Crude Oil Fingerprinting Analysis

A thorough introduction to environmental monitoring in the oil and gas industry Analytical Techniques in the Oil and Gas Industry for Environmental Monitoring examines the analytical side of the oil and gas industry as it also provides an overall introduction to the industry. You'll discover how oil and natural gas are sourced, refined, and processed. You can learn about what's produced from oil and natural gas, and why evaluating these sourced resources is important. The book discusses the conventional analyses for oil and natural gas feeds, along with their limitations. It offers detailed descriptions of advanced analytical techniques that are commercially available, plus explanations of gas and oil industry equipment and instrumentation. You'll find technique descriptions supplemented with a list of references as well as with real-life application examples. With this book as a reference, you can prepare to apply specific analytical methods in your organization's lab environment. Analytical Techniques can also serve as your comprehensive resource on key techniques in the characterization of oil and gas samples, within both refinery and environmental contexts. Understand of the scope of oil and gas industry techniques available Consider the benefits and limitations of each available process Prepare for applying analytical techniques in your lab See real examples and a list of references for each technique Read descriptions of off-line analytics, as well as on-line and process applications As a chemist, engineer, instructor, or student, this book will also expand your awareness of the role these techniques have in environmental monitoring and environmental impact assessments.

International experts in the field of oil spill response, including reprsentatives from 26 NATO countries, participated in a workshop in Canada to discuss their experience in the development and application of current and emerging technologies for oil spill response in the marine environment. These presentations which form the basis of chapters in this book provide a practical viewpoint of methods used to deal with oil spills under the variety of environmental conditions found in the marine environment. In particular, focus is given to the evaluation of oil spill countermeasures for use under arctic conditions in light of anticipated regional increases in marine traffic (e.g. Northwest Passage) and industrial activities (e.g. offshore oil and gas exploration) in the future. This book provides a timely international perspective on applied research and development, technology transfer, and "lessons learned" from field trials and actual case studies associated with recent spill events. Topics include Preparedness/Contingency Planning, (Eco-terrorism); Oil Spill Fate and Transport (Environmental Persistence, Remote Sensing, modelling, Biodegradation), Biological Effects (Environmental Effects Monitoring and Environmental Risk Assessment); and Operational Response (Containment/Recovery Treating Agents, Shoreline Cleanup, In-situ Burning, Emerging Response Strategies). This book provides a synopsis as to the methods currently employed to deals with spills and an insight on future technologies under development.

Diluted bitumen has been transported by pipeline in the United States for more than 40 years, with the amount increasing recently as a result of improved extraction technologies and resulting increases in production and exportation of Canadian diluted bitumen. The increased importation of Canadian diluted bitumen to the United States has strained the existing pipeline capacity and contributed to the expansion of pipeline mileage over the past 5 years. Although rising North American crude oil production has resulted in greater transport of crude oil by rail or tanker, oil pipelines continue to deliver the vast majority of crude oil supplies to U.S. refineries. Spills of Diluted Bitumen from Pipelines examines the current state of knowledge and identifies the relevant properties and characteristics of the transport, fate, and effects of diluted bitumen and commonly transported crude oils when spilled in the environment. This report assesses whether the differences between properties of diluted bitumen and those of other commonly transported crude oils warrant modifications to the regulations governing spill response plans and cleanup. Given the nature of pipeline operations, response planning, and the oil industry, the recommendations outlined in this study are broadly applicable to other modes of transportation as well.

Full Title: Water OCo Pollution, Biotechnology OCo Transgenic Plant Vaccine, Energy, Black Sea Pollution, AIDS OCo Mother-Infant HIV Transmission, Transmissible Spongiform Encephalopathy, Limits of Development OCo Megacities, Missile Proliferation and Defense OCo Information Security, Cosmic Objects, Desertification, Carbon Sequestration and Sustainability, Climatic Changes, Global Monitoring of Planet, Mathematics and Democracy, Science and Journalism, Permanent Monitoring Panel Reports, Water for Megacities Workshop, Black Sea Workshop, Transgenic Plants Workshop, Research Resources Workshop, Mother-Infant HIV Transmission Workshop, Sequestration and Desertification Workshop, Focus Africa Workshop. Contents: Opening Session (T D Lee, K M B Siegbahn, A Zichichi, J K-C Ma, D Bodansky, R G Will, W P T James, C M Wilfert, A D Lopez & L G Everett); Water OCo

Pollution (A A Keller, S M Hassanizadeh & D I Norman); Biotechnology OCo Transgenic Plant Vaccine (F Sala, R-X Fang, J-P Kraehenbuhl & C J Arntzen); Energy (J Ongena, A Yu Gagarinski & Y P Huo); Pollution OCo Black Sea (V I Mikhailov, I Salihoglu & K Thompson); AIDS OCo Mother-Infant HIV Transmission (G de Th(r), F Barre-Sinoussi, M F Rea, H Pratomo & L Wood); Transmissible Spongiform Encephalopathy (P Brown & M Ricketts); Limits of Development OCo Megacities (W J Cosgrove, K C Sivaramakrishnan, J M Borthagaray & G G Serra); Missile Proliferation and Defense OCo Information Security (L Wood, V Tsigichko, A Kroutskikh, A Lehmann, A Piontkovsky & G Canavan); Cosmic Objects (W F Huebner, A Cellino, A F Cheng & J M Greenberg); Desertification, Carbon Sequestration and Sustainability (N J Rosenberg & L L Tiezen); Climatic Changes OCo Cosmic Objects, Global Monitoring of Planet, Mathematics and Democracy, Science and Journalism (T Dyson, W M Washington, R Walgate, K C Sivaramakrishnan & D R O Morrison); Permanent Monitoring Panel Reports (K M B Siegbahn, D Johnson, R Ragaini, Z Rudzikas, G Palshin, H Schubert, J Pozela & G de Th(r)); Megacities Workshop OCo Water as a Limit to Development (W J Cosgrove, J M Borthagaray, A G Pozo, G G Serra, P F Ricci, K C Sivaramakrishnan, I A Amer & G O Rogers); Workshop on Environmental Impacts of Oil Pollution in the Black Sea (R Ragaini, V Mikhailov, L Mirianashvili, I Salihoglu, K Thompson, E Okandan, D Dorogan & V Ragaini); Transgenic Plants as Vaccines: Impact on Developing Countries Workshop (G Levi, C J Arntzen, M Pezzotti, J-P Kraehenbuhl, J K-C Ma, Z Eshhar, Z-K Xu, R-X Fang & F Sala); Research Resources Workshop (W Sprigg, P Uhlir & G Tallia); Mother-Infant HIV Transmission Workshop (G de Th(r), C M Wilfert, H Pratomo, M F Rea, R ZetterstrAm, D Birx & A Coutsoudis); Linking the Conventions: Soil Carbon Sequestration and Desertification Control Workshop (L Olsson & P Bartel); Limits of Development: Focus Africa (C A Reynolds, J F Kuka, M Farah & M Diop). Readership: Ecologists, meteorologists, biotechnologists, AIDS researchers, doctors, physicists and social scientists."

Standard Handbook Oil Spill Environmental Forensics: Fingerprinting and Source Identification, Second Edition, provides users with the latest information on the tools and methods that have become popular over the past ten years. The book presents practitioners with the latest environmental forensics techniques and best practices for quickly identifying the sources of spills, how to form an effective response, and how to determine liability. This second edition represents a complete overhaul of the existing chapters, and includes 13 new chapters on methods and applications, such as emerging application of PAHi isomers in oil spill forensics, development and application of computerized oil spill identification (COSI), and fingerprinting of oil in biological and passive sampling devices. Contains 13 new chapters on methods and applications, including emerging application of PAH isomers in oil drill forensics, the development and application of computerized oil spill identification (COSI), and the fingerprinting of oil in biological and passive sampling devices Presents the latest technology and methods in biodegradation of oil hydrocarbons and its implications for source identification, surface trajectory modeling of marine oil spills, and identification of hydrocarbons in biological samples for source determination Contains new case studies to illustrate key applications, methods, and techniques

Oil Spill Science and Technology, Second Edition, delivers a multi-contributed view on the entire chain of oil-spill related topics from oil properties and behaviors, to remote sensing through the management side of contingency planning and communicating oil spill risk perceptions. Completely new case studies are included with special attention to the Deepwater Horizon event, covering the impacts of wetlands and sand beaches, a mass balance approach, and the process for removing petroleum chemicals still trapped near Alabama beaches. Other new information on lingering oil left behind from the Exxon Valdez spill, the emergency system used in the Prestige incident, and coverage on the Heibei Spirit spill in Korea are also included. This updated edition combines technology with case studies to identify the current state of knowledge surrounding oil spills that will encourage additional areas of research that are left to uncover in this critical sector of the oil and gas industry. Updated with new chapters on risk analysis and communication, contingency planning, restoration, and case studies Supported with technological advances evolved from the Deepwater Horizon/BP oil tragedy and events in the Arctic/Antarctic Multi-contributed from various industry experts to provide an extensive background in technical equipment and worldwide procedures used today

Petroleum Sedimentology

Purpose, Sampling, Analysis, and Interpretation

Analytical Techniques in the Oil and Gas Industry for Environmental Monitoring

Handbook of Oil Spill Science and Technology

Advances in Marine Biology

Fate and Effects in Alaskan Waters

(In 2 Volumes)
Advances in Energy Science and Equipment Engineering
Fingerprinting and Source Identification
Hydrocarbon Contaminated Soils
A Practical Guide

Published since 1959, Advances in Applied Microbiology continues to be one of the most widely read and authoritative review sources in microbiology. The series contains comprehensive reviews of the most current research in applied microbiology. Recent areas covered include bacterial diversity in the human gut, protozoan grazing of freshwater biofilms, metals in yeast fermentation processes and the interpretation of host-pathogen dialogue through microarrays. Eclectic volumes are supplemented by thematic volumes on various topics, including Archaea and sick building syndrome. Impact factor for 2008: 1.658. Contributions from leading authorities and industry experts Informs and updates on all the latest developments in the field Reference and guide for scientists and specialists involved in advancements in applied microbiology

Oil spills are a serious marine disaster. Oil spill accidents usually occur in shipping, ports and offshore oil development. Although most are emergent events, once an oil spill occurs, it will cause great harm to the marine ecological environment, and bring direct harm to the economic development along the affected coast as well as to human health and public safety. Information Engineering of Emergency Treatment for Marine Oil Spill Accidents analyzes the causes of these accidents, introduces China's emergency response system, discusses technologies such as remote sensing and monitoring of oil spill on the sea surface and oil fingerprint identification, studies model prediction of marine oil spill behavior and fate and emergency treatment technologies for oil spills on the sea surface, and emphatically introduces the emergency prediction and warning system for oil spills in the Bohai Sea as well as oil spill-sensitive resources and emergency resource management systems. Features: The status quo and causes of marine oil spill pollution, as well as hazards of oil spill on the sea. The emergency response system for marine oil spills. Model-based prediction methods of marine oil spills. A series of used and developing emergency treatments of oil spill on the sea. This book serves as a reference for scientific investigators who want to understand the key technologies for emergency response to marine oil spill accidents, including the current level and future development trend of China in this field.

Petroleum Geochemistry and Exploration in the Afro-Asian Region includes 29 papers presented at the 6th International Conference on Petroleum Geochemistry and Exploration in the Afro-Asian Region. Petroleum geochemistry has played a crucial role in determining effective source rocks, classifying petroleum systems and delineating the geneses of conventional and unconventional oils and gases. By reference to petroleum geochemistry, the dynamic process of petroleum accumulations can be traced, which helps determining the prospecting target areas and reducing the exploration risk. Petroleum exploration is also enhanced by basin modeling and petroleum system classification, through the application of geochemical data. There has been significant progress in petroleum exploration due to the application of molecular geochemistry and biomarkers. Advances in this area include the identification and application of age-indicating biomarkers, the application of diamondoids in appraising the cracking level of crude oils, and the application of the compound-specific isotope analysis of biomarkers and the compound-specific isotope analysis of diamondoids (CSIAB and CSIAD) in oil-source correlation and quantitative identification of source-commingled oils. In reconstructing the history of oil and gas accumulations, three other techniques are of note: the dynamics of hydrocarbon generation, the dynamics of carbon isotopic fractionation and the analysis of liquid historical recordings (inclusions). Petroleum Geochemistry and Exploration in the Afro-Asian Region is an invaluable source of information for oil and gas explorers, petroleum geochemists and students of petroleum geochemistry. Researchers in petroleum companies and institutes will also find this publication useful.

Advances in Marine Biology, Volume 81, the latest release in this acclaimed series published since 1963, updates on many topics that appeal to postgraduates and researchers in marine biology, fisheries science, ecology, zoology and biological oceanography, with this release presenting chapters on The Impact of Hydrocarbon Contamination on the Scallop Fishery in Port au Port Bay, Newfoundland, Pharmaceutical and personal care products in marine and coastal environments: facts, challenges and opportunities, Modeling of the Marathassa Oil Spill in the Vancouver Harbour, Characterization of Nitrogen Containing Polycyclic Aromatic Hydrocarbons (PAHs) in Crude Oil and Refined Petroleum Products, and much more. Reviews articles on the latest advances in marine biology Authored by leading figures in their respective fields of study Presents materials that are widely used by managers, students and academic professionals in the marine sciences

Advances in Energy Equipment Science and Engineering contains selected papers from the 2015 International Conference on Energy Equipment Science and Engineering (ICEESE 2015, Guangzhou, China, 30-31 May 2015). The topics covered include:- Advanced design technology- Energy and chemical engineering- Energy and environmental engineering- Energy scien

A Practical Guide to Environmental Crime Scene InvestigationsReleasing contaminants into the environment-whether deliberate or unintentional-can be thought of as a crime against the environment. The role of environmental forensics is to identify and prevent environmental pollution, or crimes. Environmental Forensics Fundamentals: A Practical Guide

Molecular Characterization and Fingerprinting of Vanadyl Porphyrin and Non-porphyrin Compound in Heavy Crude Petroleums Using HPLC-GFAA Analysis
The Fate and Effects of Oil in Freshwater
EPA-600/2
Proceedings of the 6th AAAPG International Conference, Beijing, China, 12-14 October 2004
July 1975 - October 1976

This volume offers a review of measures taken at different levels to prevent oil inputs to the North Sea from sources such as shipping and oil installations. A range of data from satellites, remote sensing, aerial surveillance, in-situ monitoring, oil spill sampling and beached bird surveys presents a comprehensive portrait of trends in oil pollution over many years. Topics include Bonn Agreement-based actions to eliminate illegal and accidental pollution from ships, OSPAR monitoring of oil installations, EMSA CleanSeaNet activities, and an internationally approved common standard for oil spills presented by the Bonn-OSINet. A chapter on the role of the IMO in preventing oil pollution from ships provides an international context, while others discuss efforts being made at the national level. A decadal review of the state of the North Sea prepared by OSPAR supports the view that there has been a significant reduction of oil inputs to the sea. This thorough review addresses national and international agencies and government bodies, as well as policymakers and practitioners in the fields of shipping, ports and terminals, oil extraction and marine management. Further, it provides researchers with essential reference material on tools and techniques for monitoring oil pollution and offers a valuable resource for undergraduate and post-graduate students in the field of marine oil pollution.
Oil Spill Environmental Forensics Case Studies includes 34 chapters that serve to present various aspects of environmental forensics in relation to “real-world oil spill case studies from around the globe. Authors representing academic, government, and private researcher groups from 14 countries bring a diverse and global perspective to this volume. Oil Spill Environmental Forensics Case Studies addresses releases of natural gas/methane, automotive gasoline and other petroleum fuels, lubricants, vegetable oils, paraffin waxes, bitumen, manufactured gas plant residues, urban runoff, and, of course, crude oil, the latter ranging from light Bakken shale oil to heavy Canadian oil sands oil. New challenges surrounding forensic investigations of stray gas in the shallow subsurface, volatiles in air, dissolved chemicals in water (including passive samplers), and biological tissues associated with oil spills are included, as are the effects and long-term oil weathering, long-term monitoring in urbanized and non-urbanized environments, fate and transport, forensic historical research, new analytical and chemical data processing and interpretation methods. Presents cases in each chapter on the application of specific oil spill environmental forensic techniques Features chapters written by international experts from both academia and industry Includes relevant concepts and theories elucidated for each theme
The analysis of contaminated soils is a fairly new field that is growing at an incredible rate. To keep you abreast of the vast amount of new information being generated, this important volume presents leading-edge technology in analysis from some of the world's leading technical experts on the subject. The third volume in a series, this book covers the latest practices in remediation, modeling, sampling ,and analysis, as well as regulatory considerations.
Wavelet analysis and its applications have been one of the fastest-growing research areas in the past several years. Wavelet theory has been employed in numerous fields and applications, such as signal and image processing, communication systems, biomedical imaging, radar, and air acoustics. Active media technology is concerned with the development of autonomous computational or physical entities capable of perceiving, reasoning, adapting, learning, cooperating, and delegating in a dynamic environment. This book captures the essence of the state of the art in wavelet analysis and its applications and active media technology. At the Congress, invited talks were delivered by distinguished researchers, namely Prof John Daugman of Cambridge University, UK; Prof Bruno Torresani of INRIA, France; Prof Victor Wickerhauser of Washington University, USA, Prof Ning Zhong of the Maebashi Institute of Technology, Japan; Prof John Yen of Pennsylvania State University, USA; and Prof Sankar K Pal of the Indian Statistical Institute, India.
Full Title: Water — Pollution, Biotechnology — Transgenic Plant Vaccine, Energy, Black Sea Pollution, AIDS — Mother-Infant HIV Transmission, Transmissible Spongiform Encephalopathy, Limits of Development — Megacities, Missile Proliferation and Defense — Information Security, Cosmic Objects, Desertification, Carbon Sequestration and Sustainability, Climatic Changes, Global Monitoring of Planet, Mathematics and Democracy, Science and Journalism, Permanent Monitoring Panel Reports, Water for Megacities Workshop, Black Sea Workshop, Transgenic Plants Workshop, Research Resources Workshop, Mother-Infant HIV Transmission Workshop, Sequestration and Desertification Workshop, Focus Africa Workshop Contents: Opening Session (T D Lee, K M B Siegbahn, A Zichichi, J K-C Ma, D Bodansky, R G Will, W P T James, C M Wilfert, A D Lopez & L G Everett)Water — Pollution (A A Keller, S M Hassanizadeh & D I Norman)Biotechnology — Transgenic Plant Vaccine (F Sala, R-X Fang, J-P Kraehenbuhl & C J Arntzen)Energy (J Ongena, A Yu Gagarinski & Y P Huo)Pollution — Black Sea (V I Mikhailov, I Salihoglu & K Thompson)AIDS — Mother-Infant HIV Transmission (G de Thé, F Barre-Sinoussi, M F Rea, H Pratomo & L Wood)Transmissible

Spongiform Encephalopathy (P Brown & M Ricketts)Limits of Development — Megacities (W J Cosgrove, K C Sivaramakrishnan, J M Borthagaray & G G Serra)Missile Proliferation and Defense — Information Security (L Wood, V Tsigichko, A Kroutskikh, A Lehmann, A Piontkovsky & G Canavan)Cosmic Objects (W F Huebner, A Cellino, A F Cheng & J M Greenberg)Desertification, Carbon Sequestration and Sustainability (N J Rosenberg & L L Tiezen)Climatic Changes — Cosmic Objects, Global Monitoring of Planet, Mathematics and Democracy, Science and Journalism (T Dyson, W M Washington, R Walgate, K C Sivaramakrishnan & D R O Morrison)Permanent Monitoring Panel Reports (K M B Siegbahn, D Johnson, R Ragaini, Z Rudzikas, G Palshin, H Schubert, J Pozela & G de Thé)Megacities Workshop — Water as a Limit to Development (W J Cosgrove, J M Borthagaray, A G Pozo, G G Serra, P F Ricci, K C Sivaramakrishnan, I A Amer & G O Rogers)Workshop on Environmental Impacts of Oil Pollution in the Black Sea (R Ragaini, V Mikhailov, L Mirianashvili, I Salihoglu, K Thompson, E Okandan, D Dorogan & V Ragaini)Transgenic Plants as Vaccines: Impact on Developing Countries Workshop (G Levi, C J Arntzen, M Pezzotti, J-P Kraehenbuhl, J K-C Ma, Z Eshhar, Z-K Xu, R-X Fang & F Sala)Research Resources Workshop (W Sprigg, P Uhlir & G Tallia)Mother-Infant HIV Transmission Workshop (G de Thé, C M Wilfert, H Pratomo, M F Rea, R Zetterström, D Birx & A Coutsoudis)Linking the Conventions: Soil Carbon Sequestration and Desertification Control Workshop (L Olsson & P Bartel)Limits of Development: Focus Africa (C A Reynolds, J F Kuka, M Farah & M Diop) Readership: Ecologists, meteorologists, biotechnologists, AIDS researchers, doctors, physicists and social scientists. Keywords:Nuclear Strategy;Peace Technology;Pollution;Water;Nuclear War;Planetary Emergencies

Environmental forensics is the application of scientific techniques for the purpose of identifying the source and age of a contaminant. Over the past several years, this study has been expanding as a course of study in academia, government and commercial markets. The US Environmental Protection Agency (EPA), Federal Bureau of Investigation (FBI), and Federal Emergency Management Agency (FEMA) are among the governmental agencies that utilize the study of environmental forensics to ensure national security and to ensure that companies are complying with standards. Even the International Network for Environmental Compliance and Enforcement (INECE), a group supported by the European Commission and the World Bank, utilizes the study of environmental forensics as it applies to terror threats. This title is a hands-on guide for environmental scientists, engineers, consultants and industrial scientists to identify the origin and age of a contaminant in the environment and the issues involved in the process. An expansion of the authors' first title with Academic Press, Introduction to Environmental Forensics, this is a state-of-the-art reference for those exploring the scientific techniques available. Up-to-date compendium for referencing forensic techniques unique to particular contaminants. International scientific unit system Contributors from around the world providing international examples and case studies.

Reservoir Appraisal : Reviewed Proceedings of the Second Society of Core Analysts European Core Analysis Symposium, London, UK, 20-22 May 1991
Oil Spill Environmental Forensics Case Studies
Risk Assessment as a Tool for Water Resources Decision-Making in Central Asia
The Proceedings of the International Computer Congress 2004 on Wavelet Analysis and Its Applications, and Active Media Technology
Chongqing, China, 29-31 August 2006
Petroleum Hydrocarbons
Standard Handbook Oil Spill Environmental Forensics
Spills of Diluted Bitumen from Pipelines
Oil Spill Response: A Global Perspective
Chemistry and Analysis of Hydrocarbons in the Environment
Oil Spill Science and Technology

Good,No Highlights,No Markup,all pages are intact, Slight Shelfwear,may have the corners slightly dented, may have slight color changes/slightly damaged spine.

Although a lot is known about the influence of Polycyclic Aromatic Hydrocarbons (PAHs) on the marine environment, there are still many unanswered questions. Petrogenic Polycyclic Aromatic Hydrocarbons in the Aquatic Environment is a monograph that sums up basic knowledge about this topic while highlighting current research practices useful in studying the aquatic environment. It starts with an introduction to effect of PAH in the marine environment. It then proceeds to provide information on techniques to monitor PAH levels and investigate the affected environment in order to control the subsequent negative effects. Chapters also detail the carcinogenic and endocrine effects of PAHs on fish as well as the degradation of PAHs by microorganisms. This monograph is a useful reference for environmental science students and professionals learning about the role of PAH in the marine environment.

Knowledge of the principles and methods of petroleum sedimentology is essential for oil and gas exploration and exploitation. This book is designed as an introductory text for students in petroleum geology and applied sedimentology as well as a useful companion for advanced technicians, explorationists, geophysicists and petroleum engineers. Source rock, lithology and type of trap define the quality of a hydrocarbon accumulation. This interrelationship is exemplified by seven case histories worldwide (NW Europe, Saudi Arabia, U.S.A., Mexico, CIS, China). Moreover, successful exploitation and enhanced oil recovery often depend on an adequate knowledge of the sedimentology of a reservoir. Photographs illustrate macroscopic and microscopic aspects of source rocks as well as reservoir sandstones and limestones that are most important for hydrocarbon exploration. A comprehensive list of references encourages further study.

Freshwater is a most precious natural resource. To the developed world, refreshing, untainted water is presumed from the taps of millions of householders. The many rivers, streams, ponds and lakes are for the pleasure and enjoyment of the leisure hours of urban dweller and rural inhabitant alike-boating, fishing, sailing and swimming come readily to mind. To the agriculturalist and industrialist it is often the cornerstone of their enterprises. To the environmentalist and naturalist it is the basis of the wetland and open water communities which provide the habitats for a wealth of flora and fauna. In the developing world the emphasis is very different. A spring, well, river or swamp is the basis of day-to-day survival for family, livestock and crops. Subsistence fishing is often the major source of protein. Freshwater may be the unwitting purveyor of disease but with good management this can be regulated and monitored. But Man by nature, is a selfish species who tends to have scant regard for the quality of life of future generations. The much publicised destruction of forests is a notorious example. Not so well-known is the pressure on one of the world's most fragile ecosystems, the wetlands.

Risk analysis and prevention. Oil properties oil physiscal properties. Oil composition and properties. Oil analysis. oil behavior. Modeling. oil spill on land. Effects of oil. Natural dispersion. Cold region spills. Case studies.

This book details three main topics: the screening and characterization of hydrocarbons from air, soil and water; technologies in the biodegradation of hydrocarbons; and the bioconversion of hydrocarbons for biofuel/chemicals, as well as recent developments in the remediation of hydrocarbons and their environmental benefits. The first section focuses on screening methods, qualitative and quantitative analysis of hydrocarbons from soil, air and water environments, speciation of hydrocarbons, and natural bioremediation strategies in such environments. The second section examines technologies for removing hydrocarbon contaminants from various environments, especially advanced technologies for the removal of hydrocarbons and in-situ and ex-situ remediation strategies and problems, as well as concrete case studies. The last section, covering the bioconversion of hydrocarbons for biofuel/chemicals, highlights the biochemicals and bioproducts developed from hydrocarbons, with a particular focus on biochemical and chemical technologies used to produce biopolymers, biofuel precursors and commodity chemicals from hydrocarbons.

Petrogenic Polycyclic Aromatic Hydrocarbons in the Aquatic Environment: Analysis, Synthesis, Toxicity and Environmental Impact

Petroleum Geochemistry and Exploration in the Afro-Asian Region

Water — Pollution

Oil Pollution in the North Sea

Biodegradation and Bioconversion of Hydrocarbons

Proceedings of the International Conference on Energy Equipment Science and Engineering, (ICEESE 2015), May 30-31, 2015, Guangzhou, China

Information Engineering of Emergency Treatment for Marine Oil Spill Accidents

Characterization of Spilled Oil Samples

Advances in Core Evaluation II

25th Session : "E. Majorana" Centre for Scientific Culture, Erice, Italy, 19-24 August, 2000

Oil Spill Environmental Forensics

Reflecting the rapid progress in cleanup technology since the previous edition, this revised and expanded third edition of The Basics of Oil Spill Cleanup covers current cleanup techniques, how oil spills are measured and detected, and the properties of the oil and its long-term fate in the environment. It also deals with why, how often, and where oil spills occur as well as the chemical composition and physical properties of various oil types. The chapters describe surface and remote sensing technologies used to detect and track oil slicks, and methods to contain oil on water (booms and ancillary equipment) and recover oil from the water surface (skimmers, sorbents, and manual recovery). The author discusses the use of pumps, in-situ burning, and chemical agents, such as dispersants, for oil removal. He also addresses oil-contaminated shorelines and the effects and behavior of oil on different ecosystems and the various organisms within them. Written for the general public as well as those directly involved with oil spill cleanup, this edition provides broad, up-to-date knowledge of the cleanup and control of spills.

Introduces the reader to the production of the products in arefinery • Introduces the reader to the types of test methodsapplied to petroleum products, including the need forspecifications • Provides detailed explanations for accuratelyanalyzing and characterizing modern petroleum products • Rewritten to include new and evolving testmethods • Updates on the evolving test methods and new testmethods as well as the various environmental regulations arepresented

With demand for petroleum products increasing worldwide, there is a tendency for existing refineries to seek new approaches to optimize efficiency and throughput. In addition, changes in product specifications due to environmental regulations greatly influence the development of petroleum refining technologies. These factors underlie the need for t

Oil Spill Environmental Forensics provides a complete view of the various forensic techniques used to identify the source of an oil spill into the environment. The forensic procedures described within represent various methods from scientists throughout the world. The authors explore which analytical and interpretative techniques are best suited for a particular oil spill project. This handy reference also explores the use of these techniques in actual environmental oil spills. Famous incidents discussed include the Exxon Valdez incident in 1989 and the Guanabara Bay, Brazil 2000. The authors chronicle both the successes and failures of the techniques used for each of these events. Dr. Zhendi Wang is a senior research scientist and Head of Oil Spill Research of Environment Canada, working in the oil and toxic chemical spill research field. He has authored over 270 academic publications and won a number of national and international scientific honors and awards. Dr. Wang is a member of American Chemical Society (ACS), the Canadian Society for Chemistry (CSC), and the International Society of Environmental Forensics (ISEF). International experts show readers the forensic techniques used in oil spill investigations Provides the theoretical basis and practical applications for investigative techniques Contains numerous case studies demonstrating proven technique One method to access unconventional, heavy-oil and natural bitumen resources as well as waterflood residual

oil is to apply in situ combustion (ISC) to oxidize in place a small fraction of the hydrocarbon thereby providing heat to reduce oil viscosity and pressure that enhances recovery. ISC is also attractive because it provides the opportunity to upgrade oil in-situ by increasing the API gravity and decreasing, for instance, sulfur content. Experimental analysis of crude-oil oxidation kinetics provides parameters, such as activation energy, for modeling and optimization of ISC processes. The complex nature of petroleum as a multi-component mixture and multi-step character of oxidation reactions complicates substantially the kinetic analysis of crude-oil. Isoconversional techniques provide model-free methods for estimating activation energy and naturally deconvolve multi-step reactions. In addition, isoconversional methods are also useful as a screening tool to recognize the burning characteristics of different oils. By using experimentally determined combustion kinetics of different oil samples along with combustion tube results, we show that isoconversional analysis of ramped temperature oxidation data is useful to predict combustion-front propagation. It also provides new insight into the nature of the reactions occurring during ISC. Ramped temperature oxidation (RTO) tests with effluent gas analysis are conducted to probe ISC reaction kinetics along with isothermal coke formation experiments. The role of oxygen during coke formation reactions (i.e., fuel formation for ISC) is investigated using X-ray photoelectron spectroscopy (XPS) of intermediate reaction products. The XPS data is analyzed along with companion RTO experiments to obtain a simplified multi-step reaction scheme. Synthetic cases illustrate the connection between a proposed reaction scheme for oil/matrix pairs and one-dimensional combustion front propagation. Analysis of experimental results illustrate that the reaction scheme is capable of reproducing experimental results including the basic trends in oxygen consumption and carbon oxides production for RTO experiments as a function of heating rate for both good and poor ISC candidates. The combination of XPS and RTO studies indicates that the quality (or reactivity) of coke formed during the process is a function of oxygen presence/absence.