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Nota di contenuto	Cover; Contents; Preface and acknowledgements; 1 Introduction; 1.1 General; 1.2 Historical context; 1.3 The Large Open Pit Project; 1.4 Waste rock dump surveys and databases; 1.4.1 1991 British Columbia waste dump survey; 1.4.2 Database of mine waste dump failures; 1.4.3 British Columbia Ministry of Energy, Mines and Natural Gas database of waste dump incidents; 1.4.4 2013 Large Open Pit waste dump, dragline spoil and stockpile survey; 1.5 Terminology; 1.6 Waste dump and stockpile types; 2 Basic design considerations ; 2.1 General; 2.2 Site selection factors. 2.2.1 Regulatory and social factors2.2.2 Mining factors; 2.2.3 Terrain and geology factors; 2.2.4 Environmental factors; 2.2.5 Geotechnical factors; 2.2.6 Fill material quality factors; 2.2.7 Closure factors; 2.3 Initial site identification; 2.3.1 Preliminary ranking of potential sites; 2.4 Conceptual design; 2.5 Pre-feasibility design; 2.6 Feasibility design; 2.7 Detailed design and construction; 2.8 Operation; 2.9 Closure; 2.10 Study requirements; 3 Waste dump and stockpile stability rating and hazard classification system; 3.1 Introduction. 3.2 Waste dump and stockpile stability rating and hazard classification system3.2.1 Regional setting; 3.2.2 Foundation conditions; 3.2.3

Material quality; 3.2.4 Geometry and mass; 3.2.5 Stability analysis; 3.2.6 Construction; 3.2.7 Performance; 3.2.8 Waste dump and stockpile stability rating; 3.2.9 Waste dump and stockpile hazard class; 4 Site characterisation; 4.1 Introduction; 4.1.1 Conceptual studies; 4.1.2 Planning of field investigations; 4.2 Site characterisation methods; 4.3 Study areas; 4.3.1 Physiography and geomorphology; 4.3.2 Geology; 4.3.3 Natural hazards; 4.3.4 Climate.
4.4 Field investigations for geotechnical conditions4.4.1 Planning of geotechnical field investigations; 4.4.2 Foundation investigations; 4.4.3 Errors and deficiencies in geotechnical site investigations; 5 Material characterisation ; 5.1 Introduction; 5.1.1 Definitions; 5.2 Foundation materials; 5.3 Foundation soils; 5.3.1 Soil description versus classification; 5.3.2 Soil description; 5.3.3 Soil index properties; 5.3.4 Soil classification; 5.3.5 Shear strength; 5.3.6 Hydraulic conductivity; 5.3.7 Consolidation and creep; 5.3.8 Permafrost and frozen ground; 5.4 Foundation bedrock.
5.4.1 Rock characterisation standards and methods5.4.2 Bedrock geology and rock types; 5.4.3 Intact rock strength; 5.4.4 Alteration and weathering; 5.4.5 Discontinuities and fabric; 5.4.6 Rock mass classification; 5.4.7 Rock mass strength; 5.4.8 Mineralogy and petrography; 5.4.9 Durability; 5.4.10 Hydraulic conductivity; 5.5 Waste dump and stockpile fill materials; 5.5.1 Rockfill; 5.5.2 Overburden and mixed fills; 6 Surface water and groundwater characterisation; 6.1 Introduction; 6.2 Investigation of surface water and groundwater; 6.2.1 Components of the investigation program.

Sommario/riassunto

Developed and written by industry experts with extensive knowledge and experience, this book is an initiative of the Large Open Pit (LOP) Project. It comprises 16 chapters that follow the life cycle of a mine waste dump, dragline spoil or stockpile from site selection to closure and reclamation. It describes the investigation and design process, introduces a comprehensive stability rating and hazard classification system, provides guidance on acceptability criteria, and sets out the key elements of stability and runout analysis. Chapters on site and material characterisation, surface water and groundwater characterisation and management, risk assessment, operations and monitoring, management of ARD, emerging technologies and closure are included. A chapter is also dedicated to the analysis and design of dragline spoils. Guidelines for Mine Waste Dump and Stockpile Design summarises the current state of practice and provides insight and guidance to mine operators, geotechnical engineers, mining engineers, hydrogeologists, geologists and other individuals that are responsible at the mine site level for ensuring the stability and performance of these structures. --Publishers description.