 4. Increased recovery rates of VOCs compared to conventional remediation techniques. A technology that demonstrates the above improvements will result in shorter remediation times frames and yield significant cost savings for a number of site cleanups.2 refs., 7 figs., 1 tab.

Record - 123

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03547440 GRA-93-82849; EDB-93-126318
Title: Alternating current electrocoagulation for superfund site remediation
Author(s)/Editor(s): Barkley, N.P.; Farrell, C.W.; Gardner-Clayson, T.W.
Corporate Source: Electro-Pure Systems, Inc., Amherst, NY (United States)
Publication Date: 1993 (8 p)
Report Number(s): PB-93-205144/XAB
Contract Number (Non-DOE): EPA-R-816205
Note: Pub. in Jnl. of Air and Waste Management Association, 1993. See also PB-143-652
Language: English
Availability: NTIS
Abstract: The technical and economical feasibility of alternating current electrocoagulation (ACE) was evaluated for a 2-year period. ACE is an electrochemical technology where highly-charged aluminum polyhydroxide species are introduced into aqueous media for the removal of suspended solids, oil droplets, and soluble ionic pollutants. ACE can break stable aqueous colloidal suspensions of up to 10% total solids and stable emulsions containing up to 5% oil. Major operating parameters have been defined for different classes of effluents based on experimental results using complex synthetic soil slurries and metals. Test results indicate that ACE produces aqueous and solid separations comparable to those produced by chemical flocculent additions, but with reduced filtration times and sludge volumes. The technology has application where removal of soluble and suspended pollutants from effluents is required, and in the recovery of fine-grained products from process streams. The technology however, has not yet been demonstrated at full-scale for Superfund site remediation. Summarized are the principal results of the SITE research program and results of ACE treatment on some different classes of industrial effluents, not part of the SITE Program.

Record - 124

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03511160 GRA-93-52577; EDB-93-090035
Title: Program for providing engineering technical assistance to site remediation managers
Author(s)/Editor(s): Blaney, B.L.
Corporate Source: Environmental Protection Agency, Cincinnati, OH (United States). Risk Reduction Engineering Lab.
Publication Date: 1992 (7 p)
Report Number(s): PB-93-185809/XAB EPA--600/A-93/097
Note: Proceedings for 1992 International Symposium on Environmental Contamination in Central and Eastern Europe, Budapest, Hungary, October 12-16, 1992, 297-300. See also PB--92-205657 and PB--93-105591
Language: English
Availability: NTIS
Abstract: The Office of Research and Development (ORD) of the U.S. Environmental Protection Agency (USEPA) provides technical support to USEPA Regional Offices which are responsible for overseeing and/or implementing the remediation of contaminated sites. As a result, ORD has developed a number of effective mechanisms for prividing timely, practical and high quality technical support on such site remediation projects, and has produced a variety of technology transfer documents on the topic. The paper describes these activities, with particular emphasis on the program of the USEPA ORD Risk Reduction Engineering Laboratory's program to deal with engineering remediation problems.

Record - 125

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03509467 EDB-93-088342
Title: Case history update: RCRA waste site remediation by telerobotic methods
Author(s): Yemington, C.R. (Sonsub, Inc., Houston, TX (United States)); Stone, J. (Martin Marietta Energy Systems, Oak Ridge, TN (United States))
Title: Proceedings of federal environmental restoration conference and exhibition
Conference Title: 1992 Hazardous Materials Control Research Institute (HMCRI) federal environmental restoration conference and exhibition
Conference Location: Vienna, VA (United States) Conference Date: 15-17 Apr 1992
Publisher: Greenbelt, MD (United States) Hazardous Materials Control Resources Inst.
Publication Date: 1992 p 358-360 (472 p)
Report Number(s): CONF-9204110--
Contract Number (DOE): AC05-84OR21400
ISBN: 1-56590-005-7
Language: English
Availability: Hazardous Materials Control Resources Institute, 7237 Hanover, MD 20770-3602 (United States)
Abstract: This paper presents a summary of the first 18 months of closure work at the Kerr Hollow Quarry site on the DOE reservation at Oak Ridge, Tennessee. Closure work includes recovery and processing of explosive, toxic and radioactive waste. As of January 1992, more than 10,000 items had been processed and removed from the quarry, exclusively by remotely operated equipment. Drums, buckets, tubing assemblies and other containers are being shredded to react any explosive contents. Concussion and projectiles are controlled by operating the shredder under 30 feet of water. The performance of the shredder, the effectiveness of the approach, production rates and maintenance requirements are addressed in the paper. To avoid exposing personnel to hazards, all work in the restricted area is done remotely. Two remotely operated vehicles were used to clear a pad, set a stand and install the 200-hp shredder. Some materials exposed by shredding are stable in water but react when exposed to air. In addition, radioactive items are mixed in with the other wastes. Safety considerations have therefore led to use of remote techniques for handling and examining materials after recovery. Deteriorated gas cylinders, which may contain pressurized toxic materials, are recovered and handled exclusively by remotely operated equipment. Waste retrieval work at the Kerr Hollow Quarry has proven the capability and cost-effectiveness of remotely operated equipment to deal with a wide variety of hazardous materials in an unstructured waste site

environment. A mixture of radioactive materials, toxic chemicals, explosives and asbestos has been found and processed. Remotely operated vehicles have retrieved, sorted and processed more than 10,000 items including drums, buckets, pipe manifolds, gas cylinders and other containers.

Record - 126

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03476239 CANM-93-0E5218; EDB-93-055115
Title: R, D and D [research, development and demonstration] needs and priorities for the DESRT [Development and Demonstration of Site Remediation Technology] program
Author(s): Mendonca, L.; Whiffen, B.; Pollock, T. (CH2M Engineering Ltd., Waterloo, ON (Canada))
Title: GASReP/DESRT: Proceedings [of the] 2nd annual symposium on groundwater and soil remediation
Corporate Source: Environment Canada, Ottawa, ON (Canada). Environmental Protection Service
Conference Title: 2nd annual symposium on groundwater and soil remediation
Original Conference Title: 2e symposium annuel sur la restauration des eaux souterraines et des sois contamines
Conference Location: Vancouver (Canada) Conference Date: 25-26 Mar 1992
Publication Date: [1992] p 1-23, Paper 6 (427 p)
Report Number(s): EC/EPS-CE04274 CONF-9203248--^ MICROLOG--92-04404^ CE--04274
Language: English
Availability: PC Environment Canada Departmental Library, Att: Pierre Trudel, Acquisitions, 351 St. Joseph Blvd., 2nd Fl., Ottawa, ON, CAN K1A 0H3; MF CANMET/TID, Energy, Mines and Resources Canada, 555 Booth St., Ottawa, Ont., Canada K1A 0G1 PC
Abstract: A project was carried out to define the needs and priorities of Canadian research, development and demonstration in the DESRT (Development and Demonstration of Site Remediation Technology) program, part of the National Contaminated Sites program. The project approach consisted of two parts: defining the nature of the problems at contaminated sites in Canada, and summarizing the technologies and research needs applicable to site characterization, assessment and remediation. Research needs are identified for biological above ground and in-situ treatment, thermal treatment, soil washing, dechlorination, solvent extraction, photolysis, and in-situ aeration. Each of these technologies is ranked for its potential to solve Canadian high priority problems and orphan site problems. General bioremediation research and development needs are identified. 75 refs., 10 tabs.

Record - 127

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03474696 CANM-93-0E5216; EDB-93-053572
Title: Overview of the Development and Demonstration of Site Remediation Technology (DESRT) program
Author(s): Hill, G.H. (Environment Canada, Hull, PQ (Canada))
Title: GASReP/DESRT: Proceedings [of the] 2nd annual symposium on groundwater and soil remediation
Corporate Source: Environment Canada, Ottawa, ON (Canada). Environmental Protection Service
Conference Title: 2nd annual symposium on groundwater and soil remediation
Original Conference Title: 2e symposium annuel sur la restauration des eaux souterraines et des sois contamines
Conference Location: Vancouver (Canada) Conference Date: 25-26 Mar 1992
Publication Date: [1992] p 1-7, Paper 2 (427 p)
Report Number(s): EC/EPS-CE04274 CONF-9203248--^ MICROLOG--92-04404^ CE--04274
Language: English
Availability: PC Environment Canada Departmental Library, Att: Pierre Trudel, Acquisitions, 351 St. Joseph Blvd., 2nd Fl., Ottawa, ON, CAN K1A 0H3; MF CANMET/TID, Energy, Mines and Resources Canada, 555 Booth St., Ottawa, Ont., Canada K1A 0G1 PC
Abstract: With funding of over $50 million over five years, the Development and Demonstration of Site Remediation Technology (DESRT) program is a component of the National Contaminated Sites Remediation Program (NCSRP), which is also concerned with remediation of contaminated sites on a polluter pays basis and providing funds for remediation of orphan sites. The principle objective of the DESRT component of the program is to accelerate the development of new and innovative technologies having the potential to resolve problems critical to the environmental remediation of contaminated sites. It covers the areas of site characterization, assessment, remediation and compliance monitoring. The first priority is demonstration, over the medium term, of promising new technologies that have been developed to the pilot plant stage but require on-site, field evaluation to verify performance and cost information. The second priority is to encourage the advancement of technologies that are in the laboratory scale of development, and offer alternative technologies for site remediation over the medium term. The technology must be unique, have potential for wide application across Canada, must involve technological risk, and the DESRT funding must bring incremental value to the project. A list is presented of DESRT projects underway.

Record - 128

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03470205 GRA-93-03340; EDB-93-049081
Title: Federal publications on alternative and innovative treatment technologies for corrective action and site remediation. (Second edition)
Corporate Source: Federal Remediation Technologies Roundtable (United States)
Publication Date: Aug 1992 (36 p)
Report Number(s): PB-93-145696/XAB
Contract Number (Non-DOE): EPA-68-W2-004
Note: See also PB--91-921293
Language: English
Availability: NTIS
Abstract: The Federal Remediation Technologies Roundtable developed this bibliography to publicize the availability of Federal documents pertaining to innovative and alternative technologies to treat hazardous wastes. The first edition of the bibliography was published in 1991. This bibliography addresses technologies that provide for the treatment of hazardous wastes; therefore, it does not contain information or references for containment or other non-treatment strategies, such as landfilling and capping. This bibliography emphasizes innovative technologies for which detailed cost and performance data are not available. Information on more conventional treatment technologies, such as incineration and solidification, is not included.

Record - 129

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03470204 GRA-93-03307; EDB-93-049080
Title: Synopses of federal demonstrations of innovative site remediation technologies
Corporate Source: Federal Remediation Technologies Roundtable (United States)
Publication Date: Aug 1992 (233 p)
Report Number(s): PB-93-144111/XAB EPA--542/B-92/003
Note: See also PB--91-921284
Language: English
Availability: NTIS
Abstract: The collection of abstracts, compiled by the Federal Remediation Technology Roundtable, describes field demonstrations of innovative technologies to treat hazardous waste. This document updates and expands information presented in the first edition of the collection which was published in 1991. The collection is intended to be an information resource for hazardous waste site project managers for assessing the availability and viability of innovative technologies for treating contaminated ground water, soils, and sludge. This document represents a starting point in the review of technologies available for application to hazardous waste sites. This compendium should not be looked upon as a sole source for this information -- it does not represent all innovative technologies nor all technology demonstrations performed by these agencies. Only Federally sponsored studies and demonstrations that have tested innovative remedial technologies with site specific wastes under realistic conditions as a part of large pilot- or full-scale field demonstrations are included. Those studies included represent all that were provided to the Federal Remediation Technology Roundtable at the time of publication. Information collection efforts are ongoing.

Record - 130

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03469860 GRA-93-00243; EDB-93-048736
Title: Incineration of explosive contaminated soil as a means of site remediation. Technical report
Author(s)/Editor(s): Major, M.A.; Amos, J.C.
Corporate Source: Army Biomedical Research and Development Lab., Fort Detrick, MD (United States)
Publication Date: 24 Nov 1992 (22 p)
Report Number(s): AD-A-258757/4/XAB USABRDL-TR--9214
Language: English
Availability: NTIS
Abstract: Large scale releases of explosive contaminated water have occurred in connection with manufacture of explosives, with load assembly and pack operations and at centers for the disassembly and recycle of munitions. The most serious contamination is at sites where explosive contaminated pink water was discarded in unlined evaporation lagoons. Sediments in pink water lagoons normally contain a high concentration of explosive and contamination of ground-water is usually the result. In an effort to remediate this hazard, the U.S. Army has chosen incineration of the contaminated soil as the best means of remediation. Although there is general agreement as to the superiority of incineration for this purpose, the process is complex and environmental, legal and financial questions remain.... Incineration, TNT, RDX, Lead, Mercury, Cadmium, RCRA, Remediation.

Record - 131

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03434107 NOV-93-001044; INS-93-001651; EDB-93-012983
Title: Site remediation of three waste water surface impoundments
Author(s): Wagner, J.G.; Smith, A.C.; Crowe, R.A. (EcoTek, Inc., Erwin, TN (United States))
Title: Proceedings of the international meeting on nuclear and hazardous waste management
Conference Title: Spectrum '90: American Nuclear Society (ANS) international meeting on radioactive waste technologies, decontamination, and hazardous wastes
Conference Location: Knoxville, TN (United States) Conference Date: 30 Sep - 4 Oct 1990
Publisher: La Grange Park, IL (United States) American Nuclear Society
Publication Date: 1990 p 338-341 (510 p)
Report Number(s): CONF-900977--
ISBN: 0-89448-157-6
Language: English
Availability: American Nuclear Society, 555 North Kensington Ave., La Grange Park, IL 60525 (United States)
Abstract: EcoTek conducted an extensive remedial action feasibility study to determine the best way to treat 86,000 cubic feet of low-level radioactive waste sediment. This paper reports on the results of this study which showed the preferred method was to excavate with a floating dredge, dewater with a filter press, and package for burial at a licensed low-level radioactive waste site. A pilot-scale operation was designed, installed and operated for two months to verify the selected methodology. Additional testing was performed to optimize certain run times and to test various chemical additives. Detailed design of the production plant followed. Equipment procurement and construction are currently underway.

Record - 132

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03427019 EDB-93-005895
Title: Site remediation: The naked truth
Author(s): Calloway, J.M.
Title: PETRO-SAFE '91 conference papers: Volume 6 (Treatment, disposal and remedial action) and Volume 7 (Fire prevention and suppression)
Conference Title: Petro-Safe '91: 2nd international environmental and safety conference and exhibition for the oil, gas, and petrochemical industries
Conference Location: Houston, TX (United States) Conference Date: 6-8 Feb 1991
Publisher: Houston, TX (United States) PennWell Conferences and Exhibitions Co.
Publication Date: 1991 p 807-813 (337 p)
Report Number(s): CONF-910242--
Language: English
Availability: PennWell Conferences and Exhibitions Company, 3050 Post Oak Boulevard, Suite 200, Houston, TX 77056 (United States)
Abstract: The objective of any company faced with an environmental site remediation project is to perform the cleanup effectively at the lowest possible cost. Today, there are a variety of techniques being applied in the remediation of sites involving soils and sludges. The most popular include: stabilization, incineration, bioremediation and off-site treatment. Dewatering may also play an integral role in a number of these approaches. Selecting the most cost-effective technique for remediation of soils and sludges can be a formidable undertaking, namely because it is often difficult to quantify certain expenses in advance of the project. In addition to providing general cost guidelines for various aspects of soil and sludge remediation, this paper will show how some significant cost factors can be affected by conditions related to specific remediation projects and the cleanup technology being applied.

Record - 133

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03425347 GRA-92-52347; EDB-93-004223
Title: Literature survey of innovative technologies for hazardous-waste-site remediation, 1987-1991.
Corporate Source: Environmental Protection Agency, Washington, DC (United States). Office of Solid Waste and Emergency Response
Publication Date: Jul 1992 (50 p)
Report Number(s): PB-93-105617/XAB EPA--542/B-92/004
Note: Also available from Supt. of Docs.
Language: English
Availability: NTIS
Abstract: EPA's Office of Solid Waste and Emergency Response is seeking to further the use of innovative hazardous waste treatment technologies in its programs. In order to achieve more permanent remedies, the Agency is encouraging the use of new or innovative technologies that are capable of treating contaminated soils/sludges and ground water more effectively, less expensively, and in a manner more acceptable to the public than existing conventional methods. The bibliography is intended to increase the efficiency of the technology evaluation process. The document is not meant to be comprehensive in scope nor is it meant to convey an endorsement of the citations. It is meant to provide a survey of publications which could be useful when innovative technologies are investigated. As a research aid, the bibliography can help provide insights into current developments and provide references which may serve as a basis for further investigations.

Record - 134

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03418240 GRA-92-12780; EDB-92-180997
Title: Radioactive-site-remediation technologies seminar. Speaker slide copies.
Corporate Source: Environmental Protection Agency, Washington, DC (United States). Office of Research and Development
Publication Date: Jun 1992 (69 p)
Report Number(s): PB-92-231174/XAB EPA--540/K-92/001
Language: In English
Availability: NTIS
Abstract: The contents of this report include the following: approaches to sampling radioactive heterogeneous waste; soil characterization methodology for determining application of soil washing; vorce (volume reduction/chemical extraction) program; treatment of radioactive compounds in water; polymer solidification of low-level radioactive, hazardous, and mixed waste; in situ vitrification of soils contaminated with radioactive and mixed wastes; decontamination of contaminated buildings; incineration of radioactive waste; in situ stabilization/solidification with cement-based grouts; environmental restoration and waste management; removal of contaminants from soils by electrokinetics; and treatment, compaction, and disposal of residual radioactive waste.

Record - 135

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03403255 GRA-92-73026; EDB-92-166012
Title: Definitional-mission report: Hazardous-waste-site remediation, Czech Republic, Republic of Czechoslovakia. Export trade information
Author(s)/Editor(s): Ellis, R.A.
Corporate Source: Advanced Waste Management Systems, Inc., Chattanooga, TN (United States)
Publication Date: Oct 1990 (48 p)
Report Number(s): PB-92-208370/XAB
Note: See also PB92-208388, PB92-208396, PB92-208404, and PB92-208412. Sponsored by Trade and Development Program, Rosslyn, VA.
Language: In English
Availability: NTIS
Abstract: The report documents the findings of a U.S. Trade and Development Program (TDP)-funded definitional mission to examine the need for hazardous waste disposal site remediation in the Czech Republic, Republic of Czechoslovakia. Four sites were studied. They were: Kbely Army Airfield, Spolana Chemical Works, Neratovice, and Milovice Former Soviet Army Base. Each of these presented quite different problems, complexities, and needs. Each is therefore treated as a subreport.

Record - 136

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03401799 EDB-92-164556
Title: METALEEP sup sm on-site remediation of refinery waste
Author(s): Steiner, W.; Rugg, B.
Title: PETRO-SAFE '92 conference papers: Volume 7 (Processing and Refining 2), Volume 8 (Transportation and storage), Volume 9 (Spill control, disposal and remedial treatment 1) and Volume 10 (Spill control, disposal and remedial treatment 2)
Conference Title: PETRO-SAFE '92: 3rd annual environmental and safety conference for the oil, gas and petrochemical industries
Conference Location: Houston, TX (United States) Conference Date: 27-29 Jan 1992
Publisher: Houston, TX (US) PennWell Conferences and Exhibitions Co.
Publication Date: 1992 p 809-823 (328 p)
Report Number(s): CONF-920193--
Language: In English
Availability: PennWell Conferences and Exhibitions Company, 3050 Post Oak Boulevard, Suite 200, Houston, TX 77056 (United States)
Abstract: METALEEPsup sm is a process designed for the decontamination of refinery waste and other contaminated waste streams which contain both organics and metals. METALEEPsup sm is a combination of LEEPsup sm and METLEXsup sm. Leepsup sm (Low Energy Extraction Process) is a patented continuous solvent extraction process for on-site remediation in which organic contaminants are patented continuous solvent extraction process for on-site remediation in which organic contaminants are removed from solids. The process is particularly well suited to the decontamination of refinery generated wastes because it can clean the most difficult fines fraction. LEEPsup sm was originally designed to remove polychlorinated biphenyls (PCBs) from sediments, however, it has been used in tandem with LEEPsup sm to remove heavy metals contamination after organics have been extracted. Successful tests have been conducted on several types of refinery wastes including rainwater impoundment sludge and filter cake slop solids.

Record - 137

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03394688 CANM-CA92E3851; EDB-92-157445
Title: Canadian site remediation research and application programs: An overview
Author(s): Booth, R.; Wardlaw, C. (Wastewater Technology Centre, Burlington, ON (Canada))
Title: Proceedings of the 20th annual conference of the Pollution Control Association of Ontario
Corporate Source: Pollution Control Association of Ontario, North York, ON (Canada)
Conference Title: 20. annual conference of the Pollution Control Association of Ontario
Conference Location: Niagara Falls (Canada) Conference Date: 21-24 Apr 1991
Publication Date: 1991 p 1-10, Paper 6 (vp.)
Report Number(s): PCAO-CE04226 CONF-9104389--^ CE--04226
Language: In English
Availability: Pollution Control Association of Ontario, 63 Hollyberry Trail, North York, ON, CAN M2H 2N9.
Abstract: Three research and application programs for site remediation technology are now in place in Canada: the National Groundwater and Soil Remediation Program (GASReP), the National Contaminated Sites Remediation Program (NCSRP), and the Contaminated Sediments Treatment Technology Program (COSTTEP). GASReP is a joint venture involving Environment Canada, Energy, Mines and Resources Canada, the U.S. Environmental Protection Agency, the Canadian Petroleum Association, the American Petroleum Institute and several Canadian provincial ministries of environment. The objective of the program is to promote and fund technology research, development and field demonstration in the area of hydrocarbon contamination of soils and groundwater. The NCSRP was initiated by the Canadian Council of Ministers of the Environment to clean Canada's most severely contaminated sites, and consists of three components. The Orphan Sites Program is designed to clean up land sites for which the owner is either unwilling or unable to clean up the site. The Demonstration of Site Remediation Technology Program is designed to develop and demonstrate site remediation technology, while the Federal Sites Program serves the same purpose as the Orphan Sites Program but targets federal orphan sites. The COSTTEP is designed to assist owners of technology (mostly groundwater and soil remediation technology) in the development and demonstration of their processes. 4 tabs.

Record - 138

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03387476 EDB-92-150233
Title: Transportable thermal technologies for on-site remediation
Author(s): Nielson, R.K.
Title: American Chemical Society - Abstracts. Industrial and Engineering Chemistry Division
Conference Title: 201. American Chemical Society (ACS) national meeting
Conference Location: Atlanta, GA (United States) Conference Date: 14-19 Apr 1991
Publisher: Washington, DC (US) American Chemical Society
Publication Date: 1991 p Paper I and EC 134 (44 p)
Report Number(s): CONF-910402--
Language: In English
Availability: Industry and Engineering Chemistry Division, American Chemical Society, 1155 16th Street, NW Washington, DC 20036 (United States)
Abstract: Weston Services Inc., (WSI) is a wholly owned subsidiary of Roy F. Weston, Inc. (WESTON), responsible for site remediations. One of many technology based practices offered by WSI focuses on treatment using thermal systems. Through the Thermal System Practice, WSI currently offers two distinct systems for remediation of hazardous waste sites: the Transportable Incineration System (TIS), and the patented Low Temperature Thermal Treatment (LTsup 3) System. The presentation focuses on these on-site technologies providing background on previous bench, pilot, and full scale projects and provides details on costs. A new Low Temperature Thermal Treatment project will have just been completed and a discussion of that project will be presented. The author discusses the advantages, disadvantages, and limitations of the technologies, where they can be effectively used, where problems would be encountered, and where it is appropriate to use each of them. The technologies will be contrasted with one another and relative costs for each thermal technology will be provided.

Record - 139

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03387162 GRA-92-52436; EDB-92-149919
Title: Technical-support services for Superfund site remediation and RCRA corrective action. Third edition. Final report
Corporate Source: Environmental Protection Agency, Washington, DC (United States). Office of Emergency and Remedial Response
Publication Date: Mar 1992 (54 p)
Report Number(s): PB-92-205657/XAB EPA--540/8-91/091
Language: In English
Availability: NTIS
Abstract: A directory of technical support services available to EPA field staff to enable them to quickly identify resources which may be useful in solving a specific hazardous waste clean-up problem. Rather than an exhaustive inventory of all sources of technical information, the publication highlights the significant EPA technical assistance programs - those that have procedures in place to process requests for assistance (e.g. answering a technical question, providing staff to work on the problem, or referring callers to the appropriate source). Categories of services advertised include technical support sources and brokers, automated information systems, publications, and a variety of other organizational sources of information.

Record - 140

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03373368 EDB-92-136125
Title: Bioventing and vapor extraction: Innovative technologies for contaminated site remediation
Author(s): Long, G. (ENSR Consulting and Engineering, Somerset, NJ (United States))
Source: Journal of the Air and Waste Management Association (United States) v 42:3. Coden: JAWAE ISSN: 1047-3289
Publication Date: Mar 1992 p 345-348
Language: In English
Abstract: Bioventing and Vapor Extraction are two technologies which are finding increasing use in performing soil cleanup at hazardous and nonhazardous waste sites. Both processes are characterized by the controlled use of air as a carrier to either remove contaminants from soil or to supply oxygen for aerobic bioremediation of the compounds in the unsaturated zone into less toxic materials. These topics are the focus of a unique Bioventing Satellite Seminar broadcast on April 15, 1992. The seminar, a joint venture between the Air and Waste Management Association (A and WMA) and the Hazardous Waste Action Coalition (HWAC), is the second in a series of satellite seminars that will deal with innovative hazardous waste remediation technologies.

Record - 141

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03370510 NOV-92-035135; EDB-92-133267
Title: Potential costs to utilities for hazardous waste site remediation
Author(s): Emmert, M.; Sieracki, R.; Egan, J. (Peterson Consulting Limited Partnership, Chicago, IL (US))
Conference Title: 54. annual American power conference
Conference Location: Chicago, IL (United States) Conference Date: 13-15 Apr 1992
Source: Proceedings of the American Power Conference (United States) v 54:2. Coden: PAPWA ISSN: 0097-2126
Publication Date: 1992 p 1159-1163
Report Number(s): CONF-920432--
Language: In English
Abstract: Environmental legislation and regulations have added increased business and financial risks to public utilities and corporations in general. The presence of such risks has become increasingly apparent to utility management and other business leaders over the last several years in a variety of different ways. Some of these ways include: The continuing refinements or modification of agency interpretations of what constitutes regulatory compliance. The dramatic increase in environmental compliance costs. The ability of utilities to recover environmental compliance costs from state regulatory commissions. The necessary modifications to operating and compliance practices to minimize future environmental problems and waste streams. During the last several years, utilities have developed a history of responding to a number of these risks. This history is somewhat limited, as the implementation of many regulations has recently started (e.g., regulations such as regulatory agencies monitoring compliance and assessing utility operations for waste and emission minimalization opportunities). However, utilities and other businesses have been incurring substantial costs when participating in hazardous waste remediation programs for sites contaminated decades ago before environmental regulations, as we know them today, existed. In this paper, the authors explore the history of how utilities have responded to the increased business and financial risks associated with recent environmental legislation and regulation, as well as specifically how utilities have been affected by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Record - 142

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03338737 EDB-92-101494
Title: A database of information on technologies for hazardous waste site remediation
Author(s)/Editor(s): Holter, G.M.; White, M.K.; Byrant, J.L.
Corporate Source: Pacific Northwest Lab., Richland, WA (United States)
Sponsoring Organization: DOE USDOE, Washington, DC (United States)
Conference Title: Engineering and technology conference on waste management and environmental restoration
Conference Location: San Juan (Puerto Rico) Conference Date: 9-11 Apr 1992
Publication Date: Apr 1992 (9 p)
Report Number(s): PNL-SA-19814 CONF-920466--12
Order Number: DE92012332
Contract Number (DOE): AC06-76RL01830
Language: In English
Availability: OSTI; NTIS; GPO Dep.
Abstract: A personal-computer-based database and user interface has been developed for retrieving and reviewing information on technologies applicable to the environmental remediation of hazardous waste sites. This system and its information represent a useful source of technology information for people preparing, reviewing, and approving site remediation plans or evaluating remediation technologies. The system includes a variety of information for approximately 90 distinct remedial action technologies. A general text description of each technology is provided, together with basic engineering or design parameters and flowcharts. Information on applying a given technology includes the applicability of the technology to specific contaminants, associated technologies that may be required in conjunction to provide for complete remediation of a site, technical limitations and constraints on the use of the technology, and identification of information or site data needed to deploy the technology at a particular site. US federal regulatory information relating to each technology is also provided. In addition, the system identifies sources for more detailed information for these technologies (i.e., references and specific sites where these technologies have been used). Technologies to be considered can be selected from the complete list of technologies for which information is included, or can be chosen from a shorter list of technologies matching a set of user-specific remediation objectives. The technology information is compiled from a wide variety of sources. The system is designed to support the assessment of remedial alternatives at US sites, but should be readily adaptable to other environmental remediation situations throughout the world.

Record - 143

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03335685 EDB-92-098442
Title: Alternating current electrocoagulation for Superfund site remediation
Author(s): Farrell, C.W. (Electro-Pure Systems, Inc., Amherst, NY (United States))
Title: Remedial action, treatment, and disposal of hazardous waste
Conference Title: 17. annual hazardous waste research symposium
Conference Location: Cincinnati, OH (United States) Conference Date: 9-11 Apr 1991
Publisher: Cincinnati, OH (US) Environmental Protection Agency
Publication Date: 1991 p 404-415 (705 p)
Report Number(s): CONF-9104243--
Language: In English
Abstract: A study is being conducted by Electro-Pure Systems, Inc. (EPS) under the Emerging Technology portion of the U.S. Environmental Protection Agency's (EPA's) Superfund Innovative Technology Evaluation (SITE) Program to study alternating current electrocoagulation for Superfund site remediation. Alternating current electrocoagulation has proven to be effective in agglomerating and removing colloidal solids, metals and certain organic contaminants from surrogate soils prepared from the US EPA's Synthetic Soil Matrix. Treatments under a wide range of operating conditions have enabled the optimum parameter settings to be established for multiple phase separation. Electrocoagulation enables appreciably enhanced filtration and dewatering rates to be realized for metals- and diesel fuel-spiked surrogate soil slurries; such enhancements are prompted by growth in the mean particle size of the clays and particulates from typically < 10 microns to as much as 150 microns depending on the degree of electrocoagulation. Reduction in the total suspended solids content of clays in all slurries in excess of 90% can routinely be achieved. Bench-scale experiments of the metals-spiked surrogate soils indicate that electrocoagulation preferentially concentrates soluble metals into the sludge phase; excellent metals separation (Pb, Cr, Cu, Cd) can be realized. Experiments on surrogate wastes spiked with volatile organics suggest that this technology is not capable of effecting good volatile extractions from the aqueous phase. Reductions in excess of 80% in the total organic carbon (TOC) content of the diesel fuel-spiked surrogates can, however, be achieved.

Record - 144

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03327722 EDB-92-082020
Title: Waste site remediation: Are we doing it right
Author(s): Travis, C.C. (Oak Ridge National Lab., TN (United States))
Source: Oak Ridge National Laboratory Review (United States) v 24:1.
Coden: ORNRA ISSN: 0048-1262
Publication Date: 1991 p 28-29, 32-33
Language: In English
Abstract: Some organizations, such as ORNL, are discovering that some local groundwater is contaminated and that it cannot be completely cleaned up. To determine whether an area has contaminated groundwater, monitoring wells must be installed. At ORNL about 200 groundwater-quality monitoring wells have been installed at the perimeters of 11 waste area groupings. The procedures used in installing 170 of these wells are shown in the photographs accompanying this article.

Record - 145

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03288942 NOV-92-015328; EDB-92-051699
Title: Site closure through integrated site remediation
Author(s): Bolakas, J.F.; Brown, R.A. (Groundwater Technology, Inc., Trenton, NJ (US))
Title: Proceedings of the ninth annual hazardous materials management conference/international
Conference Title: HazMat '91 Internationnal: 9th annual international hazardous materials management conference
Conference Location: Atlantic City, NJ (United States) Conference Date: 12-14 Jun 1991
Publisher: Wheaton, IL (United States) Tower Conf. Management Company
Publication Date: 1991 p 580-598 (1135 p)
Report Number(s): CONF-910697--
Language: In English
Availability: Tower Conf. Management Company, 331 W. Wesley Street, Wheaton, IL 60187 (United States)
Abstract: In October 1988, an apparent act of vandalism caused a large gasoline spill at a bulk petroleum storage facility in southern New Jersey. The facility is underlain by the Cohansey Aquifer, a sole source drinking water aquifer. Approximately 8,400 gallons of premium unleaded gasoline was spilled onto the ground around four underground storage tanks. It was estimated that approximately 6,000 ydsup 3 of sol was contaminated by the spillover an area of approximately 100 feet by 80 feet. Approximately 7,700 gallons of gasoline was adsorbed in the soil of the spill area. An additional 700 gallons of gasoline was adsorbed in soil which was excavated and stockpiled immediately following the spill. Because of the significant depth of groundwater (18 to 20 feet) and the emergency response actions, it was estimated that less than 100 gallons of gasoline reached the groundwater under the spill area. This paper describes the site remediation, which included groundwater extraction, soil vapor extraction, and bioremediation.

Record - 146

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03256223 EDB-92-018980
Title: The use of electrokinetics for hazardous waste site remediation
Author(s): Cabrera-Guzman, D. (Environmental Protection Agency, Cincinnati, OH (United States)); Swartzbaugh, J.T.; Weisman, A.W. (PEER Consultants, Dayton, OH (United States))
Source: Journal of the Air and Waste Management Association (United States) v 40:12. Coden: JAWAE ISSN: 1047-3289
Publication Date: Dec 1990 p 1670-1676
Language: In English
Abstract: The Superfund Innovative Technology Evaluation (SITE) program was authorized as part of the 1986 amendments to the Superfund legislation. It represents a joint effort between US EPA's Office of Research and Development and Office of Solid Waste and Emergency Response. The program is designed to assist and encourage the development of waste treatment technologies that would contribute to more solutions to our hazardous waste problems. Recently, EPA, through the SITE program, issues a work assignment to assess the state-of-the-art of electrokinetically enhanced contaminant removal from soils. Prior research efforts, both laboratory and field, have demonstrated that electroosmosis has the potential to be effective in facilitating the removal of certain types of hazardous wastes from soils. Particularly encouraging results have been achieved with inorganics in fine-grained soils where more traditional removal alternatives are less effective. Although the results of various studies suggest that electrokinetics is a promising technology, further testing is needed at both the laboratory and field levels to fully develop this technology for site remediation. A conceptual test program is presented based on best available data which incorporates system design and operating parameters used in previous applications of this technology in the use of electrokinetics treatment as a remediation technique at hazardous waste sites.

Record - 147

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03239483 GRA-91-12319; EDB-92-002240
Title: Synopses of federal demonstrations of innovative site-remediation technologies
Corporate Source: Environmental Protection Agency, Washington, DC (United States). Office of Emergency and Remedial Response
Publication Date: May 1991 (133 p)
Report Number(s): PB-91-921284/XAB
Language: In English
Availability: NTIS
Abstract: A compendium of abstracts documenting the results of demonstrations of hazardous treatment technologies conducted by Federal agencies involved in Superfund Remediation and RCRA and UST Corrective Actions. The document contains abstracts from EPA (primarily from the Superfund Innovative Technology Evaluation program), DOD, and DOE. It also includes an outline of data needs to guide project managers in submitting information on new projects for future editions of the document.

Record - 148

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03235359 EDB-91-162795
Title: Site remediation
Author(s): Wetzel, R.S. (Science Applications International Corp., McLean, VA (United States))
Title: Standard handbook of hazardous waste treatment and disposal
Author(s)/Editor(s): Freeman, H.M. (ed.)
Publisher: New York, NY (US) McGraw-Hill Book Company
Publication Date: 1989 p 12.51-12.61 (1036 p)
Language: In English
Abstract: Site remediation incorporates the use of specific technologies such as capping, slurry trenching, and groundwater treatment to address specific problems identified in the site-investigation process. The currently accepted practices and US EPA guidelines include remedial investigation (RI), feasibility study (FS), corrective action, and closure. The ultimate goal of the RI and FS is to develop data to support the selection of an approach for site remediation and then to use this data in a structured procedure that results in a well-supported recommended approach. The remedial investigation must establish site characteristics such as media contaminated, the extent of contamination, and the physical boundaries of the contamination. The purpose of the feasibility study is to document the problem(s) identified in the RI, determine the range of possible solutions, and select the best solution to waste-site problems. Criticisms of past RI/FS projects by the EPA have been that they take too much calendar time to complete, supporting data is insufficient or minimally adequate, key alternatives are not evaluated, and evaluation and rational for the alternatives presented are insufficient. The corrective-action program under the Resource Conservation and Recovery Act (RCRA) goes into effect when the RCRA groundwater-monitoring program identifies contaminants significantly above permitted levels. Waste-site closure consists of final design of the remedial action, implementation, and postclosure monitoring and maintenance. Postclosure monitoring and maintenance must be conducted as long as the site is considered a threat. 6 refs., 4 figs., 3 tabs.

Record - 149

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03224241 GRA-91-82689; EDB-91-151677
Title: Bibliography of federal reports and publications describing alternative- and-innovative treatment technologies for corrective action and site remediation
Corporate Source: Environmental Protection Agency, Washington, DC (United States). Office of Emergency and Remedial Response
Publication Date: May 1991 (29 p)
Report Number(s): PB-91-921293/XAB
Language: In English
Availability: NTIS
Abstract: The Federal Remediation Technologies Roundtable developed this bibliography to publicize the accessibility of Federal documents pertaining to innovative and alternative technologies to treat hazardous wastes. The bibliography contains references for documents and reports from the U.S. Environmental Protection Agency (EPA), the U.S. Army, the U.S. Army Corps of Engineers, the U.S. Navy, the U.S. Air Force, the U.S. Department of Energy (DOE), and the U.S. Department of Interior (DOI), Bureau of Reclamation. The publication contains references and order information for reports on research concerning the application of innovative and alternative hazardous waste treatment options. The bibliography is scheduled to undergo periodic revisions.

Record - 150

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03224230 GRA-91-82096; EDB-91-151666
Title: Technical-support services for Superfund-site remediation. Interim directory
Author(s)/Editor(s): Wilhelm, R.G.
Corporate Source: Environmental Protection Agency, Washington, DC (United States). Office of Emergency and Remedial Response
Publication Date: Feb 1990 (34 p)
Report Number(s): PB-91-228353/XAB
Note: Prepared in cooperation with Environmental Management Support, Silver Spring, MD.
Language: In English
Availability: NTIS
Abstract: The Directory highlights the significant OSWER and ORD technical assistance programs that have procedures in place to process requests such as answering a technical question, providing staff to work on a problem, or referring callers to the appropriate source.

Record - 151

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03194880 EDB-91-122316
Title: Organic contaminant release from a mixed waste disposal site: A computer simulation study of transport through the vadose zone and site remediation
Author(s): Baca, R.G.; Walton, J.C.; Rood, A.S.; Otis, M.D. (Idaho National Engineering Lab., Idaho Falls (USA))
Title: Proceedings of the tenth annual DOE low-level waste management conference. Session 2: Site performance assessment
Corporate Source: EG and G Idaho, Inc., Idaho Falls, ID (United States)
Conference Title: 10. annual Department of Energy (DOE) low-level waste management conference
Conference Location: Denver, CO (United States) Conference Date: 30 Aug - 1 Sep 1988
Publication Date: Dec 1988 p 113-125 (161 p)
Report Number(s): CONF-880839-Ses.2
Order Number: DE89005580
Language: In English
Availability: OSTI
Abstract: Migration of organic contaminants from mixed waste disposal sites is emerging as a increasingly significant environmental problem. Organic contaminants, particularly in the vapor phase, can pose a health hazard to workers in the vicinity of the disposal site and can cause contamination of the underlying aquifer. Volatile organic chemicals such as carbon tetrachloride, chloroform, and trichloroethylene are frequently encountered at waste sites. These chlorinated hydrocarbons are relatively common chemicals and widely used as industrial solvents. Problems with organic vapors have been noted at waste disposal sites at a number of US Department of Energy (DOE) facilities. At the Idaho National Engineering Laboratory, for example, problems with organic vapors (Laney, et al., 1988) have occurred at the Radioactive Waste Management Complex (RWMC). Analyses of soil-gas samples and groundwater samples indicate that organic vapors are being emitted from disposal pits in the Subsurface Disposal Area (SDA) of the RWMC. The primary source of the organic vapor has been determined to be organic wastes that were disposed at the site in the mid-1960's. To address the organic problems at the RWMC, a multi-task activity was initiated. The first task involved a records search to determine the quantities and distribution of organic wastes. The second task consisted of a detailed soil-gas survey to identify the specific disposal areas that are producing the organic vapors.

Record - 152

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03188197 EDB-91-115633
Title: Site remediation considerations and foundation excavation plan for the Walter Reed Army Institute of Research building, Forest Glen, Maryland
Author(s)/Editor(s): Hambley, D.F.; Harrison, W. (Argonne National Lab., IL (United States). Energy Systems Div.); Foster, S.A.; Schweighauser, M.J. (Clement Associates, Inc., Fairfax, VA (United States))
Corporate Source: Argonne National Lab., IL (United States). Energy Systems Div.
Sponsoring Organization: DOD Department of Defense, Washington, DC (United States)
Publication Date: Apr 1991 (255 p)
Report Number(s): ANL/ESD/TM-17
Order Number: DE91016705
Contract Number (DOE): W-31109-ENG-38
Language: In English
Availability: OSTI; NTIS; GPO Dep.
Abstract: The US Army Corps of Engineers North Atlantic Division, Baltimore District (CENAB), intends to design and construct a medical and dental research facility for the Walter Reed Army Institute of Research (WRAIR) at the Walter Reed Army Medical Center (WRAMC) at Forest Glen, Maryland. Because almost 100% of the proposed building site is located on an uncontrolled landfill that was thought to possibly contain medical, toxic, radioactive, or hazardous waste, it was assumed that remediation of the site might be necessary prior to or in conjunction with excavation. To assess (1) the need for remediation and (2) the potential hazards to construction workers and the general population, the Baltimore District contracted with Argonne National Laboratory to undertake a site characterization and risk assessment and to develop a foundation-excavation plan. The results of the site characterization and a qualitative risk assessment have been presented in a previous report. This report presents the foundation-excavation plan. 38 refs., 16 figs., 11 tabs.

Record - 153

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03128283 NOV-91-004426; EDB-91-065718
Title: Update on the use of transportable circulating bed combustors for site remediation
Author(s): Diot, H.R. (Ogden Environmental Services (US))
Title: Institute of environmental sciences 1990 proceedings
Conference Title: 36. Institute of Environmental Sciences annual technical meeting: a glimpse into the 21st century
Conference Location: New Orleans, LA (USA) Conference Date: 23-27 Apr 1990
Publisher: Mt. Prospect, IL (USA) Institute of Environmental Sciences
Publication Date: 1990 p 49-53 (798 p)
Report Number(s): CONF-900479--
ISBN: 1-877862-00-2
Language: In English
Availability: Institute of Environmental Sciences, 940 East Northwest Highway, Mt. Prospect, IL 60056 (USA)
Abstract: This paper discusses how a company is conducting site remediation projects that will thermally treat over 100,000 tons of contaminated soil. Using the proprietary transportable circulating bed combustor (CBC), an advanced fluidized bed incinerator. The services helped clients reduce their liabilities on sites contaminated with a wide variety of hazardous and toxic materials. Two transportable CBC units are currently involved in major site remediation projects, and an additional project is in the preliminary engineering and facilities design stage. One unit is thermally cleaning soil contaminated by a leaking underground fuel oil tank at a site in central California. When this project is completed in 1990, OES will open California's first fixed facility dedicated to remediating oily soil at this site. A second unit is purifying PCB-contaminated soils in the Kenai Wildlife Refuge in Alaska. A third CBC will be placed at the first town gas incineration project, thermally treating coal tar wastes in early 1990. Construction of a fourth CBC will be completed early in 1990 and is available for assignment. These projects are detailed.

Record - 154

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03115937 DK-91-001212; EDB-91-053371
Title: Treatment of inorganic pollutants on-site in connection with ground water flushing or soil extraction with recirculating water
Author(s): Sund, C. (I. Krueger AS (DK))
Title: In-situ and on-site remediation of contaminated soil and groundwater
Corporate Source: Danmarks Tekniske Hoejskole, Lyngby (Denmark). Inst. for Teknisk Geologi
Conference Title: Conference on in-situ and on-site remediation of contaminated soil and groundwater
Conference Location: Lyngby (Denmark) Conference Date: 4 Apr 1990
Publication Date: 1990 p 133-144 (144 p)
Report Number(s): CONF-9004294--
ISBN: 87-88699-68-4
Language: In English
Availability: Available on loan from Risoe Library, DK-4000 Roskilde
Abstract: With the on the market available treatment technologies it is possible to treat wastewater to meet close to drinking water standards. If there is a mixture of organic and inorganic compounds it is an advantage to remove volatile compounds before performing detoxification of inorganic compounds. There will otherwise be a risk for secondary emissions due to uncontrolled evaporation of volatiles within the physical/chemical treatment plant and from secondary products as sludge produced. Air stripping connected to absorption of stripped volatiles on carbon filters is normally used. If the organic content in the wastewater should be removed either by absorption (activated carbon), chemical oxidation or biological degradation it is advisable to perform the removal of the inorganic contaminants before entering these steps in order to maximize treatment efficiency. Biological treatment has proven to be very efficient for removal of nitrogen compounds. Biological oxidation of ammonia to nitrate (nitrification) followed by biological reduction of nitrate and nitrite to nitrogen gas (denitrification) are processes which have proven to be more cost efficient and as well technically superior to chemical oxidation and reduction of mentioned nitrogen compounds. As nitrite is rather toxic, which as well can be seen from the drinking water standard (0,03-0,1 mg NOsub 2-N/l) it might be necessary t0 perform chemical reduction or oxidation if drinking water standards should be met. Oxidation can be performed by hypochlorite or hydrogenperoxide and reduction is preferably performed with amidosulphonicacid. Treatment technologies for other forms of contamination are described. (AB).

Record - 155

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03115936 DK-91-001211; EDB-91-053370
Title: In-situ/on-site skimming of hydrocarbons from groundwater
Author(s): Greulich, R.H. (I. Krueger AS (DK)); Vedby, S. (Danish Geotechnical Institute, ATV (DK))
Title: In-situ and on-site remediation of contaminated soil and groundwater
Corporate Source: Danmarks Tekniske Hoejskole, Lyngby (Denmark). Inst. for Teknisk Geologi
Conference Title: Conference on in-situ and on-site remediation of contaminated soil and groundwater
Conference Location: Lyngby (Denmark) Conference Date: 4 Apr 1990
Publication Date: 1990 p 109-132 (144 p)
Report Number(s): CONF-9004294--
ISBN: 87-88699-68-4
Language: In English
Availability: Available on loan from Risoe Library, DK-4000 Roskilde
Abstract: The paper deals with oil remedy in groundwater with emphasis on free oil recovery using different pumping and separation techniques. The importance of the migration in the capillary fringe and the hydrogeological boundaries are discussed and typical remedial procedures presented. The paper concludes with descriptions of two in situ/on site techniques using suction with product separation in tanks, and gravity or specific oil skimming scavenging in wells. (author).

Record - 156

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03115935 DK-91-001210; EDB-91-053369
Title: In-situ gas extraction of volatile organics from soil
Author(s): Lindhardt, B. (COWIconsult A/S (DK))
Title: In-situ and on-site remediation of contaminated soil and groundwater
Corporate Source: Danmarks Tekniske Hoejskole, Lyngby (Denmark). Inst. for Teknisk Geologi
Conference Title: Conference on in-situ and on-site remediation of contaminated soil and groundwater
Conference Location: Lyngby (Denmark) Conference Date: 4 Apr 1990
Publication Date: 1990 p 61-72 (144 p)
Report Number(s): CONF-9004294--
ISBN: 87-88699-68-4
Language: In English
Availability: Available on loan from Risoe Library, DK-4000 Roskilde
Abstract: Induced soil venting is a process for clean-up of contaminated soil utilizing a forced replacement of the soil-air. This will lead to a removal of the volatile organic contaminant present in the soil. The method is suitable for clean-up of contaminants with a relatively high vapor pressure, e.g. greater than 0.001 atm., and a relatively small water solubility, e.g. less than 2,000 mg/l, so that the contaminant will primarely be found in the gas-phase of the soil-matrix. The method is for instance suitable for clean-up of gasoline and organic solvents, e.g. trichloroethylene. Several lab-scale tests of the method are reported in the literature showing the suitability of the method. In the US the method has been tested full-scale on several occasions. Soil venting can thus be seen as a realistic in-situ method for clean-up of soil contaminated with gasoline and solvents in the unsaturated zone. Induced soil venting can also be used on-site as a simple and relatively fast method for clean-up of excavated soil contaminated by the same components. A Danish Case, utilizing in-situ gas extraction, is described. (AB).

Record - 157

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03115934 DK-91-001209; EDB-91-053368
Title: Sanitation of subsoil contaminated by phenol
Author(s): Sondermann, W. (GKN Keller GmbH, Offenbach (DE))
Title: In-situ and on-site remediation of contaminated soil and groundwater
Corporate Source: Danmarks Tekniske Hoejskole, Lyngby (Denmark). Inst. for Teknisk Geologi
Conference Title: Conference on in-situ and on-site remediation of contaminated soil and groundwater
Conference Location: Lyngby (Denmark) Conference Date: 4 Apr 1990
Publication Date: 1990 p 13-23 (144 p)
Report Number(s): CONF-9004294--
ISBN: 87-88699-68-4
Language: In English
Availability: Available on loan from Risoe Library, DK-4000 Roskilde
Abstract: Regarding soil sanitation measures there may not be any harmful emissions resulting from the actual procedure which could in any way adversely affect the environment or the crew working on the area, and suitable clothing and protection is required. Furthermore, the sanitized material must be in a form such that it facilitates possible recycling or reuse. A clean up procedure is presented that takes these conditions into consideration. After sinking a drill the contaminated soil is eroded and washed with the jet stream process. The jet stream method uses a medium or liquid which is shot through a nozzle at the end of a drill and thereby achieves very high pressures and speeds when it leaves the nozzle. This powerful cutting force breaks through the soil structure and therefore dissolves and washes away the contaminated substance from the contaminated earth in which it is embedded. The drain off from this process is siphoned off at the exit point on the surface of the soil and stored in an enclosed area to be used again during the treatment. After decontamination the cleaned material is separated to composition and then filtered. The liquid can then be reused in the decontamintion procedure. Because of the flexibility and adaptability of the jet stream procedure it is possible to treat succesfully almost any volume and size of area, even underneath an existing structure. By immediately placing all contaminated substances in an enclused area the risk of further decontamination is reduced. No earth work, is nessesary. There is no need for unnecssary transportation of contaminated material. (AB).

Record - 158

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03115933 DK-91-001208; EDB-91-053367
Title: In-situ and on-site technologies An overview
Author(s): Freestone, F.J. (Technical Support Branch, ORD, RREL, U.S. EPA, Edison, New Jersey (US))
Title: In-situ and on-site remediation of contaminated soil and groundwater
Corporate Source: Danmarks Tekniske Hoejskole, Lyngby (Denmark). Inst. for Teknisk Geologi
Conference Title: Conference on in-situ and on-site remediation of contaminated soil and groundwater
Conference Location: Lyngby (Denmark) Conference Date: 4 Apr 1990
Publication Date: 1990 p 1-11 (144 p)
Report Number(s): CONF-9004294--
ISBN: 87-88699-68-4
Language: In English
Availability: Available on loan from Risoe Library, DK-4000 Roskilde
Abstract: A broad analysis of and perspective on the characteristics and measured performance of in-situ and on-site treatment technologies available for remediation of contaminated soils, groundwater and associated debris at hazardous waste sites. Included in the analysis is information from U.S. and European sources. Available data are appended from nine recently completed field demonstrations from the U.S. Environmental Protection Agency (EPA) Superfund Innovative Technology Evaluation (SITE) program. The most frequently applied technology areas appear to be on-site thermal treatment for organics, on-site and in-situ solidification/stabilization technologies for most inorganics and metals, traditional on-site water treatment techniques, and soil vapor extraction for volatile organic compounds. Rapidly developing areas include bioremediation technologies, and concentration technologies. Two of the weakest areas include materials handling for such situations as excavating buried drums and soils with volatiles safely, and performing physical and chemical site characterization using technology-sensitive parameters. An area worthy of international cooperatin is that of performing benchscale screening and treatability studies, including the specification of key parameters needing measurement, techniques for such measurement and for interpretation, storage and retrieval of resulting data. We are in the process of evaluating existing treatability study data on soils and debris, and will be installing that data onto an on-line information system available to the public world-wide. (AB) 10 refs.

Record - 159

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
03115932 DK-91-001207; EDB-91-053366
Title: In-situ and on-site remediation of contaminated soil and groundwater
Corporate Source: Danmarks Tekniske Hoejskole, Lyngby (Denmark). Inst. for Teknisk Geologi
Conference Title: Conference on in-situ and on-site remediation of contaminated soil and groundwater
Conference Location: Lyngby (Denmark) Conference Date: 4 Apr 1990
Publication Date: 1900 (144 p)
Report Number(s): CONF-9004294--
ISBN: 87-88699-68-4
Language: In English
Availability: Available on loan from Risoe Library, DK-4000 Roskilde
Abstract: The papers present methods for the decontamination of soils and/or ground water which have been polluted by various forms of hazardous wastes. (AB).

Record - 160

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02978497 NOV-90-044671; EDB-91-012121
Title: Consultant considerations and design of coal tar site remediation studies
Author(s): Kropp, E.L. (Robinson and McElwee (US))
Title: American Gas Association 1989 operating section proceedings
Conference Title: American Gas Association Operating Section conference
Conference Location: New Orleans, LA (USA) Conference Date: 21-24 May 1989
Publisher: Arlington, VA (USA) American Gas Association
Publication Date: 1989 p 376-378 (610 p)
Report Number(s): CONF-8905185--
Note: Technical Paper 89-DT-77
Language: In English
Availability: American Gas Association, 1515 Wilson Blvd., Arlington, VA 22209 (USA)
Abstract: This paper addresses issues of hazardous waste site remediation. The effects of the US Comprehensive Environmental Response Compensation and Liability Act are discussed.

Record - 161

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02973295 EDB-91-006920
Title: Differences in the bioavailability of various forms of arsenic and the implications for risk assessment and site remediation
Author(s): Evans, C.G.; Funsch, J.M.; Kelly, K.E.; Tsuji, J.S. (Environmental Toxicology International, Inc., Seattle, WA (USA))
Title: The toxicologist. Volume 10
Conference Title: 29. annual meeting of the Society of Toxicology
Conference Location: Miami Beach, FL (USA) Conference Date: 12-16 Feb 1990
Publisher: Washington, DC (US) Society of Toxicology
Publication Date: 1990 p 352 (435 p)
Report Number(s): CONF-900284--
Language: In English
Availability: Society of Toxicology, 1101 Fourteenth St., N.W., Suite 1100, Washington, DC 20005
Abstract: Consideration of potential differences in bioavailability of various chemical/physical form(s) of a chemical is an important component of the dose-response evaluation step of a health risk assessment. Arsenic is commonly a chemical of concern at mining and smelter sites and exists in a variety of forms. Two forms of arsenic which we have investigated in recent health risk assessments are arsenopyrite, associated with mining operation, and arsenic in slag, a residual produced during the smelting of copper ore. The bioavailability of these compounds in soil was found to be vary limited (less than 5%) in comparison to the forms of arsenic used to develop EPA's oral and inhalation cancer potency slopes for arsenic. The bioavailability of arsenopyrite is limited by its insolubility in water and HCl. Furthermore, G.I. absorption of the more soluble oxidation products of arsenopyrite in soil is more comparable to arsenic in suspension (undissolved) than arsenic in solution (dissolved). Exposure to arsenic in slag was found to be very limited because of its low leaching potential, its particle size distribution, and its limited absorption. This evaluation of the bioavailability of arsenopyrite and arsenic in slag has had important ramifications for site remediation at several sites. Estimates of health risk were significantly lower than those based on assumptions of higher bioavailability, providing support for the establishment of higher cleanup levels.

Record - 162

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02959626 GRA-90-92854; EDB-90-176869
Title: Evaluation of treatment technologies in the natural gas industry: Production water/waste management and site remediation. Volume 3. Topical report, September 1988-October 1989
Author(s)/Editor(s): Tallon, J.T.; Fillo, J.P.; Bratina, J.E.; Peach, L.A.; Halapin, T.
Corporate Source: ENSR, Pittsburgh, PA (USA)
Publication Date: May 1990 (395 p)
Report Number(s): PB-90-271867/XAB
Contract Number (Non-DOE): GRI-5084-253-1117; GRI-5086-254-1334
Note: See also Volume 2, PB--90-271859; Also available in set of 3 reports PC E99/MF E99, PB--90-271834
Language: In English
Availability: NTIS, PC A17/MF A03
Abstract: The report examines the technologies that can potentially be applied to treating production waters and wastes from natural gas industry operations, and those that may be suitable for remediating sites affected by former operations. The information provided in the report is intended to assist the natural gas industry to select appropriate environmental management strategies. Candidate technologies were considered in the evaluation for their applicability to treatment of specific production water/waste streams, ground water and soil, and/or the constituents known or suspected to be present in the media. Where available, performance and economic data directly related to the use of the technology application within the gas industry are identified and compiled for referencing. Performance and economic data from closely related technology application are also selectively included. Information identified from the evaluation is compiled on a computer data base system (Paradox) in two levels of detail. Level I presents a general overview of each technology examined, and Level II presents performance and economic information.

Record - 163

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02959625 GRA-90-92853; EDB-90-176868
Title: Evaluation of treatment technologies in the natural gas industry: Production water/waste management and site remediation. Volume 2. Topical report, September 1988-October 1989
Author(s)/Editor(s): Tallon, J.T.; Fillo, J.P.; Bratina, J.E.; Peach, L.A.; Halapin, T.
Corporate Source: ENSR, Pittsburgh, PA (USA)
Publication Date: May 1990 (196 p)
Report Number(s): PB-90-271859/XAB
Contract Number (Non-DOE): GRI-5084-253-1117; GRI-5086-254-1334
Note: See also Volume 1, PB--90-271842 and Volume 3, PB--90-271867; Also available in set of 3 reports PC E99/MF E99, PB--90-271834
Language: In English
Availability: NTIS, PC A09/MF A02
Abstract: The report examines the technologies that can potentially be applied to treating production waters and wastes from natural gas industry operations, and those that may be suitable for remediating sites affected by former operations. The information provided in the report is intended to assist the natural gas industry to select appropriate environmental management strategies. Candidate technologies were considered in the evaluation for their applicability to treatment of specific production water/waste streams, ground water and soil, and/or the constituents known or suspected to be present in these media. Where available, performance and economic data directly related to the use of the technology application within the gas industry are identified and compiled for referencing. Information identified from the evaluation is compiled on a computer data base system (Paradox) in two levels of detail.

Record - 164

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02959624 GRA-90-92852; EDB-90-176867
Title: Evaluation of treatment technologies in the natural gas industry: Production water/waste management and site remediation. Volume 1. Topical report, September 1988-October 1989
Author(s)/Editor(s): Tallon, J.; Fillo, J.P.; Bratina, J.E .; Peach, L.A.; Halopin, T.
Corporate Source: ENSR, Pittsburgh, PA (USA)
Publication Date: May 1990 (243 p)
Report Number(s): PB-90-271842/XAB
Contract Number (Non-DOE): GRI-5084-253-1117; GRI-5086-254-1334
Note: See also Volume 2, PB--90-271859; Also available in set of 3 reports PC E99/MF E99, PB--90-271834
Language: In English
Availability: NTIS, PC A11/MF A02
Abstract: The report examines the technologies that can potentially be applied to treating production waters and wastes from natural gas industry operations, and those that may be suitable for remediating sites affected by former operations. The information provided in the report is intended to assist the natural gas industry to select appropriate environmental management strategies. Candidate technologies were considered in the evaluation for their applicability to treatment of specific production water/waste streams, ground water and soil, and/or the constituents known or suspected to be present in these media. Where available, performance and economic data directly related to the use of the technology application within the gas industry are identified and compiled for referencing. Information identified from the evaluation is compiled on a computer data base system (Paradox) in two levels of detail.

Record - 165

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02959623 GRA-90-92851; EDB-90-176866
Title: Evaluation of treatment technologies in the natural gas industry: Production water/waste management and site remediation. Topical reports, September 1988-October 1989
Corporate Source: ENSR, Pittsburgh, PA (USA)
Publication Date: May 1990 (834 p)
Report Number(s): PB-90-271834/XAB
Note: Set includes PB--90-271842; PB--90-271867
Language: In English
Availability: NTIS, PC EE99/MF E99
Abstract: This three volume set evaluates waste processing methods available to the natural gas industry for mitigation of environmental impacts of their waste streams, especially the waste waters from production wells. Performance and economic data are compiled into a computer data base system, Paradox, in two levels of detail: general overview of each technology; and performance and economic data. The volumes have been indexed separately.

Record - 166

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02927970 NOV-90-028289; EDB-90-145213; INS-90-031969
Title: The long-term climate assessment task of the protective barrier development program for low-level waste site remediation at the Hanford site
Author(s): Petersen, K.L. (Westinghouse Hanford Co., Richland, WA (USA))
Title: High level radioactive waste management
Conference Title: 1. international topical meeting on high-level radioactive waste management
Conference Location: Las Vegas, NV (USA) Conference Date: 8-12 Apr 1990
Publisher: La Grange Park, IL (USA) American Nuclear Society
Publication Date: 1990 p 1235-1239 (1456 p)
Report Number(s): CONF-900406--
ISBN: 0-87262-751-9
Language: In English
Availability: American Nuclear Society, 555 North Kensington Ave., La Grange Park, IL 60525 (USA)
Abstract: This paper discusses a study plan being developed to guide a multiyear program to assess long-term climate change and optimize the design of protective barriers. A protective barrier alternative being considered for the disposal of some low-level radioactive defense waste stored near the surface at the Hanford Site, Washington is described. A stepwise approach to climatic data acquisition is relied on in obtaining needed information for concurrent barrier tasks, and in developing a local climate forecast model.

Record - 167

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02922080 EDB-90-139322
Title: California seeks new technologies for site remediation
Source: Journal of the Air and Waste Management Association (USA) v 39:9.
Coden: JAWAE
Publication Date: Sep 1989 p 1164-1165
Language: In English
Abstract: Innovative new technologies for site remediation will be sought by the California Department of Health Services (Department), Toxic Substances Control Division, Alternative Technology Section, for assessment in the field as full-scale demonstration projects. The Remedial Technology Assessment Program (RTAP) fosters emerging technologies, which have been successfully tested in the laboratory, at bench scale, or at pilot scale and are ready for field or full-scale demonstration project testing. The Department will solicit interest from companies to conduct full-scale demonstrations of remedial treatment technologies for site remediation. The solicitation responses will be used to compile a list of treatment technologies which can be considered during the Remedial Action Plan (RAP) process for implementation at State-lead Bond Expenditure Plan sites and possibly responsible party sites. RTAP will attempt to match submitted remedial technologies to specific hazardous waste sites via the RAP process. A technical report, including an evaluation of the technical and economic feasibility, will be prepared after each demonstration project.

Record - 168

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02917010 EDB-90-134251; ERA-15-045382
Title: How to save time and money during PCB site remediation
Author(s): Marsh, D.T. (Remcor, Inc., Pittsburgh, PA (USA)); Ianniello, M.L. (General Electric Co., Schenectady, NY (USA))
Title: Superfund '88
Conference Title: Superfund '88: 9th national conference and exhibition on hazardous waste
Conference Location: Washington, DC (USA) Conference Date: 28-30 Nov 1988
Publisher: Silver Spring, MD (US) Hazardous Materials Control Research Institute
Publication Date: 1988 p 251-254 (659 p)
Report Number(s): CONF-881141--
Language: In English
Availability: Hazardous Materials Control Research Institute, 9300 Columbia Blvd., Silver Spring, MD 20910
Abstract: Screening methods can represent significant savings in time and expense during the investigation and remediation of sites contaminated With PCBs. This paper presents data from three field investigations of PCB-contaminated sites and evaluates the field performance of a quick-screen method for the analysis of PCBs in soil. The objective of each site investigation was to determine the vertical and areal extent of the PCB soil contamination preliminary to excavation and removal of soils contaminated above a prescribed concentration level. At two of the sites, the field method was also used to verify that the target cleanup criteria had been achieved once remediation was complete. The quick-screen method used was the Kwik-Skrene Analytical Testing System, manufactured by Syprotec Inc. Kwik-Skrene is a semi-quantitative colorimetric analysis capable of determining the total chlorine extracted from a variety of media (including soil) above and below a pre-selected concentration level or cleanup criterion. The field screening results were also used at two sites to target samples for additional laboratory testing. The collected samples were carefully mixed and split into two fractions. One fraction was analyzed using Kwik-Skrene in the field; if the field analysis indicated the PCB concentration on the sample was below the target level, then the split fraction was analyzed by a laboratory using conventional gas chromatography techniques for the quantitative determination of PCB concentration. This paper presents field and laboratory data from the three sites. Conventional analytical costs are compared with total PCB analytical costs using Kwik-Skrene in the field. Cost factors include sample collection and record keeping time, shipping charges, and potential cost penalties for quick turnaround time on conventional analyses, analytical costs, and labor and equipment charges waiting for results. 1 fig., 4 tabs.

Record - 169

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02917005 EDB-90-134246; ERA-15-045372
Title: Assessment of site remediation technologies in European countries
Author(s): Nunno, T.J.; Hyman, J.A. (Alliance Technologies Corp., Bedford, MA (USA)); Pheiffer, T. (Environmental Protection Agency, Washington, DC (USA))
Title: Superfund '88
Conference Title: Superfund '88: 9th national conference and exhibition on hazardous waste
Conference Location: Washington, DC (USA) Conference Date: 28-30 Nov 1988
Publisher: Silver Spring, MD (US) Hazardous Materials Control Research Institute
Publication Date: 1988 p 193-198 (659 p)
Report Number(s): CONF-881141--
Language: In English
Availability: Hazardous Materials Control Research Institute, 9300 Columbia Blvd., Silver Spring, MD 20910
Abstract: Site remediation is a pressing issue in European countries due to limited availability of land. Therefore, much progress is being made in the development of effective technologies for remediating contaminated sites. The purpose of this program was to investigate the most successful and innovative technologies for potential application into US markets. This EPA-sponsored project was based on a 9-mo. research effort which identified 95 innovative technologies in use or being researched in foreign countries. The most promising technologies were studied in-depth through personal interviews with the engineers who research and apply these technologies; and tours of laboratory models and full-scale installations were also taken. The most successful full-scale technologies investigated were developed in Holland, West Germany and Belgium. These technologies include vacuum extraction of hydrocarbons from soil, in-situ washing of cadmium-polluted soil, rotating biocontactors for treating pesticides in groundwater, high-temperature slagging incineration of low-level radioactive wastes, in situ steam stripping, and a number of land farming and soil washing operations. The paper provides descriptions of 13 site remediation techniques that have shown such promise in laboratory studies or in practice to warrant consideration of their use in the US. 9 refs., 2 figs., 6 tabs.

Record - 170

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02912587 NOV-90-024306; EDB-90-129828
Title: On-site remediation of organically impacted soils on oilfield properties
Author(s): Hildebrandt, W.W.; Wilson, S.B. (Groundwater Technology, Inc. (US))
Title: Proceedings of the SPE California regional meeting
Conference Title: 1990 Society of Petroleum Engineers (SPE) California regional meeting
Conference Location: Ventura, CA (USA) Conference Date: 4-6 Apr 1990
Publisher: Richardson, TX (USA) Society of Petroleum Engineers
Publication Date: 1990 p 401-406 (608 p)
Report Number(s): CONF-9004156--
Note: Technical Paper SPE 20061
Language: In English
Availability: Society of Petroleum Engineers, P.O. Box 833836, Richardson, TX 75083 (USA)
Abstract: This paper describes circumstances that cause soil to be contaminated by crude oil on oilfield properties. Requirements of a modern on-site bioremediation system are outlined.

Record - 171

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02866463 EDB-90-083701; ERA-15-032034
Title: Database for hydrocarbon-contaminated site remediation: Software and manual
Author(s)/Editor(s): Spear, C.E.; Worm, G.H.; Rosebrook, D.D.
Corporate Source: Electric Power Research Inst., Palo Alto, CA (USA) Mill Creek Co., Houston, TX (USA)
Sponsoring Organization: EPRI
Publication Date: Apr 1990 (50 p)
Report Number(s): EPRI-GS-6812
Note: Report includes 5 diskettes designed to operate on an IBM PC or compatible equipment
Language: In English
Availability: Research Reports Center, Box 50490, Palo Alto, CA 94303
Abstract: This document comprises both the final report for this project as well as the user's manual for the MGP Site Remediation Database. The database provides information about contractors working in environmental services. The data in the database were secured directly from each contractor by questionnaire. The database contains such information as EPA districts in which the organization works, qualifications, expertise, references, etc. The report describes the steps taken in constructing the database. 1 fig.

Record - 172

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02849655 EDB-90-066892
Title: Innovative technologies for site remediation at California State Superfund Sites
Author(s): Boggs, R.M. (Dames and Moore, Sacramento, CA (USA))
Title: Proceedings of the second national outdoor action conference on aquifer restoration, ground water monitoring and geophysical methods. Volume III
Conference Title: 2. national outdoor action conference on aquifer restoration, ground water monitoring and geophysical methods
Conference Location: Las Vegas, NV (USA) Conference Date: 23-26 May 1988
Publisher: Dublin, OH (US) National Water Well Association
Publication Date: 1988 p 1381-1392 (448 p)
Report Number(s): CONF-8805312--
Language: In English
Availability: National Water Well Association, 6375 Riverside Dr., Dublin, OH 43017
Abstract: As more hazardous waste sites are discovered and begin the RI/FS stage of site mitigation, there is an increasing need for new and innovative technologies for remediation of these contaminated facilities. In response to this need, both federal and state laws and regulations have been adopted which promote the use of alternative technologies. In addition to regulatory incentives, federal and state agencies have been providing funding and technical assistance to technology developers in order to conduct demonstration testing of these technologies. The federal program for providing financial and technical assistance is entitled SITE (Superfund Innovative Technology Evaluation). The California Department of Health Services (DHS) has a similar program in which technology developers can receive variances and limited amounts of funding in order to conduct demonstration tests. This paper presents an overview of the regulatory requirements which promote the use of alternative technologies for remediation of contaminated sites. The federal and California technology demonstration assistance programs are described. The paper presents a demonstration test case history which involved the use of a transportable catalytic oxidation system. The results of the demonstration test are presented. This paper also presents an overview of the various technologies which are currently available or are being evaluated for cleanup of contaminated sites. A brief summary of the technologies, the type of contamination they treat (metals, PCBs, organics, etc.), and the contaminated media they treat (soil, sludge, groundwater) is also presented.

Record - 173

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02822411 EDB-90-039635; INS-90-008066; NTS-90-010838; ERA-15-019415
Title: The long-term climate change assessmenet task of the protective barrier developoment program for low-level waste site remediation at the Hanford Site, Washington
Author(s)/Editor(s): Petersen, K.L.
Corporate Source: Westinghouse Hanford Co., Richland, WA (USA)
Sponsoring Organization: DOE/DP
Conference Title: International conference for high-level radioactive waste management
Conference Location: Las Vegas, NV (USA) Conference Date: 8-12 Apr 1990
Publication Date: Jan 1990 (6 p)
Report Number(s): WHC-SA-0808 CONF-900406--22
Order Number: DE90006310
Contract Number (DOE): AC06-87RL10930
Language: In English
Availability: NTIS, PC A02/MF A01; OSTI; INIS; GPO Dep.
Abstract: A study plan is being developed to guide a multiyear program to assess long-term climate change and optimize the design of protective barriers. A protective barrier alternative is being considered for the disposal of some low-level radioactive defense waste stored near the surface at the Hanford Site, Washington. These barriers are being designed to limit movement of radionuclides and other contaminants to the accessible environment for at least 1000 years and possibly as long as 10,000 years. A stepwise approach to climatic data acquisition will be relied on in obtaining needed information for concurrent barrier tasks, and in developing a local climate forecast model. This model will need to couple past climate patterns with models of regional and global climate drivers to provide bounding conditions for barrier performance assessment analyses. 9 refs., 3 figs.

Record - 174

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02822148 CANM-90-004459; EDB-90-039372; ERA-15-019285
Title: Comprehensive site remediation CSR sup tm anchored by bioreclamation saves groundwater supply of small mid Atlantic community
Author(s): Yaniga, P.M.; Aceto, F.; Fournier, L.; Matson, C. (Groundwater Technology, Inc. Chadds Ford, PA (USA))
Title: Haztech Canada Toronto '89: Environmental control/hazardous waste management conference proceedings
Corporate Source: Haztech Canada, Edmonton, AB (Canada)
Conference Title: Haztech Canada Toronto '89: environmental control/hazardous waste management conference
Conference Location: Mississauga (Canada) Conference Date: 16-18 May 1989
Publication Date: 1989 p 426-440 (494 p)
Report Number(s): HAZ-CE02857 CONF-8905280--^ CE--02857
Language: In English
Availability: Haztech Canada, 4936-87th St., no. 26, Edmonton, AB, CAN T6E 5W3.
Abstract: A small community in northeastern Pennsylvania used the Comprehensive Site Remediation process to save its drinking water supply wells from hydrocarbon contamination. The contamination occurred in January 1985. Approximately 1,000 gal of regular leaded gasoline leaked from a 20-year-old underground storage tank at the Borough's Public Water Works, 50 ft from one of the supply wells. All three wells and all water pumps were shut down after the discovery of the leak. The first step of restoration was the removal of the tank and the determination of the extent of the contamination. After the plume was defined, a 6 in recovery well was installed and the pumping of the contaminated water began; in addition, an aeration apparatus was constructed. The water was stripped/treated for dissolved constituents and discharged into a local surface stream. However, only less than 15% of the total contamination could be recovered in this way. Since excavation of the contaminated ground was not, in this case, feasible, a biodegradation program was designed and implemented in order to reduce soil-absorbed and dissolved hydrocarbons, using both biodegradation and standard pump-and-treat technology. Microbiologists, after designing and piloting the nutrient mix program, began adding hydrogen peroxide and nutrients to the contaminated water to enhance the natural degradation process. A July 1987 examination of dissolved hydrocarbons showed nearly complete remediation of soil and ground water. 4 figs., 1 tab.

Record - 175

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02811274 NOV-90-096118; EDB-90-028496
Title: Regulation and control of air contaminants during hazardous waste site remediation
Author(s): Coy, C.A. (South Coast Air Quality Management District, El Monte, CA (USA))
Conference Title: 80. annual meeting of the Air Pollution Control Association
Conference Location: New York, NY (USA) Conference Date: 21-26 Jun 1987
Source: Proceedings, Annual Meeting, Air Pollution Control Association (USA) v 1. Coden: PRAPA ISSN: 0193-9688
Publication Date: 1987 p 1-12
Report Number(s): CONF-870695--
Note: Technical Paper 87-18.1
Language: In English
Abstract: Refinery wastes have been most often identified as the problem for sites in the South Coast Air Quality Management District and the contaminants posing the greatest short term hazard from these sites have been identified as sulfur dioxide and tetrahydrothiophenes. Without proper planning, excavation activities have the potential to cause severe public nuisance problems due to the emission of odors and potentially toxic or hazardous emissions. This paper presents two case studies of this type of excavation including site history summaries and a review of air monitoring data developed during the site remediation activities. The discussion examines the approach developed by the South Coast Air Quality Management District, a regional regulatory agency with jurisdiction encompassing the greater Los Angeles area of Southern California, to regulate control of emissions during the cleanup of abandoned or uncontrolled hazardous waste sites in order to prevent similar occurrence of public nuisance or threat to public health. Application of this approach is illustrated by an overview of the current systematic planning involved in proposed excavation activities at major Southern California waste sites.

Record - 176

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02808840 NOV-90-096131; EDB-90-026062
Title: Waste disposal site remediation A case history
Author(s): Gallagher, M.P.; Weiss, H.J. (Texaco, Inc., Beacon, NY (USA))
Conference Title: 80. annual meeting of the Air Pollution Control Association
Conference Location: New York, NY (USA) Conference Date: 21-26 Jun 1987
Source: Proceedings, Annual Meeting, Air Pollution Control Association (USA) v 1. Coden: PRAPA ISSN: 0193-9688
Publication Date: 1987 p 1-19
Report Number(s): CONF-870695--
Note: Technical Paper 87-11.7
Language: In English
Abstract: The authors present a hazardous waste site remediation case history of Texaco's Beacon Disposal Site. The authors chose it because it deals with most of the problem issues: clean-up criteria, residents within 250 feet of waste excavation, the sampling and analysis of a public drinking water system, remediation conducted across property lines, citizen activist group involvement, agency consent order negotiation, identification and special handling along with proper disposal of unknown waste containers including laboratory chemicals and cylinders, installation of groundwater monitor wells along a public thoroughfare in the local residential community and finally, regulatory problems involving the simultaneous remediation of six disposal sites subject to CERCLA regulations and the closure of one RCRA permitted facility within the same area. This case is presented in light of the successful completion of the project in a timely, and cost effective manner.

Record - 177

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02807479 CANM-89-004083; EDB-90-024697; ERA-15-012542
Title: On-site remediation of gasoline-contaminated soil
Author(s): Smith, D.L.; Sabherwal, I.H
Title: Haztech Canada: Dangerous goods and hazardous waste management conference proceedings
Corporate Source: Haztech Canada, Edmonton, AB (Canada)
Conference Title: Haztech Canada: dangerous goods and hazardous waste management conference
Conference Location: Mississauga (Canada) Conference Date: 12-14 May 1987
Publication Date: 1987 p 481-495 (536 p)
Report Number(s): HAZ-CE-02853 CONF-8705398--^ CE--02853
Language: In English
Availability: Haztech Canada, 4936-87th St., no. 26, Edmonton, AB, CAN T6E 5W3.
Abstract: Gasoline leaking from service station tanks threatens groundwater supplies in many areas of the United States. Gasoline leaks are often difficult to detect and substantial quantities of soil, up to hundreds of msup 3, can be contaminated if the leakage is allowed to continue for years. This paper reviews on-site oxidation of gasoline contaminated soils as a remediation method. Chemical oxidation of soil contaminants may allow cleanup to be completed in several days as opposed to biodegradation or air stripping methods which may take months or years to complete the process. The advantages and disadvantages of hydrogen peroxide, which has long been known to oxidize many classes of organic compounds, as and oxidizer are discussed. Hydrogen peroxide oxidation is used in the patented Llandtreat process. Landtreat is a synthetic polysilicate; used as a finely divided powder. The silicate matrix is expanded by a high-temperature, high-vacuum process, creating Frenkel defects; these defects become active sites where hydrogen peroxide and gasoline components can be adsorbed. The chemical reactions involved, the treatment protocol, the safety precautions, site closure and regulatory precautions are discussed. The data from two soil treatment projects performed in Southern California are presented. 2 refs., 2 figs., 6 tabs.

Record - 178

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02807469 NOV-90-096162; EDB-90-024687
Title: Leaking underground storage tank site remediation alternatives
Author(s): Preslo, L. (Roy F. Weston, Inc., Concord, CA (US)); Miller, M.; McLearn, M. (Electric Power Research Inst., Palo Alto, CA (USA)); Suyama, W. (Southern California Edison Co., Rosemead, CA (USA)); Kostecki, P. (Massachusetts Univ., Amherst, MA (USA))
Conference Title: 80. annual meeting of the Air Pollution Control Association
Conference Location: New York, NY (USA) Conference Date: 21-26 Jun 1987
Source: Proceedings, Annual Meeting, Air Pollution Control Association (USA) v 1. Coden: PRAPA ISSN: 0193-9688
Publication Date: 1987 p 1-16
Report Number(s): CONF-870695--
Note: Technical Paper 87-16.2
Language: In English
Abstract: This paper summarizes the results of a jointly funded study by the Electric Power Research Institute (EPRI) and the Utility Solid Waste Activities Group (USWAG). The study describes and evaluates available technologies for remediating soil and groundwater containing petroleum products released from an underground storage tank leak or other discharges, leaks, or spills.

Record - 179

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02789536 EDB-90-006749; NTS-90-007315; INS-90-000964; ERA-15-007041
Title: The observational approach for site remediation at federal facilities
Author(s)/Editor(s): Myers, R.S.; Gianti, S.J. (Pacific Northwest Lab., Richland, WA (USA); CH2M Hill, Reston, VA (USA))
Corporate Source: Pacific Northwest Lab., Richland, WA (USA)
Sponsoring Organization: DOE/EH
Conference Title: 10. HMCRI's national conference and exhibition
Conference Location: Washington, DC (USA) Conference Date: 27-29 Nov 1989
Publication Date: Nov 1989 (14 p)
Report Number(s): PNL-SA-17455 CONF-8911152--1
Order Number: DE90003635
Contract Number (DOE): AC06-76RL01830
Language: In English
Availability: NTIS, PC A03/MF A01; OSTI; INIS; GPO Dep.
Abstract: The observational approach, developed by geotechnical engineers to cope with the uncertainty associated with subsurface construction such as tunnels and dams, can be applied to hazardous waste site remediation. During the last year, the observational approach has gained increasing attention as a means of addressing the uncertainties involved in site remediation. In order to evaluate the potential advantages and constraints of applying the observational approach to site restoration at federal facilities, a panel of scientists and engineers from Pacific Northwest Laboratory and CH2M Hill was convened. Their review evaluated potential technical and institutional advantages and constraints that may affect the use of the observational approach for site remediation. This paper summarizes the panel's comments and conclusions about the application of the observational approach to site remediation at federal facilities. Key issues identified by the panel include management of uncertainty, cost and schedule, regulations and guidance, public involvement, and implementation. 5 refs.

Record - 180

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02783216 CANM-89-003164; EDB-90-000429
Title: Come-by-Chance refinery site remediation
Corporate Source: Acres International Ltd., St. John's, NF (Canada)
Publication Date: 1987 (178 p)
Report Number(s): AI/N-89-02740 MICROLOG--89-02740
Language: In English
Availability: PC Dept. of Environment and Lands, Elizabeth Towers, Elizabeth Ave., P.O. Box 4750, St. John's, NF, CAN A1C 5T7; MF CANMET/TID, Energy, Mines and Resources Canada, 555 Booth St., Ottawa, Ont., Canada K1A 0G1.
Abstract: From 1973 until closure of the plant in 1976, a petroleum refinery was operated at Come-by-Chance in Newfoundland. During this time, 2 unregulated sites in the general vicinity of the plant were apparently used largely for the disposal of construction waste, while a third site was used to store full and empty drums of refinery chemicals. This report is about a hydrogeological investigation of these 3 sites conducted in order to assess pollution and the impact of pollution on the environment and in order to recommend any remedial works required to eliminate site hazards to the environment. The 5 steps of the investigation were the following: preliminary hydrogeological/geotechnical survey of each site; assessment of the extent of contamination and seepage of any chemicals from each site; chemical sampling and analysis to confirm the type, concentration and extent of any chemicals in the soil and ground water; evaluation of each site in terms of impacts in the environment in-site and off-site; and recommendations about remedial measures. The cost of the recommended remedial measures, including the monitoring of ground water, is expected to be $400,000. 7 refs., 9 figs., 13 tabs.

Record - 181

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02385145 EDB-89-131120
Title: Development of site remediation technologies in European countries
Author(s): Nunno, T.J.; Hyman, J.A.; Pheiffer, T.
Affiliation: Alliance Technologies Corp., Bedford, MA (USA)
Title: 1988 DOE model conference proceedings. Volume 4
Corporate Source: Analysas Corp., Oak Ridge, TN (USA)
Conference Title: 4. annual DOE model conference
Conference Location: Oak Ridge, TN, USA Conference Date: 3-7 Oct 1988
Publication Date: 1988 p 1381-1392
Report Number(s): CONF-881054-Vol.4
Order Number: DE89014703
Note: Portions of this document are illegible in microfiche products
Language: English
Availability: NTIS, PC A15/MF A01; 1.
Abstract: Site remediation is a pressing issue in European countries due to limited availability of land. Therefore, much progress is being made in the development of effective technologies for remediating contaminated sites. The purpose of this program was to investigate the most successful and innovative technologies for potential application into US markets. This EPA-sponsored project was based on a 9-month research effort which identified 95 innovative technologies in use or being researched in foreign countries. The most promising technologies were studied in-depth through personal interviews with the engineers who research and apply these technologies, and tours of laboratory models and full-scale installations. The most successful full-scale technologies investigated were developed in Holland, West Germany and Belgium. These technologies include vacuum extraction of hydrocarbons from soil, in situ washing of cadmium-polluted soil, rotating biocontractors for treating pesticides in ground water, high-temperature slagging incineration of low-level radioactive wastes, in situ steam stripping, and a number of landfarming and soil washing operations. The paper provides description of 13 site remediation techniques that have shown such promise in laboratory studies or in practice to warrant consideration of their use in the US.

Record - 182

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02385140 EDB-89-131115
Title: In situ technologies for site remediation
Author(s): Ghassemi, M.
Affiliation: URS Consultants, Inc., Long Beach, CA (USA)
Title: 1988 DOE model conference proceedings. Volume 3
Corporate Source: Martin Marietta Energy Systems, Inc., Oak Ridge, TN (USA)
Analysas Corp., Oak Ridge, TN (USA)
Conference Title: 4. annual DOE model conference
Conference Location: Oak Ridge, TN, USA Conference Date: 3-7 Oct 1988
Publication Date: 1988 p 697-708
Report Number(s): CONF-881054-Vol.3
Order Number: DE89014702
Note: Portions of this document are illegible in microfiche products
Language: English
Availability: NTIS, PC A14/MF A01; 1.
Abstract: In situ treatment of waste and soil at contaminated sites offers an alternative to the traditional approaches to site remediation involving excavation and disposal or onsite isolation. This paper provides an overview of the capabilities and limitations of some of the leading in situ technologies for site remediation. The In Situ Detoxifier is presented as an example of innovative system potentially capable of implementing a range of in situ treatment.

Record - 183

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02385038 EDB-89-131013
Title: Impacts from the implementation of a prioritization system for funding inactive waste site remediation activities at the Savannah River Plant
Author(s): St. Clair, G.T.; Browning, D.S.; Whitaker, W.C.
Affiliation: NUS Corp., Aiken, SC (USA)
Title: 1988 DOE model conference proceedings. Volume 5
Corporate Source: Martin Marietta Energy Systems, Inc., Oak Ridge, TN (USA)
Analysas Corp., Oak Ridge, TN (USA)
Conference Title: 4. annual DOE model conference
Conference Location: Oak Ridge, TN, USA Conference Date: 3-7 Oct 1988
Publication Date: 1988 p 1439-1447
Report Number(s): CONF-881054-Vol.5
Order Number: DE89014704
Note: Portions of this document are illegible in microfiche products
Language: English
Availability: NTIS, PC A13/MF A01; 1.
Abstract: The US Department of Energy (DOE) has established an Environmental Restoration (ER) Program budget category to fund investigation and remedial activities at DOE Defense Programs (DOE-DP) inactive waste sites. The ER activities are required by Section 3004(u) of the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA). Funds to be appropriated by Congress for this effort through 1993 are expected to exceed one-half billion dollars. Due to overlapping regulatory requirements and the number of inactive waste sites at DOE-DP installations, a system has been established to determine how the funding should be allocated. DOE is developing a prioritization system that will rank environmental investigation and remediation programs. This paper examines impacts that the prioritization system may have on the Savannah River Plant, including remedial action schedules previously negotiated with Federal and state regulatory agencies.

Record - 184

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02364785 EDB-89-110757
Title: Palmerton Zinc Superfund Site remediation strategy
Author(s): Tan, P.M.
Affiliation: Environmental Protection Agency, Philadelphia, PA (USA)
Conference Title: 22. annual conference on trace substances in environmental health
Conference Location: St. Louis, MO, USA Conference Date: 23-26 May 1988
Source: Trace Subst. Environ. Health (United States) v 12. Coden: PUMTA
Publication Date: 1988 p 296-305
Report Number(s): CONF-8805159-
Language: English
Abstract: The Palmerton Zinc Superfund Site is a former zinc smelting operation located in Palmerton, PA. Operation of this plant since the turn of the century has caused large quantities of zinc, cadmium, lead and copper to be emitted into the atmosphere in the vicinity of the plant. As a result of these emissions significant concentrations of these heavy metals in the soil have been measured within a large area surrounding the plant. Public health concerns related to these concentrations has, in part, caused the EPA to list this area as a superfund site on the National Priorities List (NPL). To perform an efficient Remedial Investigation/Feasibility Study at this site EPA needed to determine the extent and magnitude of the problem. In order to help in the design of the actual locations where soil samples should be taken certain quantitative and qualitative air pollution meteorological analyses were performed. In addition to the soil sampling, other media including groundwater and surface water were also analyzed. Also, studies which documented the chronic effects of heavy metal contamination on aquatic and terrestrial animals were initiated.

Record - 185

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02285124 EDB-89-030860
Author(s): Phillips, S.J.; Relyea, J.F.
Title: Low-level liquid waste disposal site remediation technology development at the Hanford site
Corporate Source: Westinghouse Hanford Co., Richland, WA (USA)
Conference Title: 9. annual low-level radioactive waste management program conference
Conference Location: Denver, CO, USA Conference Date: 25 Aug 1987
Publication Date: Oct 1987 p 12
Report Number(s): WHC-SA-0039; CONF-870859-32
Order Number: DE89004907
Contract Number (DOE): AC06-87RL10930
Note: Portions of this document are illegible in microfiche products
Language: English
Availability: NTIS, PC A03/MF A01 - OSTI; 1.
Abstract: Westinghouse Hanford Company is developing technologies supporting long-term physical stabilization and isolation of liquid waste materials in underground waste disposal crib and caisson structures. Prototype equipment and methodologies are being developed to dynamically consolidate and/or inject durable materials into and proximal to these structures. To date, testing, development, and demonstration of a mobile in situ waste treatment system for site remediation of liquid waste disposal sites has been completed. Continued testing and development activities are in progress for in situ treatment of contaminated, industrial, solid low-level waste materials. Conceptual design activities have also been initiated to develop an injection system for application to low-level waste underground tank and vault remediation. 10 refs., 2 figs.

Record - 186

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02239994 INS-88-035495; ERA-14-000182; EDB-88-182738
Title: Low-level liquid waste disposal site remediation technology development at the Hanford Site
Author(s): Phillips, S.J.; Relyea, J.F.
Affiliation: Westinghouse Hanford Co., Richland, WA (USA)
Title: Proceedings of the ninth annual DOE low-level waste management forum: Technical session 4, Waste characterization and verification
Corporate Source: EG and G Idaho, Inc., Idaho Falls (USA)
Conference Title: 9. annual low-level radioactive waste management program conference
Conference Location: Denver, CO, USA Conference Date: 25 Aug 1987
Publication Date: Feb 1988 p 14-24
Report Number(s): CONF-870859-Pt.4
Order Number: DE88013148
Language: English
Availability: NTIS, PC A05/MF A01; 1.
Abstract: Westinghouse Hanford Company is developing technologies supporting long-term physical stabilization and isolation of liquid waste materials in underground waste disposal crib and caisson structures. Prototype equipment and methodologies are being developed to dynamically consolidate and/or inject durable materials into and proximal to these structures. To date, testing, development, and demonstration of a mobile in situ waste treatment system for site remediation of liquid waste disposal sites has been completed. Continued testing and development activities are in progress for in situ treatment of contaminated, industrial, solid low-level waste materials. Conceptual design activities have also been initiated to develop an injection system for application to low-level waste underground tank and vault remediation.

Record - 187

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02229236 ERA-13-054947; EDB-88-171978
Title: Site remediation of heavy metals contaminated soils and ground water at a former battery reclamation site in Florida
Author(s): Trnovsky, M.; Oxer, J.P.; Rudy, R.J.; Weinstein, G.L.; Hartsfield, B.; Lindberg, S.E.; Hutchinson, T.C. (eds.)
Affiliation: Ecology and Environment, Inc.. Tallahassee, FL (USA)
Title: Heavy metals in the environment: Volume 1
Corporate Source: Oak Ridge National Lab., TN (USA)
Conference Title: 6. international conference on heavy metals in the environment
Conference Location: New Orleans, LA, USA Conference Date: 15 Sep 1987
Publication Date: 1987 p 88-90
Report Number(s): ORNL/M-463; CONF-870937-Vol.1
Order Number: TI88006131
Language: English
Availability: CEP Consultants, Ltd., 26 Albany St., Edinburgh EH1 3QH, UK.
Abstract: Heavy metals contamination of soils, surface water, sediments, and ground water was investigated and feasible remedial alternatives were evaluated for the Sapp Battery Superfund site in northern Florida. High lead concentrations were found in all four media. The upper horizon soils contained up to 135,000 ppm lead. Contaminated ground water in the surficial and intermediate aquifers was found to be seeping through on-site sinkholes into the Florida aquifer. Remedial alternatives were evaluated for the removal and treatment of 95,580 m/sup 3/ (125,000 yd/sup 3/) of soil and sediments and the treatment of 2.63 m/sup 3//min (1.0 MGD) of ground water.

Record - 188

<DIALOG File 103: (c) format only 1994 Dialog Info.Svcs.>
02212594 NOV-88-022320; EPA-14-004105; EDB-88-155334
Title: Application of risk assessment to selection among site remediation alternatives
Author(s): Salmon, E.J.; Brown, R.A.
Affiliation: Health, Safety and Risk Management, Intellus Corp., Irvine, CA (US)
Title: Proceedings of the 41st industrial waste conference
Conference Title: 41. annual Purdue industrial waste conference
Conference Location: West Lafayette, IN, USA Conference Date: 13 May 1986
Publisher: Lewis Publishers,Chelsea, MI
Publication Date: 1987 p 261-271
Report Number(s): CONF-860527-
Language: English
Abstract: The Environmental Protection Agency (EPA) mandated that any remedial decisions and strategies related to hazardous substances be scientifically and technologically sound, economically efficient, and socially equitable. This calls for application of risk assessment/management methodologies which the EPA's Administrator recognized as the most important and most difficult role emerging in the 1980's. It becomes necessary to develop well founded and consistent procedures as well as uniform and coordinated approaches that enable deciding if, when, and how remediation of risks arising from hazardous waste sites should be undertaken. The definition of risk assessment/management by the National Academy of Sciences distinguishes two components, namely: 1. The scientific exercise involved in the assessment of risks. 2. The political, economic, and social aspects of decision making about what action to take. In the simplest sense, risk assessment is the qualitative or quantitative characterization of potential adverse impacts of particular substances or agents on individuals or populations. It is a function of two measurable factors: hazard and exposure. Risk management, on the other hand, represents the complex judgement and analysis that uses the results of risk assessment to provides a decision about remediation.

Record - 189

<DIALOG File 241: (c) 1994 Electric Power Research Inst.Inc>
1046826 EPRI ACCESSION NO: 2128400 SUBFILE: EPRI TECHNICAL REPORT
Database for Hydrocarbon-Contaminated Site Remediation: Software and Manual
REPORT NUMBER: EPRI GS-6812 0064p.
CONTRACT/GRANT NO.: RP2991-02
DOCUMENT TYPE: Final Report
PUBLICATION YEAR: 1990 04
EPRI DIVISION NAME: Generation & Storage Division
EPRI PROJECT MANAGER: Atherton, Linda Francis
GENERAL NOTE: Special pricing information: Domestic $400.00; Overseas $400.00.
This software provides a database and retrieval system on environmental service contractors in the United States. The data, secured from the contractors by questionnaire, includes qualifications, references, personnel information, and information on facilities and sales.
BACKGROUND: Waste remediation is an attractive business venture, and the number of organizations entering the field has increased dramatically in the last few years. Identifying the specific expertise of these various organizations and obtaining other pertinent information about them is often difficult.
OBJECTIVE: To provide a computerized database and retrieval system of contractors supplying environmental services in the United States.
APPROACH: The developers secured data from waste disposal contractors by questionnaire, including data on EPA regional experience, references, experiences, technologies, professional qualifications, facilities, and sales. The developers also designed a program to allow users to retrieve from this database the companies meeting their requirements.
RESULTS: The database, on PC diskettes, contains information on almost 200 organizations. The retrieval system allows the user to list all the contractors satisfying minimum requirements in a specific category or all contractors meeting the minimum requirements from a set of categories. The user can print or display names or complete questionnaire responses. Although the user may not change a database entry, notes or memos may be appended with ease. The database program is self-contained; no additional software is needed to use it. The accompanying report provides a description of how the database and retrieval system were created and a complete user's manual.
EPRI PERSPECTIVE: These database disks provide users with a central repository of information on organizations working in the remediation area. Users will be able to identify organizations working in their region, learn their past experiences, compile a list of references, and apply other valuable information that may be used to narrow the field for contractor selection. Even first-time users will be able to access this database in a few minutes by referring to the "quick start" section of the user's manual.

Dialmail defaults: Inbox 2
Scan to list messages, folders ...
Read to read messages
Create to create a new message, folder ...
Answer to answer a message
Delete to erase a message, folder ...

Help for more information on any command
CLear to clear defaults & return to main menu
EXit to leave DIALMAIL

** For more commands, enter Page **

? exit;logoff
leaving Dialmail 2.28
  08apr94 11:58:47 User021029 Session D70.2
  $14.40 1.200 Hrs FileMAIL
  $13.68 TYMNET
  $28.37 Estimated total session cost 1.207 Hrs.

File 1:ERIC 1966-1994/Mar
  (c) format only 1994 Dialog Info.Svcs.

  Set Items Description
  --- ----- ---------
? logoff
  08apr94 11:59:02 User021029 Session D70.3
    $0.14 0.004 Hrs File1
  $0.14 Estimated cost File1
  $0.05 TYMNET
  $0.19 Estimated cost this search
  $28.56 Estimated total session cost 1.211 Hrs.
Logoff: level 33.03.10 D 11:59:02
??

Record - 118

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
02095693 E.I. Monthly No: EIM8606-036467
Title: ADVANCED TREATMENT TECHNOLOGIES FOR REMOVAL AND DISPOSAL OF MICROPOLLUTANTS.
Author: Van Haute, A. (Ed.)
Corporate Source: Catholic Univ of Leuvin, Haverlee, Belg
Conference Title: Advanced Treatment Technologies for Removal and Disposal of Micropollutants.
Conference Location: Antwerp, Belg Conference Date: 1984 Sep 24-25
Sponsor: Int Assoc on Water Pollution Research & Control, London, Engl
E.I. Conference No.: 07894
Source: Water Science and Technology v 18 n 1 1986 85p
Publication Year: 1986
CODEN: WSTED4 ISSN: 0273-1223
Language: English
Document Type: CP; (Conference Proceedings)
Journal Announcement: 8606
Abstract: The volume contains seven papers presented at the meeting, all of which are abstracted separately. Subjects covered include treatment of acidic organic industrial wastes, heavy metal removal in colloid-stabilizing organic material and complexing agents, particle size distribution change in a fixed bed of granular activated carbon, tar sands wastewater treatment, activated carbon preparation from locally available waste materials, aluminate flocculation application in primary mixed wastewater treatment, and wastewater treatment plant upgrading in a chemical factory.

Record - 119

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
02033965 E.I. Monthly No: EI8610099522 E.I. Yearly No: EI86079020
Title: SOLVENT EXTRACTION IN NUCLEAR TECHNOLOGY.
Author: Navratil, James D.
Corporate Source: Rockwell Int, Golden, CO, USA
Source: Pure and Applied Chemistry v 58 n 6 Jun 1986, Invited Lect Presented at the Int Symp on Org Chem in Technol Perspect, Jerusalem, Isr, Jun 1-6 1986 p 885-888
Publication Year: 1986
CODEN: PACHAS ISSN: 0033-4545
Language: ENGLISH
Document Type: JA; (Journal Article) Treatment: X; (Experimental)
Journal Announcement: 8610
Abstract: Some aspects of solvent extraction chemistry in the field of nuclear technology are briefly reviewed. Applications of solvent extraction in actinide recovery and purification, radionuclide production, and reactor materials preparation are summarized. The need for new, more selective, solvent extraction reagents is presented via examples of recent work with bifunctional organophosphorus reagents applied to the removal of actinides from acidic radioactive waste solutions. (Author abstract) 45 refs.

Record - 120

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01984875 E.I. Monthly No: EI8606053784 E.I. Yearly No: EI86126012
Title: ELMINATION OF MICROPOLLUTANTS BY NaAlO//2 FLOCCULATION DURING PRIMARY TREATMENT OF MIXED WASTEWATER.
Author: Vanderborght, J. P.; Wollast, R.
Corporate Source: Univ Libre de Bruxelles, Brussels, Belg
Source: Water Science and Technology v 18 n 1 1986, Adv Treat Technol for Removal and Disposal of Micropollut, Antwerp, Belg, Sep 24-25 1984 p 67-74
Publication Year: 1986
CODEN: WSTED4 ISSN: 0273-1223
Language: ENGLISH
Document Type: JA; (Journal Article) Treatment: A; (Applications); X; (Experimental)
Journal Announcement: 8606
Abstract: The influence of NaAlO//2 -flocculation of mixed wastewater was investigated by conducting laboratory tests and using pilot-scale flocculation reactor. In comparison with the primary sedimentation, aluminate addition results in a lower residual concentration for Zn and Cd. For all metals under investigation (Cu, Cr, Zn, Cd, and Ni), the removal was found to be irreversible. Biological treatment was uninhibited by an addition of these metals when NaAlO//2 -flocculation was provided. (Author abstract) 4 refs.

Record - 121

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01914221 E.I. Monthly No: EIM8512-080735
Title: MINERALOGICAL ASPECTS OF THE DISPOSAL OF RADIOACTIVE WASTE.
Author: Simpson, P. R. (Ed.); Ivanovich, M. (Ed.)
Conference Title: Mineralogical Aspects of the Disposal of Radioactive Waste.
Conference Location: London, Engl Conference Date: 1983 Nov 10-11
Sponsor: Mineralogical Soc, Applied Mineralogy Group, London, Engl; Commission of the European Communities, Brussels, Belg
E.I. Conference No.: 06721
Source: Mineralogical Magazine v 49 pt 2 n 351 Apr 1985 p 151-299
Publication Year: 1985
CODEN: MNLMBB ISSN: 0026-461X
Language: English
Document Type: CP; (Conference Proceedings)
Journal Announcement: 8512
Abstract: This meeting proceedings contains 14 papers. The topics covered include: mineralogical aspects of radioactive waste disposal; geological perspective of high-level nuclear waste disposal; radioactive waste storage; glass crystallization; zeolite use for radioactive waste treatment; geological control of granite fracture permeability: natural barriers to radionuclide transport; uranium-series disequilibrium studies; radioactive waste repository in geological formations; thermal groundwater radionuclide transport.

Record - 122

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01875790 E.I. Monthly No: EIM8506-033310

Title: TREATMENT OF URANIUM MINING AND MILLING WASTEWATER USING BIOLOGICAL ADSORBENTS.
Author: Tsezos, M.
Conference Title: Proceedings of International Specialist Conference on Water Regime in Relation to Milling, Mining and Waste Treatment Including Rehabilitation with Emphasis on Uranium Mining.
Conference Location: Darwin, Aust Conference Date: 1983 Sep 4-9
Sponsor: Australian Water & Wastewater Assoc, Sydney, Aust
E.I. Conference No.: 04711
Source: Publ by Australian Water & Wastewater Assoc, Sydney, Aust p 15. 1-15. 16
Publication Year: 1983
ISBN: 0-908255-02-0
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8506
Abstract: Selected samples of waste microbial biomass originating from various industrial fermentation processes and biological treatment plants have been screened for biosorbent properties in conjunction with uranium, thorium and radium in aqueous solutions. Biosorption isotherms have been used for the evaluation of biosorptive uptake capacity of the biomass which was also compared to synthetic adsorbents such as activated carbon. 10 refs.

Record - 123

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01770801 E.I. Monthly No: EI8507056304 E.I. Yearly No: EI85056206
Title: SORPTION OF RADIONUCLIDES FROM LIQUID WASTES OF NUCLEAR POWERPLANTS ON OXIDIZED CHARCOALS AND ION EXCHANGE RESINS.
Author: Kul'skii, L. A.; Voloshinova, A. M.; Bliznyukova, V. A.; Smirnova, R. S.; Kol'chenko, V. A.
Corporate Source: Acad of Sciences of the Ukrainian SSR, A. V. Dumanskii Inst of Colloidal Chemistry & Water Chemistry, Kiev, USSR
Source: Soviet Journal of Water Chemistry and Technology (English Translation of Khimiya i Tekhnologiya Vody) v 6 n 4 1984 p 42-44
Publication Year: 1984
CODEN: SJWTDP
Language: ENGLISH
Document Type: JA; (Journal Article) Treatment: X; (Experimental)
Journal Announcement: 8507
Abstract: An investigation was conducted of the statics and dynamics of sorption of the nuclides **1**3**7Cs, **9**0Sr, **9**5Zr-**9**5Nb, and **1**4**4Ce from aqueous solutions. It was found that in the sorption of radionuclides from liquid nuclear reactor wastes the protective effect factor is highest for type KU-2 resin and lowest for type BAU and SKT oxidized charcoals. On type BAU oxidized charcoal the monovalent cesium cation is poorly sorbed, and for type KB-4 resin the distribution coefficient for **1**3**7Cs is 15 times greater than on type BAU charcoal. The high sorption of **9**5Zr on cationites KB-4 and KU-2 is not an exchange sorption. 5 refs.

Record - 124

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01664879 E.I. Monthly No: EIM8407-051984
Title: ALTERNATIVE TREATMENT OF MEDIUM LEVEL LIQUID WASTE BY CHEMICAL PRECIPITATION AND SLUDGE VITRIFICATION.
Author: Halaszovich, St.; Dix, S.; Harms, R.; Merz, E.; Rosin, D.
Corporate Source: Kernforschungsanlage Juelich GmbH, Inst fuer Chemische Technologie der Nuklearen Entsorgung, Juelich, West Ger
Conference Title: Waste Management '83, Proceedings of the Symposium: Waste Isolation in the U. S. , Technical Programs and Public Education. (Volume 2: Waste Regulations and Programs: High-Level Waste.)
Conference Location: Tucson, Ariz, USA Conference Date: 1983 Feb 27-Mar 3
Sponsor: ANS, LaGrange Park, Ill, USA; ASME, Radwaste Systems Committee, New York, NY, USA; Univ of Arizona, Coll of Engineering, Tucson, Ariz, USA; DOE, Washington, DC, USA
E.I. Conference No.: 04339
Source: Publ by Arizona Board of Regents, Ariz, USA p 173-176
Publication Year: 1983
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8407

Record - 125

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01429259 E.I. Monthly No: EIM8307-049619
Title: MEDICAL COMMUNITY ROLE IN RADIOLOGICAL WASTE DISPOSAL.
Author: Patton, Dennis D.
Conference Title: Waste Management '82: Waste Isolation in the U. S. and Elsewhere, Technical Programs and Public Communications. (Volume 1: General.)
Conference Location: Tucson, Ariz, USA Conference Date: 1982 Mar 8-11
Sponsor: ANS, La Grange Park, Ill, USA; ASME Radwaste Systems Committee, New York, NY, USA; Univ of Arizona, Coll of Engineering, Tucson, Ariz, USA; DOE, Washington, DC, USA
E.I. Conference No.: 02585
Source: Proceedings of the Symposium on Waste Management 1982. Publ by Arizona Board of Regents, Ariz, USA p 135-141
Publication Year: 1982
CODEN: PSWMDY ISSN: 0275-6196
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8307

Record - 126

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01429249 E.I. Monthly No: EIM8307-049609
Title: FRENCH PRACTICE AND TRENDS IN THE TREATMENT AND CONDITIONING OF PWR LIQUID EFFLUENTS AND SOLID WASTES.
Author: Celeri, Jacques J.; Pottier, Paul E.; Sousselier, Y.
Corporate Source: Electricite de France, Service, Etudes et Projets, Thermiques et Nucleaires, Paris-La Defense, Fr
Conference Title: Waste Management '82: Waste Isolation in the U. S. and

Elsewhere, Technical Programs and Public Communications. (Volume 1: General.)
Conference Location: Tucson, Ariz, USA Conference Date: 1982 Mar 8-11
Sponsor: ANS, La Grange Park, Ill, USA; ASME Radwaste Systems Committee, New York, NY, USA; Univ of Arizona, Coll of Engineering, Tucson, Ariz, USA; DOE, Washington, DC, USA
E.I. Conference No.: 02585
Source: Proceedings of the Symposium on Waste Management 1982. Publ by Arizona Board of Regents, Ariz, USA p 15-37
Publication Year: 1982
CODEN: PSWMDY ISSN: 0275-6196
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8307

Record - 127

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01390413 E.I. Monthly No: EI8309080622 E.I. Yearly No: EI83103210
Title: REMOVAL OF RADIONUCLIDES OF TRANSITION METAL ELEMENTS FROM LOW-LEVEL LIQUID WASTE BY ELECTROLYTIC FLOTATION METHOD.
Author: Nakamura, Haruto; Sato, Toshikazu; Miyazaki, Kazuhide; Kubota, Masumitsu
Corporate Source: Japan Atomic Energy Research Inst, Ibaraki, Jpn
Source: Radioactive Waste Management and the Nuclear Fuel Cycle v 3 n 1 Sep 1982 p 17-27
Publication Year: 1982
CODEN: RWMCD4
Language: ENGLISH
Journal Announcement: 8309
Abstract: An electrolytic flotation method with aluminum alloy anode has been studied to remove nuclides of transition metal elements, such as transuranium elements and **6**0Co, from low-level liquid waste. Optimum conditions have been determined by using solutions containing radioactive tracers and liquid waste from JAERI Reprocessing Test Plant which contains a small amount of Pu. Presence of sodium salts is preferred in a concentration of less than 0. 1 mole/1 in order to facilitate this process. The waste is adjusted to be between pH 4 and pH 8 before electrolysis. This method is found to be suitable for final treatment to remove transition metal elements remaining after usual treatments.

Record - 128

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01259696 E.I. Monthly No: EIM8212-056237
Title: CO-DISPOSAL FACILITY FOR HAZARDOUS AND LOW-LEVEL RADIOACTIVE WASTES.
Author: Ferringo, D. P.; Kyriss, K. P.; Nehila, W. J.
Corporate Source: Gilbert Assoc Inc, Reading, Pa, USA
Conference Title: Proceedings of 1982 National Waste Processing Conference, 10th Biennial Conference: Meeting the Challenge.
Conference Location: New York, NY, USA Conference Date: 1982 May 2-5
Sponsor: ASME Solid Waste Process Div, New York, NY, USA
E.I. Conference No.: 00975

Source: Proceedings of National Waste Processing Conference 10th. Publ by ASME, New York, NY, USA p 161-168
Publication Year: 1982
CODEN: PWPCDV
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8212

Record - 129

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01225741 E.I. Monthly No: EIM8207-008869
Title: PRELIMINARY EVALUATION OF ALTERNATIVE FORMS FOR IMMOBILIZATION OF HANFORD HIGH-LEVEL WASTES.
Author: Schulz, W. W.; Beary, M. M.; Gallagher, S. A.; Higley, B. A.; Johnston, R. G.; Kupfer, M. J.; Palmer, R. A.
Corporate Source: Rockwell Hanford Oper, Richland, Wash, USA
Conference Title: Scientific Basis for Nuclear Waste Management, Volume 3. (Proceedings of the 3rd International Symposium, held as part of the Annual Meeting of the Materials Research Society.)
Conference Location: Boston, Mass, USA Conference Date: 1980 Nov 17-20
E.I. Conference No.: 00226
Source: Scientific Basis for Nuclear Waste Management v 3. Publ by Plenum Press, New York, NY, USA and London, Engl p 67-74
Publication Year: 1981
CODEN: SBNMD5 ISBN: 0-306-40803-1
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8207

Record - 130

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01225732 E.I. Monthly No: EIM8207-008860
Title: SCIENTIFIC BASIS FOR NUCLEAR WASTE MANAGEMENT, VOLUME 3.
Author: Moore, John G. (Ed.); Bryant, Ernest A. (Ed.); Ramspott, Lawrence D. (Ed.); Duguid, James O. (Ed.); Ross, Wayne A. (Ed.); Northrup, Clyde J. M. Jr. (Ed.); Steger, James G. (Ed.); Topp, Stephen V. (Ed.)
Corporate Source: Oak Ridge Natl Lab, Tenn, USA
Conference Title: Scientific Basis for Nuclear Waste Management, Volume 3. (Proceedings of the 3rd International Symposium, held as part of the Annual Meeting of the Materials Research Society.)
Conference Location: Boston, Mass, USA Conference Date: 1980 Nov 17-20
E.I. Conference No.: 00226
Source: Scientific Basis for Nuclear Waste Management v 3. Publ by Plenum Press, New York, NY, USA and London, Engl 632 p
Publication Year: 1981
CODEN: SBNMD5 ISBN: 0-306-40803-1
Language: English
Document Type: CP; (Conference Proceedings)
Journal Announcement: 8207

Record - 131

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01197212 E.I. Monthly No: EI8207060090 E.I. Yearly No: EI82050485
Title: SCIENTIFIC BASIS FOR NUCLEAR WASTE MANAGEMENT, VOLUME 3, PROCEEDINGS OF THE 3RD INTERNATIONAL SYMPOSIUM, 1980.
Author: Moore, John G. (Ed.); Bryant, Ernest A. (Ed.); Ramspott, Lawrence D. (Ed.); Duguid, James O. (Ed.); Ross, Wayne A. (Ed.); Northrup, Clyde J. M. Jr. (Ed.); Steger, James G. (Ed.); Topp, Stephen V. (Ed.)
Corporate Source: Oak Ridge Natl Lab, Tenn, USA
E.I. Conference No.: 00226
Source: Scientific Basis for Nuclear Waste Management v 3, Proc of the 3rd Int Symp, at Annu Meet of Mater Res Soc, Boston, Mass, USA, Nov 17-20 1980. Publ by Plenum Press, New York, NY, USA and London, Engl, 1981 632 p
Publication Year: 1980
CODEN: SBNMD5 ISSN: 0275-0112
Language: ENGLISH
Journal Announcement: 8207
Abstract: Proceedings include 77 papers that represent research programs from a number of universities and government institutions in eight countries. The 77 papers published in the proceedings are divided into 11 chapters. These encompass various aspects of high- and non-high-level radioactive waste management ranging from repository characterization and waste from production to product and performance assessment. Technical and professional papers from this conference are indexed with the conference code no. 00226 in the Ei Engineering Meetings (TM) database produced by Engineering Information, Inc.

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<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01102958 E.I. Monthly No: EI8203025978 E.I. Yearly No: EI82111510
Title: HYDROLOGICAL STUDIES POSSIBLE WITH RADIONUCLIDES OF BOMB-TEST, PRIMORDIAL AND NATURAL ORIGIN TO COMPLEMENT INVESTIGATIONS USING MANUFACTURED RADIOTRACERS.
Author: White, K. E.
Source: Water Pollution Control (Maidstone, England) v 80 n 4 1981 p 498-512
Publication Year: 1981
CODEN: WPOCAH ISSN: 0043-129X
Language: ENGLISH
Journal Announcement: 8203
Abstract: The paper presents a review of the literature and reports on a range of passive methods which have become feasible because of recent advances in solid state physics and semiconductor technology which have improved both the detection of nuclear radiation and the data processing. 25 refs.

Record - 133

<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01063211 E.I. Monthly No: EI8112103273 E.I. Yearly No: EI81078646
Title: REMOVAL OF RADIONUCLIDES FROM THE WATER-SOLUBLE FRACTION OF HANFORD NUCLEAR DEFENSE WASTES.

Author: Strachan, Denis M.; Schulz, Wallace W.
Corporate Source: Battelle, Pac Northwest Lab, Richland, Wash
Source: Proc Symp Waste Manage Waste Manage '80, The State of Waste Disposal Technol, Mill Tailings, and Risk Anal Models, v 2, Tucson, Ariz, Mar 10-14 1980. Publ by Univ of Ariz, Coll of Eng, Tucson, 1980 p 551-567
Publication Year: 1980
CODEN: PSWMDY ISSN: 0275-6196
Language: ENGLISH
Journal Announcement: 8112
Abstract: The current Hanford Waste Management Program has operated since 1968 to remove the bulk of the long-lived heat emitters **9**0Sr and **1**3**7Cs from stored high-level wastes. The liquid waste remaining after removal of **9**0Sr and **1**3**7Cs is returned to underground tanks for eventual evaporation to damp solid salt cake. Approximately 95,000 m**3 of salt cake and 49,000 m**3 of " sludge " will eventually accumulate in approximately 50 underground single-shell tanks. One alternative for long-term management of high-level Hanford wastes involves retrieval, after a yet-to-be determined interim storage time, conversion to more immobile forms, and terminal storage in a suitable geologic repository. Another alternative for long-term management of salt cake and residual liquid involves removing most of the long-lived radionuclides and many of the shorter-lived ones from these wastes. This paper describes conditions and results of recent hot cell tests of the complete Hanford Radionuclide Removal Process. These advanced tests, made with actual residual liquid containing large concentrations of ethylenediaminetetracetic acid (EDTA) and other organic compounds, provided a rigorous and convincing proof of the process flowsheet. 16 refs.

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<DIALOG File 8: (c) 1994 Engineering Info. Inc.>
01053095 E.I. Monthly No: EI8111091883 E.I. Yearly No: EI81048338
Title: DEVELOPMENT OF AN ION-EXCHANGE PROCESS FOR REMOVING CESIUM FROM HIGH-LEVEL RADIOACTIVE LIQUID WASTES.
Author: Baumgarten, P. K.; Wallace, R. M.; Whitehurst, D. A.; Steed, J. M.
Corporate Source: DuPont, Aiken, SC
Source: Scientific Basis for Nuclear Waste Management v 2, Proc of the Int Symp, Boston, Mass, Nov 27-30 1979. Publ by Plenum Press, New York, NY, 1980 p 875-884
Publication Year: 1979
CODEN: SBNMD5 ISSN: 0275-0112
Language: ENGLISH
Journal Announcement: 8111
Abstract: A process was developed to solidify and isolate the biologically hazardous radionuclides from approximately 20 million gallons of alkaline high level radioactive waste accumulated at the Savannah River Plant and being stored in large underground tanks. The waste consists mainly of liquid waste supernate, a damp sodium salt cake and a gelatinous, insoluble sludge. The process involves dissolving the salt cake in water, separating it from the sludge, washing the sludge and adding the washings to the dissolved salt cake. The aqueous portion is then treated by ion exchange to remove cesium-137, plutonium and other actinides and soluble strontium-90. 6 refs.