

Geologic And Geotechnical Evaluation Of An Open Landfill

"The geologic model of the Canadian Beaufort Sea continental shelf first proposed by the Geological Survey of Canada has been laterally developed by dividing the shelf into nine physiographic regions, based on a combination of seafloor bathymetry, sediment types and the paleotopography of the most recent unconformity surface. From west to east these regions are: THE NATSEK PLAIN - a mostly unexplored area north of Herschel Island whose shallow stratigraphy appears to be mostly composed of stiff clays. THE MACKENZIE TROUGH - a large bathymetric and paleobathymetric depression extending from Mackenzie Bay to the shelf edge, believed to be infilled with a thick sequence of recent sediments. THE KRINGALIK PLATEAU - an area of fine-grained, laminated, partially or marginally ice-bonded strata containing at least two shallow unconformities. THE IKIT TROUGH - a stratigraphically complex relic lowland in which the shallow strata appear to be generally fine-grained and laminated. THE AKPAK PLATEAU - an adjacent sandy upland area which may have been the northward extension of Richards Island. THE KUGMALLIT CHANNEL - a linear bathymetric depression which formerly served as an important watercourse across the exposed continental shelf. THE TINGMIARK PLAIN - a broad feature composed principally of relic sand ridges, and associated narrow channels mantled by a thin blanket of recent silty clays. THE NIGLIK CHANNELS - a pair of narrow bathymetric depressions which may also have served as fluvial channels prior to the last sea-level rise. THE KAGLULIK PLAIN - a stratigraphically complex area on the eastern shelf where the most recent unconformity is believed to occur close to the seabed. Good correlation is apparent between the above physiographic regions and the occurrence of specific acoustic permafrost types noted in previous studies. In addition, each physiographic region appears to be associated with a set of uniquely characteristic geological and geotechnical properties, and hence the divisions form an important basis for evaluating and predicting the engineering properties of the surficial sediments on the shelf. In particular, these divisions can be used to appraise the potential for the development of granular resources in each area, provide a preliminary assessment of foundation conditions at well-sites where no geotechnical or geological information is yet available, and identify suitable criteria for establishing pipeline burial depths to reduce the opportunity for damage due to ice scour. The report concludes that each physiographic region represents an area of the shelf which has been subjected to a unique set of geological and geothermal processes, and recommends that additional detailed studies of each region be undertaken to provide an enhanced understanding of the surficial geological conditions on the continental shelf--Leaves [i]-ii. GSP 58 contains 86 papers presented at Uncertainty '96, held in Madison, Wisconsin, July 31-August 3, 1996. Site Characterization in Karst and Pseudokarst Terraines

Rifle Range Water Treatment Plant Site, Geologic/geotechnical Evaluation

Geologic Hazards of the Magna Quadrangle, Salt Lake County, Utah
Engineering Geology for Society and Territory - Volume 6
Proceedings of the ... Symposium on Engineering Geology and Geotechnical Engineering

A Plan to Reduce Losses from Geologic Hazards in Utah
Geotechnical Aspects of Underground Construction in Soft Ground comprises a collection of 112 papers, four general reports on the symposium themes, the Fujita Lecture, three Special Lectures and the Bright Spark Lecture presented at the Tenth International Symposium on Geotechnical Aspects of Underground Construction in Soft Ground, held in Cambridge, United Kingdom, 27-29 June 2022. The symposium is the latest in a series which began in New Delhi in 1994, and was followed by symposia in London (1996), Tokyo (1999), Toulouse (2002), Amsterdam (2005), Shanghai (2008), Rome (2011), Seoul (2014) and Sao Paulo (2017). This was organised by the Geotechnical Research Group at the University of Cambridge, under the auspices of the Technical Committee TC204 of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE). Geotechnical Aspects of Underground Construction in Soft Ground includes contributions from more than 25 countries on research, design and construction of underground works in soft ground. The contributions cover: Field case studies Sensing technologies and monitoring for underground construction in soft ground Physical and numerical modelling of tunnels and deep excavations in soft ground Seismic response of underground infrastructure in soft ground Design and application of ground improvement for underground construction Ground movements, interaction with existing structures and mitigation measures The general reports give an overview of the papers submitted to the symposium, covered in four technical sessions. The proceedings include the written version of the five invited lectures covering topics ranging from developments in geotechnical aspects of underground construction, tunnelling and groundwater interaction (short and long-term effects), the influence of earth pressure balance shield tunnelling on pre-convergence and segmental liner loading (field observations, modelling and implications on design). Similar to previous editions, Geotechnical Aspects of Underground Construction in Soft Ground represents a valuable source of reference on the current practice of analysis, design, and construction of tunnels and deep excavations in soft ground. The book is particularly aimed at academics and professionals interested in geotechnical and underground engineering. This book provides a practical strategy for obtaining a more complete and accurate geologic site characterization. The

strategy and methods to characterize complex geologic settings are readily available. The strategy utilizes readily available technology, basic science and good, old-fashioned common sense resulting in a solid understanding of geologic and even karst or pseudokarst conditions. We provide an introduction to many off-the-shelf methods available for site characterization as well as examples of their application throughout the book. The purpose of a geologic site characterization is to understand the 3-dimensional geologic framework, along with the engineering and hydrologic properties of a site including any man-made impacts. A well-done site characterization is the cornerstone of all geotechnical, groundwater and environmental projects. The geologic conditions, particularly karst conditions, can significantly impact a site including its structural stability, groundwater pathways and potential for rapid transport or traps for contaminants. Once we have adequately characterized the geologic conditions can we carry our remediation, design and construction, model flow, and make risk assessments that are accurate and reliable.

Geological-geotechnical Studies for Siting the Superconducting Super Collider in Illinois

Geological Survey Bulletin

Geologic and Geotechnical Characteristics of the Weeks Creek Landslide, San Mateo County, California

Geology and Geotechnical Conditions of the Minot Area, North Dakota

Proceedings of the 1st GeoMEast International Congress and Exhibition, Egypt 2017 on Sustainable Civil Infrastructures

Engineering Guidelines for the Evaluation of Hydropower Projects

*Geologic hazards pose the greatest threat to human safety for any geotechnical undertaking, but it is ultimately the engineer's ability to recognize and cope with these hazards that will determine the safety of life and property. Armed with **Geologic Hazards: A Field Guide for Geotechnical Engineers** you will be able to properly recognize, understand various geologic hazards, and provide safe and economical construction. Eminent expert Roy E. Hunt thoroughly examines the potential for slope failures, earthquakes, ground subsidence, collapse, and expansion. Using a clear conceptual approach, he explains what measures are available to minimize or eliminate the risks associated with each of these geologic hazards. The book sets forth the basis for recognizing, understanding, and treating geologic hazards, using general concepts rather than rigorous mathematical analyses. The author covers the prediction of slope failures through recognition of geologic and other factors that govern failure, the treatment of slopes that are potentially unstable and pose a danger to some existing development, the design and construction of stable cut slopes and sidehill fills, and the stabilization of failed slopes. He provides the foundation for determining the potential for surface movements and for preventing or controlling their effects. A section on earthquakes summarizes and links all of the aspects of earthquakes including their causes, characteristics, and surface effects. It provides a thorough grounding in how to recognize hazard potential and minimize the consequences. There is no field within geotechnical engineering in which the state of the art is changing so rapidly. Providing the latest information, this resource is a useful tool for designing new projects and redesigning old ones.*

The field of geoenvironmental engineering is at a crossroads where the path to high-tech solutions meets the path to

expanding applications of geotechnology. In this report, the term "geoengineering" includes all types of engineering that deal with Earth materials, such as geotechnical engineering, geological engineering, hydrological engineering, and Earth-related parts of petroleum engineering and mining engineering. The rapid expansion of nanotechnology, biotechnology, and information technology begs the question of how these new approaches might come to play in developing better solutions for geotechnological problems. This report presents a vision for the future of geotechnology aimed at National Science Foundation (NSF) program managers, the geological and geotechnical engineering community as a whole, and other interested parties, including Congress, federal and state agencies, industry, academia, and other stakeholders in geoengineering research. Some of the ideas may be close to reality whereas others may turn out to be elusive, but they all present possibilities to strive for and potential goals for the future. Geoengineers are poised to expand their roles and lead in finding solutions for modern Earth systems problems, such as global change, emissions-free energy supply, global water supply, and urban systems.

Preliminary Geotechnical Report

Opportunities for Research and Technological Innovation

Advances in Engineering Geology: Education, Soil and Rock Properties, Modeling

Morrow Point Dam & Underground Powerplant, Geologic and Geotechnical Issues Evaluation, Supplemental Study

Geotechnical Site Investigations for Underground Projects

Geologic and Geotechnical Assessment for the Evaluation of Sinkhole Claims

This report includes a compilation of both physical and mechanical property data for use in developing in situ constitutive relations. The in situ stress state is defined for a variety of rock types and structural environments. Triaxial tests, including hydrostatic and uniaxial strain tests, were conducted on sandstone and shale from the GASBUGGY site. Problems studied include the intact versus residual failure envelopes, dilatant behavior and the dependency of modulus on strain-rate. Salt cores from both the GNOME event and SALMON event were tested under triaxial conditions; both compression and extension failure envelopes were determined. Originator keywords include: material property, and reduced displacement potential (RDP).

This report describes the review and evaluation of the geological, geotechnical and geophysical data supporting the design basis analysis for the Rocky Flats Environmental Test Site (RFETS) Building 371. The primary purpose of the geologic and geotechnical reviews and assessments described herein are to assess the adequacy of the crustal and near surface rock and soil model used in the seismic analysis of Building 371. This review was requested by the RFETS Seismic Evaluation Program. The purpose was to determine the adequacy of data to support the design basis for Building 371, with respect to seismic loading. The objectives required to meet this goal were to: (1) review

techniques used to gather data (2) review analysis and interpretations of the data; and (3) make recommendations to gather additional data if required. Where there were questions or inadequacies in data or interpretation, recommendations were made for new data that will support the design basis analysis and operation of Building 371. In addition, recommendations are provided for a geologic and geophysical assessment for a new facility at the Rocky Flats Site.

Evaluation of Soil and Rock Properties

Final Report

Uncertainty in the Geologic Environment

Final Technical Report

Geotechnical Site Characterization

Report Covering the Installation of Monitor Wells and Comparison of Geology and Hydrology with that Previously Found in the Geotechnical Evaluation of the Highway 36 Site

This book is one out of 8 IAEG XII Congress volumes, and deals with the theme of applied geology, which is a critical theme for the global economy. In the international, multidisciplinary approach to major engineering projects (either to macro- or mega-scale), the application of geological investigation techniques is fundamental for properly selecting the location sites, planning the construction and maintaining the infrastructures. The contributions in this book include not only engineering constructions but also case studies related to large projects on geo-resources exploration and extraction (minerals, petroleum and groundwater), energy production (hydropower, geothermal, nuclear and others), transportation (railway and highway) and waste disposal as well as the environmental management of these and other activities. The Engineering Geology for Society and Territory volumes of the IAEG XII Congress held in Torino from September 15-19, 2014, analyze the dynamic role of engineering geology in our changing world and build on the four main themes of the congress: Environment, processes, issues, and approaches. The congress topics and subject areas of the 8 IAEG XII Congress volumes are: 1. Climate Change and Engineering Geology 2. Landslide Processes 3. River Basins, Reservoir Sedimentation and Water Resources 4. Marine and Coastal Processes 5. Urban Geology Sustainable Planning and Landscape Exploitation 6. Applied Geology for Major Engineering Projects 7. Education, Professional Ethics and Public Recognition of Engineering Geology 8. Preservation of Cultural Heritage.

This evaluation was undertaken for the purpose of confirming the geologic suitability of the Rifle Range site for construction and operation of a water treatment plant by the Bay Municipal Utility District.

Geomorphic, Seismic, and Geotechnical Evaluation of Sand and Gravel Deposits in the Sheridan, Wyoming, Area

SR 710 North Study

Viability Assessment of a Repository at Yucca Mountain: License application plan and costs

An Evaluation of the Regional Surficial Geology of the Southern Beaufort Sea

Geotechnical Aspects of Underground Construction in Soft Ground

A Study of the Sheridan, Wyoming, Area Aggregates, with Emphasis on a New Seismic Prospecting Technique and Aggregate Physical Properties

This study contains 10 1:24,000 scale GIS based geologic hazard maps that include liquafaction, surface fault rupture, flood hazard, landslides, rock-fall, indoor radon potential, collapsible soils, expansivse soils, shallow bedrock and shallow groundwater potential. Also includes a 73 page accompanying report that describes the hazards and provides background information on data sources, the nature and distribution of hazards, and possible hazard reeducation measures.

The California Department of Transportation (Caltrans), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), selected the CH2M HILL team to provide alternatives analysis, preliminary engineering, and environmental studies documentation for the State Route (SR) 710 North Study...The SR 710 North Study included geotechnical, geologic, and seismic evaluations for five alternatives proposed within the SR 710 North Study Area. Results of the CH2M HILL evaluations are summarized in this Preliminary Geotechnical Report (PGR). Caltrans and Metro will utilize this PGR during evaluations of the technical, operational, and financial feasibility of the SR 710 North Study Alternatives, as described in Section 1.3.

IAEG/AEG Annual Meeting Proceedings, San Francisco, California, 2018–Volume 6

Geologic Report, and Selected Geotechnical Aspects of the City of Larkspur, California

Geology and Geotechnical Properties of Laterite Gravel

Recommendations of the Governor's Geologic Hazards Working Group, 2006-2007

Hawthorne Reservoir Geologic/geotechnical Evaluation

SR-73 Extension, San Joaquin Hills Transportation Corridor, Between I-5, San Juan Capistrano, and Jamboree Road, Newport Beach, Orange County

The topic of site characterization is unique to geotechnical engineering and owes its significance directly to the variability of the natural geologic deposits on the earth's surface. Proper site characterization requires an understanding of various field and laboratory investigation methods. The book discusses the suitability of various methods under different site conditions and presents the procedures to derive design parameters based on interpretation of test results. Recent developments in specialized site characterization methods (such as seismic hazard evaluation) are also included. Three recent case histories are presented, where site characterization played a key role. The three disparate cases include soft natural soil under static loading, coarse and fine-grained soil under seismic impact, and hazardous waste deposits under both static and seismic loading. Site investigation requirements of building codes are discussed and

guidelines for preparing a typical site characterization report are presented. The book is aimed at the practicing geotechnical engineer, as well as advanced undergraduate and graduate students.

This open file report consists of two chapters of the report "Insurance study of sinkholes" completed by the Florida State University Center for Insurance Research. Geologic and Geotechnical Assessment RFETS Building 371, Rocky Flats, Colorado Geological and Geotechnical Investigation Procedures for Evaluation of the Causes of Subsidence Damage in Florida

Preliminary Geological Feasibility Report

Geologic Hazards

Environmental Impact Statement

A Field Guide for Geotechnical Engineers

The ongoing population growth is resulting in rapid urbanization, new infrastructure development and increasing demand for the Earth's natural resources (e.g., water, oil/gas, minerals). This, together with the current climate change and increasing impact of natural hazards, imply that the engineering geology profession is called upon to respond to new challenges. It is recognized that these challenges are particularly relevant in the developing and newly industrialized regions. The idea beyond this volume is to highlight the role of engineering geology and geological engineering in fostering sustainable use of the Earth's resources, smart urbanization and infrastructure protection from geohazards. We selected 19 contributions from across the globe (16 countries, five continents), which cover a wide spectrum of applied interdisciplinary and multidisciplinary research, from geology to engineering. By illustrating a series of practical case studies, the volume offers a rather unique opportunity to share the experiences of engineering geologists and geological engineers who tackle complex problems working in different environmental and social settings. The specific topics addressed by the authors of chapters included in the volume are the following: pre-design site investigations; physical and mechanical properties of engineering soils; novel, affordable sensing technologies for long-term geotechnical monitoring of engineering structures; slope stability assessments and monitoring in active open-cast mines; control of environmental impacts and hazards posed by abandoned coal mines; assessment of and protection from geohazards (landslides, ground fracturing, coastal erosion); applications of geophysical surveying to investigate active faults and ground instability; numerical modeling of seabed deformations related to active faulting; deep geological repositories and waste disposal; aquifer assessment based on the integrated hydrogeological and geophysical investigation; use of remote sensing and GIS tools for the detection of environmental hazards and mapping of surface geology. This volume is part of the proceedings of the 1st GeoMEast International Congress and Exhibition on Sustainable Civil Infrastructures, Egypt 2017.

This document presents state-of-the-practice information on the evaluation of soil and rock properties for geotechnical design applications. This document addresses the entire range of materials potentially encountered in highway engineering practice, from soft clay to intact rock and variations of materials that fall between these two extremes. Information is presented on parameters measured, evaluation of data quality, and interpretation of properties for conventional soil and rock laboratory testing, as well as in situ devices such as field vane testing, cone penetration testing, dilatometer, pressuremeter, and borehole jack. This document provides the design engineer with information that can be used to develop a rationale for accepting or rejecting data and for resolving inconsistencies between data provided by different laboratories and field tests. This document also includes information on: (1) the use of Geographical Information Systems (GIS) and Personal Data Assistance devices for the collection and interpretation of subsurface information; (2) quantitative measures for evaluating disturbance of laboratory soil samples; and (3) the use of measurements from geophysical testing techniques to obtain information on the modulus of soil. Also included are

chapters on evaluating properties of special soil materials (e.g., loess, cemented sands, peats and organic soils, etc.) and the use of statistical information in evaluating anomalous data and obtaining design values for soil and rock properties. An appendix of three detailed soil and rock property selection examples is provided which illustrate the application of the methods described in the document.

Geotechnical Assessment of United States and Foreign Test Sites and Material Properties of Geologic Media

Evaluation of the Newmark Method for Mapping Earthquake-induced Landslide Hazards in the Laurel 7.5' Quadrangle, Santa Cruz County, California

Yukon River Bridge Landslide

Engineering Geology and Geotechnical Engineering

U.S. Geological Survey Circular

Geotechnical Evaluation of Five Potential Mainland California LNG Import Terminal Sites

This book is one out of six IAEG XIII Congress and AEG 61st Annual Meeting proceeding volumes, and deals with topics related to the advances made in engineering geology with emphasis on education, soil and rock properties, and modeling. The book is one of the IAEG/AEG Meeting, held in San Francisco from September 17-21, 2018, is titled Engineering Geology for a Sustainable World. The meeting proceedings analyze the dynamic role of engineering geology in our changing world. The meeting topics are divided into six subject areas of the six volumes are: Slope Stability: Case Histories, Landslide Mapping, Emerging Technologies; Geotechnical and Environmental Site Characterization; Mining and Aggregates, Karst; Dams, Tunnels, Groundwater Resources, Climate Change; Geologic Hazards: Earthquakes, Land Subsidence, Coastal Hazards, and Emergency Response; and Advances in Engineering Geology: Education, Soil and Rock Properties, Modeling. As a result of the landslides of 2005-06, Utah Governor Jon M. Huntsman, Jr., appointed the establishment of a working group to review the land-use-regulation process in Utah, to recommend improvements, and identify how and where the State could assist. The Governor's Geologic Hazards Working Group (GHWG) was established in 2006 and met regularly from September 2006 through June 2007. This report highlights some of the 2005-06 landslides, reviews the establishment and activities of the GHWG, and presents the GHWG's recommendations for reducing losses from geologic hazards.

Proceedings of the Tenth International Symposium on Geotechnical Aspects of Underground Construction in Soft Ground, IS-Cambridge 2022, Cambridge, United Kingdom, 27-29 June 2022

Preliminary Geologic and Geotechnical Evaluation

Route 905 Reconnaissance

Geological and Geotechnical Engineering in the New Millennium

Practical Strategies and Technology for Practicing Engineers, Hydrologists and Geologists

Engineering Geology and Geological Engineering for Sustainable Use of the Earth's Resources, Urbanization and Infrastructure Protection from Geohazards