1. Record Nr. UNINA9910818228603321 Sampling and monitoring for the mine life cycle / / edited by Virginia T. Titolo McLemore, Kathleen S. Smith, and Carol C. Russell Pubbl/distr/stampa Englewood, Colorado:,: Society for Mining, Metallurgy & Exploration,, 2014 ©2014 **ISBN** 1-5231-3821-1 0-87335-398-6 Descrizione fisica 1 online resource (814 p.) Management Technologies for Metal Mining Influenced Water:: Volume Collana 628.1/6832 Disciplina Soggetti Mines and mineral resources - Environmental aspects Runoff Groundwater - Pollution Water - Sampling Environmental monitoring Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Cover; Title Page; Copyright; Contents; Preface; Chapter 1: Introduction: 1.1 Synopsis: 1.2 Organization of This Handbook: 1.3 Role of this Handbook: 1.4 Importance of Defining Questions: 1.5 Sampling and Monitoring for Closure; 1.6 Terminology; Chapter 2: Sampling and Monitoring During the Mining Phases: 2.1 Introduction: 2.2 Exploration (Premining/Undisturbed); 2.3 Mine Development; 2.4 Operations; 2.5 Closure/Postclosure; 2.6 Historical, Inactive, and Abandoned Mines; 2.7 Summary; Chapter 3: Sampling Considerations in the Mining Environment; 3.1 Introduction; 3.2 Sampling Overview 3.3 Water Sampling Considerations3.4 Solid Sampling Considerations; 3.5 Drillhole/Borehole Sampling Considerations; 3.6 Biological Sampling Considerations-Aquatic; 3.7 Air Sampling Considerations; 3.8 Quality Assurance/Quality Control Considerations; 3.9 Analytical

Chemistry Considerations; 3.10 Contamination Considerations; 3.11 Sample Preservation, Handling, and Storage Considerations; 3.12

Summary; 3.13 Internet Resources; Chapter 4: Decision Making, Risk, and Uncertainty; 4.1 Introduction; 4.2 Risk; 4.3 International Guidance Document Commonalities; 4.4 Summary

Chapter 5: The Planning Process5.1 Introduction; 5.2 Define Questions and Objectives; 5.3 Develop Site Conceptual Models; 5.4 Conceptual Models for Numerical Modeling; 5.5 Summary; Chapter 6: Sampling and Monitoring Program Implementation; 6.1 Introduction; 6.2 Sampling and Monitoring Plan; 6.3 Sampling Design and the Sampling Plan Document; 6.4 Conduct the Pilot Study; 6.5 Implement the Sampling and Monitoring Plan (Program Implementation); 6.6 Summary; Chapter 7: Data Management, Assessment, and Analysis for Decision Making; 7.1 Introduction; 7.2 Data Management

7.3 Analysis and Assessment of Data7.4 Data Presentation; 7.5 Data Interpretation; 7.6 Decision-Making Process; 7.7 Summary; 7.8 Internet Resources; Chapter 8: Additional Key Issues and Future Research Needs; 8.1 Introduction; 8.2 Slope Stability and Failure; 8.3 Tailings Impoundments; 8.4 Subsidence; 8.5 Mine Openings; 8.6 Climate Change; 8.7 Sampling and Monitoring in Other Countries; 8.8 Future Research Needs and Topics; Index; Appendix 1: Selected Online Resources for Sampling, Monitoring, and Analytical Chemistry Methods;

Appendix 2: Summary of Selected ASTM Methods

Appendix 3: Summary of Field Sampling and Analytical Methods with BibliographyAppendix 4: Examples of Sampling Plans and Quality Assurance Project Plans; Appendix 5: Case Studies of Sampling and Monitoring; Appendix 6: Applications and Examples of Geo-Environmental Models (GEMs) at Mine Sites; Back Cover

Sampling and Monitoring for the Mine Life Cycle provides an overview of sampling for environmental purposes and monitoring of environmentally relevant variables at mining sites. It focuses on environmental sampling and monitoring of surface water, and also considers groundwater, process water streams, rock, soil, and other media including air and biological organisms. The handbook includes an appendix of technical summaries written by subject-matter experts that describe field measurements, collection methods, and analytical techniques and procedures relevant to environmental sampling and moni

Sommario/riassunto