1. Record Nr. UNINA9911006651703321

Titolo	Geochemical remote sensing of the sub-surface / / edited by M. Hale
Pubbl/distr/stampa	Amsterdam ; ; New York, : Elsevier, 2000
ISBN	1-281-04720-1 9786611047207 0-08-053242-X
Edizione	[1st ed.]
Descrizione fisica	1 online resource (573 p.)
Collana	Handbook of exploration geochemistry ; ; v. 7
Altri autori (Persone)	HaleM (Martin)
Disciplina	551.028 622/.1828 622.1828
Soggetti	Petroleum - Prospecting Geochemical prospecting Geochemistry - Remote sensing
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 (p. 471-511) and indexes.
Nota di contenuto	Front Cover; Geochemical Remote Sensing of the Sub-Surface; Copyright Page; Contents; Editor's foreword; Preface; List of contributors; Part I: Genetic Models of Remote Dispersion Patterns; Chapter 1. Genesis, behaviour and detection of gases in the crust; Introduction; The geochemical background; Indicator and pathfinder gases for exploration; Mechanisms of gas migration; Indicator and pathfinder gas data acquisition; Conclusions; Chapter 2. Geoelectrochemistry and stream dispersion; Introduction; Geoelectrochemical prospecting; Geoelectrochemical exploration; Discussion and conclusions Chapter 3. Spontaneous potentials and electrochemical cellsIntroduction; Geochemical transport mechanisms; Voltaic Cells; Spontaneous potential in Earth materials; Spontaneous potential cells; Geochemical response to spontaneous potential cells; Conclusions; Part II: Remote Dispersion Patterns Of Co-Genetic Provenance; Chapter 4. Carbon dioxide dispersion halos around mineral deposits; Introduction; Method; Case histories; Discussion; Conclusions; Chapter 5. Light hydrocarbons for petroleum and gas prospecting; Introduction; Origin

of light hydrocarbon gases; History

Physical basis for migration of hydrocarbons to the surfaceHydrocarbon residence sites at surface; Factors influencing near- surface hydrocarbon flux; Sampling and measurement methods; Sampling strategy; Data interpretation; Case histories; Conclusions; Chapter 6. Gas geochemistry surveys for petroleum; Introduction; Theoretical principles; Surface expressions of hydrocarbon migration; Modes of occurrence of gases in microseeps; Practical methods; Case histories; Conclusions; Chapter 7. Aerospace detection of hydrocarbon-induced alteration; Introduction

Remote detection of induced surface manifestationsProblems and future trends; Part III: Remote Dispersion Pattern of Post-Genetic Provenance; Chapter 8. Sulphur gases; Introduction; Chemistry and geochemistry of sulphur gases; Experimental techniques; Case histories; Discussion; Conclusions; Chapter 9. Sulphide anions and compounds; Introduction; Experimental investigations; Field investigations; Discussion; Conclusions; Chapter 10. Helium; Introduction; Occurrence; Sampling; Analysis; Variations of helium concentrations; Helium surveys in mineral exploration

Helium surveys in petroleum explorationHelium surveys in geothermal resource exploration; Helium associated with faults; Conclusion; Chapter 11. Radon; Introduction; Physical and chemical properties of radon; Definitions; Geochemistry of radon; Analytical methods; Field methods; Comparison studies and case histories; Future needs; Chapter 12. Mercury; Introduction; Geochemistry of mercury; Behaviour of mercury in the primary environment; Behaviour of mercury in the secondary environment; Sampling media; Recommended analytical procedures; Conclusions

Chapter 13. Discrimination of mercury anomalies

Sommario/riassunto

This volume documents the techniques for geochemical remote sensing of the subsurface, to present case-history evidence of their successes and limitations, and to consider their further potential. The chapters in Part I focus on the mechanisms and models of dispersion that give rise to the patterns we attempt to detect. Part II deals with the detection of dispersion patterns that owe their origins to processes, such as leakage, that are allied to resource emplacement. Part III describes the detection of dispersion patterns that are generated by processes, such as radiodecay and oxidation, taki